

Well Name: RICK VAUGHN WC FED COM	Well Location: T26S / R29E / SEC 7 / SESW / 32.0501276 / -104.0273929	County or Parish/State: EDDY / NM
Well Number: 812H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM143617	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001555646	Operator: MARATHON OIL PERMIAN LLC	

Notice of Intent

Sundry ID: 2870805

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 08/29/2025	Time Sundry Submitted: 10:05
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: 330' FNL & 1980' FWL, 6-26S-29E Change TO: 200' FNL & 1980' FWL, NENW 6-26S-29E, Eddy Co., NM. Additionally, Marathon requests permission for offline intermediate cementing, a break testing variance, and the ability to batch drill the Rick Vaughn Fed Com project. Revised C-102s, directional plans, and drill procedures attached.

NOI Attachments

Procedure Description

- Tenaris_Data_Sheets___3_String___WCA___Rick_Vaughn_800s_20250829100459.pdf
- RICK_VAUGHN_FEDERAL_COM_812H_WPlot_20250829100447.pdf
- RICK_VAUGHN_FEDERAL_COM_812H_PWP1_PLAN_RPT_20250829100436.pdf
- RICK_VAUGHN_FEDERAL_COM_812H_PWP1_AC_RPT_20250829100423.pdf
- RICK_VAUGHN_FEDERAL_COM_812H_C102_signed_6_10_25_20250829100413.pdf
- Rick_Vaughn_Fed_Com_812H_revised_drill_procedure_8_28_25_20250829100401.pdf

Received by OCD: 10/6/2025 9:08:22 AM

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Conditions of Approval

Additional

SEC31_T25S_R29E_RICK_VAUGHN_FED_COM_Eddy__CONOCOPHILLIPS_COMPANY_45930_JS_20250930111346.pdf
RICK_VAUGHN_FED_COM_812H_COAs_20250930111346.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 10:05 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 Title: Petroleum Engineer
BLM POC Phone: 5752342234 BLM POC Email Address: CWALLS@BLM.GOV
Disposition: Approved Disposition Date: 10/02/2025
Signature: Chris Walls

Form 3160-5
(October 2024)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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)

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

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: SESW / 88 FSL / 1469 FWL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.0501276 / LONG: -104.0273929 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 0 FSL / 1980 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0643978 / LONG: -104.0257354 (TVD: 10500 feet, MD: 15279 feet)

PPP: NESW / 1317 FSL / 1980 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0680179 / LONG: -104.025733 (TVD: 10500 feet, MD: 16596 feet)

PPP: SESW / 330 FSL / 1980 FWL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.0507882 / LONG: -104.0257443 (TVD: 10500 feet, MD: 10900 feet)

BHL: NENW / 330 FNL / 1980 FWL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.0780375 / LONG: -104.0257264 (TVD: 10500 feet, MD: 20240 feet)

CONFIDENTIAL

SEC31-T25S-R29E_RICK VAUGHN FED COM_Eddy__CONOCOPHILLIPS COMPANY_45930_JS

RICK VAUGHN FED COM

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

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

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

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	RICK VAUGHN FED COM 812H
LOCATION:	Section 7, T.26 S., R.29 E., NMP
COUNTY:	Eddy County, New Mexico

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

Primary Casing Design:

1. The **10-3/4** inch surface casing shall be set at approximately **350 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature

survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. **Keep casing full during run for collapse safety factor.** The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

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

Contingency Squeeze:

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

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

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

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

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
- **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4 inch** surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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

BOPE Break Testing Variance

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

Casing Clearance:

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

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

Offline Cementing:

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

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

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

BLM_NM_CFO_DrillingNotifications@BLM.GOV
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#).

Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing

can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this

depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

JS 9/30/2025



TXP® BTC



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

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

Pipe Body Data

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

Connection Data

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

Notes

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

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TXP® BTC



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

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

Pipe Body Data

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

Connection Data

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

Notes

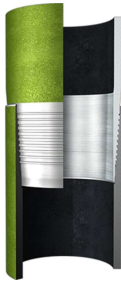
This connection is fully interchangeable with:
TXP® BTC - 7.625 in. - 0.328 (26.40) / 0.43 (33.70) / 0.5 (39.00) / 0.562 (42.80) / 0.595 (45.30) / 0.625 (47.10) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
Datasheet is also valid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

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Wedge 513®



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

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

Pipe Body Data

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

Connection Data

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

Notes

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

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TXP® BTC



Coupling	Pipe Body
Grade: 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-ICY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

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

Connection Data

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

Notes

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

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TenarisHydril Wedge 441®



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

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

Pipe Body Data

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

Connection Data

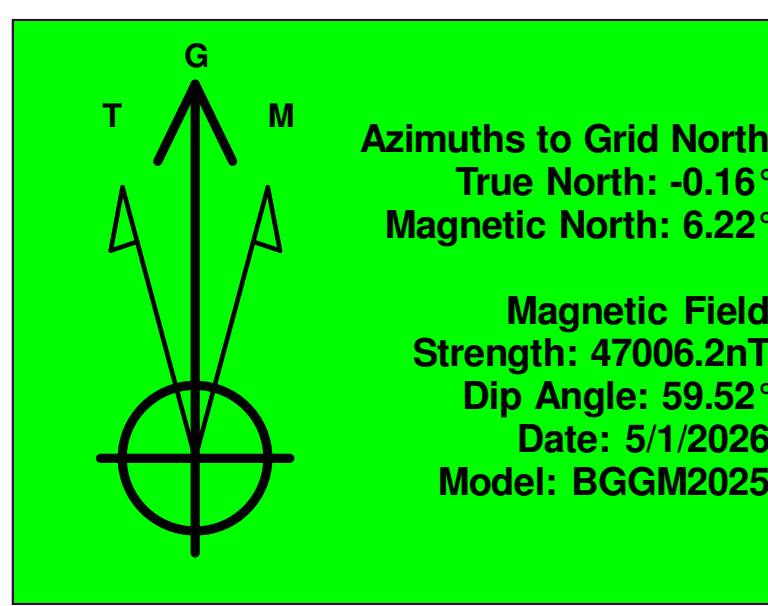
Geometry		Performance		Make-Up Torques	
Connection OD	5.852 in.	Tension Efficiency	81.50 %	Minimum	15,000 ft-lb
Coupling Length	8.714 in.	Joint Yield Strength	594 x1000 lb	Optimum	16,000 ft-lb
Connection ID	4.778 in.	Internal Pressure Capacity	14,360 psi	Maximum	19,200 ft-lb
Make-up Loss	3.780 in.	Compression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

Notes

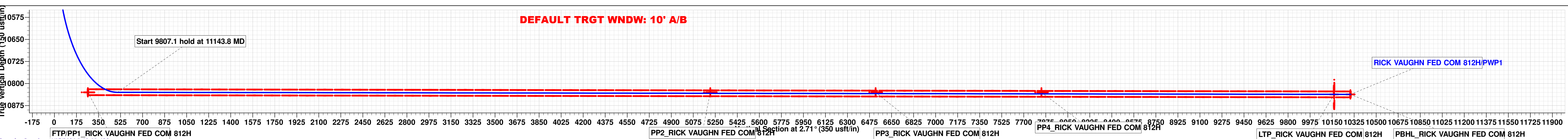
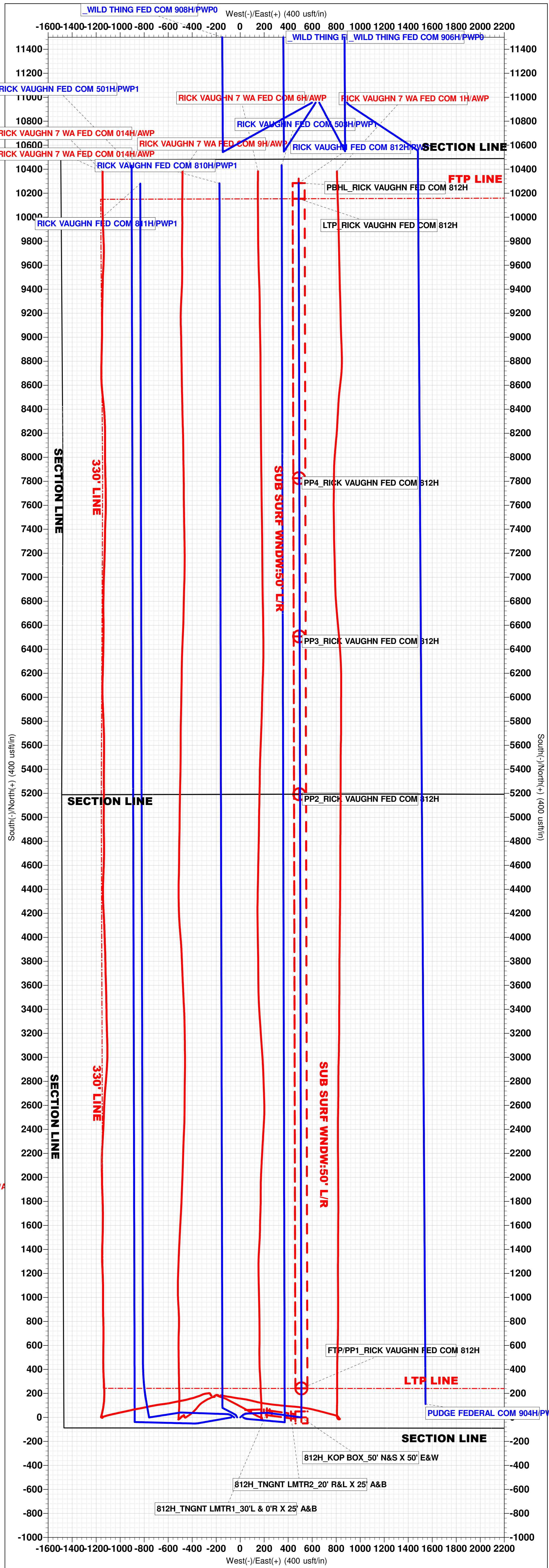
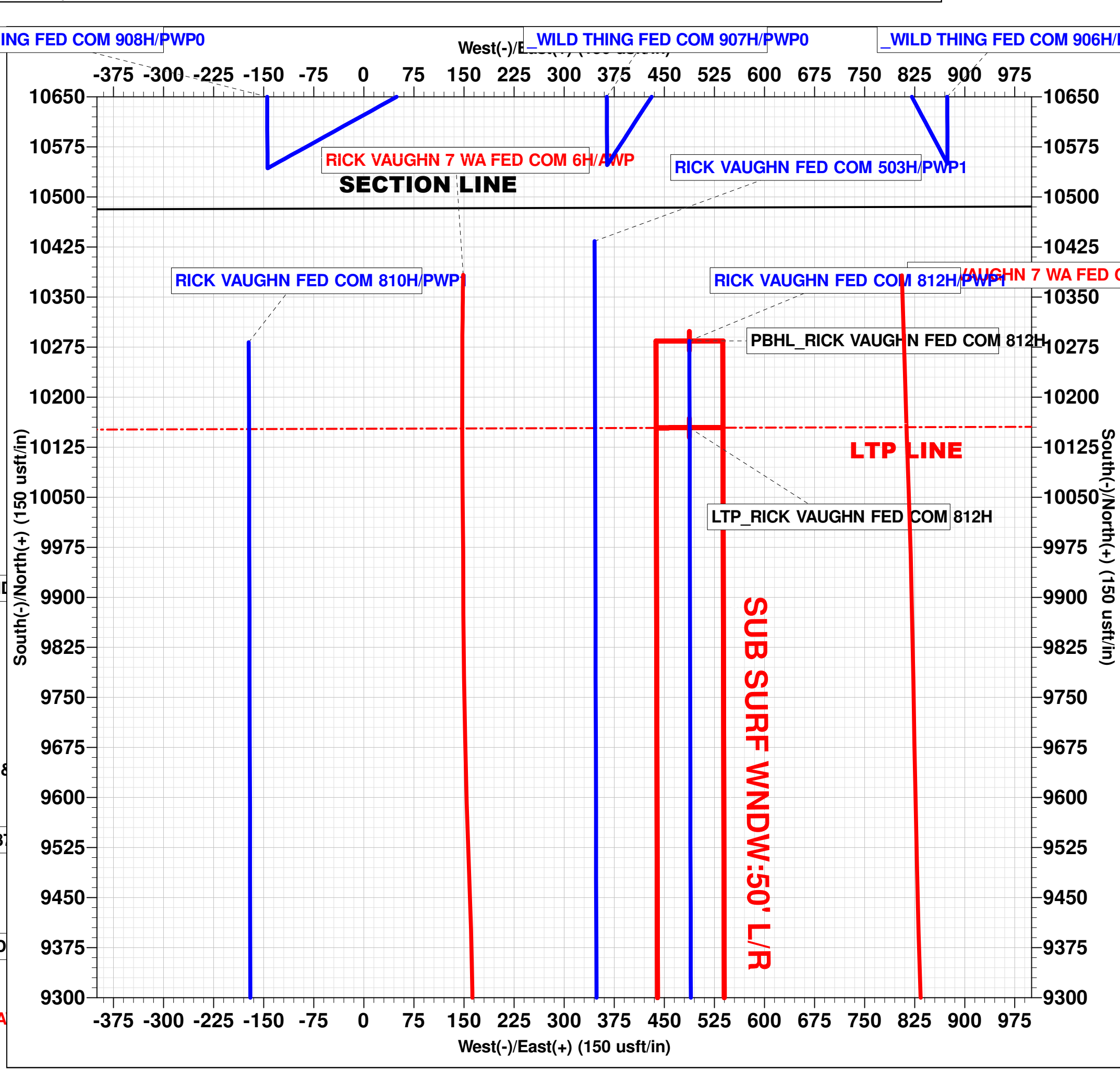
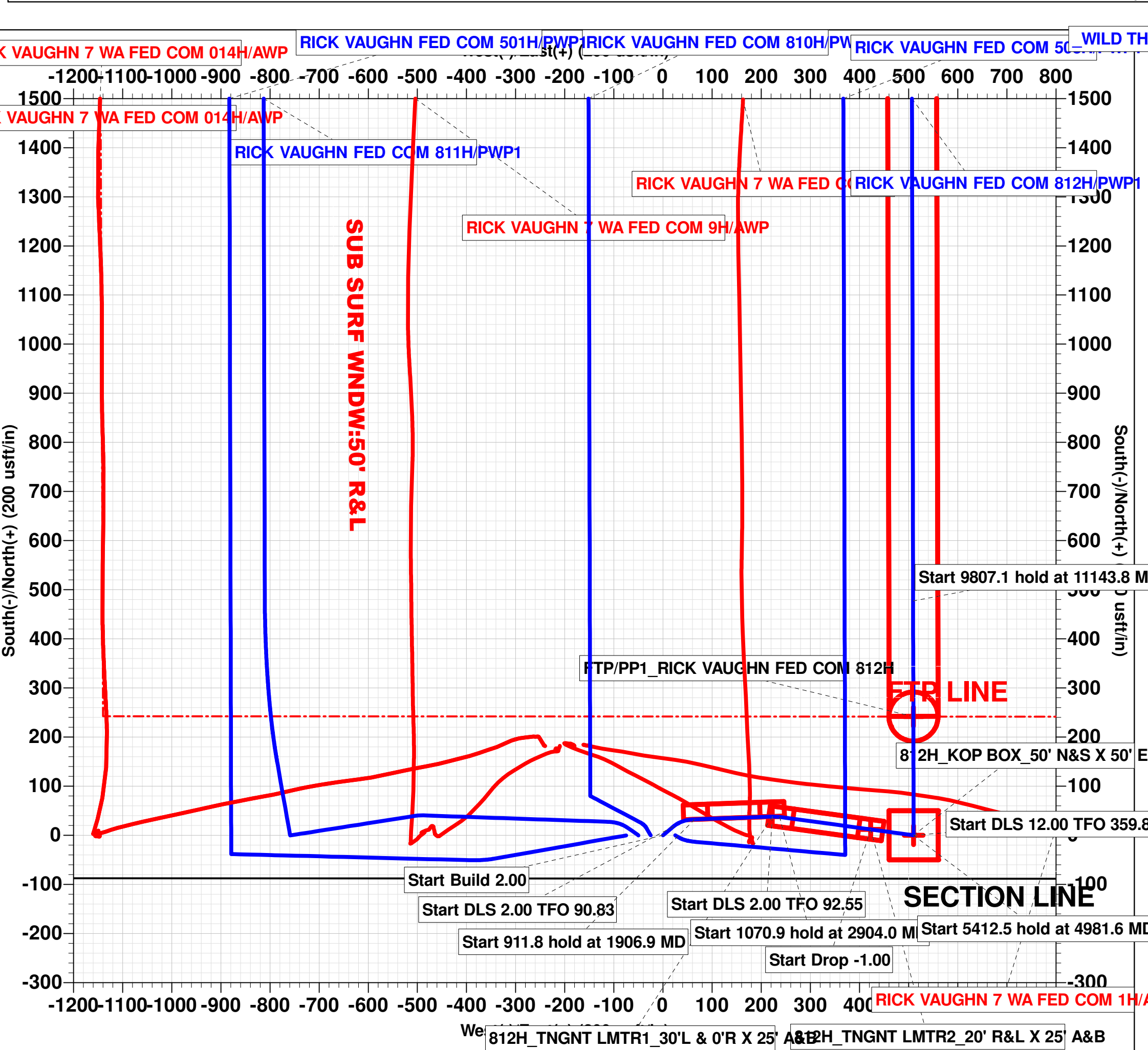
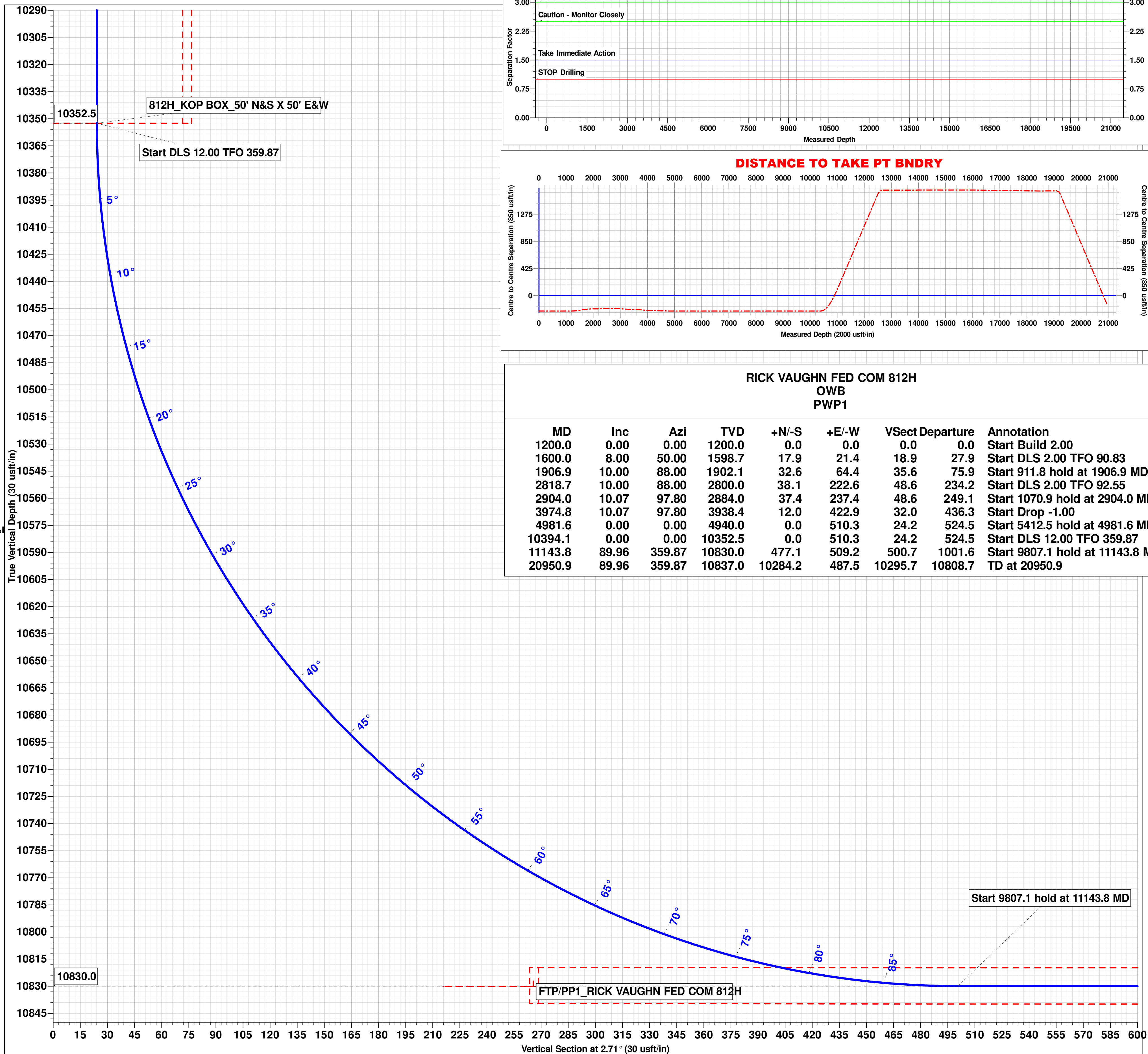
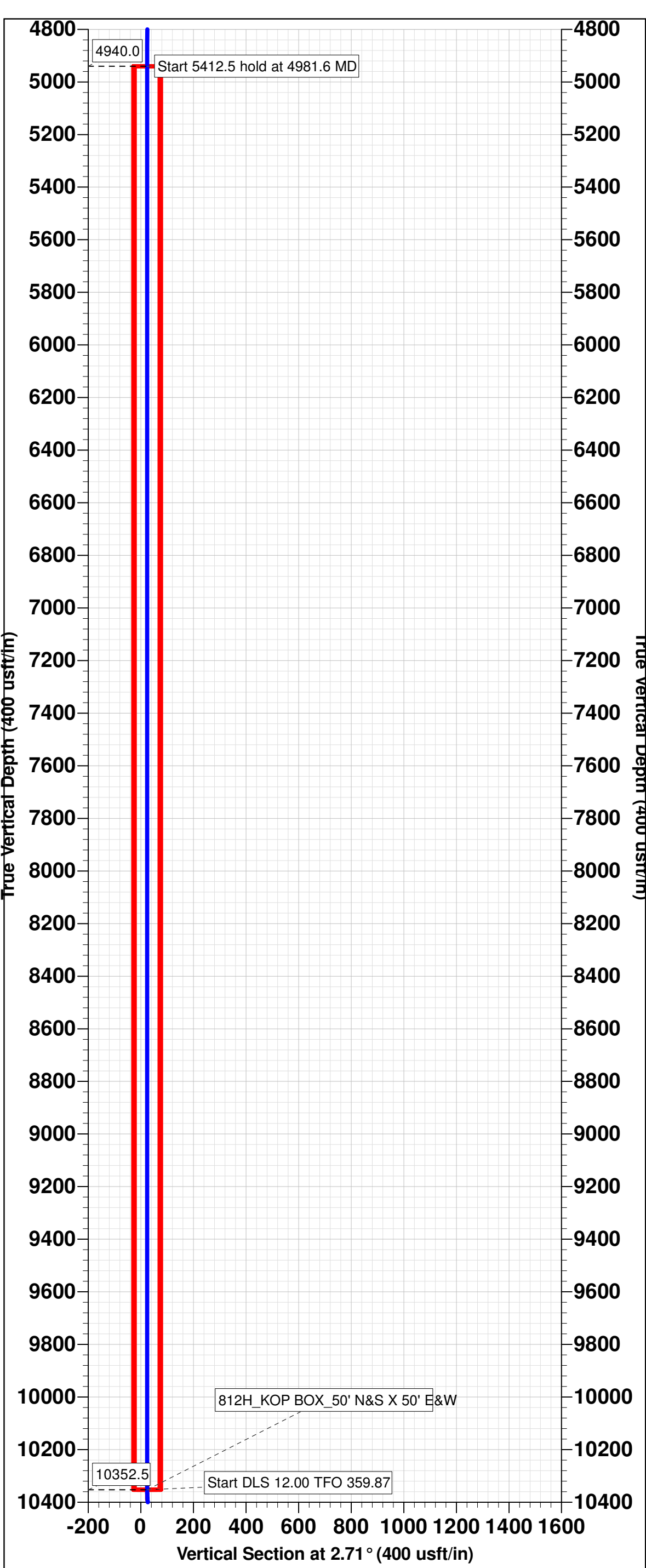
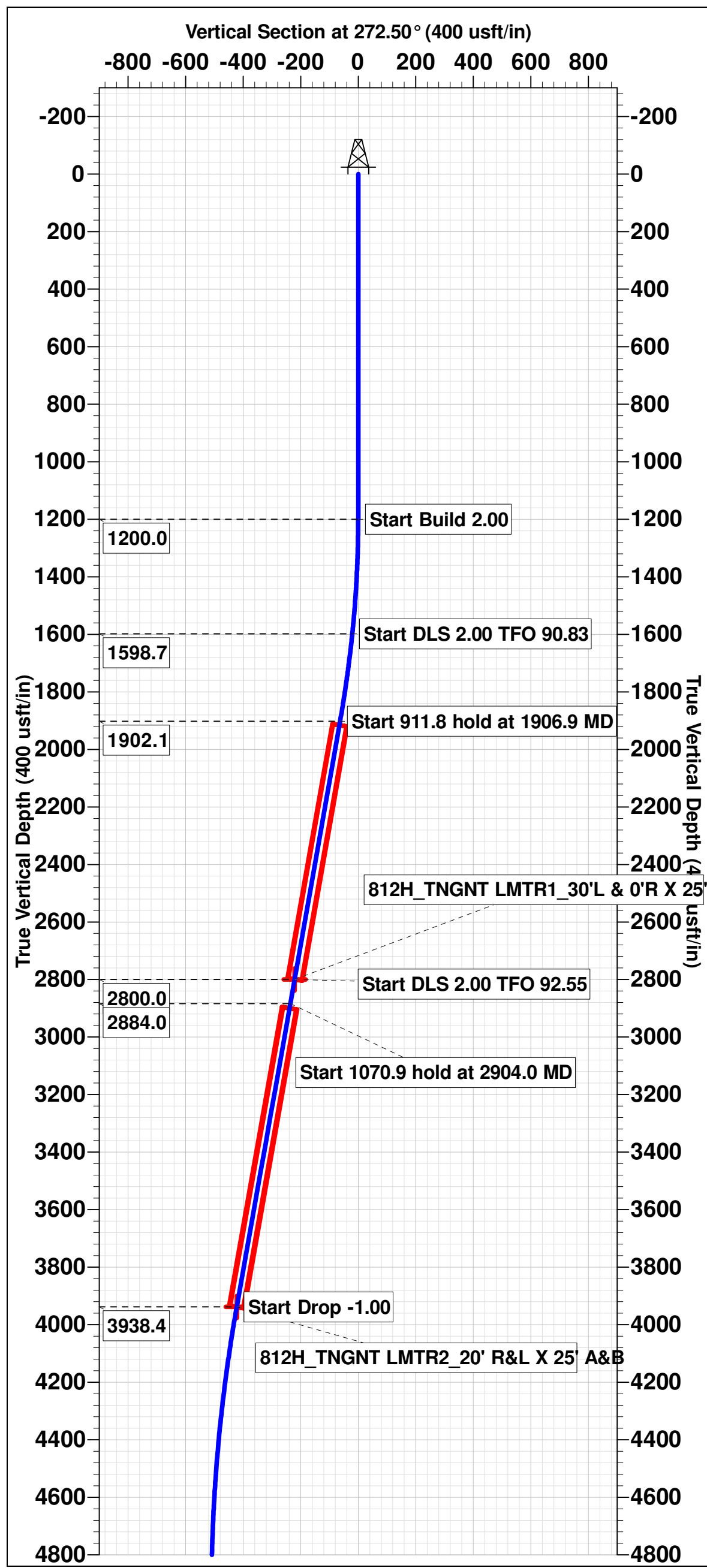
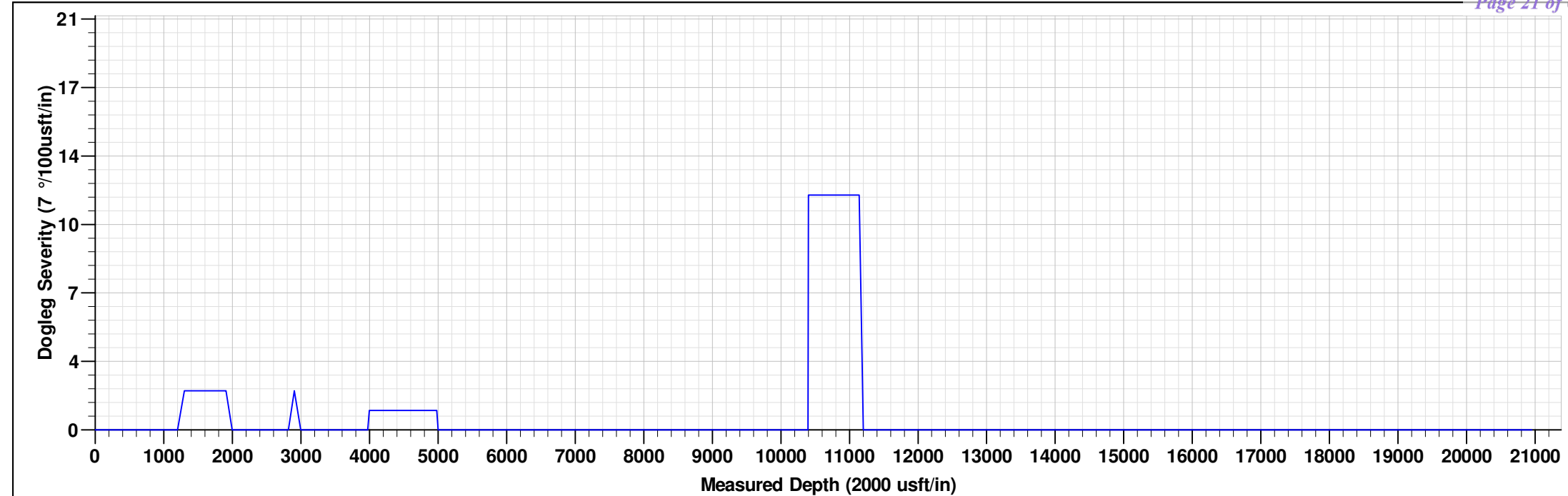
This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 (17.00) in. (lb/ft)
Wedge 461® - 5.5 in. - 0.304 (17.00) / 0.361 (20.00) / 0.415 (23.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version

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Project: ATLAS PROSPECT NME Site: RICK VAUGHN FED COM PROJECT Well: RICK VAUGHN FED COM 812H Wellbore: OWB Design: PWP1 GL: 2912.0 KB @ 2944.0usft (NABORS X09)							
RICK VAUGHN FED COM 812H							
+N/-S 0.0	+E/-W 0.0	Northing 382051.14	Easting 594938.75	Latitude 32° 3' 0.012 N	Longitude 104° 1' 36.870 W		
TARGET DETAILS							
Name			TVD	+N/-S	+E/-W	Northing	Easting
812H_TNGNT LMTR1_30'L & 0'R X 25' A&B			2800.0	38.1	222.6	382089.24	595161.35
812H_TNGNT LMTR2_20' R&L X 25' A&B			3938.4	12.0	422.9	382063.14	595361.65
812H_KOP BOX_50' N&S X 50' E&W			10352.5	0.0	510.3	382051.14	595449.05
FTP/PP1_RICK VAUGHN FED COM 812H			10830.0	241.8	510.0	382292.90	595448.73
PP2_RICK VAUGHN FED COM 812H			10830.0	5192.5	492.7	387243.68	595431.49
PP3_RICK VAUGHN FED COM 812H			10830.0	6507.4	491.4	388558.53	595430.11
PP4_RICK VAUGHN FED COM 812H			10830.0	7826.2	490.0	389877.36	595428.72
LTP_RICK VAUGHN FED COM 812H			10837.0	10154.2	487.5	392205.31	595426.26
PBHL_RICK VAUGHN FED COM 812H			10937.0	10284.2	487.5	392335.31	595426.27



DELAWARE BASIN WEST

**ATLAS PROSPECT_NME
RICK VAUGHN FED COM PROJECT
RICK VAUGHN FED COM 812H**

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 812H
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 812H	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 812H		
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' 36.870 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	47,006.18716470

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	2.71

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	10,409.2 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	
			OWSG MWD + IFR1 + SAG +	
3	10,409.2	20,950.0 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	
			OWSG MWD + IFR1 + SAG +	

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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	
1,600.0	8.00	50.00	1,598.7	17.9	21.4	2.00	2.00	0.00	50.00	
1,906.9	10.00	88.00	1,902.1	32.6	64.4	2.00	0.65	12.38	90.83	
2,818.7	10.00	88.00	2,800.0	38.1	222.6	0.00	0.00	0.00	0.00	
2,904.0	10.07	97.80	2,884.0	37.4	237.4	2.00	0.08	11.48	92.55	
3,974.8	10.07	97.80	3,938.4	12.0	422.9	0.00	0.00	0.00	0.00	
4,981.6	0.00	0.00	4,940.0	0.0	510.3	1.00	-1.00	0.00	180.00	
10,394.1	0.00	0.00	10,352.5	0.0	510.3	0.00	0.00	0.00	0.00	
11,143.8	89.96	359.87	10,830.0	477.1	509.2	12.00	12.00	-0.02	359.87	
20,950.9	89.96	359.87	10,837.0	10,284.2	487.5	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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	50.00	1,300.0	1.1	1.3	1.2	2.00	2.00	0.00
1,400.0	4.00	50.00	1,399.8	4.5	5.3	4.7	2.00	2.00	0.00
1,500.0	6.00	50.00	1,499.5	10.1	12.0	10.6	2.00	2.00	0.00
1,600.0	8.00	50.00	1,598.7	17.9	21.4	18.9	2.00	2.00	0.00
Start DLS 2.00 TFO 90.83									
1,700.0	8.22	64.13	1,697.7	25.5	33.1	27.1	2.00	0.22	14.13
1,800.0	8.89	76.84	1,796.6	30.4	47.1	32.6	2.00	0.67	12.71
1,906.9	10.00	88.00	1,902.1	32.6	64.4	35.6	2.00	1.04	10.44
Start 911.8 hold at 1906.9 MD									
2,000.0	10.00	88.00	1,993.8	33.2	80.5	36.9	0.00	0.00	0.00
2,100.0	10.00	88.00	2,092.2	33.8	97.9	38.4	0.00	0.00	0.00
2,200.0	10.00	88.00	2,190.7	34.4	115.3	39.8	0.00	0.00	0.00
2,300.0	10.00	88.00	2,289.2	35.0	132.6	41.2	0.00	0.00	0.00
2,400.0	10.00	88.00	2,387.7	35.6	150.0	42.6	0.00	0.00	0.00
2,500.0	10.00	88.00	2,486.2	36.2	167.3	44.1	0.00	0.00	0.00
2,600.0	10.00	88.00	2,584.6	36.8	184.7	45.5	0.00	0.00	0.00
2,700.0	10.00	88.00	2,683.1	37.4	202.0	46.9	0.00	0.00	0.00
2,800.0	10.00	88.00	2,781.6	38.0	219.4	48.3	0.00	0.00	0.00
2,818.7	10.00	88.00	2,800.0	38.1	222.6	48.6	0.00	0.00	0.00
Start DLS 2.00 TFO 92.55									
2,904.0	10.07	97.80	2,884.0	37.4	237.4	48.6	2.00	0.08	11.48
Start 1070.9 hold at 2904.0 MD									
3,000.0	10.07	97.80	2,978.5	35.1	254.0	47.1	0.00	0.00	0.00
3,100.0	10.07	97.80	3,077.0	32.7	271.4	45.5	0.00	0.00	0.00
3,200.0	10.07	97.80	3,175.5	30.3	288.7	44.0	0.00	0.00	0.00
3,300.0	10.07	97.80	3,273.9	28.0	306.0	42.4	0.00	0.00	0.00
3,400.0	10.07	97.80	3,372.4	25.6	323.3	40.9	0.00	0.00	0.00
3,500.0	10.07	97.80	3,470.8	23.2	340.6	39.3	0.00	0.00	0.00
3,600.0	10.07	97.80	3,569.3	20.9	358.0	37.8	0.00	0.00	0.00
3,700.0	10.07	97.80	3,667.8	18.5	375.3	36.2	0.00	0.00	0.00
3,800.0	10.07	97.80	3,766.2	16.1	392.6	34.7	0.00	0.00	0.00
3,900.0	10.07	97.80	3,864.7	13.7	409.9	33.1	0.00	0.00	0.00
3,974.8	10.07	97.80	3,938.4	12.0	422.9	32.0	0.00	0.00	0.00
Start Drop -1.00									
4,000.0	9.82	97.80	3,963.1	11.4	427.2	31.6	1.00	-1.00	0.00
4,100.0	8.82	97.80	4,061.8	9.2	443.2	30.2	1.00	-1.00	0.00
4,200.0	7.82	97.80	4,160.8	7.2	457.6	28.9	1.00	-1.00	0.00
4,300.0	6.82	97.80	4,260.0	5.5	470.2	27.8	1.00	-1.00	0.00
4,400.0	5.82	97.80	4,359.4	4.0	481.1	26.8	1.00	-1.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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)	
4,500.0	4.82	97.80	4,458.9	2.7	490.3	26.0	1.00	-1.00	0.00	
4,600.0	3.82	97.80	4,558.6	1.7	497.7	25.3	1.00	-1.00	0.00	
4,700.0	2.82	97.80	4,658.5	0.9	503.4	24.8	1.00	-1.00	0.00	
4,800.0	1.82	97.80	4,758.4	0.4	507.4	24.4	1.00	-1.00	0.00	
4,900.0	0.82	97.80	4,858.4	0.1	509.7	24.2	1.00	-1.00	0.00	
4,981.6	0.00	0.00	4,940.0	0.0	510.3	24.2	1.00	-1.00	0.00	
Start 5412.5 hold at 4981.6 MD										
5,000.0	0.00	0.00	4,958.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,058.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,158.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,258.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,358.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,458.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,558.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,658.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,758.4	0.0	510.3	24.2	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,858.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,958.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,058.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,158.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,258.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,358.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,458.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,558.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,658.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,758.4	0.0	510.3	24.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,858.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,958.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,058.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,158.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,258.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,358.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,458.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,558.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,658.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,758.4	0.0	510.3	24.2	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,858.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,958.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,058.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,158.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,258.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,358.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,458.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,558.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,658.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,758.4	0.0	510.3	24.2	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,858.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,958.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,058.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,158.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,258.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,358.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,458.4	0.0	510.3	24.2	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,558.4	0.0	510.3	24.2	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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)
9,700.0	0.00	0.00	9,658.4	0.0	510.3	24.2	0.00	0.00	0.00
9,800.0	0.00	0.00	9,758.4	0.0	510.3	24.2	0.00	0.00	0.00
9,900.0	0.00	0.00	9,858.4	0.0	510.3	24.2	0.00	0.00	0.00
10,000.0	0.00	0.00	9,958.4	0.0	510.3	24.2	0.00	0.00	0.00
10,100.0	0.00	0.00	10,058.4	0.0	510.3	24.2	0.00	0.00	0.00
10,200.0	0.00	0.00	10,158.4	0.0	510.3	24.2	0.00	0.00	0.00
10,300.0	0.00	0.00	10,258.4	0.0	510.3	24.2	0.00	0.00	0.00
10,394.1	0.00	0.00	10,352.5	0.0	510.3	24.2	0.00	0.00	0.00
Start DLS 12.00 TFO 359.87									
10,400.0	0.70	359.87	10,358.4	0.0	510.3	24.2	12.00	12.00	0.00
10,425.0	3.70	359.87	10,383.3	1.0	510.3	25.2	12.00	12.00	0.00
10,450.0	6.70	359.87	10,408.2	3.3	510.3	27.4	12.00	12.00	0.00
10,475.0	9.70	359.87	10,433.0	6.8	510.3	31.0	12.00	12.00	0.00
10,500.0	12.70	359.87	10,457.5	11.7	510.3	35.8	12.00	12.00	0.00
10,525.0	15.70	359.87	10,481.7	17.8	510.3	42.0	12.00	12.00	0.00
10,550.0	18.70	359.87	10,505.6	25.2	510.2	49.3	12.00	12.00	0.00
10,575.0	21.70	359.87	10,529.1	33.8	510.2	58.0	12.00	12.00	0.00
10,600.0	24.70	359.87	10,552.0	43.7	510.2	67.8	12.00	12.00	0.00
10,625.0	27.70	359.87	10,574.5	54.7	510.2	78.8	12.00	12.00	0.00
10,650.0	30.70	359.87	10,596.3	66.9	510.2	91.0	12.00	12.00	0.00
10,675.0	33.70	359.87	10,617.4	80.2	510.1	104.3	12.00	12.00	0.00
10,700.0	36.70	359.87	10,637.9	94.7	510.1	118.7	12.00	12.00	0.00
10,725.0	39.70	359.87	10,657.5	110.1	510.1	134.1	12.00	12.00	0.00
10,750.0	42.70	359.87	10,676.3	126.6	510.0	150.6	12.00	12.00	0.00
10,775.0	45.70	359.87	10,694.2	144.0	510.0	168.0	12.00	12.00	0.00
10,800.0	48.70	359.87	10,711.2	162.4	509.9	186.3	12.00	12.00	0.00
10,825.0	51.70	359.87	10,727.2	181.6	509.9	205.5	12.00	12.00	0.00
10,850.0	54.70	359.87	10,742.2	201.6	509.9	225.5	12.00	12.00	0.00
10,875.0	57.70	359.87	10,756.1	222.3	509.8	246.2	12.00	12.00	0.00
10,900.0	60.70	359.87	10,768.9	243.8	509.8	267.7	12.00	12.00	0.00
10,925.0	63.70	359.87	10,780.5	265.9	509.7	289.8	12.00	12.00	0.00
10,950.0	66.70	359.87	10,791.0	288.6	509.7	312.4	12.00	12.00	0.00
10,975.0	69.70	359.87	10,800.3	311.8	509.6	335.6	12.00	12.00	0.00
11,000.0	72.70	359.87	10,808.4	335.5	509.6	359.2	12.00	12.00	0.00
11,025.0	75.70	359.87	10,815.2	359.5	509.5	383.3	12.00	12.00	0.00
11,050.0	78.70	359.87	10,820.7	383.9	509.4	407.6	12.00	12.00	0.00
11,075.0	81.70	359.87	10,825.0	408.6	509.4	432.2	12.00	12.00	0.00
11,100.0	84.70	359.87	10,827.9	433.4	509.3	457.0	12.00	12.00	0.00
11,125.0	87.70	359.87	10,829.6	458.3	509.3	481.9	12.00	12.00	0.00
11,143.8	89.96	359.87	10,830.0	477.1	509.2	500.7	12.00	12.00	0.00
Start 9807.1 hold at 11143.8 MD									
11,200.0	89.96	359.87	10,830.0	533.3	509.1	556.8	0.00	0.00	0.00
11,300.0	89.96	359.87	10,830.1	633.3	508.9	656.7	0.00	0.00	0.00
11,400.0	89.96	359.87	10,830.1	733.3	508.7	756.6	0.00	0.00	0.00
11,500.0	89.96	359.87	10,830.2	833.3	508.5	856.5	0.00	0.00	0.00
11,600.0	89.96	359.87	10,830.3	933.3	508.2	956.3	0.00	0.00	0.00
11,700.0	89.96	359.87	10,830.4	1,033.3	508.0	1,056.2	0.00	0.00	0.00
11,800.0	89.96	359.87	10,830.4	1,133.3	507.8	1,156.1	0.00	0.00	0.00
11,900.0	89.96	359.87	10,830.5	1,233.3	507.6	1,256.0	0.00	0.00	0.00
12,000.0	89.96	359.87	10,830.6	1,333.3	507.3	1,355.8	0.00	0.00	0.00
12,100.0	89.96	359.87	10,830.7	1,433.3	507.1	1,455.7	0.00	0.00	0.00
12,200.0	89.96	359.87	10,830.7	1,533.3	506.9	1,555.6	0.00	0.00	0.00
12,300.0	89.96	359.87	10,830.8	1,633.3	506.7	1,655.5	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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	89.96	359.87	10,830.9	1,733.3	506.5	1,755.4	0.00	0.00	0.00
12,500.0	89.96	359.87	10,830.9	1,833.3	506.2	1,855.2	0.00	0.00	0.00
12,600.0	89.96	359.87	10,831.0	1,933.3	506.0	1,955.1	0.00	0.00	0.00
12,700.0	89.96	359.87	10,831.1	2,033.3	505.8	2,055.0	0.00	0.00	0.00
12,800.0	89.96	359.87	10,831.2	2,133.3	505.6	2,154.9	0.00	0.00	0.00
12,900.0	89.96	359.87	10,831.2	2,233.3	505.4	2,254.7	0.00	0.00	0.00
13,000.0	89.96	359.87	10,831.3	2,333.3	505.1	2,354.6	0.00	0.00	0.00
13,100.0	89.96	359.87	10,831.4	2,433.3	504.9	2,454.5	0.00	0.00	0.00
13,200.0	89.96	359.87	10,831.4	2,533.3	504.7	2,554.4	0.00	0.00	0.00
13,300.0	89.96	359.87	10,831.5	2,633.3	504.5	2,654.2	0.00	0.00	0.00
13,400.0	89.96	359.87	10,831.6	2,733.3	504.2	2,754.1	0.00	0.00	0.00
13,500.0	89.96	359.87	10,831.7	2,833.3	504.0	2,854.0	0.00	0.00	0.00
13,600.0	89.96	359.87	10,831.7	2,933.3	503.8	2,953.9	0.00	0.00	0.00
13,700.0	89.96	359.87	10,831.8	3,033.3	503.6	3,053.8	0.00	0.00	0.00
13,800.0	89.96	359.87	10,831.9	3,133.3	503.4	3,153.6	0.00	0.00	0.00
13,900.0	89.96	359.87	10,831.9	3,233.3	503.1	3,253.5	0.00	0.00	0.00
14,000.0	89.96	359.87	10,832.0	3,333.3	502.9	3,353.4	0.00	0.00	0.00
14,100.0	89.96	359.87	10,832.1	3,433.3	502.7	3,453.3	0.00	0.00	0.00
14,200.0	89.96	359.87	10,832.2	3,533.3	502.5	3,553.1	0.00	0.00	0.00
14,300.0	89.96	359.87	10,832.2	3,633.3	502.3	3,653.0	0.00	0.00	0.00
14,400.0	89.96	359.87	10,832.3	3,733.3	502.0	3,752.9	0.00	0.00	0.00
14,500.0	89.96	359.87	10,832.4	3,833.3	501.8	3,852.8	0.00	0.00	0.00
14,600.0	89.96	359.87	10,832.4	3,933.3	501.6	3,952.6	0.00	0.00	0.00
14,700.0	89.96	359.87	10,832.5	4,033.3	501.4	4,052.5	0.00	0.00	0.00
14,800.0	89.96	359.87	10,832.6	4,133.3	501.1	4,152.4	0.00	0.00	0.00
14,900.0	89.96	359.87	10,832.7	4,233.3	500.9	4,252.3	0.00	0.00	0.00
15,000.0	89.96	359.87	10,832.7	4,333.3	500.7	4,352.2	0.00	0.00	0.00
15,100.0	89.96	359.87	10,832.8	4,433.3	500.5	4,452.0	0.00	0.00	0.00
15,200.0	89.96	359.87	10,832.9	4,533.3	500.3	4,551.9	0.00	0.00	0.00
15,300.0	89.96	359.87	10,832.9	4,633.3	500.0	4,651.8	0.00	0.00	0.00
15,400.0	89.96	359.87	10,833.0	4,733.3	499.8	4,751.7	0.00	0.00	0.00
15,500.0	89.96	359.87	10,833.1	4,833.3	499.6	4,851.5	0.00	0.00	0.00
15,600.0	89.96	359.87	10,833.2	4,933.3	499.4	4,951.4	0.00	0.00	0.00
15,700.0	89.96	359.87	10,833.2	5,033.3	499.2	5,051.3	0.00	0.00	0.00
15,800.0	89.96	359.87	10,833.3	5,133.3	498.9	5,151.2	0.00	0.00	0.00
15,900.0	89.96	359.87	10,833.4	5,233.3	498.7	5,251.0	0.00	0.00	0.00
16,000.0	89.96	359.87	10,833.4	5,333.3	498.5	5,350.9	0.00	0.00	0.00
16,100.0	89.96	359.87	10,833.5	5,433.3	498.3	5,450.8	0.00	0.00	0.00
16,200.0	89.96	359.87	10,833.6	5,533.3	498.0	5,550.7	0.00	0.00	0.00
16,300.0	89.96	359.87	10,833.7	5,633.3	497.8	5,650.6	0.00	0.00	0.00
16,400.0	89.96	359.87	10,833.7	5,733.3	497.6	5,750.4	0.00	0.00	0.00
16,500.0	89.96	359.87	10,833.8	5,833.3	497.4	5,850.3	0.00	0.00	0.00
16,600.0	89.96	359.87	10,833.9	5,933.3	497.2	5,950.2	0.00	0.00	0.00
16,700.0	89.96	359.87	10,834.0	6,033.3	496.9	6,050.1	0.00	0.00	0.00
16,800.0	89.96	359.87	10,834.0	6,133.3	496.7	6,149.9	0.00	0.00	0.00
16,900.0	89.96	359.87	10,834.1	6,233.3	496.5	6,249.8	0.00	0.00	0.00
17,000.0	89.96	359.87	10,834.2	6,333.3	496.3	6,349.7	0.00	0.00	0.00
17,100.0	89.96	359.87	10,834.2	6,433.3	496.0	6,449.6	0.00	0.00	0.00
17,200.0	89.96	359.87	10,834.3	6,533.3	495.8	6,549.4	0.00	0.00	0.00
17,300.0	89.96	359.87	10,834.4	6,633.3	495.6	6,649.3	0.00	0.00	0.00
17,400.0	89.96	359.87	10,834.5	6,733.3	495.4	6,749.2	0.00	0.00	0.00
17,500.0	89.96	359.87	10,834.5	6,833.3	495.2	6,849.1	0.00	0.00	0.00
17,600.0	89.96	359.87	10,834.6	6,933.3	494.9	6,949.0	0.00	0.00	0.00
17,700.0	89.96	359.87	10,834.7	7,033.3	494.7	7,048.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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	89.96	359.87	10,834.7	7,133.3	494.5	7,148.7	0.00	0.00	0.00
17,900.0	89.96	359.87	10,834.8	7,233.3	494.3	7,248.6	0.00	0.00	0.00
18,000.0	89.96	359.87	10,834.9	7,333.3	494.1	7,348.5	0.00	0.00	0.00
18,100.0	89.96	359.87	10,835.0	7,433.3	493.8	7,448.3	0.00	0.00	0.00
18,200.0	89.96	359.87	10,835.0	7,533.3	493.6	7,548.2	0.00	0.00	0.00
18,300.0	89.96	359.87	10,835.1	7,633.3	493.4	7,648.1	0.00	0.00	0.00
18,400.0	89.96	359.87	10,835.2	7,733.3	493.2	7,748.0	0.00	0.00	0.00
18,500.0	89.96	359.87	10,835.2	7,833.3	492.9	7,847.9	0.00	0.00	0.00
18,600.0	89.96	359.87	10,835.3	7,933.3	492.7	7,947.7	0.00	0.00	0.00
18,700.0	89.96	359.87	10,835.4	8,033.3	492.5	8,047.6	0.00	0.00	0.00
18,800.0	89.96	359.87	10,835.5	8,133.3	492.3	8,147.5	0.00	0.00	0.00
18,900.0	89.96	359.87	10,835.5	8,233.3	492.1	8,247.4	0.00	0.00	0.00
19,000.0	89.96	359.87	10,835.6	8,333.3	491.8	8,347.2	0.00	0.00	0.00
19,100.0	89.96	359.87	10,835.7	8,433.3	491.6	8,447.1	0.00	0.00	0.00
19,200.0	89.96	359.87	10,835.7	8,533.3	491.4	8,547.0	0.00	0.00	0.00
19,300.0	89.96	359.87	10,835.8	8,633.3	491.2	8,646.9	0.00	0.00	0.00
19,400.0	89.96	359.87	10,835.9	8,733.3	491.0	8,746.7	0.00	0.00	0.00
19,500.0	89.96	359.87	10,836.0	8,833.3	490.7	8,846.6	0.00	0.00	0.00
19,600.0	89.96	359.87	10,836.0	8,933.3	490.5	8,946.5	0.00	0.00	0.00
19,700.0	89.96	359.87	10,836.1	9,033.3	490.3	9,046.4	0.00	0.00	0.00
19,800.0	89.96	359.87	10,836.2	9,133.3	490.1	9,146.3	0.00	0.00	0.00
19,900.0	89.96	359.87	10,836.2	9,233.3	489.8	9,246.1	0.00	0.00	0.00
20,000.0	89.96	359.87	10,836.3	9,333.3	489.6	9,346.0	0.00	0.00	0.00
20,100.0	89.96	359.87	10,836.4	9,433.3	489.4	9,445.9	0.00	0.00	0.00
20,200.0	89.96	359.87	10,836.5	9,533.3	489.2	9,545.8	0.00	0.00	0.00
20,300.0	89.96	359.87	10,836.5	9,633.3	489.0	9,645.6	0.00	0.00	0.00
20,400.0	89.96	359.87	10,836.6	9,733.3	488.7	9,745.5	0.00	0.00	0.00
20,500.0	89.96	359.87	10,836.7	9,833.3	488.5	9,845.4	0.00	0.00	0.00
20,600.0	89.96	359.87	10,836.7	9,933.3	488.3	9,945.3	0.00	0.00	0.00
20,700.0	89.96	359.87	10,836.8	10,033.3	488.1	10,045.1	0.00	0.00	0.00
20,800.0	89.96	359.87	10,836.9	10,133.3	487.9	10,145.0	0.00	0.00	0.00
20,900.0	89.96	359.87	10,837.0	10,233.3	487.6	10,244.9	0.00	0.00	0.00
20,950.9	89.96	359.87	10,837.0	10,284.2	487.5	10,295.7	0.00	0.00	0.00
TD at 20950.9									

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Design Targets										
Target Name										
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
812H_TNGNT LMTR1_¿	10.00	268.00	2,800.0	38.1	222.6	382,089.24	595,161.35	32° 3' 0.382 N	104° 1' 34.282 W	
- plan hits target center										
- Rectangle (sides W30.0 H50.0 D897.9)										
812H_TNGNT LMTR2_¿	10.07	277.80	3,938.4	12.0	422.9	382,063.14	595,361.65	32° 3' 0.118 N	104° 1' 31.956 W	
- plan hits target center										
- Rectangle (sides W40.0 H50.0 D1,054.4)										
812H_KOP BOX_ 50' N8	0.00	179.87	10,352.5	0.0	510.3	382,051.14	595,449.05	32° 2' 59.997 N	104° 1' 30.941 W	
- plan hits target center										
- Rectangle (sides W100.0 H100.0 D5,412.5)										
PP2_RICK VAUGHN FE	0.00	0.00	10,830.0	5,192.5	492.7	387,243.68	595,431.49	32° 3' 51.386 N	104° 1' 30.972 W	
- plan misses target center by 6.9usft at 15859.2usft MD (10833.3 TVD, 5192.6 N, 498.8 E)										
- Circle (radius 50.0)										
PP4_RICK VAUGHN FE	0.00	0.00	10,830.0	7,826.2	490.0	389,877.36	595,428.72	32° 4' 17.450 N	104° 1' 30.917 W	
- plan misses target center by 6.0usft at 18492.9usft MD (10835.2 TVD, 7826.2 N, 493.0 E)										
- Circle (radius 50.0)										
PP3_RICK VAUGHN FE	0.00	0.00	10,830.0	6,507.4	491.4	388,558.53	595,430.11	32° 4' 4.398 N	104° 1' 30.945 W	
- plan misses target center by 6.2usft at 17174.1usft MD (10834.3 TVD, 6507.4 N, 495.9 E)										
- Circle (radius 50.0)										
FTP/PP1_RICK VAUGH	0.00	0.00	10,830.0	241.8	510.0	382,292.90	595,448.73	32° 3' 2.390 N	104° 1' 30.936 W	
- plan misses target center by 55.0usft at 10925.0usft MD (10780.5 TVD, 265.9 N, 509.7 E)										
- Circle (radius 50.0)										
LTP_RICK VAUGHN FE	90.00	359.87	10,837.0	10,154.2	487.5	392,205.31	595,426.26	32° 4' 40.488 N	104° 1' 30.869 W	
- plan misses target center by 0.3usft at 20820.9usft MD (10836.9 TVD, 10154.2 N, 487.8 E)										
- Circle (radius 50.0)										
PBHL_RICK VAUGHN F	-0.04	179.87	10,837.0	10,284.2	487.5	392,335.31	595,426.27	32° 4' 41.775 N	104° 1' 30.864 W	
- plan hits target center										
- Rectangle (sides W100.0 H10,042.0 D20.0)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
20,950.9	10,837.0	5-1/2" Production Casing	5-1/2	6	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
1,200.0	1,200.0	0.0	0.0	Start Build 2.00	
1,600.0	1,598.7	17.9	21.4	Start DLS 2.00 TFO 90.83	
1,906.9	1,902.1	32.6	64.4	Start 911.8 hold at 1906.9 MD	
2,818.7	2,800.0	38.1	222.6	Start DLS 2.00 TFO 92.55	
2,904.0	2,884.0	37.4	237.4	Start 1070.9 hold at 2904.0 MD	
3,974.8	3,938.4	12.0	422.9	Start Drop -1.00	
4,981.6	4,940.0	0.0	510.3	Start 5412.5 hold at 4981.6 MD	
10,394.1	10,352.5	0.0	510.3	Start DLS 12.00 TFO 359.87	
11,143.8	10,830.0	477.1	509.2	Start 9807.1 hold at 11143.8 MD	
20,950.9	10,837.0	10,284.2	487.5	TD at 20950.9	

DELAWARE BASIN WEST

ATLAS PROSPECT_NME

RICK VAUGHN FED COM PROJECT

RICK VAUGHN FED COM 812H

OWB

PWP1

Anticollision Report

12 August, 2025

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

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

Survey Tool Program		Date	8/12/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	1,000.0	PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT	SDI Keeper Wireline Gyrocomp.-Initilzd Cor	
1,000.0	10,409.2	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG + FDIR Corr. I	
10,409.2	20,950.0	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG + FDIR Corr. I	

Summary						
	Reference	Offset	Distance			
Site Name	Measured	Measured	Between	Between	Separation	Warning
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
	(usft)	(usft)	(usft)	(usft)		
PUDGE FED COM PROJECT						
PUDGE FEDERAL COM 904H - OWB - PWP1	20,893.7	11,047.3	994.8	843.2	6.564 CC	
PUDGE FEDERAL COM 904H - OWB - PWP1	20,950.9	10,996.5	995.0	842.8	6.537 ES, SF	
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	0.0	0.0	301.2			
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	100.0	88.4	301.6	300.0	188.971 ES	
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	1,700.0	1,643.7	375.7	364.2	32.726 SF	
RICK VAUGHN FED COM PROJECT						
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	0.0	0.0	301.2			
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	100.0	88.4	301.6	300.0	188.973 ES	
RICK VAUGHN 7 WA FED COM 014H - OWB - AWP	1,700.0	1,643.7	375.7	364.2	32.727 SF	
RICK VAUGHN 7 WA FED COM 1H - OWB - AWP	3,429.8	3,454.0	75.8	55.9	3.799 CC	
RICK VAUGHN 7 WA FED COM 1H - OWB - AWP	3,500.0	3,524.0	76.0	55.8	3.768 ES	
RICK VAUGHN 7 WA FED COM 1H - OWB - AWP	3,600.0	3,623.7	76.8	56.4	3.758 SF	
RICK VAUGHN 7 WA FED COM 6H - OWB - AWP	2,659.9	2,687.6	206.8	193.2	15.148 CC, ES	
RICK VAUGHN 7 WA FED COM 6H - OWB - AWP	20,950.9	19,959.5	915.2	759.6	5.880 SF	
RICK VAUGHN 7 WA FED COM 9H - OWB - AWP	1,122.2	1,113.2	273.5	264.9	31.882 CC, ES	
RICK VAUGHN 7 WA FED COM 9H - OWB - AWP	1,600.0	1,567.9	305.0	294.7	29.632 SF	
RICK VAUGHN FED COM 501H - OWB - PWP1	1,200.0	1,200.0	74.9	68.1	11.090 CC, ES	
RICK VAUGHN FED COM 501H - OWB - PWP1	1,300.0	1,297.4	77.9	70.5	10.513 SF	
RICK VAUGHN FED COM 503H - OWB - PWP1	1,200.0	1,200.0	25.1	18.3	3.710 CC	
RICK VAUGHN FED COM 503H - OWB - PWP1	1,300.0	1,299.2	25.3	17.9	3.427 ES	
RICK VAUGHN FED COM 503H - OWB - PWP1	1,400.0	1,398.2	26.9	18.9	3.379 SF	
RICK VAUGHN FED COM 810H - OWB - PWP1	1,200.0	1,200.0	25.0	18.5	3.835 CC, ES, SF	
RICK VAUGHN FED COM 811H - OWB - PWP1	1,200.0	1,200.0	49.9	43.2	7.393 CC, ES	
RICK VAUGHN FED COM 811H - OWB - PWP1	1,300.0	1,298.5	52.7	45.3	7.144 SF	
WILD THING FED COM PROJECT						
_WILD THING FED COM 906H - OWB - PWP0	20,950.9	10,562.0	650.1	562.9	7.455 CC, ES, SF	
_WILD THING FED COM 907H - OWB - PWP0	20,950.9	10,650.0	448.9	380.4	6.552 CC, ES, SF	
_WILD THING FED COM 908H - OWB - PWP0	20,950.9	10,600.0	817.7	720.4	8.401 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 812H
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 812H	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 - PUDGE FEDERAL COM 904H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program: Reference		0-r.5 MWD+IFR1, 10451-r.5 MWD+IFR1+SAG+FDIR						Rule Assigned: Distance					Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
19,600.0	10,836.0	12,339.8	10,849.7	77.9	26.8	90.79	8,939.4	1,490.2	999.8	863.8	136.00	7.352		
19,700.0	10,836.1	12,239.8	10,849.8	78.7	26.4	90.78	9,039.4	1,489.6	999.4	862.4	137.08	7.291		
19,800.0	10,836.2	12,139.8	10,849.8	79.6	26.0	90.78	9,139.4	1,489.0	999.0	860.9	138.18	7.230		
19,900.0	10,836.2	12,039.8	10,849.8	80.4	25.6	90.78	9,239.4	1,488.4	998.7	859.4	139.30	7.169		
20,000.0	10,836.3	11,939.8	10,849.8	81.3	25.3	90.77	9,339.4	1,487.8	998.3	857.8	140.44	7.108		
20,100.0	10,836.4	11,839.8	10,849.8	82.1	25.0	90.77	9,439.4	1,487.2	997.9	856.3	141.60	7.047		
20,200.0	10,836.5	11,739.8	10,849.9	83.0	24.7	90.77	9,539.4	1,486.6	997.5	854.7	142.78	6.986		
20,300.0	10,836.5	11,639.8	10,849.9	83.8	24.4	90.77	9,639.4	1,485.9	997.1	853.1	143.98	6.925		
20,400.0	10,836.6	11,539.8	10,849.9	84.6	24.2	90.76	9,739.4	1,485.3	996.7	851.5	145.19	6.865		
20,500.0	10,836.7	11,439.8	10,849.9	85.5	24.0	90.76	9,839.4	1,484.7	996.3	849.9	146.43	6.804		
20,600.0	10,836.7	11,339.8	10,849.9	86.3	23.8	90.76	9,939.4	1,484.1	995.9	848.2	147.68	6.744		
20,700.0	10,836.8	11,239.8	10,850.0	87.2	23.7	90.76	10,039.4	1,483.5	995.5	846.6	148.95	6.683		
20,800.0	10,836.9	11,138.4	10,845.8	88.0	23.5	90.51	10,140.6	1,482.9	995.1	844.8	150.24	6.623		
20,893.7	10,837.0	11,047.3	10,825.3	88.8	23.4	89.33	10,229.2	1,482.3	994.8	843.2	151.54	6.564 CC		
20,900.0	10,837.0	11,041.5	10,823.5	88.9	23.4	89.22	10,234.7	1,482.3	994.8	843.1	151.63	6.560		
20,950.9	10,837.0	10,996.5	10,806.7	89.2	23.4	88.26	10,276.4	1,482.0	995.0	842.8	152.21	6.537 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 812H
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 812H	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		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	8.0	0.0	0.0	-52.81	182.0	-239.9	301.2				
100.0	100.0	88.4	96.4	0.5	0.6	-52.84	182.2	-240.4	301.6	300.0	1.60	188.971 ES	
200.0	200.0	185.7	193.7	1.0	1.2	-52.90	183.0	-241.9	303.4	300.7	2.70	112.333	
300.0	300.0	286.0	294.0	1.4	1.7	-52.80	184.7	-243.3	305.5	302.0	3.55	86.174	
400.0	400.0	386.3	394.2	1.6	2.3	-52.63	186.5	-244.2	307.4	303.0	4.34	70.784	
500.0	500.0	485.6	493.5	1.9	2.7	-52.48	188.3	-245.3	309.3	304.3	5.01	61.747	
600.0	600.0	583.9	591.8	2.1	3.0	-52.31	190.5	-246.6	311.7	306.1	5.55	56.154	
700.0	700.0	682.3	690.1	2.3	3.4	-52.12	193.0	-248.2	314.6	308.5	6.07	51.785	
800.0	800.0	781.3	789.1	2.5	3.7	-51.89	196.1	-250.0	317.9	311.3	6.57	48.350	
900.0	900.0	880.3	888.0	2.7	4.0	-51.66	199.3	-252.0	321.5	314.5	7.08	45.424	
1,000.0	1,000.0	986.0	993.6	2.9	4.3	-51.66	201.1	-254.3	324.3	316.7	7.59	42.720	
1,100.0	1,100.0	1,086.4	1,094.0	3.2	4.6	-51.93	201.0	-256.6	326.0	317.9	8.12	40.163	
1,200.0	1,200.0	1,184.6	1,192.2	3.4	4.8	-52.24	200.9	-259.4	328.2	319.6	8.60	38.152	
1,300.0	1,300.0	1,284.1	1,291.6	3.7	5.1	-102.78	201.1	-262.4	331.1	322.0	9.10	36.375	
1,400.0	1,399.8	1,379.0	1,386.4	4.0	5.4	-103.91	200.9	-265.9	335.2	325.6	9.62	34.835	
1,500.0	1,499.5	1,466.1	1,473.4	4.3	5.8	-105.75	200.0	-272.5	343.0	332.8	10.20	33.623	
1,600.0	1,598.7	1,550.9	1,557.4	4.6	6.2	-108.21	198.8	-283.0	356.5	345.6	10.81	32.969	
1,700.0	1,697.7	1,643.7	1,649.1	4.8	6.6	-125.67	196.5	-297.9	375.7	364.2	11.48	32.726 SF	
1,800.0	1,796.6	1,748.7	1,752.5	5.0	7.0	-142.00	190.5	-314.3	397.7	385.6	12.13	32.796	
1,900.0	1,895.3	1,839.5	1,842.1	5.3	7.3	-155.35	184.0	-328.0	422.8	410.2	12.66	33.397	
1,906.9	1,902.1	1,845.0	1,847.5	5.3	7.3	-156.15	183.6	-328.9	424.8	412.1	12.70	33.458	
2,000.0	1,993.8	1,920.4	1,921.4	5.4	7.6	-158.16	178.3	-342.4	453.0	439.8	13.14	34.470	
2,100.0	2,092.2	2,008.5	2,007.6	5.6	7.9	-160.25	172.6	-359.8	485.8	472.1	13.67	35.548	
2,200.0	2,190.7	2,106.2	2,103.3	5.8	8.3	-162.30	166.1	-378.6	518.5	504.2	14.27	36.330	
2,300.0	2,289.2	2,185.7	2,180.9	5.9	8.6	-163.75	161.1	-394.7	552.9	538.1	14.78	37.411	
2,400.0	2,387.7	2,268.3	2,261.4	6.1	8.9	-165.09	156.6	-413.0	589.5	574.2	15.31	38.494	
2,500.0	2,486.2	2,369.8	2,360.1	6.3	9.4	-166.57	150.7	-435.7	626.6	610.6	16.01	39.142	
2,600.0	2,584.6	2,448.5	2,436.6	6.5	9.7	-167.61	146.1	-453.4	664.1	647.5	16.54	40.146	
2,700.0	2,683.1	2,530.3	2,516.0	6.6	10.0	-168.54	142.0	-473.2	703.4	686.3	17.11	41.109	
2,800.0	2,781.6	2,622.2	2,604.9	6.8	10.4	-169.46	137.8	-496.0	743.6	725.8	17.78	41.832	
2,818.7	2,800.0	2,640.4	2,622.5	6.8	10.5	-169.63	137.0	-500.5	751.1	733.2	17.90	41.960	
2,900.0	2,880.1	2,719.5	2,699.1	7.0	10.9	179.87	133.2	-519.5	783.4	765.0	18.45	42.462	
2,904.0	2,884.0	2,723.3	2,702.9	7.0	10.9	179.36	133.1	-520.4	785.0	766.6	18.48	42.487	
3,000.0	2,978.5	2,813.1	2,790.0	7.2	11.3	178.84	128.6	-541.6	823.0	803.9	19.12	43.039	
3,100.0	3,077.0	2,904.6	2,878.8	7.3	11.7	178.35	123.9	-563.2	862.6	842.8	19.79	43.594	
3,200.0	3,175.5	2,994.6	2,966.1	7.5	12.1	177.91	119.4	-584.5	902.3	881.9	20.45	44.117	
3,300.0	3,273.9	3,082.2	3,051.1	7.7	12.5	177.57	115.9	-605.4	942.4	921.2	21.11	44.642	
3,400.0	3,372.4	3,173.3	3,139.5	7.9	12.9	177.30	113.0	-627.4	982.8	961.0	21.80	45.087	

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 812H
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 812H	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			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	8.0	0.0	0.0	-52.81	182.0	-239.9	301.2				
100.0	100.0	88.4	96.4	0.5	0.6	-52.84	182.2	-240.4	301.6	300.0	1.60	188.973 ES	
200.0	200.0	185.7	193.7	1.0	1.2	-52.90	182.9	-241.9	303.4	300.7	2.70	112.334	
300.0	300.0	286.0	294.0	1.4	1.7	-52.80	184.7	-243.3	305.5	302.0	3.55	86.174	
400.0	400.0	386.3	394.2	1.6	2.3	-52.64	186.5	-244.3	307.4	303.0	4.34	70.785	
500.0	500.0	485.6	493.5	1.9	2.7	-52.49	188.3	-245.3	309.3	304.3	5.01	61.748	
600.0	600.0	583.9	591.8	2.1	3.0	-52.32	190.5	-246.6	311.7	306.1	5.55	56.154	
700.0	700.0	682.3	690.1	2.3	3.4	-52.13	193.0	-248.2	314.6	308.5	6.07	51.786	
800.0	800.0	781.3	789.1	2.5	3.7	-51.90	196.0	-250.0	317.9	311.3	6.57	48.351	
900.0	900.0	880.3	888.0	2.7	4.0	-51.67	199.3	-252.0	321.5	314.5	7.08	45.424	
1,000.0	1,000.0	986.0	993.6	2.9	4.3	-51.66	201.1	-254.3	324.3	316.7	7.59	42.720	
1,100.0	1,100.0	1,086.4	1,094.0	3.2	4.6	-51.94	201.0	-256.7	326.0	317.9	8.12	40.164	
1,200.0	1,200.0	1,184.6	1,192.2	3.4	4.8	-52.24	200.9	-259.4	328.2	319.6	8.60	38.152	
1,300.0	1,300.0	1,284.1	1,291.6	3.7	5.1	-102.78	201.0	-262.4	331.1	322.0	9.10	36.375	
1,400.0	1,399.8	1,379.0	1,386.4	4.0	5.4	-103.91	200.9	-266.0	335.2	325.6	9.62	34.835	
1,500.0	1,499.5	1,466.1	1,473.4	4.3	5.8	-105.75	200.0	-272.5	343.1	332.8	10.20	33.624	
1,600.0	1,598.7	1,550.9	1,557.4	4.6	6.2	-108.22	198.8	-283.0	356.5	345.7	10.81	32.969	
1,700.0	1,697.7	1,643.7	1,649.1	4.8	6.6	-125.67	196.4	-297.9	375.7	364.2	11.48	32.727 SF	
1,800.0	1,796.6	1,748.7	1,752.5	5.0	7.0	-142.00	190.5	-314.3	397.7	385.6	12.13	32.797	
1,900.0	1,895.3	1,839.5	1,842.1	5.3	7.3	-155.35	184.0	-328.0	422.8	410.2	12.66	33.397	
1,906.9	1,902.1	1,845.0	1,847.5	5.3	7.3	-156.16	183.6	-328.9	424.8	412.1	12.70	33.459	
2,000.0	1,993.8	1,920.4	1,921.4	5.4	7.6	-158.16	178.3	-342.4	453.0	439.8	13.14	34.471	
2,100.0	2,092.2	2,008.5	2,007.6	5.6	7.9	-160.26	172.6	-359.9	485.8	472.1	13.67	35.549	
2,200.0	2,190.7	2,106.2	2,103.3	5.8	8.3	-162.30	166.0	-378.6	518.5	504.3	14.27	36.330	
2,300.0	2,289.2	2,185.7	2,180.9	5.9	8.6	-163.75	161.1	-394.7	552.9	538.1	14.78	37.412	
2,400.0	2,387.7	2,268.3	2,261.4	6.1	8.9	-165.09	156.6	-413.0	589.5	574.2	15.31	38.495	
2,500.0	2,486.2	2,369.8	2,360.1	6.3	9.4	-166.58	150.7	-435.7	626.6	610.6	16.01	39.142	
2,600.0	2,584.6	2,448.4	2,436.6	6.5	9.7	-167.61	146.1	-453.4	664.1	647.6	16.54	40.147	
2,700.0	2,683.1	2,530.3	2,516.0	6.6	10.0	-168.55	141.9	-473.2	703.4	686.3	17.11	41.110	
2,800.0	2,781.6	2,622.2	2,604.9	6.8	10.4	-169.46	137.8	-496.0	743.6	725.8	17.78	41.833	
2,818.7	2,800.0	2,640.4	2,622.5	6.8	10.5	-169.63	136.9	-500.5	751.1	733.2	17.90	41.961	
2,900.0	2,880.1	2,719.4	2,699.1	7.0	10.9	179.87	133.2	-519.5	783.5	765.0	18.45	42.463	
2,904.0	2,884.0	2,723.3	2,702.9	7.0	10.9	179.36	133.0	-520.4	785.0	766.6	18.48	42.487	
3,000.0	2,978.5	2,813.1	2,790.0	7.2	11.3	178.84	128.6	-541.7	823.1	803.9	19.12	43.040	
3,100.0	3,077.0	2,904.6	2,878.8	7.3	11.7	178.34	123.9	-563.2	862.6	842.9	19.79	43.595	
3,200.0	3,175.5	2,994.6	2,966.1	7.5	12.1	177.91	119.4	-584.5	902.4	881.9	20.45	44.118	
3,300.0	3,273.9	3,082.2	3,051.1	7.7	12.5	177.57	115.9	-605.4	942.4	921.3	21.11	44.642	
3,400.0	3,372.4	3,173.3	3,139.5	7.9	12.9	177.30	112.9	-627.4	982.8	961.0	21.80	45.088	

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	0.0	10.0	0.0	0.0	-39.45	182.0	-149.8	236.0				
100.0	100.0	90.1	100.1	0.5	0.7	-39.44	182.1	-149.7	235.7	234.0	1.70	138.803	
200.0	200.0	191.0	201.0	1.0	1.4	-39.38	182.1	-149.5	235.6	232.7	2.85	82.576	
300.0	300.0	290.5	300.5	1.4	1.8	-39.32	181.8	-148.9	235.0	231.5	3.55	66.165	
317.4	317.4	307.4	317.4	1.4	1.8	-39.32	181.8	-148.9	235.0	231.3	3.65	64.376	
400.0	400.0	388.9	398.9	1.6	2.1	-39.28	182.1	-148.9	235.2	231.1	4.15	56.740	
500.0	500.0	488.7	498.7	1.9	2.4	-39.22	182.7	-149.1	235.8	231.1	4.68	50.396	
600.0	600.0	588.1	598.1	2.1	2.7	-39.29	183.0	-149.7	236.4	231.3	5.15	45.904	
700.0	700.0	688.0	698.0	2.3	2.9	-39.50	183.1	-150.9	237.3	231.7	5.59	42.456	
800.0	800.0	787.0	797.0	2.5	3.1	-39.78	183.2	-152.5	238.4	232.4	6.00	39.708	
900.0	900.0	887.2	897.1	2.7	3.3	-40.17	183.0	-154.5	239.5	233.1	6.40	37.413	
1,000.0	1,000.0	985.5	995.4	2.9	3.6	-40.55	183.1	-156.7	241.1	234.3	6.79	35.487	
1,100.0	1,100.0	1,084.5	1,094.4	3.2	3.8	-40.91	183.8	-159.2	243.2	235.9	7.30	33.339	
1,200.0	1,200.0	1,187.4	1,197.3	3.4	4.1	-41.27	184.3	-161.8	245.3	237.5	7.77	31.566	
1,300.0	1,300.0	1,305.0	1,314.8	3.7	8.2	-91.46	183.7	-159.3	243.6	233.0	10.66	22.850	
1,400.0	1,399.8	1,416.0	1,425.2	4.0	9.0	-91.25	181.3	-147.4	235.0	223.7	11.34	20.735	
1,500.0	1,499.5	1,515.3	1,523.6	4.3	9.1	-91.61	178.7	-134.4	224.6	213.1	11.53	19.485	
1,600.0	1,598.7	1,621.1	1,628.0	4.6	9.2	-92.65	175.5	-118.4	212.7	200.9	11.74	18.110	
1,700.0	1,697.7	1,726.3	1,731.1	4.8	9.3	-106.94	172.7	-97.7	199.8	187.7	12.10	16.510	
1,800.0	1,796.6	1,829.9	1,831.9	5.0	9.4	-119.27	168.7	-74.1	187.2	174.8	12.46	15.026	
1,900.0	1,895.3	1,928.5	1,927.8	5.3	9.5	-129.28	164.5	-51.2	177.6	164.8	12.84	13.827	
1,906.9	1,902.1	1,935.3	1,934.3	5.3	9.6	-129.88	164.2	-49.6	177.1	164.2	12.87	13.758	
2,000.0	1,993.8	2,027.2	2,023.8	5.4	9.7	-129.44	161.0	-28.6	170.7	157.5	13.20	12.930	
2,100.0	2,092.2	2,127.1	2,121.0	5.6	9.9	-128.80	157.8	-5.6	164.0	150.4	13.60	12.062	
2,200.0	2,190.7	2,226.5	2,217.5	5.8	10.0	-128.07	154.6	17.4	157.3	143.3	14.02	11.218	
2,300.0	2,289.2	2,328.8	2,317.0	5.9	10.2	-127.37	151.1	41.0	150.5	136.0	14.47	10.397	
2,400.0	2,387.7	2,433.4	2,418.0	6.1	10.5	-126.08	145.7	67.8	140.7	125.7	14.99	9.387	
2,500.0	2,486.2	2,533.2	2,513.7	6.3	10.7	-124.31	139.3	95.4	128.7	113.2	15.54	8.283	
2,600.0	2,584.6	2,631.1	2,607.8	6.5	11.0	-122.52	133.1	121.6	117.4	101.3	16.08	7.298	
2,700.0	2,683.1	2,729.4	2,702.7	6.6	11.2	-120.95	127.2	146.5	107.3	90.7	16.62	6.459	
2,800.0	2,781.6	2,828.3	2,798.4	6.8	11.5	-119.09	121.8	171.1	98.2	81.0	17.15	5.725	
2,818.7	2,800.0	2,846.9	2,816.3	6.8	11.5	-118.59	121.0	175.9	96.5	79.3	17.24	5.599	
2,900.0	2,880.1	2,927.8	2,894.4	7.0	11.8	-124.71	117.5	196.9	90.5	72.8	17.71	5.109	
2,904.0	2,884.0	2,931.8	2,898.2	7.0	11.8	-124.97	117.3	198.0	90.3	72.5	17.74	5.089	
3,000.0	2,978.5	3,027.1	2,990.1	7.2	12.1	-120.34	113.5	222.8	85.2	66.9	18.27	4.660	
3,100.0	3,077.0	3,126.2	3,085.8	7.3	12.4	-115.02	109.8	248.4	80.9	62.2	18.77	4.311	
3,200.0	3,175.5	3,225.4	3,181.7	7.5	12.7	-109.51	106.6	273.5	78.0	58.8	19.20	4.064	
3,300.0	3,273.9	3,324.7	3,277.9	7.7	13.0	-104.22	103.9	297.9	76.5	56.9	19.56	3.908	
3,400.0	3,372.4	3,424.3	3,374.6	7.9	13.3	-99.12	101.4	321.8	75.9	56.0	19.88	3.817	
3,429.8	3,401.7	3,454.0	3,403.4	7.9	13.4	-97.66	100.7	328.8	75.8	55.9	19.96	3.799 CC	
3,500.0	3,470.8	3,524.0	3,471.5	8.1	13.6	-94.33	99.1	345.3	76.0	55.8	20.17	3.768 ES	
3,600.0	3,569.3	3,623.7	3,568.2	8.3	13.9	-89.27	96.8	369.2	76.8	56.4	20.43	3.758 SF	
3,700.0	3,667.8	3,723.1	3,664.5	8.5	14.2	-83.74	94.7	393.9	78.5	57.8	20.68	3.796	
3,800.0	3,766.2	3,822.5	3,760.5	8.6	14.6	-77.72	92.6	419.8	81.4	60.5	20.92	3.891	
3,900.0	3,864.7	3,921.9	3,856.1	8.8	15.0	-71.41	90.3	446.7	85.4	64.2	21.17	4.031	
3,974.8	3,938.4	3,996.5	3,927.8	9.0	15.2	-67.03	88.6	467.1	89.1	67.7	21.37	4.169	
4,000.0	3,963.1	4,021.6	3,952.0	9.0	15.3	-65.54	87.9	474.0	90.4	69.0	21.41	4.221	
4,100.0	4,061.8	4,121.8	4,048.2	9.2	15.7	-59.20	84.5	501.7	96.3	74.6	21.67	4.442	
4,200.0	4,160.8	4,221.7	4,144.3	9.4	16.1	-52.93	80.4	528.5	103.3	81.3	21.94	4.707	
4,300.0	4,260.0	4,321.3	4,240.5	9.6	16.5	-47.33	76.7	554.3	111.9	89.7	22.18	5.047	
4,400.0	4,359.4	4,421.5	4,337.3	9.7	16.9	-41.99	72.4	579.6	122.0	99.6	22.36	5.455	

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
4,500.0	4,458.9	4,521.2	4,433.7	9.9	17.3	-36.52	66.6	604.6	133.4	110.9	22.50	5.927	
4,600.0	4,558.6	4,620.2	4,529.4	10.1	17.6	-31.49	60.3	629.0	146.7	124.3	22.38	6.553	
4,700.0	4,658.5	4,718.9	4,625.0	10.3	18.0	-27.20	54.2	652.8	162.1	140.1	21.98	7.372	
4,800.0	4,758.4	4,818.5	4,721.7	10.4	18.4	-23.54	48.4	676.0	179.1	157.8	21.27	8.420	
4,900.0	4,858.4	4,918.1	4,818.6	10.6	18.8	-20.49	42.7	698.3	197.3	177.3	20.08	9.829	
4,981.6	4,940.0	4,999.9	4,898.4	10.6	19.1	79.46	38.2	715.7	213.0	181.2	31.84	6.690	
5,000.0	4,958.4	5,018.2	4,916.3	10.6	19.1	79.92	37.2	719.5	216.6	184.6	31.95	6.778	
5,100.0	5,058.4	5,118.0	5,013.9	10.7	19.5	82.11	31.8	739.6	235.8	203.2	32.59	7.234	
5,200.0	5,158.4	5,218.6	5,112.5	10.8	19.8	83.86	26.7	758.9	254.2	221.1	33.16	7.666	
5,300.0	5,258.4	5,320.8	5,212.9	10.9	20.2	85.33	21.8	777.4	271.8	238.0	33.81	8.039	
5,400.0	5,358.4	5,431.4	5,322.1	10.9	20.7	86.59	16.9	794.4	286.9	252.5	34.47	8.325	
5,500.0	5,458.4	5,545.8	5,435.8	11.0	21.1	87.49	13.0	806.0	296.8	261.7	35.16	8.443	
5,600.0	5,558.4	5,659.0	5,548.8	11.1	21.4	88.11	9.9	812.2	302.2	266.1	36.11	8.369	
5,700.0	5,658.4	5,764.1	5,653.8	11.2	21.7	88.55	7.7	814.6	304.4	267.8	36.68	8.300	
5,800.0	5,758.4	5,863.9	5,753.6	11.2	21.9	88.94	5.7	816.2	306.0	269.0	36.96	8.280	
5,900.0	5,858.4	5,963.6	5,853.2	11.3	22.1	89.33	3.6	817.8	307.6	270.4	37.22	8.264	
6,000.0	5,958.4	6,063.6	5,953.2	11.4	22.4	89.69	1.7	819.5	309.3	271.8	37.46	8.256	
6,100.0	6,058.4	6,163.6	6,053.1	11.5	22.6	90.06	-0.3	821.2	311.0	273.2	37.71	8.246	
6,200.0	6,158.4	6,263.7	6,153.2	11.5	22.8	90.45	-2.5	822.9	312.6	274.7	37.93	8.242	
6,300.0	6,258.4	6,363.6	6,253.0	11.6	23.1	90.87	-4.8	824.5	314.3	276.1	38.18	8.232	
6,400.0	6,358.4	6,463.4	6,352.9	11.7	23.3	91.26	-7.0	826.2	316.0	277.5	38.45	8.218	
6,500.0	6,458.4	6,563.3	6,452.7	11.7	23.6	91.67	-9.2	827.9	317.8	279.1	38.71	8.210	
6,600.0	6,558.4	6,664.6	6,553.9	11.8	23.8	92.09	-11.6	829.5	319.4	280.6	38.79	8.234	
6,700.0	6,658.4	6,767.7	6,657.0	11.9	24.0	92.43	-13.6	830.4	320.4	282.5	37.92	8.449	
6,800.0	6,758.4	6,875.6	6,764.9	12.0	24.0	92.72	-15.2	829.7	319.8	282.2	37.58	8.509	
6,900.0	6,858.4	6,974.2	6,863.5	12.0	23.9	92.84	-15.7	827.5	317.6	280.3	37.35	8.504	
7,000.0	6,958.4	7,073.9	6,963.2	12.1	23.8	92.94	-16.2	826.0	316.1	279.0	37.16	8.506	
7,100.0	7,058.4	7,174.0	7,063.3	12.2	23.6	92.95	-16.2	824.4	314.6	278.2	36.34	8.657	
7,200.0	7,158.4	7,276.1	7,165.3	12.3	23.4	92.85	-15.6	822.5	312.7	276.4	36.22	8.631	
7,300.0	7,258.4	7,377.4	7,266.6	12.3	23.2	92.86	-15.4	819.9	310.1	273.9	36.28	8.548	
7,400.0	7,358.4	7,473.6	7,362.8	12.4	23.1	92.83	-15.2	818.0	308.1	272.5	35.62	8.652	
7,500.0	7,458.4	7,573.0	7,462.2	12.5	22.9	92.66	-14.3	816.7	306.8	271.9	34.92	8.786	
7,600.0	7,558.4	7,672.4	7,561.5	12.6	22.7	92.44	-13.0	815.7	305.7	270.9	34.83	8.778	
7,700.0	7,658.4	7,774.0	7,663.1	12.6	22.6	92.29	-12.2	814.5	304.5	269.2	35.29	8.627	
7,800.0	7,758.4	7,874.7	7,763.8	12.7	22.4	92.15	-11.4	812.6	302.6	267.6	34.92	8.663	
7,900.0	7,858.4	7,972.4	7,861.5	12.8	22.2	91.78	-9.4	811.3	301.2	266.3	34.86	8.641	
8,000.0	7,958.4	8,071.5	7,960.6	12.8	22.1	91.28	-6.7	810.5	300.3	265.3	35.04	8.572	
8,100.0	8,058.4	8,171.9	8,060.9	12.9	21.9	90.78	-4.1	809.9	299.6	264.7	34.86	8.595	
8,200.0	8,158.4	8,271.7	8,160.7	13.0	21.8	90.33	-1.7	809.0	298.7	264.0	34.63	8.624	
8,300.0	8,258.4	8,371.1	8,260.1	13.1	21.7	90.02	-0.1	808.3	298.0	263.7	34.32	8.685	
8,400.0	8,358.4	8,471.7	8,360.7	13.1	21.5	89.77	1.2	807.7	297.4	263.3	34.09	8.724	
8,500.0	8,458.4	8,571.3	8,460.3	13.2	21.4	89.47	2.8	806.9	296.6	262.1	34.54	8.586	
8,600.0	8,558.4	8,670.3	8,559.3	13.3	21.5	89.15	4.4	806.4	296.1	261.0	35.09	8.439	
8,700.0	8,658.4	8,770.0	8,658.9	13.4	21.5	88.84	6.0	806.1	295.9	260.6	35.27	8.389	
8,758.0	8,716.4	8,827.5	8,716.4	13.4	21.6	88.69	6.7	806.1	295.8	260.3	35.51	8.331	
8,800.0	8,758.4	8,869.0	8,757.9	13.4	21.6	88.60	7.2	806.1	295.9	260.2	35.64	8.302	
8,900.0	8,858.4	8,968.4	8,857.3	13.5	21.8	88.43	8.1	806.3	296.2	260.5	35.64	8.310	
9,000.0	8,958.4	9,067.5	8,956.4	13.6	21.9	88.32	8.7	806.8	296.7	261.1	35.58	8.338	
9,100.0	9,058.4	9,168.2	9,057.1	13.7	22.0	88.05	10.1	807.4	297.3	261.1	36.22	8.209	
9,184.0	9,142.3	9,254.2	9,142.3	13.7	22.6	86.00	20.8	806.9	297.3	261.0	36.32	8.187	
9,200.0	9,158.4	9,269.1	9,156.8	13.7	22.7	85.32	24.3	806.7	297.4	261.0	36.38	8.173	

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 1H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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)			
9,300.0	9,258.4	9,348.0	9,230.4	13.8	23.5	80.03	52.0	806.3	301.8	264.7	37.08	8.139	
9,400.0	9,358.4	9,421.5	9,293.7	13.9	23.8	73.23	89.4	807.0	316.5	278.5	37.98	8.334	
9,500.0	9,458.4	9,489.3	9,347.8	14.0	23.9	66.37	130.2	807.8	343.0	304.1	38.93	8.810	
9,600.0	9,558.4	9,552.6	9,395.4	14.1	24.0	60.01	172.0	808.2	380.6	340.9	39.76	9.575	
9,700.0	9,658.4	9,614.4	9,439.6	14.1	24.0	54.18	215.1	808.3	427.8	387.4	40.37	10.595	
9,800.0	9,758.4	9,671.6	9,478.9	14.2	24.0	49.23	256.8	808.1	482.4	441.6	40.80	11.824	
9,900.0	9,858.4	9,735.0	9,520.8	14.3	24.0	44.38	304.2	808.0	543.2	502.2	41.00	13.250	
10,000.0	9,958.4	9,768.1	9,541.9	14.4	24.1	42.08	329.8	808.1	609.0	567.8	41.15	14.800	
10,100.0	10,058.4	9,804.8	9,564.1	14.4	24.1	39.69	359.0	808.2	679.6	638.4	41.17	16.509	
10,200.0	10,158.4	9,841.1	9,584.9	14.5	24.1	37.48	388.7	808.3	754.1	713.1	41.01	18.390	
10,300.0	10,258.4	9,883.6	9,608.6	14.6	24.1	35.13	424.0	808.7	831.3	790.8	40.43	20.561	
10,394.1	10,352.5	9,924.0	9,630.5	14.7	24.2	33.12	457.9	809.1	905.7	866.2	39.48	22.939	
10,400.0	10,358.4	9,924.0	9,630.5	14.7	24.2	32.75	457.9	809.1	910.3	870.7	39.60	22.990	
10,425.0	10,383.3	9,924.0	9,630.5	14.7	24.2	30.75	457.9	809.1	930.0	889.8	40.15	23.161	
10,450.0	10,408.2	9,924.0	9,630.5	14.7	24.2	28.96	457.9	809.1	949.1	908.5	40.69	23.325	
10,475.0	10,433.0	9,924.0	9,630.5	14.7	24.2	27.36	457.9	809.1	967.9	926.7	41.16	23.513	
10,500.0	10,457.5	9,924.0	9,630.5	14.7	24.2	25.93	457.9	809.1	986.1	944.5	41.54	23.737	

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 812H
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 812H	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		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance			Offset Well Error: 0.0 usft		
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	
0.0	0.0	0.0	9.4	0.0	0.0	-44.67	182.0	-179.9	256.1					
100.0	100.0	89.2	98.6	0.5	0.7	-44.67	182.2	-180.1	256.2	254.5	1.69	151.708		
200.0	200.0	188.9	198.3	1.0	1.4	-44.68	182.7	-180.7	256.9	254.1	2.85	90.251		
300.0	300.0	290.4	299.8	1.4	1.8	-44.72	182.8	-181.0	257.3	253.7	3.57	72.103		
400.0	400.0	389.3	398.7	1.6	2.1	-44.74	182.9	-181.2	257.5	253.3	4.21	61.161		
500.0	500.0	488.6	498.0	1.9	2.5	-44.72	183.4	-181.7	258.2	253.4	4.79	53.899		
600.0	600.0	588.0	597.4	2.1	2.8	-44.75	184.0	-182.4	259.0	253.7	5.31	48.827		
700.0	700.0	686.5	695.9	2.3	3.1	-44.82	184.6	-183.5	260.3	254.5	5.79	44.948		
800.0	800.0	783.6	793.0	2.5	3.4	-44.97	185.6	-185.4	262.4	256.2	6.26	41.915		
900.0	900.0	882.9	892.2	2.7	3.7	-45.27	186.6	-188.4	265.2	258.5	6.73	39.401		
1,000.0	1,000.0	981.5	990.8	2.9	4.0	-45.82	187.0	-192.4	268.4	261.2	7.18	37.361		
1,100.0	1,100.0	1,081.1	1,090.3	3.2	4.3	-46.37	187.6	-196.8	272.0	264.3	7.74	35.146		
1,200.0	1,200.0	1,188.4	1,197.4	3.4	4.6	-46.85	188.0	-200.6	274.9	266.7	8.24	33.347		
1,300.0	1,300.0	1,299.6	1,308.6	3.7	4.8	-97.49	186.2	-200.1	273.7	265.1	8.56	31.971		
1,400.0	1,399.8	1,417.4	1,426.2	4.0	5.2	-98.55	182.6	-193.7	268.4	259.2	9.16	29.307		
1,500.0	1,499.5	1,521.6	1,529.7	4.3	5.2	-99.90	177.9	-182.8	258.9	249.5	9.36	27.667		
1,600.0	1,598.7	1,627.8	1,634.9	4.6	5.3	-101.97	172.4	-168.9	247.8	238.1	9.63	25.740		
1,700.0	1,697.7	1,726.9	1,732.7	4.8	5.3	-117.89	167.2	-154.4	237.7	227.7	9.96	23.873		
1,800.0	1,796.6	1,823.8	1,828.5	5.0	5.4	-132.23	162.7	-140.6	231.9	221.6	10.28	22.547		
1,872.7	1,868.4	1,894.3	1,898.4	5.2	5.5	-141.27	159.6	-131.4	230.6	220.1	10.53	21.895		
1,900.0	1,895.3	1,922.2	1,926.0	5.3	5.5	-144.38	158.3	-127.8	230.7	220.1	10.63	21.701		
1,906.9	1,902.1	1,929.2	1,933.0	5.3	5.5	-145.14	157.9	-126.9	230.8	220.1	10.66	21.656		
2,000.0	1,993.8	2,029.7	2,032.4	5.4	5.8	-146.99	152.2	-113.5	230.9	219.8	11.07	20.849		
2,100.0	2,092.2	2,137.4	2,138.0	5.6	6.1	-149.28	142.4	-95.0	226.1	214.6	11.55	19.583		
2,200.0	2,190.7	2,234.9	2,233.5	5.8	6.3	-151.43	133.3	-77.8	221.1	209.2	11.89	18.596		
2,300.0	2,289.2	2,334.1	2,330.9	5.9	6.6	-153.72	124.5	-61.1	217.4	205.2	12.24	17.758		
2,400.0	2,387.7	2,435.5	2,430.4	6.1	6.8	-156.09	115.4	-43.4	213.5	200.9	12.63	16.905		
2,500.0	2,486.2	2,534.0	2,526.8	6.3	7.1	-158.49	106.3	-25.9	209.6	196.6	13.01	16.102		
2,600.0	2,584.6	2,630.2	2,621.3	6.5	7.4	-160.94	97.7	-10.0	207.2	193.8	13.41	15.455		
2,659.9	2,643.6	2,687.6	2,677.9	6.6	7.6	-162.39	92.9	-1.1	206.8	193.2	13.65	15.148 CC, ES		
2,700.0	2,683.1	2,726.1	2,715.8	6.6	7.7	-163.34	89.9	4.5	207.0	193.2	13.82	14.976		
2,800.0	2,781.6	2,824.0	2,812.5	6.8	8.0	-165.65	82.7	18.1	208.5	194.2	14.26	14.617		
2,818.7	2,800.0	2,842.6	2,830.9	6.8	8.0	-166.07	81.4	20.6	208.9	194.6	14.33	14.573		
2,900.0	2,880.1	2,926.9	2,914.1	7.0	8.3	-176.96	75.0	32.6	210.3	195.6	14.64	14.368		
2,904.0	2,884.0	2,931.1	2,918.2	7.0	8.3	-177.48	74.7	33.2	210.3	195.7	14.65	14.356		
3,000.0	2,978.5	3,031.5	3,016.9	7.2	8.7	-179.39	65.4	49.3	210.5	195.3	15.19	13.857		
3,097.6	3,074.7	3,127.8	3,111.4	7.3	9.1	178.56	55.6	65.3	210.1	194.5	15.66	13.414		
3,100.0	3,077.0	3,130.2	3,113.7	7.3	9.1	178.51	55.4	65.7	210.1	194.4	15.68	13.405		
3,200.0	3,175.5	3,228.1	3,209.9	7.5	9.4	176.54	45.9	81.4	210.7	194.5	16.16	13.041		
3,300.0	3,273.9	3,326.1	3,306.3	7.7	9.8	174.80	37.3	96.3	212.4	195.8	16.64	12.763		
3,400.0	3,372.4	3,426.0	3,404.8	7.9	10.2	173.16	28.9	111.2	214.6	197.5	17.15	12.511		
3,500.0	3,470.8	3,523.9	3,501.2	8.1	10.5	171.63	20.8	125.6	217.2	199.5	17.67	12.290		
3,600.0	3,569.3	3,618.7	3,595.1	8.3	10.9	170.49	14.1	137.7	221.9	203.7	18.18	12.205		
3,700.0	3,667.8	3,716.3	3,691.9	8.5	11.3	169.80	8.8	148.7	228.1	209.4	18.63	12.241		
3,800.0	3,766.2	3,812.4	3,787.4	8.6	11.6	169.43	4.7	158.4	235.5	216.4	19.11	12.324		
3,900.0	3,864.7	3,906.4	3,881.0	8.8	12.0	169.35	1.7	166.0	244.7	225.1	19.58	12.496		
3,974.8	3,938.4	3,974.7	3,949.2	9.0	12.2	169.54	0.6	169.8	253.6	233.6	19.92	12.727		
4,000.0	3,963.1	3,998.8	3,973.3	9.0	12.3	169.66	0.3	170.8	256.8	236.8	20.02	12.826		
4,100.0	4,061.8	4,094.9	4,069.3	9.2	12.6	170.12	-0.3	174.1	269.4	249.0	20.45	13.176		
4,200.0	4,160.8	4,190.9	4,165.3	9.4	12.8	170.46	-1.0	176.2	281.5	260.5	20.96	13.428		
4,300.0	4,260.0	4,287.9	4,262.3	9.6	13.0	170.69	-1.9	177.3	293.0	271.2	21.78	13.454		

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 150-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
4,400.0	4,359.4	4,386.8	4,361.2	9.7	13.3	170.85	-3.0	178.1	303.1	280.8	22.31	13.588	
4,500.0	4,458.9	4,485.9	4,460.3	9.9	13.5	170.94	-4.0	178.5	311.8	289.0	22.78	13.687	
4,600.0	4,558.6	4,585.8	4,560.1	10.1	13.7	170.97	-5.1	179.0	318.8	295.7	23.05	13.831	
4,700.0	4,658.5	4,685.4	4,659.8	10.3	13.9	170.96	-6.0	179.5	324.0	300.7	23.38	13.862	
4,800.0	4,758.4	4,785.3	4,759.6	10.4	14.1	170.88	-7.1	179.9	327.6	303.9	23.70	13.823	
4,900.0	4,858.4	4,885.4	4,859.7	10.6	14.3	170.71	-8.5	180.3	329.5	305.5	23.98	13.738	
4,981.6	4,940.0	4,967.3	4,941.7	10.6	14.4	-91.73	-9.9	180.7	329.7	305.1	24.65	13.376	
5,000.0	4,958.4	4,985.8	4,960.1	10.6	14.5	-91.78	-10.2	180.9	329.6	304.9	24.68	13.356	
5,100.0	5,058.4	5,085.7	5,060.0	10.7	14.7	-92.09	-12.0	181.5	329.1	304.3	24.82	13.259	
5,200.0	5,158.4	5,185.0	5,159.3	10.8	14.9	-92.41	-13.8	181.9	328.7	303.8	24.92	13.190	
5,300.0	5,258.4	5,285.3	5,259.6	10.9	15.1	-92.61	-15.0	182.3	328.4	303.2	25.17	13.045	
5,400.0	5,358.4	5,386.0	5,360.2	10.9	15.3	-92.77	-15.8	182.8	327.9	302.5	25.36	12.928	
5,497.9	5,456.3	5,482.0	5,456.3	11.0	15.5	-92.87	-16.4	183.1	327.6	302.4	25.22	12.987	
5,500.0	5,458.4	5,484.0	5,458.3	11.0	15.5	-92.87	-16.4	183.1	327.6	302.4	25.22	12.988	
5,600.0	5,558.4	5,583.4	5,557.7	11.1	15.5	-92.83	-16.2	183.0	327.7	302.8	24.87	13.178	
5,700.0	5,658.4	5,683.6	5,657.9	11.2	15.4	-92.78	-15.9	182.8	327.9	302.8	25.08	13.073	
5,800.0	5,758.4	5,783.2	5,757.4	11.2	15.3	-92.76	-15.8	182.6	328.1	302.9	25.18	13.028	
5,900.0	5,858.4	5,883.7	5,858.0	11.3	15.2	-92.74	-15.7	182.4	328.3	303.2	25.05	13.106	
6,000.0	5,958.4	5,983.4	5,957.7	11.4	15.2	-92.73	-15.6	182.2	328.4	303.2	25.26	13.004	
6,100.0	6,058.4	6,083.6	6,057.9	11.5	15.1	-92.72	-15.6	182.1	328.6	303.3	25.25	13.012	
6,200.0	6,158.4	6,183.6	6,157.9	11.5	15.0	-92.69	-15.4	181.9	328.8	303.8	24.94	13.181	
6,300.0	6,258.4	6,283.8	6,258.1	11.6	15.0	-92.54	-14.6	181.8	328.9	303.7	25.18	13.061	
6,400.0	6,358.4	6,384.4	6,358.7	11.7	14.9	-92.41	-13.8	181.7	328.9	303.5	25.40	12.951	
6,500.0	6,458.4	6,484.8	6,459.0	11.7	14.9	-92.35	-13.5	181.9	328.7	303.0	25.68	12.796	
6,575.3	6,533.6	6,559.4	6,533.6	11.8	14.9	-92.31	-13.2	182.0	328.6	302.9	25.67	12.800	
6,600.0	6,558.4	6,583.8	6,558.0	11.8	14.9	-92.30	-13.2	182.0	328.6	303.0	25.56	12.856	
6,700.0	6,658.4	6,682.3	6,656.6	11.9	14.9	-92.25	-12.9	181.7	328.9	303.1	25.76	12.766	
6,800.0	6,758.4	6,780.7	6,754.9	12.0	14.8	-92.20	-12.7	180.9	329.7	303.9	25.77	12.795	
6,900.0	6,858.4	6,879.7	6,854.0	12.0	14.6	-92.12	-12.2	179.7	330.9	305.2	25.73	12.862	
7,000.0	6,958.4	6,980.5	6,954.8	12.1	14.5	-92.05	-11.9	178.4	332.1	306.4	25.77	12.889	
7,100.0	7,058.4	7,080.2	7,054.5	12.2	14.4	-92.05	-11.9	177.3	333.2	307.5	25.76	12.936	
7,200.0	7,158.4	7,180.9	7,155.2	12.3	14.4	-92.13	-12.4	176.3	334.3	308.5	25.78	12.969	
7,300.0	7,258.4	7,282.4	7,256.7	12.3	14.5	-92.27	-13.3	175.5	335.0	309.2	25.79	12.992	
7,400.0	7,358.4	7,383.3	7,357.6	12.4	14.6	-92.39	-14.0	175.2	335.4	309.5	25.87	12.965	
7,500.0	7,458.4	7,483.8	7,458.0	12.5	14.6	-92.45	-14.4	175.1	335.6	309.6	25.95	12.930	
7,600.0	7,558.4	7,584.5	7,558.7	12.6	14.6	-92.36	-13.8	175.1	335.5	309.5	26.00	12.906	
7,700.0	7,658.4	7,684.5	7,658.7	12.6	14.6	-92.22	-13.0	175.1	335.4	309.3	26.13	12.836	
7,800.0	7,758.4	7,785.1	7,759.3	12.7	14.6	-92.06	-12.1	175.2	335.3	309.0	26.30	12.748	
7,900.0	7,858.4	7,886.5	7,860.7	12.8	14.5	-91.85	-10.8	175.7	334.7	308.2	26.52	12.621	
8,000.0	7,958.4	7,986.5	7,960.7	12.8	14.6	-91.60	-9.3	176.4	334.0	307.3	26.71	12.505	
8,100.0	8,058.4	8,087.1	8,061.2	12.9	14.6	-91.40	-8.1	177.1	333.3	306.4	26.89	12.393	
8,200.0	8,158.4	8,187.9	8,162.1	13.0	14.7	-91.25	-7.2	178.1	332.3	305.2	27.08	12.270	
8,300.0	8,258.4	8,287.5	8,261.6	13.1	14.8	-91.16	-6.7	179.2	331.2	303.8	27.32	12.122	
8,400.0	8,358.4	8,387.0	8,361.2	13.1	14.9	-91.06	-6.1	180.1	330.3	302.7	27.55	11.987	
8,500.0	8,458.4	8,486.3	8,460.5	13.2	15.0	-90.97	-5.6	180.9	329.5	301.7	27.78	11.861	
8,600.0	8,558.4	8,584.2	8,558.4	13.3	15.1	-90.89	-5.1	181.2	329.1	301.5	27.65	11.905	
8,700.0	8,658.4	8,684.9	8,659.1	13.4	15.1	-90.80	-4.6	181.2	329.1	301.0	28.12	11.705	
8,777.8	8,736.1	8,762.0	8,736.1	13.4	15.1	-90.76	-4.4	181.3	329.0	301.2	27.75	11.853	
8,800.0	8,758.4	8,783.9	8,758.1	13.4	15.1	-90.76	-4.3	181.3	329.0	300.9	28.05	11.730	
8,900.0	8,858.4	8,884.5	8,858.7	13.5	15.1	-90.79	-4.5	181.3	329.0	300.3	28.75	11.446	
9,000.0	8,958.4	8,984.3	8,958.5	13.6	15.2	-90.89	-5.1	181.4	328.9	300.2	28.73	11.451	

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 6H - OWB - AWP													Offset Site Error:	0.0 usft	
Survey Program:		150-r.5 MWD					Rule Assigned:							Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance			Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor			
9,035.4	8,993.8	9,019.6	8,993.8	13.6	15.3	-90.93	-5.4	181.4	328.9	300.2	28.73	11.449			
9,100.0	9,058.4	9,084.0	9,058.2	13.7	15.3	-91.02	-5.9	181.4	329.0	300.2	28.76	11.440			
9,200.0	9,158.4	9,181.1	9,155.2	13.7	15.4	-91.18	-6.8	180.9	329.5	300.8	28.69	11.484			
9,300.0	9,258.4	9,278.5	9,252.6	13.8	15.5	-91.29	-7.4	179.6	330.8	302.1	28.74	11.511			
9,400.0	9,358.4	9,376.4	9,350.2	13.9	16.0	-90.16	-0.9	177.4	333.0	303.6	29.34	11.349			
9,500.0	9,458.4	9,478.1	9,449.7	14.0	16.1	-86.65	19.6	175.4	335.6	305.9	29.68	11.307			
9,600.0	9,558.4	9,573.3	9,538.4	14.1	16.2	-80.83	53.9	176.3	338.9	308.9	29.94	11.320			
9,700.0	9,658.4	9,640.0	9,596.6	14.1	16.3	-75.46	86.4	177.2	349.7	319.5	30.14	11.603			
9,800.0	9,758.4	9,703.3	9,648.0	14.2	16.5	-69.73	123.2	176.6	372.5	341.8	30.69	12.138			
9,900.0	9,858.4	9,756.9	9,688.3	14.3	16.6	-64.72	158.6	174.5	408.5	376.9	31.55	12.945			
10,000.0	9,958.4	9,808.8	9,724.4	14.4	16.7	-59.91	195.7	172.6	455.1	422.4	32.65	13.940			
10,100.0	10,058.4	9,861.1	9,758.3	14.4	16.7	-55.24	235.5	170.9	510.5	477.0	33.50	15.238			
10,200.0	10,158.4	9,916.2	9,793.2	14.5	16.8	-50.81	278.2	169.1	571.9	538.4	33.57	17.039			
10,300.0	10,258.4	9,969.0	9,826.0	14.6	16.8	-47.07	319.5	166.9	637.9	604.8	33.07	19.287			
10,394.1	10,352.5	10,001.1	9,845.2	14.7	16.9	-44.97	345.1	165.5	703.8	671.7	32.11	21.917			
10,400.0	10,358.4	10,003.0	9,846.3	14.7	16.9	-44.22	346.7	165.4	708.1	676.3	31.77	22.286			
10,425.0	10,383.3	10,017.0	9,854.3	14.7	16.9	-41.37	358.2	164.9	725.8	696.5	29.35	24.732			
10,450.0	10,408.2	10,017.0	9,854.3	14.7	16.9	-39.51	358.2	164.9	743.1	718.9	24.16	30.758			
10,475.0	10,433.0	10,017.0	9,854.3	14.7	16.9	-37.78	358.2	164.9	760.0	748.7	11.37	66.818			
10,500.0	10,457.5	10,017.0	9,854.3	14.7	16.9	-36.17	358.2	164.9	776.7	762.3	14.37	54.054			
10,525.0	10,481.7	10,017.0	9,854.3	14.7	16.9	-34.68	358.2	164.9	793.0	765.4	27.60	28.731			
10,550.0	10,505.6	10,042.4	9,867.8	14.7	17.0	-32.57	379.7	163.9	807.7	776.3	31.34	25.768			
10,575.0	10,529.1	10,048.5	9,870.8	14.7	17.0	-31.23	384.9	163.6	822.6	788.5	34.08	24.136			
10,600.0	10,552.0	10,054.7	9,873.8	14.7	17.0	-30.01	390.3	163.4	836.9	801.5	35.48	23.588			
10,625.0	10,574.5	10,080.0	9,884.9	14.7	17.1	-28.52	413.1	162.4	851.4	815.3	36.09	23.589			
10,650.0	10,596.3	10,080.0	9,884.9	14.7	17.1	-27.68	413.1	162.4	864.2	827.4	36.81	23.479			
10,675.0	10,617.4	10,080.0	9,884.9	14.7	17.1	-26.90	413.1	162.4	876.6	839.2	37.33	23.483			
10,700.0	10,637.9	10,080.0	9,884.9	14.7	17.1	-26.18	413.1	162.4	888.4	850.7	37.73	23.545			
10,725.0	10,657.5	10,080.0	9,884.9	14.7	17.1	-25.51	413.1	162.4	899.8	861.7	38.07	23.637			
10,750.0	10,676.3	10,080.0	9,884.9	14.7	17.1	-24.89	413.1	162.4	910.7	872.3	38.35	23.745			
10,775.0	10,694.2	10,097.0	9,891.3	14.7	17.2	-24.18	428.8	161.7	920.4	881.9	38.48	23.918			
10,800.0	10,711.2	10,111.0	9,895.8	14.7	17.2	-23.57	442.1	161.3	929.9	891.3	38.63	24.073			
10,825.0	10,727.2	10,111.0	9,895.8	14.7	17.2	-23.14	442.1	161.3	938.4	899.6	38.84	24.158			
10,850.0	10,742.2	10,111.0	9,895.8	14.7	17.2	-22.75	442.1	161.3	946.4	907.4	39.04	24.244			
10,875.0	10,756.1	10,111.0	9,895.8	14.7	17.2	-22.39	442.1	161.3	953.9	914.6	39.21	24.327			
10,900.0	10,768.9	10,111.0	9,895.8	14.8	17.2	-22.06	442.1	161.3	960.7	921.4	39.36	24.408			
10,925.0	10,780.5	10,144.4	9,904.8	14.8	17.4	-21.68	474.2	160.4	965.6	926.0	39.60	24.385			
10,950.0	10,791.0	10,153.8	9,907.0	14.8	17.5	-21.43	483.3	160.2	970.4	930.6	39.76	24.404			
10,975.0	10,800.3	10,163.3	9,909.0	14.8	17.5	-21.22	492.6	160.1	974.3	934.4	39.92	24.408			
11,000.0	10,808.4	10,172.8	9,910.8	14.9	17.6	-21.06	501.9	160.0	977.5	937.4	40.06	24.398			
11,025.0	10,815.2	10,206.0	9,915.9	14.9	17.8	-20.89	534.7	159.9	980.6	940.3	40.30	24.330			
11,050.0	10,820.7	10,206.0	9,915.9	15.0	17.8	-20.85	534.7	159.9	981.6	941.2	40.39	24.300			
11,075.0	10,825.0	10,206.0	9,915.9	15.0	17.8	-20.83	534.7	159.9	982.0	941.6	40.47	24.266			
11,100.0	10,827.9	10,206.0	9,915.9	15.0	17.8	-20.83	534.7	159.9	981.9	941.3	40.52	24.229			
11,125.0	10,829.6	10,221.9	9,917.7	15.1	17.9	-20.88	550.6	160.1	980.8	940.3	40.54	24.196			
11,143.8	10,830.0	10,229.9	9,918.4	15.1	17.9	-20.94	558.5	160.2	979.5	939.0	40.54	24.158			
11,200.0	10,830.0	10,265.0	9,920.8	15.3	18.1	-20.96	593.5	160.7	975.6	935.0	40.54	24.065			
11,300.0	10,830.1	10,346.2	9,924.9	15.5	18.8	-20.98	674.6	161.6	970.4	929.8	40.55	23.932			
11,400.0	10,830.1	10,424.8	9,927.8	15.9	19.4	-21.06	753.2	161.1	967.1	926.5	40.59	23.829			
11,486.2	10,830.2	10,491.1	9,928.9	16.2	20.0	-21.12	819.4	160.3	966.3	925.6	40.65	23.773			
11,500.0	10,830.2	10,502.7	9,928.9	16.2	20.1	-21.13	831.1	160.1	966.3	925.6	40.66	23.765			

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 812H
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 812H	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	
11,600.0	10,830.3	10,588.7	9,928.5	16.6	21.0	-21.19	917.0	158.7	967.3	926.5	40.80	23.706	
11,700.0	10,830.4	10,683.9	9,927.2	17.0	22.0	-21.26	1,012.2	156.7	969.3	928.2	41.09	23.587	
11,800.0	10,830.4	10,788.0	9,925.9	17.5	23.1	-21.32	1,116.3	154.9	971.1	929.5	41.62	23.333	
11,900.0	10,830.5	10,888.4	9,924.6	18.0	24.4	-21.40	1,216.7	152.6	973.1	930.7	42.43	22.934	
12,000.0	10,830.6	11,007.3	9,923.2	18.5	25.9	-21.27	1,335.5	154.1	973.7	930.0	43.68	22.293	
12,100.0	10,830.7	11,117.4	9,921.9	19.0	27.3	-20.91	1,445.5	159.9	972.9	928.0	44.92	21.658	
12,200.0	10,830.7	11,206.9	9,921.1	19.6	28.5	-20.63	1,534.9	164.4	972.0	926.1	45.85	21.200	
12,210.3	10,830.7	11,215.6	9,921.1	19.6	28.6	-20.62	1,543.5	164.6	971.9	926.0	45.93	21.162	
12,300.0	10,830.8	11,306.7	9,920.3	20.2	29.9	-20.51	1,634.6	166.1	972.1	925.4	46.67	20.830	
12,400.0	10,830.9	11,409.5	9,919.4	20.8	31.3	-20.28	1,737.4	169.6	971.7	924.3	47.45	20.479	
12,450.5	10,830.9	11,455.9	9,919.1	21.1	32.0	-20.20	1,783.7	170.9	971.6	923.8	47.83	20.314	
12,500.0	10,830.9	11,499.4	9,918.7	21.4	32.6	-20.15	1,827.2	171.5	971.7	923.5	48.19	20.163	
12,600.0	10,831.0	11,600.6	9,917.8	22.0	34.0	-20.10	1,928.5	171.8	972.5	923.5	49.01	19.843	
12,700.0	10,831.1	11,714.6	9,916.8	22.7	35.7	-19.89	2,042.3	175.0	972.3	922.4	49.90	19.485	
12,766.8	10,831.1	11,772.5	9,916.0	23.1	36.5	-19.70	2,100.2	177.9	972.0	921.6	50.44	19.272	
12,800.0	10,831.2	11,803.0	9,915.4	23.3	37.0	-19.60	2,130.6	179.5	972.1	921.4	50.71	19.171	
12,900.0	10,831.2	11,905.7	9,913.3	24.0	38.5	-19.24	2,233.2	185.0	972.3	920.7	51.58	18.848	
13,000.0	10,831.3	12,004.4	9,911.3	24.7	40.0	-18.89	2,331.7	190.4	972.4	919.9	52.46	18.536	
13,100.0	10,831.4	12,104.5	9,909.1	25.4	41.5	-18.50	2,431.6	196.3	972.5	919.2	53.35	18.230	
13,200.0	10,831.4	12,198.4	9,907.2	26.1	42.9	-18.19	2,525.3	201.0	972.9	918.6	54.23	17.940	
13,300.0	10,831.5	12,279.5	9,905.5	26.8	44.2	-18.13	2,606.4	201.4	974.7	919.6	55.09	17.693	
13,400.0	10,831.6	12,375.9	9,903.5	27.5	45.6	-18.25	2,702.8	198.3	977.7	921.6	56.05	17.442	
13,500.0	10,831.7	12,464.0	9,901.8	28.3	47.0	-18.39	2,790.8	195.0	980.8	923.8	56.99	17.209	
13,600.0	10,831.7	12,558.0	9,898.4	29.0	48.4	-18.49	2,884.7	191.8	985.3	927.3	57.99	16.990	
13,700.0	10,831.8	12,637.2	9,894.2	29.7	49.7	-18.61	2,963.7	188.1	991.7	932.8	58.90	16.838	
13,800.0	10,831.9	12,762.7	9,889.1	30.5	51.6	-18.96	3,088.8	179.5	997.8	937.6	60.17	16.582	
16,400.0	10,833.7	15,431.4	9,888.5	51.2	94.3	-18.74	5,755.9	176.8	998.5	907.0	91.43	10.921	
16,500.0	10,833.8	15,539.1	9,890.5	52.0	96.1	-18.59	5,863.5	180.1	995.7	903.1	92.65	10.747	
16,600.0	10,833.9	15,651.8	9,893.7	52.8	97.9	-18.48	5,976.2	182.9	992.2	898.3	93.90	10.566	
16,700.0	10,834.0	15,766.7	9,898.8	53.7	99.7	-18.38	6,090.9	186.2	987.1	891.9	95.16	10.373	
16,800.0	10,834.0	15,858.0	9,903.0	54.5	101.2	-18.27	6,182.1	189.3	981.7	885.3	96.36	10.187	
16,900.0	10,834.1	15,959.5	9,907.4	55.3	102.9	-18.17	6,283.5	192.2	976.7	879.1	97.59	10.008	
17,000.0	10,834.2	16,043.4	9,910.8	56.1	104.2	-18.16	6,367.2	193.4	972.3	873.5	98.83	9.839	
17,100.0	10,834.2	16,136.0	9,913.9	57.0	105.7	-18.21	6,459.8	193.2	969.3	869.2	100.13	9.680	
17,200.0	10,834.3	16,235.4	9,917.0	57.8	107.3	-18.32	6,559.1	192.0	966.6	865.1	101.50	9.523	
17,300.0	10,834.4	16,336.4	9,920.3	58.6	109.0	-18.43	6,660.1	190.9	963.9	861.0	102.89	9.368	
17,400.0	10,834.5	16,433.0	9,923.4	59.5	110.6	-18.56	6,756.6	189.4	961.3	857.1	104.28	9.219	
17,500.0	10,834.5	16,535.5	9,926.8	60.3	112.2	-18.73	6,859.1	187.3	958.8	853.1	105.72	9.070	
17,600.0	10,834.6	16,636.7	9,930.2	61.1	113.9	-18.85	6,960.1	186.0	956.1	849.0	107.13	8.924	
17,700.0	10,834.7	16,738.2	9,933.6	62.0	115.5	-18.95	7,061.6	185.2	953.2	844.6	108.54	8.782	
17,800.0	10,834.7	16,835.3	9,936.7	62.8	117.1	-19.03	7,158.7	184.7	950.3	840.4	109.91	8.647	
17,900.0	10,834.8	16,931.7	9,939.5	63.6	118.7	-19.11	7,255.0	184.0	947.8	836.5	111.29	8.517	
18,000.0	10,834.9	17,024.7	9,941.7	64.5	120.2	-19.20	7,348.0	182.9	945.9	833.3	112.66	8.396	
18,100.0	10,835.0	17,123.0	9,943.7	65.3	121.8	-19.31	7,446.2	181.6	944.5	830.4	114.07	8.280	
18,200.0	10,835.0	17,222.8	9,945.6	66.1	123.4	-19.41	7,546.0	180.2	943.1	827.7	115.49	8.166	
18,300.0	10,835.1	17,325.2	9,947.8	67.0	125.1	-19.53	7,648.4	178.5	941.7	824.7	116.95	8.052	
18,400.0	10,835.2	17,426.9	9,950.1	67.8	126.8	-19.64	7,750.1	177.3	939.9	821.5	118.39	7.939	
18,500.0	10,835.2	17,525.9	9,952.3	68.6	128.4	-19.72	7,849.0	176.3	938.2	818.4	119.81	7.830	
18,600.0	10,835.3	17,634.9	9,954.8	69.5	130.2	-19.82	7,958.0	175.4	936.3	815.0	121.29	7.719	
18,700.0	10,835.4	17,739.9	9,958.7	70.3	131.9	-19.97	8,062.9	173.9	933.2	810.4	122.80	7.599	
18,800.0	10,835.5	17,834.4	9,961.9	71.2	133.5	-20.05	8,157.3	173.4	930.2	806.0	124.21	7.489	

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 812H
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 812H	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		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)			
18,900.0	10,835.5	17,932.3	9,964.7	72.0	135.1	-20.13	8,255.2	172.8	927.8	802.2	125.64	7.385		
19,000.0	10,835.6	18,033.8	9,967.7	72.8	136.7	-20.24	8,356.7	171.7	925.4	798.3	127.12	7.280		
19,100.0	10,835.7	18,128.2	9,970.2	73.7	138.3	-20.32	8,451.0	171.0	923.1	794.6	128.53	7.182		
19,200.0	10,835.7	18,239.8	9,973.4	74.5	140.1	-20.42	8,562.5	170.3	920.6	790.6	130.05	7.079		
19,300.0	10,835.8	18,344.4	9,977.7	75.4	141.8	-20.53	8,667.1	169.8	917.0	785.4	131.55	6.971		
19,400.0	10,835.9	18,433.3	9,980.7	76.2	143.3	-20.60	8,755.9	169.5	913.8	780.9	132.94	6.874		
19,500.0	10,836.0	18,517.1	9,982.2	77.1	144.6	-20.63	8,839.7	169.2	912.3	778.0	134.27	6.794		
19,600.0	10,836.0	18,613.3	9,983.2	77.9	146.2	-20.72	8,935.9	167.8	911.8	776.1	135.72	6.718		
19,700.0	10,836.1	18,718.7	9,984.9	78.7	147.9	-20.88	9,041.2	165.5	911.1	773.8	137.30	6.636		
19,800.0	10,836.2	18,812.6	9,985.9	79.6	149.5	-20.97	9,135.1	164.2	910.5	771.8	138.72	6.564		
19,822.6	10,836.2	18,833.3	9,986.0	79.8	149.8	-20.98	9,155.8	164.1	910.5	771.5	139.03	6.549		
19,900.0	10,836.2	18,908.1	9,985.9	80.4	151.0	-20.99	9,230.6	163.6	910.8	770.7	140.11	6.500		
20,000.0	10,836.3	19,015.3	9,987.2	81.3	152.8	-21.10	9,337.8	161.9	910.2	768.5	141.67	6.425		
20,029.6	10,836.3	19,040.3	9,987.4	81.5	153.2	-21.14	9,362.8	161.4	910.1	768.0	142.09	6.406		
20,100.0	10,836.4	19,106.0	9,987.7	82.1	154.3	-21.23	9,428.4	159.7	910.5	767.3	143.13	6.361		
20,200.0	10,836.5	19,209.4	9,989.0	83.0	156.0	-21.46	9,531.8	156.0	910.5	765.7	144.80	6.288		
20,300.0	10,836.5	19,302.9	9,989.6	83.8	157.5	-21.63	9,625.2	153.1	911.2	764.8	146.33	6.227		
20,400.0	10,836.6	19,400.3	9,989.3	84.6	159.1	-21.73	9,722.6	151.1	912.1	764.3	147.81	6.171		
20,500.0	10,836.7	19,504.4	9,988.7	85.5	160.8	-21.81	9,826.7	149.2	913.4	764.0	149.34	6.116		
20,600.0	10,836.7	19,607.1	9,988.6	86.3	162.5	-21.82	9,929.4	148.8	913.6	762.8	150.77	6.059		
20,700.0	10,836.8	19,703.8	9,988.1	87.2	164.1	-21.82	10,026.1	148.2	914.3	762.1	152.16	6.009		
20,800.0	10,836.9	19,809.1	9,987.8	88.0	165.8	-21.86	10,131.4	147.3	914.9	761.2	153.65	5.954		
20,900.0	10,837.0	19,907.7	9,987.6	88.9	167.5	-21.83	10,230.0	147.3	915.0	760.0	155.02	5.903		
20,950.9	10,837.0	19,959.5	9,987.3	89.2	168.3	-21.81	10,281.8	147.5	915.2	759.6	155.63	5.880 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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN 7 WA FED COM 9H - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 163-r.5 MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +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	-49.06	182.1	-209.9	278.0				
100.0	100.0	91.3	100.7	0.5	0.8	-49.09	181.9	-209.9	277.7	276.0	1.77	156.625	
200.0	200.0	192.1	201.5	1.0	1.5	-49.21	181.2	-210.0	277.4	274.4	2.96	93.840	
300.0	300.0	292.6	302.0	1.4	1.9	-49.51	179.7	-210.4	276.7	273.1	3.63	76.150	
400.0	400.0	392.4	401.7	1.6	2.6	-49.95	177.6	-211.3	276.0	271.3	4.70	58.792	
500.0	500.0	492.2	501.6	1.9	3.6	-50.55	175.0	-212.7	275.4	269.5	5.97	46.161	
550.8	550.8	541.5	550.8	2.0	3.7	-50.87	173.7	-213.5	275.3	269.1	6.15	44.767	
600.0	600.0	588.4	597.6	2.1	3.9	-51.15	172.8	-214.5	275.4	269.1	6.33	43.530	
700.0	700.0	678.9	688.1	2.3	4.4	-51.40	173.5	-217.3	278.3	271.7	6.63	41.970	
800.0	800.0	788.6	797.7	2.5	4.5	-51.22	176.1	-219.1	281.1	274.0	7.11	39.559	
900.0	900.0	900.0	909.1	2.7	4.8	-50.60	177.3	-215.9	279.5	271.9	7.64	36.571	
1,000.0	1,000.0	1,000.1	1,009.2	2.9	5.0	-50.45	175.5	-212.5	275.8	267.7	8.06	34.214	
1,100.0	1,100.0	1,093.0	1,101.9	3.2	5.2	-51.03	172.1	-212.7	273.6	265.1	8.50	32.186	
1,122.2	1,122.2	1,113.2	1,122.2	3.2	5.2	-51.16	171.5	-213.0	273.5	264.9	8.58	31.882 CC, ES	
1,200.0	1,200.0	1,183.2	1,192.2	3.4	5.4	-51.56	170.7	-215.0	274.6	265.7	8.84	31.047	
1,300.0	1,300.0	1,279.6	1,288.4	3.7	5.6	-102.34	171.0	-219.4	278.8	269.6	9.16	30.430	
1,400.0	1,399.8	1,374.7	1,383.3	4.0	5.8	-104.11	170.1	-225.8	284.8	275.3	9.53	29.872	
1,500.0	1,499.5	1,471.3	1,479.3	4.3	6.1	-107.12	167.0	-235.4	293.7	283.8	9.90	29.650	
1,600.0	1,598.7	1,567.9	1,575.3	4.6	6.3	-110.88	162.3	-246.2	305.0	294.7	10.29	29.632 SF	
1,700.0	1,697.7	1,665.6	1,672.2	4.8	6.6	-128.89	157.5	-257.2	319.9	309.2	10.77	29.704	
1,800.0	1,796.6	1,762.9	1,768.8	5.0	6.9	-144.85	152.8	-267.7	338.9	327.6	11.24	30.155	
1,900.0	1,895.3	1,856.8	1,861.9	5.3	7.2	-158.17	147.2	-278.3	361.8	350.0	11.72	30.865	
1,906.9	1,902.1	1,863.1	1,868.2	5.3	7.2	-159.00	146.7	-279.1	363.5	351.7	11.75	30.925	
2,000.0	1,993.8	1,950.6	1,954.8	5.4	7.5	-161.32	140.1	-290.0	387.6	375.4	12.18	31.819	
2,100.0	2,092.2	2,045.8	2,049.0	5.6	7.8	-163.53	133.0	-301.9	414.2	401.6	12.68	32.677	
2,200.0	2,190.7	2,148.6	2,150.6	5.8	8.2	-165.64	125.1	-314.1	440.7	427.5	13.22	33.335	
2,300.0	2,289.2	2,244.8	2,246.0	5.9	8.5	-167.43	117.1	-324.6	466.5	452.8	13.74	33.958	
2,400.0	2,387.7	2,339.4	2,339.5	6.1	8.9	-169.18	107.9	-335.1	492.8	478.6	14.26	34.562	
2,500.0	2,486.2	2,442.5	2,441.4	6.3	9.2	-171.06	96.3	-346.2	518.9	504.1	14.83	35.003	
2,600.0	2,584.6	2,541.2	2,539.0	6.5	9.6	-172.72	84.7	-355.7	544.4	529.0	15.37	35.425	
2,700.0	2,683.1	2,632.2	2,628.8	6.6	9.9	-174.16	73.6	-364.6	570.4	554.5	15.90	35.876	
2,800.0	2,781.6	2,721.0	2,716.4	6.8	10.3	-175.43	63.0	-374.4	597.8	581.4	16.46	36.324	
2,818.7	2,800.0	2,735.9	2,731.1	6.8	10.3	-175.63	61.3	-376.1	603.1	586.6	16.54	36.468	
2,900.0	2,880.1	2,812.4	2,806.6	7.0	10.6	173.78	52.1	-385.2	626.4	609.5	16.96	36.944	
2,904.0	2,884.0	2,815.0	2,809.1	7.0	10.7	173.28	51.7	-385.5	627.6	610.6	16.97	36.984	
3,000.0	2,978.5	2,904.4	2,897.1	7.2	11.0	172.40	40.5	-396.4	655.6	638.0	17.51	37.436	
3,100.0	3,077.0	2,982.4	2,973.8	7.3	11.3	171.72	31.1	-407.0	686.2	668.1	18.08	37.957	
3,200.0	3,175.5	3,077.1	3,066.9	7.5	11.7	171.13	21.6	-421.5	718.5	699.7	18.73	38.356	
3,300.0	3,273.9	3,197.2	3,185.4	7.7	12.2	170.55	11.0	-437.7	749.1	729.6	19.53	38.354	
3,400.0	3,372.4	3,319.8	3,307.0	7.9	12.8	170.15	1.9	-450.1	776.6	756.3	20.29	38.275	
3,500.0	3,470.8	3,449.7	3,436.6	8.1	13.2	170.17	-2.1	-457.7	799.5	778.4	21.03	38.008	
3,600.0	3,569.3	3,551.7	3,538.5	8.3	13.4	170.53	-0.1	-461.7	820.5	799.3	21.21	38.689	
3,700.0	3,667.8	3,682.5	3,669.2	8.5	13.5	171.11	4.4	-464.5	839.9	818.4	21.44	39.166	
3,800.0	3,766.2	3,776.5	3,763.2	8.6	13.4	171.46	7.0	-464.9	857.5	835.9	21.66	39.597	
3,900.0	3,864.7	3,872.1	3,858.7	8.8	13.4	171.79	9.5	-465.4	875.4	853.5	21.89	39.982	
3,974.8	3,938.4	3,945.2	3,931.8	9.0	13.4	172.04	11.5	-465.9	888.8	866.8	22.06	40.284	
4,000.0	3,963.1	3,969.8	3,956.4	9.0	13.4	172.13	12.1	-466.1	893.3	871.2	22.12	40.394	
4,100.0	4,061.8	4,069.5	4,056.1	9.2	13.4	172.46	14.8	-466.9	910.1	887.8	22.36	40.695	
4,200.0	4,160.8	4,172.9	4,159.4	9.4	13.4	172.72	16.7	-467.2	924.8	902.2	22.57	40.968	
4,300.0	4,260.0	4,270.4	4,257.0	9.6	13.4	172.89	17.6	-467.3	937.6	914.7	22.92	40.905	
4,400.0	4,359.4	4,367.6	4,354.1	9.7	13.5	173.01	17.9	-467.8	949.0	925.5	23.45	40.464	

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 812H
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 812H	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)			
4,500.0	4,458.9	4,467.5	4,454.0	9.9	13.7	173.11	18.3	-468.3	958.7	935.0	23.72	40.412	
4,600.0	4,558.6	4,565.9	4,552.4	10.1	13.8	173.19	18.7	-468.9	966.7	942.6	24.13	40.057	
4,700.0	4,658.5	4,663.8	4,650.3	10.3	14.0	173.26	19.0	-469.6	973.3	948.6	24.62	39.528	
4,800.0	4,758.4	4,763.8	4,750.4	10.4	14.2	173.30	19.2	-470.4	978.1	953.0	25.14	38.910	
4,900.0	4,858.4	4,860.1	4,846.6	10.6	14.4	173.28	18.5	-471.4	981.3	956.2	25.16	39.005	
4,981.6	4,940.0	4,940.0	4,926.5	10.6	14.5	-89.00	17.2	-472.5	983.0	957.6	25.43	38.661	
5,000.0	4,958.4	4,958.6	4,945.1	10.6	14.6	-89.02	16.9	-472.7	983.3	957.8	25.47	38.602	
5,100.0	5,058.4	5,059.8	5,046.2	10.7	14.8	-89.12	15.1	-474.1	984.5	958.8	25.77	38.205	
5,200.0	5,158.4	5,161.6	5,148.0	10.8	15.1	-89.24	13.1	-475.2	985.7	959.7	26.02	37.875	
5,300.0	5,258.4	5,263.5	5,250.0	10.9	15.3	-89.34	11.5	-476.2	986.6	960.4	26.24	37.596	
5,400.0	5,358.4	5,367.2	5,353.7	10.9	15.5	-89.36	11.0	-476.9	987.3	961.2	26.15	37.761	
5,500.0	5,458.4	5,462.1	5,448.5	11.0	15.6	-89.36	11.1	-477.6	988.0	961.6	26.45	37.353	
5,600.0	5,558.4	5,563.4	5,549.8	11.1	15.9	-89.37	11.0	-478.6	989.0	962.2	26.80	36.905	
5,700.0	5,658.4	5,659.9	5,646.3	11.2	16.1	-89.38	10.8	-479.6	990.0	962.9	27.07	36.566	
5,800.0	5,758.4	5,759.3	5,745.7	11.2	16.3	-89.40	10.4	-480.8	991.3	963.8	27.43	36.139	
5,900.0	5,858.4	5,859.4	5,845.8	11.3	16.6	-89.42	10.1	-482.1	992.5	964.8	27.74	35.773	
6,000.0	5,958.4	5,956.6	5,943.0	11.4	16.8	-89.44	9.6	-483.5	993.9	965.9	28.08	35.395	
6,100.0	6,058.4	6,056.8	6,043.2	11.5	17.1	-89.48	9.0	-485.0	995.5	967.0	28.46	34.979	
6,200.0	6,158.4	6,156.3	6,142.6	11.5	17.3	-89.53	8.2	-486.5	997.0	968.2	28.78	34.640	
6,300.0	6,258.4	6,255.4	6,241.8	11.6	17.6	-89.57	7.5	-488.2	998.7	969.6	29.11	34.303	
6,800.0	6,758.4	6,785.2	6,771.5	12.0	17.9	-89.67	5.8	-488.9	999.3	969.7	29.59	33.776	
6,900.0	6,858.4	6,885.7	6,872.0	12.0	17.7	-89.67	5.8	-487.5	998.0	968.5	29.48	33.852	
7,000.0	6,958.4	6,980.1	6,966.4	12.1	17.6	-89.67	5.8	-486.5	996.9	967.5	29.38	33.927	
7,100.0	7,058.4	7,078.5	7,064.7	12.2	17.5	-89.66	5.9	-485.8	996.1	966.8	29.30	33.996	
7,180.6	7,139.0	7,152.7	7,139.0	12.2	17.5	-89.65	6.0	-485.6	995.9	966.5	29.35	33.937	
7,200.0	7,158.4	7,171.0	7,157.3	12.3	17.5	-89.65	6.1	-485.6	995.9	966.5	29.39	33.880	
7,300.0	7,258.4	7,268.5	7,254.8	12.3	17.6	-89.67	5.8	-485.8	996.1	966.2	29.92	33.296	
7,400.0	7,358.4	7,367.5	7,353.8	12.4	17.8	-89.70	5.3	-486.2	996.5	966.4	30.11	33.095	
7,500.0	7,458.4	7,466.4	7,452.7	12.5	18.0	-89.73	4.7	-486.7	997.0	966.7	30.32	32.885	
7,600.0	7,558.4	7,564.6	7,550.8	12.6	18.2	-89.76	4.2	-487.4	997.7	967.2	30.54	32.671	
7,700.0	7,658.4	7,662.1	7,648.3	12.6	18.4	-89.80	3.4	-488.2	998.5	967.7	30.83	32.383	
7,800.0	7,758.4	7,755.6	7,741.8	12.7	18.6	-89.86	2.4	-489.4	999.9	968.8	31.06	32.195	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 501H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7959-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		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	
0.0	0.0	0.0	0.0	0.0	0.0	-90.15	-0.2	-74.9	74.9					
100.0	100.0	100.0	100.0	0.5	0.5	-90.15	-0.2	-74.9	74.9	73.4	1.48	50.425		
200.0	200.0	200.0	200.0	1.0	1.0	-90.15	-0.2	-74.9	74.9	72.4	2.47	30.339		
300.0	300.0	300.0	300.0	1.4	1.4	-90.15	-0.2	-74.9	74.9	71.8	3.11	24.109		
400.0	400.0	400.0	400.0	1.6	1.6	-90.15	-0.2	-74.9	74.9	71.3	3.62	20.704		
500.0	500.0	500.0	500.0	1.9	1.9	-90.15	-0.2	-74.9	74.9	70.8	4.05	18.465		
600.0	600.0	600.0	600.0	2.1	2.1	-90.15	-0.2	-74.9	74.9	70.4	4.44	16.844		
700.0	700.0	700.0	700.0	2.3	2.3	-90.15	-0.2	-74.9	74.9	70.1	4.80	15.597		
800.0	800.0	800.0	800.0	2.5	2.5	-90.15	-0.2	-74.9	74.9	69.7	5.13	14.600		
900.0	900.0	900.0	900.0	2.7	2.7	-90.15	-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	-90.15	-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	-90.15	-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	-90.15	-0.2	-74.9	74.9	68.1	6.75	11.090 CC, ES		
1,300.0	1,300.0	1,297.4	1,297.4	3.7	3.6	-141.13	-0.5	-76.5	77.9	70.5	7.41	10.513 SF		
1,400.0	1,399.8	1,394.1	1,394.0	4.0	3.9	-143.62	-1.3	-81.3	87.1	79.1	8.03	10.850		
1,500.0	1,499.5	1,489.6	1,489.1	4.3	4.2	-146.74	-2.7	-89.3	102.6	94.0	8.62	11.912		
1,600.0	1,598.7	1,583.2	1,582.1	4.6	4.5	-149.74	-4.6	-100.1	124.6	115.5	9.17	13.585		
1,700.0	1,697.7	1,674.8	1,672.6	4.8	4.7	-166.18	-7.0	-113.5	152.3	142.7	9.62	15.825		
1,800.0	1,796.6	1,768.3	1,764.7	5.0	4.9	-179.66	-9.8	-129.4	183.8	173.8	10.00	18.385		
1,900.0	1,895.3	1,862.6	1,857.6	5.3	5.1	169.97	-12.7	-145.5	216.9	206.5	10.36	20.931		
1,906.9	1,902.1	1,869.1	1,864.0	5.3	5.1	169.36	-12.9	-146.7	219.2	208.8	10.39	21.105		
2,000.0	1,993.8	1,956.6	1,950.2	5.4	5.3	170.20	-15.5	-161.6	250.8	240.1	10.70	23.439		
2,100.0	2,092.2	2,050.6	2,042.8	5.6	5.4	170.88	-18.3	-177.7	284.8	273.7	11.05	25.763		
2,200.0	2,190.7	2,144.6	2,135.4	5.8	5.6	171.42	-21.2	-193.8	318.8	307.4	11.41	27.931		
2,300.0	2,289.2	2,238.6	2,227.9	5.9	5.8	171.86	-24.0	-209.8	352.9	341.1	11.78	29.953		
2,400.0	2,387.7	2,332.6	2,320.5	6.1	6.0	172.22	-26.8	-225.9	386.9	374.8	12.15	31.839		
2,500.0	2,486.2	2,426.6	2,413.1	6.3	6.1	172.52	-29.7	-242.0	421.0	408.4	12.53	33.601		
2,600.0	2,584.6	2,520.6	2,505.6	6.5	6.3	172.78	-32.5	-258.1	455.0	442.1	12.91	35.247		
2,700.0	2,683.1	2,614.6	2,598.2	6.6	6.5	173.00	-35.3	-274.1	489.1	475.8	13.30	36.788		
2,800.0	2,781.6	2,708.6	2,690.8	6.8	6.7	173.19	-38.2	-290.2	523.2	509.5	13.69	38.230		
2,818.7	2,800.0	2,726.2	2,708.1	6.8	6.7	173.22	-38.7	-293.2	529.6	515.8	13.75	38.526		
2,900.0	2,880.1	2,802.7	2,783.4	7.0	6.9	163.70	-41.0	-306.3	557.1	543.1	14.03	39.710		
2,904.0	2,884.0	2,806.4	2,787.1	7.0	6.9	163.25	-41.1	-306.9	558.5	544.4	14.04	39.766		
3,000.0	2,978.5	2,896.7	2,876.0	7.2	7.0	163.67	-43.8	-322.4	590.8	576.4	14.41	40.991		
3,100.0	3,077.0	2,990.8	2,968.7	7.3	7.2	164.07	-46.7	-338.5	624.5	609.6	14.81	42.176		
3,200.0	3,175.5	3,074.8	3,051.3	7.5	7.4	164.41	-49.0	-353.3	658.6	643.5	15.13	43.540		
3,300.0	3,273.9	3,152.3	3,127.2	7.7	7.5	164.79	-50.3	-368.7	694.9	679.4	15.45	44.966		
3,400.0	3,372.4	3,228.3	3,201.3	7.9	7.7	165.23	-50.7	-385.6	733.3	717.5	15.76	46.542		
3,500.0	3,470.8	3,310.9	3,281.4	8.1	7.8	165.74	-50.3	-405.8	773.6	757.5	16.05	48.184		
3,600.0	3,569.3	3,402.0	3,369.8	8.3	8.0	166.27	-49.7	-428.3	814.2	797.7	16.46	49.474		
3,700.0	3,667.8	3,493.2	3,458.1	8.5	8.2	166.74	-49.1	-450.7	854.9	838.0	16.86	50.693		
3,800.0	3,766.2	3,584.3	3,546.4	8.6	8.4	167.18	-48.6	-473.2	895.6	878.3	17.27	51.846		
3,900.0	3,864.7	3,675.5	3,634.7	8.8	8.6	167.57	-48.0	-495.6	936.3	918.7	17.69	52.936		
3,974.8	3,938.4	3,743.7	3,700.8	9.0	8.7	167.85	-47.6	-512.5	966.9	948.9	17.99	53.753		
4,000.0	3,963.1	3,766.6	3,723.1	9.0	8.8	167.96	-47.4	-518.1	977.1	959.0	18.08	54.055		

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 503H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7904-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Reference	Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	25.0	25.1					
100.0	100.0	100.0	100.0	0.5	0.5	90.02	0.0	25.0	25.1	23.6	1.48	16.871		
200.0	200.0	200.0	200.0	1.0	1.0	90.02	0.0	25.0	25.1	22.6	2.47	10.151		
300.0	300.0	300.0	300.0	1.4	1.4	90.02	0.0	25.0	25.1	21.9	3.11	8.066		
400.0	400.0	400.0	400.0	1.6	1.6	90.02	0.0	25.0	25.1	21.4	3.62	6.927		
500.0	500.0	500.0	500.0	1.9	1.9	90.02	0.0	25.0	25.1	21.0	4.05	6.178		
600.0	600.0	600.0	600.0	2.1	2.1	90.02	0.0	25.0	25.1	20.6	4.44	5.636		
700.0	700.0	700.0	700.0	2.3	2.3	90.02	0.0	25.0	25.1	20.2	4.80	5.219		
800.0	800.0	800.0	800.0	2.5	2.5	90.02	0.0	25.0	25.1	19.9	5.13	4.885		
900.0	900.0	900.0	900.0	2.7	2.7	90.02	0.0	25.0	25.1	19.6	5.43	4.609		
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	90.02	0.0	25.0	25.1	19.3	5.72	4.377		
1,100.0	1,100.0	1,100.0	1,100.0	3.2	3.2	90.02	0.0	25.0	25.1	18.8	6.27	3.992		
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.4	90.02	0.0	25.0	25.1	18.3	6.75	3.710 CC		
1,300.0	1,300.0	1,299.2	1,299.2	3.7	3.6	44.49	-0.9	26.5	25.3	17.9	7.38	3.427 ES		
1,400.0	1,399.8	1,398.2	1,398.0	4.0	3.9	57.01	-3.4	31.0	26.9	18.9	7.96	3.379 SF		
1,500.0	1,499.5	1,496.9	1,496.4	4.3	4.0	73.06	-7.4	38.4	31.8	23.5	8.28	3.839		
1,600.0	1,598.7	1,595.6	1,594.4	4.6	4.3	85.18	-10.7	49.0	40.0	31.3	8.72	4.588		
1,700.0	1,697.7	1,694.5	1,692.3	4.8	4.5	77.41	-13.0	62.8	48.9	39.7	9.24	5.296		
1,800.0	1,796.6	1,794.0	1,790.5	5.0	4.7	66.83	-14.5	79.3	55.6	45.9	9.62	5.777		
1,900.0	1,895.3	1,894.0	1,889.0	5.3	4.8	58.11	-15.9	95.9	58.8	48.8	10.05	5.854		
1,906.9	1,902.1	1,900.9	1,895.8	5.3	4.9	57.59	-16.0	97.1	58.9	48.8	10.08	5.847		
2,000.0	1,993.8	1,993.9	1,987.6	5.4	5.0	59.14	-17.4	112.6	60.2	49.8	10.39	5.790		
2,100.0	2,092.2	2,093.9	2,086.2	5.6	5.2	60.74	-18.8	129.2	61.5	50.8	10.74	5.729		
2,200.0	2,190.7	2,193.9	2,184.7	5.8	5.4	62.26	-20.3	145.9	62.9	51.9	11.09	5.678		
2,300.0	2,289.2	2,293.9	2,283.3	5.9	5.6	63.72	-21.8	162.5	64.4	53.0	11.43	5.635		
2,400.0	2,387.7	2,393.8	2,381.9	6.1	5.8	65.11	-23.2	179.2	65.9	54.1	11.77	5.601		
2,500.0	2,486.2	2,493.8	2,480.4	6.3	6.0	66.44	-24.7	195.8	67.5	55.3	12.10	5.572		
2,600.0	2,584.6	2,593.8	2,579.0	6.5	6.2	67.70	-26.1	212.5	69.0	56.6	12.44	5.549		
2,700.0	2,683.1	2,693.8	2,677.6	6.6	6.4	68.91	-27.6	229.1	70.6	57.9	12.77	5.531		
2,800.0	2,781.6	2,793.8	2,776.1	6.8	6.6	70.07	-29.0	245.8	72.3	59.2	13.10	5.517		
2,818.7	2,800.0	2,812.4	2,794.6	6.8	6.6	70.28	-29.3	248.9	72.6	59.4	13.14	5.522		
2,900.0	2,880.1	2,893.7	2,874.7	7.0	6.8	61.65	-30.5	262.4	72.9	59.4	13.44	5.422		
2,904.0	2,884.0	2,897.7	2,878.7	7.0	6.8	61.21	-30.6	263.1	72.8	59.4	13.45	5.413		
3,000.0	2,978.5	2,993.7	2,973.3	7.2	7.0	61.44	-32.0	279.1	71.8	58.0	13.76	5.215		
3,100.0	3,077.0	3,093.9	3,072.1	7.3	7.1	61.75	-33.4	295.7	70.6	56.6	14.04	5.032		
3,200.0	3,175.5	3,194.4	3,171.4	7.5	7.3	63.07	-34.8	311.0	69.0	54.6	14.36	4.804		
3,300.0	3,273.9	3,294.8	3,270.8	7.7	7.5	65.85	-35.9	324.6	66.7	52.0	14.67	4.544		
3,400.0	3,372.4	3,395.0	3,370.3	7.9	7.7	70.31	-37.0	336.5	64.0	49.0	14.97	4.275		
3,500.0	3,470.8	3,495.0	3,469.8	8.1	7.9	76.70	-37.9	346.6	61.4	46.1	15.27	4.020		
3,600.0	3,569.3	3,594.7	3,569.1	8.3	8.1	85.21	-38.6	354.9	59.5	43.9	15.60	3.817		
3,663.1	3,631.4	3,657.4	3,631.7	8.4	8.2	91.61	-39.0	359.2	59.1	43.3	15.83	3.735		
3,700.0	3,667.8	3,694.0	3,668.3	8.5	8.2	95.67	-39.2	361.5	59.3	43.3	15.98	3.711		
3,800.0	3,766.2	3,792.9	3,767.1	8.6	8.4	107.33	-39.6	366.3	61.6	45.2	16.42	3.753		
3,900.0	3,864.7	3,891.4	3,865.5	8.8	8.6	118.96	-39.9	369.5	67.2	50.3	16.87	3.982		
3,974.8	3,938.4	3,964.8	3,938.9	9.0	8.7	126.95	-40.0	370.7	73.6	56.5	17.16	4.290		
4,000.0	3,963.1	3,989.4	3,963.5	9.0	8.7	129.41	-40.0	370.9	76.2	58.9	17.25	4.417		
4,100.0	4,061.8	4,087.8	4,061.8	9.2	8.8	137.59	-40.0	371.0	87.3	69.5	17.86	4.890		
4,200.0	4,160.8	4,186.7	4,160.8	9.4	8.9	143.31	-40.0	371.0	98.6	80.3	18.22	5.409		
4,300.0	4,260.0	4,285.9	4,260.0	9.6	8.9	147.36	-40.0	371.0	109.1	90.5	18.55	5.880		
4,400.0	4,359.4	4,385.3	4,359.4	9.7	9.0	150.27	-40.0	371.0	118.5	99.7	18.85	6.286		
4,500.0	4,458.9	4,484.8	4,458.9	9.9	9.1	152.39	-40.0	371.0	126.6	107.5	19.14	6.618		

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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: RICK VAUGHN FED COM PROJECT - RICK VAUGHN FED COM 503H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1000-r.5 MWD+IFR1+SAG+FDIR, 7904-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		No-Go		Separation	
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
4,600.0	4,558.6	4,584.6	4,558.6	10.1	9.2	153.92	-40.0	371.0	133.4	114.0	19.41	6.871	
4,700.0	4,658.5	4,684.4	4,658.5	10.3	9.3	154.99	-40.0	371.0	138.6	118.9	19.67	7.045	
4,800.0	4,758.4	4,784.3	4,758.4	10.4	9.4	155.69	-40.0	371.0	142.3	122.3	19.92	7.142	
4,900.0	4,858.4	4,884.3	4,858.4	10.6	9.4	156.08	-40.0	371.0	144.4	124.2	20.15	7.162	
4,981.6	4,940.0	4,965.9	4,940.0	10.6	9.5	-106.03	-40.0	371.0	144.9	124.6	20.28	7.142	
5,000.0	4,958.4	4,984.3	4,958.4	10.6	9.5	-106.03	-40.0	371.0	144.9	124.6	20.30	7.136	
5,100.0	5,058.4	5,084.3	5,058.4	10.7	9.6	-106.03	-40.0	371.0	144.9	124.4	20.47	7.078	
5,200.0	5,158.4	5,184.3	5,158.4	10.8	9.7	-106.03	-40.0	371.0	144.9	124.3	20.62	7.026	
5,300.0	5,258.4	5,284.3	5,258.4	10.9	9.8	-106.03	-40.0	371.0	144.9	124.1	20.77	6.974	
5,400.0	5,358.4	5,384.3	5,358.4	10.9	9.9	-106.03	-40.0	371.0	144.9	124.0	20.93	6.924	
5,500.0	5,458.4	5,484.3	5,458.4	11.0	9.9	-106.03	-40.0	371.0	144.9	123.8	21.08	6.874	
5,600.0	5,558.4	5,584.3	5,558.4	11.1	10.0	-106.03	-40.0	371.0	144.9	123.7	21.23	6.824	
5,700.0	5,658.4	5,684.3	5,658.4	11.2	10.1	-106.03	-40.0	371.0	144.9	123.5	21.38	6.776	
5,800.0	5,758.4	5,784.3	5,758.4	11.2	10.2	-106.03	-40.0	371.0	144.9	123.3	21.54	6.727	
5,900.0	5,858.4	5,884.3	5,858.4	11.3	10.3	-106.03	-40.0	371.0	144.9	123.2	21.69	6.680	
6,000.0	5,958.4	5,984.3	5,958.4	11.4	10.3	-106.03	-40.0	371.0	144.9	123.0	21.84	6.633	
6,100.0	6,058.4	6,084.3	6,058.4	11.5	10.4	-106.03	-40.0	371.0	144.9	122.9	21.99	6.587	
6,200.0	6,158.4	6,184.3	6,158.4	11.5	10.5	-106.03	-40.0	371.0	144.9	122.7	22.15	6.542	
6,300.0	6,258.4	6,284.3	6,258.4	11.6	10.6	-106.03	-40.0	371.0	144.9	122.6	22.30	6.497	
6,400.0	6,358.4	6,384.3	6,358.4	11.7	10.7	-106.03	-40.0	371.0	144.9	122.4	22.45	6.452	
6,500.0	6,458.4	6,484.3	6,458.4	11.7	10.8	-106.03	-40.0	371.0	144.9	122.3	22.61	6.408	
6,600.0	6,558.4	6,584.3	6,558.4	11.8	10.8	-106.03	-40.0	371.0	144.9	122.1	22.76	6.365	
6,700.0	6,658.4	6,684.3	6,658.4	11.9	10.9	-106.03	-40.0	371.0	144.9	122.0	22.92	6.322	
6,800.0	6,758.4	6,784.3	6,758.4	12.0	11.0	-106.03	-40.0	371.0	144.9	121.8	23.07	6.280	
6,900.0	6,858.4	6,884.3	6,858.4	12.0	11.1	-106.03	-40.0	371.0	144.9	121.7	23.22	6.239	
7,000.0	6,958.4	6,984.3	6,958.4	12.1	11.2	-106.03	-40.0	371.0	144.9	121.5	23.38	6.198	
7,100.0	7,058.4	7,084.3	7,058.4	12.2	11.3	-106.03	-40.0	371.0	144.9	121.4	23.53	6.157	
7,200.0	7,158.4	7,184.3	7,158.4	12.3	11.3	-106.03	-40.0	371.0	144.9	121.2	23.69	6.117	
7,300.0	7,258.4	7,284.3	7,258.4	12.3	11.4	-106.03	-40.0	371.0	144.9	121.0	23.84	6.077	
7,400.0	7,358.4	7,384.3	7,358.4	12.4	11.5	-106.03	-40.0	371.0	144.9	120.9	23.99	6.038	
7,500.0	7,458.4	7,484.3	7,458.4	12.5	11.6	-106.03	-40.0	371.0	144.9	120.7	24.15	6.000	
7,600.0	7,558.4	7,584.3	7,558.4	12.6	11.7	-106.03	-40.0	371.0	144.9	120.6	24.30	5.961	
7,700.0	7,658.4	7,684.3	7,658.4	12.6	11.7	-106.03	-40.0	371.0	144.9	120.4	24.46	5.924	
7,800.0	7,758.4	7,784.3	7,758.4	12.7	11.8	-106.03	-40.0	371.0	144.9	120.3	24.61	5.886	
7,900.0	7,858.4	7,884.3	7,858.4	12.8	11.9	-106.03	-40.0	371.0	144.9	120.1	24.77	5.850	
8,000.0	7,958.4	7,990.3	7,964.0	12.8	11.9	-103.33	-33.0	371.0	143.2	118.3	24.92	5.747	
8,100.0	8,058.4	8,090.8	8,060.5	12.9	12.0	-92.30	-5.6	371.0	139.5	114.5	25.00	5.579	
8,114.9	8,073.3	8,104.7	8,073.3	12.9	12.0	-90.10	-0.2	371.0	139.3	114.4	24.99	5.575	
8,200.0	8,158.4	8,176.9	8,137.0	13.0	12.0	-76.49	33.5	370.9	145.0	120.0	24.93	5.814	
8,300.0	8,258.4	8,247.1	8,193.5	13.1	12.0	-61.68	75.2	370.8	171.2	146.1	25.15	6.810	
8,400.0	8,358.4	8,303.3	8,233.9	13.1	12.1	-50.73	114.2	370.7	219.1	193.4	25.75	8.510	
8,500.0	8,458.4	8,350.0	8,263.8	13.2	12.1	-42.96	150.0	370.6	282.7	256.3	26.35	10.725	
8,600.0	8,558.4	8,384.0	8,283.2	13.3	12.1	-38.16	177.9	370.5	356.2	329.4	26.82	13.281	
8,700.0	8,658.4	8,413.1	8,298.3	13.4	12.2	-34.59	202.8	370.5	436.2	409.2	27.06	16.124	
8,800.0	8,758.4	8,437.1	8,309.6	13.4	12.2	-31.99	224.0	370.4	520.7	493.6	27.12	19.199	
8,900.0	8,858.4	8,457.1	8,318.1	13.5	12.2	-30.04	242.0	370.4	608.3	581.2	27.05	22.486	
9,000.0	8,958.4	8,475.0	8,325.2	13.6	12.3	-28.43	258.5	370.3	698.1	671.2	26.86	25.991	
9,100.0	9,058.4	8,488.2	8,330.0	13.7	12.3	-27.33	270.9	370.3	789.6	763.0	26.61	29.670	
9,200.0	9,158.4	8,500.0	8,333.9	13.7	12.3	-26.41	281.9	370.3	882.5	856.2	26.28	33.581	
9,300.0	9,258.4	8,511.3	8,337.5	13.8	12.3	-25.57	292.7	370.2	976.4	950.5	25.86	37.753	

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 812H
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 812H	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
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)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-25.0	25.0				
100.0	100.0	100.0	100.0	0.5	0.5	-90.00	0.0	-25.0	25.0	23.5	1.48	16.810	
200.0	200.0	200.0	200.0	1.0	1.0	-90.00	0.0	-25.0	25.0	22.5	2.47	10.114	
300.0	300.0	300.0	300.0	1.4	1.4	-90.00	0.0	-25.0	25.0	21.9	3.11	8.037	
400.0	400.0	400.0	400.0	1.6	1.6	-90.00	0.0	-25.0	25.0	21.3	3.62	6.902	
500.0	500.0	500.0	500.0	1.9	1.9	-90.00	0.0	-25.0	25.0	20.9	4.05	6.156	
600.0	600.0	600.0	600.0	2.1	2.1	-90.00	0.0	-25.0	25.0	20.5	4.44	5.615	
700.0	700.0	700.0	700.0	2.3	2.3	-90.00	0.0	-25.0	25.0	20.2	4.80	5.200	
800.0	800.0	800.0	800.0	2.5	2.5	-90.00	0.0	-25.0	25.0	19.8	5.13	4.867	
900.0	900.0	900.0	900.0	2.7	2.7	-90.00	0.0	-25.0	25.0	19.5	5.43	4.593	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	-90.00	0.0	-25.0	25.0	19.2	5.72	4.361	
1,100.0	1,100.0	1,100.0	1,100.0	3.2	3.0	-90.00	0.0	-25.0	25.0	18.8	6.14	4.067	
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.2	-90.00	0.0	-25.0	25.0	18.5	6.51	3.835 CC, ES, SF	
1,300.0	1,300.0	1,299.5	1,299.5	3.7	3.5	-139.17	1.5	-25.8	27.2	20.2	6.99	3.889	
1,400.0	1,399.8	1,398.7	1,398.6	4.0	3.8	-137.32	6.0	-28.4	33.8	26.4	7.44	4.546	
1,500.0	1,499.5	1,497.4	1,496.8	4.3	4.0	-135.42	13.4	-32.7	44.9	37.0	7.86	5.707	
1,600.0	1,598.7	1,594.8	1,593.7	4.6	4.2	-136.12	21.2	-39.0	60.7	52.4	8.28	7.327	
1,700.0	1,697.7	1,691.0	1,689.4	4.8	4.3	-152.39	27.1	-47.9	81.4	72.8	8.58	9.485	
1,800.0	1,796.6	1,788.1	1,785.8	5.0	4.4	-165.41	32.3	-57.7	105.3	96.4	8.90	11.830	
1,900.0	1,895.3	1,884.6	1,881.7	5.3	4.6	-175.04	37.5	-67.5	131.5	122.2	9.24	14.235	
1,906.9	1,902.1	1,891.2	1,888.3	5.3	4.6	-175.60	37.8	-68.1	133.4	124.1	9.26	14.403	
2,000.0	1,993.8	1,980.7	1,977.1	5.4	4.7	-174.39	42.6	-77.2	158.9	149.4	9.54	16.659	
2,100.0	2,092.2	2,076.8	2,072.6	5.6	4.8	-173.45	47.8	-87.0	186.4	176.6	9.84	18.949	
2,200.0	2,190.7	2,172.9	2,168.1	5.8	5.0	-172.76	52.9	-96.7	214.0	203.8	10.17	21.040	
2,300.0	2,289.2	2,269.0	2,263.6	5.9	5.1	-172.22	58.1	-106.4	241.5	231.0	10.51	22.970	
2,400.0	2,387.7	2,365.9	2,359.8	6.1	5.2	-171.80	63.2	-116.2	269.1	258.3	10.81	24.889	
2,500.0	2,486.2	2,466.9	2,460.3	6.3	5.3	-171.52	68.1	-125.4	295.6	284.5	11.16	26.500	
2,600.0	2,584.6	2,568.8	2,561.8	6.5	5.5	-171.42	72.2	-133.1	320.6	309.0	11.53	27.810	
2,700.0	2,683.1	2,671.6	2,664.4	6.6	5.6	-171.44	75.4	-139.3	343.9	332.0	11.90	28.900	
2,800.0	2,781.6	2,775.2	2,767.8	6.8	5.8	-171.57	77.8	-143.8	365.6	353.3	12.27	29.795	
2,818.7	2,800.0	2,794.6	2,787.2	6.8	5.8	-171.60	78.2	-144.5	369.5	357.2	12.32	29.983	
2,900.0	2,880.1	2,879.5	2,872.1	7.0	6.0	178.87	79.3	-146.7	385.8	373.2	12.62	30.568	
2,904.0	2,884.0	2,883.7	2,876.3	7.0	6.0	178.41	79.4	-146.8	386.6	373.9	12.64	30.594	
3,000.0	2,978.5	2,984.5	2,977.0	7.2	6.1	178.55	80.0	-147.9	404.5	391.5	12.98	31.156	
3,100.0	3,077.0	3,084.4	3,077.0	7.3	6.2	178.62	80.0	-148.0	422.0	408.7	13.30	31.717	
3,200.0	3,175.5	3,182.9	3,175.5	7.5	6.4	178.67	80.0	-148.0	439.5	425.8	13.63	32.252	
3,300.0	3,273.9	3,281.4	3,273.9	7.7	6.5	178.72	80.0	-148.0	456.9	443.0	13.95	32.759	
3,400.0	3,372.4	3,379.8	3,372.4	7.9	6.6	178.77	80.0	-148.0	474.4	460.1	14.27	33.245	
3,500.0	3,470.8	3,478.3	3,470.8	8.1	6.7	178.81	80.0	-148.0	491.9	477.3	14.59	33.710	
3,600.0	3,569.3	3,576.7	3,569.3	8.3	6.8	178.85	80.0	-148.0	509.4	494.5	14.91	34.155	
3,700.0	3,667.8	3,675.2	3,667.8	8.5	6.9	178.89	80.0	-148.0	526.8	511.6	15.23	34.581	
3,800.0	3,766.2	3,773.7	3,766.2	8.6	7.1	178.93	80.0	-148.0	544.3	528.8	15.56	34.992	
3,900.0	3,864.7	3,872.1	3,864.7	8.8	7.2	178.96	80.0	-148.0	561.8	545.9	15.88	35.387	
3,974.8	3,938.4	3,945.8	3,938.4	9.0	7.3	178.98	80.0	-148.0	574.9	558.8	16.09	35.721	
4,000.0	3,963.1	3,970.6	3,963.1	9.0	7.3	178.99	80.0	-148.0	579.2	563.1	16.16	35.850	
4,100.0	4,061.8	4,069.3	4,061.8	9.2	7.4	179.02	80.0	-148.0	595.4	578.9	16.48	36.129	
4,200.0	4,160.8	4,168.2	4,160.8	9.4	7.5	179.05	80.0	-148.0	609.9	593.1	16.79	36.317	
4,300.0	4,260.0	4,267.4	4,260.0	9.6	7.6	179.07	80.0	-148.0	622.6	605.5	17.10	36.404	
4,400.0	4,359.4	4,366.8	4,359.4	9.7	7.7	179.09	80.0	-148.0	633.6	616.2	17.41	36.399	
4,500.0	4,458.9	4,466.4	4,458.9	9.9	7.8	179.10	80.0	-148.0	642.9	625.2	17.71	36.306	
4,600.0	4,558.6	4,566.1	4,558.6	10.1	7.9	179.11	80.0	-148.0	650.4	632.4	18.00	36.132	

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 812H
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 812H	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					
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
4,700.0	4,658.5	4,665.9	4,658.5	10.3	8.1	179.12	80.0	-148.0	656.2	637.9	18.29	35.884	
4,800.0	4,758.4	4,765.8	4,758.4	10.4	8.2	179.13	80.0	-148.0	660.2	641.7	18.56	35.568	
4,900.0	4,858.4	4,865.8	4,858.4	10.6	8.3	179.13	80.0	-148.0	662.5	643.7	18.83	35.192	
4,981.6	4,940.0	4,947.4	4,940.0	10.6	8.4	-83.07	80.0	-148.0	663.1	644.1	18.98	34.945	
5,000.0	4,958.4	4,965.8	4,958.4	10.6	8.4	-83.07	80.0	-148.0	663.1	644.1	19.00	34.908	
5,100.0	5,058.4	5,065.8	5,058.4	10.7	8.5	-83.07	80.0	-148.0	663.1	643.9	19.19	34.563	
5,200.0	5,158.4	5,165.8	5,158.4	10.8	8.6	-83.07	80.0	-148.0	663.1	643.7	19.36	34.256	
5,300.0	5,258.4	5,265.8	5,258.4	10.9	8.7	-83.07	80.0	-148.0	663.1	643.6	19.53	33.954	
5,400.0	5,358.4	5,365.8	5,358.4	10.9	8.8	-83.07	80.0	-148.0	663.1	643.4	19.70	33.658	
5,500.0	5,458.4	5,465.8	5,458.4	11.0	8.9	-83.07	80.0	-148.0	663.1	643.2	19.87	33.368	
5,600.0	5,558.4	5,565.8	5,558.4	11.1	9.0	-83.07	80.0	-148.0	663.1	643.1	20.04	33.083	
5,700.0	5,658.4	5,665.8	5,658.4	11.2	9.1	-83.07	80.0	-148.0	663.1	642.9	20.22	32.802	
5,800.0	5,758.4	5,765.8	5,758.4	11.2	9.2	-83.07	80.0	-148.0	663.1	642.7	20.39	32.527	
5,900.0	5,858.4	5,865.8	5,858.4	11.3	9.3	-83.07	80.0	-148.0	663.1	642.5	20.56	32.257	
6,000.0	5,958.4	5,965.8	5,958.4	11.4	9.4	-83.07	80.0	-148.0	663.1	642.4	20.73	31.991	
6,100.0	6,058.4	6,065.8	6,058.4	11.5	9.5	-83.07	80.0	-148.0	663.1	642.2	20.90	31.730	
6,200.0	6,158.4	6,165.8	6,158.4	11.5	9.6	-83.07	80.0	-148.0	663.1	642.0	21.07	31.474	
6,300.0	6,258.4	6,265.8	6,258.4	11.6	9.7	-83.07	80.0	-148.0	663.1	641.9	21.24	31.221	
6,400.0	6,358.4	6,365.8	6,358.4	11.7	9.8	-83.07	80.0	-148.0	663.1	641.7	21.41	30.973	
6,500.0	6,458.4	6,465.8	6,458.4	11.7	9.9	-83.07	80.0	-148.0	663.1	641.5	21.58	30.729	
6,600.0	6,558.4	6,565.8	6,558.4	11.8	10.0	-83.07	80.0	-148.0	663.1	641.4	21.75	30.489	
6,700.0	6,658.4	6,665.8	6,658.4	11.9	10.1	-83.07	80.0	-148.0	663.1	641.2	21.92	30.253	
6,800.0	6,758.4	6,765.8	6,758.4	12.0	10.2	-83.07	80.0	-148.0	663.1	641.0	22.09	30.021	
6,900.0	6,858.4	6,865.8	6,858.4	12.0	10.3	-83.07	80.0	-148.0	663.1	640.8	22.26	29.793	
7,000.0	6,958.4	6,965.8	6,958.4	12.1	10.4	-83.07	80.0	-148.0	663.1	640.7	22.43	29.568	
7,100.0	7,058.4	7,065.8	7,058.4	12.2	10.5	-83.07	80.0	-148.0	663.1	640.5	22.60	29.346	
7,200.0	7,158.4	7,165.8	7,158.4	12.3	10.6	-83.07	80.0	-148.0	663.1	640.3	22.76	29.129	
7,300.0	7,258.4	7,265.8	7,258.4	12.3	10.7	-83.07	80.0	-148.0	663.1	640.2	22.93	28.914	
7,400.0	7,358.4	7,365.8	7,358.4	12.4	10.8	-83.07	80.0	-148.0	663.1	640.0	23.10	28.703	
7,500.0	7,458.4	7,465.8	7,458.4	12.5	10.9	-83.07	80.0	-148.0	663.1	639.8	23.27	28.495	
7,600.0	7,558.4	7,565.8	7,558.4	12.6	11.0	-83.07	80.0	-148.0	663.1	639.7	23.44	28.290	
7,700.0	7,658.4	7,665.8	7,658.4	12.6	11.1	-83.07	80.0	-148.0	663.1	639.5	23.61	28.088	
7,800.0	7,758.4	7,765.8	7,758.4	12.7	11.2	-83.07	80.0	-148.0	663.1	639.3	23.78	27.889	
7,900.0	7,858.4	7,865.8	7,858.4	12.8	11.3	-83.07	80.0	-148.0	663.1	639.2	23.94	27.693	
8,000.0	7,958.4	7,965.8	7,958.4	12.8	11.4	-83.07	80.0	-148.0	663.1	639.0	24.11	27.500	
8,100.0	8,058.4	8,065.8	8,058.4	12.9	11.5	-83.07	80.0	-148.0	663.1	638.8	24.28	27.310	
8,200.0	8,158.4	8,165.8	8,158.4	13.0	11.6	-83.07	80.0	-148.0	663.1	638.7	24.45	27.122	
8,300.0	8,258.4	8,265.8	8,258.4	13.1	11.7	-83.07	80.0	-148.0	663.1	638.5	24.62	26.937	
8,400.0	8,358.4	8,365.8	8,358.4	13.1	11.8	-83.07	80.0	-148.0	663.1	638.3	24.78	26.755	
8,500.0	8,458.4	8,465.8	8,458.4	13.2	11.9	-83.07	80.0	-148.0	663.1	638.2	24.95	26.575	
8,600.0	8,558.4	8,565.8	8,558.4	13.3	12.0	-83.07	80.0	-148.0	663.1	638.0	25.12	26.398	
8,700.0	8,658.4	8,665.8	8,658.4	13.4	12.1	-83.07	80.0	-148.0	663.1	637.8	25.29	26.223	
8,800.0	8,758.4	8,765.8	8,758.4	13.4	12.2	-83.07	80.0	-148.0	663.1	637.6	25.45	26.050	
8,900.0	8,858.4	8,865.8	8,858.4	13.5	12.3	-83.07	80.0	-148.0	663.1	637.5	25.62	25.880	
9,000.0	8,958.4	8,965.8	8,958.4	13.6	12.3	-83.07	80.0	-148.0	663.1	637.3	25.79	25.712	
9,100.0	9,058.4	9,065.8	9,058.4	13.7	12.4	-83.07	80.0	-148.0	663.1	637.1	25.96	25.547	
9,200.0	9,158.4	9,165.8	9,158.4	13.7	12.5	-83.07	80.0	-148.0	663.1	637.0	26.12	25.383	
9,300.0	9,258.4	9,265.8	9,258.4	13.8	12.6	-83.07	80.0	-148.0	663.1	636.8	26.29	25.222	
9,400.0	9,358.4	9,365.8	9,358.4	13.9	12.7	-83.07	80.0	-148.0	663.1	636.6	26.46	25.063	
9,500.0	9,458.4	9,465.8	9,458.4	14.0	12.8	-83.07	80.0	-148.0	663.1	636.5	26.62	24.906	
9,600.0	9,558.4	9,565.8	9,558.4	14.1	12.9	-83.07	80.0	-148.0	663.1	636.3	26.79	24.751	

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 812H
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 812H	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		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
9,700.0	9,658.4	9,665.8	9,658.4	14.1	13.0	-83.07	80.0	-148.0	663.1	636.1	26.96	24.598	
9,800.0	9,758.4	9,765.8	9,758.4	14.2	13.1	-83.07	80.0	-148.0	663.1	636.0	27.12	24.447	
9,900.0	9,858.4	9,865.8	9,858.4	14.3	13.2	-83.07	80.0	-148.0	663.1	635.8	27.29	24.298	
10,000.0	9,958.4	9,965.8	9,958.4	14.4	13.3	-83.07	80.0	-148.0	663.1	635.6	27.46	24.150	
10,100.0	10,058.4	10,065.8	10,058.4	14.4	13.4	-83.07	80.0	-148.0	663.1	635.5	27.62	24.005	
10,110.0	10,068.4	10,075.8	10,068.4	14.4	13.4	-83.07	80.0	-148.0	663.1	635.5	27.64	23.990	
10,200.0	10,158.4	10,159.3	10,151.8	14.5	13.4	-82.95	81.5	-148.0	663.3	635.6	27.76	23.898	
10,300.0	10,258.4	10,242.2	10,233.5	14.6	13.5	-81.78	95.1	-148.0	665.6	637.7	27.86	23.890	
10,394.1	10,352.5	10,314.1	10,301.5	14.7	13.5	-79.83	118.2	-148.1	670.8	642.8	28.00	23.959	
10,400.0	10,358.4	10,318.3	10,305.4	14.7	13.5	-79.51	119.8	-148.1	671.3	643.3	28.01	23.968	
10,425.0	10,383.3	10,336.3	10,321.7	14.7	13.5	-78.70	127.3	-148.1	673.2	645.2	28.01	24.037	
10,450.0	10,408.2	10,354.1	10,337.6	14.7	13.5	-77.92	135.3	-148.1	675.2	647.2	28.05	24.073	
10,475.0	10,433.0	10,371.7	10,353.0	14.7	13.6	-77.16	143.9	-148.1	677.2	649.1	28.10	24.101	
10,500.0	10,457.5	10,389.2	10,368.0	14.7	13.6	-76.43	152.9	-148.1	679.3	651.1	28.16	24.126	
10,525.0	10,481.7	10,406.6	10,382.6	14.7	13.6	-75.73	162.4	-148.2	681.3	653.1	28.22	24.146	
10,550.0	10,505.6	10,425.0	10,397.6	14.7	13.6	-75.03	173.0	-148.2	683.4	655.1	28.28	24.163	
10,575.0	10,529.1	10,441.0	10,410.3	14.7	13.6	-74.42	182.7	-148.2	685.4	657.0	28.37	24.163	
10,600.0	10,552.0	10,458.0	10,423.5	14.7	13.6	-73.81	193.5	-148.2	687.4	658.9	28.45	24.160	
10,625.0	10,574.5	10,475.0	10,436.3	14.7	13.6	-73.23	204.7	-148.3	689.3	660.8	28.54	24.150	
10,650.0	10,596.3	10,491.9	10,448.5	14.7	13.6	-72.69	216.3	-148.3	691.1	662.5	28.64	24.132	
10,675.0	10,617.4	10,508.7	10,460.3	14.7	13.7	-72.18	228.2	-148.3	692.9	664.2	28.74	24.106	
10,700.0	10,637.9	10,525.0	10,471.4	14.7	13.7	-71.72	240.3	-148.3	694.6	665.7	28.85	24.072	
10,725.0	10,657.5	10,542.1	10,482.5	14.7	13.7	-71.28	253.2	-148.4	696.2	667.2	28.96	24.035	
10,750.0	10,676.3	10,558.7	10,492.9	14.7	13.7	-70.88	266.2	-148.4	697.6	668.5	29.08	23.990	
10,775.0	10,694.2	10,575.0	10,502.6	14.7	13.7	-70.53	279.3	-148.4	699.0	669.8	29.20	23.939	
10,800.0	10,711.2	10,591.8	10,512.1	14.7	13.7	-70.21	293.1	-148.5	700.2	670.9	29.31	23.885	
10,825.0	10,727.2	10,608.3	10,521.0	14.7	13.7	-69.93	307.0	-148.5	701.3	671.8	29.43	23.825	
10,850.0	10,742.2	10,625.0	10,529.5	14.7	13.7	-69.68	321.4	-148.5	702.2	672.6	29.55	23.763	
10,875.0	10,756.1	10,641.2	10,537.3	14.7	13.8	-69.49	335.6	-148.6	703.0	673.3	29.67	23.694	
10,900.0	10,768.9	10,657.6	10,544.7	14.8	13.8	-69.33	350.3	-148.6	703.6	673.8	29.78	23.625	
10,925.0	10,780.5	10,675.0	10,551.9	14.8	13.8	-69.20	366.1	-148.6	704.1	674.2	29.89	23.557	
10,950.0	10,791.0	10,690.4	10,557.9	14.8	13.8	-69.13	380.2	-148.7	704.4	674.4	30.00	23.479	
10,975.0	10,800.3	10,706.8	10,563.7	14.8	13.8	-69.09	395.6	-148.7	704.6	674.5	30.10	23.404	
11,000.0	10,808.4	10,725.0	10,569.5	14.9	13.8	-69.09	412.8	-148.8	704.6	674.4	30.19	23.335	
11,025.0	10,815.2	10,739.5	10,573.7	14.9	13.8	-69.13	426.7	-148.8	704.4	674.1	30.29	23.252	
11,050.0	10,820.7	10,755.9	10,577.9	15.0	13.8	-69.21	442.5	-148.8	704.1	673.7	30.38	23.176	
11,075.0	10,825.0	10,775.0	10,582.2	15.0	13.8	-69.35	461.2	-148.9	703.6	673.1	30.45	23.105	
11,100.0	10,827.9	10,788.7	10,584.7	15.0	13.8	-69.50	474.6	-148.9	703.0	672.4	30.53	23.023	
11,125.0	10,829.6	10,805.1	10,587.3	15.1	13.9	-69.70	490.9	-148.9	702.2	671.6	30.60	22.947	
11,143.8	10,830.0	10,817.5	10,588.9	15.1	13.9	-69.88	503.1	-149.0	701.5	670.8	30.64	22.890	
11,200.0	10,830.0	10,854.8	10,591.7	15.3	13.9	-70.09	540.3	-149.1	700.0	669.2	30.80	22.726	
11,247.6	10,830.0	10,894.5	10,592.0	15.4	13.9	-70.12	580.0	-149.2	699.9	668.9	30.99	22.581	
11,300.0	10,830.1	10,946.9	10,592.2	15.5	14.0	-70.13	632.4	-149.3	699.9	668.6	31.24	22.404	
11,400.0	10,830.1	11,046.9	10,592.5	15.9	14.3	-70.14	732.4	-149.5	699.8	668.0	31.77	22.030	
11,500.0	10,830.2	11,146.9	10,592.7	16.2	14.6	-70.16	832.4	-149.8	699.8	667.4	32.37	21.620	
11,600.0	10,830.3	11,246.9	10,593.0	16.6	15.0	-70.18	932.4	-150.0	699.7	666.7	33.04	21.180	
11,700.0	10,830.4	11,346.9	10,593.3	17.0	15.5	-70.19	1,032.4	-150.2	699.7	665.9	33.77	20.718	
11,800.0	10,830.4	11,446.9	10,593.6	17.5	15.9	-70.21	1,132.4	-150.5	699.6	665.0	34.57	20.239	
11,900.0	10,830.5	11,546.9	10,593.8	18.0	16.4	-70.23	1,232.4	-150.7	699.5	664.1	35.42	19.749	
12,000.0	10,830.6	11,646.9	10,594.1	18.5	17.0	-70.24	1,332.4	-151.0	699.5	663.2	36.33	19.255	
12,100.0	10,830.7	11,746.9	10,594.4	19.0	17.5	-70.26	1,432.4	-151.2	699.4	662.2	37.29	18.759	

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 812H
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 812H	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		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
12,200.0	10,830.7	11,846.9	10,594.7	19.6	18.1	-70.28	1,532.4	-151.4	699.4	661.1	38.29	18.267
12,300.0	10,830.8	11,946.9	10,595.0	20.2	18.7	-70.29	1,632.4	-151.7	699.3	660.0	39.33	17.780
12,400.0	10,830.9	12,046.9	10,595.2	20.8	19.3	-70.31	1,732.4	-151.9	699.3	658.9	40.42	17.301
12,500.0	10,830.9	12,146.9	10,595.5	21.4	19.9	-70.32	1,832.4	-152.2	699.2	657.7	41.54	16.832
12,600.0	10,831.0	12,246.9	10,595.8	22.0	20.6	-70.34	1,932.4	-152.4	699.2	656.5	42.70	16.375
12,700.0	10,831.1	12,346.9	10,596.1	22.7	21.3	-70.36	2,032.4	-152.7	699.1	655.2	43.89	15.929
12,800.0	10,831.2	12,446.9	10,596.3	23.3	21.9	-70.37	2,132.4	-152.9	699.1	654.0	45.12	15.493
12,900.0	10,831.2	12,546.9	10,596.6	24.0	22.6	-70.39	2,232.4	-153.1	699.0	652.7	46.37	15.074
13,000.0	10,831.3	12,646.9	10,596.9	24.7	23.3	-70.41	2,332.4	-153.4	699.0	655.4	43.60	16.032
13,100.0	10,831.4	12,746.9	10,597.2	25.4	24.1	-70.42	2,432.4	-153.6	698.9	655.5	43.43	16.092
13,200.0	10,831.4	12,846.9	10,597.5	26.1	24.8	-70.44	2,532.4	-153.9	698.9	654.8	44.04	15.867
13,300.0	10,831.5	12,946.9	10,597.7	26.8	25.5	-70.46	2,632.4	-154.1	698.8	654.0	44.83	15.587
13,400.0	10,831.6	13,046.9	10,598.0	27.5	26.2	-70.47	2,732.4	-154.3	698.8	653.1	45.70	15.291
13,500.0	10,831.7	13,146.9	10,598.3	28.3	27.0	-70.49	2,832.4	-154.6	698.7	652.1	46.61	14.992
13,600.0	10,831.7	13,246.9	10,598.6	29.0	27.7	-70.51	2,932.4	-154.8	698.7	651.1	47.54	14.695
13,700.0	10,831.8	13,346.9	10,598.8	29.7	28.5	-70.52	3,032.4	-155.1	698.6	650.1	48.50	14.403
13,800.0	10,831.9	13,446.9	10,599.1	30.5	29.3	-70.54	3,132.4	-155.3	698.6	649.1	49.48	14.118
13,900.0	10,831.9	13,546.9	10,599.4	31.2	30.0	-70.55	3,232.4	-155.5	698.5	648.0	50.48	13.839
14,000.0	10,832.0	13,646.9	10,599.7	32.0	30.8	-70.57	3,332.4	-155.8	698.5	647.0	51.48	13.567
14,100.0	10,832.1	13,746.9	10,600.0	32.8	31.6	-70.59	3,432.4	-156.0	698.4	645.9	52.50	13.302
14,200.0	10,832.2	13,846.9	10,600.2	33.5	32.4	-70.60	3,532.4	-156.3	698.4	644.8	53.53	13.045
14,300.0	10,832.2	13,946.9	10,600.5	34.3	33.2	-70.62	3,632.4	-156.5	698.3	643.7	54.58	12.795
14,400.0	10,832.3	14,046.9	10,600.8	35.1	33.9	-70.64	3,732.4	-156.7	698.3	642.6	55.63	12.552
14,500.0	10,832.4	14,146.9	10,601.1	35.9	34.7	-70.65	3,832.4	-157.0	698.2	641.5	56.69	12.316
14,600.0	10,832.4	14,246.9	10,601.3	36.7	35.5	-70.67	3,932.4	-157.2	698.2	640.4	57.76	12.088
14,700.0	10,832.5	14,346.9	10,601.6	37.4	36.3	-70.69	4,032.4	-157.5	698.1	639.3	58.84	11.865
14,800.0	10,832.6	14,446.9	10,601.9	38.2	37.1	-70.70	4,132.4	-157.7	698.1	638.1	59.92	11.650
14,900.0	10,832.7	14,546.9	10,602.2	39.0	37.9	-70.72	4,232.4	-157.9	698.0	637.0	61.01	11.441
15,000.0	10,832.7	14,646.9	10,602.5	39.8	38.7	-70.74	4,332.4	-158.2	698.0	635.8	62.11	11.238
15,100.0	10,832.8	14,746.9	10,602.7	40.6	39.5	-70.75	4,432.4	-158.4	697.9	634.7	63.21	11.041
15,200.0	10,832.9	14,846.9	10,603.0	41.4	40.4	-70.77	4,532.4	-158.7	697.9	633.5	64.32	10.849
15,300.0	10,832.9	14,946.9	10,603.3	42.2	41.2	-70.79	4,632.4	-158.9	697.8	632.4	65.44	10.664
15,400.0	10,833.0	15,046.9	10,603.6	43.0	42.0	-70.80	4,732.4	-159.1	697.8	631.2	66.56	10.483
15,500.0	10,833.1	15,146.9	10,603.8	43.8	42.8	-70.82	4,832.4	-159.4	697.7	630.0	67.69	10.308
15,600.0	10,833.2	15,246.9	10,604.1	44.6	43.6	-70.83	4,932.4	-159.6	697.7	628.8	68.82	10.138
15,700.0	10,833.2	15,346.9	10,604.4	45.5	44.4	-70.85	5,032.4	-159.9	697.6	627.7	69.95	9.973
15,800.0	10,833.3	15,446.9	10,604.7	46.3	45.3	-70.87	5,132.4	-160.1	697.6	626.5	71.09	9.812
15,900.0	10,833.4	15,546.9	10,605.0	47.1	46.1	-70.88	5,232.4	-160.3	697.5	625.3	72.23	9.656
16,000.0	10,833.4	15,646.9	10,605.2	47.9	46.9	-70.90	5,332.4	-160.6	697.5	624.1	73.38	9.505
16,100.0	10,833.5	15,746.9	10,605.5	48.7	47.7	-70.92	5,432.4	-160.8	697.4	622.9	74.53	9.357
16,200.0	10,833.6	15,846.9	10,605.8	49.5	48.6	-70.93	5,532.4	-161.1	697.4	621.7	75.69	9.214
16,300.0	10,833.7	15,946.9	10,606.1	50.4	49.4	-70.95	5,632.4	-161.3	697.3	620.5	76.85	9.074
16,400.0	10,833.7	16,046.9	10,606.4	51.2	50.2	-70.97	5,732.4	-161.5	697.3	619.3	78.01	8.938
16,500.0	10,833.8	16,146.9	10,606.6	52.0	51.0	-70.98	5,832.3	-161.8	697.2	618.0	79.17	8.806
16,600.0	10,833.9	16,246.9	10,606.9	52.8	51.9	-71.00	5,932.3	-162.0	697.2	616.8	80.34	8.678
16,700.0	10,834.0	16,346.9	10,607.2	53.7	52.7	-71.02	6,032.3	-162.3	697.1	615.6	81.51	8.553
16,800.0	10,834.0	16,446.9	10,607.5	54.5	53.5	-71.03	6,132.3	-162.5	697.1	614.4	82.68	8.431
16,900.0	10,834.1	16,546.9	10,607.7	55.3	54.4	-71.05	6,232.3	-162.7	697.0	613.2	83.86	8.312
17,000.0	10,834.2	16,646.9	10,608.0	56.1	55.2	-71.07	6,332.3	-163.0	697.0	611.9	85.03	8.196
17,100.0	10,834.2	16,746.9	10,608.3	57.0	56.0	-71.08	6,432.3	-163.2	696.9	610.7	86.22	8.083
17,200.0	10,834.3	16,846.9	10,608.6	57.8	56.9	-71.10	6,532.3	-163.5	696.9	609.5	87.40	7.973

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 812H
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 812H	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		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
17,300.0	10,834.4	16,946.9	10,608.9	58.6	57.7	-71.12	6,632.3	-163.7	696.8	608.2	88.58	7.866	
17,400.0	10,834.5	17,046.9	10,609.1	59.5	58.5	-71.13	6,732.3	-163.9	696.8	607.0	89.77	7.762	
17,500.0	10,834.5	17,146.9	10,609.4	60.3	59.4	-71.15	6,832.3	-164.2	696.7	605.8	90.96	7.660	
17,600.0	10,834.6	17,246.9	10,609.7	61.1	60.2	-71.17	6,932.3	-164.4	696.7	604.5	92.15	7.560	
17,700.0	10,834.7	17,346.9	10,610.0	62.0	61.0	-71.18	7,032.3	-164.7	696.6	603.3	93.34	7.463	
17,800.0	10,834.7	17,446.9	10,610.2	62.8	61.9	-71.20	7,132.3	-164.9	696.6	602.0	94.54	7.368	
17,900.0	10,834.8	17,546.9	10,610.5	63.6	62.7	-71.22	7,232.3	-165.1	696.5	600.8	95.73	7.276	
18,000.0	10,834.9	17,646.9	10,610.8	64.5	63.6	-71.23	7,332.3	-165.4	696.5	599.5	96.93	7.185	
18,100.0	10,835.0	17,746.9	10,611.1	65.3	64.4	-71.25	7,432.3	-165.6	696.4	598.3	98.13	7.097	
18,200.0	10,835.0	17,846.9	10,611.4	66.1	65.2	-71.26	7,532.3	-165.9	696.4	597.0	99.33	7.010	
18,300.0	10,835.1	17,946.9	10,611.6	67.0	66.1	-71.28	7,632.3	-166.1	696.3	595.8	100.54	6.926	
18,400.0	10,835.2	18,046.9	10,611.9	67.8	66.9	-71.30	7,732.3	-166.3	696.3	594.5	101.74	6.844	
18,500.0	10,835.2	18,146.9	10,612.2	68.6	67.8	-71.31	7,832.3	-166.6	696.2	593.3	102.95	6.763	
18,600.0	10,835.3	18,246.9	10,612.5	69.5	68.6	-71.33	7,932.3	-166.8	696.2	592.0	104.15	6.684	
18,700.0	10,835.4	18,346.9	10,612.7	70.3	69.4	-71.35	8,032.3	-167.1	696.1	590.8	105.36	6.607	
18,800.0	10,835.5	18,446.9	10,613.0	71.2	70.3	-71.36	8,132.3	-167.3	696.1	589.5	106.57	6.532	
18,900.0	10,835.5	18,546.9	10,613.3	72.0	71.1	-71.38	8,232.3	-167.5	696.0	588.3	107.78	6.458	
19,000.0	10,835.6	18,646.9	10,613.6	72.8	72.0	-71.40	8,332.3	-167.8	696.0	587.0	109.00	6.385	
19,100.0	10,835.7	18,746.9	10,613.9	73.7	72.8	-71.41	8,432.3	-168.0	695.9	585.7	110.21	6.315	
19,200.0	10,835.7	18,846.9	10,614.1	74.5	73.7	-71.43	8,532.3	-168.3	695.9	584.5	111.42	6.245	
19,300.0	10,835.8	18,946.9	10,614.4	75.4	74.5	-71.45	8,632.3	-168.5	695.8	583.2	112.64	6.178	
19,400.0	10,835.9	19,046.9	10,614.7	76.2	75.3	-71.46	8,732.3	-168.7	695.8	581.9	113.86	6.111	
19,500.0	10,836.0	19,146.9	10,615.0	77.1	76.2	-71.48	8,832.3	-169.0	695.8	580.7	115.07	6.046	
19,600.0	10,836.0	19,246.9	10,615.2	77.9	77.0	-71.50	8,932.3	-169.2	695.7	579.4	116.29	5.982	
19,700.0	10,836.1	19,346.9	10,615.5	78.7	77.9	-71.51	9,032.3	-169.5	695.7	578.1	117.51	5.920	
19,800.0	10,836.2	19,446.9	10,615.8	79.6	78.7	-71.53	9,132.3	-169.7	695.6	576.9	118.73	5.859	
19,900.0	10,836.2	19,546.9	10,616.1	80.4	79.6	-71.55	9,232.3	-169.9	695.6	575.6	119.96	5.798	
20,000.0	10,836.3	19,646.9	10,616.4	81.3	80.4	-71.56	9,332.3	-170.2	695.5	574.3	121.18	5.740	
20,100.0	10,836.4	19,746.9	10,616.6	82.1	81.3	-71.58	9,432.3	-170.4	695.5	573.1	122.40	5.682	
20,200.0	10,836.5	19,846.9	10,616.9	83.0	82.1	-71.60	9,532.3	-170.7	695.4	571.8	123.63	5.625	
20,300.0	10,836.5	19,946.9	10,617.2	83.8	83.0	-71.61	9,632.3	-170.9	695.4	570.5	124.85	5.570	
20,400.0	10,836.6	20,046.9	10,617.5	84.6	83.8	-71.63	9,732.3	-171.1	695.3	569.2	126.08	5.515	
20,500.0	10,836.7	20,146.9	10,617.7	85.5	84.7	-71.65	9,832.3	-171.4	695.3	568.0	127.30	5.462	
20,600.0	10,836.7	20,246.9	10,618.0	86.3	85.5	-71.66	9,932.3	-171.6	695.2	566.7	128.53	5.409	
20,700.0	10,836.8	20,346.9	10,618.3	87.2	86.4	-71.68	10,032.3	-171.9	695.2	565.4	129.76	5.358	
20,800.0	10,836.9	20,446.9	10,618.6	88.0	87.2	-71.70	10,132.3	-172.1	695.1	564.1	130.99	5.307	
20,900.0	10,837.0	20,546.9	10,618.9	88.9	88.1	-71.71	10,232.3	-172.3	695.1	562.9	132.22	5.257	
20,941.2	10,837.0	20,588.1	10,619.0	89.1	88.4	-71.72	10,273.6	-172.4	695.1	562.5	132.60	5.242	
20,950.9	10,837.0	20,596.8	10,619.0	89.2	88.5	-71.72	10,282.3	-172.5	695.1	562.4	132.68	5.239	

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 812H
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 812H	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				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	-90.23	-0.2	-49.9	49.9						
100.0	100.0	100.0	100.0	0.5	0.5	-90.23	-0.2	-49.9	49.9	48.4	1.48	33.615			
200.0	200.0	200.0	200.0	1.0	1.0	-90.23	-0.2	-49.9	49.9	47.4	2.47	20.225			
300.0	300.0	300.0	300.0	1.4	1.4	-90.23	-0.2	-49.9	49.9	46.8	3.11	16.071			
400.0	400.0	400.0	400.0	1.6	1.6	-90.23	-0.2	-49.9	49.9	46.3	3.62	13.802			
500.0	500.0	500.0	500.0	1.9	1.9	-90.23	-0.2	-49.9	49.9	45.9	4.05	12.309			
600.0	600.0	600.0	600.0	2.1	2.1	-90.23	-0.2	-49.9	49.9	45.5	4.44	11.228			
700.0	700.0	700.0	700.0	2.3	2.3	-90.23	-0.2	-49.9	49.9	45.1	4.80	10.398			
800.0	800.0	800.0	800.0	2.5	2.5	-90.23	-0.2	-49.9	49.9	44.8	5.13	9.732			
900.0	900.0	900.0	900.0	2.7	2.7	-90.23	-0.2	-49.9	49.9	44.5	5.43	9.184			
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	-90.23	-0.2	-49.9	49.9	44.2	5.72	8.721			
1,100.0	1,100.0	1,100.0	1,100.0	3.2	3.2	-90.23	-0.2	-49.9	49.9	43.6	6.27	7.955			
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.4	-90.23	-0.2	-49.9	49.9	43.2	6.75	7.393 CC, ES			
1,300.0	1,300.0	1,298.5	1,298.5	3.7	3.7	-140.33	0.8	-51.3	52.7	45.3	7.37	7.144 SF			
1,400.0	1,399.8	1,396.6	1,396.4	4.0	4.0	-140.56	3.7	-55.4	60.9	52.9	7.94	7.667			
1,500.0	1,499.5	1,493.8	1,493.3	4.3	4.3	-140.81	8.4	-62.2	74.5	66.1	8.47	8.797			
1,600.0	1,598.7	1,589.7	1,588.5	4.6	4.5	-140.99	15.0	-71.6	93.6	84.6	8.97	10.427			
1,700.0	1,697.7	1,684.5	1,682.4	4.8	4.7	-155.40	21.6	-83.2	117.4	108.0	9.36	12.539			
1,800.0	1,796.6	1,777.7	1,774.5	5.0	4.9	-168.30	25.7	-96.5	145.3	135.6	9.71	14.972			
1,900.0	1,895.3	1,869.1	1,864.7	5.3	5.1	-178.98	27.5	-111.4	177.3	167.3	10.02	17.703			
1,906.9	1,902.1	1,875.5	1,870.9	5.3	5.1	-179.63	27.5	-112.5	179.7	169.6	10.04	17.903			
2,000.0	1,993.8	1,963.0	1,957.1	5.4	5.2	-179.38	28.0	-127.7	211.5	201.1	10.33	20.479			
2,100.0	2,092.2	2,056.9	2,049.6	5.6	5.4	-179.18	28.6	-144.0	245.6	235.0	10.68	23.001			
2,200.0	2,190.7	2,150.9	2,142.2	5.8	5.6	-179.04	29.2	-160.3	279.8	268.8	11.03	25.359			
2,300.0	2,289.2	2,244.9	2,234.7	5.9	5.7	-178.92	29.7	-176.6	314.0	302.6	11.39	27.564			
2,400.0	2,387.7	2,338.9	2,327.3	6.1	5.9	-178.83	30.3	-192.9	348.2	336.4	11.75	29.630			
2,500.0	2,486.2	2,432.8	2,419.8	6.3	6.1	-178.75	30.9	-209.2	382.4	370.2	12.11	31.568			
2,600.0	2,584.6	2,526.8	2,512.4	6.5	6.2	-178.69	31.5	-225.5	416.5	404.1	12.48	33.389			
2,700.0	2,683.1	2,620.8	2,604.9	6.6	6.4	-178.63	32.0	-241.8	450.7	437.9	12.84	35.102			
2,800.0	2,781.6	2,714.8	2,697.5	6.8	6.6	-178.58	32.6	-258.1	484.9	471.7	13.21	36.716			
2,818.7	2,800.0	2,732.3	2,714.8	6.8	6.6	-178.58	32.7	-261.2	491.3	478.0	13.26	37.048			
2,900.0	2,880.1	2,808.7	2,790.0	7.0	6.8	171.80	33.2	-274.4	519.1	505.5	13.57	38.243			
2,904.0	2,884.0	2,812.5	2,793.7	7.0	6.8	171.34	33.2	-275.1	520.4	506.8	13.59	38.299			
3,000.0	2,978.5	2,902.7	2,882.5	7.2	6.9	171.68	33.7	-290.7	553.2	539.2	13.99	39.547			
3,100.0	3,077.0	2,996.6	2,975.1	7.3	7.1	171.99	34.3	-307.1	587.3	572.9	14.44	40.661			
3,200.0	3,175.5	3,090.6	3,067.6	7.5	7.3	172.27	34.9	-323.4	621.5	606.6	14.89	41.736			
3,300.0	3,273.9	3,184.5	3,160.1	7.7	7.5	172.52	35.4	-339.7	655.7	640.3	15.32	42.794			
3,400.0	3,372.4	3,278.5	3,252.6	7.9	7.7	172.75	36.0	-356.0	689.8	674.1	15.74	43.821			
3,500.0	3,470.8	3,372.4	3,345.1	8.1	7.8	172.95	36.6	-372.3	724.0	707.9	16.16	44.805			
3,600.0	3,569.3	3,466.4	3,437.6	8.3	8.0	173.14	37.1	-388.6	758.2	741.6	16.57	45.745			
3,700.0	3,667.8	3,560.3	3,530.2	8.5	8.2	173.31	37.7	-404.9	792.4	775.4	16.99	46.641			
3,800.0	3,766.2	3,654.2	3,622.7	8.6	8.4	173.46	38.3	-421.2	826.6	809.2	17.40	47.494			
3,900.0	3,864.7	3,748.2	3,715.2	8.8	8.6	173.61	38.9	-437.5	860.8	843.0	17.82	48.306			
3,974.8	3,938.4	3,818.5	3,784.4	9.0	8.7	173.71	39.3	-449.7	886.5	868.3	18.12	48.925			
4,000.0	3,963.1	3,842.1	3,807.7	9.0	8.8	173.75	39.4	-453.8	895.0	876.8	18.20	49.176			
4,100.0	4,061.8	3,936.5	3,900.7	9.2	8.9	173.90	40.0	-470.2	928.0	909.4	18.58	49.954			
4,200.0	4,160.8	4,031.5	3,994.2	9.4	9.1	174.03	40.6	-486.6	959.4	940.4	18.94	50.660			
4,300.0	4,260.0	4,128.7	4,089.9	9.6	9.3	174.05	39.7	-503.5	989.0	969.7	19.24	51.416			

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 812H
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 812H	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 906H - 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	
20,500.0	10,836.7	10,450.0	10,408.5	85.5	19.2	42.07	10,621.3	873.9	976.1	914.3	61.84	15.784		
20,600.0	10,836.7	10,467.6	10,423.7	86.3	19.1	43.11	10,630.1	873.8	897.1	831.3	65.79	13.636		
20,700.0	10,836.8	10,500.0	10,451.1	87.2	19.0	45.06	10,647.4	873.7	821.4	751.3	70.10	11.718		
20,800.0	10,836.9	10,516.0	10,464.2	88.0	19.0	46.05	10,656.5	873.7	749.3	673.7	75.64	9.906		
20,900.0	10,837.0	10,550.0	10,491.3	88.9	18.9	48.20	10,677.1	873.6	682.2	600.9	81.31	8.390		
20,950.9	10,837.0	10,562.0	10,500.5	89.2	18.9	48.97	10,684.8	873.5	650.1	562.9	87.21	7.455 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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 907H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		No-Go Distance (usft)	Separation Factor
20,400.0	10,836.6	10,530.8	10,493.9	84.6	20.0	-19.67	10,588.8	364.1	929.9	884.0		45.98	20.223
20,500.0	10,836.7	10,550.0	10,511.6	85.5	19.9	-20.65	10,596.2	364.1	838.5	791.4		47.18	17.773
20,600.0	10,836.7	10,550.0	10,511.6	86.3	19.9	-20.65	10,596.2	364.1	748.7	699.4		49.27	15.197
20,700.0	10,836.8	10,583.3	10,541.7	87.2	19.9	-22.56	10,610.5	364.0	660.0	609.0		50.97	12.949
20,800.0	10,836.9	10,600.0	10,556.4	88.0	19.8	-23.62	10,618.3	364.0	573.8	519.8		53.96	10.634
20,900.0	10,837.0	10,633.2	10,585.0	88.9	19.7	-25.97	10,635.1	363.9	490.1	432.8		57.31	8.552
20,950.9	10,837.0	10,650.0	10,599.2	89.2	19.7	-27.30	10,644.2	363.8	448.9	380.4		68.50	6.552 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 812H
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 812H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 908H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
20,700.0	10,836.8	10,521.0	10,443.3	87.2	28.2	-58.05	10,635.5	-144.9	958.2	869.8	88.46	10.833	
20,800.0	10,836.9	10,550.0	10,467.1	88.0	28.1	-59.63	10,651.9	-145.0	897.8	805.8	92.00	9.759	
20,900.0	10,837.0	10,576.3	10,488.1	88.9	28.1	-61.07	10,667.8	-145.1	843.1	747.9	95.25	8.852	
20,950.9	10,837.0	10,600.0	10,506.3	89.2	28.0	-62.35	10,682.9	-145.1	817.7	720.4	97.34	8.401 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 812H
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 812H	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)

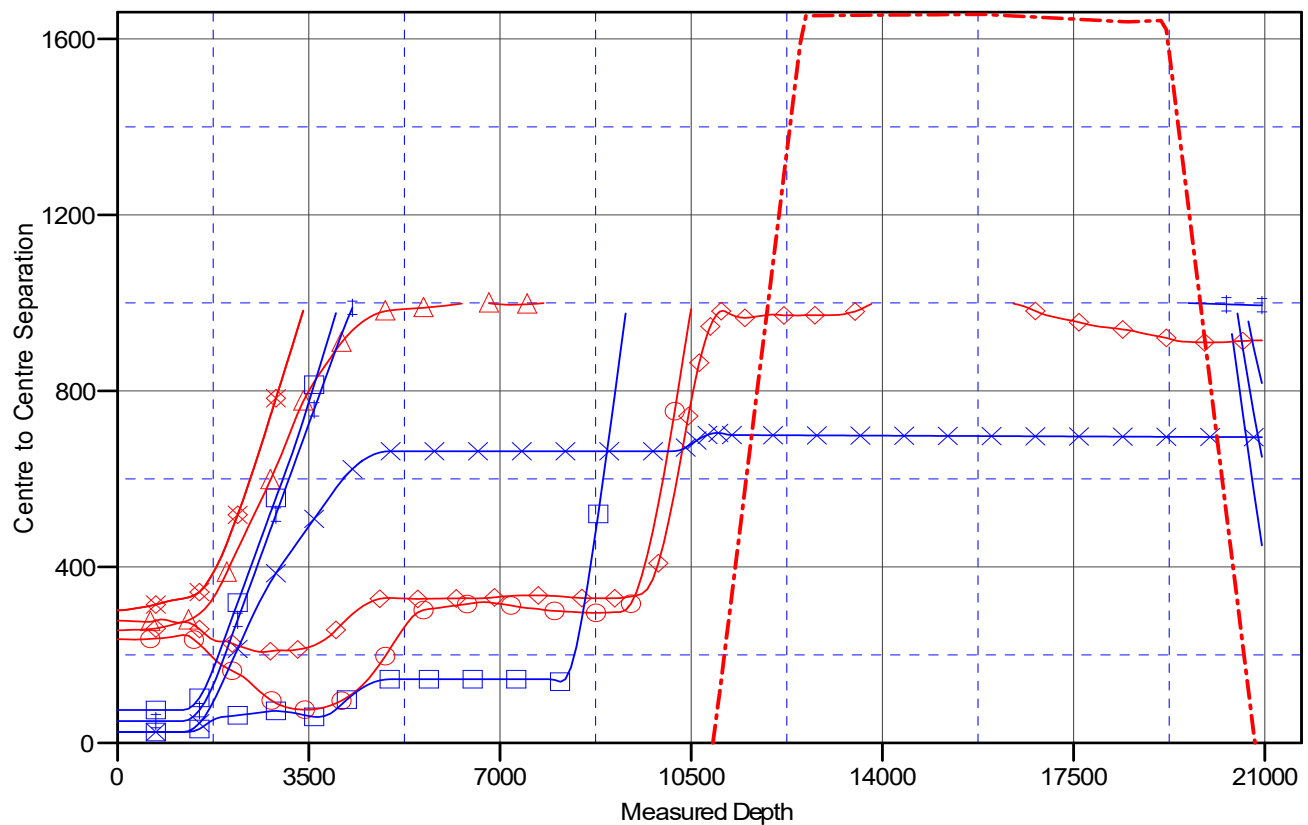
Coordinates are relative to: RICK VAUGHN FED COM 812H

Offset Depths are relative to Offset Datum

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

Central Meridian is 104° 20' 0.000 W

Grid Convergence at Surface is: 0.16°

Ladder Plot**LEGEND**

RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0	RICK VAUGHN FED COM 503H, OWB, PWP1 V0	PUDGE FEDERAL COM 904H, OWB, PWP1 V0
_WILD THING FED COM 907H, OWB, PWP0 V0	RICK VAUGHN 7 WA FED COM 9H, OWB, AWP V0	_WILD THING FED COM 906H, OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 1H, OWB, AWP V0	RICK VAUGHN FED COM 50H, OWB, PWP1 V0	_WILD THING FED COM 908H, OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 6H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0	
RICK VAUGHN FED COM 819H, OWB, PWP1 V0	RICK VAUGHN FED COM 81H, OWB, PWP1 V0	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well RICK VAUGHN FED COM 812H
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 812H	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

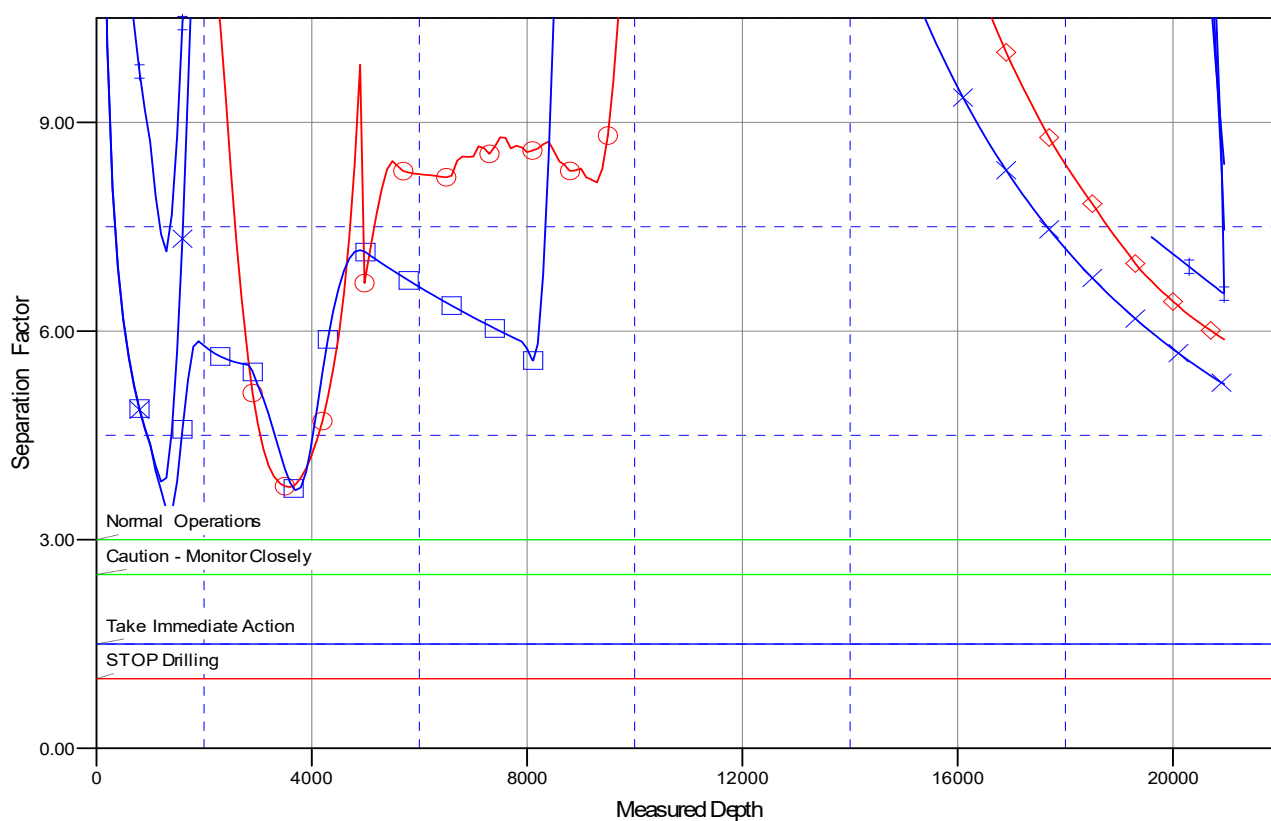
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: RICK VAUGHN FED COM 812H

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 FED COM 503H, OWB, PWP1 V0	PUDGE FEDERAL COM 904H, OWB, PWP1 V0
_WILD THING FED COM 907H, OWB, PWP0 V0	RICK VAUGHN 7 WA FED COM 9H, OWB, AWP V0	_WILD THING FED COM 906H, OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 1H, OWB, AWP V0	RICK VAUGHN FED COM 50H, OWB, PWP1 V0	_WILD THING FED COM 908H, OWB, PWP0 V0
RICK VAUGHN 7 WA FED COM 6H, OWB, AWP V0	RICK VAUGHN 7 WA FED COM 014H, OWB, AWP V0	
RICK VAUGHN FED COM 81H, OWB, PWP1 V0	RICK VAUGHN FED COM 81H, OWB, PWP1 V0	

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

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

WELL LOCATION INFORMATION

API Number 30-015-55646	Pool Code 98220	Pool Name Purple Sage; Wolfcamp (Gas)
Property Code 336292	Property Name RICK VAUGHN FED COM	Well Number 812H
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 1,469' FWL	Latitude 32.050128°	Longitude -104.027393°	County EDDY
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Bottom Hole Location

UL C	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 200' FNL	Ft. from E/W 1,980' FWL	Latitude 32.078395°	Longitude -104.025726°	County EDDY
----------------	---------------------	------------------------	---------------------	-----	---------------------------------	-----------------------------------	-------------------------------	----------------------------------	-----------------------

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

Kick Off Point (KOP)

UL N	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 88' FSL	Ft. from E/W 1,469' FWL	Latitude 32.050128°	Longitude -104.027393°	County EDDY
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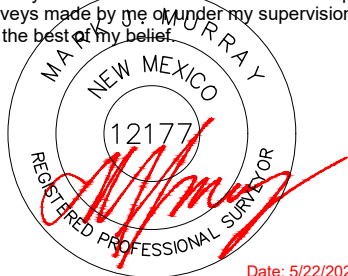
First Take Point (FTP)

UL N	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 330' FSL	Ft. from E/W 1,980' FWL	Latitude 32.050788°	Longitude -104.025745°	County EDDY
----------------	---------------------	------------------------	---------------------	-----	---------------------------------	-----------------------------------	-------------------------------	----------------------------------	-----------------------

Last Take Point (LTP)

UL C	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 330' FNL	Ft. from E/W 1,980' FWL	Latitude 32.078038°	Longitude -104.025727°	County EDDY
----------------	---------------------	------------------------	---------------------	-----	---------------------------------	-----------------------------------	-------------------------------	----------------------------------	-----------------------

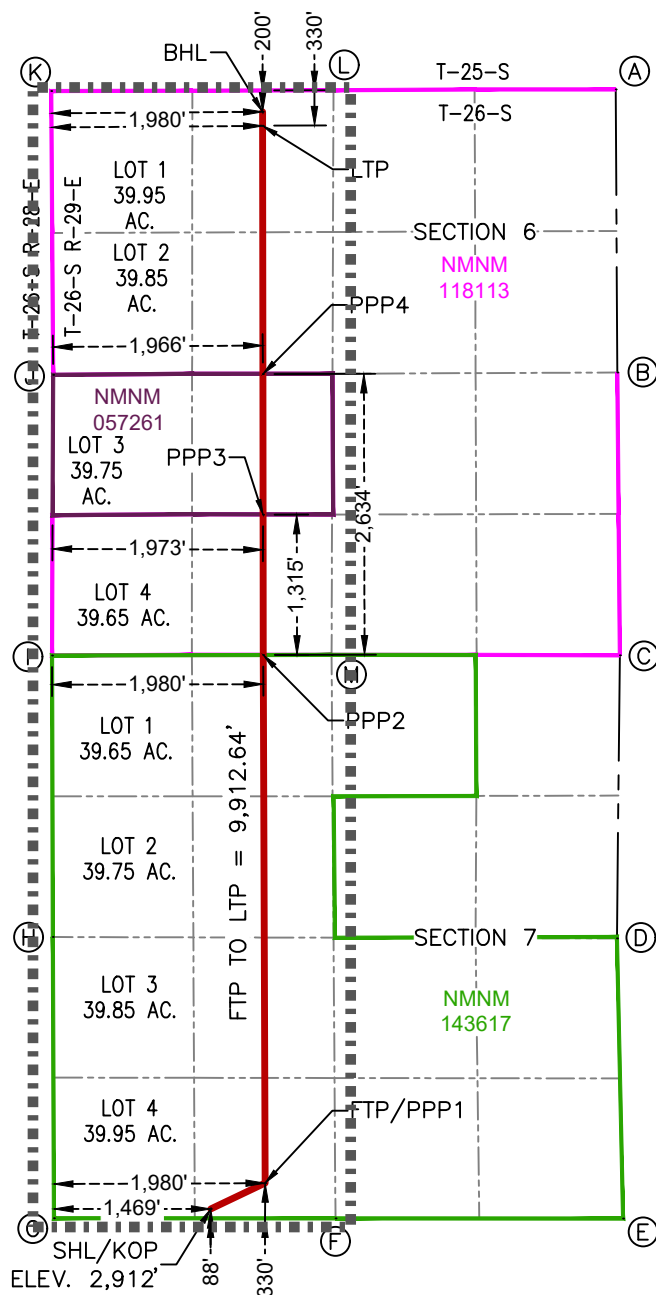
Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, 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	Email Address	Certificate Number 12177	Date of Survey 5/22/2025

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 812H



NAD 83 X = 636,123.93'
NAD 83 Y = 382,108.72'
NAD 83 LAT = 32.050128°
NAD 83 LONG = -104.027393°

FIRST TAKE POINT &
PENETRATION POINT 1
330' FSL & 1,980' FWL

NAD 83 X = 636,633.92'
NAD 83 Y = 382,350.49'
NAD 83 LAT = 32.050788°
NAD 83 LONG = -104.025745°

PENETRATION POINT 2
0' FNL & 1,980' FWL

NAD 83 X = 636,616.56'
NAD 83 Y = 387,301.36'
NAD 83 LAT = 32.064398°
NAD 83 LONG = -104.025755°

PENETRATION POINT 3
1,315' FSL & 1,973' FWL

NAD 83 X = 636,615.15'
NAD 83 Y = 388,616.24'
NAD 83 LAT = 32.068013°
NAD 83 LONG = -104.025748°

PENETRATION POINT 4
2,634' FSL & 1,966' FWL

NAD 83 X = 636,613.72'
NAD 83 Y = 389,935.10'
NAD 83 LAT = 32.071638°
NAD 83 LONG = -104.025740°

LAST TAKE POINT
330' FNL & 1,980' FWL

NAD 83 X = 636,611.22'
NAD 83 Y = 392,263.10'
NAD 83 LAT = 32.078038°
NAD 83 LONG = -104.025727°

NAD 83 X = 636,611.22'
NAD 83 Y = 392,393.10'
NAD 83 LAT = 32.078395°
NAD 83 LONG = -104.025726°

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'		

ConocoPhillips - Rick Vaughn Federal Com 812H

1. Geologic Formations

TVD of Target:	10,837' EOL	Pilot hole depth:	N/A
MD at TD:	20,951'	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	898	Salt	
Base of Salt	2521	Salt	
Lamar	2706	Salt Water	
Bell Canyon	2754	Salt Water	
Cherry Canyon	2598	Oil/Gas	
Brushy Canyon	4864	Oil/Gas	
Bone Spring	6457	Oil/Gas	
1st Bone Spring Sand	7359	Oil/Gas	
2nd Bone Spring Sand	8224	Oil/Gas	
3rd Bone Spring Sand	9228	Oil/Gas	
Wolfcamp A	9705	Oil/Gas	
Wolfcamp B	9992	Oil/Gas	
Wolfcamp C	10562	Target Oil/Gas	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	350	10.75"	45.5	J55	BTC	13.05	16.76	44.90	49.98
9.875"	0	7500	7.625"	29.7	L80-ICV	BTC	2.84	1.12	3.26	3.29
8.750"	7500	10575	7.625"	29.7	P110-ICV	W513	3.29	1.70	3.40	2.04
6.75"	0	10375	5.5"	20	P110-ICV	BTC	2.99	2.20	3.51	3.51
6.75"	10375	20,951	5.5"	20	P110-ICV	W441	2.91	2.20	3.36	2.74
COP Minimum Safety Factor							1.05	1.15	1.4	1.4

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

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

The 5 1/2" W441 casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

ConocoPhillips - Rick Vaughn Federal Com 812H

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

ConocoPhillips - Rick Vaughn Federal Com 812H

3. Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	24	13.5	1.75	9	12	Lead: Class C
	187	14.8	1.34	6.34	8	Tail: Class C
Int. Stage 1	1061	11	2.54	15.33	12	Lead: Class C
	112	14.8	1.34	6.52	8	Tail: Class C
Int. Stage 2	214	12.9	1.9	10.52	24	Lead: Class C
	192	14.8	1.34	6.52	8	Tail: Class C
Prod	573	12.7	1.68	9.09	72	Lead: Class C
	1011	14.5	1.18	5.26	19	Tail: Class H

Intermediate cement job to be performed offline.

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

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

Stage tool ~50' into Lamar if required.

Casing String	TOC	% Excess
Surface	0'	50% in OH
Int Stg 1	0'	50% in OH
Int Stg 2	0'	20% in OH
Production	10,075'	35% OH in Lateral (KOP to EOL)

3b. Contingency Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	24	13.5	1.75	9	12	Lead: Class C
	187	14.8	1.34	6.34	8	Tail: Class C
Bradenhead Stage 1	534	15.6	1.216	5.28	6	Stage 1 Lead: Class H
Bradenhead Stage 2	2000	13.0	1.93	10.57	4	Bradenhead: Thixotropic Class C
	400	14.8	1.33	6.4	5	Top Out: Class C
Prod	573	12.7	1.68	9.09	72	Lead: Class C
	1011	14.2	1.18	5.26	19	Tail: Class H

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

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

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

Casing String	TOC	% Excess
Surface	0'	50% in OH
BH Stg 1	6,457'	50% in OH
BH Stg 2	0'	268%
Production	10,075'	35% OH in Lateral (KOP to EOL)

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4. Pressure Control Equipment

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

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

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR part 3170 Subpart 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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

Y	Formation integrity test will be performed per 43 CFR part 3170 Subpart 3172. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR Part 3170 Subpart 3172.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per 43 CFR part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine Diesel Emulsion	8.6 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9 - 13.5	35-45	<20

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

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

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

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Condition	Specify what type and where?
BH Pressure at deepest TVD	7610 psi at 10837' TVD
Abnormal Temperature	NO 165 Deg. F.

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

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

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR Part 3170 Subpart 3176. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

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

8. Other Facets of Operation

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

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

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

CONDITIONS

Action 512314

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 512314
	Action Type: [C-103A] NOI Change of Plans (C-103A)

CONDITIONS

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