

Well Name: RICK VAUGHN BS FED COM	Well Location: T26S / R29E / SEC 7 / LOT 4 / 32.0501276 / -104.0276346	County or Parish/State: EDDY / NM
Well Number: 501H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM143617	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001555481	Operator: MARATHON OIL PERMIAN LLC	

Notice of Intent

Sundry ID: 2870791

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 08/29/2025	Time Sundry Submitted: 09:44
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 & 495' FWL, 6-26S-29E Change TO: 50' FNL & 590' FWL, Lot 1 6-26S-29E, Eddy Co., NM. Additionally, Marathon requests permission for an 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

- RICK_VAUGHN_FEDERAL_COM_501H_C102_signed_6_10_25_20250829094439.pdf
- Tenaris_Data_Sheets__3_String__BSS__Rick_Vaughn_500s_20250829094415.pdf
- RICK_VAUGHN_FEDERAL_COM_501H_WPlot_20250829094401.pdf
- RICK_VAUGHN_FEDERAL_COM_501H_PWP1_PLAN_RPT_20250829094348.pdf
- RICK_VAUGHN_FEDERAL_COM_501H_PWP1_AC_RPT_20250829094315.pdf
- Rick_Vaughn_Fed_Com_501H_revised_drill_procedure_8_28_25_20250829094256.pdf

Received by OCD: 10/1/2025 8:20:52 AM

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Conditions of Approval

Additional

SEC7_T26S_R29E_RICK_VAUGHN_FED_COM_Eddy__CONOCOPHILLIPS_COMPANY_45930_JS_20250930113937.pdf
RICK_VAUGHN_FED_COM_501H_COAs_20250930113937.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 09:44 AM
Name: MARATHON OIL PERMIAN LLC
Title: Regulatory Advisor
Street Address: 600 WEST ILLINOIS AVE
City: MIDLAND State: 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 Phone: 5752342234
Disposition: Approved
Signature: Chris Walls
BLM POC Title: Petroleum Engineer
BLM POC Email Address: CWALLS@BLM.GOV
Disposition Date: 09/30/2025

Form 3160-5
(October 2024)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

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

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

9. API Well No.

10. Field and Pool or Exploratory Area

11. Country or Parish, State

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

2. Name of Operator

3a. Address

3b. Phone No. (include area code)

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

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	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ 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 recompleate 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 perfonned 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 detennined 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: LOT 4 / 88 FSL / 1394 FWL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.0501276 / LONG: -104.0276346 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 4 / 100 FSL / 495 FWL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.0501692 / LONG: -104.0305365 (TVD: 7888 feet, MD: 7975 feet)

PPP: LOT 4 / 0 FSL / 492 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0644 / LONG: -104.030053 (TVD: 8362 feet, MD: 13155 feet)

PPP: LOT 3 / 1320 FSL / 492 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0680163 / LONG: -104.0305288 (TVD: 8362 feet, MD: 14475 feet)

BHL: LOT 1 / 100 FNL / 495 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0786694 / LONG: -104.0305242 (TVD: 8362 feet, MD: 18611 feet)

CONFIDENTIAL

SEC7-T26S-R29E_RICK VAUGHN FED COM_Eddy__CONOCOPHILLIPS COMPANY_45930_JS

RICK VAUGHN FED COM

13 3/8		surface csg in a		17 1/2		inch hole.		Design Factors				Surface		
Segment	#/ft	Grade		Coupling		Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	54.50			J 55	BTC		44.73	7.06	1.98	350	17	3.44	13.61	19,075
"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		19,075	
Comparison of Proposed to Minimum Required Cement Volumes														
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	
17 1/2	0.6946	430		685		243	182	8.80	794	2M			1.56	

9 5/8		casing inside the		13 3/8		Design Factors				Int 1				
Segment	#/ft	Grade		Coupling		Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	40.00	L 80		BTC		8.64	2.24	1.32	2,650	4	2.29	3.89	106,000	
"B"									0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500									Totals:	2,650				106,000
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		
12 1/4	0.3132	770	1229	847	45	10.00	2510	3M				0.81		
D V Tool(s):							sum of sx		Σ CuFt				Σ%excess	
t by stage % :		#VALUE!	#VALUE!			770		1229				45		
Class 'H' tail cmt yld > 1.20														

5 1/2		casing inside the		9 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		3.82	2.7	2.9	7,900	3	5.04	4.68	158,000
"B"	20.00	P 110		BTC		6.91	2.20	2.9	10,755	3	5.04	4.41	215,100
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,738									Totals:	18,655	373,100		
The cement volume(s) are intended to achieve a top of						2450	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		
8 3/4	0.2526	1990	3840	4095	-6	10.00					1.35		
Class 'C' tail cmt yld > 1.35													
Does not meet CFO 25% excess													

#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			
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	1 Stage	Min	1 Stage	ft from surface or a	Drilling	Calc	Req'd				Min Dist
		Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE					Hole-Cplg
0		#N/A	#N/A	0	#N/A								
#N/A													
Capitan Reef est top XXXX.													

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	RICK VAUGHN FED COM 501H
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 **13-3/8** inch surface casing shall be set at approximately **350 feet per BLM Geologist** (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. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
 3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
 - **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.**

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 **13-3/8** 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.

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

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 30-015-55481	Pool Code 51010	Pool Name Red Bluff; Bone Spring, South
Property Code 336292	Property Name RICK VAUGHN FED COM	Well Number 501H
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 1,394' FWL	Latitude 32.050128°	Longitude -104.027635°	County EDDY
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Bottom Hole Location

UL LOT 1	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 50' FNL	Ft. from E/W 590' FWL	Latitude 32.078807°	Longitude -104.030218°	County EDDY
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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 1,394' FWL	Latitude 32.050128°	Longitude -104.027635°	County EDDY
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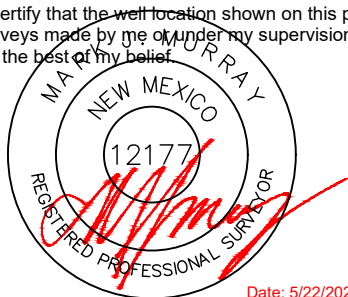
First Take Point (FTP)

UL LOT 4	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 100' FSL	Ft. from E/W 590' FWL	Latitude 32.050169°	Longitude -104.030230°	County EDDY
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Last Take Point (LTP)

UL LOT 1	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 590' FWL	Latitude 32.078670°	Longitude -104.030218°	County EDDY
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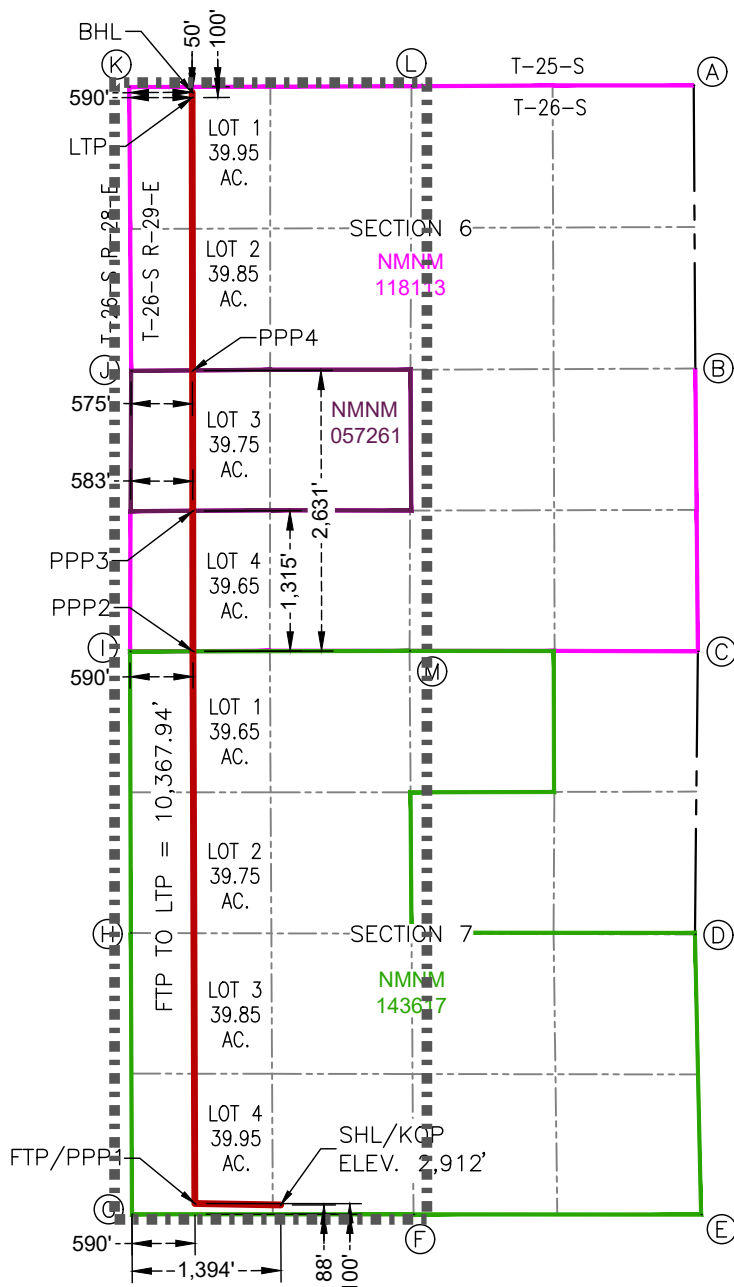
Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, 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.

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.

RICK VAUGHN FED COM 501H



SURFACE HOLE LOCATION
& KICK-OFF POINT
88' FSL & 1,394' FWL
ELEV.=2,912'

NAD 83 X = 636,049.06'
NAD 83 Y = 382,108.52'
NAD 83 LAT = 32.050128°
NAD 83 LONG = -104.027635°

FIRST TAKE POINT &
PENETRATION POINT 1
100' FSL & 590' FWL

NAD 83 X = 635,244.81'
NAD 83 Y = 382,121.19'
NAD 83 LAT = 32.050169°
NAD 83 LONG = -104.030230°

PENETRATION POINT 2
0' FNL & 590' FWL

NAD 83 X = 635,226.57'
NAD 83 Y = 387,298.21'
NAD 83 LAT = 32.064400°
NAD 83 LONG = -104.030242°

PENETRATION POINT 3
1,315' FSL & 583' FWL

NAD 83 X = 635,224.80'
NAD 83 Y = 388,613.13'
NAD 83 LAT = 32.068015°
NAD 83 LONG = -104.030236°

PENETRATION POINT 4
2,631' FSL & 575' FWL

NAD 83 X = 635,223.03'
NAD 83 Y = 389,929.21'
NAD 83 LAT = 32.071633°
NAD 83 LONG = -104.030230°

LAST TAKE POINT
100' FNL & 590' FWL

NAD 83 X = 635,219.59'
NAD 83 Y = 392,489.10'
NAD 83 LAT = 32.078670°
NAD 83 LONG = -104.030218°

BOTTOM HOLE LOCATION
50' FNL & 590' FWL

NAD 83 X = 635,219.24'
NAD 83 Y = 392,539.10'
NAD 83 LAT = 32.078807°
NAD 83 LONG = -104.030218°

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'		



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	13.375 in.	Wall Thickness	0.380 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	13.375 in.	Wall Thickness	0.380 in.
Nominal Weight	54.50 lb/ft	Plain End Weight	52.79 lb/ft
Drift	12.459 in.	OD Tolerance	API
Nominal ID	12.615 in.		
		Body Yield Strength	853 x1000 lb
		Min. Internal Yield Pressure	2730 psi
		SMYS	55,000 psi
		Collapse Pressure	1130 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	14.375 in.	Tension Efficiency	100 %	Minimum	21,610 ft-lb
Coupling Length	10.825 in.	Joint Yield Strength	853 x1000 lb	Optimum	24,010 ft-lb
Connection ID	12.603 in.	Internal Pressure Capacity	2730 psi	Maximum	26,410 ft-lb
Make-up Loss	4.891 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	853 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	19 °/100 ft	Operating Torque	54,300 ft-lb
		External Pressure Capacity	1130 psi	Yield Torque	68,700 ft-lb

Notes

This connection is fully interchangeable with:
TXP® BTC - 13.375 in. - 0.43 (61.00) / 0.48 (68.00) / 0.514 (72.00) 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.

For the latest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

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TXP® BTC



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

Outside Diameter	9.625 in.	Wall Thickness	0.395 in.	Grade	L80-IC
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry		Performance	
Nominal OD	9.625 in.	Wall Thickness	0.395 in.
Nominal Weight	40.00 lb/ft	Plain End Weight	38.97 lb/ft
Drift	8.679 in.	OD Tolerance	API
Nominal ID	8.835 in.		
		Body Yield Strength	916 x1000 lb
		Min. Internal Yield Pressure	5750 psi
		SMYS	80,000 psi
		Collapse Pressure	3870 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	10.625 in.	Tension Efficiency	100 %	Minimum	18,860 ft-lb
Coupling Length	10.825 in.	Joint Yield Strength	916 x1000 lb	Optimum	20,960 ft-lb
Connection ID	8.823 in.	Internal Pressure Capacity	5750 psi	Maximum	23,060 ft-lb
Make-up Loss	4.891 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	916 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	38 °/100 ft	Operating Torque	35,600 ft-lb
		External Pressure Capacity	3870 psi	Yield Torque	43,400 ft-lb

Notes

This connection is fully interchangeable with:
TXP® BTC - 9.625 in. - 0.352 (36.00) / 0.435 (43.50) / 0.472 (47.00) / 0.545 (53.50) / 0.595 (58.40) 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.

For the latest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

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TXP® BTC



Coupling	Pipe Body
Grade: P110-4CY	Grade: P110-4CY
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	P110-4CY
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

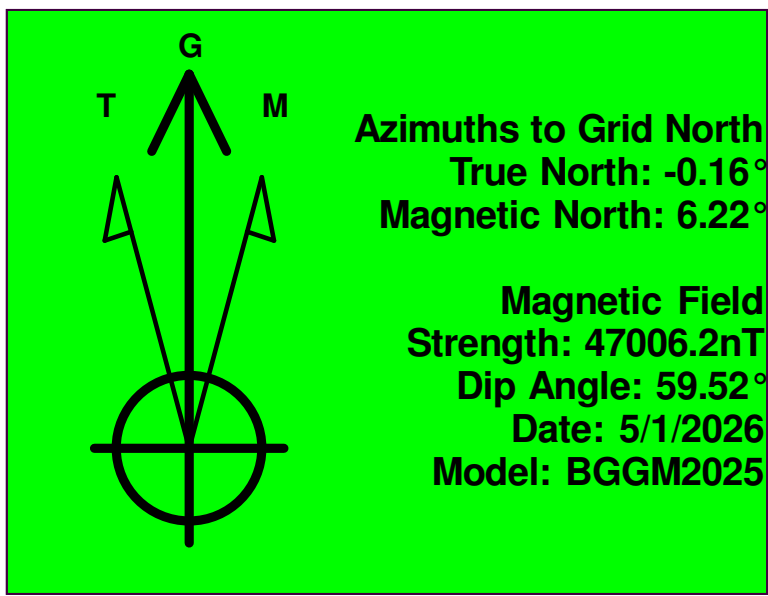
Geometry		Performance		Make-Up Torques	
Connection OD	6.100 in.	Tension Efficiency	100 %	Minimum	11,540 ft-lb
Coupling Length	9.450 in.	Joint Yield Strength	729 x1000 lb	Optimum	12,820 ft-lb
Connection ID	4.766 in.	Internal Pressure Capacity	14,360 psi	Maximum	14,100 ft-lb
Make-up Loss	4.204 in.	Compression 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.

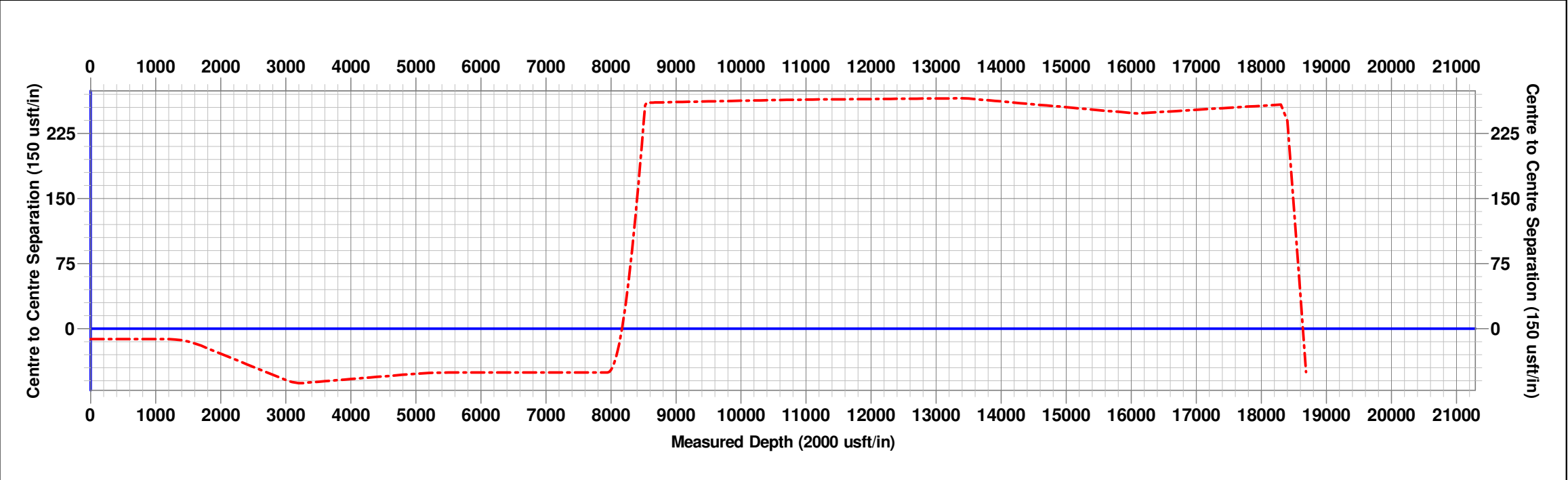
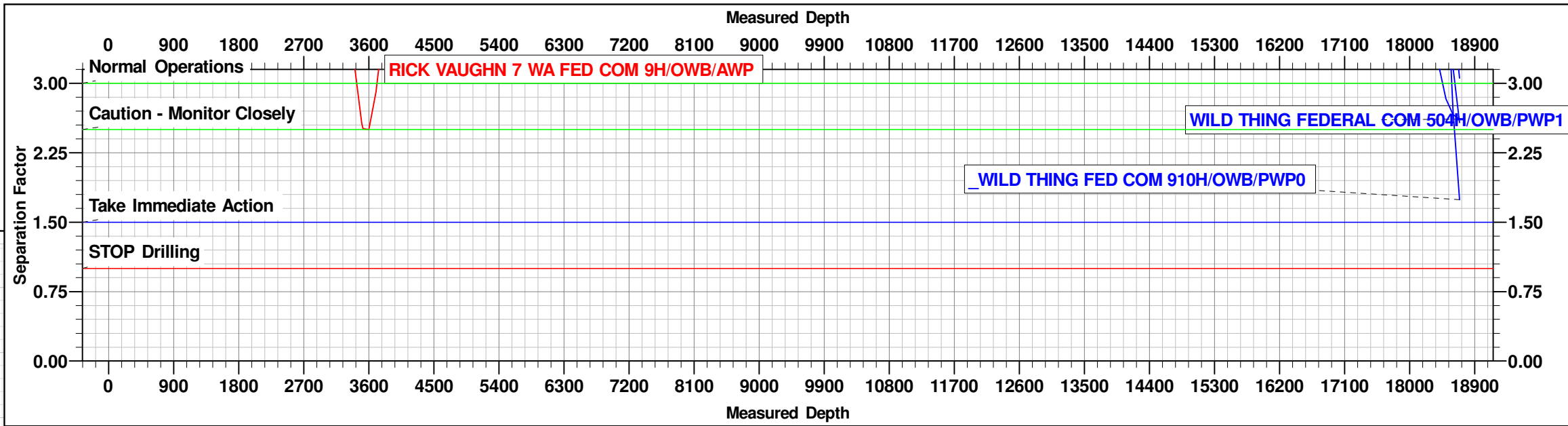
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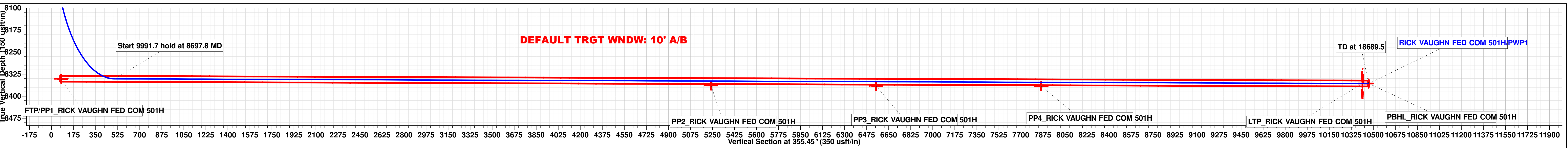
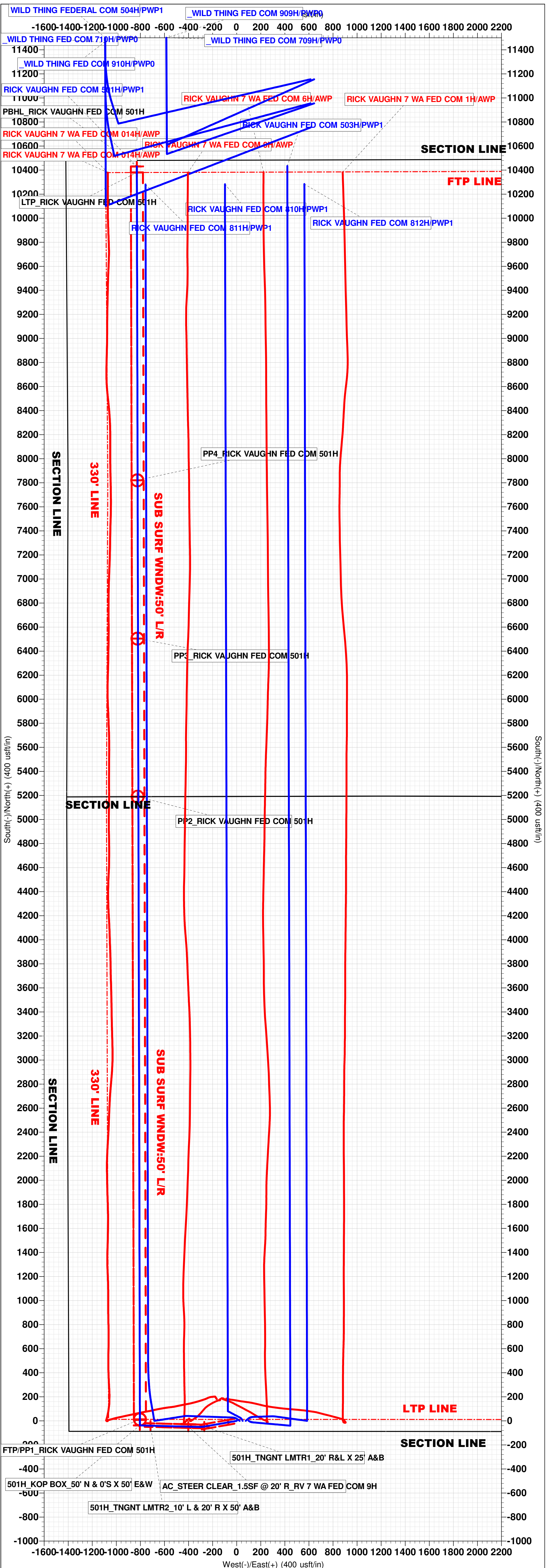
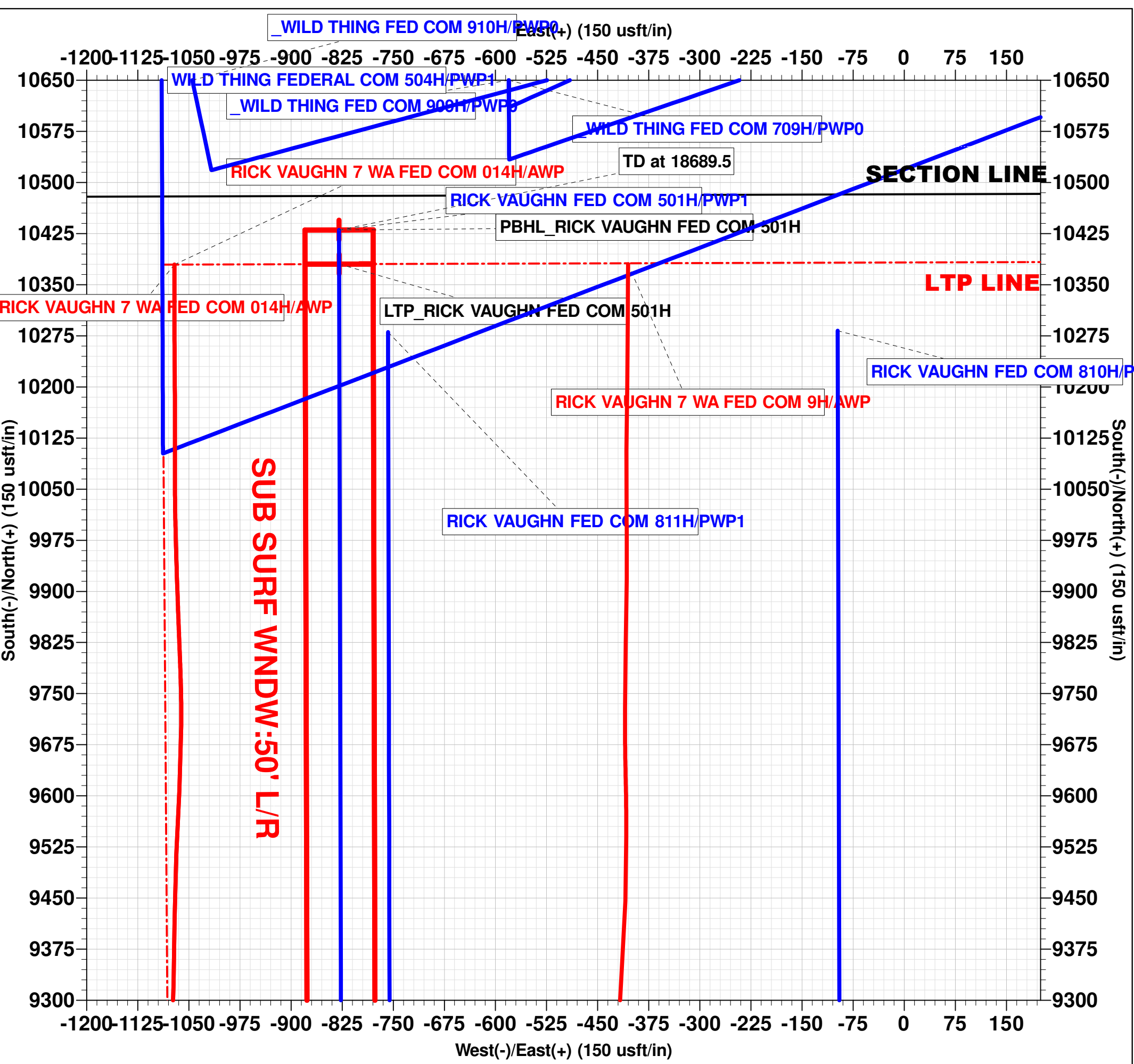
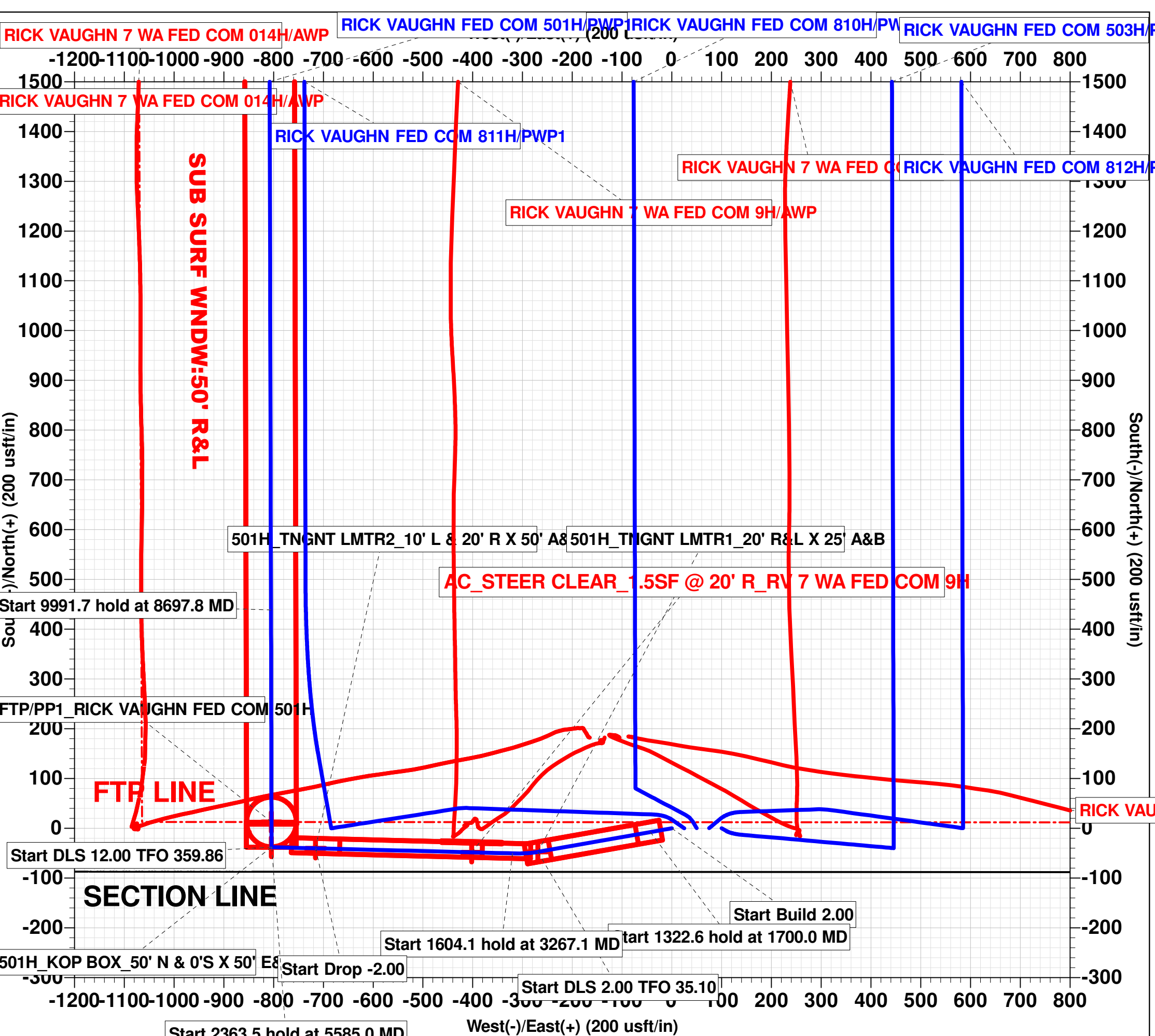
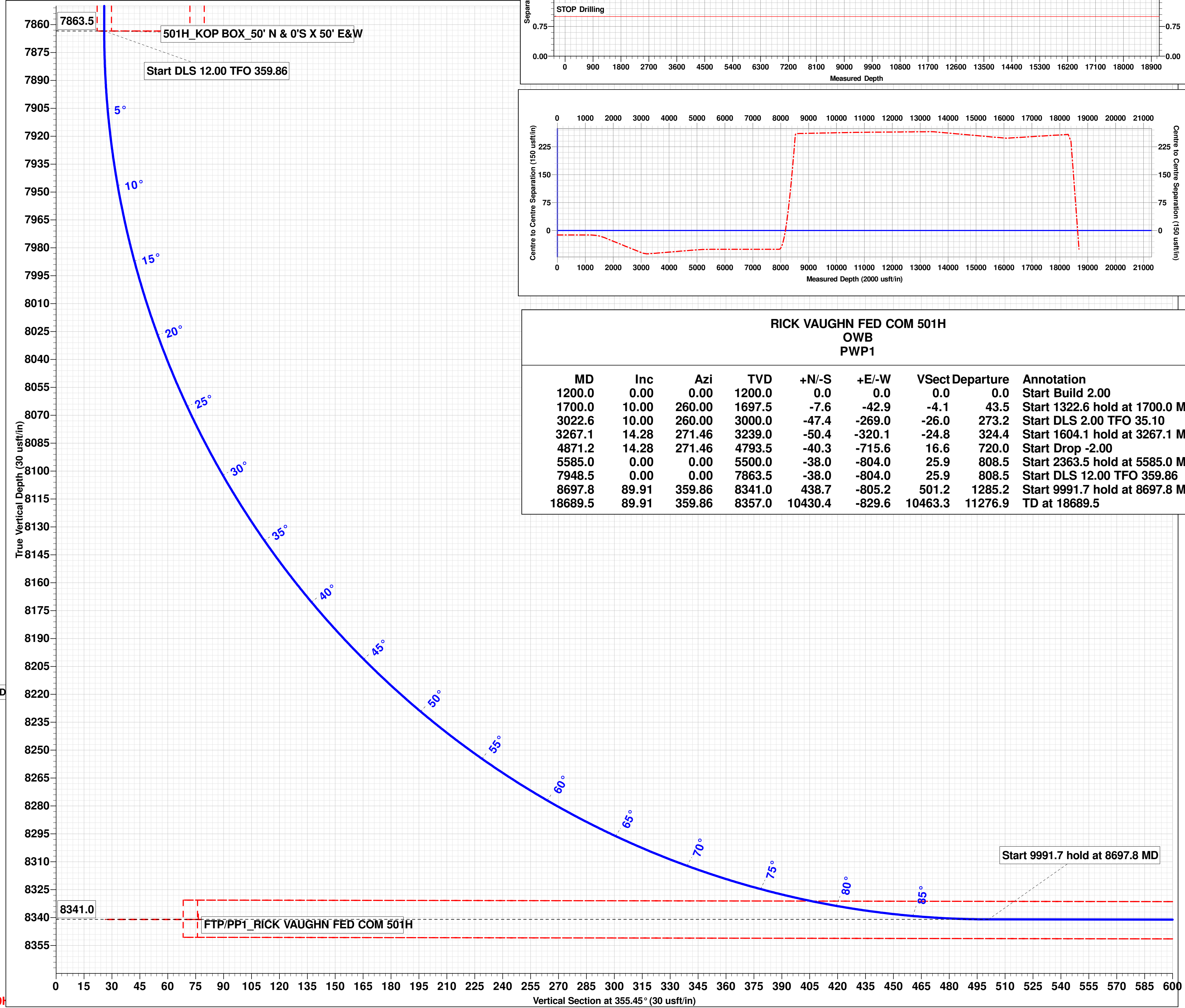
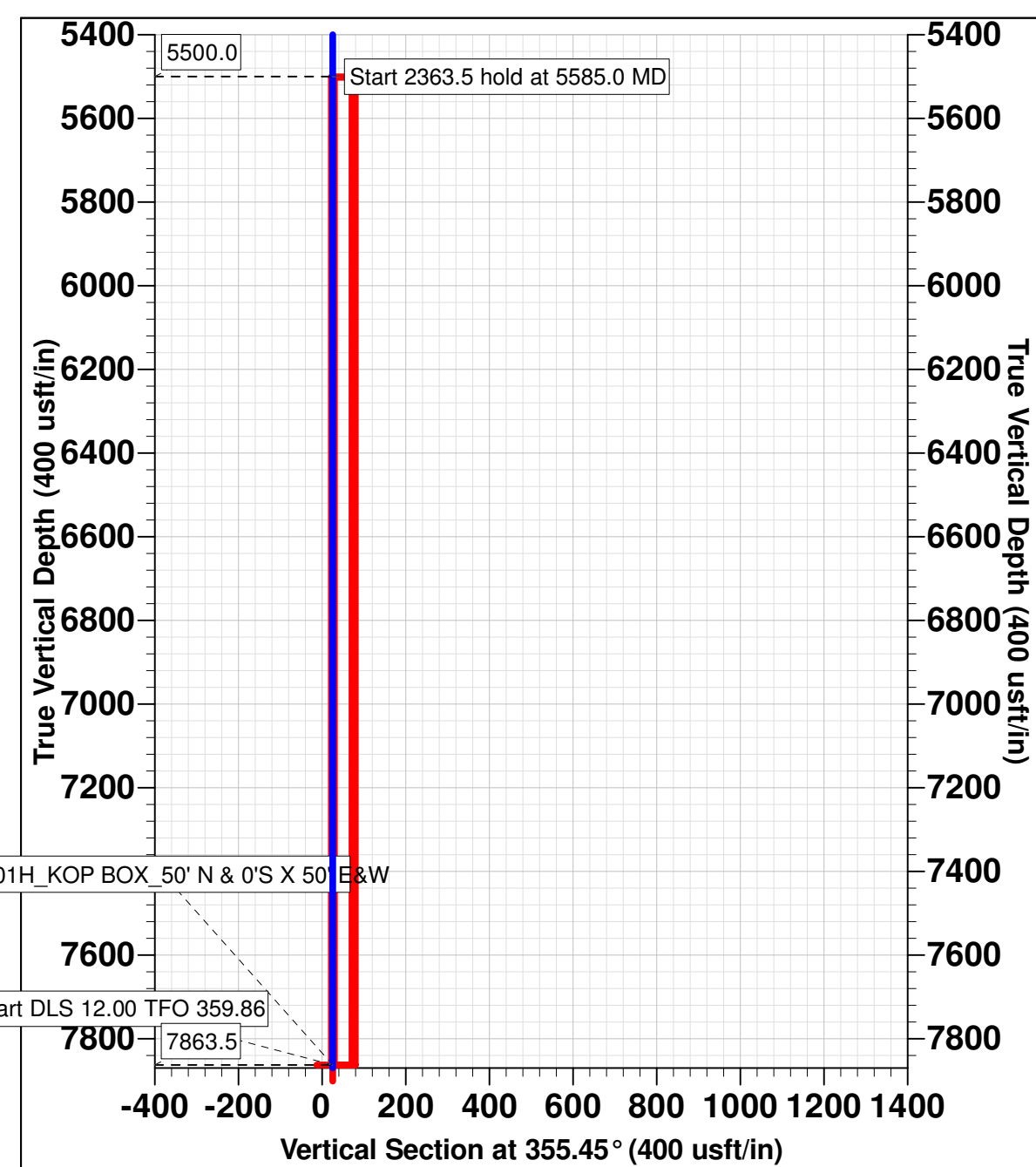
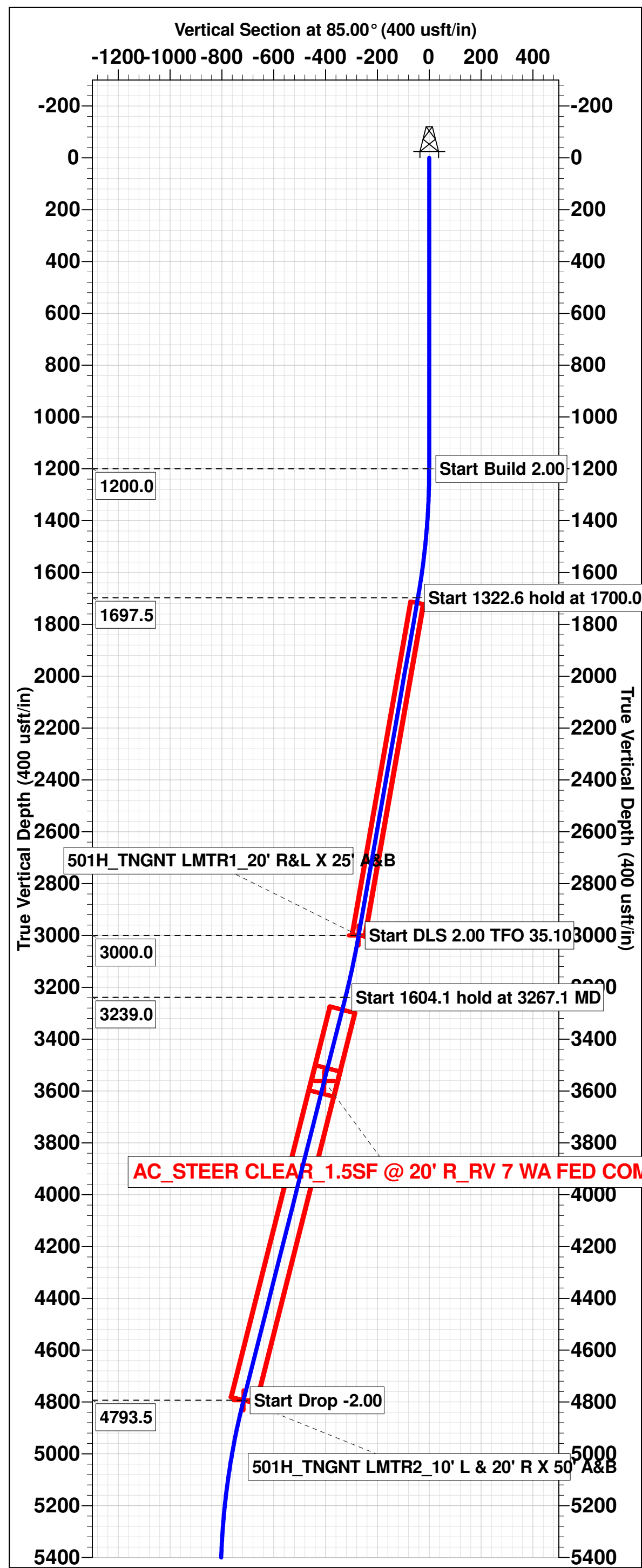
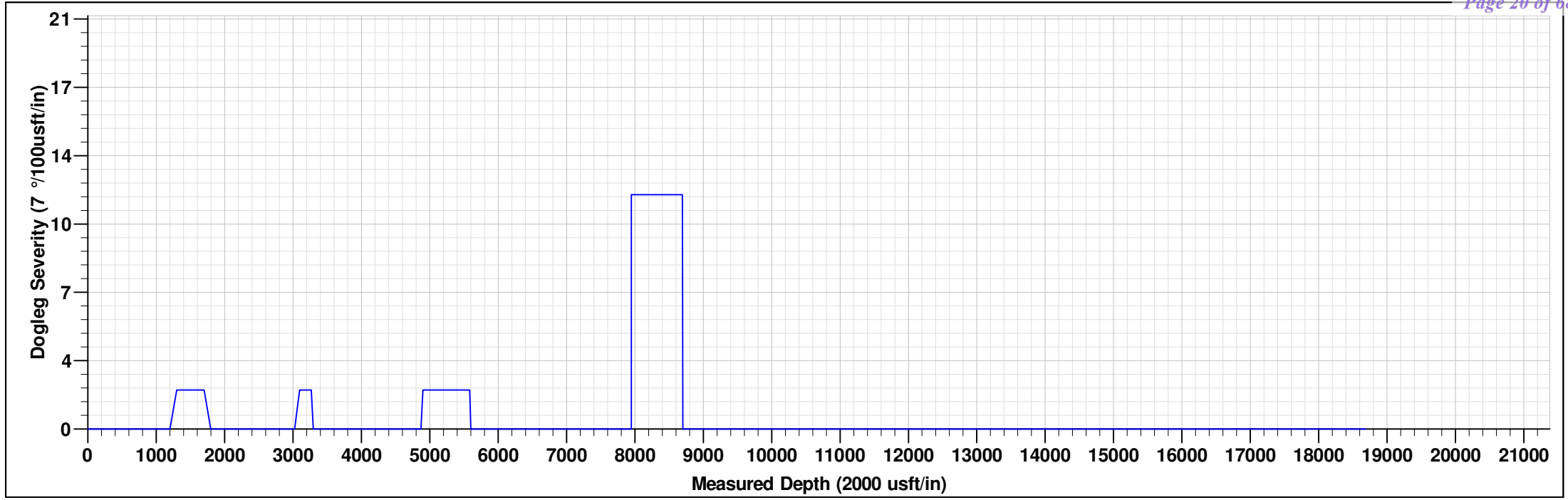


Project: ATLAS PROSPECT NME					
Site: RICK VAUGHN FED COM PROJECT					
Well: RICK VAUGHN FED COM 501H					
Wellbore: OWB					
Design: PWP1					
GL: 2912.0					
KB @ 2944.0usft (NABORS X09)					
RICK VAUGHN FED COM 501H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	382050.94	594863.88	32° 3' 0.012 N	104° 1' 37.740 W

TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
501H_TNGNT LMTR1_20' R&L X 25' A&B	3000.0	-47.4	-269.0	382003.54	594594.88
AC STEER CLEAR_1.5SF @ 20' R RV 7 WA FED COM 9H	3561.6	-48.3	-402.2	382002.68	594461.70
501H_TNGNT LMTR2_10' L & 20' R X 50' A&B	4793.5	-40.3	-715.6	382010.64	594148.28
501H_KOP BOX_50' N & 0'S X 50' E&W	7863.5	-38.0	-804.5	382012.94	594059.66
FTP/PP1_RICK VAUGHN FED COM 501H	8341.0	12.7	-804.2	382063.63	594059.66
LTP_RICK VAUGHN FED COM 501H	8357.0	10380.4	-829.2	392431.32	594034.67
PBHL_RICK VAUGHN FED COM 501H	8357.0	10430.4	-829.6	392481.32	594034.32
PP2_RICK VAUGHN FED COM 501H	8363.8	5189.6	-822.3	387240.54	594041.53
PP3_RICK VAUGHN FED COM 501H	8364.8	6504.5	-824.1	388555.43	594039.79
PP4_RICK VAUGHN FED COM 501H	8365.9	7820.5	-825.8	389871.49	594038.06



RICK VAUGHN FED COM 501H					
OWB					
PWP1					
MD	Inc	Azi	TVD	+N/-S	+E/-W
1200.0	0.00	0.00	1200.0	0.0	0.0
1700.0	10.00	260.00	1697.5	-7.6	-42.9
3022.6	10.00	260.00	3000.0	-47.4	-269.0
3267.1	14.28	271.46	3239.0	-50.4	-320.1
4871.2	14.28	271.46	4793.5	-40.3	-715.6
5585.0	0.00	0.00	5500.0	-38.0	-804.0
7948.5	0.00	0.00	7863.5	-38.0	-804.0
8697.8	89.91	359.86	8341.0	438.7	-805.2
18689.5	89.91	359.86	8357.0	10430.4	-829.6
VSet Departure					
1200.0	0.00	0.00	1200.0	0.0	0.0
1700.0	10.00	260.00	1697.5	-7.6	-42.9
3022.6	10.00	260.00	3000.0	-47.4	-269.0
3267.1	14.28	271.46	3239.0	-50.4	-320.1
4871.2	14.28	271.46	4793.5	-40.3	-715.6
5585.0	0.00	0.00	5500.0	-38.0	-804.0
7948.5	0.00	0.00	7863.5	-38.0	-804.0
8697.8	89.91	359.86	8341.0	438.7	-805.2
18689.5	89.91	359.86	8357.0	10430.4	-829.6
Annotation					
1200.0	0.00	0.00	1200.0	0.0	0.0
1700.0	10.00	260.00	1697.5	-7.6	-42.9
3022.6	10.00	260.00	3000.0	-47.4	-269.0
3267.1	14.28	271.46	3239.0	-50.4	-320.1
4871.2	14.28	271.46	4793.5	-40.3	-715.6
5585.0	0.00	0.00	5500.0	-38.0	-804.0
7948.5	0.00	0.00	7863.5	-38.0	-804.0
8697.8	89.91	359.86	8341.0	438.7	-805.2
18689.5	89.91	359.86	8357.0	10430.4	-829.6



DELAWARE BASIN WEST

**ATLAS PROSPECT_NME
RICK VAUGHN FED COM PROJECT
RICK VAUGHN FED COM 501H**

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 501H
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 501H	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 501H		
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' 37.740 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	47,006.18822707

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	355.45	

Plan Survey Tool Program		Date	8/12/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	1,000.0 PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT SDI Keeper Wireline Gyrocomp		
2	1,000.0	7,959.3 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR OWSG MWD + IFR1 + SAG +		
3	7,959.3	18,689.5 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR OWSG MWD + IFR1 + SAG +		

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Well:	RICK VAUGHN FED COM 501H	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	
1,700.0	10.00	260.00	1,697.5	-7.6	-42.9	2.00	2.00	0.00	260.00	
3,022.6	10.00	260.00	3,000.0	-47.4	-269.0	0.00	0.00	0.00	0.00	
3,267.1	14.28	271.46	3,239.0	-50.4	-320.1	2.00	1.75	4.69	35.10	
4,871.2	14.28	271.46	4,793.5	-40.3	-715.6	0.00	0.00	0.00	0.00	
5,585.0	0.00	0.00	5,500.0	-38.0	-804.0	2.00	-2.00	0.00	180.00	
7,948.5	0.00	0.00	7,863.5	-38.0	-804.0	0.00	0.00	0.00	0.00	
8,697.8	89.91	359.86	8,341.0	438.7	-805.2	12.00	12.00	-0.02	359.86	
18,689.5	89.91	359.86	8,357.0	10,430.4	-829.6	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 501H
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 501H	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	260.00	1,300.0	-0.3	-1.7	-0.2	2.00	2.00	0.00
1,400.0	4.00	260.00	1,399.8	-1.2	-6.9	-0.7	2.00	2.00	0.00
1,500.0	6.00	260.00	1,499.5	-2.7	-15.5	-1.5	2.00	2.00	0.00
1,600.0	8.00	260.00	1,598.7	-4.8	-27.5	-2.6	2.00	2.00	0.00
1,700.0	10.00	260.00	1,697.5	-7.6	-42.9	-4.1	2.00	2.00	0.00
Start 1322.6 hold at 1700.0 MD									
1,800.0	10.00	260.00	1,795.9	-10.6	-60.0	-5.8	0.00	0.00	0.00
1,900.0	10.00	260.00	1,894.4	-13.6	-77.1	-7.4	0.00	0.00	0.00
2,000.0	10.00	260.00	1,992.9	-16.6	-94.2	-9.1	0.00	0.00	0.00
2,100.0	10.00	260.00	2,091.4	-19.6	-111.3	-10.7	0.00	0.00	0.00
2,200.0	10.00	260.00	2,189.9	-22.6	-128.4	-12.4	0.00	0.00	0.00
2,300.0	10.00	260.00	2,288.4	-25.6	-145.5	-14.0	0.00	0.00	0.00
2,400.0	10.00	260.00	2,386.8	-28.7	-162.6	-15.7	0.00	0.00	0.00
2,500.0	10.00	260.00	2,485.3	-31.7	-179.7	-17.3	0.00	0.00	0.00
2,600.0	10.00	260.00	2,583.8	-34.7	-196.8	-19.0	0.00	0.00	0.00
2,700.0	10.00	260.00	2,682.3	-37.7	-213.9	-20.6	0.00	0.00	0.00
2,800.0	10.00	260.00	2,780.8	-40.7	-231.0	-22.3	0.00	0.00	0.00
2,900.0	10.00	260.00	2,879.2	-43.7	-248.1	-23.9	0.00	0.00	0.00
3,000.0	10.00	260.00	2,977.7	-46.8	-265.2	-25.6	0.00	0.00	0.00
3,022.6	10.00	260.00	3,000.0	-47.4	-269.0	-26.0	0.00	0.00	0.00
Start DLS 2.00 TFO 35.10									
3,100.0	11.30	264.55	3,076.0	-49.3	-283.2	-26.7	2.00	1.68	5.87
3,200.0	13.06	269.06	3,173.8	-50.4	-304.3	-26.2	2.00	1.76	4.51
3,267.1	14.28	271.46	3,239.0	-50.4	-320.1	-24.8	2.00	1.81	3.58
Start 1604.1 hold at 3267.1 MD									
3,300.0	14.28	271.46	3,270.9	-50.2	-328.2	-24.0	0.00	0.00	0.00
3,400.0	14.28	271.46	3,367.8	-49.5	-352.9	-21.4	0.00	0.00	0.00
3,500.0	14.28	271.46	3,464.7	-48.9	-377.5	-18.8	0.00	0.00	0.00
3,600.0	14.28	271.46	3,561.6	-48.3	-402.2	-16.2	0.00	0.00	0.00
3,700.0	14.28	271.46	3,658.5	-47.6	-426.8	-13.6	0.00	0.00	0.00
3,800.0	14.28	271.46	3,755.4	-47.0	-451.5	-11.1	0.00	0.00	0.00
3,900.0	14.28	271.46	3,852.3	-46.4	-476.1	-8.5	0.00	0.00	0.00
4,000.0	14.28	271.46	3,949.3	-45.7	-500.8	-5.9	0.00	0.00	0.00
4,100.0	14.28	271.46	4,046.2	-45.1	-525.4	-3.3	0.00	0.00	0.00
4,200.0	14.28	271.46	4,143.1	-44.5	-550.1	-0.7	0.00	0.00	0.00
4,300.0	14.28	271.46	4,240.0	-43.9	-574.7	1.9	0.00	0.00	0.00
4,400.0	14.28	271.46	4,336.9	-43.2	-599.4	4.4	0.00	0.00	0.00
4,500.0	14.28	271.46	4,433.8	-42.6	-624.0	7.0	0.00	0.00	0.00
4,600.0	14.28	271.46	4,530.7	-42.0	-648.7	9.6	0.00	0.00	0.00
4,700.0	14.28	271.46	4,627.6	-41.3	-673.4	12.2	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 501H
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 501H	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)
4,800.0	14.28	271.46	4,724.5	-40.7	-698.0	14.8	0.00	0.00	0.00
4,871.2	14.28	271.46	4,793.5	-40.3	-715.6	16.6	0.00	0.00	0.00
Start Drop -2.00									
4,900.0	13.70	271.46	4,821.5	-40.1	-722.5	17.3	2.00	-2.00	0.00
5,000.0	11.70	271.46	4,919.0	-39.5	-744.5	19.6	2.00	-2.00	0.00
5,100.0	9.70	271.46	5,017.3	-39.0	-763.1	21.6	2.00	-2.00	0.00
5,200.0	7.70	271.46	5,116.1	-38.7	-778.2	23.2	2.00	-2.00	0.00
5,300.0	5.70	271.46	5,215.5	-38.4	-789.8	24.4	2.00	-2.00	0.00
5,400.0	3.70	271.46	5,315.1	-38.2	-798.0	25.2	2.00	-2.00	0.00
5,500.0	1.70	271.46	5,415.0	-38.0	-802.7	25.7	2.00	-2.00	0.00
5,585.0	0.00	0.00	5,500.0	-38.0	-804.0	25.9	2.00	-2.00	0.00
Start 2363.5 hold at 5585.0 MD									
5,600.0	0.00	0.00	5,515.0	-38.0	-804.0	25.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,615.0	-38.0	-804.0	25.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,715.0	-38.0	-804.0	25.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,815.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,915.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,015.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,115.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,215.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,315.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,415.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,515.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,615.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,715.0	-38.0	-804.0	25.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,815.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,915.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,100.0	0.00	0.00	7,015.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,115.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,215.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,315.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,415.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,515.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,615.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,715.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,815.0	-38.0	-804.0	25.9	0.00	0.00	0.00
7,948.5	0.00	0.00	7,863.5	-38.0	-804.0	25.9	0.00	0.00	0.00
Start DLS 12.00 TFO 359.86									
7,950.0	0.18	359.86	7,865.0	-38.0	-804.0	25.9	12.00	12.00	0.00
7,975.0	3.18	359.86	7,890.0	-37.3	-804.0	26.6	12.00	12.00	0.00
8,000.0	6.18	359.86	7,914.9	-35.2	-804.0	28.6	12.00	12.00	0.00
8,025.0	9.18	359.86	7,939.7	-31.9	-804.0	32.0	12.00	12.00	0.00
8,050.0	12.18	359.86	7,964.2	-27.3	-804.0	36.6	12.00	12.00	0.00
8,075.0	15.18	359.86	7,988.5	-21.3	-804.0	42.5	12.00	12.00	0.00
8,100.0	18.18	359.86	8,012.5	-14.2	-804.1	49.6	12.00	12.00	0.00
8,125.0	21.18	359.86	8,036.0	-5.8	-804.1	58.0	12.00	12.00	0.00
8,150.0	24.18	359.86	8,059.1	3.9	-804.1	67.6	12.00	12.00	0.00
8,175.0	27.18	359.86	8,081.6	14.7	-804.1	78.4	12.00	12.00	0.00
8,200.0	30.18	359.86	8,103.5	26.7	-804.2	90.4	12.00	12.00	0.00
8,225.0	33.18	359.86	8,124.8	39.8	-804.2	103.5	12.00	12.00	0.00
8,250.0	36.18	359.86	8,145.3	54.1	-804.2	117.7	12.00	12.00	0.00
8,275.0	39.18	359.86	8,165.1	69.3	-804.3	132.9	12.00	12.00	0.00
8,300.0	42.18	359.86	8,184.1	85.6	-804.3	149.1	12.00	12.00	0.00

ConocoPhillips

Planning Report

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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 501H	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)
8,325.0	45.18	359.86	8,202.2	102.9	-804.3	166.3	12.00	12.00	0.00
8,350.0	48.18	359.86	8,219.3	121.1	-804.4	184.5	12.00	12.00	0.00
8,375.0	51.18	359.86	8,235.5	140.1	-804.4	203.5	12.00	12.00	0.00
8,400.0	54.18	359.86	8,250.6	160.0	-804.5	223.3	12.00	12.00	0.00
8,425.0	57.18	359.86	8,264.7	180.7	-804.5	243.9	12.00	12.00	0.00
8,450.0	60.18	359.86	8,277.7	202.0	-804.6	265.2	12.00	12.00	0.00
8,475.0	63.18	359.86	8,289.6	224.0	-804.6	287.1	12.00	12.00	0.00
8,500.0	66.18	359.86	8,300.3	246.6	-804.7	309.6	12.00	12.00	0.00
8,525.0	69.18	359.86	8,309.8	269.7	-804.8	332.7	12.00	12.00	0.00
8,550.0	72.18	359.86	8,318.1	293.3	-804.8	356.2	12.00	12.00	0.00
8,575.0	75.18	359.86	8,325.1	317.3	-804.9	380.1	12.00	12.00	0.00
8,600.0	78.18	359.86	8,330.8	341.6	-804.9	404.4	12.00	12.00	0.00
8,625.0	81.18	359.86	8,335.3	366.2	-805.0	428.9	12.00	12.00	0.00
8,650.0	84.18	359.86	8,338.5	391.0	-805.0	453.6	12.00	12.00	0.00
8,675.0	87.18	359.86	8,340.4	416.0	-805.1	478.5	12.00	12.00	0.00
8,697.8	89.91	359.86	8,341.0	438.7	-805.2	501.2	12.00	12.00	0.00
Start 9991.7 hold at 8697.8 MD									
8,700.0	89.91	359.86	8,341.0	440.9	-805.2	503.4	0.00	0.00	0.00
8,800.0	89.91	359.86	8,341.1	540.9	-805.4	603.1	0.00	0.00	0.00
8,900.0	89.91	359.86	8,341.3	640.9	-805.7	702.8	0.00	0.00	0.00
9,000.0	89.91	359.86	8,341.4	740.9	-805.9	802.5	0.00	0.00	0.00
9,100.0	89.91	359.86	8,341.6	840.9	-806.1	902.2	0.00	0.00	0.00
9,200.0	89.91	359.86	8,341.8	940.9	-806.4	1,001.9	0.00	0.00	0.00
9,300.0	89.91	359.86	8,341.9	1,040.9	-806.6	1,101.6	0.00	0.00	0.00
9,400.0	89.91	359.86	8,342.1	1,140.9	-806.9	1,201.3	0.00	0.00	0.00
9,500.0	89.91	359.86	8,342.3	1,240.9	-807.1	1,301.0	0.00	0.00	0.00
9,600.0	89.91	359.86	8,342.4	1,340.9	-807.4	1,400.7	0.00	0.00	0.00
9,700.0	89.91	359.86	8,342.6	1,440.9	-807.6	1,500.4	0.00	0.00	0.00
9,800.0	89.91	359.86	8,342.7	1,540.9	-807.9	1,600.1	0.00	0.00	0.00
9,900.0	89.91	359.86	8,342.9	1,640.9	-808.1	1,699.8	0.00	0.00	0.00
10,000.0	89.91	359.86	8,343.1	1,740.9	-808.3	1,799.5	0.00	0.00	0.00
10,100.0	89.91	359.86	8,343.2	1,840.9	-808.6	1,899.3	0.00	0.00	0.00
10,200.0	89.91	359.86	8,343.4	1,940.9	-808.8	1,999.0	0.00	0.00	0.00
10,300.0	89.91	359.86	8,343.5	2,040.9	-809.1	2,098.7	0.00	0.00	0.00
10,400.0	89.91	359.86	8,343.7	2,140.9	-809.3	2,198.4	0.00	0.00	0.00
10,500.0	89.91	359.86	8,343.9	2,240.9	-809.6	2,298.1	0.00	0.00	0.00
10,600.0	89.91	359.86	8,344.0	2,340.9	-809.8	2,397.8	0.00	0.00	0.00
10,700.0	89.91	359.86	8,344.2	2,440.9	-810.1	2,497.5	0.00	0.00	0.00
10,800.0	89.91	359.86	8,344.3	2,540.9	-810.3	2,597.2	0.00	0.00	0.00
10,900.0	89.91	359.86	8,344.5	2,640.9	-810.5	2,696.9	0.00	0.00	0.00
11,000.0	89.91	359.86	8,344.7	2,740.9	-810.8	2,796.6	0.00	0.00	0.00
11,100.0	89.91	359.86	8,344.8	2,840.9	-811.0	2,896.3	0.00	0.00	0.00
11,200.0	89.91	359.86	8,345.0	2,940.9	-811.3	2,996.0	0.00	0.00	0.00
11,300.0	89.91	359.86	8,345.1	3,040.9	-811.5	3,095.7	0.00	0.00	0.00
11,400.0	89.91	359.86	8,345.3	3,140.9	-811.8	3,195.4	0.00	0.00	0.00
11,500.0	89.91	359.86	8,345.5	3,240.9	-812.0	3,295.1	0.00	0.00	0.00
11,600.0	89.91	359.86	8,345.6	3,340.9	-812.3	3,394.8	0.00	0.00	0.00
11,700.0	89.91	359.86	8,345.8	3,440.9	-812.5	3,494.5	0.00	0.00	0.00
11,800.0	89.91	359.86	8,345.9	3,540.9	-812.7	3,594.2	0.00	0.00	0.00
11,900.0	89.91	359.86	8,346.1	3,640.9	-813.0	3,693.9	0.00	0.00	0.00
12,000.0	89.91	359.86	8,346.3	3,740.9	-813.2	3,793.6	0.00	0.00	0.00
12,100.0	89.91	359.86	8,346.4	3,840.9	-813.5	3,893.3	0.00	0.00	0.00
12,200.0	89.91	359.86	8,346.6	3,940.9	-813.7	3,993.0	0.00	0.00	0.00
12,300.0	89.91	359.86	8,346.7	4,040.9	-814.0	4,092.7	0.00	0.00	0.00

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Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 501H
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 501H	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)
12,400.0	89.91	359.86	8,346.9	4,140.9	-814.2	4,192.4	0.00	0.00	0.00
12,500.0	89.91	359.86	8,347.1	4,240.9	-814.4	4,292.2	0.00	0.00	0.00
12,600.0	89.91	359.86	8,347.2	4,340.9	-814.7	4,391.9	0.00	0.00	0.00
12,700.0	89.91	359.86	8,347.4	4,440.9	-814.9	4,491.6	0.00	0.00	0.00
12,800.0	89.91	359.86	8,347.5	4,540.9	-815.2	4,591.3	0.00	0.00	0.00
12,900.0	89.91	359.86	8,347.7	4,640.9	-815.4	4,691.0	0.00	0.00	0.00
13,000.0	89.91	359.86	8,347.9	4,740.9	-815.7	4,790.7	0.00	0.00	0.00
13,100.0	89.91	359.86	8,348.0	4,840.9	-815.9	4,890.4	0.00	0.00	0.00
13,200.0	89.91	359.86	8,348.2	4,940.9	-816.2	4,990.1	0.00	0.00	0.00
13,300.0	89.91	359.86	8,348.4	5,040.9	-816.4	5,089.8	0.00	0.00	0.00
13,400.0	89.91	359.86	8,348.5	5,140.9	-816.6	5,189.5	0.00	0.00	0.00
13,500.0	89.91	359.86	8,348.7	5,240.9	-816.9	5,289.2	0.00	0.00	0.00
13,600.0	89.91	359.86	8,348.8	5,340.9	-817.1	5,388.9	0.00	0.00	0.00
13,700.0	89.91	359.86	8,349.0	5,440.9	-817.4	5,488.6	0.00	0.00	0.00
13,800.0	89.91	359.86	8,349.2	5,540.9	-817.6	5,588.3	0.00	0.00	0.00
13,900.0	89.91	359.86	8,349.3	5,640.9	-817.9	5,688.0	0.00	0.00	0.00
14,000.0	89.91	359.86	8,349.5	5,740.9	-818.1	5,787.7	0.00	0.00	0.00
14,100.0	89.91	359.86	8,349.6	5,840.9	-818.4	5,887.4	0.00	0.00	0.00
14,200.0	89.91	359.86	8,349.8	5,940.9	-818.6	5,987.1	0.00	0.00	0.00
14,300.0	89.91	359.86	8,350.0	6,040.9	-818.8	6,086.8	0.00	0.00	0.00
14,400.0	89.91	359.86	8,350.1	6,140.9	-819.1	6,186.5	0.00	0.00	0.00
14,500.0	89.91	359.86	8,350.3	6,240.9	-819.3	6,286.2	0.00	0.00	0.00
14,600.0	89.91	359.86	8,350.4	6,340.9	-819.6	6,385.9	0.00	0.00	0.00
14,700.0	89.91	359.86	8,350.6	6,440.9	-819.8	6,485.6	0.00	0.00	0.00
14,800.0	89.91	359.86	8,350.8	6,540.9	-820.1	6,585.3	0.00	0.00	0.00
14,900.0	89.91	359.86	8,350.9	6,640.9	-820.3	6,685.1	0.00	0.00	0.00
15,000.0	89.91	359.86	8,351.1	6,740.9	-820.6	6,784.8	0.00	0.00	0.00
15,100.0	89.91	359.86	8,351.2	6,840.9	-820.8	6,884.5	0.00	0.00	0.00
15,200.0	89.91	359.86	8,351.4	6,940.9	-821.0	6,984.2	0.00	0.00	0.00
15,300.0	89.91	359.86	8,351.6	7,040.9	-821.3	7,083.9	0.00	0.00	0.00
15,400.0	89.91	359.86	8,351.7	7,140.9	-821.5	7,183.6	0.00	0.00	0.00
15,500.0	89.91	359.86	8,351.9	7,240.9	-821.8	7,283.3	0.00	0.00	0.00
15,600.0	89.91	359.86	8,352.0	7,340.9	-822.0	7,383.0	0.00	0.00	0.00
15,700.0	89.91	359.86	8,352.2	7,440.9	-822.3	7,482.7	0.00	0.00	0.00
15,800.0	89.91	359.86	8,352.4	7,540.9	-822.5	7,582.4	0.00	0.00	0.00
15,900.0	89.91	359.86	8,352.5	7,640.9	-822.7	7,682.1	0.00	0.00	0.00
16,000.0	89.91	359.86	8,352.7	7,740.9	-823.0	7,781.8	0.00	0.00	0.00
16,100.0	89.91	359.86	8,352.8	7,840.9	-823.2	7,881.5	0.00	0.00	0.00
16,200.0	89.91	359.86	8,353.0	7,940.9	-823.5	7,981.2	0.00	0.00	0.00
16,300.0	89.91	359.86	8,353.2	8,040.9	-823.7	8,080.9	0.00	0.00	0.00
16,400.0	89.91	359.86	8,353.3	8,140.9	-824.0	8,180.6	0.00	0.00	0.00
16,500.0	89.91	359.86	8,353.5	8,240.9	-824.2	8,280.3	0.00	0.00	0.00
16,600.0	89.91	359.86	8,353.6	8,340.9	-824.5	8,380.0	0.00	0.00	0.00
16,700.0	89.91	359.86	8,353.8	8,440.9	-824.7	8,479.7	0.00	0.00	0.00
16,800.0	89.91	359.86	8,354.0	8,540.9	-824.9	8,579.4	0.00	0.00	0.00
16,900.0	89.91	359.86	8,354.1	8,640.9	-825.2	8,679.1	0.00	0.00	0.00
17,000.0	89.91	359.86	8,354.3	8,740.9	-825.4	8,778.8	0.00	0.00	0.00
17,100.0	89.91	359.86	8,354.4	8,840.9	-825.7	8,878.5	0.00	0.00	0.00
17,200.0	89.91	359.86	8,354.6	8,940.9	-825.9	8,978.2	0.00	0.00	0.00
17,300.0	89.91	359.86	8,354.8	9,040.9	-826.2	9,077.9	0.00	0.00	0.00
17,400.0	89.91	359.86	8,354.9	9,140.9	-826.4	9,177.7	0.00	0.00	0.00
17,500.0	89.91	359.86	8,355.1	9,240.9	-826.7	9,277.4	0.00	0.00	0.00
17,600.0	89.91	359.86	8,355.3	9,340.9	-826.9	9,377.1	0.00	0.00	0.00
17,700.0	89.91	359.86	8,355.4	9,440.9	-827.1	9,476.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 501H
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 501H	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)	
17,800.0	89.91	359.86	8,355.6	9,540.9	-827.4	9,576.5	0.00	0.00	0.00	
17,900.0	89.91	359.86	8,355.7	9,640.9	-827.6	9,676.2	0.00	0.00	0.00	
18,000.0	89.91	359.86	8,355.9	9,740.9	-827.9	9,775.9	0.00	0.00	0.00	
18,100.0	89.91	359.86	8,356.1	9,840.9	-828.1	9,875.6	0.00	0.00	0.00	
18,200.0	89.91	359.86	8,356.2	9,940.9	-828.4	9,975.3	0.00	0.00	0.00	
18,300.0	89.91	359.86	8,356.4	10,040.9	-828.6	10,075.0	0.00	0.00	0.00	
18,400.0	89.91	359.86	8,356.5	10,140.9	-828.9	10,174.7	0.00	0.00	0.00	
18,500.0	89.91	359.86	8,356.7	10,240.9	-829.1	10,274.4	0.00	0.00	0.00	
18,600.0	89.91	359.86	8,356.9	10,340.9	-829.3	10,374.1	0.00	0.00	0.00	
18,689.5	89.91	359.86	8,357.0	10,430.4	-829.6	10,463.3	0.00	0.00	0.00	
TD at 18689.5										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
501H_TNGNT LMTR1_2 - hit/miss target - Shape	10.00	80.00	3,000.0	-47.4	-269.0	382,003.54	594,594.88	32° 2' 59.550 N	104° 1' 40.867 W	
- plan misses target center by 0.1usft at 3022.6usft MD (3000.0 TVD, -47.4 N, -269.0 E)										
- Rectangle (sides W40.0 H50.0 D1,302.5)										
AC_STEER CLEAR_1.5 - plan hits target center - Rectangle (sides W3.0 H100.0 D100.0)	14.28	91.46	3,561.6	-48.3	-402.2	382,002.68	594,461.70	32° 2' 59.545 N	104° 1' 42.414 W	
501H_TNGNT LMTR2_1 - plan misses target center by 0.1usft at 4871.2usft MD (4793.5 TVD, -40.3 N, -715.5 E)	14.28	91.46	4,793.5	-40.3	-715.6	382,010.64	594,148.28	32° 2' 59.633 N	104° 1' 46.056 W	
- Rectangle (sides W30.0 H100.0 D1,554.5)										
501H_KOP BOX_50' N - plan misses target center by 0.5usft at 7948.5usft MD (7863.5 TVD, -38.0 N, -804.0 E)	0.00	179.86	7,863.5	-38.0	-804.5	382,012.94	594,059.38	32° 2' 59.658 N	104° 1' 47.089 W	
- Rectangle (sides W100.0 H50.0 D2,362.5)										
FTP/PP1_RICK VAUGHN - plan misses target center by 163.0usft at 8350.0usft MD (8219.3 TVD, 121.1 N, -804.4 E)	0.00	0.00	8,341.0	12.7	-804.2	382,063.63	594,059.66	32° 3' 0.160 N	104° 1' 47.084 W	
- Circle (radius 50.0)										
LTP_RICK VAUGHN FE - plan misses target center by 39.5usft at 18600.0usft MD (8356.9 TVD, 10340.9 N, -829.3 E)	90.00	359.86	8,357.0	10,380.4	-829.2	392,431.32	594,034.67	32° 4' 42.764 N	104° 1' 47.035 W	
- Circle (radius 50.0)										
PBHL_RICK VAUGHN F - plan hits target center - Rectangle (sides W100.0 H10,422.0 D20.0)	-0.09	179.86	8,357.0	10,430.4	-829.6	392,481.32	594,034.32	32° 4' 43.259 N	104° 1' 47.038 W	
PP2_RICK VAUGHN FE - plan misses target center by 16.2usft at 13448.7usft MD (8348.6 TVD, 5189.6 N, -816.8 E)	0.00	0.00	8,363.8	5,189.6	-822.3	387,240.54	594,041.53	32° 3' 51.394 N	104° 1' 47.125 W	
- Circle (radius 50.0)										
PP3_RICK VAUGHN FE - plan misses target center by 14.7usft at 14763.6usft MD (8350.7 TVD, 6504.5 N, -820.0 E)	0.00	0.00	8,364.8	6,504.5	-824.1	388,555.43	594,039.79	32° 4' 4.406 N	104° 1' 47.102 W	
- Circle (radius 50.0)										
PP4_RICK VAUGHN FE - plan misses target center by 13.4usft at 16079.7usft MD (8352.8 TVD, 7820.6 N, -823.2 E)	0.00	0.00	8,365.9	7,820.5	-825.8	389,871.49	594,038.06	32° 4' 17.431 N	104° 1' 47.080 W	
- Circle (radius 50.0)										

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 501H
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 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
18,689.5	8,357.0	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	
1,700.0	1,697.5	-7.6	-42.9	Start 1322.6 hold at 1700.0 MD	
3,022.6	3,000.0	-47.4	-269.0	Start DLS 2.00 TFO 35.10	
3,267.1	3,239.0	-50.4	-320.1	Start 1604.1 hold at 3267.1 MD	
4,871.2	4,793.5	-40.3	-715.6	Start Drop -2.00	
5,585.0	5,500.0	-38.0	-804.0	Start 2363.5 hold at 5585.0 MD	
7,948.5	7,863.5	-38.0	-804.0	Start DLS 12.00 TFO 359.86	
8,697.8	8,341.0	438.7	-805.2	Start 9991.7 hold at 8697.8 MD	
18,689.5	8,357.0	10,430.4	-829.6	TD at 18689.5	

DELAWARE BASIN WEST

ATLAS PROSPECT_NME

RICK VAUGHN FED COM PROJECT

RICK VAUGHN FED COM 501H

OWB

PWP1

Anticollision Report

12 August, 2025

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 501H
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 501H	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		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		
0.0	0.0	0.0	8.0	0.0	0.0	-42.16	182.2	-165.0	245.9					
100.0	100.0	89.3	97.3	0.5	0.6	-42.22	182.4	-165.5	246.3	244.7	1.60	153.723		
200.0	200.0	186.9	194.9	1.0	1.2	-42.36	183.2	-167.0	248.0	245.3	2.71	91.576		
300.0	300.0	286.9	294.8	1.4	1.7	-42.33	184.9	-168.4	250.2	246.6	3.55	70.412		
400.0	400.0	387.0	394.9	1.6	2.3	-42.21	186.7	-169.4	252.2	247.8	4.36	57.861		
500.0	500.0	486.4	494.3	1.9	2.7	-42.11	188.6	-170.4	254.2	249.2	5.03	50.507		
600.0	600.0	585.0	592.9	2.1	3.0	-42.00	190.7	-171.7	256.7	251.1	5.59	45.953		
700.0	700.0	683.5	691.4	2.3	3.4	-41.89	193.3	-173.3	259.8	253.6	6.12	42.422		
800.0	800.0	782.7	790.5	2.5	3.7	-41.74	196.3	-175.1	263.3	256.6	6.64	39.665		
900.0	900.0	882.0	889.7	2.7	4.0	-41.60	199.6	-177.2	267.1	259.9	7.16	37.326		
1,000.0	1,000.0	987.6	995.3	2.9	4.3	-41.71	201.3	-179.4	269.7	262.1	7.66	35.195		
1,100.0	1,100.0	1,088.3	1,095.9	3.2	4.6	-42.10	201.2	-181.8	271.2	263.0	8.17	33.181		
1,200.0	1,200.0	1,186.8	1,194.4	3.4	4.8	-42.55	201.1	-184.6	273.1	264.4	8.64	31.613		
1,300.0	1,300.0	1,286.5	1,294.1	3.6	5.1	57.30	201.3	-187.6	274.3	265.1	9.14	30.008		
1,400.0	1,399.8	1,383.4	1,390.9	3.9	5.4	57.59	201.1	-191.3	273.9	264.3	9.65	28.396		
1,467.7	1,467.3	1,446.4	1,453.7	4.1	5.7	57.73	200.4	-195.8	273.7	263.7	10.00	27.365		
1,500.0	1,499.5	1,475.4	1,482.6	4.2	5.8	57.75	200.1	-198.5	273.7	263.6	10.18	26.899		
1,600.0	1,598.7	1,568.4	1,574.8	4.5	6.3	57.66	198.7	-210.7	274.9	264.2	10.71	25.680		
1,700.0	1,697.5	1,672.8	1,677.7	4.8	6.7	57.45	195.4	-227.7	275.2	263.9	11.29	24.388		
1,800.0	1,795.9	1,779.4	1,782.8	5.0	7.1	57.25	188.6	-244.0	271.5	259.7	11.75	23.098		
1,900.0	1,894.4	1,873.8	1,875.8	5.2	7.4	56.86	181.7	-258.9	267.5	255.3	12.16	21.996		
2,000.0	1,992.9	1,968.2	1,968.3	5.3	7.8	56.05	175.3	-276.9	266.1	253.5	12.60	21.122		
2,100.0	2,091.4	2,071.0	2,068.8	5.5	8.1	55.08	168.7	-297.1	265.5	252.4	13.10	20.272		
2,175.5	2,165.8	2,142.7	2,139.0	5.7	8.4	54.45	163.9	-310.9	264.8	251.3	13.46	19.673		
2,200.0	2,189.9	2,165.4	2,161.1	5.7	8.5	54.22	162.5	-315.5	264.8	251.3	13.57	19.511		
2,300.0	2,288.4	2,260.4	2,253.7	5.9	8.9	53.14	157.2	-336.3	266.6	252.5	14.08	18.929		
2,400.0	2,386.8	2,363.9	2,354.4	6.1	9.3	51.87	151.3	-359.6	268.8	254.1	14.67	18.321		
2,500.0	2,485.3	2,458.1	2,446.0	6.3	9.7	50.71	145.8	-380.8	271.1	255.9	15.21	17.826		
2,600.0	2,583.8	2,553.5	2,538.4	6.5	10.1	49.46	141.1	-404.1	275.6	259.8	15.79	17.454		
2,700.0	2,682.3	2,655.0	2,636.6	6.7	10.6	48.19	136.5	-429.1	280.6	264.2	16.43	17.080		
2,800.0	2,780.8	2,756.8	2,735.4	6.8	11.0	47.01	131.6	-453.5	285.1	268.0	17.08	16.693		
2,900.0	2,879.2	2,856.9	2,832.6	7.0	11.5	45.89	126.6	-477.1	289.2	271.5	17.71	16.326		
3,000.0	2,977.7	2,956.3	2,928.9	7.2	11.9	44.80	121.5	-500.6	293.4	275.0	18.35	15.985		
3,022.6	3,000.0	2,978.3	2,950.3	7.3	12.0	44.57	120.4	-505.8	294.4	275.9	18.48	15.929		
3,100.0	3,076.0	3,053.6	3,023.4	7.4	12.4	39.40	117.1	-523.7	297.2	278.2	18.96	15.670		
3,200.0	3,173.8	3,151.7	3,118.5	7.7	12.8	34.30	113.8	-547.3	298.6	278.9	19.63	15.212		
3,267.1	3,239.0	3,219.7	3,184.5	7.8	13.1	31.58	111.7	-563.7	297.6	277.5	20.06	14.834		
3,300.0	3,270.9	3,253.0	3,216.9	7.8	13.3	31.40	110.6	-571.6	296.6	276.4	20.26	14.640		
3,400.0	3,367.8	3,353.8	3,314.8	8.0	13.7	30.87	107.2	-595.3	293.5	272.6	20.92	14.029		
3,500.0	3,464.7	3,454.1	3,412.1	8.2	14.2	30.26	103.5	-618.9	290.3	268.7	21.59	13.445		
3,600.0	3,561.6	3,555.3	3,510.4	8.4	14.7	29.58	99.4	-642.7	286.9	264.6	22.28	12.879		
3,700.0	3,658.5	3,656.7	3,609.0	8.6	15.1	28.84	94.9	-666.1	282.9	259.9	22.97	12.316		
3,800.0	3,755.4	3,757.6	3,707.0	8.8	15.6	28.00	89.7	-689.3	278.5	254.9	23.67	11.765		
3,900.0	3,852.3	3,854.5	3,801.2	9.0	16.1	27.09	84.5	-711.7	274.3	250.0	24.35	11.266		
4,000.0	3,949.3	3,949.2	3,892.9	9.3	16.5	26.10	79.9	-735.2	271.9	246.8	25.03	10.860		
4,100.0	4,046.2	4,047.5	3,987.5	9.5	17.0	24.91	75.1	-761.1	271.0	245.2	25.78	10.510		
4,200.0	4,143.1	4,147.5	4,083.8	9.7	17.5	23.65	70.1	-787.6	270.3	243.7	26.57	10.174		
4,300.0	4,240.0	4,248.6	4,181.2	9.9	17.9	22.37	64.9	-814.2	269.5	242.1	27.36	9.847		
4,400.0	4,336.9	4,349.2	4,278.2	10.1	18.4	21.05	59.3	-840.3	268.3	240.2	28.16	9.528		
4,500.0	4,433.8	4,449.0	4,374.5	10.3	18.9	19.67	53.5	-865.9	266.9	238.0	28.96	9.217		
4,588.4	4,519.5	4,534.8	4,457.2	10.5	19.3	18.47	48.5	-888.3	266.2	236.6	29.63	8.985		

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 501H
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 501H	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	4,530.7	4,546.0	4,467.9	10.5	19.4	18.31	47.9	-891.3	266.3	236.5	29.72	8.959	
4,700.0	4,627.6	4,646.9	4,565.0	10.7	19.9	16.86	42.2	-918.3	266.3	235.8	30.54	8.719	
4,800.0	4,724.5	4,749.6	4,663.9	11.0	20.4	15.40	36.3	-945.3	266.0	234.6	31.39	8.474	
4,871.2	4,793.5	4,827.5	4,739.5	11.1	20.7	14.48	32.2	-964.0	264.4	232.4	32.01	8.260	
4,900.0	4,821.5	4,858.6	4,769.8	11.1	20.9	14.16	30.7	-970.9	263.4	231.1	32.23	8.171	
5,000.0	4,919.0	4,964.2	4,873.0	11.4	21.4	13.12	25.9	-992.2	260.3	227.3	33.05	7.878	
5,079.3	4,996.9	5,045.1	4,952.4	11.6	21.8	12.26	22.3	-1,007.7	259.5	225.8	33.66	7.709	
5,100.0	5,017.3	5,066.2	4,973.1	11.6	21.9	12.01	21.3	-1,011.6	259.6	225.7	33.82	7.674 ES	
5,200.0	5,116.1	5,171.8	5,076.9	11.9	22.3	10.77	16.6	-1,030.3	261.1	226.5	34.61	7.545	
5,300.0	5,215.5	5,278.9	5,182.7	12.1	22.8	9.60	12.1	-1,046.2	263.3	227.9	35.36	7.446	
5,400.0	5,315.1	5,389.1	5,292.0	12.3	23.3	8.53	7.9	-1,058.9	265.9	229.9	36.01	7.384	
5,500.0	5,415.0	5,500.1	5,402.7	12.5	23.7	7.87	5.4	-1,066.8	267.9	231.4	36.51	7.337	
5,585.0	5,500.0	5,593.3	5,495.9	12.6	24.0	-80.91	4.5	-1,069.7	269.1	231.3	37.85	7.110	
5,600.0	5,515.0	5,608.8	5,511.4	12.6	24.0	-80.93	4.4	-1,069.9	269.3	231.4	37.89	7.108	
5,700.0	5,615.0	5,711.1	5,613.7	12.7	24.3	-81.03	4.1	-1,070.8	270.1	231.8	38.28	7.055	
5,800.0	5,715.0	5,811.3	5,713.9	12.7	24.4	-81.16	3.6	-1,071.3	270.5	232.0	38.55	7.017	
5,900.0	5,815.0	5,912.0	5,814.6	12.8	24.6	-81.29	3.0	-1,071.7	270.8	232.2	38.65	7.007	
6,000.0	5,915.0	6,012.6	5,915.1	12.9	24.7	-81.42	2.4	-1,071.8	270.8	232.2	38.63	7.011	
6,100.0	6,015.0	6,112.9	6,015.5	12.9	24.7	-81.57	1.7	-1,071.8	270.7	232.1	38.64	7.006	
6,200.0	6,115.0	6,213.1	6,115.7	13.0	24.7	-81.73	0.9	-1,071.7	270.5	231.8	38.66	6.996	
6,300.0	6,215.0	6,312.9	6,215.4	13.0	24.8	-81.92	0.0	-1,071.6	270.2	231.5	38.72	6.979	
6,400.0	6,315.0	6,412.6	6,315.2	13.1	24.8	-82.11	-0.9	-1,071.6	270.1	231.3	38.82	6.959	
6,496.1	6,411.1	6,508.5	6,411.1	13.2	24.9	-82.28	-1.7	-1,071.6	270.1	231.2	38.92	6.940	
6,500.0	6,415.0	6,512.4	6,414.9	13.2	24.9	-82.29	-1.7	-1,071.6	270.1	231.1	38.94	6.937	
6,600.0	6,515.0	6,610.5	6,513.1	13.2	25.1	-82.40	-2.2	-1,072.1	270.4	231.3	39.15	6.908	
6,700.0	6,615.0	6,708.5	6,611.0	13.3	25.3	-82.42	-2.2	-1,073.1	271.5	232.1	39.45	6.882	
6,800.0	6,715.0	6,806.9	6,709.5	13.3	25.6	-82.43	-2.0	-1,074.9	273.3	233.5	39.86	6.857	
6,900.0	6,815.0	6,906.9	6,809.4	13.4	25.8	-82.49	-2.0	-1,076.9	275.3	235.1	40.24	6.843	
7,000.0	6,915.0	7,007.3	6,909.8	13.5	26.1	-82.52	-1.9	-1,078.9	277.3	236.7	40.60	6.830	
7,100.0	7,015.0	7,109.1	7,011.6	13.5	26.3	-82.48	-1.5	-1,080.6	279.0	238.2	40.85	6.830	
7,200.0	7,115.0	7,211.5	7,114.0	13.6	26.4	-82.29	-0.5	-1,081.0	279.6	238.5	41.04	6.811	
7,300.0	7,215.0	7,313.2	7,215.7	13.6	26.4	-82.05	0.7	-1,081.1	279.8	238.8	41.00	6.824	
7,400.0	7,315.0	7,416.2	7,318.6	13.7	26.3	-81.70	2.3	-1,080.0	279.0	238.2	40.76	6.845	
7,500.0	7,415.0	7,516.5	7,418.9	13.8	26.1	-81.38	3.6	-1,078.3	277.5	236.9	40.60	6.835	
7,600.0	7,515.0	7,616.0	7,518.4	13.8	25.9	-81.09	4.8	-1,076.8	276.2	235.7	40.44	6.829	
7,700.0	7,615.0	7,715.5	7,617.9	13.9	25.7	-80.80	6.0	-1,075.5	275.0	234.7	40.29	6.826	
7,800.0	7,715.0	7,813.5	7,715.8	14.0	25.6	-80.50	7.3	-1,074.5	274.3	234.0	40.33	6.802	
7,851.3	7,766.3	7,863.9	7,766.3	14.0	25.6	-80.33	8.1	-1,074.3	274.2	233.8	40.42	6.784	
7,900.0	7,815.0	7,911.9	7,814.3	14.0	25.6	-80.17	8.8	-1,074.3	274.3	233.8	40.50	6.772	
7,948.5	7,863.5	7,960.0	7,862.3	14.0	25.6	-80.04	9.5	-1,074.3	274.5	234.0	40.47	6.782	
7,950.0	7,865.0	7,961.5	7,863.8	14.0	25.6	-79.90	9.5	-1,074.3	274.5	234.0	40.47	6.783	
7,975.0	7,890.0	7,986.2	7,888.6	14.1	25.7	-80.01	9.7	-1,074.4	274.5	234.0	40.48	6.780	
8,000.0	7,914.9	8,011.0	7,913.3	14.1	25.7	-80.44	9.8	-1,074.5	274.2	233.5	40.72	6.735	
8,025.0	7,939.7	8,035.8	7,938.1	14.1	25.7	-81.17	9.8	-1,074.7	273.9	233.0	40.88	6.700	
8,050.0	7,964.2	8,060.4	7,962.8	14.1	25.8	-82.19	9.8	-1,074.8	273.3	232.3	41.04	6.660	
8,075.0	7,988.5	8,084.8	7,987.1	14.1	25.8	-83.47	9.7	-1,074.9	272.7	231.4	41.25	6.611	
8,100.0	8,012.5	8,108.8	8,011.2	14.1	25.9	-85.01	9.6	-1,075.1	272.1	230.5	41.51	6.554	
8,125.0	8,036.0	8,131.9	8,034.2	14.1	25.9	-86.73	9.5	-1,075.2	271.6	229.9	41.70	6.512	
8,150.0	8,059.1	8,154.3	8,056.7	14.1	26.0	-88.62	9.3	-1,075.4	271.3	229.5	41.86	6.482	
8,151.7	8,060.7	8,155.9	8,058.2	14.1	26.0	-88.76	9.3	-1,075.4	271.3	229.5	41.88	6.480	
8,175.0	8,081.6	8,176.2	8,078.5	14.1	26.0	-90.64	9.1	-1,075.6	271.6	229.5	42.01	6.465 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 501H
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 501H	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			Offset Wellbore Centre		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	
8,200.0	8,103.5	8,197.4	8,099.7	14.1	26.1	-92.74	8.8	-1,075.9	272.3	230.2	42.11	6.467	
8,225.0	8,124.8	8,218.2	8,120.6	14.1	26.1	-94.91	8.5	-1,076.1	273.8	231.6	42.17	6.493	
8,250.0	8,145.3	8,238.6	8,140.9	14.1	26.1	-97.09	8.2	-1,076.4	276.1	233.9	42.16	6.549	
8,275.0	8,165.1	8,258.2	8,160.5	14.1	26.2	-99.21	7.9	-1,076.7	279.3	237.2	42.08	6.638	
8,300.0	8,184.1	8,276.9	8,179.3	14.1	26.2	-101.21	7.6	-1,076.9	283.6	241.7	41.93	6.764	
8,325.0	8,202.2	8,294.8	8,197.2	14.1	26.3	-103.05	7.4	-1,077.2	289.1	247.4	41.70	6.933	
8,350.0	8,219.3	8,311.7	8,214.1	14.1	26.3	-104.68	7.2	-1,077.4	295.9	254.5	41.41	7.146	
8,375.0	8,235.5	8,327.6	8,229.9	14.2	26.3	-106.06	7.0	-1,077.6	304.0	262.9	41.04	7.406	
8,400.0	8,250.6	8,342.5	8,244.8	14.2	26.4	-107.16	6.8	-1,077.8	313.4	272.8	40.62	7.716	
8,425.0	8,264.7	8,356.2	8,258.5	14.2	26.4	-107.96	6.6	-1,078.0	324.3	284.1	40.16	8.075	
8,450.0	8,277.7	8,368.9	8,271.2	14.2	26.4	-108.42	6.4	-1,078.2	336.4	296.8	39.66	8.483	
8,475.0	8,289.6	8,380.4	8,282.7	14.3	26.4	-108.51	6.2	-1,078.4	349.9	310.7	39.14	8.939	
8,500.0	8,300.3	8,390.7	8,293.0	14.3	26.5	-108.20	6.1	-1,078.5	364.5	325.9	38.62	9.440	
8,525.0	8,309.8	8,399.8	8,302.1	14.3	26.5	-107.46	5.9	-1,078.6	380.3	342.2	38.10	9.984	
8,550.0	8,318.1	8,407.7	8,310.0	14.4	26.5	-106.27	5.8	-1,078.7	397.2	359.6	37.59	10.567	
8,575.0	8,325.1	8,414.3	8,316.6	14.4	26.5	-104.57	5.7	-1,078.8	415.0	377.9	37.10	11.186	
8,600.0	8,330.8	8,419.7	8,322.0	14.4	26.5	-102.33	5.6	-1,078.9	433.6	397.0	36.64	11.836	
8,625.0	8,335.3	8,423.8	8,326.1	14.5	26.5	-99.52	5.5	-1,078.9	453.0	416.8	36.20	12.515	
8,650.0	8,338.5	8,426.6	8,328.9	14.5	26.5	-96.11	5.5	-1,079.0	473.0	437.2	35.79	13.218	
8,675.0	8,340.4	8,428.0	8,330.3	14.6	26.5	-92.11	5.5	-1,079.0	493.6	458.2	35.40	13.941	
8,697.8	8,341.0	8,428.2	8,330.5	14.7	26.5	-87.97	5.5	-1,079.0	512.6	477.5	35.08	14.614	
8,700.0	8,341.0	8,428.2	8,330.5	14.7	26.5	-87.97	5.5	-1,079.0	514.5	479.5	35.05	14.681	
8,800.0	8,341.1	8,426.8	8,329.1	14.9	26.5	-87.67	5.5	-1,079.0	601.4	567.5	33.89	17.747	
8,900.0	8,341.3	8,425.4	8,327.7	15.2	26.5	-87.37	5.5	-1,078.9	691.8	658.8	33.06	20.925	
9,000.0	8,341.4	8,423.9	8,326.2	15.6	26.5	-87.08	5.5	-1,078.9	784.6	752.1	32.47	24.165	
9,100.0	8,341.6	8,422.5	8,324.8	16.0	26.5	-86.79	5.6	-1,078.9	878.9	846.9	32.03	27.442	
9,200.0	8,341.8	8,421.1	8,323.4	16.4	26.5	-86.50	5.6	-1,078.9	974.4	942.7	31.70	30.738	

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 501H
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 501H	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	-42.17	182.2	-165.0	245.9				
100.0	100.0	89.3	97.3	0.5	0.6	-42.23	182.4	-165.5	246.3	244.7	1.60	153.722	
200.0	200.0	186.9	194.9	1.0	1.2	-42.37	183.2	-167.1	248.0	245.3	2.71	91.576	
300.0	300.0	286.9	294.8	1.4	1.7	-42.34	184.9	-168.4	250.2	246.6	3.55	70.412	
400.0	400.0	387.0	394.9	1.6	2.3	-42.22	186.7	-169.4	252.2	247.8	4.36	57.861	
500.0	500.0	486.4	494.3	1.9	2.7	-42.12	188.5	-170.5	254.2	249.2	5.03	50.507	
600.0	600.0	585.0	592.9	2.1	3.0	-42.00	190.7	-171.7	256.7	251.1	5.59	45.953	
700.0	700.0	683.5	691.4	2.3	3.4	-41.89	193.3	-173.4	259.8	253.6	6.12	42.422	
800.0	800.0	782.7	790.5	2.5	3.7	-41.74	196.3	-175.2	263.3	256.6	6.64	39.665	
900.0	900.0	882.0	889.7	2.7	4.0	-41.61	199.5	-177.2	267.1	259.9	7.16	37.326	
1,000.0	1,000.0	987.6	995.3	2.9	4.3	-41.71	201.3	-179.5	269.7	262.1	7.66	35.195	
1,100.0	1,100.0	1,088.3	1,095.9	3.2	4.6	-42.11	201.2	-181.8	271.2	263.0	8.17	33.181	
1,200.0	1,200.0	1,186.8	1,194.4	3.4	4.8	-42.55	201.1	-184.6	273.1	264.4	8.64	31.613	
1,300.0	1,300.0	1,286.5	1,294.1	3.6	5.1	57.29	201.2	-187.6	274.3	265.1	9.14	30.008	
1,400.0	1,399.8	1,383.4	1,390.9	3.9	5.4	57.59	201.1	-191.3	273.9	264.3	9.65	28.396	
1,467.7	1,467.3	1,446.4	1,453.7	4.1	5.7	57.73	200.4	-195.8	273.7	263.7	10.00	27.365	
1,500.0	1,499.5	1,475.4	1,482.6	4.2	5.8	57.75	200.1	-198.6	273.7	263.6	10.18	26.899	
1,600.0	1,598.7	1,568.4	1,574.8	4.5	6.3	57.66	198.7	-210.7	274.9	264.2	10.71	25.679	
1,700.0	1,697.5	1,672.8	1,677.7	4.8	6.7	57.45	195.4	-227.8	275.2	263.9	11.29	24.388	
1,800.0	1,795.9	1,779.4	1,782.8	5.0	7.1	57.24	188.6	-244.0	271.5	259.7	11.75	23.098	
1,900.0	1,894.4	1,873.8	1,875.8	5.2	7.4	56.85	181.7	-258.9	267.5	255.3	12.16	21.996	
2,000.0	1,992.9	1,968.2	1,968.3	5.3	7.8	56.04	175.3	-276.9	266.1	253.5	12.60	21.121	
2,100.0	2,091.4	2,071.0	2,068.8	5.5	8.1	55.08	168.7	-297.1	265.5	252.4	13.10	20.271	
2,175.5	2,165.7	2,142.7	2,139.0	5.7	8.4	54.44	163.9	-310.9	264.8	251.3	13.46	19.673	
2,200.0	2,189.9	2,165.4	2,161.1	5.7	8.5	54.21	162.5	-315.6	264.8	251.3	13.57	19.511	
2,300.0	2,288.4	2,260.4	2,253.7	5.9	8.9	53.13	157.2	-336.4	266.6	252.5	14.08	18.928	
2,400.0	2,386.8	2,363.9	2,354.4	6.1	9.3	51.87	151.3	-359.6	268.8	254.1	14.67	18.321	
2,500.0	2,485.3	2,458.1	2,446.0	6.3	9.7	50.71	145.8	-380.8	271.1	255.9	15.21	17.826	
2,600.0	2,583.8	2,553.5	2,538.4	6.5	10.1	49.45	141.1	-404.1	275.6	259.8	15.79	17.453	
2,700.0	2,682.3	2,655.0	2,636.6	6.7	10.6	48.18	136.5	-429.1	280.6	264.2	16.43	17.080	
2,800.0	2,780.8	2,756.8	2,735.4	6.8	11.0	47.01	131.6	-453.5	285.1	268.0	17.08	16.693	
2,900.0	2,879.2	2,856.9	2,832.6	7.0	11.5	45.89	126.5	-477.1	289.2	271.5	17.71	16.326	
3,000.0	2,977.7	2,956.3	2,928.9	7.2	11.9	44.79	121.4	-500.6	293.4	275.0	18.35	15.985	
3,022.6	3,000.0	2,978.3	2,950.3	7.3	12.0	44.56	120.4	-505.8	294.4	275.9	18.48	15.928	
3,100.0	3,076.0	3,053.6	3,023.4	7.4	12.4	39.40	117.1	-523.7	297.2	278.2	18.96	15.670	
3,200.0	3,173.8	3,151.7	3,118.5	7.7	12.8	34.30	113.8	-547.4	298.6	278.9	19.63	15.212	
3,267.1	3,239.0	3,219.7	3,184.5	7.8	13.1	31.58	111.7	-563.7	297.6	277.5	20.06	14.834	
3,300.0	3,270.9	3,253.0	3,216.9	7.8	13.3	31.40	110.6	-571.6	296.6	276.4	20.26	14.640	
3,400.0	3,367.8	3,353.8	3,314.8	8.0	13.7	30.87	107.2	-595.3	293.5	272.6	20.92	14.029	
3,500.0	3,464.7	3,454.1	3,412.1	8.2	14.2	30.26	103.5	-618.9	290.3	268.7	21.59	13.445	
3,600.0	3,561.6	3,555.3	3,510.4	8.4	14.7	29.58	99.4	-642.7	286.9	264.6	22.28	12.879	
3,700.0	3,658.5	3,656.7	3,609.0	8.6	15.1	28.84	94.8	-666.1	282.9	259.9	22.97	12.316	
3,800.0	3,755.4	3,757.6	3,707.0	8.8	15.6	27.99	89.7	-689.3	278.5	254.9	23.67	11.765	
3,900.0	3,852.3	3,854.5	3,801.2	9.0	16.1	27.09	84.5	-711.8	274.3	250.0	24.35	11.266	
4,000.0	3,949.3	3,949.2	3,892.9	9.3	16.5	26.09	79.9	-735.2	271.9	246.9	25.03	10.860	
4,100.0	4,046.2	4,047.5	3,987.5	9.5	17.0	24.91	75.1	-761.1	271.0	245.2	25.79	10.510	
4,200.0	4,143.1	4,147.5	4,083.8	9.7	17.5	23.65	70.0	-787.6	270.3	243.7	26.57	10.174	
4,300.0	4,240.0	4,248.6	4,181.2	9.9	17.9	22.37	64.8	-814.2	269.5	242.1	27.36	9.847	
4,400.0	4,336.9	4,349.2	4,278.2	10.1	18.4	21.04	59.3	-840.3	268.3	240.2	28.16	9.528	
4,500.0	4,433.8	4,449.0	4,374.5	10.3	18.9	19.67	53.5	-866.0	267.0	238.0	28.96	9.217	
4,588.4	4,519.4	4,534.8	4,457.1	10.5	19.3	18.46	48.5	-888.3	266.3	236.6	29.63	8.985	

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 501H
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 501H	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)			
4,600.0	4,530.7	4,546.0	4,467.9	10.5	19.4	18.31	47.9	-891.4	266.3	236.5	29.72	8.959	
4,700.0	4,627.6	4,646.9	4,565.0	10.7	19.9	16.86	42.2	-918.4	266.3	235.8	30.54	8.719	
4,800.0	4,724.5	4,749.6	4,663.9	11.0	20.4	15.39	36.2	-945.3	266.0	234.6	31.39	8.475	
4,871.2	4,793.5	4,827.5	4,739.5	11.1	20.7	14.47	32.1	-964.0	264.4	232.4	32.01	8.260	
4,900.0	4,821.5	4,858.6	4,769.8	11.1	20.9	14.16	30.7	-970.9	263.4	231.1	32.23	8.171	
5,000.0	4,919.0	4,964.2	4,873.0	11.4	21.4	13.12	25.9	-992.3	260.4	227.3	33.05	7.878	
5,079.3	4,996.9	5,045.1	4,952.4	11.6	21.8	12.25	22.3	-1,007.7	259.5	225.8	33.66	7.709	
5,100.0	5,017.3	5,066.2	4,973.1	11.6	21.9	12.01	21.3	-1,011.6	259.6	225.7	33.82	7.674 ES	
5,200.0	5,116.1	5,171.8	5,076.9	11.9	22.3	10.76	16.6	-1,030.4	261.1	226.5	34.61	7.545	
5,300.0	5,215.5	5,278.9	5,182.7	12.1	22.8	9.60	12.1	-1,046.2	263.3	227.9	35.36	7.446	
5,400.0	5,315.1	5,389.1	5,292.0	12.3	23.3	8.52	7.9	-1,058.9	265.9	229.9	36.01	7.385	
5,500.0	5,415.0	5,500.1	5,402.7	12.5	23.7	7.87	5.4	-1,066.8	267.9	231.4	36.51	7.337	
5,585.0	5,500.0	5,593.3	5,495.9	12.6	24.0	-80.91	4.5	-1,069.7	269.1	231.3	37.85	7.110	
5,600.0	5,515.0	5,608.8	5,511.4	12.6	24.0	-80.94	4.4	-1,069.9	269.3	231.4	37.89	7.108	
5,700.0	5,615.0	5,711.1	5,613.7	12.7	24.3	-81.03	4.1	-1,070.8	270.1	231.8	38.28	7.056	
5,800.0	5,715.0	5,811.3	5,713.9	12.7	24.4	-81.16	3.6	-1,071.3	270.6	232.0	38.55	7.018	
5,900.0	5,815.0	5,912.0	5,814.6	12.8	24.6	-81.29	3.0	-1,071.7	270.8	232.2	38.65	7.007	
6,000.0	5,915.0	6,012.6	5,915.1	12.9	24.7	-81.42	2.4	-1,071.8	270.8	232.2	38.63	7.011	
6,100.0	6,015.0	6,112.9	6,015.5	12.9	24.7	-81.57	1.7	-1,071.8	270.7	232.1	38.64	7.006	
6,200.0	6,115.0	6,213.1	6,115.7	13.0	24.7	-81.74	0.9	-1,071.7	270.5	231.8	38.66	6.997	
6,300.0	6,215.0	6,312.9	6,215.4	13.0	24.8	-81.93	0.0	-1,071.6	270.2	231.5	38.72	6.980	
6,400.0	6,315.0	6,412.6	6,315.2	13.1	24.8	-82.11	-0.9	-1,071.6	270.1	231.3	38.82	6.959	
6,496.1	6,411.0	6,508.5	6,411.1	13.2	24.9	-82.28	-1.7	-1,071.6	270.1	231.2	38.92	6.940	
6,500.0	6,415.0	6,512.4	6,414.9	13.2	24.9	-82.29	-1.8	-1,071.7	270.1	231.2	38.94	6.937	
6,600.0	6,515.0	6,610.5	6,513.1	13.2	25.1	-82.40	-2.2	-1,072.1	270.4	231.3	39.15	6.908	
6,700.0	6,615.0	6,708.5	6,611.0	13.3	25.3	-82.42	-2.2	-1,073.1	271.5	232.1	39.45	6.882	
6,800.0	6,715.0	6,806.9	6,709.5	13.3	25.6	-82.43	-2.0	-1,074.9	273.3	233.5	39.86	6.858	
6,900.0	6,815.0	6,906.9	6,809.4	13.4	25.8	-82.49	-2.0	-1,076.9	275.4	235.1	40.24	6.843	
7,000.0	6,915.0	7,007.3	6,909.8	13.5	26.1	-82.52	-1.9	-1,078.9	277.3	236.7	40.60	6.830	
7,100.0	7,015.0	7,109.1	7,011.6	13.5	26.3	-82.48	-1.5	-1,080.6	279.0	238.2	40.85	6.830	
7,200.0	7,115.0	7,211.5	7,114.0	13.6	26.4	-82.29	-0.5	-1,081.1	279.6	238.5	41.05	6.812	
7,300.0	7,215.0	7,313.2	7,215.7	13.6	26.4	-82.05	0.7	-1,081.1	279.8	238.8	41.00	6.825	
7,400.0	7,315.0	7,416.2	7,318.6	13.7	26.3	-81.71	2.2	-1,080.1	279.0	238.2	40.76	6.845	
7,500.0	7,415.0	7,516.5	7,418.9	13.8	26.1	-81.39	3.6	-1,078.4	277.5	236.9	40.60	6.835	
7,600.0	7,515.0	7,616.0	7,518.4	13.8	25.9	-81.09	4.8	-1,076.8	276.2	235.8	40.44	6.830	
7,700.0	7,615.0	7,715.5	7,617.9	13.9	25.7	-80.80	5.9	-1,075.5	275.0	234.8	40.29	6.826	
7,800.0	7,715.0	7,813.5	7,715.8	14.0	25.6	-80.50	7.3	-1,074.6	274.3	234.0	40.33	6.802	
7,851.3	7,766.3	7,864.0	7,766.3	14.0	25.6	-80.33	8.0	-1,074.4	274.2	233.8	40.42	6.785	
7,900.0	7,815.0	7,911.9	7,814.3	14.0	25.6	-80.18	8.8	-1,074.3	274.3	233.8	40.50	6.772	
7,948.5	7,863.5	7,960.0	7,862.3	14.0	25.6	-80.04	9.5	-1,074.3	274.5	234.0	40.47	6.782	
7,950.0	7,865.0	7,961.5	7,863.8	14.0	25.6	-79.90	9.5	-1,074.3	274.5	234.0	40.47	6.783	
7,975.0	7,890.0	7,986.2	7,888.6	14.1	25.7	-80.01	9.7	-1,074.4	274.5	234.0	40.48	6.781	
8,000.0	7,914.9	8,011.0	7,913.3	14.1	25.7	-80.44	9.8	-1,074.5	274.3	233.5	40.72	6.735	
8,025.0	7,939.7	8,035.8	7,938.1	14.1	25.7	-81.17	9.8	-1,074.7	273.9	233.0	40.88	6.700	
8,050.0	7,964.2	8,060.4	7,962.8	14.1	25.8	-82.19	9.7	-1,074.8	273.3	232.3	41.04	6.660	
8,075.0	7,988.5	8,084.8	7,987.1	14.1	25.8	-83.48	9.7	-1,075.0	272.7	231.4	41.25	6.611	
8,100.0	8,012.5	8,108.8	8,011.2	14.1	25.9	-85.01	9.6	-1,075.1	272.1	230.6	41.51	6.554	
8,125.0	8,036.0	8,131.9	8,034.2	14.1	25.9	-86.73	9.5	-1,075.2	271.6	229.9	41.70	6.512	
8,150.0	8,059.1	8,154.3	8,056.7	14.1	26.0	-88.62	9.3	-1,075.4	271.4	229.5	41.87	6.482	
8,151.7	8,060.6	8,155.8	8,058.2	14.1	26.0	-88.76	9.3	-1,075.4	271.4	229.5	41.88	6.480	
8,175.0	8,081.6	8,176.2	8,078.5	14.1	26.0	-90.64	9.1	-1,075.6	271.6	229.6	42.01	6.465 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 501H
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 501H	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)			
8,200.0	8,103.5	8,197.4	8,099.7	14.1	26.1	-92.74	8.8	-1,075.9	272.3	230.2	42.11	6.467	
8,225.0	8,124.8	8,218.2	8,120.6	14.1	26.1	-94.91	8.5	-1,076.2	273.8	231.6	42.16	6.494	
8,250.0	8,145.3	8,238.6	8,140.9	14.1	26.1	-97.10	8.2	-1,076.4	276.1	233.9	42.16	6.549	
8,275.0	8,165.1	8,258.2	8,160.5	14.1	26.2	-99.21	7.9	-1,076.7	279.3	237.2	42.08	6.638	
8,300.0	8,184.1	8,276.9	8,179.3	14.1	26.2	-101.21	7.6	-1,077.0	283.6	241.7	41.93	6.765	
8,325.0	8,202.2	8,294.8	8,197.2	14.1	26.3	-103.05	7.4	-1,077.2	289.1	247.4	41.70	6.933	
8,350.0	8,219.3	8,311.7	8,214.1	14.1	26.3	-104.68	7.2	-1,077.4	295.9	254.5	41.41	7.146	
8,375.0	8,235.5	8,327.6	8,229.9	14.2	26.3	-106.06	6.9	-1,077.7	304.0	263.0	41.04	7.407	
8,400.0	8,250.6	8,342.5	8,244.8	14.2	26.4	-107.17	6.7	-1,077.9	313.5	272.8	40.62	7.717	
8,425.0	8,264.7	8,356.2	8,258.5	14.2	26.4	-107.96	6.5	-1,078.0	324.3	284.1	40.16	8.076	
8,450.0	8,277.7	8,368.9	8,271.2	14.2	26.4	-108.42	6.4	-1,078.2	336.4	296.8	39.66	8.484	
8,475.0	8,289.6	8,380.4	8,282.7	14.3	26.4	-108.51	6.2	-1,078.4	349.9	310.8	39.14	8.939	
8,500.0	8,300.3	8,390.7	8,293.0	14.3	26.5	-108.20	6.0	-1,078.5	364.6	325.9	38.62	9.441	
8,525.0	8,309.8	8,399.8	8,302.1	14.3	26.5	-107.46	5.9	-1,078.6	380.4	342.3	38.10	9.984	
8,550.0	8,318.1	8,407.7	8,310.0	14.4	26.5	-106.27	5.8	-1,078.7	397.2	359.6	37.59	10.567	
8,575.0	8,325.1	8,414.3	8,316.6	14.4	26.5	-104.57	5.7	-1,078.8	415.0	377.9	37.10	11.186	
8,600.0	8,330.8	8,419.7	8,322.0	14.4	26.5	-102.33	5.6	-1,078.9	433.7	397.0	36.64	11.837	
8,625.0	8,335.3	8,423.8	8,326.1	14.5	26.5	-99.52	5.5	-1,078.9	453.0	416.8	36.20	12.515	
8,650.0	8,338.5	8,426.6	8,328.9	14.5	26.5	-96.11	5.5	-1,079.0	473.1	437.3	35.79	13.218	
8,675.0	8,340.4	8,428.0	8,330.3	14.6	26.5	-92.11	5.5	-1,079.0	493.6	458.2	35.40	13.942	
8,697.8	8,341.0	8,428.2	8,330.5	14.7	26.5	-87.97	5.5	-1,079.0	512.6	477.6	35.08	14.615	
8,700.0	8,341.0	8,428.2	8,330.5	14.7	26.5	-87.97	5.5	-1,079.0	514.5	479.5	35.05	14.682	
8,800.0	8,341.1	8,426.8	8,329.1	14.9	26.5	-87.67	5.5	-1,079.0	601.4	567.5	33.89	17.748	
8,900.0	8,341.3	8,425.4	8,327.7	15.2	26.5	-87.37	5.5	-1,079.0	691.9	658.8	33.06	20.925	
9,000.0	8,341.4	8,423.9	8,326.2	15.6	26.5	-87.08	5.5	-1,078.9	784.6	752.1	32.47	24.166	
9,100.0	8,341.6	8,422.5	8,324.8	16.0	26.5	-86.79	5.5	-1,078.9	879.0	846.9	32.03	27.442	
9,200.0	8,341.8	8,421.1	8,323.4	16.4	26.5	-86.50	5.6	-1,078.9	974.4	942.7	31.70	30.739	

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 501H
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 501H	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			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)	No-Go Distance (usft)		
0.0	0.0	0.0	10.0	0.0	0.0	-22.35	182.2	-74.9	197.3				
100.0	100.0	90.0	100.0	0.5	0.7	-22.33	182.3	-74.9	197.0	195.3	1.70	116.027	
200.0	200.0	190.7	200.7	1.0	1.4	-22.26	182.3	-74.6	197.0	194.1	2.85	69.057	
300.0	300.0	290.3	300.3	1.4	1.8	-22.14	182.0	-74.1	196.5	192.9	3.55	55.321	
313.2	313.2	303.2	313.2	1.4	1.8	-22.14	182.0	-74.0	196.5	192.9	3.63	54.172	
400.0	400.0	388.9	398.9	1.6	2.1	-22.10	182.3	-74.0	196.7	192.6	4.15	47.354	
500.0	500.0	488.9	498.9	1.9	2.4	-22.09	182.9	-74.2	197.3	192.6	4.70	41.967	
600.0	600.0	588.9	598.9	2.1	2.7	-22.23	183.2	-74.8	197.9	192.7	5.19	38.162	
700.0	700.0	689.0	699.0	2.3	2.9	-22.54	183.3	-76.1	198.4	192.8	5.62	35.280	
800.0	800.0	788.4	798.4	2.5	3.1	-22.95	183.4	-77.7	199.1	193.1	6.03	32.997	
900.0	900.0	888.7	898.7	2.7	3.4	-23.49	183.2	-79.6	199.8	193.3	6.43	31.089	
1,000.0	1,000.0	987.3	997.2	2.9	3.6	-24.06	183.4	-81.9	200.8	194.0	6.81	29.503	
1,100.0	1,100.0	1,086.6	1,096.5	3.2	3.9	-24.65	184.0	-84.4	202.5	195.2	7.29	27.771	
1,200.0	1,200.0	1,188.5	1,198.4	3.4	4.1	-25.22	184.5	-86.9	204.0	196.2	7.73	26.387	
1,300.0	1,300.0	1,298.6	1,308.4	3.6	7.8	75.80	184.0	-84.9	202.4	190.9	11.51	17.583	
1,400.0	1,399.8	1,403.9	1,413.1	3.9	9.0	80.11	181.8	-74.1	195.4	182.5	12.94	15.105	
1,500.0	1,499.5	1,502.1	1,510.4	4.2	9.1	86.26	179.3	-61.2	188.0	174.4	13.52	13.905	
1,600.0	1,598.7	1,600.5	1,607.7	4.5	9.2	94.21	176.4	-47.0	182.5	168.4	14.14	12.909	
1,661.0	1,659.1	1,657.8	1,664.1	4.7	9.2	100.01	174.7	-36.8	181.2	166.7	14.51	12.491 CC, ES	
1,700.0	1,697.5	1,693.6	1,699.2	4.8	9.3	104.01	173.8	-29.8	181.8	167.1	14.72	12.357 SF	
1,800.0	1,795.9	1,788.4	1,791.7	5.0	9.4	115.18	170.7	-8.9	188.3	173.2	15.10	12.471	
1,900.0	1,894.4	1,880.4	1,881.0	5.2	9.5	125.47	166.7	12.5	201.8	186.5	15.25	13.234	
2,000.0	1,992.9	1,971.5	1,969.5	5.3	9.6	134.21	163.1	33.6	221.7	206.4	15.26	14.533	
2,100.0	2,091.4	2,062.6	2,058.2	5.5	9.7	141.41	160.0	54.4	246.6	231.4	15.24	16.181	
2,200.0	2,189.9	2,153.8	2,146.9	5.7	9.9	147.34	157.1	75.5	275.2	259.9	15.27	18.021	
2,300.0	2,288.4	2,247.6	2,238.1	5.9	10.1	152.32	154.2	97.1	306.1	290.7	15.38	19.898	
2,400.0	2,386.8	2,336.3	2,324.3	6.1	10.2	156.27	150.9	117.7	338.7	323.1	15.54	21.789	
2,500.0	2,485.3	2,421.8	2,406.9	6.3	10.4	159.79	146.6	139.6	374.0	358.2	15.74	23.755	
2,600.0	2,583.8	2,510.7	2,492.1	6.5	10.6	163.14	140.9	164.1	411.7	395.6	16.02	25.701	
2,700.0	2,682.3	2,604.7	2,582.4	6.7	10.9	166.09	134.9	189.6	450.0	433.7	16.39	27.458	
2,800.0	2,780.8	2,702.1	2,676.3	6.8	11.1	168.55	129.0	214.6	488.1	471.3	16.84	28.985	
2,900.0	2,879.2	2,791.6	2,762.9	7.0	11.4	170.41	123.9	236.7	526.0	508.7	17.28	30.446	
3,000.0	2,977.7	2,876.3	2,844.7	7.2	11.6	171.88	119.8	258.3	565.2	547.5	17.71	31.916	
3,022.6	3,000.0	2,895.6	2,863.3	7.3	11.7	172.19	119.0	263.3	574.3	556.5	17.80	32.259	
3,100.0	3,076.0	2,964.5	2,929.8	7.4	11.9	168.33	116.2	281.4	606.3	588.1	18.23	33.255	
3,200.0	3,173.8	3,055.0	3,017.1	7.7	12.1	164.73	112.6	304.9	649.8	630.9	18.86	34.444	
3,267.1	3,239.0	3,113.2	3,073.3	7.8	12.3	162.89	110.5	320.0	680.4	661.2	19.26	35.324	
3,300.0	3,270.9	3,143.6	3,102.6	7.8	12.4	163.37	109.4	327.8	695.8	676.3	19.46	35.760	
3,400.0	3,367.8	3,236.3	3,192.3	8.0	12.7	164.68	106.5	351.1	742.1	722.0	20.09	36.932	
3,500.0	3,464.7	3,328.3	3,281.4	8.2	13.0	165.78	104.0	373.6	788.1	767.4	20.75	37.978	
3,600.0	3,561.6	3,419.3	3,369.8	8.4	13.3	166.72	101.7	395.5	834.0	812.6	21.43	38.915	
3,700.0	3,658.5	3,510.0	3,457.9	8.6	13.5	167.55	99.6	416.8	879.6	857.5	22.14	39.737	
3,800.0	3,755.4	3,592.5	3,538.0	8.8	13.8	168.23	97.7	436.5	925.6	902.8	22.78	40.626	
3,900.0	3,852.3	3,673.2	3,616.2	9.0	14.1	168.84	95.9	456.2	972.3	948.8	23.44	41.486	

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 501H
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 501H	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	
0.0	0.0	0.0	9.4	0.0	0.0	-29.97	182.2	-105.0	210.5				
100.0	100.0	89.5	98.9	0.5	0.7	-29.99	182.4	-105.2	210.5	208.9	1.69	124.450	
200.0	200.0	189.3	198.7	1.0	1.4	-30.05	182.9	-105.8	211.3	208.4	2.85	74.122	
300.0	300.0	290.5	299.9	1.4	1.8	-30.12	183.0	-106.2	211.6	208.0	3.57	59.289	
400.0	400.0	389.6	399.0	1.6	2.1	-30.16	183.1	-106.4	211.7	207.5	4.21	50.287	
500.0	500.0	489.0	498.4	1.9	2.5	-30.18	183.6	-106.8	212.4	207.6	4.79	44.337	
600.0	600.0	588.6	598.0	2.1	2.8	-30.27	184.2	-107.5	213.3	208.0	5.31	40.198	
700.0	700.0	687.6	697.0	2.3	3.1	-30.44	184.8	-108.6	214.4	208.6	5.79	37.050	
800.0	800.0	785.5	794.9	2.5	3.4	-30.76	185.8	-110.6	216.3	210.1	6.25	34.612	
900.0	900.0	885.5	894.8	2.7	3.7	-31.30	186.8	-113.6	218.7	212.0	6.71	32.609	
1,000.0	1,000.0	984.9	994.1	2.9	4.0	-32.15	187.2	-117.7	221.2	214.0	7.14	30.974	
1,100.0	1,100.0	1,084.3	1,093.5	3.2	4.3	-33.02	187.8	-122.0	224.1	216.4	7.67	29.214	
1,200.0	1,200.0	1,189.9	1,198.9	3.4	4.6	-33.74	188.2	-125.7	226.3	218.2	8.14	27.817	
1,300.0	1,300.0	1,297.8	1,306.8	3.6	4.8	66.57	186.4	-125.3	224.0	215.5	8.46	26.473	
1,400.0	1,399.8	1,408.4	1,417.2	3.9	5.1	68.89	183.1	-119.7	216.8	207.8	8.97	24.165	
1,500.0	1,499.5	1,510.3	1,518.5	4.2	5.2	73.30	178.7	-109.2	205.0	195.9	9.19	22.306	
1,600.0	1,598.7	1,611.3	1,618.5	4.5	5.3	79.79	173.5	-96.4	192.3	182.8	9.42	20.419	
1,700.0	1,697.5	1,706.6	1,712.6	4.8	5.3	88.18	168.5	-82.5	181.1	171.4	9.64	18.784	
1,800.0	1,795.9	1,800.1	1,805.0	5.0	5.4	97.43	164.0	-69.1	175.0	165.1	9.93	17.634	
1,858.1	1,853.1	1,855.5	1,859.9	5.1	5.4	102.95	161.5	-61.5	174.2	164.1	10.12	17.213 CC, ES	
1,900.0	1,894.4	1,895.7	1,899.8	5.2	5.5	106.87	159.7	-56.3	174.6	164.3	10.27	17.005	
2,000.0	1,992.9	1,992.9	1,996.0	5.3	5.6	116.18	154.8	-43.8	178.7	168.0	10.66	16.765	
2,100.0	2,091.4	2,091.2	2,092.8	5.5	6.0	126.09	147.0	-28.4	186.2	175.0	11.10	16.764 SF	
2,200.0	2,189.9	2,184.4	2,184.0	5.7	6.2	135.30	138.2	-11.7	198.7	187.2	11.56	17.188	
2,300.0	2,288.4	2,279.2	2,277.0	5.9	6.4	143.29	129.5	4.5	216.1	204.1	12.05	17.941	
2,400.0	2,386.8	2,372.1	2,368.2	6.1	6.6	149.87	121.3	20.3	237.2	224.7	12.53	18.929	
2,500.0	2,485.3	2,464.9	2,459.1	6.3	6.9	155.51	112.9	36.7	261.5	248.5	13.04	20.062	
2,600.0	2,583.8	2,561.0	2,553.4	6.5	7.2	160.38	104.0	53.6	287.8	274.2	13.58	21.194	
2,700.0	2,682.3	2,658.6	2,649.3	6.7	7.5	164.31	95.5	69.4	314.7	300.6	14.14	22.254	
2,800.0	2,780.8	2,756.6	2,746.0	6.8	7.8	167.37	87.8	83.7	341.6	326.9	14.70	23.238	
2,900.0	2,879.2	2,852.2	2,840.4	7.0	8.1	169.79	80.9	96.8	368.7	353.5	15.24	24.196	
3,000.0	2,977.7	2,943.0	2,929.9	7.2	8.4	171.88	73.9	109.9	396.9	381.2	15.75	25.208	
3,022.6	3,000.0	2,963.4	2,950.0	7.3	8.5	172.34	72.1	113.1	403.5	387.6	15.85	25.463	
3,100.0	3,076.0	3,032.7	3,018.0	7.4	8.7	169.23	65.5	124.4	427.4	411.0	16.36	26.118	
3,200.0	3,173.8	3,126.8	3,110.4	7.7	9.1	166.74	55.9	140.0	461.2	444.0	17.25	26.738	
3,267.1	3,239.0	3,189.9	3,172.3	7.8	9.3	165.61	49.7	150.2	485.5	467.5	17.92	27.095	
3,300.0	3,270.9	3,220.9	3,202.8	7.8	9.4	166.33	46.8	155.1	497.7	479.5	18.15	27.420	
3,400.0	3,367.8	3,316.3	3,296.7	8.0	9.8	168.26	38.3	169.7	534.6	515.8	18.87	28.336	
3,500.0	3,464.7	3,407.2	3,386.2	8.2	10.1	169.81	30.6	183.2	571.8	552.3	19.51	29.302	
3,600.0	3,561.6	3,500.5	3,478.2	8.4	10.5	171.20	22.9	197.1	609.2	589.0	20.17	30.201	
3,700.0	3,658.5	3,609.6	3,586.1	8.6	10.9	172.51	14.8	211.4	645.4	624.5	20.95	30.801	
3,800.0	3,755.4	3,708.6	3,684.3	8.8	11.3	173.38	9.4	222.8	680.3	658.6	21.69	31.361	
3,900.0	3,852.3	3,813.9	3,788.9	9.0	11.6	174.09	4.9	233.4	714.2	691.8	22.35	31.960	
4,000.0	3,949.3	3,931.9	3,906.5	9.3	12.1	174.67	1.4	242.5	746.0	723.0	23.04	32.383	
4,100.0	4,046.2	4,045.6	4,020.1	9.5	12.4	174.99	0.2	247.4	774.6	751.0	23.61	32.811	
4,200.0	4,143.1	4,152.2	4,126.6	9.7	12.7	175.22	-0.5	250.4	801.8	777.8	23.98	33.434	
4,300.0	4,240.0	4,259.3	4,233.7	9.9	13.0	175.45	-1.5	251.9	827.8	804.4	23.38	35.399	
4,400.0	4,336.9	4,356.3	4,330.7	10.1	13.2	175.66	-2.4	252.7	853.1	829.5	23.56	36.207	
4,500.0	4,433.8	4,456.2	4,430.6	10.3	13.4	175.85	-3.4	253.3	878.2	854.7	23.49	37.390	
4,600.0	4,530.7	4,552.1	4,526.5	10.5	13.6	176.03	-4.5	253.7	903.2	879.4	23.85	37.866	
4,700.0	4,627.6	4,649.4	4,623.8	10.7	13.8	176.20	-5.5	254.2	928.3	904.1	24.19	38.376	

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 501H
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 501H	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		Offset Wellbore Centre			Rule Assigned:			Offset Well Error:				
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	4,724.5	4,746.8	4,721.1	11.0	14.0	176.36	-6.5	254.6	953.2	928.8	24.40	39.065				
4,871.2	4,793.5	4,815.5	4,789.8	11.1	14.1	176.48	-7.3	254.9	971.0	946.4	24.59	39.492				
4,900.0	4,821.5	4,843.3	4,817.6	11.1	14.2	176.54	-7.7	255.0	978.1	953.4	24.65	39.674				

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 501H
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 501H	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)			
0.0	0.0	0.0	9.4	0.0	0.0	-36.53	182.3	-135.0	227.0				
100.0	100.0	91.3	100.7	0.5	0.8	-36.56	182.1	-135.0	226.7	224.9	1.78	127.665	
200.0	200.0	192.3	201.7	1.0	1.5	-36.69	181.4	-135.1	226.2	223.2	2.96	76.335	
300.0	300.0	293.0	302.4	1.4	1.9	-37.00	179.8	-135.5	225.2	221.6	3.65	61.629	
400.0	400.0	393.2	402.6	1.6	2.6	-37.51	177.8	-136.4	224.1	219.4	4.74	47.329	
500.0	500.0	493.4	502.7	1.9	3.6	-38.20	175.2	-137.8	222.9	216.9	6.01	37.092	
594.7	594.7	585.2	594.4	2.1	3.9	-38.89	173.0	-139.5	222.3	215.9	6.36	34.927	
600.0	600.0	589.9	599.2	2.1	3.9	-38.92	172.9	-139.7	222.3	215.9	6.39	34.811	
700.0	700.0	681.6	690.8	2.3	4.4	-39.36	173.7	-142.5	224.9	218.2	6.71	33.502	
800.0	800.0	788.1	797.3	2.5	4.5	-39.30	176.2	-144.2	227.8	220.6	7.19	31.688	
900.0	900.0	896.8	905.9	2.7	4.8	-38.49	177.5	-141.1	226.9	219.1	7.78	29.149	
1,000.0	1,000.0	999.1	1,008.1	2.9	5.0	-38.07	175.7	-137.6	223.4	215.2	8.18	27.318	
1,100.0	1,100.0	1,093.9	1,102.9	3.2	5.2	-38.67	172.2	-137.8	220.6	212.0	8.61	25.627	
1,138.4	1,138.4	1,129.5	1,138.4	3.2	5.3	-38.94	171.4	-138.5	220.3	211.6	8.75	25.185	
1,200.0	1,200.0	1,185.8	1,194.7	3.4	5.4	-39.37	170.9	-140.2	221.1	212.1	8.98	24.629	
1,300.0	1,300.0	1,283.7	1,292.5	3.6	5.6	60.12	171.2	-144.8	223.5	214.1	9.31	23.996	
1,400.0	1,399.8	1,382.1	1,390.7	3.9	5.9	59.75	170.2	-151.6	224.5	214.8	9.68	23.199	
1,500.0	1,499.5	1,483.1	1,491.1	4.2	6.1	59.13	166.7	-161.8	224.0	214.0	10.03	22.341	
1,600.0	1,598.7	1,583.3	1,590.5	4.5	6.4	58.82	161.7	-173.1	221.4	211.1	10.38	21.335	
1,700.0	1,697.5	1,683.4	1,689.9	4.8	6.7	59.37	156.8	-184.3	217.0	206.2	10.74	20.210	
1,800.0	1,795.9	1,784.0	1,789.8	5.0	7.0	60.38	151.9	-195.1	211.4	200.4	11.07	19.102	
1,900.0	1,894.4	1,885.6	1,890.4	5.2	7.3	60.91	145.2	-207.0	205.2	193.8	11.42	17.973	
2,000.0	1,992.9	1,984.8	1,988.6	5.3	7.6	61.12	137.7	-219.4	198.8	187.0	11.77	16.897	
2,100.0	2,091.4	2,085.6	2,088.2	5.5	8.0	61.35	130.1	-232.0	192.4	180.3	12.12	15.868	
2,200.0	2,189.9	2,187.5	2,189.2	5.7	8.3	61.85	122.1	-243.5	185.0	172.5	12.48	14.817	
2,300.0	2,288.4	2,288.9	2,289.7	5.9	8.7	62.29	113.3	-254.6	176.7	163.8	12.84	13.755	
2,400.0	2,386.8	2,391.1	2,390.5	6.1	9.1	62.27	102.3	-266.0	167.0	153.8	13.21	12.636	
2,500.0	2,485.3	2,492.2	2,490.5	6.3	9.4	62.40	90.7	-276.2	156.0	142.4	13.58	11.482	
2,600.0	2,583.8	2,591.8	2,588.9	6.5	9.8	62.59	78.7	-285.7	144.2	130.3	13.96	10.334	
2,700.0	2,682.3	2,689.7	2,685.5	6.7	10.2	62.47	66.9	-295.9	133.0	118.6	14.35	9.269	
2,800.0	2,780.8	2,788.8	2,783.3	6.8	10.6	61.94	55.1	-307.5	122.7	108.0	14.75	8.322	
2,900.0	2,879.2	2,888.6	2,881.5	7.0	11.0	60.96	42.7	-319.6	112.2	97.1	15.16	7.402	
3,000.0	2,977.7	2,984.7	2,976.0	7.2	11.3	59.40	31.1	-332.5	102.9	87.3	15.67	6.568	
3,022.6	3,000.0	3,006.4	2,997.3	7.3	11.4	58.95	28.8	-335.8	101.4	85.6	15.77	6.428	
3,100.0	3,076.0	3,083.4	3,073.1	7.4	11.7	53.33	21.2	-347.6	95.5	79.4	16.12	5.927	
3,200.0	3,173.8	3,183.7	3,172.1	7.7	12.2	49.25	12.3	-361.2	84.7	68.2	16.56	5.116	
3,267.1	3,239.0	3,250.5	3,238.2	7.8	12.4	49.06	7.0	-368.7	75.1	58.4	16.78	4.479	
3,300.0	3,270.9	3,283.1	3,270.6	7.8	12.6	50.72	4.5	-372.0	70.0	53.2	16.87	4.151	
3,400.0	3,367.8	3,380.9	3,367.9	8.0	13.0	60.75	-0.7	-379.5	55.6	38.3	17.28	3.217	
3,500.0	3,464.7	3,477.0	3,463.9	8.2	13.3	80.85	-1.7	-383.9	47.6	29.1	18.52	2.570 Normal Operations	
3,518.7	3,482.8	3,495.0	3,481.9	8.3	13.4	85.38	-1.5	-384.6	47.4	28.5	18.88	2.510 Normal Operations, CC, ES	
3,600.0	3,561.6	3,573.2	3,560.0	8.4	13.5	104.14	1.0	-387.6	51.4	30.8	20.55	2.500 Normal Operations, SF	
3,700.0	3,658.5	3,670.6	3,657.3	8.6	13.5	123.09	4.3	-389.6	63.9	42.0	21.99	2.908 Normal Operations	
3,800.0	3,755.4	3,767.5	3,754.2	8.8	13.5	136.25	6.9	-390.0	81.8	59.2	22.60	3.621	
3,900.0	3,852.3	3,864.8	3,851.4	9.0	13.4	144.48	9.5	-390.5	102.3	79.4	22.86	4.475	
4,000.0	3,949.3	3,961.9	3,948.5	9.3	13.4	149.88	12.1	-391.2	123.9	100.9	23.05	5.378	
4,100.0	4,046.2	4,059.0	4,045.6	9.5	13.4	153.65	14.7	-391.9	146.3	123.1	23.23	6.299	
4,200.0	4,143.1	4,155.9	4,142.4	9.7	13.4	156.70	16.6	-392.3	169.2	145.8	23.42	7.226	
4,300.0	4,240.0	4,253.5	4,240.0	9.9	13.4	159.31	17.7	-392.4	192.4	168.9	23.56	8.168	
4,400.0	4,336.9	4,351.3	4,337.8	10.1	13.5	161.49	18.1	-392.8	215.5	192.1	23.40	9.208	
4,500.0	4,433.8	4,448.3	4,434.8	10.3	13.6	163.25	18.4	-393.4	238.6	214.8	23.82	10.017	

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 501H
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 501H	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)			
4,600.0	4,530.7	4,545.4	4,531.9	10.5	13.8	164.69	18.8	-393.9	262.0	237.9	24.11	10.867	
4,700.0	4,627.6	4,643.2	4,629.7	10.7	13.9	165.90	19.1	-394.6	285.3	261.1	24.21	11.782	
4,800.0	4,724.5	4,740.6	4,727.1	11.0	14.1	166.94	19.4	-395.4	308.5	284.3	24.27	12.714	
4,871.2	4,793.5	4,810.2	4,796.7	11.1	14.2	167.67	19.2	-396.0	325.1	300.3	24.76	13.132	
4,900.0	4,821.5	4,839.1	4,825.6	11.1	14.3	167.99	18.9	-396.2	331.6	306.6	25.01	13.258	
5,000.0	4,919.0	4,938.4	4,924.9	11.4	14.5	169.03	17.4	-397.6	351.6	326.0	25.64	13.715	
5,100.0	5,017.3	5,036.5	5,023.0	11.6	14.8	169.87	15.7	-398.9	368.3	342.1	26.17	14.075	
5,200.0	5,116.1	5,135.0	5,121.4	11.9	15.0	170.57	13.8	-400.1	381.8	355.1	26.67	14.311	
5,300.0	5,215.5	5,233.3	5,219.8	12.1	15.2	171.12	12.0	-401.1	392.0	365.1	26.97	14.537	
5,400.0	5,315.1	5,331.2	5,317.7	12.3	15.4	171.42	11.2	-401.9	399.2	372.4	26.81	14.891	
5,500.0	5,415.0	5,431.9	5,418.3	12.5	15.6	171.51	11.3	-402.5	403.3	376.3	26.97	14.952	
5,585.0	5,500.0	5,517.3	5,503.7	12.6	15.8	82.99	11.2	-403.3	403.7	375.4	28.35	14.243	
5,600.0	5,515.0	5,532.2	5,518.6	12.6	15.8	82.99	11.2	-403.4	403.6	375.2	28.39	14.215	
5,700.0	5,615.0	5,633.2	5,619.6	12.7	16.0	83.01	11.0	-404.4	402.6	373.9	28.71	14.026	
5,800.0	5,715.0	5,733.9	5,720.3	12.7	16.3	83.02	10.7	-405.6	401.4	372.3	29.05	13.815	
5,900.0	5,815.0	5,833.5	5,819.9	12.8	16.5	83.06	10.4	-406.9	400.1	370.7	29.36	13.629	
6,000.0	5,915.0	5,935.0	5,921.4	12.9	16.7	83.09	9.9	-408.3	398.7	369.0	29.69	13.430	
6,100.0	6,015.0	6,035.0	6,021.4	12.9	17.0	83.15	9.3	-409.8	397.1	367.0	30.07	13.204	
6,200.0	6,115.0	6,135.0	6,121.3	13.0	17.3	83.23	8.6	-411.3	395.5	365.1	30.39	13.011	
6,300.0	6,215.0	6,235.6	6,222.0	13.0	17.5	83.31	7.8	-413.0	393.7	363.0	30.70	12.825	
6,400.0	6,315.0	6,335.2	6,321.5	13.1	17.8	83.41	7.0	-414.6	392.0	360.9	31.10	12.606	
6,500.0	6,415.0	6,434.3	6,420.6	13.2	18.0	83.55	5.8	-416.1	390.4	359.0	31.45	12.413	
6,600.0	6,515.0	6,529.5	6,515.8	13.2	18.2	83.62	5.3	-417.0	389.4	358.0	31.47	12.374	
6,610.3	6,525.3	6,539.0	6,525.3	13.2	18.2	83.62	5.3	-417.0	389.4	358.7	30.73	12.674	
6,700.0	6,615.0	6,623.4	6,609.7	13.3	18.2	83.58	5.6	-416.3	390.2	358.9	31.30	12.468	
6,800.0	6,715.0	6,723.2	6,709.4	13.3	18.0	83.56	5.9	-414.9	391.6	360.4	31.24	12.537	
6,900.0	6,815.0	6,823.4	6,809.7	13.4	17.8	83.56	6.1	-413.5	393.0	361.9	31.12	12.627	
7,000.0	6,915.0	6,924.3	6,910.6	13.5	17.7	83.60	6.0	-412.2	394.3	363.3	31.01	12.715	
7,100.0	7,015.0	7,025.6	7,011.9	13.5	17.5	83.60	6.1	-411.3	395.2	364.3	30.90	12.789	
7,200.0	7,115.0	7,127.8	7,114.1	13.6	17.5	83.59	6.2	-410.7	395.8	364.9	30.88	12.815	
7,300.0	7,215.0	7,229.9	7,216.2	13.6	17.5	83.59	6.2	-410.8	395.7	364.4	31.26	12.657	
7,400.0	7,315.0	7,330.6	7,316.9	13.7	17.7	83.66	5.7	-411.2	395.2	363.6	31.63	12.498	
7,500.0	7,415.0	7,431.0	7,417.2	13.8	17.9	83.72	5.1	-411.6	394.7	362.9	31.84	12.397	
7,600.0	7,515.0	7,531.8	7,518.0	13.8	18.1	83.79	4.6	-412.3	394.1	362.1	32.00	12.316	
7,700.0	7,615.0	7,632.3	7,618.5	13.9	18.3	83.88	3.9	-413.0	393.2	360.9	32.35	12.154	
7,800.0	7,715.0	7,735.2	7,721.4	14.0	18.6	84.02	2.8	-414.2	392.0	359.4	32.56	12.038	
7,900.0	7,815.0	7,837.6	7,823.8	14.0	18.8	84.18	1.5	-416.1	390.0	357.1	32.84	11.874	
7,948.5	7,863.5	7,886.8	7,873.0	14.0	19.0	84.28	0.8	-417.2	388.8	355.8	33.03	11.774	
7,950.0	7,865.0	7,888.3	7,874.5	14.0	19.0	84.43	0.7	-417.2	388.8	355.8	33.03	11.771	
7,975.0	7,890.0	7,913.6	7,899.8	14.1	19.0	84.68	0.2	-417.8	388.1	355.0	33.14	11.710	
8,000.0	7,914.9	7,938.4	7,924.6	14.1	19.1	85.14	-0.2	-418.4	387.3	354.1	33.19	11.668	
8,025.0	7,939.7	7,963.0	7,949.1	14.1	19.2	85.79	-0.7	-419.0	386.4	353.2	33.22	11.631	
8,050.0	7,964.2	7,987.3	7,973.5	14.1	19.3	86.63	-1.2	-419.5	385.5	352.2	33.24	11.598	
8,075.0	7,988.5	8,011.4	7,997.5	14.1	19.3	87.65	-1.6	-420.1	384.6	351.3	33.23	11.572	
8,100.0	8,012.5	8,034.8	8,020.9	14.1	19.4	88.81	-2.1	-420.6	383.7	350.5	33.22	11.550	
8,125.0	8,036.0	8,057.8	8,043.9	14.1	19.4	90.11	-2.5	-421.1	383.1	349.9	33.19	11.543	
8,150.0	8,059.1	8,080.3	8,066.4	14.1	19.5	91.52	-3.0	-421.5	382.7	349.6	33.12	11.554	
8,164.8	8,072.4	8,093.3	8,079.4	14.1	19.5	92.39	-3.3	-421.8	382.6	349.6	33.07	11.571	
8,175.0	8,081.6	8,102.2	8,088.3	14.1	19.6	93.01	-3.5	-422.0	382.7	349.6	33.02	11.588	
8,200.0	8,103.5	8,124.1	8,110.2	14.1	19.6	94.60	-4.0	-422.4	383.1	350.2	32.88	11.652	
8,225.0	8,124.8	8,145.5	8,131.6	14.1	19.7	96.22	-4.5	-422.8	384.0	351.3	32.69	11.747	

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 501H
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 501H	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)			
8,250.0	8,145.3	8,166.1	8,152.1	14.1	19.7	97.83	-5.0	-423.2	385.6	353.1	32.47	11.875	
8,275.0	8,165.1	8,185.8	8,171.9	14.1	19.8	99.40	-5.5	-423.7	387.9	355.7	32.22	12.041	
8,300.0	8,184.1	8,204.7	8,190.7	14.1	19.8	100.87	-5.9	-424.1	391.1	359.2	31.93	12.249	
8,325.0	8,202.2	8,222.7	8,208.7	14.1	19.9	102.24	-6.4	-424.5	395.3	363.7	31.62	12.502	
8,350.0	8,219.3	8,239.7	8,225.8	14.1	19.9	103.46	-6.8	-425.0	400.5	369.2	31.28	12.802	
8,375.0	8,235.5	8,255.8	8,241.8	14.2	20.0	104.49	-7.2	-425.4	406.8	375.8	30.93	13.150	
8,400.0	8,250.6	8,270.7	8,256.7	14.2	20.0	105.31	-7.6	-425.8	414.2	383.6	30.57	13.548	
8,425.0	8,264.7	8,284.6	8,270.6	14.2	20.1	105.90	-8.0	-426.2	422.8	392.6	30.21	13.996	
8,450.0	8,277.7	8,297.3	8,283.3	14.2	20.1	106.23	-8.3	-426.5	432.7	402.8	29.86	14.491	
8,475.0	8,289.6	8,308.9	8,294.8	14.3	20.1	106.27	-8.6	-426.9	443.7	414.2	29.52	15.030	
8,500.0	8,300.3	8,319.2	8,305.2	14.3	20.2	106.00	-8.9	-427.2	455.9	426.7	29.20	15.611	
8,525.0	8,309.8	8,328.4	8,314.3	14.3	20.2	105.39	-9.1	-427.4	469.2	440.3	28.91	16.231	
8,550.0	8,318.1	8,336.2	8,322.2	14.4	20.2	104.43	-9.3	-427.7	483.5	454.9	28.63	16.886	
8,575.0	8,325.1	8,342.8	8,328.8	14.4	20.2	103.08	-9.4	-427.9	498.9	470.5	28.39	17.572	
8,600.0	8,330.8	8,348.1	8,334.1	14.4	20.2	101.33	-9.6	-428.1	515.2	487.0	28.17	18.286	
8,625.0	8,335.3	8,352.1	8,338.0	14.5	20.3	99.14	-9.7	-428.2	532.3	504.3	27.98	19.024	
8,650.0	8,338.5	8,354.8	8,340.7	14.5	20.3	96.52	-9.7	-428.3	550.1	522.3	27.81	19.783	
8,675.0	8,340.4	8,356.1	8,342.0	14.6	20.3	93.45	-9.8	-428.3	568.5	540.9	27.66	20.557	
8,697.8	8,341.0	8,356.1	8,342.0	14.7	20.3	90.28	-9.8	-428.3	585.8	558.2	27.54	21.274	
8,700.0	8,341.0	8,356.1	8,342.0	14.7	20.3	90.27	-9.8	-428.3	587.5	560.0	27.52	21.345	
8,800.0	8,341.1	8,353.7	8,339.7	14.9	20.3	89.91	-9.7	-428.2	667.4	640.3	27.18	24.560	
8,900.0	8,341.3	8,351.4	8,337.3	15.2	20.3	89.56	-9.6	-428.2	752.2	725.2	27.02	27.842	
9,000.0	8,341.4	8,349.1	8,335.0	15.6	20.2	89.20	-9.6	-428.1	840.3	813.3	26.97	31.160	
9,100.0	8,341.6	8,346.7	8,332.6	16.0	20.2	88.84	-9.5	-428.0	930.8	903.8	26.98	34.499	

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 501H
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 501H	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	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	89.89	0.2	99.9	99.9				
100.0	100.0	100.0	100.0	0.5	0.5	89.89	0.2	99.9	99.9	98.4	1.48	67.296	
200.0	200.0	200.0	200.0	1.0	1.0	89.89	0.2	99.9	99.9	97.5	2.47	40.490	
300.0	300.0	300.0	300.0	1.4	1.4	89.89	0.2	99.9	99.9	96.8	3.11	32.175	
400.0	400.0	400.0	400.0	1.6	1.6	89.89	0.2	99.9	99.9	96.3	3.62	27.631	
500.0	500.0	500.0	500.0	1.9	1.9	89.89	0.2	99.9	99.9	95.9	4.05	24.643	
600.0	600.0	600.0	600.0	2.1	2.1	89.89	0.2	99.9	99.9	95.5	4.44	22.479	
700.0	700.0	700.0	700.0	2.3	2.3	89.89	0.2	99.9	99.9	95.1	4.80	20.816	
800.0	800.0	800.0	800.0	2.5	2.5	89.89	0.2	99.9	99.9	94.8	5.13	19.484	
900.0	900.0	900.0	900.0	2.7	2.7	89.89	0.2	99.9	99.9	94.5	5.43	18.386	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	89.89	0.2	99.9	99.9	94.2	5.72	17.459	
1,100.0	1,100.0	1,100.0	1,100.0	3.2	3.2	89.89	0.2	99.9	99.9	93.6	6.27	15.925	
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.4	89.89	0.2	99.9	99.9	93.2	6.75	14.800 CC, ES	
1,300.0	1,300.0	1,297.0	1,297.0	3.6	3.6	-169.80	-0.6	101.3	103.1	95.7	7.43	13.884 SF	
1,400.0	1,399.8	1,393.3	1,393.2	3.9	3.9	-168.98	-3.1	105.6	112.7	104.6	8.04	14.007	
1,500.0	1,499.5	1,488.4	1,487.9	4.2	4.0	-167.97	-6.9	112.5	128.5	120.1	8.45	15.211	
1,600.0	1,598.7	1,581.6	1,580.6	4.5	4.2	-167.67	-10.1	122.2	150.8	141.9	8.95	16.842	
1,700.0	1,697.5	1,672.5	1,670.6	4.8	4.5	-167.96	-12.4	134.4	179.3	169.8	9.46	18.952	
1,800.0	1,795.9	1,763.7	1,760.6	5.0	4.6	-168.60	-13.8	149.1	212.0	202.3	9.78	21.689	
1,900.0	1,894.4	1,858.0	1,853.5	5.2	4.8	-169.14	-15.2	164.8	245.3	235.2	10.12	24.233	
2,000.0	1,992.9	1,952.3	1,946.5	5.3	5.0	-169.54	-16.6	180.5	278.6	268.1	10.49	26.551	
2,100.0	2,091.4	2,046.6	2,039.5	5.5	5.1	-169.86	-18.0	196.2	311.8	301.0	10.86	28.702	
2,200.0	2,189.9	2,140.8	2,132.4	5.7	5.3	-170.12	-19.3	211.9	345.1	333.9	11.24	30.700	
2,300.0	2,288.4	2,235.1	2,225.4	5.9	5.5	-170.33	-20.7	227.6	378.4	366.8	11.62	32.559	
2,400.0	2,386.8	2,329.4	2,318.4	6.1	5.7	-170.51	-22.1	243.3	411.7	399.7	12.01	34.290	
2,500.0	2,485.3	2,423.7	2,411.3	6.3	5.8	-170.66	-23.5	259.0	445.0	432.6	12.39	35.905	
2,600.0	2,583.8	2,518.0	2,504.3	6.5	6.0	-170.79	-24.8	274.7	478.3	465.5	12.78	37.414	
2,700.0	2,682.3	2,612.3	2,597.2	6.7	6.2	-170.91	-26.2	290.4	511.6	498.4	13.18	38.826	
2,800.0	2,780.8	2,706.6	2,690.2	6.8	6.4	-171.01	-27.6	306.1	544.8	531.3	13.57	40.149	
2,900.0	2,879.2	2,800.9	2,783.2	7.0	6.6	-171.09	-29.0	321.8	578.1	564.2	13.97	41.390	
3,000.0	2,977.7	2,895.2	2,876.1	7.2	6.8	-171.17	-30.3	337.5	611.4	597.1	14.37	42.557	
3,022.6	3,000.0	2,916.5	2,897.2	7.3	6.8	-171.19	-30.6	341.1	619.0	604.5	14.44	42.855	
3,100.0	3,076.0	2,989.1	2,968.8	7.4	7.0	-175.92	-31.7	353.2	645.6	630.8	14.79	43.644	
3,200.0	3,173.8	3,084.5	3,062.8	7.7	7.1	179.43	-33.1	369.0	682.6	667.3	15.26	44.722	
3,267.1	3,239.0	3,154.9	3,132.3	7.8	7.2	177.00	-34.0	380.1	708.5	692.8	15.62	45.344	
3,300.0	3,270.9	3,189.5	3,166.6	7.8	7.3	177.09	-34.5	385.2	721.2	705.4	15.78	45.707	
3,400.0	3,367.8	3,295.8	3,271.9	8.0	7.5	177.32	-35.8	399.6	758.7	742.5	16.28	46.613	
3,500.0	3,464.7	3,403.7	3,379.0	8.2	7.7	177.52	-36.9	412.3	794.5	777.8	16.77	47.375	
3,600.0	3,561.6	3,513.2	3,487.9	8.4	7.9	177.69	-37.8	423.1	828.6	811.3	17.26	48.013	
3,700.0	3,658.5	3,624.1	3,598.5	8.6	8.1	177.83	-38.6	431.9	860.9	843.1	17.73	48.543	
3,800.0	3,755.4	3,736.4	3,710.6	8.8	8.3	177.94	-39.2	438.6	891.3	873.1	18.20	48.977	
3,900.0	3,852.3	3,850.1	3,824.3	9.0	8.5	178.04	-39.6	443.2	919.8	901.2	18.65	49.329	
4,000.0	3,949.3	3,965.2	3,939.3	9.3	8.7	178.11	-39.8	445.6	946.5	927.4	19.08	49.616	
4,100.0	4,046.2	4,072.1	4,046.2	9.5	8.8	178.17	-39.8	445.9	971.4	952.9	18.47	52.582	
4,200.0	4,143.1	4,169.0	4,143.1	9.7	8.9	178.21	-39.8	445.9	996.0	977.3	18.76	53.096	

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 501H
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 501H	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 810H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program:		0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 10123-r.5 MWD+IFR1+SAG+FDIR						Rule Assigned:				Offset Well Error: 0.0 usft		
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	89.77	0.2	49.9	49.9					
100.0	100.0	100.0	100.0	0.5	0.5	89.77	0.2	49.9	49.9	48.4	1.48	33.615		
200.0	200.0	200.0	200.0	1.0	1.0	89.77	0.2	49.9	49.9	47.4	2.47	20.225		
300.0	300.0	300.0	300.0	1.4	1.4	89.77	0.2	49.9	49.9	46.8	3.11	16.071		
400.0	400.0	400.0	400.0	1.6	1.6	89.77	0.2	49.9	49.9	46.3	3.62	13.802		
500.0	500.0	500.0	500.0	1.9	1.9	89.77	0.2	49.9	49.9	45.9	4.05	12.309		
600.0	600.0	600.0	600.0	2.1	2.1	89.77	0.2	49.9	49.9	45.5	4.44	11.228		
700.0	700.0	700.0	700.0	2.3	2.3	89.77	0.2	49.9	49.9	45.1	4.80	10.398		
800.0	800.0	800.0	800.0	2.5	2.5	89.77	0.2	49.9	49.9	44.8	5.13	9.732		
900.0	900.0	900.0	900.0	2.7	2.7	89.77	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	89.77	0.2	49.9	49.9	44.2	5.72	8.721		
1,100.0	1,100.0	1,100.0	1,100.0	3.2	3.0	89.77	0.2	49.9	49.9	43.8	6.14	8.132		
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.2	89.77	0.2	49.9	49.9	43.4	6.51	7.668 CC, ES		
1,300.0	1,300.0	1,300.8	1,300.8	3.6	3.5	-172.30	1.7	49.0	50.8	43.7	7.04	7.214		
1,400.0	1,399.8	1,401.4	1,401.3	3.9	3.8	-178.06	6.3	46.4	53.8	46.3	7.52	7.150 SF		
1,500.0	1,499.5	1,501.5	1,501.0	4.2	4.0	173.81	13.9	42.0	59.8	51.9	7.97	7.505		
1,600.0	1,598.7	1,603.1	1,601.9	4.5	4.2	166.76	22.0	35.2	68.2	59.8	8.49	8.040		
1,700.0	1,697.5	1,704.3	1,702.5	4.8	4.3	162.53	28.0	25.7	77.4	68.5	8.87	8.726		
1,800.0	1,795.9	1,803.7	1,801.3	5.0	4.5	159.78	33.3	15.6	87.5	78.4	9.16	9.553		
1,900.0	1,894.4	1,903.1	1,900.0	5.2	4.6	157.60	38.6	5.5	97.9	88.4	9.45	10.360		
2,000.0	1,992.9	2,002.5	1,998.8	5.3	4.7	155.84	44.0	-4.6	108.3	98.6	9.73	11.134		
2,100.0	2,091.4	2,101.9	2,097.5	5.5	4.9	154.39	49.3	-14.6	118.9	108.8	10.01	11.874		
2,200.0	2,189.9	2,201.3	2,196.3	5.7	5.0	153.17	54.6	-24.7	129.4	119.1	10.36	12.495		
2,300.0	2,288.4	2,300.7	2,295.0	5.9	5.2	152.14	60.0	-34.8	140.1	129.4	10.71	13.084		
2,400.0	2,386.8	2,399.6	2,393.3	6.1	5.2	151.34	65.1	-44.6	150.9	139.9	10.97	13.748		
2,500.0	2,485.3	2,497.8	2,491.1	6.3	5.4	151.14	69.6	-53.1	162.2	150.9	11.32	14.337		
2,600.0	2,583.8	2,595.9	2,588.9	6.5	5.5	151.47	73.3	-60.0	174.3	162.7	11.66	14.952		
2,700.0	2,682.3	2,693.8	2,686.5	6.7	5.7	152.23	76.2	-65.5	187.1	175.1	12.00	15.593		
2,800.0	2,780.8	2,791.4	2,784.0	6.8	5.8	153.33	78.3	-69.5	200.6	188.3	12.34	16.263		
2,900.0	2,879.2	2,888.7	2,881.3	7.0	6.0	154.69	79.6	-72.0	215.0	202.3	12.67	16.964		
3,000.0	2,977.7	2,985.6	2,978.1	7.2	6.1	156.23	80.2	-73.1	230.3	217.3	13.02	17.691		
3,022.6	3,000.0	3,007.4	3,000.0	7.3	6.2	156.60	80.2	-73.1	233.9	220.8	13.09	17.872		
3,100.0	3,076.0	3,083.5	3,076.0	7.4	6.2	153.36	80.2	-73.1	246.8	233.5	13.33	18.512		
3,200.0	3,173.8	3,181.2	3,173.8	7.7	6.4	150.83	80.2	-73.1	265.5	251.8	13.71	19.364		
3,267.1	3,239.0	3,246.4	3,239.0	7.8	6.4	149.91	80.2	-73.1	279.4	265.5	13.93	20.061		
3,300.0	3,270.9	3,278.3	3,270.9	7.8	6.5	150.71	80.2	-73.1	286.5	272.5	14.02	20.436		
3,400.0	3,367.8	3,375.2	3,367.8	8.0	6.6	152.94	80.2	-73.1	308.4	294.0	14.37	21.468		
3,500.0	3,464.7	3,472.1	3,464.7	8.2	6.7	154.87	80.2	-73.1	330.7	316.0	14.71	22.480		
3,600.0	3,561.6	3,569.0	3,561.6	8.4	6.8	156.56	80.2	-73.1	353.3	338.2	15.05	23.470		
3,700.0	3,658.5	3,666.0	3,658.5	8.6	6.9	158.05	80.2	-73.1	376.1	360.7	15.39	24.434		
3,800.0	3,755.4	3,762.9	3,755.4	8.8	7.0	159.37	80.2	-73.1	399.2	383.5	15.73	25.372		
3,900.0	3,852.3	3,859.8	3,852.3	9.0	7.2	160.55	80.2	-73.1	422.5	406.4	16.07	26.284		
4,000.0	3,949.3	3,956.7	3,949.3	9.3	7.3	161.60	80.2	-73.1	445.9	429.4	16.41	27.168		
4,100.0	4,046.2	4,053.6	4,046.2	9.5	7.4	162.55	80.2	-73.1	469.4	452.6	16.75	28.025		
4,200.0	4,143.1	4,150.5	4,143.1	9.7	7.5	163.40	80.2	-73.1	493.0	475.9	17.09	28.855		
4,300.0	4,240.0	4,247.4	4,240.0	9.9	7.6	164.18	80.2	-73.1	516.8	499.3	17.42	29.659		
4,400.0	4,336.9	4,344.3	4,336.9	10.1	7.7	164.89	80.2	-73.1	540.6	522.8	17.76	30.439		
4,500.0	4,433.8	4,441.3	4,433.8	10.3	7.8	165.54	80.2	-73.1	564.5	546.4	18.10	31.193		
4,600.0	4,530.7	4,538.2	4,530.7	10.5	7.9	166.14	80.2	-73.1	588.4	570.0	18.43	31.924		
4,700.0	4,627.6	4,635.1	4,627.6	10.7	8.0	166.69	80.2	-73.1	612.4	593.7	18.77	32.632		
4,800.0	4,724.5	4,732.0	4,724.5	11.0	8.1	167.20	80.2	-73.1	636.5	617.4	19.10	33.317		

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 501H
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 501H	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 810H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 10123-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)	Separation Factor		
4,871.2	4,793.5	4,801.0	4,793.5	11.1	8.2	167.54	80.2	-73.1	653.7	634.3	19.33	33.824	
4,900.0	4,821.5	4,828.9	4,821.5	11.1	8.2	167.70	80.2	-73.1	660.5	641.1	19.41	34.034	
5,000.0	4,919.0	4,926.5	4,919.0	11.4	8.3	168.19	80.2	-73.1	682.0	662.2	19.78	34.473	
5,100.0	5,017.3	5,024.7	5,017.3	11.6	8.4	168.57	80.2	-73.1	700.2	680.0	20.15	34.746	
5,200.0	5,116.1	5,123.6	5,116.1	11.9	8.5	168.87	80.2	-73.1	715.0	694.5	20.51	34.861	
5,300.0	5,215.5	5,222.9	5,215.5	12.1	8.7	169.09	80.2	-73.1	726.5	705.6	20.86	34.828	
5,400.0	5,315.1	5,322.6	5,315.1	12.3	8.8	169.24	80.2	-73.1	734.5	713.3	21.19	34.659	
5,500.0	5,415.0	5,422.4	5,415.0	12.5	8.9	169.33	80.2	-73.1	739.2	717.7	21.51	34.366	
5,585.0	5,500.0	5,507.4	5,500.0	12.6	9.0	80.81	80.2	-73.1	740.4	718.7	21.67	34.168	
5,600.0	5,515.0	5,522.4	5,515.0	12.6	9.0	80.81	80.2	-73.1	740.4	718.7	21.68	34.145	
5,700.0	5,615.0	5,622.4	5,615.0	12.7	9.1	80.81	80.2	-73.1	740.4	718.5	21.86	33.871	
5,800.0	5,715.0	5,722.4	5,715.0	12.7	9.2	80.81	80.2	-73.1	740.4	718.4	22.01	33.636	
5,900.0	5,815.0	5,822.4	5,815.0	12.8	9.3	80.81	80.2	-73.1	740.4	718.2	22.16	33.405	
6,000.0	5,915.0	5,922.4	5,915.0	12.9	9.4	80.81	80.2	-73.1	740.4	718.1	22.32	33.176	
6,100.0	6,015.0	6,022.4	6,015.0	12.9	9.5	80.81	80.2	-73.1	740.4	717.9	22.47	32.950	
6,200.0	6,115.0	6,122.4	6,115.0	13.0	9.6	80.81	80.2	-73.1	740.4	717.8	22.62	32.727	
6,300.0	6,215.0	6,222.4	6,215.0	13.0	9.7	80.81	80.2	-73.1	740.4	717.6	22.78	32.507	
6,400.0	6,315.0	6,322.4	6,315.0	13.1	9.8	80.81	80.2	-73.1	740.4	717.5	22.93	32.290	
6,500.0	6,415.0	6,422.4	6,415.0	13.2	9.9	80.81	80.2	-73.1	740.4	717.3	23.08	32.075	
6,600.0	6,515.0	6,522.4	6,515.0	13.2	10.0	80.81	80.2	-73.1	740.4	717.2	23.24	31.863	
6,700.0	6,615.0	6,622.4	6,615.0	13.3	10.1	80.81	80.2	-73.1	740.4	717.0	23.39	31.654	
6,800.0	6,715.0	6,722.4	6,715.0	13.3	10.2	80.81	80.2	-73.1	740.4	716.9	23.54	31.448	
6,900.0	6,815.0	6,822.4	6,815.0	13.4	10.3	80.81	80.2	-73.1	740.4	716.7	23.70	31.244	
7,000.0	6,915.0	6,922.4	6,915.0	13.5	10.4	80.81	80.2	-73.1	740.4	716.6	23.85	31.042	
7,100.0	7,015.0	7,022.4	7,015.0	13.5	10.5	80.81	80.2	-73.1	740.4	716.4	24.01	30.843	
7,200.0	7,115.0	7,122.4	7,115.0	13.6	10.6	80.81	80.2	-73.1	740.4	716.2	24.16	30.646	
7,300.0	7,215.0	7,222.4	7,215.0	13.6	10.7	80.81	80.2	-73.1	740.4	716.1	24.31	30.452	
7,400.0	7,315.0	7,322.4	7,315.0	13.7	10.8	80.81	80.2	-73.1	740.4	715.9	24.47	30.260	
7,500.0	7,415.0	7,422.4	7,415.0	13.8	10.9	80.81	80.2	-73.1	740.4	715.8	24.62	30.070	
7,600.0	7,515.0	7,522.4	7,515.0	13.8	11.0	80.81	80.2	-73.1	740.4	715.6	24.78	29.883	
7,700.0	7,615.0	7,622.4	7,615.0	13.9	11.1	80.81	80.2	-73.1	740.4	715.5	24.93	29.698	
7,800.0	7,715.0	7,722.4	7,715.0	14.0	11.2	80.81	80.2	-73.1	740.4	715.3	25.09	29.515	
7,900.0	7,815.0	7,822.4	7,815.0	14.0	11.3	80.81	80.2	-73.1	740.4	715.2	25.24	29.334	
7,948.5	7,863.5	7,870.9	7,863.5	14.0	11.3	80.81	80.2	-73.1	740.4	715.1	25.30	29.266	
7,950.0	7,865.0	7,872.4	7,865.0	14.0	11.3	80.95	80.2	-73.1	740.4	715.1	25.30	29.265	
7,975.0	7,890.0	7,897.4	7,890.0	14.1	11.3	81.02	80.2	-73.1	740.3	714.9	25.35	29.206	
8,000.0	7,914.9	7,922.3	7,914.9	14.1	11.4	81.22	80.2	-73.1	740.0	714.6	25.37	29.162	
8,025.0	7,939.7	7,947.1	7,939.7	14.1	11.4	81.53	80.2	-73.1	739.5	714.1	25.40	29.110	
8,050.0	7,964.2	7,971.7	7,964.2	14.1	11.4	81.96	80.2	-73.1	738.8	713.4	25.43	29.051	
8,075.0	7,988.5	7,995.9	7,988.5	14.1	11.4	82.50	80.2	-73.1	738.0	712.5	25.46	28.984	
8,100.0	8,012.5	8,019.9	8,012.5	14.1	11.5	83.14	80.2	-73.1	737.0	711.5	25.49	28.913	
8,125.0	8,036.0	8,043.4	8,036.0	14.1	11.5	83.87	80.2	-73.1	736.0	710.5	25.52	28.839	
8,150.0	8,059.1	8,066.5	8,059.1	14.1	11.5	84.69	80.2	-73.1	735.0	709.4	25.55	28.764	
8,175.0	8,081.6	8,089.0	8,081.6	14.1	11.5	85.57	80.2	-73.1	734.0	708.4	25.58	28.689	
8,200.0	8,103.5	8,111.0	8,103.5	14.1	11.5	86.50	80.2	-73.1	733.0	707.4	25.61	28.618	
8,225.0	8,124.8	8,132.2	8,124.8	14.1	11.6	87.47	80.2	-73.1	732.2	706.6	25.64	28.554	
8,250.0	8,145.3	8,152.8	8,145.3	14.1	11.6	88.46	80.2	-73.1	731.6	705.9	25.67	28.497	
8,275.0	8,165.1	8,172.6	8,165.1	14.1	11.6	89.45	80.2	-73.1	731.3	705.6	25.70	28.452	
8,289.1	8,175.9	8,183.4	8,175.9	14.1	11.6	90.00	80.2	-73.1	731.2	705.5	25.72	28.433	
8,300.0	8,184.1	8,191.5	8,184.1	14.1	11.6	90.42	80.2	-73.1	731.2	705.5	25.73	28.422	
8,325.0	8,202.2	8,209.6	8,202.2	14.1	11.6	91.35	80.2	-73.1	731.6	705.9	25.75	28.407	

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 501H
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 501H	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 810H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program:		0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 10123-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		
8,350.0	8,219.3	8,226.8	8,219.3	14.1	11.6	92.23	80.2	-73.1	732.4	706.7	25.78	28.413		
8,375.0	8,235.5	8,242.9	8,235.5	14.2	11.7	93.03	80.2	-73.1	733.8	708.0	25.80	28.440		
8,400.0	8,250.6	8,258.1	8,250.6	14.2	11.7	93.74	80.2	-73.1	735.7	709.9	25.82	28.492		
8,425.0	8,264.7	8,272.2	8,264.7	14.2	11.7	94.33	80.2	-73.1	738.3	712.5	25.84	28.570		
8,450.0	8,277.7	8,285.2	8,277.7	14.2	11.7	94.81	80.2	-73.1	741.6	715.7	25.86	28.677		
8,475.0	8,289.6	8,297.0	8,289.6	14.3	11.7	95.13	80.2	-73.1	745.6	719.7	25.88	28.813		
8,500.0	8,300.3	8,307.7	8,300.3	14.3	11.7	95.31	80.2	-73.1	750.3	724.4	25.89	28.981		
8,525.0	8,309.8	8,317.2	8,309.8	14.3	11.7	95.31	80.2	-73.1	755.8	729.9	25.90	29.181		
8,550.0	8,318.1	8,325.5	8,318.1	14.4	11.7	95.14	80.2	-73.1	762.1	736.2	25.91	29.413		
8,575.0	8,325.1	8,332.5	8,325.1	14.4	11.8	94.78	80.2	-73.1	769.2	743.3	25.92	29.678		
8,600.0	8,330.8	8,338.3	8,330.8	14.4	11.8	94.22	80.2	-73.1	777.1	751.2	25.93	29.975		
8,625.0	8,335.3	8,342.8	8,335.3	14.5	11.8	93.45	80.2	-73.1	785.8	759.9	25.93	30.303		
8,650.0	8,338.5	8,345.9	8,338.5	14.5	11.8	92.48	80.2	-73.1	795.2	769.3	25.93	30.663		
8,675.0	8,340.4	8,347.8	8,340.4	14.6	11.8	91.30	80.2	-73.1	805.3	779.4	25.94	31.051		
8,697.8	8,341.0	8,348.4	8,341.0	14.7	11.8	90.05	80.2	-73.1	815.1	789.2	25.94	31.429		
8,700.0	8,341.0	8,348.4	8,341.0	14.7	11.8	90.05	80.2	-73.1	816.1	790.2	25.94	31.467		
8,800.0	8,341.1	8,348.6	8,341.1	14.9	11.8	90.06	80.2	-73.1	865.2	839.3	25.95	33.346		
8,900.0	8,341.3	8,348.7	8,341.3	15.2	11.8	90.07	80.2	-73.1	922.5	896.6	25.95	35.550		
9,000.0	8,341.4	8,348.9	8,341.4	15.6	11.8	90.08	80.2	-73.1	986.7	960.8	25.95	38.020		

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 501H
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 501H	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)	Separation Factor	
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	3.2	3.2	90.00	0.0	25.0	25.0	18.7	6.27	3.978	
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.4	90.00	0.0	25.0	25.0	18.2	6.75	3.697 CC	
1,300.0	1,300.0	1,300.7	1,300.7	3.6	3.7	-172.99	1.0	23.5	25.3	17.8	7.42	3.404 ES	
1,400.0	1,399.8	1,401.3	1,401.1	3.9	4.0	178.57	4.1	19.2	26.6	18.6	8.02	3.317 SF	
1,500.0	1,499.5	1,501.7	1,501.1	4.2	4.3	166.67	9.1	12.0	29.9	21.4	8.53	3.506	
1,600.0	1,598.7	1,601.7	1,600.4	4.5	4.6	154.43	16.1	1.9	36.1	27.2	8.96	4.034	
1,700.0	1,697.5	1,702.6	1,700.3	4.8	4.8	146.61	22.8	-10.7	44.3	34.8	9.44	4.690	
1,800.0	1,795.9	1,804.1	1,800.5	5.0	5.0	142.74	26.6	-25.7	50.8	41.0	9.82	5.170	
1,900.0	1,894.4	1,905.2	1,900.2	5.2	5.1	139.85	27.9	-42.8	54.1	44.0	10.10	5.361	
2,000.0	1,992.9	2,005.1	1,998.6	5.3	5.3	137.31	28.5	-60.1	56.8	46.4	10.44	5.438	
2,100.0	2,091.4	2,105.1	2,097.0	5.5	5.5	135.00	29.1	-77.5	59.6	48.8	10.79	5.522	
2,200.0	2,189.9	2,205.0	2,195.5	5.7	5.7	132.90	29.7	-94.8	62.4	51.3	11.13	5.610	
2,300.0	2,288.4	2,304.9	2,293.9	5.9	5.8	130.98	30.3	-112.1	65.4	53.9	11.47	5.700	
2,400.0	2,386.8	2,404.9	2,392.3	6.1	6.0	129.23	30.9	-129.5	68.4	56.6	11.81	5.790	
2,500.0	2,485.3	2,504.8	2,490.7	6.3	6.2	127.64	31.5	-146.8	71.4	59.3	12.15	5.881	
2,600.0	2,583.8	2,604.7	2,589.1	6.5	6.4	126.17	32.1	-164.2	74.5	62.1	12.48	5.972	
2,700.0	2,682.3	2,704.7	2,687.5	6.7	6.6	124.82	32.7	-181.5	77.7	64.9	12.82	6.062	
2,800.0	2,780.8	2,804.6	2,786.0	6.8	6.8	123.58	33.3	-198.9	80.9	67.7	13.15	6.151	
2,900.0	2,879.2	2,904.5	2,884.4	7.0	6.9	122.43	33.9	-216.2	84.1	70.6	13.49	6.238	
3,000.0	2,977.7	3,004.5	2,982.8	7.2	7.1	121.37	34.5	-233.5	87.4	73.6	13.82	6.324	
3,022.6	3,000.0	3,027.1	3,005.1	7.3	7.2	121.14	34.7	-237.5	88.1	74.3	13.88	6.351	
3,100.0	3,076.0	3,104.4	3,081.2	7.4	7.3	116.52	35.2	-250.9	90.6	76.5	14.13	6.413	
3,200.0	3,173.8	3,204.3	3,179.6	7.7	7.5	113.82	35.8	-268.2	93.6	79.1	14.49	6.460	
3,267.1	3,239.0	3,271.3	3,245.5	7.8	7.6	113.74	36.2	-279.8	95.7	80.9	14.72	6.499	
3,300.0	3,270.9	3,304.1	3,277.9	7.8	7.7	115.05	36.4	-285.5	96.7	81.9	14.83	6.524	
3,400.0	3,367.8	3,403.8	3,376.1	8.0	7.9	118.87	37.0	-302.8	100.3	85.0	15.22	6.586	
3,500.0	3,464.7	3,503.5	3,474.3	8.2	8.1	122.41	37.6	-320.2	104.2	88.6	15.62	6.670	
3,600.0	3,561.6	3,603.3	3,572.5	8.4	8.3	125.69	38.2	-337.5	108.5	92.5	16.03	6.771	
3,700.0	3,658.5	3,703.0	3,670.7	8.6	8.5	128.70	38.8	-354.8	113.2	96.7	16.43	6.887	
3,800.0	3,755.4	3,802.7	3,768.9	8.8	8.7	131.47	39.4	-372.1	118.1	101.3	16.84	7.015	
3,900.0	3,852.3	3,902.4	3,867.1	9.0	8.9	134.02	40.0	-389.4	123.3	106.1	17.24	7.152	
4,000.0	3,949.3	4,002.1	3,965.3	9.3	9.1	136.35	40.6	-406.7	128.7	111.1	17.64	7.297	
4,100.0	4,046.2	4,103.8	4,065.4	9.5	9.2	138.79	40.4	-424.3	133.9	115.9	18.01	7.434	
4,200.0	4,143.1	4,204.3	4,164.4	9.7	9.4	141.83	37.9	-441.7	137.8	119.4	18.38	7.496	
4,300.0	4,240.0	4,304.0	4,262.5	9.9	9.6	144.71	35.2	-458.9	142.0	123.2	18.79	7.559	
4,400.0	4,336.9	4,403.6	4,360.6	10.1	9.8	147.43	32.5	-476.1	146.6	127.4	19.19	7.639	
4,500.0	4,433.8	4,503.3	4,458.7	10.3	10.0	149.97	29.8	-493.4	151.5	131.9	19.58	7.735	
4,600.0	4,530.7	4,602.9	4,556.9	10.5	10.2	152.35	27.1	-510.6	156.6	136.7	19.97	7.843	
4,700.0	4,627.6	4,702.6	4,655.0	10.7	10.4	154.58	24.4	-527.8	162.0	141.7	20.35	7.961	
4,800.0	4,724.5	4,802.3	4,753.1	11.0	10.6	156.66	21.7	-545.0	167.7	146.9	20.73	8.088	

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 501H
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 501H	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
4,871.2	4,793.5	4,873.2	4,823.0	11.1	10.7	158.06	19.8	-557.3	171.8	150.8	20.98	8.189	
4,900.0	4,821.5	4,901.9	4,851.2	11.1	10.8	158.60	19.0	-562.3	173.4	152.3	21.08	8.225	
5,000.0	4,919.0	5,001.8	4,949.5	11.4	11.0	160.15	16.3	-579.5	176.8	155.3	21.51	8.222	
5,100.0	5,017.3	5,101.4	5,047.7	11.6	11.2	161.25	13.6	-596.7	177.1	155.2	21.91	8.082	
5,200.0	5,116.1	5,200.0	5,144.9	11.9	11.4	162.02	11.1	-613.0	174.9	152.6	22.29	7.847	
5,300.0	5,215.5	5,295.7	5,239.5	12.1	11.6	162.51	8.9	-627.1	171.1	148.5	22.64	7.558	
5,400.0	5,315.1	5,392.7	5,335.6	12.3	11.7	162.74	6.9	-639.9	165.7	142.8	22.97	7.215	
5,500.0	5,415.0	5,489.7	5,432.0	12.5	11.9	162.69	5.2	-651.0	158.7	135.4	23.27	6.818	
5,585.0	5,500.0	5,572.2	5,514.0	12.6	12.1	73.87	3.9	-659.2	151.4	126.7	24.62	6.147	
5,600.0	5,515.0	5,586.8	5,528.5	12.6	12.1	73.80	3.7	-660.5	150.0	125.4	24.65	6.086	
5,700.0	5,615.0	5,684.0	5,625.4	12.7	12.3	73.39	2.4	-668.5	141.8	117.0	24.86	5.706	
5,800.0	5,715.0	5,781.4	5,722.6	12.7	12.4	73.02	1.4	-674.8	135.3	110.3	25.04	5.405	
5,900.0	5,815.0	5,879.1	5,820.2	12.8	12.6	72.73	0.7	-679.5	130.5	105.3	25.21	5.176	
6,000.0	5,915.0	5,976.8	5,917.9	12.9	12.8	72.53	0.2	-682.5	127.4	102.0	25.38	5.020	
6,100.0	6,015.0	6,074.7	6,015.7	12.9	12.9	72.43	0.0	-683.9	125.9	100.4	25.50	4.938	
6,151.3	6,066.3	6,125.2	6,066.3	13.0	12.9	72.42	0.0	-684.0	125.8	100.3	25.56	4.923	
6,200.0	6,115.0	6,173.9	6,115.0	13.0	12.9	72.42	0.0	-684.0	125.8	100.2	25.62	4.912	
6,300.0	6,215.0	6,273.9	6,215.0	13.0	13.0	72.42	0.0	-684.0	125.8	100.1	25.74	4.890	
6,400.0	6,315.0	6,373.9	6,315.0	13.1	13.1	72.42	0.0	-684.0	125.8	100.0	25.86	4.867	
6,500.0	6,415.0	6,473.9	6,415.0	13.2	13.1	72.42	0.0	-684.0	125.8	99.9	25.98	4.844	
6,600.0	6,515.0	6,573.9	6,515.0	13.2	13.2	72.42	0.0	-684.0	125.8	99.7	26.10	4.822	
6,700.0	6,615.0	6,673.9	6,615.0	13.3	13.2	72.42	0.0	-684.0	125.8	99.6	26.22	4.799	
6,800.0	6,715.0	6,773.9	6,715.0	13.3	13.3	72.42	0.0	-684.0	125.8	99.5	26.34	4.777	
6,900.0	6,815.0	6,873.9	6,815.0	13.4	13.3	72.42	0.0	-684.0	125.8	99.4	26.47	4.755	
7,000.0	6,915.0	6,973.9	6,915.0	13.5	13.4	72.42	0.0	-684.0	125.8	99.2	26.59	4.733	
7,100.0	7,015.0	7,073.9	7,015.0	13.5	13.5	72.42	0.0	-684.0	125.8	99.1	26.71	4.711	
7,200.0	7,115.0	7,173.9	7,115.0	13.6	13.5	72.42	0.0	-684.0	125.8	99.0	26.84	4.689	
7,300.0	7,215.0	7,273.9	7,215.0	13.6	13.6	72.42	0.0	-684.0	125.8	98.9	26.96	4.667	
7,400.0	7,315.0	7,373.9	7,315.0	13.7	13.7	72.42	0.0	-684.0	125.8	98.7	27.09	4.646	
7,500.0	7,415.0	7,473.9	7,415.0	13.8	13.7	72.42	0.0	-684.0	125.8	98.6	27.21	4.624	
7,600.0	7,515.0	7,573.9	7,515.0	13.8	13.8	72.42	0.0	-684.0	125.8	98.5	27.34	4.603	
7,700.0	7,615.0	7,673.9	7,615.0	13.9	13.8	72.42	0.0	-684.0	125.8	98.4	27.46	4.582	
7,800.0	7,715.0	7,773.9	7,715.0	14.0	13.9	72.42	0.0	-684.0	125.8	98.2	27.59	4.561	
7,900.0	7,815.0	7,873.9	7,815.0	14.0	14.0	72.42	0.0	-684.0	125.8	98.1	27.72	4.540	
7,948.5	7,863.5	7,922.5	7,863.5	14.0	14.0	72.42	0.0	-684.0	125.8	98.1	27.76	4.533	
7,950.0	7,865.0	7,923.9	7,865.0	14.0	14.0	72.56	0.0	-684.0	125.8	98.1	27.76	4.533	
7,975.0	7,890.0	7,948.9	7,890.0	14.1	14.0	72.91	0.0	-684.0	125.6	97.8	27.81	4.517	
8,000.0	7,914.9	7,973.8	7,914.9	14.1	14.0	73.86	0.0	-684.0	125.0	97.2	27.86	4.488	
8,025.0	7,939.7	7,998.6	7,939.7	14.1	14.0	75.44	0.0	-684.0	124.1	96.2	27.91	4.447	
8,050.0	7,964.2	8,023.2	7,964.2	14.1	14.1	77.62	0.0	-684.0	123.0	95.1	27.98	4.397	
8,075.0	7,988.5	8,047.5	7,988.5	14.1	14.1	80.39	0.0	-684.0	121.9	93.8	28.06	4.344	
8,100.0	8,012.5	8,071.4	8,012.5	14.1	14.1	83.73	0.0	-684.0	120.9	92.7	28.14	4.295	
8,125.0	8,036.0	8,094.9	8,036.0	14.1	14.1	87.57	0.0	-684.0	120.2	92.0	28.21	4.260	
8,139.5	8,049.5	8,108.4	8,049.5	14.1	14.1	90.00	0.0	-684.0	120.1	91.8	28.24	4.251	
8,150.0	8,059.1	8,118.0	8,059.1	14.1	14.1	91.82	0.0	-684.0	120.1	91.9	28.26	4.250	
8,175.0	8,081.6	8,140.5	8,081.6	14.1	14.1	96.35	0.0	-684.0	121.0	92.7	28.29	4.277	
8,200.0	8,103.5	8,162.5	8,103.5	14.1	14.1	101.00	0.0	-684.0	123.1	94.8	28.27	4.352	
8,225.0	8,124.8	8,183.7	8,124.8	14.1	14.2	105.63	0.0	-684.0	126.6	98.4	28.22	4.485	
8,250.0	8,145.3	8,204.3	8,145.3	14.1	14.2	110.07	0.0	-684.0	131.8	103.7	28.13	4.685	
8,275.0	8,165.1	8,224.1	8,165.1	14.1	14.2	114.21	0.0	-684.0	138.8	110.8	28.01	4.956	
8,300.0	8,184.1	8,243.0	8,184.1	14.1	14.2	117.94	0.0	-684.0	147.6	119.8	27.87	5.298	

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 501H
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 501H	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:			
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
8,325.0	8,202.2	8,261.1	8,202.2	14.1	14.2	121.21	0.0	-684.0	158.3	130.6	27.72	5.710	
8,350.0	8,219.3	8,278.3	8,219.3	14.1	14.2	123.99	0.0	-684.0	170.7	143.1	27.59	6.188	
8,375.0	8,235.5	8,294.4	8,235.5	14.2	14.2	126.25	0.0	-684.0	184.8	157.3	27.46	6.727	
8,400.0	8,250.6	8,309.6	8,250.6	14.2	14.2	128.01	0.0	-684.0	200.3	172.9	27.36	7.321	
8,425.0	8,264.7	8,323.7	8,264.7	14.2	14.2	129.25	0.0	-684.0	217.2	189.9	27.26	7.965	
8,450.0	8,277.7	8,336.7	8,277.7	14.2	14.3	129.96	0.0	-684.0	235.2	208.1	27.19	8.652	
8,475.0	8,289.6	8,348.6	8,289.6	14.3	14.3	130.13	0.0	-684.0	254.4	227.3	27.13	9.379	
8,500.0	8,300.3	8,359.2	8,300.3	14.3	14.3	129.72	0.0	-684.0	274.5	247.5	27.08	10.140	
8,525.0	8,309.8	8,368.7	8,309.8	14.3	14.3	128.64	0.0	-684.0	295.5	268.5	27.04	10.931	
8,550.0	8,318.1	8,377.0	8,318.1	14.4	14.3	126.82	0.0	-684.0	317.2	290.2	27.00	11.748	
8,575.0	8,325.1	8,384.0	8,325.1	14.4	14.3	124.09	0.0	-684.0	339.5	312.6	26.98	12.587	
8,600.0	8,330.8	8,389.8	8,330.8	14.4	14.3	120.26	0.0	-684.0	362.4	335.4	26.95	13.446	
8,625.0	8,335.3	8,394.3	8,335.3	14.5	14.3	115.09	0.0	-684.0	385.7	358.8	26.93	14.321	
8,650.0	8,338.5	8,397.5	8,338.5	14.5	14.3	108.30	0.0	-684.0	409.3	382.4	26.92	15.208	
8,675.0	8,340.4	8,399.3	8,340.4	14.6	14.3	99.69	0.0	-684.0	433.2	406.3	26.90	16.105	
8,697.8	8,341.0	8,399.9	8,341.0	14.7	14.3	90.34	0.0	-684.0	455.1	428.2	26.89	16.928	
8,700.0	8,341.0	8,399.9	8,341.0	14.7	14.3	90.34	0.0	-684.0	457.3	430.4	26.88	17.009	
8,800.0	8,341.1	8,400.1	8,341.1	14.9	14.3	90.41	0.0	-684.0	554.4	527.6	26.84	20.655	
8,900.0	8,341.3	8,400.2	8,341.3	15.2	14.3	90.49	0.0	-684.0	652.4	625.6	26.82	24.323	
9,000.0	8,341.4	8,400.4	8,341.4	15.6	14.3	90.57	0.0	-684.0	750.9	724.1	26.82	28.001	
9,100.0	8,341.6	8,400.6	8,341.6	16.0	14.3	90.64	0.0	-684.0	849.8	822.9	26.82	31.683	
9,200.0	8,341.8	8,400.7	8,341.8	16.4	14.3	90.72	0.0	-684.0	948.9	922.0	26.83	35.363	

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 501H
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 501H	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	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	89.85	0.2	74.9	74.9				
100.0	100.0	100.0	100.0	0.5	0.5	89.85	0.2	74.9	74.9	73.4	1.48	50.425	
200.0	200.0	200.0	200.0	1.0	1.0	89.85	0.2	74.9	74.9	72.4	2.47	30.339	
300.0	300.0	300.0	300.0	1.4	1.4	89.85	0.2	74.9	74.9	71.8	3.11	24.109	
400.0	400.0	400.0	400.0	1.6	1.6	89.85	0.2	74.9	74.9	71.3	3.62	20.704	
500.0	500.0	500.0	500.0	1.9	1.9	89.85	0.2	74.9	74.9	70.8	4.05	18.465	
600.0	600.0	600.0	600.0	2.1	2.1	89.85	0.2	74.9	74.9	70.4	4.44	16.844	
700.0	700.0	700.0	700.0	2.3	2.3	89.85	0.2	74.9	74.9	70.1	4.80	15.597	
800.0	800.0	800.0	800.0	2.5	2.5	89.85	0.2	74.9	74.9	69.7	5.13	14.600	
900.0	900.0	900.0	900.0	2.7	2.7	89.85	0.2	74.9	74.9	69.4	5.43	13.776	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	89.85	0.2	74.9	74.9	69.1	5.72	13.082	
1,100.0	1,100.0	1,100.0	1,100.0	3.2	3.2	89.85	0.2	74.9	74.9	68.6	6.27	11.933	
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.4	89.85	0.2	74.9	74.9	68.1	6.75	11.090 CC, ES	
1,300.0	1,300.0	1,297.9	1,297.9	3.6	3.7	-171.15	1.3	76.2	77.9	70.5	7.41	10.511 SF	
1,400.0	1,399.8	1,395.2	1,395.0	3.9	4.0	-173.71	4.5	80.0	87.2	79.1	8.03	10.847	
1,500.0	1,499.5	1,491.2	1,490.7	4.2	4.3	-176.93	9.7	86.2	102.8	94.2	8.63	11.913	
1,600.0	1,598.7	1,585.3	1,584.2	4.5	4.5	179.94	16.8	94.7	124.9	115.7	9.19	13.591	
1,700.0	1,697.5	1,678.8	1,676.7	4.8	4.7	177.77	24.3	105.3	153.0	143.3	9.67	15.820	
1,800.0	1,795.9	1,771.3	1,768.3	5.0	4.9	177.18	29.5	117.7	184.2	174.2	10.01	18.397	
1,900.0	1,894.4	1,863.0	1,858.8	5.2	5.2	177.51	32.3	131.9	216.8	206.5	10.35	20.945	
2,000.0	1,992.9	1,955.6	1,950.0	5.3	5.4	178.31	33.1	147.7	250.6	239.9	10.69	23.449	
2,100.0	2,091.4	2,049.6	2,042.6	5.5	5.5	179.00	33.7	164.0	284.6	273.6	11.03	25.794	
2,200.0	2,189.9	2,143.5	2,135.1	5.7	5.7	179.54	34.2	180.3	318.6	307.2	11.39	27.967	
2,300.0	2,288.4	2,237.5	2,227.7	5.9	5.8	179.98	34.8	196.6	352.7	340.9	11.76	29.993	
2,400.0	2,386.8	2,331.5	2,320.3	6.1	6.0	-179.66	35.4	213.0	386.7	374.6	12.13	31.884	
2,500.0	2,485.3	2,425.5	2,412.8	6.3	6.1	-179.36	35.9	229.3	420.8	408.3	12.50	33.650	
2,600.0	2,583.8	2,519.5	2,505.4	6.5	6.3	-179.10	36.5	245.6	454.8	442.0	12.89	35.300	
2,700.0	2,682.3	2,613.5	2,598.0	6.7	6.5	-178.88	37.1	261.9	488.9	475.7	13.27	36.844	
2,800.0	2,780.8	2,707.5	2,690.5	6.8	6.6	-178.69	37.6	278.2	523.0	509.4	13.66	38.290	
2,900.0	2,879.2	2,801.5	2,783.1	7.0	6.8	-178.52	38.2	294.5	557.1	543.0	14.05	39.650	
3,000.0	2,977.7	2,898.1	2,878.2	7.2	7.0	-178.26	37.7	311.3	591.0	576.6	14.42	40.986	
3,022.6	3,000.0	2,919.5	2,899.3	7.3	7.0	-178.16	37.2	315.0	598.6	584.2	14.49	41.308	
3,100.0	3,076.0	2,992.0	2,970.6	7.4	7.1	177.41	35.5	327.5	625.5	610.7	14.83	42.194	
3,200.0	3,173.8	3,084.6	3,061.8	7.7	7.3	173.14	33.3	343.6	662.7	647.4	15.31	43.287	
3,267.1	3,239.0	3,146.0	3,122.3	7.8	7.4	170.93	31.8	354.2	689.2	673.6	15.61	44.151	
3,300.0	3,270.9	3,176.0	3,151.9	7.8	7.5	171.15	31.1	359.4	702.6	686.8	15.73	44.651	
3,400.0	3,367.8	3,267.2	3,241.6	8.0	7.6	171.79	29.0	375.2	743.1	726.9	16.14	46.039	
3,500.0	3,464.7	3,358.3	3,331.3	8.2	7.8	172.35	26.8	391.0	783.6	767.1	16.55	47.353	
3,600.0	3,561.6	3,449.4	3,421.1	8.4	8.0	172.87	24.6	406.8	824.3	807.3	16.96	48.599	
3,700.0	3,658.5	3,540.6	3,510.8	8.6	8.2	173.33	22.5	422.5	865.0	847.6	17.38	49.782	
3,800.0	3,755.4	3,631.7	3,600.5	8.8	8.3	173.75	20.3	438.3	905.7	887.9	17.79	50.905	
3,900.0	3,852.3	3,722.8	3,690.3	9.0	8.5	174.14	18.1	454.1	946.5	928.3	18.21	51.973	
4,000.0	3,949.3	3,814.0	3,780.0	9.3	8.7	174.49	16.0	469.9	987.3	968.6	18.63	52.989	

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 501H
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 501H	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 708H - 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:		
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
18,300.0	8,356.4	8,423.4	8,356.4	87.4	28.6	89.93	10,648.5	-69.1	972.6	878.4		94.18	10.326
18,400.0	8,356.5	8,423.6	8,356.5	88.2	28.6	89.94	10,648.5	-69.1	913.7	817.0		96.64	9.454
18,500.0	8,356.7	8,423.8	8,356.7	89.1	28.6	89.95	10,648.5	-69.1	862.3	763.5		98.80	8.729
18,600.0	8,356.9	8,423.9	8,356.9	89.9	28.6	89.96	10,648.5	-69.1	820.1	719.5		100.60	8.152
18,689.5	8,357.0	8,424.1	8,357.0	90.7	28.6	89.97	10,648.5	-69.1	791.1	689.2		101.91	7.762 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 501H
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 501H	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 709H - 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	
18,000.0	8,355.9	8,495.1	8,355.9	84.8	33.6	89.68	10,610.3	-579.9	904.1	845.6	58.46	15.466	
18,100.0	8,356.1	8,495.3	8,356.1	85.7	33.6	89.72	10,610.3	-579.9	808.5	746.9	61.60	13.125	
18,200.0	8,356.2	8,495.5	8,356.2	86.5	33.6	89.75	10,610.3	-579.9	714.0	648.4	65.66	10.875	
18,300.0	8,356.4	8,495.6	8,356.4	87.4	33.6	89.79	10,610.3	-579.9	621.4	550.3	71.03	8.749	
18,400.0	8,356.5	8,495.8	8,356.5	88.2	33.6	89.83	10,610.3	-579.9	531.3	453.6	77.75	6.834	
18,500.0	8,356.7	8,495.9	8,356.7	89.1	33.6	89.86	10,610.3	-579.9	445.6	360.1	85.48	5.213	
18,600.0	8,356.9	8,496.1	8,356.9	89.9	33.6	89.90	10,610.3	-579.9	367.2	273.3	93.80	3.914	
18,689.5	8,357.0	8,496.2	8,357.0	90.7	33.6	89.93	10,610.3	-579.9	307.7	207.0	100.69	3.056 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 501H
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 501H	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 710H - 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:			
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	
18,100.0	8,356.1	8,550.1	8,356.1	85.7	36.8	-89.43	10,786.6	-982.7	958.3	915.9	42.41	22.596		
18,200.0	8,356.2	8,550.2	8,356.2	86.5	36.8	-89.49	10,786.6	-982.7	859.7	816.3	43.35	19.829		
18,300.0	8,356.4	8,550.4	8,356.4	87.4	36.8	-89.55	10,786.6	-982.7	761.5	716.8	44.68	17.044		
18,400.0	8,356.5	8,550.6	8,356.5	88.2	36.8	-89.61	10,786.6	-982.7	663.8	617.2	46.60	14.246		
18,500.0	8,356.7	8,550.7	8,356.7	89.1	36.8	-89.67	10,786.6	-982.7	566.9	517.4	49.51	11.450		
18,600.0	8,356.9	8,550.9	8,356.9	89.9	36.8	-89.73	10,786.6	-982.7	471.4	417.2	54.16	8.703		
18,689.5	8,357.0	8,551.0	8,357.0	90.7	36.8	-89.78	10,786.6	-982.7	387.8	326.8	60.91	6.366 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 501H
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 501H	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	
18,200.0	8,356.2	8,416.0	8,356.2	86.5	28.2	89.93	10,543.1	-69.6	968.7	875.2	93.51	10.359	
18,300.0	8,356.4	8,416.2	8,356.4	87.4	28.2	89.94	10,543.1	-69.6	910.1	814.1	96.02	9.478	
18,400.0	8,356.5	8,416.3	8,356.5	88.2	28.2	89.95	10,543.1	-69.6	859.2	761.0	98.22	8.748	
18,500.0	8,356.7	8,416.5	8,356.7	89.1	28.2	89.96	10,543.1	-69.6	817.4	717.4	100.06	8.170	
18,600.0	8,356.9	8,416.6	8,356.9	89.9	28.2	89.98	10,543.1	-69.6	786.2	684.7	101.53	7.744	
18,689.5	8,357.0	8,416.8	8,357.0	90.7	28.2	89.99	10,543.1	-69.6	768.3	665.8	102.56	7.491 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 501H
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 501H	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	
17,900.0	8,355.7	8,480.4	8,355.7	84.0	34.1	89.67	10,533.8	-579.9	926.6	870.1	56.48	16.406	
18,000.0	8,355.9	8,480.6	8,355.9	84.8	34.1	89.71	10,533.8	-579.9	830.8	771.3	59.48	13.968	
18,100.0	8,356.1	8,480.7	8,356.1	85.7	34.1	89.75	10,533.8	-579.9	736.0	672.7	63.33	11.622	
18,200.0	8,356.2	8,480.9	8,356.2	86.5	34.1	89.78	10,533.8	-579.9	642.9	574.5	68.40	9.399	
18,300.0	8,356.4	8,481.0	8,356.4	87.4	34.1	89.82	10,533.8	-579.9	552.1	477.1	74.99	7.362	
18,400.0	8,356.5	8,481.2	8,356.5	88.2	34.1	89.86	10,533.8	-579.9	465.1	382.4	82.71	5.624	
18,500.0	8,356.7	8,481.4	8,356.7	89.1	34.1	89.89	10,533.8	-579.9	384.6	293.4	91.22	4.216	
18,600.0	8,356.9	8,481.5	8,356.9	89.9	34.1	89.93	10,533.8	-579.9	315.4	215.9	99.48	3.170	
18,689.5	8,357.0	8,481.7	8,357.0	90.7	34.1	89.96	10,533.8	-579.9	270.3	165.3	104.96	2.575	Normal Operations, 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 501H
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 501H	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 910H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR, 10273-r.5 MWD+IFR1+SAG+FDIR												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
17,800.0	8,355.6	8,559.7	8,356.8	83.1	19.9	-89.90	10,518.3	-1,016.2	995.5	951.8		43.68	22.790
17,900.0	8,355.7	8,559.4	8,356.5	84.0	19.9	-89.81	10,518.3	-1,016.2	897.5	852.6		44.88	19.998
18,000.0	8,355.9	8,559.1	8,356.2	84.8	19.9	-89.72	10,518.3	-1,016.2	799.9	753.4		46.49	17.207
18,100.0	8,356.1	8,558.8	8,355.9	85.7	19.9	-89.63	10,518.3	-1,016.2	703.1	654.3		48.72	14.429
18,200.0	8,356.2	8,558.5	8,355.6	86.5	19.9	-89.54	10,518.3	-1,016.2	607.2	555.3		51.94	11.690
18,300.0	8,356.4	8,558.2	8,355.3	87.4	19.9	-89.45	10,518.3	-1,016.2	513.0	456.2		56.75	9.039
18,400.0	8,356.5	8,557.9	8,355.0	88.2	19.9	-89.36	10,518.3	-1,016.2	421.4	357.2		64.20	6.563
18,500.0	8,356.7	8,557.6	8,354.7	89.1	19.9	-89.26	10,518.3	-1,016.2	334.6	258.5		76.15	4.395
18,600.0	8,356.9	8,557.3	8,354.4	89.9	19.9	-89.17	10,518.4	-1,016.2	257.7	162.3		95.39	2.702 Normal Operations
18,689.5	8,357.0	8,557.0	8,354.1	90.7	19.9	-89.08	10,518.4	-1,016.2	206.3	88.1		118.27	1.745 Caution - Monitor Closely, 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 501H
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 501H	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 FEDERAL COM 503H - OWB - PWP1										Offset Site Error:		0.0 usft	
Survey Program:		0-r.5 MWD+IFR1, 8006-r.5 MWD+IFR1+SAG+FDIR										Offset Well Error:		0.0 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		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		
18,100.0	8,356.1	8,250.0	8,155.9	85.7	26.2	77.68	10,173.3	89.7	996.5	902.2	94.31	10.565			
18,200.0	8,356.2	8,284.7	8,185.1	86.5	26.2	79.42	10,192.0	89.6	967.0	871.4	95.53	10.122			
18,300.0	8,356.4	8,325.0	8,217.1	87.4	26.2	81.36	10,216.4	89.5	945.0	848.4	96.60	9.783			
18,400.0	8,356.5	8,375.0	8,253.9	88.2	26.2	83.61	10,250.3	89.3	930.3	832.7	97.57	9.535			
18,500.0	8,356.7	8,433.9	8,292.4	89.1	26.3	85.99	10,294.9	89.1	922.0	823.5	98.47	9.363			
18,600.0	8,356.9	8,509.7	8,333.3	89.9	26.3	88.53	10,358.5	88.7	918.5	819.2	99.33	9.247			
18,689.5	8,357.0	8,590.5	8,365.3	90.7	26.3	90.52	10,432.6	88.3	917.9	817.8	100.09	9.171 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 501H
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 501H	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 FEDERAL COM 504H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 8214-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		
17,500.0	8,355.1	8,325.0	8,061.0	80.6	18.0	-41.26	10,130.3	-1,088.0	972.5	926.7	45.78	21.243		
17,600.0	8,355.3	8,325.0	8,061.0	81.5	18.0	-41.26	10,130.3	-1,088.0	882.0	833.6	48.40	18.225		
17,700.0	8,355.4	8,350.0	8,084.4	82.3	18.0	-43.60	10,139.3	-1,088.0	793.3	742.0	51.26	15.476		
17,800.0	8,355.6	8,358.2	8,091.9	83.1	18.0	-44.41	10,142.6	-1,088.1	706.7	651.4	55.34	12.770		
17,900.0	8,355.7	8,375.0	8,107.2	84.0	18.0	-46.11	10,149.6	-1,088.1	623.2	562.7	60.43	10.312		
18,000.0	8,355.9	8,400.0	8,129.4	84.8	18.0	-48.77	10,161.0	-1,088.1	543.6	476.7	66.83	8.134		
18,100.0	8,356.1	8,425.0	8,151.0	85.7	18.0	-51.59	10,173.5	-1,088.2	469.3	394.7	74.69	6.284		
18,200.0	8,356.2	8,456.7	8,177.5	86.5	18.0	-55.35	10,191.0	-1,088.2	402.6	320.1	82.43	4.884		
18,300.0	8,356.4	8,500.0	8,211.5	87.4	18.0	-60.76	10,217.7	-1,088.3	346.0	256.8	89.14	3.881		
18,400.0	8,356.5	8,544.8	8,244.1	88.2	18.0	-66.53	10,248.5	-1,088.4	302.6	208.4	94.17	3.213		
18,500.0	8,356.7	8,605.5	8,283.4	89.1	18.1	-74.19	10,294.7	-1,088.6	274.9	177.9	97.02	2.834	Normal Operations	
18,600.0	8,356.9	8,680.1	8,323.1	89.9	18.1	-82.58	10,357.8	-1,088.8	262.2	163.7	98.50	2.662	Normal Operations	
18,689.5	8,357.0	8,759.2	8,354.0	90.7	18.2	-89.33	10,430.5	-1,089.0	259.5	160.1	99.36	2.611	Normal Operations, 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 501H
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 501H	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

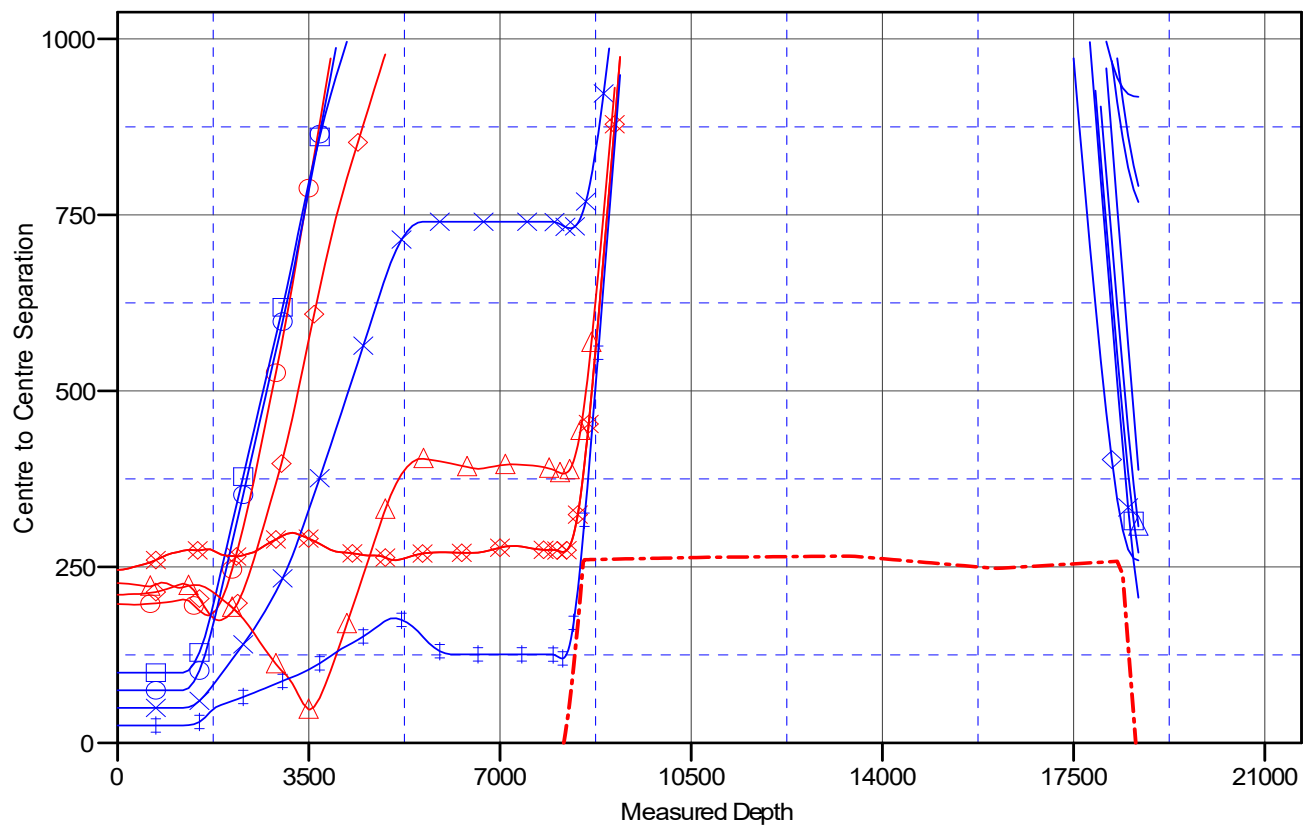
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: RICK VAUGHN FED COM 501H

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 7 WA FED COM 014H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0
_WILD THING FED COM 709H, OWB, PWP0 V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0
_WILD THING FED COM 710H, OWB, PWP0 V0	RICK VAUGHN FED COM 014H, OWB, PWP1 V0	_WILD THING FED COM 709H, OWB, PWP0 V0
_WILD THING FED COM 909H, OWB, PWP0 V0	RICK VAUGHN FED COM 014H, OWB, PWP1 V0	_WILD THING FED COM 909H, OWB, PWP0 V0
WILD THING FEDERAL COM 504H, OWB, PWP1 V0	RICK VAUGHN FED COM 014H, OWB, PWP1 V0	WILD THING FEDERAL COM 503H, OWB, PWP1 V0
_WILD THING FED COM 910H, OWB, PWP0 V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP 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 501H
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 501H	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

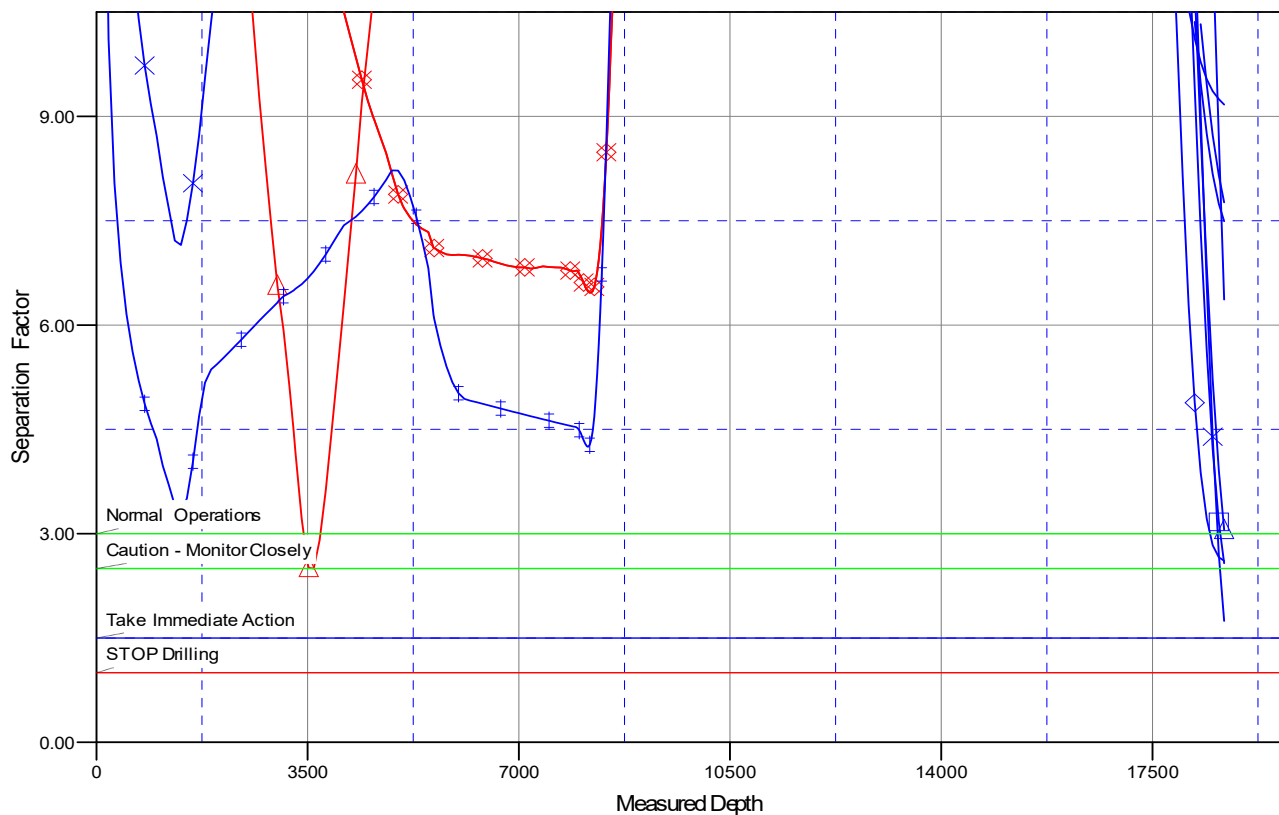
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: RICK VAUGHN FED COM 501H

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 1H, OWB, AWP V0		RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0
	WILD THING FED COM 709H, OWB, PWP0 V0		RICK VAUGHN 7 WA FED COM 8H, OWB, AWP V0		RICK VAUGHN FED COM 81H, OWB, PWP1 V0
	WILD THING FED COM 710H, OWB, PWP0 V0		RICK VAUGHN FED COM 810H, OWB, PWP1 V0		WILD THING FED COM 708H, OWB, PWP0 V0
	WILD THING FED COM 809H, OWB, PWP0 V0		RICK VAUGHN FED COM 812H, OWB, PWP1 V0		WILD THING FED COM 808H, OWB, PWP0 V0
	WILD THING FEDERAL COM 504H, OWB, PWP1 V0		RICK VAUGHN 7 WA FED COM 9H, OWB, AWP V0		WILD THING FEDERAL COM 503H, OWB, PWP1 V0
	WILD THING FED COM 910H, OWB, PWP0 V0				

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

ConocoPhillips Company - Rick Vaughn Federal Com 501H

1. Geologic Formations

TVD of target	8,370' EOL	Pilot hole depth	NA
MD at TD:	18,690'	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	902	Salt	
Base of Salt	2514	Salt	
Lamar	2697	Salt Water	
Bell Canyon	2743	Salt Water	
Cherry Canyon	3585	Oil/Gas	
Brushy Canyon	4832	Oil/Gas	
Bone Spring	6435	Oil/Gas	
1st Bone Spring Sand	7339	Oil/Gas	
2nd Bone Spring Sand	8202	Target	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	550	13.375"	54.5	J55	BTC	4.49	2.45	30.33
12.25"	0	2650	9.625"	40	L80-IC	BTC	2.81	1.74	8.93
8.75"	0	7,950	5.5"	20	P110-ICY	TXP BTC	2.94	4.30	4.30
7.875"	7,950	18,690	5.5"	20	P110-ICY	TXP BTC	2.97	4.35	4.35
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

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

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

ConocoPhillips Company - Rick Vaughn Federal Com 501H

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

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3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	260	13.5	1.75	9.21	12	Lead: Class C
	170	14.8	1.35	6.8	8	Tail: Class C
Inter.	400	12.8	1.8	9.21	12	Lead: Class C
	350	14.8	1.34	6.52	8	Tail: Class C
Prod.	650	10.2	2.98	14.92	72	Lead: Tuned Light
	1340	13.2	1.42	7.45	19	Tail: Class H

Intermediate #1 Salt string cemented to surface. Intermediate cement job to be performed offline. Drill out to wait for 500PSI compressive strength.

Volumes subject to observed hole conditions and/or fluid caliper results.

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

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	1,650'	0% OH in Lateral (KOP to EOL)

ConocoPhillips Company - Rick Vaughn Federal Com 501H

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:
12-1/4"	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram		5M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4" x 7-7/8"	13-5/8"	10M	Annular	x	50% testing pressure
			Blind Ram	x	10M
			Pipe Ram	x	
			Double Ram		
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 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 Onshore Order #2.
Y	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?
N	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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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	9-5/8" Int shoe	Saturated Brine	9 - 10	28-34	N/C
9-5/8" Int shoe	Lateral TD	Cut Brine or OBM	8.6 - 9.5	28-34	N/C

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

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

6. Logging and Testing Procedures

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

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
N	CBL	Production casing
Y	Mud log	Intermediate shoe to TD
N	PEX	

ConocoPhillips Company - Rick Vaughn Federal Com 501H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	4135 psi at 8370' TVD
Abnormal Temperature	NO 145 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	H2S is present
Y	H2S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
Y	Is casing pre-set?
Y	Is Pad Batch Drilled?

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

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/oed/contact-us>

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

CONDITIONS

Action 511053

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 511053
	Action Type: [C-103A] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	4/16/2026