

Well Name: RICK VAUGHN BS FED COM	Well Location: T26S / R29E / SEC 7 / SESW / 32.0501278 / -104.0274735	County or Parish/State: EDDY / NM
Well Number: 502H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM143617	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001556026	Operator: MARATHON OIL PERMIAN LLC	

Notice of Intent

Sundry ID: 2870802

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 08/29/2025	Time Sundry Submitted: 09:57
Date proposed operation will begin: 08/29/2025	

Procedure Description: Marathon Oil Permian LLC requests a change to our approved APD for this well to reflect a change in BHL. Change FROM: 100' FNL & 1320' FWL, 6-26S-29E Change TO: 200' FNL & 1320' FWL, Lot 1 6-26S-29E, Eddy Co., NM. Additionally, Marathon requests permission for offline intermediate cementing, a break testing variance, and the ability to batch drill the Rick Vaughn Fed Com project. Revised C-102s, directional plans, and drill procedures attached.

NOI Attachments

Procedure Description

- Tenaris_Data_Sheets___3_String___WCA___Rick_Vaughn_800s_20250829095736.pdf
- RICK_VAUGHN_FEDERAL_COM_810H_WPlot_20250829095726.pdf
- RICK_VAUGHN_FEDERAL_COM_810H_PWP1_PLAN_RPT_20250829095715.pdf
- RICK_VAUGHN_FEDERAL_COM_810H_PWP1_AC_RPT_20250829095704.pdf
- RICK_VAUGHN_FEDERAL_COM_810H_C102_signed_6_10_25_20250829095652.pdf
- Rick_Vaughn_Fed_Com_810H_revised_drill_procedure_8_28_25_20250829095635.pdf

Received by OCD: 10/6/2025 9:10:43 AM

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Conditions of Approval

Additional

RICK_VAUGHN_FED_COM_810H_COAs_20250930112314.pdf

SEC31_T25S_R29E_RICK_VAUGHN_FED_COM_Eddy__CONOCOPHILLIPS_COMPANY_45930_JS_20250930112314.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: STAN WAGNER

Signed on: AUG 29, 2025 09:57 AM

Name: MARATHON OIL PERMIAN LLC

Title: Regulatory Advisor

Street Address: 600 WEST ILLINOIS AVE

City: MIDLANDState: TX

Phone: (432) 253-9685

Email address: STAN.S.WAGNER@CONOCOPHILLIPS.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: CWALLS@BLM.GOV

Disposition: Approved

Disposition Date: 10/02/2025

Signature: Chris Walls

Form 3160-5
(October 2024)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name	
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SUBMIT IN TRIPLICATE - Other instructions on page 2

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

1. Type of Well

☐ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

2. Name of Operator

9. API Well No.	
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3a. Address

3b. Phone No. (include area code)

10. Field and Pool or Exploratory Area

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompletes horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (*Printed/Typed*)

Title

Signature

Date _____

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by _____

Title

Date _____

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: SESW / 88 FSL / 1444 FWL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.0501278 / LONG: -104.0274735 (TVD: 0 feet, MD: 0 feet)

PPP: SESE / 100 FSL / 1320 FWL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.0501618 / LONG: -104.0278737 (TVD: 7898 feet, MD: 7900 feet)

PPP: NESE / 1316 FSL / 1317 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0680173 / LONG: -104.0278655 (TVD: 8362 feet, MD: 13338 feet)

BHL: NENE / 100 FNL / 1320 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0786696 / LONG: -104.0278606 (TVD: 8362 feet, MD: 18529 feet)

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	RICK VAUGHN FED COM 810H
LOCATION:	Section 7, T.26 S., R.29 E., NMP
COUNTY:	Eddy County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Wellhead Variance	☐ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☒ Contingency Cement Squeeze	☒ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☒ Break Testing	☒ Offline Cementing	☒ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Primary Casing Design:

1. The **10-3/4** inch surface casing shall be set at approximately **350 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) 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. **Keep casing full during run for collapse safety factor.** The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Contingency Squeeze:

Operator has proposed to pump down 10-3/4" X 7-5/8" annulus. Operator must top out cement after the bradenhead squeeze and verify cement to surface. Operator can also check TOC with Echo-meter. CBL must be run from TD of the 7-5/8" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

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.
- **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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 **10-3/4 inch** 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 3500 (70% Working Pressure) 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.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- 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.

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Casing Clearance:

- The W441 connection should tie back 500'+ into the W513 intermediate casing for clearance overlap.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate "coffee ground or less" before cementing.

Offline Cementing:

Contact the BLM prior to the commencement of any offline cementing procedure.

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

EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

BLM_NM_CFO_DrillingNotifications@BLM.GOV
(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
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. 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.
 - iii. BOP/BOPE test to be conducted per **43 CFR 3172** 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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 of both lead and tail cement, 2) until cement has been in place at least 8 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-Q 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 **43 CFR 3172**.
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:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. 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.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. 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.
 - i. 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 cement), 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).

- ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 **43 CFR 3172**.

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.

JS 9/30/2025

SEC31-T25S-R29E_RICK VAUGHN FED COM_Eddy__CONOCOPHILLIPS COMPANY_45930_JS

RICK VAUGHN FED COM

10 3/4		surface csg in a		14 3/4	inch hole.		Design Factors			Surface				
Segment	#/ft	Grade			Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	45.50			J 55	BTC	44.92	13.06	0.65	350	23	1.13	25.18	15,925	
"B"					BTC				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500					Tail Cmt	does not	circ to sfc.	Totals:	350				15,925	
Comparison of Proposed to Minimum Required Cement Volumes														
Hole	Annular	1 Stage		1 Stage	Min	1 Stage	Drilling	Calc					Min Dist	
Size	Volume	Cmt Sx		CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	Req'd					Hole-Cplg
14 3/4	0.5563	211		293	195	50	8.80	3167	5M					1.50
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.														
Alt burst ok														

7 5/8		casing inside the		10 3/4		Design Factors				Int 1				
Segment	#/ft	Grade			Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	29.70			L 80	BTC	2.18	1.23	0.91	7,500	1	1.32	2.13	222,750	
"B"	29.70			P 110	W-513	6.18	0.97	1.25	3,075	2	1.82	1.69	91,328	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,650									Totals:	10,575		314,078		
The cement volume(s) are intended to achieve a top of						0	ft from surface or a		350			overlap.		
Hole Size	Annular Volume	1 Stage Cmt Sx		1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg		
9 7/8	0.2148	1173		2845	2274	25	10.00	5216	10M			0.69		
D V Tool(s):				2772	sum of sx				Σ CuFt	Σ%excess				
t by stage % :				70	11	1579				3509	54			
Class 'H' tail cmt yld > 1.20														
MASP is within 10% of 5000psig, need exrta equip?														
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.92, b, c, d All > 0.70, OK.														
Keep Casing Full, Alt Burst ok, Does not meet CFO 25% excess														

Tail cmt													
5 1/2		casing inside the		7 5/8		Design Factors				Prod 1			
Segment	#/ft	Grade		Coupling		Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00	P 110		BTC		2.96	1.52	1.66	10,375	2	2.42	2.22	207,500
"B"	20.00	P 110		W441		6.93	1.48	1.89	10,576	2	2.75	2.36	211,520
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,283									Totals:		20,951		419,020
The cement volume(s) are intended to achieve a top of						10375	ft from surface or a		200			overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg		
6 3/4	0.0835	1584	2156	885	144	13.50					0.35		
Class 'C' tail cmt yld > 1.35													
Clearance ok must tie back 500ft													

#N/A													
0		5 1/2			Design Factors				<Choose Casing>				
Segment	#/ft	Grade		Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"				0.00				0				0	
"B"				0.00				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig:								Totals:	0				0
Cmt vol calc below includes this csg, TOC intended					#N/A	ft from surface or a		#N/A				overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg	
0		#N/A	#N/A	0	#N/A								
#N/A													
Capitan Reef est top XXXX.													



TXP® BTC



Coupling	Pipe Body
Grade: J55 (Casing)	Grade: J55 (Casing)
Body: Bright Green	1st Band: Bright Green
1st Band: White	2nd Band: -
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	10.750 in.	Wall Thickness	0.400 in.	Grade	J55 (Casing)
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry		Performance	
Nominal OD	10.750 in.	Wall Thickness	0.400 in.
Nominal Weight	45.50 lb/ft	Plain End Weight	44.26 lb/ft
Drift	9.794 in.	OD Tolerance	API
Nominal ID	9.950 in.		
		Body Yield Strength	715 x1000 lb
		Min. Internal Yield Pressure	3580 psi
		SMYS	55,000 psi
		Collapse Pressure	2090 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	11.750 in.	Tension Efficiency	100 %	Minimum	19,520 ft-lb
Coupling Length	10.825 in.	Joint Yield Strength	715 x1000 lb	Optimum	21,690 ft-lb
Connection ID	9.938 in.	Internal Pressure Capacity	3580 psi	Maximum	23,860 ft-lb
Make-up Loss	4.891 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	715 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	23 °/100 ft	Operating Torque	27,400 ft-lb
		External Pressure Capacity	2090 psi	Yield Torque	34,700 ft-lb

Notes

This connection is fully interchangeable with:
TXP® BTC - 10.75 in. - 0.35 (40.50) / 0.45 (51.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
Standard coupling design comes with optimized 20° bevel.

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TXP® BTC



Coupling	Pipe Body
Grade: L80-ICY	Grade: L80-ICY
Body: Red	1st Band: Red
1st Band: Brown	2nd Band: Brown
2nd Band: Pale Green	3rd Band: Pale Green
3rd Band: -	4th Band: Pale Green
	5th Band: -
	6th Band: -

Outside Diameter	7.625 in.	Wall Thickness	0.375 in.	Grade	L80-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.625 in.	Wall Thickness	0.375 in.	Body Yield Strength	726 x1000 lb
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft	Min. Internal Yield Pressure	7320 psi
Drift	6.750 in.	OD Tolerance	API	SMYS	85,000 psi
Nominal ID	6.875 in.			Collapse Pressure	5900 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	8.500 in.	Tension Efficiency	100 %	Minimum	16,100 ft-lb
Coupling Length	10.575 in.	Joint Yield Strength	726 x1000 lb	Optimum	17,890 ft-lb
Connection ID	6.863 in.	Internal Pressure Capacity	7320 psi	Maximum	19,680 ft-lb
Make-up Loss	4.766 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	726 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	51 °/100 ft	Operating Torque	20,600 ft-lb
		External Pressure Capacity	5900 psi	Yield Torque	25,100 ft-lb

Notes

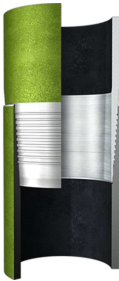
This connection is fully interchangeable with:
TXP® BTC - 7.625 in. - 0.328 (26.40) / 0.43 (33.70) / 0.5 (39.00) / 0.562 (42.80) / 0.595 (45.30) / 0.625 (47.10) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
Standard coupling design comes with optimized 20° bevel.

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Wedge 513®



Coupling	Pipe Body
Grade: P1104CY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	7.625 in.	Wall Thickness	0.375 in.	Grade	P110-ICY
Min. Wall Thickness	90.00 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry		Performance	
Nominal OD	7.625 in.	Wall Thickness	0.375 in.
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft
Drift	6.750 in.	OD Tolerance	API
Nominal ID	6.875 in.		
		Body Yield Strength	1068 x1000 lb
		Min. Internal Yield Pressure	11,070 psi
		SMYS	125,000 psi
		Collapse Pressure	7360 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.625 in.	Tension Efficiency	60 %	Minimum	9000 ft-lb
Connection ID	6.800 in.	Joint Yield Strength	641 x1000 lb	Optimum	10,800 ft-lb
Make-up Loss	4.420 in.	Internal Pressure Capacity	11,070 psi	Maximum	15,800 ft-lb
Threads per inch	3.29	Compression Efficiency	75.20 %		
Connection OD Option	Regular	Compression Strength	803 x1000 lb	Operation Limit Torques	
		Max. Allowable Bending	45 °/100 ft	Operating Torque	53,000 ft-lb
		External Pressure Capacity	7360 psi	Yield Torque	79,000 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 523® - 7.625 in. - 0.375 (29.70) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version

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TXP® BTC



Coupling	Pipe Body
Grade: P1104CY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.361 in.	Grade	P110-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.361 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	20.00 lb/ft	Plain End Weight	19.83 lb/ft	Min. Internal Yield Pressure	14,360 psi
Drift	4.653 in.	OD Tolerance	API	SMYS	125,000 psi
Nominal ID	4.778 in.			Collapse Pressure	12,300 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.100 in.	Tension Efficiency	100 %	Minimum	11,540 ft-lb
Coupling Length	9.450 in.	Joint Yield Strength	729 x1000 lb	Optimum	12,820 ft-lb
Connection ID	4.766 in.	Internal Pressure Capacity	14,360 psi	Maximum	14,100 ft-lb
Make-up Loss	4.204 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	729 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	104 °/100 ft	Operating Torque	22,700 ft-lb
		External Pressure Capacity	12,300 psi	Yield Torque	25,250 ft-lb
		Coupling Face Load	343,000 lb		

Notes

This connection is fully interchangeable with:
TXP® BTC - 5.5 in. - 0.275 (15.50) / 0.304 (17.00) / 0.415 (23.00) / 0.476 (26.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
Standard coupling design comes with optimized 20° bevel.

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TenarisHydril Wedge 441®



Coupling	Pipe Body
Grade: P1104CY	Grade: P110-ICY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.361 in.	Grade	P110-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry		Performance	
Nominal OD	5.500 in.	Wall Thickness	0.361 in.
Nominal Weight	20.00 lb/ft	Plain End Weight	19.83 lb/ft
Drift	4.653 in.	OD Tolerance	API
Nominal ID	4.778 in.		
		Body Yield Strength	729 x1000 lb
		Min. Internal Yield Pressure	14,360 psi
		SMYS	125,000 psi
		Collapse Pressure	12,300 psi

Connection Data

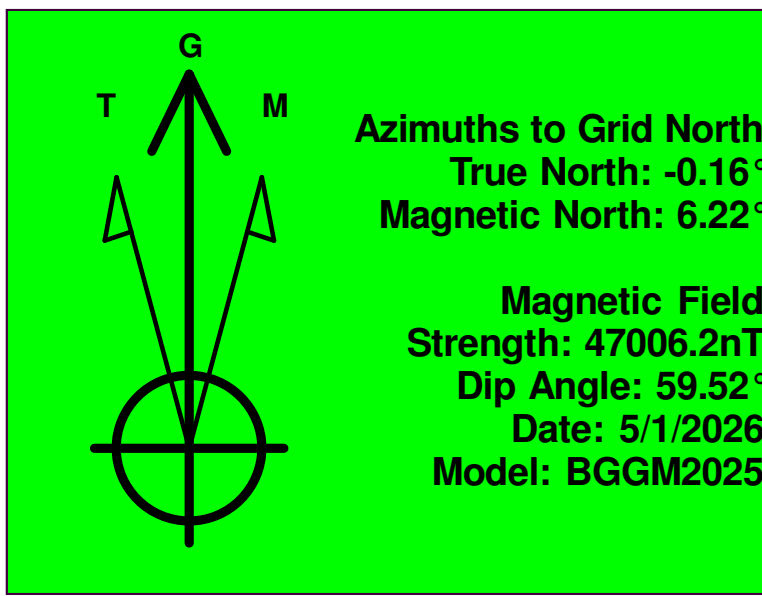
Geometry		Performance		Make-Up Torques	
Connection OD	5.852 in.	Tension Efficiency	81.50 %	Minimum	15,000 ft-lb
Coupling Length	8.714 in.	Joint Yield Strength	594 x1000 lb	Optimum	16,000 ft-lb
Connection ID	4.778 in.	Internal Pressure Capacity	14,360 psi	Maximum	19,200 ft-lb
Make-up Loss	3.780 in.	Compression Efficiency	81.50 %		
Threads per inch	3.40	Compression Strength	594 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	82.06 °/100 ft	Operating Torque	36,000 ft-lb
		External Pressure Capacity	12,300 psi	Yield Torque	42,000 ft-lb
				Buck-On	
				Minimum	19,200 ft-lb
				Maximum	20,700 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 (17.00) in. (lb/ft)
Wedge 461® - 5.5 in. - 0.304 (17.00) / 0.361 (20.00) / 0.415 (23.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version

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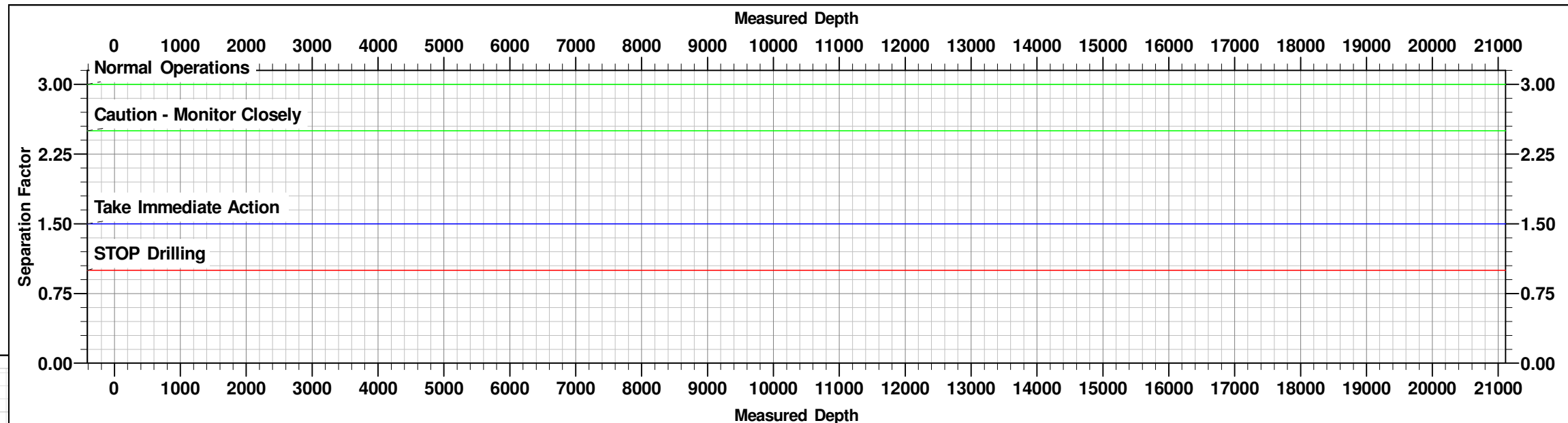
Project: ATLAS PROSPECT NME
Site: RICK VAUGHN FED COM PROJECT
Well: RICK VAUGHN FED COM 810H
Wellbore: OWB
Design: PWP1
GL: 2912.0
KB @ 2944.0usft (NABORS X09)

RICK VAUGHN FED COM 810H

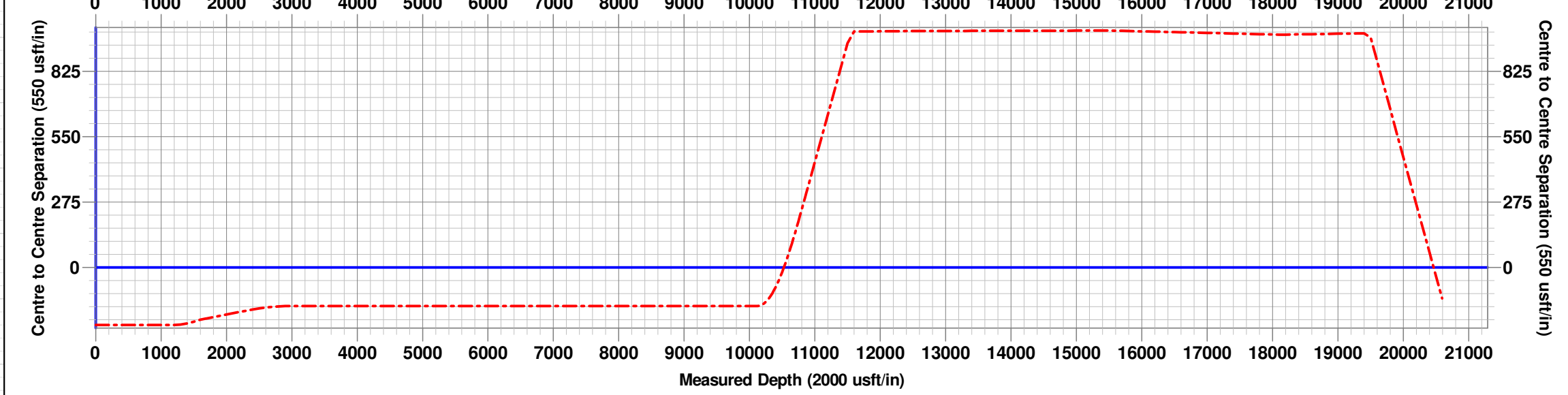
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	382051.14	594913.79	32° 3' 0.012 N	104° 1' 37.160 W

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
810H_KOP BOX_25' N&S X 50' E&W	10114.5	80.0	-123.0	382131.14	594790.79
FTP/PP1_RICK VAUGHN FED COM 810H	10592.0	242.1	-125.0	382293.24	594768.74
PP2_RICK VAUGHN FED COM 810H	10604.6	5191.0	-142.3	387242.19	594771.51
PP3_RICK VAUGHN FED COM 810H	10608.3	6505.9	-143.7	388557.06	594770.12
PP4_RICK VAUGHN FED COM 810H	10612.0	7823.4	-145.1	389874.57	594768.73
LTP_RICK VAUGHN FED COM 810H	10619.0	10152.3	-147.5	392203.42	594766.28
PBHL_RICK VAUGHN FED COM 810H	10619.0	10282.3	-147.5	392333.42	594766.28



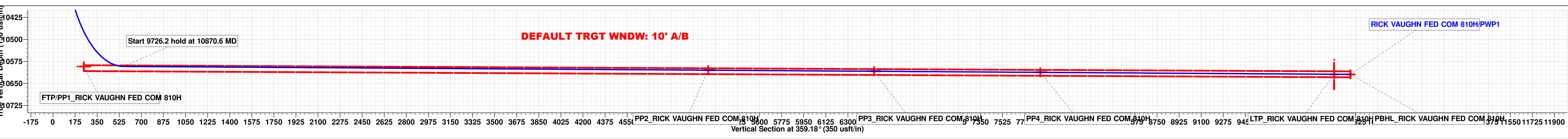
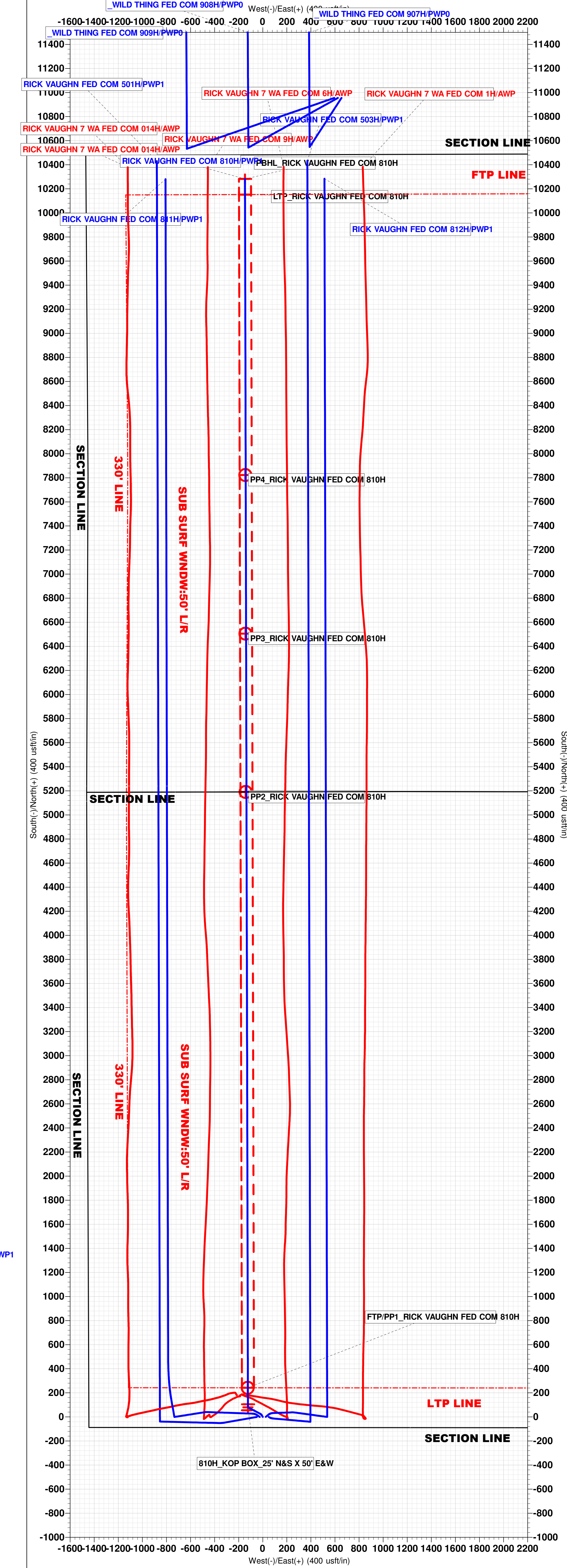
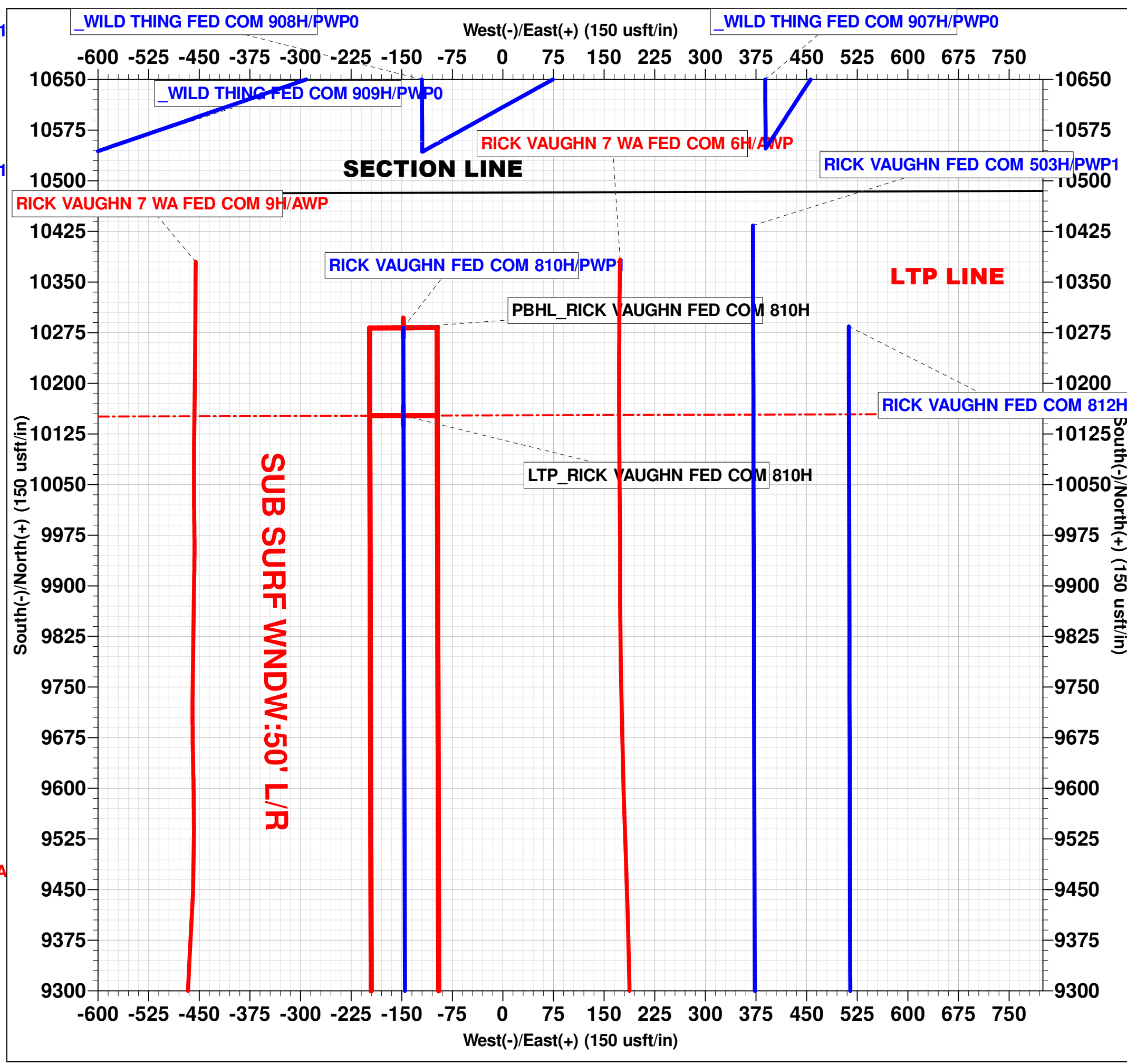
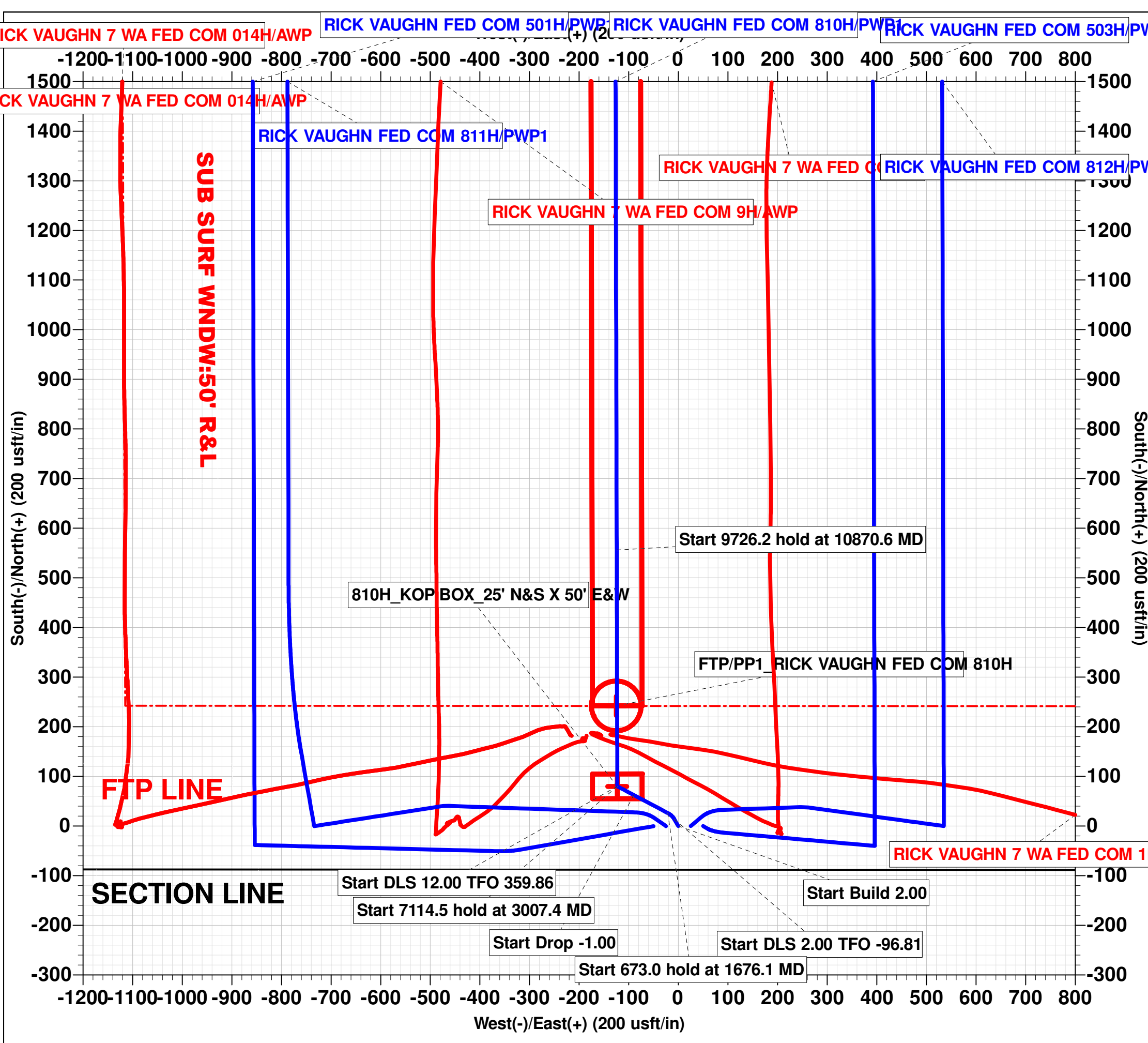
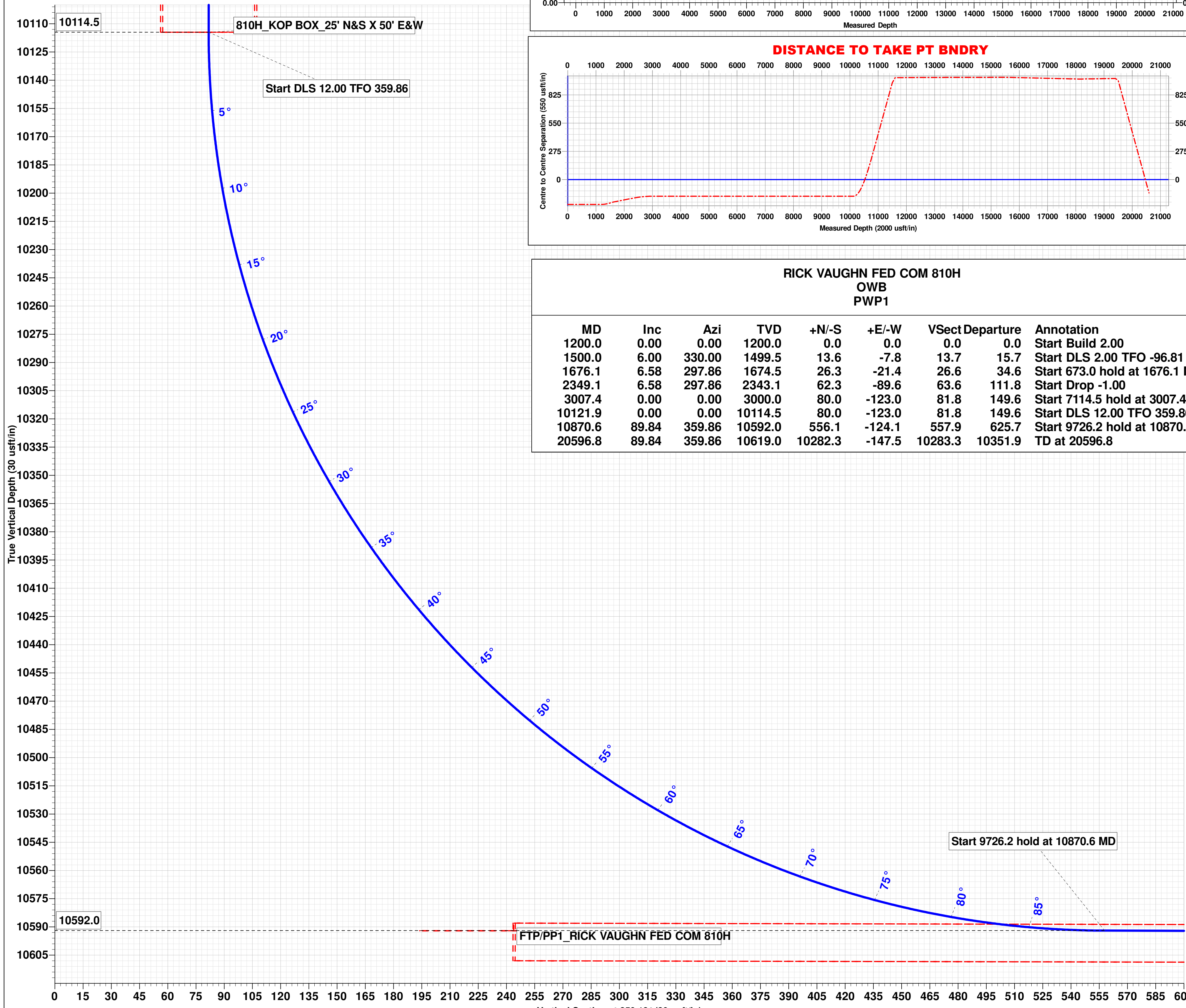
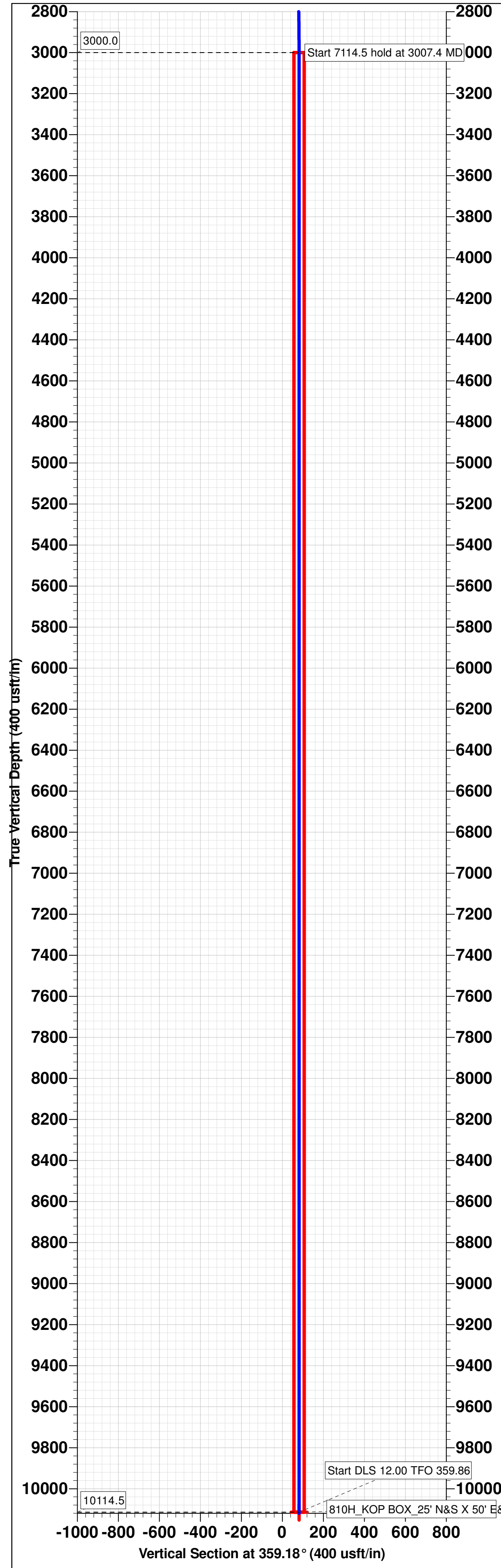
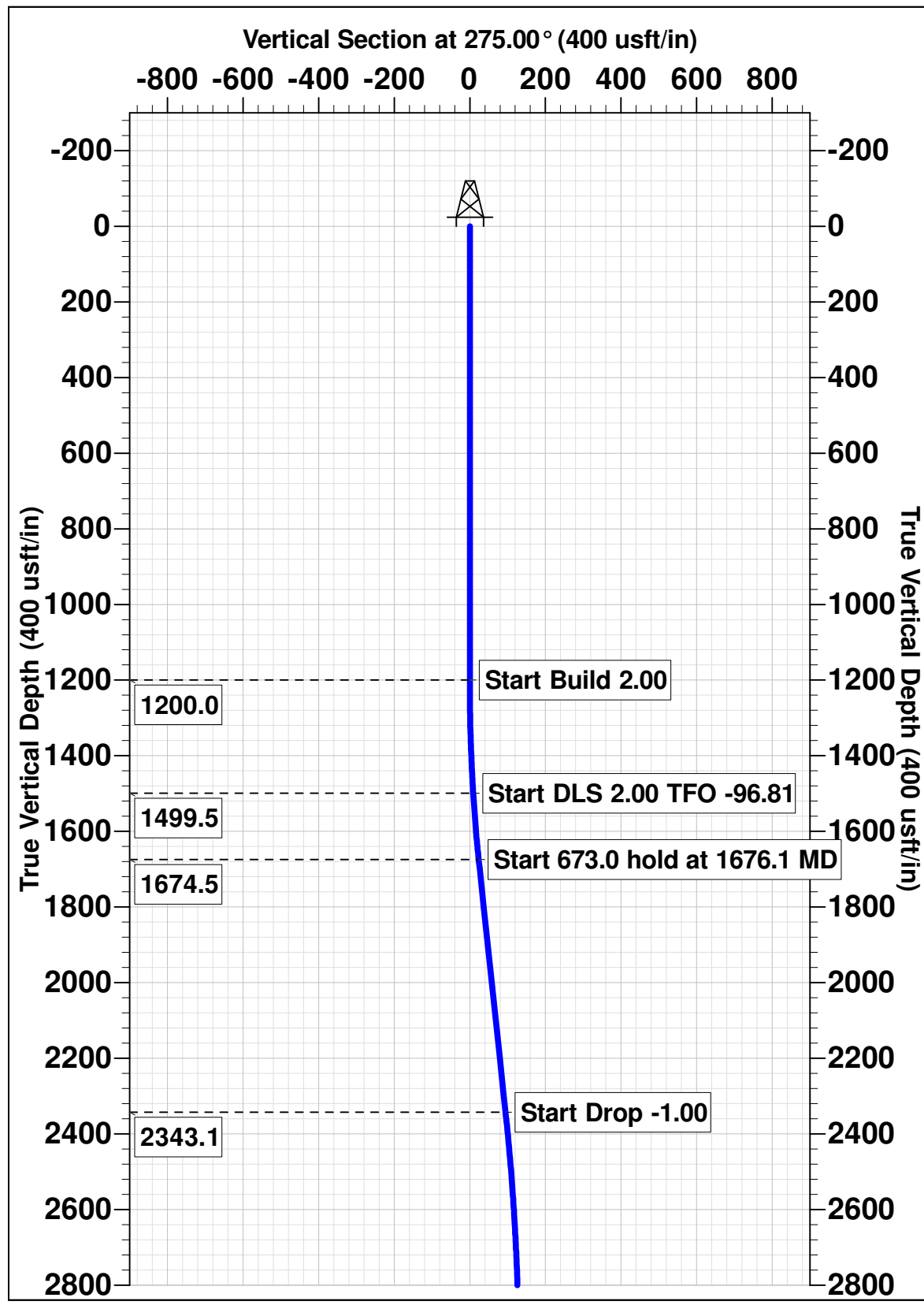
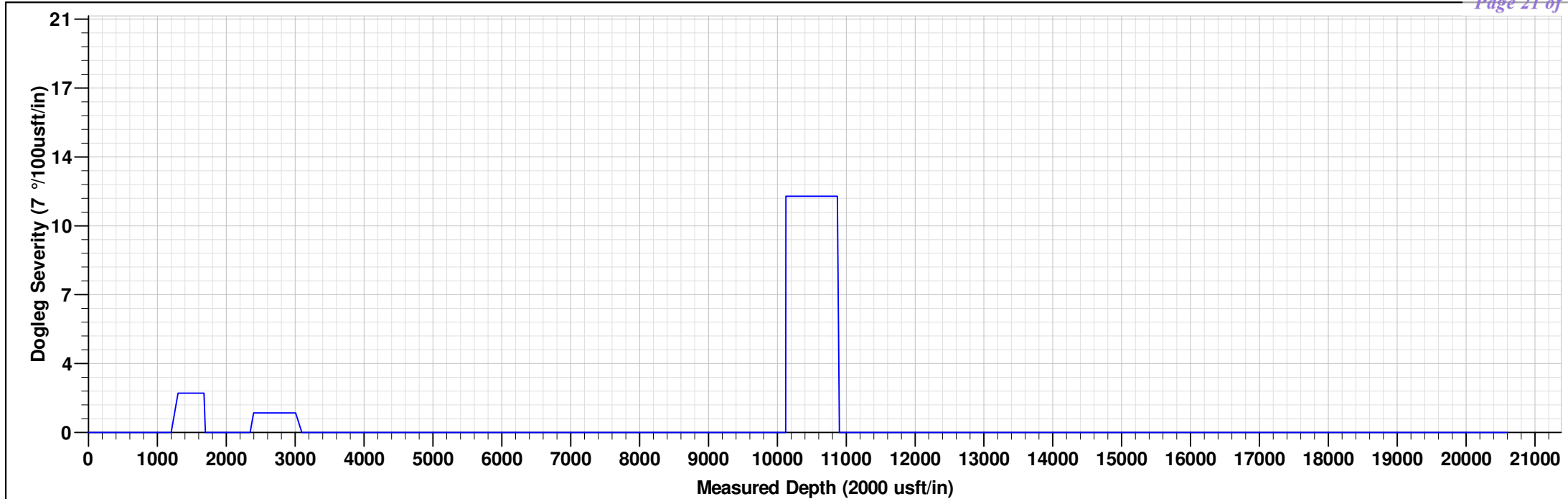
DISTANCE TO TAKE PT BNDRY



RICK VAUGHN FED COM 810H

OWB
PWP1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1200.0	0.00	0.00	1200.0	0.0	0.0	0.0	0.0	Start Build 2.00
1500.0	6.00	330.00	1499.5	13.6	-7.8	13.7	15.7	Start DLS 2.00 TFO -96.81
1676.1	6.58	297.86	1674.5	26.3	-21.4	26.6	34.6	Start 673.0 hold at 1676.1 MD
2349.1	6.58	297.86	2343.1	62.3	-89.6	63.6	111.8	Start Drop -1.00
3007.4	0.00	0.00	3000.0	80.0	-123.0	81.8	149.6	Start 7114.5 hold at 3007.4 MD
10121.9	0.00	0.00	10114.5	80.0	-123.0	81.8	149.6	Start DLS 12.00 TFO 359.86
10870.6	89.84	359.86	10592.0	556.1	-124.1	557.9	625.7	Start 9726.2 hold at 10870.6 MD
20596.8	89.84	359.86	10619.0	10282.3	-147.5	10283.3	10351.9	TD at 20596.8



DELAWARE BASIN WEST

**ATLAS PROSPECT_NME
RICK VAUGHN FED COM PROJECT
RICK VAUGHN FED COM 810H**

OWB

Plan: PWP1

Standard Planning Report

12 August, 2025

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Project	ATLAS PROSPECT_NME		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	RICK VAUGHN FED COM PROJECT		
Site Position:		Northing:	387,208.98 usft
From:	Map	Easting:	594,727.42 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 51.062 N
		Longitude:	104° 1' 39.156 W

Well	RICK VAUGHN FED COM 810H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	
Grid Convergence:	0.16 °		
		Latitude:	32° 3' 0.012 N
		Longitude:	104° 1' 37.160 W
		Ground Level:	2,912.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2025	5/1/2026	6.38	59.52	47,006.18766509

Design	PWP1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.18

Plan Survey Tool Program		Date	8/12/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	2,000.0 PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT	SDI Keeper Wireline Gyrocomp	
2	2,000.0	10,122.6 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG +	
3	10,122.6	20,596.7 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG +	

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	6.00	330.00	1,499.5	13.6	-7.8	2.00	2.00	0.00	330.00	
1,676.1	6.58	297.86	1,674.5	26.3	-21.4	2.00	0.33	-18.25	-96.81	
2,349.1	6.58	297.86	2,343.1	62.3	-89.6	0.00	0.00	0.00	0.00	
3,007.4	0.00	0.00	3,000.0	80.0	-123.0	1.00	-1.00	0.00	180.00	
10,121.9	0.00	0.00	10,114.5	80.0	-123.0	0.00	0.00	0.00	0.00	
10,870.6	89.84	359.86	10,592.0	556.1	-124.1	12.00	12.00	-0.02	359.86	
20,596.8	89.84	359.86	10,619.0	10,282.3	-147.5	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

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
Start Build 2.00									
1,300.0	2.00	330.00	1,300.0	1.5	-0.9	1.5	2.00	2.00	0.00
1,400.0	4.00	330.00	1,399.8	6.0	-3.5	6.1	2.00	2.00	0.00
1,500.0	6.00	330.00	1,499.5	13.6	-7.8	13.7	2.00	2.00	0.00
Start DLS 2.00 TFO -96.81									
1,600.0	6.09	310.95	1,598.9	21.6	-14.5	21.8	2.00	0.09	-19.05
1,676.1	6.58	297.86	1,674.5	26.3	-21.4	26.6	2.00	0.64	-17.20
Start 673.0 hold at 1676.1 MD									
1,700.0	6.58	297.86	1,698.3	27.6	-23.8	27.9	0.00	0.00	0.00
1,800.0	6.58	297.86	1,797.6	32.9	-33.9	33.4	0.00	0.00	0.00
1,900.0	6.58	297.86	1,897.0	38.3	-44.1	38.9	0.00	0.00	0.00
2,000.0	6.58	297.86	1,996.3	43.6	-54.2	44.4	0.00	0.00	0.00
2,100.0	6.58	297.86	2,095.6	49.0	-64.3	49.9	0.00	0.00	0.00
2,200.0	6.58	297.86	2,195.0	54.4	-74.5	55.4	0.00	0.00	0.00
2,300.0	6.58	297.86	2,294.3	59.7	-84.6	60.9	0.00	0.00	0.00
2,349.1	6.58	297.86	2,343.1	62.3	-89.6	63.6	0.00	0.00	0.00
Start Drop -1.00									
2,400.0	6.07	297.86	2,393.7	65.0	-94.6	66.3	1.00	-1.00	0.00
2,500.0	5.07	297.86	2,493.2	69.5	-103.1	71.0	1.00	-1.00	0.00
2,600.0	4.07	297.86	2,592.9	73.2	-110.2	74.8	1.00	-1.00	0.00
2,700.0	3.07	297.86	2,692.7	76.1	-115.7	77.8	1.00	-1.00	0.00
2,800.0	2.07	297.86	2,792.6	78.2	-119.7	80.0	1.00	-1.00	0.00
2,900.0	1.07	297.86	2,892.6	79.5	-122.1	81.3	1.00	-1.00	0.00
3,007.4	0.00	0.00	3,000.0	80.0	-123.0	81.8	1.00	-1.00	0.00
Start 7114.5 hold at 3007.4 MD									
3,100.0	0.00	0.00	3,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,200.0	0.00	0.00	3,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,300.0	0.00	0.00	3,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,400.0	0.00	0.00	3,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,500.0	0.00	0.00	3,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,600.0	0.00	0.00	3,592.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,700.0	0.00	0.00	3,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,800.0	0.00	0.00	3,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
3,900.0	0.00	0.00	3,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,000.0	0.00	0.00	3,992.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,100.0	0.00	0.00	4,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,200.0	0.00	0.00	4,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,300.0	0.00	0.00	4,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,400.0	0.00	0.00	4,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,500.0	0.00	0.00	4,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,592.6	80.0	-123.0	81.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

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)
4,700.0	0.00	0.00	4,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
4,900.0	0.00	0.00	4,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,992.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,100.0	0.00	0.00	5,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,592.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,992.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,592.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,992.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,100.0	0.00	0.00	7,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,592.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,700.0	0.00	0.00	7,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
7,900.0	0.00	0.00	7,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,000.0	0.00	0.00	7,992.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,100.0	0.00	0.00	8,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,200.0	0.00	0.00	8,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,300.0	0.00	0.00	8,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,400.0	0.00	0.00	8,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,500.0	0.00	0.00	8,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,600.0	0.00	0.00	8,592.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,700.0	0.00	0.00	8,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,800.0	0.00	0.00	8,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
8,900.0	0.00	0.00	8,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,000.0	0.00	0.00	8,992.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,100.0	0.00	0.00	9,092.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,200.0	0.00	0.00	9,192.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,300.0	0.00	0.00	9,292.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,400.0	0.00	0.00	9,392.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,500.0	0.00	0.00	9,492.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,600.0	0.00	0.00	9,592.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,700.0	0.00	0.00	9,692.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,800.0	0.00	0.00	9,792.6	80.0	-123.0	81.8	0.00	0.00	0.00
9,900.0	0.00	0.00	9,892.6	80.0	-123.0	81.8	0.00	0.00	0.00
10,000.0	0.00	0.00	9,992.6	80.0	-123.0	81.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,100.0	0.00	0.00	10,092.6	80.0	-123.0	81.8	0.00	0.00	0.00	
10,121.9	0.00	0.00	10,114.5	80.0	-123.0	81.8	0.00	0.00	0.00	
Start DLS 12.00 TFO 359.86										
10,125.0	0.37	359.86	10,117.6	80.0	-123.0	81.8	12.00	12.00	0.00	
10,150.0	3.37	359.86	10,142.5	80.8	-123.0	82.6	12.00	12.00	0.00	
10,175.0	6.37	359.86	10,167.4	82.9	-123.0	84.7	12.00	12.00	0.00	
10,200.0	9.37	359.86	10,192.2	86.4	-123.0	88.1	12.00	12.00	0.00	
10,225.0	12.37	359.86	10,216.8	91.1	-123.0	92.8	12.00	12.00	0.00	
10,250.0	15.37	359.86	10,241.0	97.1	-123.0	98.8	12.00	12.00	0.00	
10,275.0	18.37	359.86	10,264.9	104.3	-123.1	106.1	12.00	12.00	0.00	
10,300.0	21.37	359.86	10,288.5	112.8	-123.1	114.6	12.00	12.00	0.00	
10,325.0	24.37	359.86	10,311.5	122.5	-123.1	124.3	12.00	12.00	0.00	
10,350.0	27.37	359.86	10,334.0	133.4	-123.1	135.2	12.00	12.00	0.00	
10,375.0	30.37	359.86	10,355.9	145.5	-123.2	147.3	12.00	12.00	0.00	
10,400.0	33.37	359.86	10,377.1	158.7	-123.2	160.5	12.00	12.00	0.00	
10,425.0	36.37	359.86	10,397.6	173.0	-123.2	174.7	12.00	12.00	0.00	
10,450.0	39.37	359.86	10,417.3	188.3	-123.3	190.1	12.00	12.00	0.00	
10,475.0	42.37	359.86	10,436.3	204.7	-123.3	206.4	12.00	12.00	0.00	
10,500.0	45.37	359.86	10,454.3	222.0	-123.3	223.8	12.00	12.00	0.00	
10,525.0	48.37	359.86	10,471.4	240.3	-123.4	242.0	12.00	12.00	0.00	
10,550.0	51.37	359.86	10,487.5	259.4	-123.4	261.1	12.00	12.00	0.00	
10,575.0	54.37	359.86	10,502.6	279.3	-123.5	281.0	12.00	12.00	0.00	
10,600.0	57.37	359.86	10,516.6	300.0	-123.5	301.7	12.00	12.00	0.00	
10,625.0	60.37	359.86	10,529.5	321.4	-123.6	323.1	12.00	12.00	0.00	
10,650.0	63.37	359.86	10,541.3	343.4	-123.6	345.2	12.00	12.00	0.00	
10,675.0	66.37	359.86	10,551.9	366.1	-123.7	367.8	12.00	12.00	0.00	
10,700.0	69.37	359.86	10,561.3	389.2	-123.7	390.9	12.00	12.00	0.00	
10,725.0	72.37	359.86	10,569.5	412.8	-123.8	414.6	12.00	12.00	0.00	
10,750.0	75.37	359.86	10,576.5	436.8	-123.9	438.6	12.00	12.00	0.00	
10,775.0	78.37	359.86	10,582.2	461.2	-123.9	462.9	12.00	12.00	0.00	
10,800.0	81.37	359.86	10,586.6	485.8	-124.0	487.5	12.00	12.00	0.00	
10,825.0	84.37	359.86	10,589.7	510.6	-124.0	512.3	12.00	12.00	0.00	
10,850.0	87.37	359.86	10,591.5	535.5	-124.1	537.3	12.00	12.00	0.00	
10,870.6	89.84	359.86	10,592.0	556.1	-124.1	557.9	12.00	12.00	0.00	
Start 9726.2 hold at 10870.6 MD										
10,900.0	89.84	359.86	10,592.0	585.5	-124.2	587.2	0.00	0.00	0.00	
11,000.0	89.84	359.86	10,592.3	685.5	-124.5	687.2	0.00	0.00	0.00	
11,100.0	89.84	359.86	10,592.6	785.5	-124.7	787.2	0.00	0.00	0.00	
11,200.0	89.84	359.86	10,592.9	885.5	-124.9	887.2	0.00	0.00	0.00	
11,300.0	89.84	359.86	10,593.2	985.5	-125.2	987.2	0.00	0.00	0.00	
11,400.0	89.84	359.86	10,593.4	1,085.5	-125.4	1,087.2	0.00	0.00	0.00	
11,500.0	89.84	359.86	10,593.7	1,185.5	-125.7	1,187.2	0.00	0.00	0.00	
11,600.0	89.84	359.86	10,594.0	1,285.5	-125.9	1,287.2	0.00	0.00	0.00	
11,700.0	89.84	359.86	10,594.3	1,385.5	-126.1	1,387.2	0.00	0.00	0.00	
11,800.0	89.84	359.86	10,594.5	1,485.5	-126.4	1,487.2	0.00	0.00	0.00	
11,900.0	89.84	359.86	10,594.8	1,585.5	-126.6	1,587.2	0.00	0.00	0.00	
12,000.0	89.84	359.86	10,595.1	1,685.5	-126.9	1,687.2	0.00	0.00	0.00	
12,100.0	89.84	359.86	10,595.4	1,785.5	-127.1	1,787.2	0.00	0.00	0.00	
12,200.0	89.84	359.86	10,595.7	1,885.5	-127.3	1,887.1	0.00	0.00	0.00	
12,300.0	89.84	359.86	10,595.9	1,985.5	-127.6	1,987.1	0.00	0.00	0.00	
12,400.0	89.84	359.86	10,596.2	2,085.5	-127.8	2,087.1	0.00	0.00	0.00	
12,500.0	89.84	359.86	10,596.5	2,185.5	-128.1	2,187.1	0.00	0.00	0.00	
12,600.0	89.84	359.86	10,596.8	2,285.5	-128.3	2,287.1	0.00	0.00	0.00	
12,700.0	89.84	359.86	10,597.0	2,385.5	-128.5	2,387.1	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

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)
12,800.0	89.84	359.86	10,597.3	2,485.5	-128.8	2,487.1	0.00	0.00	0.00
12,900.0	89.84	359.86	10,597.6	2,585.5	-129.0	2,587.1	0.00	0.00	0.00
13,000.0	89.84	359.86	10,597.9	2,685.5	-129.3	2,687.1	0.00	0.00	0.00
13,100.0	89.84	359.86	10,598.2	2,785.5	-129.5	2,787.1	0.00	0.00	0.00
13,200.0	89.84	359.86	10,598.4	2,885.5	-129.7	2,887.1	0.00	0.00	0.00
13,300.0	89.84	359.86	10,598.7	2,985.5	-130.0	2,987.1	0.00	0.00	0.00
13,400.0	89.84	359.86	10,599.0	3,085.5	-130.2	3,087.1	0.00	0.00	0.00
13,500.0	89.84	359.86	10,599.3	3,185.5	-130.5	3,187.0	0.00	0.00	0.00
13,600.0	89.84	359.86	10,599.5	3,285.5	-130.7	3,287.0	0.00	0.00	0.00
13,700.0	89.84	359.86	10,599.8	3,385.5	-130.9	3,387.0	0.00	0.00	0.00
13,800.0	89.84	359.86	10,600.1	3,485.5	-131.2	3,487.0	0.00	0.00	0.00
13,900.0	89.84	359.86	10,600.4	3,585.5	-131.4	3,587.0	0.00	0.00	0.00
14,000.0	89.84	359.86	10,600.7	3,685.5	-131.7	3,687.0	0.00	0.00	0.00
14,100.0	89.84	359.86	10,600.9	3,785.5	-131.9	3,787.0	0.00	0.00	0.00
14,200.0	89.84	359.86	10,601.2	3,885.5	-132.1	3,887.0	0.00	0.00	0.00
14,300.0	89.84	359.86	10,601.5	3,985.5	-132.4	3,987.0	0.00	0.00	0.00
14,400.0	89.84	359.86	10,601.8	4,085.5	-132.6	4,087.0	0.00	0.00	0.00
14,500.0	89.84	359.86	10,602.1	4,185.5	-132.9	4,187.0	0.00	0.00	0.00
14,600.0	89.84	359.86	10,602.3	4,285.5	-133.1	4,287.0	0.00	0.00	0.00
14,700.0	89.84	359.86	10,602.6	4,385.5	-133.3	4,387.0	0.00	0.00	0.00
14,800.0	89.84	359.86	10,602.9	4,485.5	-133.6	4,486.9	0.00	0.00	0.00
14,900.0	89.84	359.86	10,603.2	4,585.5	-133.8	4,586.9	0.00	0.00	0.00
15,000.0	89.84	359.86	10,603.4	4,685.5	-134.1	4,686.9	0.00	0.00	0.00
15,100.0	89.84	359.86	10,603.7	4,785.5	-134.3	4,786.9	0.00	0.00	0.00
15,200.0	89.84	359.86	10,604.0	4,885.5	-134.5	4,886.9	0.00	0.00	0.00
15,300.0	89.84	359.86	10,604.3	4,985.5	-134.8	4,986.9	0.00	0.00	0.00
15,400.0	89.84	359.86	10,604.6	5,085.5	-135.0	5,086.9	0.00	0.00	0.00
15,500.0	89.84	359.86	10,604.8	5,185.5	-135.3	5,186.9	0.00	0.00	0.00
15,600.0	89.84	359.86	10,605.1	5,285.5	-135.5	5,286.9	0.00	0.00	0.00
15,700.0	89.84	359.86	10,605.4	5,385.5	-135.7	5,386.9	0.00	0.00	0.00
15,800.0	89.84	359.86	10,605.7	5,485.5	-136.0	5,486.9	0.00	0.00	0.00
15,900.0	89.84	359.86	10,605.9	5,585.5	-136.2	5,586.9	0.00	0.00	0.00
16,000.0	89.84	359.86	10,606.2	5,685.5	-136.5	5,686.9	0.00	0.00	0.00
16,100.0	89.84	359.86	10,606.5	5,785.5	-136.7	5,786.9	0.00	0.00	0.00
16,200.0	89.84	359.86	10,606.8	5,885.5	-136.9	5,886.8	0.00	0.00	0.00
16,300.0	89.84	359.86	10,607.1	5,985.5	-137.2	5,986.8	0.00	0.00	0.00
16,400.0	89.84	359.86	10,607.3	6,085.5	-137.4	6,086.8	0.00	0.00	0.00
16,500.0	89.84	359.86	10,607.6	6,185.5	-137.7	6,186.8	0.00	0.00	0.00
16,600.0	89.84	359.86	10,607.9	6,285.5	-137.9	6,286.8	0.00	0.00	0.00
16,700.0	89.84	359.86	10,608.2	6,385.5	-138.1	6,386.8	0.00	0.00	0.00
16,800.0	89.84	359.86	10,608.4	6,485.5	-138.4	6,486.8	0.00	0.00	0.00
16,900.0	89.84	359.86	10,608.7	6,585.5	-138.6	6,586.8	0.00	0.00	0.00
17,000.0	89.84	359.86	10,609.0	6,685.5	-138.9	6,686.8	0.00	0.00	0.00
17,100.0	89.84	359.86	10,609.3	6,785.5	-139.1	6,786.8	0.00	0.00	0.00
17,200.0	89.84	359.86	10,609.6	6,885.5	-139.3	6,886.8	0.00	0.00	0.00
17,300.0	89.84	359.86	10,609.8	6,985.5	-139.6	6,986.8	0.00	0.00	0.00
17,400.0	89.84	359.86	10,610.1	7,085.5	-139.8	7,086.8	0.00	0.00	0.00
17,500.0	89.84	359.86	10,610.4	7,185.5	-140.1	7,186.7	0.00	0.00	0.00
17,600.0	89.84	359.86	10,610.7	7,285.5	-140.3	7,286.7	0.00	0.00	0.00
17,700.0	89.84	359.86	10,610.9	7,385.5	-140.6	7,386.7	0.00	0.00	0.00
17,800.0	89.84	359.86	10,611.2	7,485.5	-140.8	7,486.7	0.00	0.00	0.00
17,900.0	89.84	359.86	10,611.5	7,585.5	-141.0	7,586.7	0.00	0.00	0.00
18,000.0	89.84	359.86	10,611.8	7,685.5	-141.3	7,686.7	0.00	0.00	0.00
18,100.0	89.84	359.86	10,612.1	7,785.5	-141.5	7,786.7	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

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)
18,200.0	89.84	359.86	10,612.3	7,885.5	-141.8	7,886.7	0.00	0.00	0.00
18,300.0	89.84	359.86	10,612.6	7,985.5	-142.0	7,986.7	0.00	0.00	0.00
18,400.0	89.84	359.86	10,612.9	8,085.5	-142.2	8,086.7	0.00	0.00	0.00
18,500.0	89.84	359.86	10,613.2	8,185.5	-142.5	8,186.7	0.00	0.00	0.00
18,600.0	89.84	359.86	10,613.4	8,285.5	-142.7	8,286.7	0.00	0.00	0.00
18,700.0	89.84	359.86	10,613.7	8,385.5	-143.0	8,386.7	0.00	0.00	0.00
18,800.0	89.84	359.86	10,614.0	8,485.5	-143.2	8,486.6	0.00	0.00	0.00
18,900.0	89.84	359.86	10,614.3	8,585.5	-143.4	8,586.6	0.00	0.00	0.00
19,000.0	89.84	359.86	10,614.6	8,685.5	-143.7	8,686.6	0.00	0.00	0.00
19,100.0	89.84	359.86	10,614.8	8,785.5	-143.9	8,786.6	0.00	0.00	0.00
19,200.0	89.84	359.86	10,615.1	8,885.5	-144.2	8,886.6	0.00	0.00	0.00
19,300.0	89.84	359.86	10,615.4	8,985.5	-144.4	8,986.6	0.00	0.00	0.00
19,400.0	89.84	359.86	10,615.7	9,085.5	-144.6	9,086.6	0.00	0.00	0.00
19,500.0	89.84	359.86	10,616.0	9,185.5	-144.9	9,186.6	0.00	0.00	0.00
19,600.0	89.84	359.86	10,616.2	9,285.5	-145.1	9,286.6	0.00	0.00	0.00
19,700.0	89.84	359.86	10,616.5	9,385.5	-145.4	9,386.6	0.00	0.00	0.00
19,800.0	89.84	359.86	10,616.8	9,485.5	-145.6	9,486.6	0.00	0.00	0.00
19,900.0	89.84	359.86	10,617.1	9,585.5	-145.8	9,586.6	0.00	0.00	0.00
20,000.0	89.84	359.86	10,617.3	9,685.5	-146.1	9,686.6	0.00	0.00	0.00
20,100.0	89.84	359.86	10,617.6	9,785.5	-146.3	9,786.6	0.00	0.00	0.00
20,200.0	89.84	359.86	10,617.9	9,885.5	-146.6	9,886.5	0.00	0.00	0.00
20,300.0	89.84	359.86	10,618.2	9,985.5	-146.8	9,986.5	0.00	0.00	0.00
20,400.0	89.84	359.86	10,618.5	10,085.5	-147.0	10,086.5	0.00	0.00	0.00
20,500.0	89.84	359.86	10,618.7	10,185.5	-147.3	10,186.5	0.00	0.00	0.00
20,596.8	89.84	359.86	10,619.0	10,282.3	-147.5	10,283.3	0.00	0.00	0.00
TD at 20596.8									

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site:	RICK VAUGHN FED COM PROJECT	North Reference:	Grid
Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
810H_KOP BOX_25' N8 - plan hits target center - Rectangle (sides W100.0 H50.0 D7,114.5)	0.00	179.86	10,114.5	80.0	-123.0	382,131.14	594,790.79	32° 3' 0.807 N	104° 1' 38.586 W
FTP/PP1_RICK VAUGH - plan misses target center by 94.8usft at 10594.4usft MD (10513.5 TVD, 295.3 N, -123.5 E) - Circle (radius 50.0)	0.00	0.00	10,592.0	242.1	-125.0	382,293.24	594,788.74	32° 3' 2.412 N	104° 1' 38.605 W
PP2_RICK VAUGHN FE - plan misses target center by 7.0usft at 15505.6usft MD (10604.8 TVD, 5191.1 N, -135.3 E) - Circle (radius 50.0)	0.00	0.00	10,604.6	5,191.0	-142.3	387,242.19	594,771.51	32° 3' 51.389 N	104° 1' 38.642 W
PP3_RICK VAUGHN FE - plan misses target center by 5.2usft at 16820.5usft MD (10608.5 TVD, 6505.9 N, -138.4 E) - Circle (radius 50.0)	0.00	0.00	10,608.3	6,505.9	-143.7	388,557.06	594,770.12	32° 4' 4.402 N	104° 1' 38.615 W
PP4_RICK VAUGHN FE - plan misses target center by 3.5usft at 18138.0usft MD (10612.2 TVD, 7823.4 N, -141.6 E) - Circle (radius 50.0)	0.00	0.00	10,612.0	7,823.4	-145.1	389,874.57	594,768.73	32° 4' 17.441 N	104° 1' 38.588 W
LTP_RICK VAUGHN FE - plan misses target center by 0.5usft at 20466.8usft MD (10618.6 TVD, 10152.3 N, -147.2 E) - Circle (radius 50.0)	90.00	359.87	10,619.0	10,152.3	-147.5	392,203.42	594,766.28	32° 4' 40.488 N	104° 1' 38.539 W
PBHL_RICK VAUGHN F - plan hits target center - Rectangle (sides W100.0 H10,040.0 D20.0)	-0.12	179.86	10,619.0	10,282.3	-147.5	392,333.42	594,766.28	32° 4' 41.775 N	104° 1' 38.535 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
20,596.9	10,619.0	5-1/2" Production Casing		5-1/2	6

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,200.0	1,200.0	0.0	0.0	Start Build 2.00	
1,500.0	1,499.5	13.6	-7.8	Start DLS 2.00 TFO -96.81	
1,676.1	1,674.5	26.3	-21.4	Start 673.0 hold at 1676.1 MD	
2,349.1	2,343.1	62.3	-89.6	Start Drop -1.00	
3,007.4	3,000.0	80.0	-123.0	Start 7114.5 hold at 3007.4 MD	
10,121.9	10,114.5	80.0	-123.0	Start DLS 12.00 TFO 359.86	
10,870.6	10,592.0	556.1	-124.1	Start 9726.2 hold at 10870.6 MD	
20,596.8	10,619.0	10,282.3	-147.5	TD at 20596.8	

DELAWARE BASIN WEST

ATLAS PROSPECT_NME

RICK VAUGHN FED COM PROJECT

RICK VAUGHN FED COM 810H

OWB

PWP1

Anticollision Report

12 August, 2025

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Reference	PWP1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,000.0usft	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program		Date	8/12/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	2,000.0	PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT	SDI Keeper Wireline Gyrocomp.-Initilzd Cor	
2,000.0	10,122.6	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG + FDIR Corr. I	
10,122.6	20,596.7	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG + FDIR Corr. I	

Summary						
	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Site Name						
Offset Well - Wellbore - Design						
PUDGE FED COM PROJECT						
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	0.0	0.0	281.7			
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	100.0	88.7	282.2	280.6	176.534 ES	
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	9,700.0	9,772.2	990.1	943.9	21.458 SF	
RICK VAUGHN FED COM PROJECT						
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	0.0	0.0	281.7			
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	100.0	88.7	282.2	280.6	176.535 ES	
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	9,700.0	9,772.2	990.1	943.9	21.459 SF	
RICK VAUGHN 7 WA FED COM 1H - OWB - AWP	1,968.4	1,963.5	125.6	110.4	8.252 CC, ES, SF	
RICK VAUGHN 7 WA FED COM 6H - OWB - AWP	2,282.9	2,279.5	79.9	68.9	7.241 CC, ES	
RICK VAUGHN 7 WA FED COM 6H - OWB - AWP	20,596.8	19,954.8	708.1	544.8	4.336 SF	
RICK VAUGHN 7 WA FED COM 9H - OWB - AWP	2,483.5	2,459.1	223.3	209.3	15.961 CC	
RICK VAUGHN 7 WA FED COM 9H - OWB - AWP	2,500.0	2,475.7	223.3	209.3	15.851 ES	
RICK VAUGHN 7 WA FED COM 9H - OWB - AWP	20,596.8	19,756.1	866.9	708.5	5.472 SF	
RICK VAUGHN FED COM 501H - OWB - PWP1	1,200.0	1,200.0	49.9	43.4	7.668 CC, ES	
RICK VAUGHN FED COM 501H - OWB - PWP1	1,400.0	1,396.3	53.7	46.2	7.155 SF	
RICK VAUGHN FED COM 503H - OWB - PWP1	1,200.0	1,200.0	50.0	43.5	7.683 CC, ES	
RICK VAUGHN FED COM 503H - OWB - PWP1	1,300.0	1,298.4	52.4	45.4	7.473 SF	
RICK VAUGHN FED COM 811H - OWB - PWP1	1,200.0	1,200.0	25.0	18.4	3.833 CC, ES	
RICK VAUGHN FED COM 811H - OWB - PWP1	1,300.0	1,299.3	25.5	18.5	3.650 SF	
RICK VAUGHN FED COM 812H - OWB - PWP1	1,200.0	1,200.0	25.0	18.5	3.835 CC, ES, SF	
WILD THING FED COM PROJECT						
_WILD THING FED COM 907H - OWB - PWP0	20,596.8	10,532.9	630.5	535.1	6.609 CC, ES, SF	
_WILD THING FED COM 908H - OWB - PWP0	20,596.8	10,500.0	394.0	345.6	8.142 CC, ES, SF	
_WILD THING FED COM 909H - OWB - PWP0	20,596.8	10,628.0	577.8	478.3	5.807 CC, ES, SF	

Offset Design:	PUDGE FED COM PROJECT - RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	Offset Site Error:	0.0 usft
Survey Program:	133-r.5 MWD+IFR1	Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:
Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)
Measured Depth (usft)	Vertical Depth (usft)	Highside Toolface (°)	Offset Wellbore Centre
			+N/-S (usft)
			+E/-W (usft)
			Distance Between Centres (usft)
			Distance Between Ellipses (usft)
			No-Go Distance (usft)
			Separation Factor
			Warning

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - RICK VAUGHN 7 WA FED COM 014H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 133-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	8.0	0.0	0.0	-49.74	182.0	-214.9	281.7				
100.0	100.0	88.7	96.7	0.5	0.6	-49.78	182.2	-215.4	282.2	280.6	1.60	176.534 ES	
200.0	200.0	186.1	194.1	1.0	1.2	-49.86	183.0	-216.9	283.9	281.2	2.70	105.010	
300.0	300.0	286.3	294.3	1.4	1.7	-49.77	184.7	-218.3	286.0	282.5	3.55	80.612	
400.0	400.0	386.5	394.5	1.6	2.3	-49.62	186.5	-219.3	287.9	283.6	4.35	66.221	
500.0	500.0	485.9	493.8	1.9	2.7	-49.48	188.3	-220.3	289.9	284.9	5.02	57.777	
600.0	600.0	584.2	592.1	2.1	3.0	-49.32	190.5	-221.6	292.3	286.8	5.56	52.548	
700.0	700.0	682.7	690.5	2.3	3.4	-49.15	193.1	-223.2	295.3	289.2	6.09	48.473	
800.0	800.0	781.8	789.5	2.5	3.7	-48.93	196.1	-225.0	298.7	292.1	6.60	45.276	
900.0	900.0	880.9	888.6	2.7	4.0	-48.73	199.3	-227.1	302.4	295.3	7.11	42.555	
1,000.0	1,000.0	986.5	994.2	2.9	4.3	-48.75	201.1	-229.3	305.1	297.5	7.62	40.052	
1,100.0	1,100.0	1,087.0	1,094.6	3.0	4.6	-49.06	201.0	-231.7	306.8	298.7	8.04	38.139	
1,200.0	1,200.0	1,185.3	1,192.9	3.2	4.8	-49.40	200.9	-234.5	308.9	300.4	8.46	36.529	
1,300.0	1,300.0	1,284.9	1,292.5	3.5	5.1	-19.85	201.1	-237.5	309.6	300.6	8.99	34.447	
1,400.0	1,399.8	1,380.6	1,388.1	3.8	5.4	-20.64	200.9	-241.1	307.5	298.0	9.54	32.233	
1,500.0	1,499.5	1,470.0	1,477.2	4.0	5.8	-22.12	200.0	-247.9	304.7	294.6	10.14	30.053	
1,577.5	1,576.5	1,538.4	1,545.1	4.2	6.2	-8.77	199.1	-256.2	303.9	293.3	10.56	28.782	
1,600.0	1,598.9	1,559.2	1,565.7	4.2	6.2	-5.03	198.7	-259.2	303.9	293.3	10.68	28.472	
1,676.1	1,674.5	1,632.8	1,638.2	4.3	6.6	6.43	196.9	-271.1	304.6	293.5	11.07	27.514	
1,700.0	1,698.3	1,659.4	1,664.5	4.3	6.7	5.86	195.8	-275.5	304.6	293.4	11.21	27.182	
1,800.0	1,797.6	1,766.1	1,769.7	4.5	7.0	3.35	189.3	-292.0	303.0	291.3	11.75	25.782	
1,896.2	1,893.2	1,856.4	1,858.6	4.6	7.3	1.03	182.8	-305.8	301.4	289.2	12.21	24.689	
1,900.0	1,897.0	1,859.7	1,861.9	4.6	7.4	0.94	182.5	-306.4	301.4	289.2	12.23	24.653	
2,000.0	1,996.3	1,950.8	1,951.2	4.7	7.7	-1.61	176.3	-323.3	303.4	290.7	12.71	23.864	
2,100.0	2,095.6	2,051.0	2,049.2	4.9	8.1	-4.39	169.8	-343.2	307.5	294.2	13.22	23.259	
2,200.0	2,195.0	2,146.1	2,142.3	5.0	8.4	-6.95	163.5	-361.5	311.5	297.8	13.76	22.634	
2,300.0	2,294.3	2,237.8	2,231.7	5.2	8.8	-9.33	158.2	-381.1	318.7	304.4	14.30	22.282	
2,349.1	2,343.1	2,284.3	2,277.0	5.2	9.0	-10.51	155.7	-391.8	323.1	308.5	14.55	22.199	
2,400.0	2,393.7	2,337.8	2,328.9	5.2	9.2	-11.84	152.7	-403.8	327.9	313.0	14.87	22.051	
2,500.0	2,493.2	2,432.7	2,421.3	5.4	9.6	-14.10	147.0	-424.8	338.6	323.1	15.46	21.895	
2,600.0	2,592.9	2,524.8	2,510.7	5.5	10.0	-16.05	142.2	-446.9	353.4	337.3	16.04	22.026	
2,700.0	2,692.7	2,622.8	2,605.5	5.7	10.5	-17.82	137.8	-471.2	371.2	354.5	16.69	22.241	
2,800.0	2,792.6	2,723.6	2,703.2	5.8	10.9	-19.42	133.0	-495.5	390.2	372.8	17.36	22.472	
2,900.0	2,892.6	2,822.0	2,798.7	6.0	11.3	-20.79	128.1	-518.8	410.5	392.5	18.02	22.787	
3,000.0	2,992.6	2,919.2	2,892.9	6.1	11.8	-21.97	123.2	-541.7	432.6	413.9	18.66	23.179	
3,007.4	3,000.0	2,926.4	2,899.9	6.2	11.8	-84.19	122.8	-543.4	434.3	415.4	18.83	23.058	
3,100.0	3,092.6	3,015.2	2,986.2	6.3	12.2	-85.01	118.5	-564.5	455.7	436.3	19.41	23.478	
3,200.0	3,192.6	3,109.8	3,077.9	6.4	12.6	-85.69	114.9	-587.1	479.3	459.3	20.04	23.924	
3,300.0	3,292.6	3,208.4	3,173.5	6.5	13.1	-86.27	111.8	-610.9	503.2	482.5	20.70	24.304	
3,400.0	3,392.6	3,307.7	3,270.0	6.6	13.5	-86.80	108.6	-634.4	526.7	505.3	21.38	24.633	
3,500.0	3,492.6	3,404.4	3,363.9	6.7	14.0	-87.30	105.2	-657.1	550.0	527.9	22.03	24.960	
3,600.0	3,592.6	3,501.4	3,458.1	6.9	14.4	-87.79	101.5	-680.0	573.4	550.7	22.69	25.267	
3,700.0	3,692.6	3,601.9	3,555.7	7.0	14.9	-88.30	97.2	-703.4	596.6	573.2	23.38	25.514	
3,800.0	3,792.6	3,699.8	3,650.9	7.1	15.3	-88.81	92.5	-726.0	619.5	595.4	24.05	25.759	
3,900.0	3,892.6	3,797.0	3,745.4	7.2	15.8	-89.32	87.4	-748.2	642.3	617.6	24.71	25.993	
4,000.0	3,992.6	3,882.0	3,827.8	7.3	16.2	-89.74	83.0	-768.3	666.0	640.7	25.27	26.356	
4,100.0	4,092.6	3,968.1	3,911.1	7.4	16.6	-90.11	78.8	-790.0	691.3	665.4	25.85	26.741	
4,200.0	4,192.6	4,062.2	4,001.7	7.5	17.0	-90.48	74.2	-814.9	717.8	691.3	26.51	27.075	
4,300.0	4,292.6	4,159.2	4,095.1	7.7	17.5	-90.86	69.3	-840.6	744.4	717.2	27.20	27.367	
4,400.0	4,392.6	4,258.6	4,190.9	7.8	18.0	-91.22	64.1	-866.7	770.7	742.8	27.91	27.613	
4,500.0	4,492.6	4,356.0	4,284.8	7.9	18.5	-91.58	58.7	-892.0	796.9	768.2	28.61	27.857	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - RICK VAUGHN 7 WA FED COM 014H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 133-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
4,600.0	4,592.6	4,455.5	4,380.8	8.0	18.9	-91.95	52.9	-917.5	822.7	793.4	29.32	28.064		
4,700.0	4,692.6	4,544.0	4,466.0	8.1	19.4	-92.25	47.8	-940.7	849.1	819.2	29.92	28.375		
4,800.0	4,792.6	4,638.6	4,557.0	8.2	19.8	-92.55	42.5	-966.0	876.1	845.5	30.60	28.629		
4,900.0	4,892.6	4,744.1	4,658.6	8.3	20.3	-92.87	36.4	-993.8	902.7	871.3	31.37	28.774		
5,000.0	4,992.6	4,887.6	4,798.0	8.4	21.0	-93.22	29.1	-1,026.9	926.0	893.6	32.43	28.555		
5,100.0	5,092.6	5,001.9	4,910.0	8.5	21.6	-93.46	24.0	-1,049.4	945.9	912.7	33.20	28.492		
5,200.0	5,192.6	5,107.3	5,013.4	8.6	22.0	-93.67	19.2	-1,069.1	964.8	930.9	33.89	28.465		
5,300.0	5,292.6	5,246.0	5,150.2	8.7	22.7	-93.94	13.3	-1,091.5	981.2	946.4	34.75	28.234		
5,400.0	5,392.6	5,399.2	5,302.1	8.8	23.3	-94.21	7.4	-1,109.7	993.5	958.0	35.56	27.939		
5,500.0	5,492.6	5,565.4	5,468.0	8.9	23.9	-94.34	4.5	-1,119.1	999.2	963.1	36.12	27.666		
9,500.0	9,492.6	9,695.1	9,569.8	12.9	29.9	-88.19	111.2	-1,111.2	991.7	946.4	45.22	21.928		
9,600.0	9,592.6	9,733.0	9,597.1	12.9	29.9	-86.66	137.4	-1,108.5	987.2	941.5	45.67	21.614		
9,604.5	9,597.1	9,733.0	9,597.1	12.9	29.9	-86.66	137.4	-1,108.5	987.2	941.5	45.70	21.601		
9,700.0	9,692.6	9,772.2	9,622.9	13.0	30.0	-84.95	166.9	-1,106.8	990.1	943.9	46.14	21.458 SF		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 014H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 133-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	8.0	0.0	0.0	-49.74	182.0	-214.9	281.7				
100.0	100.0	88.7	96.7	0.5	0.6	-49.78	182.2	-215.4	282.2	280.6	1.60	176.535 ES	
200.0	200.0	186.1	194.1	1.0	1.2	-49.86	183.0	-217.0	283.9	281.2	2.70	105.011	
300.0	300.0	286.3	294.3	1.4	1.7	-49.78	184.7	-218.3	286.0	282.5	3.55	80.612	
400.0	400.0	386.5	394.5	1.6	2.3	-49.62	186.5	-219.3	287.9	283.6	4.35	66.222	
500.0	500.0	485.9	493.8	1.9	2.7	-49.48	188.3	-220.4	289.9	284.9	5.02	57.778	
600.0	600.0	584.2	592.1	2.1	3.0	-49.32	190.5	-221.6	292.3	286.8	5.56	52.549	
700.0	700.0	682.7	690.5	2.3	3.4	-49.15	193.0	-223.2	295.3	289.2	6.09	48.474	
800.0	800.0	781.8	789.5	2.5	3.7	-48.94	196.1	-225.1	298.7	292.1	6.60	45.277	
900.0	900.0	880.9	888.6	2.7	4.0	-48.73	199.3	-227.1	302.4	295.3	7.11	42.555	
1,000.0	1,000.0	986.5	994.2	2.9	4.3	-48.75	201.1	-229.3	305.1	297.5	7.62	40.053	
1,100.0	1,100.0	1,087.0	1,094.6	3.0	4.6	-49.06	201.0	-231.7	306.8	298.7	8.04	38.139	
1,200.0	1,200.0	1,185.3	1,192.9	3.2	4.8	-49.41	200.9	-234.5	308.9	300.4	8.46	36.529	
1,300.0	1,300.0	1,284.9	1,292.5	3.5	5.1	-19.85	201.0	-237.5	309.6	300.6	8.99	34.447	
1,400.0	1,399.8	1,380.6	1,388.1	3.8	5.4	-20.64	200.9	-241.1	307.5	298.0	9.54	32.233	
1,500.0	1,499.5	1,470.0	1,477.2	4.0	5.8	-22.12	199.9	-247.9	304.7	294.6	10.14	30.053	
1,577.5	1,576.5	1,538.3	1,545.0	4.2	6.2	-8.78	199.0	-256.3	303.9	293.3	10.56	28.783	
1,600.0	1,598.9	1,559.2	1,565.7	4.2	6.2	-5.04	198.7	-259.3	303.9	293.3	10.68	28.472	
1,676.1	1,674.5	1,632.8	1,638.2	4.3	6.6	6.42	196.8	-271.1	304.6	293.5	11.07	27.515	
1,700.0	1,698.3	1,659.4	1,664.5	4.3	6.7	5.86	195.8	-275.5	304.6	293.4	11.21	27.183	
1,800.0	1,797.6	1,766.1	1,769.7	4.5	7.0	3.34	189.3	-292.0	303.0	291.3	11.75	25.782	
1,896.2	1,893.2	1,856.3	1,858.6	4.6	7.3	1.03	182.7	-305.8	301.4	289.2	12.21	24.690	
1,900.0	1,897.0	1,859.7	1,861.9	4.6	7.4	0.93	182.5	-306.4	301.4	289.2	12.23	24.654	
2,000.0	1,996.3	1,950.8	1,951.2	4.7	7.7	-1.61	176.3	-323.3	303.4	290.7	12.71	23.865	
2,100.0	2,095.6	2,051.0	2,049.2	4.9	8.1	-4.39	169.8	-343.2	307.5	294.2	13.22	23.259	
2,200.0	2,195.0	2,146.1	2,142.3	5.0	8.4	-6.95	163.5	-361.5	311.5	297.8	13.76	22.635	
2,300.0	2,294.3	2,237.8	2,231.7	5.2	8.8	-9.33	158.2	-381.2	318.7	304.4	14.30	22.282	
2,349.1	2,343.1	2,284.3	2,277.0	5.2	9.0	-10.51	155.7	-391.8	323.1	308.5	14.55	22.200	
2,400.0	2,393.7	2,337.7	2,328.9	5.2	9.2	-11.84	152.7	-403.8	327.9	313.0	14.87	22.051	
2,500.0	2,493.2	2,432.7	2,421.3	5.4	9.6	-14.10	147.0	-424.8	338.6	323.1	15.46	21.895	
2,600.0	2,592.9	2,524.8	2,510.7	5.5	10.0	-16.05	142.2	-446.9	353.4	337.3	16.04	22.027	
2,700.0	2,692.7	2,622.8	2,605.5	5.7	10.5	-17.83	137.7	-471.2	371.2	354.5	16.69	22.242	
2,800.0	2,792.6	2,723.6	2,703.2	5.8	10.9	-19.42	133.0	-495.5	390.2	372.9	17.36	22.473	
2,900.0	2,892.6	2,822.0	2,798.7	6.0	11.3	-20.79	128.1	-518.8	410.5	392.5	18.02	22.787	
3,000.0	2,992.6	2,919.2	2,892.9	6.1	11.8	-21.97	123.1	-541.7	432.6	413.9	18.66	23.180	
3,007.4	3,000.0	2,926.4	2,899.9	6.2	11.8	-84.19	122.8	-543.4	434.3	415.4	18.83	23.058	
3,100.0	3,092.6	3,015.2	2,986.2	6.3	12.2	-85.02	118.5	-564.5	455.7	436.3	19.41	23.478	
3,200.0	3,192.6	3,109.8	3,077.9	6.4	12.6	-85.70	114.9	-587.1	479.4	459.3	20.04	23.925	
3,300.0	3,292.6	3,208.4	3,173.5	6.5	13.1	-86.27	111.8	-610.9	503.2	482.5	20.70	24.305	
3,400.0	3,392.6	3,307.7	3,269.9	6.6	13.5	-86.80	108.6	-634.4	526.7	505.3	21.38	24.634	
3,500.0	3,492.6	3,404.4	3,363.9	6.7	14.0	-87.30	105.2	-657.1	550.0	528.0	22.03	24.961	
3,600.0	3,592.6	3,501.4	3,458.1	6.9	14.4	-87.79	101.5	-680.0	573.4	550.7	22.69	25.268	
3,700.0	3,692.6	3,601.9	3,555.7	7.0	14.9	-88.30	97.2	-703.5	596.6	573.2	23.38	25.515	
3,800.0	3,792.6	3,699.8	3,650.9	7.1	15.3	-88.81	92.5	-726.0	619.5	595.5	24.05	25.760	
3,900.0	3,892.6	3,797.0	3,745.4	7.2	15.8	-89.32	87.4	-748.2	642.3	617.6	24.71	25.994	
4,000.0	3,992.6	3,882.0	3,827.8	7.3	16.2	-89.74	83.0	-768.3	666.0	640.7	25.27	26.356	
4,100.0	4,092.6	3,968.1	3,911.1	7.4	16.6	-90.11	78.7	-790.1	691.3	665.5	25.85	26.742	
4,200.0	4,192.6	4,062.2	4,001.7	7.5	17.0	-90.49	74.1	-814.9	717.8	691.3	26.51	27.076	
4,300.0	4,292.6	4,159.2	4,095.1	7.7	17.5	-90.86	69.3	-840.6	744.4	717.2	27.20	27.367	
4,400.0	4,392.6	4,258.6	4,190.9	7.8	18.0	-91.22	64.1	-866.7	770.7	742.8	27.91	27.614	
4,500.0	4,492.6	4,356.0	4,284.8	7.9	18.5	-91.59	58.7	-892.0	796.9	768.3	28.61	27.858	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 014H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 133-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Warning
4,600.0	4,592.6	4,455.5	4,380.8	8.0	18.9	-91.96	52.9	-917.5	822.7	793.4	29.32	28.064	
4,700.0	4,692.6	4,544.0	4,466.0	8.1	19.4	-92.26	47.8	-940.7	849.1	819.2	29.92	28.376	
4,800.0	4,792.6	4,638.6	4,557.0	8.2	19.8	-92.55	42.5	-966.1	876.2	845.5	30.60	28.630	
4,900.0	4,892.6	4,744.1	4,658.6	8.3	20.3	-92.87	36.4	-993.8	902.7	871.4	31.37	28.774	
5,000.0	4,992.6	4,887.6	4,798.0	8.4	21.0	-93.22	29.1	-1,026.9	926.0	893.6	32.43	28.556	
5,100.0	5,092.6	5,001.9	4,910.0	8.5	21.6	-93.46	24.0	-1,049.4	945.9	912.7	33.20	28.492	
5,200.0	5,192.6	5,107.3	5,013.4	8.6	22.0	-93.67	19.2	-1,069.1	964.8	930.9	33.89	28.465	
5,300.0	5,292.6	5,246.0	5,150.2	8.7	22.7	-93.94	13.3	-1,091.5	981.2	946.5	34.75	28.235	
5,400.0	5,392.6	5,399.2	5,302.1	8.8	23.3	-94.21	7.4	-1,109.7	993.5	958.0	35.56	27.939	
5,500.0	5,492.6	5,565.4	5,468.0	8.9	23.9	-94.34	4.4	-1,119.1	999.2	963.1	36.12	27.666	
9,500.0	9,492.6	9,695.1	9,569.8	12.9	29.9	-88.19	111.2	-1,111.2	991.7	946.5	45.22	21.929	
9,600.0	9,592.6	9,733.0	9,597.1	12.9	29.9	-86.67	137.4	-1,108.5	987.2	941.5	45.67	21.614	
9,604.5	9,597.1	9,733.0	9,597.1	12.9	29.9	-86.67	137.4	-1,108.5	987.2	941.5	45.70	21.602	
9,700.0	9,692.6	9,772.2	9,622.9	13.0	30.0	-84.96	166.8	-1,106.8	990.1	943.9	46.14	21.459 SF	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 1H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 150-r.5 MWD													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	0.0	10.0	0.0	0.0	-34.45	182.0	-124.8	221.0				
100.0	100.0	90.1	100.1	0.5	0.7	-34.43	182.1	-124.8	220.7	219.0	1.70	129.969	
200.0	200.0	190.9	200.9	1.0	1.4	-34.37	182.1	-124.5	220.6	217.7	2.85	77.329	
300.0	300.0	290.4	300.4	1.4	1.8	-34.29	181.8	-124.0	220.0	216.5	3.55	61.952	
316.3	316.3	306.3	316.3	1.4	1.8	-34.28	181.8	-123.9	220.0	216.4	3.64	60.381	
400.0	400.0	388.9	398.9	1.6	2.1	-34.24	182.1	-123.9	220.3	216.1	4.15	53.101	
500.0	500.0	488.8	498.8	1.9	2.4	-34.20	182.7	-124.1	220.8	216.2	4.69	47.133	
600.0	600.0	588.4	598.4	2.1	2.7	-34.29	183.0	-124.8	221.5	216.3	5.16	42.908	
700.0	700.0	688.3	698.3	2.3	2.9	-34.53	183.1	-126.0	222.2	216.6	5.60	39.679	
800.0	800.0	787.5	797.4	2.5	3.1	-34.85	183.2	-127.5	223.2	217.2	6.01	37.114	
900.0	900.0	887.7	897.6	2.7	3.3	-35.29	183.0	-129.5	224.2	217.8	6.41	34.973	
1,000.0	1,000.0	986.1	996.0	2.9	3.6	-35.73	183.2	-131.8	225.7	218.9	6.80	33.183	
1,100.0	1,100.0	1,085.2	1,095.1	3.0	3.8	-36.16	183.8	-134.3	227.7	220.5	7.19	31.650	
1,200.0	1,200.0	1,187.8	1,197.7	3.2	4.1	-36.59	184.3	-136.8	229.6	222.0	7.59	30.245	
1,300.0	1,300.0	1,302.6	1,312.4	3.5	8.0	-6.27	183.7	-134.5	226.3	215.5	10.87	20.830	
1,400.0	1,399.8	1,411.1	1,420.2	3.8	9.0	-4.34	181.4	-123.1	213.3	201.4	11.85	18.003	
1,500.0	1,499.5	1,509.1	1,517.3	4.0	9.1	-1.80	178.9	-110.2	195.2	182.9	12.30	15.872	
1,600.0	1,598.9	1,610.4	1,617.5	4.2	9.2	21.78	175.9	-95.2	175.1	162.3	12.84	13.637	
1,676.1	1,674.5	1,684.9	1,690.6	4.3	9.2	40.60	173.8	-81.5	160.1	146.7	13.40	11.945	
1,700.0	1,698.3	1,708.3	1,713.5	4.3	9.3	42.84	173.2	-76.6	155.7	142.1	13.59	11.453	
1,800.0	1,797.6	1,806.0	1,808.7	4.5	9.4	54.11	169.7	-54.7	138.8	124.4	14.44	9.614	
1,900.0	1,897.0	1,899.8	1,899.8	4.6	9.5	67.44	165.7	-32.9	127.9	112.8	15.06	8.491	
1,968.4	1,964.9	1,963.5	1,961.8	4.7	9.6	77.22	163.2	-18.2	125.6	110.4	15.23	8.252 CC, ES, SF	
2,000.0	1,996.3	1,993.0	1,990.5	4.7	9.6	81.75	162.1	-11.4	126.1	110.9	15.22	8.288	
2,100.0	2,095.6	2,086.7	2,081.6	4.9	9.8	95.46	159.1	10.0	133.6	118.5	15.09	8.853	
2,200.0	2,195.0	2,180.6	2,172.9	5.0	9.9	107.35	156.1	31.8	148.8	134.1	14.67	10.139	
2,300.0	2,294.3	2,275.6	2,265.4	5.2	10.1	116.91	153.0	53.5	169.2	154.8	14.37	11.772	
2,349.1	2,343.1	2,320.4	2,308.9	5.2	10.2	120.76	151.4	63.9	180.7	166.5	14.26	12.677	
2,400.0	2,393.7	2,366.5	2,353.6	5.2	10.3	124.50	149.4	75.2	193.8	179.6	14.18	13.669	
2,500.0	2,493.2	2,455.9	2,439.6	5.4	10.5	130.76	144.3	99.0	222.1	207.9	14.23	15.610	
2,600.0	2,592.9	2,550.5	2,530.3	5.5	10.7	135.92	138.1	125.1	252.0	237.5	14.45	17.433	
2,700.0	2,692.7	2,648.7	2,624.8	5.7	11.0	139.78	132.0	151.2	281.0	266.2	14.83	18.950	
2,800.0	2,792.6	2,747.9	2,720.7	5.8	11.3	142.63	126.1	176.0	308.0	292.7	15.29	20.150	
2,900.0	2,892.6	2,839.9	2,809.5	6.0	11.5	144.56	121.3	199.0	334.3	318.6	15.74	21.235	
3,000.0	2,992.6	2,933.1	2,899.5	6.1	11.8	145.99	117.2	223.3	360.5	344.2	16.25	22.181	
3,007.4	3,000.0	2,940.4	2,906.5	6.2	11.8	83.94	116.9	225.2	362.4	346.1	16.27	22.271	
3,100.0	3,092.6	3,031.4	2,994.3	6.3	12.1	84.89	113.3	248.9	386.1	369.3	16.78	23.003	
3,200.0	3,192.6	3,128.3	3,087.8	6.4	12.4	85.71	109.8	273.9	411.6	394.2	17.35	23.722	
3,300.0	3,292.6	3,228.8	3,185.0	6.5	12.7	86.41	106.5	299.3	436.6	418.7	17.96	24.317	
3,400.0	3,392.6	3,328.7	3,281.8	6.6	13.0	86.95	103.8	323.8	460.9	442.4	18.56	24.832	
3,500.0	3,492.6	3,427.8	3,378.0	6.7	13.3	87.40	101.3	347.6	484.8	465.6	19.17	25.288	
3,600.0	3,592.6	3,525.5	3,473.0	6.9	13.6	87.79	99.0	370.6	508.2	488.4	19.78	25.700	
3,700.0	3,692.6	3,618.6	3,563.3	7.0	13.9	88.12	96.9	392.9	532.1	511.8	20.36	26.137	
3,800.0	3,792.6	3,710.4	3,652.2	7.1	14.2	88.41	95.0	415.6	556.8	535.9	20.94	26.589	
3,900.0	3,892.6	3,800.5	3,739.2	7.2	14.5	88.66	93.1	438.9	582.6	561.1	21.52	27.067	
4,000.0	3,992.6	3,891.2	3,826.6	7.3	14.8	88.93	91.0	463.3	609.5	587.3	22.12	27.554	
4,100.0	4,092.6	3,986.8	3,918.5	7.4	15.2	89.17	88.8	489.4	636.7	613.9	22.76	27.976	
4,200.0	4,192.6	4,081.1	4,009.1	7.5	15.6	89.46	86.0	515.4	664.3	640.9	23.40	28.392	
4,300.0	4,292.6	4,182.9	4,107.0	7.7	16.0	89.83	82.0	543.2	691.5	667.5	24.09	28.702	
4,400.0	4,392.6	4,287.2	4,207.5	7.8	16.4	90.17	77.9	570.6	717.8	693.0	24.80	28.941	
4,500.0	4,492.6	4,387.7	4,304.7	7.9	16.8	90.48	74.0	596.1	743.2	717.7	25.49	29.153	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,600.0	4,592.6	4,485.9	4,399.5	8.0	17.1	90.86	68.8	620.7	768.5	742.3	26.20	29.334	
4,700.0	4,692.6	4,586.0	4,496.4	8.1	17.5	91.31	62.4	645.6	793.4	766.5	26.91	29.484	
4,800.0	4,792.6	4,687.2	4,594.3	8.2	17.9	91.72	56.2	670.2	817.9	790.3	27.62	29.609	
4,900.0	4,892.6	4,792.3	4,696.2	8.3	18.3	92.11	49.9	695.0	841.8	813.4	28.39	29.653	
5,000.0	4,992.6	4,899.2	4,800.1	8.4	18.7	92.46	43.8	719.1	864.5	835.3	29.19	29.617	
5,100.0	5,092.6	5,008.4	4,906.7	8.5	19.1	92.80	37.7	742.4	886.2	856.0	30.12	29.420	
5,200.0	5,192.6	5,115.1	5,011.0	8.6	19.5	93.10	31.9	764.0	906.7	875.5	31.15	29.103	
5,300.0	5,292.6	5,224.3	5,118.0	8.7	19.9	93.38	26.5	784.9	926.1	893.8	32.26	28.703	
5,400.0	5,392.6	5,341.5	5,233.2	8.8	20.3	93.64	20.8	805.8	944.3	910.8	33.42	28.258	
5,500.0	5,492.6	5,514.8	5,404.9	8.9	21.0	93.97	14.0	828.4	957.7	923.6	34.10	28.082	
5,600.0	5,592.6	5,677.1	5,566.8	9.0	21.5	94.19	9.6	837.7	963.6	928.2	35.38	27.233	
5,700.0	5,692.6	5,786.3	5,676.0	9.2	21.7	94.32	7.2	839.9	965.8	930.2	35.58	27.144	
5,800.0	5,792.6	5,885.7	5,775.3	9.3	21.9	94.43	5.2	841.5	967.5	931.7	35.83	27.002	
5,900.0	5,892.6	5,985.1	5,874.7	9.4	22.2	94.55	3.2	843.2	969.4	933.3	36.09	26.863	
6,000.0	5,992.6	6,085.1	5,974.7	9.5	22.4	94.65	1.3	844.8	971.2	934.9	36.34	26.728	
6,100.0	6,092.6	6,185.2	6,074.8	9.6	22.6	94.76	-0.8	846.5	973.1	936.5	36.59	26.592	
6,200.0	6,192.6	6,285.3	6,174.8	9.7	22.9	94.88	-3.0	848.2	974.9	938.0	36.83	26.466	
6,300.0	6,292.6	6,385.1	6,274.6	9.8	23.1	95.01	-5.2	849.8	976.7	939.6	37.11	26.320	
6,400.0	6,392.6	6,484.5	6,373.9	9.9	23.4	95.13	-7.4	851.5	978.6	941.2	37.41	26.160	
6,500.0	6,492.6	6,584.4	6,473.8	10.0	23.6	95.25	-9.8	853.2	980.5	942.8	37.67	26.029	
6,600.0	6,592.6	6,690.5	6,579.9	10.1	23.9	95.39	-12.2	854.8	982.2	944.4	37.73	26.029	
6,700.0	6,692.6	6,801.9	6,691.2	10.2	24.1	95.50	-14.2	855.4	982.9	946.4	36.57	26.876	
6,800.0	6,792.6	6,924.9	6,814.2	10.3	24.0	95.59	-15.5	853.4	981.3	945.0	36.33	27.013	
6,900.0	6,892.6	7,017.4	6,906.7	10.4	23.9	95.62	-15.9	851.8	979.6	943.3	36.26	27.013	
7,000.0	6,992.6	7,118.5	7,007.7	10.5	23.7	95.65	-16.3	850.2	978.1	942.3	35.84	27.293	
7,100.0	7,092.6	7,221.8	7,111.0	10.6	23.5	95.64	-15.9	848.6	976.5	941.2	35.26	27.690	
7,200.0	7,192.6	7,328.2	7,217.4	10.7	23.3	95.62	-15.4	846.2	974.2	938.9	35.34	27.566	
7,300.0	7,292.6	7,423.0	7,312.2	10.8	23.2	95.64	-15.5	843.8	971.7	936.6	35.16	27.638	
7,400.0	7,392.6	7,517.1	7,406.3	10.9	23.0	95.61	-14.9	842.4	970.1	935.8	34.32	28.270	
7,500.0	7,492.6	7,614.5	7,503.7	10.9	22.8	95.55	-13.7	841.2	968.8	934.8	34.03	28.470	
7,600.0	7,592.6	7,715.5	7,604.6	11.0	22.7	95.49	-12.6	840.2	967.7	933.6	34.15	28.334	
7,700.0	7,692.6	7,823.0	7,712.1	11.1	22.5	95.46	-11.8	838.6	966.1	931.8	34.38	28.102	
7,800.0	7,792.6	7,917.8	7,807.0	11.2	22.3	95.39	-10.6	836.9	964.3	930.3	33.93	28.423	
7,900.0	7,892.6	8,013.6	7,902.7	11.3	22.2	95.26	-8.3	835.9	963.0	928.9	34.13	28.214	
8,000.0	7,992.6	8,111.6	8,000.7	11.4	22.0	95.11	-5.6	835.2	962.1	927.9	34.21	28.124	
8,100.0	8,092.6	8,215.4	8,104.4	11.5	21.9	94.95	-3.0	834.4	961.1	927.0	34.07	28.206	
8,200.0	8,192.6	8,311.0	8,200.0	11.6	21.7	94.84	-1.0	833.6	960.1	926.0	34.13	28.131	
8,300.0	8,292.6	8,410.2	8,299.2	11.7	21.6	94.76	0.4	833.1	959.4	925.2	34.15	28.093	
8,400.0	8,392.6	8,512.9	8,401.8	11.8	21.5	94.68	1.8	832.3	958.5	924.2	34.31	27.934	
8,500.0	8,492.6	8,610.0	8,498.9	11.9	21.4	94.59	3.4	831.6	957.7	923.4	34.35	27.882	
8,600.0	8,592.6	8,707.3	8,596.2	12.0	21.5	94.49	5.1	831.3	957.2	922.8	34.38	27.838	
8,700.0	8,692.6	8,805.6	8,694.5	12.1	21.6	94.41	6.5	831.0	956.9	922.4	34.44	27.782	
8,752.9	8,745.5	8,856.5	8,745.5	12.1	21.6	94.37	7.1	831.0	956.8	922.3	34.50	27.735	
8,800.0	8,792.6	8,902.3	8,791.2	12.2	21.7	94.34	7.5	831.1	956.9	922.3	34.56	27.686	
8,900.0	8,892.6	8,999.8	8,888.7	12.3	21.8	94.30	8.3	831.4	957.1	922.5	34.64	27.631	
9,000.0	8,992.6	9,097.2	8,986.1	12.4	21.9	94.26	8.9	832.0	957.7	922.9	34.79	27.529	
9,100.0	9,092.6	9,221.7	9,110.3	12.5	22.3	93.90	14.8	832.3	957.7	922.6	35.04	27.329	
9,200.0	9,192.6	9,324.6	9,209.3	12.6	23.2	92.27	42.2	831.2	955.1	919.9	35.17	27.157	
9,257.9	9,250.4	9,370.6	9,250.4	12.6	23.6	91.04	62.7	831.4	954.6	919.3	35.32	27.028	
9,300.0	9,292.6	9,405.4	9,280.2	12.7	23.7	89.97	80.5	831.8	954.8	919.4	35.43	26.949	
9,400.0	9,392.6	9,482.6	9,342.6	12.8	23.9	87.25	125.9	832.7	958.1	922.3	35.78	26.775	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 1H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
9,500.0	9,492.6	9,556.2	9,398.0	12.9	24.0	84.36	174.4	833.2	965.5	929.3	36.23	26.649		
9,600.0	9,592.6	9,626.5	9,448.0	12.9	24.0	81.45	223.8	833.3	977.8	941.0	36.77	26.593		
9,700.0	9,692.6	9,685.6	9,488.3	13.0	24.0	78.93	267.1	833.0	995.4	958.0	37.38	26.630		

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis			Distance		Rule Assigned:							
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)	No-Go Distance (usft)	Separation Factor	Warning	
0.0	0.0	0.0	9.4	0.0	0.0	-40.41	182.0	-155.0	239.2					
100.0	100.0	89.3	98.7	0.5	0.7	-40.42	182.2	-155.1	239.3	237.6	1.69	141.609		
200.0	200.0	189.0	198.4	1.0	1.4	-40.44	182.7	-155.7	240.0	237.2	2.85	84.275		
300.0	300.0	290.4	299.8	1.4	1.8	-40.49	182.8	-156.1	240.4	236.8	3.57	67.354		
400.0	400.0	389.4	398.8	1.6	2.1	-40.52	182.9	-156.3	240.6	236.3	4.21	57.132		
500.0	500.0	488.7	498.1	1.9	2.5	-40.51	183.4	-156.7	241.3	236.5	4.79	50.353		
600.0	600.0	588.2	597.6	2.1	2.8	-40.55	184.0	-157.4	242.1	236.8	5.31	45.624		
700.0	700.0	686.8	696.2	2.3	3.1	-40.65	184.6	-158.5	243.4	237.6	5.79	42.013		
800.0	800.0	784.3	793.6	2.5	3.4	-40.85	185.6	-160.5	245.4	239.2	6.26	39.200		
900.0	900.0	883.8	893.1	2.7	3.7	-41.22	186.6	-163.4	248.1	241.4	6.73	36.878		
1,000.0	1,000.0	982.7	991.9	2.9	4.0	-41.85	187.0	-167.5	251.1	243.9	7.18	34.993		
1,100.0	1,100.0	1,082.2	1,091.3	3.0	4.3	-42.50	187.6	-171.9	254.5	246.9	7.63	33.383		
1,200.0	1,200.0	1,188.9	1,197.9	3.2	4.6	-43.05	188.0	-175.6	257.3	249.2	8.05	31.955		
1,300.0	1,300.0	1,298.9	1,308.0	3.5	4.8	-13.37	186.2	-175.2	254.1	245.6	8.42	30.186		
1,400.0	1,399.8	1,413.6	1,422.4	3.8	5.2	-13.26	182.7	-169.1	243.2	234.2	9.04	26.910		
1,500.0	1,499.5	1,516.0	1,524.2	4.0	5.2	-12.67	178.2	-158.4	224.5	215.2	9.30	24.136		
1,600.0	1,598.9	1,619.0	1,626.2	4.2	5.3	8.39	172.9	-145.2	201.8	192.3	9.52	21.204		
1,676.1	1,674.5	1,692.7	1,699.0	4.3	5.3	24.24	169.0	-134.5	183.7	174.1	9.66	19.024		
1,700.0	1,698.3	1,715.6	1,721.5	4.3	5.3	25.23	167.8	-131.1	178.1	168.4	9.70	18.365		
1,800.0	1,797.6	1,810.3	1,815.2	4.5	5.4	30.02	163.3	-117.5	155.9	145.9	9.96	15.646		
1,900.0	1,897.0	1,906.5	1,910.4	4.6	5.5	35.97	159.0	-104.9	135.8	125.6	10.24	13.268		
2,000.0	1,996.3	2,005.7	2,008.6	4.7	5.7	43.89	153.8	-92.0	117.1	106.6	10.54	11.115		
2,100.0	2,095.6	2,105.9	2,107.2	4.9	6.1	56.27	145.4	-75.7	97.8	86.9	10.92	8.955		
2,200.0	2,195.0	2,200.6	2,199.9	5.0	6.3	73.46	136.5	-58.8	83.7	72.8	10.98	7.624		
2,282.9	2,277.3	2,279.5	2,277.3	5.1	6.4	90.18	129.3	-45.3	79.9	68.9	11.03	7.241 CC, ES		
2,300.0	2,294.3	2,295.8	2,293.3	5.2	6.5	93.68	127.9	-42.6	80.1	69.0	11.06	7.239		
2,349.1	2,343.1	2,342.4	2,339.1	5.2	6.6	103.52	123.7	-34.7	82.4	71.3	11.14	7.398		
2,400.0	2,393.7	2,390.8	2,386.5	5.2	6.7	112.95	119.4	-26.4	87.6	76.3	11.30	7.751		
2,500.0	2,493.2	2,486.2	2,480.1	5.4	7.0	127.81	110.7	-9.4	103.3	91.5	11.81	8.742		
2,600.0	2,592.9	2,583.7	2,575.6	5.5	7.2	138.05	101.8	7.5	122.3	109.9	12.43	9.840		
2,700.0	2,692.7	2,682.7	2,673.0	5.7	7.5	144.81	93.3	23.1	141.2	128.2	13.08	10.799		
2,800.0	2,792.6	2,782.2	2,771.2	5.8	7.8	149.26	85.7	37.3	158.6	144.9	13.73	11.556		
2,900.0	2,892.6	2,879.8	2,867.7	6.0	8.2	152.35	78.6	50.7	174.6	160.3	14.35	12.166		
3,000.0	2,992.6	2,975.0	2,961.4	6.1	8.5	154.91	70.9	65.0	190.8	175.8	14.99	12.729		
3,007.4	3,000.0	2,982.0	2,968.3	6.2	8.5	92.95	70.3	66.1	192.0	177.3	14.73	13.035		
3,100.0	3,092.6	3,071.3	3,055.9	6.3	8.9	95.23	61.3	80.9	208.0	192.8	15.27	13.621		
3,200.0	3,192.6	3,170.9	3,153.6	6.4	9.2	97.41	51.3	97.3	225.5	209.6	15.88	14.202		
3,300.0	3,292.6	3,271.6	3,252.7	6.5	9.6	99.15	42.0	113.1	242.4	225.9	16.48	14.710		
3,400.0	3,392.6	3,371.0	3,350.6	6.6	10.0	100.50	33.5	127.9	258.6	241.6	17.07	15.153		
3,500.0	3,492.6	3,469.9	3,448.1	6.7	10.3	101.66	25.2	142.7	274.9	257.2	17.66	15.566		
3,600.0	3,592.6	3,575.8	3,552.5	6.9	10.8	102.68	16.9	157.4	290.2	271.9	18.31	15.853		
3,700.0	3,692.6	3,680.0	3,655.8	7.0	11.2	103.34	10.6	169.7	303.0	284.2	18.81	16.110		
3,800.0	3,792.6	3,784.5	3,759.6	7.1	11.5	103.72	5.8	180.7	314.3	295.0	19.33	16.261		
3,900.0	3,892.6	3,892.8	3,867.5	7.2	11.9	103.98	2.1	190.0	323.6	303.7	19.84	16.310		
4,000.0	3,992.6	4,004.9	3,979.4	7.3	12.3	104.03	0.3	196.0	329.1	308.9	20.23	16.264		
4,100.0	4,092.6	4,109.1	4,083.6	7.4	12.6	104.00	-0.4	199.4	332.4	311.7	20.67	16.081		
4,200.0	4,192.6	4,213.0	4,187.4	7.5	12.9	104.05	-1.2	201.5	334.6	313.2	21.37	15.652		
4,300.0	4,292.6	4,314.7	4,289.1	7.7	13.1	104.18	-2.2	202.5	335.7	313.7	22.01	15.255		
4,400.0	4,392.6	4,415.6	4,390.0	7.8	13.3	104.32	-3.3	203.2	336.6	314.3	22.30	15.095		
4,500.0	4,492.6	4,515.6	4,490.0	7.9	13.5	104.47	-4.3	203.6	337.3	314.8	22.58	14.941		
4,600.0	4,592.6	4,615.8	4,590.2	8.0	13.7	104.62	-5.4	204.1	338.1	315.2	22.87	14.784		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
4,700.0	4,692.6	4,716.0	4,690.3	8.1	13.9	104.77	-6.4	204.6	338.8	315.7	23.10	14.665	
4,800.0	4,792.6	4,815.7	4,790.0	8.2	14.1	104.94	-7.5	205.0	339.5	316.1	23.34	14.546	
4,900.0	4,892.6	4,915.1	4,889.4	8.3	14.3	105.17	-9.0	205.4	340.3	316.7	23.58	14.434	
5,000.0	4,992.6	5,014.6	4,989.0	8.4	14.5	105.42	-10.7	206.0	341.3	317.4	23.92	14.266	
5,100.0	5,092.6	5,114.7	5,089.0	8.5	14.8	105.69	-12.6	206.6	342.4	318.2	24.14	14.182	
5,200.0	5,192.6	5,216.0	5,190.3	8.6	15.0	105.94	-14.2	207.0	343.2	318.8	24.41	14.060	
5,300.0	5,292.6	5,315.9	5,290.2	8.7	15.2	106.08	-15.2	207.4	343.8	319.0	24.79	13.869	
5,400.0	5,392.6	5,416.0	5,390.3	8.8	15.4	106.19	-16.1	207.9	344.6	319.7	24.91	13.832	
5,500.0	5,492.6	5,518.7	5,493.0	8.9	15.5	106.23	-16.4	208.1	344.8	320.3	24.47	14.092	
5,600.0	5,592.6	5,619.2	5,593.5	9.0	15.5	106.18	-16.0	207.9	344.5	320.5	24.05	14.324	
5,700.0	5,692.6	5,719.1	5,693.4	9.2	15.4	106.16	-15.8	207.7	344.3	319.8	24.53	14.038	
5,800.0	5,792.6	5,819.0	5,793.3	9.3	15.3	106.16	-15.8	207.5	344.1	319.6	24.47	14.061	
5,900.0	5,892.6	5,918.9	5,893.2	9.4	15.2	106.15	-15.7	207.3	343.9	319.4	24.49	14.042	
6,000.0	5,992.6	6,018.8	5,993.1	9.5	15.2	106.15	-15.6	207.1	343.7	319.0	24.65	13.944	
6,100.0	6,092.6	6,119.0	6,093.2	9.6	15.1	106.15	-15.6	207.0	343.5	319.1	24.45	14.052	
6,200.0	6,192.6	6,219.5	6,193.8	9.7	15.0	106.10	-15.2	206.8	343.3	319.0	24.23	14.169	
6,300.0	6,292.6	6,319.5	6,293.8	9.8	14.9	105.96	-14.3	206.7	342.9	318.6	24.32	14.100	
6,375.6	6,368.2	6,393.9	6,368.2	9.8	14.9	105.88	-13.8	206.7	342.7	318.1	24.61	13.925	
6,400.0	6,392.6	6,417.8	6,392.1	9.9	14.9	105.86	-13.7	206.7	342.8	318.0	24.74	13.856	
6,500.0	6,492.6	6,518.2	6,492.4	10.0	15.0	105.80	-13.4	206.9	342.9	317.9	24.96	13.739	
6,600.0	6,592.6	6,619.3	6,593.6	10.1	14.9	105.75	-13.1	206.9	342.8	318.3	24.50	13.989	
6,700.0	6,692.6	6,720.9	6,695.2	10.2	14.8	105.74	-12.8	206.4	342.2	317.3	24.94	13.723	
6,800.0	6,792.6	6,822.7	6,796.9	10.3	14.7	105.73	-12.5	205.4	341.2	316.3	24.84	13.735	
6,900.0	6,892.6	6,922.9	6,897.2	10.4	14.6	105.72	-12.0	204.0	339.8	315.0	24.81	13.695	
7,000.0	6,992.6	7,021.7	6,996.0	10.5	14.5	105.74	-11.9	202.9	338.7	313.8	24.85	13.629	
7,100.0	7,092.6	7,121.5	7,095.7	10.6	14.4	105.82	-12.1	201.8	337.6	312.7	24.88	13.570	
7,200.0	7,192.6	7,220.0	7,194.2	10.7	14.4	105.98	-12.7	200.9	336.9	312.0	24.91	13.526	
7,300.0	7,292.6	7,318.8	7,293.0	10.8	14.5	106.14	-13.6	200.4	336.6	311.6	24.99	13.468	
7,400.0	7,392.6	7,418.5	7,392.7	10.9	14.6	106.25	-14.2	200.1	336.5	311.4	25.13	13.394	
7,500.0	7,492.6	7,518.8	7,493.0	10.9	14.7	106.28	-14.3	200.0	336.5	311.3	25.20	13.353	
7,600.0	7,592.6	7,618.9	7,593.1	11.0	14.6	106.14	-13.5	200.0	336.3	311.1	25.22	13.332	
7,700.0	7,692.6	7,718.9	7,693.1	11.1	14.6	106.00	-12.7	200.1	336.2	310.8	25.31	13.283	
7,780.1	7,772.7	7,798.5	7,772.7	11.2	14.6	105.88	-11.9	200.2	336.0	310.6	25.48	13.191	
7,800.0	7,792.6	7,818.1	7,792.3	11.2	14.6	105.83	-11.7	200.3	336.1	310.5	25.53	13.165	
7,900.0	7,892.6	7,917.5	7,891.7	11.3	14.5	105.58	-10.3	200.9	336.3	310.6	25.69	13.090	
8,000.0	7,992.6	8,017.4	7,991.6	11.4	14.6	105.32	-8.9	201.6	336.6	310.7	25.85	13.022	
8,100.0	8,092.6	8,116.1	8,090.3	11.5	14.6	105.11	-7.8	202.3	337.0	311.0	26.00	12.964	
8,200.0	8,192.6	8,215.2	8,189.3	11.6	14.7	104.93	-7.1	203.4	337.8	311.6	26.20	12.895	
8,300.0	8,292.6	8,315.9	8,290.1	11.7	14.8	104.80	-6.5	204.5	338.7	312.3	26.44	12.811	
8,400.0	8,392.6	8,416.2	8,390.3	11.8	14.9	104.67	-6.0	205.3	339.4	312.7	26.67	12.724	
8,500.0	8,492.6	8,517.1	8,491.2	11.9	15.0	104.56	-5.5	206.0	339.9	313.1	26.87	12.651	
8,600.0	8,592.6	8,619.1	8,593.3	12.0	15.1	104.47	-4.9	206.1	339.9	313.2	26.75	12.707	
8,646.3	8,638.8	8,664.7	8,638.8	12.0	15.1	104.43	-4.7	206.2	339.9	312.8	27.06	12.562	
8,700.0	8,692.6	8,718.1	8,692.2	12.1	15.1	104.39	-4.5	206.3	339.9	312.8	27.14	12.525	
8,800.0	8,792.6	8,818.5	8,792.7	12.2	15.1	104.37	-4.4	206.3	339.9	311.9	27.97	12.152	
8,808.6	8,801.1	8,827.0	8,801.1	12.2	15.1	104.37	-4.4	206.3	339.9	311.8	28.07	12.111	
8,900.0	8,892.6	8,917.7	8,891.8	12.3	15.2	104.42	-4.7	206.3	340.0	312.2	27.85	12.207	
9,000.0	8,992.6	9,017.7	8,991.9	12.4	15.3	104.53	-5.3	206.4	340.2	312.3	27.89	12.198	
9,100.0	9,092.6	9,118.8	9,092.9	12.5	15.4	104.66	-6.2	206.3	340.4	312.5	27.90	12.199	
9,200.0	9,192.6	9,221.8	9,196.0	12.6	15.4	104.86	-7.2	205.4	339.8	311.9	27.94	12.164	
9,300.0	9,292.6	9,332.2	9,306.2	12.7	15.8	104.63	-5.2	203.5	337.7	309.6	28.08	12.026	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,400.0	9,392.6	9,442.5	9,415.2	12.8	16.0	102.09	10.6	200.9	332.0	303.5	28.51	11.647	
9,500.0	9,492.6	9,535.3	9,503.7	12.9	16.1	97.32	38.4	200.6	326.4	297.7	28.75	11.356	
9,580.9	9,573.5	9,613.0	9,573.5	12.9	16.2	91.34	72.4	201.9	325.0	296.2	28.77	11.294	
9,600.0	9,592.6	9,630.2	9,588.3	12.9	16.3	89.79	81.2	202.0	325.1	296.3	28.78	11.295	
9,700.0	9,692.6	9,721.3	9,661.8	13.0	16.5	80.42	134.7	200.9	329.9	301.0	29.00	11.378	
9,800.0	9,792.6	9,784.7	9,708.0	13.1	16.6	73.02	178.1	198.4	346.5	316.6	29.88	11.597	
9,900.0	9,892.6	9,838.4	9,743.8	13.2	16.7	66.63	218.1	196.6	378.6	347.3	31.31	12.094	
10,000.0	9,992.6	9,899.1	9,782.5	13.3	16.8	59.80	264.8	194.6	423.3	390.9	32.46	13.042	
10,100.0	10,092.6	9,959.7	9,820.2	13.4	16.8	53.64	312.1	192.3	476.9	443.9	33.01	14.450	
10,121.9	10,114.5	9,969.0	9,826.0	13.4	16.8	52.75	319.5	191.9	489.6	456.5	33.10	14.793	
10,125.0	10,117.6	9,969.0	9,826.0	13.4	16.8	52.67	319.5	191.9	491.4	458.3	33.09	14.851	
10,150.0	10,142.5	9,982.8	9,834.4	13.4	16.9	49.75	330.4	191.2	506.0	473.1	32.89	15.382	
10,175.0	10,167.4	9,993.1	9,840.5	13.4	16.9	47.34	338.7	190.8	520.3	487.7	32.69	15.920	
10,200.0	10,192.2	10,003.8	9,846.7	13.5	16.9	45.09	347.3	190.3	534.5	502.0	32.50	16.442	
10,225.0	10,216.8	10,017.0	9,854.3	13.5	16.9	42.86	358.2	189.8	548.3	515.8	32.46	16.888	
10,250.0	10,241.0	10,017.0	9,854.3	13.5	16.9	41.56	358.2	189.8	561.8	528.5	33.28	16.883	
10,275.0	10,264.9	10,017.0	9,854.3	13.5	16.9	40.30	358.2	189.8	575.3	541.1	34.19	16.828	
10,300.0	10,288.5	10,039.4	9,866.3	13.5	17.0	38.07	377.0	188.9	587.7	553.1	34.59	16.990	
10,325.0	10,311.5	10,047.5	9,870.3	13.5	17.0	36.67	384.0	188.6	600.2	564.9	35.25	17.026	
10,350.0	10,334.0	10,055.6	9,874.2	13.5	17.0	35.37	391.1	188.3	612.2	576.4	35.82	17.092	
10,375.0	10,355.9	10,080.0	9,884.9	13.6	17.1	33.60	413.1	187.4	624.4	588.2	36.15	17.274	
10,400.0	10,377.1	10,080.0	9,884.9	13.6	17.1	32.81	413.1	187.4	635.2	598.5	36.69	17.312	
10,425.0	10,397.6	10,080.0	9,884.9	13.6	17.1	32.06	413.1	187.4	645.8	608.6	37.16	17.378	
10,450.0	10,417.3	10,080.0	9,884.9	13.6	17.1	31.34	413.1	187.4	656.1	618.6	37.57	17.463	
10,475.0	10,436.3	10,094.1	9,890.3	13.6	17.2	30.33	426.1	186.8	665.8	628.0	37.80	17.613	
10,500.0	10,454.3	10,111.0	9,895.8	13.7	17.2	29.35	442.1	186.2	675.4	637.4	38.00	17.775	
10,525.0	10,471.4	10,111.0	9,895.8	13.7	17.2	28.81	442.1	186.2	684.0	645.7	38.32	17.847	
10,550.0	10,487.5	10,111.0	9,895.8	13.7	17.2	28.31	442.1	186.2	692.3	653.7	38.62	17.928	
10,575.0	10,502.6	10,111.0	9,895.8	13.7	17.2	27.82	442.1	186.2	700.4	661.5	38.88	18.016	
10,600.0	10,516.6	10,111.0	9,895.8	13.7	17.2	27.37	442.1	186.2	708.2	669.1	39.10	18.110	
10,625.0	10,529.5	10,147.3	9,905.5	13.7	17.4	26.55	477.0	185.3	713.5	674.1	39.37	18.124	
10,650.0	10,541.3	10,157.4	9,907.8	13.8	17.5	26.12	486.9	185.1	719.2	679.6	39.59	18.166	
10,675.0	10,551.9	10,167.7	9,909.9	13.8	17.5	25.76	496.9	185.0	724.3	684.5	39.81	18.196	
10,700.0	10,561.3	10,177.9	9,911.8	13.8	17.6	25.45	507.0	184.9	728.8	688.8	40.01	18.215	
10,725.0	10,569.5	10,206.0	9,915.9	13.8	17.8	25.10	534.7	184.9	733.0	692.8	40.25	18.212	
10,750.0	10,576.5	10,206.0	9,915.9	13.8	17.8	24.97	534.7	184.9	735.7	695.3	40.40	18.210	
10,775.0	10,582.2	10,206.0	9,915.9	13.8	17.8	24.85	534.7	184.9	738.0	697.5	40.52	18.214	
10,800.0	10,586.6	10,220.6	9,917.6	13.9	17.8	24.74	549.2	185.0	739.6	699.1	40.58	18.227	
10,825.0	10,589.7	10,241.0	9,919.2	13.9	18.0	24.70	569.6	185.3	740.7	700.1	40.62	18.236	
10,850.0	10,591.5	10,245.7	9,919.5	13.9	18.0	24.70	574.2	185.4	740.8	700.1	40.67	18.214	
10,870.6	10,592.0	10,263.1	9,920.6	13.9	18.1	24.77	591.6	185.6	740.2	699.5	40.68	18.195	
10,900.0	10,592.0	10,288.0	9,922.1	13.9	18.3	24.85	616.4	186.0	739.0	698.3	40.68	18.164	
11,000.0	10,592.3	10,386.0	9,926.6	14.1	19.1	25.04	714.4	186.5	735.3	694.6	40.71	18.061	
11,100.0	10,592.6	10,469.3	9,928.7	14.5	19.8	25.05	797.6	185.5	732.9	692.2	40.72	17.998	
11,177.2	10,592.8	10,537.0	9,928.9	14.8	20.4	24.99	865.3	184.5	732.5	691.8	40.67	18.011	
11,200.0	10,592.9	10,557.2	9,928.8	14.8	20.6	24.96	885.5	184.2	732.5	691.9	40.64	18.026	
11,300.0	10,593.2	10,654.5	9,927.6	15.3	21.7	24.80	982.8	182.4	733.2	692.7	40.44	18.130	
11,400.0	10,593.4	10,754.2	9,926.3	15.7	22.8	24.62	1,082.5	180.4	733.9	693.8	40.06	18.318	
11,500.0	10,593.7	10,857.0	9,925.0	16.2	24.0	24.44	1,185.2	178.2	734.5	694.8	39.66	18.520	
11,600.0	10,594.0	10,946.0	9,923.9	16.7	25.1	24.36	1,274.3	177.5	735.6	696.6	39.07	18.829	
11,700.0	10,594.3	11,034.0	9,922.9	17.2	26.2	24.52	1,362.2	180.2	738.3	699.5	38.80	19.030	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program:		150-r.5 MWD						Rule Assigned:					Offset Well Error:	0.0 usft
Measured Depth	Reference	Offset	Semi Major Axis		Highside Toolface	Offset Wellbore Centre		Distance			Separation Factor	Warning		
Depth (usft)	Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)		Offset (usft)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			No-Go Distance (usft)	
11,800.0	10,594.5	11,131.2	9,921.8	17.8	27.5	24.88	1,459.3	185.7	742.1	702.6	39.49	18.790		
11,900.0	10,594.8	11,248.8	9,920.8	18.4	29.1	25.16	1,576.7	189.9	744.7	702.6	42.07	17.701		
12,000.0	10,595.1	11,340.0	9,920.0	19.0	30.3	25.29	1,667.9	192.2	746.9	703.0	43.94	17.000		
12,100.0	10,595.4	11,444.3	9,919.1	19.6	31.8	25.51	1,772.1	195.6	749.4	703.4	45.98	16.298		
12,200.0	10,595.7	11,550.9	9,918.2	20.3	33.3	25.55	1,878.7	196.5	750.9	703.1	47.81	15.706		
12,300.0	10,595.9	11,644.4	9,917.4	20.9	34.7	25.59	1,972.2	197.4	752.5	703.3	49.14	15.314		
12,400.0	10,596.2	11,733.4	9,916.6	21.6	36.0	25.81	2,061.1	200.9	755.3	705.0	50.30	15.016		
12,500.0	10,596.5	11,825.0	9,914.9	22.3	37.3	26.08	2,152.6	205.6	759.6	708.1	51.46	14.761		
12,600.0	10,596.8	11,926.4	9,912.9	23.0	38.8	26.39	2,253.8	211.0	764.1	711.4	52.71	14.498		
12,700.0	10,597.0	12,023.7	9,910.9	23.7	40.3	26.69	2,351.0	216.5	768.8	714.9	53.89	14.267		
12,800.0	10,597.3	12,124.8	9,908.7	24.4	41.8	27.02	2,451.8	222.4	773.7	718.6	55.10	14.041		
12,900.0	10,597.6	12,243.7	9,906.3	25.2	43.6	27.23	2,570.7	226.7	777.6	721.1	56.55	13.751		
13,000.0	10,597.9	12,357.4	9,903.9	25.9	45.4	26.98	2,684.3	224.0	778.7	720.8	57.93	13.442		
13,100.0	10,598.2	12,459.6	9,901.9	26.6	46.9	26.66	2,786.3	220.1	779.1	719.9	59.15	13.172		
13,200.0	10,598.4	12,536.5	9,899.5	27.4	48.1	26.41	2,863.2	217.4	780.7	720.6	60.16	12.978		
13,300.0	10,598.7	12,647.3	9,893.6	28.1	49.8	25.90	2,973.7	212.4	783.9	722.4	61.49	12.749		
13,400.0	10,599.0	12,761.9	9,889.2	28.9	51.6	25.25	3,088.0	204.5	784.8	722.1	62.73	12.511		
13,500.0	10,599.3	12,873.3	9,887.2	29.7	53.4	24.71	3,199.1	197.2	784.0	720.1	63.95	12.259		
13,600.0	10,599.5	12,975.6	9,886.0	30.4	55.0	24.20	3,301.1	189.9	782.4	717.3	65.11	12.017		
13,700.0	10,599.8	13,069.6	9,885.0	31.2	56.5	23.75	3,394.9	183.5	781.0	714.8	66.20	11.797		
13,753.5	10,600.0	13,116.5	9,884.4	31.6	57.2	23.57	3,441.7	181.2	780.8	714.0	66.77	11.693		
13,800.0	10,600.1	13,160.7	9,883.7	32.0	57.9	23.44	3,485.9	179.4	780.9	713.6	67.29	11.604		
13,900.0	10,600.4	13,256.8	9,882.4	32.8	59.4	23.24	3,581.9	176.9	781.4	712.9	68.44	11.417		
14,000.0	10,600.7	13,352.7	9,881.1	33.6	60.9	23.13	3,677.9	175.7	782.5	712.9	69.61	11.240		
14,100.0	10,600.9	13,453.1	9,879.8	34.4	62.5	23.08	3,778.2	175.4	783.9	713.0	70.84	11.066		
14,200.0	10,601.2	13,556.8	9,878.4	35.2	64.2	22.95	3,881.9	173.9	784.9	712.9	72.08	10.890		
14,300.0	10,601.5	13,657.8	9,877.3	36.0	65.8	22.81	3,982.9	172.1	785.6	712.3	73.29	10.719		
14,400.0	10,601.8	13,760.7	9,876.3	36.8	67.4	22.66	4,085.8	170.3	786.2	711.7	74.52	10.550		
14,500.0	10,602.1	13,860.5	9,875.9	37.6	69.0	22.58	4,185.5	169.1	786.4	710.7	75.75	10.383		
14,600.0	10,602.3	13,955.9	9,875.9	38.4	70.6	22.62	4,281.0	169.6	787.0	710.0	76.99	10.222		
14,700.0	10,602.6	14,053.3	9,875.8	39.2	72.1	22.75	4,378.4	171.4	788.2	709.9	78.29	10.067		
14,800.0	10,602.9	14,151.6	9,875.5	40.0	73.7	22.87	4,476.6	173.2	789.5	709.9	79.60	9.919		
14,900.0	10,603.2	14,250.8	9,875.0	40.8	75.3	22.99	4,575.8	175.1	791.1	710.1	80.92	9.776		
15,000.0	10,603.4	14,352.3	9,874.6	41.6	76.9	23.11	4,677.2	177.0	792.5	710.3	82.26	9.635		
15,100.0	10,603.7	14,456.4	9,874.6	42.4	78.6	23.28	4,781.3	179.5	793.8	710.1	83.64	9.490		
15,200.0	10,604.0	14,572.9	9,876.5	43.2	80.5	23.47	4,897.8	181.3	793.2	708.1	85.09	9.321		
15,300.0	10,604.3	14,667.3	9,878.2	44.1	82.0	23.59	4,992.2	182.3	792.3	705.9	86.43	9.167		
15,374.5	10,604.5	14,737.9	9,879.1	44.7	83.1	23.70	5,062.8	183.4	792.2	704.7	87.44	9.059		
15,400.0	10,604.6	14,762.8	9,879.4	44.9	83.5	23.74	5,087.7	183.9	792.2	704.4	87.79	9.023		
15,500.0	10,604.8	14,863.5	9,880.6	45.7	85.1	23.93	5,188.4	186.1	792.3	703.1	89.20	8.883		
15,600.0	10,605.1	14,976.5	9,882.7	46.5	87.0	24.13	5,301.3	188.1	791.7	701.0	90.67	8.731		
15,700.0	10,605.4	15,070.5	9,885.5	47.3	88.5	24.29	5,395.2	189.2	789.9	697.8	92.06	8.581		
15,734.0	10,605.5	15,098.0	9,886.0	47.6	88.9	24.35	5,422.8	189.8	789.7	697.2	92.51	8.537		
15,800.0	10,605.7	15,157.0	9,886.7	48.2	89.9	24.49	5,481.7	191.5	790.0	696.6	93.42	8.457		
15,900.0	10,605.9	15,252.4	9,887.3	49.0	91.4	24.74	5,577.0	194.9	791.3	696.4	94.85	8.342		
16,000.0	10,606.2	15,352.2	9,887.9	49.8	93.0	25.01	5,676.8	198.7	792.7	696.4	96.33	8.229		
16,100.0	10,606.5	15,461.4	9,888.9	50.6	94.8	25.32	5,785.9	202.8	793.8	696.0	97.88	8.111		
16,200.0	10,606.8	15,570.5	9,891.2	51.5	96.6	25.60	5,894.9	205.9	793.5	694.1	99.42	7.981		
16,300.0	10,607.1	15,681.9	9,894.9	52.3	98.4	25.90	6,006.2	208.6	792.0	691.0	100.98	7.842		
16,400.0	10,607.3	15,785.1	9,899.7	53.1	100.0	26.27	6,109.3	211.7	789.4	686.8	102.55	7.698		
16,500.0	10,607.6	15,877.3	9,903.8	54.0	101.5	26.61	6,201.3	214.9	787.4	683.3	104.06	7.566		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 150-r.5 MWD													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,600.0	10,607.9	15,986.6	9,908.6	54.8	103.3	26.95	6,310.4	217.7	784.9	679.2	105.66	7.428	
16,700.0	10,608.2	16,084.2	9,912.2	55.6	104.9	27.13	6,408.0	218.5	782.4	675.2	107.15	7.302	
16,800.0	10,608.4	16,188.5	9,915.6	56.5	106.6	27.19	6,512.2	217.5	779.4	670.8	108.62	7.175	
16,900.0	10,608.7	16,288.1	9,918.7	57.3	108.2	27.23	6,611.8	216.4	776.4	666.4	110.06	7.055	
17,000.0	10,609.0	16,389.6	9,922.1	58.1	109.8	27.26	6,713.2	215.1	773.3	661.8	111.50	6.935	
17,100.0	10,609.3	16,491.7	9,925.3	59.0	111.5	27.25	6,815.3	213.2	769.9	657.0	112.94	6.817	
17,200.0	10,609.6	16,589.0	9,928.6	59.8	113.1	27.26	6,912.5	211.5	766.5	652.1	114.35	6.703	
17,300.0	10,609.8	16,688.0	9,931.9	60.6	114.7	27.32	7,011.4	210.6	763.5	647.7	115.80	6.593	
17,400.0	10,610.1	16,785.2	9,935.2	61.5	116.3	27.39	7,108.6	209.9	760.5	643.3	117.25	6.486	
17,500.0	10,610.4	16,884.6	9,938.2	62.3	117.9	27.46	7,207.9	209.3	757.9	639.2	118.72	6.384	
17,600.0	10,610.7	16,981.6	9,940.8	63.2	119.5	27.50	7,304.8	208.4	755.5	635.3	120.17	6.287	
17,700.0	10,610.9	17,080.8	9,942.9	64.0	121.1	27.49	7,404.0	207.1	753.4	631.8	121.61	6.195	
17,800.0	10,611.2	17,179.1	9,944.8	64.8	122.7	27.47	7,502.4	205.7	751.4	628.3	123.03	6.107	
17,900.0	10,611.5	17,282.9	9,946.8	65.7	124.4	27.45	7,606.1	204.2	749.3	624.8	124.48	6.019	
18,000.0	10,611.8	17,381.1	9,949.0	66.5	126.0	27.43	7,704.3	202.8	747.0	621.1	125.90	5.933	
18,100.0	10,612.1	17,480.7	9,951.3	67.4	127.7	27.45	7,803.9	201.7	744.8	617.5	127.35	5.848	
18,200.0	10,612.3	17,578.6	9,953.3	68.2	129.3	27.48	7,901.7	200.9	743.0	614.2	128.81	5.768	
18,300.0	10,612.6	17,692.3	9,957.0	69.0	131.1	27.51	8,015.4	199.5	739.8	609.5	130.34	5.676	
18,400.0	10,612.9	17,786.4	9,960.4	69.9	132.7	27.58	8,109.4	198.6	736.5	604.7	131.80	5.588	
18,500.0	10,613.2	17,882.8	9,963.3	70.7	134.2	27.66	8,205.7	198.1	734.1	600.8	133.29	5.507	
18,600.0	10,613.4	17,985.4	9,966.2	71.6	135.9	27.70	8,308.3	197.1	731.4	596.6	134.79	5.426	
18,700.0	10,613.7	18,082.1	9,969.1	72.4	137.5	27.76	8,404.9	196.3	728.8	592.5	136.26	5.348	
18,800.0	10,614.0	18,183.5	9,971.6	73.3	139.2	27.81	8,506.3	195.7	726.6	588.9	137.76	5.274	
18,900.0	10,614.3	18,290.7	9,975.4	74.1	140.9	27.91	8,613.4	195.0	723.5	584.2	139.31	5.193	
19,000.0	10,614.6	18,386.1	9,979.2	75.0	142.5	28.03	8,708.7	194.6	720.1	579.3	140.84	5.113	
19,100.0	10,614.8	18,475.2	9,981.7	75.8	143.9	28.11	8,797.8	194.4	718.0	575.6	142.31	5.045	
19,200.0	10,615.1	18,575.1	9,982.8	76.6	145.6	28.11	8,897.7	193.6	717.0	573.2	143.79	4.986	
19,300.0	10,615.4	18,681.4	9,984.2	77.5	147.3	28.01	9,003.9	191.3	715.1	569.9	145.23	4.924	
19,400.0	10,615.7	18,773.4	9,985.6	78.3	148.8	27.94	9,095.9	189.6	713.3	566.7	146.61	4.865	
19,488.1	10,615.9	18,853.6	9,986.0	79.1	150.1	27.92	9,176.1	188.9	712.8	565.0	147.84	4.822	
19,500.0	10,616.0	18,864.5	9,986.0	79.2	150.3	27.91	9,187.1	188.8	712.8	564.8	148.00	4.816	
19,600.0	10,616.2	18,980.3	9,986.6	80.0	152.2	27.85	9,302.8	187.6	712.3	562.8	149.53	4.764	
19,700.0	10,616.5	19,072.4	9,987.6	80.9	153.7	27.75	9,394.9	185.6	710.7	559.8	150.90	4.710	
19,800.0	10,616.8	19,186.0	9,988.7	81.7	155.6	27.54	9,508.4	181.9	708.7	556.4	152.30	4.653	
19,900.0	10,617.1	19,274.1	9,989.5	82.6	157.1	27.36	9,596.5	178.9	706.7	553.1	153.58	4.601	
20,000.0	10,617.3	19,367.0	9,989.5	83.4	158.6	27.21	9,689.3	176.7	706.0	551.1	154.88	4.558	
20,065.8	10,617.5	19,431.4	9,989.2	84.0	159.6	27.11	9,753.8	175.4	705.9	550.1	155.76	4.532	
20,100.0	10,617.6	19,465.0	9,988.9	84.3	160.2	27.05	9,787.4	174.7	705.9	549.7	156.22	4.519	
20,200.0	10,617.9	19,563.9	9,988.7	85.1	161.8	26.98	9,886.3	173.8	706.1	548.5	157.61	4.480	
20,300.0	10,618.2	19,661.0	9,988.3	86.0	163.4	26.95	9,983.3	173.5	706.6	547.6	159.04	4.443	
20,400.0	10,618.5	19,764.6	9,987.9	86.8	165.1	26.87	10,086.9	172.5	706.9	546.4	160.46	4.405	
20,500.0	10,618.7	19,861.6	9,987.8	87.7	166.7	26.86	10,183.9	172.2	707.2	545.4	161.89	4.369	
20,596.8	10,619.0	19,954.8	9,987.3	88.5	168.2	26.86	10,277.2	172.4	708.1	544.8	163.30	4.336 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 9H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 163-r.5 MWD													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	0.0	9.4	0.0	0.0	-45.45	182.1	-184.9	259.7				
100.0	100.0	91.3	100.7	0.5	0.8	-45.48	181.9	-185.0	259.4	257.6	1.77	146.221	
200.0	200.0	192.2	201.6	1.0	1.5	-45.60	181.2	-185.0	259.0	256.0	2.96	87.557	
300.0	300.0	292.8	302.1	1.4	1.9	-45.91	179.7	-185.5	258.2	254.6	3.64	70.950	
400.0	400.0	392.6	402.0	1.6	2.6	-46.38	177.6	-186.3	257.4	252.7	4.71	54.696	
500.0	500.0	492.6	501.9	1.9	3.6	-47.01	175.0	-187.7	256.6	250.7	5.98	42.931	
566.6	566.6	557.3	566.6	2.0	3.8	-47.45	173.4	-188.9	256.4	250.2	6.22	41.228	
600.0	600.0	588.9	598.1	2.1	3.9	-47.65	172.8	-189.5	256.5	250.1	6.34	40.439	
700.0	700.0	679.8	689.0	2.3	4.4	-47.95	173.5	-192.3	259.3	252.6	6.65	38.999	
800.0	800.0	788.4	797.6	2.5	4.5	-47.80	176.1	-194.1	262.1	255.0	7.12	36.788	
900.0	900.0	899.0	908.1	2.7	4.8	-47.12	177.3	-191.0	260.7	253.0	7.68	33.942	
1,000.0	1,000.0	999.8	1,008.8	2.9	5.0	-46.90	175.5	-187.5	257.0	248.9	8.09	31.766	
1,100.0	1,100.0	1,093.3	1,102.2	3.0	5.2	-47.49	172.0	-187.7	254.6	246.2	8.44	30.180	
1,127.9	1,127.9	1,119.0	1,127.9	3.1	5.2	-47.67	171.4	-188.2	254.5	246.0	8.52	29.877	
1,200.0	1,200.0	1,184.1	1,193.0	3.2	5.4	-48.08	170.7	-190.0	255.5	246.8	8.72	29.297	
1,300.0	1,300.0	1,281.0	1,289.8	3.5	5.6	-18.80	171.0	-194.6	257.6	248.5	9.08	28.380	
1,400.0	1,399.8	1,377.4	1,386.0	3.8	5.9	-20.27	170.1	-201.1	257.1	247.7	9.47	27.145	
1,500.0	1,499.5	1,476.0	1,484.0	4.0	6.1	-22.93	166.8	-210.9	254.9	245.0	9.84	25.893	
1,600.0	1,598.9	1,574.9	1,582.2	4.2	6.4	-6.87	162.0	-222.1	251.2	241.0	10.13	24.799	
1,676.1	1,674.5	1,651.1	1,657.8	4.3	6.6	4.35	158.1	-230.7	247.9	237.6	10.35	23.961	
1,700.0	1,698.3	1,675.1	1,681.6	4.3	6.6	3.84	157.0	-233.3	246.8	236.4	10.41	23.706	
1,800.0	1,797.6	1,775.2	1,781.0	4.5	6.9	1.72	152.2	-244.0	242.2	231.4	10.77	22.490	
1,900.0	1,897.0	1,873.9	1,878.9	4.6	7.3	-0.88	145.9	-255.4	237.9	226.7	11.15	21.330	
2,000.0	1,996.3	1,972.3	1,976.2	4.7	7.6	-3.90	138.5	-267.7	234.5	222.9	11.56	20.288	
2,100.0	2,095.6	2,072.2	2,075.0	4.9	7.9	-7.05	131.0	-280.3	231.9	219.9	11.98	19.355	
2,200.0	2,195.0	2,174.9	2,176.8	5.0	8.3	-10.33	123.0	-292.0	228.8	216.3	12.48	18.342	
2,300.0	2,294.3	2,274.2	2,275.1	5.2	8.6	-13.72	114.5	-302.8	225.8	212.8	12.99	17.388	
2,349.1	2,343.1	2,322.7	2,323.0	5.2	8.8	-15.58	109.7	-308.3	224.6	211.4	13.22	16.989	
2,400.0	2,393.7	2,374.1	2,373.7	5.2	9.0	-17.69	104.1	-314.1	223.9	210.4	13.49	16.598	
2,483.5	2,476.8	2,459.1	2,457.8	5.4	9.3	-21.18	94.4	-322.9	223.3	209.3	13.99	15.961 CC	
2,500.0	2,493.2	2,475.7	2,474.2	5.4	9.4	-21.86	92.5	-324.5	223.3	209.3	14.09	15.851 ES	
2,600.0	2,592.9	2,574.5	2,571.8	5.5	9.7	-25.85	80.6	-333.9	224.8	210.1	14.70	15.295	
2,700.0	2,692.7	2,670.5	2,666.6	5.7	10.1	-29.53	69.0	-343.7	229.6	214.3	15.31	14.994	
2,800.0	2,792.6	2,767.0	2,761.8	5.8	10.5	-32.76	57.6	-354.9	238.1	222.1	15.94	14.938	
2,900.0	2,892.6	2,864.6	2,857.9	6.0	10.9	-35.69	45.6	-366.5	249.2	232.6	16.59	15.026	
3,000.0	2,992.6	2,958.6	2,950.4	6.1	11.2	-38.10	33.8	-378.6	263.1	246.0	17.18	15.314	
3,007.4	3,000.0	2,965.4	2,957.1	6.2	11.3	-100.37	33.0	-379.6	264.3	246.9	17.46	15.143	
3,100.0	3,092.6	3,055.2	3,045.4	6.3	11.6	-101.77	23.7	-393.2	280.1	262.0	18.01	15.547	
3,200.0	3,192.6	3,161.5	3,150.1	6.4	12.1	-103.04	13.9	-408.3	296.0	277.2	18.76	15.779	
3,300.0	3,292.6	3,269.3	3,256.8	6.5	12.5	-104.08	5.4	-420.5	308.8	289.3	19.48	15.850	
3,400.0	3,392.6	3,387.0	3,374.0	6.6	13.1	-104.81	-1.1	-429.7	317.8	297.6	20.18	15.745	
3,500.0	3,492.6	3,495.3	3,482.1	6.7	13.4	-104.69	-1.6	-434.5	322.2	301.8	20.41	15.788	
3,600.0	3,592.6	3,599.9	3,586.7	6.9	13.5	-103.91	1.9	-438.4	325.0	304.3	20.70	15.702	
3,700.0	3,692.6	3,706.6	3,693.3	7.0	13.5	-103.31	5.1	-439.7	325.4	304.7	20.68	15.739	
3,800.0	3,792.6	3,806.3	3,792.9	7.1	13.4	-102.84	7.8	-440.0	325.2	304.4	20.79	15.640	
3,828.9	3,821.4	3,834.8	3,821.4	7.1	13.4	-102.70	8.5	-440.2	325.2	304.3	20.84	15.599	
3,900.0	3,892.6	3,905.5	3,892.2	7.2	13.4	-102.35	10.4	-440.7	325.2	304.3	20.95	15.522	
4,000.0	3,992.6	4,005.3	3,991.9	7.3	13.4	-101.86	13.1	-441.4	325.4	304.3	21.09	15.426	
4,100.0	4,092.6	4,106.2	4,092.7	7.4	13.4	-101.41	15.6	-442.1	325.5	304.4	21.14	15.398	
4,200.0	4,192.6	4,206.2	4,192.7	7.5	13.4	-101.15	17.1	-442.3	325.4	304.1	21.26	15.307	
4,228.0	4,220.5	4,234.0	4,220.5	7.6	13.4	-101.11	17.3	-442.3	325.4	304.1	21.31	15.268	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 9H - OWB - AWP													Offset Site Error: 0.0 usft
Survey Program: 163-r.5 MWD													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,300.0	4,292.6	4,304.8	4,291.4	7.7	13.4	-101.03	17.7	-442.5	325.5	304.0	21.49	15.145	
4,400.0	4,392.6	4,404.5	4,391.0	7.8	13.6	-100.95	18.1	-443.1	326.0	304.2	21.80	14.954	
4,500.0	4,492.6	4,504.8	4,491.3	7.9	13.7	-100.87	18.4	-443.6	326.4	304.4	22.07	14.788	
4,600.0	4,592.6	4,603.8	4,590.3	8.0	13.9	-100.79	18.8	-444.2	326.9	304.6	22.34	14.632	
4,700.0	4,692.6	4,703.5	4,690.0	8.1	14.0	-100.71	19.1	-445.0	327.7	305.0	22.66	14.462	
4,800.0	4,792.6	4,803.0	4,789.5	8.2	14.2	-100.70	19.0	-445.8	328.5	305.2	23.30	14.098	
4,900.0	4,892.6	4,900.3	4,886.8	8.3	14.5	-100.86	17.9	-446.9	329.9	306.1	23.80	13.862	
5,000.0	4,992.6	5,000.6	4,987.1	8.4	14.7	-101.10	16.2	-448.3	331.6	307.4	24.17	13.719	
5,100.0	5,092.6	5,100.9	5,087.4	8.5	14.9	-101.37	14.3	-449.6	333.2	308.7	24.52	13.588	
5,200.0	5,192.6	5,201.7	5,188.1	8.6	15.1	-101.67	12.3	-450.7	334.6	309.8	24.84	13.470	
5,300.0	5,292.6	5,303.3	5,289.8	8.7	15.4	-101.84	11.1	-451.6	335.7	310.8	24.90	13.483	
5,400.0	5,392.6	5,404.0	5,390.4	8.8	15.5	-101.83	11.0	-452.2	336.3	311.4	24.97	13.471	
5,500.0	5,492.6	5,503.0	5,489.4	8.9	15.7	-101.80	11.1	-453.1	337.2	311.9	25.31	13.322	
5,600.0	5,592.6	5,602.6	5,589.0	9.0	16.0	-101.80	10.9	-454.0	338.1	312.4	25.68	13.167	
5,700.0	5,692.6	5,701.8	5,688.2	9.2	16.2	-101.79	10.6	-455.1	339.3	313.3	26.05	13.027	
5,800.0	5,792.6	5,801.8	5,788.2	9.3	16.4	-101.81	10.3	-456.4	340.6	314.2	26.43	12.888	
5,900.0	5,892.6	5,901.1	5,887.5	9.4	16.7	-101.83	9.9	-457.7	342.0	315.2	26.80	12.760	
6,000.0	5,992.6	6,000.5	5,986.9	9.5	16.9	-101.86	9.4	-459.2	343.6	316.3	27.23	12.618	
6,100.0	6,092.6	6,100.6	6,086.9	9.6	17.2	-101.93	8.7	-460.7	345.2	317.6	27.64	12.490	
6,200.0	6,192.6	6,199.9	6,186.3	9.7	17.4	-101.99	7.9	-462.3	346.9	318.9	27.99	12.395	
6,300.0	6,292.6	6,300.2	6,286.5	9.8	17.7	-102.06	7.1	-464.0	348.7	320.3	28.43	12.267	
6,400.0	6,392.6	6,400.0	6,386.3	9.9	17.9	-102.18	6.0	-465.5	350.5	321.5	28.94	12.110	
6,500.0	6,492.6	6,503.3	6,489.6	10.0	18.2	-102.29	5.1	-466.8	351.8	322.7	29.10	12.092	
6,600.0	6,592.6	6,611.0	6,597.3	10.1	18.2	-102.27	5.3	-466.3	351.4	322.5	28.89	12.163	
6,700.0	6,692.6	6,711.3	6,697.6	10.2	18.0	-102.26	5.7	-465.0	350.0	321.1	28.86	12.129	
6,800.0	6,792.6	6,810.9	6,797.2	10.3	17.8	-102.28	5.8	-463.6	348.6	319.9	28.74	12.131	
6,900.0	6,892.6	6,910.3	6,896.6	10.4	17.7	-102.34	5.8	-462.3	347.3	318.7	28.63	12.130	
7,000.0	6,992.6	7,009.0	6,995.3	10.5	17.6	-102.36	5.8	-461.3	346.4	317.9	28.52	12.144	
7,100.0	7,092.6	7,107.7	7,094.0	10.6	17.5	-102.36	6.0	-460.7	345.7	317.2	28.48	12.137	
7,149.0	7,141.5	7,155.3	7,141.5	10.6	17.5	-102.36	6.0	-460.6	345.6	317.1	28.51	12.122	
7,200.0	7,192.6	7,205.5	7,191.7	10.7	17.5	-102.36	6.0	-460.7	345.7	316.9	28.73	12.033	
7,300.0	7,292.6	7,304.6	7,290.8	10.8	17.7	-102.41	5.6	-461.0	346.1	316.8	29.29	11.815	
7,400.0	7,392.6	7,404.2	7,390.5	10.9	17.9	-102.48	5.1	-461.4	346.6	317.1	29.55	11.732	
7,500.0	7,492.6	7,503.7	7,489.9	10.9	18.1	-102.55	4.5	-462.0	347.3	317.5	29.76	11.669	
7,600.0	7,592.6	7,603.0	7,589.3	11.0	18.3	-102.62	3.9	-462.7	348.1	318.0	30.12	11.558	
7,700.0	7,692.6	7,701.1	7,687.3	11.1	18.5	-102.73	3.0	-463.7	349.3	318.9	30.41	11.486	
7,800.0	7,792.6	7,798.7	7,784.9	11.2	18.7	-102.86	1.9	-465.2	351.1	320.4	30.70	11.437	
7,900.0	7,892.6	7,897.0	7,883.2	11.3	19.0	-103.02	0.4	-467.4	353.6	322.4	31.14	11.354	
8,000.0	7,992.6	7,997.0	7,983.2	11.4	19.3	-103.24	-1.6	-469.7	356.3	324.7	31.54	11.294	
8,100.0	8,092.6	8,098.0	8,084.1	11.5	19.5	-103.48	-3.6	-471.8	358.8	326.8	32.01	11.208	
8,200.0	8,192.6	8,196.2	8,182.3	11.6	19.8	-103.76	-5.9	-473.8	361.3	328.9	32.37	11.161	
8,300.0	8,292.6	8,294.1	8,280.1	11.7	20.1	-104.05	-8.4	-476.3	364.4	331.7	32.72	11.140	
8,400.0	8,392.6	8,392.7	8,378.6	11.8	20.4	-104.30	-10.8	-479.4	368.1	335.0	33.06	11.132	
8,500.0	8,492.6	8,493.2	8,479.0	11.9	20.7	-104.50	-13.0	-482.7	371.8	338.3	33.46	11.111	
8,600.0	8,592.6	8,595.5	8,581.2	12.0	21.0	-104.69	-15.1	-485.7	375.1	341.2	33.90	11.067	
8,700.0	8,692.6	8,697.7	8,683.4	12.1	21.3	-104.81	-16.5	-488.2	377.8	343.7	34.16	11.060	
8,800.0	8,792.6	8,807.0	8,792.7	12.2	21.4	-104.78	-16.8	-489.6	379.2	344.9	34.25	11.071	
8,900.0	8,892.6	8,909.3	8,895.0	12.3	21.3	-104.75	-16.4	-489.2	378.7	344.6	34.12	11.100	
9,000.0	8,992.6	9,008.2	8,993.9	12.4	21.2	-104.73	-16.1	-488.8	378.2	344.2	34.02	11.118	
9,100.0	9,092.6	9,112.8	9,098.5	12.5	21.3	-104.56	-15.0	-488.5	377.7	343.8	33.86	11.153	
9,200.0	9,192.6	9,229.7	9,214.2	12.6	21.4	-102.27	0.6	-488.0	374.1	339.9	34.25	10.924	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 9H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 163-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,300.0	9,292.6	9,347.7	9,325.6	12.7	21.4	-96.50	38.7	-485.7	366.5	332.6	33.90	10.811	
9,400.0	9,392.6	9,433.5	9,399.9	12.8	21.4	-89.79	81.3	-483.2	360.3	326.7	33.59	10.727	
9,419.9	9,412.5	9,449.0	9,412.5	12.8	21.4	-88.35	90.4	-483.0	360.1	326.6	33.52	10.744	
9,500.0	9,492.6	9,504.6	9,455.2	12.9	21.4	-82.71	126.0	-482.2	364.1	330.7	33.34	10.919	
9,600.0	9,592.6	9,561.8	9,495.0	12.9	21.4	-76.36	167.1	-481.8	381.9	348.4	33.52	11.393	
9,700.0	9,692.6	9,610.1	9,525.9	13.0	21.4	-70.95	204.0	-482.2	414.9	380.8	34.11	12.163	
9,800.0	9,792.6	9,653.0	9,551.7	13.1	21.5	-66.27	238.4	-483.2	461.3	426.4	34.93	13.208	
9,900.0	9,892.6	9,690.5	9,572.3	13.2	21.5	-62.28	269.7	-484.0	518.5	482.7	35.84	14.467	
10,000.0	9,992.6	9,732.0	9,592.9	13.3	21.6	-58.03	305.7	-484.6	584.3	547.7	36.66	15.940	
10,100.0	10,092.6	9,732.0	9,592.9	13.4	21.6	-58.03	305.7	-484.6	656.8	619.2	37.57	17.484	
10,121.9	10,114.5	9,732.0	9,592.9	13.4	21.6	-58.03	305.7	-484.6	673.6	635.9	37.73	17.852	
10,125.0	10,117.6	9,732.0	9,592.9	13.4	21.6	-57.51	305.7	-484.6	676.0	638.2	37.85	17.859	
10,150.0	10,142.5	9,758.7	9,604.8	13.4	21.6	-52.15	329.6	-484.9	694.3	656.3	37.94	18.299	
10,175.0	10,167.4	9,764.8	9,607.4	13.4	21.7	-49.05	335.1	-485.0	712.9	674.9	38.09	18.719	
10,200.0	10,192.2	9,771.2	9,610.0	13.5	21.7	-46.18	341.0	-485.1	731.3	693.1	38.22	19.133	
10,225.0	10,216.8	9,778.0	9,612.8	13.5	21.7	-43.55	347.2	-485.2	749.4	711.0	38.34	19.545	
10,250.0	10,241.0	9,785.0	9,615.5	13.5	21.7	-41.14	353.6	-485.3	767.0	728.6	38.43	19.959	
10,275.0	10,264.9	9,792.3	9,618.3	13.5	21.7	-38.95	360.4	-485.4	784.2	745.7	38.48	20.382	
10,300.0	10,288.5	9,799.8	9,621.1	13.5	21.7	-36.95	367.4	-485.5	801.0	762.5	38.46	20.826	
10,325.0	10,311.5	9,827.0	9,630.4	13.5	21.8	-34.45	392.9	-486.0	817.7	779.6	38.12	21.452	
10,350.0	10,334.0	9,827.0	9,630.4	13.5	21.8	-33.15	392.9	-486.0	833.1	795.1	37.92	21.969	
10,375.0	10,355.9	9,827.0	9,630.4	13.6	21.8	-31.95	392.9	-486.0	848.0	810.4	37.67	22.514	
10,400.0	10,377.1	9,827.0	9,630.4	13.6	21.8	-30.83	392.9	-486.0	862.6	825.0	37.54	22.975	
10,425.0	10,397.6	9,827.0	9,630.4	13.6	21.8	-29.79	392.9	-486.0	876.7	838.9	37.79	23.201	
10,450.0	10,417.3	9,827.0	9,630.4	13.6	21.8	-28.84	392.9	-486.0	890.3	852.0	38.34	23.220	
10,475.0	10,436.3	9,861.0	9,640.5	13.6	21.9	-27.40	425.3	-486.6	902.1	863.7	38.44	23.466	
10,500.0	10,454.3	9,870.7	9,643.1	13.7	22.0	-26.52	434.7	-486.7	913.9	874.9	39.05	23.403	
10,525.0	10,471.4	9,880.7	9,645.6	13.7	22.0	-25.73	444.3	-486.9	925.0	885.4	39.55	23.386	
10,550.0	10,487.5	9,890.7	9,648.0	13.7	22.0	-25.02	454.0	-487.0	935.3	895.3	39.96	23.408	
10,575.0	10,502.6	9,921.0	9,654.4	13.7	22.1	-24.19	483.7	-487.3	945.3	905.1	40.23	23.499	
10,600.0	10,516.6	9,921.0	9,654.4	13.7	22.1	-23.75	483.7	-487.3	953.7	913.1	40.55	23.518	
10,625.0	10,529.5	9,921.0	9,654.4	13.7	22.1	-23.36	483.7	-487.3	961.5	920.7	40.81	23.563	
10,650.0	10,541.3	9,938.9	9,657.6	13.8	22.2	-22.89	501.3	-487.5	968.6	927.7	40.94	23.660	
10,675.0	10,551.9	9,956.4	9,660.7	13.8	22.3	-22.50	518.5	-487.7	974.7	933.6	41.06	23.738	
10,700.0	10,561.3	9,974.0	9,663.7	13.8	22.4	-22.19	535.8	-487.9	979.7	938.5	41.17	23.796	
10,725.0	10,569.5	9,991.7	9,666.6	13.8	22.5	-21.95	553.3	-488.1	983.8	942.5	41.27	23.836	
10,750.0	10,576.5	10,016.0	9,670.3	13.8	22.6	-21.76	577.3	-488.5	986.8	945.5	41.34	23.868	
10,775.0	10,582.2	10,016.0	9,670.3	13.8	22.6	-21.67	577.3	-488.5	988.8	947.4	41.47	23.843	
10,800.0	10,586.6	10,016.0	9,670.3	13.9	22.6	-21.61	577.3	-488.5	990.3	948.7	41.58	23.818	
10,825.0	10,589.7	10,047.5	9,674.4	13.9	22.8	-21.60	608.6	-488.7	990.1	948.4	41.74	23.723	
10,850.0	10,591.5	10,059.5	9,675.5	13.9	22.8	-21.63	620.5	-488.7	989.5	947.6	41.84	23.647	
10,870.6	10,592.0	10,069.3	9,676.4	13.9	22.9	-21.69	630.3	-488.6	988.3	946.3	41.92	23.575	
10,900.0	10,592.0	10,083.3	9,677.3	13.9	23.0	-21.70	644.3	-488.4	986.3	944.3	42.00	23.484	
11,000.0	10,592.3	10,134.7	9,678.5	14.1	23.3	-21.63	695.6	-486.9	983.1	940.9	42.17	23.314	
11,036.4	10,592.4	10,162.7	9,678.3	14.3	23.5	-21.57	723.6	-486.0	983.0	940.8	42.16	23.315	
11,100.0	10,592.6	10,221.5	9,677.6	14.5	23.9	-21.47	782.3	-484.5	983.2	941.1	42.10	23.355	
11,200.0	10,592.9	10,319.0	9,678.0	14.8	24.8	-21.58	879.8	-486.7	983.8	941.9	41.96	23.448	
11,300.0	10,593.2	10,423.5	9,679.6	15.3	25.7	-21.90	984.1	-492.4	984.6	942.6	41.98	23.456	
11,400.0	10,593.4	10,546.2	9,681.6	15.7	26.9	-22.02	1,106.8	-494.3	983.8	941.4	42.37	23.218	
11,500.0	10,593.7	10,658.9	9,684.0	16.2	28.0	-21.89	1,219.4	-491.2	981.0	938.0	43.02	22.806	
11,600.0	10,594.0	10,751.2	9,685.6	16.7	29.0	-21.71	1,311.7	-487.6	978.1	934.3	43.71	22.378	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 9H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 163-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
11,700.0	10,594.3	10,855.8	9,687.1	17.2	30.1	-21.49	1,416.2	-483.3	975.4	930.8	44.67	21.838	
11,800.0	10,594.5	10,952.0	9,688.2	17.8	31.2	-21.24	1,512.2	-478.8	972.8	927.1	45.67	21.299	
11,900.0	10,594.8	11,047.0	9,688.8	18.4	32.4	-20.95	1,607.1	-473.6	970.4	923.8	46.69	20.786	
12,000.0	10,595.1	11,141.0	9,688.9	19.0	33.5	-20.66	1,700.9	-468.7	968.6	920.9	47.70	20.308	
12,100.0	10,595.4	11,242.2	9,688.8	19.6	34.8	-20.37	1,802.0	-463.8	967.2	918.5	48.77	19.833	
12,200.0	10,595.7	11,342.9	9,689.5	20.3	36.1	-20.15	1,902.7	-460.0	965.5	915.7	49.82	19.378	
12,272.1	10,595.9	11,399.6	9,689.3	20.8	36.9	-20.02	1,959.3	-457.9	964.9	914.4	50.48	19.116	
12,300.0	10,595.9	11,425.0	9,688.9	20.9	37.2	-19.95	1,984.7	-456.9	965.0	914.2	50.75	19.014	
12,400.0	10,596.2	11,514.5	9,686.8	21.6	38.4	-19.71	2,074.1	-453.5	966.0	914.3	51.72	18.677	
12,500.0	10,596.5	11,614.0	9,684.9	22.3	39.8	-19.51	2,173.5	-451.0	967.1	914.4	52.75	18.334	
12,600.0	10,596.8	11,708.0	9,682.4	23.0	41.1	-19.27	2,267.4	-447.9	968.8	915.0	53.80	18.007	
12,700.0	10,597.0	11,822.1	9,679.2	23.7	42.7	-18.89	2,381.4	-442.7	970.2	915.2	54.91	17.667	
12,800.0	10,597.3	11,918.5	9,677.5	24.4	44.1	-18.67	2,477.7	-439.6	970.9	915.0	55.92	17.364	
12,900.0	10,597.6	12,014.3	9,676.1	25.2	45.5	-18.57	2,573.5	-438.6	972.2	915.3	56.94	17.075	
13,000.0	10,597.9	12,118.1	9,674.7	25.9	47.0	-18.49	2,677.3	-438.0	973.5	915.4	58.03	16.776	
13,100.0	10,598.2	12,210.5	9,673.5	26.6	48.4	-18.39	2,769.6	-436.9	974.5	915.5	59.06	16.501	
13,200.0	10,598.4	12,293.2	9,670.5	27.4	49.6	-18.24	2,852.3	-435.4	977.6	917.5	60.04	16.282	
13,300.0	10,598.7	12,414.8	9,667.6	28.1	51.4	-18.11	2,973.8	-434.5	979.7	918.5	61.23	16.000	
13,400.0	10,599.0	12,546.3	9,668.0	28.9	53.4	-18.17	3,105.3	-435.9	980.1	917.6	62.51	15.679	
13,500.0	10,599.3	12,647.3	9,670.8	29.7	55.0	-18.28	3,206.2	-437.2	978.0	914.4	63.65	15.365	
13,600.0	10,599.5	12,728.8	9,672.5	30.4	56.2	-18.39	3,287.7	-438.8	977.0	912.2	64.73	15.094	
13,700.0	10,599.8	12,876.2	9,677.7	31.2	58.5	-18.75	3,434.9	-444.0	975.1	908.9	66.17	14.735	
13,800.0	10,600.1	12,958.2	9,683.3	32.0	59.7	-19.06	3,516.6	-448.1	970.6	903.2	67.35	14.411	
13,900.0	10,600.4	13,031.0	9,685.4	32.8	60.9	-19.27	3,589.3	-451.4	969.3	900.9	68.48	14.155	
13,904.4	10,600.4	13,031.0	9,685.4	32.8	60.9	-19.27	3,589.3	-451.4	969.3	900.8	68.51	14.148	
14,000.0	10,600.7	13,109.6	9,685.6	33.6	62.1	-19.46	3,667.8	-454.9	970.7	901.0	69.60	13.946	
14,100.0	10,600.9	13,219.0	9,686.0	34.4	63.8	-19.70	3,777.1	-459.4	971.8	900.9	70.91	13.704	
14,200.0	10,601.2	13,294.4	9,685.9	35.2	65.0	-19.85	3,852.5	-462.4	973.6	901.6	72.04	13.514	
14,300.0	10,601.5	13,394.5	9,683.8	36.0	66.6	-20.09	3,952.4	-467.9	977.7	904.3	73.34	13.330	
14,400.0	10,601.8	13,505.8	9,683.8	36.8	68.3	-20.55	4,063.3	-476.7	980.6	905.9	74.77	13.115	
14,500.0	10,602.1	13,617.1	9,684.4	37.6	70.1	-20.92	4,174.4	-483.7	982.5	906.3	76.18	12.898	
14,600.0	10,602.3	13,728.5	9,684.8	38.4	71.9	-21.09	4,285.8	-486.9	983.4	905.8	77.53	12.683	
14,700.0	10,602.6	13,843.8	9,686.4	39.2	73.7	-21.16	4,401.1	-488.1	982.6	903.7	78.90	12.454	
14,800.0	10,602.9	13,932.6	9,687.1	40.0	75.1	-21.07	4,489.9	-486.4	981.4	901.3	80.09	12.254	
14,812.2	10,602.9	13,942.1	9,687.1	40.1	75.3	-21.05	4,499.4	-486.1	981.4	901.1	80.22	12.233	
14,900.0	10,603.2	14,041.7	9,686.5	40.8	76.8	-20.92	4,598.9	-484.3	981.5	900.2	81.34	12.067	
15,000.0	10,603.4	14,158.2	9,689.2	41.6	78.7	-20.91	4,715.4	-483.5	979.2	896.5	82.68	11.843	
15,100.0	10,603.7	14,255.5	9,691.6	42.4	80.2	-20.84	4,812.6	-481.7	976.4	892.5	83.91	11.636	
15,200.0	10,604.0	14,353.0	9,693.7	43.2	81.8	-20.79	4,910.1	-480.2	974.0	888.9	85.15	11.439	
15,300.0	10,604.3	14,443.3	9,695.3	44.1	83.2	-20.76	5,000.4	-479.4	972.3	885.9	86.38	11.255	
15,400.0	10,604.6	14,548.5	9,696.7	44.9	84.9	-20.69	5,105.6	-477.9	970.6	883.0	87.66	11.072	
15,500.0	10,604.8	14,647.3	9,698.3	45.7	86.4	-20.60	5,204.3	-476.1	968.7	879.8	88.91	10.895	
15,600.0	10,605.1	14,732.0	9,698.5	46.5	87.8	-20.51	5,289.0	-474.7	968.0	877.9	90.10	10.743	
15,604.4	10,605.1	14,732.0	9,698.5	46.6	87.8	-20.51	5,289.0	-474.7	968.0	877.8	90.14	10.739	
15,700.0	10,605.4	14,826.0	9,697.9	47.3	89.3	-20.38	5,383.0	-472.8	968.1	876.8	91.31	10.602	
15,800.0	10,605.7	14,921.0	9,696.9	48.2	90.8	-20.26	5,478.0	-471.4	968.7	876.1	92.52	10.470	
15,900.0	10,605.9	15,032.2	9,696.1	49.0	92.6	-20.18	5,589.2	-470.6	969.4	875.5	93.83	10.332	
16,000.0	10,606.2	15,151.8	9,698.2	49.8	94.5	-20.21	5,708.7	-470.9	967.9	872.7	95.22	10.165	
16,100.0	10,606.5	15,259.2	9,700.7	50.6	96.2	-20.14	5,816.0	-469.0	965.3	868.8	96.52	10.001	
16,200.0	10,606.8	15,356.2	9,703.2	51.5	97.8	-20.04	5,913.0	-466.7	962.3	864.5	97.76	9.843	
16,300.0	10,607.1	15,450.9	9,705.2	52.3	99.3	-20.00	6,007.7	-465.4	959.9	860.9	99.04	9.693	

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

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Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 9H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 163-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,400.0	10,607.3	15,545.6	9,706.7	53.1	100.8	-19.91	6,102.4	-463.6	958.0	857.8	100.28	9.553	
16,500.0	10,607.6	15,648.6	9,707.9	54.0	102.5	-19.81	6,205.4	-461.9	956.5	855.0	101.55	9.419	
16,600.0	10,607.9	15,747.5	9,709.7	54.8	104.1	-19.75	6,304.2	-460.4	954.5	851.7	102.83	9.282	
16,700.0	10,608.2	15,852.2	9,710.9	55.6	105.8	-19.57	6,408.9	-457.3	952.6	848.6	104.06	9.154	
16,800.0	10,608.4	15,951.9	9,712.0	56.5	107.4	-19.33	6,508.5	-452.9	950.3	845.1	105.24	9.030	
16,900.0	10,608.7	16,056.6	9,713.4	57.3	109.1	-19.10	6,613.1	-448.7	947.9	841.5	106.39	8.909	
17,000.0	10,609.0	16,155.8	9,715.7	58.1	110.7	-19.01	6,712.2	-446.6	945.2	837.5	107.64	8.781	
17,100.0	10,609.3	16,255.5	9,718.1	59.0	112.3	-18.92	6,811.9	-444.7	942.5	833.6	108.91	8.654	
17,200.0	10,609.6	16,347.1	9,719.3	59.8	113.7	-18.77	6,903.5	-441.9	940.4	830.3	110.12	8.540	
17,300.0	10,609.8	16,457.2	9,721.4	60.6	115.5	-18.60	7,013.5	-438.6	937.8	826.5	111.33	8.424	
17,400.0	10,610.1	16,546.5	9,723.1	61.5	117.0	-18.54	7,102.7	-437.3	935.7	823.1	112.58	8.311	
17,500.0	10,610.4	16,644.8	9,725.0	62.3	118.6	-18.57	7,200.9	-437.5	934.2	820.2	113.92	8.200	
17,600.0	10,610.7	16,744.2	9,727.3	63.2	120.2	-18.69	7,300.3	-439.1	932.7	817.3	115.34	8.086	
17,700.0	10,610.9	16,840.9	9,729.2	64.0	121.7	-18.80	7,397.0	-440.7	931.4	814.7	116.76	7.978	
17,800.0	10,611.2	16,940.6	9,730.9	64.8	123.4	-18.90	7,496.7	-442.1	930.5	812.3	118.17	7.874	
17,900.0	10,611.5	17,045.6	9,733.1	65.7	125.1	-19.01	7,601.7	-443.8	929.2	809.6	119.62	7.768	
18,000.0	10,611.8	17,157.4	9,736.1	66.5	126.9	-19.10	7,713.5	-444.6	927.2	806.1	121.05	7.659	
18,100.0	10,612.1	17,255.6	9,739.6	67.4	128.5	-19.19	7,811.5	-445.2	924.2	801.7	122.47	7.546	
18,200.0	10,612.3	17,345.2	9,742.3	68.2	130.0	-19.31	7,901.1	-446.7	922.1	798.2	123.90	7.442	
18,300.0	10,612.6	17,457.1	9,745.3	69.0	131.8	-19.48	8,012.9	-448.8	920.4	795.0	125.42	7.339	
18,400.0	10,612.9	17,554.3	9,748.8	69.9	133.4	-19.58	8,110.1	-449.7	917.5	790.7	126.86	7.233	
18,500.0	10,613.2	17,645.4	9,751.4	70.7	134.8	-19.71	8,201.1	-451.2	915.5	787.2	128.32	7.135	
18,600.0	10,613.4	17,752.2	9,754.7	71.6	136.6	-19.94	8,307.8	-454.3	913.8	783.9	129.89	7.035	
18,700.0	10,613.7	17,854.4	9,758.4	72.4	138.3	-20.13	8,409.9	-456.6	911.4	779.9	131.43	6.934	
18,800.0	10,614.0	17,958.0	9,762.5	73.3	140.0	-20.33	8,513.4	-458.8	908.5	775.5	132.99	6.831	
18,900.0	10,614.3	18,040.0	9,765.1	74.1	141.3	-20.47	8,595.4	-460.4	906.5	772.0	134.45	6.742	
19,000.0	10,614.6	18,134.0	9,766.2	75.0	142.8	-20.56	8,689.3	-461.9	906.1	770.2	135.89	6.668	
19,004.4	10,614.6	18,134.0	9,766.2	75.0	142.8	-20.56	8,689.3	-461.9	906.1	770.2	135.94	6.665	
19,100.0	10,614.8	18,226.7	9,766.3	75.8	144.3	-20.63	8,782.0	-463.4	906.6	769.3	137.32	6.603	
19,200.0	10,615.1	18,339.2	9,767.6	76.6	146.2	-20.74	8,894.5	-465.1	906.3	767.4	138.84	6.527	
19,253.9	10,615.3	18,385.6	9,768.2	77.1	146.9	-20.78	8,940.9	-465.8	906.0	766.4	139.60	6.490	
19,300.0	10,615.4	18,427.7	9,768.4	77.5	147.6	-20.82	8,983.0	-466.5	906.2	765.9	140.26	6.461	
19,400.0	10,615.7	18,559.0	9,770.9	78.3	149.8	-21.04	9,114.2	-469.7	905.7	763.7	141.95	6.380	
19,500.0	10,616.0	18,684.4	9,777.8	79.2	151.8	-21.15	9,239.5	-469.4	900.4	756.9	143.47	6.276	
19,600.0	10,616.2	18,764.9	9,781.0	80.0	153.1	-21.01	9,319.8	-466.1	895.4	750.7	144.78	6.185	
19,700.0	10,616.5	18,846.9	9,781.4	80.9	154.5	-20.70	9,401.7	-461.0	892.9	747.1	145.84	6.123	
19,800.0	10,616.8	18,940.3	9,781.5	81.7	156.0	-20.51	9,494.9	-458.1	891.9	744.9	146.98	6.068	
19,900.0	10,617.1	19,048.4	9,783.2	82.6	157.8	-20.54	9,603.0	-458.3	890.7	742.3	148.41	6.002	
20,000.0	10,617.3	19,173.0	9,788.0	83.4	159.8	-20.71	9,727.5	-459.8	887.7	737.7	149.99	5.918	
20,100.0	10,617.6	19,263.9	9,791.7	84.3	161.3	-20.71	9,818.4	-458.7	883.6	732.2	151.40	5.836	
20,200.0	10,617.9	19,350.8	9,794.0	85.1	162.7	-20.66	9,905.2	-457.3	880.8	728.1	152.72	5.767	
20,300.0	10,618.2	19,452.3	9,796.4	86.0	164.3	-20.70	10,006.7	-457.4	878.8	724.6	154.15	5.701	
20,400.0	10,618.5	19,576.8	9,801.9	86.8	166.4	-20.80	10,131.1	-457.3	874.7	719.0	155.66	5.619	
20,500.0	10,618.7	19,667.0	9,806.0	87.7	167.9	-20.80	10,221.2	-456.1	870.2	713.1	157.07	5.540	
20,596.8	10,619.0	19,756.1	9,809.2	88.5	169.3	-20.82	10,310.2	-455.6	866.9	708.5	158.44	5.472 SF	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 501H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7959-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Distance	Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.23	-0.2	-49.9	49.9				
100.0	100.0	100.0	100.0	0.5	0.5	-90.23	-0.2	-49.9	49.9	48.4	1.48	33.615	
200.0	200.0	200.0	200.0	1.0	1.0	-90.23	-0.2	-49.9	49.9	47.4	2.47	20.225	
300.0	300.0	300.0	300.0	1.4	1.4	-90.23	-0.2	-49.9	49.9	46.8	3.11	16.071	
400.0	400.0	400.0	400.0	1.6	1.6	-90.23	-0.2	-49.9	49.9	46.3	3.62	13.802	
500.0	500.0	500.0	500.0	1.9	1.9	-90.23	-0.2	-49.9	49.9	45.9	4.05	12.309	
600.0	600.0	600.0	600.0	2.1	2.1	-90.23	-0.2	-49.9	49.9	45.5	4.44	11.228	
700.0	700.0	700.0	700.0	2.3	2.3	-90.23	-0.2	-49.9	49.9	45.1	4.80	10.398	
800.0	800.0	800.0	800.0	2.5	2.5	-90.23	-0.2	-49.9	49.9	44.8	5.13	9.732	
900.0	900.0	900.0	900.0	2.7	2.7	-90.23	-0.2	-49.9	49.9	44.5	5.43	9.184	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	-90.23	-0.2	-49.9	49.9	44.2	5.72	8.721	
1,100.0	1,100.0	1,100.0	1,100.0	3.0	3.2	-90.23	-0.2	-49.9	49.9	43.8	6.14	8.132	
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.4	-90.23	-0.2	-49.9	49.9	43.4	6.51	7.668 CC, ES	
1,300.0	1,300.0	1,298.3	1,298.3	3.5	3.6	-62.22	-0.5	-51.6	50.8	43.7	7.03	7.220	
1,400.0	1,399.8	1,396.3	1,396.2	3.8	3.9	-67.75	-1.4	-56.5	53.7	46.2	7.50	7.155 SF	
1,500.0	1,499.5	1,493.9	1,493.4	4.0	4.2	-75.56	-2.8	-64.7	59.5	51.6	7.93	7.503	
1,600.0	1,598.9	1,591.1	1,589.9	4.2	4.5	-63.53	-4.8	-76.2	67.7	59.3	8.43	8.033	
1,676.1	1,674.5	1,665.1	1,663.0	4.3	4.7	-53.92	-6.7	-87.0	74.4	65.6	8.72	8.531	
1,700.0	1,698.3	1,688.2	1,685.9	4.3	4.8	-54.72	-7.4	-90.8	76.6	67.8	8.79	8.713	
1,800.0	1,797.6	1,787.4	1,783.5	4.5	5.0	-57.53	-10.4	-107.7	86.7	77.6	9.10	9.532	
1,900.0	1,897.0	1,886.8	1,881.4	4.6	5.1	-59.75	-13.4	-124.7	97.0	87.6	9.38	10.342	
2,000.0	1,996.3	1,986.2	1,979.3	4.7	5.3	-61.54	-16.4	-141.7	107.5	97.8	9.67	11.116	
2,100.0	2,095.6	2,085.6	2,077.2	4.9	5.5	-63.01	-19.4	-158.7	118.0	108.0	9.94	11.873	
2,200.0	2,195.0	2,185.0	2,175.1	5.0	5.7	-64.24	-22.4	-175.7	128.6	118.3	10.29	12.494	
2,300.0	2,294.3	2,284.4	2,273.0	5.2	5.9	-65.29	-25.4	-192.7	139.2	128.6	10.64	13.083	
2,349.1	2,343.1	2,333.1	2,321.0	5.2	6.0	-65.74	-26.8	-201.0	144.4	133.7	10.77	13.409	
2,400.0	2,393.7	2,383.8	2,370.8	5.2	6.1	-66.15	-28.4	-209.7	150.0	139.1	10.91	13.747	
2,500.0	2,493.2	2,483.1	2,468.7	5.4	6.2	-66.46	-31.4	-226.7	161.4	150.1	11.26	14.333	
2,600.0	2,592.9	2,582.4	2,566.4	5.5	6.4	-66.21	-34.4	-243.7	173.5	161.9	11.61	14.946	
2,700.0	2,692.7	2,681.5	2,664.1	5.7	6.6	-65.53	-37.4	-260.6	186.3	174.3	11.95	15.585	
2,800.0	2,792.6	2,780.5	2,761.6	5.8	6.8	-64.49	-40.3	-277.5	199.9	187.6	12.30	16.254	
2,900.0	2,892.6	2,879.3	2,858.9	6.0	7.0	-63.19	-43.3	-294.4	214.3	201.7	12.64	16.954	
3,000.0	2,992.6	2,977.9	2,956.0	6.1	7.2	-61.70	-46.3	-311.3	229.7	216.7	12.99	17.680	
3,007.4	3,000.0	2,985.3	2,963.2	6.2	7.2	-123.72	-46.5	-312.6	230.9	217.8	13.03	17.721	
3,100.0	3,092.6	3,074.0	3,050.5	6.3	7.4	-122.16	-49.0	-328.2	246.0	232.7	13.30	18.499	
3,200.0	3,192.6	3,167.3	3,141.9	6.4	7.6	-120.22	-50.4	-346.9	264.1	250.4	13.64	19.363	
3,300.0	3,292.6	3,259.4	3,231.5	6.5	7.8	-118.05	-50.6	-368.1	284.4	270.4	13.95	20.387	
3,400.0	3,392.6	3,355.9	3,325.0	6.6	7.9	-115.80	-50.0	-391.9	306.2	292.0	14.27	21.467	
3,500.0	3,492.6	3,452.8	3,418.9	6.7	8.1	-113.84	-49.4	-415.8	328.5	313.9	14.61	22.484	
3,600.0	3,592.6	3,549.7	3,512.8	6.9	8.3	-112.13	-48.8	-439.7	351.0	336.1	14.95	23.478	
3,700.0	3,692.6	3,646.6	3,606.8	7.0	8.5	-110.62	-48.2	-463.6	373.9	358.6	15.29	24.446	
3,800.0	3,792.6	3,743.5	3,700.7	7.1	8.7	-109.29	-47.6	-487.5	396.9	381.3	15.63	25.387	
3,900.0	3,892.6	3,840.4	3,794.6	7.2	8.9	-108.10	-46.9	-511.4	420.2	404.2	15.97	26.301	
4,000.0	3,992.6	3,937.3	3,888.5	7.3	9.1	-107.04	-46.3	-535.2	443.5	427.2	16.31	27.188	
4,100.0	4,092.6	4,034.2	3,982.4	7.4	9.3	-106.08	-45.7	-559.1	467.1	450.4	16.65	28.047	
4,200.0	4,192.6	4,131.1	4,076.3	7.5	9.5	-105.22	-45.1	-583.0	490.7	473.7	16.99	28.879	
4,300.0	4,292.6	4,228.1	4,170.3	7.7	9.7	-104.43	-44.5	-606.9	514.4	497.1	17.33	29.685	
4,400.0	4,392.6	4,325.0	4,264.2	7.8	9.9	-103.71	-43.9	-630.8	538.2	520.6	17.67	30.466	
4,500.0	4,492.6	4,421.9	4,358.1	7.9	10.1	-103.05	-43.3	-654.7	562.1	544.1	18.01	31.220	
4,600.0	4,592.6	4,518.8	4,452.0	8.0	10.4	-102.45	-42.7	-678.6	586.1	567.7	18.34	31.951	
4,700.0	4,692.6	4,615.7	4,545.9	8.1	10.6	-101.90	-42.1	-702.5	610.1	591.4	18.68	32.660	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 501H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7959-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Distance	Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
4,800.0	4,792.6	4,712.6	4,639.9	8.2	10.8	-101.38	-41.5	-726.4	634.1	615.1	19.02	33.346	
4,900.0	4,892.6	4,809.5	4,733.8	8.3	11.0	-100.90	-40.8	-750.3	658.2	638.9	19.35	34.015	
5,000.0	4,992.6	4,917.2	4,838.2	8.4	11.2	-100.42	-40.2	-776.4	682.1	662.4	19.70	34.621	
5,100.0	5,092.6	5,045.3	4,963.5	8.5	11.5	-99.96	-39.5	-803.2	702.6	682.4	20.19	34.806	
5,200.0	5,192.6	5,175.7	5,092.1	8.6	11.8	-99.62	-38.9	-824.7	718.8	698.2	20.64	34.827	
5,300.0	5,292.6	5,307.8	5,223.2	8.7	12.1	-99.38	-38.5	-840.5	730.5	709.5	21.05	34.698	
5,400.0	5,392.6	5,441.1	5,356.2	8.8	12.4	-99.24	-38.3	-850.3	737.8	716.3	21.42	34.439	
5,500.0	5,492.6	5,575.0	5,490.0	8.9	12.6	-99.19	-38.2	-853.9	740.4	718.7	21.66	34.181	
5,600.0	5,592.6	5,677.6	5,592.6	9.0	12.7	-99.19	-38.2	-853.9	740.4	718.6	21.82	33.932	
5,700.0	5,692.6	5,777.6	5,692.6	9.2	12.7	-99.19	-38.2	-853.9	740.4	718.4	21.98	33.689	
5,800.0	5,792.6	5,877.6	5,792.6	9.3	12.8	-99.19	-38.2	-853.9	740.4	718.3	22.13	33.456	
5,900.0	5,892.6	5,977.6	5,892.6	9.4	12.9	-99.19	-38.2	-853.9	740.4	718.1	22.28	33.227	
6,000.0	5,992.6	6,077.6	5,992.6	9.5	12.9	-99.19	-38.2	-853.9	740.4	718.0	22.44	33.000	
6,100.0	6,092.6	6,177.6	6,092.6	9.6	13.0	-99.19	-38.2	-853.9	740.4	717.8	22.59	32.777	
6,200.0	6,192.6	6,277.6	6,192.6	9.7	13.0	-99.19	-38.2	-853.9	740.4	717.7	22.74	32.556	
6,300.0	6,292.6	6,377.6	6,292.6	9.8	13.1	-99.19	-38.2	-853.9	740.4	717.5	22.90	32.338	
6,400.0	6,392.6	6,477.6	6,392.6	9.9	13.1	-99.19	-38.2	-853.9	740.4	717.4	23.05	32.123	
6,500.0	6,492.6	6,577.6	6,492.6	10.0	13.2	-99.19	-38.2	-853.9	740.4	717.2	23.20	31.911	
6,600.0	6,592.6	6,677.6	6,592.6	10.1	13.3	-99.19	-38.2	-853.9	740.4	717.0	23.36	31.701	
6,700.0	6,692.6	6,777.6	6,692.6	10.2	13.3	-99.19	-38.2	-853.9	740.4	716.9	23.51	31.494	
6,800.0	6,792.6	6,877.6	6,792.6	10.3	13.4	-99.19	-38.2	-853.9	740.4	716.7	23.66	31.289	
6,900.0	6,892.6	6,977.6	6,892.6	10.4	13.5	-99.19	-38.2	-853.9	740.4	716.6	23.82	31.087	
7,000.0	6,992.6	7,077.6	6,992.6	10.5	13.5	-99.19	-38.2	-853.9	740.4	716.4	23.97	30.887	
7,100.0	7,092.6	7,177.6	7,092.6	10.6	13.6	-99.19	-38.2	-853.9	740.4	716.3	24.13	30.690	
7,200.0	7,192.6	7,277.6	7,192.6	10.7	13.6	-99.19	-38.2	-853.9	740.4	716.1	24.28	30.495	
7,300.0	7,292.6	7,377.6	7,292.6	10.8	13.7	-99.19	-38.2	-853.9	740.4	716.0	24.43	30.303	
7,400.0	7,392.6	7,477.6	7,392.6	10.9	13.8	-99.19	-38.2	-853.9	740.4	715.8	24.59	30.113	
7,500.0	7,492.6	7,577.6	7,492.6	10.9	13.8	-99.19	-38.2	-853.9	740.4	715.7	24.74	29.925	
7,600.0	7,592.6	7,677.6	7,592.6	11.0	13.9	-99.19	-38.2	-853.9	740.4	715.5	24.90	29.739	
7,700.0	7,692.6	7,777.6	7,692.6	11.1	13.9	-99.19	-38.2	-853.9	740.4	715.4	25.05	29.556	
7,800.0	7,792.6	7,877.6	7,792.6	11.2	14.0	-99.19	-38.2	-853.9	740.4	715.2	25.21	29.374	
7,900.0	7,892.6	7,986.9	7,901.8	11.3	14.1	-99.07	-36.7	-853.9	740.2	714.9	25.33	29.217	
8,000.0	7,992.6	8,112.4	8,024.2	11.4	14.1	-97.05	-10.3	-854.0	737.2	711.8	25.42	28.998	
8,100.0	8,092.6	8,218.5	8,119.3	11.5	14.1	-93.44	36.1	-854.1	732.9	707.3	25.56	28.669	
8,183.3	8,175.9	8,289.1	8,175.9	11.6	14.1	-90.14	78.2	-854.2	731.2	705.5	25.71	28.442	
8,200.0	8,192.6	8,301.4	8,185.1	11.6	14.1	-89.50	86.4	-854.2	731.3	705.5	25.74	28.411	
8,300.0	8,292.6	8,364.5	8,228.8	11.7	14.2	-85.95	131.8	-854.3	735.9	710.0	25.94	28.368	
8,400.0	8,392.6	8,412.6	8,257.9	11.8	14.2	-82.98	170.1	-854.4	749.2	723.0	26.17	28.622	
8,500.0	8,492.6	8,450.0	8,277.7	11.9	14.2	-80.55	201.8	-854.5	772.1	745.6	26.42	29.220	
8,600.0	8,592.6	8,475.0	8,289.6	12.0	14.3	-78.88	223.8	-854.5	804.8	778.1	26.68	30.168	
8,700.0	8,692.6	8,500.0	8,300.3	12.1	14.3	-77.19	246.4	-854.6	846.7	819.8	26.88	31.501	
8,800.0	8,792.6	8,525.0	8,309.8	12.2	14.3	-75.48	269.5	-854.7	896.8	869.8	27.01	33.209	
8,900.0	8,892.6	8,537.4	8,314.0	12.3	14.3	-74.63	281.2	-854.7	954.2	927.1	27.10	35.217	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 503H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7904-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.01	0.0	50.0	50.0					
100.0	100.0	100.0	100.0	0.5	0.5	90.01	0.0	50.0	50.0	48.5	1.48	33.682		
200.0	200.0	200.0	200.0	1.0	1.0	90.01	0.0	50.0	50.0	47.5	2.47	20.265		
300.0	300.0	300.0	300.0	1.4	1.4	90.01	0.0	50.0	50.0	46.9	3.11	16.103		
400.0	400.0	400.0	400.0	1.6	1.6	90.01	0.0	50.0	50.0	46.4	3.62	13.829		
500.0	500.0	500.0	500.0	1.9	1.9	90.01	0.0	50.0	50.0	46.0	4.05	12.334		
600.0	600.0	600.0	600.0	2.1	2.1	90.01	0.0	50.0	50.0	45.6	4.44	11.251		
700.0	700.0	700.0	700.0	2.3	2.3	90.01	0.0	50.0	50.0	45.2	4.80	10.418		
800.0	800.0	800.0	800.0	2.5	2.5	90.01	0.0	50.0	50.0	44.9	5.13	9.752		
900.0	900.0	900.0	900.0	2.7	2.7	90.01	0.0	50.0	50.0	44.6	5.43	9.202		
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	90.01	0.0	50.0	50.0	44.3	5.72	8.738		
1,100.0	1,100.0	1,100.0	1,100.0	3.0	3.2	90.01	0.0	50.0	50.0	43.9	6.14	8.148		
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.4	90.01	0.0	50.0	50.0	43.5	6.51	7.683 CC, ES		
1,300.0	1,300.0	1,298.4	1,298.4	3.5	3.6	122.52	-0.9	51.5	52.4	45.4	7.01	7.473 SF		
1,400.0	1,399.8	1,396.1	1,396.0	3.8	3.9	128.75	-3.4	55.8	60.2	52.6	7.55	7.973		
1,500.0	1,499.5	1,492.8	1,492.3	4.0	4.0	135.81	-7.2	63.0	74.2	66.3	7.91	9.376		
1,600.0	1,598.9	1,588.4	1,587.3	4.2	4.3	158.79	-10.5	73.1	94.0	85.6	8.34	11.269		
1,676.1	1,674.5	1,660.2	1,658.4	4.3	4.4	172.31	-12.3	82.6	112.1	103.5	8.60	13.033		
1,700.0	1,698.3	1,682.6	1,680.6	4.3	4.5	172.12	-12.8	86.0	118.3	109.6	8.67	13.639		
1,800.0	1,797.6	1,777.4	1,774.1	4.5	4.6	171.12	-14.2	101.5	145.3	136.4	8.94	16.252		
1,900.0	1,897.0	1,873.5	1,868.9	4.6	4.8	170.35	-15.6	117.5	172.6	163.4	9.25	18.667		
2,000.0	1,996.3	1,969.7	1,963.7	4.7	5.0	169.79	-17.0	133.5	199.9	190.4	9.57	20.887		
2,100.0	2,095.6	2,065.9	2,058.5	4.9	5.2	169.37	-18.4	149.5	227.3	217.4	9.94	22.868		
2,200.0	2,195.0	2,162.1	2,153.3	5.0	5.3	169.04	-19.8	165.5	254.6	244.4	10.29	24.757		
2,300.0	2,294.3	2,258.2	2,248.2	5.2	5.5	168.77	-21.2	181.5	282.0	271.4	10.64	26.513		
2,349.1	2,343.1	2,305.4	2,294.7	5.2	5.6	168.66	-21.9	189.4	295.4	284.7	10.77	27.423		
2,400.0	2,393.7	2,354.5	2,343.0	5.2	5.7	168.57	-22.6	197.6	309.2	298.3	10.92	28.320		
2,500.0	2,493.2	2,451.1	2,438.3	5.4	5.9	168.38	-24.1	213.7	334.9	323.6	11.27	29.705		
2,600.0	2,592.9	2,548.1	2,534.0	5.5	6.1	168.16	-25.5	229.8	358.9	347.3	11.63	30.859		
2,700.0	2,692.7	2,645.6	2,630.1	5.7	6.3	167.91	-26.9	246.1	381.3	369.4	11.99	31.801		
2,800.0	2,792.6	2,743.4	2,726.5	5.8	6.5	167.64	-28.3	262.4	402.1	389.7	12.35	32.552		
2,900.0	2,892.6	2,841.5	2,823.2	6.0	6.7	167.35	-29.7	278.7	421.2	408.5	12.71	33.133		
3,000.0	2,992.6	2,939.9	2,920.3	6.1	6.9	167.03	-31.2	295.1	438.6	425.6	13.07	33.568		
3,007.4	3,000.0	2,947.3	2,927.5	6.2	6.9	104.86	-31.3	296.3	439.8	426.8	13.02	33.793		
3,100.0	3,092.6	3,038.5	3,017.5	6.3	7.0	104.53	-32.6	311.5	455.1	441.8	13.29	34.255		
3,200.0	3,192.6	3,143.6	3,121.2	6.4	7.2	104.18	-34.1	328.5	471.1	457.5	13.59	34.657		
3,300.0	3,292.6	3,251.5	3,227.9	6.5	7.4	103.89	-35.5	344.0	485.3	471.4	13.94	34.805		
3,400.0	3,392.6	3,359.9	3,335.5	6.6	7.6	103.64	-36.6	357.5	497.7	483.4	14.29	34.833		
3,500.0	3,492.6	3,468.8	3,443.7	6.7	7.8	103.45	-37.7	369.0	508.3	493.6	14.63	34.751		
3,600.0	3,592.6	3,578.1	3,552.6	6.9	8.0	103.29	-38.5	378.6	516.9	502.0	14.95	34.568		
3,700.0	3,692.6	3,687.7	3,662.0	7.0	8.2	103.17	-39.1	386.1	523.7	508.4	15.27	34.293		
3,800.0	3,792.6	3,797.6	3,771.7	7.1	8.4	103.09	-39.6	391.5	528.6	513.0	15.58	33.934		
3,900.0	3,892.6	3,907.6	3,881.7	7.2	8.6	103.04	-39.9	394.8	531.6	515.7	15.87	33.503		
4,000.0	3,992.6	4,017.7	3,991.8	7.3	8.7	103.02	-40.0	396.0	532.7	516.6	16.12	33.055		
4,100.0	4,092.6	4,118.5	4,092.6	7.4	8.8	103.02	-40.0	396.0	532.7	516.4	16.28	32.723		
4,200.0	4,192.6	4,218.5	4,192.6	7.5	8.9	103.02	-40.0	396.0	532.7	516.2	16.47	32.342		
4,300.0	4,292.6	4,318.5	4,292.6	7.7	9.0	103.02	-40.0	396.0	532.7	516.0	16.66	31.970		
4,400.0	4,392.6	4,418.5	4,392.6	7.8	9.1	103.02	-40.0	396.0	532.7	515.9	16.85	31.609		
4,500.0	4,492.6	4,518.5	4,492.6	7.9	9.1	103.02	-40.0	396.0	532.7	515.7	17.04	31.256		
4,600.0	4,592.6	4,618.5	4,592.6	8.0	9.2	103.02	-40.0	396.0	532.7	515.5	17.23	30.913		
4,700.0	4,692.6	4,718.5	4,692.6	8.1	9.3	103.02	-40.0	396.0	532.7	515.3	17.42	30.578		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 503H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7904-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference												Rule Assigned:	
Offset												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
4,800.0	4,792.6	4,818.5	4,792.6	8.2	9.4	103.02	-40.0	396.0	532.7	515.1	17.61	30.251	
4,900.0	4,892.6	4,918.5	4,892.6	8.3	9.5	103.02	-40.0	396.0	532.7	514.9	17.80	29.932	
5,000.0	4,992.6	5,018.5	4,992.6	8.4	9.6	103.02	-40.0	396.0	532.7	514.7	17.98	29.620	
5,100.0	5,092.6	5,118.5	5,092.6	8.5	9.6	103.02	-40.0	396.0	532.7	514.5	18.17	29.316	
5,200.0	5,192.6	5,218.5	5,192.6	8.6	9.7	103.02	-40.0	396.0	532.7	514.3	18.36	29.019	
5,300.0	5,292.6	5,318.5	5,292.6	8.7	9.8	103.02	-40.0	396.0	532.7	514.2	18.54	28.728	
5,400.0	5,392.6	5,418.5	5,392.6	8.8	9.9	103.02	-40.0	396.0	532.7	514.0	18.73	28.444	
5,500.0	5,492.6	5,518.5	5,492.6	8.9	10.0	103.02	-40.0	396.0	532.7	513.8	18.91	28.166	
5,600.0	5,592.6	5,618.5	5,592.6	9.0	10.0	103.02	-40.0	396.0	532.7	513.6	19.10	27.895	
5,700.0	5,692.6	5,718.5	5,692.6	9.2	10.1	103.02	-40.0	396.0	532.7	513.4	19.28	27.629	
5,800.0	5,792.6	5,818.5	5,792.6	9.3	10.2	103.02	-40.0	396.0	532.7	513.2	19.46	27.368	
5,900.0	5,892.6	5,918.5	5,892.6	9.4	10.3	103.02	-40.0	396.0	532.7	513.1	19.65	27.113	
6,000.0	5,992.6	6,018.5	5,992.6	9.5	10.4	103.02	-40.0	396.0	532.7	512.9	19.83	26.863	
6,100.0	6,092.6	6,118.5	6,092.6	9.6	10.5	103.02	-40.0	396.0	532.7	512.7	20.01	26.619	
6,200.0	6,192.6	6,218.5	6,192.6	9.7	10.5	103.02	-40.0	396.0	532.7	512.5	20.19	26.379	
6,300.0	6,292.6	6,318.5	6,292.6	9.8	10.6	103.02	-40.0	396.0	532.7	512.3	20.38	26.144	
6,400.0	6,392.6	6,418.5	6,392.6	9.9	10.7	103.02	-40.0	396.0	532.7	512.1	20.56	25.914	
6,500.0	6,492.6	6,518.5	6,492.6	10.0	10.8	103.02	-40.0	396.0	532.7	512.0	20.74	25.688	
6,600.0	6,592.6	6,618.5	6,592.6	10.1	10.9	103.02	-40.0	396.0	532.7	511.8	20.92	25.466	
6,700.0	6,692.6	6,718.5	6,692.6	10.2	11.0	103.02	-40.0	396.0	532.7	511.6	21.10	25.248	
6,800.0	6,792.6	6,818.5	6,792.6	10.3	11.0	103.02	-40.0	396.0	532.7	511.4	21.28	25.035	
6,900.0	6,892.6	6,918.5	6,892.6	10.4	11.1	103.02	-40.0	396.0	532.7	511.2	21.46	24.825	
7,000.0	6,992.6	7,018.5	6,992.6	10.5	11.2	103.02	-40.0	396.0	532.7	511.1	21.64	24.620	
7,100.0	7,092.6	7,118.5	7,092.6	10.6	11.3	103.02	-40.0	396.0	532.7	510.9	21.82	24.418	
7,200.0	7,192.6	7,218.5	7,192.6	10.7	11.4	103.02	-40.0	396.0	532.7	510.7	21.99	24.219	
7,300.0	7,292.6	7,318.5	7,292.6	10.8	11.4	103.02	-40.0	396.0	532.7	510.5	22.17	24.025	
7,400.0	7,392.6	7,418.5	7,392.6	10.9	11.5	103.02	-40.0	396.0	532.7	510.4	22.35	23.833	
7,500.0	7,492.6	7,518.5	7,492.6	10.9	11.6	103.02	-40.0	396.0	532.7	510.2	22.53	23.645	
7,600.0	7,592.6	7,618.5	7,592.6	11.0	11.7	103.02	-40.0	396.0	532.7	510.0	22.71	23.460	
7,700.0	7,692.6	7,718.5	7,692.6	11.1	11.8	103.02	-40.0	396.0	532.7	509.8	22.88	23.278	
7,800.0	7,792.6	7,818.5	7,792.6	11.2	11.9	103.02	-40.0	396.0	532.7	509.6	23.06	23.100	
7,900.0	7,892.6	7,921.9	7,896.0	11.3	11.9	103.00	-39.8	396.0	532.7	509.4	23.23	22.935	
8,000.0	7,992.6	8,051.5	8,023.5	11.4	12.0	100.77	-18.7	396.0	529.2	505.9	23.31	22.699	
8,100.0	8,092.6	8,162.8	8,125.0	11.5	12.0	95.92	26.2	395.8	522.6	499.2	23.40	22.336	
8,200.0	8,192.6	8,250.4	8,196.0	11.6	12.0	90.30	77.3	395.7	518.7	495.2	23.49	22.081	
8,207.9	8,200.5	8,256.4	8,200.5	11.6	12.0	89.86	81.3	395.7	518.7	495.2	23.50	22.070	
8,300.0	8,292.6	8,316.9	8,243.0	11.7	12.1	85.11	124.3	395.6	522.9	499.2	23.67	22.089	
8,400.0	8,392.6	8,367.4	8,274.0	11.8	12.1	80.79	164.1	395.5	538.5	514.5	24.00	22.437	
8,500.0	8,492.6	8,406.1	8,294.8	11.9	12.2	77.31	196.7	395.4	567.0	542.6	24.44	23.195	
8,600.0	8,592.6	8,436.4	8,309.3	12.0	12.2	74.54	223.4	395.4	607.9	583.0	24.85	24.459	
8,700.0	8,692.6	8,460.6	8,319.6	12.1	12.2	72.31	245.3	395.3	659.6	634.5	25.08	26.301	
8,800.0	8,792.6	8,475.0	8,325.2	12.2	12.3	71.00	258.5	395.3	720.4	695.3	25.09	28.711	
8,900.0	8,892.6	8,500.0	8,333.9	12.3	12.3	68.71	281.9	395.2	788.3	763.5	24.75	31.852	
9,000.0	8,992.6	8,510.2	8,337.1	12.4	12.3	67.79	291.6	395.2	861.9	837.6	24.29	35.491	
9,100.0	9,092.6	8,525.0	8,341.4	12.5	12.3	66.46	305.8	395.2	940.0	916.5	23.56	39.905	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 811H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10434-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Distance	Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.46	-0.2	-24.9	25.0				
100.0	100.0	100.0	100.0	0.5	0.5	-90.46	-0.2	-24.9	25.0	23.5	1.48	16.804	
200.0	200.0	200.0	200.0	1.0	1.0	-90.46	-0.2	-24.9	25.0	22.5	2.47	10.111	
300.0	300.0	300.0	300.0	1.4	1.4	-90.46	-0.2	-24.9	25.0	21.8	3.11	8.034	
400.0	400.0	400.0	400.0	1.6	1.6	-90.46	-0.2	-24.9	25.0	21.3	3.62	6.900	
500.0	500.0	500.0	500.0	1.9	1.9	-90.46	-0.2	-24.9	25.0	20.9	4.05	6.154	
600.0	600.0	600.0	600.0	2.1	2.1	-90.46	-0.2	-24.9	25.0	20.5	4.44	5.613	
700.0	700.0	700.0	700.0	2.3	2.3	-90.46	-0.2	-24.9	25.0	20.2	4.80	5.198	
800.0	800.0	800.0	800.0	2.5	2.5	-90.46	-0.2	-24.9	25.0	19.8	5.13	4.865	
900.0	900.0	900.0	900.0	2.7	2.7	-90.46	-0.2	-24.9	25.0	19.5	5.43	4.591	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	-90.46	-0.2	-24.9	25.0	19.2	5.72	4.360	
1,100.0	1,100.0	1,100.0	1,100.0	3.0	3.2	-90.46	-0.2	-24.9	25.0	18.8	6.14	4.065	
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.4	-90.46	-0.2	-24.9	25.0	18.4	6.51	3.833 CC, ES	
1,300.0	1,300.0	1,299.3	1,299.3	3.5	3.7	-61.59	0.8	-26.4	25.5	18.5	6.99	3.650 SF	
1,400.0	1,399.8	1,398.5	1,398.4	3.8	4.0	-64.71	3.7	-30.6	27.2	19.8	7.41	3.674	
1,500.0	1,499.5	1,497.7	1,497.2	4.0	4.3	-69.08	8.7	-37.6	30.3	22.5	7.78	3.891	
1,600.0	1,598.9	1,596.9	1,595.6	4.2	4.6	-51.05	15.5	-47.4	33.7	25.5	8.21	4.103	
1,676.1	1,674.5	1,672.3	1,670.2	4.3	4.7	-36.33	20.9	-56.6	35.9	27.4	8.46	4.245	
1,700.0	1,698.3	1,695.9	1,693.7	4.3	4.8	-36.03	22.2	-59.7	36.6	28.1	8.52	4.300	
1,800.0	1,797.6	1,794.8	1,791.4	4.5	5.0	-36.92	26.2	-74.2	41.3	32.4	8.83	4.675	
1,900.0	1,897.0	1,893.6	1,888.8	4.6	5.1	-40.21	27.6	-90.7	48.5	39.5	9.03	5.372	
2,000.0	1,996.3	1,993.3	1,986.9	4.7	5.3	-43.30	28.2	-108.0	56.7	47.4	9.31	6.091	
2,100.0	2,095.6	2,092.9	2,085.0	4.9	5.5	-45.60	28.8	-125.3	65.0	55.5	9.58	6.790	
2,200.0	2,195.0	2,192.5	2,183.1	5.0	5.6	-47.37	29.4	-142.5	73.4	63.5	9.93	7.396	
2,300.0	2,294.3	2,292.1	2,281.3	5.2	5.8	-48.78	30.0	-159.8	81.9	71.6	10.28	7.965	
2,349.1	2,343.1	2,341.0	2,329.4	5.2	5.9	-49.37	30.3	-168.3	86.1	75.7	10.42	8.264	
2,400.0	2,393.7	2,391.7	2,379.4	5.2	6.0	-49.85	30.6	-177.1	90.6	80.0	10.56	8.579	
2,500.0	2,493.2	2,491.3	2,477.4	5.4	6.2	-50.10	31.2	-194.4	100.2	89.3	10.91	9.181	
2,600.0	2,592.9	2,590.7	2,575.3	5.5	6.4	-49.63	31.8	-211.6	111.0	99.7	11.28	9.841	
2,700.0	2,692.7	2,689.9	2,673.0	5.7	6.5	-48.64	32.4	-228.9	122.9	111.3	11.64	10.558	
2,800.0	2,792.6	2,789.0	2,770.6	5.8	6.7	-47.31	33.0	-246.1	136.0	124.0	12.00	11.330	
2,900.0	2,892.6	2,887.9	2,868.0	6.0	6.9	-45.75	33.6	-263.2	150.4	138.0	12.37	12.159	
3,000.0	2,992.6	2,986.5	2,965.1	6.1	7.1	-44.07	34.2	-280.3	166.1	153.4	12.74	13.039	
3,007.4	3,000.0	2,993.9	2,972.3	6.2	7.1	-106.08	34.3	-281.6	167.4	154.6	12.77	13.103	
3,100.0	3,092.6	3,085.0	3,062.1	6.3	7.3	-104.52	34.8	-297.4	182.7	169.7	13.09	13.963	
3,200.0	3,192.6	3,183.5	3,159.1	6.4	7.5	-103.10	35.4	-314.5	199.5	186.0	13.43	14.847	
3,300.0	3,292.6	3,282.0	3,256.1	6.5	7.7	-101.90	36.0	-331.6	216.3	202.5	13.78	15.698	
3,400.0	3,392.6	3,380.5	3,353.1	6.6	7.9	-100.88	36.6	-348.7	233.2	219.1	14.12	16.516	
3,500.0	3,492.6	3,478.9	3,450.0	6.7	8.0	-99.99	37.2	-365.8	250.2	235.7	14.46	17.303	
3,600.0	3,592.6	3,577.4	3,547.0	6.9	8.2	-99.22	37.8	-382.9	267.2	252.4	14.79	18.060	
3,700.0	3,692.6	3,675.9	3,644.0	7.0	8.4	-98.54	38.4	-400.0	284.3	269.1	15.13	18.789	
3,800.0	3,792.6	3,774.4	3,741.0	7.1	8.6	-97.93	39.0	-417.1	301.4	285.9	15.46	19.490	
3,900.0	3,892.6	3,872.9	3,838.0	7.2	8.8	-97.40	39.6	-434.2	318.5	302.7	15.79	20.165	
4,000.0	3,992.6	3,971.3	3,935.0	7.3	9.0	-96.91	40.2	-451.2	335.6	319.5	16.12	20.816	
4,100.0	4,092.6	4,069.5	4,031.6	7.4	9.2	-96.51	40.6	-468.3	352.8	336.4	16.41	21.494	
4,200.0	4,192.6	4,167.2	4,127.8	7.5	9.3	-96.51	38.7	-485.2	370.2	353.5	16.69	22.181	
4,300.0	4,292.6	4,265.7	4,224.8	7.7	9.5	-96.62	36.0	-502.2	387.7	370.7	17.00	22.807	
4,400.0	4,392.6	4,364.1	4,321.7	7.8	9.7	-96.71	33.4	-519.2	405.2	387.9	17.32	23.395	
4,500.0	4,492.6	4,462.6	4,418.7	7.9	9.9	-96.80	30.7	-536.2	422.7	405.0	17.64	23.962	
4,600.0	4,592.6	4,561.0	4,515.6	8.0	10.1	-96.89	28.0	-553.3	440.2	422.2	17.96	24.509	
4,700.0	4,692.6	4,659.5	4,612.5	8.1	10.3	-96.96	25.4	-570.3	457.6	439.4	18.28	25.037	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 811H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10434-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Separation	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor	Warning
4,800.0	4,792.6	4,758.0	4,709.5	8.2	10.5	-97.03	22.7	-587.3	475.1	456.5	18.60	25.547	
4,900.0	4,892.6	4,856.4	4,806.4	8.3	10.7	-97.10	20.1	-604.3	492.6	473.7	18.92	26.040	
5,000.0	4,992.6	4,954.9	4,903.4	8.4	10.9	-97.16	17.4	-621.3	510.1	490.9	19.24	26.518	
5,100.0	5,092.6	5,053.3	5,000.3	8.5	11.1	-97.22	14.7	-638.3	527.6	508.0	19.56	26.978	
5,200.0	5,192.6	5,157.1	5,102.5	8.6	11.3	-97.27	12.0	-656.0	544.8	524.9	19.89	27.394	
5,300.0	5,292.6	5,266.4	5,210.5	8.7	11.5	-97.32	9.3	-672.9	560.4	540.2	20.23	27.703	
5,400.0	5,392.6	5,376.3	5,319.4	8.8	11.7	-97.36	7.0	-687.7	574.1	553.6	20.56	27.920	
5,500.0	5,492.6	5,486.8	5,429.1	8.9	11.9	-97.40	5.0	-700.6	585.9	565.0	20.89	28.051	
5,600.0	5,592.6	5,597.8	5,539.5	9.0	12.1	-97.42	3.3	-711.4	595.8	574.6	21.20	28.100	
5,700.0	5,692.6	5,709.1	5,650.5	9.2	12.3	-97.45	2.0	-720.2	603.7	582.2	21.50	28.075	
5,800.0	5,792.6	5,820.7	5,761.9	9.3	12.5	-97.46	0.9	-726.8	609.7	587.9	21.79	27.978	
5,900.0	5,892.6	5,932.6	5,873.7	9.4	12.7	-97.47	0.2	-731.3	613.8	591.7	22.07	27.816	
6,000.0	5,992.6	6,044.6	5,985.6	9.5	12.8	-97.48	-0.1	-733.6	615.9	593.6	22.30	27.623	
6,100.0	6,092.6	6,151.5	6,092.6	9.6	12.9	-97.48	-0.2	-733.9	616.2	593.7	22.47	27.424	
6,200.0	6,192.6	6,251.5	6,192.6	9.7	13.0	-97.48	-0.2	-733.9	616.2	593.6	22.62	27.244	
6,300.0	6,292.6	6,351.5	6,292.6	9.8	13.0	-97.48	-0.2	-733.9	616.2	593.4	22.77	27.061	
6,400.0	6,392.6	6,451.5	6,392.6	9.9	13.1	-97.48	-0.2	-733.9	616.2	593.3	22.92	26.881	
6,500.0	6,492.6	6,551.5	6,492.6	10.0	13.2	-97.48	-0.2	-733.9	616.2	593.1	23.08	26.703	
6,600.0	6,592.6	6,651.5	6,592.6	10.1	13.2	-97.48	-0.2	-733.9	616.2	593.0	23.23	26.527	
6,700.0	6,692.6	6,751.5	6,692.6	10.2	13.3	-97.48	-0.2	-733.9	616.2	592.8	23.38	26.354	
6,800.0	6,792.6	6,851.5	6,792.6	10.3	13.3	-97.48	-0.2	-733.9	616.2	592.7	23.53	26.182	
6,900.0	6,892.6	6,951.5	6,892.6	10.4	13.4	-97.48	-0.2	-733.9	616.2	592.5	23.69	26.013	
7,000.0	6,992.6	7,051.5	6,992.6	10.5	13.5	-97.48	-0.2	-733.9	616.2	592.4	23.84	25.846	
7,100.0	7,092.6	7,151.5	7,092.6	10.6	13.5	-97.48	-0.2	-733.9	616.2	592.2	23.99	25.680	
7,200.0	7,192.6	7,251.5	7,192.6	10.7	13.6	-97.48	-0.2	-733.9	616.2	592.0	24.15	25.517	
7,300.0	7,292.6	7,351.5	7,292.6	10.8	13.6	-97.48	-0.2	-733.9	616.2	591.9	24.30	25.356	
7,400.0	7,392.6	7,451.5	7,392.6	10.9	13.7	-97.48	-0.2	-733.9	616.2	591.7	24.46	25.196	
7,500.0	7,492.6	7,551.5	7,492.6	10.9	13.8	-97.48	-0.2	-733.9	616.2	591.6	24.61	25.039	
7,600.0	7,592.6	7,651.5	7,592.6	11.0	13.8	-97.48	-0.2	-733.9	616.2	591.4	24.76	24.883	
7,700.0	7,692.6	7,751.5	7,692.6	11.1	13.9	-97.48	-0.2	-733.9	616.2	591.3	24.92	24.729	
7,800.0	7,792.6	7,851.5	7,792.6	11.2	13.9	-97.48	-0.2	-733.9	616.2	591.1	25.07	24.577	
7,900.0	7,892.6	7,951.5	7,892.6	11.3	14.0	-97.48	-0.2	-733.9	616.2	591.0	25.23	24.427	
8,000.0	7,992.6	8,051.5	7,992.6	11.4	14.1	-97.48	-0.2	-733.9	616.2	590.8	25.38	24.279	
8,100.0	8,092.6	8,151.5	8,092.6	11.5	14.1	-97.48	-0.2	-733.9	616.2	590.7	25.53	24.132	
8,200.0	8,192.6	8,251.5	8,192.6	11.6	14.2	-97.48	-0.2	-733.9	616.2	590.5	25.69	23.987	
8,300.0	8,292.6	8,351.5	8,292.6	11.7	14.3	-97.48	-0.2	-733.9	616.2	590.3	25.84	23.843	
8,400.0	8,392.6	8,451.5	8,392.6	11.8	14.3	-97.48	-0.2	-733.9	616.2	590.2	26.00	23.702	
8,500.0	8,492.6	8,551.5	8,492.6	11.9	14.4	-97.48	-0.2	-733.9	616.2	590.0	26.15	23.561	
8,600.0	8,592.6	8,651.5	8,592.6	12.0	14.5	-97.48	-0.2	-733.9	616.2	589.9	26.31	23.423	
8,700.0	8,692.6	8,751.5	8,692.6	12.1	14.5	-97.48	-0.2	-733.9	616.2	589.7	26.46	23.286	
8,800.0	8,792.6	8,851.5	8,792.6	12.2	14.6	-97.48	-0.2	-733.9	616.2	589.6	26.62	23.150	
8,900.0	8,892.6	8,951.5	8,892.6	12.3	14.6	-97.48	-0.2	-733.9	616.2	589.4	26.77	23.016	
9,000.0	8,992.6	9,051.5	8,992.6	12.4	14.7	-97.48	-0.2	-733.9	616.2	589.3	26.93	22.884	
9,100.0	9,092.6	9,151.5	9,092.6	12.5	14.8	-97.48	-0.2	-733.9	616.2	589.1	27.08	22.753	
9,200.0	9,192.6	9,251.5	9,192.6	12.6	14.8	-97.48	-0.2	-733.9	616.2	589.0	27.24	22.623	
9,300.0	9,292.6	9,351.5	9,292.6	12.7	14.9	-97.48	-0.2	-733.9	616.2	588.8	27.39	22.495	
9,400.0	9,392.6	9,451.5	9,392.6	12.8	15.0	-97.48	-0.2	-733.9	616.2	588.6	27.55	22.368	
9,500.0	9,492.6	9,551.5	9,492.6	12.9	15.0	-97.48	-0.2	-733.9	616.2	588.5	27.70	22.243	
9,600.0	9,592.6	9,651.5	9,592.6	12.9	15.1	-97.48	-0.2	-733.9	616.2	588.3	27.86	22.118	
9,700.0	9,692.6	9,751.5	9,692.6	13.0	15.2	-97.48	-0.2	-733.9	616.2	588.2	28.01	21.996	
9,800.0	9,792.6	9,851.5	9,792.6	13.1	15.2	-97.48	-0.2	-733.9	616.2	588.0	28.17	21.874	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 811H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10434-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned: Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor		
9,900.0	9,892.6	9,951.5	9,892.6	13.2	15.3	-97.48	-0.2	-733.9	616.2	587.9	28.33	21.754		
10,000.0	9,992.6	10,051.5	9,992.6	13.3	15.4	-97.48	-0.2	-733.9	616.2	587.7	28.48	21.635		
10,100.0	10,092.6	10,151.5	10,092.6	13.4	15.4	-97.48	-0.2	-733.9	616.2	587.6	28.64	21.517		
10,121.9	10,114.5	10,173.5	10,114.5	13.4	15.4	-97.48	-0.2	-733.9	616.2	587.5	28.66	21.498		
10,125.0	10,117.6	10,176.5	10,117.6	13.4	15.4	-97.34	-0.2	-733.9	616.2	587.5	28.67	21.496		
10,150.0	10,142.5	10,201.5	10,142.5	13.4	15.5	-97.40	-0.2	-733.9	616.3	587.6	28.69	21.479		
10,175.0	10,167.4	10,226.4	10,167.4	13.4	15.5	-97.57	-0.2	-733.9	616.6	587.9	28.71	21.475		
10,200.0	10,192.2	10,251.2	10,192.2	13.5	15.5	-97.82	-0.2	-733.9	617.0	588.3	28.73	21.479		
10,225.0	10,216.8	10,275.7	10,216.8	13.5	15.5	-98.17	-0.2	-733.9	617.7	589.0	28.74	21.490		
10,250.0	10,241.0	10,300.0	10,241.0	13.5	15.5	-98.60	-0.2	-733.9	618.6	589.8	28.76	21.511		
10,275.0	10,264.9	10,323.9	10,264.9	13.5	15.5	-99.09	-0.2	-733.9	619.8	591.0	28.76	21.547		
10,300.0	10,288.5	10,347.4	10,288.5	13.5	15.5	-99.65	-0.2	-733.9	621.2	592.5	28.77	21.595		
10,325.0	10,311.5	10,371.0	10,312.0	13.5	15.6	-100.24	0.1	-734.0	623.0	594.3	28.77	21.656		
10,350.0	10,334.0	10,394.9	10,335.9	13.5	15.6	-100.81	1.5	-734.2	625.2	596.4	28.77	21.728		
10,375.0	10,355.9	10,419.3	10,360.1	13.6	15.6	-101.37	4.0	-734.7	627.7	598.9	28.78	21.812		
10,400.0	10,377.1	10,444.0	10,384.6	13.6	15.6	-101.90	7.6	-735.3	630.6	601.8	28.78	21.908		
10,425.0	10,397.6	10,469.3	10,409.3	13.6	15.6	-102.41	12.6	-736.2	633.7	604.9	28.78	22.016		
10,450.0	10,417.3	10,494.9	10,434.2	13.6	15.6	-102.89	18.8	-737.3	637.2	608.5	28.79	22.134		
10,475.0	10,436.3	10,521.2	10,459.3	13.6	15.6	-103.36	26.3	-738.6	641.1	612.3	28.80	22.258		
10,500.0	10,454.3	10,547.9	10,484.4	13.7	15.7	-103.79	35.3	-740.2	645.2	616.4	28.82	22.388		
10,525.0	10,471.4	10,575.2	10,509.6	13.7	15.7	-104.21	45.8	-742.1	649.6	620.8	28.85	22.521		
10,550.0	10,487.5	10,603.2	10,534.7	13.7	15.7	-104.59	57.9	-744.2	654.3	625.5	28.88	22.656		
10,575.0	10,502.6	10,631.8	10,559.7	13.7	15.7	-104.95	71.6	-746.6	659.3	630.4	28.93	22.790		
10,600.0	10,516.6	10,661.2	10,584.5	13.7	15.7	-105.29	87.1	-749.3	664.5	635.5	28.99	22.922		
10,625.0	10,529.5	10,691.2	10,609.0	13.7	15.7	-105.60	104.3	-752.4	669.9	640.9	29.07	23.048		
10,650.0	10,541.3	10,722.1	10,633.0	13.8	15.8	-105.88	123.4	-755.7	675.6	646.4	29.16	23.167		
10,675.0	10,551.9	10,753.9	10,656.5	13.8	15.8	-106.13	144.5	-759.5	681.3	652.1	29.27	23.277		
10,700.0	10,561.3	10,811.9	10,695.7	13.8	15.8	-107.00	186.6	-766.3	687.0	657.4	29.55	23.247		
10,725.0	10,569.5	10,869.3	10,729.2	13.8	15.8	-107.63	232.9	-772.1	691.5	661.6	29.86	23.158		
10,750.0	10,576.5	10,959.7	10,770.4	13.8	15.8	-108.43	312.8	-779.3	694.7	664.3	30.41	22.847		
10,775.0	10,582.2	11,038.8	10,793.6	13.8	15.9	-108.56	388.3	-783.5	696.5	665.6	30.83	22.593		
10,800.0	10,586.6	11,118.4	10,804.3	13.9	16.1	-108.23	467.0	-785.5	696.7	665.5	31.15	22.362		
10,825.0	10,589.7	11,160.2	10,805.0	13.9	16.2	-107.95	508.7	-785.7	695.8	664.5	31.27	22.250		
10,850.0	10,591.5	11,185.1	10,805.1	13.9	16.2	-107.88	533.7	-785.7	695.2	663.9	31.35	22.180		
10,870.6	10,592.0	11,205.7	10,805.1	13.9	16.3	-107.86	554.3	-785.8	695.1	663.7	31.42	22.121		
10,900.0	10,592.0	11,235.1	10,805.1	13.9	16.3	-107.85	583.7	-785.8	695.1	663.5	31.55	22.031		
11,000.0	10,592.3	11,335.1	10,805.3	14.1	16.6	-107.85	683.7	-786.1	695.0	663.0	32.04	21.691		
11,100.0	10,592.6	11,435.1	10,805.5	14.5	17.0	-107.84	783.7	-786.3	695.0	662.4	32.61	21.312		
11,200.0	10,592.9	11,535.1	10,805.7	14.8	17.3	-107.83	883.7	-786.5	694.9	661.7	33.25	20.900		
11,300.0	10,593.2	11,635.1	10,805.8	15.3	17.7	-107.82	983.7	-786.7	694.9	660.9	33.96	20.463		
11,400.0	10,593.4	11,735.1	10,806.0	15.7	18.2	-107.81	1,083.7	-786.9	694.8	660.1	34.73	20.008		
11,500.0	10,593.7	11,835.1	10,806.2	16.2	18.6	-107.81	1,183.7	-787.2	694.8	659.2	35.56	19.539		
11,600.0	10,594.0	11,935.1	10,806.4	16.7	19.1	-107.80	1,283.7	-787.4	694.8	658.3	36.45	19.063		
11,700.0	10,594.3	12,035.1	10,806.5	17.2	19.6	-107.79	1,383.7	-787.6	694.7	657.3	37.38	18.583		
11,800.0	10,594.5	12,135.1	10,806.7	17.8	20.1	-107.78	1,483.7	-787.8	694.7	656.3	38.37	18.105		
11,900.0	10,594.8	12,235.1	10,806.9	18.4	20.7	-107.78	1,583.7	-788.1	694.6	655.2	39.40	17.631		
12,000.0	10,595.1	12,335.1	10,807.1	19.0	21.2	-107.77	1,683.7	-788.3	694.6	654.1	40.47	17.163		
12,100.0	10,595.4	12,435.1	10,807.2	19.6	21.8	-107.76	1,783.7	-788.5	694.5	652.9	41.58	16.704		
12,200.0	10,595.7	12,535.1	10,807.4	20.3	22.4	-107.75	1,883.7	-788.7	694.5	651.7	42.72	16.255		
12,300.0	10,595.9	12,635.1	10,807.6	20.9	23.1	-107.74	1,983.7	-789.0	694.4	650.5	43.90	15.817		
12,400.0	10,596.2	12,735.1	10,807.8	21.6	23.7	-107.74	2,083.7	-789.2	694.4	649.3	45.12	15.390		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 811H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10434-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
12,500.0	10,596.5	12,835.1	10,807.9	22.3	24.4	-107.73	2,183.7	-789.4	694.3	648.1	46.25	15.014	
12,600.0	10,596.8	12,935.1	10,808.1	23.0	25.0	-107.72	2,283.7	-789.6	694.3	651.5	42.77	16.233	
12,700.0	10,597.0	13,035.1	10,808.3	23.7	25.7	-107.71	2,383.7	-789.9	694.2	651.2	43.06	16.123	
12,800.0	10,597.3	13,135.1	10,808.4	24.4	26.4	-107.71	2,483.7	-790.1	694.2	650.4	43.77	15.860	
12,900.0	10,597.6	13,235.1	10,808.6	25.2	27.1	-107.70	2,583.7	-790.3	694.1	649.5	44.59	15.566	
13,000.0	10,597.9	13,335.1	10,808.8	25.9	27.8	-107.69	2,683.7	-790.5	694.1	648.6	45.47	15.264	
13,100.0	10,598.2	13,435.1	10,809.0	26.6	28.5	-107.68	2,783.7	-790.7	694.0	647.7	46.38	14.963	
13,200.0	10,598.4	13,535.1	10,809.1	27.4	29.2	-107.67	2,883.7	-791.0	694.0	646.7	47.32	14.666	
13,300.0	10,598.7	13,635.1	10,809.3	28.1	29.9	-107.67	2,983.7	-791.2	693.9	645.7	48.28	14.375	
13,400.0	10,599.0	13,735.1	10,809.5	28.9	30.7	-107.66	3,083.7	-791.4	693.9	644.6	49.25	14.089	
13,500.0	10,599.3	13,835.1	10,809.7	29.7	31.4	-107.65	3,183.7	-791.6	693.8	643.6	50.24	13.811	
13,600.0	10,599.5	13,935.1	10,809.8	30.4	32.1	-107.64	3,283.7	-791.9	693.8	642.6	51.24	13.540	
13,700.0	10,599.8	14,035.1	10,810.0	31.2	32.9	-107.64	3,383.7	-792.1	693.8	641.5	52.26	13.276	
13,800.0	10,600.1	14,135.1	10,810.2	32.0	33.7	-107.63	3,483.7	-792.3	693.7	640.4	53.28	13.020	
13,900.0	10,600.4	14,235.1	10,810.4	32.8	34.4	-107.62	3,583.7	-792.5	693.7	639.3	54.32	12.770	
14,000.0	10,600.7	14,335.1	10,810.5	33.6	35.2	-107.61	3,683.7	-792.8	693.6	638.2	55.36	12.528	
14,100.0	10,600.9	14,435.1	10,810.7	34.4	36.0	-107.60	3,783.7	-793.0	693.6	637.1	56.42	12.293	
14,200.0	10,601.2	14,535.1	10,810.9	35.2	36.7	-107.60	3,883.7	-793.2	693.5	636.0	57.48	12.065	
14,300.0	10,601.5	14,635.1	10,811.1	36.0	37.5	-107.59	3,983.7	-793.4	693.5	634.9	58.56	11.843	
14,400.0	10,601.8	14,735.1	10,811.2	36.8	38.3	-107.58	4,083.7	-793.7	693.4	633.8	59.64	11.628	
14,500.0	10,602.1	14,835.1	10,811.4	37.6	39.1	-107.57	4,183.7	-793.9	693.4	632.7	60.72	11.419	
14,600.0	10,602.3	14,935.1	10,811.6	38.4	39.9	-107.57	4,283.7	-794.1	693.3	631.5	61.82	11.216	
14,700.0	10,602.6	15,035.1	10,811.7	39.2	40.6	-107.56	4,383.7	-794.3	693.3	630.4	62.92	11.019	
14,800.0	10,602.9	15,135.1	10,811.9	40.0	41.4	-107.55	4,483.7	-794.5	693.2	629.2	64.02	10.828	
14,900.0	10,603.2	15,235.1	10,812.1	40.8	42.2	-107.54	4,583.7	-794.8	693.2	628.0	65.13	10.642	
15,000.0	10,603.4	15,335.1	10,812.3	41.6	43.0	-107.53	4,683.7	-795.0	693.1	626.9	66.25	10.462	
15,100.0	10,603.7	15,435.1	10,812.4	42.4	43.8	-107.53	4,783.7	-795.2	693.1	625.7	67.37	10.287	
15,200.0	10,604.0	15,535.1	10,812.6	43.2	44.6	-107.52	4,883.7	-795.4	693.0	624.5	68.50	10.117	
15,300.0	10,604.3	15,635.1	10,812.8	44.1	45.4	-107.51	4,983.7	-795.7	693.0	623.4	69.63	9.952	
15,400.0	10,604.6	15,735.1	10,813.0	44.9	46.2	-107.50	5,083.7	-795.9	692.9	622.2	70.77	9.791	
15,500.0	10,604.8	15,835.1	10,813.1	45.7	47.0	-107.50	5,183.7	-796.1	692.9	621.0	71.91	9.635	
15,600.0	10,605.1	15,935.1	10,813.3	46.5	47.9	-107.49	5,283.7	-796.3	692.9	619.8	73.06	9.484	
15,700.0	10,605.4	16,035.1	10,813.5	47.3	48.7	-107.48	5,383.7	-796.6	692.8	618.6	74.20	9.336	
15,800.0	10,605.7	16,135.1	10,813.7	48.2	49.5	-107.47	5,483.6	-796.8	692.8	617.4	75.36	9.193	
15,900.0	10,605.9	16,235.1	10,813.8	49.0	50.3	-107.46	5,583.6	-797.0	692.7	616.2	76.51	9.054	
16,000.0	10,606.2	16,335.1	10,814.0	49.8	51.1	-107.46	5,683.6	-797.2	692.7	615.0	77.67	8.918	
16,100.0	10,606.5	16,435.1	10,814.2	50.6	51.9	-107.45	5,783.6	-797.5	692.6	613.8	78.83	8.786	
16,200.0	10,606.8	16,535.1	10,814.4	51.5	52.7	-107.44	5,883.6	-797.7	692.6	612.6	80.00	8.657	
16,300.0	10,607.1	16,635.1	10,814.5	52.3	53.6	-107.43	5,983.6	-797.9	692.5	611.4	81.17	8.532	
16,400.0	10,607.3	16,735.1	10,814.7	53.1	54.4	-107.43	6,083.6	-798.1	692.5	610.1	82.34	8.410	
16,500.0	10,607.6	16,835.1	10,814.9	54.0	55.2	-107.42	6,183.6	-798.3	692.4	608.9	83.51	8.291	
16,600.0	10,607.9	16,935.1	10,815.1	54.8	56.0	-107.41	6,283.6	-798.6	692.4	607.7	84.69	8.176	
16,700.0	10,608.2	17,035.1	10,815.2	55.6	56.9	-107.40	6,383.6	-798.8	692.3	606.5	85.87	8.063	
16,800.0	10,608.4	17,135.1	10,815.4	56.5	57.7	-107.39	6,483.6	-799.0	692.3	605.2	87.05	7.953	
16,900.0	10,608.7	17,235.1	10,815.6	57.3	58.5	-107.39	6,583.6	-799.2	692.2	604.0	88.23	7.846	
17,000.0	10,609.0	17,335.1	10,815.7	58.1	59.3	-107.38	6,683.6	-799.5	692.2	602.8	89.42	7.741	
17,100.0	10,609.3	17,435.1	10,815.9	59.0	60.2	-107.37	6,783.6	-799.7	692.1	601.5	90.61	7.639	
17,200.0	10,609.6	17,535.1	10,816.1	59.8	61.0	-107.36	6,883.6	-799.9	692.1	600.3	91.80	7.540	
17,300.0	10,609.8	17,635.1	10,816.3	60.6	61.8	-107.36	6,983.6	-800.1	692.1	599.1	92.99	7.442	
17,400.0	10,610.1	17,735.1	10,816.4	61.5	62.6	-107.35	7,083.6	-800.4	692.0	597.8	94.18	7.348	
17,500.0	10,610.4	17,835.1	10,816.6	62.3	63.5	-107.34	7,183.6	-800.6	692.0	596.6	95.38	7.255	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 811H - OWB - PWP1											Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10434-r.5 MWD+IFR1+SAG+FDIR											Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	
17,600.0	10,610.7	17,935.1	10,816.8	63.2	64.3	-107.33	7,283.6	-800.8	691.9	595.3	96.57	7.165
17,700.0	10,610.9	18,035.1	10,817.0	64.0	65.1	-107.32	7,383.6	-801.0	691.9	594.1	97.77	7.076
17,800.0	10,611.2	18,135.1	10,817.1	64.8	66.0	-107.32	7,483.6	-801.2	691.8	592.8	98.97	6.990
17,900.0	10,611.5	18,235.1	10,817.3	65.7	66.8	-107.31	7,583.6	-801.5	691.8	591.6	100.18	6.906
18,000.0	10,611.8	18,335.1	10,817.5	66.5	67.6	-107.30	7,683.6	-801.7	691.7	590.3	101.38	6.823
18,100.0	10,612.1	18,435.1	10,817.7	67.4	68.5	-107.29	7,783.6	-801.9	691.7	589.1	102.58	6.743
18,200.0	10,612.3	18,535.1	10,817.8	68.2	69.3	-107.28	7,883.6	-802.1	691.6	587.8	103.79	6.664
18,300.0	10,612.6	18,635.1	10,818.0	69.0	70.1	-107.28	7,983.6	-802.4	691.6	586.6	105.00	6.587
18,400.0	10,612.9	18,735.1	10,818.2	69.9	71.0	-107.27	8,083.6	-802.6	691.5	585.3	106.21	6.511
18,500.0	10,613.2	18,835.1	10,818.4	70.7	71.8	-107.26	8,183.6	-802.8	691.5	584.1	107.42	6.437
18,600.0	10,613.4	18,935.1	10,818.5	71.6	72.7	-107.25	8,283.6	-803.0	691.4	582.8	108.63	6.365
18,700.0	10,613.7	19,035.1	10,818.7	72.4	73.5	-107.25	8,383.6	-803.3	691.4	581.6	109.84	6.294
18,800.0	10,614.0	19,135.1	10,818.9	73.3	74.3	-107.24	8,483.6	-803.5	691.3	580.3	111.06	6.225
18,900.0	10,614.3	19,235.1	10,819.1	74.1	75.2	-107.23	8,583.6	-803.7	691.3	579.0	112.27	6.157
19,000.0	10,614.6	19,335.1	10,819.2	75.0	76.0	-107.22	8,683.6	-803.9	691.3	577.8	113.49	6.091
19,100.0	10,614.8	19,435.1	10,819.4	75.8	76.9	-107.21	8,783.6	-804.2	691.2	576.5	114.70	6.026
19,200.0	10,615.1	19,535.1	10,819.6	76.6	77.7	-107.21	8,883.6	-804.4	691.2	575.2	115.92	5.962
19,300.0	10,615.4	19,635.1	10,819.7	77.5	78.5	-107.20	8,983.6	-804.6	691.1	574.0	117.14	5.900
19,400.0	10,615.7	19,735.1	10,819.9	78.3	79.4	-107.19	9,083.6	-804.8	691.1	572.7	118.36	5.839
19,500.0	10,616.0	19,835.1	10,820.1	79.2	80.2	-107.18	9,183.6	-805.0	691.0	571.4	119.58	5.779
19,600.0	10,616.2	19,935.1	10,820.3	80.0	81.1	-107.18	9,283.6	-805.3	691.0	570.2	120.80	5.720
19,700.0	10,616.5	20,035.1	10,820.4	80.9	81.9	-107.17	9,383.6	-805.5	690.9	568.9	122.03	5.662
19,800.0	10,616.8	20,135.1	10,820.6	81.7	82.7	-107.16	9,483.6	-805.7	690.9	567.6	123.25	5.606
19,900.0	10,617.1	20,235.1	10,820.8	82.6	83.6	-107.15	9,583.6	-805.9	690.8	566.4	124.47	5.550
20,000.0	10,617.3	20,335.1	10,821.0	83.4	84.4	-107.14	9,683.6	-806.2	690.8	565.1	125.70	5.496
20,100.0	10,617.6	20,435.1	10,821.1	84.3	85.3	-107.14	9,783.6	-806.4	690.7	563.8	126.92	5.442
20,200.0	10,617.9	20,535.1	10,821.3	85.1	86.1	-107.13	9,883.6	-806.6	690.7	562.5	128.15	5.390
20,300.0	10,618.2	20,635.1	10,821.5	86.0	87.0	-107.12	9,983.6	-806.8	690.6	561.3	129.38	5.338
20,400.0	10,618.5	20,735.1	10,821.7	86.8	87.8	-107.11	10,083.6	-807.1	690.6	560.0	130.61	5.288
20,500.0	10,618.7	20,835.1	10,821.8	87.7	88.6	-107.10	10,183.6	-807.3	690.6	558.7	131.84	5.238
20,596.8	10,619.0	20,931.9	10,822.0	88.5	89.5	-107.10	10,280.4	-807.5	690.5	557.5	133.02	5.191

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 812H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program: Reference				0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10409-r.5 MWD+IFR1+SAG+FDIR				Rule Assigned:				Offset Well Error: 0.0 usft		
Offset		Semi Major Axis		Offset Wellbore Centre		Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	25.0	25.0					
100.0	100.0	100.0	100.0	0.5	0.5	90.00	0.0	25.0	25.0	23.5	1.48	16.810		
200.0	200.0	200.0	200.0	1.0	1.0	90.00	0.0	25.0	25.0	22.5	2.47	10.114		
300.0	300.0	300.0	300.0	1.4	1.4	90.00	0.0	25.0	25.0	21.9	3.11	8.037		
400.0	400.0	400.0	400.0	1.6	1.6	90.00	0.0	25.0	25.0	21.3	3.62	6.902		
500.0	500.0	500.0	500.0	1.9	1.9	90.00	0.0	25.0	25.0	20.9	4.05	6.156		
600.0	600.0	600.0	600.0	2.1	2.1	90.00	0.0	25.0	25.0	20.5	4.44	5.615		
700.0	700.0	700.0	700.0	2.3	2.3	90.00	0.0	25.0	25.0	20.2	4.80	5.200		
800.0	800.0	800.0	800.0	2.5	2.5	90.00	0.0	25.0	25.0	19.8	5.13	4.867		
900.0	900.0	900.0	900.0	2.7	2.7	90.00	0.0	25.0	25.0	19.5	5.43	4.593		
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	90.00	0.0	25.0	25.0	19.2	5.72	4.361		
1,100.0	1,100.0	1,100.0	1,100.0	3.0	3.2	90.00	0.0	25.0	25.0	18.8	6.14	4.067		
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.4	90.00	0.0	25.0	25.0	18.5	6.51	3.835 CC, ES, SF		
1,300.0	1,300.0	1,299.3	1,299.3	3.5	3.7	120.80	1.1	26.3	27.2	20.2	6.98	3.889		
1,400.0	1,399.8	1,398.3	1,398.1	3.8	4.0	122.54	4.4	30.2	33.8	26.4	7.43	4.548		
1,500.0	1,499.5	1,496.7	1,496.2	4.0	4.3	124.26	9.9	36.7	44.8	37.0	7.85	5.712		
1,600.0	1,598.9	1,594.1	1,592.9	4.2	4.6	142.51	17.4	45.7	60.6	52.4	8.26	7.340		
1,676.1	1,674.5	1,667.5	1,665.5	4.3	4.7	153.88	23.3	54.0	76.0	67.5	8.49	8.953		
1,700.0	1,698.3	1,690.3	1,688.2	4.3	4.8	153.51	24.9	56.8	81.3	72.8	8.55	9.516		
1,800.0	1,797.6	1,785.5	1,782.3	4.5	5.0	153.24	29.8	69.9	105.0	96.1	8.86	11.851		
1,900.0	1,897.0	1,879.6	1,875.1	4.6	5.2	154.15	32.3	84.7	130.7	121.6	9.17	14.262		
2,000.0	1,996.3	1,974.9	1,969.0	4.7	5.4	155.43	33.0	101.1	158.1	148.6	9.47	16.692		
2,100.0	2,095.6	2,071.0	2,063.6	4.9	5.5	156.37	33.6	117.8	185.6	175.8	9.82	18.902		
2,200.0	2,195.0	2,167.1	2,158.3	5.0	5.7	157.07	34.2	134.5	213.1	203.0	10.17	20.965		
2,300.0	2,294.3	2,263.2	2,252.9	5.2	5.9	157.61	34.8	151.2	240.7	230.2	10.51	22.893		
2,349.1	2,343.1	2,310.3	2,299.4	5.2	5.9	157.83	35.0	159.4	254.2	243.6	10.65	23.877		
2,400.0	2,393.7	2,359.3	2,347.6	5.2	6.0	158.08	35.3	167.9	268.1	257.3	10.79	24.851		
2,500.0	2,493.2	2,455.9	2,442.7	5.4	6.2	158.39	35.9	184.6	294.1	283.0	11.14	26.406		
2,600.0	2,592.9	2,552.9	2,538.2	5.5	6.4	158.55	36.5	201.4	318.5	307.0	11.49	27.729		
2,700.0	2,692.7	2,650.2	2,634.1	5.7	6.5	158.58	37.1	218.3	341.4	329.6	11.84	28.839		
2,800.0	2,792.6	2,747.9	2,730.3	5.8	6.7	158.51	37.7	235.3	362.7	350.5	12.19	29.756		
2,900.0	2,892.6	2,845.6	2,826.5	6.0	6.9	158.37	38.2	252.2	382.4	369.9	12.52	30.549		
3,000.0	2,992.6	2,943.1	2,922.5	6.1	7.1	158.47	36.4	269.1	400.7	387.9	12.86	31.162		
3,007.4	3,000.0	2,950.4	2,929.7	6.2	7.1	96.34	36.3	270.4	402.0	389.1	12.89	31.201		
3,100.0	3,092.6	3,041.6	3,019.5	6.3	7.2	96.40	34.1	286.2	418.2	405.0	13.17	31.749		
3,200.0	3,192.6	3,140.0	3,116.4	6.4	7.4	96.46	31.8	303.3	435.7	422.2	13.50	32.275		
3,300.0	3,292.6	3,238.5	3,213.4	6.5	7.6	96.51	29.4	320.3	453.2	439.3	13.82	32.779		
3,400.0	3,392.6	3,337.0	3,310.3	6.6	7.8	96.56	27.1	337.4	470.6	456.5	14.15	33.262		
3,500.0	3,492.6	3,435.4	3,407.2	6.7	8.0	96.60	24.8	354.4	488.1	473.6	14.47	33.724		
3,600.0	3,592.6	3,533.9	3,504.2	6.9	8.1	96.64	22.4	371.5	505.6	490.8	14.80	34.168		
3,700.0	3,692.6	3,632.3	3,601.1	7.0	8.3	96.68	20.1	388.5	523.1	507.9	15.12	34.590		
3,800.0	3,792.6	3,730.8	3,698.1	7.1	8.5	96.72	17.8	405.6	540.5	525.1	15.45	34.994		
3,900.0	3,892.6	3,829.3	3,795.0	7.2	8.7	96.75	15.4	422.6	558.0	542.3	15.77	35.385		
4,000.0	3,992.6	3,927.7	3,892.0	7.3	8.9	96.78	13.1	439.7	575.5	559.4	16.08	35.781		
4,100.0	4,092.6	4,032.1	3,994.8	7.4	9.1	96.81	10.6	457.5	592.7	576.3	16.39	36.154		
4,200.0	4,192.6	4,142.4	4,103.8	7.5	9.3	96.84	8.3	474.5	608.3	591.5	16.75	36.315		
4,300.0	4,292.6	4,253.4	4,213.7	7.7	9.5	96.86	6.3	489.5	621.9	604.8	17.09	36.384		
4,400.0	4,392.6	4,365.0	4,324.5	7.8	9.7	96.88	4.5	502.4	633.6	616.2	17.43	36.358		
4,500.0	4,492.6	4,477.0	4,436.0	7.9	9.9	96.90	3.0	513.3	643.4	625.6	17.75	36.245		
4,600.0	4,592.6	4,589.4	4,548.0	8.0	10.1	96.91	1.8	522.0	651.2	633.1	18.06	36.050		
4,700.0	4,692.6	4,702.0	4,660.5	8.1	10.3	96.92	0.9	528.5	657.1	638.7	18.36	35.780		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 812H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10409-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor	
4,800.0	4,792.6	4,815.0	4,773.3	8.2	10.4	96.93	0.3	532.9	661.0	642.3	18.65	35.445	
4,900.0	4,892.6	4,928.0	4,886.4	8.3	10.6	96.93	0.0	535.0	662.9	644.0	18.89	35.089	
5,000.0	4,992.6	5,034.2	4,992.6	8.4	10.7	96.93	0.0	535.3	663.1	644.0	19.06	34.789	
5,100.0	5,092.6	5,134.2	5,092.6	8.5	10.8	96.93	0.0	535.3	663.1	643.9	19.24	34.457	
5,200.0	5,192.6	5,234.2	5,192.6	8.6	10.8	96.93	0.0	535.3	663.1	643.7	19.42	34.152	
5,300.0	5,292.6	5,334.2	5,292.6	8.7	10.9	96.93	0.0	535.3	663.1	643.5	19.59	33.852	
5,400.0	5,392.6	5,434.2	5,392.6	8.8	11.0	96.93	0.0	535.3	663.1	643.3	19.76	33.558	
5,500.0	5,492.6	5,534.2	5,492.6	8.9	11.0	96.93	0.0	535.3	663.1	643.2	19.93	33.270	
5,600.0	5,592.6	5,634.2	5,592.6	9.0	11.1	96.93	0.0	535.3	663.1	643.0	20.10	32.986	
5,700.0	5,692.6	5,734.2	5,692.6	9.2	11.2	96.93	0.0	535.3	663.1	642.8	20.27	32.708	
5,800.0	5,792.6	5,834.2	5,792.6	9.3	11.3	96.93	0.0	535.3	663.1	642.7	20.44	32.434	
5,900.0	5,892.6	5,934.2	5,892.6	9.4	11.3	96.93	0.0	535.3	663.1	642.5	20.62	32.165	
6,000.0	5,992.6	6,034.2	5,992.6	9.5	11.4	96.93	0.0	535.3	663.1	642.3	20.79	31.901	
6,100.0	6,092.6	6,134.2	6,092.6	9.6	11.5	96.93	0.0	535.3	663.1	642.1	20.96	31.642	
6,200.0	6,192.6	6,234.2	6,192.6	9.7	11.5	96.93	0.0	535.3	663.1	642.0	21.13	31.387	
6,300.0	6,292.6	6,334.2	6,292.6	9.8	11.6	96.93	0.0	535.3	663.1	641.8	21.30	31.136	
6,400.0	6,392.6	6,434.2	6,392.6	9.9	11.7	96.93	0.0	535.3	663.1	641.6	21.47	30.889	
6,500.0	6,492.6	6,534.2	6,492.6	10.0	11.8	96.93	0.0	535.3	663.1	641.5	21.64	30.647	
6,600.0	6,592.6	6,634.2	6,592.6	10.1	11.8	96.93	0.0	535.3	663.1	641.3	21.81	30.408	
6,700.0	6,692.6	6,734.2	6,692.6	10.2	11.9	96.93	0.0	535.3	663.1	641.1	21.98	30.173	
6,800.0	6,792.6	6,834.2	6,792.6	10.3	12.0	96.93	0.0	535.3	663.1	641.0	22.15	29.943	
6,900.0	6,892.6	6,934.2	6,892.6	10.4	12.1	96.93	0.0	535.3	663.1	640.8	22.32	29.715	
7,000.0	6,992.6	7,034.2	6,992.6	10.5	12.1	96.93	0.0	535.3	663.1	640.6	22.48	29.492	
7,100.0	7,092.6	7,134.2	7,092.6	10.6	12.2	96.93	0.0	535.3	663.1	640.4	22.65	29.272	
7,200.0	7,192.6	7,234.2	7,192.6	10.7	12.3	96.93	0.0	535.3	663.1	640.3	22.82	29.055	
7,300.0	7,292.6	7,334.2	7,292.6	10.8	12.4	96.93	0.0	535.3	663.1	640.1	22.99	28.841	
7,400.0	7,392.6	7,434.2	7,392.6	10.9	12.4	96.93	0.0	535.3	663.1	639.9	23.16	28.631	
7,500.0	7,492.6	7,534.2	7,492.6	10.9	12.5	96.93	0.0	535.3	663.1	639.8	23.33	28.424	
7,600.0	7,592.6	7,634.2	7,592.6	11.0	12.6	96.93	0.0	535.3	663.1	639.6	23.50	28.220	
7,700.0	7,692.6	7,734.2	7,692.6	11.1	12.7	96.93	0.0	535.3	663.1	639.4	23.67	28.020	
7,800.0	7,792.6	7,834.2	7,792.6	11.2	12.7	96.93	0.0	535.3	663.1	639.3	23.83	27.822	
7,900.0	7,892.6	7,934.2	7,892.6	11.3	12.8	96.93	0.0	535.3	663.1	639.1	24.00	27.627	
8,000.0	7,992.6	8,034.2	7,992.6	11.4	12.9	96.93	0.0	535.3	663.1	638.9	24.17	27.435	
8,100.0	8,092.6	8,134.2	8,092.6	11.5	12.9	96.93	0.0	535.3	663.1	638.8	24.34	27.245	
8,200.0	8,192.6	8,234.2	8,192.6	11.6	13.0	96.93	0.0	535.3	663.1	638.6	24.51	27.058	
8,300.0	8,292.6	8,334.2	8,292.6	11.7	13.1	96.93	0.0	535.3	663.1	638.4	24.67	26.874	
8,400.0	8,392.6	8,434.2	8,392.6	11.8	13.2	96.93	0.0	535.3	663.1	638.3	24.84	26.693	
8,500.0	8,492.6	8,534.2	8,492.6	11.9	13.2	96.93	0.0	535.3	663.1	638.1	25.01	26.514	
8,600.0	8,592.6	8,634.2	8,592.6	12.0	13.3	96.93	0.0	535.3	663.1	637.9	25.18	26.338	
8,700.0	8,692.6	8,734.2	8,692.6	12.1	13.4	96.93	0.0	535.3	663.1	637.8	25.34	26.164	
8,800.0	8,792.6	8,834.2	8,792.6	12.2	13.5	96.93	0.0	535.3	663.1	637.6	25.51	25.992	
8,900.0	8,892.6	8,934.2	8,892.6	12.3	13.5	96.93	0.0	535.3	663.1	637.4	25.68	25.823	
9,000.0	8,992.6	9,034.2	8,992.6	12.4	13.6	96.93	0.0	535.3	663.1	637.3	25.85	25.656	
9,100.0	9,092.6	9,134.2	9,092.6	12.5	13.7	96.93	0.0	535.3	663.1	637.1	26.01	25.491	
9,200.0	9,192.6	9,234.2	9,192.6	12.6	13.8	96.93	0.0	535.3	663.1	636.9	26.18	25.328	
9,300.0	9,292.6	9,334.2	9,292.6	12.7	13.9	96.93	0.0	535.3	663.1	636.8	26.35	25.168	
9,400.0	9,392.6	9,434.2	9,392.6	12.8	13.9	96.93	0.0	535.3	663.1	636.6	26.51	25.009	
9,500.0	9,492.6	9,534.2	9,492.6	12.9	14.0	96.93	0.0	535.3	663.1	636.4	26.68	24.853	
9,600.0	9,592.6	9,634.2	9,592.6	12.9	14.1	96.93	0.0	535.3	663.1	636.3	26.85	24.698	
9,700.0	9,692.6	9,734.2	9,692.6	13.0	14.2	96.93	0.0	535.3	663.1	636.1	27.01	24.546	
9,800.0	9,792.6	9,834.2	9,792.6	13.1	14.2	96.93	0.0	535.3	663.1	635.9	27.18	24.396	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 812H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program:		0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10409-r.5 MWD+IFR1+SAG+FDIR						Rule Assigned:				Offset Well Error:	0.0 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
9,900.0	9,892.6	9,934.2	9,892.6	13.2	14.3	96.93	0.0	535.3	663.1	635.8	27.35	24.247		
10,000.0	9,992.6	10,034.2	9,992.6	13.3	14.4	96.93	0.0	535.3	663.1	635.6	27.51	24.100		
10,100.0	10,092.6	10,134.2	10,092.6	13.4	14.5	96.93	0.0	535.3	663.1	635.4	27.68	23.955		
10,121.9	10,114.5	10,156.1	10,114.5	13.4	14.5	96.93	0.0	535.3	663.1	635.4	27.71	23.932		
10,125.0	10,117.6	10,159.2	10,117.6	13.4	14.5	97.07	0.0	535.3	663.1	635.4	27.71	23.929		
10,150.0	10,142.5	10,184.2	10,142.5	13.4	14.5	97.13	0.0	535.3	663.2	635.5	27.74	23.906		
10,175.0	10,167.4	10,209.1	10,167.4	13.4	14.5	97.27	0.0	535.3	663.5	635.7	27.76	23.896		
10,200.0	10,192.2	10,233.9	10,192.2	13.5	14.5	97.51	0.0	535.3	663.9	636.1	27.79	23.893		
10,225.0	10,216.8	10,258.4	10,216.8	13.5	14.6	97.83	0.0	535.3	664.6	636.7	27.81	23.897		
10,250.0	10,241.0	10,282.7	10,241.0	13.5	14.6	98.23	0.0	535.3	665.4	637.6	27.83	23.910		
10,275.0	10,264.9	10,306.6	10,264.9	13.5	14.6	98.68	0.0	535.3	666.5	638.7	27.85	23.932		
10,300.0	10,288.5	10,330.1	10,288.5	13.5	14.6	99.20	0.0	535.3	667.9	640.1	27.87	23.965		
10,325.0	10,311.5	10,353.1	10,311.5	13.5	14.6	99.75	0.0	535.3	669.7	641.8	27.89	24.010		
10,350.0	10,334.0	10,375.6	10,334.0	13.5	14.6	100.33	0.0	535.3	671.8	643.9	27.91	24.068		
10,375.0	10,355.9	10,399.0	10,357.4	13.6	14.7	100.98	0.0	535.3	674.3	646.4	27.93	24.142		
10,400.0	10,377.1	10,431.1	10,389.4	13.6	14.7	101.96	1.4	535.3	677.1	649.1	27.95	24.229		
10,425.0	10,397.6	10,464.7	10,422.8	13.6	14.7	102.95	5.2	535.2	680.0	652.0	27.96	24.318		
10,450.0	10,417.3	10,500.0	10,457.5	13.6	14.7	103.93	11.7	535.2	683.0	655.0	27.99	24.396		
10,475.0	10,436.3	10,537.1	10,493.3	13.6	14.7	104.91	21.2	535.2	686.0	657.9	28.05	24.455		
10,500.0	10,454.3	10,576.1	10,530.1	13.7	14.7	105.86	34.3	535.2	689.0	660.8	28.14	24.487		
10,525.0	10,471.4	10,617.1	10,567.5	13.7	14.7	106.79	51.1	535.1	691.9	663.6	28.26	24.485		
10,550.0	10,487.5	10,660.2	10,605.0	13.7	14.7	107.67	72.2	535.1	694.6	666.2	28.42	24.444		
10,575.0	10,502.6	10,705.3	10,642.1	13.7	14.7	108.49	97.9	535.0	697.2	668.5	28.62	24.361		
10,600.0	10,516.6	10,752.4	10,678.1	13.7	14.7	109.22	128.2	535.0	699.4	670.6	28.86	24.237		
10,625.0	10,529.5	10,801.3	10,712.1	13.7	14.7	109.85	163.4	534.9	701.4	672.2	29.13	24.076		
10,650.0	10,541.3	10,851.8	10,743.3	13.8	14.7	110.35	203.1	534.8	702.9	673.4	29.42	23.889		
10,675.0	10,551.9	10,903.6	10,770.6	13.8	14.8	110.71	246.9	534.7	703.9	674.2	29.72	23.687		
10,700.0	10,561.3	10,956.1	10,793.4	13.8	14.8	110.89	294.2	534.6	704.5	674.5	30.00	23.483		
10,725.0	10,569.5	11,008.9	10,810.9	13.8	14.9	110.91	344.0	534.5	704.5	674.3	30.25	23.290		
10,750.0	10,576.5	11,061.5	10,822.8	13.8	15.0	110.74	395.2	534.4	704.1	673.6	30.46	23.116		
10,775.0	10,582.2	11,113.4	10,829.0	13.8	15.1	110.42	446.7	534.3	703.1	672.5	30.61	22.967		
10,800.0	10,586.6	11,153.8	10,830.0	13.9	15.2	110.09	487.1	534.2	701.7	671.0	30.69	22.862		
10,825.0	10,589.7	11,178.6	10,830.0	13.9	15.2	109.97	511.9	534.1	700.7	669.9	30.74	22.791		
10,850.0	10,591.5	11,203.5	10,830.0	13.9	15.3	109.90	536.8	534.1	700.1	669.2	30.81	22.719		
10,870.6	10,592.0	11,224.1	10,830.0	13.9	15.3	109.88	557.4	534.0	699.9	669.0	30.89	22.655		
10,900.0	10,592.0	11,253.5	10,830.0	13.9	15.4	109.88	586.8	534.0	699.9	668.9	31.02	22.563		
11,000.0	10,592.3	11,353.5	10,830.1	14.1	15.7	109.86	686.8	533.7	699.8	668.3	31.51	22.209		
11,100.0	10,592.6	11,453.5	10,830.2	14.5	16.0	109.85	786.8	533.5	699.8	667.7	32.08	21.816		
11,200.0	10,592.9	11,553.5	10,830.3	14.8	16.4	109.83	886.8	533.3	699.7	667.0	32.71	21.389		
11,300.0	10,593.2	11,653.5	10,830.3	15.3	16.8	109.81	986.8	533.1	699.7	666.3	33.42	20.936		
11,400.0	10,593.4	11,753.5	10,830.4	15.7	17.3	109.80	1,086.8	532.9	699.6	665.4	34.19	20.464		
11,500.0	10,593.7	11,853.5	10,830.5	16.2	17.8	109.78	1,186.8	532.6	699.6	664.6	35.02	19.978		
11,600.0	10,594.0	11,953.5	10,830.5	16.7	18.3	109.77	1,286.8	532.4	699.5	663.6	35.90	19.486		
11,700.0	10,594.3	12,053.5	10,830.6	17.2	18.8	109.75	1,386.8	532.2	699.5	662.6	36.83	18.990		
11,800.0	10,594.5	12,153.5	10,830.7	17.8	19.3	109.73	1,486.8	532.0	699.4	661.6	37.81	18.496		
11,900.0	10,594.8	12,253.5	10,830.8	18.4	19.9	109.72	1,586.8	531.7	699.4	660.5	38.84	18.006		
12,000.0	10,595.1	12,353.5	10,830.8	19.0	20.5	109.70	1,686.8	531.5	699.3	659.4	39.91	17.523		
12,100.0	10,595.4	12,453.5	10,830.9	19.6	21.1	109.68	1,786.8	531.3	699.3	658.2	41.01	17.050		
12,200.0	10,595.7	12,553.5	10,831.0	20.3	21.7	109.67	1,886.8	531.1	699.2	657.1	42.15	16.587		
12,300.0	10,595.9	12,653.5	10,831.0	20.9	22.4	109.65	1,986.8	530.9	699.2	655.8	43.33	16.136		
12,400.0	10,596.2	12,753.5	10,831.1	21.6	23.0	109.63	2,086.8	530.6	699.1	654.6	44.54	15.695		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 812H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10409-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Separation Factor	
12,500.0	10,596.5	12,853.5	10,831.2	22.3	23.7	109.62	2,186.8	530.4	699.1	653.3	45.79	15.266	
12,600.0	10,596.8	12,953.5	10,831.3	23.0	24.4	109.60	2,286.8	530.2	699.0	654.0	44.99	15.538	
12,700.0	10,597.0	13,053.5	10,831.3	23.7	25.1	109.58	2,386.8	530.0	698.9	655.7	43.27	16.153	
12,800.0	10,597.3	13,153.5	10,831.4	24.4	25.8	109.57	2,486.8	529.8	698.9	655.2	43.70	15.993	
12,900.0	10,597.6	13,253.5	10,831.5	25.2	26.5	109.55	2,586.8	529.5	698.8	654.4	44.44	15.726	
13,000.0	10,597.9	13,353.5	10,831.5	25.9	27.2	109.54	2,686.8	529.3	698.8	653.5	45.28	15.434	
13,100.0	10,598.2	13,453.5	10,831.6	26.6	27.9	109.52	2,786.8	529.1	698.7	652.6	46.17	15.134	
13,200.0	10,598.4	13,553.5	10,831.7	27.4	28.6	109.50	2,886.8	528.9	698.7	651.6	47.10	14.836	
13,300.0	10,598.7	13,653.5	10,831.8	28.1	29.4	109.49	2,986.8	528.6	698.6	650.6	48.05	14.541	
13,400.0	10,599.0	13,753.5	10,831.8	28.9	30.1	109.47	3,086.8	528.4	698.6	649.6	49.02	14.252	
13,500.0	10,599.3	13,853.5	10,831.9	29.7	30.9	109.45	3,186.8	528.2	698.5	648.5	50.00	13.970	
13,600.0	10,599.5	13,953.5	10,832.0	30.4	31.6	109.44	3,286.8	528.0	698.5	647.5	51.00	13.695	
13,700.0	10,599.8	14,053.5	10,832.1	31.2	32.4	109.42	3,386.8	527.8	698.4	646.4	52.02	13.426	
13,800.0	10,600.1	14,153.5	10,832.1	32.0	33.2	109.40	3,486.8	527.5	698.4	645.3	53.05	13.166	
13,900.0	10,600.4	14,253.5	10,832.2	32.8	33.9	109.39	3,586.8	527.3	698.3	644.3	54.08	12.912	
14,000.0	10,600.7	14,353.5	10,832.3	33.6	34.7	109.37	3,686.8	527.1	698.3	643.2	55.13	12.666	
14,100.0	10,600.9	14,453.5	10,832.3	34.4	35.5	109.35	3,786.8	526.9	698.2	642.0	56.19	12.427	
14,200.0	10,601.2	14,553.5	10,832.4	35.2	36.3	109.34	3,886.8	526.7	698.2	640.9	57.25	12.195	
14,300.0	10,601.5	14,653.5	10,832.5	36.0	37.1	109.32	3,986.8	526.4	698.1	639.8	58.33	11.969	
14,400.0	10,601.8	14,753.5	10,832.6	36.8	37.9	109.30	4,086.8	526.2	698.1	638.7	59.41	11.751	
14,500.0	10,602.1	14,853.5	10,832.6	37.6	38.7	109.29	4,186.8	526.0	698.0	637.5	60.50	11.538	
14,600.0	10,602.3	14,953.5	10,832.7	38.4	39.5	109.27	4,286.8	525.8	698.0	636.4	61.59	11.332	
14,700.0	10,602.6	15,053.5	10,832.8	39.2	40.2	109.26	4,386.8	525.5	697.9	635.2	62.69	11.133	
14,800.0	10,602.9	15,153.5	10,832.8	40.0	41.0	109.24	4,486.8	525.3	697.9	634.1	63.80	10.939	
14,900.0	10,603.2	15,253.5	10,832.9	40.8	41.9	109.22	4,586.8	525.1	697.8	632.9	64.91	10.750	
15,000.0	10,603.4	15,353.5	10,833.0	41.6	42.7	109.21	4,686.8	524.9	697.8	631.7	66.03	10.567	
15,100.0	10,603.7	15,453.5	10,833.1	42.4	43.5	109.19	4,786.8	524.7	697.7	630.6	67.16	10.390	
15,200.0	10,604.0	15,553.5	10,833.1	43.2	44.3	109.17	4,886.8	524.4	697.7	629.4	68.28	10.217	
15,300.0	10,604.3	15,653.5	10,833.2	44.1	45.1	109.16	4,986.8	524.2	697.6	628.2	69.42	10.050	
15,400.0	10,604.6	15,753.5	10,833.3	44.9	45.9	109.14	5,086.8	524.0	697.6	627.0	70.55	9.887	
15,500.0	10,604.8	15,853.5	10,833.3	45.7	46.7	109.12	5,186.8	523.8	697.5	625.8	71.70	9.729	
15,600.0	10,605.1	15,953.5	10,833.4	46.5	47.5	109.11	5,286.8	523.5	697.5	624.6	72.84	9.575	
15,700.0	10,605.4	16,053.5	10,833.5	47.3	48.3	109.09	5,386.8	523.3	697.4	623.4	73.99	9.426	
15,800.0	10,605.7	16,153.5	10,833.6	48.2	49.2	109.07	5,486.8	523.1	697.4	622.2	75.14	9.281	
15,900.0	10,605.9	16,253.5	10,833.6	49.0	50.0	109.06	5,586.8	522.9	697.3	621.0	76.30	9.139	
16,000.0	10,606.2	16,353.5	10,833.7	49.8	50.8	109.04	5,686.8	522.7	697.3	619.8	77.46	9.002	
16,100.0	10,606.5	16,453.5	10,833.8	50.6	51.6	109.02	5,786.8	522.4	697.2	618.6	78.62	8.868	
16,200.0	10,606.8	16,553.5	10,833.8	51.5	52.4	109.01	5,886.8	522.2	697.2	617.4	79.79	8.738	
16,300.0	10,607.1	16,653.5	10,833.9	52.3	53.3	108.99	5,986.8	522.0	697.1	616.2	80.96	8.611	
16,400.0	10,607.3	16,753.5	10,834.0	53.1	54.1	108.97	6,086.8	521.8	697.1	615.0	82.13	8.488	
16,500.0	10,607.6	16,853.5	10,834.1	54.0	54.9	108.96	6,186.8	521.6	697.0	613.7	83.30	8.367	
16,600.0	10,607.9	16,953.5	10,834.1	54.8	55.8	108.94	6,286.8	521.3	697.0	612.5	84.48	8.250	
16,700.0	10,608.2	17,053.5	10,834.2	55.6	56.6	108.92	6,386.8	521.1	696.9	611.3	85.66	8.136	
16,800.0	10,608.4	17,153.5	10,834.3	56.5	57.4	108.91	6,486.8	520.9	696.9	610.0	86.84	8.025	
16,900.0	10,608.7	17,253.5	10,834.3	57.3	58.2	108.89	6,586.8	520.7	696.8	608.8	88.03	7.916	
17,000.0	10,609.0	17,353.5	10,834.4	58.1	59.1	108.88	6,686.8	520.4	696.8	607.6	89.21	7.810	
17,100.0	10,609.3	17,453.5	10,834.5	59.0	59.9	108.86	6,786.8	520.2	696.7	606.3	90.40	7.707	
17,200.0	10,609.6	17,553.5	10,834.6	59.8	60.7	108.84	6,886.8	520.0	696.7	605.1	91.59	7.607	
17,300.0	10,609.8	17,653.5	10,834.6	60.6	61.6	108.83	6,986.8	519.8	696.6	603.9	92.78	7.508	
17,400.0	10,610.1	17,753.5	10,834.7	61.5	62.4	108.81	7,086.8	519.6	696.6	602.6	93.98	7.412	
17,500.0	10,610.4	17,853.5	10,834.8	62.3	63.2	108.79	7,186.8	519.3	696.5	601.4	95.17	7.319	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 812H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 10409-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
17,600.0	10,610.7	17,953.5	10,834.8	63.2	64.1	108.78	7,286.8	519.1	696.5	600.1	96.37	7.227	
17,700.0	10,610.9	18,053.5	10,834.9	64.0	64.9	108.76	7,386.8	518.9	696.4	598.9	97.57	7.138	
17,800.0	10,611.2	18,153.5	10,835.0	64.8	65.7	108.74	7,486.8	518.7	696.4	597.6	98.77	7.051	
17,900.0	10,611.5	18,253.5	10,835.1	65.7	66.6	108.73	7,586.8	518.5	696.4	596.4	99.97	6.965	
18,000.0	10,611.8	18,353.5	10,835.1	66.5	67.4	108.71	7,686.8	518.2	696.3	595.1	101.18	6.882	
18,100.0	10,612.1	18,453.5	10,835.2	67.4	68.3	108.69	7,786.8	518.0	696.3	593.9	102.38	6.801	
18,200.0	10,612.3	18,553.5	10,835.3	68.2	69.1	108.68	7,886.8	517.8	696.2	592.6	103.59	6.721	
18,300.0	10,612.6	18,653.5	10,835.4	69.0	69.9	108.66	7,986.8	517.6	696.2	591.4	104.80	6.643	
18,400.0	10,612.9	18,753.5	10,835.4	69.9	70.8	108.64	8,086.8	517.3	696.1	590.1	106.00	6.567	
18,500.0	10,613.2	18,853.5	10,835.5	70.7	71.6	108.63	8,186.8	517.1	696.1	588.8	107.22	6.492	
18,600.0	10,613.4	18,953.5	10,835.6	71.6	72.5	108.61	8,286.8	516.9	696.0	587.6	108.43	6.419	
18,700.0	10,613.7	19,053.5	10,835.6	72.4	73.3	108.59	8,386.8	516.7	696.0	586.3	109.64	6.348	
18,800.0	10,614.0	19,153.5	10,835.7	73.3	74.1	108.58	8,486.8	516.5	695.9	585.1	110.85	6.278	
18,900.0	10,614.3	19,253.5	10,835.8	74.1	75.0	108.56	8,586.8	516.2	695.9	583.8	112.07	6.209	
19,000.0	10,614.6	19,353.5	10,835.9	75.0	75.8	108.54	8,686.8	516.0	695.8	582.5	113.29	6.142	
19,100.0	10,614.8	19,453.5	10,835.9	75.8	76.7	108.53	8,786.8	515.8	695.8	581.3	114.50	6.076	
19,200.0	10,615.1	19,553.5	10,836.0	76.6	77.5	108.51	8,886.8	515.6	695.7	580.0	115.72	6.012	
19,300.0	10,615.4	19,653.5	10,836.1	77.5	78.3	108.49	8,986.8	515.4	695.7	578.7	116.94	5.949	
19,400.0	10,615.7	19,753.5	10,836.1	78.3	79.2	108.48	9,086.8	515.1	695.6	577.5	118.16	5.887	
19,500.0	10,616.0	19,853.5	10,836.2	79.2	80.0	108.46	9,186.8	514.9	695.6	576.2	119.38	5.827	
19,600.0	10,616.2	19,953.5	10,836.3	80.0	80.9	108.44	9,286.8	514.7	695.5	574.9	120.60	5.767	
19,700.0	10,616.5	20,053.5	10,836.4	80.9	81.7	108.43	9,386.8	514.5	695.5	573.7	121.83	5.709	
19,800.0	10,616.8	20,153.5	10,836.4	81.7	82.6	108.41	9,486.8	514.2	695.4	572.4	123.05	5.652	
19,900.0	10,617.1	20,253.5	10,836.5	82.6	83.4	108.39	9,586.8	514.0	695.4	571.1	124.27	5.596	
20,000.0	10,617.3	20,353.5	10,836.6	83.4	84.3	108.38	9,686.8	513.8	695.3	569.8	125.50	5.541	
20,100.0	10,617.6	20,453.5	10,836.6	84.3	85.1	108.36	9,786.8	513.6	695.3	568.6	126.73	5.487	
20,200.0	10,617.9	20,553.5	10,836.7	85.1	85.9	108.34	9,886.8	513.4	695.3	567.3	127.95	5.434	
20,300.0	10,618.2	20,653.5	10,836.8	86.0	86.8	108.33	9,986.8	513.1	695.2	566.0	129.18	5.382	
20,400.0	10,618.5	20,753.5	10,836.9	86.8	87.6	108.31	10,086.8	512.9	695.2	564.7	130.41	5.331	
20,500.0	10,618.7	20,853.5	10,836.9	87.7	88.5	108.29	10,186.8	512.7	695.1	563.5	131.64	5.280	
20,596.8	10,619.0	20,950.3	10,837.0	88.5	89.2	108.28	10,283.6	512.5	695.1	562.4	132.68	5.239	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 907H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
20,100.0	10,617.6	10,450.0	10,417.0	84.3	20.2	69.33	10,564.1	389.2	966.1	889.7	76.42	12.641	
20,200.0	10,617.9	10,465.6	10,432.1	85.1	20.1	70.74	10,568.0	389.2	887.4	806.3	81.03	10.951	
20,300.0	10,618.2	10,478.5	10,444.5	86.0	20.1	71.93	10,571.5	389.2	813.0	727.5	85.48	9.511	
20,400.0	10,618.5	10,500.0	10,465.0	86.8	20.1	73.93	10,578.1	389.1	744.1	654.6	89.52	8.313	
20,500.0	10,618.7	10,511.8	10,476.1	87.7	20.0	75.03	10,582.0	389.1	682.1	589.2	92.93	7.340	
20,596.8	10,619.0	10,532.9	10,495.8	88.5	20.0	77.00	10,589.5	389.1	630.5	535.1	95.40	6.609 CC, ES, SF	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 908H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
20,000.0	10,617.3	10,378.6	10,315.5	83.4	28.4	5.36	10,573.4	-119.6	938.2	896.0	42.26	22.203	
20,100.0	10,617.6	10,400.0	10,335.6	84.3	28.4	5.74	10,580.7	-119.7	844.2	801.5	42.68	19.780	
20,200.0	10,617.9	10,400.0	10,335.6	85.1	28.4	5.74	10,580.7	-119.7	750.8	707.1	43.70	17.183	
20,300.0	10,618.2	10,424.0	10,357.8	86.0	28.3	6.21	10,589.7	-119.7	658.5	614.1	44.41	14.828	
20,400.0	10,618.5	10,450.0	10,381.5	86.8	28.3	6.82	10,600.6	-119.8	567.7	522.4	45.28	12.535	
20,500.0	10,618.7	10,467.5	10,397.0	87.7	28.3	7.28	10,608.4	-119.8	478.3	431.4	46.97	10.185	
20,596.8	10,619.0	10,500.0	10,425.4	88.5	28.2	8.32	10,624.3	-119.9	394.0	345.6	48.39	8.142 CC, ES, SF	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 909H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
20,100.0	10,617.6	10,550.0	10,423.8	84.3	34.4	-67.87	10,551.7	-629.9	926.5	854.1	72.42	12.794	
20,200.0	10,617.9	10,550.0	10,423.8	85.1	34.4	-67.87	10,551.7	-629.9	845.6	767.5	78.17	10.818	
20,300.0	10,618.2	10,572.7	10,445.7	86.0	34.4	-70.13	10,557.8	-629.9	768.6	684.6	84.00	9.150	
20,400.0	10,618.5	10,588.1	10,460.4	86.8	34.4	-71.69	10,562.4	-629.9	696.9	607.1	89.76	7.764	
20,500.0	10,618.7	10,600.0	10,471.6	87.7	34.4	-72.91	10,566.2	-629.9	632.1	537.0	95.12	6.646	
20,596.8	10,619.0	10,628.0	10,497.8	88.5	34.3	-75.79	10,576.2	-630.0	577.8	478.3	99.50	5.807 CC, ES, SF	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB @ 2944.0usft (NABORS X09)

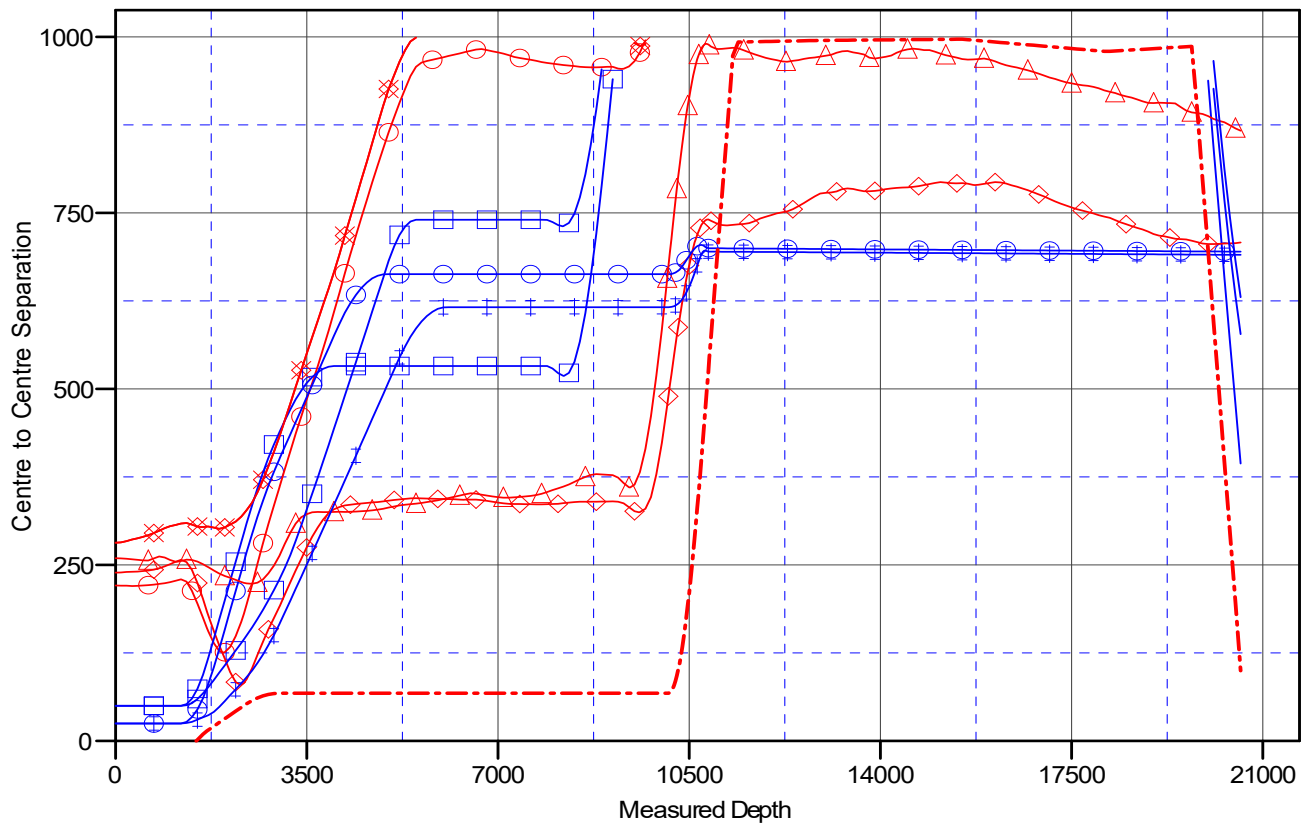
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: RICK VAUGHN FED COM 810H

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

Grid Convergence at Surface is: 0.16°

Ladder Plot**LEGEND**

RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0	RICK VAUGHN FED COM 503H, OWB, PWP1 V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0
_WILD THING FED COM 909H, OWB, PWP0 V0	RICK VAUGHN FED COM 812H, OWB, PWP1 V0	RICK VAUGHN FED COM 814H, OWB, PWP1 V0
RICK VAUGHN 7 WA FED COM 1H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 8H, OWB, AWP V0	_WILD THING FED COM 909H, OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 8H, OWB, AWP V0	RICK VAUGHN FED COM 50H, OWB, PWP1 V0	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 810H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2944.0usft (NABORS X09)
Reference Site:	RICK VAUGHN FED COM PROJECT	MD Reference:	KB @ 2944.0usft (NABORS X09)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	RICK VAUGHN FED COM 810H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB @ 2944.0usft (NABORS X09)

Offset Depths are relative to Offset Datum

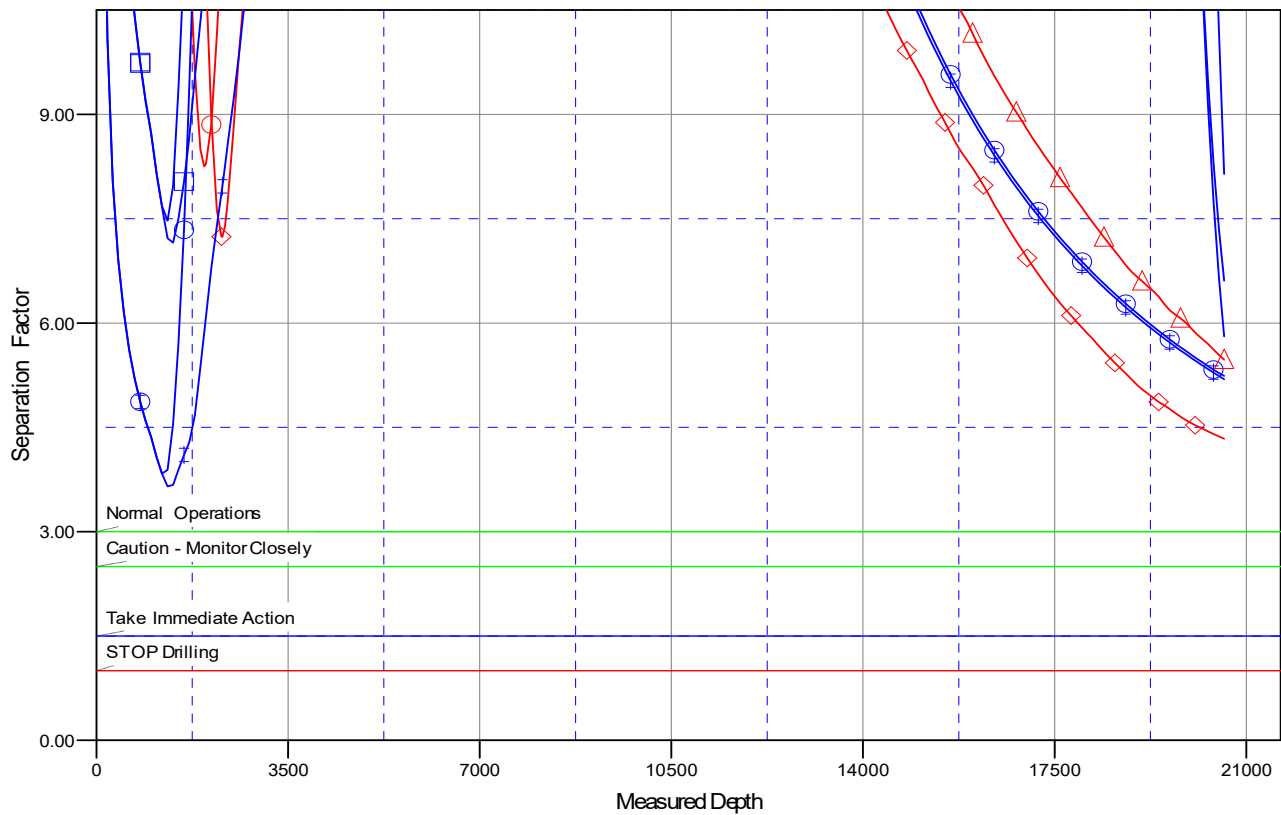
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: RICK VAUGHN FED COM 810H

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

Grid Convergence at Surface is: 0.16°

Separation Factor Plot



LEGEND

RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 812H, OWB, PWP1 V0	RICK VAUGHN 7 WA FED COM 810H, OWB, PWP1 V0
_WILD THING FED COM 909H OWB, PWP0 V0	RICK VAUGHN 7 WA FED COM 810H, OWB, PWP1 V0	_WILD THING FED COM 909H OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 810H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 810H, OWB, PWP1 V0	_WILD THING FED COM 909H OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 810H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 810H, OWB, PWP1 V0	_WILD THING FED COM 909H OWB, PWP0 V0

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

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type:	☒ Initial Submittal
			☐ Amended Report
			☐ As Drilled

WELL LOCATION INFORMATION

API Number 30-015-56026	Pool Code 98220	Pool Name Purple Sage; Wolfcamp (Gas)
Property Code 336292	Property Name RICK VAUGHN FED COM	Well Number 810H
OGRID No. 372098	Operator Name MARATHON OIL PERMIAN LLC	Ground Level Elevation 2,912'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☒ Federal

Surface Location

UL N	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 88' FSL	Ft. from E/W 1,444' FWL	Latitude 32.050128°	Longitude -104.027474°	County EDDY
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Bottom Hole Location

UL LOT 1	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 200' FNL	Ft. from E/W 1,320' FWL	Latitude 32.078395°	Longitude -104.027856°	County EDDY
--------------------	---------------------	------------------------	---------------------	-----	---------------------------------	-----------------------------------	-------------------------------	----------------------------------	-----------------------

Dedicated Acres 638.40	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code Com
Order Numbers.			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL N	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 88' FSL	Ft. from E/W 1,444' FWL	Latitude 32.050128°	Longitude -104.027474°	County EDDY
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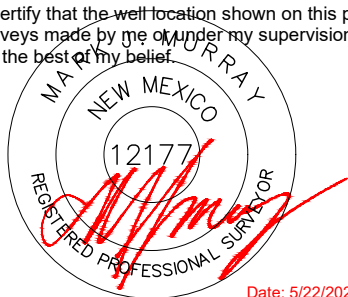
First Take Point (FTP)

UL N	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 330' FSL	Ft. from E/W 1,320' FWL	Latitude 32.050794°	Longitude -104.027875°	County EDDY
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Last Take Point (LTP)

UL LOT 1	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 330' FNL	Ft. from E/W 1,320' FWL	Latitude 32.078037°	Longitude -104.027858°	County EDDY
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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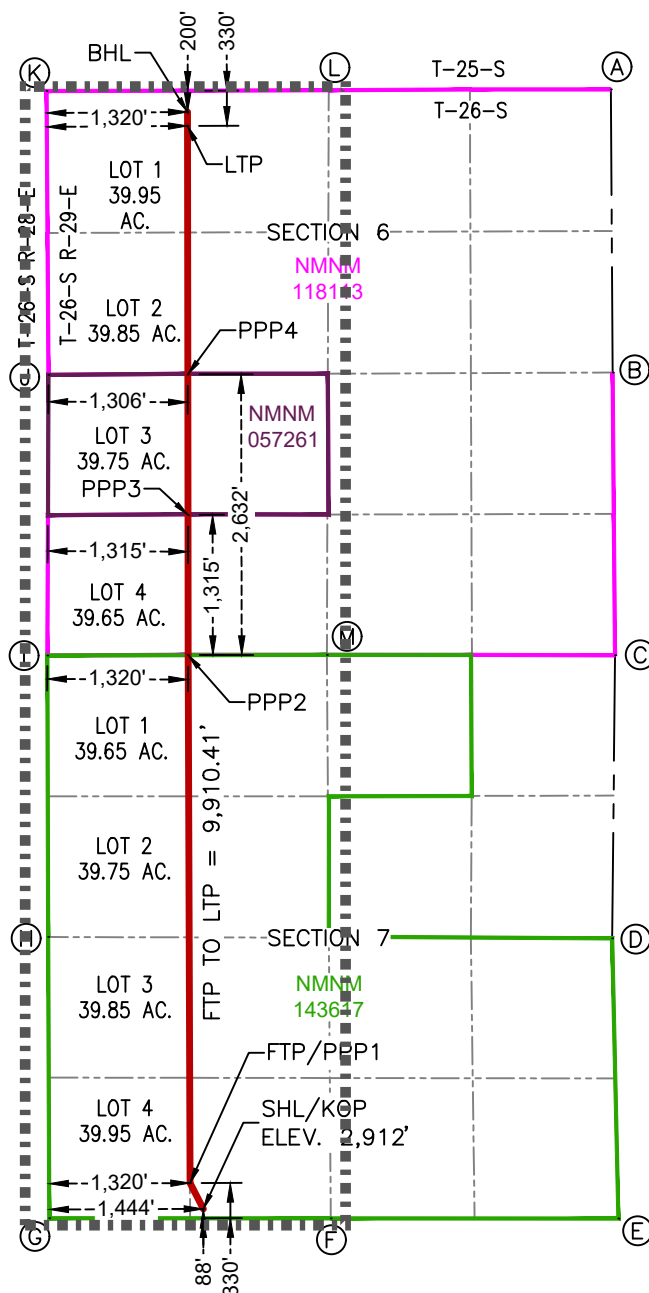
OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		SURVEYOR CERTIFICATIONS 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.  Date: 5/22/2025	
Signature 	Date 6/10/2025	Signature and Seal of Professional Surveyor	
Printed Name Stan Wagner		Certificate Number 12177	Date of Survey 5/22/2025
Email Address			

Note: 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.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

RICK VAUGHN FED COM 810H

**SURFACE HOLE LOCATION
& KICK-OFF POINT**
88' FSL & 1,444' FWL
ELEV.=2,912'

NAD 83 X = 636,098.97'
NAD 83 Y = 382,108.72'
NAD 83 LAT = 32.050128°
NAD 83 LONG = -104.027474°

**FIRST TAKE POINT &
PENETRATION POINT 1**
330' FSL & 1,320' FWL
NAD 83 X = 635,973.91'
NAD 83 Y = 382,350.83'
NAD 83 LAT = 32.050794°
NAD 83 LONG = -104.027875°

PENETRATION POINT 2
0' FNL & 1,320' FWL
NAD 83 X = 635,956.56'
NAD 83 Y = 387,299.87'
NAD 83 LAT = 32.064399°
NAD 83 LONG = -104.027886°

PENETRATION POINT 3
1,315' FSL & 1,313' FWL
NAD 83 X = 635,955.15'
NAD 83 Y = 388,614.76'
NAD 83 LAT = 32.068014°
NAD 83 LONG = -104.027878°

PENETRATION POINT 4
2,632' FSL & 1,306' FWL
NAD 83 X = 635,953.73'
NAD 83 Y = 389,932.31'
NAD 83 LAT = 32.071635°
NAD 83 LONG = -104.027871°

LAST TAKE POINT
330' FNL & 1,320' FWL
NAD 83 X = 635,951.21'
NAD 83 Y = 392,261.20'
NAD 83 LAT = 32.078037°
NAD 83 LONG = -104.027858°

**CORNER COORDINATES
NEW MEXICO EAST - NAD 83**

A	N:392,602.51' E:639,919.75'	F	N:382,020.16' E:637,293.61'	K	N:392,587.31' E:634,628.96'
B	N:389,949.16' E:639,935.13'	G	N:382,021.35' E:634,655.33'	L	N:392,595.03' E:637,274.83'
C	N:387,298.24' E:639,958.45'	H	N:384,657.30' E:634,644.87'	M	N:387,302.75' E:637,257.20'
D	N:384,644.57' E:639,931.43'	I	N:387,296.79' E:634,636.66'		
E	N:382,018.12' E:639,989.46'	J	N:389,926.86' E:634,647.74'		

BOTTOM HOLE LOCATION
200' FNL & 1,320' FWL

NAD 83 X = 635,951.21'
NAD 83 Y = 392,391.20'
NAD 83 LAT = 32.078395°
NAD 83 LONG = -104.027856°

ConocoPhillips - Rick Vaughn Federal Com 810H

1. Geologic Formations

TVD of Target:	10,619' EOL	Pilot hole depth:	N/A
MD at TD:	20,596'	Deepest expected fresh water:	90'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	417	Water	
Top of Salt	899	Salt	
Base of Salt	2515	Salt	
Lamar	2700	Salt Water	
Bell Canyon	2746	Salt Water	
Cherry Canyon	3590	Oil/Gas	
Brushy Canyon	4848	Oil/Gas	
Bone Spring	6447	Oil/Gas	
1st Bone Spring Sand	7349	Oil/Gas	
2nd Bone Spring Sand	8214	Oil/Gas	
3rd Bone Spring Sand	9214	Oil/Gas	
Wolfcamp A	9693	Oil/Gas	
Wolfcamp B	9981	Oil/Gas	
Wolfcamp C	10552	Target Oil/Gas	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	350	10.75"	45.5	J55	BTC	13.05	16.76	44.90	49.98
9.875"	0	7500	7.625"	29.7	L80-ICV	BTC	2.88	1.15	3.26	3.29
8.750"	7500	10020	7.625"	29.7	P110-ICV	W513	3.38	1.73	3.59	2.15
6.75"	0	9820	5.5"	20	P110-ICV	BTC	3.11	2.25	3.71	3.71
6.75"	9820	20,596	5.5"	20	P110-ICV	W441	2.97	2.25	3.43	2.80
COP Minimum Safety Factor							1.05	1.15	1.4	1.4

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.

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172

The 5 1/2" W441 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.

ConocoPhillips - Rick Vaughn Federal Com 810H

	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?	

ConocoPhillips - Rick Vaughn Federal Com 810H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	24	13.5	1.75	9	12	Lead: Class C
	187	14.8	1.34	6.34	8	Tail: Class C
Int. Stage 1	1028	11	2.54	15.33	12	Lead: Class C
	112	14.8	1.34	6.52	8	Tail: Class C
Int. Stage 2	214	12.9	1.9	10.52	24	Lead: Class C
	192	14.8	1.34	6.52	8	Tail: Class C
Prod	543	12.7	1.68	9.09	72	Lead: Class C
	1030	14.5	1.18	5.26	19	Tail: Class H

Intermediate cement job to be performed offline.

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.

Stage tool ~50' into Lamar if required.

Casing String	TOC	% Excess
Surface	0'	50% in OH
Int Stg 1	0'	50% in OH
Int Stg 2	0'	20% in OH
Production	9,520'	35% OH in Lateral (KOP to EOL)

3b. Contingency Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	24	13.5	1.75	9	12	Lead: Class C
	187	14.8	1.34	6.34	8	Tail: Class C
Bradenhead Stage 1	467	15.6	1.216	5.28	6	Stage 1 Lead: Class H
Bradenhead Stage 2	2000	13.0	1.93	10.57	4	Bradenhead: Thixotropic Class C
	400	14.8	1.33	6.4	5	Top Out: Class C
Prod	543	12.7	1.68	9.09	72	Lead: Class C
	1030	14.2	1.18	5.26	19	Tail: Class H

If conditions dictate, an offline bradenhead cement job will be performed to ensure cement to surface.

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% in OH
BH Stg 1	6,447'	50% in OH
BH Stg 2	0'	270%
Production	9,520'	35% OH in Lateral (KOP to EOL)

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4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
Y	A variance is requested for the use of BOPE break testing on intermediate skids (in accordance with the 30 day full BOPE test requirements).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8" x 8-3/4"	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	2500psi
			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 43 CFR part 3170 Subpart 3172 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 43 CFR part 3170 Subpart 3172. 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 43 CFR Part 3170 Subpart 3172.
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 43 CFR part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

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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	8.6 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9 - 13.5	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
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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
N	CBL	Production casing
Y	Mud log	Intermediate shoe to TD
N	PEX	

ConocoPhillips - Rick Vaughn Federal Com 810H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7455 psi at 10619' TVD
Abnormal Temperature	NO 165 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 43 CFR Part 3170 Subpart 3176. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other Facets of Operation

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

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

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

CONDITIONS

Action 512316

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 512316
	Action Type: [C-103A] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing.	4/17/2026
ward.rikala	Post Bradenhead cement squeeze, a CBL will be required. If zonal isolation is not achieved per OCD requirements, then remedial work is required before operations can continue.	4/17/2026
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	4/17/2026