

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 <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No. NMNM118113
		6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. PUDGE FEDERAL COM/904H
2. Name of Operator COG OPERATING LLC		9. API Well No.
3a. Address 600 West Illinois Ave, Midland, TX 79701	3b. Phone No. (include area code) (432) 683-7443	10. Field and Pool or Exploratory Area Purple Sage/(WOLFCAMP) GAS
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 31/T25S/R29E/NMP		11. Country or Parish, State EDDY/NM

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.)

COG Operating LLC, respectfully requests approval for the following changes to the original approved APD.

APD ID# 10400101482
API#30-015-56666

Drilling Changes:
C102, Drilling Program, Directional Plan, AC Report and Specs Attached.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) MAYTE REYES / Ph: (281) 293-1000	Title Regulatory Analyst
Signature (Electronic Submission)	Date 09/12/2025

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved	Title Petroleum Engineer	Date 09/15/2025
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 CARLSBAD	

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 / 469 FSL / 2384 FWL / TWSP: 25S / RANGE: 29E / SECTION: 31 / LAT: 32.080234 / LONG: -104.024428 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 330 FNL / 2317 FEL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.078038 / LONG: -104.022519 (TVD: 10633 feet, MD: 10890 feet)

BHL: SWSE / 200 FSL / 2317 FEL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.050421 / LONG: -104.022409 (TVD: 10640 feet, MD: 20935 feet)

Well Name: PUDGE FEDERAL COM	Well Location: T25S / R29E / SEC 31 / SESW / 32.080234 / -104.024428	County or Parish/State: EDDY / NM
Well Number: 904H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM118113	Unit or CA Name:	Unit or CA Number:
US Well Number:	Operator: COG OPERATING LLC	

Notice of Intent

Sundry ID: 2867517

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 08/08/2025	Time Sundry Submitted: 10:05
Date proposed operation will begin: 08/08/2025	

Procedure Description: COG Operating LLC, respectfully requests approval for the following changes to the original approved APD. APD ID# 10400101482 API#30-015-56666 Drilling Changes: C102, Drilling Program, Directional Plan, AC Report and Specs Attached.

NOI Attachments

Procedure Description

- COG_Pudge_904H_AC_RPT_20250808100437.pdf
- COG_Pudge_904H_Drilling_Program_20250808100437.pdf
- COG_PUDGE_FEDERAL_COM_904H_C102_20250808100436.pdf
- COG_Pudge_904H_Directional_Plan_20250808100438.pdf
- Tenaris_Data_Sheets___3_String___WCA___State_Line___20___P110_ICY_Prod_20250808100438.pdf

Well Name: PUDGE FEDERAL COM	Well Location: T25S / R29E / SEC 31 / SESW / 32.080234 / -104.024428	County or Parish/State: EDDY / NM
Well Number: 904H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM118113	Unit or CA Name:	Unit or CA Number:
US Well Number:	Operator: COG OPERATING LLC	

Conditions of Approval

Additional

SEC31_T25S_R29E_PUDGE_FEDERAL_COM_Eddy__CONOCOPHILLIPS_COMPANY_45749_JS_20250915083718.pdf
PUDGE_FED_COM_904H_COAs_20250915083718.pdf

Authorized

Tenaris_Data_Sheets_3_String_WCA_State_Line_20_P110_ICY_Prod_20250915120729.pdf
Tenaris_Data_Sheets__3_String__WCA__State_Line__20__P110_ICY_Prod_20250915120726.pdf
PUDGE_FEDERAL_COM_904H_WPlot_20250915120720.pdf
COG_PUDGE_FEDERAL_COM_904H_C102_20250915120715.pdf
COG_Pudge_904H_Drilling_Program_20250915120709.pdf
COG_Pudge_904H_Directional_Plan_20250915120705.pdf
COG_Pudge_904H_AC_RPT_20250915120700.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: MAYTE REYES	Signed on: SEP 12, 2025 10:10 AM
Name: COG OPERATING LLC	
Title: Regulatory Analyst	
Street Address: 925 N ELDRIDGE PARKWAY	
City: HOUSTON	State: TX
Phone: (281) 293-1000	
Email address: MAYTE.X.REYES@CONOCOPHILLIPS.COM	

Field

Representative Name: Robyn Russell	
Street Address: 600 W. Illinois Ave.	
City: Midland	State: TX
Phone: (432)685-4385	Zip: 79701
Email address: robyn.m.russell@cop.com	

Received by OCD: 9/25/2025 10:52:36 AM

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Well Name: PUDGE FEDERAL COM	Well Location: T25S / R29E / SEC 31 / SESW / 32.080234 / -104.024428	County or Parish/State: EDDY / NM
Well Number: 904H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM118113	Unit or CA Name:	Unit or CA Number:
US Well Number:	Operator: COG OPERATING LLC	

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: 09/15/2025
Signature: Chris Walls	

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 30-015-56666	Pool Code 98220	Pool Name Purple Sage; Wolfcamp (Gas)
Property Code 337302	Property Name PUDGE FED COM	Well Number 904H
OGRID No. 229137	Operator Name COG OPERATING LLC	Ground Level Elevation 2,926'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☒ Federal

Surface Location

UL N	Section 31	Township 25S	Range 29E	Lot	Ft. from N/S 469' FSL	Ft. from E/W 2,384' FWL	Latitude 32.080237°	Longitude -104.024422°	County EDDY
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Bottom Hole Location

UL O	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 200' FSL	Ft. from E/W 2,317' FEL	Latitude 32.050421°	Longitude -104.022410°	County EDDY
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Dedicated Acres 640	Infill or Defining Well Infill	Defining Well API 30-015-56662	Overlapping Spacing Unit (Y/N) N	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL O	Section 31	Township 25S	Range 29E	Lot	Ft. from N/S 68' FSL	Ft. from E/W 2,316' FEL	Latitude 32.079132°	Longitude -104.022518°	County EDDY
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First Take Point (FTP)

UL B	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 330' FNL	Ft. from E/W 2,317' FEL	Latitude 32.078038°	Longitude -104.022513°	County EDDY
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Last Take Point (LTP)

UL O	Section 7	Township 26S	Range 29E	Lot	Ft. from N/S 330' FSL	Ft. from E/W 2,317' FEL	Latitude 32.050778°	Longitude -104.022418°	County EDDY
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Unitized Area or Area of Uniform Interest COM	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 2926'
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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: 7/16/2025	
Signature Mayte Reyes	Date 7/28/2025	Signature and Seal of Professional Surveyor	
Printed Name Mayte Reyes		Certificate Number 12177	Date of Survey 7/16/2025
Email Address mayte.x.reyes@cop.com			

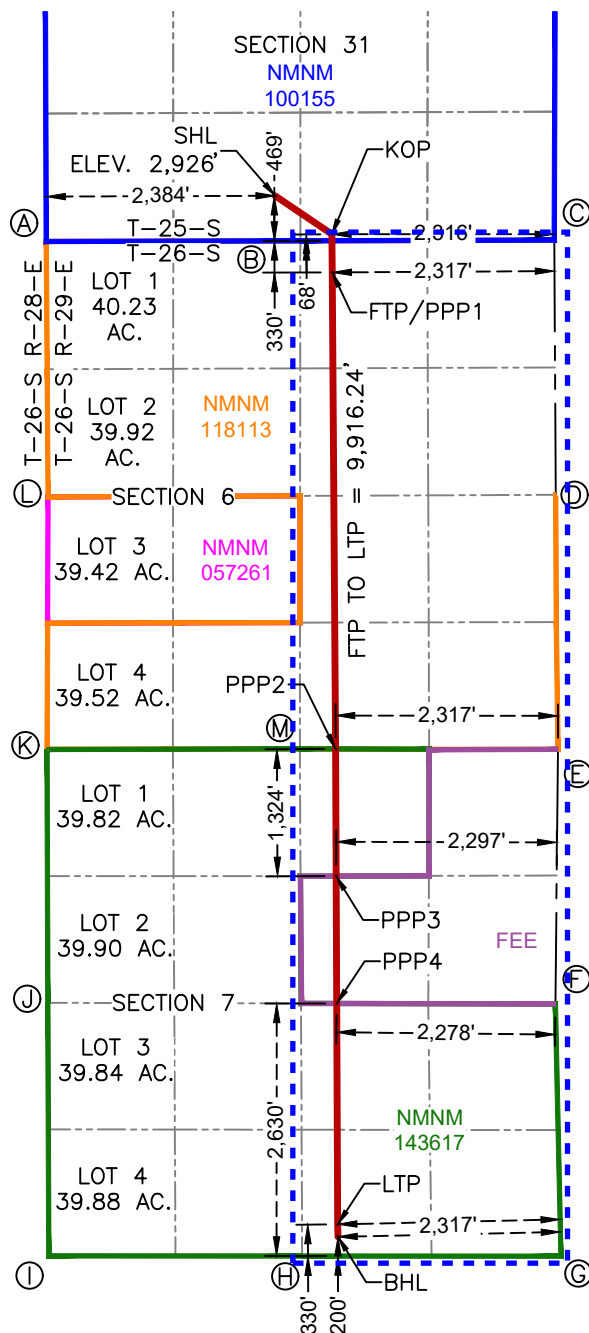
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

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

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

PUDGE FED COM 904H



SURFACE HOLE LOCATION
469' FSL & 2,384' FWL
ELEV. = 2,926'

NAD 83 X = 637,013.02'
NAD 83 Y = 393,064.26'
NAD 83 LAT = 32.080237°
NAD 83 LONG = -104.024422°

KICK-OFF POINT
68' FSL & 2,316' FEL

NAD 83 X = 637,603.93'
NAD 83 Y = 392,663.95'
NAD 83 LAT = 32.079132°
NAD 83 LONG = -104.022518°

FIRST TAKE POINT & PENETRATION POINT 1
330' FNL & 2,317' FEL

NAD 83 X = 637,606.72'
NAD 83 Y = 392,265.95'
NAD 83 LAT = 32.078038°
NAD 83 LONG = -104.022513°

PENETRATION POINT 2
0' FSL & 2,317' FEL

NAD 83 X = 637,641.46'
NAD 83 Y = 387,302.10'
NAD 83 LAT = 32.064392°
NAD 83 LONG = -104.022447°

PENETRATION POINT 3
1,324' FNL & 2,297' FEL

NAD 83 X = 637,647.64'
NAD 83 Y = 385,977.78'
NAD 83 LAT = 32.060751°
NAD 83 LONG = -104.022439°

PENETRATION POINT 4
2,630' FSL & 2,278' FEL

NAD 83 X = 637,653.83'
NAD 83 Y = 384,650.06'
NAD 83 LAT = 32.057102°
NAD 83 LONG = -104.022431°

LAST TAKE POINT
330' FSL & 2,317' FEL

NAD 83 X = 637,664.57'
NAD 83 Y = 382,349.88'
NAD 83 LAT = 32.050778°
NAD 83 LONG = -104.022418°

BOTTOM HOLE LOCATION
200' FSL & 2,317' FEL

NAD 83 X = 637,667.44'
NAD 83 Y = 382,219.88'
NAD 83 LAT = 32.050421°
NAD 83 LONG = -104.022410°

CORNER COORDINATES

NEW MEXICO EAST - NAD 83

A	IRON PIPE W/ BRASS CAP N:392,587.40' E:634,628.88'	F	IRON PIPE W/ BRASS CAP N:384,644.57' E:639,931.43'	K	IRON PIPE W/ BRASS CAP N:387,296.87' E:634,636.57'
B	IRON PIPE W/ BRASS CAP N:392,595.01' E:637,274.88'	G	IRON PIPE W/ BRASS CAP N:382,018.12' E:639,989.46'	L	IRON PIPE W/ BRASS CAP N:389,926.78' E:634,647.65'
C	IRON PIPE W/ BRASS CAP N:392,602.51' E:639,919.75'	H	IRON PIPE W/ BRASS CAP N:382,020.16' E:637,293.83'	M	IRON PIPE W/ BRASS CAP N:387,302.85' E:637,270.53'
D	IRON PIPE W/ BRASS CAP N:389,949.16' E:639,935.13'	I	IRON PIPE W/ BRASS CAP N:382,021.49' E:634,655.20'		
E	ALUM CAP "EPNG NE COR" N:387,298.24' E:639,958.45'	J	IRON PIPE W/ BRASS CAP N:384,657.31' E:634,644.78'		

DELAWARE BASIN WEST

ATLAS PROSPECT_NME

PUDGE FED COM PROJECT

PUDGE FEDERAL COM 904H

3001556666

OWB

PWP1

Anticollision Report

05 August, 2025

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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	8/5/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	10,451.3	PWP1 (OWB)	r.5 MWD+IFR1	OWSG MWD + IFR1 rev.5
10,451.3	21,167.5	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG + FDIR Corr.

Summary					
	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Separation Factor	Warning
Site Name					
Offset Well - Wellbore - Design					
PUDGE FED COM PROJECT					
PUDGE FEDERAL COM 500H - OWB - PWP1	1,665.9	1,673.1	183.9	173.5	17.783 CC, ES
PUDGE FEDERAL COM 500H - OWB - PWP1	1,800.0	1,802.0	187.0	176.2	17.241 SF
PUDGE FEDERAL COM 501H - OWB - PWP1	7,400.0	7,408.4	90.1	54.1	2.506 Normal Operations, SF
PUDGE FEDERAL COM 501H - OWB - PWP1	7,600.0	7,607.4	83.8	51.9	2.627 Normal Operations, ES
PUDGE FEDERAL COM 501H - OWB - PWP1	7,972.7	7,979.6	81.8	52.7	2.814 Normal Operations, CC
PUDGE FEDERAL COM 701H - OWB - PWP1	1,000.0	998.0	208.6	200.6	26.267 CC, ES
PUDGE FEDERAL COM 701H - OWB - PWP1	1,600.0	1,577.6	233.5	223.2	22.648 SF
PUDGE FEDERAL COM 702H - OWB - PWP1	1,000.0	998.0	202.1	194.2	25.454 CC, ES
PUDGE FEDERAL COM 702H - OWB - PWP1	9,600.0	9,600.0	491.7	437.4	9.051 SF
PUDGE FEDERAL COM 901H - OWB - PWP1	1,000.0	999.0	90.0	82.1	11.335 CC, ES
PUDGE FEDERAL COM 901H - OWB - PWP1	1,100.0	1,095.9	91.7	82.1	9.582 SF
PUDGE FEDERAL COM 902H - OWB - PWP1	1,500.0	1,499.0	60.0	50.2	6.111 CC, ES
PUDGE FEDERAL COM 902H - OWB - PWP1	1,600.0	1,597.1	61.6	51.4	6.021 SF
PUDGE FEDERAL COM 903H - OWB - PWP1	1,000.0	1,000.0	30.0	22.1	3.777 CC, ES
PUDGE FEDERAL COM 903H - OWB - PWP1	1,100.0	1,099.2	31.2	22.8	3.721 SF

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WILD THING FED COM PROJECT						
_WILD THING FED COM 704H - OWB - PWP0	9,212.9	9,180.0	487.2	455.9	15.554 CC	
_WILD THING FED COM 704H - OWB - PWP0	9,300.0	9,264.3	487.2	455.8	15.521 ES, SF	
_WILD THING FED COM 705H - OWB - PWP0	6,800.0	6,825.2	217.9	178.0	5.449 SF	
_WILD THING FED COM 705H - OWB - PWP0	6,882.6	6,903.2	216.7	177.3	5.490 CC, ES	
_WILD THING FED COM 706H - OWB - PWP0	3,267.0	3,266.6	124.7	109.8	8.378 CC	
_WILD THING FED COM 706H - OWB - PWP0	3,300.0	3,299.3	124.8	109.8	8.330 ES	
_WILD THING FED COM 708H - OWB - PWP0	3,600.0	3,596.6	132.9	116.4	8.060 SF	
_WILD THING FED COM 707H - OWB - PWP0	2,588.4	2,571.5	325.5	312.6	25.149 CC	
_WILD THING FED COM 707H - OWB - PWP0	2,600.0	2,583.0	325.5	312.6	25.105 ES	
_WILD THING FED COM 707H - OWB - PWP0	3,600.0	3,573.3	355.9	340.2	22.615 SF	
_WILD THING FED COM 708H - OWB - PWP0	1,000.0	981.0	352.6	344.6	43.944 CC	
_WILD THING FED COM 708H - OWB - PWP0	1,100.0	1,078.4	352.9	344.5	41.924 ES	
_WILD THING FED COM 708H - OWB - PWP0	3,600.0	3,527.4	599.1	579.0	29.919 SF	
_WILD THING FED COM 709H - OWB - PWP0	1,000.0	981.0	377.7	369.7	47.074 CC, ES	
_WILD THING FED COM 709H - OWB - PWP0	3,600.0	3,474.5	757.8	736.7	35.945 SF	
_WILD THING FED COM 710H - OWB - PWP0	1,000.0	981.0	403.5	395.5	50.287 CC, ES	
_WILD THING FED COM 710H - OWB - PWP0	3,600.0	3,434.6	857.9	836.4	39.916 SF	
_WILD THING FED COM 904H - OWB - PWP0	10,200.0	10,167.0	441.0	397.2	10.073 CC, ES	
_WILD THING FED COM 904H - OWB - PWP0	11,300.0	10,474.0	975.7	796.9	5.456 SF	
_WILD THING FED COM 905H - OWB - PWP0	7,626.8	7,640.1	76.6	44.2	2.360 Caution - Monitor Closely, CC	
_WILD THING FED COM 905H - OWB - PWP0	7,700.0	7,712.2	77.2	43.5	2.294 Caution - Monitor Closely, ES	
_WILD THING FED COM 905H - OWB - PWP0	10,300.0	10,310.0	82.3	43.7	2.132 Caution - Monitor Closely, SF	
_WILD THING FED COM 906H - OWB - PWP0	1,965.3	1,954.1	203.8	192.6	18.243 CC	
_WILD THING FED COM 906H - OWB - PWP0	2,000.0	1,988.2	203.9	192.6	18.077 ES	
_WILD THING FED COM 906H - OWB - PWP0	4,500.0	4,493.6	341.2	319.5	15.745 SF	
_WILD THING FED COM 907H - OWB - PWP0	2,500.0	2,481.0	260.6	247.7	20.129 CC, ES	
_WILD THING FED COM 907H - OWB - PWP0	2,800.0	2,770.5	266.2	252.5	19.457 SF	
_WILD THING FED COM 908H - OWB - PWP0	1,000.0	981.0	290.6	282.6	36.219 CC, ES	
_WILD THING FED COM 908H - OWB - PWP0	3,600.0	3,511.8	624.7	603.6	29.522 SF	
_WILD THING FED COM 909H - OWB - PWP0	1,000.0	981.0	320.6	312.6	39.958 CC, ES	
_WILD THING FED COM 909H - OWB - PWP0	1,700.0	1,625.3	373.9	363.0	34.291 SF	
_WILD THING FED COM 910H - OWB - PWP0	1,000.0	981.0	350.6	342.6	43.697 CC, ES	
_WILD THING FED COM 910H - OWB - PWP0	1,600.0	1,530.2	389.8	379.5	38.051 SF	
WILD THING FED COM 504H - OWB - PWP1	800.0	794.0	403.7	397.5	65.058 CC, ES	
WILD THING FED COM 504H - OWB - PWP1	1,400.0	1,315.8	456.8	448.0	52.095 SF	
WILD THING FEDERAL COM 502H - OWB - PWP1	8,479.5	8,902.3	280.3	235.0	6.189 CC, ES	
WILD THING FEDERAL COM 502H - OWB - PWP1	8,500.0	8,903.7	281.0	235.5	6.173 SF	
WILD THING FEDERAL COM 503H - OWB - PWP1	1,000.0	995.0	377.9	370.0	47.635 CC, ES	
WILD THING FEDERAL COM 503H - OWB - PWP1	3,900.0	3,787.1	832.0	808.7	35.729 SF	

Offset Design:	PUDGE FED COM PROJECT - PUDGE FEDERAL COM 500H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD+IFR1, 8198-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		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	1.0	0.0	0.0	0.0	0.06	200.0	0.2	200.0					
100.0	100.0	101.0	100.0	0.8	0.8	0.06	200.0	0.2	200.0	198.0	1.99	100.735		
200.0	200.0	201.0	200.0	1.4	1.4	0.06	200.0	0.2	200.0	196.7	3.31	60.436		
300.0	300.0	301.0	300.0	1.9	1.9	0.06	200.0	0.2	200.0	195.8	4.19	47.689		
400.0	400.0	401.0	400.0	2.2	2.3	0.06	200.0	0.2	200.0	195.1	4.91	40.727		
500.0	500.0	501.0	500.0	2.6	2.6	0.06	200.0	0.2	200.0	194.5	5.53	36.154		

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 500H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 8198-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
600.0	600.0	601.0	600.0	2.8	2.8	0.06	200.0	0.2	200.0	193.9	6.09	32.844	
700.0	700.0	701.0	700.0	3.1	3.1	0.06	200.0	0.2	200.0	193.4	6.60	30.301	
800.0	800.0	801.0	800.0	3.3	3.3	0.06	200.0	0.2	200.0	192.9	7.08	28.265	
900.0	900.0	901.0	900.0	3.6	3.6	0.06	200.0	0.2	200.0	192.5	7.52	26.585	
1,000.0	1,000.0	1,001.0	1,000.0	3.8	3.8	0.06	200.0	0.2	200.0	192.1	7.95	25.167	
1,100.0	1,100.0	1,103.8	1,102.8	4.0	4.1	0.56	199.3	1.9	199.3	190.9	8.36	23.828	
1,200.0	1,200.0	1,206.3	1,205.1	4.2	4.4	2.05	197.1	7.0	197.3	188.5	8.75	22.544	
1,300.0	1,300.0	1,308.3	1,306.7	4.4	4.8	4.57	193.5	15.4	194.2	185.1	9.12	21.299	
1,400.0	1,400.0	1,409.5	1,407.1	4.6	5.1	8.17	188.5	27.1	190.5	181.1	9.47	20.130	
1,500.0	1,500.0	1,509.7	1,506.0	4.7	5.5	12.92	182.2	41.8	187.0	177.2	9.80	19.088	
1,600.0	1,600.0	1,608.7	1,603.1	4.9	5.8	18.79	174.6	59.4	184.4	174.3	10.12	18.227	
1,665.9	1,665.9	1,673.1	1,665.9	5.0	6.1	23.24	168.9	72.5	183.9	173.5	10.34	17.783 CC, ES	
1,700.0	1,700.0	1,706.1	1,698.0	5.1	6.2	25.69	165.8	79.8	184.0	173.6	10.46	17.597	
1,800.0	1,800.0	1,802.0	1,790.6	5.2	6.6	33.36	156.0	102.7	187.0	176.2	10.85	17.241 SF	
1,900.0	1,900.0	1,896.5	1,881.0	5.4	6.9	41.41	145.1	128.0	194.4	183.2	11.26	17.263	
2,000.0	2,000.0	1,991.9	1,971.9	5.6	7.3	49.08	133.8	154.4	206.2	194.4	11.82	17.441	
2,100.0	2,100.0	2,087.2	2,062.8	5.7	7.6	55.88	122.5	180.7	221.5	209.0	12.44	17.810	
2,200.0	2,200.0	2,182.6	2,153.8	5.9	8.0	61.78	111.2	207.1	239.6	226.5	13.08	18.310	
2,300.0	2,300.0	2,277.9	2,244.7	6.0	8.4	66.85	99.8	233.5	259.9	246.1	13.75	18.894	
2,400.0	2,400.0	2,373.3	2,335.7	6.2	8.8	71.19	88.5	259.9	282.0	267.5	14.44	19.531	
2,500.0	2,500.0	2,468.7	2,426.6	6.3	9.2	74.91	77.2	286.2	305.4	290.3	15.12	20.192	
2,600.0	2,600.0	2,564.0	2,517.6	6.4	9.6	78.10	65.9	312.6	329.9	314.1	15.82	20.861	
2,700.0	2,700.0	2,659.4	2,608.5	6.6	10.0	80.86	54.5	339.0	355.3	338.8	16.51	21.524	
2,800.0	2,800.0	2,754.8	2,699.4	6.7	10.5	83.25	43.2	365.3	381.4	364.2	17.20	22.173	
2,900.0	2,900.0	2,850.1	2,790.4	6.8	10.9	85.35	31.9	391.7	408.0	390.1	17.89	22.801	
3,000.0	3,000.0	2,945.5	2,881.3	7.0	11.3	87.18	20.6	418.1	435.1	416.5	18.59	23.407	
3,100.0	3,100.0	3,040.9	2,972.3	7.1	11.8	88.81	9.2	444.5	462.5	443.3	19.28	23.988	
3,200.0	3,200.0	3,136.2	3,063.2	7.2	12.2	90.25	-2.1	470.8	490.3	470.3	19.98	24.544	
3,300.0	3,300.0	3,231.6	3,154.2	7.4	12.7	91.54	-13.4	497.2	518.3	497.7	20.67	25.073	
3,400.0	3,400.0	3,326.9	3,245.1	7.5	13.1	92.70	-24.7	523.6	546.6	525.2	21.37	25.578	
3,500.0	3,500.0	3,422.3	3,336.0	7.6	13.6	93.75	-36.1	549.9	575.0	552.9	22.07	26.059	
3,600.0	3,600.0	3,518.1	3,427.4	7.8	14.0	-45.01	-47.4	576.4	602.4	580.1	22.35	26.948	
3,700.0	3,699.8	3,614.8	3,519.6	7.9	14.5	-44.12	-58.9	603.2	627.5	604.5	23.02	27.258	
3,750.0	3,749.7	3,663.4	3,565.9	8.0	14.7	-43.79	-64.7	616.6	639.2	615.9	23.33	27.399	
3,800.0	3,799.5	3,712.1	3,612.4	8.0	15.0	-38.88	-70.5	630.1	650.1	626.5	23.60	27.543	
3,900.0	3,898.7	3,810.2	3,705.9	8.2	15.4	-32.51	-82.1	657.2	669.5	645.3	24.26	27.604	
4,000.0	3,997.6	3,908.9	3,800.0	8.4	15.9	-28.64	-93.8	684.5	685.6	660.7	24.94	27.489	
4,069.8	4,066.3	3,978.1	3,866.0	8.5	16.3	-26.76	-102.1	703.6	694.9	669.5	25.41	27.350	
4,100.0	4,095.9	4,008.0	3,894.6	8.5	16.4	-26.76	-105.6	711.9	698.5	672.9	25.60	27.283	
4,200.0	4,194.0	4,107.3	3,989.3	8.7	16.9	-26.75	-117.4	739.4	710.6	684.3	26.30	27.014	
4,300.0	4,292.2	4,206.6	4,083.9	8.9	17.4	-26.75	-129.2	766.8	722.7	695.7	27.02	26.747	
4,400.0	4,390.3	4,305.8	4,178.6	9.2	17.9	-26.74	-141.0	794.3	734.8	707.0	27.74	26.482	
4,500.0	4,488.5	4,405.1	4,273.3	9.4	18.4	-26.74	-152.8	821.7	746.8	718.3	28.48	26.221	
4,600.0	4,586.6	4,504.4	4,367.9	9.7	18.8	-26.73	-164.5	849.2	758.9	729.7	29.23	25.964	
4,700.0	4,684.8	4,603.6	4,462.6	10.0	19.3	-26.73	-176.3	876.6	771.0	741.0	29.98	25.712	
4,800.0	4,782.9	4,702.9	4,557.3	10.3	19.8	-26.72	-188.1	904.1	783.1	752.3	30.75	25.466	
4,900.0	4,881.1	4,802.2	4,651.9	10.6	20.3	-26.72	-199.9	931.5	795.1	763.6	31.52	25.224	
5,000.0	4,979.3	4,901.5	4,746.6	10.9	20.8	-26.71	-211.7	959.0	807.2	774.9	32.30	24.989	
5,100.0	5,077.4	5,000.7	4,841.3	11.2	21.3	-26.71	-223.5	986.4	819.3	786.2	33.09	24.760	
5,200.0	5,175.6	5,100.0	4,935.9	11.5	21.8	-26.71	-235.3	1,013.9	831.4	797.5	33.88	24.536	
5,300.0	5,273.7	5,199.3	5,030.6	11.9	22.3	-26.70	-247.1	1,041.3	843.4	808.7	34.68	24.319	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 500H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 8198-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:	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
5,400.0	5,371.9	5,298.5	5,125.3	12.2	22.8	-26.70	-258.9	1,068.8	855.5	820.0		35.49	24.108
5,500.0	5,470.0	5,397.8	5,219.9	12.6	23.3	-26.69	-270.6	1,096.2	867.6	831.3		36.30	23.903
5,600.0	5,568.2	5,497.1	5,314.6	13.0	23.8	-26.69	-282.4	1,123.7	879.6	842.5		37.11	23.704
5,700.0	5,666.3	5,596.3	5,409.3	13.4	24.3	-26.69	-294.2	1,151.1	891.7	853.8		37.93	23.510
5,800.0	5,764.5	5,695.6	5,503.9	13.7	24.8	-26.68	-306.0	1,178.6	903.8	865.0		38.75	23.322
5,900.0	5,862.6	5,794.9	5,598.6	14.1	25.3	-26.68	-317.8	1,206.0	915.9	876.3		39.58	23.140
6,000.0	5,960.8	5,894.1	5,693.3	14.5	25.8	-26.68	-329.6	1,233.5	927.9	887.5		40.41	22.963
6,100.0	6,058.9	5,993.4	5,787.9	14.9	26.3	-26.67	-341.4	1,260.9	940.0	898.8		41.25	22.791
6,200.0	6,157.1	6,092.7	5,882.6	15.3	26.8	-26.67	-353.2	1,288.4	952.1	910.0		42.08	22.624
6,300.0	6,255.2	6,191.9	5,977.3	15.7	27.3	-26.67	-364.9	1,315.9	964.2	921.2		42.92	22.462
6,400.0	6,353.4	6,291.2	6,071.9	16.1	27.8	-26.66	-376.7	1,343.3	976.2	932.5		43.77	22.305
6,500.0	6,451.5	6,390.5	6,166.6	16.5	28.3	-26.66	-388.5	1,370.8	988.3	943.7		44.61	22.153

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 501H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	1.0	0.0	0.0	0.0	-8.47	199.9	-29.8	202.1				
100.0	100.0	101.0	100.0	0.8	0.8	-8.47	199.9	-29.8	202.1	200.1	1.99	101.801	
200.0	200.0	201.0	200.0	1.4	1.4	-8.47	199.9	-29.8	202.1	198.8	3.31	61.076	
300.0	300.0	301.0	300.0	1.9	1.9	-8.47	199.9	-29.8	202.1	197.9	4.19	48.194	
400.0	400.0	401.0	400.0	2.2	2.3	-8.47	199.9	-29.8	202.1	197.2	4.91	41.158	
500.0	500.0	501.0	500.0	2.6	2.6	-8.47	199.9	-29.8	202.1	196.6	5.53	36.536	
600.0	600.0	601.0	600.0	2.8	2.8	-8.47	199.9	-29.8	202.1	196.0	6.09	33.192	
700.0	700.0	701.0	700.0	3.1	3.1	-8.47	199.9	-29.8	202.1	195.5	6.60	30.622	
800.0	800.0	801.0	800.0	3.3	3.3	-8.47	199.9	-29.8	202.1	195.0	7.08	28.564	
900.0	900.0	901.0	900.0	3.6	3.6	-8.47	199.9	-29.8	202.1	194.6	7.52	26.867	
1,000.0	1,000.0	1,001.1	1,000.1	3.8	3.8	-8.47	199.9	-29.8	202.1	194.2	7.95	25.431	
1,100.0	1,100.0	1,107.4	1,106.3	4.0	4.1	-8.17	198.4	-28.5	200.5	192.1	8.44	23.756	
1,200.0	1,200.0	1,213.4	1,212.2	4.2	4.4	-7.23	193.9	-24.6	195.8	186.9	8.90	21.994	
1,300.0	1,300.0	1,318.8	1,317.1	4.4	4.8	-5.58	186.5	-18.2	188.2	178.8	9.35	20.113	
1,400.0	1,400.0	1,423.3	1,420.8	4.6	5.1	-3.05	176.3	-9.4	177.7	168.0	9.77	18.189	
1,500.0	1,500.0	1,524.4	1,520.6	4.7	5.4	0.40	164.0	1.2	165.3	155.2	10.09	16.383	
1,600.0	1,600.0	1,623.1	1,617.9	4.9	5.6	4.42	151.7	11.7	153.2	142.8	10.45	14.664	
1,700.0	1,700.0	1,721.7	1,715.2	5.1	5.9	9.09	139.4	22.3	142.0	131.2	10.78	13.174	
1,800.0	1,800.0	1,820.3	1,812.5	5.2	6.3	14.51	127.1	32.9	131.9	120.8	11.08	11.908	
1,900.0	1,900.0	1,919.0	1,909.8	5.4	6.6	20.73	114.9	43.5	123.2	111.9	11.34	10.867	
2,000.0	2,000.0	2,017.6	2,007.1	5.6	6.9	27.79	102.6	54.0	116.2	104.6	11.56	10.050	
2,100.0	2,100.0	2,116.3	2,104.4	5.7	7.3	35.60	90.3	64.6	111.1	99.4	11.76	9.447	
2,200.0	2,200.0	2,214.9	2,201.7	5.9	7.7	43.95	78.0	75.2	108.4	96.4	11.99	9.036	
2,261.9	2,261.9	2,275.9	2,261.9	5.9	7.9	49.27	70.4	81.7	107.9	95.7	12.17	8.866	
2,300.0	2,300.0	2,313.5	2,299.0	6.0	8.0	52.54	65.7	85.8	108.1	95.8	12.30	8.789	
2,400.0	2,400.0	2,412.2	2,396.3	6.2	8.4	60.99	53.4	96.4	110.2	97.5	12.71	8.671	
2,500.0	2,500.0	2,510.8	2,493.6	6.3	8.8	68.95	41.2	106.9	114.8	101.5	13.25	8.659	
2,600.0	2,600.0	2,609.5	2,590.9	6.4	9.2	76.20	28.9	117.5	121.4	107.5	13.89	8.735	
2,700.0	2,700.0	2,708.1	2,688.2	6.6	9.6	82.62	16.6	128.1	129.7	115.1	14.60	8.885	
2,800.0	2,800.0	2,806.7	2,785.5	6.7	10.0	88.22	4.3	138.7	139.5	124.2	15.34	9.097	
2,900.0	2,900.0	2,905.4	2,882.8	6.8	10.4	93.06	-8.0	149.3	150.5	134.4	16.08	9.355	
3,000.0	3,000.0	3,004.0	2,980.1	7.0	10.8	97.23	-20.3	159.8	162.3	145.5	16.83	9.647	
3,100.0	3,100.0	3,102.7	3,077.4	7.1	11.2	100.81	-32.5	170.4	175.0	157.4	17.56	9.961	
3,200.0	3,200.0	3,201.3	3,174.7	7.2	11.6	103.91	-44.8	181.0	188.2	169.9	18.29	10.289	
3,300.0	3,300.0	3,299.9	3,272.0	7.4	12.0	106.60	-57.1	191.6	201.9	182.9	19.00	10.624	
3,400.0	3,400.0	3,398.6	3,369.3	7.5	12.5	108.95	-69.4	202.1	215.9	196.2	19.70	10.960	
3,500.0	3,500.0	3,497.2	3,466.6	7.6	12.9	111.01	-81.7	212.7	230.3	209.9	20.39	11.294	
3,600.0	3,600.0	3,596.1	3,564.1	7.8	13.3	-27.24	-94.0	223.3	243.4	222.5	20.92	11.635	
3,700.0	3,699.8	3,695.5	3,662.1	7.9	13.7	-26.03	-106.4	234.0	253.6	232.0	21.56	11.763	
3,750.0	3,749.7	3,745.3	3,711.3	8.0	13.9	-25.60	-112.6	239.3	257.5	235.7	21.84	11.793	
3,800.0	3,799.5	3,795.2	3,760.5	8.0	14.2	-20.52	-118.8	244.7	260.6	238.5	22.12	11.784	
3,900.0	3,898.7	3,895.1	3,859.0	8.2	14.6	-13.70	-131.2	255.4	264.3	241.5	22.77	11.606	
4,000.0	3,997.6	3,995.0	3,957.6	8.4	15.0	-9.22	-143.7	266.1	264.5	241.1	23.46	11.278	
4,069.8	4,066.3	4,064.7	4,026.3	8.5	15.3	-6.81	-152.4	273.6	262.7	238.7	23.92	10.982	
4,100.0	4,095.9	4,094.9	4,056.1	8.5	15.5	-6.55	-156.1	276.8	261.5	237.4	24.11	10.846	
4,200.0	4,194.0	4,194.7	4,154.6	8.7	15.9	-5.65	-168.5	287.5	257.7	232.9	24.81	10.388	
4,300.0	4,292.2	4,294.5	4,253.0	8.9	16.3	-4.72	-181.0	298.2	253.9	228.4	25.52	9.950	
4,400.0	4,390.3	4,394.4	4,351.5	9.2	16.8	-3.77	-193.4	308.9	250.3	224.0	26.26	9.532	
4,500.0	4,488.5	4,494.2	4,450.0	9.4	17.2	-2.79	-205.8	319.6	246.7	219.7	27.01	9.134	
4,600.0	4,586.6	4,594.1	4,548.5	9.7	17.6	-1.78	-218.3	330.3	243.1	215.4	27.77	8.755	
4,700.0	4,684.8	4,693.9	4,647.0	10.0	18.1	-0.74	-230.7	341.1	239.7	211.1	28.55	8.395	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 501H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												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	
4,800.0	4,782.9	4,793.8	4,745.5	10.3	18.5	0.33	-243.1	351.8	236.3	207.0	29.34	8.054	
4,900.0	4,881.1	4,893.6	4,844.0	10.6	18.9	1.43	-255.6	362.5	233.0	202.9	30.14	7.732	
5,000.0	4,979.3	4,993.5	4,942.4	10.9	19.4	2.56	-268.0	373.2	229.8	198.9	30.95	7.426	
5,100.0	5,077.4	5,093.3	5,040.9	11.2	19.8	3.72	-280.4	383.9	226.7	195.0	31.76	7.138	
5,200.0	5,175.6	5,193.1	5,139.4	11.5	20.3	4.92	-292.9	394.6	223.7	191.1	32.58	6.867	
5,300.0	5,273.7	5,293.0	5,237.9	11.9	20.7	6.14	-305.3	405.3	220.8	187.4	33.40	6.611	
5,400.0	5,371.9	5,392.8	5,336.4	12.2	21.1	7.40	-317.7	416.0	218.0	183.8	34.22	6.370	
5,500.0	5,470.0	5,492.7	5,434.9	12.6	21.6	8.69	-330.2	426.7	215.3	180.2	35.04	6.144	
5,600.0	5,568.2	5,592.5	5,533.4	13.0	22.0	10.02	-342.6	437.4	212.7	176.8	35.85	5.933	
5,700.0	5,666.3	5,692.4	5,631.9	13.4	22.5	11.37	-355.0	448.1	210.2	173.6	36.66	5.735	
5,800.0	5,764.5	5,792.2	5,730.3	13.7	22.9	12.75	-367.5	458.8	207.9	170.4	37.46	5.550	
5,900.0	5,862.6	5,892.1	5,828.8	14.1	23.3	14.17	-379.9	469.5	205.6	167.4	38.24	5.377	
6,000.0	5,960.8	5,991.9	5,927.3	14.5	23.8	15.62	-392.3	480.2	203.5	164.5	39.01	5.217	
6,100.0	6,058.9	6,091.7	6,025.8	14.9	24.2	17.09	-404.8	491.0	201.6	161.8	39.77	5.069	
6,200.0	6,157.1	6,194.0	6,126.8	15.3	24.7	18.64	-417.2	501.6	199.3	158.8	40.50	4.922	
6,300.0	6,255.2	6,297.4	6,229.0	15.7	25.1	20.28	-428.4	511.3	195.5	154.3	41.21	4.745	
6,400.0	6,353.4	6,400.5	6,331.4	16.1	25.6	22.04	-438.2	519.8	190.1	148.2	41.85	4.542	
6,500.0	6,451.5	6,503.4	6,433.6	16.5	26.0	23.99	-446.6	527.0	183.1	140.6	42.42	4.315	
6,600.0	6,549.7	6,606.0	6,535.8	16.9	26.4	26.20	-453.6	533.0	174.5	131.6	42.89	4.068	
6,700.0	6,647.8	6,708.1	6,637.7	17.4	26.7	28.77	-459.2	537.8	164.5	121.2	43.23	3.804	
6,800.0	6,746.0	6,809.9	6,739.3	17.8	27.1	31.85	-463.3	541.4	153.1	109.7	43.39	3.528	
6,900.0	6,844.1	6,911.1	6,840.5	18.2	27.4	35.65	-466.1	543.8	140.5	97.3	43.26	3.249	
6,960.4	6,903.4	6,972.0	6,901.3	18.4	27.6	38.42	-467.2	544.7	132.5	89.5	42.98	3.083	
7,000.0	6,942.3	7,011.8	6,941.1	18.6	27.7	40.40	-467.6	545.0	127.2	84.5	42.71	2.978 Normal Operations	
7,100.0	7,040.7	7,111.4	7,040.7	19.0	27.8	45.99	-467.8	545.2	114.5	72.5	42.04	2.724 Normal Operations	
7,200.0	7,139.5	7,210.1	7,139.5	19.4	27.8	52.16	-467.8	545.2	104.0	63.7	40.31	2.580 Normal Operations	
7,300.0	7,238.5	7,309.1	7,238.5	19.8	27.8	58.73	-467.8	545.2	95.9	57.7	38.22	2.510 Normal Operations	
7,400.0	7,337.7	7,408.4	7,337.7	20.2	27.8	65.41	-467.8	545.2	90.1	54.1	35.94	2.506 Normal Operations, SF	
7,500.0	7,437.1	7,507.8	7,437.1	20.6	27.8	71.82	-467.8	545.2	86.1	52.4	33.74	2.553 Normal Operations	
7,600.0	7,536.7	7,607.4	7,536.7	21.0	27.8	77.60	-467.8	545.2	83.8	51.9	31.89	2.627 Normal Operations, ES	
7,700.0	7,636.5	7,707.1	7,636.5	21.3	27.9	82.48	-467.8	545.2	82.5	52.0	30.52	2.703 Normal Operations	
7,800.0	7,736.3	7,807.0	7,736.3	21.6	27.9	86.26	-467.8	545.2	82.0	52.3	29.66	2.764 Normal Operations	
7,900.0	7,836.2	7,906.9	7,836.2	22.0	27.9	88.87	-467.8	545.2	81.8	52.6	29.20	2.802 Normal Operations	
7,972.7	7,908.9	7,979.6	7,908.9	22.1	27.9	90.00	-467.8	545.2	81.8	52.7	29.07	2.814 Normal Operations, CC	
8,000.0	7,936.2	8,006.2	7,935.5	22.2	27.9	90.25	-467.8	545.2	81.8	52.7	29.07	2.814 Normal Operations	
8,063.8	8,000.0	8,062.8	7,992.0	22.3	28.1	-147.40	-471.1	545.5	84.8	55.3	29.55	2.870 Normal Operations	
8,100.0	8,036.2	8,094.0	8,022.9	22.3	28.2	-149.26	-475.8	545.9	89.2	59.1	30.16	2.958 Normal Operations	
8,200.0	8,136.2	8,175.0	8,100.8	22.3	28.5	-156.01	-497.2	547.7	112.1	79.4	32.72	3.427	
8,300.0	8,236.2	8,250.0	8,168.9	22.4	28.8	-162.47	-528.5	550.4	150.6	115.3	35.32	4.265	
8,400.0	8,336.2	8,310.5	8,219.7	22.4	29.1	-166.81	-561.2	553.2	202.5	165.7	36.75	5.510	
8,500.0	8,436.2	8,362.7	8,259.8	22.4	29.3	-169.81	-594.3	556.1	264.8	227.4	37.42	7.077	
8,600.0	8,536.2	8,406.1	8,290.3	22.5	29.5	-171.84	-625.1	558.7	335.0	297.4	37.61	8.908	
8,700.0	8,636.2	8,442.2	8,313.4	22.5	29.6	-173.25	-652.8	561.1	411.1	373.5	37.56	10.943	
8,800.0	8,736.2	8,475.0	8,332.5	22.6	29.7	-174.35	-679.3	563.4	491.6	454.1	37.52	13.103	
8,900.0	8,836.2	8,500.0	8,345.9	22.6	29.8	-175.08	-700.3	565.2	575.6	538.2	37.35	15.411	
9,000.0	8,936.2	8,525.0	8,358.1	22.6	29.9	-175.74	-722.1	567.0	662.2	624.9	37.31	17.751	
9,100.0	9,036.2	8,538.0	8,364.0	22.7	29.9	-176.06	-733.6	568.0	750.8	713.8	37.05	20.262	
9,200.0	9,136.2	8,550.0	8,369.1	22.7	29.9	-176.33	-744.4	568.9	841.1	804.2	36.90	22.794	
9,300.0	9,236.2	8,575.0	8,379.0	22.7	30.0	-176.87	-767.3	570.9	932.8	895.7	37.12	25.129	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 701H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	2.0	0.0	0.0	163.34	-199.8	59.8	208.6				
100.0	100.0	98.0	100.0	0.8	0.8	163.34	-199.8	59.8	208.6	206.6	1.96	106.220	
200.0	200.0	198.0	200.0	1.4	1.4	163.34	-199.8	59.8	208.6	205.3	3.29	63.364	
300.0	300.0	298.0	300.0	1.9	1.9	163.34	-199.8	59.8	208.6	204.4	4.18	49.881	
400.0	400.0	398.0	400.0	2.2	2.2	163.34	-199.8	59.8	208.6	203.7	4.90	42.561	
500.0	500.0	498.0	500.0	2.6	2.6	163.34	-199.8	59.8	208.6	203.0	5.52	37.764	
600.0	600.0	598.0	600.0	2.8	2.8	163.34	-199.8	59.8	208.6	202.5	6.08	34.298	
700.0	700.0	698.0	700.0	3.1	3.1	163.34	-199.8	59.8	208.6	202.0	6.59	31.636	
800.0	800.0	798.0	800.0	3.3	3.3	163.34	-199.8	59.8	208.6	201.5	7.07	29.506	
900.0	900.0	898.0	900.0	3.6	3.6	163.34	-199.8	59.8	208.6	201.1	7.52	27.749	
1,000.0	1,000.0	998.0	1,000.0	3.8	3.8	163.34	-199.8	59.8	208.6	200.6	7.94	26.267 CC, ES	
1,100.0	1,100.0	1,095.9	1,097.9	4.0	4.1	162.92	-199.8	61.4	209.1	200.7	8.34	25.055	
1,200.0	1,200.0	1,193.6	1,195.4	4.2	4.4	161.64	-199.9	66.3	210.6	201.9	8.73	24.132	
1,300.0	1,300.0	1,290.8	1,292.3	4.4	4.7	159.55	-199.9	74.5	213.5	204.4	9.11	23.439	
1,400.0	1,400.0	1,387.4	1,388.2	4.6	5.0	156.74	-199.9	85.9	217.9	208.5	9.49	22.963	
1,500.0	1,500.0	1,483.0	1,482.7	4.7	5.4	153.34	-200.0	100.4	224.5	214.6	9.89	22.699	
1,600.0	1,600.0	1,577.6	1,575.7	4.9	5.7	149.51	-200.1	117.8	233.5	223.2	10.31	22.648 SF	
1,700.0	1,700.0	1,671.0	1,666.9	5.1	6.1	145.42	-200.2	138.0	245.4	234.6	10.76	22.810	
1,800.0	1,800.0	1,762.9	1,755.9	5.2	6.5	141.25	-200.3	160.8	260.6	249.3	11.24	23.186	
1,900.0	1,900.0	1,853.2	1,842.7	5.4	6.8	137.15	-200.4	185.9	279.3	267.6	11.70	23.873	
2,000.0	2,000.0	1,948.2	1,933.4	5.6	7.1	133.14	-200.5	214.0	300.7	288.5	12.21	24.627	
2,100.0	2,100.0	2,043.7	2,024.6	5.7	7.5	129.63	-200.7	242.3	323.5	310.7	12.78	25.303	
2,200.0	2,200.0	2,139.3	2,115.9	5.9	7.8	126.58	-200.8	270.5	347.3	333.9	13.37	25.966	
2,300.0	2,300.0	2,234.8	2,207.1	6.0	8.2	123.92	-200.9	298.8	371.9	357.9	13.98	26.605	
2,400.0	2,400.0	2,330.3	2,298.4	6.2	8.6	121.58	-201.1	327.1	397.2	382.6	14.59	27.216	
2,500.0	2,500.0	2,425.8	2,389.6	6.3	9.0	119.52	-201.2	355.3	423.0	407.8	15.22	27.795	
2,600.0	2,600.0	2,521.3	2,480.9	6.4	9.4	117.69	-201.3	383.6	449.3	433.5	15.85	28.342	
2,700.0	2,700.0	2,616.9	2,572.1	6.6	9.9	116.06	-201.5	411.9	476.0	459.5	16.50	28.856	
2,800.0	2,800.0	2,712.4	2,663.3	6.7	10.3	114.61	-201.6	440.2	503.0	485.9	17.15	29.340	
2,900.0	2,900.0	2,807.9	2,754.6	6.8	10.7	113.30	-201.7	468.4	530.3	512.5	17.80	29.793	
3,000.0	3,000.0	2,903.4	2,845.8	7.0	11.2	112.12	-201.9	496.7	557.9	539.4	18.46	30.219	
3,100.0	3,100.0	2,998.9	2,937.1	7.1	11.6	111.05	-202.0	525.0	585.6	566.5	19.13	30.619	
3,200.0	3,200.0	3,094.5	3,028.3	7.2	12.0	110.07	-202.1	553.2	613.5	593.7	19.80	30.993	
3,300.0	3,300.0	3,190.0	3,119.5	7.4	12.5	109.18	-202.3	581.5	641.6	621.1	20.47	31.345	
3,400.0	3,400.0	3,285.5	3,210.8	7.5	12.9	108.36	-202.4	609.8	669.8	648.6	21.14	31.676	
3,500.0	3,500.0	3,381.0	3,302.0	7.6	13.4	107.61	-202.5	638.0	698.1	676.2	21.82	31.987	
3,600.0	3,600.0	3,476.9	3,393.6	7.8	13.8	-32.86	-202.7	666.4	725.1	702.8	22.32	32.489	
3,700.0	3,699.8	3,573.2	3,485.6	7.9	14.3	-33.45	-202.8	694.9	749.4	726.4	23.00	32.579	
3,750.0	3,749.7	3,621.6	3,531.8	8.0	14.5	-33.79	-202.9	709.2	760.5	737.2	23.32	32.612	
3,800.0	3,799.5	3,670.1	3,578.2	8.0	14.8	-29.51	-202.9	723.6	771.0	747.4	23.60	32.667	
3,900.0	3,898.7	3,767.6	3,671.3	8.2	15.2	-24.32	-203.1	752.4	789.4	765.1	24.26	32.536	
4,000.0	3,997.6	3,865.6	3,764.9	8.4	15.7	-21.50	-203.2	781.4	804.6	779.7	24.97	32.229	
4,069.8	4,066.3	3,934.2	3,830.5	8.5	16.1	-20.30	-203.3	801.8	813.4	787.9	25.45	31.964	
4,100.0	4,095.9	3,964.0	3,858.9	8.5	16.2	-20.58	-203.3	810.6	816.8	791.2	25.65	31.840	
4,200.0	4,194.0	4,062.5	3,953.0	8.7	16.7	-21.48	-203.5	839.7	828.3	801.9	26.39	31.387	
4,300.0	4,292.2	4,161.0	4,047.0	8.9	17.2	-22.35	-203.6	868.9	840.1	812.9	27.14	30.953	
4,400.0	4,390.3	4,259.5	4,141.1	9.2	17.6	-23.20	-203.7	898.0	852.0	824.1	27.90	30.540	
4,500.0	4,488.5	4,357.9	4,235.2	9.4	18.1	-24.02	-203.9	927.1	864.1	835.4	28.66	30.146	
4,600.0	4,586.6	4,456.4	4,329.3	9.7	18.6	-24.83	-204.0	956.3	876.4	846.9	29.44	29.771	
4,700.0	4,684.8	4,554.9	4,423.4	10.0	19.1	-25.61	-204.2	985.4	888.8	858.6	30.22	29.415	
4,800.0	4,782.9	4,653.4	4,517.4	10.3	19.6	-26.37	-204.3	1,014.6	901.4	870.4	31.00	29.077	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 701H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor		
4,900.0	4,881.1	4,751.9	4,611.5	10.6	20.1	-27.11	-204.4	1,043.7	914.2	882.4	31.79	28.757		
5,000.0	4,979.3	4,850.4	4,705.6	10.9	20.6	-27.83	-204.6	1,072.9	927.1	894.5	32.58	28.453		
5,100.0	5,077.4	4,948.9	4,799.7	11.2	21.1	-28.52	-204.7	1,102.0	940.1	906.7	33.38	28.166		
5,200.0	5,175.6	5,047.4	4,893.7	11.5	21.5	-29.20	-204.8	1,131.2	953.3	919.1	34.18	27.893		
5,300.0	5,273.7	5,145.9	4,987.8	11.9	22.0	-29.87	-205.0	1,160.3	966.6	931.6	34.98	27.635		
5,400.0	5,371.9	5,244.4	5,081.9	12.2	22.5	-30.51	-205.1	1,189.5	980.0	944.3	35.78	27.391		
5,500.0	5,470.0	5,342.9	5,176.0	12.6	23.0	-31.14	-205.2	1,218.6	993.6	957.0	36.58	27.160		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 702H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	2.0	0.0	0.0	171.53	-199.9	29.8	202.1				
100.0	100.0	98.0	100.0	0.8	0.8	171.53	-199.9	29.8	202.1	200.2	1.96	102.933	
200.0	200.0	198.0	200.0	1.4	1.4	171.53	-199.9	29.8	202.1	198.8	3.29	61.403	
300.0	300.0	298.0	300.0	1.9	1.9	171.53	-199.9	29.8	202.1	197.9	4.18	48.337	
400.0	400.0	398.0	400.0	2.2	2.2	171.53	-199.9	29.8	202.1	197.2	4.90	41.244	
500.0	500.0	498.0	500.0	2.6	2.6	171.53	-199.9	29.8	202.1	196.6	5.52	36.596	
600.0	600.0	598.0	600.0	2.8	2.8	171.53	-199.9	29.8	202.1	196.0	6.08	33.236	
700.0	700.0	698.0	700.0	3.1	3.1	171.53	-199.9	29.8	202.1	195.5	6.59	30.657	
800.0	800.0	798.0	800.0	3.3	3.3	171.53	-199.9	29.8	202.1	195.0	7.07	28.592	
900.0	900.0	898.0	900.0	3.6	3.6	171.53	-199.9	29.8	202.1	194.6	7.52	26.890	
1,000.0	1,000.0	998.0	1,000.0	3.8	3.8	171.53	-199.9	29.8	202.1	194.2	7.94	25.454 CC, ES	
1,100.0	1,100.0	1,093.8	1,095.8	4.0	4.1	171.19	-200.7	31.1	203.1	194.7	8.37	24.268	
1,200.0	1,200.0	1,189.4	1,191.3	4.2	4.4	170.16	-203.0	35.2	206.3	197.5	8.78	23.489	
1,300.0	1,300.0	1,285.5	1,287.0	4.4	4.5	168.49	-206.9	42.1	211.6	202.5	9.07	23.313	
1,400.0	1,400.0	1,382.7	1,383.6	4.6	4.8	166.10	-211.4	52.3	218.4	208.9	9.47	23.061	
1,500.0	1,500.0	1,479.1	1,479.0	4.7	5.2	163.11	-216.0	65.6	226.7	216.8	9.89	22.921	
1,600.0	1,600.0	1,575.2	1,573.6	4.9	5.4	159.64	-220.8	82.0	237.0	226.8	10.25	23.119	
1,700.0	1,700.0	1,673.5	1,670.1	5.1	5.7	156.20	-225.8	99.6	248.6	237.9	10.68	23.281	
1,800.0	1,800.0	1,771.7	1,766.6	5.2	6.0	153.06	-230.8	117.3	261.0	249.9	11.15	23.421	
1,900.0	1,900.0	1,870.0	1,863.1	5.4	6.4	150.22	-235.8	134.9	274.2	262.6	11.63	23.576	
2,000.0	2,000.0	1,968.2	1,959.6	5.6	6.7	147.64	-240.8	152.6	287.9	275.8	12.13	23.736	
2,100.0	2,100.0	2,066.4	2,056.1	5.7	7.1	145.29	-245.8	170.2	302.2	289.6	12.65	23.896	
2,200.0	2,200.0	2,164.7	2,152.6	5.9	7.5	143.16	-250.8	187.9	316.9	303.8	13.18	24.051	
2,300.0	2,300.0	2,262.9	2,249.1	6.0	7.8	141.22	-255.8	205.6	332.1	318.4	13.72	24.200	
2,400.0	2,400.0	2,361.2	2,345.7	6.2	8.2	139.44	-260.8	223.2	347.6	333.3	14.28	24.342	
2,500.0	2,500.0	2,459.4	2,442.2	6.3	8.6	137.82	-265.8	240.9	363.3	348.5	14.84	24.477	
2,600.0	2,600.0	2,557.6	2,538.7	6.4	9.0	136.33	-270.8	258.5	379.4	364.0	15.42	24.604	
2,700.0	2,700.0	2,655.9	2,635.2	6.6	9.4	134.96	-275.8	276.2	395.7	379.7	16.00	24.724	
2,800.0	2,800.0	2,754.1	2,731.7	6.7	9.8	133.70	-280.8	293.8	412.1	395.5	16.59	24.837	
2,900.0	2,900.0	2,852.4	2,828.2	6.8	10.3	132.54	-285.8	311.5	428.8	411.6	17.19	24.944	
3,000.0	3,000.0	2,950.6	2,924.7	7.0	10.7	131.46	-290.8	329.2	445.6	427.8	17.79	25.044	
3,100.0	3,100.0	3,048.8	3,021.2	7.1	11.1	130.46	-295.8	346.8	462.6	444.2	18.40	25.139	
3,200.0	3,200.0	3,147.1	3,117.7	7.2	11.5	129.53	-300.8	364.5	479.7	460.7	19.01	25.229	
3,300.0	3,300.0	3,245.3	3,214.3	7.4	12.0	128.67	-305.8	382.1	496.9	477.2	19.63	25.315	
3,400.0	3,400.0	3,343.6	3,310.8	7.5	12.4	127.86	-310.8	399.8	514.2	493.9	20.25	25.396	
3,500.0	3,500.0	3,441.8	3,407.3	7.6	12.8	127.11	-315.8	417.4	531.6	510.7	20.87	25.472	
3,600.0	3,600.0	3,540.3	3,504.0	7.8	13.3	-13.57	-320.8	435.1	547.4	526.0	21.37	25.619	
3,700.0	3,699.8	3,639.2	3,601.2	7.9	13.7	-14.30	-325.8	452.9	559.9	537.9	22.01	25.445	
3,750.0	3,749.7	3,688.8	3,649.9	8.0	13.9	-14.70	-328.4	461.8	565.0	542.7	22.30	25.341	
3,800.0	3,799.5	3,738.4	3,698.7	8.0	14.1	-10.40	-330.9	470.7	569.2	546.7	22.57	25.219	
3,900.0	3,898.7	3,838.0	3,796.5	8.2	14.6	-5.08	-336.0	488.6	575.3	552.1	23.22	24.775	
4,000.0	3,997.6	3,937.7	3,894.4	8.4	15.0	-2.05	-341.0	506.6	578.0	554.1	23.90	24.189	
4,069.8	4,066.3	4,007.4	3,962.9	8.5	15.3	-0.64	-344.6	519.1	577.9	553.6	24.35	23.738	
4,100.0	4,095.9	4,037.5	3,992.5	8.5	15.5	-0.81	-346.1	524.5	577.5	553.0	24.54	23.539	
4,200.0	4,194.0	4,137.4	4,090.6	8.7	15.9	-1.38	-351.2	542.4	576.3	551.1	25.22	22.851	
4,300.0	4,292.2	4,237.2	4,188.7	8.9	16.4	-1.95	-356.3	560.4	575.1	549.2	25.92	22.188	
4,400.0	4,390.3	4,337.0	4,286.7	9.2	16.8	-2.52	-361.3	578.3	574.0	547.4	26.64	21.550	
4,500.0	4,488.5	4,436.8	4,384.8	9.4	17.3	-3.09	-366.4	596.3	573.0	545.6	27.37	20.938	
4,600.0	4,586.6	4,536.7	4,482.9	9.7	17.7	-3.67	-371.5	614.2	572.0	543.9	28.11	20.350	
4,700.0	4,684.8	4,636.5	4,580.9	10.0	18.2	-4.24	-376.6	632.2	571.0	542.2	28.86	19.788	
4,800.0	4,782.9	4,736.3	4,679.0	10.3	18.6	-4.82	-381.7	650.1	570.1	540.5	29.62	19.249	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 702H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,900.0	4,881.1	4,836.2	4,777.1	10.6	19.1	-5.40	-386.7	688.0	569.3	538.9	30.39	18.734	
5,000.0	4,979.3	4,936.0	4,875.2	10.9	19.5	-5.98	-391.8	686.0	568.5	537.4	31.17	18.241	
5,100.0	5,077.4	5,035.8	4,973.2	11.2	20.0	-6.57	-396.9	703.9	567.8	535.9	31.95	17.771	
5,200.0	5,175.6	5,135.7	5,071.3	11.5	20.4	-7.15	-402.0	721.9	567.2	534.4	32.74	17.321	
5,300.0	5,273.7	5,235.5	5,169.4	11.9	20.9	-7.74	-407.1	739.8	566.6	533.0	33.54	16.891	
5,400.0	5,371.9	5,335.3	5,267.5	12.2	21.3	-8.33	-412.1	757.7	566.1	531.7	34.35	16.481	
5,500.0	5,470.0	5,435.1	5,365.5	12.6	21.8	-8.92	-417.2	775.7	565.6	530.4	35.15	16.089	
5,600.0	5,568.2	5,535.0	5,463.6	13.0	22.2	-9.50	-422.3	793.6	565.2	529.2	35.96	15.715	
5,700.0	5,666.3	5,634.8	5,561.7	13.4	22.7	-10.09	-427.4	811.6	564.8	528.0	36.78	15.358	
5,800.0	5,764.5	5,734.6	5,659.7	13.7	23.2	-10.69	-432.5	829.5	564.5	526.9	37.59	15.016	
5,900.0	5,862.6	5,834.5	5,757.8	14.1	23.6	-11.28	-437.5	847.5	564.3	525.9	38.41	14.690	
6,000.0	5,960.8	5,934.3	5,855.9	14.5	24.1	-11.87	-442.6	865.4	564.1	524.9	39.23	14.379	
6,100.0	6,058.9	6,034.1	5,954.0	14.9	24.5	-12.46	-447.7	883.3	564.0	524.0	40.05	14.081	
6,200.0	6,157.1	6,133.9	6,052.0	15.3	25.0	-13.05	-452.8	901.3	564.0	523.1	40.88	13.797	
6,232.0	6,188.5	6,165.9	6,083.4	15.4	25.1	-13.24	-454.4	907.0	564.0	522.8	41.14	13.709	
6,300.0	6,255.2	6,233.8	6,150.1	15.7	25.4	-13.65	-457.9	919.2	564.0	522.3	41.70	13.525	
6,400.0	6,353.4	6,333.6	6,248.2	16.1	25.9	-14.24	-462.9	937.2	564.0	521.5	42.52	13.266	
6,500.0	6,451.5	6,433.4	6,346.2	16.5	26.4	-14.83	-468.0	955.1	564.2	520.8	43.34	13.018	
6,600.0	6,549.7	6,534.7	6,445.7	16.9	26.8	-15.43	-473.2	973.3	564.4	520.2	44.16	12.780	
6,700.0	6,647.8	6,645.4	6,554.7	17.4	27.3	-16.08	-478.4	991.9	563.4	518.4	45.02	12.514	
6,800.0	6,746.0	6,756.0	6,664.0	17.8	27.8	-16.73	-483.1	1,008.5	560.6	514.7	45.86	12.224	
6,900.0	6,844.1	6,866.5	6,773.4	18.2	28.3	-17.39	-487.2	1,023.0	555.9	509.2	46.66	11.913	
6,960.4	6,903.4	6,933.2	6,839.6	18.4	28.6	-17.79	-489.4	1,030.8	552.1	505.0	47.12	11.718	
7,000.0	6,942.3	6,976.8	6,882.9	18.6	28.7	-18.05	-490.8	1,035.5	549.5	502.0	47.41	11.589	
7,100.0	7,040.7	7,086.9	6,992.5	19.0	29.2	-18.66	-493.7	1,045.9	542.5	494.4	48.14	11.270	
7,200.0	7,139.5	7,196.8	7,102.1	19.4	29.6	-19.22	-496.1	1,054.3	535.4	486.6	48.82	10.967	
7,300.0	7,238.5	7,306.6	7,211.7	19.8	30.0	-19.73	-497.9	1,060.7	528.0	478.6	49.44	10.680	
7,400.0	7,337.7	7,416.3	7,321.3	20.2	30.3	-20.20	-499.1	1,065.0	520.4	470.4	50.01	10.407	
7,500.0	7,437.1	7,525.8	7,430.7	20.6	30.6	-20.61	-499.8	1,067.4	512.6	461.9	50.68	10.115	
7,600.0	7,536.7	7,631.8	7,536.7	21.0	30.7	-20.97	-499.9	1,067.8	504.6	452.9	51.72	9.756	
7,700.0	7,636.5	7,731.5	7,636.5	21.3	30.8	-21.24	-499.9	1,067.8	497.9	445.9	52.02	9.571	
7,800.0	7,736.3	7,831.3	7,736.3	21.6	30.8	-21.45	-499.9	1,067.8	492.8	440.5	52.26	9.429	
7,900.0	7,836.2	7,931.3	7,836.2	22.0	30.9	-21.60	-499.9	1,067.8	489.3	436.8	52.50	9.321	
8,000.0	7,936.2	8,031.2	7,936.2	22.2	30.9	-21.68	-499.9	1,067.8	487.5	434.8	52.70	9.249	
8,063.8	8,000.0	8,095.0	8,000.0	22.3	30.9	101.84	-499.9	1,067.8	487.1	434.6	52.53	9.274	
8,100.0	8,036.2	8,131.2	8,036.2	22.3	30.9	101.84	-499.9	1,067.8	487.1	434.6	52.54	9.271	
8,200.0	8,136.2	8,231.2	8,136.2	22.3	30.9	101.84	-499.9	1,067.8	487.1	434.5	52.60	9.261	
8,300.0	8,236.2	8,331.2	8,236.2	22.4	30.9	101.84	-499.9	1,067.8	487.1	434.5	52.65	9.251	
8,400.0	8,336.2	8,431.2	8,336.2	22.4	31.0	101.84	-499.9	1,067.8	487.1	434.4	52.71	9.241	
8,500.0	8,436.2	8,531.2	8,436.2	22.4	31.0	101.84	-499.9	1,067.8	487.1	434.4	52.77	9.231	
8,600.0	8,536.2	8,631.2	8,536.2	22.5	31.0	101.84	-499.9	1,067.8	487.1	434.3	52.83	9.221	
8,700.0	8,636.2	8,731.2	8,636.2	22.5	31.0	101.84	-499.9	1,067.8	487.1	434.3	52.89	9.211	
8,800.0	8,736.2	8,831.2	8,736.2	22.6	31.1	101.84	-499.9	1,067.8	487.1	434.2	52.94	9.201	
8,900.0	8,836.2	8,931.2	8,836.2	22.6	31.1	101.84	-499.9	1,067.8	487.1	434.1	53.00	9.191	
9,000.0	8,936.2	9,031.2	8,936.2	22.6	31.1	101.84	-499.9	1,067.8	487.1	434.1	53.06	9.180	
9,100.0	9,036.2	9,131.2	9,036.2	22.7	31.1	101.84	-499.9	1,067.8	487.1	434.0	53.12	9.170	
9,200.0	9,136.2	9,231.2	9,136.2	22.7	31.2	101.84	-499.9	1,067.8	487.1	434.0	53.18	9.160	
9,300.0	9,236.2	9,331.2	9,236.2	22.7	31.2	101.84	-499.9	1,067.8	487.1	433.9	53.24	9.149	
9,400.0	9,336.2	9,431.2	9,336.2	22.8	31.2	101.84	-499.9	1,067.8	487.1	433.8	53.30	9.139	
9,410.0	9,346.2	9,441.2	9,346.2	22.8	31.2	101.84	-499.9	1,067.8	487.1	433.8	53.31	9.138	
9,500.0	9,436.2	9,521.2	9,426.0	22.8	31.3	102.14	-502.6	1,067.8	487.8	434.0	53.82	9.063	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 702H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,600.0	9,536.2	9,600.0	9,503.7	22.9	31.4	103.61	-515.5	1,067.9	491.7	437.4	54.33	9.051 SF	
9,700.0	9,636.2	9,680.3	9,580.3	22.9	31.5	106.30	-539.5	1,068.0	500.1	445.2	54.91	9.109	
9,800.0	9,736.2	9,750.0	9,643.5	22.9	31.6	109.49	-568.8	1,068.2	514.6	459.2	55.44	9.282	
9,900.0	9,836.2	9,811.5	9,695.9	23.0	31.7	112.82	-600.9	1,068.4	536.6	480.9	55.75	9.625	
10,000.0	9,936.2	9,865.1	9,738.6	23.0	31.8	116.04	-633.4	1,068.6	567.1	511.4	55.75	10.173	
10,100.0	10,036.2	9,911.5	9,772.9	23.1	31.9	118.97	-664.5	1,068.8	606.3	550.8	55.43	10.937	
10,200.0	10,136.2	9,950.0	9,799.4	23.1	32.0	121.46	-692.4	1,069.0	653.7	598.9	54.87	11.915	
10,300.0	10,236.2	9,986.1	9,822.5	23.1	32.0	123.81	-720.2	1,069.1	708.7	654.5	54.20	13.075	
10,400.0	10,336.2	10,016.1	9,840.4	23.2	32.1	125.74	-744.2	1,069.3	770.1	716.7	53.48	14.401	
10,451.3	10,387.5	10,029.9	9,848.1	23.2	32.1	126.63	-755.7	1,069.3	803.9	750.8	53.11	15.137	
10,475.0	10,411.2	10,036.2	9,851.6	23.2	32.1	-50.64	-760.9	1,069.4	819.7	767.0	52.64	15.571	
10,500.0	10,436.1	10,050.0	9,859.0	23.2	32.1	-47.92	-772.6	1,069.5	836.1	783.5	52.55	15.910	
10,525.0	10,460.9	10,050.0	9,859.0	23.2	32.1	-46.11	-772.6	1,069.5	852.0	799.6	52.32	16.284	
10,550.0	10,485.5	10,050.0	9,859.0	23.2	32.1	-44.40	-772.6	1,069.5	867.6	815.5	52.09	16.656	
10,575.0	10,509.8	10,065.2	9,866.8	23.2	32.2	-42.21	-785.6	1,069.5	882.7	830.6	52.03	16.964	
10,600.0	10,533.8	10,072.9	9,870.6	23.2	32.2	-40.49	-792.4	1,069.6	897.3	845.4	51.90	17.289	
10,625.0	10,557.4	10,080.9	9,874.5	23.2	32.2	-38.92	-799.3	1,069.6	911.5	859.7	51.78	17.604	
10,650.0	10,580.5	10,100.0	9,883.3	23.2	32.2	-37.17	-816.3	1,069.7	925.2	873.5	51.77	17.871	
10,675.0	10,603.1	10,100.0	9,883.3	23.2	32.2	-36.09	-816.3	1,069.7	938.1	886.6	51.58	18.189	
10,700.0	10,625.1	10,100.0	9,883.3	23.2	32.2	-35.09	-816.3	1,069.7	950.6	899.2	51.38	18.502	
10,725.0	10,646.5	10,100.0	9,883.3	23.3	32.2	-34.15	-816.3	1,069.7	962.7	911.5	51.18	18.808	
10,750.0	10,667.1	10,123.0	9,893.2	23.3	32.3	-32.88	-837.0	1,069.8	973.6	922.3	51.25	18.996	
10,775.0	10,687.0	10,131.8	9,896.7	23.3	32.3	-31.99	-845.1	1,069.9	984.1	932.9	51.16	19.235	
10,800.0	10,706.0	10,150.0	9,903.7	23.3	32.3	-31.05	-861.9	1,070.0	994.0	942.9	51.18	19.422	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 901H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	1.0	0.0	0.0	89.83	0.3	90.0	90.0				
100.0	100.0	99.0	100.0	0.8	0.8	89.83	0.3	90.0	90.0	88.0	1.97	45.659	
200.0	200.0	199.0	200.0	1.4	1.4	89.83	0.3	90.0	90.0	86.7	3.30	27.287	
300.0	300.0	299.0	300.0	1.9	1.9	89.83	0.3	90.0	90.0	85.8	4.19	21.501	
400.0	400.0	399.0	400.0	2.2	2.2	89.83	0.3	90.0	90.0	85.1	4.90	18.352	
500.0	500.0	499.0	500.0	2.6	2.6	89.83	0.3	90.0	90.0	84.5	5.53	16.287	
600.0	600.0	599.0	600.0	2.8	2.8	89.83	0.3	90.0	90.0	83.9	6.08	14.793	
700.0	700.0	699.0	700.0	3.1	3.1	89.83	0.3	90.0	90.0	83.4	6.60	13.646	
800.0	800.0	799.0	800.0	3.3	3.3	89.83	0.3	90.0	90.0	82.9	7.07	12.728	
900.0	900.0	899.0	900.0	3.6	3.6	89.83	0.3	90.0	90.0	82.5	7.52	11.970	
1,000.0	1,000.0	999.0	1,000.0	3.8	3.8	89.83	0.3	90.0	90.0	82.1	7.94	11.335 CC, ES	
1,100.0	1,100.0	1,095.9	1,096.9	4.0	5.2	89.86	0.2	91.6	91.7	82.1	9.57	9.582 SF	
1,200.0	1,200.0	1,192.6	1,193.5	4.2	5.5	89.92	0.1	96.5	96.8	86.7	10.05	9.628	
1,300.0	1,300.0	1,288.9	1,289.4	4.4	5.7	90.02	0.0	104.6	105.2	94.7	10.48	10.040	
1,400.0	1,400.0	1,384.5	1,384.3	4.6	6.0	90.12	-0.3	115.9	116.9	106.0	10.91	10.720	
1,500.0	1,500.0	1,479.2	1,478.0	4.7	6.3	90.23	-0.5	130.1	132.0	120.7	11.35	11.633	
1,600.0	1,600.0	1,572.9	1,570.1	4.9	6.6	90.34	-0.9	147.3	150.3	138.5	11.79	12.747	
1,700.0	1,700.0	1,665.4	1,660.4	5.1	6.9	90.43	-1.3	167.1	171.8	159.5	12.24	14.033	
1,800.0	1,800.0	1,756.5	1,748.7	5.2	7.2	90.52	-1.7	189.5	196.4	183.7	12.70	15.466	
1,900.0	1,900.0	1,846.0	1,834.7	5.4	7.6	90.59	-2.2	214.3	224.0	210.9	13.16	17.026	
2,000.0	2,000.0	1,933.9	1,918.4	5.6	7.9	90.65	-2.7	241.2	254.6	241.0	13.62	18.694	
2,100.0	2,100.0	2,020.0	1,999.5	5.7	8.2	90.70	-3.3	270.0	288.1	274.0	14.08	20.468	
2,200.0	2,200.0	2,106.2	2,079.9	5.9	8.6	90.74	-3.9	301.2	324.3	309.8	14.52	22.334	
2,300.0	2,300.0	2,199.1	2,166.1	6.0	8.9	90.78	-4.6	335.6	361.3	346.2	15.11	23.916	
2,400.0	2,400.0	2,292.0	2,252.4	6.2	9.3	90.82	-5.3	370.0	398.4	382.7	15.68	25.404	
2,500.0	2,500.0	2,384.8	2,338.7	6.3	9.6	90.84	-5.9	404.4	435.4	419.2	16.27	26.764	
2,600.0	2,600.0	2,477.7	2,425.0	6.4	10.0	90.87	-6.6	438.8	472.5	455.6	16.87	28.008	
2,700.0	2,700.0	2,570.6	2,511.2	6.6	10.4	90.88	-7.3	473.2	509.5	492.1	17.48	29.147	
2,800.0	2,800.0	2,663.5	2,597.5	6.7	10.8	90.90	-8.0	507.6	546.6	528.5	18.10	30.192	
2,900.0	2,900.0	2,756.4	2,683.8	6.8	11.2	90.92	-8.7	542.0	583.6	564.9	18.74	31.152	
3,000.0	3,000.0	2,849.3	2,770.0	7.0	11.6	90.93	-9.3	576.4	620.7	601.3	19.37	32.035	
3,100.0	3,100.0	2,942.1	2,856.3	7.1	12.0	90.94	-10.0	610.8	657.7	637.7	20.02	32.850	
3,200.0	3,200.0	3,035.0	2,942.6	7.2	12.5	90.95	-10.7	645.2	694.8	674.1	20.68	33.602	
3,300.0	3,300.0	3,127.9	3,028.9	7.4	12.9	90.96	-11.4	679.7	731.8	710.5	21.34	34.298	
3,400.0	3,400.0	3,220.8	3,115.1	7.5	13.3	90.97	-12.1	714.1	768.9	746.9	22.00	34.943	
3,500.0	3,500.0	3,313.7	3,201.4	7.6	13.8	90.98	-12.7	748.5	805.9	783.2	22.68	35.542	
3,600.0	3,600.0	3,407.0	3,288.1	7.8	14.2	-48.53	-13.4	783.0	841.9	818.9	23.04	36.548	
3,700.0	3,699.8	3,501.0	3,375.4	7.9	14.7	-48.26	-14.1	817.8	875.7	852.0	23.70	36.956	
3,750.0	3,749.7	3,548.3	3,419.3	8.0	14.9	-48.20	-14.5	835.4	891.8	867.8	24.01	37.146	
3,800.0	3,799.5	3,595.7	3,463.4	8.0	15.1	-43.58	-14.8	852.9	907.3	883.0	24.26	37.396	
3,900.0	3,898.7	3,691.3	3,552.1	8.2	15.6	-37.75	-15.5	888.3	935.8	910.9	24.87	37.621	
4,000.0	3,997.6	3,787.6	3,641.6	8.4	16.0	-34.38	-16.2	924.0	961.3	935.7	25.54	37.636	
4,069.8	4,066.3	3,855.3	3,704.5	8.5	16.4	-32.84	-16.7	949.1	977.2	951.2	26.00	37.581	
4,100.0	4,095.9	3,884.6	3,731.7	8.5	16.5	-33.01	-16.9	959.9	983.8	957.6	26.20	37.546	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 902H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	1.0	0.0	0.0	89.84	0.2	60.0	60.0				
100.0	100.0	99.0	100.0	0.8	0.8	89.84	0.2	60.0	60.0	58.0	1.97	30.440	
200.0	200.0	199.0	200.0	1.4	1.4	89.84	0.2	60.0	60.0	56.7	3.30	18.192	
300.0	300.0	299.0	300.0	1.9	1.9	89.84	0.2	60.0	60.0	55.8	4.19	14.334	
400.0	400.0	399.0	400.0	2.2	2.2	89.84	0.2	60.0	60.0	55.1	4.90	12.235	
500.0	500.0	499.0	500.0	2.6	2.6	89.84	0.2	60.0	60.0	54.5	5.53	10.858	
600.0	600.0	599.0	600.0	2.8	2.8	89.84	0.2	60.0	60.0	53.9	6.08	9.862	
700.0	700.0	699.0	700.0	3.1	3.1	89.84	0.2	60.0	60.0	53.4	6.60	9.097	
800.0	800.0	799.0	800.0	3.3	3.3	89.84	0.2	60.0	60.0	52.9	7.07	8.485	
900.0	900.0	899.0	900.0	3.6	3.6	89.84	0.2	60.0	60.0	52.5	7.52	7.980	
1,000.0	1,000.0	999.0	1,000.0	3.8	3.8	89.84	0.2	60.0	60.0	52.1	7.94	7.554	
1,100.0	1,100.0	1,099.0	1,100.0	4.0	4.0	89.84	0.2	60.0	60.0	51.7	8.35	7.188	
1,200.0	1,200.0	1,199.0	1,200.0	4.2	4.2	89.84	0.2	60.0	60.0	51.3	8.74	6.869	
1,300.0	1,300.0	1,299.0	1,300.0	4.4	4.4	89.84	0.2	60.0	60.0	50.9	9.11	6.587	
1,400.0	1,400.0	1,399.0	1,400.0	4.6	4.6	89.84	0.2	60.0	60.0	50.5	9.47	6.336	
1,500.0	1,500.0	1,499.0	1,500.0	4.7	4.7	89.84	0.2	60.0	60.0	50.2	9.82	6.111 CC, ES	
1,600.0	1,600.0	1,597.1	1,598.0	4.9	5.0	90.37	-0.4	61.5	61.6	51.4	10.23	6.021 SF	
1,700.0	1,700.0	1,694.9	1,695.7	5.1	5.2	91.81	-2.1	66.2	66.4	55.8	10.62	6.253	
1,800.0	1,800.0	1,792.2	1,792.7	5.2	5.4	93.73	-4.8	74.0	74.5	63.7	10.87	6.854	
1,900.0	1,900.0	1,888.8	1,888.6	5.4	5.6	95.23	-7.8	85.0	86.1	74.8	11.27	7.636	
2,000.0	2,000.0	1,984.5	1,983.3	5.6	5.9	96.21	-10.8	99.0	101.0	89.3	11.69	8.637	
2,100.0	2,100.0	2,079.3	2,076.4	5.7	6.2	96.79	-13.8	116.0	119.2	107.0	12.12	9.829	
2,200.0	2,200.0	2,172.7	2,167.7	5.9	6.6	97.08	-16.9	135.8	140.6	128.0	12.56	11.188	
2,300.0	2,300.0	2,265.1	2,257.3	6.0	6.8	97.19	-20.0	158.2	165.1	152.2	12.94	12.760	
2,400.0	2,400.0	2,361.7	2,350.6	6.2	7.1	97.23	-23.2	183.0	191.0	177.6	13.39	14.260	
2,500.0	2,500.0	2,458.3	2,443.9	6.3	7.5	97.26	-26.5	207.8	216.9	203.0	13.89	15.613	
2,600.0	2,600.0	2,554.9	2,537.2	6.4	7.8	97.28	-29.7	232.6	242.7	228.3	14.41	16.851	
2,700.0	2,700.0	2,651.5	2,630.5	6.6	8.2	97.30	-33.0	257.4	268.6	253.7	14.94	17.985	
2,800.0	2,800.0	2,748.1	2,723.8	6.7	8.5	97.31	-36.2	282.2	294.5	279.0	15.48	19.023	
2,900.0	2,900.0	2,844.7	2,817.1	6.8	8.9	97.33	-39.5	306.9	320.4	304.3	16.04	19.975	
3,000.0	3,000.0	2,941.3	2,910.4	7.0	9.3	97.34	-42.7	331.7	346.3	329.7	16.61	20.849	
3,100.0	3,100.0	3,037.9	3,003.7	7.1	9.7	97.35	-46.0	356.5	372.1	355.0	17.19	21.652	
3,200.0	3,200.0	3,134.5	3,097.0	7.2	10.1	97.35	-49.2	381.3	398.0	380.3	17.78	22.391	
3,300.0	3,300.0	3,231.0	3,190.3	7.4	10.5	97.36	-52.5	406.1	423.9	405.5	18.37	23.073	
3,400.0	3,400.0	3,327.6	3,283.6	7.5	10.9	97.37	-55.7	430.9	449.8	430.8	18.98	23.702	
3,500.0	3,500.0	3,424.2	3,376.9	7.6	11.3	97.37	-59.0	455.7	475.7	456.1	19.59	24.284	
3,600.0	3,600.0	3,521.1	3,470.5	7.8	11.8	-42.42	-62.2	480.5	500.3	480.3	20.05	24.947	
3,700.0	3,699.8	3,618.6	3,564.6	7.9	12.2	-42.50	-65.5	505.5	522.5	501.8	20.66	25.290	
3,750.0	3,749.7	3,667.5	3,611.9	8.0	12.4	-42.64	-67.1	518.1	532.6	511.7	20.93	25.441	
3,800.0	3,799.5	3,716.5	3,659.2	8.0	12.6	-38.18	-68.8	530.7	542.0	520.8	21.19	25.581	
3,900.0	3,898.7	3,815.0	3,754.3	8.2	13.1	-32.66	-72.1	555.9	558.4	536.6	21.79	25.625	
4,000.0	3,997.6	3,913.8	3,849.8	8.4	13.5	-29.60	-75.4	581.3	571.6	549.1	22.43	25.482	
4,069.8	4,066.3	3,983.1	3,916.7	8.5	13.9	-28.28	-77.8	599.1	578.8	555.9	22.86	25.321	
4,100.0	4,095.9	4,013.0	3,945.6	8.5	14.0	-28.52	-78.8	606.8	581.6	558.5	23.04	25.242	
4,200.0	4,194.0	4,112.3	4,041.5	8.7	14.5	-29.29	-82.1	632.2	590.9	567.2	23.70	24.933	
4,300.0	4,292.2	4,211.5	4,137.4	8.9	14.9	-30.03	-85.5	657.7	600.3	576.0	24.37	24.632	
4,400.0	4,390.3	4,310.8	4,233.2	9.2	15.4	-30.75	-88.8	683.2	609.8	584.8	25.05	24.341	
4,500.0	4,488.5	4,410.1	4,329.1	9.4	15.8	-31.44	-92.1	708.7	619.5	593.7	25.75	24.061	
4,600.0	4,586.6	4,509.3	4,425.0	9.7	16.3	-32.12	-95.5	734.1	629.2	602.7	26.44	23.792	
4,700.0	4,684.8	4,608.6	4,520.9	10.0	16.8	-32.77	-98.8	759.6	638.9	611.8	27.15	23.534	
4,800.0	4,782.9	4,707.8	4,616.7	10.3	17.2	-33.41	-102.2	785.1	648.8	620.9	27.86	23.287	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 902H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,900.0	4,881.1	4,807.1	4,712.6	10.6	17.7	-34.03	-105.5	810.5	658.7	630.2	28.58	23.051	
5,000.0	4,979.3	4,906.3	4,808.5	10.9	18.2	-34.62	-108.8	836.0	668.8	639.5	29.30	22.825	
5,100.0	5,077.4	5,005.6	4,904.4	11.2	18.7	-35.20	-112.2	861.5	678.8	648.8	30.02	22.611	
5,200.0	5,175.6	5,104.9	5,000.2	11.5	19.1	-35.77	-115.5	887.0	689.0	658.2	30.75	22.406	
5,300.0	5,273.7	5,204.1	5,096.1	11.9	19.6	-36.31	-118.8	912.4	699.2	667.7	31.48	22.211	
5,400.0	5,371.9	5,303.4	5,192.0	12.2	20.1	-36.85	-122.2	937.9	709.5	677.3	32.21	22.025	
5,500.0	5,470.0	5,402.6	5,287.9	12.6	20.6	-37.36	-125.5	963.4	719.8	686.9	32.95	21.848	
5,600.0	5,568.2	5,501.9	5,383.7	13.0	21.0	-37.86	-128.9	988.8	730.2	696.5	33.68	21.679	
5,700.0	5,666.3	5,601.1	5,479.6	13.4	21.5	-38.35	-132.2	1,014.3	740.7	706.2	34.42	21.519	
5,800.0	5,764.5	5,700.4	5,575.5	13.7	22.0	-38.82	-135.5	1,039.8	751.2	716.0	35.16	21.366	
5,900.0	5,862.6	5,799.7	5,671.4	14.1	22.5	-39.29	-138.9	1,065.3	761.7	725.8	35.90	21.220	
6,000.0	5,960.8	5,898.9	5,767.2	14.5	23.0	-39.73	-142.2	1,090.7	772.3	735.7	36.63	21.082	
6,100.0	6,058.9	5,998.2	5,863.1	14.9	23.4	-40.17	-145.6	1,116.2	783.0	745.6	37.37	20.950	
6,200.0	6,157.1	6,097.4	5,959.0	15.3	23.9	-40.59	-148.9	1,141.7	793.6	755.5	38.11	20.824	
6,300.0	6,255.2	6,196.7	6,054.9	15.7	24.4	-41.01	-152.2	1,167.1	804.4	765.5	38.85	20.704	
6,400.0	6,353.4	6,295.9	6,150.7	16.1	24.9	-41.41	-155.6	1,192.6	815.1	775.5	39.59	20.589	
6,500.0	6,451.5	6,395.2	6,246.6	16.5	25.4	-41.80	-158.9	1,218.1	825.9	785.6	40.33	20.480	
6,600.0	6,549.7	6,494.5	6,342.5	16.9	25.9	-42.18	-162.3	1,243.6	836.8	795.7	41.07	20.376	
6,700.0	6,647.8	6,593.7	6,438.4	17.4	26.4	-42.56	-165.6	1,269.0	847.7	805.9	41.81	20.277	
6,800.0	6,746.0	6,693.0	6,534.2	17.8	26.8	-42.92	-168.9	1,294.5	858.6	816.0	42.54	20.182	
6,900.0	6,844.1	6,792.2	6,630.1	18.2	27.3	-43.27	-172.3	1,320.0	869.5	826.3	43.28	20.091	
6,960.4	6,903.4	6,852.2	6,688.0	18.4	27.6	-43.48	-174.3	1,335.4	876.2	832.4	43.72	20.042	
7,000.0	6,942.3	6,891.5	6,726.0	18.6	27.8	-43.64	-175.6	1,345.4	880.6	836.6	44.00	20.015	
7,100.0	7,040.7	6,990.7	6,821.8	19.0	28.3	-43.99	-179.0	1,370.9	892.7	848.0	44.74	19.955	
7,200.0	7,139.5	7,089.7	6,917.5	19.4	28.8	-44.27	-182.3	1,396.3	906.1	860.6	45.48	19.923	
7,300.0	7,238.5	7,188.6	7,013.0	19.8	29.3	-44.47	-185.6	1,421.7	920.8	874.5	46.23	19.915	
7,400.0	7,337.7	7,287.4	7,108.4	20.2	29.8	-44.61	-188.9	1,447.0	936.6	889.6	46.99	19.932	
7,500.0	7,437.1	7,385.9	7,203.5	20.6	30.2	-44.67	-192.3	1,472.3	953.7	906.0	47.75	19.971	
7,600.0	7,536.7	7,484.2	7,298.5	21.0	30.7	-44.68	-195.6	1,497.5	972.0	923.5	48.52	20.033	
7,700.0	7,636.5	7,582.2	7,393.2	21.3	31.2	-44.63	-198.9	1,522.7	991.6	942.3	49.29	20.116	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 903H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10302-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.83	0.1	30.0	30.0				
100.0	100.0	100.0	100.0	0.8	0.8	89.83	0.1	30.0	30.0	28.0	1.97	15.258	
200.0	200.0	200.0	200.0	1.4	1.4	89.83	0.1	30.0	30.0	26.7	3.30	9.096	
300.0	300.0	300.0	300.0	1.9	1.9	89.83	0.1	30.0	30.0	25.8	4.19	7.168	
400.0	400.0	400.0	400.0	2.2	2.2	89.83	0.1	30.0	30.0	25.1	4.90	6.118	
500.0	500.0	500.0	500.0	2.6	2.6	89.83	0.1	30.0	30.0	24.5	5.53	5.430	
600.0	600.0	600.0	600.0	2.8	2.8	89.83	0.1	30.0	30.0	23.9	6.08	4.932	
700.0	700.0	700.0	700.0	3.1	3.1	89.83	0.1	30.0	30.0	23.4	6.59	4.549	
800.0	800.0	800.0	800.0	3.3	3.3	89.83	0.1	30.0	30.0	22.9	7.07	4.243	
900.0	900.0	900.0	900.0	3.6	3.6	89.83	0.1	30.0	30.0	22.5	7.52	3.990	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	89.83	0.1	30.0	30.0	22.1	7.94	3.777 CC, ES	
1,100.0	1,100.0	1,099.2	1,099.2	4.0	4.1	92.06	-1.1	31.2	31.2	22.8	8.40	3.721 SF	
1,200.0	1,200.0	1,198.2	1,198.1	4.2	4.4	97.77	-4.8	34.8	35.2	26.4	8.85	3.982	
1,300.0	1,300.0	1,296.7	1,296.2	4.4	4.5	104.32	-10.5	41.0	42.5	33.3	9.15	4.637	
1,400.0	1,400.0	1,394.6	1,393.4	4.6	4.8	107.82	-16.2	50.2	53.2	43.6	9.61	5.536	
1,500.0	1,500.0	1,491.7	1,489.6	4.7	5.1	108.89	-21.5	62.7	67.1	57.0	10.08	6.653	
1,600.0	1,600.0	1,588.8	1,585.4	4.9	5.3	108.66	-26.4	78.2	83.9	73.4	10.46	8.019	
1,700.0	1,700.0	1,687.3	1,682.3	5.1	5.6	108.34	-31.4	94.7	101.3	90.4	10.93	9.270	
1,800.0	1,800.0	1,785.8	1,779.3	5.2	6.0	108.11	-36.3	111.1	118.8	107.3	11.43	10.393	
1,900.0	1,900.0	1,884.2	1,876.2	5.4	6.3	107.94	-41.3	127.6	136.2	124.3	11.94	11.408	
2,000.0	2,000.0	1,982.7	1,973.2	5.6	6.6	107.80	-46.3	144.0	153.6	141.2	12.47	12.326	
2,100.0	2,100.0	2,081.2	2,070.1	5.7	7.0	107.70	-51.2	160.5	171.1	158.1	13.00	13.159	
2,200.0	2,200.0	2,179.6	2,167.1	5.9	7.4	107.61	-56.2	177.0	188.5	175.0	13.55	13.915	
2,300.0	2,300.0	2,278.1	2,264.1	6.0	7.8	107.54	-61.1	193.4	206.0	191.9	14.11	14.604	
2,400.0	2,400.0	2,376.6	2,361.0	6.2	8.1	107.48	-66.1	209.9	223.5	208.8	14.67	15.232	
2,500.0	2,500.0	2,475.0	2,458.0	6.3	8.5	107.43	-71.1	226.3	240.9	225.7	15.24	15.807	
2,600.0	2,600.0	2,573.5	2,554.9	6.4	8.9	107.39	-76.0	242.8	258.4	242.5	15.82	16.334	
2,700.0	2,700.0	2,672.0	2,651.9	6.6	9.3	107.35	-81.0	259.2	275.8	259.4	16.40	16.818	
2,800.0	2,800.0	2,770.4	2,748.8	6.7	9.7	107.31	-85.9	275.7	293.3	276.3	16.99	17.264	
2,900.0	2,900.0	2,868.9	2,845.8	6.8	10.2	107.28	-90.9	292.1	310.7	293.1	17.58	17.676	
3,000.0	3,000.0	2,967.4	2,942.7	7.0	10.6	107.26	-95.9	308.6	328.2	310.0	18.17	18.058	
3,100.0	3,100.0	3,065.8	3,039.7	7.1	11.0	107.23	-100.8	325.0	345.6	326.8	18.77	18.411	
3,200.0	3,200.0	3,164.3	3,136.6	7.2	11.4	107.21	-105.8	341.5	363.1	343.7	19.37	18.740	
3,300.0	3,300.0	3,262.7	3,233.6	7.4	11.8	107.19	-110.7	357.9	380.5	360.5	19.98	19.046	
3,400.0	3,400.0	3,361.2	3,330.5	7.5	12.2	107.17	-115.7	374.4	398.0	377.4	20.59	19.332	
3,500.0	3,500.0	3,459.7	3,427.5	7.6	12.7	107.15	-120.6	390.8	415.4	394.2	21.20	19.599	
3,600.0	3,600.0	3,558.4	3,524.7	7.8	13.1	-32.81	-125.6	407.3	431.4	409.8	21.66	19.922	
3,700.0	3,699.8	3,657.5	3,622.3	7.9	13.5	-33.05	-130.6	423.9	444.5	422.3	22.26	19.969	
3,750.0	3,749.7	3,707.1	3,671.1	8.0	13.7	-33.26	-133.1	432.2	450.0	427.5	22.53	19.970	
3,800.0	3,799.5	3,756.8	3,720.1	8.0	14.0	-28.83	-135.6	440.5	454.7	431.9	22.79	19.949	
3,900.0	3,898.7	3,856.5	3,818.2	8.2	14.4	-23.33	-140.6	457.1	461.5	438.1	23.40	19.723	
4,000.0	3,997.6	3,956.3	3,916.5	8.4	14.8	-20.26	-145.7	473.8	464.9	440.9	24.04	19.344	
4,069.8	4,066.3	4,026.0	3,985.1	8.5	15.1	-18.91	-149.2	485.5	465.3	440.8	24.46	19.024	
4,100.0	4,095.9	4,056.1	4,014.8	8.5	15.3	-19.12	-150.7	490.5	465.1	440.5	24.64	18.878	
4,200.0	4,194.0	4,156.0	4,113.1	8.7	15.7	-19.80	-155.7	507.2	464.5	439.2	25.28	18.374	
4,300.0	4,292.2	4,255.8	4,211.4	8.9	16.2	-20.49	-160.7	523.9	463.9	438.0	25.93	17.891	
4,400.0	4,390.3	4,355.7	4,309.7	9.2	16.6	-21.18	-165.8	540.6	463.4	436.8	26.59	17.428	
4,500.0	4,488.5	4,455.5	4,408.1	9.4	17.0	-21.87	-170.8	557.2	463.0	435.7	27.26	16.985	
4,600.0	4,586.6	4,555.4	4,506.4	9.7	17.5	-22.56	-175.8	573.9	462.6	434.7	27.93	16.562	
4,700.0	4,684.8	4,655.2	4,604.7	10.0	17.9	-23.25	-180.9	590.6	462.3	433.7	28.61	16.159	
4,800.0	4,782.9	4,755.0	4,703.0	10.3	18.4	-23.94	-185.9	607.3	462.1	432.8	29.29	15.775	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 903H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 MWD+IFR1, 10302-r.5 MWD+IFR1+SAG+FDIR									Rule Assigned:				Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			No-Go Distance (usft)	
4,900.0	4,881.1	4,854.9	4,801.3	10.6	18.8	-24.63	-190.9	624.0	461.9	432.0	29.98	15.409		
5,000.0	4,979.3	4,954.7	4,899.6	10.9	19.3	-25.32	-195.9	640.7	461.9	431.2	30.67	15.061		
5,083.2	5,060.9	5,037.8	4,981.4	11.2	19.6	-25.90	-200.1	654.5	461.8	430.6	31.24	14.784		
5,100.0	5,077.4	5,054.6	4,997.9	11.2	19.7	-26.01	-201.0	657.3	461.8	430.5	31.35	14.729		
5,200.0	5,175.6	5,154.4	5,096.2	11.5	20.2	-26.71	-206.0	674.0	461.9	429.8	32.04	14.414		
5,300.0	5,273.7	5,254.3	5,194.5	11.9	20.6	-27.40	-211.0	690.7	462.0	429.3	32.73	14.115		
5,400.0	5,371.9	5,354.1	5,292.9	12.2	21.1	-28.09	-216.1	707.4	462.2	428.8	33.42	13.831		
5,500.0	5,470.0	5,453.9	5,391.2	12.6	21.5	-28.78	-221.1	724.1	462.4	428.3	34.10	13.560		
5,600.0	5,568.2	5,553.8	5,489.5	13.0	22.0	-29.47	-226.1	740.8	462.7	428.0	34.78	13.304		
5,700.0	5,666.3	5,653.6	5,587.8	13.4	22.4	-30.16	-231.1	757.4	463.1	427.7	35.46	13.060		
5,800.0	5,764.5	5,753.5	5,686.1	13.7	22.9	-30.85	-236.2	774.1	463.6	427.4	36.14	12.828		
5,900.0	5,862.6	5,853.3	5,784.4	14.1	23.3	-31.54	-241.2	790.8	464.1	427.3	36.81	12.609		
6,000.0	5,960.8	5,953.2	5,882.7	14.5	23.8	-32.22	-246.2	807.5	464.7	427.2	37.47	12.400		
6,100.0	6,058.9	6,053.0	5,981.0	14.9	24.2	-32.91	-251.3	824.2	465.3	427.2	38.13	12.202		
6,200.0	6,157.1	6,152.9	6,079.3	15.3	24.7	-33.59	-256.3	840.9	466.0	427.2	38.79	12.015		
6,300.0	6,255.2	6,252.7	6,177.7	15.7	25.1	-34.27	-261.3	857.5	466.8	427.4	39.44	11.837		
6,400.0	6,353.4	6,352.5	6,276.0	16.1	25.6	-34.94	-266.3	874.2	467.7	427.6	40.08	11.668		
6,500.0	6,451.5	6,452.4	6,374.3	16.5	26.0	-35.62	-271.4	890.9	468.6	427.9	40.72	11.508		
6,600.0	6,549.7	6,552.2	6,472.6	16.9	26.5	-36.29	-276.4	907.6	469.6	428.2	41.35	11.356		
6,700.0	6,647.8	6,652.1	6,570.9	17.4	26.9	-36.96	-281.4	924.3	470.6	428.6	41.97	11.212		
6,800.0	6,746.0	6,751.9	6,669.2	17.8	27.4	-37.62	-286.5	941.0	471.7	429.1	42.59	11.076		
6,900.0	6,844.1	6,851.8	6,767.5	18.2	27.8	-38.29	-291.5	957.6	472.9	429.7	43.20	10.947		
6,960.4	6,903.4	6,912.1	6,826.9	18.4	28.1	-38.68	-294.5	967.7	473.6	430.1	43.55	10.875		
7,000.0	6,942.3	6,951.6	6,865.8	18.6	28.3	-38.94	-296.5	974.3	474.2	430.4	43.78	10.831		
7,100.0	7,040.7	7,051.5	6,964.2	19.0	28.7	-39.49	-301.5	991.0	476.7	432.3	44.40	10.737		
7,200.0	7,139.5	7,151.3	7,062.5	19.4	29.2	-39.91	-306.6	1,007.7	480.6	435.6	45.04	10.671		
7,300.0	7,238.5	7,251.2	7,160.8	19.8	29.6	-40.20	-311.6	1,024.4	485.8	440.1	45.70	10.630		
7,400.0	7,337.7	7,351.0	7,259.1	20.2	30.1	-40.37	-316.6	1,041.1	492.4	446.0	46.39	10.614		
7,500.0	7,437.1	7,450.6	7,357.2	20.6	30.5	-40.40	-321.7	1,057.7	500.3	453.2	47.11	10.621		
7,600.0	7,536.7	7,550.2	7,455.3	21.0	31.0	-40.32	-326.7	1,074.4	509.5	461.7	47.85	10.649		
7,700.0	7,636.5	7,649.6	7,553.1	21.3	31.4	-40.13	-331.7	1,091.0	520.1	471.4	48.61	10.698		
7,800.0	7,736.3	7,748.8	7,650.8	21.6	31.9	-39.84	-336.7	1,107.5	532.0	482.6	49.39	10.769		
7,900.0	7,836.2	7,847.9	7,748.3	22.0	32.3	-39.45	-341.7	1,124.1	545.2	495.0	50.19	10.862		
8,000.0	7,936.2	7,946.6	7,845.6	22.2	32.8	-38.98	-346.6	1,140.6	559.8	508.8	50.99	10.979		
8,063.8	8,000.0	8,009.5	7,907.5	22.3	33.1	84.88	-349.8	1,151.1	569.9	517.6	52.30	10.897		
8,100.0	8,036.2	8,045.2	7,942.6	22.3	33.2	85.11	-351.6	1,157.1	575.8	523.2	52.56	10.955		
8,200.0	8,136.2	8,147.9	8,043.8	22.3	33.7	85.76	-356.7	1,174.1	591.9	538.6	53.30	11.105		
8,300.0	8,236.2	8,257.4	8,151.9	22.4	34.2	86.34	-361.7	1,190.6	606.7	552.6	54.03	11.228		
8,400.0	8,336.2	8,367.5	8,261.0	22.4	34.7	86.84	-366.1	1,205.2	619.7	565.0	54.71	11.327		
8,500.0	8,436.2	8,478.2	8,370.9	22.4	35.1	87.25	-369.9	1,217.8	630.9	575.6	55.33	11.403		
8,600.0	8,536.2	8,589.3	8,481.4	22.5	35.6	87.59	-373.1	1,228.5	640.4	584.5	55.90	11.456		
8,700.0	8,636.2	8,700.9	8,592.6	22.5	36.0	87.85	-375.7	1,237.1	648.0	591.6	56.41	11.488		
8,800.0	8,736.2	8,812.7	8,704.2	22.6	36.4	88.04	-377.7	1,243.7	653.8	597.0	56.86	11.500		
8,900.0	8,836.2	8,924.8	8,816.2	22.6	36.8	88.17	-379.1	1,248.2	657.8	600.6	57.23	11.494		
9,000.0	8,936.2	9,037.0	8,928.4	22.6	37.0	88.24	-379.8	1,250.6	659.9	602.5	57.45	11.486		
9,100.0	9,036.2	9,144.8	9,036.2	22.7	37.1	88.26	-379.9	1,251.0	660.3	602.9	57.36	11.511		
9,200.0	9,136.2	9,244.8	9,136.2	22.7	37.2	88.26	-379.9	1,251.0	660.3	602.9	57.41	11.502		
9,300.0	9,236.2	9,344.8	9,236.2	22.7	37.2	88.26	-379.9	1,251.0	660.3	602.8	57.46	11.491		
9,400.0	9,336.2	9,444.8	9,336.2	22.8	37.2	88.26	-379.9	1,251.0	660.3	602.8	57.51	11.481		
9,500.0	9,436.2	9,544.8	9,436.2	22.8	37.2	88.26	-379.9	1,251.0	660.3	602.7	57.56	11.471		
9,600.0	9,536.2	9,644.8	9,536.2	22.9	37.2	88.26	-379.9	1,251.0	660.3	602.7	57.62	11.460		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 903H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10302-r.5 MWD+IFR1+SAG+FDIR												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)			
9,700.0	9,636.2	9,744.8	9,636.2	22.9	37.3	88.26	-379.9	1,251.0	660.3	602.6	57.67	11.450	
9,800.0	9,736.2	9,844.8	9,736.2	22.9	37.3	88.26	-379.9	1,251.0	660.3	602.6	57.72	11.439	
9,900.0	9,836.2	9,944.8	9,836.2	23.0	37.3	88.26	-379.9	1,251.0	660.3	602.5	57.78	11.428	
10,000.0	9,936.2	10,044.8	9,936.2	23.0	37.3	88.26	-379.9	1,251.0	660.3	602.5	57.83	11.418	
10,100.0	10,036.2	10,144.8	10,036.2	23.1	37.3	88.26	-379.9	1,251.0	660.3	602.4	57.89	11.407	
10,200.0	10,136.2	10,244.8	10,136.2	23.1	37.3	88.26	-379.9	1,251.0	660.3	602.4	57.94	11.396	
10,300.0	10,236.2	10,346.2	10,237.5	23.1	37.4	88.43	-381.9	1,251.0	660.3	602.0	58.28	11.328	
10,380.1	10,316.3	10,426.3	10,316.3	23.2	37.4	89.65	-396.0	1,251.1	660.1	601.4	58.67	11.251	
10,400.0	10,336.2	10,445.3	10,334.6	23.2	37.4	90.11	-401.2	1,251.1	660.1	601.3	58.82	11.223	
10,451.3	10,387.5	10,492.1	10,378.6	23.2	37.4	91.49	-417.2	1,251.2	660.5	601.2	59.28	11.143	
10,475.0	10,411.2	10,512.8	10,397.4	23.2	37.4	-87.42	-425.7	1,251.3	660.9	601.7	59.19	11.165	
10,500.0	10,436.1	10,534.3	10,416.7	23.2	37.4	-86.65	-435.3	1,251.3	661.4	602.0	59.41	11.133	
10,525.0	10,460.9	10,555.5	10,435.1	23.2	37.4	-85.89	-445.6	1,251.4	662.1	602.5	59.61	11.106	
10,550.0	10,485.5	10,575.0	10,451.8	23.2	37.4	-85.19	-455.8	1,251.5	662.8	603.0	59.80	11.084	
10,575.0	10,509.8	10,596.9	10,469.9	23.2	37.4	-84.42	-468.1	1,251.5	663.7	603.7	59.98	11.066	
10,600.0	10,533.8	10,617.2	10,486.3	23.2	37.4	-83.70	-480.2	1,251.6	664.7	604.5	60.13	11.053	
10,625.0	10,557.4	10,637.3	10,501.9	23.2	37.4	-83.00	-492.8	1,251.7	665.7	605.4	60.27	11.045	
10,650.0	10,580.5	10,657.2	10,516.8	23.2	37.4	-82.31	-506.0	1,251.8	666.8	606.4	60.40	11.040	
10,675.0	10,603.1	10,675.0	10,529.6	23.2	37.4	-81.69	-518.3	1,251.8	668.0	607.5	60.49	11.043	
10,700.0	10,625.1	10,696.4	10,544.5	23.2	37.4	-80.99	-533.7	1,251.9	669.2	608.6	60.59	11.044	
10,725.0	10,646.5	10,715.7	10,557.3	23.3	37.4	-80.36	-548.1	1,252.0	670.4	609.7	60.66	11.051	
10,750.0	10,667.1	10,734.8	10,569.4	23.3	37.4	-79.76	-562.9	1,252.1	671.7	611.0	60.72	11.062	
10,775.0	10,687.0	10,753.8	10,580.8	23.3	37.4	-79.17	-578.1	1,252.2	673.0	612.2	60.76	11.075	
10,800.0	10,706.0	10,775.0	10,592.8	23.3	37.4	-78.56	-595.6	1,252.3	674.3	613.4	60.81	11.087	
10,825.0	10,724.2	10,791.4	10,601.5	23.3	37.4	-78.08	-609.4	1,252.4	675.5	614.7	60.80	11.111	
10,850.0	10,741.5	10,810.0	10,610.9	23.3	37.5	-77.57	-625.5	1,252.5	676.8	616.0	60.80	11.132	
10,875.0	10,757.7	10,828.5	10,619.6	23.3	37.5	-77.09	-641.8	1,252.6	678.0	617.3	60.78	11.156	
10,900.0	10,773.0	10,850.0	10,628.8	23.3	37.5	-76.59	-661.3	1,252.7	679.2	618.4	60.79	11.174	
10,925.0	10,787.2	10,865.2	10,634.8	23.3	37.5	-76.21	-675.2	1,252.8	680.4	619.7	60.71	11.208	
10,950.0	10,800.3	10,883.4	10,641.5	23.4	37.5	-75.82	-692.2	1,252.9	681.5	620.8	60.65	11.236	
10,975.0	10,812.3	10,900.0	10,646.9	23.4	37.5	-75.47	-707.8	1,253.0	682.5	622.0	60.56	11.269	
11,000.0	10,823.2	10,919.6	10,652.7	23.4	37.5	-75.12	-726.6	1,253.1	683.5	623.0	60.51	11.295	
11,025.0	10,832.8	10,937.6	10,657.3	23.4	37.5	-74.82	-744.0	1,253.2	684.4	623.9	60.43	11.325	
11,050.0	10,841.2	10,955.6	10,661.2	23.4	37.5	-74.55	-761.5	1,253.3	685.2	624.9	60.34	11.356	
11,075.0	10,848.4	10,975.0	10,664.8	23.5	37.6	-74.30	-780.6	1,253.5	685.9	625.6	60.26	11.382	
11,100.0	10,854.3	10,991.4	10,667.1	23.5	37.6	-74.10	-796.8	1,253.5	686.5	626.4	60.13	11.417	
11,125.0	10,858.9	11,009.2	10,669.0	23.5	37.6	-73.93	-814.5	1,253.7	687.1	627.1	60.02	11.447	
11,150.0	10,862.2	11,025.0	10,670.2	23.5	37.6	-73.80	-830.3	1,253.8	687.5	627.6	59.87	11.484	
11,175.0	10,864.2	11,044.8	10,670.9	23.6	37.6	-73.69	-850.1	1,253.9	687.8	628.1	59.78	11.506	
11,200.0	10,865.0	11,066.6	10,670.9	23.6	37.6	-73.62	-871.9	1,254.0	688.0	628.3	59.74	11.518	
11,201.4	10,865.0	11,068.0	10,670.9	23.6	37.6	-73.62	-873.3	1,254.0	688.0	628.3	59.74	11.517	
11,300.0	10,864.9	11,166.6	10,670.8	23.7	37.8	-73.61	-971.9	1,254.6	688.1	628.2	59.89	11.489	
11,400.0	10,864.9	11,266.6	10,670.7	23.9	37.9	-73.60	-1,071.9	1,255.2	688.1	628.0	60.06	11.456	
11,500.0	10,864.9	11,366.6	10,670.6	24.1	38.0	-73.59	-1,171.9	1,255.8	688.1	627.9	60.27	11.418	
11,600.0	10,864.9	11,466.6	10,670.4	24.3	38.2	-73.59	-1,271.9	1,256.5	688.1	627.7	60.49	11.376	
11,700.0	10,864.9	11,566.6	10,670.3	24.6	38.4	-73.58	-1,371.9	1,257.1	688.2	627.4	60.74	11.330	
11,800.0	10,864.8	11,666.6	10,670.2	24.9	38.6	-73.57	-1,471.9	1,257.7	688.2	627.2	61.01	11.280	
11,900.0	10,864.8	11,766.6	10,670.0	25.2	38.8	-73.56	-1,571.9	1,258.3	688.2	626.9	61.31	11.225	
12,000.0	10,864.8	11,866.6	10,669.9	25.5	39.1	-73.55	-1,671.9	1,258.9	688.3	626.6	61.63	11.167	
12,100.0	10,864.8	11,966.6	10,669.8	25.9	39.3	-73.54	-1,771.9	1,259.5	688.3	626.3	61.98	11.106	
12,200.0	10,864.8	12,066.6	10,669.6	26.3	39.6	-73.53	-1,871.9	1,260.1	688.3	626.0	62.35	11.040	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 903H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10302-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference												Rule Assigned:	
Offset												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
12,300.0	10,864.7	12,166.6	10,669.5	26.7	39.9	-73.52	-1,971.9	1,260.7	688.4	625.6	62.74	10.972	
12,400.0	10,864.7	12,266.6	10,669.4	27.1	40.2	-73.52	-2,071.8	1,261.3	688.4	625.2	63.15	10.900	
12,500.0	10,864.7	12,366.6	10,669.3	27.6	40.5	-73.51	-2,171.8	1,262.0	688.4	624.8	63.59	10.826	
12,600.0	10,864.7	12,466.6	10,669.1	28.1	40.9	-73.50	-2,271.8	1,262.6	688.4	624.4	64.05	10.749	
12,700.0	10,864.7	12,566.6	10,669.0	28.6	41.3	-73.49	-2,371.8	1,263.2	688.5	623.9	64.53	10.669	
12,800.0	10,864.6	12,666.6	10,668.9	29.1	41.6	-73.48	-2,471.8	1,263.8	688.5	623.5	65.04	10.587	
12,900.0	10,864.6	12,766.6	10,668.7	29.7	42.0	-73.47	-2,571.8	1,264.4	688.5	623.0	65.56	10.502	
13,000.0	10,864.6	12,866.6	10,668.6	30.2	42.4	-73.46	-2,671.8	1,265.0	688.6	622.5	66.11	10.416	
13,100.0	10,864.6	12,966.6	10,668.5	30.8	42.8	-73.45	-2,771.8	1,265.6	688.6	621.9	66.67	10.328	
13,200.0	10,864.6	13,066.6	10,668.3	31.4	43.3	-73.44	-2,871.8	1,266.2	688.6	621.4	67.26	10.239	
13,300.0	10,864.6	13,166.6	10,668.2	32.1	43.7	-73.44	-2,971.8	1,266.9	688.7	620.8	67.86	10.148	
13,400.0	10,864.5	13,266.6	10,668.1	32.7	44.2	-73.43	-3,071.8	1,267.5	688.7	620.2	68.49	10.056	
13,500.0	10,864.5	13,366.6	10,668.0	33.3	44.7	-73.42	-3,171.8	1,268.1	688.7	619.6	69.13	9.963	
13,600.0	10,864.5	13,466.6	10,667.8	34.0	45.2	-73.41	-3,271.8	1,268.7	688.8	619.0	69.79	9.869	
13,700.0	10,864.5	13,566.6	10,667.7	34.6	45.7	-73.40	-3,371.8	1,269.3	688.8	618.3	70.47	9.774	
13,800.0	10,864.5	13,666.6	10,667.6	35.3	46.2	-73.39	-3,471.8	1,269.9	688.8	617.6	71.17	9.679	
13,900.0	10,864.4	13,766.6	10,667.4	36.0	46.7	-73.38	-3,571.8	1,270.5	688.8	617.0	71.88	9.583	
14,000.0	10,864.4	13,866.6	10,667.3	36.7	47.2	-73.37	-3,671.8	1,271.1	688.9	616.3	72.61	9.488	
14,100.0	10,864.4	13,966.6	10,667.2	37.4	47.8	-73.37	-3,771.8	1,271.7	688.9	615.6	73.35	9.392	
14,200.0	10,864.4	14,066.6	10,667.1	38.1	48.3	-73.36	-3,871.8	1,272.4	688.9	614.8	74.11	9.296	
14,300.0	10,864.4	14,166.6	10,666.9	38.8	48.9	-73.35	-3,971.8	1,273.0	689.0	614.1	74.88	9.201	
14,400.0	10,864.3	14,266.6	10,666.8	39.5	49.4	-73.34	-4,071.8	1,273.6	689.0	613.3	75.67	9.105	
14,500.0	10,864.3	14,366.6	10,666.7	40.3	50.0	-73.33	-4,171.8	1,274.2	689.0	612.6	76.47	9.010	
14,600.0	10,864.3	14,466.6	10,666.5	41.0	50.6	-73.32	-4,271.8	1,274.8	689.1	611.8	77.28	8.916	
14,700.0	10,864.3	14,566.6	10,666.4	41.7	51.2	-73.31	-4,371.8	1,275.4	689.1	611.0	78.11	8.822	
14,800.0	10,864.3	14,666.6	10,666.3	42.5	51.8	-73.30	-4,471.8	1,276.0	689.1	610.2	78.95	8.729	
14,900.0	10,864.2	14,766.6	10,666.1	43.2	52.4	-73.29	-4,571.8	1,276.6	689.1	609.3	79.80	8.636	
15,000.0	10,864.2	14,866.6	10,666.0	44.0	53.0	-73.29	-4,671.8	1,277.3	689.2	608.5	80.66	8.544	
15,100.0	10,864.2	14,966.6	10,665.9	44.7	53.7	-73.28	-4,771.8	1,277.9	689.2	607.7	81.54	8.453	
15,200.0	10,864.2	15,066.6	10,665.8	45.5	54.3	-73.27	-4,871.8	1,278.5	689.2	606.8	82.42	8.363	
15,300.0	10,864.2	15,166.6	10,665.6	46.3	54.9	-73.26	-4,971.8	1,279.1	689.3	606.0	83.31	8.273	
15,400.0	10,864.1	15,266.6	10,665.5	47.0	55.6	-73.25	-5,071.8	1,279.7	689.3	605.1	84.22	8.185	
15,500.0	10,864.1	15,366.6	10,665.4	47.8	56.2	-73.24	-5,171.8	1,280.3	689.3	604.2	85.13	8.097	
15,600.0	10,864.1	15,466.6	10,665.2	48.6	56.9	-73.23	-5,271.8	1,280.9	689.4	603.3	86.06	8.011	
15,700.0	10,864.1	15,566.6	10,665.1	49.3	57.6	-73.22	-5,371.8	1,281.5	689.4	602.4	86.99	7.925	
15,800.0	10,864.1	15,666.6	10,665.0	50.1	58.2	-73.22	-5,471.8	1,282.1	689.4	601.5	87.93	7.841	
15,900.0	10,864.0	15,766.6	10,664.8	50.9	58.9	-73.21	-5,571.8	1,282.8	689.5	600.6	88.88	7.757	
16,000.0	10,864.0	15,866.6	10,664.7	51.7	59.6	-73.20	-5,671.8	1,283.4	689.5	599.6	89.84	7.675	
16,100.0	10,864.0	15,966.6	10,664.6	52.5	60.3	-73.19	-5,771.8	1,284.0	689.5	598.7	90.80	7.593	
16,200.0	10,864.0	16,066.6	10,664.5	53.3	60.9	-73.18	-5,871.8	1,284.6	689.5	597.8	91.78	7.513	
16,300.0	10,864.0	16,166.6	10,664.3	54.1	61.6	-73.17	-5,971.8	1,285.2	689.6	596.8	92.76	7.434	
16,400.0	10,863.9	16,266.6	10,664.2	54.9	62.3	-73.16	-6,071.8	1,285.8	689.6	595.9	93.75	7.356	
16,500.0	10,863.9	16,366.6	10,664.1	55.7	63.0	-73.15	-6,171.8	1,286.4	689.6	594.9	94.74	7.279	
16,600.0	10,863.9	16,466.6	10,663.9	56.5	63.7	-73.15	-6,271.8	1,287.0	689.7	593.9	95.74	7.203	
16,700.0	10,863.9	16,566.6	10,663.8	57.3	64.5	-73.14	-6,371.8	1,287.6	689.7	593.0	96.75	7.129	
16,800.0	10,863.9	16,666.6	10,663.7	58.1	65.2	-73.13	-6,471.8	1,288.3	689.7	592.0	97.76	7.055	
16,900.0	10,863.8	16,766.6	10,663.5	58.9	65.9	-73.12	-6,571.8	1,288.9	689.8	591.0	98.78	6.983	
17,000.0	10,863.8	16,866.6	10,663.4	59.7	66.6	-73.11	-6,671.8	1,289.5	689.8	590.0	99.81	6.911	
17,100.0	10,863.8	16,966.6	10,663.3	60.5	67.3	-73.10	-6,771.8	1,290.1	689.8	589.0	100.84	6.841	
17,200.0	10,863.8	17,066.6	10,663.2	61.3	68.1	-73.09	-6,871.8	1,290.7	689.9	588.0	101.88	6.771	
17,300.0	10,863.8	17,166.6	10,663.0	62.1	68.8	-73.08	-6,971.8	1,291.3	689.9	587.0	102.92	6.703	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 903H - OWB - PWP1													Offset Site Error:	0.0 usft	
Survey Program:		0-r.5 MWD+IFR1, 10302-r.5 MWD+IFR1+SAG+FDIR						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			
17,400.0	10,863.7	17,266.6	10,662.9	62.9	69.5	-73.08	-7,071.7	1,291.9	689.9	586.0	103.97	6.636			
17,500.0	10,863.7	17,366.6	10,662.8	63.7	70.3	-73.07	-7,171.7	1,292.5	690.0	584.9	105.02	6.570			
17,600.0	10,863.7	17,466.6	10,662.6	64.5	71.0	-73.06	-7,271.7	1,293.2	690.0	583.9	106.08	6.505			
17,700.0	10,863.7	17,566.6	10,662.5	65.3	71.7	-73.05	-7,371.7	1,293.8	690.0	582.9	107.14	6.440			
17,800.0	10,863.7	17,666.6	10,662.4	66.2	72.5	-73.04	-7,471.7	1,294.4	690.0	581.8	108.21	6.377			
17,900.0	10,863.6	17,766.6	10,662.2	67.0	73.2	-73.03	-7,571.7	1,295.0	690.1	580.8	109.28	6.315			
18,000.0	10,863.6	17,866.6	10,662.1	67.8	74.0	-73.02	-7,671.7	1,295.6	690.1	579.8	110.35	6.254			
18,100.0	10,863.6	17,966.6	10,662.0	68.6	74.7	-73.01	-7,771.7	1,296.2	690.1	578.7	111.43	6.193			
18,200.0	10,863.6	18,066.6	10,661.9	69.4	75.5	-73.01	-7,871.7	1,296.8	690.2	577.7	112.51	6.134			
18,300.0	10,863.6	18,166.6	10,661.7	70.2	76.2	-73.00	-7,971.7	1,297.4	690.2	576.6	113.60	6.076			
18,400.0	10,863.5	18,266.6	10,661.6	71.1	77.0	-72.99	-8,071.7	1,298.0	690.2	575.5	114.69	6.018			
18,500.0	10,863.5	18,366.6	10,661.5	71.9	77.8	-72.98	-8,171.7	1,298.7	690.3	574.5	115.78	5.962			
18,600.0	10,863.5	18,466.6	10,661.3	72.7	78.5	-72.97	-8,271.7	1,299.3	690.3	573.4	116.88	5.906			
18,700.0	10,863.5	18,566.6	10,661.2	73.5	79.3	-72.96	-8,371.7	1,299.9	690.3	572.3	117.98	5.851			
18,800.0	10,863.5	18,666.6	10,661.1	74.4	80.0	-72.95	-8,471.7	1,300.5	690.4	571.3	119.09	5.797			
18,900.0	10,863.4	18,766.6	10,660.9	75.2	80.8	-72.94	-8,571.7	1,301.1	690.4	570.2	120.20	5.744			
19,000.0	10,863.4	18,866.6	10,660.8	76.0	81.6	-72.93	-8,671.7	1,301.7	690.4	569.1	121.31	5.691			
19,100.0	10,863.4	18,966.6	10,660.7	76.8	82.4	-72.93	-8,771.7	1,302.3	690.4	568.0	122.42	5.640			
19,200.0	10,863.4	19,066.6	10,660.6	77.7	83.1	-72.92	-8,871.7	1,302.9	690.5	566.9	123.54	5.589			
19,300.0	10,863.4	19,166.6	10,660.4	78.5	83.9	-72.91	-8,971.7	1,303.6	690.5	565.9	124.66	5.539			
19,400.0	10,863.3	19,266.6	10,660.3	79.3	84.7	-72.90	-9,071.7	1,304.2	690.5	564.8	125.78	5.490			
19,500.0	10,863.3	19,366.6	10,660.2	80.2	85.5	-72.89	-9,171.7	1,304.8	690.6	563.7	126.91	5.442			
19,600.0	10,863.3	19,466.6	10,660.0	81.0	86.2	-72.88	-9,271.7	1,305.4	690.6	562.6	128.04	5.394			
19,700.0	10,863.3	19,566.6	10,659.9	81.8	87.0	-72.87	-9,371.7	1,306.0	690.6	561.5	129.17	5.347			
19,800.0	10,863.3	19,666.6	10,659.8	82.7	87.8	-72.86	-9,471.7	1,306.6	690.7	560.4	130.30	5.301			
19,900.0	10,863.2	19,766.6	10,659.7	83.5	88.6	-72.86	-9,571.7	1,307.2	690.7	559.3	131.44	5.255			
20,000.0	10,863.2	19,866.6	10,659.5	84.3	89.4	-72.85	-9,671.7	1,307.8	690.7	558.2	132.57	5.210			
20,100.0	10,863.2	19,966.6	10,659.4	85.2	90.2	-72.84	-9,771.7	1,308.4	690.8	557.0	133.71	5.166			
20,200.0	10,863.2	20,066.6	10,659.3	86.0	91.0	-72.83	-9,871.7	1,309.1	690.8	555.9	134.86	5.122			
20,300.0	10,863.2	20,166.6	10,659.1	86.8	91.7	-72.82	-9,971.7	1,309.7	690.8	554.8	136.00	5.080			
20,400.0	10,863.2	20,266.6	10,659.0	87.7	92.5	-72.81	-10,071.7	1,310.3	690.9	553.7	137.15	5.037			
20,500.0	10,863.1	20,366.6	10,658.9	88.5	93.3	-72.80	-10,171.7	1,310.9	690.9	552.6	138.30	4.996			
20,600.0	10,863.1	20,466.6	10,658.7	89.3	94.1	-72.79	-10,271.7	1,311.5	690.9	551.5	139.45	4.955			
20,700.0	10,863.1	20,566.6	10,658.6	90.2	94.9	-72.79	-10,371.7	1,312.1	691.0	550.3	140.60	4.914			
20,800.0	10,863.1	20,666.6	10,658.5	91.0	95.7	-72.78	-10,471.7	1,312.7	691.0	549.2	141.76	4.874			
20,900.0	10,863.1	20,766.6	10,658.4	91.8	96.5	-72.77	-10,571.7	1,313.3	691.0	548.1	142.92	4.835			
21,000.0	10,863.0	20,866.6	10,658.2	92.7	97.3	-72.76	-10,671.7	1,313.9	691.0	547.0	144.07	4.796			
21,100.0	10,863.0	20,966.6	10,658.1	93.5	98.1	-72.75	-10,771.7	1,314.6	691.1	545.8	145.24	4.758			
21,167.5	10,863.0	21,034.1	10,658.0	94.1	98.6	-72.75	-10,839.2	1,315.0	691.1	545.1	146.02	4.733			

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR, 9257-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
4,800.0	4,782.9	4,876.6	4,862.1	10.3	10.9	-44.51	55.2	1,130.0	989.7	970.0	19.65	50.360	
4,900.0	4,881.1	4,974.2	4,958.8	10.6	11.0	-44.63	42.9	1,124.3	967.9	947.9	20.02	48.342	
5,000.0	4,979.3	5,071.8	5,055.4	10.9	11.2	-44.76	30.6	1,118.6	946.2	925.8	20.40	46.380	
5,100.0	5,077.4	5,169.4	5,152.0	11.2	11.4	-44.89	18.3	1,112.8	924.5	903.7	20.79	44.474	
5,200.0	5,175.6	5,267.0	5,248.7	11.5	11.6	-45.03	6.0	1,107.1	902.8	881.6	21.18	42.624	
5,300.0	5,273.7	5,364.6	5,345.3	11.9	11.8	-45.17	-6.4	1,101.3	881.1	859.5	21.58	40.829	
5,400.0	5,371.9	5,462.2	5,442.0	12.2	12.0	-45.33	-18.7	1,095.6	859.4	837.4	21.98	39.090	
5,500.0	5,470.0	5,559.8	5,538.6	12.6	12.2	-45.49	-31.0	1,089.9	837.7	815.3	22.39	37.406	
5,600.0	5,568.2	5,657.3	5,635.3	13.0	12.3	-45.66	-43.3	1,084.1	816.0	793.2	22.81	35.775	
5,700.0	5,666.3	5,754.9	5,731.9	13.4	12.5	-45.84	-55.6	1,078.4	794.3	771.1	23.23	34.196	
5,800.0	5,764.5	5,852.5	5,828.5	13.7	12.7	-46.03	-67.9	1,072.6	772.7	749.0	23.65	32.669	
5,900.0	5,862.6	5,950.1	5,925.2	14.1	12.9	-46.23	-80.2	1,066.9	751.0	726.9	24.08	31.191	
6,000.0	5,960.8	6,047.7	6,021.8	14.5	13.1	-46.44	-92.5	1,061.2	729.4	704.9	24.51	29.761	
6,100.0	6,058.9	6,145.3	6,118.5	14.9	13.3	-46.66	-104.8	1,055.4	707.7	682.8	24.94	28.379	
6,200.0	6,157.1	6,242.9	6,215.1	15.3	13.5	-46.90	-117.1	1,049.7	686.1	660.7	25.37	27.043	
6,300.0	6,255.2	6,337.6	6,308.9	15.7	13.7	-47.16	-129.0	1,044.2	664.6	638.7	25.86	25.699	
6,400.0	6,353.4	6,429.0	6,399.6	16.1	14.0	-47.51	-139.3	1,039.4	643.9	617.5	26.38	24.406	
6,500.0	6,451.5	6,520.6	6,490.6	16.5	14.1	-47.99	-148.3	1,035.2	624.2	597.4	26.80	23.294	
6,600.0	6,549.7	6,612.4	6,582.0	16.9	14.3	-48.62	-156.0	1,031.6	605.5	578.3	27.19	22.265	
6,700.0	6,647.8	6,704.4	6,673.7	17.4	14.4	-49.39	-162.3	1,028.6	587.9	560.4	27.58	21.320	
6,800.0	6,746.0	6,796.4	6,765.7	17.8	14.6	-50.32	-167.4	1,026.2	571.5	543.6	27.94	20.458	
6,900.0	6,844.1	6,888.6	6,857.7	18.2	14.7	-51.41	-171.1	1,024.5	556.3	528.1	28.27	19.678	
6,960.4	6,903.4	6,944.3	6,913.4	18.4	14.8	-52.16	-172.7	1,023.8	547.8	519.4	28.45	19.257	
7,000.0	6,942.3	6,980.8	6,949.9	18.6	14.9	-52.62	-173.5	1,023.4	542.6	514.0	28.55	19.003	
7,100.0	7,040.7	7,073.2	7,042.3	19.0	15.0	-53.85	-174.5	1,022.9	531.1	502.3	28.80	18.439	
7,200.0	7,139.5	7,170.4	7,139.5	19.4	15.1	-55.14	-174.5	1,022.9	521.7	492.6	29.11	17.925	
7,300.0	7,238.5	7,269.4	7,238.5	19.8	15.2	-56.36	-174.5	1,022.9	513.7	484.4	29.31	17.529	
7,400.0	7,337.7	7,368.6	7,337.7	20.2	15.2	-57.46	-174.5	1,022.9	506.9	477.4	29.46	17.206	
7,500.0	7,437.1	7,468.0	7,437.1	20.6	15.2	-58.44	-174.5	1,022.9	501.2	471.6	29.61	16.927	
7,600.0	7,536.7	7,567.6	7,536.7	21.0	15.3	-59.28	-174.5	1,022.9	496.6	466.8	29.75	16.688	
7,700.0	7,636.5	7,667.4	7,636.5	21.3	15.3	-59.97	-174.5	1,022.9	492.9	463.0	29.90	16.485	
7,800.0	7,736.3	7,767.2	7,736.3	21.6	15.3	-60.49	-174.5	1,022.9	490.2	460.1	30.05	16.315	
7,900.0	7,836.2	7,867.1	7,836.2	22.0	15.4	-60.86	-174.5	1,022.9	488.3	458.2	30.19	16.175	
8,000.0	7,936.2	7,967.1	7,936.2	22.2	15.4	-61.06	-174.5	1,022.9	487.4	457.0	30.34	16.065	
8,063.8	8,000.0	8,030.9	8,000.0	22.3	15.4	62.43	-174.5	1,022.9	487.2	456.9	30.36	16.049	
8,100.0	8,036.2	8,067.1	8,036.2	22.3	15.4	62.43	-174.5	1,022.9	487.2	456.8	30.37	16.040	
8,200.0	8,136.2	8,167.1	8,136.2	22.3	15.5	62.43	-174.5	1,022.9	487.2	456.8	30.46	15.997	
8,300.0	8,236.2	8,267.1	8,236.2	22.4	15.5	62.43	-174.5	1,022.9	487.2	456.7	30.54	15.954	
8,400.0	8,336.2	8,367.1	8,336.2	22.4	15.5	62.43	-174.5	1,022.9	487.2	456.6	30.62	15.910	
8,500.0	8,436.2	8,467.1	8,436.2	22.4	15.6	62.43	-174.5	1,022.9	487.2	456.5	30.71	15.867	
8,600.0	8,536.2	8,567.1	8,536.2	22.5	15.6	62.43	-174.5	1,022.9	487.2	456.4	30.79	15.823	
8,700.0	8,636.2	8,667.1	8,636.2	22.5	15.6	62.43	-174.5	1,022.9	487.2	456.3	30.88	15.779	
8,800.0	8,736.2	8,767.1	8,736.2	22.6	15.7	62.43	-174.5	1,022.9	487.2	456.3	30.96	15.736	
8,900.0	8,836.2	8,867.1	8,836.2	22.6	15.7	62.43	-174.5	1,022.9	487.2	456.2	31.05	15.692	
9,000.0	8,936.2	8,967.1	8,936.2	22.6	15.7	62.43	-174.5	1,022.9	487.2	456.1	31.14	15.648	
9,100.0	9,036.2	9,067.1	9,036.2	22.7	15.8	62.43	-174.5	1,022.9	487.2	456.0	31.22	15.604	
9,200.0	9,136.2	9,167.1	9,136.2	22.7	15.8	62.43	-174.5	1,022.9	487.2	455.9	31.31	15.560	
9,212.9	9,149.1	9,180.0	9,149.1	22.7	15.8	62.43	-174.5	1,022.9	487.2	455.9	31.32	15.554 CC	
9,300.0	9,236.2	9,264.3	9,233.4	22.7	15.8	62.43	-174.5	1,022.9	487.2	455.8	31.39	15.521 ES, SF	
9,400.0	9,336.2	9,335.8	9,304.6	22.8	15.9	61.87	-169.1	1,022.9	490.7	459.3	31.47	15.592	
9,500.0	9,436.2	9,400.0	9,367.6	22.8	16.0	60.61	-156.8	1,022.8	500.3	468.8	31.53	15.870	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR, 9257-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: 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)			
9,600.0	9,536.2	9,469.9	9,434.2	22.9	16.1	58.49	-135.4	1,022.6	516.5	485.0	31.52	16.386	
9,700.0	9,636.2	9,529.7	9,488.6	22.9	16.2	56.17	-110.8	1,022.5	540.0	508.4	31.60	17.088	
9,800.0	9,736.2	9,583.7	9,535.3	22.9	16.2	53.76	-83.9	1,022.3	571.2	539.4	31.79	17.968	
9,900.0	9,836.2	9,631.8	9,574.7	23.0	16.3	51.43	-56.2	1,022.1	610.3	578.2	32.11	19.005	
10,000.0	9,936.2	9,674.5	9,607.6	23.0	16.3	49.27	-29.0	1,021.9	656.8	624.2	32.55	20.179	
10,100.0	10,036.2	9,700.0	9,626.2	23.1	16.4	47.96	-11.6	1,021.8	710.3	677.1	33.17	21.412	
10,200.0	10,136.2	9,750.0	9,660.4	23.1	16.4	45.38	24.9	1,021.6	769.6	736.0	33.60	22.901	
10,300.0	10,236.2	9,774.7	9,676.1	23.1	16.4	44.12	43.9	1,021.4	834.3	800.0	34.24	24.364	
10,400.0	10,336.2	9,800.0	9,691.3	23.2	16.5	42.83	64.1	1,021.3	903.6	868.7	34.85	25.924	
10,451.3	10,387.5	9,800.0	9,691.3	23.2	16.5	42.83	64.1	1,021.3	940.9	905.6	35.23	26.703	
10,475.0	10,411.2	9,818.0	9,701.6	23.2	16.5	-135.52	78.9	1,021.2	958.4	922.7	35.65	26.883	
10,500.0	10,436.1	9,822.9	9,704.3	23.2	16.5	-133.13	83.0	1,021.2	977.9	942.1	35.80	27.314	
10,525.0	10,460.9	9,827.2	9,706.7	23.2	16.5	-130.34	86.6	1,021.2	998.1	962.2	35.95	27.764	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 705H - 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			Offset Wellbore Centre		Distance		No-Go		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Separation Factor	
3,600.0	3,600.0	3,781.6	3,761.8	7.8	14.2	-62.45	205.8	963.9	998.0	976.0	21.95	45.470	
3,700.0	3,699.8	3,879.7	3,858.3	7.9	14.6	-62.56	194.3	950.1	979.4	956.9	22.47	43.583	
3,750.0	3,749.7	3,928.7	3,906.5	8.0	14.8	-62.70	188.6	943.2	969.5	946.8	22.72	42.674	
3,800.0	3,799.5	3,977.6	3,954.6	8.0	15.1	-58.08	182.9	936.4	959.1	936.1	22.97	41.748	
3,900.0	3,898.7	4,074.9	4,050.3	8.2	15.5	-52.33	171.6	922.7	936.0	912.5	23.55	39.755	
4,000.0	3,997.6	4,171.5	4,145.2	8.4	15.9	-49.14	160.4	909.2	910.2	886.1	24.14	37.704	
4,069.8	4,066.3	4,238.4	4,211.0	8.5	16.2	-47.80	152.6	899.8	890.6	866.1	24.55	36.276	
4,100.0	4,095.9	4,267.2	4,239.3	8.5	16.3	-47.92	149.2	895.8	881.8	857.1	24.72	35.670	
4,200.0	4,194.0	4,362.7	4,333.2	8.7	16.8	-48.33	138.1	882.4	852.8	827.4	25.33	33.663	
4,300.0	4,292.2	4,458.2	4,427.1	8.9	17.2	-48.76	127.0	869.0	823.8	797.8	25.96	31.736	
4,400.0	4,390.3	4,553.7	4,521.0	9.2	17.6	-49.23	115.9	855.6	794.8	768.2	26.59	29.886	
4,500.0	4,488.5	4,649.2	4,614.9	9.4	18.0	-49.74	104.8	842.2	765.9	738.6	27.24	28.112	
4,600.0	4,586.6	4,744.7	4,708.8	9.7	18.5	-50.28	93.6	828.8	737.0	709.1	27.91	26.411	
4,700.0	4,684.8	4,840.2	4,802.7	10.0	18.9	-50.87	82.5	815.4	708.2	679.7	28.58	24.781	
4,800.0	4,782.9	4,935.7	4,896.6	10.3	19.3	-51.51	71.4	802.0	679.5	650.3	29.27	23.219	
4,900.0	4,881.1	5,031.2	4,990.5	10.6	19.8	-52.20	60.3	788.7	650.9	620.9	29.96	21.723	
5,000.0	4,979.3	5,126.7	5,084.4	10.9	20.2	-52.96	49.2	775.3	622.4	591.7	30.67	20.291	
5,100.0	5,077.4	5,222.2	5,178.3	11.2	20.6	-53.79	38.0	761.9	593.9	562.6	31.39	18.921	
5,200.0	5,175.6	5,317.7	5,272.2	11.5	21.1	-54.70	26.9	748.5	565.6	533.5	32.12	17.610	
5,300.0	5,273.7	5,413.2	5,366.1	11.9	21.5	-55.71	15.8	735.1	537.5	504.6	32.86	16.357	
5,400.0	5,371.9	5,508.7	5,460.0	12.2	21.9	-56.82	4.7	721.7	509.5	475.9	33.61	15.160	
5,500.0	5,470.0	5,604.2	5,554.0	12.6	22.3	-58.07	-6.4	708.3	481.8	447.4	34.37	14.017	
5,600.0	5,568.2	5,699.7	5,647.9	13.0	22.8	-59.46	-17.5	694.9	454.2	419.1	35.13	12.928	
5,700.0	5,666.3	5,795.2	5,741.8	13.4	23.2	-61.03	-28.7	681.5	427.0	391.1	35.90	11.892	
5,800.0	5,764.5	5,890.7	5,835.7	13.7	23.6	-62.81	-39.8	668.1	400.0	363.4	36.67	10.909	
5,900.0	5,862.6	5,986.2	5,929.6	14.1	24.1	-64.84	-50.9	654.7	373.6	336.1	37.44	9.978	
6,000.0	5,960.8	6,081.7	6,023.5	14.5	24.5	-67.17	-62.0	641.4	347.6	309.4	38.19	9.102	
6,100.0	6,058.9	6,177.2	6,117.4	14.9	24.9	-69.86	-73.1	628.0	322.2	283.3	38.90	8.283	
6,200.0	6,157.1	6,268.1	6,206.8	15.3	25.3	-72.83	-83.3	615.8	298.4	258.8	39.55	7.545	
6,300.0	6,255.2	6,359.5	6,297.1	15.7	25.8	-76.27	-92.5	604.6	277.1	237.0	40.10	6.910	
6,400.0	6,353.4	6,451.6	6,388.2	16.1	26.2	-80.23	-101.0	594.4	258.6	218.1	40.51	6.384	
6,500.0	6,451.5	6,544.2	6,480.1	16.5	26.5	-84.68	-108.5	585.4	243.2	202.5	40.73	5.971	
6,600.0	6,549.7	6,637.4	6,572.7	16.9	26.9	-89.58	-115.1	577.4	231.2	190.5	40.73	5.677	
6,700.0	6,647.8	6,731.1	6,665.9	17.4	27.3	-94.82	-120.8	570.5	222.7	182.3	40.47	5.503	
6,800.0	6,746.0	6,825.2	6,759.7	17.8	27.6	-100.24	-125.5	564.9	217.9	178.0	40.00	5.449 SF	
6,882.6	6,827.1	6,903.2	6,837.6	18.1	27.9	-104.71	-128.7	561.0	216.7	177.3	39.48	5.490 CC, ES	
6,900.0	6,844.1	6,919.7	6,854.0	18.2	28.0	-105.64	-129.3	560.3	216.8	177.4	39.36	5.508	
6,960.4	6,903.4	6,976.9	6,911.2	18.4	28.2	-108.81	-131.1	558.2	217.8	178.9	38.92	5.595	
7,000.0	6,942.3	7,014.5	6,948.8	18.6	28.3	-110.80	-132.0	557.0	219.0	180.4	38.63	5.669	
7,100.0	7,040.7	7,110.0	7,044.2	19.0	28.6	-115.31	-133.8	554.9	223.7	185.7	38.02	5.886	
7,200.0	7,139.5	7,205.9	7,140.1	19.4	28.8	-119.00	-134.6	554.0	230.2	192.6	37.53	6.132	
7,300.0	7,238.5	7,304.2	7,238.5	19.8	28.8	-122.02	-134.6	553.9	237.4	200.2	37.14	6.391	
7,400.0	7,337.7	7,403.5	7,337.7	20.2	28.9	-124.53	-134.6	553.9	244.2	207.3	36.90	6.619	
7,500.0	7,437.1	7,502.9	7,437.1	20.6	28.9	-126.59	-134.6	553.9	250.5	213.7	36.77	6.811	
7,600.0	7,536.7	7,602.5	7,536.7	21.0	28.9	-128.24	-134.6	553.9	255.9	219.2	36.75	6.965	
7,700.0	7,636.5	7,702.2	7,636.5	21.3	28.9	-129.52	-134.6	553.9	260.5	223.7	36.79	7.079	
7,800.0	7,736.3	7,802.1	7,736.3	21.6	28.9	-130.46	-134.6	553.9	264.0	227.1	36.90	7.155	
7,900.0	7,836.2	7,902.0	7,836.2	22.0	29.0	-131.09	-134.6	553.9	266.4	229.4	37.04	7.194	
8,000.0	7,936.2	8,002.0	7,936.2	22.2	29.0	-131.42	-134.6	553.9	267.7	230.5	37.20	7.198	
8,063.8	8,000.0	8,065.8	8,000.0	22.3	29.0	-7.95	-134.6	553.9	268.0	230.7	37.25	7.193	
8,100.0	8,036.2	8,102.0	8,036.2	22.3	29.0	-7.95	-134.6	553.9	268.0	230.7	37.27	7.190	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 705H - 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		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,200.0	8,136.2	8,202.0	8,136.2	22.3	29.0	-7.95	-134.6	553.9	268.0	230.6	37.35	7.174	
8,300.0	8,236.2	8,302.0	8,236.2	22.4	29.0	-7.95	-134.6	553.9	268.0	230.5	37.43	7.159	
8,400.0	8,336.2	8,402.0	8,336.2	22.4	29.1	-7.95	-134.6	553.9	268.0	230.5	37.52	7.143	
8,500.0	8,436.2	8,502.0	8,436.2	22.4	29.1	-7.95	-134.6	553.9	268.0	230.4	37.60	7.128	
8,600.0	8,536.2	8,602.0	8,536.2	22.5	29.1	-7.95	-134.6	553.9	268.0	230.3	37.68	7.112	
8,700.0	8,636.2	8,702.0	8,636.2	22.5	29.1	-7.95	-134.6	553.9	268.0	230.2	37.76	7.096	
8,800.0	8,736.2	8,802.0	8,736.2	22.6	29.2	-7.95	-134.6	553.9	268.0	230.1	37.85	7.081	
8,900.0	8,836.2	8,902.0	8,836.2	22.6	29.2	-7.95	-134.6	553.9	268.0	230.0	37.93	7.065	
9,000.0	8,936.2	9,002.0	8,936.2	22.6	29.2	-7.95	-134.6	553.9	268.0	230.0	38.02	7.049	
9,100.0	9,036.2	9,102.0	9,036.2	22.7	29.2	-7.95	-134.6	553.9	268.0	229.9	38.10	7.034	
9,200.0	9,136.2	9,202.0	9,136.2	22.7	29.2	-7.95	-134.6	553.9	268.0	229.8	38.19	7.018	
9,300.0	9,236.2	9,302.0	9,236.2	22.7	29.3	-7.95	-134.6	553.9	268.0	229.7	38.27	7.002	
9,400.0	9,336.2	9,402.0	9,336.2	22.8	29.3	-7.95	-134.6	553.9	268.0	229.6	38.36	6.986	
9,500.0	9,436.2	9,502.0	9,436.2	22.8	29.3	-7.95	-134.6	553.9	268.0	229.5	38.44	6.971	
9,510.0	9,446.2	9,512.0	9,446.2	22.8	29.3	-7.95	-134.6	553.9	268.0	229.5	38.45	6.969	
9,600.0	9,536.2	9,581.1	9,515.3	22.9	29.3	-7.93	-132.9	553.8	270.5	232.4	38.11	7.097	
9,700.0	9,636.2	9,650.0	9,583.5	22.9	29.1	-7.81	-123.5	553.1	284.0	246.5	37.57	7.561	
9,800.0	9,736.2	9,711.9	9,643.4	22.9	29.0	-7.63	-108.1	551.9	308.8	271.8	36.99	8.347	
9,900.0	9,836.2	9,771.7	9,699.4	23.0	28.9	-7.40	-87.3	550.4	343.8	307.2	36.57	9.401	
10,000.0	9,936.2	9,826.4	9,748.5	23.0	28.7	-7.18	-63.1	548.5	388.0	351.7	36.30	10.689	
10,100.0	10,036.2	9,876.0	9,790.8	23.1	28.6	-6.98	-37.4	546.6	440.2	404.0	36.19	12.161	
10,200.0	10,136.2	9,920.4	9,826.6	23.1	28.5	-6.80	-11.2	544.6	499.1	462.9	36.24	13.772	
10,300.0	10,236.2	9,950.0	9,849.3	23.1	28.5	-6.68	7.7	543.2	564.0	527.6	36.45	15.477	
10,400.0	10,336.2	10,000.0	9,885.4	23.2	28.3	-6.50	42.2	540.6	633.5	596.8	36.68	17.270	
10,451.3	10,387.5	10,000.0	9,885.4	23.2	28.3	-6.50	42.2	540.6	671.0	634.0	36.91	18.176	
10,475.0	10,411.2	10,018.7	9,898.0	23.2	28.3	173.56	55.8	539.6	688.7	651.8	36.90	18.663	
10,500.0	10,436.1	10,025.5	9,902.6	23.2	28.3	173.14	60.9	539.2	708.6	671.6	37.00	19.151	
10,525.0	10,460.9	10,031.6	9,906.6	23.2	28.3	172.62	65.5	538.9	729.4	692.3	37.10	19.661	
10,550.0	10,485.5	10,050.0	9,918.3	23.2	28.3	172.12	79.7	537.8	751.3	714.2	37.14	20.230	
10,575.0	10,509.8	10,050.0	9,918.3	23.2	28.3	171.28	79.7	537.8	773.6	736.3	37.26	20.760	
10,600.0	10,533.8	10,050.0	9,918.3	23.2	28.3	170.17	79.7	537.8	796.5	759.1	37.38	21.309	
10,625.0	10,557.4	10,050.0	9,918.3	23.2	28.3	168.65	79.7	537.8	820.0	782.5	37.49	21.872	
10,650.0	10,580.5	10,050.0	9,918.3	23.2	28.3	166.45	79.7	537.8	844.0	806.4	37.59	22.449	
10,675.0	10,603.1	10,050.0	9,918.3	23.2	28.3	163.05	79.7	537.8	868.3	830.6	37.69	23.037	
10,700.0	10,625.1	10,050.0	9,918.3	23.2	28.3	157.19	79.7	537.8	892.9	855.1	37.78	23.633	
10,725.0	10,646.5	10,050.0	9,918.3	23.3	28.3	145.26	79.7	537.8	917.7	879.9	37.87	24.236	
10,750.0	10,667.1	10,050.0	9,918.3	23.3	28.3	115.44	79.7	537.8	942.7	904.7	37.94	24.844	
10,775.0	10,687.0	10,050.0	9,918.3	23.3	28.3	62.61	79.7	537.8	967.6	929.6	38.01	25.456	
10,800.0	10,706.0	10,050.0	9,918.3	23.3	28.3	33.06	79.7	537.8	992.6	954.5	38.07	26.069	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 706H - OWB - PWP0													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 MWD+IFR1+MS		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	19.0	0.0	0.0	-49.13	199.6	-230.7	305.6					
100.0	100.0	81.0	100.0	0.8	1.0	-49.13	199.6	-230.7	305.1	302.8	2.20	138.395		
200.0	200.0	181.0	200.0	1.4	1.6	-49.13	199.6	-230.7	305.1	301.6	3.49	87.358		
300.0	300.0	281.0	300.0	1.9	2.0	-49.13	199.6	-230.7	305.1	300.7	4.34	70.304		
400.0	400.0	381.0	400.0	2.2	2.4	-49.13	199.6	-230.7	305.1	300.0	5.03	60.588		
500.0	500.0	481.0	500.0	2.6	2.7	-49.13	199.6	-230.7	305.1	299.4	5.64	54.068		
600.0	600.0	581.0	600.0	2.8	2.9	-49.13	199.6	-230.7	305.1	298.9	6.19	49.287		
700.0	700.0	681.0	700.0	3.1	3.2	-49.13	199.6	-230.7	305.1	298.4	6.69	45.580		
800.0	800.0	781.0	800.0	3.3	3.4	-49.13	199.6	-230.7	305.1	297.9	7.16	42.594		
900.0	900.0	881.0	900.0	3.6	3.7	-49.13	199.6	-230.7	305.1	297.4	7.60	40.118		
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-49.13	199.6	-230.7	305.1	297.0	8.02	38.020		
1,100.0	1,100.0	1,087.4	1,106.3	4.0	4.1	-49.21	198.7	-230.3	304.2	295.8	8.46	35.972		
1,200.0	1,200.0	1,195.1	1,214.0	4.2	4.4	-49.52	195.1	-228.6	300.8	292.0	8.88	33.885		
1,300.0	1,300.0	1,302.5	1,321.1	4.4	4.6	-50.08	188.8	-225.6	294.9	285.6	9.30	31.716		
1,400.0	1,400.0	1,409.4	1,427.6	4.6	4.9	-50.93	179.7	-221.4	286.5	276.8	9.73	29.456		
1,500.0	1,500.0	1,515.7	1,533.1	4.7	5.2	-52.11	168.1	-216.0	275.7	265.6	10.14	27.187		
1,600.0	1,600.0	1,615.8	1,632.3	4.9	5.4	-53.49	155.5	-210.1	263.4	252.9	10.49	25.098		
1,700.0	1,700.0	1,714.8	1,730.4	5.1	5.7	-55.00	143.0	-204.3	251.2	240.3	10.91	23.019		
1,800.0	1,800.0	1,813.9	1,828.4	5.2	6.0	-56.67	130.5	-198.5	239.2	227.9	11.33	21.109		
1,900.0	1,900.0	1,912.9	1,926.5	5.4	6.4	-58.50	118.0	-192.6	227.5	215.7	11.75	19.361		
2,000.0	2,000.0	2,011.9	2,024.5	5.6	6.7	-60.53	105.6	-186.8	216.0	203.8	12.16	17.766		
2,100.0	2,100.0	2,111.0	2,122.6	5.7	7.0	-62.79	93.1	-181.0	204.8	192.2	12.55	16.316		
2,200.0	2,200.0	2,210.0	2,220.7	5.9	7.4	-65.30	80.6	-175.2	193.9	181.0	12.92	15.005		
2,300.0	2,300.0	2,309.0	2,318.7	6.0	7.8	-68.10	68.1	-169.3	183.5	170.2	13.27	13.826		
2,400.0	2,400.0	2,408.0	2,416.8	6.2	8.1	-71.22	55.6	-163.5	173.5	159.9	13.58	12.776		
2,500.0	2,500.0	2,507.1	2,514.9	6.3	8.5	-74.71	43.1	-157.7	164.2	150.3	13.85	11.849		
2,600.0	2,600.0	2,606.1	2,612.9	6.4	8.9	-78.61	30.6	-151.9	155.5	141.4	14.08	11.043		
2,700.0	2,700.0	2,705.1	2,711.0	6.6	9.3	-82.93	18.1	-146.1	147.6	133.3	14.25	10.357		
2,800.0	2,800.0	2,804.1	2,809.0	6.7	9.6	-87.70	5.6	-140.2	140.6	126.3	14.37	9.786		
2,900.0	2,900.0	2,903.2	2,907.1	6.8	10.0	-92.92	-6.9	-134.4	134.8	120.3	14.45	9.325		
3,000.0	3,000.0	3,002.2	3,005.2	7.0	10.4	-98.56	-19.4	-128.6	130.1	115.6	14.51	8.966		
3,100.0	3,100.0	3,101.2	3,103.2	7.1	10.8	-104.54	-31.8	-122.8	126.9	112.3	14.59	8.694		
3,200.0	3,200.0	3,200.3	3,201.3	7.2	11.2	-110.77	-44.3	-116.9	125.1	110.3	14.73	8.488		
3,267.0	3,267.0	3,266.6	3,267.0	7.3	11.5	-115.00	-52.7	-113.0	124.7	109.8	14.88	8.378 CC		
3,300.0	3,300.0	3,299.3	3,299.4	7.4	11.6	-117.09	-56.8	-111.1	124.8	109.8	14.98	8.330 ES		
3,400.0	3,400.0	3,398.3	3,397.4	7.5	12.0	-123.36	-69.3	-105.3	126.1	110.7	15.37	8.204		
3,500.0	3,500.0	3,497.3	3,495.5	7.6	12.4	-129.44	-81.8	-99.5	128.9	113.0	15.90	8.103		
3,600.0	3,600.0	3,596.6	3,593.8	7.8	12.8	85.44	-94.3	-93.6	132.9	116.4	16.49	8.060 SF		
3,700.0	3,699.8	3,696.2	3,692.4	7.9	13.3	82.06	-106.9	-87.8	137.4	120.4	17.01	8.075		
3,750.0	3,749.7	3,746.1	3,741.8	8.0	13.5	80.97	-113.2	-84.8	139.6	122.4	17.22	8.106		
3,800.0	3,799.5	3,796.0	3,791.2	8.0	13.7	84.99	-119.5	-81.9	141.9	124.5	17.40	8.154		
3,900.0	3,898.7	3,895.8	3,890.1	8.2	14.1	90.67	-132.1	-76.0	147.4	129.7	17.73	8.314		
4,000.0	3,997.6	3,995.5	3,988.9	8.4	14.5	95.19	-144.6	-70.2	154.1	136.2	17.94	8.590		
4,069.8	4,066.3	4,065.1	4,057.7	8.5	14.8	98.21	-153.4	-66.1	159.5	141.5	17.99	8.865		
4,100.0	4,095.9	4,095.1	4,087.4	8.5	14.9	98.87	-157.2	-64.3	162.0	144.0	18.00	9.002		
4,200.0	4,194.0	4,194.6	4,185.9	8.7	15.3	100.92	-169.8	-58.4	170.4	152.4	18.09	9.423		
4,300.0	4,292.2	4,294.0	4,284.4	8.9	15.7	102.77	-182.3	-52.6	179.1	160.9	18.20	9.838		
4,400.0	4,390.3	4,393.5	4,382.9	9.2	16.2	104.45	-194.8	-46.7	187.9	169.5	18.33	10.246		
4,500.0	4,488.5	4,493.0	4,481.4	9.4	16.6	105.98	-207.4	-40.9	196.8	178.3	18.49	10.643		
4,600.0	4,586.6	4,592.9	4,580.5	9.7	17.0	107.47	-219.7	-35.2	205.8	187.2	18.62	11.051		
4,700.0	4,684.8	4,693.1	4,680.0	10.0	17.4	109.27	-230.6	-30.1	214.6	195.8	18.78	11.428		

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 706H - 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		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)			
4,800.0	4,782.9	4,793.2	4,779.4	10.3	17.8	111.36	-239.9	-25.8	223.2	204.3	18.93	11.793	
4,900.0	4,881.1	4,892.9	4,878.9	10.6	18.2	113.71	-247.5	-22.2	232.0	212.9	19.11	12.141	
5,000.0	4,979.3	4,992.4	4,978.1	10.9	18.5	116.30	-253.7	-19.3	240.9	221.6	19.33	12.465	
5,100.0	5,077.4	5,091.5	5,077.1	11.2	18.9	119.08	-258.2	-17.2	250.2	230.6	19.62	12.757	
5,200.0	5,175.6	5,190.2	5,175.7	11.5	19.2	122.02	-261.1	-15.8	260.1	240.1	20.00	13.008	
5,300.0	5,273.7	5,288.4	5,273.9	11.9	19.4	125.08	-262.6	-15.2	270.8	250.3	20.49	13.217	
5,400.0	5,371.9	5,386.4	5,371.9	12.2	19.5	128.19	-262.7	-15.1	282.3	261.3	21.02	13.430	
5,500.0	5,470.0	5,484.5	5,470.0	12.6	19.5	131.08	-262.7	-15.1	294.7	273.0	21.65	13.613	
5,600.0	5,568.2	5,582.7	5,568.2	13.0	19.5	133.74	-262.7	-15.1	307.7	285.4	22.32	13.783	
5,700.0	5,666.3	5,680.8	5,666.3	13.4	19.6	136.19	-262.7	-15.1	321.4	298.3	23.03	13.951	
5,800.0	5,764.5	5,779.0	5,764.5	13.7	19.6	138.43	-262.7	-15.1	335.5	311.8	23.76	14.122	
5,900.0	5,862.6	5,877.1	5,862.6	14.1	19.6	140.50	-262.7	-15.1	350.2	325.7	24.49	14.297	
6,000.0	5,960.8	5,975.3	5,960.8	14.5	19.6	142.39	-262.7	-15.1	365.3	340.0	25.23	14.479	
6,100.0	6,058.9	6,073.4	6,058.9	14.9	19.7	144.14	-262.7	-15.1	380.7	354.8	25.96	14.667	
6,200.0	6,157.1	6,171.6	6,157.1	15.3	19.7	145.75	-262.7	-15.1	396.5	369.8	26.68	14.860	
6,300.0	6,255.2	6,269.7	6,255.2	15.7	19.7	147.24	-262.7	-15.1	412.5	385.1	27.40	15.058	
6,400.0	6,353.4	6,367.9	6,353.4	16.1	19.8	148.62	-262.7	-15.1	428.8	400.7	28.10	15.259	
6,500.0	6,451.5	6,466.0	6,451.5	16.5	19.8	149.89	-262.7	-15.1	445.4	416.6	28.80	15.463	
6,600.0	6,549.7	6,564.2	6,549.7	16.9	19.8	151.08	-262.7	-15.1	462.1	432.6	29.49	15.669	
6,700.0	6,647.8	6,662.3	6,647.8	17.4	19.9	152.18	-262.7	-15.1	479.0	448.8	30.17	15.876	
6,800.0	6,746.0	6,760.5	6,746.0	17.8	19.9	153.21	-262.7	-15.1	496.1	465.2	30.84	16.083	
6,900.0	6,844.1	6,858.6	6,844.1	18.2	19.9	154.17	-262.7	-15.1	513.3	481.8	31.51	16.290	
6,960.4	6,903.4	6,917.9	6,903.4	18.4	19.9	154.72	-262.7	-15.1	523.8	491.9	31.90	16.420	
7,000.0	6,942.3	6,956.8	6,942.3	18.6	20.0	155.09	-262.7	-15.1	530.5	498.4	32.14	16.504	
7,100.0	7,040.7	7,055.2	7,040.7	19.0	20.0	155.93	-262.7	-15.1	546.6	513.8	32.78	16.677	
7,200.0	7,139.5	7,154.0	7,139.5	19.4	20.0	156.65	-262.7	-15.1	561.2	527.8	33.38	16.813	
7,300.0	7,238.5	7,253.0	7,238.5	19.8	20.1	157.26	-262.7	-15.1	574.2	540.3	33.95	16.913	
7,400.0	7,337.7	7,352.2	7,337.7	20.2	20.1	157.77	-262.7	-15.1	585.7	551.2	34.50	16.978	
7,500.0	7,437.1	7,451.6	7,437.1	20.6	20.1	158.20	-262.7	-15.1	595.6	560.6	35.02	17.009	
7,600.0	7,536.7	7,551.2	7,536.7	21.0	20.2	158.54	-262.7	-15.1	603.9	568.4	35.51	17.009	
7,700.0	7,636.5	7,651.0	7,636.5	21.3	20.2	158.81	-262.7	-15.1	610.7	574.7	35.97	16.978	
7,800.0	7,736.3	7,750.8	7,736.3	21.6	20.2	159.02	-262.7	-15.1	615.8	579.4	36.39	16.920	
7,900.0	7,836.2	7,850.7	7,836.2	22.0	20.3	159.15	-262.7	-15.1	619.3	582.5	36.78	16.838	
8,000.0	7,936.2	7,950.7	7,936.2	22.2	20.3	159.23	-262.7	-15.1	621.1	584.0	37.11	16.739	
8,063.8	8,000.0	8,014.5	8,000.0	22.3	20.3	-77.24	-262.7	-15.1	621.5	584.5	36.96	16.813	
8,100.0	8,036.2	8,050.7	8,036.2	22.3	20.3	-77.24	-262.7	-15.1	621.5	584.5	36.98	16.805	
8,200.0	8,136.2	8,150.7	8,136.2	22.3	20.4	-77.24	-262.7	-15.1	621.5	584.4	37.06	16.769	
8,300.0	8,236.2	8,250.7	8,236.2	22.4	20.4	-77.24	-262.7	-15.1	621.5	584.3	37.14	16.733	
8,400.0	8,336.2	8,350.7	8,336.2	22.4	20.4	-77.24	-262.7	-15.1	621.5	584.2	37.22	16.697	
8,500.0	8,436.2	8,450.7	8,436.2	22.4	20.5	-77.24	-262.7	-15.1	621.5	584.2	37.30	16.661	
8,600.0	8,536.2	8,550.7	8,536.2	22.5	20.5	-77.24	-262.7	-15.1	621.5	584.1	37.38	16.625	
8,700.0	8,636.2	8,650.7	8,636.2	22.5	20.6	-77.24	-262.7	-15.1	621.5	584.0	37.46	16.589	
8,800.0	8,736.2	8,750.7	8,736.2	22.6	20.6	-77.24	-262.7	-15.1	621.5	583.9	37.54	16.553	
8,900.0	8,836.2	8,850.7	8,836.2	22.6	20.6	-77.24	-262.7	-15.1	621.5	583.8	37.62	16.517	
9,000.0	8,936.2	8,950.7	8,936.2	22.6	20.7	-77.24	-262.7	-15.1	621.5	583.7	37.71	16.481	
9,100.0	9,036.2	9,050.7	9,036.2	22.7	20.7	-77.24	-262.7	-15.1	621.5	583.7	37.79	16.445	
9,200.0	9,136.2	9,150.7	9,136.2	22.7	20.7	-77.24	-262.7	-15.1	621.5	583.6	37.87	16.408	
9,212.9	9,149.1	9,163.6	9,149.1	22.7	20.7	-77.24	-262.7	-15.1	621.5	583.6	37.89	16.403	
9,300.0	9,236.2	9,248.7	9,234.2	22.7	20.8	-77.23	-262.7	-15.1	621.5	583.5	37.93	16.383	
9,400.0	9,336.2	9,328.3	9,313.5	22.8	20.6	-76.64	-256.0	-15.1	623.4	585.4	37.97	16.417	
9,500.0	9,436.2	9,400.0	9,383.4	22.8	20.5	-75.27	-240.7	-15.2	629.0	590.9	38.09	16.516	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 706H - 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
9,600.0	9,536.2	9,475.5	9,454.5	22.9	20.3	-73.05	-215.2	-15.3	639.1	600.8		38.33	16.675
9,700.0	9,636.2	9,539.5	9,511.6	22.9	20.1	-70.60	-186.4	-15.5	654.9	616.5		38.47	17.023
9,800.0	9,736.2	9,600.0	9,562.4	22.9	19.9	-67.89	-153.6	-15.6	677.5	638.9		38.57	17.567
9,900.0	9,836.2	9,650.0	9,601.5	23.0	19.8	-65.42	-122.5	-15.8	707.3	668.8		38.51	18.367
10,000.0	9,936.2	9,700.0	9,637.8	23.0	19.6	-62.81	-88.1	-16.0	744.8	706.4		38.44	19.376
10,100.0	10,036.2	9,726.9	9,656.0	23.1	19.6	-61.35	-68.4	-16.1	789.3	751.1		38.19	20.670
10,200.0	10,136.2	9,750.0	9,671.0	23.1	19.5	-60.09	-50.7	-16.2	840.9	802.9		37.99	22.133
10,300.0	10,236.2	9,800.0	9,700.7	23.1	19.4	-57.33	-10.6	-16.4	898.5	860.5		38.03	23.628
10,400.0	10,336.2	9,800.0	9,700.7	23.2	19.4	-57.33	-10.6	-16.4	961.5	923.5		37.91	25.361
10,451.3	10,387.5	9,825.0	9,714.2	23.2	19.3	-55.96	10.4	-16.5	995.4	957.4		37.97	26.213

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 707H - 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		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	19.0	0.0	0.0	-52.56	199.6	-260.7	328.8				
100.0	100.0	81.0	100.0	0.8	1.0	-52.56	199.6	-260.7	328.3	326.1	2.20	148.940	
200.0	200.0	181.0	200.0	1.4	1.6	-52.56	199.6	-260.7	328.3	324.8	3.49	94.015	
300.0	300.0	281.0	300.0	1.9	2.0	-52.56	199.6	-260.7	328.3	324.0	4.34	75.661	
400.0	400.0	381.0	400.0	2.2	2.4	-52.56	199.6	-260.7	328.3	323.3	5.03	65.205	
500.0	500.0	481.0	500.0	2.6	2.7	-52.56	199.6	-260.7	328.3	322.7	5.64	58.187	
600.0	600.0	581.0	600.0	2.8	2.9	-52.56	199.6	-260.7	328.3	322.1	6.19	53.042	
700.0	700.0	681.0	700.0	3.1	3.2	-52.56	199.6	-260.7	328.3	321.6	6.69	49.053	
800.0	800.0	781.0	800.0	3.3	3.4	-52.56	199.6	-260.7	328.3	321.1	7.16	45.839	
900.0	900.0	881.0	900.0	3.6	3.7	-52.56	199.6	-260.7	328.3	320.7	7.60	43.174	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-52.56	199.6	-260.7	328.3	320.3	8.02	40.916	
1,100.0	1,100.0	1,081.0	1,100.0	4.0	4.1	-52.56	199.6	-260.7	328.3	319.9	8.42	38.970	
1,200.0	1,200.0	1,181.0	1,200.0	4.2	4.3	-52.56	199.6	-260.7	328.3	319.5	8.81	37.269	
1,300.0	1,300.0	1,281.0	1,300.0	4.4	4.4	-52.56	199.6	-260.7	328.3	319.1	9.18	35.765	
1,400.0	1,400.0	1,381.0	1,400.0	4.6	4.6	-52.56	199.6	-260.7	328.3	318.8	9.54	34.422	
1,500.0	1,500.0	1,481.0	1,500.0	4.7	4.8	-52.56	199.6	-260.7	328.3	318.4	9.88	33.212	
1,600.0	1,600.0	1,581.0	1,600.0	4.9	5.0	-52.56	199.6	-260.7	328.3	318.1	10.22	32.115	
1,700.0	1,700.0	1,681.0	1,700.0	5.1	5.1	-52.56	199.6	-260.7	328.3	317.7	10.55	31.114	
1,800.0	1,800.0	1,781.0	1,800.0	5.2	5.3	-52.56	199.6	-260.7	328.3	317.4	10.87	30.196	
1,900.0	1,900.0	1,881.0	1,900.0	5.4	5.5	-52.56	199.6	-260.7	328.3	317.1	11.19	29.349	
2,000.0	2,000.0	1,981.0	2,000.0	5.6	5.6	-52.56	199.6	-260.7	328.3	316.8	11.49	28.564	
2,100.0	2,100.0	2,081.9	2,100.9	5.7	5.8	-52.72	198.8	-261.1	328.2	316.4	11.78	27.859	
2,200.0	2,200.0	2,182.9	2,201.8	5.9	5.9	-53.32	195.8	-262.9	327.8	315.7	12.04	27.231	
2,300.0	2,300.0	2,283.6	2,302.4	6.0	6.1	-54.39	190.4	-265.9	327.1	314.8	12.29	26.623	
2,400.0	2,400.0	2,384.0	2,402.3	6.2	6.3	-55.92	182.9	-270.3	326.4	313.8	12.53	26.040	
2,500.0	2,500.0	2,483.8	2,501.5	6.3	6.5	-57.91	173.1	-276.0	325.8	313.0	12.78	25.496	
2,588.4	2,588.4	2,571.5	2,588.4	6.4	6.7	-60.00	162.8	-281.9	325.5	312.6	12.94	25.149 CC	
2,600.0	2,600.0	2,583.0	2,599.8	6.4	6.7	-60.28	161.4	-282.7	325.5	312.6	12.97	25.105 ES	
2,700.0	2,700.0	2,682.0	2,697.8	6.6	6.9	-62.71	149.4	-289.6	325.9	312.7	13.20	24.685	
2,800.0	2,800.0	2,781.0	2,795.9	6.7	7.1	-65.12	137.5	-296.5	326.9	313.4	13.45	24.305	
2,900.0	2,900.0	2,880.1	2,894.0	6.8	7.4	-67.52	125.6	-303.4	328.4	314.7	13.70	23.975	
3,000.0	3,000.0	2,979.1	2,992.0	7.0	7.7	-69.89	113.6	-310.3	330.5	316.6	13.95	23.687	
3,100.0	3,100.0	3,078.1	3,090.1	7.1	8.0	-72.22	101.7	-317.2	333.2	319.0	14.22	23.436	
3,200.0	3,200.0	3,177.2	3,188.2	7.2	8.3	-74.52	89.8	-324.1	336.5	322.0	14.49	23.215	
3,300.0	3,300.0	3,276.2	3,286.2	7.4	8.6	-76.77	77.8	-331.0	340.3	325.5	14.78	23.019	
3,400.0	3,400.0	3,375.2	3,384.3	7.5	8.9	-78.96	65.9	-337.9	344.6	329.5	15.08	22.844	
3,500.0	3,500.0	3,474.2	3,482.3	7.6	9.2	-81.10	54.0	-344.7	349.4	334.0	15.40	22.684	
3,600.0	3,600.0	3,573.3	3,580.5	7.8	9.6	136.91	42.0	-351.6	355.9	340.2	15.74	22.615 SF	
3,700.0	3,699.8	3,672.5	3,678.6	7.9	9.9	135.34	30.1	-358.5	365.4	349.3	16.06	22.756	
3,750.0	3,749.7	3,722.0	3,727.7	8.0	10.1	134.71	24.1	-362.0	371.1	354.9	16.18	22.940	
3,800.0	3,799.5	3,771.5	3,776.7	8.0	10.3	138.93	18.1	-365.4	377.5	361.2	16.30	23.162	
3,900.0	3,898.7	3,870.1	3,874.4	8.2	10.6	144.16	6.2	-372.3	393.0	376.3	16.64	23.617	
4,000.0	3,997.6	3,968.3	3,971.6	8.4	11.0	147.18	-5.6	-379.1	411.8	394.8	17.00	24.219	
4,069.8	4,066.3	4,036.4	4,039.1	8.5	11.2	148.62	-13.8	-383.9	426.8	409.6	17.23	24.777	
4,100.0	4,095.9	4,065.8	4,068.2	8.5	11.3	148.52	-17.3	-385.9	433.7	416.4	17.31	25.048	
4,200.0	4,194.0	4,163.2	4,164.6	8.7	11.7	148.22	-29.1	-392.7	456.4	438.7	17.67	25.827	
4,300.0	4,292.2	4,260.5	4,261.0	8.9	12.1	147.95	-40.8	-399.5	479.1	461.1	18.05	26.550	
4,400.0	4,390.3	4,357.9	4,357.4	9.2	12.5	147.70	-52.5	-406.2	501.8	483.4	18.44	27.218	
4,500.0	4,488.5	4,455.3	4,453.8	9.4	12.8	147.48	-64.3	-413.0	524.6	505.7	18.85	27.836	
4,600.0	4,586.6	4,552.6	4,550.2	9.7	13.2	147.27	-76.0	-419.8	547.3	528.1	19.27	28.406	
4,700.0	4,684.8	4,650.0	4,646.6	10.0	13.6	147.08	-87.7	-426.6	570.1	550.4	19.70	28.931	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 707H - 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		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)				
4,800.0	4,782.9	4,747.3	4,743.1	10.3	14.0	146.91	-99.5	-433.3	592.8	572.7	20.15	29.416		
4,900.0	4,881.1	4,844.7	4,839.5	10.6	14.4	146.74	-111.2	-440.1	615.6	595.0	20.61	29.863		
5,000.0	4,979.3	4,942.1	4,935.9	10.9	14.7	146.59	-123.0	-446.9	638.4	617.3	21.09	30.274		
5,100.0	5,077.4	5,039.4	5,032.3	11.2	15.1	146.45	-134.7	-453.7	661.2	639.6	21.57	30.653		
5,200.0	5,175.6	5,136.8	5,128.7	11.5	15.5	146.32	-146.4	-460.4	683.9	661.9	22.06	31.003		
5,300.0	5,273.7	5,234.3	5,225.3	11.9	15.9	146.20	-158.2	-467.2	706.7	684.2	22.55	31.345		
5,400.0	5,371.9	5,334.9	5,324.9	12.2	16.3	146.11	-169.9	-474.0	729.3	706.2	23.05	31.641		
5,500.0	5,470.0	5,435.6	5,424.9	12.6	16.7	146.09	-180.8	-480.3	751.4	727.8	23.56	31.885		
5,600.0	5,568.2	5,536.6	5,525.1	13.0	17.1	146.13	-191.0	-486.2	773.1	749.0	24.08	32.101		
5,700.0	5,666.3	5,637.7	5,625.7	13.4	17.5	146.23	-200.5	-491.7	794.3	769.7	24.60	32.292		
5,800.0	5,764.5	5,739.0	5,726.5	13.7	17.9	146.38	-209.2	-496.7	815.2	790.1	25.11	32.459		
5,900.0	5,862.6	5,840.4	5,827.5	14.1	18.3	146.57	-217.2	-501.3	835.6	810.0	25.63	32.604		
6,000.0	5,960.8	5,942.0	5,928.7	14.5	18.6	146.81	-224.3	-505.4	855.6	829.5	26.14	32.730		
6,100.0	6,058.9	6,043.7	6,030.1	14.9	19.0	147.09	-230.8	-509.1	875.2	848.6	26.65	32.837		
6,200.0	6,157.1	6,145.4	6,131.7	15.3	19.4	147.41	-236.4	-512.4	894.5	867.3	27.16	32.929		
6,300.0	6,255.2	6,247.3	6,233.4	15.7	19.7	147.77	-241.3	-515.2	913.3	885.6	27.67	33.006		
6,400.0	6,353.4	6,349.3	6,335.3	16.1	20.0	148.16	-245.3	-517.5	931.7	903.6	28.18	33.069		
6,500.0	6,451.5	6,451.3	6,437.2	16.5	20.3	148.58	-248.6	-519.4	949.8	921.1	28.68	33.120		
6,600.0	6,549.7	6,553.3	6,539.2	16.9	20.6	149.04	-251.1	-520.9	967.6	938.4	29.18	33.161		
6,700.0	6,647.8	6,655.4	6,641.2	17.4	20.9	149.53	-252.9	-521.9	985.0	955.3	29.67	33.193		

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 708H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	0.0	19.0	0.0	0.0	-55.53	199.6	-290.7	353.1				
100.0	100.0	81.0	100.0	0.8	1.0	-55.53	199.6	-290.7	352.6	350.4	2.20	159.962	
200.0	200.0	181.0	200.0	1.4	1.6	-55.53	199.6	-290.7	352.6	349.1	3.49	100.972	
300.0	300.0	281.0	300.0	1.9	2.0	-55.53	199.6	-290.7	352.6	348.3	4.34	81.260	
400.0	400.0	381.0	400.0	2.2	2.4	-55.53	199.6	-290.7	352.6	347.6	5.03	70.030	
500.0	500.0	481.0	500.0	2.6	2.7	-55.53	199.6	-290.7	352.6	346.9	5.64	62.493	
600.0	600.0	581.0	600.0	2.8	2.9	-55.53	199.6	-290.7	352.6	346.4	6.19	56.967	
700.0	700.0	681.0	700.0	3.1	3.2	-55.53	199.6	-290.7	352.6	345.9	6.69	52.683	
800.0	800.0	781.0	800.0	3.3	3.4	-55.53	199.6	-290.7	352.6	345.4	7.16	49.231	
900.0	900.0	881.0	900.0	3.6	3.7	-55.53	199.6	-290.7	352.6	345.0	7.60	46.369	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-55.53	199.6	-290.7	352.6	344.6	8.02	43.944 CC	
1,100.0	1,100.0	1,078.4	1,097.4	4.0	4.1	-55.65	199.1	-291.4	352.9	344.5	8.42	41.924 ES	
1,200.0	1,200.0	1,175.0	1,194.0	4.2	4.3	-56.14	197.3	-294.0	354.1	345.3	8.78	40.333	
1,300.0	1,300.0	1,271.5	1,290.2	4.4	4.6	-56.98	194.1	-298.7	356.3	347.2	9.13	39.013	
1,400.0	1,400.0	1,367.5	1,386.0	4.6	4.8	-58.16	189.6	-305.3	359.6	350.2	9.48	37.923	
1,500.0	1,500.0	1,463.2	1,481.0	4.7	5.1	-59.65	183.7	-313.9	364.2	354.3	9.83	37.037	
1,600.0	1,600.0	1,558.2	1,575.2	4.9	5.4	-61.43	176.6	-324.3	370.1	359.9	10.19	36.333	
1,700.0	1,700.0	1,653.5	1,669.3	5.1	5.6	-63.46	168.2	-336.7	377.6	367.1	10.50	35.960	
1,800.0	1,800.0	1,752.1	1,766.6	5.2	5.9	-65.58	159.0	-350.2	386.0	375.2	10.86	35.552	
1,900.0	1,900.0	1,850.7	1,863.9	5.4	6.2	-67.61	149.8	-363.6	394.9	383.7	11.26	35.087	
2,000.0	2,000.0	1,949.4	1,961.1	5.6	6.6	-69.54	140.6	-377.1	404.3	392.6	11.67	34.652	
2,100.0	2,100.0	2,048.0	2,058.4	5.7	6.9	-71.39	131.5	-390.5	414.1	402.0	12.09	34.240	
2,200.0	2,200.0	2,146.6	2,155.7	5.9	7.3	-73.16	122.3	-403.9	424.4	411.8	12.54	33.847	
2,300.0	2,300.0	2,245.3	2,253.0	6.0	7.7	-74.84	113.1	-417.4	435.0	422.0	13.00	33.471	
2,400.0	2,400.0	2,343.9	2,350.2	6.2	8.0	-76.44	103.9	-430.8	446.0	432.5	13.47	33.111	
2,500.0	2,500.0	2,442.5	2,447.5	6.3	8.4	-77.96	94.8	-444.3	457.3	443.3	13.96	32.765	
2,600.0	2,600.0	2,541.1	2,544.8	6.4	8.8	-79.41	85.6	-457.7	468.9	454.5	14.46	32.433	
2,700.0	2,700.0	2,639.8	2,642.1	6.6	9.2	-80.79	76.4	-471.2	480.8	465.9	14.97	32.115	
2,800.0	2,800.0	2,738.4	2,739.3	6.7	9.6	-82.10	67.3	-484.6	493.0	477.5	15.50	31.811	
2,900.0	2,900.0	2,837.0	2,836.6	6.8	10.0	-83.35	58.1	-498.1	505.4	489.4	16.04	31.520	
3,000.0	3,000.0	2,935.7	2,933.9	7.0	10.4	-84.54	48.9	-511.5	518.1	501.5	16.58	31.243	
3,100.0	3,100.0	3,034.3	3,031.2	7.1	10.8	-85.67	39.7	-525.0	531.0	513.8	17.14	30.980	
3,200.0	3,200.0	3,132.9	3,128.4	7.2	11.2	-86.75	30.6	-538.4	544.0	526.3	17.70	30.729	
3,300.0	3,300.0	3,231.5	3,225.7	7.4	11.6	-87.78	21.4	-551.9	557.3	539.0	18.28	30.491	
3,400.0	3,400.0	3,330.2	3,323.0	7.5	12.1	-88.76	12.2	-565.3	570.7	551.8	18.86	30.265	
3,500.0	3,500.0	3,428.8	3,420.3	7.6	12.5	-89.70	3.0	-578.8	584.2	564.8	19.44	30.052	
3,600.0	3,600.0	3,527.4	3,517.5	7.8	12.9	-129.30	-6.1	-592.2	599.1	579.0	20.02	29.919 SF	
3,700.0	3,699.8	3,625.8	3,614.6	7.9	13.3	-128.56	-15.3	-605.6	616.1	595.6	20.57	29.956	
3,750.0	3,749.7	3,674.9	3,663.0	8.0	13.5	-128.28	-19.8	-612.3	625.5	604.7	20.81	30.061	
3,800.0	3,799.5	3,723.9	3,711.3	8.0	13.7	-132.85	-24.4	-619.0	635.5	614.4	21.05	30.192	
3,900.0	3,898.7	3,821.3	3,807.4	8.2	14.2	-138.70	-33.5	-632.3	657.9	636.3	21.59	30.472	
4,000.0	3,997.6	3,918.0	3,902.8	8.4	14.6	-142.25	-42.5	-645.5	683.4	661.2	22.13	30.874	
4,069.8	4,066.3	3,985.0	3,968.8	8.5	14.9	-144.01	-48.7	-654.6	703.0	680.5	22.49	31.260	
4,100.0	4,095.9	4,013.8	3,997.3	8.5	15.0	-144.07	-51.4	-658.5	711.8	689.2	22.63	31.451	
4,200.0	4,194.0	4,109.5	4,091.6	8.7	15.4	-144.25	-60.3	-671.6	741.0	717.9	23.16	32.002	
4,300.0	4,292.2	4,205.1	4,185.9	8.9	15.8	-144.41	-69.2	-684.6	770.3	746.6	23.69	32.511	
4,400.0	4,390.3	4,300.7	4,280.2	9.2	16.2	-144.56	-78.1	-697.6	799.5	775.3	24.24	32.982	
4,500.0	4,488.5	4,396.3	4,374.5	9.4	16.7	-144.70	-86.9	-710.7	828.7	803.9	24.80	33.417	
4,600.0	4,586.6	4,491.9	4,468.8	9.7	17.1	-144.83	-95.8	-723.7	858.0	832.6	25.37	33.819	
4,700.0	4,684.8	4,587.5	4,563.1	10.0	17.5	-144.96	-104.7	-736.8	887.2	861.3	25.95	34.191	
4,800.0	4,782.9	4,683.1	4,657.4	10.3	17.9	-145.07	-113.6	-749.8	916.4	889.9	26.54	34.535	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design:	WILD THING FED COM PROJECT - _WILD THING FED COM 708H - OWB - PWP0	Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD+IFR1+MS	Offset Well Error:	0.0 usft
Reference	Offset	Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset
		Highside Toolface (°)	Offset Wellbore Centre
		+N/-S (usft)	+E/-W (usft)
		Between Centres (usft)	Distance Between Ellipses (usft)
		No-Go Distance (usft)	Separation Factor
		Warning	
4,900.0	4,881.1	4,778.7	4,751.7
		10.6	18.3
		145.18	
5,000.0	4,979.3	4,874.4	4,846.0
		10.9	18.7
		145.28	
		-122.5	-762.8
		-131.4	-775.9
		945.7	918.6
		974.9	947.2
		27.13	34.853
		27.74	35.147

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 709H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			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	19.0	0.0	0.0	-58.11	199.5	-320.7	378.2				
100.0	100.0	81.0	100.0	0.8	1.0	-58.11	199.5	-320.7	377.7	375.5	2.20	171.352	
200.0	200.0	181.0	200.0	1.4	1.6	-58.11	199.5	-320.7	377.7	374.2	3.49	108.162	
300.0	300.0	281.0	300.0	1.9	2.0	-58.11	199.5	-320.7	377.7	373.4	4.34	87.046	
400.0	400.0	381.0	400.0	2.2	2.4	-58.11	199.5	-320.7	377.7	372.7	5.03	75.017	
500.0	500.0	481.0	500.0	2.6	2.7	-58.11	199.5	-320.7	377.7	372.1	5.64	66.943	
600.0	600.0	581.0	600.0	2.8	2.9	-58.11	199.5	-320.7	377.7	371.5	6.19	61.024	
700.0	700.0	681.0	700.0	3.1	3.2	-58.11	199.5	-320.7	377.7	371.0	6.69	56.435	
800.0	800.0	781.0	800.0	3.3	3.4	-58.11	199.5	-320.7	377.7	370.5	7.16	52.737	
900.0	900.0	881.0	900.0	3.6	3.7	-58.11	199.5	-320.7	377.7	370.1	7.60	49.671	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-58.11	199.5	-320.7	377.7	369.7	8.02	47.074 CC, ES	
1,100.0	1,100.0	1,076.7	1,095.7	4.0	4.1	-58.20	199.2	-321.4	378.2	369.7	8.42	44.903	
1,200.0	1,200.0	1,171.4	1,190.3	4.2	4.3	-58.59	198.0	-324.2	380.0	371.2	8.79	43.213	
1,300.0	1,300.0	1,265.8	1,284.6	4.4	4.5	-59.25	195.8	-329.1	383.3	374.1	9.16	41.847	
1,400.0	1,400.0	1,359.9	1,378.4	4.6	4.8	-60.18	192.7	-336.2	388.1	378.5	9.52	40.747	
1,500.0	1,500.0	1,453.6	1,471.5	4.7	5.1	-61.35	188.6	-345.3	394.4	384.6	9.89	39.882	
1,600.0	1,600.0	1,546.7	1,563.8	4.9	5.3	-62.73	183.7	-356.4	402.5	392.3	10.26	39.217	
1,700.0	1,700.0	1,639.2	1,655.2	5.1	5.6	-64.29	177.8	-369.4	412.4	401.8	10.65	38.734	
1,800.0	1,800.0	1,730.9	1,745.5	5.2	6.0	-65.99	171.2	-384.4	424.3	413.2	11.05	38.413	
1,900.0	1,900.0	1,821.8	1,834.5	5.4	6.3	-67.80	163.7	-401.1	438.2	426.7	11.44	38.290	
2,000.0	2,000.0	1,915.6	1,926.0	5.6	6.6	-69.72	155.2	-420.2	454.0	442.2	11.83	38.382	
2,100.0	2,100.0	2,013.1	2,020.9	5.7	6.9	-71.61	146.3	-440.2	470.6	458.3	12.31	38.237	
2,200.0	2,200.0	2,110.5	2,115.8	5.9	7.3	-73.37	137.4	-460.2	487.6	474.8	12.80	38.082	
2,300.0	2,300.0	2,207.9	2,210.8	6.0	7.7	-75.02	128.5	-480.2	505.1	491.8	13.32	37.919	
2,400.0	2,400.0	2,305.4	2,305.7	6.2	8.1	-76.56	119.6	-500.3	522.9	509.1	13.85	37.752	
2,500.0	2,500.0	2,402.8	2,400.7	6.3	8.5	-77.99	110.7	-520.3	541.1	526.7	14.40	37.581	
2,600.0	2,600.0	2,500.3	2,495.6	6.4	8.9	-79.33	101.8	-540.3	559.6	544.7	14.96	37.410	
2,700.0	2,700.0	2,597.7	2,590.5	6.6	9.3	-80.59	92.8	-560.3	578.4	562.9	15.53	37.239	
2,800.0	2,800.0	2,695.1	2,685.5	6.7	9.7	-81.77	83.9	-580.4	597.5	581.4	16.12	37.071	
2,900.0	2,900.0	2,792.6	2,780.4	6.8	10.1	-82.88	75.0	-600.4	616.8	600.1	16.71	36.907	
3,000.0	3,000.0	2,890.0	2,875.4	7.0	10.5	-83.92	66.1	-620.4	636.3	618.9	17.31	36.748	
3,100.0	3,100.0	2,987.4	2,970.3	7.1	11.0	-84.90	57.2	-640.4	655.9	638.0	17.92	36.594	
3,200.0	3,200.0	3,084.9	3,065.2	7.2	11.4	-85.82	48.3	-660.5	675.8	657.3	18.54	36.446	
3,300.0	3,300.0	3,182.3	3,160.2	7.4	11.8	-86.69	39.4	-680.5	695.8	676.6	19.17	36.304	
3,400.0	3,400.0	3,279.7	3,255.1	7.5	12.3	-87.51	30.4	-700.5	716.0	696.2	19.80	36.168	
3,500.0	3,500.0	3,377.2	3,350.1	7.6	12.7	-88.29	21.5	-720.5	736.3	715.9	20.43	36.038	
3,600.0	3,600.0	3,474.5	3,444.9	7.8	13.2	130.74	12.6	-740.5	757.8	736.7	21.08	35.945 SF	
3,700.0	3,699.8	3,571.5	3,539.4	7.9	13.6	129.97	3.7	-760.5	781.6	760.0	21.69	36.036	
3,750.0	3,749.7	3,619.8	3,586.4	8.0	13.8	129.65	-0.7	-770.4	794.4	772.4	21.97	36.164	
3,800.0	3,799.5	3,668.0	3,633.4	8.0	14.0	134.20	-5.1	-780.3	807.8	785.5	22.26	36.294	
3,900.0	3,898.7	3,763.6	3,726.6	8.2	14.5	139.99	-13.8	-799.9	836.9	814.0	22.89	36.563	
4,000.0	3,997.6	3,858.3	3,818.8	8.4	14.9	143.46	-22.5	-819.4	869.2	845.6	23.53	36.943	
4,069.8	4,066.3	3,923.7	3,882.5	8.5	15.2	145.14	-28.5	-832.8	893.5	869.5	23.95	37.307	
4,100.0	4,095.9	3,951.9	3,910.0	8.5	15.3	145.18	-31.1	-838.6	904.3	880.2	24.12	37.494	
4,200.0	4,194.0	4,045.2	4,000.9	8.7	15.8	145.29	-39.6	-857.8	940.2	915.5	24.72	38.030	
4,300.0	4,292.2	4,138.5	4,091.9	8.9	16.2	145.39	-48.1	-877.0	976.1	950.7	25.34	38.523	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 710H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	19.0	0.0	0.0	-60.35	199.6	-350.6	403.9				
100.0	100.0	81.0	100.0	0.8	1.0	-60.35	199.6	-350.6	403.5	401.3	2.20	183.050	
200.0	200.0	181.0	200.0	1.4	1.6	-60.35	199.6	-350.6	403.5	400.0	3.49	115.546	
300.0	300.0	281.0	300.0	1.9	2.0	-60.35	199.6	-350.6	403.5	399.1	4.34	92.989	
400.0	400.0	381.0	400.0	2.2	2.4	-60.35	199.6	-350.6	403.5	398.4	5.03	80.138	
500.0	500.0	481.0	500.0	2.6	2.7	-60.35	199.6	-350.6	403.5	397.8	5.64	71.513	
600.0	600.0	581.0	600.0	2.8	2.9	-60.35	199.6	-350.6	403.5	397.3	6.19	65.190	
700.0	700.0	681.0	700.0	3.1	3.2	-60.35	199.6	-350.6	403.5	396.8	6.69	60.287	
800.0	800.0	781.0	800.0	3.3	3.4	-60.35	199.6	-350.6	403.5	396.3	7.16	56.337	
900.0	900.0	881.0	900.0	3.6	3.7	-60.35	199.6	-350.6	403.5	395.9	7.60	53.062	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-60.35	199.6	-350.6	403.5	395.5	8.02	50.287 CC, ES	
1,100.0	1,100.0	1,075.2	1,094.1	4.0	4.1	-60.42	199.5	-351.4	404.1	395.6	8.43	47.950	
1,200.0	1,200.0	1,167.8	1,186.8	4.2	4.3	-60.70	198.8	-354.2	406.4	397.6	8.81	46.130	
1,300.0	1,300.0	1,260.3	1,279.1	4.4	4.5	-61.18	197.6	-359.3	410.6	401.4	9.19	44.683	
1,400.0	1,400.0	1,352.5	1,371.0	4.6	4.8	-61.86	196.0	-366.5	416.6	407.0	9.57	43.536	
1,500.0	1,500.0	1,444.3	1,462.3	4.7	5.0	-62.72	193.8	-375.8	424.5	414.6	9.95	42.652	
1,600.0	1,600.0	1,535.6	1,552.8	4.9	5.3	-63.72	191.2	-387.2	434.4	424.0	10.35	41.986	
1,700.0	1,700.0	1,626.2	1,642.4	5.1	5.6	-64.84	188.1	-400.5	446.2	435.5	10.75	41.519	
1,800.0	1,800.0	1,716.2	1,731.0	5.2	5.9	-66.07	184.6	-415.9	460.2	449.0	11.16	41.227	
1,900.0	1,900.0	1,805.3	1,818.4	5.4	6.2	-67.36	180.6	-433.1	476.2	464.7	11.59	41.092	
2,000.0	2,000.0	1,893.6	1,904.5	5.6	6.6	-68.70	176.2	-452.0	494.5	482.4	12.03	41.098	
2,100.0	2,100.0	1,982.6	1,990.8	5.7	6.9	-70.09	171.4	-473.1	514.9	502.4	12.44	41.397	
2,200.0	2,200.0	2,079.4	2,084.5	5.9	7.2	-71.53	165.9	-496.7	536.2	523.3	12.94	41.433	
2,300.0	2,300.0	2,176.2	2,178.2	6.0	7.6	-72.86	160.5	-520.3	557.9	544.5	13.48	41.391	
2,400.0	2,400.0	2,273.0	2,272.0	6.2	8.0	-74.09	155.0	-543.9	579.9	565.9	14.03	41.326	
2,500.0	2,500.0	2,369.8	2,365.7	6.3	8.4	-75.24	149.6	-567.5	602.1	587.5	14.60	41.242	
2,600.0	2,600.0	2,466.6	2,459.4	6.4	8.8	-76.30	144.1	-591.2	624.5	609.3	15.18	41.145	
2,700.0	2,700.0	2,563.4	2,553.1	6.6	9.2	-77.29	138.7	-614.8	647.1	631.3	15.77	41.038	
2,800.0	2,800.0	2,660.3	2,646.9	6.7	9.6	-78.21	133.2	-638.4	669.9	653.5	16.37	40.924	
2,900.0	2,900.0	2,757.1	2,740.6	6.8	10.1	-79.08	127.7	-662.0	692.8	675.8	16.98	40.806	
3,000.0	3,000.0	2,853.9	2,834.3	7.0	10.5	-79.89	122.3	-685.6	715.9	698.3	17.60	40.686	
3,100.0	3,100.0	2,950.7	2,928.1	7.1	10.9	-80.65	116.8	-709.3	739.1	720.9	18.22	40.565	
3,200.0	3,200.0	3,047.5	3,021.8	7.2	11.4	-81.36	111.4	-732.9	762.4	743.6	18.85	40.444	
3,300.0	3,300.0	3,144.3	3,115.5	7.4	11.8	-82.03	105.9	-756.5	785.8	766.3	19.49	40.325	
3,400.0	3,400.0	3,241.1	3,209.3	7.5	12.2	-82.66	100.5	-780.1	809.4	789.2	20.13	40.209	
3,500.0	3,500.0	3,338.0	3,303.0	7.6	12.7	-83.26	95.0	-803.7	833.0	812.2	20.77	40.094	
3,600.0	3,600.0	3,434.6	3,396.5	7.8	13.1	135.91	89.6	-827.3	857.9	836.4	21.49	39.916 SF	
3,700.0	3,699.8	3,530.6	3,489.5	7.9	13.6	135.22	84.2	-850.7	885.2	863.1	22.13	40.007	
3,750.0	3,749.7	3,578.5	3,535.8	8.0	13.8	134.92	81.5	-862.4	899.8	877.4	22.42	40.138	
3,800.0	3,799.5	3,626.1	3,581.9	8.0	14.0	139.52	78.8	-874.0	915.1	892.4	22.74	40.245	
3,900.0	3,898.7	3,720.5	3,673.3	8.2	14.5	145.37	73.5	-897.0	948.0	924.6	23.43	40.467	
4,000.0	3,997.6	3,813.7	3,763.6	8.4	14.9	148.88	68.2	-919.8	984.1	960.0	24.12	40.802	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 904H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10177-r.5 MWD+IFR1+SAG+FDIR													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)			
5,500.0	5,470.0	5,595.7	5,593.1	12.6	19.8	-46.26	0.4	1,218.5	975.0	947.7	27.28	35.741	
5,600.0	5,568.2	5,692.3	5,688.2	13.0	20.2	-46.38	-13.3	1,208.9	949.1	921.2	27.88	34.043	
5,700.0	5,666.3	5,788.9	5,783.3	13.4	20.6	-46.50	-27.0	1,199.3	923.2	894.7	28.48	32.411	
5,800.0	5,764.5	5,885.4	5,878.4	13.7	21.0	-46.63	-40.8	1,189.6	897.3	868.2	29.10	30.839	
5,900.0	5,862.6	5,982.0	5,973.5	14.1	21.5	-46.77	-54.5	1,180.0	871.5	841.8	29.72	29.327	
6,000.0	5,960.8	6,078.6	6,068.6	14.5	21.9	-46.91	-68.3	1,170.4	845.6	815.3	30.34	27.872	
6,100.0	6,058.9	6,175.2	6,163.7	14.9	22.3	-47.07	-82.0	1,160.8	819.8	788.8	30.97	26.470	
6,200.0	6,157.1	6,271.7	6,258.8	15.3	22.7	-47.24	-95.7	1,151.2	793.9	762.3	31.60	25.121	
6,300.0	6,255.2	6,368.3	6,353.9	15.7	23.2	-47.41	-109.5	1,141.6	768.1	735.8	32.24	23.820	
6,400.0	6,353.4	6,464.9	6,449.0	16.1	23.6	-47.60	-123.2	1,131.9	742.2	709.3	32.89	22.567	
6,500.0	6,451.5	6,561.5	6,544.1	16.5	24.0	-47.80	-136.9	1,122.3	716.4	682.9	33.54	21.359	
6,600.0	6,549.7	6,658.0	6,639.2	16.9	24.5	-48.02	-150.7	1,112.7	690.6	656.4	34.20	20.193	
6,700.0	6,647.8	6,754.6	6,734.4	17.4	24.9	-48.26	-164.4	1,103.1	664.8	629.9	34.86	19.069	
6,800.0	6,746.0	6,851.2	6,829.5	17.8	25.3	-48.51	-178.2	1,093.5	639.0	603.4	35.53	17.985	
6,900.0	6,844.1	6,947.8	6,924.6	18.2	25.8	-48.79	-191.9	1,083.8	613.2	577.0	36.20	16.938	
6,960.4	6,903.4	7,006.1	6,982.0	18.4	26.0	-48.96	-200.2	1,078.0	597.6	561.0	36.60	16.327	
7,000.0	6,942.3	7,044.4	7,019.7	18.6	26.2	-49.00	-205.6	1,074.2	587.5	550.6	36.86	15.939	
7,100.0	7,040.7	7,139.4	7,113.3	19.0	26.6	-49.01	-219.1	1,064.8	562.8	525.3	37.52	14.999	
7,200.0	7,139.5	7,230.1	7,202.8	19.4	27.0	-48.98	-231.1	1,056.4	540.0	501.9	38.18	14.146	
7,300.0	7,238.5	7,321.5	7,293.3	19.8	27.4	-48.95	-242.0	1,048.7	519.6	480.8	38.81	13.389	
7,400.0	7,337.7	7,413.6	7,384.5	20.2	27.8	-48.91	-251.8	1,041.9	501.5	462.1	39.42	12.721	
7,500.0	7,437.1	7,506.2	7,476.6	20.6	28.2	-48.87	-260.5	1,035.8	485.7	445.7	40.01	12.141	
7,600.0	7,536.7	7,600.0	7,569.9	21.0	28.6	-48.82	-268.0	1,030.5	472.3	431.7	40.57	11.643	
7,700.0	7,636.5	7,692.9	7,662.5	21.3	28.9	-48.76	-274.2	1,026.2	461.3	420.2	41.09	11.227	
7,800.0	7,736.3	7,786.8	7,756.2	21.6	29.2	-48.69	-279.3	1,022.7	452.7	411.1	41.58	10.888	
7,900.0	7,836.2	7,880.9	7,850.2	22.0	29.6	-48.60	-283.0	1,020.0	446.4	404.4	42.02	10.625	
8,000.0	7,936.2	7,975.3	7,944.5	22.2	29.9	-48.50	-285.6	1,018.3	442.6	400.2	42.41	10.438	
8,063.8	8,000.0	8,035.5	8,004.7	22.3	30.0	75.10	-286.5	1,017.6	441.5	398.8	42.71	10.337	
8,100.0	8,036.2	8,069.7	8,038.9	22.3	30.1	75.13	-286.8	1,017.4	441.2	398.4	42.77	10.314	
8,163.8	8,100.0	8,130.8	8,100.0	22.3	30.2	75.15	-286.9	1,017.3	441.0	398.4	42.59	10.356	
8,200.0	8,136.2	8,167.0	8,136.2	22.3	30.2	75.15	-286.9	1,017.3	441.0	398.4	42.61	10.351	
8,300.0	8,236.2	8,267.0	8,236.2	22.4	30.2	75.15	-286.9	1,017.3	441.0	398.4	42.66	10.338	
8,400.0	8,336.2	8,367.0	8,336.2	22.4	30.2	75.15	-286.9	1,017.3	441.0	398.3	42.72	10.325	
8,500.0	8,436.2	8,467.0	8,436.2	22.4	30.2	75.15	-286.9	1,017.3	441.0	398.2	42.77	10.311	
8,600.0	8,536.2	8,567.0	8,536.2	22.5	30.2	75.15	-286.9	1,017.3	441.0	398.2	42.83	10.298	
8,700.0	8,636.2	8,667.0	8,636.2	22.5	30.2	75.15	-286.9	1,017.3	441.0	398.1	42.88	10.284	
8,800.0	8,736.2	8,767.0	8,736.2	22.6	30.3	75.15	-286.9	1,017.3	441.0	398.1	42.94	10.271	
8,900.0	8,836.2	8,867.0	8,836.2	22.6	30.3	75.15	-286.9	1,017.3	441.0	398.0	43.00	10.257	
9,000.0	8,936.2	8,967.0	8,936.2	22.6	30.3	75.15	-286.9	1,017.3	441.0	398.0	43.05	10.244	
9,100.0	9,036.2	9,067.0	9,036.2	22.7	30.3	75.15	-286.9	1,017.3	441.0	397.9	43.11	10.230	
9,200.0	9,136.2	9,167.0	9,136.2	22.7	30.3	75.15	-286.9	1,017.3	441.0	397.8	43.17	10.216	
9,300.0	9,236.2	9,267.0	9,236.2	22.7	30.3	75.15	-286.9	1,017.3	441.0	397.8	43.23	10.202	
9,400.0	9,336.2	9,367.0	9,336.2	22.8	30.4	75.15	-286.9	1,017.3	441.0	397.7	43.29	10.188	
9,500.0	9,436.2	9,467.0	9,436.2	22.8	30.4	75.15	-286.9	1,017.3	441.0	397.7	43.35	10.174	
9,600.0	9,536.2	9,567.0	9,536.2	22.9	30.4	75.15	-286.9	1,017.3	441.0	397.6	43.41	10.159	
9,700.0	9,636.2	9,667.0	9,636.2	22.9	30.4	75.15	-286.9	1,017.3	441.0	397.5	43.47	10.145	
9,800.0	9,736.2	9,767.0	9,736.2	22.9	30.4	75.15	-286.9	1,017.3	441.0	397.5	43.53	10.131	
9,900.0	9,836.2	9,867.0	9,836.2	23.0	30.4	75.15	-286.9	1,017.3	441.0	397.4	43.60	10.116	
10,000.0	9,936.2	9,967.0	9,936.2	23.0	30.5	75.15	-286.9	1,017.3	441.0	397.4	43.66	10.102	
10,100.0	10,036.2	10,067.0	10,036.2	23.1	30.5	75.15	-286.9	1,017.3	441.0	397.3	43.72	10.087	
10,200.0	10,136.2	10,167.0	10,136.2	23.1	30.5	75.15	-286.9	1,017.3	441.0	397.2	43.78	10.073 CC, ES	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 904H - OWB - PWP0													Offset Site Error: 0.0 usft		
Survey Program: 0-r.5 MWD+IFR1, 10177-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft		
Reference				Offset		Semi Major Axis				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		
10,300.0	10,236.2	10,250.0	10,219.0	23.1	30.5	74.56	-282.3	1,017.3	442.5	398.7	43.86	10.090			
10,400.0	10,336.2	10,332.4	10,299.6	23.2	30.6	72.54	-266.0	1,017.2	448.2	404.1	44.12	10.160			
10,451.3	10,387.5	10,371.4	10,336.9	23.2	30.6	71.11	-254.2	1,017.1	453.2	408.9	44.26	10.239			
10,475.0	10,411.2	10,388.7	10,353.1	23.2	30.6	-108.96	-248.2	1,017.0	456.2	411.5	44.65	10.217			
10,500.0	10,436.1	10,406.1	10,369.2	23.2	30.6	-109.42	-241.7	1,017.0	460.2	415.5	44.74	10.285			
10,525.0	10,460.9	10,422.4	10,384.2	23.2	30.6	-109.85	-235.1	1,017.0	465.2	420.3	44.85	10.372			
10,550.0	10,485.5	10,437.6	10,397.9	23.2	30.6	-110.21	-228.6	1,016.9	471.2	426.2	44.96	10.479			
10,575.0	10,509.8	10,450.0	10,409.0	23.2	30.6	-110.32	-223.0	1,016.9	478.2	433.1	45.06	10.614			
10,600.0	10,533.8	10,464.5	10,421.8	23.2	30.6	-110.54	-216.2	1,016.8	486.3	441.1	45.19	10.763			
10,625.0	10,557.4	10,476.1	10,431.9	23.2	30.7	-110.44	-210.5	1,016.8	495.6	450.3	45.29	10.942			
10,650.0	10,580.5	10,486.5	10,440.8	23.2	30.7	-110.13	-205.3	1,016.8	506.0	460.6	45.39	11.147			
10,675.0	10,603.1	10,500.0	10,452.3	23.2	30.7	-110.02	-198.2	1,016.7	517.6	472.0	45.54	11.364			
10,700.0	10,625.1	10,500.0	10,452.3	23.2	30.7	-108.36	-198.2	1,016.7	530.2	484.6	45.52	11.646			
10,725.0	10,646.5	10,510.6	10,461.2	23.3	30.7	-107.65	-192.5	1,016.7	543.8	498.2	45.65	11.913			
10,750.0	10,667.1	10,516.4	10,466.0	23.3	30.7	-106.23	-189.2	1,016.7	558.5	512.7	45.72	12.215			
10,775.0	10,687.0	10,521.2	10,470.0	23.3	30.7	-104.50	-186.5	1,016.7	574.0	528.2	45.79	12.537			
10,800.0	10,706.0	10,525.0	10,473.2	23.3	30.7	-102.43	-184.4	1,016.6	590.4	544.6	45.85	12.878			
10,825.0	10,724.2	10,527.9	10,475.6	23.3	30.7	-100.02	-182.7	1,016.6	607.6	561.7	45.91	13.235			
10,850.0	10,741.5	10,530.0	10,477.3	23.3	30.7	-97.26	-181.5	1,016.6	625.4	579.5	45.97	13.604			
10,875.0	10,757.7	10,531.3	10,478.3	23.3	30.7	-94.18	-180.8	1,016.6	643.8	597.8	46.04	13.985			
10,900.0	10,773.0	10,531.8	10,478.7	23.3	30.7	-90.78	-180.5	1,016.6	662.8	616.6	46.11	14.372			
10,925.0	10,787.2	10,531.6	10,478.5	23.3	30.7	-87.11	-180.6	1,016.6	682.1	635.9	46.20	14.765			
10,950.0	10,800.3	10,530.7	10,477.9	23.4	30.7	-83.21	-181.1	1,016.6	701.7	655.4	46.29	15.157			
10,975.0	10,812.3	10,529.3	10,476.7	23.4	30.7	-79.15	-181.9	1,016.6	721.5	675.1	46.41	15.547			
11,000.0	10,823.2	10,527.3	10,475.0	23.4	30.7	-74.98	-183.1	1,016.6	741.6	695.0	46.56	15.926			
11,025.0	10,832.8	10,524.7	10,472.9	23.4	30.7	-70.80	-184.5	1,016.6	761.7	714.9	46.76	16.288			
11,050.0	10,841.2	10,521.7	10,470.4	23.4	30.7	-66.67	-186.3	1,016.7	781.8	734.7	47.04	16.620			
11,075.0	10,848.4	10,518.2	10,467.5	23.5	30.7	-62.66	-188.2	1,016.7	801.8	754.4	47.45	16.897			
11,100.0	10,854.3	10,514.2	10,464.3	23.5	30.7	-58.83	-190.4	1,016.7	821.8	773.6	48.13	17.073			
11,125.0	10,858.9	10,500.0	10,452.3	23.5	30.7	-54.39	-198.2	1,016.7	841.7	792.4	49.27	17.082			
11,150.0	10,862.2	10,500.0	10,452.3	23.5	30.7	-51.43	-198.2	1,016.7	861.1	809.0	52.12	16.523			
11,175.0	10,864.2	10,500.0	10,452.3	23.6	30.7	-48.67	-198.2	1,016.7	880.3	819.6	60.71	14.500			
11,200.0	10,865.0	10,500.0	10,452.3	23.6	30.7	-46.10	-198.2	1,016.7	899.3	787.2	112.03	8.027			
11,201.4	10,865.0	10,500.0	10,452.3	23.6	30.7	-45.97	-198.2	1,016.7	900.3	779.7	120.58	7.467			
11,300.0	10,864.9	10,474.0	10,430.0	23.7	30.6	-44.46	-211.6	1,016.8	975.7	796.9	178.83	5.456 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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 905H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,069.8	4,066.3	4,235.8	4,212.4	8.5	10.0	-38.95	30.8	1,027.8	999.3	980.9	18.40	54.295	
4,100.0	4,095.9	4,264.7	4,240.8	8.5	10.1	-38.99	27.8	1,023.8	990.4	971.9	18.49	53.563	
4,200.0	4,194.0	4,360.2	4,334.9	8.7	10.3	-39.16	17.8	1,010.5	961.0	942.2	18.83	51.027	
4,300.0	4,292.2	4,455.7	4,429.0	8.9	10.4	-39.33	7.9	997.3	931.6	912.5	19.20	48.529	
4,400.0	4,390.3	4,551.3	4,523.1	9.2	10.6	-39.51	-2.1	984.0	902.3	882.7	19.59	46.068	
4,500.0	4,488.5	4,646.8	4,617.2	9.4	10.8	-39.71	-12.1	970.7	872.9	852.9	19.99	43.659	
4,600.0	4,586.6	4,742.4	4,711.3	9.7	11.0	-39.92	-22.0	957.5	843.6	823.2	20.39	41.377	
4,700.0	4,684.8	4,837.9	4,805.4	10.0	11.2	-40.15	-32.0	944.2	814.2	793.5	20.74	39.251	
4,800.0	4,782.9	4,933.5	4,899.5	10.3	11.4	-40.39	-41.9	930.9	784.9	763.8	21.10	37.201	
4,900.0	4,881.1	5,029.0	4,993.6	10.6	11.6	-40.65	-51.9	917.7	755.6	734.1	21.47	35.189	
5,000.0	4,979.3	5,124.6	5,087.7	10.9	11.8	-40.93	-61.9	904.4	726.3	704.4	21.86	33.221	
5,100.0	5,077.4	5,220.1	5,181.8	11.2	12.0	-41.24	-71.8	891.1	697.0	674.7	22.26	31.305	
5,200.0	5,175.6	5,315.7	5,275.9	11.5	12.2	-41.57	-81.8	877.9	667.7	645.0	22.68	29.445	
5,300.0	5,273.7	5,411.2	5,369.9	11.9	12.4	-41.94	-91.7	864.6	638.5	615.4	23.10	27.645	
5,400.0	5,371.9	5,506.8	5,464.0	12.2	12.5	-42.34	-101.7	851.3	609.3	585.7	23.52	25.905	
5,500.0	5,470.0	5,602.3	5,558.1	12.6	12.7	-42.78	-111.7	838.0	580.1	556.1	23.95	24.223	
5,600.0	5,568.2	5,697.9	5,652.2	13.0	12.9	-43.26	-121.6	824.8	550.9	526.5	24.38	22.600	
5,700.0	5,666.3	5,793.4	5,746.3	13.4	13.1	-43.80	-131.6	811.5	521.8	497.0	24.81	21.035	
5,800.0	5,764.5	5,889.0	5,840.4	13.7	13.3	-44.40	-141.6	798.2	492.7	467.5	25.24	19.525	
5,900.0	5,862.6	5,984.5	5,934.5	14.1	13.5	-45.08	-151.5	785.0	463.7	438.1	25.66	18.069	
6,000.0	5,960.8	6,080.0	6,028.6	14.5	13.7	-45.85	-161.5	771.7	434.8	408.7	26.09	16.667	
6,100.0	6,058.9	6,175.6	6,122.7	14.9	13.9	-46.72	-171.4	758.4	405.9	379.4	26.50	15.316	
6,200.0	6,157.1	6,271.1	6,216.8	15.3	14.1	-47.73	-181.4	745.2	377.2	350.3	26.91	14.017	
6,300.0	6,255.2	6,366.7	6,310.9	15.7	14.3	-48.91	-191.4	731.9	348.6	321.3	27.30	12.767	
6,400.0	6,353.4	6,462.2	6,405.0	16.1	14.5	-50.29	-201.3	718.6	320.1	292.4	27.67	11.567	
6,500.0	6,451.5	6,557.8	6,499.1	16.5	14.7	-51.94	-211.3	705.4	291.8	263.8	28.02	10.415	
6,600.0	6,549.7	6,653.3	6,593.2	16.9	14.9	-53.94	-221.3	692.1	263.8	235.5	28.33	9.313	
6,700.0	6,647.8	6,748.9	6,687.3	17.4	15.1	-56.40	-231.2	678.8	236.2	207.6	28.59	8.261	
6,800.0	6,746.0	6,844.4	6,781.4	17.8	15.3	-59.51	-241.2	665.6	209.1	180.3	28.79	7.263	
6,900.0	6,844.1	6,940.0	6,875.5	18.2	15.5	-63.50	-251.1	652.3	182.7	153.8	28.90	6.323	
6,960.4	6,903.4	6,997.7	6,932.3	18.4	15.6	-66.50	-257.2	644.3	167.3	138.4	28.90	5.790	
7,000.0	6,942.3	7,035.5	6,969.6	18.6	15.6	-68.63	-261.1	639.0	157.5	128.7	28.88	5.456	
7,100.0	7,040.7	7,131.5	7,064.1	19.0	15.8	-74.90	-271.1	625.7	134.4	105.6	28.80	4.667	
7,200.0	7,139.5	7,227.6	7,158.7	19.4	16.0	-82.78	-281.1	612.4	113.9	85.1	28.72	3.965	
7,300.0	7,238.5	7,322.8	7,252.6	19.8	16.2	-92.44	-290.5	599.9	97.3	68.5	28.80	3.378	
7,400.0	7,337.7	7,418.9	7,347.7	20.2	16.4	-103.85	-299.0	588.6	85.7	56.4	29.31	2.924 Normal Operations	
7,500.0	7,437.1	7,516.0	7,443.9	20.6	16.6	-116.16	-306.6	578.4	79.1	48.7	30.45	2.598 Normal Operations	
7,600.0	7,536.7	7,613.7	7,541.1	21.0	16.8	-127.99	-313.3	569.6	76.7	44.7	32.03	2.395 Caution - Monitor Closely	
7,626.8	7,563.4	7,640.1	7,567.3	21.1	16.8	-130.91	-314.9	567.4	76.6	44.2	32.47	2.360 Caution - Monitor Closely, CC	
7,700.0	7,636.5	7,712.2	7,639.0	21.3	17.0	-138.14	-319.0	561.9	77.2	43.5	33.65	2.294 Caution - Monitor Closely, ES	
7,800.0	7,736.3	7,811.1	7,737.7	21.6	17.1	-146.07	-323.7	555.7	79.0	44.0	35.02	2.256 Caution - Monitor Closely	
7,900.0	7,836.2	7,910.5	7,836.9	22.0	17.3	-151.80	-327.4	550.7	81.0	44.9	36.08	2.244 Caution - Monitor Closely	
8,000.0	7,936.2	8,010.2	7,936.5	22.2	17.5	-155.54	-330.1	547.1	82.2	45.4	36.84	2.231 Caution - Monitor Closely	
8,063.8	8,000.0	8,073.9	8,000.1	22.3	17.6	-33.47	-331.3	545.6	82.4	45.1	37.29	2.209 Caution - Monitor Closely	
8,100.0	8,036.2	8,110.1	8,036.3	22.3	17.6	-34.02	-331.8	544.9	82.3	45.0	37.39	2.202 Caution - Monitor Closely	
8,200.0	8,136.2	8,210.0	8,136.2	22.3	17.7	-34.72	-332.4	544.1	82.3	44.8	37.47	2.196 Caution - Monitor Closely	
8,236.1	8,172.3	8,246.1	8,172.3	22.3	17.7	-34.72	-332.4	544.1	82.3	45.3	36.97	2.226 Caution - Monitor Closely	
8,300.0	8,236.2	8,310.0	8,236.2	22.4	17.8	-34.72	-332.4	544.1	82.3	45.3	37.01	2.224 Caution - Monitor Closely	
8,400.0	8,336.2	8,410.0	8,336.2	22.4	17.8	-34.72	-332.4	544.1	82.3	45.2	37.09	2.219 Caution - Monitor Closely	
8,500.0	8,436.2	8,510.0	8,436.2	22.4	17.8	-34.72	-332.4	544.1	82.3	45.1	37.16	2.215 Caution - Monitor Closely	
8,600.0	8,536.2	8,610.0	8,536.2	22.5	17.8	-34.72	-332.4	544.1	82.3	45.1	37.24	2.210 Caution - Monitor Closely	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 905H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,700.0	8,636.2	8,710.0	8,636.2	22.5	17.9	-34.72	-332.4	544.1	82.3	45.0	37.31	2.206	Caution - Monitor Closely
8,800.0	8,736.2	8,810.0	8,736.2	22.6	17.9	-34.72	-332.4	544.1	82.3	44.9	37.39	2.201	Caution - Monitor Closely
8,900.0	8,836.2	8,910.0	8,836.2	22.6	17.9	-34.72	-332.4	544.1	82.3	44.8	37.47	2.197	Caution - Monitor Closely
9,000.0	8,936.2	9,010.0	8,936.2	22.6	18.0	-34.72	-332.4	544.1	82.3	44.8	37.54	2.192	Caution - Monitor Closely
9,100.0	9,036.2	9,110.0	9,036.2	22.7	18.0	-34.72	-332.4	544.1	82.3	44.7	37.62	2.188	Caution - Monitor Closely
9,200.0	9,136.2	9,210.0	9,136.2	22.7	18.0	-34.72	-332.4	544.1	82.3	44.6	37.70	2.183	Caution - Monitor Closely
9,300.0	9,236.2	9,310.0	9,236.2	22.7	18.1	-34.72	-332.4	544.1	82.3	44.5	37.78	2.178	Caution - Monitor Closely
9,400.0	9,336.2	9,410.0	9,336.2	22.8	18.1	-34.72	-332.4	544.1	82.3	44.4	37.86	2.174	Caution - Monitor Closely
9,500.0	9,436.2	9,510.0	9,436.2	22.8	18.1	-34.72	-332.4	544.1	82.3	44.4	37.94	2.169	Caution - Monitor Closely
9,600.0	9,536.2	9,610.0	9,536.2	22.9	18.2	-34.72	-332.4	544.1	82.3	44.3	38.02	2.165	Caution - Monitor Closely
9,700.0	9,636.2	9,710.0	9,636.2	22.9	18.2	-34.72	-332.4	544.1	82.3	44.2	38.10	2.160	Caution - Monitor Closely
9,800.0	9,736.2	9,810.0	9,736.2	22.9	18.2	-34.72	-332.4	544.1	82.3	44.1	38.18	2.155	Caution - Monitor Closely
9,900.0	9,836.2	9,910.0	9,836.2	23.0	18.3	-34.72	-332.4	544.1	82.3	44.0	38.26	2.151	Caution - Monitor Closely
10,000.0	9,936.2	10,010.0	9,936.2	23.0	18.3	-34.72	-332.4	544.1	82.3	44.0	38.35	2.146	Caution - Monitor Closely
10,100.0	10,036.2	10,110.0	10,036.2	23.1	18.3	-34.72	-332.4	544.1	82.3	43.9	38.43	2.142	Caution - Monitor Closely
10,200.0	10,136.2	10,210.0	10,136.2	23.1	18.4	-34.72	-332.4	544.1	82.3	43.8	38.51	2.137	Caution - Monitor Closely
10,300.0	10,236.2	10,310.0	10,236.2	23.1	18.4	-34.72	-332.4	544.1	82.3	43.7	38.60	2.132	Caution - Monitor Closely, SF
10,400.0	10,336.2	10,400.0	10,326.0	23.2	18.4	-33.27	-327.8	543.6	86.9	48.5	38.45	2.261	Caution - Monitor Closely
10,451.3	10,387.5	10,445.7	10,371.2	23.2	18.4	-31.27	-320.8	542.9	94.1	55.9	38.26	2.460	Caution - Monitor Closely
10,475.0	10,411.2	10,466.0	10,391.0	23.2	18.4	149.98	-316.6	542.4	99.1	60.6	38.49	2.574	Normal Operations
10,500.0	10,436.1	10,486.7	10,411.1	23.2	18.4	151.13	-311.7	541.9	106.2	67.9	38.31	2.771	Normal Operations
10,525.0	10,460.9	10,506.5	10,430.2	23.2	18.3	152.34	-306.4	541.4	115.2	77.0	38.13	3.020	
10,550.0	10,485.5	10,525.3	10,448.1	23.2	18.3	153.51	-300.9	540.8	126.0	88.0	37.97	3.318	
10,575.0	10,509.8	10,542.9	10,464.8	23.2	18.3	154.55	-295.2	540.1	138.6	100.7	37.82	3.664	
10,600.0	10,533.8	10,559.3	10,480.2	23.2	18.3	155.40	-289.5	539.5	152.8	115.1	37.70	4.053	
10,625.0	10,557.4	10,574.4	10,494.2	23.2	18.3	156.04	-283.9	538.9	168.6	131.0	37.61	4.483	
10,650.0	10,580.5	10,588.2	10,506.9	23.2	18.3	156.43	-278.5	538.4	185.9	148.3	37.55	4.950	
10,675.0	10,603.1	10,600.0	10,517.6	23.2	18.3	156.48	-273.7	537.8	204.4	166.9	37.52	5.447	
10,700.0	10,625.1	10,611.7	10,528.2	23.2	18.3	156.38	-268.7	537.3	224.1	186.6	37.49	5.976	
10,725.0	10,646.5	10,621.5	10,537.0	23.3	18.3	155.87	-264.3	536.8	244.8	207.3	37.49	6.528	
10,750.0	10,667.1	10,630.1	10,544.6	23.3	18.3	154.96	-260.4	536.4	266.3	228.8	37.50	7.103	
10,775.0	10,687.0	10,637.4	10,551.1	23.3	18.3	153.54	-257.0	536.1	288.7	251.2	37.51	7.696	
10,800.0	10,706.0	10,650.0	10,562.1	23.3	18.3	152.71	-251.0	535.4	311.8	274.3	37.43	8.328	
10,825.0	10,724.2	10,650.0	10,562.1	23.3	18.3	148.75	-251.0	535.4	335.2	297.7	37.53	8.932	
10,850.0	10,741.5	10,650.0	10,562.1	23.3	18.3	143.04	-251.0	535.4	359.2	321.6	37.61	9.551	
10,875.0	10,757.7	10,650.0	10,562.1	23.3	18.3	134.50	-251.0	535.4	383.5	345.9	37.66	10.183	
10,900.0	10,773.0	10,650.0	10,562.1	23.3	18.3	121.36	-251.0	535.4	408.1	370.4	37.70	10.825	
10,925.0	10,787.2	10,650.0	10,562.1	23.3	18.3	101.90	-251.0	535.4	432.9	395.1	37.73	11.474	
10,950.0	10,800.3	10,650.0	10,562.1	23.4	18.3	78.01	-251.0	535.4	457.7	419.9	37.74	12.128	
10,975.0	10,812.3	10,650.0	10,562.1	23.4	18.3	56.61	-251.0	535.4	482.5	444.7	37.73	12.787	
11,000.0	10,823.2	10,650.0	10,562.1	23.4	18.3	41.56	-251.0	535.4	507.2	469.5	37.72	13.447	
11,025.0	10,832.8	10,650.0	10,562.1	23.4	18.3	31.73	-251.0	535.4	531.8	494.1	37.69	14.109	
11,050.0	10,841.2	10,650.0	10,562.1	23.4	18.3	25.19	-251.0	535.4	556.2	518.6	37.65	14.772	
11,075.0	10,848.4	10,650.0	10,562.1	23.5	18.3	20.65	-251.0	535.4	580.4	542.8	37.61	15.434	
11,100.0	10,854.3	10,650.0	10,562.1	23.5	18.3	17.37	-251.0	535.4	604.4	566.8	37.55	16.095	
11,125.0	10,858.9	10,650.0	10,562.1	23.5	18.3	14.91	-251.0	535.4	628.1	590.6	37.49	16.753	
11,150.0	10,862.2	10,650.0	10,562.1	23.5	18.3	13.01	-251.0	535.4	651.4	614.0	37.42	17.407	
11,175.0	10,864.2	10,634.3	10,548.3	23.6	18.3	10.79	-258.5	536.2	674.1	636.6	37.47	17.988	
11,200.0	10,865.0	10,629.0	10,543.6	23.6	18.3	9.53	-260.9	536.5	696.4	659.0	37.43	18.607	
11,201.4	10,865.0	10,628.7	10,543.4	23.6	18.3	9.47	-261.1	536.5	697.7	660.2	37.43	18.641	
11,300.0	10,864.9	10,600.0	10,517.6	23.7	18.3	8.57	-273.7	537.8	785.7	748.4	37.34	21.042	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 905H - OWB - PWP0											Offset Site Error:	0.0 usft
Survey Program:	0-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
11,400.0	10,864.9	10,600.0	10,517.6	23.9	18.3	8.57	-273.7	537.8	876.3	839.2	37.12	23.604	
11,500.0	10,864.9	10,574.2	10,494.0	24.1	18.3	7.88	-284.0	538.9	967.9	930.8	37.10	26.086	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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						Rule Assigned:						Offset Well Error:		0.0 usft	
Measured Depth	Reference	Measured Depth	Offset	Semi Major Axis	Offset	Highside	Offset Wellbore Centre		Distance		No-Go	Separation	Warning				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor					
0.0	0.0	0.0	19.0	0.0	0.0	-90.09	-0.4	-230.6	231.4								
100.0	100.0	81.0	100.0	0.8	1.0	-90.09	-0.4	-230.6	230.6	228.4	2.20	104.620					
200.0	200.0	181.0	200.0	1.4	1.6	-90.09	-0.4	-230.6	230.6	227.1	3.49	66.039					
300.0	300.0	281.0	300.0	1.9	2.0	-90.09	-0.4	-230.6	230.6	226.3	4.34	53.146					
400.0	400.0	381.0	400.0	2.2	2.4	-90.09	-0.4	-230.6	230.6	225.6	5.03	45.802					
500.0	500.0	481.0	500.0	2.6	2.7	-90.09	-0.4	-230.6	230.6	225.0	5.64	40.872					
600.0	600.0	581.0	600.0	2.8	2.9	-90.09	-0.4	-230.6	230.6	224.4	6.19	37.258					
700.0	700.0	681.0	700.0	3.1	3.2	-90.09	-0.4	-230.6	230.6	223.9	6.69	34.456					
800.0	800.0	781.0	800.0	3.3	3.4	-90.09	-0.4	-230.6	230.6	223.4	7.16	32.199					
900.0	900.0	881.0	900.0	3.6	3.7	-90.09	-0.4	-230.6	230.6	223.0	7.60	30.327					
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-90.09	-0.4	-230.6	230.6	222.6	8.02	28.741					
1,100.0	1,100.0	1,083.3	1,102.3	4.0	4.1	-90.29	-1.2	-230.2	230.2	221.8	8.42	27.325					
1,200.0	1,200.0	1,186.1	1,205.0	4.2	4.3	-91.10	-4.4	-228.5	228.6	219.8	8.80	25.983					
1,300.0	1,300.0	1,288.6	1,307.3	4.4	4.6	-92.54	-10.0	-225.5	225.8	216.7	9.16	24.667					
1,400.0	1,400.0	1,390.7	1,409.0	4.6	4.9	-94.65	-18.0	-221.2	222.1	212.6	9.50	23.379					
1,500.0	1,500.0	1,492.2	1,509.9	4.7	5.1	-97.48	-28.3	-215.7	217.8	208.0	9.84	22.146					
1,600.0	1,600.0	1,593.1	1,609.7	4.9	5.5	-101.08	-40.9	-209.0	213.2	203.1	10.15	21.000					
1,700.0	1,700.0	1,692.8	1,708.0	5.1	5.7	-105.45	-55.6	-201.2	208.9	198.5	10.39	20.111					
1,800.0	1,800.0	1,791.3	1,805.0	5.2	6.0	-110.10	-70.7	-193.2	205.8	195.1	10.68	19.275					
1,900.0	1,900.0	1,889.7	1,902.0	5.4	6.3	-114.86	-85.8	-185.2	204.1	193.1	10.97	18.600					
1,965.3	1,965.3	1,954.1	1,965.3	5.5	6.6	-118.00	-95.7	-179.9	203.8	192.6	11.17	18.243 CC					
2,000.0	2,000.0	1,988.2	1,999.0	5.6	6.7	-119.67	-100.9	-177.1	203.9	192.6	11.28	18.077 ES					
2,100.0	2,100.0	2,086.7	2,095.9	5.7	7.0	-124.45	-116.0	-169.1	205.1	193.5	11.60	17.680					
2,200.0	2,200.0	2,185.2	2,192.9	5.9	7.4	-129.14	-131.1	-161.1	207.8	195.9	11.95	17.384					
2,300.0	2,300.0	2,283.7	2,289.9	6.0	7.8	-133.69	-146.2	-153.1	211.9	199.6	12.34	17.169					
2,400.0	2,400.0	2,382.1	2,386.9	6.2	8.2	-138.04	-161.3	-145.0	217.3	204.5	12.77	17.017					
2,500.0	2,500.0	2,480.6	2,483.9	6.3	8.6	-142.17	-176.4	-137.0	223.9	210.7	13.24	16.915					
2,600.0	2,600.0	2,579.1	2,580.9	6.4	9.0	-146.04	-191.5	-129.0	231.7	217.9	13.75	16.854					
2,700.0	2,700.0	2,677.6	2,677.8	6.6	9.4	-149.65	-206.6	-120.9	240.4	226.1	14.29	16.826					
2,800.0	2,800.0	2,776.1	2,774.8	6.7	9.8	-153.01	-221.7	-112.9	250.1	235.2	14.86	16.828					
2,900.0	2,900.0	2,874.5	2,871.8	6.8	10.2	-156.11	-236.8	-104.9	260.5	245.1	15.46	16.855					
3,000.0	3,000.0	2,973.0	2,968.8	7.0	10.6	-158.97	-251.9	-96.9	271.7	255.6	16.05	16.927					
3,100.0	3,100.0	3,073.2	3,067.6	7.1	11.0	-161.58	-266.9	-88.9	283.2	266.5	16.67	16.986					
3,200.0	3,200.0	3,173.7	3,166.7	7.2	11.4	-163.87	-281.1	-81.3	294.6	277.2	17.31	17.019					
3,300.0	3,300.0	3,274.5	3,266.3	7.4	11.8	-165.88	-294.7	-74.1	305.7	287.8	17.94	17.041					
3,400.0	3,400.0	3,375.5	3,366.3	7.5	12.2	-167.65	-307.5	-67.3	316.5	298.0	18.57	17.050					
3,500.0	3,500.0	3,476.8	3,466.7	7.6	12.6	-169.20	-319.5	-60.9	327.0	307.8	19.18	17.043					
3,600.0	3,600.0	3,578.5	3,567.6	7.8	13.0	49.52	-330.8	-54.9	335.8	316.1	19.68	17.064					
3,700.0	3,699.8	3,680.7	3,669.1	7.9	13.5	48.89	-341.4	-49.3	341.7	321.5	20.19	16.920					
3,750.0	3,749.7	3,731.9	3,720.0	8.0	13.7	48.80	-346.3	-46.6	343.5	323.1	20.40	16.836					
3,800.0	3,799.5	3,783.1	3,770.9	8.0	13.9	53.60	-351.1	-44.1	344.8	324.2	20.60	16.734					
3,900.0	3,898.7	3,885.5	3,872.7	8.2	14.3	60.34	-360.1	-39.3	346.3	325.3	21.00	16.489					
4,000.0	3,997.6	3,987.6	3,974.4	8.4	14.6	65.38	-368.2	-35.0	346.5	325.2	21.31	16.262					
4,069.8	4,066.3	4,058.6	4,045.2	8.5	14.9	68.54	-373.4	-32.2	346.1	324.6	21.44	16.143					
4,100.0	4,095.9	4,089.2	4,075.7	8.5	15.0	69.19	-375.6	-31.1	345.8	324.3	21.47	16.104					
4,200.0	4,194.0	4,190.6	4,176.9	8.7	15.4	71.42	-382.1	-27.7	344.7	323.1	21.60	15.958					
4,300.0	4,292.2	4,291.8	4,277.9	8.9	15.8	73.76	-387.8	-24.6	343.5	321.9	21.68	15.846					
4,400.0	4,390.3	4,392.8	4,378.7	9.2	16.1	76.21	-392.7	-22.0	342.3	320.6	21.70	15.774					
4,500.0	4,488.5	4,493.6	4,479.4	9.4	16.4	78.79	-396.8	-19.8	341.2	319.5	21.67	15.745 SF					
4,600.0	4,586.6	4,594.2	4,579.9	9.7	16.8	81.49	-400.1	-18.1	340.2	318.7	21.59	15.762					
4,700.0	4,684.8	4,694.5	4,680.2	10.0	17.1	84.31	-402.7	-16.7	339.5	318.1	21.45	15.829					

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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		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)			
4,800.0	4,782.9	4,794.6	4,780.2	10.3	17.3	87.26	-404.4	-15.8	339.2	317.9	21.27	15.947	
4,821.9	4,804.5	4,816.5	4,802.1	10.3	17.4	87.92	-404.7	-15.6	339.2	318.0	21.23	15.980	
4,900.0	4,881.1	4,894.4	4,880.0	10.6	17.6	90.32	-405.4	-15.2	339.3	318.3	21.06	16.115	
5,000.0	4,979.3	4,993.6	4,979.3	10.9	17.7	93.48	-405.6	-15.1	340.1	319.3	20.77	16.375	
5,100.0	5,077.4	5,091.8	5,077.4	11.2	17.7	96.63	-405.6	-15.1	341.8	321.3	20.51	16.669	
5,200.0	5,175.6	5,189.9	5,175.6	11.5	17.7	99.73	-405.6	-15.1	344.6	324.3	20.32	16.961	
5,300.0	5,273.7	5,288.1	5,273.7	11.9	17.8	102.78	-405.6	-15.1	348.4	328.2	20.21	17.237	
5,400.0	5,371.9	5,386.2	5,371.9	12.2	17.8	105.76	-405.6	-15.1	353.2	333.0	20.20	17.486	
5,500.0	5,470.0	5,484.4	5,470.0	12.6	17.8	108.65	-405.6	-15.1	359.0	338.7	20.28	17.701	
5,600.0	5,568.2	5,582.5	5,568.2	13.0	17.9	111.45	-405.6	-15.1	365.7	345.2	20.45	17.876	
5,700.0	5,666.3	5,680.7	5,666.3	13.4	17.9	114.14	-405.6	-15.1	373.2	352.5	20.72	18.012	
5,800.0	5,764.5	5,778.8	5,764.5	13.7	17.9	116.73	-405.6	-15.1	381.5	360.5	21.06	18.113	
5,900.0	5,862.6	5,877.0	5,862.6	14.1	18.0	119.20	-405.6	-15.1	390.6	369.2	21.48	18.184	
6,000.0	5,960.8	5,975.1	5,960.8	14.5	18.0	121.56	-405.6	-15.1	400.5	378.5	21.96	18.232	
6,100.0	6,058.9	6,073.3	6,058.9	14.9	18.0	123.81	-405.6	-15.1	410.9	388.4	22.50	18.264	
6,200.0	6,157.1	6,171.4	6,157.1	15.3	18.1	125.94	-405.6	-15.1	422.0	398.9	23.08	18.285	
6,300.0	6,255.2	6,269.6	6,255.2	15.7	18.1	127.96	-405.6	-15.1	433.7	410.0	23.70	18.301	
6,400.0	6,353.4	6,367.7	6,353.4	16.1	18.2	129.88	-405.6	-15.1	445.8	421.5	24.34	18.316	
6,500.0	6,451.5	6,465.9	6,451.5	16.5	18.2	131.70	-405.6	-15.1	458.5	433.5	25.01	18.334	
6,600.0	6,549.7	6,564.0	6,549.7	16.9	18.2	133.42	-405.6	-15.1	471.5	445.8	25.69	18.356	
6,700.0	6,647.8	6,662.2	6,647.8	17.4	18.3	135.05	-405.6	-15.1	485.0	458.6	26.38	18.384	
6,800.0	6,746.0	6,760.3	6,746.0	17.8	18.3	136.59	-405.6	-15.1	498.9	471.8	27.09	18.418	
6,900.0	6,844.1	6,858.5	6,844.1	18.2	18.3	138.04	-405.6	-15.1	513.1	485.3	27.79	18.459	
6,960.4	6,903.4	6,917.8	6,903.4	18.4	18.4	138.88	-405.6	-15.1	521.8	493.6	28.21	18.497	
7,000.0	6,942.3	6,956.7	6,942.3	18.6	18.4	139.45	-405.6	-15.1	527.5	499.0	28.47	18.523	
7,100.0	7,040.7	7,055.1	7,040.7	19.0	18.4	140.74	-405.6	-15.1	541.0	511.9	29.16	18.556	
7,200.0	7,139.5	7,153.8	7,139.5	19.4	18.5	141.85	-405.6	-15.1	553.5	523.7	29.81	18.570	
7,300.0	7,238.5	7,252.8	7,238.5	19.8	18.5	142.81	-405.6	-15.1	564.7	534.3	30.42	18.564	
7,400.0	7,337.7	7,352.1	7,337.7	20.2	18.5	143.61	-405.6	-15.1	574.7	543.7	31.00	18.538	
7,500.0	7,437.1	7,451.5	7,437.1	20.6	18.6	144.29	-405.6	-15.1	583.4	551.8	31.55	18.491	
7,600.0	7,536.7	7,551.1	7,536.7	21.0	18.6	144.83	-405.6	-15.1	590.7	558.6	32.06	18.424	
7,700.0	7,636.5	7,650.8	7,636.5	21.3	18.7	145.27	-405.6	-15.1	596.6	564.1	32.53	18.339	
7,800.0	7,736.3	7,750.7	7,736.3	21.6	18.7	145.59	-405.6	-15.1	601.1	568.2	32.96	18.236	
7,900.0	7,836.2	7,850.6	7,836.2	22.0	18.7	145.81	-405.6	-15.1	604.2	570.9	33.35	18.118	
8,000.0	7,936.2	7,950.6	7,936.2	22.2	18.8	145.92	-405.6	-15.1	605.8	572.2	33.67	17.994	
8,063.8	8,000.0	8,014.4	8,000.0	22.3	18.8	-90.53	-405.6	-15.1	606.1	572.5	33.64	18.021	
8,100.0	8,036.2	8,050.6	8,036.2	22.3	18.8	-90.53	-405.6	-15.1	606.1	572.5	33.66	18.009	
8,200.0	8,136.2	8,150.6	8,136.2	22.3	18.9	-90.53	-405.6	-15.1	606.1	572.4	33.75	17.962	
8,300.0	8,236.2	8,250.6	8,236.2	22.4	18.9	-90.53	-405.6	-15.1	606.1	572.3	33.84	17.914	
8,400.0	8,336.2	8,350.6	8,336.2	22.4	18.9	-90.53	-405.6	-15.1	606.1	572.2	33.93	17.866	
8,500.0	8,436.2	8,450.6	8,436.2	22.4	19.0	-90.53	-405.6	-15.1	606.1	572.1	34.02	17.818	
8,600.0	8,536.2	8,550.6	8,536.2	22.5	19.0	-90.53	-405.6	-15.1	606.1	572.0	34.11	17.770	
8,700.0	8,636.2	8,650.6	8,636.2	22.5	19.1	-90.53	-405.6	-15.1	606.1	571.9	34.20	17.722	
8,800.0	8,736.2	8,750.6	8,736.2	22.6	19.1	-90.53	-405.6	-15.1	606.1	571.8	34.30	17.674	
8,900.0	8,836.2	8,850.6	8,836.2	22.6	19.2	-90.53	-405.6	-15.1	606.1	571.8	34.39	17.626	
9,000.0	8,936.2	8,950.6	8,936.2	22.6	19.2	-90.53	-405.6	-15.1	606.1	571.7	34.48	17.578	
9,100.0	9,036.2	9,050.6	9,036.2	22.7	19.2	-90.53	-405.6	-15.1	606.1	571.6	34.58	17.530	
9,200.0	9,136.2	9,150.6	9,136.2	22.7	19.3	-90.53	-405.6	-15.1	606.1	571.5	34.67	17.482	
9,300.0	9,236.2	9,250.6	9,236.2	22.7	19.3	-90.53	-405.6	-15.1	606.1	571.4	34.77	17.434	
9,400.0	9,336.2	9,350.6	9,336.2	22.8	19.4	-90.53	-405.6	-15.1	606.1	571.3	34.86	17.386	
9,500.0	9,436.2	9,450.6	9,436.2	22.8	19.4	-90.53	-405.6	-15.1	606.1	571.2	34.96	17.338	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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		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)			
9,600.0	9,536.2	9,550.6	9,536.2	22.9	19.5	-90.53	-405.6	-15.1	606.1	571.1	35.06	17.290	
9,700.0	9,636.2	9,650.6	9,636.2	22.9	19.5	-90.53	-405.6	-15.1	606.1	571.0	35.15	17.243	
9,800.0	9,736.2	9,750.6	9,736.2	22.9	19.6	-90.53	-405.6	-15.1	606.1	570.9	35.25	17.195	
9,900.0	9,836.2	9,850.6	9,836.2	23.0	19.6	-90.53	-405.6	-15.1	606.1	570.8	35.35	17.147	
10,000.0	9,936.2	9,950.6	9,936.2	23.0	19.7	-90.53	-405.6	-15.1	606.1	570.7	35.45	17.099	
10,100.0	10,036.2	10,050.6	10,036.2	23.1	19.7	-90.53	-405.6	-15.1	606.1	570.6	35.55	17.052	
10,200.0	10,136.2	10,150.6	10,136.2	23.1	19.7	-90.53	-405.6	-15.1	606.1	570.5	35.64	17.009	
10,264.6	10,200.8	10,215.3	10,200.8	23.1	19.7	-90.29	-403.0	-15.1	606.1	570.4	35.74	16.960	
10,300.0	10,236.2	10,250.2	10,235.5	23.1	19.6	-89.87	-398.6	-15.2	606.2	570.3	35.85	16.907	
10,400.0	10,336.2	10,344.8	10,327.3	23.2	19.4	-87.75	-376.2	-15.3	606.8	570.5	36.34	16.700	
10,451.3	10,387.5	10,389.9	10,369.4	23.2	19.3	-86.25	-360.3	-15.3	607.9	571.3	36.63	16.597	
10,475.0	10,411.2	10,409.5	10,387.4	23.2	19.3	94.78	-352.3	-15.4	608.8	571.8	36.94	16.481	
10,500.0	10,436.1	10,429.0	10,404.9	23.2	19.2	95.55	-343.8	-15.4	610.1	573.0	37.11	16.441	
10,525.0	10,460.9	10,450.0	10,423.5	23.2	19.2	96.47	-334.0	-15.5	611.9	574.6	37.33	16.392	
10,550.0	10,485.5	10,463.6	10,435.3	23.2	19.1	97.00	-327.3	-15.5	614.3	576.8	37.48	16.389	
10,575.0	10,509.8	10,478.6	10,448.1	23.2	19.1	97.61	-319.5	-15.5	617.3	579.7	37.68	16.386	
10,600.0	10,533.8	10,492.1	10,459.5	23.2	19.1	98.09	-312.3	-15.6	621.2	583.3	37.88	16.400	
10,625.0	10,557.4	10,500.0	10,466.1	23.2	19.0	98.10	-307.9	-15.6	625.9	587.9	38.03	16.458	
10,650.0	10,580.5	10,514.5	10,478.0	23.2	19.0	98.54	-299.6	-15.6	631.5	593.2	38.28	16.496	
10,675.0	10,603.1	10,523.6	10,485.4	23.2	19.0	98.48	-294.3	-15.7	638.0	599.5	38.48	16.579	
10,700.0	10,625.1	10,531.3	10,491.6	23.2	19.0	98.20	-289.7	-15.7	645.4	606.7	38.67	16.688	
10,725.0	10,646.5	10,537.7	10,496.7	23.3	19.0	97.70	-285.8	-15.7	653.8	614.9	38.87	16.820	
10,750.0	10,667.1	10,550.0	10,506.3	23.3	18.9	97.60	-278.2	-15.8	663.1	624.0	39.12	16.952	
10,775.0	10,687.0	10,550.0	10,506.3	23.3	18.9	96.28	-278.2	-15.8	673.3	634.0	39.26	17.148	
10,800.0	10,706.0	10,550.0	10,506.3	23.3	18.9	94.81	-278.2	-15.8	684.3	644.9	39.42	17.361	
10,825.0	10,724.2	10,550.0	10,506.3	23.3	18.9	93.20	-278.2	-15.8	696.2	656.6	39.57	17.592	
10,850.0	10,741.5	10,550.0	10,506.3	23.3	18.9	91.44	-278.2	-15.8	708.8	669.0	39.73	17.839	
10,875.0	10,757.7	10,550.0	10,506.3	23.3	18.9	89.56	-278.2	-15.8	722.1	682.2	39.89	18.101	
10,900.0	10,773.0	10,550.0	10,506.3	23.3	18.9	87.56	-278.2	-15.8	735.9	695.9	40.05	18.377	
10,925.0	10,787.2	10,550.0	10,506.3	23.3	18.9	85.45	-278.2	-15.8	750.3	710.2	40.20	18.667	
10,950.0	10,800.3	10,550.0	10,506.3	23.4	18.9	83.24	-278.2	-15.8	765.2	724.9	40.34	18.969	
10,975.0	10,812.3	10,550.0	10,506.3	23.4	18.9	80.95	-278.2	-15.8	780.5	740.0	40.48	19.282	
11,000.0	10,823.2	10,550.0	10,506.3	23.4	18.9	78.59	-278.2	-15.8	796.1	755.5	40.61	19.606	
11,025.0	10,832.8	10,550.0	10,506.3	23.4	18.9	76.18	-278.2	-15.8	812.0	771.3	40.73	19.938	
11,050.0	10,841.2	10,537.5	10,496.5	23.4	19.0	72.73	-285.9	-15.7	827.9	787.1	40.82	20.282	
11,075.0	10,848.4	10,533.1	10,493.0	23.5	19.0	69.98	-288.6	-15.7	844.0	803.1	40.92	20.624	
11,100.0	10,854.3	10,528.2	10,489.1	23.5	19.0	67.26	-291.6	-15.7	860.1	819.1	41.02	20.968	
11,125.0	10,858.9	10,523.0	10,484.9	23.5	19.0	64.58	-294.7	-15.7	876.2	835.1	41.11	21.312	
11,150.0	10,862.2	10,517.4	10,480.4	23.5	19.0	61.97	-298.0	-15.7	892.2	851.0	41.21	21.654	
11,175.0	10,864.2	10,500.0	10,466.1	23.6	19.0	58.77	-307.9	-15.6	908.3	867.0	41.30	21.994	
11,200.0	10,865.0	10,500.0	10,466.1	23.6	19.0	56.75	-307.9	-15.6	923.9	882.5	41.39	22.323	
11,201.4	10,865.0	10,500.0	10,466.1	23.6	19.0	56.64	-307.9	-15.6	924.7	883.3	41.39	22.341	
11,300.0	10,864.9	10,481.3	10,450.4	23.7	19.1	55.62	-318.1	-15.6	988.5	946.8	41.66	23.726	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
0.0	0.0	0.0	19.0	0.0	0.0	-90.10	-0.4	-260.6	261.3				
100.0	100.0	81.0	100.0	0.8	1.0	-90.10	-0.4	-260.6	260.6	258.4	2.20	118.230	
200.0	200.0	181.0	200.0	1.4	1.6	-90.10	-0.4	-260.6	260.6	257.1	3.49	74.630	
300.0	300.0	281.0	300.0	1.9	2.0	-90.10	-0.4	-260.6	260.6	256.3	4.34	60.060	
400.0	400.0	381.0	400.0	2.2	2.4	-90.10	-0.4	-260.6	260.6	255.6	5.03	51.760	
500.0	500.0	481.0	500.0	2.6	2.7	-90.10	-0.4	-260.6	260.6	255.0	5.64	46.189	
600.0	600.0	581.0	600.0	2.8	2.9	-90.10	-0.4	-260.6	260.6	254.4	6.19	42.105	
700.0	700.0	681.0	700.0	3.1	3.2	-90.10	-0.4	-260.6	260.6	253.9	6.69	38.939	
800.0	800.0	781.0	800.0	3.3	3.4	-90.10	-0.4	-260.6	260.6	253.4	7.16	36.387	
900.0	900.0	881.0	900.0	3.6	3.7	-90.10	-0.4	-260.6	260.6	253.0	7.60	34.272	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-90.10	-0.4	-260.6	260.6	252.6	8.02	32.480	
1,100.0	1,100.0	1,081.0	1,100.0	4.0	4.1	-90.10	-0.4	-260.6	260.6	252.2	8.42	30.935	
1,200.0	1,200.0	1,181.0	1,200.0	4.2	4.3	-90.10	-0.4	-260.6	260.6	251.8	8.81	29.585	
1,300.0	1,300.0	1,281.0	1,300.0	4.4	4.4	-90.10	-0.4	-260.6	260.6	251.4	9.18	28.391	
1,400.0	1,400.0	1,381.0	1,400.0	4.6	4.6	-90.10	-0.4	-260.6	260.6	251.1	9.54	27.324	
1,500.0	1,500.0	1,481.0	1,500.0	4.7	4.8	-90.10	-0.4	-260.6	260.6	250.7	9.88	26.364	
1,600.0	1,600.0	1,581.0	1,600.0	4.9	5.0	-90.10	-0.4	-260.6	260.6	250.4	10.22	25.493	
1,700.0	1,700.0	1,681.0	1,700.0	5.1	5.1	-90.10	-0.4	-260.6	260.6	250.1	10.55	24.699	
1,800.0	1,800.0	1,781.0	1,800.0	5.2	5.3	-90.10	-0.4	-260.6	260.6	249.7	10.87	23.970	
1,900.0	1,900.0	1,881.0	1,900.0	5.4	5.5	-90.10	-0.4	-260.6	260.6	249.4	11.19	23.297	
2,000.0	2,000.0	1,981.0	2,000.0	5.6	5.6	-90.10	-0.4	-260.6	260.6	249.1	11.49	22.675	
2,100.0	2,100.0	2,081.0	2,100.0	5.7	5.8	-90.10	-0.4	-260.6	260.6	248.8	11.79	22.096	
2,200.0	2,200.0	2,181.0	2,200.0	5.9	5.9	-90.10	-0.4	-260.6	260.6	248.5	12.09	21.556	
2,300.0	2,300.0	2,281.0	2,300.0	6.0	6.1	-90.10	-0.4	-260.6	260.6	248.2	12.38	21.050	
2,400.0	2,400.0	2,381.0	2,400.0	6.2	6.2	-90.10	-0.4	-260.6	260.6	247.9	12.67	20.576	
2,500.0	2,500.0	2,481.0	2,500.0	6.3	6.3	-90.10	-0.4	-260.6	260.6	247.7	12.95	20.129 CC, ES	
2,600.0	2,600.0	2,578.1	2,597.1	6.4	6.5	-90.25	-1.1	-261.0	261.1	247.8	13.21	19.765	
2,700.0	2,700.0	2,674.4	2,693.3	6.6	6.6	-90.83	-3.8	-262.8	262.9	249.4	13.45	19.552	
2,800.0	2,800.0	2,770.5	2,789.2	6.7	6.8	-91.83	-8.5	-265.8	266.2	252.5	13.68	19.457 SF	
2,900.0	2,900.0	2,866.2	2,884.6	6.8	6.9	-93.21	-15.2	-270.2	271.0	257.1	13.92	19.472	
3,000.0	3,000.0	2,961.5	2,979.3	7.0	7.1	-94.93	-23.8	-275.8	277.6	263.4	14.16	19.596	
3,100.0	3,100.0	3,056.2	3,073.2	7.1	7.3	-96.93	-34.3	-282.6	286.0	271.5	14.42	19.829	
3,200.0	3,200.0	3,150.2	3,166.1	7.2	7.5	-99.14	-46.7	-290.7	296.4	281.7	14.67	20.208	
3,300.0	3,300.0	3,247.8	3,262.2	7.4	7.7	-101.49	-60.9	-299.9	308.3	293.4	14.93	20.647	
3,400.0	3,400.0	3,346.3	3,359.2	7.5	7.9	-103.68	-75.3	-309.2	320.8	305.6	15.26	21.030	
3,500.0	3,500.0	3,444.8	3,456.2	7.6	8.2	-105.71	-89.6	-318.5	333.8	318.2	15.60	21.396	
3,600.0	3,600.0	3,543.3	3,553.2	7.8	8.4	112.41	-104.0	-327.8	347.8	331.8	15.94	21.814	
3,700.0	3,699.8	3,641.9	3,650.3	7.9	8.7	111.14	-118.3	-337.2	363.2	347.0	16.27	22.330	
3,750.0	3,749.7	3,691.2	3,698.9	8.0	8.9	110.72	-125.5	-341.8	371.5	355.1	16.40	22.647	
3,800.0	3,799.5	3,740.4	3,747.3	8.0	9.0	115.18	-132.7	-346.5	380.2	363.6	16.54	22.981	
3,900.0	3,898.7	3,838.5	3,843.9	8.2	9.4	120.98	-147.0	-355.8	399.6	382.7	16.90	23.651	
4,000.0	3,997.6	3,936.0	3,940.0	8.4	9.7	124.68	-161.2	-365.0	421.6	404.3	17.26	24.423	
4,069.8	4,066.3	4,003.7	4,006.6	8.5	9.9	126.63	-171.0	-371.4	438.5	421.0	17.50	25.062	
4,100.0	4,095.9	4,032.9	4,035.4	8.5	10.0	126.81	-175.3	-374.1	446.1	428.5	17.59	25.360	
4,200.0	4,194.0	4,129.6	4,130.6	8.7	10.3	127.36	-189.4	-383.3	471.2	453.3	17.96	26.232	
4,300.0	4,292.2	4,226.3	4,225.8	8.9	10.7	127.86	-203.4	-392.4	496.4	478.1	18.35	27.046	
4,400.0	4,390.3	4,323.0	4,321.0	9.2	11.0	128.31	-217.5	-401.6	521.6	502.9	18.76	27.805	
4,500.0	4,488.5	4,419.7	4,416.3	9.4	11.4	128.72	-231.6	-410.7	546.9	527.7	19.18	28.512	
4,600.0	4,586.6	4,516.4	4,511.5	9.7	11.8	129.09	-245.7	-419.9	572.1	552.5	19.62	29.168	
4,700.0	4,684.8	4,613.1	4,606.7	10.0	12.1	129.43	-259.8	-429.0	597.4	577.4	20.06	29.788	
4,800.0	4,782.9	4,713.3	4,705.5	10.3	12.5	129.78	-274.1	-438.3	622.5	602.0	20.51	30.352	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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		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)				
4,900.0	4,881.1	4,814.4	4,805.2	10.6	12.9	130.15	-287.8	-447.2	646.9	626.0	20.99	30.817		
5,000.0	4,979.3	4,915.7	4,905.4	10.9	13.3	130.55	-300.8	-455.7	670.8	649.3	21.48	31.225		
5,100.0	5,077.4	5,017.4	5,006.0	11.2	13.7	130.97	-313.1	-463.6	694.0	672.0	21.98	31.581		
5,200.0	5,175.6	5,119.2	5,106.9	11.5	14.0	131.42	-324.7	-471.2	716.7	694.2	22.47	31.891		
5,300.0	5,273.7	5,221.3	5,208.2	11.9	14.4	131.89	-335.5	-478.2	738.7	715.7	22.97	32.158		
5,400.0	5,371.9	5,323.7	5,309.8	12.2	14.8	132.38	-345.6	-484.8	760.2	736.7	23.47	32.388		
5,500.0	5,470.0	5,426.2	5,411.7	12.6	15.2	132.89	-355.0	-490.8	781.0	757.1	23.97	32.583		
5,600.0	5,568.2	5,528.9	5,513.9	13.0	15.6	133.42	-363.6	-496.4	801.3	776.9	24.47	32.748		
5,700.0	5,666.3	5,631.8	5,616.4	13.4	15.9	133.97	-371.5	-501.5	821.1	796.1	24.97	32.884		
5,800.0	5,764.5	5,734.9	5,719.1	13.7	16.3	134.54	-378.6	-506.2	840.3	814.8	25.47	32.996		
5,900.0	5,862.6	5,838.1	5,822.0	14.1	16.7	135.13	-384.9	-510.3	859.0	833.0	25.96	33.085		
6,000.0	5,960.8	5,941.4	5,925.1	14.5	17.0	135.74	-390.5	-513.9	877.1	850.6	26.45	33.155		
6,100.0	6,058.9	6,044.8	6,028.4	14.9	17.4	136.37	-395.2	-517.0	894.7	867.8	26.94	33.207		
6,200.0	6,157.1	6,148.3	6,131.8	15.3	17.7	137.02	-399.3	-519.6	911.8	884.4	27.43	33.244		
6,300.0	6,255.2	6,251.9	6,235.3	15.7	18.0	137.68	-402.5	-521.7	928.5	900.6	27.91	33.268		
6,400.0	6,353.4	6,355.6	6,338.9	16.1	18.3	138.37	-404.9	-523.3	944.7	916.3	28.38	33.281		
6,500.0	6,451.5	6,459.3	6,442.6	16.5	18.6	139.08	-406.6	-524.3	960.4	931.5	28.85	33.288		
6,600.0	6,549.7	6,563.0	6,546.3	16.9	18.8	139.80	-407.4	-524.9	975.7	946.4	29.30	33.298		
6,700.0	6,647.8	6,664.5	6,647.8	17.4	18.9	140.53	-407.6	-525.0	990.6	960.9	29.69	33.363		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	19.0	0.0	0.0	-90.09	-0.5	-290.6	291.2				
100.0	100.0	81.0	100.0	0.8	1.0	-90.09	-0.5	-290.6	290.6	288.4	2.20	131.840	
200.0	200.0	181.0	200.0	1.4	1.6	-90.09	-0.5	-290.6	290.6	287.1	3.49	83.221	
300.0	300.0	281.0	300.0	1.9	2.0	-90.09	-0.5	-290.6	290.6	286.3	4.34	66.974	
400.0	400.0	381.0	400.0	2.2	2.4	-90.09	-0.5	-290.6	290.6	285.6	5.03	57.719	
500.0	500.0	481.0	500.0	2.6	2.7	-90.09	-0.5	-290.6	290.6	285.0	5.64	51.507	
600.0	600.0	581.0	600.0	2.8	2.9	-90.09	-0.5	-290.6	290.6	284.4	6.19	46.952	
700.0	700.0	681.0	700.0	3.1	3.2	-90.09	-0.5	-290.6	290.6	283.9	6.69	43.421	
800.0	800.0	781.0	800.0	3.3	3.4	-90.09	-0.5	-290.6	290.6	283.4	7.16	40.576	
900.0	900.0	881.0	900.0	3.6	3.7	-90.09	-0.5	-290.6	290.6	283.0	7.60	38.217	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-90.09	-0.5	-290.6	290.6	282.6	8.02	36.219 CC, ES	
1,100.0	1,100.0	1,075.9	1,094.9	4.0	4.1	-90.16	-0.8	-291.3	291.3	282.9	8.43	34.541	
1,200.0	1,200.0	1,169.6	1,188.5	4.2	4.3	-90.45	-2.3	-293.9	294.1	285.3	8.83	33.317	
1,300.0	1,300.0	1,263.0	1,281.8	4.4	4.5	-90.93	-4.9	-298.5	299.1	289.9	9.22	32.444	
1,400.0	1,400.0	1,356.2	1,374.7	4.6	4.8	-91.60	-8.5	-305.1	306.3	296.7	9.62	31.853	
1,500.0	1,500.0	1,448.9	1,466.9	4.7	5.0	-92.42	-13.2	-313.6	315.7	305.7	10.02	31.508	
1,600.0	1,600.0	1,541.1	1,558.3	4.9	5.3	-93.36	-19.0	-324.1	327.3	316.9	10.43	31.368	
1,700.0	1,700.0	1,635.3	1,651.4	5.1	5.6	-94.41	-25.9	-336.6	341.0	330.2	10.87	31.389	
1,800.0	1,800.0	1,734.1	1,748.9	5.2	5.9	-95.45	-33.4	-350.1	355.4	344.0	11.32	31.392	
1,900.0	1,900.0	1,832.8	1,846.5	5.4	6.2	-96.42	-40.9	-363.6	369.8	358.0	11.79	31.360	
2,000.0	2,000.0	1,931.6	1,944.0	5.6	6.6	-97.32	-48.4	-377.1	384.3	372.0	12.28	31.303	
2,100.0	2,100.0	2,030.4	2,041.6	5.7	6.9	-98.14	-55.9	-390.6	398.9	386.1	12.78	31.224	
2,200.0	2,200.0	2,129.1	2,139.1	5.9	7.3	-98.91	-63.4	-404.1	413.6	400.3	13.29	31.130	
2,300.0	2,300.0	2,227.9	2,236.7	6.0	7.6	-99.63	-70.9	-417.6	428.3	414.5	13.81	31.024	
2,400.0	2,400.0	2,326.7	2,334.3	6.2	8.0	-100.30	-78.4	-431.2	443.1	428.8	14.34	30.909	
2,500.0	2,500.0	2,425.4	2,431.8	6.3	8.4	-100.93	-85.9	-444.7	458.0	443.1	14.88	30.789	
2,600.0	2,600.0	2,524.2	2,529.4	6.4	8.8	-101.52	-93.4	-458.2	472.9	457.5	15.42	30.665	
2,700.0	2,700.0	2,623.0	2,626.9	6.6	9.1	-102.07	-100.8	-471.7	487.9	471.9	15.97	30.539	
2,800.0	2,800.0	2,721.7	2,724.5	6.7	9.5	-102.59	-108.3	-485.2	502.9	486.3	16.53	30.413	
2,900.0	2,900.0	2,820.5	2,822.0	6.8	9.9	-103.07	-115.8	-498.7	517.9	500.8	17.10	30.288	
3,000.0	3,000.0	2,919.3	2,919.6	7.0	10.3	-103.54	-123.3	-512.2	533.0	515.3	17.67	30.164	
3,100.0	3,100.0	3,018.0	3,017.1	7.1	10.7	-103.97	-130.8	-525.8	548.1	529.8	18.24	30.042	
3,200.0	3,200.0	3,116.8	3,114.7	7.2	11.1	-104.38	-138.3	-539.3	563.2	544.4	18.82	29.923	
3,300.0	3,300.0	3,215.6	3,212.2	7.4	11.5	-104.77	-145.8	-552.8	578.4	559.0	19.40	29.806	
3,400.0	3,400.0	3,314.4	3,309.8	7.5	12.0	-105.15	-153.3	-566.3	593.6	573.6	19.99	29.692	
3,500.0	3,500.0	3,413.1	3,407.3	7.6	12.4	-105.50	-160.8	-579.8	608.8	588.2	20.58	29.582	
3,600.0	3,600.0	3,511.8	3,504.8	7.8	12.8	114.02	-168.3	-593.3	624.7	603.6	21.16	29.522 SF	
3,700.0	3,699.8	3,610.3	3,602.1	7.9	13.2	113.81	-175.7	-606.8	642.1	620.3	21.71	29.574	
3,750.0	3,749.7	3,659.4	3,650.6	8.0	13.4	113.80	-179.5	-613.5	651.3	629.3	21.96	29.656	
3,800.0	3,799.5	3,708.4	3,699.0	8.0	13.6	118.62	-183.2	-620.2	661.0	638.8	22.22	29.751	
3,900.0	3,898.7	3,805.8	3,795.2	8.2	14.0	124.99	-190.6	-633.5	682.5	659.7	22.78	29.963	
4,000.0	3,997.6	3,902.5	3,890.7	8.4	14.4	129.08	-197.9	-646.8	706.8	683.5	23.34	30.284	
4,069.8	4,066.3	3,969.5	3,956.8	8.5	14.7	131.21	-203.0	-655.9	725.5	701.7	23.71	30.598	
4,100.0	4,095.9	3,998.3	3,985.3	8.5	14.8	131.45	-205.2	-659.9	733.8	710.0	23.86	30.757	
4,200.0	4,194.0	4,093.9	4,079.7	8.7	15.3	132.22	-212.4	-672.9	761.6	737.2	24.40	31.215	
4,300.0	4,292.2	4,189.4	4,174.1	8.9	15.7	132.94	-219.6	-686.0	789.6	764.6	24.95	31.647	
4,400.0	4,390.3	4,285.0	4,268.5	9.2	16.1	133.60	-226.9	-699.1	817.6	792.1	25.51	32.052	
4,500.0	4,488.5	4,380.6	4,362.9	9.4	16.5	134.23	-234.1	-712.2	845.8	819.7	26.08	32.433	
4,600.0	4,586.6	4,476.1	4,457.2	9.7	16.9	134.81	-241.4	-725.2	874.0	847.3	26.65	32.791	
4,700.0	4,684.8	4,571.7	4,551.6	10.0	17.3	135.36	-248.6	-738.3	902.3	875.1	27.24	33.126	
4,800.0	4,782.9	4,667.2	4,646.0	10.3	17.7	135.87	-255.9	-751.4	930.7	902.8	27.83	33.441	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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		Offset Wellbore Centre		Rule Assigned:								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
4,900.0	4,881.1	4,762.8	4,740.4	10.6	18.1	136.36	-263.1	-764.5	959.1	930.7	28.43	33.735		
5,000.0	4,979.3	4,858.4	4,834.8	10.9	18.6	136.81	-270.4	-777.5	987.6	958.6	29.04	34.012		

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 909H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	19.0	0.0	0.0	-90.08	-0.4	-320.6	321.2				
100.0	100.0	81.0	100.0	0.8	1.0	-90.08	-0.4	-320.6	320.6	318.4	2.20	145.450	
200.0	200.0	181.0	200.0	1.4	1.6	-90.08	-0.4	-320.6	320.6	317.1	3.49	91.812	
300.0	300.0	281.0	300.0	1.9	2.0	-90.08	-0.4	-320.6	320.6	316.3	4.34	73.888	
400.0	400.0	381.0	400.0	2.2	2.4	-90.08	-0.4	-320.6	320.6	315.6	5.03	63.677	
500.0	500.0	481.0	500.0	2.6	2.7	-90.08	-0.4	-320.6	320.6	315.0	5.64	56.824	
600.0	600.0	581.0	600.0	2.8	2.9	-90.08	-0.4	-320.6	320.6	314.4	6.19	51.799	
700.0	700.0	681.0	700.0	3.1	3.2	-90.08	-0.4	-320.6	320.6	313.9	6.69	47.904	
800.0	800.0	781.0	800.0	3.3	3.4	-90.08	-0.4	-320.6	320.6	313.4	7.16	44.765	
900.0	900.0	881.0	900.0	3.6	3.7	-90.08	-0.4	-320.6	320.6	313.0	7.60	42.163	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-90.08	-0.4	-320.6	320.6	312.6	8.02	39.958 CC, ES	
1,100.0	1,100.0	1,075.0	1,094.0	4.0	4.1	-90.12	-0.7	-321.3	321.4	312.9	8.44	38.087	
1,200.0	1,200.0	1,167.6	1,186.5	4.2	4.3	-90.29	-1.6	-324.1	324.4	315.5	8.84	36.700	
1,300.0	1,300.0	1,259.9	1,278.7	4.4	4.5	-90.58	-3.3	-329.0	329.7	320.4	9.24	35.692	
1,400.0	1,400.0	1,352.0	1,370.5	4.6	4.8	-90.98	-5.7	-335.9	337.3	327.6	9.64	34.986	
1,500.0	1,500.0	1,443.6	1,461.6	4.7	5.0	-91.47	-8.8	-344.9	347.2	337.1	10.05	34.544	
1,600.0	1,600.0	1,534.7	1,552.0	4.9	5.3	-92.03	-12.6	-355.9	359.4	348.9	10.47	34.319	
1,700.0	1,700.0	1,625.3	1,641.5	5.1	5.6	-92.65	-17.1	-368.9	373.9	363.0	10.90	34.291 SF	
1,800.0	1,800.0	1,715.1	1,729.9	5.2	5.9	-93.31	-22.2	-383.7	390.7	379.3	11.35	34.434	
1,900.0	1,900.0	1,804.5	1,817.6	5.4	6.2	-93.99	-27.9	-400.4	409.8	398.0	11.80	34.723	
2,000.0	2,000.0	1,902.3	1,913.3	5.6	6.6	-94.71	-34.6	-419.6	429.9	417.6	12.30	34.940	
2,100.0	2,100.0	2,000.2	2,008.9	5.7	6.9	-95.36	-41.2	-438.9	450.1	437.3	12.82	35.101	
2,200.0	2,200.0	2,098.0	2,104.6	5.9	7.3	-95.96	-47.8	-458.1	470.4	457.0	13.36	35.214	
2,300.0	2,300.0	2,195.8	2,200.3	6.0	7.7	-96.50	-54.4	-477.3	490.7	476.8	13.90	35.290	
2,400.0	2,400.0	2,293.6	2,296.0	6.2	8.0	-97.01	-61.0	-496.6	511.0	496.5	14.46	35.336	
2,500.0	2,500.0	2,391.4	2,391.7	6.3	8.4	-97.47	-67.7	-515.8	531.4	516.3	15.03	35.358	
2,600.0	2,600.0	2,489.2	2,487.3	6.4	8.8	-97.90	-74.3	-535.0	551.8	536.2	15.60	35.360	
2,700.0	2,700.0	2,587.0	2,583.0	6.6	9.2	-98.30	-80.9	-554.2	572.2	556.0	16.19	35.346	
2,800.0	2,800.0	2,684.9	2,678.7	6.7	9.6	-98.68	-87.5	-573.5	592.7	575.9	16.78	35.320	
2,900.0	2,900.0	2,782.7	2,774.4	6.8	10.1	-99.03	-94.1	-592.7	613.1	595.8	17.38	35.285	
3,000.0	3,000.0	2,880.5	2,870.0	7.0	10.5	-99.35	-100.8	-611.9	633.6	615.7	17.98	35.242	
3,100.0	3,100.0	2,978.3	2,965.7	7.1	10.9	-99.66	-107.4	-631.2	654.2	635.6	18.59	35.193	
3,200.0	3,200.0	3,076.1	3,061.4	7.2	11.3	-99.94	-114.0	-650.4	674.7	655.5	19.20	35.140	
3,300.0	3,300.0	3,173.9	3,157.1	7.4	11.8	-100.21	-120.6	-669.6	695.2	675.4	19.82	35.084	
3,400.0	3,400.0	3,271.7	3,252.8	7.5	12.2	-100.47	-127.2	-688.8	715.8	695.4	20.44	35.025	
3,500.0	3,500.0	3,369.6	3,348.4	7.6	12.6	-100.71	-133.9	-708.1	736.4	715.3	21.06	34.965	
3,600.0	3,600.0	3,467.2	3,444.0	7.8	13.1	118.80	-140.5	-727.3	757.8	736.1	21.71	34.901	
3,700.0	3,699.8	3,564.5	3,539.1	7.9	13.5	118.51	-147.1	-746.4	780.9	758.6	22.31	34.997	
3,750.0	3,749.7	3,613.0	3,586.5	8.0	13.7	118.44	-150.3	-755.9	793.0	770.4	22.59	35.105	
3,800.0	3,799.5	3,661.3	3,633.8	8.0	13.9	123.21	-153.6	-765.4	805.7	782.8	22.89	35.203	
3,900.0	3,898.7	3,757.2	3,727.6	8.2	14.4	129.46	-160.1	-784.3	833.3	809.8	23.53	35.416	
4,000.0	3,997.6	3,852.1	3,820.4	8.4	14.8	133.37	-166.5	-802.9	863.7	839.6	24.17	35.736	
4,069.8	4,066.3	3,917.7	3,884.6	8.5	15.1	135.36	-171.0	-815.8	886.7	862.1	24.60	36.048	
4,100.0	4,095.9	3,946.0	3,912.2	8.5	15.2	135.56	-172.9	-821.4	897.0	872.2	24.77	36.212	
4,200.0	4,194.0	4,039.6	4,003.8	8.7	15.6	136.17	-179.2	-839.8	931.0	905.6	25.38	36.682	
4,300.0	4,292.2	4,133.1	4,095.3	8.9	16.1	136.74	-185.6	-858.2	965.1	939.1	26.00	37.120	
4,400.0	4,390.3	4,226.7	4,186.9	9.2	16.5	137.28	-191.9	-876.6	999.2	972.6	26.63	37.526	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 910H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR, 10273-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	19.0	0.0	0.0	-90.08	-0.5	-350.6	351.1				
100.0	100.0	81.0	100.0	0.8	1.0	-90.08	-0.5	-350.6	350.6	348.4	2.20	159.061	
200.0	200.0	181.0	200.0	1.4	1.6	-90.08	-0.5	-350.6	350.6	347.1	3.49	100.403	
300.0	300.0	281.0	300.0	1.9	2.0	-90.08	-0.5	-350.6	350.6	346.3	4.34	80.802	
400.0	400.0	381.0	400.0	2.2	2.4	-90.08	-0.5	-350.6	350.6	345.6	5.03	69.636	
500.0	500.0	481.0	500.0	2.6	2.7	-90.08	-0.5	-350.6	350.6	345.0	5.64	62.141	
600.0	600.0	581.0	600.0	2.8	2.9	-90.08	-0.5	-350.6	350.6	344.4	6.19	56.646	
700.0	700.0	681.0	700.0	3.1	3.2	-90.08	-0.5	-350.6	350.6	343.9	6.69	52.386	
800.0	800.0	781.0	800.0	3.3	3.4	-90.08	-0.5	-350.6	350.6	343.4	7.16	48.954	
900.0	900.0	881.0	900.0	3.6	3.7	-90.08	-0.5	-350.6	350.6	343.0	7.60	46.108	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-90.08	-0.5	-350.6	350.6	342.6	8.02	43.697 CC, ES	
1,100.0	1,100.0	1,074.4	1,093.4	4.0	4.1	-90.11	-0.6	-351.3	351.4	342.9	8.44	41.649	
1,200.0	1,200.0	1,166.1	1,185.1	4.2	4.3	-90.23	-1.4	-354.1	354.4	345.6	8.83	40.150	
1,300.0	1,300.0	1,257.7	1,276.5	4.4	4.5	-90.43	-2.7	-359.0	359.8	350.6	9.20	39.108	
1,400.0	1,400.0	1,349.0	1,367.5	4.6	4.7	-90.72	-4.6	-366.0	367.5	357.9	9.56	38.442	
1,500.0	1,500.0	1,439.9	1,457.9	4.7	4.9	-91.07	-7.0	-375.0	377.5	367.6	9.91	38.100	
1,600.0	1,600.0	1,530.2	1,547.5	4.9	5.1	-91.48	-10.0	-386.1	389.8	379.5	10.24	38.051 SF	
1,700.0	1,700.0	1,620.0	1,636.3	5.1	5.3	-91.93	-13.5	-399.1	404.4	393.8	10.57	38.253	
1,800.0	1,800.0	1,709.1	1,724.0	5.2	5.4	-92.41	-17.4	-414.0	421.3	410.4	10.89	38.683	
1,900.0	1,900.0	1,800.0	1,813.2	5.4	5.6	-92.93	-22.1	-431.2	440.4	429.2	11.21	39.274	
2,000.0	2,000.0	1,884.9	1,896.0	5.6	5.8	-93.42	-26.9	-449.2	461.8	450.3	11.50	40.143	
2,100.0	2,100.0	1,971.4	1,980.0	5.7	5.9	-93.93	-32.3	-469.3	485.5	473.7	11.77	41.258	
2,200.0	2,200.0	2,067.1	2,072.5	5.9	6.1	-94.47	-38.5	-492.7	510.4	498.3	12.08	42.259	
2,300.0	2,300.0	2,163.8	2,166.1	6.0	6.3	-94.97	-44.9	-516.4	535.4	523.0	12.41	43.143	
2,400.0	2,400.0	2,260.5	2,259.6	6.2	6.5	-95.42	-51.2	-540.1	560.4	547.7	12.74	44.005	
2,500.0	2,500.0	2,357.3	2,353.2	6.3	6.6	-95.83	-57.6	-563.8	585.5	572.4	13.06	44.823	
2,600.0	2,600.0	2,454.0	2,446.8	6.4	6.8	-96.21	-64.0	-587.6	610.6	597.2	13.39	45.602	
2,700.0	2,700.0	2,550.7	2,540.3	6.6	7.0	-96.56	-70.3	-611.3	635.7	622.0	13.72	46.343	
2,800.0	2,800.0	2,647.5	2,633.9	6.7	7.2	-96.88	-76.7	-635.0	660.8	646.8	14.05	47.049	
2,900.0	2,900.0	2,744.2	2,727.4	6.8	7.4	-97.18	-83.0	-658.7	685.9	671.6	14.37	47.722	
3,000.0	3,000.0	2,840.9	2,821.0	7.0	7.6	-97.46	-89.4	-682.4	711.1	696.4	14.70	48.364	
3,100.0	3,100.0	2,937.6	2,914.6	7.1	7.8	-97.72	-95.7	-706.1	736.3	721.3	15.03	48.978	
3,200.0	3,200.0	3,034.4	3,008.1	7.2	7.9	-97.96	-102.1	-729.8	761.5	746.1	15.36	49.565	
3,300.0	3,300.0	3,131.1	3,101.7	7.4	8.1	-98.19	-108.4	-753.5	786.7	771.0	15.69	50.127	
3,400.0	3,400.0	3,227.8	3,195.3	7.5	8.3	-98.40	-114.8	-777.2	811.9	795.9	16.02	50.665	
3,500.0	3,500.0	3,324.5	3,288.8	7.6	8.5	-98.60	-121.1	-800.9	837.1	820.8	16.36	51.180	
3,600.0	3,600.0	3,421.1	3,382.2	7.8	8.7	120.85	-127.5	-824.6	863.2	846.5	16.74	51.577	
3,700.0	3,699.8	3,517.1	3,475.1	7.9	8.9	120.47	-133.8	-848.1	891.1	874.0	17.06	52.229	
3,750.0	3,749.7	3,564.9	3,521.3	8.0	9.0	120.34	-136.9	-859.8	905.6	888.4	17.21	52.632	
3,800.0	3,799.5	3,612.5	3,567.3	8.0	9.1	125.08	-140.0	-871.5	920.7	903.3	17.42	52.844	
3,900.0	3,898.7	3,706.9	3,658.6	8.2	9.3	131.22	-146.2	-894.6	953.2	935.1	18.08	52.730	
4,000.0	3,997.6	3,800.1	3,748.8	8.4	9.5	135.02	-152.4	-917.5	988.5	969.5	18.98	52.072	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 504H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 8214-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	6.0	0.0	0.0	-119.86	-201.0	-350.1	403.8				
100.0	100.0	94.0	100.0	0.8	0.5	-119.86	-201.0	-350.1	403.7	402.0	1.73	233.892	
200.0	200.0	194.0	200.0	1.4	1.0	-119.86	-201.0	-350.1	403.7	400.8	2.90	139.307	
300.0	300.0	294.0	300.0	1.9	1.3	-119.86	-201.0	-350.1	403.7	400.0	3.68	109.648	
400.0	400.0	394.0	400.0	2.2	1.6	-119.86	-201.0	-350.1	403.7	399.4	4.31	93.626	
500.0	500.0	494.0	500.0	2.6	1.9	-119.86	-201.0	-350.1	403.7	398.9	4.86	83.132	
600.0	600.0	594.0	600.0	2.8	2.1	-119.86	-201.0	-350.1	403.7	398.4	5.34	75.547	
700.0	700.0	694.0	700.0	3.1	2.3	-119.86	-201.0	-350.1	403.7	397.9	5.79	69.722	
800.0	800.0	794.0	800.0	3.3	2.5	-119.86	-201.0	-350.1	403.7	397.5	6.21	65.058 CC, ES	
900.0	900.0	882.5	888.5	3.6	2.7	-119.83	-201.4	-351.2	405.1	398.4	6.69	60.543	
1,000.0	1,000.0	970.1	976.0	3.8	2.9	-119.75	-202.8	-354.8	409.4	402.3	7.15	57.231	
1,100.0	1,100.0	1,057.4	1,063.0	4.0	3.2	-119.61	-205.1	-360.9	416.8	409.2	7.59	54.941	
1,200.0	1,200.0	1,144.2	1,149.4	4.2	3.4	-119.43	-208.4	-369.4	427.1	419.1	8.00	53.410	
1,300.0	1,300.0	1,230.4	1,234.7	4.4	3.7	-119.20	-212.5	-380.2	440.5	432.1	8.39	52.496	
1,400.0	1,400.0	1,315.8	1,319.0	4.6	3.9	-118.95	-217.6	-393.4	456.8	448.0	8.77	52.095 SF	
1,500.0	1,500.0	1,400.0	1,401.6	4.7	4.1	-118.67	-223.4	-408.6	475.9	466.8	9.13	52.134	
1,600.0	1,600.0	1,483.7	1,483.2	4.9	4.3	-118.37	-230.0	-425.9	498.0	488.5	9.48	52.541	
1,700.0	1,700.0	1,566.0	1,562.9	5.1	4.5	-118.07	-237.4	-445.2	522.8	513.0	9.81	53.278	
1,800.0	1,800.0	1,650.5	1,644.1	5.2	4.6	-117.76	-245.8	-467.1	550.4	540.3	10.08	54.599	
1,900.0	1,900.0	1,746.4	1,736.0	5.4	4.7	-117.42	-255.6	-492.6	578.7	568.3	10.36	55.837	
2,000.0	2,000.0	1,842.2	1,827.8	5.6	4.9	-117.12	-265.4	-518.1	607.0	596.4	10.67	56.916	
2,100.0	2,100.0	1,938.1	1,919.7	5.7	5.0	-116.84	-275.1	-543.6	635.4	624.4	10.97	57.924	
2,200.0	2,200.0	2,033.9	2,011.6	5.9	5.2	-116.59	-284.9	-569.2	663.8	652.5	11.28	58.869	
2,300.0	2,300.0	2,129.7	2,103.4	6.0	5.4	-116.36	-294.7	-594.7	692.2	680.6	11.58	59.756	
2,400.0	2,400.0	2,225.6	2,195.3	6.2	5.5	-116.15	-304.5	-620.2	720.6	708.7	11.89	60.589	
2,500.0	2,500.0	2,321.4	2,287.2	6.3	5.7	-115.95	-314.2	-645.7	749.0	736.8	12.20	61.372	
2,600.0	2,600.0	2,417.3	2,379.1	6.4	5.9	-115.77	-324.0	-671.2	777.4	764.9	12.52	62.110	
2,700.0	2,700.0	2,513.1	2,470.9	6.6	6.0	-115.60	-333.8	-696.8	805.8	793.0	12.83	62.806	
2,800.0	2,800.0	2,609.0	2,562.8	6.7	6.2	-115.44	-343.6	-722.3	834.3	821.1	13.15	63.463	
2,900.0	2,900.0	2,704.8	2,654.7	6.8	6.4	-115.29	-353.3	-747.8	862.7	849.2	13.46	64.084	
3,000.0	3,000.0	2,800.7	2,746.5	7.0	6.6	-115.15	-363.1	-773.3	891.1	877.4	13.78	64.671	
3,100.0	3,100.0	2,896.5	2,838.4	7.1	6.8	-115.02	-372.9	-798.8	919.6	905.5	14.10	65.228	
3,200.0	3,200.0	2,992.4	2,930.3	7.2	7.0	-114.90	-382.7	-824.4	948.0	933.6	14.42	65.755	
3,300.0	3,300.0	3,088.2	3,022.1	7.4	7.2	-114.79	-392.5	-849.9	976.5	961.8	14.74	66.256	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - WILD THING FEDERAL COM 502H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 8212-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
2,600.0	2,600.0	2,877.4	2,798.3	6.4	11.7	75.73	240.3	944.3	994.4	977.2	17.24	57.674	
2,700.0	2,700.0	2,973.4	2,890.5	6.6	12.2	76.87	217.1	930.9	974.7	957.0	17.69	55.087	
2,800.0	2,800.0	3,069.4	2,982.7	6.7	12.6	78.07	193.9	917.4	955.3	937.2	18.13	52.691	
2,900.0	2,900.0	3,165.5	3,074.9	6.8	13.1	79.31	170.7	904.0	936.4	917.9	18.55	50.471	
3,000.0	3,000.0	3,261.5	3,167.1	7.0	13.5	80.59	147.5	890.5	918.0	899.0	18.96	48.414	
3,100.0	3,100.0	3,357.5	3,259.3	7.1	14.0	81.93	124.3	877.1	900.0	880.7	19.35	46.510	
3,200.0	3,200.0	3,453.5	3,351.5	7.2	14.5	83.32	101.1	863.6	882.6	862.9	19.72	44.747	
3,300.0	3,300.0	3,549.6	3,443.7	7.4	14.9	84.76	78.0	850.1	865.7	845.6	20.08	43.117	
3,400.0	3,400.0	3,645.6	3,535.9	7.5	15.4	86.25	54.8	836.7	849.4	829.0	20.41	41.612	
3,500.0	3,500.0	3,741.6	3,628.1	7.6	15.8	87.80	31.6	823.2	833.7	813.0	20.73	40.222	
3,600.0	3,600.0	3,837.8	3,720.5	7.8	16.3	-50.94	8.4	809.7	817.6	796.6	21.03	38.887	
3,700.0	3,699.8	3,934.2	3,813.0	7.9	16.8	-49.82	-14.9	796.2	799.8	778.5	21.33	37.505	
3,750.0	3,749.7	3,982.4	3,859.3	8.0	17.0	-49.31	-26.5	789.5	790.3	768.9	21.46	36.835	
3,800.0	3,799.5	4,030.6	3,905.6	8.0	17.2	-44.01	-38.2	782.7	780.2	758.6	21.59	36.135	
3,900.0	3,898.7	4,126.6	3,997.8	8.2	17.7	-36.80	-61.4	769.3	757.8	735.9	21.92	34.571	
4,000.0	3,997.6	4,222.0	4,089.4	8.4	18.2	-32.00	-84.4	755.9	732.6	710.4	22.26	32.909	
4,069.8	4,066.3	4,288.2	4,153.0	8.5	18.5	-29.42	-100.4	746.6	713.3	690.8	22.48	31.734	
4,100.0	4,095.9	4,316.8	4,180.4	8.5	18.6	-29.03	-107.3	742.6	704.7	682.1	22.56	31.232	
4,200.0	4,194.0	4,411.3	4,271.2	8.7	19.1	-27.68	-130.1	729.3	676.3	653.4	22.88	29.558	
4,300.0	4,292.2	4,505.9	4,362.0	8.9	19.6	-26.21	-152.9	716.1	648.3	625.1	23.19	27.951	
4,400.0	4,390.3	4,600.5	4,452.8	9.2	20.0	-24.61	-175.8	702.8	620.8	597.3	23.51	26.408	
4,500.0	4,488.5	4,695.0	4,543.6	9.4	20.5	-22.87	-198.6	689.6	593.7	569.9	23.82	24.929	
4,600.0	4,586.6	4,789.6	4,634.4	9.7	21.0	-20.98	-221.4	676.3	567.3	543.1	24.13	23.509	
4,700.0	4,684.8	4,884.2	4,725.2	10.0	21.4	-18.90	-244.3	663.1	541.4	517.0	24.45	22.148	
4,800.0	4,782.9	4,978.7	4,816.0	10.3	21.9	-16.64	-267.1	649.8	516.4	491.6	24.78	20.842	
4,900.0	4,881.1	5,073.3	4,906.8	10.6	22.4	-14.15	-289.9	636.6	492.2	467.1	25.13	19.588	
5,000.0	4,979.3	5,167.8	4,997.6	10.9	22.8	-11.43	-312.8	623.3	469.1	443.5	25.52	18.382	
5,100.0	5,077.4	5,262.4	5,088.4	11.2	23.3	-8.46	-335.6	610.1	447.1	421.1	25.96	17.222	
5,200.0	5,175.6	5,357.0	5,179.2	11.5	23.8	-5.20	-358.4	596.8	426.4	399.9	26.48	16.106	
5,300.0	5,273.7	5,451.5	5,270.1	11.9	24.2	-1.65	-381.2	583.5	407.3	380.2	27.10	15.032	
5,400.0	5,371.9	5,546.1	5,360.9	12.2	24.7	2.21	-404.1	570.3	390.0	362.1	27.85	14.003	
5,500.0	5,470.0	5,640.7	5,451.7	12.6	25.2	6.38	-426.9	557.0	374.7	345.9	28.77	13.026	
5,600.0	5,568.2	5,735.2	5,542.5	13.0	25.7	10.84	-449.7	543.8	361.7	331.8	29.87	12.110	
5,700.0	5,666.3	5,829.8	5,633.3	13.4	26.1	15.57	-472.6	530.5	351.2	320.1	31.16	11.271	
5,800.0	5,764.5	5,924.4	5,724.1	13.7	26.6	20.53	-495.4	517.3	343.5	310.9	32.64	10.524	
5,900.0	5,862.6	6,018.9	5,814.9	14.1	27.1	25.66	-518.2	504.0	338.8	304.5	34.28	9.884	
6,000.0	5,960.8	6,113.5	5,905.7	14.5	27.5	30.87	-541.1	490.8	337.1	301.1	36.01	9.361	
6,004.4	5,965.1	6,117.7	5,909.7	14.5	27.6	31.10	-542.1	490.2	337.1	301.0	36.09	9.340	
6,100.0	6,058.9	6,208.1	5,996.5	14.9	28.0	36.08	-563.9	477.5	338.6	300.8	37.80	8.958	
6,200.0	6,157.1	6,302.6	6,087.3	15.3	28.5	41.21	-586.7	464.3	343.2	303.6	39.56	8.675	
6,300.0	6,255.2	6,397.2	6,178.1	15.7	29.0	46.18	-609.6	451.0	350.7	309.4	41.25	8.502	
6,400.0	6,353.4	6,491.8	6,268.9	16.1	29.4	50.93	-632.4	437.7	361.0	318.2	42.83	8.428	
6,500.0	6,451.5	6,588.0	6,361.4	16.5	29.9	55.48	-655.6	424.3	373.8	329.5	44.28	8.442	
6,600.0	6,549.7	6,689.0	6,458.7	16.9	30.4	59.85	-678.8	410.8	387.7	342.1	45.62	8.500	
6,700.0	6,647.8	6,790.8	6,557.4	17.4	30.9	63.85	-700.7	398.1	402.1	355.3	46.82	8.588	
6,800.0	6,746.0	6,893.5	6,657.3	17.8	31.4	67.52	-721.2	386.2	416.5	368.6	47.89	8.696	
6,900.0	6,844.1	6,997.1	6,758.4	18.2	31.9	70.90	-740.3	375.1	430.6	381.8	48.86	8.814	
6,960.4	6,903.4	7,060.0	6,820.0	18.4	32.2	72.82	-751.2	368.8	439.0	389.6	49.39	8.889	
7,000.0	6,942.3	7,101.3	6,860.7	18.6	32.4	74.07	-758.0	364.8	444.4	394.7	49.71	8.939	
7,100.0	7,040.7	7,206.6	6,964.2	19.0	32.9	76.92	-774.2	355.4	457.8	407.3	50.49	9.067	
7,200.0	7,139.5	7,312.7	7,069.0	19.4	33.3	79.39	-788.8	346.9	470.6	419.4	51.18	9.194	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - WILD THING FEDERAL COM 502H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 8212-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Rule Assigned:		Distance		No-Go		Separation	
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)	Distance (usft)	Factor	Warning
7,300.0	7,238.5	7,419.7	7,174.9	19.8	33.8	81.49	-801.9	339.3	482.4	430.6	51.81	9.312	
7,400.0	7,337.7	7,527.4	7,281.8	20.2	34.3	83.27	-813.4	332.7	493.2	440.8	52.38	9.415	
7,500.0	7,437.1	7,635.8	7,389.6	20.6	34.7	84.75	-823.1	327.0	502.5	449.6	52.89	9.500	
7,600.0	7,536.7	7,744.7	7,498.1	21.0	35.1	85.95	-831.1	322.4	510.3	457.0	53.36	9.564	
7,700.0	7,636.5	7,854.0	7,607.2	21.3	35.5	86.89	-837.4	318.7	516.5	462.7	53.77	9.606	
7,800.0	7,736.3	7,963.7	7,716.7	21.6	35.9	87.59	-841.9	316.1	521.0	466.9	54.12	9.627	
7,900.0	7,836.2	8,073.6	7,826.6	22.0	36.2	88.06	-844.5	314.6	523.6	469.2	54.39	9.627	
8,000.0	7,936.2	8,183.2	7,936.2	22.2	36.4	88.31	-845.4	314.1	524.5	469.5	54.95	9.544	
8,063.8	8,000.0	8,690.8	8,355.1	22.3	36.4	-126.05	-602.9	312.3	495.0	458.8	36.17	13.685	
8,100.0	8,036.2	8,774.2	8,389.6	22.3	36.5	-114.47	-527.1	311.7	468.1	433.3	34.76	13.465	
8,200.0	8,136.2	8,854.3	8,409.9	22.3	36.5	-100.07	-449.7	311.1	394.6	358.3	36.38	10.848	
8,300.0	8,236.2	8,881.7	8,413.8	22.4	36.5	-94.61	-422.6	310.9	332.5	292.8	39.65	8.385	
8,400.0	8,336.2	8,895.5	8,415.2	22.4	36.5	-91.83	-408.9	310.8	291.3	248.0	43.33	6.723	
8,479.5	8,415.7	8,902.3	8,415.7	22.4	36.5	-90.44	-402.1	310.7	280.3	235.0	45.29	6.189 CC, ES	
8,500.0	8,436.2	8,903.7	8,415.8	22.4	36.5	-90.15	-400.7	310.7	281.0	235.5	45.52	6.173 SF	
8,600.0	8,536.2	8,909.2	8,416.2	22.5	36.5	-89.03	-395.3	310.7	305.0	259.9	45.08	6.765	
8,700.0	8,636.2	8,913.1	8,416.4	22.5	36.5	-88.23	-391.3	310.6	356.4	313.2	43.14	8.261	
8,800.0	8,736.2	8,916.0	8,416.5	22.6	36.5	-87.63	-388.4	310.6	425.4	384.2	41.14	10.340	
8,900.0	8,836.2	8,918.3	8,416.6	22.6	36.5	-87.17	-386.1	310.6	504.8	465.2	39.62	12.742	
9,000.0	8,936.2	8,925.0	8,416.8	22.6	36.5	-85.81	-379.4	310.6	590.6	552.2	38.43	15.369	
9,100.0	9,036.2	8,925.0	8,416.8	22.7	36.5	-85.81	-379.4	310.6	680.2	642.4	37.81	17.991	
9,200.0	9,136.2	8,925.0	8,416.8	22.7	36.5	-85.81	-379.4	310.6	772.4	735.0	37.42	20.639	
9,300.0	9,236.2	8,925.0	8,416.8	22.7	36.5	-85.81	-379.4	310.6	866.3	829.1	37.20	23.286	
9,400.0	9,336.2	8,925.0	8,416.8	22.8	36.5	-85.81	-379.4	310.6	961.4	924.3	37.10	25.915	

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - WILD THING FEDERAL COM 503H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 8006-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.0	5.0	0.0	0.0	-122.11	-200.9	-320.1	378.0					
100.0	100.0	95.0	100.0	0.8	0.7	-122.11	-200.9	-320.1	377.9	376.0	1.94	194.706		
200.0	200.0	195.0	200.0	1.4	1.4	-122.11	-200.9	-320.1	377.9	374.7	3.27	115.510		
300.0	300.0	295.0	300.0	1.9	1.9	-122.11	-200.9	-320.1	377.9	373.8	4.17	90.674		
400.0	400.0	395.0	400.0	2.2	2.2	-122.11	-200.9	-320.1	377.9	373.1	4.89	77.293		
500.0	500.0	495.0	500.0	2.6	2.5	-122.11	-200.9	-320.1	377.9	372.4	5.51	68.547		
600.0	600.0	595.0	600.0	2.8	2.8	-122.11	-200.9	-320.1	377.9	371.9	6.07	62.235		
700.0	700.0	695.0	700.0	3.1	3.1	-122.11	-200.9	-320.1	377.9	371.4	6.59	57.393		
800.0	800.0	795.0	800.0	3.3	3.3	-122.11	-200.9	-320.1	377.9	370.9	7.06	53.520		
900.0	900.0	895.0	900.0	3.6	3.6	-122.11	-200.9	-320.1	377.9	370.4	7.51	50.328		
1,000.0	1,000.0	995.0	1,000.0	3.8	3.8	-122.11	-200.9	-320.1	377.9	370.0	7.93	47.635 CC, ES		
1,100.0	1,100.0	1,084.4	1,089.3	4.0	4.0	-122.17	-201.9	-320.9	379.3	370.9	8.39	45.194		
1,200.0	1,200.0	1,173.0	1,177.9	4.2	4.3	-122.35	-204.9	-323.5	383.6	374.7	8.84	43.378		
1,300.0	1,300.0	1,261.3	1,265.9	4.4	4.6	-122.64	-210.0	-327.9	390.8	381.5	9.28	42.109		
1,400.0	1,400.0	1,349.1	1,353.2	4.6	4.9	-123.02	-217.1	-333.9	401.0	391.3	9.72	41.263		
1,500.0	1,500.0	1,436.2	1,439.6	4.7	5.2	-123.50	-226.1	-341.7	414.1	404.0	10.16	40.764		
1,600.0	1,600.0	1,524.3	1,526.4	4.9	5.5	-124.04	-237.3	-351.2	430.2	419.6	10.59	40.628		
1,700.0	1,700.0	1,622.7	1,623.3	5.1	5.8	-124.65	-250.5	-362.5	447.3	436.2	11.08	40.384		
1,800.0	1,800.0	1,721.1	1,720.1	5.2	6.1	-125.20	-263.8	-373.9	464.5	452.9	11.54	40.238		
1,900.0	1,900.0	1,819.6	1,817.0	5.4	6.4	-125.72	-277.0	-385.2	481.7	469.7	12.03	40.049		
2,000.0	2,000.0	1,918.0	1,913.8	5.6	6.7	-126.21	-290.3	-396.5	499.0	486.4	12.53	39.829		
2,100.0	2,100.0	2,016.4	2,010.7	5.7	7.1	-126.66	-303.6	-407.9	516.2	503.2	13.04	39.587		
2,200.0	2,200.0	2,114.8	2,107.5	5.9	7.4	-127.08	-316.8	-419.2	533.6	520.0	13.57	39.331		
2,300.0	2,300.0	2,213.2	2,204.4	6.0	7.8	-127.48	-330.1	-430.6	550.9	536.8	14.10	39.067		
2,400.0	2,400.0	2,311.6	2,301.2	6.2	8.2	-127.85	-343.4	-441.9	568.3	553.6	14.65	38.798		
2,500.0	2,500.0	2,410.1	2,398.1	6.3	8.6	-128.20	-356.6	-453.2	585.7	570.5	15.20	38.529		
2,600.0	2,600.0	2,508.5	2,495.0	6.4	8.9	-128.53	-369.9	-464.6	603.1	587.3	15.76	38.261		
2,700.0	2,700.0	2,606.9	2,591.8	6.6	9.3	-128.84	-383.2	-475.9	620.5	604.2	16.33	37.997		
2,800.0	2,800.0	2,705.3	2,688.7	6.7	9.7	-129.13	-396.4	-487.3	637.9	621.0	16.90	37.738		
2,900.0	2,900.0	2,803.7	2,785.5	6.8	10.1	-129.41	-409.7	-498.6	655.4	637.9	17.48	37.485		
3,000.0	3,000.0	2,902.1	2,882.4	7.0	10.5	-129.67	-422.9	-509.9	672.9	654.8	18.07	37.239		
3,100.0	3,100.0	3,000.5	2,979.2	7.1	11.0	-129.92	-436.2	-521.3	690.4	671.7	18.66	37.000		
3,200.0	3,200.0	3,099.0	3,076.1	7.2	11.4	-130.16	-449.5	-532.6	707.9	688.6	19.25	36.768		
3,300.0	3,300.0	3,197.4	3,172.9	7.4	11.8	-130.39	-462.7	-544.0	725.4	705.5	19.85	36.544		
3,400.0	3,400.0	3,295.8	3,269.8	7.5	12.2	-130.60	-476.0	-555.3	742.9	722.4	20.45	36.328		
3,500.0	3,500.0	3,394.2	3,366.7	7.6	12.6	-130.81	-489.3	-566.6	760.4	739.4	21.05	36.119		
3,600.0	3,600.0	3,492.7	3,463.5	7.8	13.0	88.77	-502.5	-578.0	777.9	756.3	21.63	35.962		
3,700.0	3,699.8	3,591.1	3,560.4	7.9	13.5	88.61	-515.8	-589.3	795.4	773.2	22.20	35.834		
3,750.0	3,749.7	3,640.3	3,608.8	8.0	13.7	88.62	-522.4	-595.0	804.1	781.6	22.46	35.803		
3,800.0	3,799.5	3,689.3	3,657.1	8.0	13.9	93.43	-529.0	-600.6	813.0	790.2	22.72	35.774		
3,900.0	3,898.7	3,787.1	3,753.3	8.2	14.3	99.81	-542.2	-611.9	832.0	808.7	23.29	35.729 SF		
4,000.0	3,997.6	3,884.2	3,848.9	8.4	14.7	103.94	-555.3	-623.1	852.8	829.0	23.84	35.765		
4,069.8	4,066.3	3,951.6	3,915.2	8.5	15.0	106.13	-564.4	-630.9	868.4	844.2	24.22	35.862		
4,100.0	4,095.9	3,980.6	3,943.8	8.5	15.2	106.43	-568.3	-634.2	875.4	851.0	24.37	35.923		
4,200.0	4,194.0	4,076.8	4,038.4	8.7	15.6	107.38	-581.2	-645.3	898.6	873.6	24.91	36.065		
4,300.0	4,292.2	4,173.0	4,133.1	8.9	16.0	108.29	-594.2	-656.4	922.0	896.5	25.46	36.206		
4,400.0	4,390.3	4,269.1	4,227.7	9.2	16.4	109.15	-607.2	-667.5	945.6	919.6	26.02	36.345		
4,500.0	4,488.5	4,365.3	4,322.4	9.4	16.9	109.97	-620.1	-678.5	969.4	942.9	26.57	36.481		
4,600.0	4,586.6	4,461.5	4,417.0	9.7	17.3	110.75	-633.1	-689.6	993.5	966.3	27.13	36.614		

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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 @ 2959.0usft

Offset Depths are relative to Offset Datum

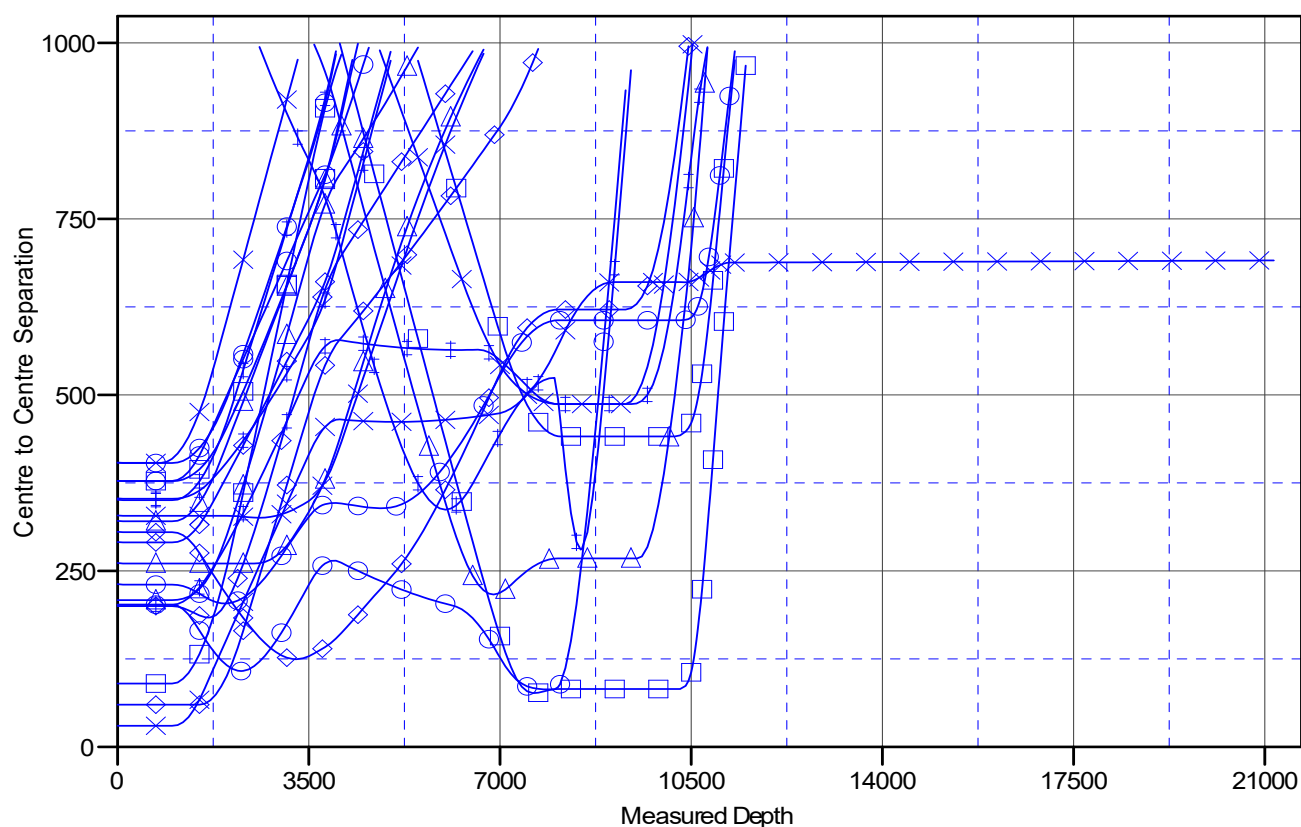
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PUDGE FEDERAL COM 904H

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

Grid Convergence at Surface is: 0.16°

Ladder Plot



LEGEND

- PUDGE FEDERAL COM 902H OWB, PWP1 V0 - PUDGE FEDERAL COM 903H OWB, PWP1 V0 - PUDGE FEDERAL COM 701H OWB, PWP1 V0 - PUDGE FEDERAL COM 702H OWB, PWP1 V0 - PUDGE FEDERAL COM 501H OWB, PWP1 V0 - PUDGE FEDERAL COM 503H OWB, PWP1 V0 - PUDGE FEDERAL COM 901H OWB, PWP1 V0 _WILD THING FED COM 708H OWB, PWP0 V0	_WILD THING FED COM 709H OWB, PWP0 V0 _WILD THING FED COM 710H OWB, PWP0 V0 _WILD THING FED COM 706H OWB, PWP0 V0 _WILD THING FED COM 909H OWB, PWP0 V0 _WILD THING FED COM 704H OWB, PWP0 V0 _WILD THING FED COM 908H OWB, PWP0 V0 _WILD THING FED COM 707H OWB, PWP0 V0 _WILD THING FED COM 907H OWB, PWP0 V0	_WILD THING FED COM 904H OWB, PWP0 V0 _WILD THING FEDERAL COM 903H OWB, PWP1 V0 _WILD THING FED COM 504H OWB, PWP1 V0 _WILD THING FEDERAL COM 502H OWB, PWP1 V0 _WILD THING FED COM 705H OWB, PWP0 V0 _WILD THING FED COM 910H OWB, PWP0 V0 _WILD THING FED COM 905H OWB, PWP0 V0 _WILD THING FED COM 906H OWB, PWP0 V0
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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 PUDGE FEDERAL COM 904H
Project:	ATLAS PROSPECT_NME	TVD Reference:	KB @ 2959.0usft
Reference Site:	PUDGE FED COM PROJECT	MD Reference:	KB @ 2959.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PUDGE FEDERAL COM 904H	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 @ 2959.0usft

Offset Depths are relative to Offset Datum

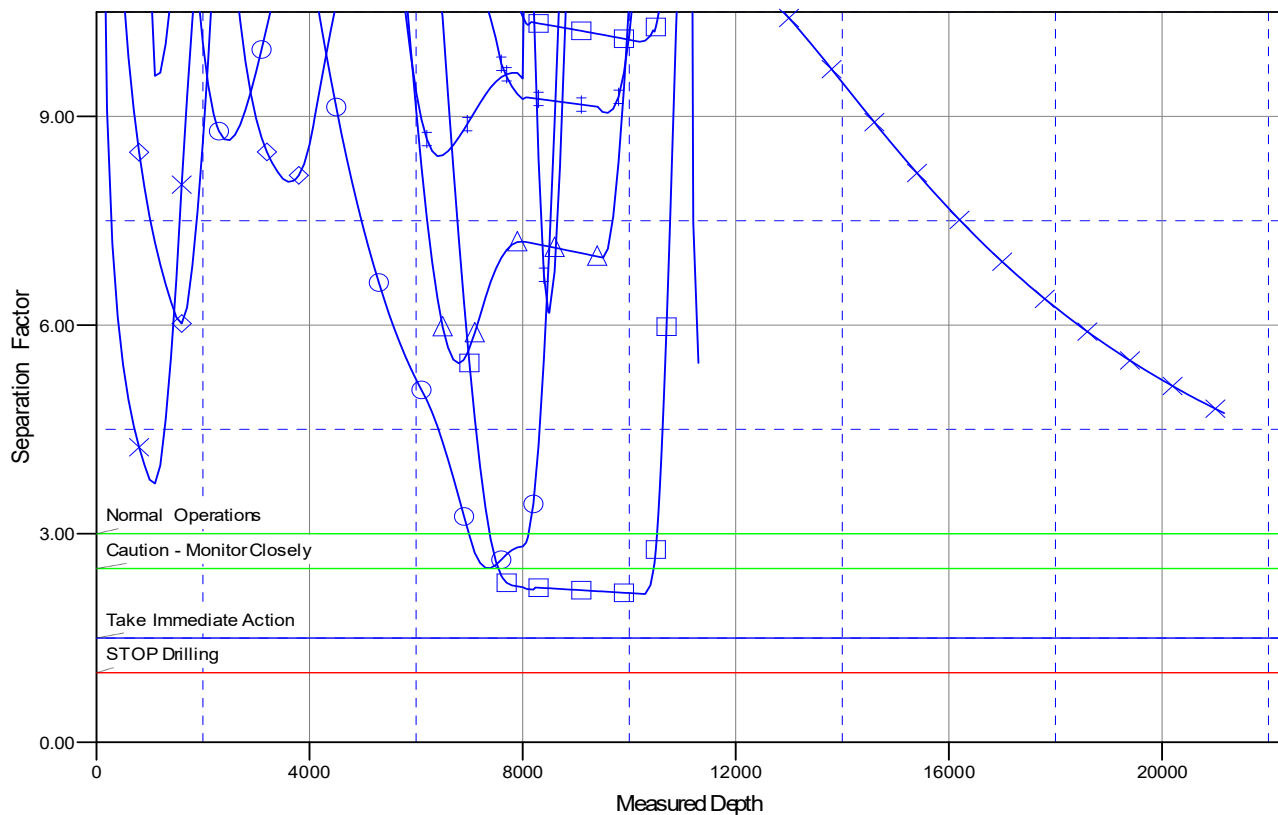
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PUDGE FEDERAL COM 904H

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

Grid Convergence at Surface is: 0.16°

Separation Factor Plot



LEGEND

PUDGE FEDERAL COM 902H OWB, PWP1 V0	_WILD THING FED COM 709H OWB, PWP0 V0	_WILD THING FED COM 904H OWB, PWP0 V0
PUDGE FEDERAL COM 903H OWB, PWP1 V0	_WILD THING FED COM 710H OWB, PWP0 V0	_WILD THING FED COM 9053H OWB, PWP1 V0
PUDGE FEDERAL COM 701H OWB, PWP1 V0	_WILD THING FED COM 709H OWB, PWP0 V0	_WILD THING FED COM 904H OWB, PWP1 V0
PUDGE FEDERAL COM 702H OWB, PWP1 V0	_WILD THING FED COM 909H OWB, PWP0 V0	_WILD THING FED COM 9052H OWB, PWP1 V0
PUDGE FEDERAL COM 501H OWB, PWP1 V0	_WILD THING FED COM 704H OWB, PWP0 V0	_WILD THING FED COM 709H OWB, PWP0 V0
PUDGE FEDERAL COM 500H OWB, PWP1 V0	_WILD THING FED COM 908H OWB, PWP0 V0	_WILD THING FED COM 910H OWB, PWP0 V0
PUDGE FEDERAL COM 901H OWB, PWP1 V0	_WILD THING FED COM 707H OWB, PWP0 V0	_WILD THING FED COM 909H OWB, PWP0 V0
_WILD THING FED COM 708H OWB, PWP0 V0	_WILD THING FED COM 907H OWB, PWP0 V0	_WILD THING FED COM 906H OWB, PWP0 V0

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

DELAWARE BASIN WEST

**ATLAS PROSPECT_NME
PUDGE FED COM PROJECT
PUDGE FEDERAL COM 904H
3001556666
OWB**

Plan: PWP1

Standard Planning Report

05 August, 2025

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	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	PUDGE FED COM PROJECT		
Site Position:		Northing:	387,241.34 usft
From:	Map	Easting:	596,126.51 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 51.343 N
		Longitude:	104° 1' 22.896 W

Well	PUDGE FEDERAL COM 904H					
Well Position	+N/-S	0.0 usft	Northing:	393,006.45 usft	Latitude:	32° 4' 48.406 N
	+E/-W	0.0 usft	Easting:	595,828.08 usft	Longitude:	104° 1' 26.172 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	2,926.0 usft
Grid Convergence:		0.16 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	12/31/2023	6.56	59.64	47,336.32371716

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	176.54	

Plan Survey Tool Program	Date	8/5/2025			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	10,451.3	PWP1 (OWB)	r.5 MWD+IFR1 OWSG MWD + IFR1 rev.5	
2	10,451.3	21,167.5	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 PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	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	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,750.0	5.00	140.00	3,749.7	-8.4	7.0	2.00	2.00	0.00	140.00	
4,069.8	11.03	123.53	4,066.3	-36.0	41.5	2.00	1.89	-5.15	-29.16	
6,960.4	11.03	123.53	6,903.4	-341.5	502.7	0.00	0.00	0.00	0.00	
8,063.8	0.00	0.00	8,000.0	-400.0	591.0	1.00	-1.00	0.00	180.00	
10,451.3	0.00	0.00	10,387.5	-400.0	591.0	0.00	0.00	0.00	0.00	
11,201.4	90.01	179.65	10,865.0	-877.5	593.9	12.00	12.00	23.95	179.65	
21,167.5	90.01	179.65	10,863.0	-10,843.5	655.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	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
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
3,600.0	2.00	140.00	3,600.0	-1.3	1.1	1.4	2.00	2.00	0.00
3,700.0	4.00	140.00	3,699.8	-5.3	4.5	5.6	2.00	2.00	0.00
3,750.0	5.00	140.00	3,749.7	-8.4	7.0	8.8	2.00	2.00	0.00
Start DLS 2.00 TFO -29.16									
3,800.0	5.89	135.25	3,799.5	-11.8	10.2	12.4	2.00	1.79	-9.50
3,900.0	7.76	129.11	3,898.7	-19.7	19.1	20.9	2.00	1.87	-6.14
4,000.0	9.68	125.37	3,997.6	-28.9	31.2	30.7	2.00	1.92	-3.74
4,069.8	11.03	123.53	4,066.3	-36.0	41.5	38.4	2.00	1.94	-2.64
Start 2890.6 hold at 4069.8 MD									
4,100.0	11.03	123.53	4,095.9	-39.1	46.3	41.9	0.00	0.00	0.00
4,200.0	11.03	123.53	4,194.0	-49.7	62.3	53.4	0.00	0.00	0.00
4,300.0	11.03	123.53	4,292.2	-60.3	78.2	64.9	0.00	0.00	0.00
4,400.0	11.03	123.53	4,390.3	-70.9	94.2	76.4	0.00	0.00	0.00
4,500.0	11.03	123.53	4,488.5	-81.4	110.2	87.9	0.00	0.00	0.00
4,600.0	11.03	123.53	4,586.6	-92.0	126.1	99.4	0.00	0.00	0.00
4,700.0	11.03	123.53	4,684.8	-102.6	142.1	110.9	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.0	11.03	123.53	4,782.9	-113.1	158.0	122.5	0.00	0.00	0.00
4,900.0	11.03	123.53	4,881.1	-123.7	174.0	134.0	0.00	0.00	0.00
5,000.0	11.03	123.53	4,979.3	-134.3	189.9	145.5	0.00	0.00	0.00
5,100.0	11.03	123.53	5,077.4	-144.9	205.9	157.0	0.00	0.00	0.00
5,200.0	11.03	123.53	5,175.6	-155.4	221.8	168.5	0.00	0.00	0.00
5,300.0	11.03	123.53	5,273.7	-166.0	237.8	180.0	0.00	0.00	0.00
5,400.0	11.03	123.53	5,371.9	-176.6	253.7	191.5	0.00	0.00	0.00
5,500.0	11.03	123.53	5,470.0	-187.1	269.7	203.1	0.00	0.00	0.00
5,600.0	11.03	123.53	5,568.2	-197.7	285.7	214.6	0.00	0.00	0.00
5,700.0	11.03	123.53	5,666.3	-208.3	301.6	226.1	0.00	0.00	0.00
5,800.0	11.03	123.53	5,764.5	-218.8	317.6	237.6	0.00	0.00	0.00
5,900.0	11.03	123.53	5,862.6	-229.4	333.5	249.1	0.00	0.00	0.00
6,000.0	11.03	123.53	5,960.8	-240.0	349.5	260.6	0.00	0.00	0.00
6,100.0	11.03	123.53	6,058.9	-250.6	365.4	272.1	0.00	0.00	0.00
6,200.0	11.03	123.53	6,157.1	-261.1	381.4	283.6	0.00	0.00	0.00
6,300.0	11.03	123.53	6,255.2	-271.7	397.3	295.2	0.00	0.00	0.00
6,400.0	11.03	123.53	6,353.4	-282.3	413.3	306.7	0.00	0.00	0.00
6,500.0	11.03	123.53	6,451.5	-292.8	429.2	318.2	0.00	0.00	0.00
6,600.0	11.03	123.53	6,549.7	-303.4	445.2	329.7	0.00	0.00	0.00
6,700.0	11.03	123.53	6,647.8	-314.0	461.2	341.2	0.00	0.00	0.00
6,800.0	11.03	123.53	6,746.0	-324.5	477.1	352.7	0.00	0.00	0.00
6,900.0	11.03	123.53	6,844.1	-335.1	493.1	364.2	0.00	0.00	0.00
6,960.4	11.03	123.53	6,903.4	-341.5	502.7	371.2	0.00	0.00	0.00
Start Drop -1.00									
7,000.0	10.64	123.53	6,942.3	-345.6	508.9	375.7	1.00	-1.00	0.00
7,100.0	9.64	123.53	7,040.7	-355.3	523.6	386.3	1.00	-1.00	0.00
7,200.0	8.64	123.53	7,139.5	-364.1	536.8	395.8	1.00	-1.00	0.00
7,300.0	7.64	123.53	7,238.5	-371.9	548.6	404.3	1.00	-1.00	0.00
7,400.0	6.64	123.53	7,337.7	-378.8	559.0	411.8	1.00	-1.00	0.00
7,500.0	5.64	123.53	7,437.1	-384.7	567.9	418.2	1.00	-1.00	0.00
7,600.0	4.64	123.53	7,536.7	-389.6	575.4	423.6	1.00	-1.00	0.00
7,700.0	3.64	123.53	7,636.5	-393.6	581.4	428.0	1.00	-1.00	0.00
7,800.0	2.64	123.53	7,736.3	-396.6	585.9	431.3	1.00	-1.00	0.00
7,900.0	1.64	123.53	7,836.2	-398.7	589.0	433.5	1.00	-1.00	0.00
8,000.0	0.64	123.53	7,936.2	-399.8	590.7	434.7	1.00	-1.00	0.00
8,063.8	0.00	0.00	8,000.0	-400.0	591.0	434.9	1.00	-1.00	0.00
Start 2387.5 hold at 8063.8 MD									
8,100.0	0.00	0.00	8,036.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,136.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,236.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,400.0	0.00	0.00	8,336.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,436.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,600.0	0.00	0.00	8,536.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,700.0	0.00	0.00	8,636.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,800.0	0.00	0.00	8,736.2	-400.0	591.0	434.9	0.00	0.00	0.00
8,900.0	0.00	0.00	8,836.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,000.0	0.00	0.00	8,936.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,100.0	0.00	0.00	9,036.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,200.0	0.00	0.00	9,136.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,300.0	0.00	0.00	9,236.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,400.0	0.00	0.00	9,336.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,500.0	0.00	0.00	9,436.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,600.0	0.00	0.00	9,536.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,700.0	0.00	0.00	9,636.2	-400.0	591.0	434.9	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	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)
9,800.0	0.00	0.00	9,736.2	-400.0	591.0	434.9	0.00	0.00	0.00
9,900.0	0.00	0.00	9,836.2	-400.0	591.0	434.9	0.00	0.00	0.00
10,000.0	0.00	0.00	9,936.2	-400.0	591.0	434.9	0.00	0.00	0.00
10,100.0	0.00	0.00	10,036.2	-400.0	591.0	434.9	0.00	0.00	0.00
10,200.0	0.00	0.00	10,136.2	-400.0	591.0	434.9	0.00	0.00	0.00
10,300.0	0.00	0.00	10,236.2	-400.0	591.0	434.9	0.00	0.00	0.00
10,400.0	0.00	0.00	10,336.2	-400.0	591.0	434.9	0.00	0.00	0.00
10,451.3	0.00	0.00	10,387.5	-400.0	591.0	434.9	0.00	0.00	0.00
Start DLS 12.00 TFO 179.65									
10,475.0	2.84	179.65	10,411.2	-400.6	591.0	435.5	12.00	12.00	0.00
10,500.0	5.84	179.65	10,436.1	-402.5	591.0	437.4	12.00	12.00	0.00
10,525.0	8.84	179.65	10,460.9	-405.7	591.0	440.6	12.00	12.00	0.00
10,550.0	11.84	179.65	10,485.5	-410.2	591.1	445.1	12.00	12.00	0.00
10,575.0	14.84	179.65	10,509.8	-415.9	591.1	450.8	12.00	12.00	0.00
10,600.0	17.84	179.65	10,533.8	-423.0	591.1	457.8	12.00	12.00	0.00
10,625.0	20.84	179.65	10,557.4	-431.3	591.2	466.1	12.00	12.00	0.00
10,650.0	23.84	179.65	10,580.5	-440.8	591.2	475.6	12.00	12.00	0.00
10,675.0	26.84	179.65	10,603.1	-451.5	591.3	486.3	12.00	12.00	0.00
10,700.0	29.84	179.65	10,625.1	-463.3	591.4	498.1	12.00	12.00	0.00
10,725.0	32.84	179.65	10,646.5	-476.3	591.5	511.1	12.00	12.00	0.00
10,750.0	35.84	179.65	10,667.1	-490.4	591.6	525.2	12.00	12.00	0.00
10,775.0	38.84	179.65	10,687.0	-505.6	591.6	540.3	12.00	12.00	0.00
10,800.0	41.84	179.65	10,706.0	-521.8	591.7	556.5	12.00	12.00	0.00
10,825.0	44.84	179.65	10,724.2	-538.9	591.9	573.6	12.00	12.00	0.00
10,850.0	47.84	179.65	10,741.5	-557.0	592.0	591.7	12.00	12.00	0.00
10,875.0	50.84	179.65	10,757.7	-576.0	592.1	610.6	12.00	12.00	0.00
10,900.0	53.84	179.65	10,773.0	-595.8	592.2	630.4	12.00	12.00	0.00
10,925.0	56.84	179.65	10,787.2	-616.3	592.3	650.9	12.00	12.00	0.00
10,950.0	59.84	179.65	10,800.3	-637.6	592.5	672.2	12.00	12.00	0.00
10,975.0	62.84	179.65	10,812.3	-659.5	592.6	694.1	12.00	12.00	0.00
11,000.0	65.84	179.65	10,823.2	-682.1	592.7	716.6	12.00	12.00	0.00
11,025.0	68.84	179.65	10,832.8	-705.1	592.9	739.6	12.00	12.00	0.00
11,050.0	71.84	179.65	10,841.2	-728.7	593.0	763.1	12.00	12.00	0.00
11,075.0	74.84	179.65	10,848.4	-752.6	593.2	787.0	12.00	12.00	0.00
11,100.0	77.84	179.65	10,854.3	-776.9	593.3	811.3	12.00	12.00	0.00
11,125.0	80.84	179.65	10,858.9	-801.5	593.5	835.8	12.00	12.00	0.00
11,150.0	83.84	179.65	10,862.2	-826.3	593.6	860.5	12.00	12.00	0.00
11,175.0	86.84	179.65	10,864.2	-851.2	593.8	885.4	12.00	12.00	0.00
11,201.4	90.01	179.65	10,865.0	-877.5	593.9	911.8	12.00	12.00	0.00
Start 9966.2 hold at 11201.4 MD									
11,300.0	90.01	179.65	10,864.9	-976.2	594.5	1,010.2	0.00	0.00	0.00
11,400.0	90.01	179.65	10,864.9	-1,076.2	595.1	1,110.1	0.00	0.00	0.00
11,500.0	90.01	179.65	10,864.9	-1,176.2	595.8	1,209.9	0.00	0.00	0.00
11,600.0	90.01	179.65	10,864.9	-1,276.2	596.4	1,309.8	0.00	0.00	0.00
11,700.0	90.01	179.65	10,864.9	-1,376.2	597.0	1,409.6	0.00	0.00	0.00
11,800.0	90.01	179.65	10,864.8	-1,476.2	597.6	1,509.5	0.00	0.00	0.00
11,900.0	90.01	179.65	10,864.8	-1,576.1	598.2	1,609.3	0.00	0.00	0.00
12,000.0	90.01	179.65	10,864.8	-1,676.1	598.8	1,709.2	0.00	0.00	0.00
12,100.0	90.01	179.65	10,864.8	-1,776.1	599.4	1,809.1	0.00	0.00	0.00
12,200.0	90.01	179.65	10,864.8	-1,876.1	600.0	1,908.9	0.00	0.00	0.00
12,300.0	90.01	179.65	10,864.7	-1,976.1	600.7	2,008.8	0.00	0.00	0.00
12,400.0	90.01	179.65	10,864.7	-2,076.1	601.3	2,108.6	0.00	0.00	0.00
12,500.0	90.01	179.65	10,864.7	-2,176.1	601.9	2,208.5	0.00	0.00	0.00
12,600.0	90.01	179.65	10,864.7	-2,276.1	602.5	2,308.3	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	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)
12,700.0	90.01	179.65	10,864.7	-2,376.1	603.1	2,408.2	0.00	0.00	0.00
12,800.0	90.01	179.65	10,864.6	-2,476.1	603.7	2,508.0	0.00	0.00	0.00
12,900.0	90.01	179.65	10,864.6	-2,576.1	604.3	2,607.9	0.00	0.00	0.00
13,000.0	90.01	179.65	10,864.6	-2,676.1	604.9	2,707.7	0.00	0.00	0.00
13,100.0	90.01	179.65	10,864.6	-2,776.1	605.6	2,807.6	0.00	0.00	0.00
13,200.0	90.01	179.65	10,864.6	-2,876.1	606.2	2,907.4	0.00	0.00	0.00
13,300.0	90.01	179.65	10,864.6	-2,976.1	606.8	3,007.3	0.00	0.00	0.00
13,400.0	90.01	179.65	10,864.5	-3,076.1	607.4	3,107.1	0.00	0.00	0.00
13,500.0	90.01	179.65	10,864.5	-3,176.1	608.0	3,207.0	0.00	0.00	0.00
13,600.0	90.01	179.65	10,864.5	-3,276.1	608.6	3,306.9	0.00	0.00	0.00
13,700.0	90.01	179.65	10,864.5	-3,376.1	609.2	3,406.7	0.00	0.00	0.00
13,800.0	90.01	179.65	10,864.5	-3,476.1	609.8	3,506.6	0.00	0.00	0.00
13,900.0	90.01	179.65	10,864.4	-3,576.1	610.5	3,606.4	0.00	0.00	0.00
14,000.0	90.01	179.65	10,864.4	-3,676.1	611.1	3,706.3	0.00	0.00	0.00
14,100.0	90.01	179.65	10,864.4	-3,776.1	611.7	3,806.1	0.00	0.00	0.00
14,200.0	90.01	179.65	10,864.4	-3,876.1	612.3	3,906.0	0.00	0.00	0.00
14,300.0	90.01	179.65	10,864.4	-3,976.1	612.9	4,005.8	0.00	0.00	0.00
14,400.0	90.01	179.65	10,864.3	-4,076.1	613.5	4,105.7	0.00	0.00	0.00
14,500.0	90.01	179.65	10,864.3	-4,176.1	614.1	4,205.5	0.00	0.00	0.00
14,600.0	90.01	179.65	10,864.3	-4,276.1	614.7	4,305.4	0.00	0.00	0.00
14,700.0	90.01	179.65	10,864.3	-4,376.1	615.4	4,405.2	0.00	0.00	0.00
14,800.0	90.01	179.65	10,864.3	-4,476.1	616.0	4,505.1	0.00	0.00	0.00
14,900.0	90.01	179.65	10,864.2	-4,576.1	616.6	4,604.9	0.00	0.00	0.00
15,000.0	90.01	179.65	10,864.2	-4,676.1	617.2	4,704.8	0.00	0.00	0.00
15,100.0	90.01	179.65	10,864.2	-4,776.1	617.8	4,804.7	0.00	0.00	0.00
15,200.0	90.01	179.65	10,864.2	-4,876.1	618.4	4,904.5	0.00	0.00	0.00
15,300.0	90.01	179.65	10,864.2	-4,976.1	619.0	5,004.4	0.00	0.00	0.00
15,400.0	90.01	179.65	10,864.1	-5,076.1	619.7	5,104.2	0.00	0.00	0.00
15,500.0	90.01	179.65	10,864.1	-5,176.1	620.3	5,204.1	0.00	0.00	0.00
15,600.0	90.01	179.65	10,864.1	-5,276.1	620.9	5,303.9	0.00	0.00	0.00
15,700.0	90.01	179.65	10,864.1	-5,376.1	621.5	5,403.8	0.00	0.00	0.00
15,800.0	90.01	179.65	10,864.1	-5,476.1	622.1	5,503.6	0.00	0.00	0.00
15,900.0	90.01	179.65	10,864.0	-5,576.1	622.7	5,603.5	0.00	0.00	0.00
16,000.0	90.01	179.65	10,864.0	-5,676.1	623.3	5,703.3	0.00	0.00	0.00
16,100.0	90.01	179.65	10,864.0	-5,776.1	623.9	5,803.2	0.00	0.00	0.00
16,200.0	90.01	179.65	10,864.0	-5,876.1	624.6	5,903.0	0.00	0.00	0.00
16,300.0	90.01	179.65	10,864.0	-5,976.1	625.2	6,002.9	0.00	0.00	0.00
16,400.0	90.01	179.65	10,863.9	-6,076.1	625.8	6,102.7	0.00	0.00	0.00
16,500.0	90.01	179.65	10,863.9	-6,176.1	626.4	6,202.6	0.00	0.00	0.00
16,600.0	90.01	179.65	10,863.9	-6,276.1	627.0	6,302.4	0.00	0.00	0.00
16,700.0	90.01	179.65	10,863.9	-6,376.1	627.6	6,402.3	0.00	0.00	0.00
16,800.0	90.01	179.65	10,863.9	-6,476.1	628.2	6,502.2	0.00	0.00	0.00
16,900.0	90.01	179.65	10,863.8	-6,576.1	628.8	6,602.0	0.00	0.00	0.00
17,000.0	90.01	179.65	10,863.8	-6,676.1	629.5	6,701.9	0.00	0.00	0.00
17,100.0	90.01	179.65	10,863.8	-6,776.1	630.1	6,801.7	0.00	0.00	0.00
17,200.0	90.01	179.65	10,863.8	-6,876.0	630.7	6,901.6	0.00	0.00	0.00
17,300.0	90.01	179.65	10,863.8	-6,976.0	631.3	7,001.4	0.00	0.00	0.00
17,400.0	90.01	179.65	10,863.7	-7,076.0	631.9	7,101.3	0.00	0.00	0.00
17,500.0	90.01	179.65	10,863.7	-7,176.0	632.5	7,201.1	0.00	0.00	0.00
17,600.0	90.01	179.65	10,863.7	-7,276.0	633.1	7,301.0	0.00	0.00	0.00
17,700.0	90.01	179.65	10,863.7	-7,376.0	633.7	7,400.8	0.00	0.00	0.00
17,800.0	90.01	179.65	10,863.7	-7,476.0	634.4	7,500.7	0.00	0.00	0.00
17,900.0	90.01	179.65	10,863.6	-7,576.0	635.0	7,600.5	0.00	0.00	0.00
18,000.0	90.01	179.65	10,863.6	-7,676.0	635.6	7,700.4	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,100.0	90.01	179.65	10,863.6	-7,776.0	636.2	7,800.2	0.00	0.00	0.00
18,200.0	90.01	179.65	10,863.6	-7,876.0	636.8	7,900.1	0.00	0.00	0.00
18,300.0	90.01	179.65	10,863.6	-7,976.0	637.4	8,000.0	0.00	0.00	0.00
18,400.0	90.01	179.65	10,863.5	-8,076.0	638.0	8,099.8	0.00	0.00	0.00
18,500.0	90.01	179.65	10,863.5	-8,176.0	638.6	8,199.7	0.00	0.00	0.00
18,600.0	90.01	179.65	10,863.5	-8,276.0	639.3	8,299.5	0.00	0.00	0.00
18,700.0	90.01	179.65	10,863.5	-8,376.0	639.9	8,399.4	0.00	0.00	0.00
18,800.0	90.01	179.65	10,863.5	-8,476.0	640.5	8,499.2	0.00	0.00	0.00
18,900.0	90.01	179.65	10,863.4	-8,576.0	641.1	8,599.1	0.00	0.00	0.00
19,000.0	90.01	179.65	10,863.4	-8,676.0	641.7	8,698.9	0.00	0.00	0.00
19,100.0	90.01	179.65	10,863.4	-8,776.0	642.3	8,798.8	0.00	0.00	0.00
19,200.0	90.01	179.65	10,863.4	-8,876.0	642.9	8,898.6	0.00	0.00	0.00
19,300.0	90.01	179.65	10,863.4	-8,976.0	643.5	8,998.5	0.00	0.00	0.00
19,400.0	90.01	179.65	10,863.3	-9,076.0	644.2	9,098.3	0.00	0.00	0.00
19,500.0	90.01	179.65	10,863.3	-9,176.0	644.8	9,198.2	0.00	0.00	0.00
19,600.0	90.01	179.65	10,863.3	-9,276.0	645.4	9,298.0	0.00	0.00	0.00
19,700.0	90.01	179.65	10,863.3	-9,376.0	646.0	9,397.9	0.00	0.00	0.00
19,800.0	90.01	179.65	10,863.3	-9,476.0	646.6	9,497.7	0.00	0.00	0.00
19,900.0	90.01	179.65	10,863.2	-9,576.0	647.2	9,597.6	0.00	0.00	0.00
20,000.0	90.01	179.65	10,863.2	-9,676.0	647.8	9,697.5	0.00	0.00	0.00
20,100.0	90.01	179.65	10,863.2	-9,776.0	648.4	9,797.3	0.00	0.00	0.00
20,200.0	90.01	179.65	10,863.2	-9,876.0	649.1	9,897.2	0.00	0.00	0.00
20,300.0	90.01	179.65	10,863.2	-9,976.0	649.7	9,997.0	0.00	0.00	0.00
20,400.0	90.01	179.65	10,863.2	-10,076.0	650.3	10,096.9	0.00	0.00	0.00
20,500.0	90.01	179.65	10,863.1	-10,176.0	650.9	10,196.7	0.00	0.00	0.00
20,600.0	90.01	179.65	10,863.1	-10,276.0	651.5	10,296.6	0.00	0.00	0.00
20,700.0	90.01	179.65	10,863.1	-10,376.0	652.1	10,396.4	0.00	0.00	0.00
20,800.0	90.01	179.65	10,863.1	-10,476.0	652.7	10,496.3	0.00	0.00	0.00
20,900.0	90.01	179.65	10,863.1	-10,576.0	653.4	10,596.1	0.00	0.00	0.00
21,000.0	90.01	179.65	10,863.0	-10,676.0	654.0	10,696.0	0.00	0.00	0.00
21,100.0	90.01	179.65	10,863.0	-10,776.0	654.6	10,795.8	0.00	0.00	0.00
21,167.5	90.01	179.65	10,863.0	-10,843.5	655.0	10,863.3	0.00	0.00	0.00
TD at 21167.5									

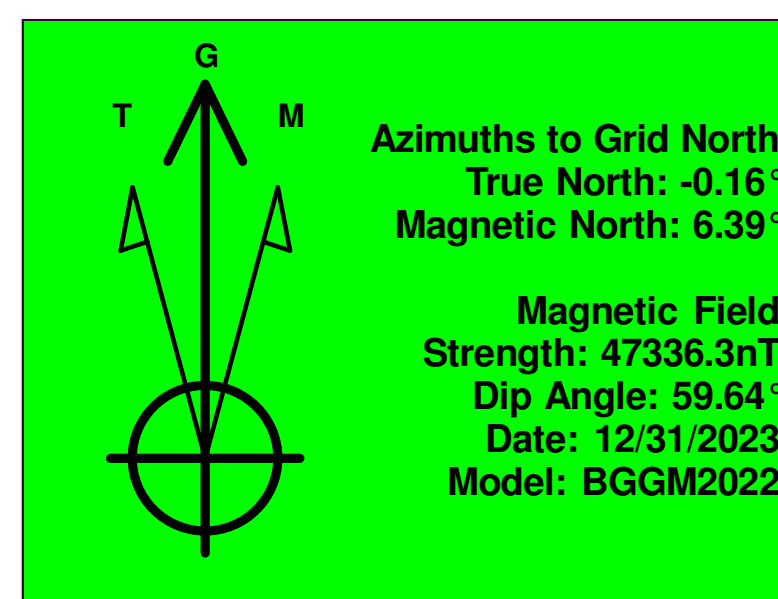
ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 904H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB @ 2959.0usft
Project:	ATLAS PROSPECT_NME	MD Reference:	KB @ 2959.0usft
Site:	PUDGE FED COM PROJECT	North Reference:	Grid
Well:	PUDGE FEDERAL COM 904H	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)		
904H_TNGNT LMTR_2C - plan hits target center - Rectangle (sides W40.0 H100.0 D2,837.1)	11.03	303.53	6,903.4	-341.5	502.7	392,664.95	596,330.78	32° 4' 45.012 N	104° 1' 20.340 W
AC_STEER CLEAR_1.5 - plan hits target center - Rectangle (sides W1.0 H100.0 D100.0)	6.50	303.53	7,337.7	-378.8	559.0	392,627.66	596,387.06	32° 4' 44.641 N	104° 1' 19.687 W
904H_KOP BOX_25' N8 - plan hits target center - Rectangle (sides W75.0 H50.0 D2,387.5)	0.00	359.65	10,387.5	-400.0	591.0	392,606.45	596,419.08	32° 4' 44.430 N	104° 1' 19.316 W
PBHL_PUDGE FED CO - plan misses target center by 1.1usft at 21167.5usft MD (10863.0 TVD, -10843.5 N, 655.0 E) - Rectangle (sides W100.0 H10,045.9 D20.0)	0.01	359.65	10,863.0	-10,844.2	654.1	382,162.28	596,482.22	32° 3' 1.068 N	104° 1' 18.932 W
LTP_PUDGE FED COM - plan misses target center by 2.9usft at 21038.2usft MD (10863.0 TVD, -10714.2 N, 654.2 E) - Circle (radius 50.0)	90.00	0.00	10,863.0	-10,714.2	651.3	382,292.28	596,479.35	32° 3' 2.354 N	104° 1' 18.961 W
FTP/PP1_PUDGE FED - plan misses target center by 6.6usft at 11123.0usft MD (10858.6 TVD, -799.5 N, 593.4 E) - Circle (radius 50.0)	0.00	0.00	10,865.0	-798.3	593.7	392,208.15	596,421.74	32° 4' 40.488 N	104° 1' 19.298 W
PP2_PUDGE FED COM - plan misses target center by 5.6usft at 16086.0usft MD (10864.0 TVD, -5762.1 N, 623.9 E) - Circle (radius 50.0)	0.00	0.00	10,867.4	-5,762.0	628.3	387,244.40	596,456.36	32° 3' 51.364 N	104° 1' 19.062 W
PP3_PUDGE FED COM - plan misses target center by 5.0usft at 17410.3usft MD (10863.7 TVD, -7086.4 N, 632.0 E) - Circle (radius 50.0)	0.00	0.01	10,868.1	-7,086.3	634.4	385,920.10	596,462.51	32° 3' 38.258 N	104° 1' 19.035 W
PP4_PUDGE FED COM - plan misses target center by 5.3usft at 18738.0usft MD (10863.5 TVD, -8414.0 N, 640.1 E) - Circle (radius 50.0)	0.00	0.01	10,868.8	-8,414.0	640.6	384,592.41	596,468.67	32° 3' 25.118 N	104° 1' 19.008 W

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
21,167.6	10,863.0	5-1/2" Production Casing	5-1/2	6

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
3,500.0	3,500.0	0.0	0.0	Start Build 2.00
3,750.0	3,749.7	-8.4	7.0	Start DLS 2.00 TFO -29.16
4,069.8	4,066.3	-36.0	41.5	Start 2890.6 hold at 4069.8 MD
6,960.4	6,903.4	-341.5	502.7	Start Drop -1.00
8,063.8	8,000.0	-400.0	591.0	Start 2387.5 hold at 8063.8 MD
10,451.3	10,387.5	-400.0	591.0	Start DLS 12.00 TFO 179.65
11,201.4	10,865.0	-877.5	593.9	Start 9966.2 hold at 11201.4 MD
21,167.5	10,863.0	-10,843.5	655.0	TD at 21167.5



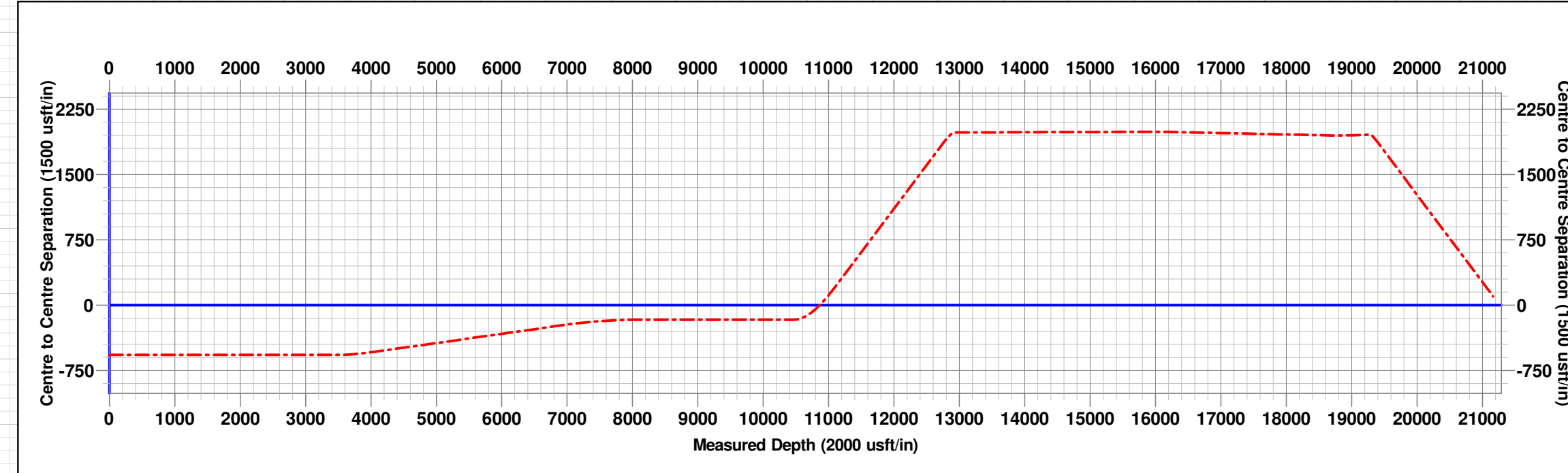
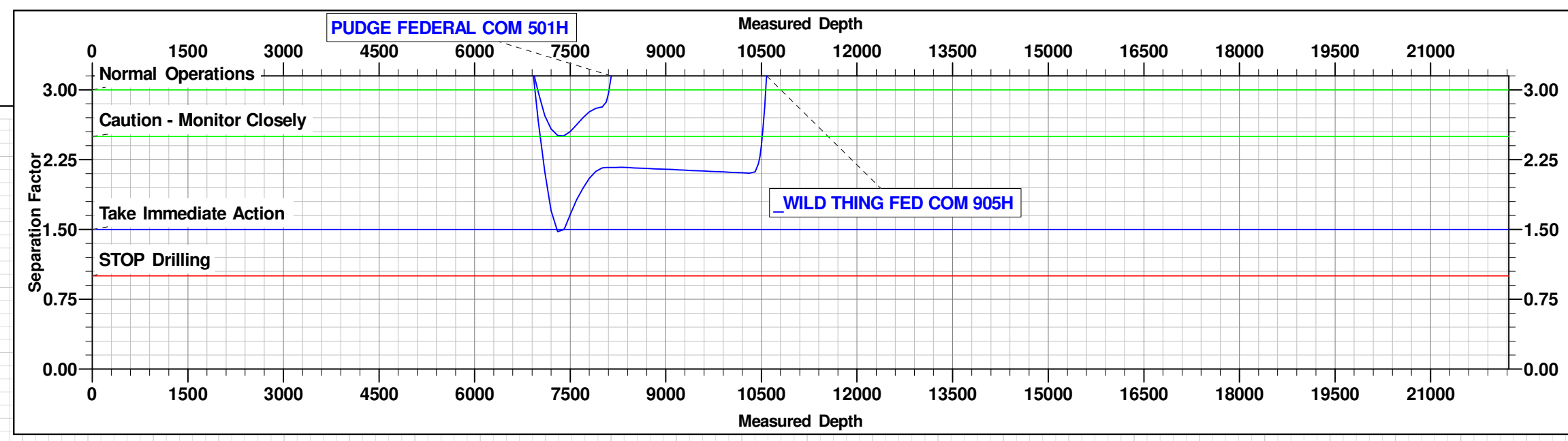
Project: ATLAS PROSPECT NME
Site: PUDGE FED COM PROJECT
Well: PUDGE FEDERAL COM 904H
Wellbore: OWB
Design: PWP1
GL: 2926.0
KB @ 2959.0usft

WELL DETAILS: PUDGE FEDERAL COM 904H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	393006.45	595828.08	32° 4' 48.406 N	104° 1' 26.172 W

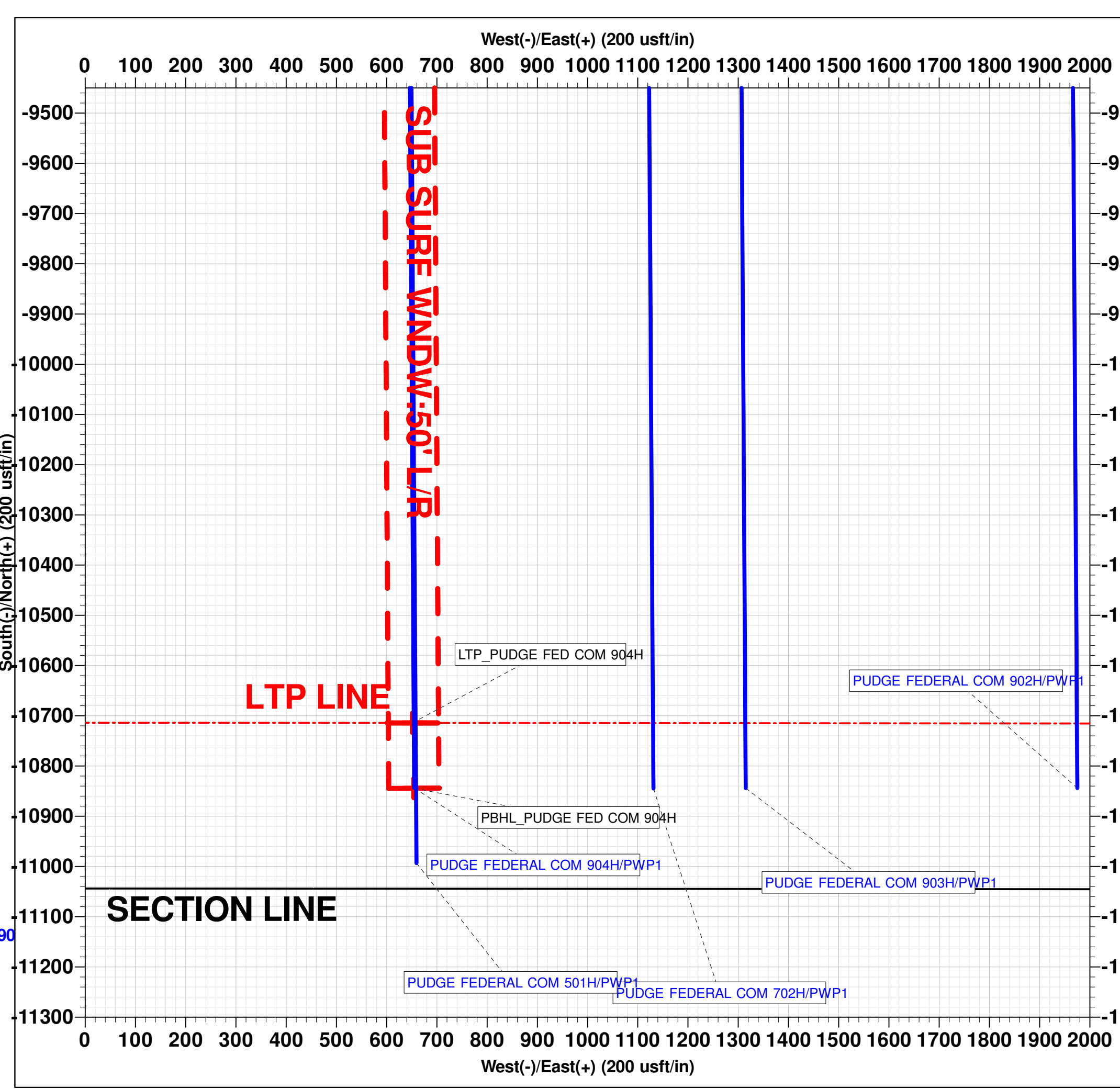
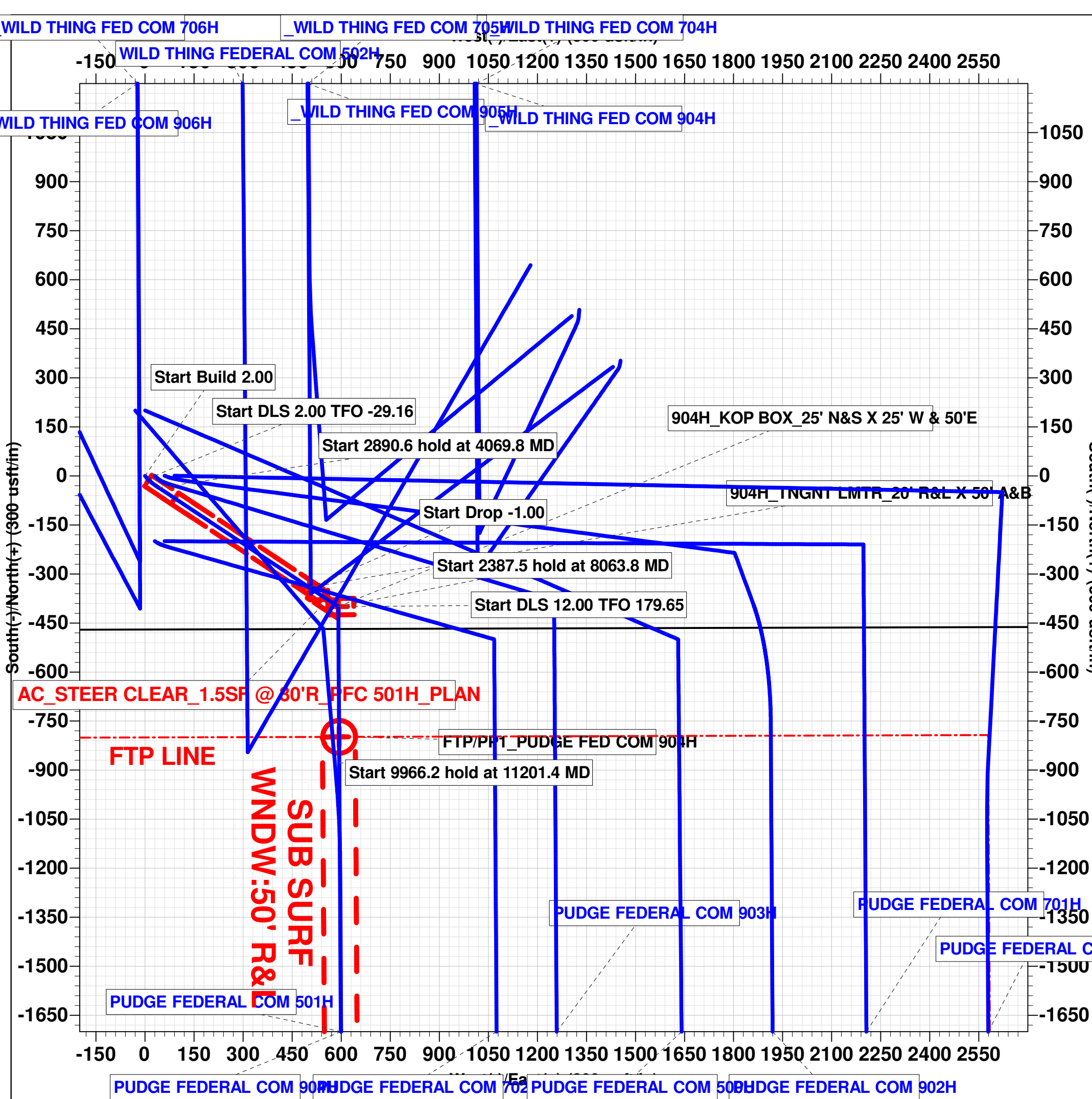
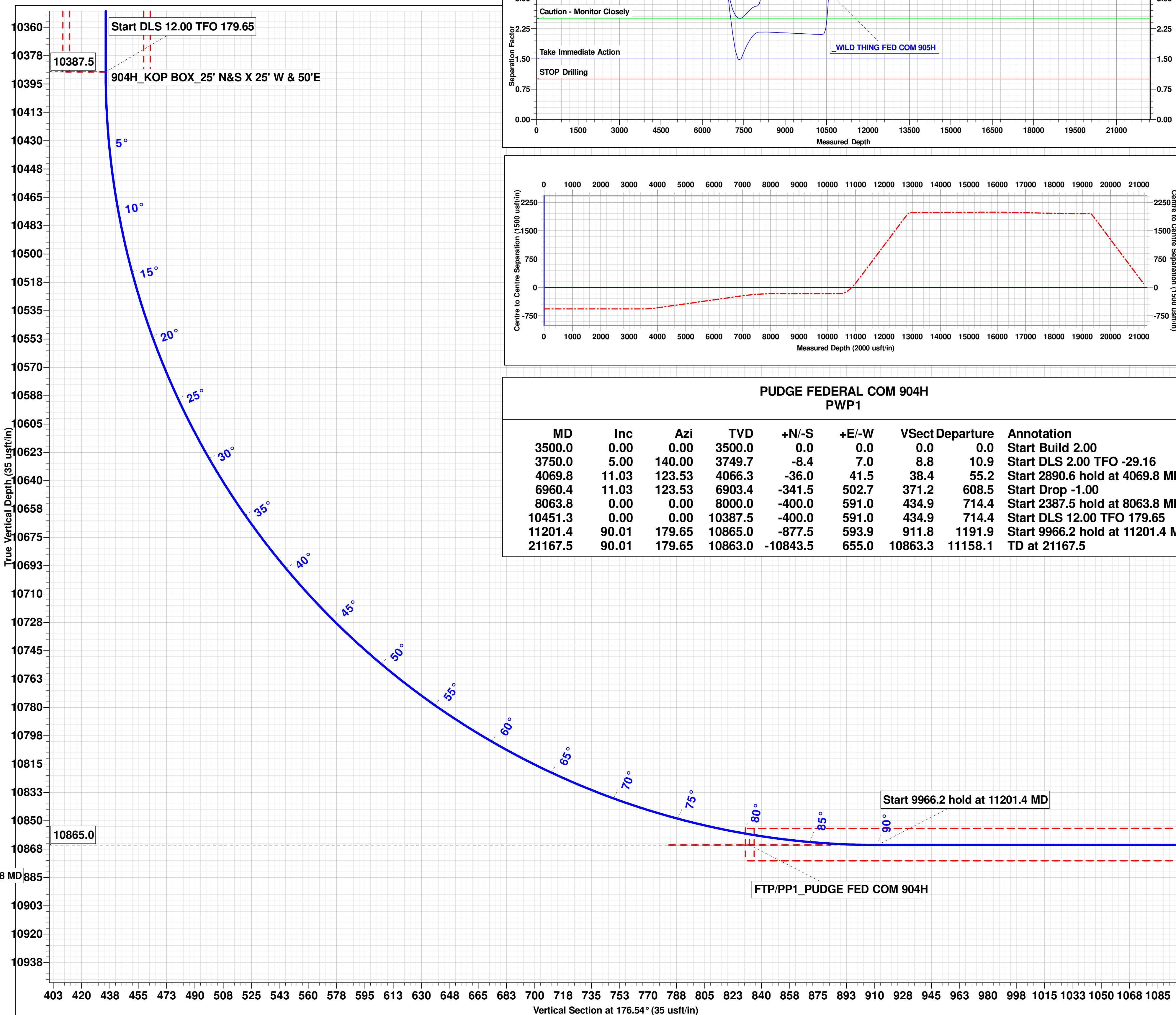
TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
904H_TNGNT LMTR_20' R&L X 50' A&B	6903.4	-341.5	502.7	392664.95	596330.78
AC_STEER CLEAR_1.5SF @ 30'R_PFC 501H_PLAN	7337.7	-378.8	559.0	392627.66	596337.06
904H_KOP BOX_25' N&S X 25' W & 50'E	10387.5	-400.0	591.0	392606.45	596419.08
LTP_PUDGE FED COM 904H	10863.0	-10714.2	651.3	382292.28	596479.35
PBHL_PUDGE FED COM 904H	10863.0	-10844.2	654.1	382162.28	596482.22
FTP/PP1_PUDGE FED COM 904H	10865.0	-798.3	593.7	392208.15	596421.74
PP2_PUDGE FED COM 904H	10867.4	-5762.0	628.3	387244.40	596456.36
PP3_PUDGE FED COM 904H	10868.1	-7086.4	634.4	385920.10	596462.51
PP4_PUDGE FED COM 904H	10868.8	-8414.0	640.6	384592.41	596468.67

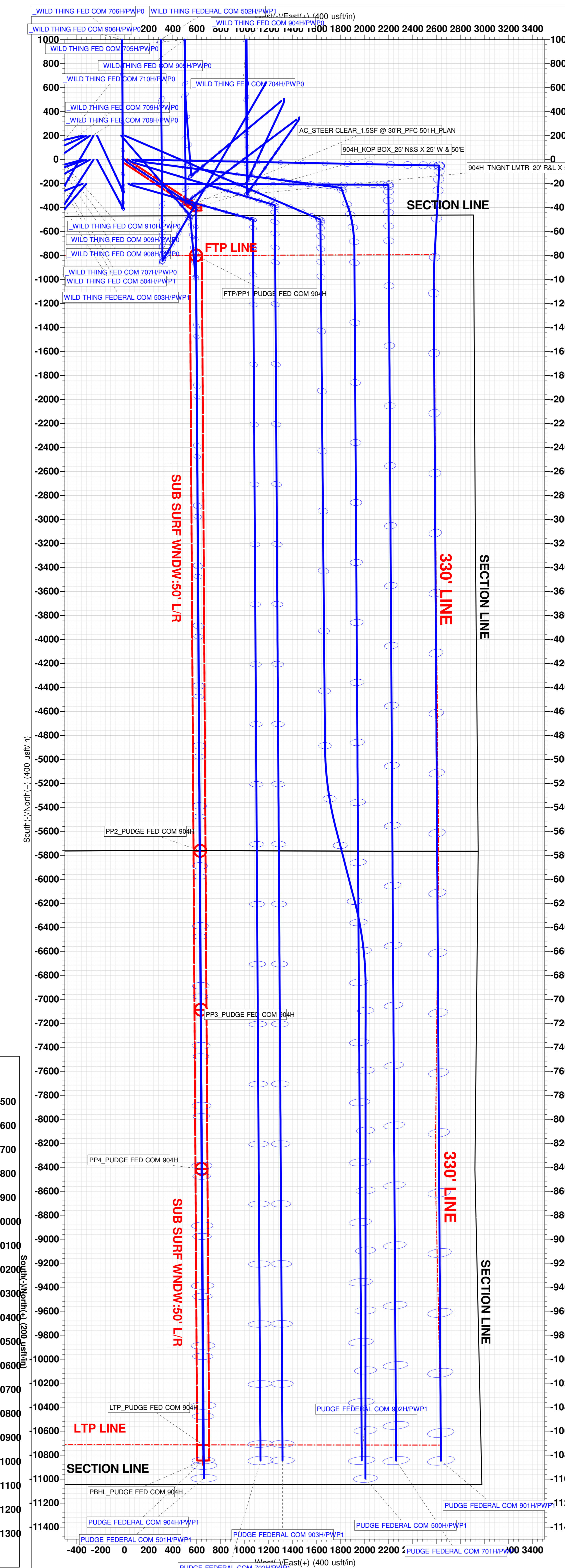
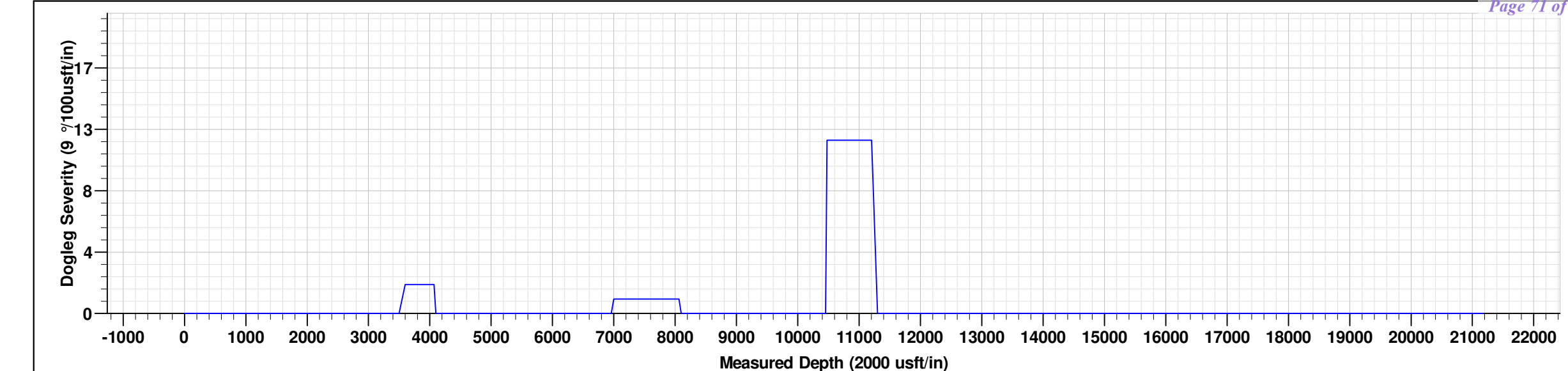


PUDGE FEDERAL COM 904H
PWP1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect Departure	Annotation
3500.0	0.00	0.00	3500.0	0.0	0.0	0.0	Start Build 2.00
3750.0	5.00	140.00	3749.7	-8.4	7.0	8.8	Start DLS 2.00 TFO -29.16
4069.8	11.03	123.53	4066.3	-36.0	41.5	38.4	Start 2890.6 hold at 4069.8 MD
6960.4	11.03	123.53	6903.4	-341.5	502.7	371.2	Start Drop -1.00
8063.8	0.00	0.00	8000.0	-400.0	591.0	434.9	Start 2387.5 hold at 8063.8 MD
10451.3	0.00	0.00	10387.5	-400.0	591.0	434.9	Start DLS 12.00 TFO 179.65
11201.4	90.01	179.65	10865.0	-877.5	593.9	911.8	Start 9966.2 hold at 11201.4 MD
21167.5	90.01	179.65	10863.0	-10843.5	655.0	11158.1	TD at 21167.5



DEFAULT TRGT WNDW: 10' A/B



ConocoPhillips - Pudge Federal Com 904H

1. Geologic Formations

TVD of Target:	10,872' EOL	Pilot hole depth:	N/A
MD at TD:	21,167'	Deepest expected fresh water:	0'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	401	Water	
Top of Salt	1025	Salt	
Base of Salt	2574	Salt	
Lamar	2769	Salt Water	
Bell Canyon	2814	Salt Water	
Cherry Canyon	3646	Oil/Gas	
Brushy Canyon	4908	Oil/Gas	
Bone Spring	6475	Oil/Gas	
1st Bone Spring Sand	7414	Oil/Gas	
2nd Bone Spring Sand	8269	Oil/Gas	
3rd Bone Spring Sand	9301	Oil/Gas	
Wolfcamp A	9795	Oil/Gas	
Wolfcamp B	10098	Oil/Gas	
Wolfcamp C	10631	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-ICY	BTC	2.83	1.12	3.26	3.29
8.750"	7500	10010	7.625"	29.7	P110-ICY	W513	3.32	1.69	3.59	2.16
6.75"	0	9810	5.5"	20	P110-ICY	BTC	3.08	2.19	3.72	3.72
6.75"	9810	21,167	5.5"	20	P110-ICY	W441	2.90	2.19	3.35	2.73
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 - Pudge Federal Com 904H

	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 - Pudge Federal Com 904H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	24	13.5	1.75	9	12	Lead: Class C
	187	14.8	1.34	6.34	8	Tail: Class C
Int. Stage 1	1027	11	2.54	15.33	12	Lead: Class C
	112	14.8	1.34	6.52	8	Tail: Class C
Int. Stage 2	229	12.9	1.9	10.52	24	Lead: Class C
	192	14.8	1.34	6.52	8	Tail: Class C
Prod	542	12.7	1.68	9.09	72	Lead: Class C
	1085	14.5	1.18	5.26	19	Tail: Class H

Intermediate cement job to be performed offline.

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

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

Stage tool ~50' into Lamar if required.

Casing String	TOC	% Excess
Surface	0'	50% in OH
Int Stg 1	0'	50% in OH
Int Stg 2	0'	20% in OH
Production	9,510'	35% OH in Lateral (KOP to EOL)

3b. Contingency Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hrs)	Slurry Description
Surf.	24	13.5	1.75	9	12	Lead: Class C
	187	14.8	1.34	6.34	8	Tail: Class C
Bradenhead Stage 1	459	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	542	12.7	1.68	9.09	72	Lead: Class C
	1085	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	6,475'	50% in OH
BH Stg 2	0'	265%
Production	9,510'	35% OH in Lateral (KOP to EOL)

ConocoPhillips - Pudge Federal Com 904H

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.

ConocoPhillips - Pudge Federal Com 904H

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
---	-----------------------------

6. Logging and Testing Procedures

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

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

ConocoPhillips - Pudge Federal Com 904H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7635 psi at 10872' 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

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 <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No. NMNM118113
		6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. PUDGE FEDERAL COM/904H
2. Name of Operator COG OPERATING LLC		9. API Well No.
3a. Address 600 West Illinois Ave, Midland, TX 79701	3b. Phone No. (include area code) (432) 683-7443	10. Field and Pool or Exploratory Area Purple Sage/(WOLFCAMP) GAS
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 31/T25S/R29E/NMP		11. Country or Parish, State EDDY/NM

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.)

COG Operating LLC, respectfully requests approval for the following changes to the original approved APD.

APD ID# 10400101482
API#30-015-56666

Drilling Changes:
C102, Drilling Program, Directional Plan, AC Report and Specs Attached.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) MAYTE REYES / Ph: (281) 293-1000	Title Regulatory Analyst
Signature (Electronic Submission)	Date 09/12/2025

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved	Title Petroleum Engineer	Date 09/15/2025
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 CARLSBAD	

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 / 469 FSL / 2384 FWL / TWSP: 25S / RANGE: 29E / SECTION: 31 / LAT: 32.080234 / LONG: -104.024428 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 330 FNL / 2317 FEL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.078038 / LONG: -104.022519 (TVD: 10633 feet, MD: 10890 feet)

BHL: SWSE / 200 FSL / 2317 FEL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.050421 / LONG: -104.022409 (TVD: 10640 feet, MD: 20935 feet)



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 %	Operation Limit Torques	
Threads per inch	5	Compression Strength	715 x1000 lb	Operating Torque	27,400 ft-lb
Connection OD Option	Regular	Max. Allowable Bending	23 °/100 ft	Yield Torque	34,700 ft-lb
		External Pressure Capacity	2090 psi		

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.

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

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TXP® BTC



Coupling	Pipe Body
Grade: L80-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

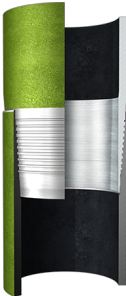
This connection is fully interchangeable with:
TXP® BTC - 7.625 in. - 0.328 (26.40) / 0.43 (33.70) / 0.5 (39.00) / 0.562 (42.80) / 0.595 (45.30) / 0.625 (47.10) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
Datasheet is also valid 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: P110-ICY	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.	Body Yield Strength	1068 x1000 lb
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft	Min. Internal Yield Pressure	11,070 psi
Drift	6.750 in.	OD Tolerance	API	SMYS	125,000 psi
Nominal ID	6.875 in.			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 %	Operation Limit Torques	
Connection OD Option	Regular	Compression Strength	803 x1000 lb	Operating Torque	53,000 ft-lb
		Max. Allowable Bending	45 °/100 ft	Yield Torque	79,000 ft-lb
		External Pressure Capacity	7360 psi		

Notes

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

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TXP® BTC



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

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

Pipe Body Data

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

Connection Data

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

Notes

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

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TenarisHydril Wedge 441®



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

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

Pipe Body Data

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

Connection Data

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

Notes

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

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PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
WELL NAME & NO.:	PUDGE FED COM 904H
LOCATION:	Section 31, T.25 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 per BLM Geologist** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature

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

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. **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 9/15/2025

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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 509383

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 509383
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	11/14/2025
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	11/14/2025