

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. 9. API Well No.		
2. Name of Operator 3a. Address 3b. Phone No. (include area code)		10. Field and Pool, or Exploratory 11. Sec., T. R. M. or Blk. and Survey or Area 12. County or Parish 13. State		
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		14. Distance in miles and direction from nearest town or post office* 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) <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> 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). </td> <td style="width: 50%; vertical-align: top;"> 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. </td> </tr> </table>			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.
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25. Signature Title		Name (Printed/Typed) Date		
Approved by (Signature) Title		Name (Printed/Typed) Office		

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

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

(Continued on page 2)

*(Instructions on page 2)



Additional Operator Remarks

Location of Well

0. SHL: NWNW / 845 FNL / 985 FWL / TWSP: 25S / RANGE: 32E / SECTION: 35 / LAT: 32.091928 / LONG: -103.65107 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 100 FNL / 1980 FWL / TWSP: 25S / RANGE: 32E / SECTION: 35 / LAT: 32.093977 / LONG: -103.647843 (TVD: 12333 feet, MD: 12400 feet)

BHL: SESW / 50 FSL / 1980 FWL / TWSP: 26S / RANGE: 32E / SECTION: 2 / LAT: 32.065147 / LONG: -103.647949 (TVD: 12530 feet, MD: 22529 feet)

BLM Point of Contact

Name: Gavin Mickwee

Title: Land Law Examiner

Phone: (575) 234-5972

Email: gmickwee@blm.gov

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

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

WELL NAME & NO.:	Harrier Fed Com 801H
SURFACE HOLE FOOTAGE:	845'/N & 985'/W
BOTTOM HOLE FOOTAGE:	50'/S & 1980'/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. **Excess calculates to 21%. Additional cement maybe required.**
- 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

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

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

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

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-	Pool Code 98158	Pool Name WC-025 G-09 S253236A; Upper Wolfcamp
Property Code 325390	Property Name HARRIER FEDERAL COM	Well Number 801H
OGRID No. 239137	Operator Name COG OPERATING, LLC	Elevation 3368.8'

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		845	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	1980	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=397848.5 N X=752622.0 E LAT.=32.091928° N LONG.=103.651070° W <table border="1"> <thead> <tr> <th colspan="2">POINT LEGEND</th> </tr> </thead> <tbody> <tr><td>1</td><td>Y=398686.8 N X=751638.5 E</td></tr> <tr><td>2</td><td>Y=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=388112.3 N X=753681.2 E LAT.=32.065147° N LONG.=103.647849° W	POINT LEGEND		1	Y=398686.8 N X=751638.5 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 & 1980' FWL Y=398600.2 N X=753616.5 E LAT.=32.093977° N LONG.=103.647843° W GRID AZ. TO FTP 52°55'00" LEASE X-ING LAT.=32.079710° N LONG.=103.647846° W LTP 100' FSL & 1980' FWL Y=388162.3 N X=753680.9 E LAT.=32.065284° N LONG.=103.647849° 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> 6/21/21 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 Harcrow</i> 4/2/21 Certificate No. CHAD HARCROW 17777 W.O. # 21-304 DRAWN BY: AH
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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=397848.5 N X=752622.0 E LAT.=32.091928° N LONG.=103.651070° 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=388112.3 N X=753681.2 E LAT.=32.065147° N LONG.=103.647849° 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	<u>FTP</u> 100' FNL & 1980' FWL Y=398600.2 N X=753616.5 E LAT.=32.093977° N LONG.=103.647843° W <u>GRID AZ. TO FTP</u> 52°55'00" LEASE X-ING LAT.=32.079710° N LONG.=103.647846° W <u>LTP</u> 100' FSL & 1980' FWL Y=388162.3 N X=753680.9 E LAT.=32.065284° N LONG.=103.647849° 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> 6/21/21 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 Harcrow</i> 4/2/21 Certificate No. CHAD HARCROW 17777 W.O. # 21-304 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																			
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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-

Operator Name:	Property Name:	Well Number
COG Operating LLC	Harrier Federal Com	801H

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 1980	From E/W West	County Lea
Latitude 32.093977					Longitude -103.647843				NAD NAD 83

Last Take Point (LTP)

UL N	Section 2	Township 26S	Range 32E	Lot	Feet 100	From N/S South	Feet 1980	From E/W West	County Lea
Latitude 32.065284					Longitude -103.647849				NAD NAD 83

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

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

API #
30-025-

Operator Name:	Property Name:	Well Number
COG Operating LLC	Harrier Federal Com	703H

KZ 06/29/2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Operating LLC

OGRID: 239137

Date: 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
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						

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

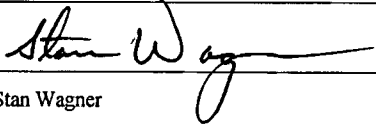
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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.

COG Operating, LLC - Harrier Federal Com 801H

1. Geologic Formations

TVD of target	12,570' EOL	Pilot hole depth	NA
MD at TD:	22,800'	Deepest expected fresh water:	207'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	746	Water	
Top of Salt	1109	Salt	
Base of Salt	4507	Salt	
Lamar	4703	Salt Water	
Bell Canyon	4738	Salt Water	
Cherry Canyon	5729	Oil/Gas	
Brushy Canyon	7296	Oil/Gas	
Bone Spring Lime	8859	Oil/Gas	
1st Bone Spring Sand	9823	Oil/Gas	
2nd Bone Spring Sand	10441	Oil/Gas	
3rd Bone Spring Sand	11605	Oil/Gas	
Wolfcamp A	12228	Target	
Wolfcamp B	12555	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	1.06	2.95	2.97
8.750"	8300	12100	7.625"	29.7	HCP110	FJM	1.18	1.37	2.62	1.55
6.75"	0	11600	5.5"	23	P110	BTC	1.93	2.28	2.73	2.71
6.75"	11600	22,800	5.5"	23	P110	Talon	1.78	2.10	2.52	2.45
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.

COG Operating, LLC - Harrier Federal Com 801H

	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?	

COG Operating, LLC - Harrier Federal Com 801H

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	850	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	538	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	11,600'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Harrier Federal Com 801H

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.

COG Operating, LLC - Harrier Federal Com 801H

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	

COG Operating, LLC - Harrier Federal Com 801H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8175 psi at 12570' 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

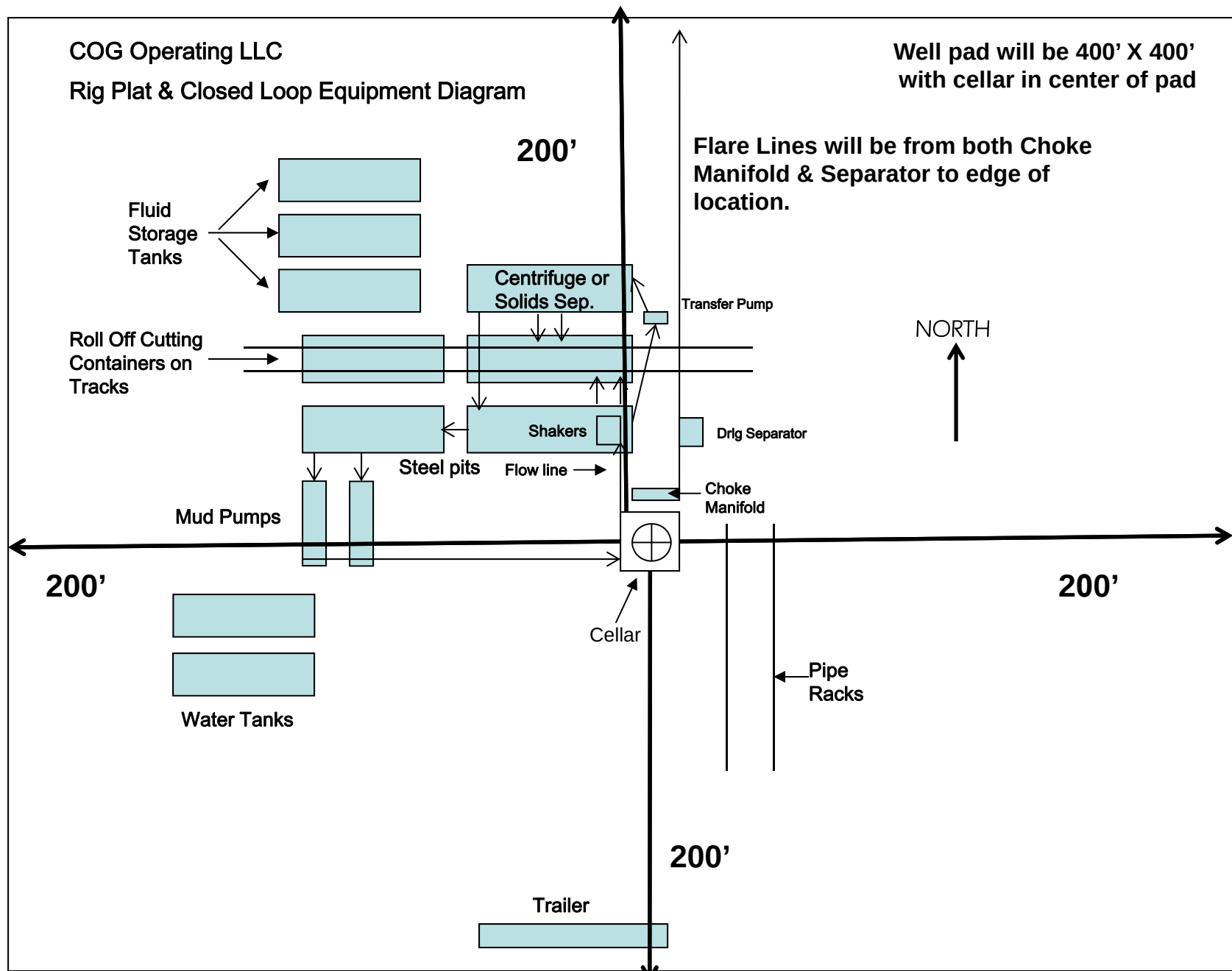


Exhibit 1

"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 #801H

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 letter "o" in "Phillips", there is a red stylized flame or checkmark icon.

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	5/4/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,132.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
12,132.0	22,529.4	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	13,910.3	13,544.9	541.0	482.0	9.172	CC, ES
HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE	14,100.0	13,536.2	573.2	509.4	8.984	SF
HARRIER FED COM #101H - OWB - AWP	9,657.5	19,226.3	248.1	152.6	2.598	CC, ES, SF
HARRIER FED COM #201H - OWB - AWP	9,320.8	19,000.9	679.7	584.8	7.158	CC, ES, SF
HARRIER FED COM #202H - OWB - AWP	0.0	1.0	828.1			
HARRIER FED COM #202H - OWB - AWP	5,100.0	5,045.7	998.2	988.6	104.877	SF
HARRIER FED COM #301H - OWB - AWP	9,777.0	19,249.1	600.0	504.0	6.253	CC, ES, SF
HARRIER FED COM #302H - OWB - AWP	10,242.0	19,726.5	252.8	156.4	2.622	CC, ES, SF
HARRIER FED COM #303H - OWB - AWP	9,225.2	18,726.0	226.0	131.4	2.389	CC, ES, SF
HARRIER FED COM #701H - OWB - PWP1	2,500.0	2,497.2	45.0	36.2	5.122	CC
HARRIER FED COM #701H - OWB - PWP1	2,600.0	2,597.7	45.1	36.1	5.044	ES
HARRIER FED COM #701H - OWB - PWP1	22,529.4	22,268.8	411.1	238.5	2.382	SF
HARRIER FED COM #702H - OWB - PWP1	2,500.0	2,497.7	30.0	23.1	4.351	CC, ES, SF
HARRIER FED COM #703H - OWB - PWP1	2,500.0	2,498.3	54.2	40.9	4.063	CC, ES
HARRIER FED COM #703H - OWB - PWP1	22,529.4	22,285.3	417.1	241.7	2.378	SF
HARRIER FED COM #704H - OWB - PWP1	2,500.0	2,498.5	75.2	67.6	9.851	CC, ES, SF
HARRIER FED COM #802H - OWB - PWP1	2,500.0	2,498.0	60.0	53.1	8.701	CC, 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						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	
13,100.0	12,570.3	13,583.2	12,009.2	15.9	59.7	0.91	-1,114.9	992.7	973.7	902.6	71.10	13.694	
13,200.0	12,570.2	13,578.5	12,009.4	16.1	59.7	0.40	-1,115.0	997.5	892.4	822.1	70.28	12.698	
13,300.0	12,570.0	13,573.6	12,009.7	16.4	59.6	-0.11	-1,115.2	1,002.4	815.2	745.9	69.23	11.775	
13,400.0	12,569.9	13,568.7	12,009.9	16.8	59.5	-0.63	-1,115.4	1,007.3	743.4	675.5	67.87	10.954	
13,500.0	12,569.8	13,563.7	12,010.2	17.2	59.4	-1.15	-1,115.6	1,012.2	678.8	612.7	66.11	10.267	
13,600.0	12,569.6	13,558.7	12,010.4	17.6	59.3	-1.68	-1,115.8	1,017.2	623.6	559.6	63.93	9.754	
13,700.0	12,569.5	13,554.2	12,010.7	18.1	59.2	-2.16	-1,116.0	1,021.8	580.4	518.9	61.49	9.439	
13,800.0	12,569.3	13,549.8	12,010.9	18.6	59.2	-2.62	-1,116.2	1,026.1	552.1	492.7	59.44	9.289	
13,900.0	12,569.2	13,545.4	12,011.2	19.2	59.1	-3.10	-1,116.4	1,030.5	541.1	482.2	58.91	9.185	
13,910.3	12,569.2	13,544.9	12,011.2	19.2	59.1	-3.14	-1,116.4	1,031.0	541.0	482.0	58.99	9.172	CC, ES

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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		
14,000.0	12,569.1	13,540.8	12,011.4	19.7	59.0	-3.58	-1,116.6	1,035.1	548.4	487.8	60.61	9.048		
14,100.0	12,568.9	13,536.2	12,011.7	20.3	58.9	-4.07	-1,116.8	1,039.7	573.2	509.4	63.81	8.984 SF		
14,200.0	12,568.8	13,531.4	12,011.9	21.0	58.8	-4.57	-1,117.0	1,044.5	613.5	546.3	67.22	9.127		
14,300.0	12,568.7	13,526.6	12,012.2	21.6	58.8	-5.09	-1,117.2	1,049.3	666.5	596.4	70.11	9.507		
14,400.0	12,568.5	13,522.2	12,012.4	22.2	58.7	-5.55	-1,117.4	1,053.7	729.4	657.1	72.28	10.090		
14,500.0	12,568.4	13,518.1	12,012.7	22.9	58.6	-5.98	-1,117.5	1,057.7	799.8	726.0	73.84	10.832		
14,600.0	12,568.2	13,514.0	12,012.9	23.6	58.6	-6.41	-1,117.7	1,061.8	876.0	801.1	74.91	11.694		
14,700.0	12,568.1	13,509.9	12,013.1	24.3	58.5	-6.84	-1,117.9	1,065.9	956.5	880.9	75.65	12.645		

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #101H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8898-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,700.0	8,665.3	19,213.2	9,514.9	10.7	84.9	-163.01	255.1	454.1	989.0	895.6	93.43	10.586	
8,800.0	8,764.8	19,214.4	9,514.9	10.8	85.0	-162.75	256.3	454.0	892.6	798.9	93.70	9.526	
8,900.0	8,864.2	19,215.6	9,514.9	10.9	85.0	-162.47	257.5	454.0	797.0	703.0	93.97	8.481	
9,000.0	8,963.6	19,216.8	9,514.8	11.1	85.0	-162.18	258.8	454.0	702.7	608.4	94.25	7.455	
9,100.0	9,063.0	19,218.1	9,514.8	11.2	85.0	-161.88	260.1	454.0	610.1	515.6	94.53	6.455	
9,200.0	9,162.5	19,219.5	9,514.8	11.3	85.0	-161.57	261.4	453.9	520.4	425.6	94.81	5.489	
9,300.0	9,261.9	19,220.9	9,514.7	11.4	85.0	-161.25	262.8	453.9	435.1	340.0	95.08	4.576	
9,400.0	9,361.3	19,222.3	9,514.7	11.6	85.0	-160.91	264.2	453.9	357.5	262.2	95.32	3.751	
9,500.0	9,460.7	19,223.8	9,514.7	11.7	85.0	-160.56	265.7	453.8	293.8	198.4	95.44	3.079	
9,600.0	9,560.1	19,225.4	9,514.7	11.8	85.1	-160.20	267.3	453.8	254.7	159.3	95.37	2.670	
9,657.5	9,617.3	19,226.3	9,514.6	11.9	85.1	-159.99	268.2	453.8	248.1	152.6	95.51	2.598 CC, ES, SF	
9,700.0	9,659.6	19,227.0	9,514.6	11.9	85.1	-159.83	268.9	453.8	251.7	155.9	95.84	2.626	
9,800.0	9,759.0	19,228.7	9,514.6	12.1	85.1	-159.43	270.6	453.7	286.1	189.2	96.93	2.952	
9,900.0	9,858.4	19,230.5	9,514.6	12.2	85.1	-159.03	272.4	453.7	346.9	249.3	97.64	3.553	
10,000.0	9,957.8	19,232.3	9,514.5	12.3	85.1	-158.60	274.2	453.6	422.9	324.8	98.04	4.313	
10,100.0	10,057.3	19,234.2	9,514.5	12.4	85.1	-158.15	276.2	453.6	507.2	408.9	98.34	5.158	
10,200.0	10,156.7	19,236.3	9,514.4	12.6	85.1	-157.69	278.2	453.5	596.5	497.8	98.62	6.048	
10,300.0	10,256.1	19,238.4	9,514.4	12.7	85.2	-157.20	280.3	453.5	688.6	589.7	98.90	6.963	
10,400.0	10,355.5	19,240.6	9,514.4	12.8	85.2	-156.70	282.5	453.4	782.7	683.5	99.19	7.891	
10,500.0	10,454.9	19,242.9	9,514.3	13.0	85.2	-156.16	284.8	453.4	878.1	778.6	99.50	8.826	
10,600.0	10,554.4	19,245.3	9,514.3	13.1	85.2	-155.61	287.2	453.3	974.5	874.6	99.81	9.763	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	8,565.9	18,960.8	9,224.6	10.6	84.7	-161.97	222.4	-9.8	989.4	896.6	92.84	10.657		
8,700.0	8,665.3	18,964.5	9,224.7	10.7	84.7	-161.66	226.1	-9.8	919.5	826.3	93.17	9.869		
8,800.0	8,764.8	18,968.6	9,224.8	10.8	84.7	-161.32	230.2	-9.7	855.4	761.9	93.49	9.150		
8,900.0	8,864.2	18,973.2	9,224.9	10.9	84.8	-160.93	234.8	-9.7	798.8	705.0	93.79	8.517		
9,000.0	8,963.6	18,978.4	9,225.1	11.1	84.8	-160.50	240.0	-9.7	751.2	657.1	94.07	7.986		
9,100.0	9,063.0	18,984.3	9,225.3	11.2	84.9	-160.00	245.9	-9.6	714.5	620.2	94.32	7.575		
9,200.0	9,162.5	18,995.0	9,225.8	11.3	85.0	-159.10	256.6	-9.5	690.3	595.7	94.59	7.298		
9,300.0	9,261.9	18,999.2	9,226.0	11.4	85.0	-158.75	260.8	-9.5	680.1	585.2	94.88	7.168		
9,320.8	9,282.6	19,000.9	9,226.0	11.5	85.0	-158.60	262.5	-9.5	679.7	584.8	94.96	7.158 CC, ES, SF		
9,400.0	9,361.3	19,007.6	9,226.4	11.6	85.1	-158.04	269.2	-9.4	684.3	589.0	95.28	7.182		
9,500.0	9,460.7	19,015.9	9,226.7	11.7	85.1	-157.35	277.4	-9.4	702.8	607.0	95.78	7.338		
9,600.0	9,560.1	19,024.0	9,227.1	11.8	85.2	-156.66	285.6	-9.3	734.4	638.1	96.31	7.626		
9,700.0	9,659.6	19,032.1	9,227.5	11.9	85.3	-155.99	293.6	-9.2	777.7	680.9	96.82	8.032		
9,800.0	9,759.0	19,040.0	9,227.8	12.1	85.3	-155.33	301.5	-9.2	830.7	733.4	97.29	8.538		
9,900.0	9,858.4	19,047.7	9,228.2	12.2	85.4	-154.68	309.3	-9.1	891.7	794.0	97.71	9.126		
10,000.0	9,957.8	19,055.4	9,228.5	12.3	85.5	-154.04	316.9	-9.1	959.2	861.1	98.10	9.778		

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #202H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8598-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	1.0	1.0	3.0	3.0	-60.71	405.1	-722.2	828.1				
100.0	100.0	95.2	95.2	3.0	3.0	-60.70	405.4	-722.3	828.3	822.3	6.00	138.039	
200.0	200.0	194.5	194.5	3.0	3.0	-60.65	406.2	-722.3	828.7	822.7	6.00	138.000	
300.0	300.0	292.5	292.4	3.0	3.0	-60.58	407.3	-722.2	829.1	823.1	6.01	137.862	
400.0	400.0	397.6	397.6	3.0	3.0	-60.52	408.1	-721.9	829.3	823.2	6.03	137.586	
493.6	493.6	490.9	490.8	3.1	3.0	-60.47	408.7	-721.5	829.2	823.2	6.04	137.241	
500.0	500.0	496.9	496.9	3.1	3.0	-60.46	408.8	-721.4	829.2	823.2	6.04	137.215	
600.0	600.0	593.2	593.2	3.1	3.1	-60.40	409.7	-721.2	829.5	823.4	6.06	136.769	
700.0	700.0	693.0	693.0	3.1	3.1	-60.36	410.5	-721.4	830.0	823.9	6.09	136.195	
800.0	800.0	790.6	790.5	3.2	3.1	-60.31	411.5	-721.5	830.6	824.5	6.13	135.531	
900.0	900.0	886.6	886.5	3.2	3.2	-60.25	412.7	-722.0	831.7	825.6	6.17	134.798	
1,000.0	1,000.0	988.0	987.9	3.2	3.2	-60.22	413.6	-722.8	832.8	826.6	6.22	133.857	
1,100.0	1,100.0	1,087.1	1,087.0	3.3	3.3	-60.20	414.5	-723.6	833.9	827.7	6.28	132.787	
1,200.0	1,200.0	1,188.7	1,188.7	3.4	3.3	-60.16	415.5	-724.2	835.0	828.7	6.35	131.592	
1,300.0	1,300.0	1,284.8	1,284.8	3.4	3.4	-60.12	416.5	-725.1	836.3	829.9	6.42	130.361	
1,400.0	1,400.0	1,386.6	1,386.5	3.5	3.4	-60.08	417.7	-726.0	837.6	831.2	6.49	128.981	
1,500.0	1,500.0	1,484.6	1,484.5	3.5	3.5	-60.03	419.0	-726.7	839.0	832.4	6.58	127.584	
1,600.0	1,600.0	1,580.1	1,580.0	3.6	3.5	-59.98	420.5	-727.8	840.8	834.1	6.66	126.183	
1,700.0	1,700.0	1,682.0	1,681.9	3.7	3.6	-59.94	422.1	-729.3	842.7	836.0	6.76	124.641	
1,800.0	1,800.0	1,805.2	1,805.0	3.8	3.7	-59.87	423.7	-730.0	844.0	837.2	6.86	122.994	
1,900.0	1,900.0	1,906.2	1,906.0	3.9	3.7	-59.79	424.2	-728.5	843.1	836.2	6.91	122.075	
2,000.0	2,000.0	2,001.9	2,001.7	3.9	3.7	-59.71	424.8	-727.4	842.4	835.4	6.96	121.066	
2,100.0	2,100.0	2,098.0	2,097.8	4.0	3.8	-59.64	425.6	-726.5	842.0	835.0	7.02	119.925	
2,200.0	2,200.0	2,198.8	2,198.6	4.1	3.9	-59.57	426.4	-725.8	841.8	834.7	7.09	118.676	
2,300.0	2,300.0	2,297.7	2,297.5	4.2	3.9	-59.50	427.2	-725.3	841.7	834.6	7.17	117.377	
2,400.0	2,400.0	2,398.0	2,397.8	4.3	4.0	-59.44	427.9	-724.8	841.7	834.4	7.25	116.065	
2,500.0	2,500.0	2,498.8	2,498.6	4.4	4.1	-59.37	428.7	-724.2	841.6	834.2	7.33	114.735	
2,506.4	2,506.4	2,505.0	2,504.8	4.4	4.1	-128.05	428.8	-724.1	841.6	834.2	7.34	114.662	
2,600.0	2,600.0	2,596.9	2,596.7	4.5	4.2	-128.08	429.3	-723.8	842.6	835.3	7.40	113.914	
2,700.0	2,699.8	2,697.0	2,696.8	4.5	4.2	-128.29	429.6	-723.7	845.9	838.4	7.43	113.771	
2,808.2	2,807.6	2,803.8	2,803.6	4.6	4.3	-128.70	429.6	-723.7	851.9	844.4	7.49	113.752	
2,900.0	2,898.9	2,896.5	2,896.3	4.6	4.3	-129.22	429.7	-723.9	858.3	850.8	7.55	113.723	
3,000.0	2,998.3	2,996.5	2,996.2	4.7	4.3	-129.78	429.5	-724.0	865.2	857.6	7.59	113.997	
3,100.0	3,097.7	3,100.0	3,099.8	4.8	4.3	-130.35	429.3	-723.8	871.8	864.2	7.61	114.574	
3,200.0	3,197.1	3,207.4	3,207.2	4.8	4.3	-130.90	429.0	-722.6	877.7	870.1	7.64	114.928	
3,300.0	3,296.6	3,313.1	3,312.8	4.9	4.3	-131.43	428.5	-720.7	883.0	875.4	7.67	115.065	
3,400.0	3,396.0	3,413.3	3,413.1	5.0	4.4	-131.91	428.1	-718.4	888.0	880.3	7.72	115.015	
3,500.0	3,495.4	3,517.8	3,517.5	5.1	4.4	-132.37	427.9	-715.5	892.7	884.9	7.78	114.771	
3,600.0	3,594.8	3,607.8	3,607.4	5.1	4.5	-132.76	427.9	-713.0	897.4	889.5	7.84	114.466	
3,700.0	3,694.3	3,692.9	3,692.6	5.2	4.5	-133.18	427.8	-712.4	904.1	896.2	7.91	114.317	
3,800.0	3,793.7	3,791.0	3,790.7	5.3	4.6	-133.65	427.8	-712.3	911.4	903.4	7.99	114.055	
3,900.0	3,893.1	3,891.4	3,891.0	5.4	4.6	-134.16	427.6	-712.3	918.7	910.7	8.08	113.701	
4,000.0	3,992.5	4,008.2	4,007.9	5.5	4.6	-134.72	427.1	-711.4	925.4	917.3	8.18	113.158	
4,100.0	4,091.9	4,114.4	4,114.0	5.6	4.7	-135.22	426.2	-709.2	930.7	922.5	8.28	112.403	
4,200.0	4,191.4	4,227.6	4,227.1	5.7	4.7	-135.74	424.8	-705.9	935.3	926.9	8.40	111.411	
4,300.0	4,290.8	4,341.9	4,341.3	5.7	4.8	-136.27	422.5	-700.7	938.0	929.5	8.52	110.084	
4,400.0	4,390.2	4,431.3	4,430.6	5.8	4.8	-136.69	420.4	-696.4	940.6	932.0	8.64	108.898	
4,500.0	4,489.6	4,494.8	4,494.1	5.9	4.8	-137.03	419.0	-695.1	945.8	937.0	8.75	108.134	
4,600.0	4,589.0	4,586.5	4,585.7	6.0	4.8	-137.51	417.6	-695.5	953.5	944.6	8.87	107.515	
4,700.0	4,688.5	4,687.3	4,686.5	6.1	4.8	-138.04	416.2	-696.1	961.5	952.5	9.00	106.883	
4,800.0	4,787.9	4,786.0	4,785.2	6.2	4.8	-138.54	415.0	-696.4	969.4	960.3	9.13	106.201	
4,900.0	4,887.3	4,878.7	4,877.9	6.3	4.9	-138.83	416.7	-696.2	977.9	968.6	9.26	105.645	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #202H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8598-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,986.7	4,969.2	4,968.3	6.4	5.0	-138.97	420.8	-695.7	987.0	977.6	9.39	105.169		
5,100.0	5,086.2	5,045.7	5,044.7	6.5	5.0	-139.06	425.1	-696.7	998.2	988.6	9.52	104.877 SF		

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #301H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8973-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,000.0	8,963.6	19,220.4	9,555.1	11.1	85.2	24.37	244.9	1,309.3	981.3	885.9	95.40	10.285	
9,100.0	9,063.0	19,223.9	9,555.1	11.2	85.2	24.03	248.5	1,309.3	904.3	808.5	95.71	9.447	
9,200.0	9,162.5	19,227.5	9,555.1	11.3	85.2	23.69	252.0	1,309.3	832.1	736.1	95.99	8.669	
9,300.0	9,261.9	19,231.2	9,555.1	11.4	85.3	23.35	255.7	1,309.3	766.3	670.1	96.19	7.966	
9,400.0	9,361.3	19,234.8	9,555.1	11.6	85.3	22.99	259.4	1,309.4	708.5	612.2	96.30	7.357	
9,500.0	9,460.7	19,238.6	9,555.1	11.7	85.3	22.64	263.1	1,309.4	660.8	564.5	96.28	6.863	
9,600.0	9,560.1	19,242.3	9,555.0	11.8	85.3	22.28	266.8	1,309.4	625.5	529.4	96.15	6.506	
9,700.0	9,659.6	19,246.1	9,555.0	11.9	85.4	21.92	270.7	1,309.4	604.9	508.9	95.99	6.302	
9,777.0	9,736.1	19,249.1	9,555.0	12.0	85.4	21.63	273.6	1,309.5	600.0	504.0	95.95	6.253 CC, ES, SF	
9,800.0	9,759.0	19,250.0	9,555.0	12.1	85.4	21.55	274.5	1,309.5	600.4	504.5	95.96	6.257	
9,900.0	9,858.4	19,253.9	9,555.0	12.2	85.4	21.18	278.4	1,309.5	612.5	516.3	96.14	6.370	
10,000.0	9,957.8	19,257.9	9,555.0	12.3	85.5	20.80	282.4	1,309.5	640.0	543.5	96.50	6.633	
10,100.0	10,057.3	19,261.9	9,555.0	12.4	85.5	20.42	286.4	1,309.6	681.3	584.4	96.93	7.029	
10,200.0	10,156.7	19,265.9	9,555.0	12.6	85.5	20.03	290.4	1,309.6	733.9	636.6	97.37	7.538	
10,300.0	10,256.1	19,270.0	9,555.0	12.7	85.6	19.64	294.5	1,309.6	795.7	697.9	97.80	8.136	
10,400.0	10,355.5	19,274.1	9,555.0	12.8	85.6	19.25	298.7	1,309.7	864.6	766.4	98.22	8.803	
10,500.0	10,454.9	19,278.4	9,555.0	13.0	85.7	18.85	302.9	1,309.7	939.1	840.5	98.62	9.522	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	9,261.9	19,686.3	10,049.5	11.4	84.9	29.79	258.0	1,010.8	974.6	878.8	95.78	10.175	
9,400.0	9,361.3	19,690.8	10,049.5	11.6	84.9	28.79	262.5	1,010.8	878.5	782.3	96.14	9.138	
9,500.0	9,460.7	19,695.3	10,049.5	11.7	85.0	27.79	267.0	1,010.7	783.3	686.8	96.49	8.118	
9,600.0	9,560.1	19,699.7	10,049.5	11.8	85.0	26.81	271.4	1,010.7	689.5	592.6	96.85	7.119	
9,700.0	9,659.6	19,704.0	10,049.5	11.9	85.0	25.84	275.7	1,010.7	597.7	500.5	97.21	6.148	
9,800.0	9,759.0	19,708.3	10,049.5	12.1	85.1	24.88	280.0	1,010.6	508.9	411.3	97.54	5.217	
9,900.0	9,858.4	19,712.5	10,049.6	12.2	85.1	23.92	284.2	1,010.6	425.1	327.3	97.81	4.346	
10,000.0	9,957.8	19,716.7	10,049.6	12.3	85.2	22.98	288.4	1,010.6	349.8	251.9	97.89	3.574	
10,100.0	10,057.3	19,720.8	10,049.6	12.4	85.2	22.05	292.5	1,010.5	289.9	192.4	97.49	2.973	
10,200.0	10,156.7	19,724.8	10,049.6	12.6	85.2	21.14	296.6	1,010.5	256.2	159.6	96.60	2.653	
10,242.0	10,198.5	19,726.5	10,049.6	12.6	85.2	20.75	298.2	1,010.5	252.8	156.4	96.40	2.622 CC, ES, SF	
10,300.0	10,256.1	19,728.8	10,049.6	12.7	85.3	20.23	300.5	1,010.5	259.3	162.7	96.61	2.684	
10,400.0	10,355.5	19,732.8	10,049.6	12.8	85.3	19.34	304.5	1,010.4	298.0	200.4	97.60	3.053	
10,500.0	10,454.9	19,735.0	10,049.6	13.0	85.3	18.84	306.7	1,010.4	361.0	262.6	98.45	3.667	
10,600.0	10,554.4	19,735.0	10,049.6	13.1	85.3	18.84	306.7	1,010.4	438.0	338.9	99.07	4.421	
10,700.0	10,653.8	19,743.4	10,049.6	13.2	85.4	16.95	315.1	1,010.3	522.8	423.2	99.62	5.248	
10,800.0	10,753.2	19,746.5	10,049.6	13.3	85.4	16.24	318.2	1,010.3	612.2	512.1	100.09	6.116	
10,900.0	10,852.6	19,749.5	10,049.6	13.5	85.4	15.56	321.2	1,010.3	704.4	603.9	100.53	7.007	
11,000.0	10,952.0	19,752.4	10,049.6	13.6	85.5	14.92	324.1	1,010.3	798.5	697.5	100.95	7.910	
11,100.0	11,051.5	19,755.2	10,049.6	13.7	85.5	14.30	326.9	1,010.3	893.8	792.5	101.36	8.819	
11,200.0	11,150.9	19,757.8	10,049.6	13.9	85.5	13.71	329.5	1,010.3	990.1	888.4	101.76	9.730	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	8,267.7	18,712.4	9,083.3	10.2	84.7	-160.82	248.5	432.1	952.3	860.4	91.94	10.359	
8,400.0	8,367.1	18,714.0	9,083.2	10.3	84.7	-160.43	250.1	432.2	855.5	763.3	92.21	9.278	
8,500.0	8,466.5	18,715.5	9,083.2	10.4	84.7	-160.04	251.6	432.2	759.6	667.1	92.49	8.212	
8,600.0	8,565.9	18,717.0	9,083.2	10.6	84.7	-159.66	253.1	432.2	664.8	572.0	92.78	7.165	
8,700.0	8,665.3	18,718.5	9,083.1	10.7	84.8	-159.28	254.6	432.3	571.7	478.7	93.09	6.142	
8,800.0	8,764.8	18,720.0	9,083.1	10.8	84.8	-158.91	256.1	432.3	481.5	388.1	93.41	5.155	
8,900.0	8,864.2	18,721.4	9,083.0	10.9	84.8	-158.54	257.5	432.3	396.0	302.3	93.76	4.224	
9,000.0	8,963.6	18,722.8	9,083.0	11.1	84.8	-158.18	258.9	432.4	319.1	224.9	94.12	3.390	
9,100.0	9,063.0	18,724.2	9,083.0	11.2	84.8	-157.82	260.3	432.4	258.4	164.0	94.40	2.737	
9,200.0	9,162.5	18,725.6	9,082.9	11.3	84.8	-157.47	261.7	432.4	227.4	132.9	94.53	2.406	
9,225.2	9,187.5	18,726.0	9,082.9	11.3	84.8	-157.39	262.1	432.4	226.0	131.4	94.63	2.389 CC, ES, SF	
9,300.0	9,261.9	18,727.0	9,082.9	11.4	84.8	-157.13	263.1	432.5	238.1	142.9	95.24	2.500	
9,400.0	9,361.3	18,728.3	9,082.9	11.6	84.8	-156.79	264.4	432.5	285.7	189.8	95.97	2.977	
9,500.0	9,460.7	18,729.7	9,082.8	11.7	84.9	-156.45	265.8	432.5	355.8	259.5	96.29	3.695	
9,600.0	9,560.1	18,731.0	9,082.8	11.8	84.9	-156.12	267.1	432.5	437.6	341.2	96.48	4.536	
9,700.0	9,659.6	18,732.3	9,082.7	11.9	84.9	-155.79	268.4	432.6	525.8	429.1	96.68	5.439	
9,800.0	9,759.0	18,733.5	9,082.7	12.1	84.9	-155.47	269.7	432.6	617.6	520.7	96.90	6.374	
9,900.0	9,858.4	18,734.8	9,082.7	12.2	84.9	-155.15	270.9	432.6	711.6	614.4	97.14	7.325	
10,000.0	9,957.8	18,736.0	9,082.6	12.3	84.9	-154.83	272.1	432.6	807.0	709.6	97.41	8.285	
10,100.0	10,057.3	18,737.3	9,082.6	12.4	84.9	-154.52	273.4	432.7	903.4	805.8	97.69	9.248	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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, 11908-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
0.0	0.0	0.0	0.0	3.0	3.0	180.00	-45.0	0.0	45.1				
100.0	100.0	97.2	97.2	3.0	3.0	180.00	-45.0	0.0	45.0	39.0	6.00	7.499	
200.0	200.0	197.2	197.2	3.0	3.0	180.00	-45.0	0.0	45.0	39.0	6.01	7.487	
300.0	300.0	297.2	297.2	3.0	3.0	180.00	-45.0	0.0	45.0	39.0	6.03	7.461	
400.0	400.0	397.2	397.2	3.0	3.0	180.00	-45.0	0.0	45.0	38.9	6.06	7.421	
500.0	500.0	497.2	497.2	3.1	3.1	180.00	-45.0	0.0	45.0	38.9	6.11	7.367	
600.0	600.0	597.2	597.2	3.1	3.1	180.00	-45.0	0.0	45.0	38.8	6.16	7.302	
700.0	700.0	697.2	697.2	3.1	3.1	180.00	-45.0	0.0	45.0	38.8	6.23	7.225	
800.0	800.0	797.2	797.2	3.2	3.2	180.00	-45.0	0.0	45.0	38.7	6.30	7.138	
900.0	900.0	897.2	897.2	3.2	3.2	180.00	-45.0	0.0	45.0	38.6	6.39	7.042	
1,000.0	1,000.0	997.2	997.2	3.2	3.2	180.00	-45.0	0.0	45.0	38.5	6.49	6.939	
1,100.0	1,100.0	1,097.2	1,097.2	3.3	3.3	180.00	-45.0	0.0	45.0	38.4	6.59	6.829	
1,200.0	1,200.0	1,197.2	1,197.2	3.4	3.4	180.00	-45.0	0.0	45.0	38.3	6.70	6.713	
1,300.0	1,300.0	1,297.2	1,297.2	3.4	3.4	180.00	-45.0	0.0	45.0	38.2	6.82	6.593	
1,400.0	1,400.0	1,397.2	1,397.2	3.5	3.5	180.00	-45.0	0.0	45.0	38.0	6.95	6.471	
1,500.0	1,500.0	1,497.2	1,497.2	3.5	3.5	180.00	-45.0	0.0	45.0	37.9	7.09	6.346	
1,600.0	1,600.0	1,597.2	1,597.2	3.6	3.6	180.00	-45.0	0.0	45.0	37.8	7.24	6.219	
1,700.0	1,700.0	1,697.2	1,697.2	3.7	3.7	180.00	-45.0	0.0	45.0	37.6	7.39	6.093	
1,800.0	1,800.0	1,797.2	1,797.2	3.8	3.8	180.00	-45.0	0.0	45.0	37.5	7.54	5.966	
1,900.0	1,900.0	1,897.2	1,897.2	3.9	3.9	180.00	-45.0	0.0	45.0	37.3	7.71	5.840	
2,000.0	2,000.0	1,997.2	1,997.2	3.9	3.9	180.00	-45.0	0.0	45.0	37.1	7.87	5.715	
2,100.0	2,100.0	2,097.2	2,097.2	4.0	4.0	180.00	-45.0	0.0	45.0	37.0	8.05	5.592	
2,200.0	2,200.0	2,197.2	2,197.2	4.1	4.1	180.00	-45.0	0.0	45.0	36.8	8.23	5.471	
2,300.0	2,300.0	2,297.2	2,297.2	4.2	4.2	180.00	-45.0	0.0	45.0	36.6	8.41	5.352	
2,400.0	2,400.0	2,397.2	2,397.2	4.3	4.3	180.00	-45.0	0.0	45.0	36.4	8.59	5.236	
2,500.0	2,500.0	2,497.2	2,497.2	4.4	4.4	180.00	-45.0	0.0	45.0	36.2	8.79	5.122 CC	
2,600.0	2,600.0	2,597.7	2,597.7	4.5	4.5	111.41	-44.4	1.6	45.1	36.1	8.93	5.044 ES	
2,700.0	2,699.8	2,698.3	2,698.1	4.5	4.5	111.43	-42.7	6.4	45.2	36.2	9.04	5.001	
2,808.2	2,807.6	2,807.0	2,806.4	4.6	4.6	111.40	-39.4	15.4	45.4	36.3	9.15	4.965	
2,900.0	2,898.9	2,898.8	2,897.7	4.6	4.6	111.61	-36.1	24.5	45.7	36.5	9.25	4.944	
3,000.0	2,998.3	2,998.8	2,997.2	4.7	4.7	111.84	-32.5	34.3	46.1	36.7	9.36	4.920	
3,100.0	3,097.7	3,098.8	3,096.6	4.8	4.8	112.06	-28.9	44.1	46.4	36.9	9.48	4.896	
3,200.0	3,197.1	3,198.8	3,196.1	4.8	4.8	112.27	-25.4	53.9	46.7	37.1	9.60	4.870	
3,300.0	3,296.6	3,298.8	3,295.5	4.9	4.9	112.49	-21.8	63.7	47.1	37.3	9.72	4.843	
3,400.0	3,396.0	3,398.8	3,395.0	5.0	5.0	112.70	-18.2	73.6	47.4	37.6	9.84	4.816	
3,500.0	3,495.4	3,498.8	3,494.4	5.1	5.0	112.91	-14.6	83.4	47.7	37.8	9.97	4.788	
3,600.0	3,594.8	3,598.8	3,593.9	5.1	5.1	113.11	-11.1	93.2	48.1	38.0	10.10	4.759	
3,700.0	3,694.3	3,698.8	3,693.3	5.2	5.2	113.32	-7.5	103.0	48.4	38.2	10.23	4.729	
3,800.0	3,793.7	3,798.8	3,792.8	5.3	5.3	113.52	-3.9	112.9	48.7	38.4	10.37	4.699	
3,900.0	3,893.1	3,898.8	3,892.2	5.4	5.4	113.71	-0.3	122.7	49.1	38.6	10.51	4.669	
4,000.0	3,992.5	3,998.8	3,991.7	5.5	5.5	113.91	3.2	132.5	49.4	38.8	10.65	4.638	
4,100.0	4,091.9	4,098.8	4,091.2	5.6	5.5	114.10	6.8	142.3	49.7	38.9	10.80	4.606	
4,200.0	4,191.4	4,198.8	4,190.6	5.7	5.6	114.29	10.4	152.1	50.1	39.1	10.95	4.575	
4,300.0	4,290.8	4,298.8	4,290.1	5.7	5.7	114.47	14.0	162.0	50.4	39.3	11.10	4.543	
4,400.0	4,390.2	4,398.8	4,389.5	5.8	5.8	114.66	17.5	171.8	50.8	39.5	11.25	4.510	
4,500.0	4,489.6	4,498.8	4,489.0	5.9	5.9	114.84	21.1	181.6	51.1	39.7	11.41	4.478	
4,600.0	4,589.0	4,598.8	4,588.4	6.0	6.0	115.02	24.7	191.4	51.4	39.9	11.57	4.446	
4,700.0	4,688.5	4,698.8	4,687.9	6.1	6.1	115.20	28.3	201.3	51.8	40.0	11.73	4.413	
4,800.0	4,787.9	4,798.8	4,787.3	6.2	6.2	115.37	31.8	211.1	52.1	40.2	11.90	4.380	
4,900.0	4,887.3	4,898.8	4,886.8	6.3	6.3	115.54	35.4	220.9	52.5	40.4	12.07	4.348	
5,000.0	4,986.7	4,998.8	4,986.2	6.4	6.4	115.71	39.0	230.7	52.8	40.6	12.24	4.315	
5,100.0	5,086.2	5,098.8	5,085.7	6.5	6.5	115.88	42.6	240.5	53.2	40.7	12.41	4.283	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #701H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11908-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
5,200.0	5,185.6	5,198.8	5,185.1	6.6	6.6	116.05	46.1	250.4	53.5	40.9	12.59	4.250	
5,300.0	5,285.0	5,298.8	5,284.6	6.7	6.7	116.21	49.7	260.2	53.8	41.1	12.76	4.218	
5,400.0	5,384.4	5,398.8	5,384.0	6.8	6.8	116.37	53.3	270.0	54.2	41.2	12.94	4.186	
5,500.0	5,483.8	5,498.8	5,483.5	7.0	6.9	116.53	56.9	279.8	54.5	41.4	13.13	4.154	
5,600.0	5,583.3	5,598.8	5,582.9	7.1	7.0	116.69	60.4	289.7	54.9	41.6	13.31	4.122	
5,700.0	5,682.7	5,698.8	5,682.4	7.2	7.1	116.84	64.0	299.5	55.2	41.7	13.50	4.090	
5,800.0	5,782.1	5,798.8	5,781.8	7.3	7.2	117.00	67.6	309.3	55.6	41.9	13.69	4.059	
5,900.0	5,881.5	5,898.8	5,881.3	7.4	7.4	117.15	71.2	319.1	55.9	42.0	13.88	4.028	
6,000.0	5,981.0	5,998.8	5,980.7	7.5	7.5	117.30	74.7	328.9	56.3	42.2	14.07	3.997	
6,100.0	6,080.4	6,098.8	6,080.2	7.6	7.6	117.45	78.3	338.8	56.6	42.3	14.27	3.967	
6,200.0	6,179.8	6,198.8	6,179.6	7.7	7.7	117.59	81.9	348.6	56.9	42.5	14.47	3.936	
6,300.0	6,279.2	6,298.8	6,279.1	7.8	7.8	117.74	85.5	358.4	57.3	42.6	14.67	3.906	
6,400.0	6,378.6	6,398.8	6,378.5	7.9	7.9	117.88	89.0	368.2	57.6	42.8	14.87	3.877	
6,500.0	6,478.1	6,498.8	6,478.0	8.1	8.0	118.02	92.6	378.1	58.0	42.9	15.07	3.847	
6,600.0	6,577.5	6,598.8	6,577.4	8.2	8.1	118.16	96.2	387.9	58.3	43.1	15.28	3.818	
6,700.0	6,676.9	6,698.8	6,676.9	8.3	8.3	118.30	99.8	397.7	58.7	43.2	15.49	3.789	
6,800.0	6,776.3	6,798.8	6,776.3	8.4	8.4	118.43	103.3	407.5	59.0	43.3	15.70	3.761	
6,900.0	6,875.8	6,898.8	6,875.8	8.5	8.5	118.57	106.9	417.3	59.4	43.5	15.91	3.733	
7,000.0	6,975.2	6,998.8	6,975.2	8.6	8.6	118.70	110.5	427.2	59.7	43.6	16.12	3.705	
7,100.0	7,074.6	7,098.8	7,074.7	8.8	8.7	118.83	114.1	437.0	60.1	43.7	16.34	3.678	
7,200.0	7,174.0	7,198.8	7,174.1	8.9	8.8	118.96	117.6	446.8	60.4	43.9	16.55	3.651	
7,300.0	7,273.4	7,298.8	7,273.6	9.0	9.0	119.09	121.2	456.6	60.8	44.0	16.77	3.624	
7,400.0	7,372.9	7,398.8	7,373.1	9.1	9.1	119.22	124.8	466.5	61.1	44.1	16.99	3.598	
7,500.0	7,472.3	7,498.8	7,472.5	9.2	9.2	119.34	128.4	476.3	61.5	44.3	17.22	3.572	
7,600.0	7,571.7	7,598.8	7,572.0	9.3	9.3	119.47	131.9	486.1	61.8	44.4	17.44	3.546	
7,700.0	7,671.1	7,698.8	7,671.4	9.5	9.4	119.59	135.5	495.9	62.2	44.5	17.67	3.520	
7,800.0	7,770.5	7,798.8	7,770.9	9.6	9.5	119.71	139.1	505.8	62.5	44.7	17.89	3.495	
7,900.0	7,870.0	7,898.8	7,870.3	9.7	9.7	119.83	142.7	515.6	62.9	44.8	18.12	3.471	
8,000.0	7,969.4	7,998.8	7,969.8	9.8	9.8	119.95	146.2	525.4	63.3	44.9	18.35	3.446	
8,100.0	8,068.8	8,098.8	8,069.2	9.9	9.9	120.07	149.8	535.2	63.6	45.0	18.59	3.422	
8,200.0	8,168.2	8,198.8	8,168.7	10.1	10.0	120.18	153.4	545.0	64.0	45.1	18.82	3.399	
8,300.0	8,267.7	8,298.8	8,268.1	10.2	10.2	120.30	157.0	554.9	64.3	45.3	19.05	3.375	
8,400.0	8,367.1	8,398.8	8,367.6	10.3	10.3	120.41	160.5	564.7	64.7	45.4	19.29	3.352	
8,500.0	8,466.5	8,498.8	8,467.0	10.4	10.4	120.52	164.1	574.5	65.0	45.5	19.53	3.329	
8,600.0	8,565.9	8,598.8	8,566.5	10.6	10.5	120.63	167.7	584.3	65.4	45.6	19.77	3.307	
8,700.0	8,665.3	8,698.8	8,665.9	10.7	10.6	120.74	171.3	594.2	65.7	45.7	20.01	3.285	
8,800.0	8,764.8	8,798.8	8,765.4	10.8	10.8	120.85	174.8	604.0	66.1	45.8	20.25	3.263	
8,900.0	8,864.2	8,898.8	8,864.8	10.9	10.9	120.96	178.4	613.8	66.4	45.9	20.50	3.242	
9,000.0	8,963.6	8,998.8	8,964.3	11.1	11.0	121.06	182.0	623.6	66.8	46.1	20.74	3.220	
9,100.0	9,063.0	9,098.8	9,063.7	11.2	11.1	121.17	185.6	633.4	67.1	46.2	20.99	3.199	
9,200.0	9,162.5	9,198.8	9,163.2	11.3	11.3	121.27	189.1	643.3	67.5	46.3	21.24	3.179	
9,300.0	9,261.9	9,298.8	9,262.6	11.4	11.4	121.38	192.7	653.1	67.9	46.4	21.48	3.159	
9,400.0	9,361.3	9,398.8	9,362.1	11.6	11.5	121.48	196.3	662.9	68.2	46.5	21.74	3.138	
9,500.0	9,460.7	9,498.8	9,461.5	11.7	11.6	121.58	199.9	672.7	68.6	46.6	21.99	3.119	
9,600.0	9,560.1	9,598.8	9,561.0	11.8	11.8	121.68	203.4	682.6	68.9	46.7	22.24	3.099	
9,700.0	9,659.6	9,698.8	9,660.4	11.9	11.9	121.78	207.0	692.4	69.3	46.8	22.50	3.080	
9,800.0	9,759.0	9,798.8	9,759.9	12.1	12.0	121.88	210.6	702.2	69.6	46.9	22.75	3.061	
9,900.0	9,858.4	9,898.8	9,859.3	12.2	12.1	121.97	214.2	712.0	70.0	47.0	23.01	3.042	
10,000.0	9,957.8	9,998.8	9,958.8	12.3	12.3	122.07	217.7	721.8	70.4	47.1	23.27	3.024	
10,100.0	10,057.3	10,098.8	10,058.2	12.4	12.4	122.16	221.3	731.7	70.7	47.2	23.53	3.006	
10,200.0	10,156.7	10,198.8	10,157.7	12.6	12.5	122.26	224.9	741.5	71.1	47.3	23.79	2.988	
10,300.0	10,256.1	10,298.8	10,257.1	12.7	12.6	122.35	228.5	751.3	71.4	47.4	24.05	2.970	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #701H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11908-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
10,400.0	10,355.5	10,398.8	10,356.6	12.8	12.8	122.44	232.0	761.1	71.8	47.5	24.31	2.953	
10,500.0	10,454.9	10,498.8	10,456.0	13.0	12.9	122.53	235.6	771.0	72.1	47.6	24.58	2.936	
10,600.0	10,554.4	10,598.8	10,555.5	13.1	13.0	122.62	239.2	780.8	72.5	47.7	24.84	2.919	
10,700.0	10,653.8	10,698.8	10,654.9	13.2	13.2	122.71	242.8	790.6	72.9	47.8	25.11	2.902	
10,800.0	10,753.2	10,798.8	10,754.4	13.3	13.3	122.80	246.3	800.4	73.2	47.8	25.38	2.886	
10,900.0	10,852.6	10,898.8	10,853.9	13.5	13.4	122.89	249.9	810.2	73.6	47.9	25.64	2.869	
11,000.0	10,952.0	10,998.8	10,953.3	13.6	13.5	122.97	253.5	820.1	73.9	48.0	25.91	2.853	
11,100.0	11,051.5	11,098.8	11,052.8	13.7	13.7	123.06	257.1	829.9	74.3	48.1	26.19	2.837	
11,200.0	11,150.9	11,198.8	11,152.2	13.9	13.8	123.14	260.6	839.7	74.7	48.2	26.46	2.822	
11,300.0	11,250.3	11,298.8	11,251.7	14.0	13.9	123.23	264.2	849.5	75.0	48.3	26.73	2.806	
11,400.0	11,349.7	11,398.8	11,351.1	14.1	14.1	123.31	267.8	859.4	75.4	48.4	27.01	2.791	
11,500.0	11,449.2	11,498.8	11,450.6	14.3	14.2	123.39	271.4	869.2	75.7	48.5	27.28	2.776	
11,600.0	11,548.6	11,598.8	11,550.0	14.4	14.3	123.48	274.9	879.0	76.1	48.5	27.56	2.761	
11,700.0	11,648.0	11,698.8	11,649.5	14.5	14.5	123.56	278.5	888.8	76.5	48.6	27.84	2.747	
11,800.0	11,747.4	11,798.8	11,748.9	14.7	14.6	123.64	282.1	898.6	76.8	48.7	28.11	2.732	
11,900.0	11,846.8	11,898.8	11,848.4	14.8	14.7	123.72	285.7	908.5	77.2	48.9	28.33	2.725	
12,000.0	11,946.3	11,987.3	11,936.0	14.9	14.7	121.31	282.7	919.5	83.9	54.9	28.98	2.894	
12,100.0	12,045.7	12,069.6	12,015.2	15.1	14.7	115.40	266.5	934.6	106.4	75.4	31.02	3.431	
12,131.6	12,077.1	12,093.9	12,037.7	15.1	14.7	113.50	259.3	939.9	116.9	84.9	31.95	3.659	
12,150.0	12,095.4	12,107.7	12,050.3	15.1	14.7	91.51	254.7	943.1	123.3	91.0	32.33	3.815	
12,175.0	12,120.3	12,125.0	12,066.0	15.1	14.7	62.74	248.4	947.3	131.9	98.5	33.34	3.956	
12,200.0	12,145.1	12,144.5	12,083.2	15.1	14.8	42.73	240.7	952.2	140.1	106.1	34.00	4.122	
12,225.0	12,169.7	12,162.7	12,098.9	15.1	14.8	30.34	233.0	956.9	148.1	113.2	34.90	4.243	
12,250.0	12,194.2	12,180.6	12,114.1	15.1	14.8	22.26	224.7	961.8	155.8	119.9	35.84	4.346	
12,275.0	12,218.4	12,200.0	12,130.1	15.1	14.8	16.46	215.2	967.2	163.2	126.6	36.55	4.465	
12,300.0	12,242.2	12,215.9	12,142.9	15.1	14.8	12.29	207.0	971.9	170.3	132.5	37.78	4.507	
12,325.0	12,265.7	12,233.3	12,156.6	15.1	14.8	8.90	197.5	977.0	177.1	138.3	38.76	4.568	
12,350.0	12,288.6	12,250.0	12,169.2	15.1	14.8	6.14	187.9	982.1	183.6	143.8	39.83	4.610	
12,375.0	12,311.1	12,267.7	12,182.2	15.1	14.8	3.72	177.4	987.7	189.9	149.1	40.71	4.663	
12,400.0	12,333.0	12,284.6	12,194.3	15.1	14.8	1.62	166.8	993.1	195.8	154.1	41.67	4.699	
12,425.0	12,354.2	12,300.0	12,204.9	15.1	14.8	-0.16	156.8	998.1	201.5	158.7	42.78	4.710	
12,450.0	12,374.7	12,318.0	12,216.9	15.2	14.9	-1.96	144.7	1,004.1	206.9	163.4	43.50	4.756	
12,475.0	12,394.4	12,334.6	12,227.4	15.2	14.9	-3.54	133.2	1,009.7	212.0	167.7	44.37	4.779	
12,500.0	12,413.3	12,350.0	12,236.8	15.2	14.9	-4.96	122.2	1,015.0	216.9	171.6	45.31	4.787	
12,525.0	12,431.4	12,367.3	12,246.9	15.2	14.9	-6.42	109.5	1,021.0	221.5	175.5	45.99	4.816	
12,550.0	12,448.5	12,383.5	12,255.9	15.2	14.9	-7.77	97.3	1,026.7	225.8	179.1	46.71	4.834	
12,575.0	12,464.6	12,400.0	12,264.5	15.2	14.9	-9.08	84.6	1,032.6	229.9	182.5	47.35	4.855	
12,600.0	12,479.8	12,415.6	12,272.3	15.2	15.0	-10.31	72.2	1,038.2	233.7	185.7	48.00	4.869	
12,625.0	12,493.9	12,431.6	12,279.8	15.3	15.0	-11.54	59.3	1,044.0	237.3	188.7	48.55	4.888	
12,650.0	12,506.9	12,450.0	12,287.8	15.3	15.0	-12.92	44.2	1,050.7	240.7	191.8	48.83	4.928	
12,675.0	12,518.8	12,463.3	12,293.2	15.3	15.0	-13.93	33.1	1,055.6	243.8	194.3	49.44	4.930	
12,700.0	12,529.5	12,475.0	12,297.7	15.3	15.0	-14.80	23.2	1,059.9	246.7	196.6	50.06	4.928	
12,725.0	12,539.0	12,494.8	12,304.6	15.4	15.1	-16.27	6.2	1,067.2	249.3	199.3	50.04	4.982	
12,750.0	12,547.3	12,510.4	12,309.6	15.4	15.1	-17.43	-7.5	1,073.0	251.8	201.6	50.22	5.014	
12,775.0	12,554.4	12,525.0	12,313.8	15.4	15.1	-18.52	-20.4	1,078.4	254.1	203.7	50.38	5.043	
12,800.0	12,560.2	12,541.7	12,318.1	15.4	15.2	-19.77	-35.3	1,084.6	256.2	205.8	50.33	5.089	
12,825.0	12,564.7	12,557.3	12,321.5	15.5	15.2	-20.94	-49.4	1,090.4	258.1	207.8	50.26	5.134	
12,850.0	12,568.0	12,575.0	12,324.9	15.5	15.2	-22.29	-65.4	1,097.0	259.8	209.8	50.02	5.194	
12,875.0	12,569.9	12,588.6	12,327.0	15.5	15.2	-23.31	-77.8	1,102.0	261.4	211.5	49.86	5.243	
12,900.8	12,570.6	12,604.7	12,329.1	15.5	15.3	-24.55	-92.7	1,107.9	262.9	213.4	49.51	5.309	
13,000.0	12,570.4	12,672.5	12,331.9	15.7	15.4	-29.50	-155.8	1,132.5	275.6	227.8	47.80	5.765	
13,100.0	12,570.3	12,772.2	12,331.7	15.9	15.7	-35.27	-249.7	1,166.1	294.4	248.6	45.89	6.416	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #701H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11908-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	
13,200.0	12,570.2	12,874.4	12,331.4	16.1	16.0	-39.95	-347.0	1,197.2	313.5	269.1	44.41	7.060	
13,300.0	12,570.0	12,978.8	12,331.1	16.4	16.4	-43.69	-447.5	1,225.4	331.8	288.5	43.36	7.653	
13,400.0	12,569.9	13,085.1	12,330.8	16.8	16.8	-46.64	-550.9	1,250.3	348.6	305.9	42.72	8.160	
13,500.0	12,569.8	13,193.3	12,330.6	17.2	17.2	-48.93	-656.9	1,271.6	363.3	320.8	42.42	8.563	
13,600.0	12,569.6	13,302.9	12,330.3	17.6	17.7	-50.66	-765.1	1,289.2	375.5	333.0	42.42	8.851	
13,700.0	12,569.5	13,413.7	12,330.0	18.1	18.2	-51.90	-875.0	1,302.7	384.9	342.2	42.67	9.020	
13,800.0	12,569.3	13,525.3	12,329.7	18.6	18.8	-52.70	-986.3	1,312.0	391.4	348.3	43.13	9.074	
13,900.0	12,569.2	13,637.6	12,329.4	19.2	19.4	-53.10	-1,098.4	1,317.0	394.8	351.1	43.77	9.020	
14,000.0	12,569.1	13,746.5	12,329.1	19.7	19.9	-53.13	-1,207.3	1,317.8	395.2	350.6	44.61	8.860	
14,100.0	12,568.9	13,846.5	12,328.9	20.3	20.5	-53.07	-1,307.3	1,317.4	394.8	349.2	45.64	8.652	
14,200.0	12,568.8	13,946.5	12,328.6	21.0	21.1	-53.01	-1,407.3	1,317.1	394.4	347.8	46.70	8.447	
14,300.0	12,568.7	14,046.5	12,328.4	21.6	21.6	-52.94	-1,507.3	1,316.7	394.1	346.3	47.79	8.245	
14,400.0	12,568.5	14,146.5	12,328.1	22.2	22.3	-52.88	-1,607.3	1,316.4	393.7	344.7	48.92	8.047	
14,500.0	12,568.4	14,246.5	12,327.9	22.9	22.9	-52.81	-1,707.3	1,316.0	393.3	343.2	50.08	7.853	
14,600.0	12,568.2	14,346.5	12,327.6	23.6	23.5	-52.75	-1,807.3	1,315.7	392.9	341.6	51.26	7.664	
14,700.0	12,568.1	14,446.5	12,327.4	24.3	24.2	-52.68	-1,907.3	1,315.4	392.5	340.0	52.47	7.479	
14,800.0	12,568.0	14,546.5	12,327.1	25.0	24.9	-52.62	-2,007.3	1,315.0	392.1	338.4	53.71	7.300	
14,900.0	12,567.8	14,646.5	12,326.9	25.7	25.5	-52.55	-2,107.3	1,314.7	391.7	336.7	54.96	7.126	
15,000.0	12,567.7	14,746.5	12,326.6	26.4	26.2	-52.49	-2,207.3	1,314.3	391.3	335.0	56.24	6.957	
15,100.0	12,567.5	14,846.5	12,326.4	27.2	26.9	-52.42	-2,307.3	1,314.0	390.9	333.3	57.54	6.793	
15,200.0	12,567.4	14,946.5	12,326.1	27.9	27.7	-52.36	-2,407.3	1,313.6	390.5	331.6	58.86	6.635	
15,300.0	12,567.3	15,046.5	12,325.9	28.7	28.4	-52.29	-2,507.3	1,313.3	390.1	329.9	60.19	6.481	
15,400.0	12,567.1	15,146.5	12,325.6	29.4	29.1	-52.23	-2,607.3	1,312.9	389.7	328.2	61.54	6.333	
15,500.0	12,567.0	15,246.5	12,325.4	30.2	29.9	-52.16	-2,707.3	1,312.6	389.3	326.4	62.90	6.190	
15,600.0	12,566.9	15,346.5	12,325.1	30.9	30.6	-52.10	-2,807.3	1,312.3	388.9	324.7	64.28	6.051	
15,700.0	12,566.7	15,446.5	12,324.9	31.7	31.4	-52.03	-2,907.3	1,311.9	388.5	322.9	65.67	5.917	
15,800.0	12,566.6	15,546.5	12,324.6	32.5	32.1	-51.96	-3,007.3	1,311.6	388.1	321.1	67.07	5.787	
15,900.0	12,566.4	15,646.5	12,324.4	33.3	32.9	-51.90	-3,107.3	1,311.2	387.8	319.3	68.48	5.662	
16,000.0	12,566.3	15,746.5	12,324.1	34.0	33.6	-51.83	-3,207.3	1,310.9	387.4	317.5	69.90	5.542	
16,100.0	12,566.2	15,846.5	12,323.9	34.8	34.4	-51.76	-3,307.3	1,310.5	387.0	315.6	71.34	5.425	
16,200.0	12,566.0	15,946.5	12,323.6	35.6	35.2	-51.70	-3,407.3	1,310.2	386.6	313.8	72.78	5.312	
16,300.0	12,565.9	16,046.5	12,323.4	36.4	36.0	-51.63	-3,507.3	1,309.9	386.2	312.0	74.23	5.203	
16,400.0	12,565.7	16,146.5	12,323.1	37.2	36.8	-51.56	-3,607.3	1,309.5	385.8	310.1	75.69	5.097	
16,500.0	12,565.6	16,246.5	12,322.9	38.0	37.5	-51.50	-3,707.3	1,309.2	385.4	308.3	77.16	4.995	
16,600.0	12,565.5	16,346.5	12,322.6	38.8	38.3	-51.43	-3,807.3	1,308.8	385.0	306.4	78.63	4.897	
16,700.0	12,565.3	16,446.5	12,322.3	39.6	39.1	-51.36	-3,907.3	1,308.5	384.7	304.5	80.11	4.801	
16,800.0	12,565.2	16,546.5	12,322.1	40.4	39.9	-51.29	-4,007.3	1,308.1	384.3	302.7	81.60	4.709	
16,900.0	12,565.1	16,649.3	12,321.6	41.2	40.7	-51.15	-4,110.1	1,307.2	383.6	300.5	83.05	4.619	
16,941.4	12,565.0	16,690.6	12,321.3	41.6	41.1	-51.04	-4,151.4	1,306.5	383.1	299.4	83.68	4.579	
16,955.6	12,564.9	16,704.8	12,321.2	41.7	41.2	-51.02	-4,165.6	1,306.3	382.9	299.0	83.89	4.565	
17,000.0	12,564.7	16,749.2	12,320.9	42.0	41.5	-50.93	-4,210.0	1,305.5	382.3	297.7	84.56	4.521	
17,100.0	12,564.0	16,849.2	12,320.2	42.8	42.3	-50.74	-4,310.0	1,303.9	380.9	294.8	86.07	4.425	
17,200.0	12,563.4	16,949.2	12,319.5	43.7	43.2	-50.55	-4,410.0	1,302.2	379.5	291.9	87.59	4.332	
17,231.3	12,563.2	16,980.0	12,319.3	43.9	43.4	-50.49	-4,440.8	1,301.7	379.0	291.0	88.07	4.304	
17,251.1	12,563.1	16,998.0	12,319.1	44.1	43.5	-50.46	-4,458.7	1,301.5	378.8	290.4	88.40	4.285	
17,300.0	12,562.8	17,042.4	12,318.8	44.5	43.9	-50.41	-4,503.1	1,301.5	378.4	289.2	89.22	4.241	
17,306.0	12,562.7	17,047.8	12,318.8	44.5	43.9	-50.41	-4,508.6	1,301.5	378.4	289.1	89.31	4.237	
17,400.0	12,562.1	17,139.5	12,318.1	45.3	44.7	-50.46	-4,600.2	1,302.9	378.9	288.1	90.76	4.175	
17,500.0	12,561.5	17,239.5	12,317.4	46.1	45.5	-50.52	-4,700.2	1,304.6	379.5	287.2	92.28	4.113	
17,600.0	12,560.9	17,339.5	12,316.7	46.9	46.3	-50.58	-4,800.2	1,306.3	380.1	286.3	93.80	4.053	
17,700.0	12,560.3	17,439.5	12,316.0	47.8	47.1	-50.64	-4,900.2	1,308.0	380.8	285.4	95.32	3.994	
17,800.0	12,559.6	17,539.5	12,315.3	48.6	48.0	-50.70	-5,000.2	1,309.6	381.4	284.5	96.85	3.938	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 #701H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11908-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	
17,900.0	12,559.0	17,639.5	12,314.6	49.4	48.8	-50.76	-5,100.2	1,311.3	382.0	283.6	98.38	3.883	
18,000.0	12,558.4	17,739.5	12,313.9	50.2	49.6	-50.83	-5,200.1	1,313.0	382.6	282.7	99.92	3.829	
18,100.0	12,557.8	17,839.5	12,313.2	51.1	50.4	-50.89	-5,300.1	1,314.6	383.2	281.8	101.47	3.777	
18,200.0	12,557.1	17,939.5	12,312.5	51.9	51.3	-50.95	-5,400.1	1,316.3	383.9	280.8	103.02	3.726	
18,300.0	12,556.5	18,039.5	12,311.8	52.7	52.1	-51.01	-5,500.1	1,318.0	384.5	279.9	104.57	3.677	
18,400.0	12,555.9	18,139.5	12,311.1	53.5	52.9	-51.07	-5,600.1	1,319.6	385.1	279.0	106.12	3.629	
18,500.0	12,555.2	18,239.5	12,310.4	54.4	53.8	-51.13	-5,700.0	1,321.3	385.7	278.0	107.68	3.582	
18,600.0	12,554.6	18,339.5	12,309.7	55.2	54.6	-51.19	-5,800.0	1,323.0	386.3	277.1	109.25	3.536	
18,700.0	12,554.0	18,439.5	12,309.0	56.0	55.4	-51.25	-5,900.0	1,324.7	387.0	276.1	110.82	3.492	
18,800.0	12,553.4	18,539.5	12,308.3	56.9	56.2	-51.30	-6,000.0	1,326.3	387.6	275.2	112.39	3.449	
18,900.0	12,552.7	18,639.5	12,307.6	57.7	57.1	-51.36	-6,100.0	1,328.0	388.2	274.2	113.96	3.406	
19,000.0	12,552.1	18,739.5	12,306.9	58.5	57.9	-51.42	-6,199.9	1,329.7	388.8	273.3	115.54	3.365	
19,100.0	12,551.5	18,839.5	12,306.2	59.4	58.7	-51.48	-6,299.9	1,331.3	389.5	272.3	117.12	3.325	
19,200.0	12,550.9	18,939.5	12,305.5	60.2	59.6	-51.54	-6,399.9	1,333.0	390.1	271.4	118.70	3.286	
19,300.0	12,550.2	19,039.5	12,304.8	61.1	60.4	-51.60	-6,499.9	1,334.7	390.7	270.4	120.29	3.248	
19,400.0	12,549.6	19,139.5	12,304.1	61.9	61.3	-51.66	-6,599.9	1,336.4	391.3	269.5	121.88	3.211	
19,500.0	12,549.0	19,239.5	12,303.4	62.7	62.1	-51.71	-6,699.8	1,338.0	392.0	268.5	123.47	3.175	
19,600.0	12,548.4	19,339.5	12,302.7	63.6	62.9	-51.77	-6,799.8	1,339.7	392.6	267.5	125.06	3.139	
19,700.0	12,547.7	19,439.4	12,302.0	64.4	63.8	-51.83	-6,899.8	1,341.4	393.2	266.6	126.66	3.105	
19,800.0	12,547.1	19,539.4	12,301.2	65.3	64.6	-51.89	-6,999.8	1,343.0	393.8	265.6	128.26	3.071	
19,900.0	12,546.5	19,639.4	12,300.5	66.1	65.5	-51.94	-7,099.8	1,344.7	394.5	264.6	129.86	3.038	
20,000.0	12,545.8	19,739.4	12,299.8	66.9	66.3	-52.00	-7,199.8	1,346.4	395.1	263.6	131.46	3.005	
20,100.0	12,545.2	19,839.4	12,299.1	67.8	67.1	-52.06	-7,299.7	1,348.0	395.7	262.7	133.07	2.974	
20,200.0	12,544.6	19,939.4	12,298.4	68.6	68.0	-52.11	-7,399.7	1,349.7	396.4	261.7	134.67	2.943	
20,300.0	12,544.0	20,039.4	12,297.7	69.5	68.8	-52.17	-7,499.7	1,351.4	397.0	260.7	136.28	2.913	
20,400.0	12,543.3	20,139.4	12,297.0	70.3	69.7	-52.23	-7,599.7	1,353.1	397.6	259.7	137.89	2.883	
20,500.0	12,542.7	20,239.4	12,296.3	71.2	70.5	-52.28	-7,699.7	1,354.7	398.2	258.7	139.51	2.855	
20,600.0	12,542.1	20,339.4	12,295.6	72.0	71.3	-52.34	-7,799.6	1,356.4	398.9	257.7	141.12	2.826	
20,700.0	12,541.5	20,439.4	12,294.9	72.8	72.2	-52.40	-7,899.6	1,358.1	399.5	256.8	142.74	2.799	
20,800.0	12,540.8	20,539.4	12,294.2	73.7	73.0	-52.45	-7,999.6	1,359.7	400.1	255.8	144.36	2.772	
20,900.0	12,540.2	20,639.4	12,293.5	74.5	73.9	-52.51	-8,099.6	1,361.4	400.8	254.8	145.98	2.745	
21,000.0	12,539.6	20,739.4	12,292.8	75.4	74.7	-52.56	-8,199.6	1,363.1	401.4	253.8	147.60	2.720	
21,100.0	12,539.0	20,839.4	12,292.1	76.2	75.6	-52.62	-8,299.5	1,364.7	402.0	252.8	149.22	2.694	
21,200.0	12,538.3	20,939.4	12,291.4	77.1	76.4	-52.67	-8,399.5	1,366.4	402.7	251.8	150.84	2.669	
21,300.0	12,537.7	21,039.4	12,290.7	77.9	77.3	-52.73	-8,499.5	1,368.1	403.3	250.8	152.47	2.645	
21,400.0	12,537.1	21,139.4	12,290.0	78.8	78.1	-52.78	-8,599.5	1,369.8	403.9	249.8	154.10	2.621	
21,500.0	12,536.5	21,239.4	12,289.3	79.6	79.0	-52.84	-8,699.5	1,371.4	404.6	248.8	155.73	2.598	
21,600.0	12,535.8	21,339.4	12,288.6	80.5	79.8	-52.89	-8,799.4	1,373.1	405.2	247.8	157.36	2.575	
21,700.0	12,535.2	21,439.4	12,287.9	81.3	80.6	-52.94	-8,899.4	1,374.8	405.8	246.8	158.99	2.553	
21,800.0	12,534.6	21,539.4	12,287.2	82.1	81.5	-53.00	-8,999.4	1,376.4	406.5	245.8	160.62	2.531	
21,900.0	12,533.9	21,639.4	12,286.5	83.0	82.3	-53.05	-9,099.4	1,378.1	407.1	244.8	162.26	2.509	
22,000.0	12,533.3	21,739.4	12,285.8	83.8	83.2	-53.10	-9,199.4	1,379.8	407.7	243.8	163.89	2.488	
22,100.0	12,532.7	21,839.4	12,285.1	84.7	84.0	-53.16	-9,299.3	1,381.4	408.4	242.8	165.53	2.467	
22,200.0	12,532.1	21,939.4	12,284.4	85.5	84.9	-53.21	-9,399.3	1,383.1	409.0	241.8	167.17	2.447	
22,300.0	12,531.4	22,039.4	12,283.6	86.4	85.7	-53.26	-9,499.3	1,384.8	409.6	240.8	168.80	2.427	
22,400.0	12,530.8	22,139.4	12,282.9	87.2	86.6	-53.32	-9,599.3	1,386.5	410.3	239.8	170.44	2.407	
22,500.0	12,530.2	22,239.4	12,282.2	88.1	87.4	-53.37	-9,699.3	1,388.1	410.9	238.8	172.09	2.388	
22,529.4	12,530.0	22,268.8	12,282.0	88.3	87.7	-53.39	-9,728.7	1,388.6	411.1	238.5	172.57	2.382 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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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		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	0.0	0.0	3.0	3.0	-90.38	-0.2	-30.0	30.1				
100.0	100.0	97.7	97.7	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.00	5.000	
200.0	200.0	197.7	197.7	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.00	4.998	
300.0	300.0	297.7	297.7	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.01	4.993	
400.0	400.0	397.7	397.7	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.02	4.985	
500.0	500.0	497.7	497.7	3.1	3.1	-90.38	-0.2	-30.0	30.0	24.0	6.03	4.975	
600.0	600.0	597.7	597.7	3.1	3.1	-90.38	-0.2	-30.0	30.0	24.0	6.05	4.962	
700.0	700.0	697.7	697.7	3.1	3.1	-90.38	-0.2	-30.0	30.0	23.9	6.06	4.947	
800.0	800.0	797.7	797.7	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.9	6.09	4.929	
900.0	900.0	897.7	897.7	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.9	6.11	4.909	
1,000.0	1,000.0	997.7	997.7	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.9	6.14	4.886	
1,100.0	1,100.0	1,097.7	1,097.7	3.3	3.3	-90.38	-0.2	-30.0	30.0	23.8	6.17	4.861	
1,200.0	1,200.0	1,197.7	1,197.7	3.4	3.4	-90.38	-0.2	-30.0	30.0	23.8	6.21	4.835	
1,300.0	1,300.0	1,297.7	1,297.7	3.4	3.4	-90.38	-0.2	-30.0	30.0	23.8	6.24	4.806	
1,400.0	1,400.0	1,397.7	1,397.7	3.5	3.5	-90.38	-0.2	-30.0	30.0	23.7	6.28	4.775	
1,500.0	1,500.0	1,497.7	1,497.7	3.5	3.5	-90.38	-0.2	-30.0	30.0	23.7	6.33	4.743	
1,600.0	1,600.0	1,597.7	1,597.7	3.6	3.6	-90.38	-0.2	-30.0	30.0	23.6	6.37	4.709	
1,700.0	1,700.0	1,697.7	1,697.7	3.7	3.7	-90.38	-0.2	-30.0	30.0	23.6	6.42	4.674	
1,800.0	1,800.0	1,797.7	1,797.7	3.8	3.8	-90.38	-0.2	-30.0	30.0	23.5	6.47	4.637	
1,900.0	1,900.0	1,897.7	1,897.7	3.9	3.9	-90.38	-0.2	-30.0	30.0	23.5	6.52	4.599	
2,000.0	2,000.0	1,997.7	1,997.7	3.9	3.9	-90.38	-0.2	-30.0	30.0	23.4	6.58	4.560	
2,100.0	2,100.0	2,097.7	2,097.7	4.0	4.0	-90.38	-0.2	-30.0	30.0	23.4	6.64	4.519	
2,200.0	2,200.0	2,197.7	2,197.7	4.1	4.1	-90.38	-0.2	-30.0	30.0	23.3	6.70	4.478	
2,300.0	2,300.0	2,297.7	2,297.7	4.2	4.2	-90.38	-0.2	-30.0	30.0	23.2	6.76	4.436	
2,400.0	2,400.0	2,397.7	2,397.7	4.3	4.3	-90.38	-0.2	-30.0	30.0	23.2	6.83	4.394	
2,500.0	2,500.0	2,497.7	2,497.7	4.4	4.4	-90.38	-0.2	-30.0	30.0	23.1	6.90	4.351 CC, ES, SF	
2,600.0	2,600.0	2,598.2	2,598.2	4.5	4.5	-157.55	1.2	-29.1	30.8	23.8	6.97	4.418	
2,700.0	2,699.8	2,698.7	2,698.5	4.5	4.6	-153.19	5.7	-26.5	33.1	26.1	7.04	4.702	
2,808.2	2,807.6	2,807.0	2,806.4	4.6	4.7	-147.42	13.4	-21.8	38.0	30.8	7.16	5.309	
2,900.0	2,898.9	2,898.6	2,897.7	4.6	4.7	-144.50	20.3	-17.7	43.7	36.4	7.25	6.022	
3,000.0	2,998.3	2,998.3	2,997.1	4.7	4.8	-142.08	27.7	-13.3	49.9	42.6	7.35	6.793	
3,100.0	3,097.7	3,098.1	3,096.5	4.8	4.9	-140.20	35.2	-8.8	56.3	48.8	7.45	7.554	
3,200.0	3,197.1	3,197.9	3,195.9	4.8	5.0	-138.70	42.6	-4.3	62.7	55.1	7.55	8.304	
3,300.0	3,296.6	3,297.7	3,295.3	4.9	5.1	-137.49	50.1	0.2	69.1	61.4	7.64	9.039	
3,400.0	3,396.0	3,397.5	3,394.7	5.0	5.2	-136.47	57.5	4.6	75.5	67.8	7.74	9.760	
3,500.0	3,495.4	3,497.3	3,494.1	5.1	5.3	-135.62	65.0	9.1	82.0	74.2	7.84	10.463	
3,600.0	3,594.8	3,597.1	3,593.5	5.1	5.4	-134.89	72.5	13.6	88.5	80.5	7.94	11.150	
3,700.0	3,694.3	3,696.8	3,692.9	5.2	5.5	-134.27	79.9	18.1	95.0	86.9	8.04	11.818	
3,800.0	3,793.7	3,796.6	3,792.3	5.3	5.6	-133.72	87.4	22.5	101.5	93.3	8.14	12.468	
3,900.0	3,893.1	3,896.4	3,891.7	5.4	5.7	-133.24	94.8	27.0	108.0	99.8	8.24	13.099	
4,000.0	3,992.5	3,996.2	3,991.1	5.5	5.8	-132.81	102.3	31.5	114.5	106.2	8.35	13.711	
4,100.0	4,091.9	4,096.0	4,090.5	5.6	5.9	-132.43	109.7	36.0	121.0	112.6	8.46	14.303	
4,200.0	4,191.4	4,195.8	4,189.9	5.7	6.0	-132.09	117.2	40.4	127.6	119.0	8.58	14.876	
4,300.0	4,290.8	4,295.5	4,289.3	5.7	6.2	-131.78	124.7	44.9	134.1	125.4	8.69	15.429	
4,400.0	4,390.2	4,395.3	4,388.7	5.8	6.3	-131.50	132.1	49.4	140.6	131.8	8.81	15.964	
4,500.0	4,489.6	4,495.1	4,488.1	5.9	6.4	-131.24	139.6	53.9	147.2	138.3	8.93	16.479	
4,600.0	4,589.0	4,594.9	4,587.6	6.0	6.5	-131.01	147.0	58.3	153.7	144.7	9.06	16.975	
4,700.0	4,688.5	4,694.7	4,687.0	6.1	6.6	-130.79	154.5	62.8	160.3	151.1	9.18	17.453	
4,800.0	4,787.9	4,794.5	4,786.4	6.2	6.7	-130.60	161.9	67.3	166.8	157.5	9.31	17.912	
4,900.0	4,887.3	4,894.2	4,885.8	6.3	6.8	-130.41	169.4	71.8	173.4	163.9	9.45	18.353	
5,000.0	4,986.7	4,994.0	4,985.2	6.4	6.9	-130.25	176.9	76.2	179.9	170.3	9.58	18.777	
5,100.0	5,086.2	5,093.8	5,084.6	6.5	7.0	-130.09	184.3	80.7	186.5	176.8	9.72	19.184	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.0	5,185.6	5,193.6	5,184.0	6.6	7.2	-129.94	191.8	85.2	193.0	183.2	9.86	19.573		
5,300.0	5,285.0	5,293.4	5,283.4	6.7	7.3	-129.80	199.2	89.7	199.6	189.6	10.01	19.946		
5,400.0	5,384.4	5,393.2	5,382.8	6.8	7.4	-129.68	206.7	94.1	206.1	196.0	10.15	20.304		
5,500.0	5,483.8	5,492.9	5,482.2	7.0	7.5	-129.56	214.1	98.6	212.7	202.4	10.30	20.646		
5,600.0	5,583.3	5,592.7	5,581.6	7.1	7.6	-129.44	221.6	103.1	219.3	208.8	10.45	20.973		
5,700.0	5,682.7	5,692.5	5,681.0	7.2	7.7	-129.34	229.1	107.6	225.8	215.2	10.61	21.285		
5,800.0	5,782.1	5,792.3	5,780.4	7.3	7.8	-129.23	236.5	112.0	232.4	221.6	10.77	21.584		
5,900.0	5,881.5	5,892.1	5,879.8	7.4	8.0	-129.14	244.0	116.5	238.9	228.0	10.93	21.869		
6,000.0	5,981.0	5,991.9	5,979.2	7.5	8.1	-129.05	251.4	121.0	245.5	234.4	11.09	22.141		
6,100.0	6,080.4	6,091.6	6,078.6	7.6	8.2	-128.96	258.9	125.5	252.1	240.8	11.25	22.400		
6,200.0	6,179.8	6,191.4	6,178.0	7.7	8.3	-128.88	266.3	129.9	258.6	247.2	11.42	22.647		
6,300.0	6,279.2	6,291.2	6,277.4	7.8	8.4	-128.81	273.8	134.4	265.2	253.6	11.59	22.882		
6,400.0	6,378.6	6,391.0	6,376.8	7.9	8.5	-128.73	281.3	138.9	271.7	260.0	11.76	23.106		
6,500.0	6,478.1	6,490.8	6,476.2	8.1	8.7	-128.66	288.7	143.4	278.3	266.4	11.93	23.319		
6,600.0	6,577.5	6,590.6	6,575.6	8.2	8.8	-128.60	296.2	147.8	284.9	272.8	12.11	23.521		
6,700.0	6,676.9	6,690.4	6,675.0	8.3	8.9	-128.53	303.6	152.3	291.4	279.1	12.29	23.714		
6,800.0	6,776.3	6,790.1	6,774.4	8.4	9.0	-128.47	311.1	156.8	298.0	285.5	12.47	23.897		
6,900.0	6,875.8	6,889.9	6,873.8	8.5	9.1	-128.41	318.5	161.2	304.6	291.9	12.65	24.070		
7,000.0	6,975.2	6,989.7	6,973.3	8.6	9.3	-128.36	326.0	165.7	311.1	298.3	12.84	24.235		
7,100.0	7,074.6	7,089.5	7,072.7	8.8	9.4	-128.31	333.5	170.2	317.7	304.7	13.02	24.391		
7,200.0	7,174.0	7,189.3	7,172.1	8.9	9.5	-128.25	340.9	174.7	324.3	311.0	13.21	24.539		
7,300.0	7,273.4	7,289.1	7,271.5	9.0	9.6	-128.20	348.4	179.1	330.8	317.4	13.40	24.679		
7,400.0	7,372.9	7,388.8	7,370.9	9.1	9.7	-128.16	355.8	183.6	337.4	323.8	13.60	24.811		
7,500.0	7,472.3	7,488.6	7,470.3	9.2	9.9	-128.11	363.3	188.1	344.0	330.2	13.79	24.937		
7,600.0	7,571.7	7,588.4	7,569.7	9.3	10.0	-128.07	370.7	192.6	350.5	336.5	13.99	25.055		
7,700.0	7,671.1	7,688.2	7,669.1	9.5	10.1	-128.03	378.2	197.0	357.1	342.9	14.19	25.166		
7,800.0	7,770.5	7,787.9	7,768.5	9.6	10.2	-128.04	385.4	201.4	363.7	349.3	14.39	25.276		
7,900.0	7,870.0	7,887.6	7,868.0	9.7	10.4	-128.30	391.2	204.8	370.2	355.7	14.58	25.398		
8,000.0	7,969.4	7,987.3	7,967.4	9.8	10.5	-128.81	395.5	207.4	376.9	362.1	14.75	25.547		
8,100.0	8,068.8	8,086.7	8,068.8	9.9	10.6	-129.56	398.3	209.1	383.6	368.7	14.91	25.718		
8,200.0	8,168.2	8,186.0	8,166.1	10.1	10.7	-130.54	399.7	209.9	390.4	375.4	15.08	25.893		
8,300.0	8,267.7	8,285.2	8,265.4	10.2	10.8	-131.69	399.8	210.0	397.5	382.3	15.25	26.061		
8,400.0	8,367.1	8,384.7	8,364.8	10.3	11.0	-132.82	399.8	210.0	404.8	389.3	15.43	26.226		
8,500.0	8,466.5	8,484.1	8,464.2	10.4	11.1	-133.91	399.8	210.0	412.2	396.5	15.62	26.389		
8,600.0	8,565.9	8,583.5	8,563.6	10.6	11.2	-134.97	399.8	210.0	419.7	403.9	15.81	26.551		
8,700.0	8,665.3	8,682.9	8,663.0	10.7	11.3	-135.98	399.8	210.0	427.4	411.4	16.00	26.712		
8,800.0	8,764.8	8,782.4	8,762.5	10.8	11.4	-136.96	399.8	210.0	435.2	419.0	16.19	26.872		
8,900.0	8,864.2	8,881.8	8,861.9	10.9	11.6	-137.91	399.8	210.0	443.1	426.7	16.39	27.031		
9,000.0	8,963.6	8,981.2	8,961.3	11.1	11.7	-138.82	399.8	210.0	451.2	434.6	16.59	27.189		
9,100.0	9,063.0	9,080.6	9,060.7	11.2	11.8	-139.70	399.8	210.0	459.3	442.5	16.80	27.346		
9,200.0	9,162.5	9,180.0	9,160.2	11.3	11.9	-140.55	399.8	210.0	467.6	450.6	17.00	27.502		
9,300.0	9,261.9	9,279.5	9,259.6	11.4	12.1	-141.37	399.8	210.0	475.9	458.7	17.21	27.656		
9,400.0	9,361.3	9,378.9	9,359.0	11.6	12.2	-142.16	399.8	210.0	484.4	467.0	17.42	27.810		
9,500.0	9,460.7	9,478.3	9,458.4	11.7	12.3	-142.92	399.8	210.0	492.9	475.3	17.63	27.963		
9,600.0	9,560.1	9,577.7	9,557.8	11.8	12.4	-143.66	399.8	210.0	501.6	483.7	17.84	28.115		
9,700.0	9,659.6	9,677.2	9,657.3	11.9	12.5	-144.37	399.8	210.0	510.3	492.2	18.05	28.266		
9,800.0	9,759.0	9,776.6	9,756.7	12.1	12.7	-145.06	399.8	210.0	519.0	500.8	18.27	28.416		
9,900.0	9,858.4	9,876.0	9,856.1	12.2	12.8	-145.73	399.8	210.0	527.9	509.4	18.48	28.565		
10,000.0	9,957.8	9,975.4	9,955.5	12.3	12.9	-146.37	399.8	210.0	536.8	518.1	18.70	28.713		
10,100.0	10,057.3	10,074.8	10,055.0	12.4	13.0	-147.00	399.8	210.0	545.8	526.9	18.91	28.860		
10,200.0	10,156.7	10,174.3	10,154.4	12.6	13.2	-147.60	399.8	210.0	554.9	535.7	19.13	29.005		
10,300.0	10,256.1	10,273.7	10,253.8	12.7	13.3	-148.18	399.8	210.0	564.0	544.6	19.35	29.150		

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,400.0	10,355.5	10,373.1	10,353.2	12.8	13.4	-148.75	399.8	210.0	573.1	553.6	19.57	29.293	
10,500.0	10,454.9	10,472.5	10,452.6	13.0	13.5	-149.30	399.8	210.0	582.4	562.6	19.78	29.436	
10,600.0	10,554.4	10,571.9	10,552.1	13.1	13.6	-149.83	399.8	210.0	591.6	571.6	20.00	29.577	
10,700.0	10,653.8	10,671.4	10,651.5	13.2	13.8	-150.34	399.8	210.0	600.9	580.7	20.22	29.717	
10,800.0	10,753.2	10,770.8	10,750.9	13.3	13.9	-150.84	399.8	210.0	610.3	589.9	20.44	29.856	
10,900.0	10,852.6	10,870.2	10,850.3	13.5	14.0	-151.32	399.8	210.0	619.7	599.1	20.66	29.994	
11,000.0	10,952.0	10,969.6	10,949.7	13.6	14.1	-151.79	399.8	210.0	629.2	608.3	20.88	30.130	
11,100.0	11,051.5	11,069.1	11,049.2	13.7	14.3	-152.24	399.8	210.0	638.7	617.6	21.10	30.265	
11,200.0	11,150.9	11,168.5	11,148.6	13.9	14.4	-152.69	399.8	210.0	648.2	626.9	21.32	30.399	
11,300.0	11,250.3	11,267.9	11,248.0	14.0	14.5	-153.11	399.8	210.0	657.8	636.2	21.54	30.532	
11,400.0	11,349.7	11,367.3	11,347.4	14.1	14.6	-153.53	399.8	210.0	667.4	645.6	21.76	30.664	
11,500.0	11,449.2	11,466.7	11,446.9	14.3	14.8	-153.93	399.8	210.0	677.0	655.0	21.99	30.794	
11,600.0	11,548.6	11,566.2	11,546.3	14.4	14.9	-154.33	399.8	210.0	686.7	664.5	22.21	30.924	
11,700.0	11,648.0	11,665.6	11,645.7	14.5	15.0	-154.71	399.8	210.0	696.4	674.0	22.43	31.052	
11,800.0	11,747.4	11,765.0	11,745.1	14.7	15.1	-155.08	399.8	210.0	706.1	683.5	22.65	31.178	
11,900.0	11,846.8	11,861.3	11,841.4	14.8	15.2	-155.44	399.7	210.0	715.9	693.1	22.86	31.313	
12,000.0	11,946.3	11,936.4	11,916.0	14.9	15.2	-156.30	392.3	208.1	727.8	704.6	23.25	31.297	
12,100.0	12,045.7	12,006.1	11,983.5	15.1	15.3	-157.86	375.4	203.8	743.5	719.6	23.92	31.090	
12,131.6	12,077.1	12,025.0	12,001.2	15.1	15.3	-158.40	369.2	202.2	749.4	725.2	24.21	30.950	
12,150.0	12,095.4	12,038.3	12,013.6	15.1	15.3	-179.83	364.4	200.9	753.1	728.7	24.46	30.788	
12,175.0	12,120.3	12,054.1	12,028.1	15.1	15.3	-151.25	358.3	199.4	758.4	733.7	24.69	30.718	
12,200.0	12,145.1	12,069.8	12,042.3	15.1	15.3	131.51	351.8	197.7	763.9	739.0	24.93	30.647	
12,225.0	12,169.7	12,085.3	12,056.1	15.1	15.3	119.23	344.9	196.0	769.7	744.6	25.17	30.576	
12,250.0	12,194.2	12,100.0	12,068.9	15.1	15.3	111.22	338.0	194.2	775.7	750.3	25.44	30.492	
12,275.0	12,218.4	12,116.1	12,082.7	15.1	15.3	105.54	330.0	192.1	782.0	756.3	25.69	30.438	
12,300.0	12,242.2	12,131.4	12,095.6	15.1	15.3	101.25	322.0	190.1	788.3	762.4	25.96	30.372	
12,325.0	12,265.7	12,150.0	12,110.8	15.1	15.3	97.79	311.7	187.5	794.9	768.7	26.17	30.376	
12,350.0	12,288.6	12,161.7	12,120.2	15.1	15.3	95.02	304.9	185.7	801.5	775.0	26.49	30.255	
12,375.0	12,311.1	12,175.0	12,130.7	15.1	15.4	92.62	297.0	183.7	808.2	781.4	26.78	30.174	
12,400.0	12,333.0	12,191.6	12,143.4	15.1	15.4	90.49	286.6	181.0	814.9	787.9	27.02	30.163	
12,425.0	12,354.2	12,206.5	12,154.5	15.1	15.4	88.62	277.0	178.6	821.7	794.5	27.27	30.129	
12,450.0	12,374.7	12,225.0	12,167.8	15.2	15.4	86.91	264.6	175.4	828.6	801.1	27.46	30.171	
12,475.0	12,394.4	12,236.1	12,175.6	15.2	15.4	85.39	256.9	173.4	835.4	807.6	27.76	30.091	
12,500.0	12,413.3	12,250.0	12,185.1	15.2	15.4	83.99	247.0	170.9	842.1	814.1	28.00	30.074	
12,525.0	12,431.4	12,265.6	12,195.3	15.2	15.4	82.70	235.7	168.0	848.9	820.7	28.20	30.097	
12,550.0	12,448.5	12,280.2	12,204.6	15.2	15.4	81.52	224.7	165.2	855.5	827.1	28.41	30.118	
12,575.0	12,464.6	12,294.9	12,213.5	15.2	15.5	80.42	213.4	162.3	862.1	833.5	28.59	30.152	
12,600.0	12,479.8	12,309.5	12,222.0	15.2	15.5	79.41	202.0	159.4	868.6	839.8	28.76	30.199	
12,625.0	12,493.9	12,325.0	12,230.7	15.3	15.5	78.49	189.5	156.2	874.9	846.0	28.90	30.273	
12,650.0	12,506.9	12,338.6	12,238.0	15.3	15.5	77.63	178.3	153.3	881.1	852.1	29.05	30.334	
12,675.0	12,518.8	12,350.0	12,243.8	15.3	15.5	76.82	168.8	150.9	887.2	858.0	29.20	30.384	
12,700.0	12,529.5	12,367.8	12,252.4	15.3	15.5	76.13	153.8	147.1	893.1	863.9	29.26	30.525	
12,725.0	12,539.0	12,382.3	12,259.0	15.4	15.5	75.48	141.2	143.8	898.9	869.5	29.34	30.641	
12,750.0	12,547.3	12,400.0	12,266.5	15.4	15.5	74.93	125.7	139.9	904.5	875.1	29.36	30.802	
12,775.0	12,554.4	12,411.5	12,271.1	15.4	15.6	74.37	115.5	137.3	909.8	880.4	29.43	30.915	
12,800.0	12,560.2	12,425.0	12,276.1	15.4	15.6	73.90	103.4	134.2	915.0	885.6	29.45	31.065	
12,825.0	12,564.7	12,440.7	12,281.5	15.5	15.6	73.51	89.0	130.5	920.0	890.5	29.44	31.244	
12,850.0	12,568.0	12,455.4	12,286.1	15.5	15.6	73.17	75.6	127.1	924.8	895.3	29.42	31.429	
12,875.0	12,569.9	12,470.1	12,290.3	15.5	15.6	72.89	61.9	123.6	929.3	899.9	29.38	31.626	
12,900.8	12,570.6	12,485.3	12,294.2	15.5	15.6	72.66	47.7	119.9	933.8	904.4	29.32	31.842	
13,000.0	12,570.4	12,545.4	12,304.8	15.7	15.6	73.56	-9.6	105.3	952.5	923.3	29.22	32.599	
13,100.0	12,570.3	12,616.7	12,307.9	15.9	15.7	74.05	-78.6	87.7	975.2	945.7	29.44	33.124	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER 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 Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,200.0	12,570.2	12,762.8	12,307.8	16.1	15.7	74.57	-221.1	55.9	996.4	966.3	30.15	33.044		

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	0.0	0.0	3.0	3.0	-146.43	-45.2	-30.0	54.3				
100.0	100.0	98.3	98.3	3.0	3.0	-146.43	-45.2	-30.0	54.2	48.2	6.00	9.037	
200.0	200.0	198.3	198.3	3.0	3.0	-146.43	-45.2	-30.0	54.2	48.2	6.04	8.979	
300.0	300.0	298.3	298.3	3.0	3.1	-146.43	-45.2	-30.0	54.2	48.1	6.13	8.854	
400.0	400.0	398.3	398.3	3.0	3.2	-146.43	-45.2	-30.0	54.2	48.0	6.25	8.674	
500.0	500.0	498.3	498.3	3.1	3.4	-146.43	-45.2	-30.0	54.2	47.8	6.42	8.449	
600.0	600.0	598.3	598.3	3.1	3.6	-146.43	-45.2	-30.0	54.2	47.6	6.62	8.193	
700.0	700.0	698.3	698.3	3.1	3.8	-146.43	-45.2	-30.0	54.2	47.4	6.85	7.917	
800.0	800.0	798.3	798.3	3.2	4.0	-146.43	-45.2	-30.0	54.2	47.1	7.11	7.632	
900.0	900.0	898.3	898.3	3.2	4.2	-146.43	-45.2	-30.0	54.2	46.9	7.39	7.344	
1,000.0	1,000.0	998.3	998.3	3.2	4.5	-146.43	-45.2	-30.0	54.2	46.6	7.69	7.059	
1,100.0	1,100.0	1,098.3	1,098.3	3.3	4.8	-146.43	-45.2	-30.0	54.2	46.3	8.00	6.782	
1,200.0	1,200.0	1,198.3	1,198.3	3.4	5.1	-146.43	-45.2	-30.0	54.2	45.9	8.33	6.514	
1,300.0	1,300.0	1,298.3	1,298.3	3.4	5.3	-146.43	-45.2	-30.0	54.2	45.6	8.67	6.257	
1,400.0	1,400.0	1,398.3	1,398.3	3.5	5.6	-146.43	-45.2	-30.0	54.2	45.2	9.02	6.013	
1,500.0	1,500.0	1,498.3	1,498.3	3.5	5.9	-146.43	-45.2	-30.0	54.2	44.9	9.38	5.781	
1,600.0	1,600.0	1,598.3	1,598.3	3.6	6.3	-146.43	-45.2	-30.0	54.2	44.5	9.75	5.562	
1,700.0	1,700.0	1,698.3	1,698.3	3.7	6.6	-146.43	-45.2	-30.0	54.2	44.1	10.13	5.354	
1,800.0	1,800.0	1,798.3	1,798.3	3.8	6.9	-146.43	-45.2	-30.0	54.2	43.7	10.52	5.159	
1,900.0	1,900.0	1,898.3	1,898.3	3.9	7.2	-146.43	-45.2	-30.0	54.2	43.3	10.91	4.974	
2,000.0	2,000.0	1,998.3	1,998.3	3.9	7.6	-146.43	-45.2	-30.0	54.2	42.9	11.30	4.799	
2,100.0	2,100.0	2,098.3	2,098.3	4.0	7.9	-146.43	-45.2	-30.0	54.2	42.5	11.70	4.635	
2,200.0	2,200.0	2,198.3	2,198.3	4.1	8.2	-146.43	-45.2	-30.0	54.2	42.1	12.11	4.479	
2,300.0	2,300.0	2,298.3	2,298.3	4.2	8.5	-146.43	-45.2	-30.0	54.2	41.7	12.52	4.333	
2,400.0	2,400.0	2,398.3	2,398.3	4.3	8.9	-146.43	-45.2	-30.0	54.2	41.3	12.93	4.194	
2,500.0	2,500.0	2,498.3	2,498.3	4.4	9.2	-146.43	-45.2	-30.0	54.2	40.9	13.35	4.063 CC, ES	
2,600.0	2,600.0	2,598.3	2,598.3	4.5	9.6	145.91	-45.2	-30.0	55.7	41.9	13.76	4.048	
2,700.0	2,699.8	2,698.1	2,698.1	4.5	9.9	148.66	-45.2	-30.0	60.1	46.0	14.13	4.252	
2,808.2	2,807.6	2,805.9	2,805.9	4.6	10.3	152.76	-45.2	-30.0	68.5	53.9	14.52	4.714	
2,900.0	2,898.9	2,897.2	2,897.2	4.6	10.6	156.10	-45.2	-30.0	77.4	62.5	14.86	5.207	
3,000.0	2,998.3	2,996.6	2,996.6	4.7	10.9	158.95	-45.2	-30.0	87.3	72.1	15.24	5.730	
3,100.0	3,097.7	3,096.0	3,096.0	4.8	11.3	161.22	-45.2	-30.0	97.4	81.8	15.63	6.234	
3,200.0	3,197.1	3,195.4	3,195.4	4.8	11.6	163.06	-45.2	-30.0	107.6	91.6	16.02	6.717	
3,300.0	3,296.6	3,294.9	3,294.9	4.9	12.0	164.58	-45.2	-30.0	118.0	101.5	16.43	7.179	
3,400.0	3,396.0	3,394.3	3,394.3	5.0	12.3	165.85	-45.2	-30.0	128.3	111.5	16.84	7.620	
3,500.0	3,495.4	3,493.7	3,493.7	5.1	12.7	166.94	-45.2	-30.0	138.8	121.5	17.26	8.040	
3,600.0	3,594.8	3,593.1	3,593.1	5.1	13.0	167.87	-45.2	-30.0	149.3	131.6	17.68	8.441	
3,700.0	3,694.3	3,692.6	3,692.6	5.2	13.3	168.68	-45.2	-30.0	159.8	141.7	18.11	8.823	
3,800.0	3,793.7	3,792.0	3,792.0	5.3	13.7	169.38	-45.2	-30.0	170.3	151.8	18.54	9.187	
3,900.0	3,893.1	3,891.4	3,891.4	5.4	14.0	170.01	-45.2	-30.0	180.9	161.9	18.97	9.535	
4,000.0	3,992.5	3,990.8	3,990.8	5.5	14.4	170.57	-45.2	-30.0	191.5	172.1	19.41	9.866	
4,100.0	4,091.9	4,090.2	4,090.2	5.6	14.7	171.07	-45.2	-30.0	202.1	182.2	19.85	10.182	
4,200.0	4,191.4	4,189.7	4,189.7	5.7	15.1	171.52	-45.2	-30.0	212.7	192.4	20.29	10.484	
4,300.0	4,290.8	4,289.1	4,289.1	5.7	15.4	171.92	-45.2	-30.0	223.3	202.6	20.73	10.773	
4,400.0	4,390.2	4,388.5	4,388.5	5.8	15.8	172.29	-45.2	-30.0	233.9	212.8	21.17	11.049	
4,500.0	4,489.6	4,487.9	4,487.9	5.9	16.1	172.63	-45.2	-30.0	244.6	223.0	21.62	11.313	
4,600.0	4,589.0	4,587.3	4,587.3	6.0	16.5	172.94	-45.2	-30.0	255.2	233.2	22.07	11.565	
4,700.0	4,688.5	4,686.8	4,686.8	6.1	16.8	173.22	-45.2	-30.0	265.9	243.4	22.52	11.807	
4,800.0	4,787.9	4,786.2	4,786.2	6.2	17.2	173.49	-45.2	-30.0	276.6	253.6	22.97	12.039	
4,900.0	4,887.3	4,885.6	4,885.6	6.3	17.5	173.73	-45.2	-30.0	287.2	263.8	23.43	12.261	
5,000.0	4,986.7	4,985.0	4,985.0	6.4	17.9	173.95	-45.2	-30.0	297.9	274.0	23.88	12.475	
5,100.0	5,086.2	5,084.5	5,084.5	6.5	18.2	174.16	-45.2	-30.0	308.6	284.3	24.34	12.680	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	5,185.6	5,183.9	5,183.9	6.6	18.6	174.36	-45.2	-30.0	319.3	294.5	24.80	12.877	
5,300.0	5,285.0	5,283.3	5,283.3	6.7	18.9	174.54	-45.2	-30.0	330.0	304.7	25.25	13.066	
5,400.0	5,384.4	5,382.7	5,382.7	6.8	19.3	174.71	-45.2	-30.0	340.7	315.0	25.71	13.248	
5,500.0	5,483.8	5,482.1	5,482.1	7.0	19.6	174.88	-45.2	-30.0	351.4	325.2	26.17	13.424	
5,600.0	5,583.3	5,592.6	5,592.6	7.1	20.0	175.12	-44.1	-28.9	360.8	334.2	26.66	13.536	
5,700.0	5,682.7	5,706.0	5,705.9	7.2	20.4	175.58	-40.0	-24.8	366.6	339.5	27.12	13.519	
5,800.0	5,782.1	5,812.5	5,812.0	7.3	20.8	176.19	-33.5	-18.3	369.2	341.6	27.56	13.395	
5,900.0	5,881.5	5,912.5	5,911.5	7.4	21.2	176.77	-27.1	-11.9	371.4	343.4	28.01	13.260	
6,000.0	5,981.0	6,012.4	6,011.0	7.5	21.5	177.35	-20.7	-5.5	373.6	345.2	28.45	13.131	
6,100.0	6,080.4	6,112.3	6,110.4	7.6	21.9	177.92	-14.2	1.0	375.9	347.0	28.90	13.006	
6,200.0	6,179.8	6,212.2	6,209.9	7.7	22.2	178.49	-7.8	7.4	378.2	348.8	29.35	12.886	
6,300.0	6,279.2	6,312.1	6,309.4	7.8	22.6	179.05	-1.4	13.8	380.5	350.7	29.80	12.771	
6,400.0	6,378.6	6,412.0	6,408.9	7.9	22.9	179.60	5.0	20.2	382.9	352.7	30.25	12.659	
6,500.0	6,478.1	6,511.9	6,508.4	8.1	23.3	-179.86	11.4	26.6	385.3	354.6	30.70	12.553	
6,600.0	6,577.5	6,611.8	6,607.9	8.2	23.6	-179.32	17.9	33.1	387.8	356.6	31.15	12.450	
6,700.0	6,676.9	6,711.7	6,707.4	8.3	24.0	-178.79	24.3	39.5	390.3	358.7	31.60	12.350	
6,800.0	6,776.3	6,811.6	6,806.9	8.4	24.3	-178.26	30.7	45.9	392.8	360.7	32.05	12.255	
6,900.0	6,875.8	6,911.5	6,906.4	8.5	24.7	-177.74	37.1	52.3	395.3	362.8	32.50	12.163	
7,000.0	6,975.2	7,011.4	7,005.9	8.6	25.0	-177.23	43.5	58.7	397.9	364.9	32.96	12.074	
7,100.0	7,074.6	7,111.3	7,105.4	8.8	25.4	-176.73	50.0	65.2	400.5	367.1	33.41	11.988	
7,200.0	7,174.0	7,211.2	7,204.8	8.9	25.7	-176.23	56.4	71.6	403.1	369.3	33.86	11.905	
7,300.0	7,273.4	7,311.1	7,304.3	9.0	26.1	-175.74	62.8	78.0	405.8	371.5	34.32	11.826	
7,400.0	7,372.9	7,411.0	7,403.8	9.1	26.4	-175.25	69.2	84.4	408.5	373.7	34.77	11.749	
7,500.0	7,472.3	7,510.9	7,503.3	9.2	26.8	-174.78	75.6	90.8	411.2	376.0	35.23	11.674	
7,600.0	7,571.7	7,610.8	7,602.8	9.3	27.1	-174.30	82.0	97.2	414.0	378.3	35.68	11.603	
7,700.0	7,671.1	7,710.7	7,702.3	9.5	27.5	-173.84	88.5	103.7	416.8	380.7	36.14	11.533	
7,800.0	7,770.5	7,810.6	7,801.8	9.6	27.9	-173.38	94.9	110.1	419.6	383.0	36.59	11.466	
7,900.0	7,870.0	7,910.5	7,901.3	9.7	28.2	-172.93	101.3	116.5	422.4	385.4	37.05	11.402	
8,000.0	7,969.4	8,010.4	8,000.8	9.8	28.6	-172.48	107.7	122.9	425.3	387.8	37.51	11.339	
8,100.0	8,068.8	8,110.3	8,100.3	9.9	28.9	-172.04	114.1	129.3	428.2	390.2	37.97	11.278	
8,200.0	8,168.2	8,210.2	8,199.8	10.1	29.3	-171.60	120.6	135.8	431.1	392.7	38.42	11.220	
8,300.0	8,267.7	8,310.2	8,299.2	10.2	29.6	-171.17	127.0	142.2	434.1	395.2	38.88	11.163	
8,400.0	8,367.1	8,410.1	8,398.7	10.3	30.0	-170.75	133.4	148.6	437.0	397.7	39.34	11.108	
8,500.0	8,466.5	8,510.0	8,498.2	10.4	30.3	-170.33	139.8	155.0	440.0	400.2	39.80	11.055	
8,600.0	8,565.9	8,609.9	8,597.7	10.6	30.7	-169.92	146.2	161.4	443.0	402.8	40.26	11.004	
8,700.0	8,665.3	8,709.8	8,697.2	10.7	31.1	-169.51	152.6	167.8	446.1	405.3	40.72	10.954	
8,800.0	8,764.8	8,809.7	8,796.7	10.8	31.4	-169.11	159.1	174.3	449.1	407.9	41.18	10.906	
8,900.0	8,864.2	8,909.6	8,896.2	10.9	31.8	-168.71	165.5	180.7	452.2	410.5	41.64	10.859	
9,000.0	8,963.6	9,009.5	8,995.7	11.1	32.1	-168.32	171.9	187.1	455.3	413.2	42.10	10.813	
9,100.0	9,063.0	9,109.4	9,095.2	11.2	32.5	-167.94	178.3	193.5	458.4	415.8	42.57	10.769	
9,200.0	9,162.5	9,209.3	9,194.7	11.3	32.8	-167.56	184.7	199.9	461.6	418.5	43.03	10.727	
9,300.0	9,261.9	9,309.2	9,294.2	11.4	33.2	-167.18	191.2	206.4	464.7	421.2	43.49	10.685	
9,400.0	9,361.3	9,409.1	9,393.6	11.6	33.6	-166.81	197.6	212.8	467.9	423.9	43.95	10.645	
9,500.0	9,460.7	9,509.0	9,493.1	11.7	33.9	-166.45	204.0	219.2	471.1	426.7	44.42	10.606	
9,600.0	9,560.1	9,608.9	9,592.6	11.8	34.3	-166.09	210.4	225.6	474.3	429.4	44.88	10.568	
9,700.0	9,659.6	9,708.8	9,692.1	11.9	34.6	-165.73	216.8	232.0	477.6	432.2	45.35	10.531	
9,800.0	9,759.0	9,808.7	9,791.6	12.1	35.0	-165.38	223.3	238.5	480.8	435.0	45.81	10.495	
9,900.0	9,858.4	9,908.6	9,891.1	12.2	35.4	-165.04	229.7	244.9	484.1	437.8	46.28	10.461	
10,000.0	9,957.8	10,008.5	9,990.6	12.3	35.7	-164.70	236.1	251.3	487.4	440.6	46.74	10.427	
10,100.0	10,057.3	10,108.4	10,090.1	12.4	36.1	-164.36	242.5	257.7	490.7	443.5	47.21	10.394	
10,200.0	10,156.7	10,208.3	10,189.6	12.6	36.4	-164.03	248.9	264.1	494.0	446.3	47.68	10.362	
10,300.0	10,256.1	10,308.2	10,289.1	12.7	36.8	-163.70	255.3	270.5	497.3	449.2	48.14	10.331	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	10,355.5	10,408.1	10,388.6	12.8	37.1	-163.38	261.8	277.0	500.7	452.1	48.61	10.300	
10,500.0	10,454.9	10,508.0	10,488.0	13.0	37.5	-163.06	268.2	283.4	504.1	455.0	49.08	10.271	
10,600.0	10,554.4	10,607.9	10,587.5	13.1	37.9	-162.74	274.6	289.8	507.5	457.9	49.55	10.242	
10,700.0	10,653.8	10,707.8	10,687.0	13.2	38.2	-162.43	281.0	296.2	510.9	460.8	50.02	10.214	
10,800.0	10,753.2	10,807.8	10,786.5	13.3	38.6	-162.13	287.4	302.6	514.3	463.8	50.49	10.187	
10,900.0	10,852.6	10,907.7	10,886.0	13.5	38.9	-161.83	293.9	309.1	517.7	466.8	50.96	10.160	
11,000.0	10,952.0	11,007.6	10,985.5	13.6	39.3	-161.53	300.3	315.5	521.2	469.7	51.43	10.134	
11,100.0	11,051.5	11,107.5	11,085.0	13.7	39.7	-161.23	306.7	321.9	524.6	472.7	51.90	10.109	
11,200.0	11,150.9	11,207.4	11,184.5	13.9	40.0	-160.94	313.1	328.3	528.1	475.7	52.37	10.084	
11,300.0	11,250.3	11,307.3	11,284.0	14.0	40.4	-160.66	319.5	334.7	531.6	478.7	52.84	10.060	
11,400.0	11,349.7	11,407.2	11,383.5	14.1	40.7	-160.37	325.9	341.1	535.1	481.8	53.31	10.037	
11,500.0	11,449.2	11,507.1	11,483.0	14.3	41.1	-160.10	332.4	347.6	538.6	484.8	53.79	10.014	
11,600.0	11,548.6	11,607.0	11,582.4	14.4	41.5	-159.82	338.8	354.0	542.1	487.9	54.26	9.991	
11,700.0	11,648.0	11,706.9	11,681.9	14.5	41.8	-159.55	345.2	360.4	545.6	490.9	54.73	9.969	
11,800.0	11,747.4	11,806.8	11,781.4	14.7	42.2	-159.28	351.6	366.8	549.2	494.0	55.21	9.948	
11,900.0	11,846.8	11,930.9	11,905.0	14.8	42.6	-159.53	354.0	376.5	551.6	495.9	55.70	9.904	
12,000.0	11,946.3	12,068.0	12,036.7	14.9	43.0	-163.25	323.9	396.7	547.5	491.2	56.33	9.720	
12,100.0	12,045.7	12,178.3	12,132.1	15.1	43.3	-169.03	274.1	419.8	540.7	483.7	57.02	9.483	
12,131.6	12,077.1	12,207.1	12,154.7	15.1	43.4	-170.93	257.7	426.7	539.1	481.9	57.23	9.420	
12,150.0	12,095.4	12,222.8	12,166.7	15.1	43.4	167.16	248.2	430.6	538.4	481.0	57.34	9.390	
12,175.0	12,120.3	12,243.7	12,181.9	15.1	43.5	138.35	235.0	435.9	537.5	480.0	57.48	9.352	
12,200.0	12,145.1	12,264.0	12,196.1	15.1	43.5	118.43	221.6	441.2	536.7	479.1	57.61	9.315	
12,225.0	12,169.7	12,283.7	12,209.3	15.1	43.6	106.00	207.9	446.4	536.0	478.2	57.75	9.281	
12,250.0	12,194.2	12,302.9	12,221.7	15.1	43.6	97.86	194.1	451.6	535.4	477.5	57.88	9.249	
12,275.0	12,218.4	12,321.6	12,233.1	15.1	43.6	92.10	180.2	456.8	534.8	476.8	58.01	9.219	
12,300.0	12,242.2	12,340.0	12,243.7	15.1	43.7	87.75	166.2	462.0	534.3	476.1	58.14	9.189	
12,325.0	12,265.7	12,358.0	12,253.6	15.1	43.7	84.30	152.0	467.1	533.8	475.5	58.27	9.161	
12,350.0	12,288.6	12,375.0	12,282.4	15.1	43.7	81.48	138.3	472.0	533.3	474.9	58.39	9.134	
12,375.0	12,311.1	12,393.0	12,271.1	15.1	43.7	79.02	123.5	477.2	532.9	474.4	58.52	9.106	
12,400.0	12,333.0	12,410.1	12,278.8	15.1	43.8	76.91	109.1	482.3	532.4	473.8	58.64	9.080	
12,425.0	12,354.2	12,425.0	12,285.2	15.1	43.8	75.15	96.3	486.7	531.9	473.2	58.75	9.053	
12,450.0	12,374.7	12,443.5	12,292.4	15.2	43.8	73.37	80.2	492.2	531.4	472.5	58.87	9.026	
12,475.0	12,394.4	12,459.8	12,298.2	15.2	43.8	71.85	65.7	497.0	530.8	471.8	58.98	8.999	
12,500.0	12,413.3	12,475.0	12,303.2	15.2	43.9	70.53	52.1	501.6	530.1	471.0	59.09	8.972	
12,525.0	12,431.4	12,492.0	12,308.2	15.2	43.9	69.22	36.7	506.7	529.4	470.2	59.19	8.944	
12,550.0	12,448.5	12,507.9	12,312.3	15.2	43.9	68.06	22.2	511.5	528.5	469.2	59.28	8.915	
12,575.0	12,464.6	12,525.0	12,316.2	15.2	43.9	66.92	6.3	516.6	527.6	468.2	59.38	8.885	
12,600.0	12,479.8	12,539.1	12,319.0	15.2	43.9	66.01	-6.9	520.8	526.5	467.0	59.45	8.855	
12,625.0	12,493.9	12,554.5	12,321.6	15.3	43.9	65.11	-21.4	525.4	525.2	465.7	59.53	8.823	
12,650.0	12,506.9	12,569.9	12,323.6	15.3	44.0	64.28	-35.9	530.0	523.8	464.2	59.60	8.790	
12,675.0	12,518.8	12,585.1	12,325.2	15.3	44.0	63.53	-50.3	534.5	522.3	462.6	59.66	8.755	
12,700.0	12,529.5	12,600.0	12,326.3	15.3	44.0	62.84	-64.5	538.9	520.6	460.9	59.71	8.718	
12,725.0	12,539.0	12,615.3	12,326.9	15.4	44.0	62.21	-79.1	543.4	518.7	458.9	59.76	8.679	
12,750.0	12,547.3	12,632.0	12,327.0	15.4	44.0	61.57	-95.1	548.3	516.6	456.8	59.80	8.638	
12,775.0	12,554.4	12,651.9	12,327.1	15.4	44.0	60.93	-114.2	554.0	514.1	454.2	59.85	8.590	
12,800.0	12,560.2	12,672.2	12,327.2	15.4	44.0	60.42	-133.7	559.6	511.1	451.2	59.89	8.534	
12,825.0	12,564.7	12,692.8	12,327.3	15.5	44.1	60.07	-153.5	565.2	507.7	447.8	59.93	8.472	
12,850.0	12,568.0	12,713.6	12,327.3	15.5	44.1	59.87	-173.6	570.7	503.7	443.8	59.97	8.400	
12,875.0	12,569.9	12,734.5	12,327.4	15.5	44.1	59.84	-193.8	576.1	499.2	439.2	60.01	8.319	
12,900.8	12,570.6	12,756.2	12,327.5	15.5	44.1	59.99	-214.8	581.5	493.9	433.9	60.05	8.226	
13,000.0	12,570.4	12,840.4	12,327.8	15.7	44.2	58.85	-296.7	601.1	473.9	413.7	60.22	7.870	
13,100.0	12,570.3	12,926.5	12,328.2	15.9	44.3	57.76	-380.9	618.5	456.4	396.0	60.44	7.553	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	
13,200.0	12,570.2	13,013.5	12,328.5	16.1	44.4	56.77	-466.6	633.6	441.7	381.0	60.69	7.277	
13,300.0	12,570.0	13,100.0	12,328.9	16.4	44.5	55.92	-552.3	646.1	429.6	368.6	61.00	7.043	
13,400.0	12,569.9	13,189.9	12,329.2	16.8	44.6	55.21	-641.5	656.2	420.2	358.8	61.35	6.849	
13,500.0	12,569.8	13,278.9	12,329.6	17.2	44.7	54.71	-730.3	663.6	413.3	351.6	61.75	6.694	
13,600.0	12,569.6	13,368.3	12,329.9	17.6	44.8	54.41	-819.6	668.1	409.1	346.9	62.20	6.577	
13,700.0	12,569.5	13,457.9	12,330.3	18.1	44.9	54.33	-909.2	669.9	407.3	344.6	62.70	6.497	
13,800.0	12,569.3	13,557.4	12,330.7	18.6	45.1	54.39	-1,008.7	670.2	407.0	343.8	63.24	6.436	
13,900.0	12,569.2	13,657.4	12,331.1	19.2	45.3	54.45	-1,108.7	670.4	406.7	342.9	63.82	6.373	
14,000.0	12,569.1	13,757.4	12,331.5	19.7	45.5	54.51	-1,208.6	670.7	406.4	341.9	64.44	6.306	
14,100.0	12,568.9	13,857.4	12,331.8	20.3	45.7	54.57	-1,308.6	670.9	406.0	340.9	65.09	6.238	
14,200.0	12,568.8	13,957.4	12,332.2	21.0	45.9	54.63	-1,408.6	671.2	405.7	339.9	65.78	6.167	
14,300.0	12,568.7	14,057.4	12,332.6	21.6	46.1	54.69	-1,508.6	671.5	405.4	338.9	66.51	6.095	
14,400.0	12,568.5	14,157.4	12,333.0	22.2	46.4	54.75	-1,608.6	671.7	405.1	337.8	67.27	6.022	
14,500.0	12,568.4	14,257.4	12,333.4	22.9	46.6	54.81	-1,708.6	672.0	404.7	336.7	68.06	5.947	
14,600.0	12,568.2	14,357.4	12,333.8	23.6	46.9	54.87	-1,808.6	672.3	404.4	335.5	68.88	5.871	
14,700.0	12,568.1	14,457.4	12,334.2	24.3	47.2	54.93	-1,908.6	672.5	404.1	334.3	69.74	5.794	
14,800.0	12,568.0	14,557.4	12,334.6	25.0	47.5	54.99	-2,008.6	672.8	403.8	333.1	70.62	5.717	
14,900.0	12,567.8	14,657.4	12,335.0	25.7	47.8	55.05	-2,108.6	673.0	403.4	331.9	71.53	5.640	
15,000.0	12,567.7	14,757.4	12,335.4	26.4	48.2	55.11	-2,208.6	673.3	403.1	330.7	72.46	5.563	
15,100.0	12,567.5	14,857.4	12,335.8	27.2	48.5	55.17	-2,308.6	673.6	402.8	329.4	73.43	5.486	
15,200.0	12,567.4	14,957.4	12,336.2	27.9	48.9	55.23	-2,408.6	673.8	402.5	328.1	74.41	5.409	
15,300.0	12,567.3	15,057.4	12,336.6	28.7	49.2	55.29	-2,508.6	674.1	402.2	326.7	75.42	5.332	
15,400.0	12,567.1	15,157.4	12,336.9	29.4	49.6	55.35	-2,608.6	674.4	401.8	325.4	76.45	5.256	
15,500.0	12,567.0	15,257.4	12,337.3	30.2	50.0	55.41	-2,708.6	674.6	401.5	324.0	77.51	5.180	
15,600.0	12,566.9	15,357.4	12,337.7	30.9	50.4	55.47	-2,808.6	674.9	401.2	322.6	78.58	5.105	
15,700.0	12,566.7	15,457.4	12,338.1	31.7	50.8	55.53	-2,908.6	675.1	400.9	321.2	79.68	5.031	
15,800.0	12,566.6	15,557.4	12,338.5	32.5	51.3	55.59	-3,008.6	675.4	400.6	319.8	80.79	4.958	
15,900.0	12,566.4	15,657.4	12,338.9	33.3	51.7	55.65	-3,108.6	675.7	400.2	318.3	81.93	4.885	
16,000.0	12,566.3	15,757.4	12,339.3	34.0	52.2	55.71	-3,208.6	675.9	399.9	316.8	83.08	4.814	
16,100.0	12,566.2	15,857.4	12,339.7	34.8	52.6	55.77	-3,308.6	676.2	399.6	315.4	84.24	4.743	
16,200.0	12,566.0	15,957.4	12,340.1	35.6	53.1	55.83	-3,408.6	676.5	399.3	313.9	85.43	4.674	
16,300.0	12,565.9	16,057.4	12,340.5	36.4	53.6	55.90	-3,508.6	676.7	399.0	312.3	86.63	4.606	
16,400.0	12,565.7	16,157.4	12,340.9	37.2	54.1	55.96	-3,608.6	677.0	398.7	310.8	87.84	4.538	
16,500.0	12,565.6	16,257.4	12,341.3	38.0	54.6	56.02	-3,708.6	677.2	398.3	309.3	89.07	4.472	
16,600.0	12,565.5	16,357.4	12,341.7	38.8	55.1	56.08	-3,808.6	677.5	398.0	307.7	90.31	4.407	
16,700.0	12,565.3	16,457.4	12,342.1	39.6	55.6	56.14	-3,908.6	677.8	397.7	306.1	91.57	4.343	
16,800.0	12,565.2	16,557.4	12,342.4	40.4	56.1	56.20	-4,008.6	678.0	397.4	304.6	92.84	4.280	
16,900.0	12,565.1	16,657.4	12,342.8	41.2	56.6	56.26	-4,108.6	678.3	397.1	303.0	94.12	4.219	
16,941.4	12,565.0	16,698.8	12,343.0	41.6	56.9	56.29	-4,150.0	678.4	396.9	302.3	94.66	4.194	
16,955.6	12,564.9	16,712.0	12,343.0	41.7	56.9	56.30	-4,163.2	678.4	396.9	302.1	94.84	4.185	
16,974.3	12,564.8	16,729.4	12,343.0	41.8	57.0	56.31	-4,180.5	678.5	396.9	301.8	95.08	4.174	
17,000.0	12,564.7	16,753.8	12,342.7	42.0	57.2	56.29	-4,205.0	678.5	396.9	301.5	95.41	4.160	
17,100.0	12,564.0	16,853.8	12,341.5	42.8	57.7	56.22	-4,305.0	678.8	397.2	300.5	96.70	4.108	
17,200.0	12,563.4	16,953.8	12,340.2	43.7	58.3	56.15	-4,405.0	679.1	397.6	299.6	97.99	4.057	
17,231.3	12,563.2	16,985.1	12,339.8	43.9	58.5	56.12	-4,436.3	679.2	397.7	299.3	98.40	4.041	
17,251.1	12,563.1	17,006.9	12,339.6	44.1	58.6	56.10	-4,458.0	679.3	397.7	299.1	98.65	4.032	
17,300.0	12,562.8	17,056.0	12,339.0	44.5	58.9	56.07	-4,507.1	679.7	397.9	298.6	99.29	4.008	
17,400.0	12,562.1	17,156.0	12,337.7	45.3	59.4	55.99	-4,607.1	680.7	398.3	297.7	100.60	3.959	
17,500.0	12,561.5	17,256.0	12,336.4	46.1	60.0	55.91	-4,707.1	681.6	398.6	296.7	101.93	3.911	
17,600.0	12,560.9	17,356.0	12,335.2	46.9	60.6	55.84	-4,807.1	682.5	399.0	295.7	103.26	3.864	
17,700.0	12,560.3	17,456.0	12,333.9	47.8	61.2	55.76	-4,907.1	683.5	399.3	294.7	104.60	3.818	
17,800.0	12,559.6	17,556.0	12,332.7	48.6	61.8	55.69	-5,007.1	684.4	399.7	293.7	105.95	3.772	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	
17,900.0	12,559.0	17,656.0	12,331.4	49.4	62.4	55.61	-5,107.0	685.4	400.0	292.7	107.31	3.728	
18,000.0	12,558.4	17,756.0	12,330.1	50.2	63.0	55.54	-5,207.0	686.3	400.4	291.7	108.67	3.684	
18,100.0	12,557.8	17,856.0	12,328.9	51.1	63.6	55.46	-5,307.0	687.2	400.7	290.7	110.04	3.642	
18,200.0	12,557.1	17,956.0	12,327.6	51.9	64.2	55.39	-5,407.0	688.2	401.1	289.7	111.42	3.600	
18,300.0	12,556.5	18,056.0	12,326.4	52.7	64.9	55.31	-5,507.0	689.1	401.4	288.6	112.81	3.559	
18,400.0	12,555.9	18,155.9	12,325.1	53.5	65.5	55.24	-5,607.0	690.0	401.8	287.6	114.20	3.518	
18,500.0	12,555.2	18,255.9	12,323.8	54.4	66.1	55.16	-5,707.0	691.0	402.2	286.6	115.60	3.479	
18,600.0	12,554.6	18,355.9	12,322.6	55.2	66.8	55.09	-5,806.9	691.9	402.5	285.5	117.01	3.440	
18,700.0	12,554.0	18,455.9	12,321.3	56.0	67.4	55.01	-5,906.9	692.9	402.9	284.5	118.42	3.402	
18,800.0	12,553.4	18,555.9	12,320.0	56.9	68.1	54.94	-6,006.9	693.8	403.2	283.4	119.84	3.365	
18,900.0	12,552.7	18,655.9	12,318.8	57.7	68.8	54.87	-6,106.9	694.7	403.6	282.3	121.26	3.328	
19,000.0	12,552.1	18,755.9	12,317.5	58.5	69.4	54.79	-6,206.9	695.7	404.0	281.3	122.69	3.293	
19,100.0	12,551.5	18,855.9	12,316.3	59.4	70.1	54.72	-6,306.9	696.6	404.3	280.2	124.12	3.258	
19,200.0	12,550.9	18,955.9	12,315.0	60.2	70.8	54.64	-6,406.9	697.5	404.7	279.1	125.56	3.223	
19,300.0	12,550.2	19,055.9	12,313.7	61.1	71.4	54.57	-6,506.8	698.5	405.1	278.1	127.00	3.189	
19,400.0	12,549.6	19,155.9	12,312.5	61.9	72.1	54.50	-6,606.8	699.4	405.4	277.0	128.45	3.156	
19,500.0	12,549.0	19,255.9	12,311.2	62.7	72.8	54.42	-6,706.8	700.4	405.8	275.9	129.90	3.124	
19,600.0	12,548.4	19,355.9	12,310.0	63.6	73.5	54.35	-6,806.8	701.3	406.1	274.8	131.36	3.092	
19,700.0	12,547.7	19,455.9	12,308.7	64.4	74.2	54.28	-6,906.8	702.2	406.5	273.7	132.82	3.061	
19,800.0	12,547.1	19,555.9	12,307.4	65.3	74.9	54.21	-7,006.8	703.2	406.9	272.6	134.28	3.030	
19,900.0	12,546.5	19,655.9	12,306.2	66.1	75.6	54.13	-7,106.8	704.1	407.2	271.5	135.75	3.000	
20,000.0	12,545.8	19,755.9	12,304.9	66.9	76.3	54.06	-7,206.7	705.1	407.6	270.4	137.23	2.970	
20,100.0	12,545.2	19,855.9	12,303.7	67.8	77.0	53.99	-7,306.7	706.0	408.0	269.3	138.70	2.941	
20,200.0	12,544.6	19,955.9	12,302.4	68.6	77.7	53.92	-7,406.7	706.9	408.4	268.2	140.18	2.913	
20,300.0	12,544.0	20,055.9	12,301.1	69.5	78.4	53.84	-7,506.7	707.9	408.7	267.1	141.67	2.885	
20,400.0	12,543.3	20,155.9	12,299.9	70.3	79.1	53.77	-7,606.7	708.8	409.1	265.9	143.15	2.858	
20,500.0	12,542.7	20,255.9	12,298.6	71.2	79.8	53.70	-7,706.7	709.7	409.5	264.8	144.64	2.831	
20,600.0	12,542.1	20,355.9	12,297.4	72.0	80.5	53.63	-7,806.7	710.7	409.8	263.7	146.14	2.805	
20,700.0	12,541.5	20,455.9	12,296.1	72.8	81.2	53.56	-7,906.6	711.6	410.2	262.6	147.63	2.779	
20,800.0	12,540.8	20,555.9	12,294.8	73.7	82.0	53.48	-8,006.6	712.6	410.6	261.5	149.13	2.753	
20,900.0	12,540.2	20,655.9	12,293.6	74.5	82.7	53.41	-8,106.6	713.5	411.0	260.3	150.63	2.728	
21,000.0	12,539.6	20,755.9	12,292.3	75.4	83.4	53.34	-8,206.6	714.4	411.3	259.2	152.14	2.704	
21,100.0	12,539.0	20,855.9	12,291.1	76.2	84.2	53.27	-8,306.6	715.4	411.7	258.1	153.64	2.680	
21,200.0	12,538.3	20,955.9	12,289.8	77.1	84.9	53.20	-8,406.6	716.3	412.1	256.9	155.15	2.656	
21,300.0	12,537.7	21,055.9	12,288.5	77.9	85.6	53.13	-8,506.6	717.2	412.5	255.8	156.66	2.633	
21,400.0	12,537.1	21,155.9	12,287.3	78.8	86.4	53.06	-8,606.5	718.2	412.8	254.7	158.18	2.610	
21,500.0	12,536.5	21,255.9	12,286.0	79.6	87.1	52.99	-8,706.5	719.1	413.2	253.5	159.70	2.588	
21,600.0	12,535.8	21,355.9	12,284.7	80.5	87.8	52.92	-8,806.5	720.1	413.6	252.4	161.21	2.566	
21,700.0	12,535.2	21,455.9	12,283.5	81.3	88.6	52.85	-8,906.5	721.0	414.0	251.2	162.74	2.544	
21,800.0	12,534.6	21,555.9	12,282.2	82.1	89.3	52.78	-9,006.5	721.9	414.4	250.1	164.26	2.523	
21,900.0	12,533.9	21,655.9	12,281.0	83.0	90.1	52.71	-9,106.5	722.9	414.7	249.0	165.78	2.502	
22,000.0	12,533.3	21,755.9	12,279.7	83.8	90.8	52.64	-9,206.5	723.8	415.1	247.8	167.31	2.481	
22,100.0	12,532.7	21,855.9	12,278.4	84.7	91.6	52.57	-9,306.4	724.7	415.5	246.7	168.84	2.461	
22,200.0	12,532.1	21,955.9	12,277.2	85.5	92.3	52.50	-9,406.4	725.7	415.9	245.5	170.37	2.441	
22,300.0	12,531.4	22,055.9	12,275.9	86.4	93.1	52.43	-9,506.4	726.6	416.3	244.4	171.91	2.421	
22,400.0	12,530.8	22,155.9	12,274.7	87.2	93.9	52.36	-9,606.4	727.6	416.6	243.2	173.44	2.402	
22,500.0	12,530.2	22,255.9	12,273.4	88.1	94.6	52.29	-9,706.4	728.5	417.0	242.1	174.98	2.383	
22,529.4	12,530.0	22,285.3	12,273.0	88.3	94.8	52.27	-9,735.8	728.8	417.1	241.7	175.43	2.378 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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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	
0.0	0.0	0.0	0.0	3.0	3.0	-127.11	-45.4	-60.0	75.3				
100.0	100.0	98.5	98.5	3.0	3.0	-127.11	-45.4	-60.0	75.2	69.2	6.00	12.539	
200.0	200.0	198.5	198.5	3.0	3.0	-127.11	-45.4	-60.0	75.2	69.2	6.01	12.528	
300.0	300.0	298.5	298.5	3.0	3.0	-127.11	-45.4	-60.0	75.2	69.2	6.02	12.504	
400.0	400.0	398.5	398.5	3.0	3.0	-127.11	-45.4	-60.0	75.2	69.2	6.03	12.467	
500.0	500.0	498.5	498.5	3.1	3.1	-127.11	-45.4	-60.0	75.2	69.2	6.06	12.418	
600.0	600.0	598.5	598.5	3.1	3.1	-127.11	-45.4	-60.0	75.2	69.2	6.09	12.357	
700.0	700.0	698.5	698.5	3.1	3.1	-127.11	-45.4	-60.0	75.2	69.1	6.13	12.284	
800.0	800.0	798.5	798.5	3.2	3.2	-127.11	-45.4	-60.0	75.2	69.1	6.17	12.201	
900.0	900.0	898.5	898.5	3.2	3.2	-127.11	-45.4	-60.0	75.2	69.0	6.21	12.107	
1,000.0	1,000.0	998.5	998.5	3.2	3.2	-127.11	-45.4	-60.0	75.2	69.0	6.27	12.004	
1,100.0	1,100.0	1,098.5	1,098.5	3.3	3.3	-127.11	-45.4	-60.0	75.2	68.9	6.33	11.892	
1,200.0	1,200.0	1,198.5	1,198.5	3.4	3.4	-127.11	-45.4	-60.0	75.2	68.8	6.39	11.772	
1,300.0	1,300.0	1,298.5	1,298.5	3.4	3.4	-127.11	-45.4	-60.0	75.2	68.8	6.46	11.646	
1,400.0	1,400.0	1,398.5	1,398.5	3.5	3.5	-127.11	-45.4	-60.0	75.2	68.7	6.54	11.513	
1,500.0	1,500.0	1,498.5	1,498.5	3.5	3.5	-127.11	-45.4	-60.0	75.2	68.6	6.61	11.375	
1,600.0	1,600.0	1,598.5	1,598.5	3.6	3.6	-127.11	-45.4	-60.0	75.2	68.5	6.70	11.232	
1,700.0	1,700.0	1,698.5	1,698.5	3.7	3.7	-127.11	-45.4	-60.0	75.2	68.5	6.79	11.085	
1,800.0	1,800.0	1,798.5	1,798.5	3.8	3.8	-127.11	-45.4	-60.0	75.2	68.4	6.88	10.936	
1,900.0	1,900.0	1,898.5	1,898.5	3.9	3.9	-127.11	-45.4	-60.0	75.2	68.3	6.98	10.783	
2,000.0	2,000.0	1,998.5	1,998.5	3.9	3.9	-127.11	-45.4	-60.0	75.2	68.2	7.08	10.629	
2,100.0	2,100.0	2,098.5	2,098.5	4.0	4.0	-127.11	-45.4	-60.0	75.2	68.1	7.18	10.474	
2,200.0	2,200.0	2,198.5	2,198.5	4.1	4.1	-127.11	-45.4	-60.0	75.2	67.9	7.29	10.318	
2,300.0	2,300.0	2,298.5	2,298.5	4.2	4.2	-127.11	-45.4	-60.0	75.2	67.8	7.40	10.162	
2,400.0	2,400.0	2,398.5	2,398.5	4.3	4.3	-127.11	-45.4	-60.0	75.2	67.7	7.52	10.006	
2,500.0	2,500.0	2,498.5	2,498.5	4.4	4.4	-127.11	-45.4	-60.0	75.2	67.6	7.64	9.851 CC, ES, SF	
2,600.0	2,600.0	2,597.0	2,597.0	4.5	4.5	165.56	-44.8	-61.5	77.8	70.1	7.69	10.115	
2,700.0	2,699.8	2,695.0	2,694.8	4.5	4.5	169.17	-43.1	-66.2	85.9	78.2	7.66	11.215	
2,808.2	2,807.6	2,800.0	2,799.5	4.6	4.6	174.27	-39.8	-74.7	101.3	93.7	7.59	13.352	
2,900.0	2,898.9	2,889.5	2,888.5	4.6	4.6	178.17	-36.5	-83.4	117.8	110.2	7.56	15.579	
3,000.0	2,998.3	2,987.6	2,986.0	4.7	4.7	-178.64	-32.9	-93.0	136.2	128.6	7.58	17.976	
3,100.0	3,097.7	3,085.6	3,083.5	4.8	4.8	-176.22	-29.3	-102.6	155.0	147.3	7.63	20.318	
3,200.0	3,197.1	3,183.6	3,181.0	4.8	4.8	-174.32	-25.6	-112.2	173.9	166.2	7.70	22.590	
3,300.0	3,296.6	3,281.7	3,278.5	4.9	4.9	-172.79	-22.0	-121.8	193.0	185.2	7.79	24.785	
3,400.0	3,396.0	3,379.7	3,376.0	5.0	5.0	-171.54	-18.4	-131.3	212.2	204.3	7.89	26.898	
3,500.0	3,495.4	3,477.8	3,473.5	5.1	5.0	-170.49	-14.7	-140.9	231.5	223.5	8.00	28.929	
3,600.0	3,594.8	3,575.8	3,571.0	5.1	5.1	-169.61	-11.1	-150.5	250.8	242.7	8.12	30.874	
3,700.0	3,694.3	3,673.9	3,668.5	5.2	5.2	-168.85	-7.5	-160.1	270.2	261.9	8.25	32.737	
3,800.0	3,793.7	3,771.9	3,766.0	5.3	5.3	-168.20	-3.8	-169.7	289.6	281.2	8.39	34.516	
3,900.0	3,893.1	3,870.0	3,863.5	5.4	5.4	-167.62	-0.2	-179.3	309.1	300.5	8.53	36.215	
4,000.0	3,992.5	3,968.0	3,961.1	5.5	5.4	-167.12	3.4	-188.8	328.6	319.9	8.68	37.835	
4,100.0	4,091.9	4,066.0	4,058.6	5.6	5.5	-166.67	7.1	-198.4	348.1	339.2	8.84	39.379	
4,200.0	4,191.4	4,164.1	4,156.1	5.7	5.6	-166.27	10.7	-208.0	367.6	358.6	9.00	40.848	
4,300.0	4,290.8	4,262.1	4,253.6	5.7	5.7	-165.91	14.3	-217.6	387.1	378.0	9.16	42.248	
4,400.0	4,390.2	4,360.2	4,351.1	5.8	5.8	-165.58	17.9	-227.2	406.7	397.4	9.33	43.579	
4,500.0	4,489.6	4,458.2	4,448.6	5.9	5.9	-165.28	21.6	-236.8	426.3	416.8	9.51	44.845	
4,600.0	4,589.0	4,556.3	4,546.1	6.0	6.0	-165.01	25.2	-246.3	445.8	436.2	9.68	46.049	
4,700.0	4,688.5	4,654.3	4,643.6	6.1	6.1	-164.77	28.8	-255.9	465.4	455.6	9.86	47.193	
4,800.0	4,787.9	4,752.4	4,741.1	6.2	6.2	-164.54	32.5	-265.5	485.0	475.0	10.05	48.282	
4,900.0	4,887.3	4,850.4	4,838.6	6.3	6.3	-164.33	36.1	-275.1	504.6	494.4	10.23	49.316	
5,000.0	4,986.7	4,948.4	4,936.1	6.4	6.4	-164.14	39.7	-284.7	524.2	513.8	10.42	50.300	
5,100.0	5,086.2	5,046.5	5,033.6	6.5	6.5	-163.96	43.4	-294.3	543.8	533.2	10.61	51.235	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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									
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
5,200.0	5,185.6	5,144.5	5,131.1	6.6	6.6	-163.79	47.0	-303.8	563.5	552.6	10.81	52.125	
5,300.0	5,285.0	5,242.6	5,228.6	6.7	6.7	-163.63	50.6	-313.4	583.1	572.1	11.01	52.971	
5,400.0	5,384.4	5,340.6	5,326.2	6.8	6.8	-163.49	54.3	-323.0	602.7	591.5	11.21	53.776	
5,500.0	5,483.8	5,438.7	5,423.7	7.0	6.9	-163.35	57.9	-332.6	622.3	610.9	11.41	54.542	
5,600.0	5,583.3	5,536.7	5,521.2	7.1	7.0	-163.22	61.5	-342.2	642.0	630.4	11.61	55.272	
5,700.0	5,682.7	5,634.7	5,618.7	7.2	7.1	-163.10	65.2	-351.8	661.6	649.8	11.82	55.966	
5,800.0	5,782.1	5,732.8	5,716.2	7.3	7.2	-162.99	68.8	-361.3	681.2	669.2	12.03	56.627	
5,900.0	5,881.5	5,830.8	5,813.7	7.4	7.3	-162.88	72.4	-370.9	700.9	688.6	12.24	57.257	
6,000.0	5,981.0	5,928.9	5,911.2	7.5	7.4	-162.78	76.0	-380.5	720.5	708.1	12.45	57.857	
6,100.0	6,080.4	6,026.9	6,008.7	7.6	7.5	-162.68	79.7	-390.1	740.2	727.5	12.67	58.429	
6,200.0	6,179.8	6,125.0	6,106.2	7.7	7.6	-162.59	83.3	-399.7	759.8	746.9	12.88	58.974	
6,300.0	6,279.2	6,223.0	6,203.7	7.8	7.7	-162.50	86.9	-409.3	779.5	766.4	13.10	59.494	
6,400.0	6,378.6	6,321.1	6,301.2	7.9	7.8	-162.42	90.6	-418.8	799.1	785.8	13.32	59.990	
6,500.0	6,478.1	6,419.1	6,398.7	8.1	7.9	-162.34	94.2	-428.4	818.8	805.2	13.54	60.463	
6,600.0	6,577.5	6,517.1	6,496.2	8.2	8.1	-162.27	97.8	-438.0	838.4	824.7	13.76	60.915	
6,700.0	6,676.9	6,615.2	6,593.7	8.3	8.2	-162.19	101.5	-447.6	858.1	844.1	13.99	61.347	
6,800.0	6,776.3	6,713.2	6,691.2	8.4	8.3	-162.13	105.1	-457.2	877.7	863.5	14.21	61.759	
6,900.0	6,875.8	6,811.3	6,788.8	8.5	8.4	-162.06	108.7	-466.8	897.4	882.9	14.44	62.153	
7,000.0	6,975.2	6,909.3	6,886.3	8.6	8.5	-162.00	112.4	-476.3	917.0	902.4	14.67	62.529	
7,100.0	7,074.6	7,007.4	6,983.8	8.8	8.6	-161.94	116.0	-485.9	936.7	921.8	14.89	62.889	
7,200.0	7,174.0	7,105.4	7,081.3	8.9	8.7	-161.88	119.6	-495.5	956.4	941.2	15.12	63.233	
7,300.0	7,273.4	7,203.5	7,178.8	9.0	8.9	-161.83	123.3	-505.1	976.0	960.7	15.36	63.562	
7,400.0	7,372.9	7,301.5	7,276.3	9.1	9.0	-161.77	126.9	-514.7	995.7	980.1	15.59	63.877	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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		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	0.0	0.0	3.0	3.0	-90.48	-0.5	-60.0	60.0				
100.0	100.0	98.0	98.0	3.0	3.0	-90.48	-0.5	-60.0	60.0	54.0	6.00	10.000	
200.0	200.0	198.0	198.0	3.0	3.0	-90.48	-0.5	-60.0	60.0	54.0	6.00	9.995	
300.0	300.0	298.0	298.0	3.0	3.0	-90.48	-0.5	-60.0	60.0	54.0	6.01	9.986	
400.0	400.0	398.0	398.0	3.0	3.0	-90.48	-0.5	-60.0	60.0	54.0	6.02	9.970	
500.0	500.0	498.0	498.0	3.1	3.1	-90.48	-0.5	-60.0	60.0	54.0	6.03	9.950	
600.0	600.0	598.0	598.0	3.1	3.1	-90.48	-0.5	-60.0	60.0	54.0	6.05	9.924	
700.0	700.0	698.0	698.0	3.1	3.1	-90.48	-0.5	-60.0	60.0	53.9	6.06	9.893	
800.0	800.0	798.0	798.0	3.2	3.2	-90.48	-0.5	-60.0	60.0	53.9	6.09	9.858	
900.0	900.0	898.0	898.0	3.2	3.2	-90.48	-0.5	-60.0	60.0	53.9	6.11	9.817	
1,000.0	1,000.0	998.0	998.0	3.2	3.2	-90.48	-0.5	-60.0	60.0	53.9	6.14	9.772	
1,100.0	1,100.0	1,098.0	1,098.0	3.3	3.3	-90.48	-0.5	-60.0	60.0	53.8	6.17	9.723	
1,200.0	1,200.0	1,198.0	1,198.0	3.4	3.4	-90.48	-0.5	-60.0	60.0	53.8	6.21	9.669	
1,300.0	1,300.0	1,298.0	1,298.0	3.4	3.4	-90.48	-0.5	-60.0	60.0	53.8	6.24	9.612	
1,400.0	1,400.0	1,398.0	1,398.0	3.5	3.5	-90.48	-0.5	-60.0	60.0	53.7	6.28	9.551	
1,500.0	1,500.0	1,498.0	1,498.0	3.5	3.5	-90.48	-0.5	-60.0	60.0	53.7	6.33	9.486	
1,600.0	1,600.0	1,598.0	1,598.0	3.6	3.6	-90.48	-0.5	-60.0	60.0	53.6	6.37	9.418	
1,700.0	1,700.0	1,698.0	1,698.0	3.7	3.7	-90.48	-0.5	-60.0	60.0	53.6	6.42	9.347	
1,800.0	1,800.0	1,798.0	1,798.0	3.8	3.8	-90.48	-0.5	-60.0	60.0	53.5	6.47	9.274	
1,900.0	1,900.0	1,898.0	1,898.0	3.9	3.9	-90.48	-0.5	-60.0	60.0	53.5	6.52	9.198	
2,000.0	2,000.0	1,998.0	1,998.0	3.9	3.9	-90.48	-0.5	-60.0	60.0	53.4	6.58	9.119	
2,100.0	2,100.0	2,098.0	2,098.0	4.0	4.0	-90.48	-0.5	-60.0	60.0	53.4	6.64	9.039	
2,200.0	2,200.0	2,198.0	2,198.0	4.1	4.1	-90.48	-0.5	-60.0	60.0	53.3	6.70	8.957	
2,300.0	2,300.0	2,298.0	2,298.0	4.2	4.2	-90.48	-0.5	-60.0	60.0	53.2	6.76	8.873	
2,400.0	2,400.0	2,398.0	2,398.0	4.3	4.3	-90.48	-0.5	-60.0	60.0	53.2	6.83	8.788	
2,500.0	2,500.0	2,498.0	2,498.0	4.4	4.4	-90.48	-0.5	-60.0	60.0	53.1	6.90	8.701 CC, ES, SF	
2,600.0	2,600.0	2,597.5	2,597.5	4.5	4.5	-158.22	1.1	-60.4	62.0	55.1	6.97	8.905	
2,700.0	2,699.8	2,696.6	2,696.5	4.5	4.6	-155.65	6.0	-61.6	68.2	61.2	7.04	9.691	
2,808.2	2,807.6	2,803.2	2,802.7	4.6	4.7	-151.94	15.1	-63.9	79.9	72.7	7.14	11.187	
2,900.0	2,898.9	2,894.1	2,893.1	4.6	4.8	-149.23	24.3	-66.2	92.1	84.8	7.24	12.721	
3,000.0	2,998.3	2,993.1	2,991.5	4.7	4.9	-146.99	34.3	-68.7	105.5	98.2	7.35	14.360	
3,100.0	3,097.7	3,092.2	3,090.0	4.8	5.0	-145.26	44.4	-71.2	119.1	111.6	7.46	15.961	
3,200.0	3,197.1	3,191.2	3,188.5	4.8	5.1	-143.89	54.4	-73.7	132.7	125.1	7.57	17.521	
3,300.0	3,296.6	3,290.2	3,287.0	4.9	5.2	-142.77	64.4	-76.2	146.4	138.7	7.69	19.036	
3,400.0	3,396.0	3,389.2	3,385.5	5.0	5.3	-141.84	74.5	-78.7	160.2	152.3	7.81	20.504	
3,500.0	3,495.4	3,488.2	3,483.9	5.1	5.4	-141.06	84.5	-81.3	173.9	166.0	7.93	21.926	
3,600.0	3,594.8	3,587.3	3,582.4	5.1	5.5	-140.40	94.6	-83.8	187.8	179.7	8.06	23.299	
3,700.0	3,694.3	3,686.3	3,680.9	5.2	5.6	-139.82	104.6	-86.3	201.6	193.4	8.19	24.624	
3,800.0	3,793.7	3,785.3	3,779.4	5.3	5.7	-139.32	114.6	-88.8	215.4	207.1	8.32	25.901	
3,900.0	3,893.1	3,884.3	3,877.8	5.4	5.8	-138.88	124.7	-91.3	229.3	220.9	8.45	27.130	
4,000.0	3,992.5	3,983.3	3,976.3	5.5	5.9	-138.49	134.7	-93.8	243.2	234.6	8.59	28.312	
4,100.0	4,091.9	4,082.4	4,074.8	5.6	6.0	-138.14	144.8	-96.3	257.1	248.3	8.73	29.447	
4,200.0	4,191.4	4,181.4	4,173.3	5.7	6.1	-137.83	154.8	-98.8	271.0	262.1	8.87	30.537	
4,300.0	4,290.8	4,280.4	4,271.7	5.7	6.2	-137.55	164.8	-101.3	284.9	275.9	9.02	31.581	
4,400.0	4,390.2	4,379.4	4,370.2	5.8	6.3	-137.29	174.9	-103.8	298.8	289.6	9.17	32.582	
4,500.0	4,489.6	4,478.4	4,468.7	5.9	6.4	-137.06	184.9	-106.4	312.7	303.4	9.32	33.540	
4,600.0	4,589.0	4,577.5	4,567.2	6.0	6.5	-136.85	195.0	-108.9	326.6	317.1	9.48	34.457	
4,700.0	4,688.5	4,676.5	4,665.7	6.1	6.7	-136.65	205.0	-111.4	340.5	330.9	9.64	35.334	
4,800.0	4,787.9	4,775.5	4,764.1	6.2	6.8	-136.47	215.1	-113.9	354.5	344.7	9.80	36.173	
4,900.0	4,887.3	4,874.5	4,862.6	6.3	6.9	-136.31	225.1	-116.4	368.4	358.4	9.96	36.973	
5,000.0	4,986.7	4,973.5	4,961.1	6.4	7.0	-136.15	235.1	-118.9	382.3	372.2	10.13	37.738	
5,100.0	5,086.2	5,072.6	5,059.6	6.5	7.1	-136.01	245.2	-121.4	396.3	386.0	10.30	38.468	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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						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	5,185.6	5,171.6	5,158.0	6.6	7.2	-135.87	255.2	-123.9	410.2	399.7	10.47	39.165	
5,300.0	5,285.0	5,270.6	5,256.5	6.7	7.3	-135.75	265.3	-126.4	424.1	413.5	10.65	39.830	
5,400.0	5,384.4	5,369.6	5,355.0	6.8	7.5	-135.63	275.3	-129.0	438.1	427.3	10.83	40.463	
5,500.0	5,483.8	5,468.6	5,453.5	7.0	7.6	-135.52	285.3	-131.5	452.0	441.0	11.01	41.067	
5,600.0	5,583.3	5,567.7	5,551.9	7.1	7.7	-135.42	295.4	-134.0	466.0	454.8	11.19	41.643	
5,700.0	5,682.7	5,666.7	5,650.4	7.2	7.8	-135.32	305.4	-136.5	479.9	468.5	11.37	42.191	
5,800.0	5,782.1	5,765.7	5,748.9	7.3	7.9	-135.23	315.5	-139.0	493.9	482.3	11.56	42.714	
5,900.0	5,881.5	5,864.7	5,847.4	7.4	8.0	-135.14	325.5	-141.5	507.8	496.1	11.75	43.212	
6,000.0	5,981.0	5,963.7	5,945.9	7.5	8.2	-135.06	335.6	-144.0	521.8	509.8	11.94	43.685	
6,100.0	6,080.4	6,062.8	6,044.3	7.6	8.3	-134.98	345.6	-146.5	535.7	523.6	12.14	44.136	
6,200.0	6,179.8	6,161.8	6,142.8	7.7	8.4	-134.91	355.6	-149.0	549.7	537.3	12.33	44.565	
6,300.0	6,279.2	6,260.8	6,241.3	7.8	8.5	-134.84	365.7	-151.5	563.6	551.1	12.53	44.974	
6,400.0	6,378.6	6,364.1	6,344.1	7.9	8.6	-134.80	375.7	-154.1	577.3	564.6	12.73	45.363	
6,500.0	6,478.1	6,469.9	6,449.5	8.1	8.8	-134.91	384.3	-156.2	590.0	577.1	12.92	45.679	
6,600.0	6,577.5	6,575.9	6,555.3	8.2	8.9	-135.16	390.9	-157.9	601.5	588.4	13.10	45.930	
6,700.0	6,676.9	6,682.0	6,661.3	8.3	9.0	-135.55	395.7	-159.0	612.0	598.7	13.27	46.122	
6,800.0	6,776.3	6,788.3	6,767.5	8.4	9.2	-136.07	398.6	-159.8	621.4	607.9	13.44	46.238	
6,900.0	6,875.8	6,894.6	6,873.8	8.5	9.3	-136.72	399.5	-160.0	629.7	616.1	13.60	46.299	
7,000.0	6,975.2	6,994.0	6,973.2	8.6	9.4	-137.38	399.5	-160.0	637.6	623.8	13.76	46.352	
7,100.0	7,074.6	7,093.4	7,072.6	8.8	9.5	-138.03	399.5	-160.0	645.5	631.6	13.91	46.404	
7,200.0	7,174.0	7,192.8	7,172.0	8.9	9.7	-138.66	399.5	-160.0	653.6	639.5	14.07	46.455	
7,300.0	7,273.4	7,292.2	7,271.4	9.0	9.8	-139.27	399.5	-160.0	661.7	647.5	14.23	46.505	
7,400.0	7,372.9	7,391.6	7,370.9	9.1	9.9	-139.87	399.5	-160.0	669.9	655.5	14.39	46.554	
7,500.0	7,472.3	7,491.1	7,470.3	9.2	10.0	-140.45	399.5	-160.0	678.2	663.6	14.55	46.603	
7,600.0	7,571.7	7,590.5	7,569.7	9.3	10.1	-141.02	399.5	-160.0	686.5	671.8	14.72	46.650	
7,700.0	7,671.1	7,689.9	7,669.1	9.5	10.3	-141.57	399.5	-160.0	694.9	680.0	14.88	46.697	
7,800.0	7,770.5	7,789.3	7,768.5	9.6	10.4	-142.12	399.5	-160.0	703.4	688.3	15.05	46.743	
7,900.0	7,870.0	7,888.8	7,868.0	9.7	10.5	-142.65	399.5	-160.0	711.9	696.7	15.21	46.788	
8,000.0	7,969.4	7,988.2	7,967.4	9.8	10.6	-143.16	399.5	-160.0	720.5	705.1	15.38	46.833	
8,100.0	8,068.8	8,087.6	8,066.8	9.9	10.8	-143.67	399.5	-160.0	729.1	713.5	15.55	46.877	
8,200.0	8,168.2	8,187.0	8,166.2	10.1	10.9	-144.16	399.5	-160.0	737.8	722.1	15.72	46.920	
8,300.0	8,267.7	8,286.4	8,265.7	10.2	11.0	-144.64	399.5	-160.0	746.5	730.6	15.90	46.962	
8,400.0	8,367.1	8,385.9	8,365.1	10.3	11.1	-145.11	399.5	-160.0	755.3	739.3	16.07	47.004	
8,500.0	8,466.5	8,485.3	8,464.5	10.4	11.3	-145.57	399.5	-160.0	764.2	747.9	16.24	47.045	
8,600.0	8,565.9	8,584.7	8,563.9	10.6	11.4	-146.02	399.5	-160.0	773.1	756.7	16.42	47.086	
8,700.0	8,665.3	8,684.1	8,663.3	10.7	11.5	-146.46	399.5	-160.0	782.0	765.4	16.59	47.126	
8,800.0	8,764.8	8,783.6	8,762.8	10.8	11.6	-146.89	399.5	-160.0	791.0	774.2	16.77	47.165	
8,900.0	8,864.2	8,883.0	8,862.2	10.9	11.8	-147.31	399.5	-160.0	800.0	783.1	16.95	47.203	
9,000.0	8,963.6	8,982.4	8,961.6	11.1	11.9	-147.72	399.5	-160.0	809.1	792.0	17.13	47.241	
9,100.0	9,063.0	9,081.8	9,061.0	11.2	12.0	-148.12	399.5	-160.0	818.2	800.9	17.31	47.278	
9,200.0	9,162.5	9,181.2	9,160.5	11.3	12.1	-148.51	399.5	-160.0	827.4	809.9	17.49	47.315	
9,300.0	9,261.9	9,280.7	9,259.9	11.4	12.3	-148.90	399.5	-160.0	836.6	818.9	17.67	47.351	
9,400.0	9,361.3	9,380.1	9,359.3	11.6	12.4	-149.27	399.5	-160.0	845.8	828.0	17.85	47.386	
9,500.0	9,460.7	9,479.5	9,458.7	11.7	12.5	-149.64	399.5	-160.0	855.1	837.0	18.03	47.421	
9,600.0	9,560.1	9,578.9	9,558.1	11.8	12.6	-150.00	399.5	-160.0	864.4	846.1	18.21	47.455	
9,700.0	9,659.6	9,678.3	9,657.6	11.9	12.8	-150.35	399.5	-160.0	873.7	855.3	18.40	47.488	
9,800.0	9,759.0	9,777.8	9,757.0	12.1	12.9	-150.69	399.5	-160.0	883.0	864.5	18.58	47.521	
9,900.0	9,858.4	9,877.2	9,856.4	12.2	13.0	-151.03	399.5	-160.0	892.4	873.7	18.77	47.553	
10,000.0	9,957.8	9,976.6	9,955.8	12.3	13.1	-151.36	399.5	-160.0	901.9	882.9	18.95	47.584	
10,100.0	10,057.3	10,076.0	10,055.3	12.4	13.3	-151.68	399.5	-160.0	911.3	892.2	19.14	47.615	
10,200.0	10,156.7	10,175.5	10,154.7	12.6	13.4	-152.00	399.5	-160.0	920.8	901.5	19.33	47.645	
10,300.0	10,256.1	10,274.9	10,254.1	12.7	13.5	-152.31	399.5	-160.0	930.3	910.8	19.51	47.674	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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
10,400.0	10,355.5	10,374.3	10,353.5	12.8	13.7	-152.61	399.5	-160.0	939.8	920.1	19.70	47.703	
10,500.0	10,454.9	10,473.7	10,452.9	13.0	13.8	-152.91	399.5	-160.0	949.4	929.5	19.89	47.732	
10,600.0	10,554.4	10,573.1	10,552.4	13.1	13.9	-153.20	399.5	-160.0	959.0	938.9	20.08	47.759	
10,700.0	10,653.8	10,672.6	10,651.8	13.2	14.0	-153.49	399.5	-160.0	968.6	948.3	20.27	47.786	
10,800.0	10,753.2	10,772.0	10,751.2	13.3	14.2	-153.77	399.5	-160.0	978.2	957.7	20.46	47.813	
10,900.0	10,852.6	10,871.4	10,850.6	13.5	14.3	-154.04	399.5	-160.0	987.9	967.2	20.65	47.839	
11,000.0	10,952.0	10,970.8	10,950.0	13.6	14.4	-154.31	399.5	-160.0	997.5	976.7	20.84	47.864	

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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' @ 3398.8usft (TBD)

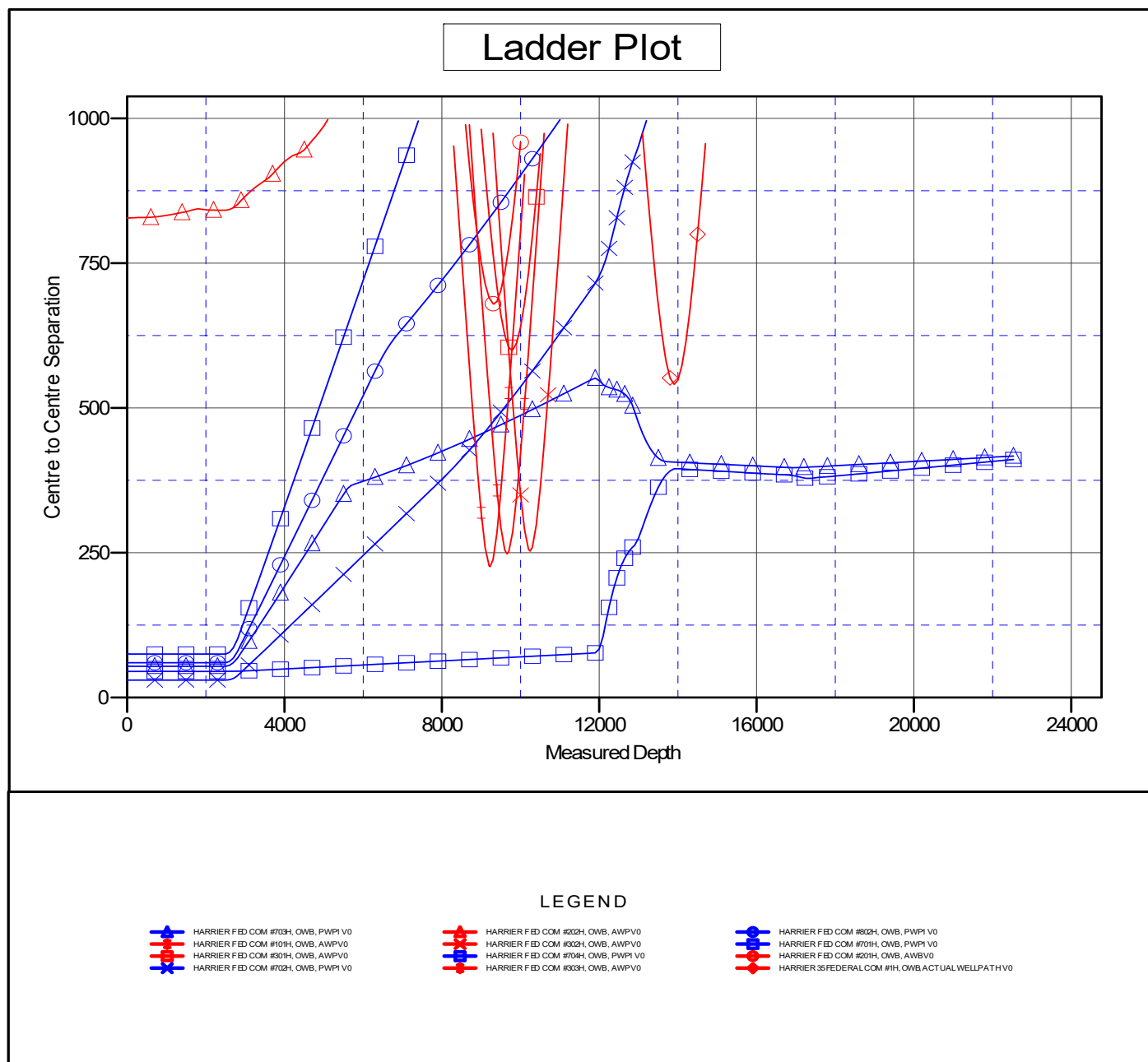
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: HARRIER FED COM #801H

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 #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED COM #801H	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' @ 3398.8usft (TBD)

Offset Depths are relative to Offset Datum

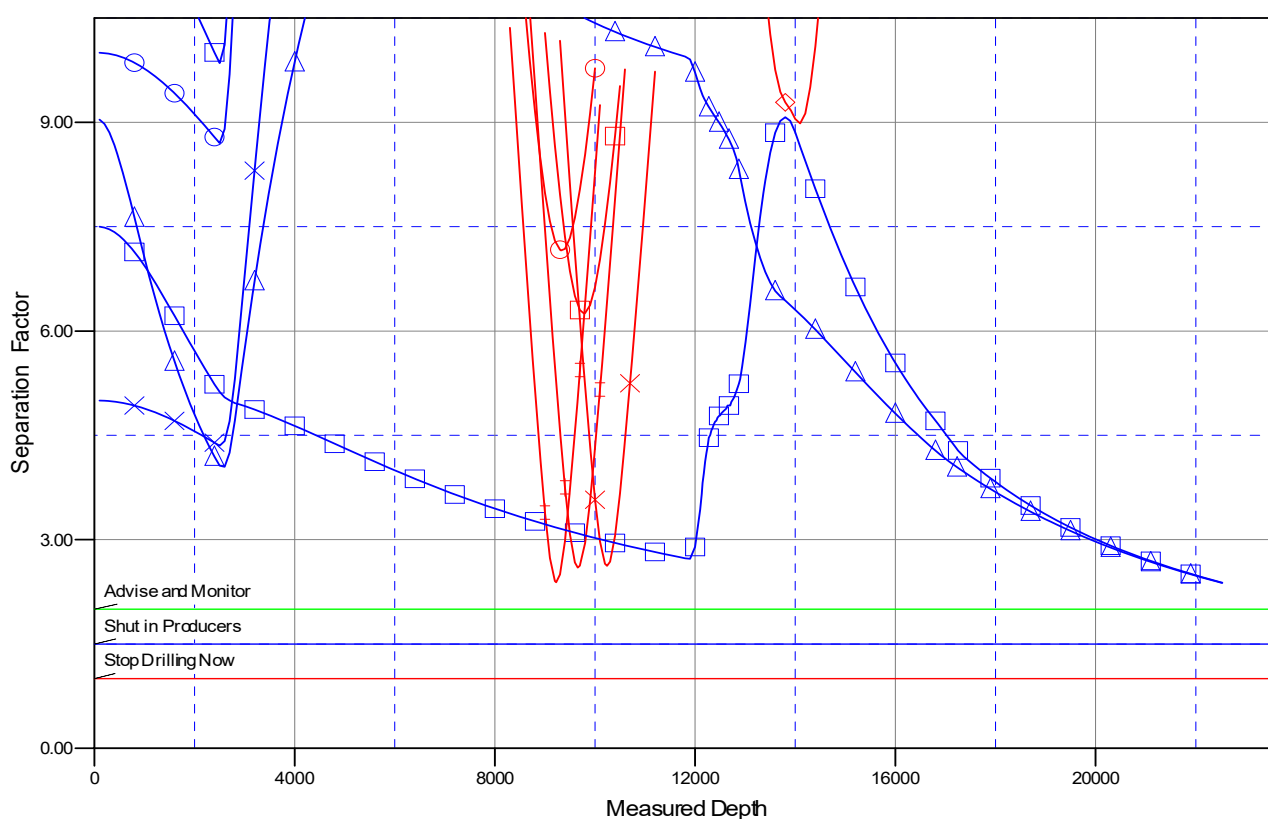
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: HARRIER FED COM #801H

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 #702H, OWB, PWP1 V0

HARRIER FED COM #602H, OWB, AWPV0
HARRIER FED COM #302H, OWB, AWPV0
HARRIER FED COM #704H, OWB, PWP1 V0
HARRIER FED COM #303H, OWB, AWPV0

HARRIER FED COM #603H, OWB, PWP1 V0
HARRIER FED COM #701H, OWB, PWP1 V0
HARRIER FED COM #201H, OWB, AWPV0
HARRIER 35 FEDERAL COM #1H, OWB, ACTUAL WELLPATH V0

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

5/4/2021 9:45:38AM

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COMPASS 5000.15 Build 91E

DELAWARE BASIN EAST

LEA PROSPECT (NM-E)

HARRIER FEDERAL PROJECT (LEA 2632)

HARRIER FED COM #801H

OWB

Plan: PWP1

Standard Survey Report

04 May, 2021



ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	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 #801H			
Well Position	+N/-S	0.0 usft	Northing:	397,790.80 usft
	+E/-W	0.0 usft	Easting:	711,435.70 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Latitude:	32° 5' 30.491 N
			Longitude:	103° 39' 2.149 W
			Ground Level:	3,368.8 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/4/2021	6.59	59.77	47,419.64971243

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	173.79	

Survey Tool Program	Date	5/4/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,132.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
12,132.0	22,529.4	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

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

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	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	68.68	2,600.0	0.6	1.6	-0.5	2.00	2.00	0.00
2,700.0	4.00	68.68	2,699.8	2.5	6.5	-1.8	2.00	2.00	0.00
2,800.0	6.00	68.68	2,799.5	5.7	14.6	-4.1	2.00	2.00	0.00
2,808.2	6.16	68.68	2,807.6	6.0	15.4	-4.3	2.00	2.00	0.00
Start 9323.4 hold at 2808.2 MD									
2,900.0	6.16	68.68	2,898.9	9.6	24.6	-6.9	0.00	0.00	0.00
3,000.0	6.16	68.68	2,998.3	13.5	34.6	-9.7	0.00	0.00	0.00
3,100.0	6.16	68.68	3,097.7	17.4	44.6	-12.5	0.00	0.00	0.00
3,200.0	6.16	68.68	3,197.1	21.3	54.6	-15.3	0.00	0.00	0.00
3,300.0	6.16	68.68	3,296.6	25.2	64.6	-18.1	0.00	0.00	0.00
3,400.0	6.16	68.68	3,396.0	29.1	74.6	-20.9	0.00	0.00	0.00
3,500.0	6.16	68.68	3,495.4	33.0	84.6	-23.7	0.00	0.00	0.00
3,600.0	6.16	68.68	3,594.8	36.9	94.6	-26.5	0.00	0.00	0.00
3,700.0	6.16	68.68	3,694.3	40.8	104.6	-29.3	0.00	0.00	0.00
3,800.0	6.16	68.68	3,793.7	44.7	114.6	-32.1	0.00	0.00	0.00
3,900.0	6.16	68.68	3,893.1	48.6	124.6	-34.9	0.00	0.00	0.00
4,000.0	6.16	68.68	3,992.5	52.5	134.6	-37.7	0.00	0.00	0.00
4,100.0	6.16	68.68	4,091.9	56.5	144.6	-40.5	0.00	0.00	0.00
4,200.0	6.16	68.68	4,191.4	60.4	154.6	-43.3	0.00	0.00	0.00
4,300.0	6.16	68.68	4,290.8	64.3	164.6	-46.1	0.00	0.00	0.00
4,400.0	6.16	68.68	4,390.2	68.2	174.6	-48.9	0.00	0.00	0.00
4,500.0	6.16	68.68	4,489.6	72.1	184.7	-51.7	0.00	0.00	0.00
4,600.0	6.16	68.68	4,589.0	76.0	194.7	-54.5	0.00	0.00	0.00
4,700.0	6.16	68.68	4,688.5	79.9	204.7	-57.3	0.00	0.00	0.00
4,800.0	6.16	68.68	4,787.9	83.8	214.7	-60.1	0.00	0.00	0.00
4,900.0	6.16	68.68	4,887.3	87.7	224.7	-62.9	0.00	0.00	0.00
5,000.0	6.16	68.68	4,986.7	91.6	234.7	-65.7	0.00	0.00	0.00
5,100.0	6.16	68.68	5,086.2	95.5	244.7	-68.5	0.00	0.00	0.00
5,200.0	6.16	68.68	5,185.6	99.4	254.7	-71.3	0.00	0.00	0.00
5,300.0	6.16	68.68	5,285.0	103.3	264.7	-74.1	0.00	0.00	0.00
5,400.0	6.16	68.68	5,384.4	107.2	274.7	-76.9	0.00	0.00	0.00

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	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)	
5,500.0	6.16	68.68	5,483.8	111.1	284.7	-79.7	0.00	0.00	0.00	
5,600.0	6.16	68.68	5,583.3	115.0	294.7	-82.5	0.00	0.00	0.00	
5,700.0	6.16	68.68	5,682.7	118.9	304.7	-85.3	0.00	0.00	0.00	
5,800.0	6.16	68.68	5,782.1	122.8	314.7	-88.1	0.00	0.00	0.00	
5,900.0	6.16	68.68	5,881.5	126.7	324.7	-90.9	0.00	0.00	0.00	
6,000.0	6.16	68.68	5,981.0	130.6	334.7	-93.7	0.00	0.00	0.00	
6,100.0	6.16	68.68	6,080.4	134.5	344.7	-96.5	0.00	0.00	0.00	
6,200.0	6.16	68.68	6,179.8	138.4	354.7	-99.3	0.00	0.00	0.00	
6,300.0	6.16	68.68	6,279.2	142.3	364.7	-102.1	0.00	0.00	0.00	
6,400.0	6.16	68.68	6,378.6	146.2	374.7	-104.9	0.00	0.00	0.00	
6,500.0	6.16	68.68	6,478.1	150.1	384.7	-107.7	0.00	0.00	0.00	
6,600.0	6.16	68.68	6,577.5	154.1	394.7	-110.5	0.00	0.00	0.00	
6,700.0	6.16	68.68	6,676.9	158.0	404.7	-113.3	0.00	0.00	0.00	
6,800.0	6.16	68.68	6,776.3	161.9	414.7	-116.1	0.00	0.00	0.00	
6,900.0	6.16	68.68	6,875.8	165.8	424.7	-118.9	0.00	0.00	0.00	
7,000.0	6.16	68.68	6,975.2	169.7	434.7	-121.7	0.00	0.00	0.00	
7,100.0	6.16	68.68	7,074.6	173.6	444.7	-124.5	0.00	0.00	0.00	
7,200.0	6.16	68.68	7,174.0	177.5	454.7	-127.3	0.00	0.00	0.00	
7,300.0	6.16	68.68	7,273.4	181.4	464.7	-130.1	0.00	0.00	0.00	
7,400.0	6.16	68.68	7,372.9	185.3	474.7	-132.9	0.00	0.00	0.00	
7,500.0	6.16	68.68	7,472.3	189.2	484.7	-135.7	0.00	0.00	0.00	
7,600.0	6.16	68.68	7,571.7	193.1	494.7	-138.5	0.00	0.00	0.00	
7,700.0	6.16	68.68	7,671.1	197.0	504.7	-141.3	0.00	0.00	0.00	
7,800.0	6.16	68.68	7,770.5	200.9	514.7	-144.1	0.00	0.00	0.00	
7,900.0	6.16	68.68	7,870.0	204.8	524.7	-146.9	0.00	0.00	0.00	
8,000.0	6.16	68.68	7,969.4	208.7	534.7	-149.7	0.00	0.00	0.00	
8,100.0	6.16	68.68	8,068.8	212.6	544.7	-152.5	0.00	0.00	0.00	
8,200.0	6.16	68.68	8,168.2	216.5	554.7	-155.3	0.00	0.00	0.00	
8,300.0	6.16	68.68	8,267.7	220.4	564.7	-158.1	0.00	0.00	0.00	
8,400.0	6.16	68.68	8,367.1	224.3	574.7	-160.9	0.00	0.00	0.00	
8,500.0	6.16	68.68	8,466.5	228.2	584.8	-163.7	0.00	0.00	0.00	
8,600.0	6.16	68.68	8,565.9	232.1	594.8	-166.5	0.00	0.00	0.00	
8,700.0	6.16	68.68	8,665.3	236.0	604.8	-169.3	0.00	0.00	0.00	
8,800.0	6.16	68.68	8,764.8	239.9	614.8	-172.1	0.00	0.00	0.00	
8,900.0	6.16	68.68	8,864.2	243.8	624.8	-174.9	0.00	0.00	0.00	
9,000.0	6.16	68.68	8,963.6	247.7	634.8	-177.7	0.00	0.00	0.00	
9,100.0	6.16	68.68	9,063.0	251.6	644.8	-180.5	0.00	0.00	0.00	
9,200.0	6.16	68.68	9,162.5	255.6	654.8	-183.3	0.00	0.00	0.00	
9,300.0	6.16	68.68	9,261.9	259.5	664.8	-186.1	0.00	0.00	0.00	
9,400.0	6.16	68.68	9,361.3	263.4	674.8	-188.9	0.00	0.00	0.00	
9,500.0	6.16	68.68	9,460.7	267.3	684.8	-191.7	0.00	0.00	0.00	
9,600.0	6.16	68.68	9,560.1	271.2	694.8	-194.5	0.00	0.00	0.00	
9,700.0	6.16	68.68	9,659.6	275.1	704.8	-197.3	0.00	0.00	0.00	
9,800.0	6.16	68.68	9,759.0	279.0	714.8	-200.1	0.00	0.00	0.00	

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,900.0	6.16	68.68	9,858.4	282.9	724.8	-202.9	0.00	0.00	0.00
10,000.0	6.16	68.68	9,957.8	286.8	734.8	-205.7	0.00	0.00	0.00
10,100.0	6.16	68.68	10,057.3	290.7	744.8	-208.5	0.00	0.00	0.00
10,200.0	6.16	68.68	10,156.7	294.6	754.8	-211.3	0.00	0.00	0.00
10,300.0	6.16	68.68	10,256.1	298.5	764.8	-214.1	0.00	0.00	0.00
10,400.0	6.16	68.68	10,355.5	302.4	774.8	-216.9	0.00	0.00	0.00
10,500.0	6.16	68.68	10,454.9	306.3	784.8	-219.7	0.00	0.00	0.00
10,600.0	6.16	68.68	10,554.4	310.2	794.8	-222.5	0.00	0.00	0.00
10,700.0	6.16	68.68	10,653.8	314.1	804.8	-225.3	0.00	0.00	0.00
10,800.0	6.16	68.68	10,753.2	318.0	814.8	-228.1	0.00	0.00	0.00
10,900.0	6.16	68.68	10,852.6	321.9	824.8	-230.9	0.00	0.00	0.00
11,000.0	6.16	68.68	10,952.0	325.8	834.8	-233.7	0.00	0.00	0.00
11,100.0	6.16	68.68	11,051.5	329.7	844.8	-236.5	0.00	0.00	0.00
11,200.0	6.16	68.68	11,150.9	333.6	854.8	-239.3	0.00	0.00	0.00
11,300.0	6.16	68.68	11,250.3	337.5	864.8	-242.1	0.00	0.00	0.00
11,400.0	6.16	68.68	11,349.7	341.4	874.8	-244.9	0.00	0.00	0.00
11,500.0	6.16	68.68	11,449.2	345.3	884.8	-247.7	0.00	0.00	0.00
11,600.0	6.16	68.68	11,548.6	349.2	894.8	-250.5	0.00	0.00	0.00
11,700.0	6.16	68.68	11,648.0	353.2	904.8	-253.3	0.00	0.00	0.00
11,800.0	6.16	68.68	11,747.4	357.1	914.8	-256.1	0.00	0.00	0.00
11,900.0	6.16	68.68	11,846.8	361.0	924.8	-258.9	0.00	0.00	0.00
12,000.0	6.16	68.68	11,946.3	364.9	934.8	-261.7	0.00	0.00	0.00
12,100.0	6.16	68.68	12,045.7	368.8	944.8	-264.5	0.00	0.00	0.00
12,131.6	6.16	68.68	12,077.1	370.0	948.0	-265.3	0.00	0.00	0.00
Start DLS 12.00 TFO 111.06									
12,200.0	8.29	136.16	12,145.1	367.8	954.9	-262.4	12.00	3.11	98.64
12,300.0	18.85	162.70	12,242.2	347.1	964.7	-240.7	12.00	10.56	26.55
12,400.0	30.48	170.00	12,333.0	306.5	973.9	-199.4	12.00	11.63	7.30
12,500.0	42.31	173.50	12,413.3	247.9	982.2	-140.3	12.00	11.82	3.50
12,600.0	54.20	175.69	12,479.8	173.7	989.1	-65.8	12.00	11.89	2.19
12,700.0	66.11	177.30	12,529.5	87.3	994.3	20.7	12.00	11.92	1.61
12,800.0	78.05	178.63	12,560.2	-7.6	997.6	115.4	12.00	11.93	1.33
12,900.0	89.99	179.85	12,570.6	-106.9	998.9	214.2	12.00	11.94	1.22
12,900.8	90.08	179.86	12,570.6	-107.6	998.9	215.0	12.00	11.94	1.20
Start 4040.6 hold at 12900.8 MD									
13,000.0	90.08	179.86	12,570.4	-206.9	999.1	313.7	0.00	0.00	0.00
13,100.0	90.08	179.86	12,570.3	-306.9	999.4	413.1	0.00	0.00	0.00
13,200.0	90.08	179.86	12,570.2	-406.9	999.6	512.5	0.00	0.00	0.00
13,300.0	90.08	179.86	12,570.0	-506.9	999.9	612.0	0.00	0.00	0.00
13,400.0	90.08	179.86	12,569.9	-606.9	1,000.1	711.4	0.00	0.00	0.00
13,500.0	90.08	179.86	12,569.8	-706.9	1,000.3	810.9	0.00	0.00	0.00
13,600.0	90.08	179.86	12,569.6	-806.9	1,000.6	910.3	0.00	0.00	0.00
13,700.0	90.08	179.86	12,569.5	-906.9	1,000.8	1,009.7	0.00	0.00	0.00

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,800.0	90.08	179.86	12,569.3	-1,006.9	1,001.1	1,109.2	0.00	0.00	0.00
13,900.0	90.08	179.86	12,569.2	-1,106.9	1,001.3	1,208.6	0.00	0.00	0.00
14,000.0	90.08	179.86	12,569.1	-1,206.9	1,001.5	1,308.1	0.00	0.00	0.00
14,100.0	90.08	179.86	12,568.9	-1,306.9	1,001.8	1,407.5	0.00	0.00	0.00
14,200.0	90.08	179.86	12,568.8	-1,406.9	1,002.0	1,506.9	0.00	0.00	0.00
14,300.0	90.08	179.86	12,568.7	-1,506.9	1,002.3	1,606.4	0.00	0.00	0.00
14,400.0	90.08	179.86	12,568.5	-1,606.9	1,002.5	1,705.8	0.00	0.00	0.00
14,500.0	90.08	179.86	12,568.4	-1,706.9	1,002.7	1,805.3	0.00	0.00	0.00
14,600.0	90.08	179.86	12,568.2	-1,806.9	1,003.0	1,904.7	0.00	0.00	0.00
14,700.0	90.08	179.86	12,568.1	-1,906.9	1,003.2	2,004.1	0.00	0.00	0.00
14,800.0	90.08	179.86	12,568.0	-2,006.9	1,003.5	2,103.6	0.00	0.00	0.00
14,900.0	90.08	179.86	12,567.8	-2,106.9	1,003.7	2,203.0	0.00	0.00	0.00
15,000.0	90.08	179.86	12,567.7	-2,206.9	1,003.9	2,302.4	0.00	0.00	0.00
15,100.0	90.08	179.86	12,567.5	-2,306.9	1,004.2	2,401.9	0.00	0.00	0.00
15,200.0	90.08	179.86	12,567.4	-2,406.9	1,004.4	2,501.3	0.00	0.00	0.00
15,300.0	90.08	179.86	12,567.3	-2,506.9	1,004.7	2,600.8	0.00	0.00	0.00
15,400.0	90.08	179.86	12,567.1	-2,606.9	1,004.9	2,700.2	0.00	0.00	0.00
15,500.0	90.08	179.86	12,567.0	-2,706.8	1,005.1	2,799.6	0.00	0.00	0.00
15,600.0	90.08	179.86	12,566.9	-2,806.8	1,005.4	2,899.1	0.00	0.00	0.00
15,700.0	90.08	179.86	12,566.7	-2,906.8	1,005.6	2,998.5	0.00	0.00	0.00
15,800.0	90.08	179.86	12,566.6	-3,006.8	1,005.9	3,098.0	0.00	0.00	0.00
15,900.0	90.08	179.86	12,566.4	-3,106.8	1,006.1	3,197.4	0.00	0.00	0.00
16,000.0	90.08	179.86	12,566.3	-3,206.8	1,006.3	3,296.8	0.00	0.00	0.00
16,100.0	90.08	179.86	12,566.2	-3,306.8	1,006.6	3,396.3	0.00	0.00	0.00
16,200.0	90.08	179.86	12,566.0	-3,406.8	1,006.8	3,495.7	0.00	0.00	0.00
16,300.0	90.08	179.86	12,565.9	-3,506.8	1,007.1	3,595.2	0.00	0.00	0.00
16,400.0	90.08	179.86	12,565.7	-3,606.8	1,007.3	3,694.6	0.00	0.00	0.00
16,500.0	90.08	179.86	12,565.6	-3,706.8	1,007.5	3,794.0	0.00	0.00	0.00
16,600.0	90.08	179.86	12,565.5	-3,806.8	1,007.8	3,893.5	0.00	0.00	0.00
16,700.0	90.08	179.86	12,565.3	-3,906.8	1,008.0	3,992.9	0.00	0.00	0.00
16,800.0	90.08	179.86	12,565.2	-4,006.8	1,008.3	4,092.4	0.00	0.00	0.00
16,900.0	90.08	179.86	12,565.1	-4,106.8	1,008.5	4,191.8	0.00	0.00	0.00
16,941.4	90.08	179.86	12,565.0	-4,148.2	1,008.6	4,233.0	0.00	0.00	0.00
Start DLS 2.00 TFO -0.38									
16,955.6	90.36	179.86	12,564.9	-4,162.4	1,008.6	4,247.0	2.00	2.00	-0.01
Start 275.7 hold at 16955.6 MD									
17,000.0	90.36	179.86	12,564.7	-4,206.8	1,008.7	4,291.2	0.00	0.00	0.00
17,100.0	90.36	179.86	12,564.0	-4,306.8	1,009.0	4,390.7	0.00	0.00	0.00
17,200.0	90.36	179.86	12,563.4	-4,406.8	1,009.2	4,490.1	0.00	0.00	0.00
17,231.3	90.36	179.86	12,563.2	-4,438.1	1,009.3	4,521.2	0.00	0.00	0.00
Start DLS 2.00 TFO -90.52									
17,251.1	90.36	179.47	12,563.1	-4,457.9	1,009.4	4,540.9	2.00	-0.02	-2.00
Start 5278.3 hold at 17251.1 MD									
17,300.0	90.36	179.47	12,562.8	-4,506.8	1,009.9	4,589.6	0.00	0.00	0.00

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	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)	
17,400.0	90.36	179.47	12,562.1	-4,606.8	1,010.8	4,689.1	0.00	0.00	0.00	
17,500.0	90.36	179.47	12,561.5	-4,706.8	1,011.7	4,788.6	0.00	0.00	0.00	
17,600.0	90.36	179.47	12,560.9	-4,806.8	1,012.7	4,888.1	0.00	0.00	0.00	
17,700.0	90.36	179.47	12,560.3	-4,906.8	1,013.6	4,987.6	0.00	0.00	0.00	
17,800.0	90.36	179.47	12,559.6	-5,006.8	1,014.5	5,087.1	0.00	0.00	0.00	
17,900.0	90.36	179.47	12,559.0	-5,106.8	1,015.5	5,186.6	0.00	0.00	0.00	
18,000.0	90.36	179.47	12,558.4	-5,206.8	1,016.4	5,286.2	0.00	0.00	0.00	
18,100.0	90.36	179.47	12,557.8	-5,306.8	1,017.3	5,385.7	0.00	0.00	0.00	
18,200.0	90.36	179.47	12,557.1	-5,406.8	1,018.3	5,485.2	0.00	0.00	0.00	
18,300.0	90.36	179.47	12,556.5	-5,506.8	1,019.2	5,584.7	0.00	0.00	0.00	
18,400.0	90.36	179.47	12,555.9	-5,606.8	1,020.1	5,684.2	0.00	0.00	0.00	
18,500.0	90.36	179.47	12,555.2	-5,706.8	1,021.1	5,783.7	0.00	0.00	0.00	
18,600.0	90.36	179.47	12,554.6	-5,806.8	1,022.0	5,883.2	0.00	0.00	0.00	
18,700.0	90.36	179.47	12,554.0	-5,906.7	1,022.9	5,982.7	0.00	0.00	0.00	
18,800.0	90.36	179.47	12,553.4	-6,006.7	1,023.9	6,082.2	0.00	0.00	0.00	
18,900.0	90.36	179.47	12,552.7	-6,106.7	1,024.8	6,181.7	0.00	0.00	0.00	
19,000.0	90.36	179.47	12,552.1	-6,206.7	1,025.7	6,281.2	0.00	0.00	0.00	
19,100.0	90.36	179.47	12,551.5	-6,306.7	1,026.7	6,380.7	0.00	0.00	0.00	
19,200.0	90.36	179.47	12,550.9	-6,406.7	1,027.6	6,480.3	0.00	0.00	0.00	
19,300.0	90.36	179.47	12,550.2	-6,506.7	1,028.5	6,579.8	0.00	0.00	0.00	
19,400.0	90.36	179.47	12,549.6	-6,606.7	1,029.5	6,679.3	0.00	0.00	0.00	
19,500.0	90.36	179.47	12,549.0	-6,706.7	1,030.4	6,778.8	0.00	0.00	0.00	
19,600.0	90.36	179.47	12,548.4	-6,806.7	1,031.4	6,878.3	0.00	0.00	0.00	
19,700.0	90.36	179.47	12,547.7	-6,906.7	1,032.3	6,977.8	0.00	0.00	0.00	
19,800.0	90.36	179.47	12,547.1	-7,006.7	1,033.2	7,077.3	0.00	0.00	0.00	
19,900.0	90.36	179.47	12,546.5	-7,106.7	1,034.2	7,176.8	0.00	0.00	0.00	
20,000.0	90.36	179.47	12,545.8	-7,206.7	1,035.1	7,276.3	0.00	0.00	0.00	
20,100.0	90.36	179.47	12,545.2	-7,306.7	1,036.0	7,375.8	0.00	0.00	0.00	
20,200.0	90.36	179.47	12,544.6	-7,406.7	1,037.0	7,475.3	0.00	0.00	0.00	
20,300.0	90.36	179.47	12,544.0	-7,506.6	1,037.9	7,574.9	0.00	0.00	0.00	
20,400.0	90.36	179.47	12,543.3	-7,606.6	1,038.8	7,674.4	0.00	0.00	0.00	
20,500.0	90.36	179.47	12,542.7	-7,706.6	1,039.8	7,773.9	0.00	0.00	0.00	
20,600.0	90.36	179.47	12,542.1	-7,806.6	1,040.7	7,873.4	0.00	0.00	0.00	
20,700.0	90.36	179.47	12,541.5	-7,906.6	1,041.6	7,972.9	0.00	0.00	0.00	
20,800.0	90.36	179.47	12,540.8	-8,006.6	1,042.6	8,072.4	0.00	0.00	0.00	
20,900.0	90.36	179.47	12,540.2	-8,106.6	1,043.5	8,171.9	0.00	0.00	0.00	
21,000.0	90.36	179.47	12,539.6	-8,206.6	1,044.4	8,271.4	0.00	0.00	0.00	
21,100.0	90.36	179.47	12,539.0	-8,306.6	1,045.4	8,370.9	0.00	0.00	0.00	
21,200.0	90.36	179.47	12,538.3	-8,406.6	1,046.3	8,470.4	0.00	0.00	0.00	
21,300.0	90.36	179.47	12,537.7	-8,506.6	1,047.2	8,569.9	0.00	0.00	0.00	
21,400.0	90.36	179.47	12,537.1	-8,606.6	1,048.2	8,669.4	0.00	0.00	0.00	
21,500.0	90.36	179.47	12,536.5	-8,706.6	1,049.1	8,769.0	0.00	0.00	0.00	
21,600.0	90.36	179.47	12,535.8	-8,806.6	1,050.0	8,868.5	0.00	0.00	0.00	
21,700.0	90.36	179.47	12,535.2	-8,906.6	1,051.0	8,968.0	0.00	0.00	0.00	

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #801H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3398.8usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3398.8usft (TBD)
Well:	HARRIER FED COM #801H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
21,800.0	90.36	179.47	12,534.6	-9,006.5	1,051.9	9,067.5	0.00	0.00	0.00
21,900.0	90.36	179.47	12,533.9	-9,106.5	1,052.8	9,167.0	0.00	0.00	0.00
22,000.0	90.36	179.47	12,533.3	-9,206.5	1,053.8	9,266.5	0.00	0.00	0.00
22,100.0	90.36	179.47	12,532.7	-9,306.5	1,054.7	9,366.0	0.00	0.00	0.00
22,200.0	90.36	179.47	12,532.1	-9,406.5	1,055.6	9,465.5	0.00	0.00	0.00
22,300.0	90.36	179.47	12,531.4	-9,506.5	1,056.6	9,565.0	0.00	0.00	0.00
22,400.0	90.36	179.47	12,530.8	-9,606.5	1,057.5	9,664.5	0.00	0.00	0.00
22,500.0	90.36	179.47	12,530.2	-9,706.5	1,058.4	9,764.0	0.00	0.00	0.00
22,529.4	90.36	179.47	12,530.0	-9,735.9	1,058.7	9,793.3	0.00	0.00	0.00
TD at 22529.4									

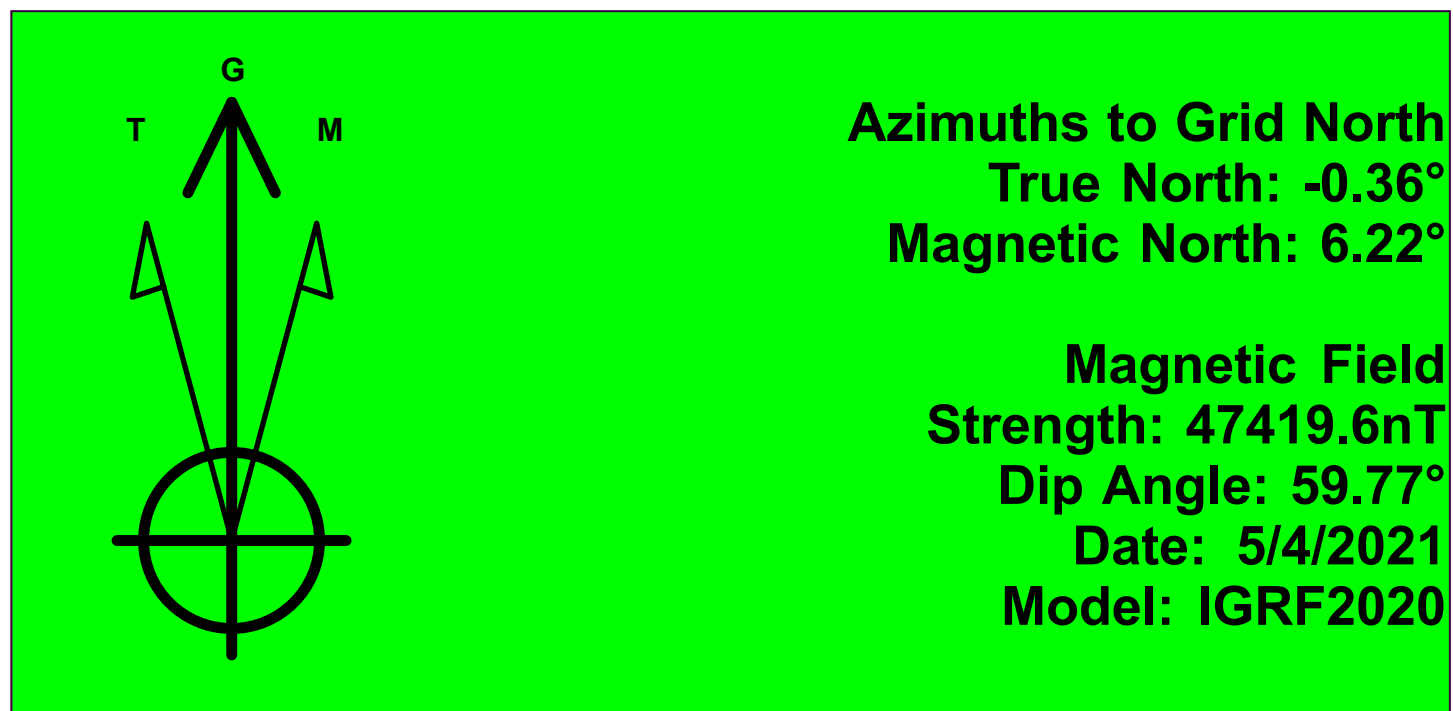
Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL (HARRIER FED	0.36	359.47	12,530.0	-9,735.9	1,058.7	388,054.90	712,494.40	32° 3' 54.079 N	103° 38' 50.562 W
- plan hits target center									
- Rectangle (sides W100.0 H5,300.0 D20.0)									
LTP (HARRIER FED (	0.00	0.00	12,530.0	-9,685.9	1,058.4	388,104.90	712,494.10	32° 3' 54.573 N	103° 38' 50.562 W
- plan misses target center by 0.4usft at 22479.4usft MD (12530.3 TVD, -9685.9 N, 1058.2 E)									
- Point									
POI #1 (HARRIER FE	0.36	359.86	12,563.2	-4,438.1	1,009.3	393,352.66	712,445.00	32° 4' 46.508 N	103° 38' 50.745 W
- plan hits target center									
- Rectangle (sides W100.0 H286.0 D20.0)									
4900'FFTP (HARRIEF	0.08	359.86	12,565.0	-4,148.2	1,008.6	393,642.57	712,444.30	32° 4' 49.377 N	103° 38' 50.732 W
- plan hits target center									
- Rectangle (sides W100.0 H4,952.0 D20.0)									
FTP (HARRIER FED (	0.00	0.00	12,570.0	751.7	994.6	398,542.50	712,430.30	32° 5' 37.867 N	103° 38' 50.532 W
- plan misses target center by 504.8usft at 12400.0usft MD (12333.0 TVD, 306.5 N, 973.9 E)									
- Circle (radius 50.0)									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2500	2500	0	0	Start Build 2.00
2808	2808	6	15	Start 9323.4 hold at 2808.2 MD
12,132	12,077	370	948	Start DLS 12.00 TFO 111.06
12,901	12,571	-108	999	Start 4040.6 hold at 12900.8 MD
16,941	12,565	-4148	1009	Start DLS 2.00 TFO -0.38
16,956	12,565	-4162	1009	Start 275.7 hold at 16955.6 MD
17,231	12,563	-4438	1009	Start DLS 2.00 TFO -90.52
17,251	12,563	-4458	1009	Start 5278.3 hold at 17251.1 MD
22,529	12,530	-9736	1059	TD at 22529.4

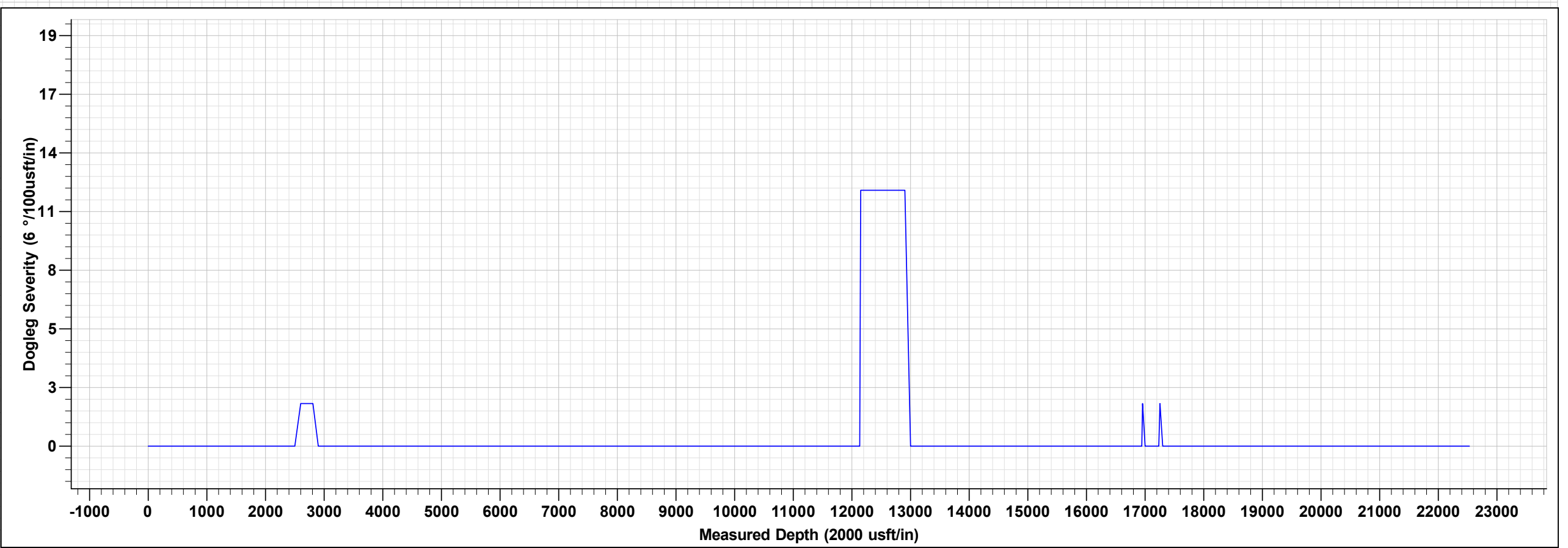
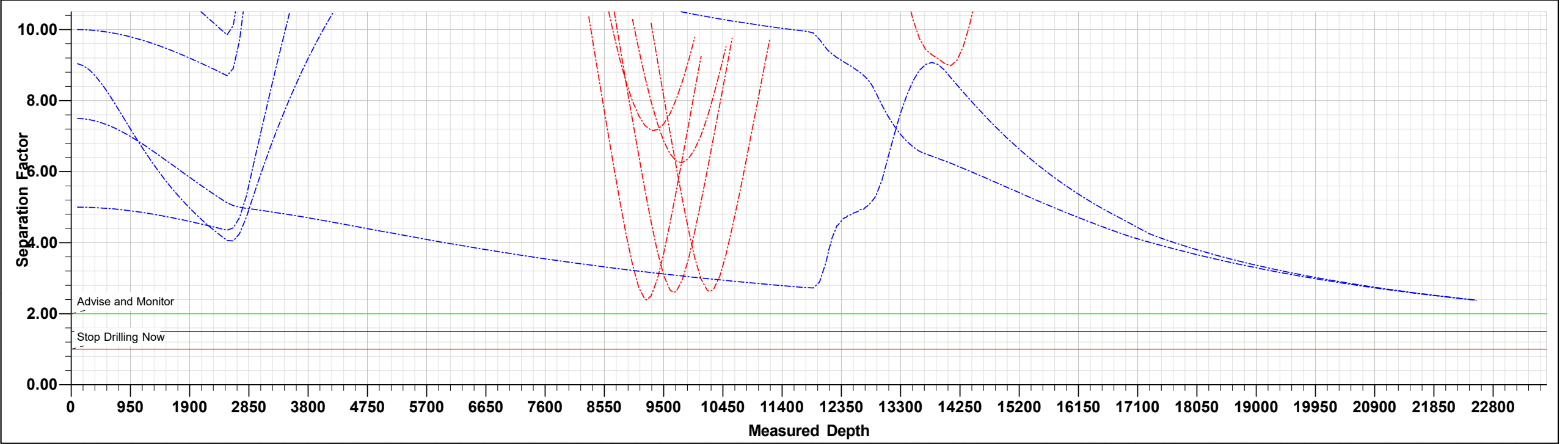
Checked By: _____ Approved By: _____ Date: _____



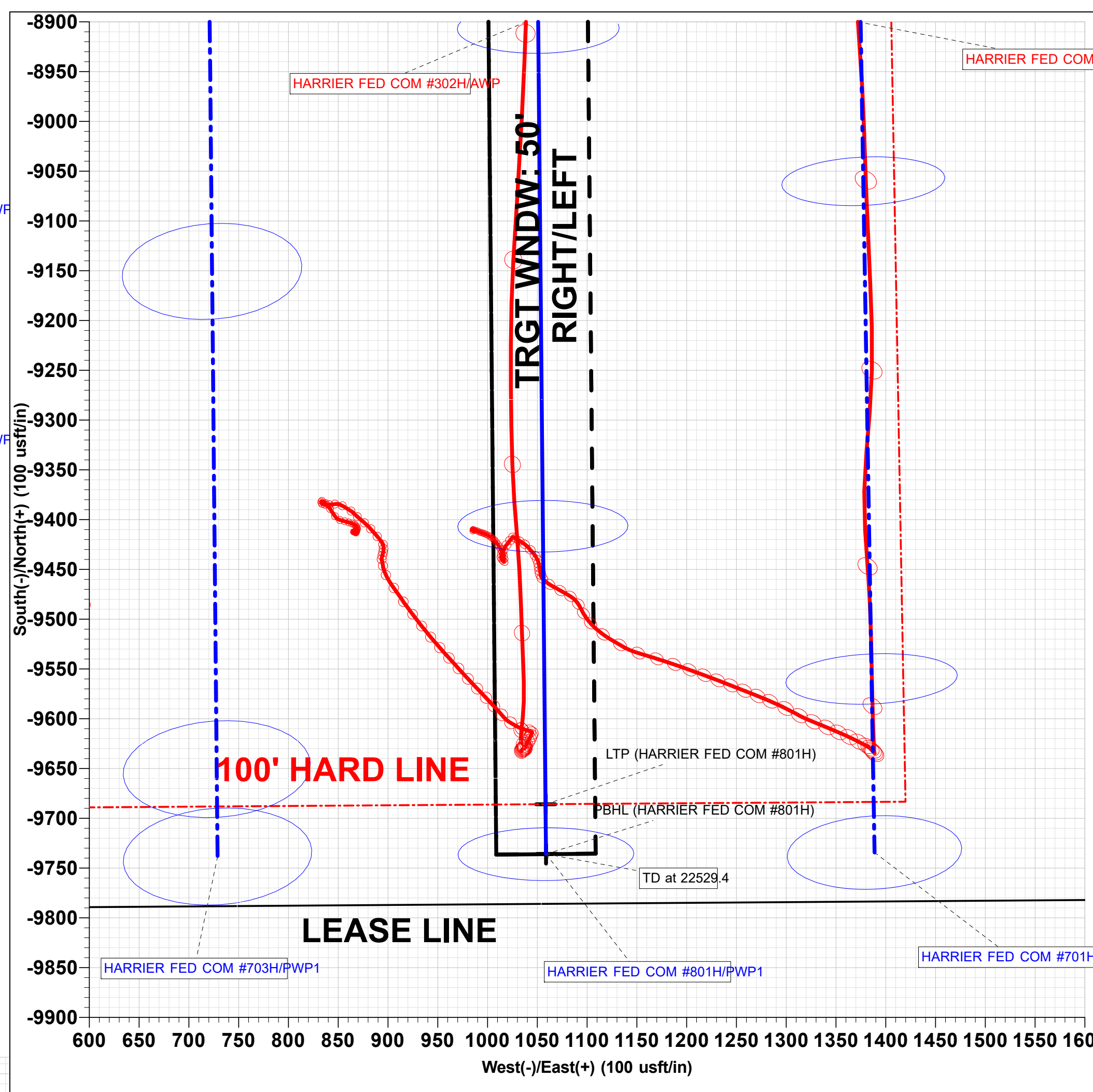
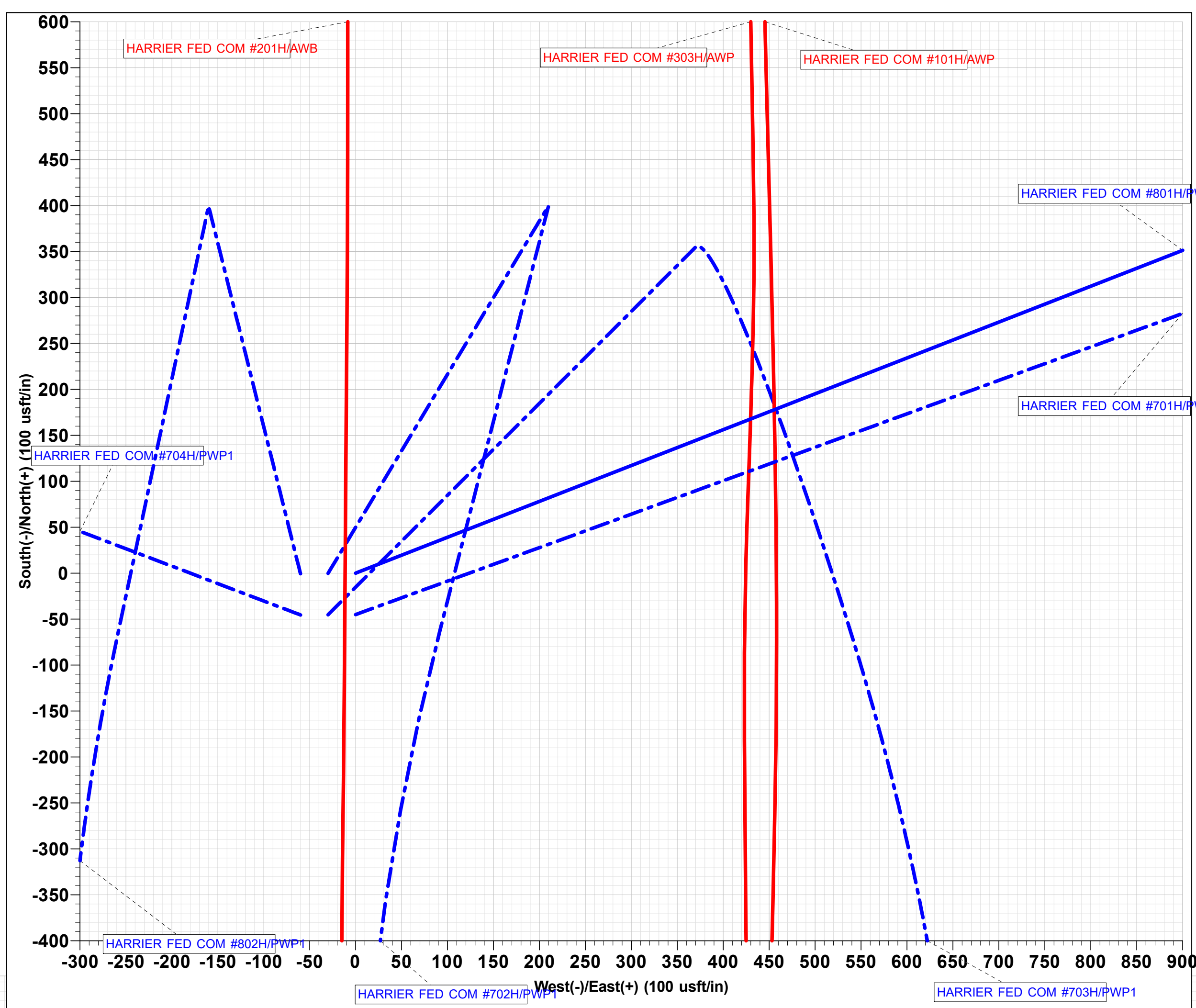
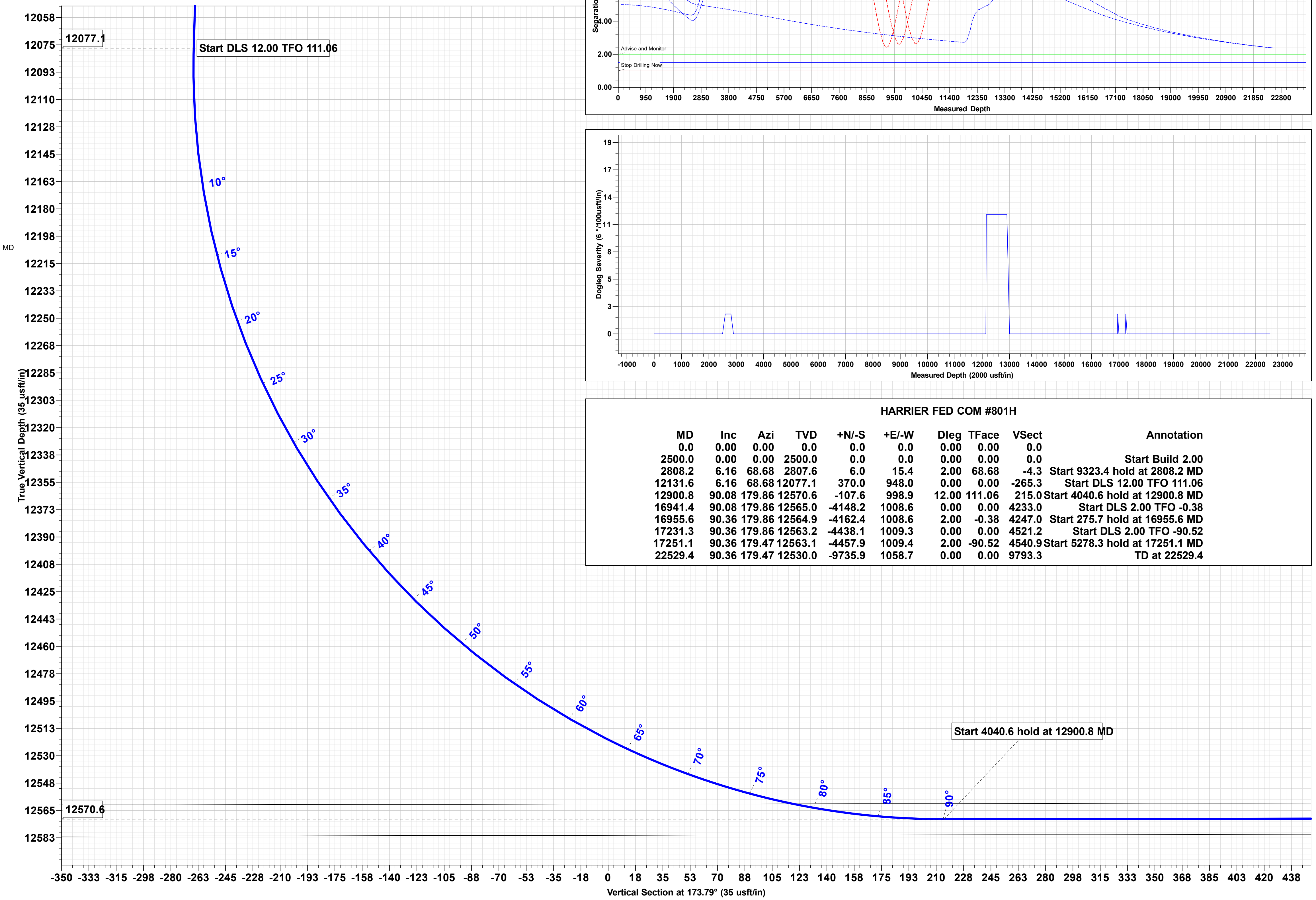
Project: LEA PROSPECT (NM-E)
Site: HARRIER FEDERAL PROJECT (LEA 2632)
Well: HARRIER FED COM #801H
Wellbore: OWB
Design: PWP1
GL: 3368.8
*KB=30° @ 3398.8usft (TBD)

WELL DETAILS: HARRIER FED COM #801H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	397790.80	711435.70	32° 5' 30.491 N	103° 39' 2.149 W

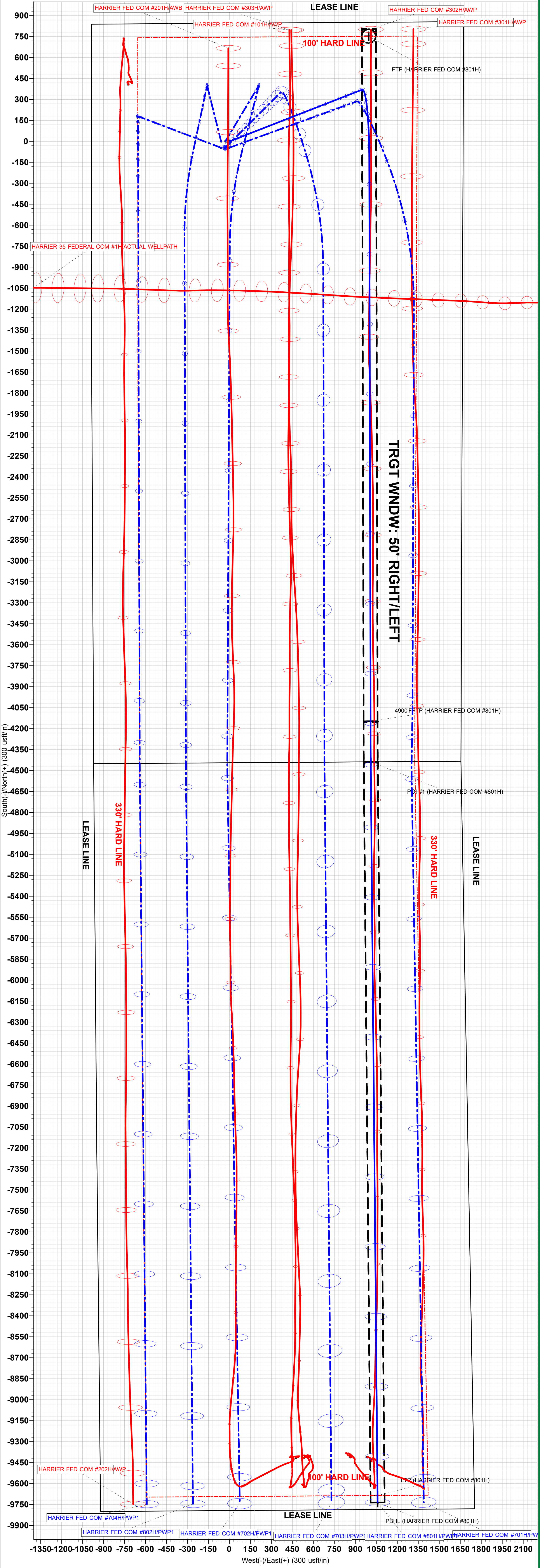
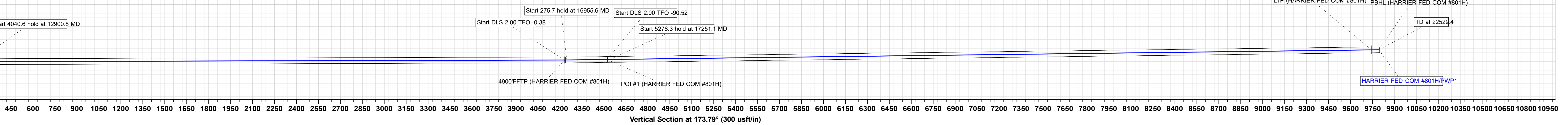
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
LTP (HARRIER FED COM #801H)	12530.0	-9685.9	1058.4	388104.90	712494.10	32° 3' 54.573 N
PBHL (HARRIER FED COM #801H)	12530.0	-9735.9	1058.7	388054.90	712494.40	32° 3' 54.079 N
POI #1 (HARRIER FED COM #801H)	12563.2	-4438.1	1009.3	393352.66	712445.00	32° 4' 46.508 N
4900'FTP (HARRIER FED COM #801H)	12565.0	-4148.2	1008.6	393842.67	712444.30	32° 4' 49.377 N
FTP (HARRIER FED COM #801H)	12570.0	751.7	994.6	398542.50	712430.30	32° 5' 37.867 N



HARRIER FED COM #801H									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2500.0	0.0	0.0	2500.0	0.0	0.0	0.0	0.0	0.0	Start Build 2.00
2808.2	6.16	68.66	2807.6	6.0	15.4	2.00	68.66	-4.3	Start 9323.4 hold at 2808.2 MD
12131.6	6.16	68.68	12077.1	370.0	948.0	0.00	0.00	-265.3	Start DLS 12.00 TFO 111.06
12900.8	90.08	179.86	12570.6	-107.6	998.9	12.00	111.06	215.0	Start 4040.6 hold at 12900.8 MD
16941.4	90.08	179.86	12565.0	-4148.2	1008.6	0.00	0.00	4233.0	Start DLS 2.00 TFO -0.38
16955.6	90.36	179.86	12564.9	-4162.4	1008.6	2.00	-0.38	4247.0	Start 275.7 hold at 16955.6 MD
17231.3	90.36	179.86	12563.2	-4438.1	1009.3	0.00	0.00	4521.2	Start DLS 2.00 TFO -90.52
17251.1	90.36	179.47	12563.1	-4457.9	1009.4	2.00	-90.52	4540.9	Start 5278.3 hold at 17251.1 MD
22529.4	90.36	179.47	12530.0	-9735.9	1058.7	0.00	0.00	9793.3	TD at 22529.4

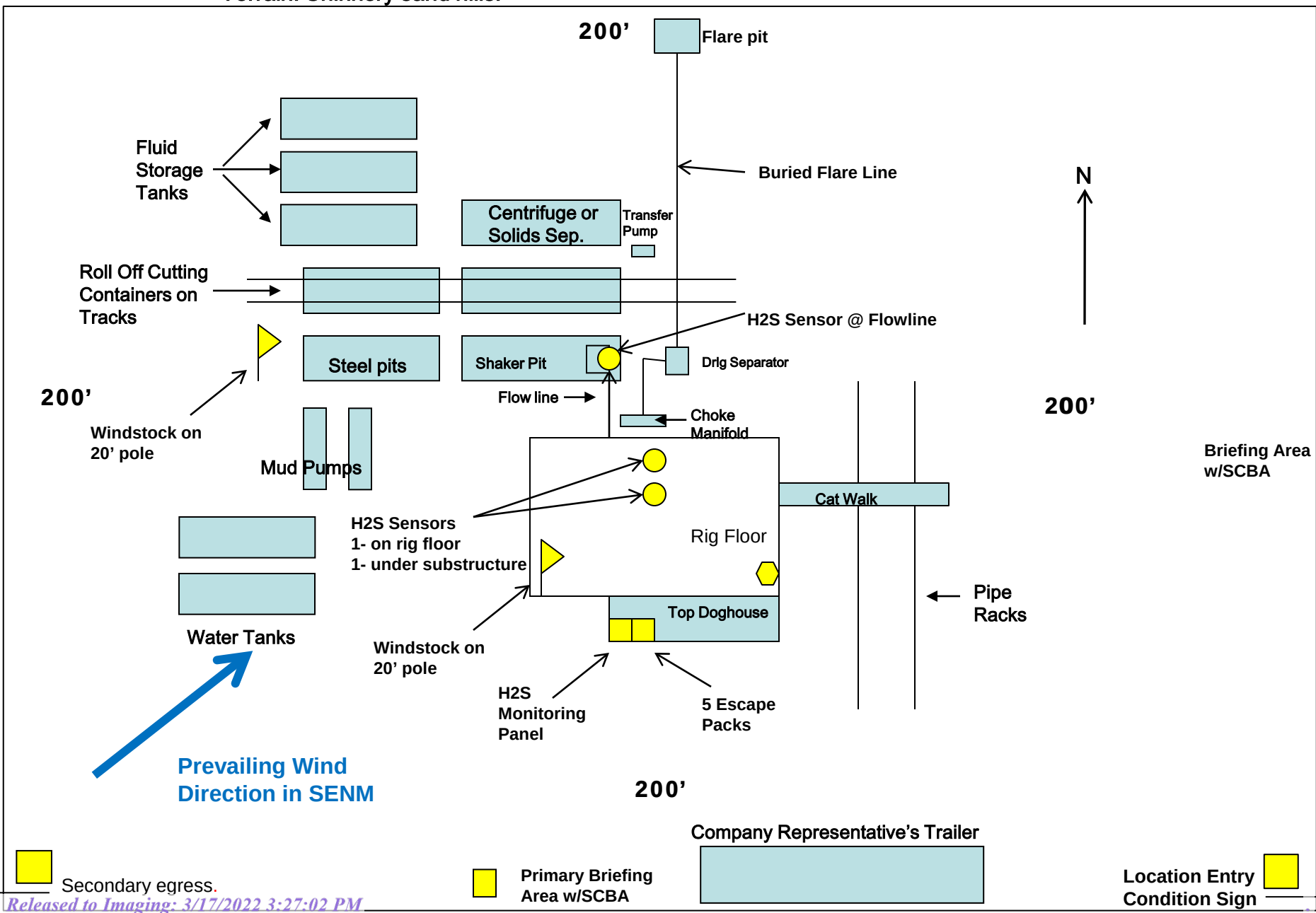


TRGT WNDW: 10'
ABOVE/BELOW



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 89167

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 89167
	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