

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/903H
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# 10400101481

API# 30-015-56665

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 / 2414 FWL / TWSP: 25S / RANGE: 29E / SECTION: 31 / LAT: 32.080234 / LONG: -104.024234 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 330 FNL / 1657 FEL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.078037 / LONG: -104.020388 (TVD: 10876 feet, MD: 11209 feet)

BHL: SWSE / 200 FSL / 1657 FEL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.050414 / LONG: -104.020278 (TVD: 10880 feet, MD: 21257 feet)

Well Name: PUDGE FEDERAL COM	Well Location: T25S / R29E / SEC 31 / SESW / 32.080234 / -104.024234	County or Parish/State: EDDY / NM
Well Number: 903H	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: 2867516

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 08/08/2025	Time Sundry Submitted: 10:03
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# 10400101481 API# 30-015-56665 Drilling Changes: C102, Drilling Program, Directional Plan, AC Report and Specs Attached.

NOI Attachments

Procedure Description

- COG_Pudge_903H_AC_RPT_20250808100229.pdf
- COG_Pudge_903H_Directional_Plan_20250808100231.pdf
- COG_PUDGE_FEDERAL_COM_903H_C102_20250808100229.pdf
- Tenaris_Data_Sheets___3_String___WCA___State_Line___20___P110_ICY_Prod_20250808100230.pdf
- COG_Pudge_903H_Drilling_Program_20250808100230.pdf

Well Name: PUDGE FEDERAL COM	Well Location: T25S / R29E / SEC 31 / SESW / 32.080234 / -104.024234	County or Parish/State: EDDY / NM
Well Number: 903H	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

PUDGE_FED_COM_903H_COAs_20250915083952.pdf

SEC31_T25S_R29E_PUDGE_FEDERAL_COM_Eddy_CONOCOPHILLIPS_COMPANY_45749_JS_20250915083952.pdf

Authorized

Tenaris_Data_Sheets_3_String_WCA_State_Line_20_P110_ICY_Prod_20250915121024.pdf

Tenaris_Data_Sheets__3_String__WCA__State_Line__20__P110_ICY_Prod_20250915121018.pdf

PUDGE_FEDERAL_COM_903H_WPlot_20250915121008.pdf

COG_PUDGE_FEDERAL_COM_903H_C102_20250915121003.pdf

COG_Pudge_903H_Drilling_Program_20250915120957.pdf

COG_Pudge_903H_Directional_Plan_20250915120953.pdf

COG_Pudge_903H_AC_RPT_20250915120947.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 10:19 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 10:49:24 AM

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Well Name: PUDGE FEDERAL COM	Well Location: T25S / R29E / SEC 31 / SESW / 32.080234 / -104.024234	County or Parish/State: EDDY / NM
Well Number: 903H	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 30-015-56665	Pool Code 98220	Pool Name Purple Sage; Wolfcamp (Gas)
Property Code 337302	Property Name PUDGE FED COM	Well Number 903H
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 2,414' FWL	Latitude 32.080237°	Longitude -104.024325°	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 1,657' FEL	Latitude 32.050414°	Longitude -104.020279°	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 86' FSL	Ft. from E/W 1,657' FEL	Latitude 32.079181°	Longitude -104.020390°	County EDDY
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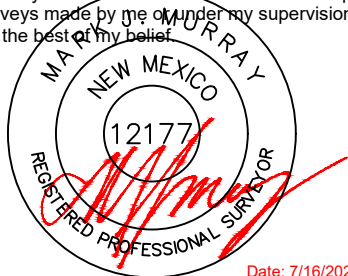
First Take Point (FTP)

UL B	Section 6	Township 26S	Range 29E	Lot	Ft. from N/S 330' FNL	Ft. from E/W 1,657' FEL	Latitude 32.078037°	Longitude -104.020388°	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 1,657' FEL	Latitude 32.050772°	Longitude -104.020287°	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			

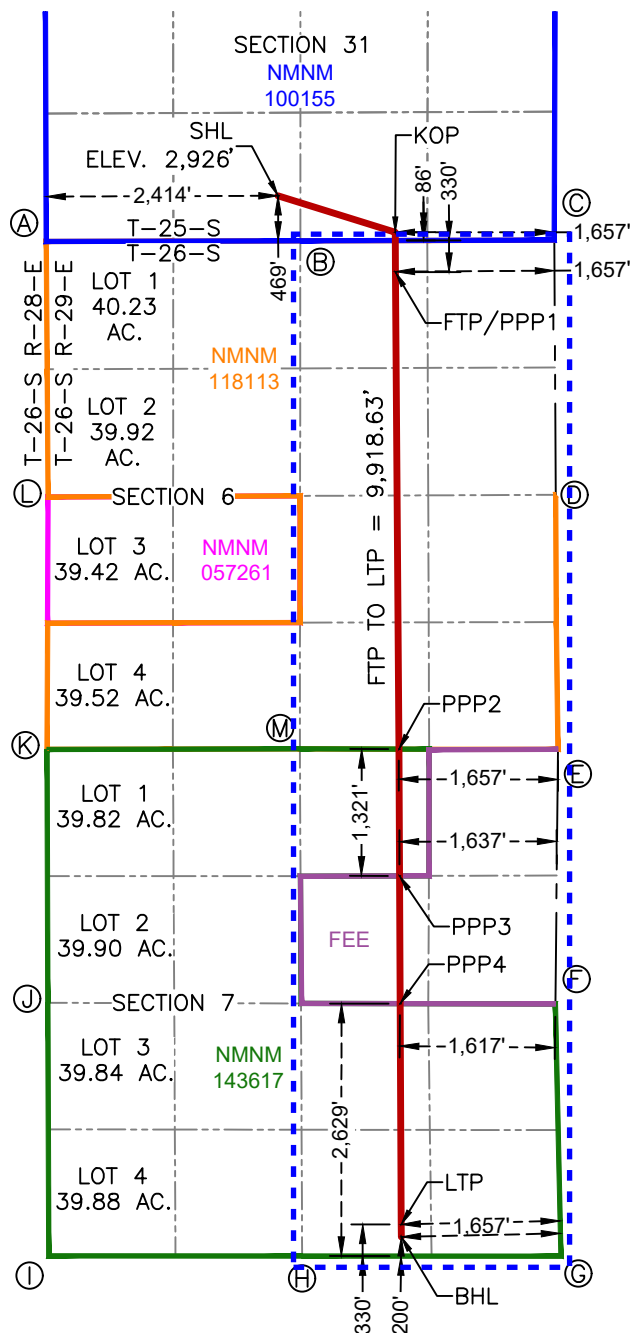
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

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 903H



SURFACE HOLE LOCATION
469' FSL & 2,414' FWL
ELEV. = 2,926'

NAD 83 X = 637,043.02'
NAD 83 Y = 393,064.35'
NAD 83 LAT = 32.080237°
NAD 83 LONG = -104.024325°

KICK-OFF POINT
86' FSL & 1,657' FEL

NAD 83 X = 638,262.99'
NAD 83 Y = 392,683.81'
NAD 83 LAT = 32.079181°
NAD 83 LONG = -104.020390°

FIRST TAKE POINT & PENETRATION POINT 1
330' FNL & 1,657' FEL

NAD 83 X = 638,264.66'
NAD 83 Y = 392,267.82'
NAD 83 LAT = 32.078037°
NAD 83 LONG = -104.020388°

PENETRATION POINT 2
0' FSL & 1,657' FEL

NAD 83 X = 638,301.45'
NAD 83 Y = 387,300.77'
NAD 83 LAT = 32.064383°
NAD 83 LONG = -104.020316°

PENETRATION POINT 3
1,321' FNL & 1,637' FEL

NAD 83 X = 638,307.67'
NAD 83 Y = 385,979.33'
NAD 83 LAT = 32.060750°
NAD 83 LONG = -104.020308°

PENETRATION POINT 4
2,629' FSL & 1,617' FEL

NAD 83 X = 638,313.93'
NAD 83 Y = 384,648.47'
NAD 83 LAT = 32.057092°
NAD 83 LONG = -104.020301°

LAST TAKE POINT
330' FSL & 1,657' FEL

NAD 83 X = 638,324.74'
NAD 83 Y = 382,349.38'
NAD 83 LAT = 32.050772°
NAD 83 LONG = -104.020287°

BOTTOM HOLE LOCATION
200' FSL & 1,657' FEL

NAD 83 X = 638,327.61'
NAD 83 Y = 382,219.38'
NAD 83 LAT = 32.050414°
NAD 83 LONG = -104.020279°

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 903H

3001556665

OWB

PWP1

Anticollision Report

05 August, 2025

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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	10,302.1	PWP1 (OWB)	r.5 MWD+IFR1	OWSG MWD + IFR1 rev.5
10,302.1	21,038.6	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + SAG + FDIR Corr. I

Summary					
	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Separation Factor	Warning
Site Name					
Offset Well - Wellbore - Design					
PUDGE FED COM PROJECT					
PUDGE FEDERAL COM 500H - OWB - PWP1	2,608.2	2,631.6	159.0	144.7	11.140 CC
PUDGE FEDERAL COM 500H - OWB - PWP1	2,700.0	2,722.6	159.5	144.5	10.693 ES
PUDGE FEDERAL COM 500H - OWB - PWP1	8,300.0	8,381.5	472.1	401.1	6.649 SF
PUDGE FEDERAL COM 501H - OWB - PWP1	2,600.0	2,626.9	167.0	148.7	9.143 CC
PUDGE FEDERAL COM 501H - OWB - PWP1	2,700.0	2,726.4	167.3	148.2	8.781 ES
PUDGE FEDERAL COM 501H - OWB - PWP1	3,500.0	3,522.8	187.6	163.2	7.682 SF
PUDGE FEDERAL COM 701H - OWB - PWP1	1,859.5	1,843.7	172.1	160.4	14.788 CC
PUDGE FEDERAL COM 701H - OWB - PWP1	1,900.0	1,883.4	172.2	160.4	14.513 ES
PUDGE FEDERAL COM 701H - OWB - PWP1	3,200.0	3,170.5	257.1	233.6	10.948 SF
PUDGE FEDERAL COM 702H - OWB - PWP1	7,800.0	7,796.3	167.8	135.5	5.193 CC
PUDGE FEDERAL COM 702H - OWB - PWP1	7,804.4	7,800.6	167.8	135.4	5.191 ES
PUDGE FEDERAL COM 702H - OWB - PWP1	9,408.1	9,394.6	219.0	167.5	4.255 SF
PUDGE FEDERAL COM 901H - OWB - PWP1	1,000.0	999.0	60.0	52.1	7.557 CC
PUDGE FEDERAL COM 901H - OWB - PWP1	1,100.0	1,096.9	60.5	50.9	6.285 ES
PUDGE FEDERAL COM 901H - OWB - PWP1	1,200.0	1,194.8	62.1	52.0	6.140 SF
PUDGE FEDERAL COM 902H - OWB - PWP1	1,408.2	1,406.0	19.0	9.6	2.018 Caution - Monitor Closely, CC, ES, SF
PUDGE FEDERAL COM 904H - OWB - PWP1	1,000.0	1,000.0	30.0	22.1	3.777 CC, ES
PUDGE FEDERAL COM 904H - OWB - PWP1	1,100.0	1,100.0	31.3	22.9	3.721 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 903H
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 903H	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	7,073.8	7,018.8	131.7	101.7	4.390 CC	
_WILD THING FED COM 704H - OWB - PWP0	7,100.0	7,044.1	131.9	101.7	4.367 ES	
_WILD THING FED COM 704H - OWB - PWP0	7,400.0	7,338.3	146.9	112.3	4.240 SF	
_WILD THING FED COM 705H - OWB - PWP0	5,623.5	5,628.2	226.3	196.0	7.478 CC, ES	
_WILD THING FED COM 705H - OWB - PWP0	5,900.0	5,891.0	242.0	209.0	7.317 SF	
_WILD THING FED COM 706H - OWB - PWP0	1,000.0	981.0	328.3	320.2	40.913 CC, ES	
_WILD THING FED COM 706H - OWB - PWP0	4,500.0	4,495.0	607.3	579.5	21.909 SF	
_WILD THING FED COM 707H - OWB - PWP0	1,000.0	981.0	352.5	344.5	43.938 CC, ES	
_WILD THING FED COM 707H - OWB - PWP0	4,500.0	4,398.4	982.1	954.8	36.049 SF	
_WILD THING FED COM 708H - OWB - PWP0	1,000.0	981.0	377.7	369.6	47.069 CC, ES	
_WILD THING FED COM 708H - OWB - PWP0	1,500.0	1,456.4	430.4	420.2	42.064 SF	
_WILD THING FED COM 709H - OWB - PWP0	1,000.0	981.0	403.4	395.4	50.281 CC, ES	
_WILD THING FED COM 709H - OWB - PWP0	1,500.0	1,446.1	460.8	450.6	44.836 SF	
_WILD THING FED COM 710H - OWB - PWP0	1,000.0	981.0	429.8	421.7	53.563 CC, ES	
_WILD THING FED COM 710H - OWB - PWP0	1,500.0	1,436.3	491.0	480.7	47.533 SF	
_WILD THING FED COM 903H - OWB - PWP0	10,302.1	10,250.0	277.1	224.3	5.245 CC	
_WILD THING FED COM 903H - OWB - PWP0	10,325.0	10,272.9	277.2	223.8	5.187 ES, SF	
_WILD THING FED COM 904H - OWB - PWP0	7,455.1	7,396.8	73.6	31.5	1.748 Caution - Monitor Closely, CC, ES, SF	
_WILD THING FED COM 905H - OWB - PWP0	5,874.9	5,866.1	87.6	56.6	2.825 Normal Operations, CC, ES	
_WILD THING FED COM 905H - OWB - PWP0	5,900.0	5,890.0	88.0	56.8	2.819 Normal Operations, SF	
_WILD THING FED COM 906H - OWB - PWP0	1,000.0	981.0	260.6	252.6	32.480 CC, ES	
_WILD THING FED COM 906H - OWB - PWP0	6,900.0	6,829.4	987.2	946.4	24.198 SF	
_WILD THING FED COM 907H - OWB - PWP0	1,000.0	981.0	290.6	282.6	36.219 CC, ES	
_WILD THING FED COM 907H - OWB - PWP0	1,500.0	1,478.8	325.2	315.1	32.096 SF	
_WILD THING FED COM 908H - OWB - PWP0	1,000.0	981.0	320.6	312.6	39.958 CC, ES	
_WILD THING FED COM 908H - OWB - PWP0	1,400.0	1,351.9	356.8	347.2	36.822 SF	
_WILD THING FED COM 909H - OWB - PWP0	1,000.0	981.0	350.6	342.6	43.697 CC, ES	
_WILD THING FED COM 909H - OWB - PWP0	1,400.0	1,347.3	387.9	378.2	39.912 SF	
_WILD THING FED COM 910H - OWB - PWP0	1,000.0	981.0	380.6	372.6	47.436 CC, ES	
_WILD THING FED COM 910H - OWB - PWP0	1,400.0	1,344.2	418.2	408.5	43.354 SF	
COOPER 31 FEDERAL 2H_P&A - OWB - AWP	7,214.9	8,237.3	493.6	431.7	7.973 CC, ES, SF	
WILD THING FED COM 504H - OWB - PWP1	800.0	794.0	430.0	423.8	69.340 CC, ES	
WILD THING FED COM 504H - OWB - PWP1	1,400.0	1,308.4	494.0	485.4	56.850 SF	
WILD THING FEDERAL COM 502H - OWB - PWP1	4,820.7	4,917.8	75.5	43.5	2.356 Caution - Monitor Closely, CC, ES, SF	
WILD THING FEDERAL COM 503H - OWB - PWP1	1,000.0	995.0	403.7	395.8	50.883 CC, ES	
WILD THING FEDERAL COM 503H - OWB - PWP1	1,500.0	1,431.1	457.8	447.7	45.409 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: Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
0.0	0.0	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		

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 903H
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 903H	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
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	1,001.0	1,000.0	3.8	3.8	-8.47	199.9	-29.8	202.1	194.2	7.95	25.433	
1,004.4	1,004.4	1,005.7	1,004.7	3.8	3.8	-143.47	199.9	-29.8	202.1	194.1	7.97	25.366	
1,100.0	1,100.0	1,104.9	1,103.9	4.1	4.1	-143.31	199.2	-28.0	202.5	194.1	8.45	23.975	
1,200.0	1,199.8	1,208.7	1,207.5	4.4	4.4	-142.85	196.9	-22.8	203.9	195.0	8.91	22.871	
1,250.0	1,249.7	1,260.6	1,259.2	4.5	4.6	-142.51	195.2	-18.9	204.9	195.8	9.07	22.595	
1,300.0	1,299.5	1,312.4	1,310.8	4.5	4.8	-134.33	193.2	-14.1	205.8	196.6	9.22	22.313	
1,400.0	1,398.8	1,416.2	1,413.7	4.8	5.1	-122.95	188.0	-2.1	206.4	196.7	9.67	21.342	
1,500.0	1,497.8	1,519.8	1,516.0	5.1	5.5	-115.73	181.4	13.4	205.2	195.1	10.10	20.322	
1,555.8	1,552.8	1,577.6	1,572.7	5.3	5.7	-112.79	177.0	23.5	203.7	193.5	10.29	19.808	
1,600.0	1,596.4	1,623.4	1,617.5	5.4	5.9	-112.52	173.3	32.3	202.2	191.8	10.43	19.390	
1,700.0	1,694.8	1,726.6	1,717.8	5.7	6.3	-111.20	163.7	54.4	197.6	186.8	10.83	18.241	
1,800.0	1,793.3	1,829.2	1,816.7	6.0	6.7	-108.83	152.9	79.7	191.5	180.3	11.19	17.113	
1,900.0	1,891.8	1,929.6	1,912.6	6.3	7.0	-105.49	141.1	107.2	184.6	173.1	11.48	16.077	
2,000.0	1,990.2	2,028.8	2,007.1	6.7	7.4	-101.83	129.3	134.6	178.2	166.4	11.81	15.096	
2,100.0	2,088.7	2,127.9	2,101.6	7.1	7.8	-97.93	117.6	162.0	172.7	160.5	12.12	14.248	
2,200.0	2,187.2	2,227.0	2,196.1	7.5	8.2	-93.80	105.8	189.4	167.9	155.5	12.44	13.505	
2,300.0	2,285.6	2,326.1	2,290.7	7.8	8.6	-89.45	94.0	216.8	164.2	151.4	12.78	12.846	
2,400.0	2,384.1	2,425.2	2,385.2	8.2	9.0	-84.92	82.3	244.2	161.4	148.2	13.17	12.250	
2,500.0	2,482.6	2,524.4	2,479.7	8.6	9.4	-80.28	70.5	271.6	159.6	146.0	13.65	11.699	
2,600.0	2,581.0	2,623.5	2,574.2	9.0	9.9	-75.56	58.7	299.0	159.0	144.8	14.22	11.181	
2,608.2	2,589.1	2,631.6	2,582.0	9.1	9.9	-75.17	57.8	301.3	159.0	144.7	14.27	11.140 CC	
2,700.0	2,679.5	2,722.6	2,668.8	9.4	10.3	-70.84	46.9	326.4	159.5	144.5	14.91	10.693 ES	
2,800.0	2,777.9	2,821.7	2,763.3	9.9	10.8	-66.17	35.2	353.9	161.0	145.3	15.73	10.239	
2,900.0	2,876.4	2,920.8	2,857.8	10.3	11.2	-61.63	23.4	381.3	163.6	147.0	16.65	9.828	
3,000.0	2,974.9	3,020.0	2,952.3	10.7	11.7	-57.25	11.6	408.7	167.3	149.6	17.67	9.467	
3,100.0	3,073.3	3,119.1	3,046.9	11.1	12.1	-53.07	-0.1	436.1	171.8	153.1	18.75	9.161	
3,200.0	3,171.8	3,218.2	3,141.4	11.6	12.6	-49.13	-11.9	463.5	177.3	157.4	19.89	8.912	
3,300.0	3,270.3	3,317.3	3,235.9	12.0	13.1	-45.44	-23.7	490.9	183.5	162.4	21.06	8.714	
3,400.0	3,368.7	3,416.4	3,330.4	12.4	13.5	-42.00	-35.4	518.3	190.5	168.2	22.24	8.565	
3,500.0	3,467.2	3,515.6	3,425.0	12.8	14.0	-38.81	-47.2	545.7	198.1	174.6	23.42	8.457	
3,600.0	3,565.7	3,614.7	3,519.5	13.3	14.5	-35.86	-59.0	573.1	206.2	181.6	24.59	8.385	
3,700.0	3,664.1	3,713.8	3,614.0	13.7	15.0	-33.14	-70.8	600.6	214.9	189.2	25.76	8.343	
3,800.0	3,762.6	3,812.9	3,708.5	14.2	15.5	-30.64	-82.5	628.0	224.0	197.1	26.91	8.326	
3,900.0	3,861.1	3,912.0	3,803.0	14.6	15.9	-28.33	-94.3	655.4	233.6	205.5	28.04	8.329	
4,000.0	3,959.5	4,011.1	3,897.6	15.0	16.4	-26.21	-106.1	682.8	243.4	214.3	29.16	8.349	
4,100.0	4,058.0	4,110.3	3,992.1	15.5	16.9	-24.25	-117.8	710.2	253.6	223.3	30.26	8.381	
4,200.0	4,156.5	4,209.4	4,086.6	15.9	17.4	-22.44	-129.6	737.6	264.0	232.7	31.34	8.424	
4,300.0	4,254.9	4,308.5	4,181.1	16.4	17.9	-20.77	-141.4	765.0	274.7	242.3	32.42	8.475	
4,400.0	4,353.4	4,407.6	4,275.7	16.8	18.4	-19.23	-153.2	792.4	285.6	252.2	33.47	8.533	
4,500.0	4,451.9	4,506.7	4,370.2	17.2	18.9	-17.80	-164.9	819.8	296.7	262.2	34.52	8.596	
4,600.0	4,550.3	4,605.9	4,464.7	17.7	19.4	-16.48	-176.7	847.2	308.0	272.4	35.56	8.662	
4,700.0	4,648.8	4,705.0	4,559.2	18.1	19.8	-15.25	-188.5	874.7	319.4	282.8	36.58	8.732	
4,800.0	4,747.3	4,804.1	4,653.8	18.6	20.3	-14.10	-200.2	902.1	331.0	293.4	37.60	8.803	
4,900.0	4,845.7	4,903.2	4,748.3	19.0	20.8	-13.03	-212.0	929.5	342.6	304.0	38.61	8.875	
5,000.0	4,944.2	5,002.3	4,842.8	19.5	21.3	-12.03	-223.8	956.9	354.4	314.8	39.61	8.948	
5,100.0	5,042.7	5,101.5	4,937.3	19.9	21.8	-11.10	-235.5	984.3	366.3	325.7	40.60	9.022	
5,200.0	5,141.1	5,200.6	5,031.9	20.4	22.3	-10.22	-247.3	1,011.7	378.3	336.7	41.59	9.095	
5,300.0	5,239.6	5,299.7	5,126.4	20.8	22.8	-9.40	-259.1	1,039.1	390.3	347.8	42.57	9.168	
5,400.0	5,338.0	5,398.8	5,220.9	21.3	23.3	-8.63	-270.9	1,066.5	402.5	358.9	43.55	9.241	

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 903H
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 903H	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)	Distance Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
5,500.0	5,436.5	5,497.9	5,315.4	21.7	23.8	-7.90	-282.6	1,093.9	414.7	370.1	44.53	9.313	
5,600.0	5,535.0	5,597.1	5,410.0	22.2	24.3	-7.21	-294.4	1,121.3	426.9	381.4	45.50	9.383	
5,700.0	5,633.4	5,696.2	5,504.5	22.6	24.8	-6.57	-306.2	1,148.8	439.2	392.8	46.47	9.453	
5,800.0	5,731.9	5,795.3	5,599.0	23.1	25.3	-5.95	-317.9	1,176.2	451.6	404.2	47.43	9.522	
5,900.0	5,830.4	5,894.4	5,693.5	23.5	25.8	-5.37	-329.7	1,203.6	464.0	415.6	48.39	9.589	
6,000.0	5,928.8	5,993.5	5,788.0	24.0	26.3	-4.83	-341.5	1,231.0	476.5	427.1	49.35	9.656	
6,100.0	6,027.3	6,092.7	5,882.6	24.4	26.8	-4.30	-353.2	1,258.4	489.0	438.7	50.30	9.721	
6,200.0	6,125.8	6,191.8	5,977.1	24.9	27.3	-3.81	-365.0	1,285.8	501.5	450.3	51.26	9.785	
6,300.0	6,224.2	6,290.9	6,071.6	25.3	27.8	-3.34	-376.8	1,313.2	514.1	461.9	52.21	9.847	
6,400.0	6,322.7	6,390.0	6,166.1	25.8	28.3	-2.89	-388.6	1,340.6	526.7	473.6	53.16	9.908	
6,500.0	6,421.2	6,493.5	6,264.9	26.2	28.8	-2.45	-400.8	1,369.1	539.2	485.1	54.14	9.959	
6,600.0	6,519.6	6,603.1	6,370.0	26.7	29.4	-2.02	-413.1	1,397.7	550.1	494.9	55.17	9.971	
6,700.0	6,618.1	6,713.2	6,476.1	27.1	29.9	-1.65	-424.6	1,424.5	559.2	503.0	56.19	9.952	
6,800.0	6,716.6	6,823.7	6,583.2	27.6	30.4	-1.32	-435.4	1,449.6	566.4	509.2	57.18	9.905	
6,900.0	6,815.0	6,934.4	6,691.0	28.0	31.0	-1.02	-445.3	1,472.8	571.6	513.5	58.15	9.831	
7,000.0	6,913.5	7,045.3	6,799.5	28.5	31.5	-0.75	-454.5	1,494.2	575.0	515.9	59.09	9.731	
7,100.0	7,012.0	7,156.4	6,908.5	28.9	32.0	-0.51	-462.8	1,513.6	576.5	516.5	60.01	9.607	
7,200.0	7,110.4	7,267.5	7,017.9	29.4	32.5	-0.30	-470.3	1,531.1	576.0	515.2	60.89	9.460	
7,300.0	7,208.9	7,378.5	7,127.6	29.8	33.0	-0.11	-477.0	1,546.6	573.7	511.9	61.74	9.291	
7,400.0	7,307.4	7,489.4	7,237.5	30.3	33.5	0.06	-482.8	1,560.1	569.4	506.8	62.56	9.101	
7,500.0	7,405.8	7,600.0	7,347.5	30.8	33.9	0.20	-487.8	1,571.7	563.2	499.8	63.35	8.890	
7,600.0	7,504.3	7,710.4	7,457.4	31.2	34.4	0.33	-491.9	1,581.3	555.1	491.0	64.09	8.661	
7,700.0	7,602.7	7,820.4	7,567.0	31.7	34.8	0.43	-495.2	1,588.9	545.1	480.3	64.79	8.413	
7,800.0	7,701.2	7,929.9	7,676.4	32.1	35.2	0.52	-497.6	1,594.6	533.1	467.7	65.44	8.147	
7,900.0	7,799.7	8,039.0	7,785.3	32.6	35.5	0.59	-499.2	1,598.3	519.4	453.3	66.04	7.865	
8,000.0	7,898.1	8,147.3	7,893.7	33.0	35.8	0.63	-500.0	1,600.2	503.7	436.5	67.18	7.497	
8,100.0	7,996.6	8,237.7	7,984.0	33.5	35.8	0.84	-501.7	1,600.4	487.1	418.0	69.08	7.051	
8,103.5	8,000.1	8,240.3	7,986.6	33.5	35.8	0.87	-502.0	1,600.4	486.6	417.5	69.12	7.040	
8,200.0	8,095.2	8,311.6	8,056.9	33.9	35.8	2.21	-513.5	1,600.5	475.7	405.5	70.12	6.783	
8,290.2	8,184.3	8,375.0	8,117.3	34.3	35.9	4.42	-532.5	1,600.7	472.1	401.1	70.93	6.656	
8,300.0	8,194.1	8,381.5	8,123.4	34.4	35.9	4.70	-534.9	1,600.7	472.1	401.1	71.00	6.649 SF	
8,400.0	8,293.2	8,444.8	8,180.3	34.8	35.9	7.86	-562.4	1,600.9	478.2	406.8	71.43	6.695	
8,500.0	8,392.6	8,500.0	8,226.6	35.2	35.9	11.20	-592.4	1,601.2	495.6	424.5	71.12	6.969	
8,600.0	8,492.1	8,550.0	8,265.4	35.6	35.9	14.59	-624.0	1,601.5	525.2	455.2	69.97	7.506	
8,700.0	8,591.8	8,589.2	8,293.3	36.0	35.9	17.44	-651.5	1,601.7	566.4	498.3	68.09	8.319	
8,800.0	8,691.6	8,625.0	8,316.7	36.3	35.9	20.17	-678.5	1,601.9	618.3	552.5	65.83	9.392	
8,900.0	8,791.5	8,650.0	8,331.9	36.7	35.9	22.22	-698.4	1,602.1	679.2	615.8	63.39	10.716	
9,000.0	8,891.4	8,675.0	8,345.9	37.0	35.9	24.35	-719.1	1,602.3	747.5	686.5	61.09	12.236	
9,100.0	8,991.4	8,700.0	8,358.9	37.1	35.9	26.56	-740.4	1,602.5	821.9	762.8	59.04	13.921	
9,108.6	9,000.0	8,700.0	8,358.9	37.1	35.9	133.38	-740.4	1,602.5	828.5	769.5	59.04	14.034	
9,200.0	9,091.4	8,725.0	8,370.8	37.2	36.0	135.06	-762.4	1,602.7	900.7	843.3	57.37	15.700	
9,300.0	9,191.4	8,733.7	8,374.6	37.2	36.0	135.63	-770.3	1,602.7	982.4	926.9	55.53	17.691	

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 903H
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 903H	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	-16.66	199.8	-59.8	208.6				
100.0	100.0	101.0	100.0	0.8	0.8	-16.66	199.8	-59.8	208.6	206.6	1.99	105.052	
200.0	200.0	201.0	200.0	1.4	1.4	-16.66	199.8	-59.8	208.6	205.3	3.31	63.026	
300.0	300.0	301.0	300.0	1.9	1.9	-16.66	199.8	-59.8	208.6	204.4	4.19	49.733	
400.0	400.0	401.0	400.0	2.2	2.3	-16.66	199.8	-59.8	208.6	203.7	4.91	42.472	
500.0	500.0	501.0	500.0	2.6	2.6	-16.66	199.8	-59.8	208.6	203.0	5.53	37.703	
600.0	600.0	601.0	600.0	2.8	2.8	-16.66	199.8	-59.8	208.6	202.5	6.09	34.252	
700.0	700.0	701.0	700.0	3.1	3.1	-16.66	199.8	-59.8	208.6	202.0	6.60	31.600	
800.0	800.0	801.0	800.0	3.3	3.3	-16.66	199.8	-59.8	208.6	201.5	7.08	29.476	
900.0	900.0	901.0	900.0	3.6	3.6	-16.66	199.8	-59.8	208.6	201.0	7.52	27.725	
1,000.0	1,000.0	1,001.1	1,000.1	3.8	3.8	-16.66	199.8	-59.8	208.6	200.6	7.95	26.243	
1,100.0	1,100.0	1,108.2	1,107.2	4.1	4.1	-151.67	198.3	-58.4	208.4	199.8	8.54	24.396	
1,200.0	1,199.8	1,215.3	1,214.1	4.4	4.5	-151.73	193.7	-54.5	207.8	198.7	9.10	22.833	
1,250.0	1,249.7	1,268.8	1,267.4	4.5	4.6	-151.78	190.3	-51.6	207.4	198.1	9.30	22.295	
1,300.0	1,299.5	1,322.4	1,320.7	4.5	4.8	-144.10	186.1	-48.0	206.6	197.1	9.51	21.726	
1,400.0	1,398.8	1,429.3	1,426.7	4.8	5.1	-134.09	175.5	-38.8	203.0	193.0	10.05	20.199	
1,500.0	1,497.8	1,531.8	1,527.9	5.1	5.4	-128.79	163.0	-28.0	197.4	186.8	10.53	18.744	
1,555.8	1,552.8	1,587.4	1,582.7	5.3	5.5	-127.30	156.0	-22.1	194.5	183.7	10.79	18.019	
1,600.0	1,596.4	1,631.4	1,626.1	5.4	5.7	-128.38	150.6	-17.4	192.3	181.3	11.00	17.480	
1,700.0	1,694.8	1,731.0	1,724.3	5.7	6.0	-130.89	138.2	-6.7	187.8	176.2	11.60	16.195	
1,800.0	1,793.3	1,830.5	1,822.5	6.0	6.3	-133.53	125.8	4.0	183.6	171.4	12.23	15.016	
1,900.0	1,891.8	1,930.1	1,920.7	6.3	6.6	-136.28	113.4	14.7	179.9	167.0	12.90	13.944	
2,000.0	1,990.2	2,029.6	2,018.9	6.7	7.0	-139.14	101.0	25.3	176.6	163.0	13.61	12.977	
2,100.0	2,088.7	2,129.2	2,117.1	7.1	7.3	-142.10	88.6	36.0	173.7	159.4	14.34	12.112	
2,200.0	2,187.2	2,228.7	2,215.3	7.5	7.7	-145.15	76.2	46.7	171.3	156.2	15.10	11.344	
2,300.0	2,285.6	2,328.2	2,313.5	7.8	8.1	-148.28	63.8	57.4	169.5	153.6	15.88	10.669	
2,400.0	2,384.1	2,427.8	2,411.7	8.2	8.5	-151.46	51.4	68.0	168.1	151.4	16.68	10.081	
2,500.0	2,482.6	2,527.3	2,509.9	8.6	8.9	-154.69	39.0	78.7	167.3	149.8	17.47	9.574	
2,600.0	2,581.0	2,626.9	2,608.0	9.0	9.3	-157.94	26.6	89.4	167.0	148.7	18.27	9.143 CC	
2,604.4	2,585.4	2,631.3	2,612.4	9.1	9.3	-158.08	26.1	89.9	167.0	148.7	18.30	9.125	
2,700.0	2,679.5	2,726.4	2,706.2	9.4	9.7	-161.18	14.2	100.1	167.3	148.2	19.05	8.781 ES	
2,800.0	2,777.9	2,826.0	2,804.4	9.9	10.1	-164.41	1.8	110.7	168.1	148.3	19.82	8.481	
2,900.0	2,876.4	2,925.5	2,902.6	10.3	10.5	-167.60	-10.6	121.4	169.4	148.8	20.56	8.238	
3,000.0	2,974.9	3,025.1	3,000.8	10.7	10.9	-170.73	-23.0	132.1	171.3	150.0	21.28	8.047	
3,100.0	3,073.3	3,124.6	3,099.0	11.1	11.3	-173.78	-35.4	142.8	173.6	151.6	21.97	7.901	
3,200.0	3,171.8	3,224.2	3,197.2	11.6	11.7	-176.75	-47.8	153.4	176.4	153.8	22.63	7.796	
3,300.0	3,270.3	3,323.7	3,295.4	12.0	12.1	-179.61	-60.2	164.1	179.7	156.5	23.26	7.728	
3,400.0	3,368.7	3,423.2	3,393.6	12.4	12.6	-177.63	-72.6	174.8	183.5	159.6	23.86	7.691	
3,500.0	3,467.2	3,522.8	3,491.8	12.8	13.0	-174.99	-85.0	185.5	187.6	163.2	24.42	7.682 SF	
3,600.0	3,565.7	3,622.3	3,590.0	13.3	13.4	-172.47	-97.4	196.1	192.1	167.2	24.96	7.698	
3,700.0	3,664.1	3,721.9	3,688.2	13.7	13.8	-170.07	-109.7	206.8	197.0	171.6	25.47	7.735	
3,800.0	3,762.6	3,821.4	3,786.4	14.2	14.3	-167.79	-122.1	217.5	202.2	176.3	25.96	7.790	
3,900.0	3,861.1	3,921.0	3,884.5	14.6	14.7	-165.62	-134.5	228.2	207.8	181.3	26.43	7.861	
4,000.0	3,959.5	4,020.5	3,982.7	15.0	15.1	-163.57	-146.9	238.8	213.6	186.7	26.88	7.946	
4,100.0	4,058.0	4,120.1	4,080.9	15.5	15.6	-161.63	-159.3	249.5	219.6	192.3	27.31	8.042	
4,200.0	4,156.5	4,219.6	4,179.1	15.9	16.0	-159.79	-171.7	260.2	225.9	198.2	27.73	8.147	
4,300.0	4,254.9	4,319.2	4,277.3	16.4	16.4	-158.06	-184.1	270.9	232.4	204.3	28.14	8.261	
4,400.0	4,353.4	4,418.7	4,375.5	16.8	16.9	-156.42	-196.5	281.5	239.2	210.6	28.54	8.381	
4,500.0	4,451.9	4,518.3	4,473.7	17.2	17.3	-154.87	-208.9	292.2	246.1	217.1	28.92	8.507	
4,600.0	4,550.3	4,617.8	4,571.9	17.7	17.7	-153.41	-221.3	302.9	253.1	223.8	29.31	8.637	
4,700.0	4,648.8	4,717.3	4,670.1	18.1	18.2	-152.02	-233.7	313.6	260.4	230.7	29.69	8.771	

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 903H
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 903H	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		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	4,747.3	4,816.9	4,768.3	18.6	18.6	150.72	-246.1	324.2	267.7	237.7	30.06	8.907	
4,900.0	4,845.7	4,916.4	4,866.5	19.0	19.0	149.48	-258.5	334.9	275.3	244.8	30.43	9.045	
5,000.0	4,944.2	5,016.0	4,964.7	19.5	19.5	148.31	-270.9	345.6	282.9	252.1	30.80	9.185	
5,100.0	5,042.7	5,115.5	5,062.9	19.9	19.9	147.20	-283.3	356.3	290.6	259.5	31.16	9.325	
5,200.0	5,141.1	5,215.1	5,161.0	20.4	20.4	146.14	-295.7	366.9	298.5	266.9	31.53	9.466	
5,300.0	5,239.6	5,314.6	5,259.2	20.8	20.8	145.15	-308.1	377.6	306.4	274.5	31.90	9.606	
5,400.0	5,338.0	5,414.2	5,357.4	21.3	21.2	144.20	-320.5	388.3	314.4	282.2	32.26	9.747	
5,500.0	5,436.5	5,513.7	5,455.6	21.7	21.7	143.30	-332.9	399.0	322.5	289.9	32.62	9.886	
5,600.0	5,535.0	5,613.3	5,553.8	22.2	22.1	142.44	-345.3	409.6	330.7	297.7	32.99	10.025	
5,700.0	5,633.4	5,712.8	5,652.0	22.6	22.6	141.63	-357.7	420.3	339.0	305.6	33.36	10.162	
5,800.0	5,731.9	5,812.3	5,750.2	23.1	23.0	140.85	-370.1	431.0	347.3	313.6	33.72	10.298	
5,900.0	5,830.4	5,911.9	5,848.4	23.5	23.4	140.11	-382.5	441.7	355.7	321.6	34.09	10.432	
6,000.0	5,928.8	6,011.4	5,946.6	24.0	23.9	139.41	-394.9	452.3	364.1	329.6	34.46	10.565	
6,100.0	6,027.3	6,111.0	6,044.8	24.4	24.3	138.73	-407.3	463.0	372.6	337.7	34.83	10.698	
6,200.0	6,125.8	6,209.0	6,141.5	24.9	24.7	138.19	-419.0	473.1	381.3	346.1	35.21	10.829	
6,300.0	6,224.2	6,306.7	6,238.3	25.3	25.2	137.91	-429.4	482.1	390.5	354.8	35.67	10.946	
6,400.0	6,322.7	6,404.4	6,335.3	25.8	25.6	137.87	-438.6	490.0	400.2	363.9	36.21	11.051	
6,500.0	6,421.2	6,502.0	6,432.3	26.2	26.0	138.06	-446.6	496.9	410.3	373.5	36.82	11.143	
6,600.0	6,519.6	6,600.0	6,529.9	26.7	26.3	138.46	-453.3	502.7	420.9	383.4	37.50	11.224	
6,700.0	6,618.1	6,696.7	6,626.3	27.1	26.7	139.05	-458.7	507.3	432.0	393.8	38.24	11.298	
6,800.0	6,716.6	6,793.6	6,723.0	27.6	27.0	139.81	-462.8	510.9	443.7	404.6	39.04	11.364	
6,900.0	6,815.0	6,890.2	6,819.6	28.0	27.4	140.73	-465.8	513.4	455.9	416.0	39.90	11.426	
7,000.0	6,913.5	6,986.5	6,915.8	28.5	27.6	141.78	-467.4	514.8	468.9	428.1	40.82	11.487	
7,100.0	7,012.0	7,082.6	7,012.0	28.9	27.8	142.96	-467.9	515.2	482.6	440.6	41.93	11.510	
7,200.0	7,110.4	7,181.1	7,110.4	29.4	27.8	144.17	-467.9	515.2	496.7	453.8	42.88	11.584	
7,300.0	7,208.9	7,279.6	7,208.9	29.8	27.8	145.31	-467.9	515.2	511.0	467.2	43.82	11.663	
7,400.0	7,307.4	7,378.0	7,307.4	30.3	27.8	146.38	-467.9	515.2	525.5	480.8	44.73	11.747	
7,500.0	7,405.8	7,476.5	7,405.8	30.8	27.8	147.40	-467.9	515.2	540.2	494.6	45.64	11.837	
7,600.0	7,504.3	7,575.0	7,504.3	31.2	27.8	148.37	-467.9	515.2	555.0	508.5	46.52	11.931	
7,700.0	7,602.7	7,673.4	7,602.7	31.7	27.9	149.29	-467.9	515.2	570.0	522.6	47.39	12.028	
7,800.0	7,701.2	7,771.9	7,701.2	32.1	27.9	150.16	-467.9	515.2	585.2	536.9	48.24	12.129	
7,900.0	7,799.7	7,870.3	7,799.7	32.6	27.9	150.98	-467.9	515.2	600.4	551.3	49.08	12.233	
8,000.0	7,898.1	7,968.8	7,898.1	33.0	27.9	151.77	-467.9	515.2	615.8	565.9	49.91	12.338	
8,100.0	7,996.6	8,060.2	7,996.4	33.5	28.1	152.18	-470.9	515.5	631.6	581.2	50.42	12.526	
8,103.5	8,000.1	8,063.3	7,992.5	33.5	28.1	152.17	-471.3	515.5	632.2	581.8	50.43	12.535	
8,200.0	8,095.2	8,145.6	8,073.0	33.9	28.4	151.31	-488.0	516.9	648.5	598.1	50.41	12.864	
8,300.0	8,194.1	8,225.0	8,146.7	34.4	28.7	149.34	-517.0	519.4	666.7	616.8	49.82	13.382	
8,400.0	8,293.2	8,293.5	8,205.8	34.8	29.0	146.87	-551.4	522.4	687.6	638.9	48.75	14.105	
8,500.0	8,392.6	8,350.0	8,250.4	35.2	29.2	144.41	-586.0	525.3	713.1	665.7	47.36	15.056	
8,600.0	8,492.1	8,400.0	8,286.2	35.6	29.4	141.99	-620.7	528.3	744.2	698.5	45.75	16.267	
8,700.0	8,591.8	8,440.7	8,312.5	36.0	29.6	139.95	-651.6	531.0	781.8	737.7	44.07	17.739	
8,800.0	8,691.6	8,475.0	8,332.5	36.3	29.7	138.25	-679.4	533.4	825.8	783.4	42.41	19.471	
8,900.0	8,791.5	8,500.0	8,345.9	36.7	29.8	137.13	-700.4	535.2	876.0	835.1	40.88	21.430	
9,000.0	8,891.4	8,525.0	8,358.1	37.0	29.9	136.07	-722.2	537.0	931.8	892.3	39.47	23.608	
9,100.0	8,991.4	8,550.0	8,369.1	37.1	29.9	135.06	-744.5	538.9	992.6	954.4	38.19	25.993	
9,108.6	9,000.0	8,550.0	8,369.1	37.1	29.9	-118.12	-744.5	538.9	998.0	959.9	38.09	26.199	

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 903H
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 903H	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	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	
1,100.0	1,100.0	1,096.9	1,098.9	4.1	4.1	36.37	-199.9	31.4	201.0	192.6	8.41	23.908	
1,200.0	1,199.8	1,195.8	1,197.6	4.4	4.4	35.85	-199.9	36.5	197.6	188.7	8.85	22.332	
1,250.0	1,249.7	1,245.1	1,246.8	4.5	4.6	35.45	-200.0	40.3	195.0	186.0	8.99	21.695	
1,300.0	1,299.5	1,294.4	1,295.9	4.5	4.7	42.82	-200.0	44.9	192.2	183.1	9.13	21.046	
1,400.0	1,398.8	1,393.0	1,393.8	4.8	5.1	52.68	-200.0	56.7	187.0	177.5	9.56	19.556	
1,500.0	1,497.8	1,491.5	1,491.1	5.1	5.4	58.49	-200.1	71.8	182.2	172.3	9.98	18.252	
1,555.8	1,552.8	1,546.5	1,545.1	5.3	5.6	60.68	-200.2	81.7	179.8	169.6	10.17	17.672	
1,600.0	1,596.4	1,590.0	1,587.8	5.4	5.8	60.11	-200.2	90.3	177.9	167.6	10.32	17.244	
1,700.0	1,694.8	1,688.2	1,683.6	5.7	6.2	58.02	-200.3	112.0	174.5	163.7	10.78	16.190	
1,800.0	1,793.3	1,785.9	1,778.1	6.0	6.6	54.81	-200.4	136.9	172.4	161.1	11.31	15.249	
1,859.5	1,851.9	1,843.7	1,833.6	6.2	6.8	52.39	-200.5	153.1	172.1	160.4	11.63	14.788 CC	
1,900.0	1,891.8	1,883.4	1,871.5	6.3	6.9	50.55	-200.5	164.8	172.2	160.4	11.87	14.513 ES	
2,000.0	1,990.2	1,982.4	1,966.1	6.7	7.2	45.95	-200.7	194.1	173.5	160.9	12.56	13.814	
2,100.0	2,088.7	2,081.4	2,060.7	7.1	7.6	41.44	-200.8	223.4	175.8	162.5	13.33	13.195	
2,200.0	2,187.2	2,180.4	2,155.2	7.5	8.0	37.08	-201.0	252.7	179.3	165.1	14.15	12.670	
2,300.0	2,285.6	2,279.5	2,249.8	7.8	8.4	32.90	-201.1	282.0	183.7	168.7	15.02	12.234	
2,400.0	2,384.1	2,378.5	2,344.4	8.2	8.8	28.94	-201.2	311.3	189.1	173.2	15.92	11.879	
2,500.0	2,482.6	2,477.5	2,438.9	8.6	9.3	25.21	-201.4	340.6	195.4	178.5	16.85	11.597	
2,600.0	2,581.0	2,576.5	2,533.5	9.0	9.7	21.72	-201.5	369.9	202.4	184.6	17.79	11.379	
2,700.0	2,679.5	2,675.5	2,628.1	9.4	10.1	18.47	-201.6	399.2	210.2	191.4	18.74	11.216	
2,800.0	2,777.9	2,774.5	2,722.7	9.9	10.6	15.46	-201.8	428.5	218.6	198.9	19.69	11.098	
2,900.0	2,876.4	2,873.5	2,817.2	10.3	11.0	12.68	-201.9	457.8	227.5	206.9	20.65	11.019	
3,000.0	2,974.9	2,972.5	2,911.8	10.7	11.5	10.11	-202.0	487.1	236.9	215.3	21.60	10.971	
3,100.0	3,073.3	3,071.5	3,006.4	11.1	11.9	7.74	-202.2	516.4	246.8	224.3	22.54	10.949	
3,200.0	3,171.8	3,170.5	3,100.9	11.6	12.4	5.56	-202.3	545.7	257.1	233.6	23.48	10.948 SF	
3,300.0	3,270.3	3,269.5	3,195.5	12.0	12.9	3.54	-202.5	575.0	267.7	243.3	24.42	10.964	
3,400.0	3,368.7	3,368.5	3,290.1	12.4	13.3	1.68	-202.6	604.3	278.6	253.3	25.35	10.993	
3,500.0	3,467.2	3,467.5	3,384.7	12.8	13.8	-0.04	-202.7	633.6	289.8	263.5	26.27	11.032	
3,600.0	3,565.7	3,566.5	3,479.2	13.3	14.3	-1.64	-202.9	662.9	301.2	274.1	27.19	11.080	
3,700.0	3,664.1	3,665.5	3,573.8	13.7	14.8	-3.11	-203.0	692.2	312.9	284.8	28.10	11.135	
3,800.0	3,762.6	3,764.5	3,668.4	14.2	15.2	-4.48	-203.1	721.5	324.7	295.7	29.01	11.194	
3,900.0	3,861.1	3,863.6	3,762.9	14.6	15.7	-5.75	-203.3	750.8	336.7	306.8	29.91	11.257	
4,000.0	3,959.5	3,962.6	3,857.5	15.0	16.2	-6.94	-203.4	780.1	348.9	318.1	30.81	11.322	
4,100.0	4,058.0	4,061.6	3,952.1	15.5	16.7	-8.05	-203.6	809.4	361.2	329.5	31.71	11.390	
4,200.0	4,156.5	4,160.6	4,046.7	15.9	17.2	-9.08	-203.7	838.7	373.6	341.0	32.61	11.458	
4,300.0	4,254.9	4,259.6	4,141.2	16.4	17.6	-10.04	-203.8	868.0	386.2	352.7	33.50	11.528	
4,400.0	4,353.4	4,358.6	4,235.8	16.8	18.1	-10.95	-204.0	897.3	398.8	364.4	34.39	11.597	
4,500.0	4,451.9	4,457.6	4,330.4	17.2	18.6	-11.80	-204.1	926.6	411.5	376.2	35.27	11.666	
4,600.0	4,550.3	4,556.6	4,424.9	17.7	19.1	-12.60	-204.2	955.9	424.3	388.2	36.16	11.735	
4,700.0	4,648.8	4,655.6	4,519.5	18.1	19.6	-13.35	-204.4	985.2	437.2	400.2	37.04	11.803	

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 903H
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 903H	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		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	4,747.3	4,754.6	4,614.1	18.6	20.1	-14.06	-204.5	1,014.5	450.2	412.3	37.92	11.871	
4,900.0	4,845.7	4,853.6	4,708.7	19.0	20.6	-14.73	-204.7	1,043.8	463.2	424.4	38.80	11.937	
5,000.0	4,944.2	4,952.6	4,803.2	19.5	21.1	-15.36	-204.8	1,073.1	476.3	436.6	39.68	12.002	
5,100.0	5,042.7	5,051.6	4,897.8	19.9	21.6	-15.96	-204.9	1,102.4	489.4	448.9	40.56	12.066	
5,200.0	5,141.1	5,150.6	4,992.4	20.4	22.1	-16.53	-205.1	1,131.7	502.6	461.2	41.44	12.129	
5,300.0	5,239.6	5,249.6	5,086.9	20.8	22.6	-17.07	-205.2	1,161.0	515.9	473.5	42.31	12.191	
5,400.0	5,338.0	5,348.7	5,181.5	21.3	23.0	-17.58	-205.3	1,190.3	529.1	485.9	43.19	12.252	
5,500.0	5,436.5	5,447.7	5,276.1	21.7	23.5	-18.06	-205.5	1,219.6	542.4	498.4	44.06	12.311	
5,600.0	5,535.0	5,546.7	5,370.7	22.2	24.0	-18.53	-205.6	1,248.9	555.8	510.9	44.94	12.369	
5,700.0	5,633.4	5,645.7	5,465.2	22.6	24.5	-18.97	-205.8	1,278.2	569.2	523.4	45.81	12.425	
5,800.0	5,731.9	5,744.7	5,559.8	23.1	25.0	-19.39	-205.9	1,307.5	582.6	535.9	46.68	12.480	
5,900.0	5,830.4	5,843.7	5,654.4	23.5	25.5	-19.79	-206.0	1,336.8	596.0	548.5	47.55	12.534	
6,000.0	5,928.8	5,942.7	5,748.9	24.0	26.0	-20.18	-206.2	1,366.1	609.5	561.1	48.42	12.587	
6,100.0	6,027.3	6,041.7	5,843.5	24.4	26.5	-20.55	-206.3	1,395.4	623.0	573.7	49.30	12.639	
6,200.0	6,125.8	6,140.7	5,938.1	24.9	27.0	-20.90	-206.4	1,424.7	636.6	586.4	50.17	12.689	
6,300.0	6,224.2	6,239.7	6,032.7	25.3	27.5	-21.24	-206.6	1,454.0	650.1	599.1	51.04	12.738	
6,400.0	6,322.7	6,338.7	6,127.2	25.8	28.0	-21.56	-206.7	1,483.3	663.7	611.8	51.91	12.786	
6,500.0	6,421.2	6,437.7	6,221.8	26.2	28.5	-21.87	-206.8	1,512.6	677.3	624.5	52.78	12.833	
6,600.0	6,519.6	6,536.7	6,316.4	26.7	29.0	-22.17	-207.0	1,541.9	690.9	637.2	53.64	12.879	
6,700.0	6,618.1	6,635.7	6,411.0	27.1	29.5	-22.46	-207.1	1,571.2	704.5	650.0	54.51	12.923	
6,800.0	6,716.6	6,734.7	6,505.5	27.6	30.0	-22.73	-207.3	1,600.5	718.1	662.8	55.38	12.967	
6,900.0	6,815.0	6,833.8	6,600.1	28.0	30.5	-23.00	-207.4	1,629.8	731.8	675.5	56.25	13.009	
7,000.0	6,913.5	6,932.8	6,694.7	28.5	31.0	-23.26	-207.5	1,659.1	745.5	688.3	57.12	13.051	
7,100.0	7,012.0	7,031.8	6,789.2	28.9	31.5	-23.50	-207.7	1,688.4	759.2	701.2	57.99	13.092	
7,200.0	7,110.4	7,130.8	6,883.8	29.4	32.0	-23.74	-207.8	1,717.7	772.9	714.0	58.86	13.131	
7,300.0	7,208.9	7,229.8	6,978.4	29.8	32.5	-23.97	-207.9	1,747.0	786.6	726.8	59.72	13.170	
7,400.0	7,307.4	7,328.8	7,073.0	30.3	33.0	-24.19	-208.1	1,776.3	800.3	739.7	60.59	13.208	
7,500.0	7,405.8	7,427.8	7,167.5	30.8	33.5	-24.41	-208.2	1,805.6	814.0	752.6	61.46	13.245	
7,600.0	7,504.3	7,526.8	7,262.1	31.2	34.0	-24.62	-208.4	1,834.9	827.8	765.5	62.33	13.281	
7,700.0	7,602.7	7,625.8	7,356.7	31.7	34.5	-24.82	-208.5	1,864.2	841.5	778.3	63.20	13.316	
7,800.0	7,701.2	7,724.8	7,451.2	32.1	35.0	-25.01	-208.6	1,893.5	855.3	791.2	64.06	13.351	
7,900.0	7,799.7	7,831.1	7,552.8	32.6	35.6	-25.21	-208.8	1,924.8	868.9	803.9	64.99	13.371	
8,000.0	7,898.1	7,947.9	7,665.0	33.0	36.2	-25.45	-208.9	1,957.3	880.9	814.9	65.98	13.350	
8,100.0	7,996.6	8,065.3	7,778.4	33.5	36.8	-25.71	-209.1	1,987.6	890.8	823.9	66.94	13.308	
8,103.5	8,000.1	8,069.4	7,782.4	33.5	36.8	-25.72	-209.1	1,988.6	891.2	824.2	66.98	13.306	
8,200.0	8,095.2	8,183.0	7,892.7	33.9	37.3	-26.00	-209.2	2,015.7	899.5	831.7	67.86	13.257	
8,300.0	8,194.1	8,300.9	8,007.8	34.4	37.9	-26.25	-209.3	2,041.4	907.8	839.1	68.73	13.208	
8,400.0	8,293.2	8,419.1	8,123.6	34.8	38.4	-26.46	-209.4	2,064.9	915.6	846.0	69.57	13.162	
8,500.0	8,392.6	8,537.5	8,240.1	35.2	39.0	-26.64	-209.5	2,086.0	922.9	852.6	70.35	13.118	
8,600.0	8,492.1	8,656.1	8,357.2	35.6	39.5	-26.79	-209.6	2,104.7	929.8	858.7	71.10	13.078	
8,700.0	8,591.8	8,774.9	8,474.9	36.0	40.0	-26.90	-209.7	2,121.0	936.2	864.4	71.79	13.041	
8,800.0	8,691.6	8,893.9	8,593.1	36.3	40.5	-26.98	-209.8	2,134.8	942.1	869.7	72.43	13.008	
8,900.0	8,791.5	9,013.1	8,711.8	36.7	41.0	-27.03	-209.8	2,146.3	947.5	874.5	73.00	12.980	
9,000.0	8,891.4	9,132.4	8,830.7	37.0	41.4	-27.04	-209.9	2,155.2	952.5	879.0	73.50	12.959	
9,100.0	8,991.4	9,251.9	8,950.0	37.1	41.9	-27.02	-209.9	2,161.7	956.9	882.6	74.32	12.876	
9,108.6	9,000.0	9,262.2	8,960.3	37.1	41.9	79.75	-209.9	2,162.2	957.3	881.3	75.95	12.603	
9,200.0	9,091.4	9,371.5	9,069.6	37.2	42.2	79.79	-209.9	2,165.7	960.2	884.1	76.09	12.619	
9,300.0	9,191.4	9,491.3	9,189.3	37.2	42.4	79.81	-209.9	2,167.3	961.4	885.4	76.05	12.642	
9,400.0	9,291.4	9,593.4	9,291.4	37.2	42.5	79.81	-209.9	2,167.3	961.4	885.4	76.02	12.647	
9,500.0	9,391.4	9,693.4	9,391.4	37.2	42.5	79.81	-209.9	2,167.3	961.4	885.4	76.06	12.641	
9,600.0	9,491.4	9,797.5	9,495.6	37.2	42.5	79.82	-210.1	2,167.3	961.4	885.3	76.13	12.629	

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 903H
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 903H	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		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)		
9,700.0	9,591.4	9,943.9	9,639.1	37.2	42.5	81.35	-236.0	2,167.4	958.5	882.8	75.72	12.658	
9,800.0	9,691.4	10,065.3	9,747.6	37.3	42.5	84.55	-289.6	2,167.8	952.7	876.4	76.28	12.489	
9,900.0	9,791.4	10,156.5	9,818.3	37.3	42.6	88.00	-346.9	2,168.1	948.1	870.5	77.53	12.229	
9,952.6	9,844.0	10,194.0	9,844.0	37.3	42.6	89.65	-374.3	2,168.3	947.3	869.0	78.29	12.100	
10,000.0	9,891.4	10,222.9	9,862.3	37.3	42.6	91.01	-396.7	2,168.4	948.0	869.0	78.96	12.005	
10,100.0	9,991.4	10,271.7	9,889.9	37.3	42.6	93.43	-436.8	2,168.7	954.8	874.6	80.21	11.904	
10,200.0	10,091.4	10,308.4	9,908.0	37.3	42.6	95.35	-468.8	2,168.8	969.5	888.5	81.04	11.963	
10,300.0	10,191.4	10,336.6	9,920.2	37.4	42.7	96.87	-494.2	2,169.0	992.6	911.2	81.39	12.197	
10,302.1	10,193.5	10,337.1	9,920.4	37.4	42.7	96.90	-494.7	2,169.0	993.2	911.8	81.39	12.203	
10,325.0	10,216.4	10,343.0	9,922.7	37.4	42.7	-81.64	-500.1	2,169.0	999.7	918.4	81.29	12.298	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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	-179.94	-200.0	-0.2	200.0				
100.0	100.0	98.0	100.0	0.8	0.8	-179.94	-200.0	-0.2	200.0	198.0	1.96	101.856	
200.0	200.0	198.0	200.0	1.4	1.4	-179.94	-200.0	-0.2	200.0	196.7	3.29	60.760	
300.0	300.0	298.0	300.0	1.9	1.9	-179.94	-200.0	-0.2	200.0	195.8	4.18	47.831	
400.0	400.0	398.0	400.0	2.2	2.2	-179.94	-200.0	-0.2	200.0	195.1	4.90	40.812	
500.0	500.0	498.0	500.0	2.6	2.6	-179.94	-200.0	-0.2	200.0	194.5	5.52	36.213	
600.0	600.0	598.0	600.0	2.8	2.8	-179.94	-200.0	-0.2	200.0	193.9	6.08	32.888	
700.0	700.0	698.0	700.0	3.1	3.1	-179.94	-200.0	-0.2	200.0	193.4	6.59	30.336	
800.0	800.0	798.0	800.0	3.3	3.3	-179.94	-200.0	-0.2	200.0	192.9	7.07	28.293	
900.0	900.0	898.0	900.0	3.6	3.6	-179.94	-200.0	-0.2	200.0	192.5	7.52	26.609	
1,000.0	1,000.0	998.0	1,000.0	3.8	3.8	-179.94	-200.0	-0.2	200.0	192.1	7.94	25.187	
1,100.0	1,100.0	1,094.7	1,096.7	4.1	4.1	45.02	-200.8	1.1	199.6	191.2	8.40	23.746	
1,200.0	1,199.8	1,191.3	1,193.2	4.4	4.4	44.87	-203.2	5.3	198.4	189.5	8.84	22.442	
1,250.0	1,249.7	1,239.6	1,241.4	4.5	4.5	44.74	-205.0	8.5	197.5	188.5	8.94	22.100	
1,300.0	1,299.5	1,289.1	1,290.6	4.5	4.5	52.42	-207.2	12.4	196.6	187.6	9.03	21.780	
1,400.0	1,398.8	1,388.5	1,389.3	4.8	4.8	62.91	-211.7	23.0	195.4	186.0	9.44	20.691	
1,500.0	1,497.8	1,487.9	1,487.6	5.1	5.2	69.37	-216.5	37.0	194.8	185.0	9.85	19.784	
1,546.4	1,543.6	1,534.0	1,533.0	5.3	5.3	71.53	-218.8	44.6	194.8	184.8	9.96	19.547	
1,555.8	1,552.8	1,543.3	1,542.2	5.3	5.3	71.92	-219.3	46.2	194.8	184.8	9.98	19.506	
1,600.0	1,596.4	1,587.4	1,585.6	5.4	5.4	71.76	-221.5	54.2	194.8	184.7	10.08	19.327	
1,700.0	1,694.8	1,687.4	1,683.8	5.7	5.7	71.38	-226.6	72.1	194.9	184.4	10.47	18.609	
1,800.0	1,793.3	1,787.4	1,782.0	6.0	6.1	71.01	-231.7	90.1	195.0	184.1	10.89	17.911	
1,900.0	1,891.8	1,887.4	1,880.2	6.3	6.4	70.63	-236.8	108.1	195.1	183.8	11.31	17.253	
2,000.0	1,990.2	1,987.4	1,978.5	6.7	6.8	70.26	-241.9	126.0	195.2	183.5	11.74	16.632	
2,100.0	2,088.7	2,087.4	2,076.7	7.1	7.2	69.88	-247.0	144.0	195.4	183.2	12.18	16.045	
2,200.0	2,187.2	2,187.4	2,174.9	7.5	7.5	69.51	-252.1	162.0	195.5	182.9	12.62	15.490	
2,300.0	2,285.6	2,287.4	2,273.2	7.8	7.9	69.13	-257.1	180.0	195.6	182.6	13.07	14.965	
2,400.0	2,384.1	2,387.4	2,371.4	8.2	8.3	68.76	-262.2	197.9	195.8	182.3	13.53	14.467	
2,500.0	2,482.6	2,487.4	2,469.6	8.6	8.7	68.39	-267.3	215.9	196.0	182.0	14.00	13.996	
2,600.0	2,581.0	2,587.4	2,567.9	9.0	9.2	68.02	-272.4	233.9	196.1	181.6	14.48	13.548	
2,700.0	2,679.5	2,687.4	2,666.1	9.4	9.6	67.65	-277.5	251.8	196.3	181.3	14.96	13.123	
2,800.0	2,777.9	2,787.3	2,764.3	9.9	10.0	67.27	-282.6	269.8	196.5	181.0	15.45	12.719	
2,900.0	2,876.4	2,887.3	2,862.6	10.3	10.4	66.91	-287.7	287.8	196.7	180.7	15.95	12.334	
3,000.0	2,974.9	2,987.3	2,960.8	10.7	10.8	66.54	-292.8	305.8	196.9	180.4	16.45	11.969	
3,100.0	3,073.3	3,087.3	3,059.0	11.1	11.3	66.17	-297.8	323.7	197.1	180.1	16.96	11.620	
3,200.0	3,171.8	3,187.3	3,157.3	11.6	11.7	65.80	-302.9	341.7	197.3	179.8	17.48	11.287	
3,300.0	3,270.3	3,287.3	3,255.5	12.0	12.1	65.43	-308.0	359.7	197.5	179.5	18.01	10.970	
3,400.0	3,368.7	3,387.3	3,353.7	12.4	12.6	65.07	-313.1	377.6	197.8	179.2	18.54	10.667	
3,500.0	3,467.2	3,487.3	3,452.0	12.8	13.0	64.70	-318.2	395.6	198.0	178.9	19.08	10.378	
3,600.0	3,565.7	3,587.3	3,550.2	13.3	13.5	64.34	-323.3	413.6	198.3	178.6	19.63	10.101	
3,700.0	3,664.1	3,687.3	3,648.4	13.7	13.9	63.98	-328.4	431.6	198.5	178.3	20.18	9.836	
3,800.0	3,762.6	3,787.3	3,746.7	14.2	14.3	63.61	-333.5	449.5	198.8	178.0	20.74	9.583	
3,900.0	3,861.1	3,887.3	3,844.9	14.6	14.8	63.25	-338.5	467.5	199.1	177.8	21.31	9.340	
4,000.0	3,959.5	3,987.2	3,943.1	15.0	15.2	62.89	-343.6	485.5	199.4	177.5	21.89	9.107	
4,100.0	4,058.0	4,087.2	4,041.3	15.5	15.7	62.53	-348.7	503.4	199.6	177.2	22.47	8.884	
4,200.0	4,156.5	4,187.2	4,139.6	15.9	16.1	62.17	-353.8	521.4	199.9	176.9	23.06	8.670	
4,300.0	4,254.9	4,287.2	4,237.8	16.4	16.6	61.82	-358.9	539.4	200.2	176.6	23.66	8.464	
4,400.0	4,353.4	4,387.2	4,336.0	16.8	17.0	61.46	-364.0	557.3	200.6	176.3	24.26	8.267	
4,500.0	4,451.9	4,487.2	4,434.3	17.2	17.5	61.11	-369.1	575.3	200.9	176.0	24.87	8.077	
4,600.0	4,550.3	4,587.2	4,532.5	17.7	17.9	60.75	-374.2	593.3	201.2	175.7	25.49	7.895	
4,700.0	4,648.8	4,687.2	4,630.7	18.1	18.4	60.40	-379.2	611.3	201.5	175.4	26.11	7.719	

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 903H
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 903H	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						Rule Assigned:					Offset Well Error:	0.0 usft
Measured Depth	Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance			Warning				
Depth (usft)	Depth (usft)	Depth (usft)	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	4,747.3	4,787.2	4,729.0	18.6	18.8	60.05	-384.3	629.2	201.9	175.2	26.74	7.550		
4,900.0	4,845.7	4,887.2	4,827.2	19.0	19.3	59.70	-389.4	647.2	202.2	174.9	27.38	7.388		
5,000.0	4,944.2	4,987.2	4,925.4	19.5	19.7	59.35	-394.5	665.2	202.6	174.6	28.02	7.231		
5,100.0	5,042.7	5,087.2	5,023.7	19.9	20.2	59.00	-399.6	683.1	203.0	174.3	28.67	7.080		
5,200.0	5,141.1	5,187.1	5,121.9	20.4	20.7	58.66	-404.7	701.1	203.3	174.0	29.32	6.934		
5,300.0	5,239.6	5,287.1	5,220.1	20.8	21.1	58.31	-409.8	719.1	203.7	173.7	29.99	6.794		
5,400.0	5,338.0	5,387.1	5,318.4	21.3	21.6	57.97	-414.9	737.1	204.1	173.5	30.65	6.659		
5,500.0	5,436.5	5,487.1	5,416.6	21.7	22.0	57.63	-420.0	755.0	204.5	173.2	31.33	6.528		
5,600.0	5,535.0	5,587.1	5,514.8	22.2	22.5	57.28	-425.0	773.0	204.9	172.9	32.01	6.402		
5,700.0	5,633.4	5,687.1	5,613.1	22.6	22.9	56.94	-430.1	791.0	205.3	172.6	32.70	6.280		
5,800.0	5,731.9	5,787.1	5,711.3	23.1	23.4	56.61	-435.2	808.9	205.7	172.4	33.39	6.162		
5,900.0	5,830.4	5,887.1	5,809.5	23.5	23.8	56.27	-440.3	826.9	206.2	172.1	34.09	6.048		
6,000.0	5,928.8	5,987.1	5,907.8	24.0	24.3	55.93	-445.4	844.9	206.6	171.8	34.79	5.938		
6,100.0	6,027.3	6,087.1	6,006.0	24.4	24.8	55.60	-450.5	862.9	207.0	171.5	35.50	5.832		
6,200.0	6,125.8	6,187.1	6,104.2	24.9	25.2	55.27	-455.6	880.8	207.5	171.3	36.22	5.729		
6,300.0	6,224.2	6,287.1	6,202.4	25.3	25.7	54.94	-460.7	898.8	207.9	171.0	36.94	5.630		
6,400.0	6,322.7	6,387.0	6,300.7	25.8	26.1	54.61	-465.7	916.8	208.4	170.7	37.67	5.533		
6,500.0	6,421.2	6,487.0	6,398.9	26.2	26.6	54.28	-470.8	934.7	208.9	170.5	38.40	5.440		
6,600.0	6,519.6	6,588.5	6,498.6	26.7	27.1	54.04	-475.9	952.6	209.1	170.0	39.09	5.350		
6,700.0	6,618.1	6,690.6	6,599.3	27.1	27.5	54.18	-480.5	968.9	208.4	168.8	39.62	5.260		
6,800.0	6,716.6	6,792.7	6,700.3	27.6	28.0	54.74	-484.6	983.5	206.7	166.7	39.95	5.174		
6,900.0	6,815.0	6,894.6	6,801.3	28.0	28.4	55.73	-488.3	996.4	204.0	163.9	40.06	5.093		
7,000.0	6,913.5	6,996.3	6,902.4	28.5	28.8	57.18	-491.4	1,007.5	200.4	160.5	39.92	5.021		
7,100.0	7,012.0	7,097.8	7,003.4	28.9	29.2	59.14	-494.1	1,016.9	196.1	156.6	39.51	4.963		
7,200.0	7,110.4	7,199.0	7,104.3	29.4	29.6	61.64	-496.2	1,024.5	191.2	152.4	38.81	4.926		
7,300.0	7,208.9	7,299.8	7,204.9	29.8	30.0	64.77	-497.9	1,030.4	185.9	148.1	37.79	4.919		
7,400.0	7,307.4	7,400.2	7,305.2	30.3	30.3	68.56	-499.1	1,034.5	180.5	144.1	36.48	4.949		
7,500.0	7,405.8	7,500.0	7,405.0	30.8	30.6	73.10	-499.8	1,037.0	175.6	140.6	34.97	5.020		
7,600.0	7,504.3	7,599.3	7,504.3	31.2	30.7	78.39	-500.0	1,037.8	171.4	137.9	33.47	5.121		
7,700.0	7,602.7	7,697.8	7,602.7	31.7	30.8	84.12	-500.0	1,037.8	168.7	136.2	32.52	5.186		
7,800.0	7,701.2	7,796.3	7,701.2	32.1	30.8	89.96	-500.0	1,037.8	167.8	135.5	32.31	5.193 CC		
7,804.4	7,705.6	7,800.6	7,705.6	32.1	30.8	90.23	-500.0	1,037.8	167.8	135.4	32.32	5.191 ES		
7,900.0	7,799.7	7,894.7	7,799.7	32.6	30.8	95.81	-500.0	1,037.8	168.7	135.6	33.04	5.105		
8,000.0	7,898.1	7,993.2	7,898.1	33.0	30.9	101.54	-500.0	1,037.8	171.3	136.7	34.65	4.945		
8,100.0	7,996.6	8,091.7	7,996.6	33.5	30.9	107.05	-500.0	1,037.8	175.7	138.8	36.90	4.761		
8,103.5	8,000.1	8,095.1	8,000.1	33.5	30.9	107.24	-500.0	1,037.8	175.9	138.9	36.99	4.755		
8,200.0	8,095.2	8,190.3	8,095.2	33.9	30.9	112.07	-500.0	1,037.8	181.4	141.9	39.42	4.601		
8,300.0	8,194.1	8,289.1	8,194.1	34.4	30.9	116.32	-500.0	1,037.8	187.5	145.7	41.82	4.485		
8,400.0	8,293.2	8,388.3	8,293.2	34.8	31.0	119.85	-500.0	1,037.8	193.8	149.8	43.97	4.408		
8,500.0	8,392.6	8,487.6	8,392.6	35.2	31.0	122.74	-500.0	1,037.8	199.8	154.0	45.83	4.360		
8,600.0	8,492.1	8,587.1	8,492.1	35.6	31.0	125.07	-500.0	1,037.8	205.2	157.8	47.40	4.330		
8,700.0	8,591.8	8,686.8	8,591.8	36.0	31.0	126.89	-500.0	1,037.8	210.0	161.3	48.69	4.312		
8,800.0	8,691.6	8,786.6	8,691.6	36.3	31.1	128.26	-500.0	1,037.8	213.8	164.0	49.73	4.299		
8,900.0	8,791.5	8,886.5	8,791.5	36.7	31.1	129.22	-500.0	1,037.8	216.6	166.1	50.52	4.287		
9,000.0	8,891.4	8,986.5	8,891.4	37.0	31.1	129.79	-500.0	1,037.8	218.4	167.3	51.08	4.275		
9,100.0	8,991.4	9,086.5	8,991.4	37.1	31.1	130.00	-500.0	1,037.8	219.0	167.7	51.33	4.267		
9,108.6	9,000.0	9,095.0	9,000.0	37.1	31.1	-123.22	-500.0	1,037.8	219.0	167.7	51.30	4.269		
9,200.0	9,091.4	9,186.4	9,091.4	37.2	31.2	-123.22	-500.0	1,037.8	219.0	167.7	51.35	4.265		
9,300.0	9,191.4	9,286.4	9,191.4	37.2	31.2	-123.22	-500.0	1,037.8	219.0	167.6	51.41	4.260		
9,400.0	9,291.4	9,386.4	9,291.4	37.2	31.2	-123.22	-500.0	1,037.8	219.0	167.6	51.47	4.255		
9,408.1	9,299.5	9,394.6	9,299.5	37.2	31.2	-123.22	-500.0	1,037.8	219.0	167.5	51.47	4.255 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 903H
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 903H	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)			
9,500.0	9,391.4	9,482.9	9,387.9	37.2	31.2	-123.28	-500.2	1,037.8	219.2	167.8	51.42	4.263	
9,600.0	9,491.4	9,564.8	9,469.2	37.2	31.3	-125.05	-508.5	1,037.8	224.8	175.2	49.60	4.533	
9,700.0	9,591.4	9,642.8	9,544.9	37.2	31.4	-128.77	-527.0	1,037.9	239.4	192.9	46.47	5.151	
9,800.0	9,691.4	9,714.5	9,611.8	37.3	31.5	-133.42	-553.1	1,038.1	264.1	221.2	42.87	6.159	
9,900.0	9,791.4	9,778.9	9,668.5	37.3	31.7	-138.06	-583.3	1,038.3	299.7	259.9	39.83	7.525	
10,000.0	9,891.4	9,835.6	9,715.4	37.3	31.8	-142.17	-615.1	1,038.5	345.8	307.9	37.89	9.125	
10,100.0	9,991.4	9,884.9	9,753.5	37.3	31.8	-145.61	-646.4	1,038.7	401.0	364.0	37.03	10.829	
10,200.0	10,091.4	9,927.6	9,784.3	37.3	31.9	-148.40	-676.1	1,038.9	463.9	427.0	36.93	12.562	
10,300.0	10,191.4	9,964.6	9,809.0	37.4	32.0	-150.65	-703.6	1,039.0	533.0	495.7	37.26	14.305	
10,302.1	10,193.5	9,965.4	9,809.5	37.4	32.0	-150.69	-704.1	1,039.0	534.5	497.2	37.27	14.342	
10,325.0	10,216.4	9,973.3	9,814.6	37.4	32.0	-27.89	-710.3	1,039.1	550.7	513.5	37.25	14.784	
10,350.0	10,241.3	9,982.2	9,820.1	37.4	32.0	26.18	-717.2	1,039.1	568.0	530.6	37.38	15.195	
10,375.0	10,266.1	10,000.0	9,831.0	37.4	32.0	24.33	-731.3	1,039.2	584.8	547.3	37.51	15.591	
10,400.0	10,290.7	10,000.0	9,831.0	37.4	32.0	23.32	-731.3	1,039.2	600.8	563.1	37.65	15.958	
10,425.0	10,315.1	10,000.0	9,831.0	37.4	32.0	22.38	-731.3	1,039.2	616.5	578.7	37.79	16.315	
10,450.0	10,339.1	10,019.5	9,842.3	37.4	32.1	21.03	-747.2	1,039.3	631.2	593.3	37.92	16.644	
10,475.0	10,362.7	10,029.2	9,847.8	37.4	32.1	20.08	-755.2	1,039.3	645.5	607.4	38.06	16.959	
10,500.0	10,385.8	10,050.0	9,859.0	37.4	32.1	19.02	-772.7	1,039.5	659.3	621.1	38.21	17.256	
10,525.0	10,408.4	10,050.0	9,859.0	37.4	32.1	18.45	-772.7	1,039.5	672.0	633.7	38.33	17.532	
10,550.0	10,430.4	10,050.0	9,859.0	37.4	32.1	17.92	-772.7	1,039.5	684.4	645.9	38.45	17.799	
10,575.0	10,451.8	10,069.3	9,868.8	37.4	32.2	17.18	-789.3	1,039.6	695.8	657.2	38.59	18.032	
10,600.0	10,472.5	10,079.5	9,873.8	37.4	32.2	16.65	-798.2	1,039.6	706.6	667.9	38.71	18.254	
10,625.0	10,492.4	10,100.0	9,883.3	37.4	32.2	16.07	-816.4	1,039.7	716.8	678.0	38.84	18.456	
10,650.0	10,511.4	10,100.0	9,883.3	37.4	32.2	15.74	-816.4	1,039.7	725.9	687.0	38.94	18.644	
10,675.0	10,529.6	10,100.0	9,883.3	37.4	32.2	15.44	-816.4	1,039.7	734.7	695.6	39.03	18.823	
10,700.0	10,546.9	10,121.2	9,892.5	37.4	32.3	15.04	-835.5	1,039.8	742.3	703.1	39.15	18.961	
10,725.0	10,563.2	10,131.8	9,896.7	37.4	32.3	14.75	-845.2	1,039.9	749.3	710.0	39.25	19.092	
10,750.0	10,578.5	10,150.0	9,903.7	37.4	32.3	14.46	-862.0	1,040.0	755.6	716.2	39.35	19.200	
10,775.0	10,592.8	10,150.0	9,903.7	37.4	32.3	14.30	-862.0	1,040.0	760.9	721.5	39.42	19.301	
10,800.0	10,605.9	10,150.0	9,903.7	37.4	32.3	14.15	-862.0	1,040.0	765.8	726.3	39.49	19.392	
10,825.0	10,618.0	10,174.6	9,912.3	37.5	32.3	13.97	-885.0	1,040.1	769.4	729.8	39.59	19.431	
10,850.0	10,628.8	10,185.3	9,915.7	37.5	32.4	13.85	-895.2	1,040.2	772.4	732.7	39.67	19.470	
10,875.0	10,638.5	10,200.0	9,920.1	37.5	32.4	13.77	-909.2	1,040.3	774.6	734.9	39.75	19.487	
10,900.0	10,646.9	10,200.0	9,920.1	37.5	32.4	13.73	-909.2	1,040.3	776.1	736.3	39.80	19.499	
10,925.0	10,654.2	10,217.6	9,924.8	37.5	32.4	13.70	-926.2	1,040.4	776.6	736.7	39.88	19.475	
10,950.0	10,660.1	10,228.4	9,927.5	37.5	32.4	13.71	-936.7	1,040.5	776.3	736.4	39.94	19.439	
10,975.0	10,664.8	10,250.0	9,932.2	37.6	32.5	13.76	-957.7	1,040.6	775.5	735.4	40.01	19.380	
11,000.0	10,668.1	10,250.0	9,932.2	37.6	32.5	13.82	-957.7	1,040.6	773.4	733.4	40.05	19.311	
11,025.0	10,670.2	10,250.0	9,932.2	37.6	32.5	13.89	-957.7	1,040.6	770.9	730.8	40.09	19.231	
11,050.0	10,671.0	10,271.5	9,936.2	37.6	32.5	14.04	-978.8	1,040.7	767.3	727.1	40.15	19.108	
11,052.7	10,671.0	10,272.7	9,936.4	37.6	32.5	14.06	-980.0	1,040.7	766.9	726.7	40.16	19.095	
11,100.0	10,670.9	10,300.0	9,940.2	37.7	32.5	14.13	-1,007.1	1,040.9	760.2	720.0	40.26	18.885	
11,200.0	10,670.8	10,350.0	9,943.7	37.8	32.6	14.20	-1,056.9	1,041.2	751.6	711.2	40.48	18.567	
11,300.0	10,670.6	10,401.1	9,944.0	37.9	32.7	14.21	-1,108.0	1,041.5	749.5	708.8	40.69	18.420	
11,400.0	10,670.5	10,501.1	9,944.2	38.1	32.8	14.21	-1,208.0	1,042.1	749.2	708.3	40.92	18.309	
11,500.0	10,670.4	10,601.1	9,944.4	38.3	33.0	14.22	-1,308.0	1,042.7	748.9	707.7	41.19	18.181	
11,600.0	10,670.3	10,701.1	9,944.6	38.5	33.2	14.22	-1,408.0	1,043.4	748.6	707.1	41.50	18.038	
11,700.0	10,670.1	10,801.1	9,944.9	38.7	33.5	14.23	-1,508.0	1,044.0	748.2	706.4	41.85	17.881	
11,800.0	10,670.0	10,901.1	9,945.1	38.9	33.8	14.24	-1,608.0	1,044.6	747.9	705.7	42.23	17.710	
11,900.0	10,669.9	11,001.1	9,945.3	39.2	34.1	14.24	-1,708.0	1,045.2	747.6	704.9	42.65	17.527	
12,000.0	10,669.7	11,101.1	9,945.5	39.4	34.4	14.25	-1,808.0	1,045.8	747.3	704.1	43.11	17.334	

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 903H
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 903H	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		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)			
12,100.0	10,669.6	11,201.1	9,945.7	39.7	34.7	14.26	-1,908.0	1,046.4	746.9	703.3	43.60	17.131	
12,200.0	10,669.5	11,301.1	9,945.9	40.0	35.1	14.26	-2,008.0	1,047.0	746.6	702.5	44.13	16.919	
12,300.0	10,669.3	11,401.1	9,946.1	40.3	35.5	14.27	-2,108.0	1,047.6	746.3	701.6	44.68	16.701	
12,400.0	10,669.2	11,501.1	9,946.3	40.7	36.0	14.27	-2,208.0	1,048.3	746.0	700.7	45.27	16.477	
12,500.0	10,669.1	11,601.1	9,946.5	41.0	36.4	14.28	-2,307.9	1,048.9	745.6	699.7	45.89	16.248	
12,600.0	10,669.0	11,701.1	9,946.7	41.4	36.9	14.29	-2,407.9	1,049.5	745.3	698.8	46.54	16.016	
12,700.0	10,668.8	11,801.1	9,946.9	41.8	37.4	14.29	-2,507.9	1,050.1	745.0	697.8	47.21	15.780	
12,800.0	10,668.7	11,901.1	9,947.1	42.2	37.9	14.30	-2,607.9	1,050.7	744.7	696.7	47.91	15.543	
12,900.0	10,668.6	12,001.1	9,947.3	42.6	38.5	14.30	-2,707.9	1,051.3	744.3	695.7	48.63	15.305	
13,000.0	10,668.4	12,101.1	9,947.5	43.0	39.0	14.31	-2,807.9	1,051.9	744.0	694.6	49.38	15.066	
13,100.0	10,668.3	12,201.1	9,947.7	43.4	39.6	14.32	-2,907.9	1,052.6	743.7	693.5	50.15	14.828	
13,200.0	10,668.2	12,301.1	9,947.9	43.9	40.2	14.32	-3,007.9	1,053.2	743.4	692.4	50.95	14.591	
13,300.0	10,668.0	12,401.1	9,948.1	44.3	40.8	14.33	-3,107.9	1,053.8	743.0	691.3	51.76	14.355	
13,400.0	10,667.9	12,501.1	9,948.3	44.8	41.5	14.34	-3,207.9	1,054.4	742.7	690.1	52.60	14.121	
13,500.0	10,667.8	12,601.1	9,948.5	45.3	42.1	14.34	-3,307.9	1,055.0	742.4	688.9	53.45	13.890	
13,600.0	10,667.7	12,701.1	9,948.7	45.8	42.8	14.35	-3,407.9	1,055.6	742.1	687.7	54.32	13.661	
13,700.0	10,667.5	12,801.1	9,949.0	46.3	43.5	14.35	-3,507.9	1,056.2	741.7	686.5	55.21	13.435	
13,800.0	10,667.4	12,901.1	9,949.2	46.9	44.1	14.36	-3,607.9	1,056.8	741.4	685.3	56.11	13.213	
13,900.0	10,667.3	13,001.1	9,949.4	47.4	44.8	14.37	-3,707.9	1,057.5	741.1	684.1	57.03	12.994	
14,000.0	10,667.1	13,101.1	9,949.6	47.9	45.6	14.37	-3,807.9	1,058.1	740.8	682.8	57.97	12.779	
14,100.0	10,667.0	13,201.1	9,949.8	48.5	46.3	14.38	-3,907.9	1,058.7	740.4	681.5	58.92	12.568	
14,200.0	10,666.9	13,301.1	9,950.0	49.1	47.0	14.39	-4,007.9	1,059.3	740.1	680.2	59.88	12.360	
14,300.0	10,666.7	13,401.1	9,950.2	49.6	47.7	14.39	-4,107.9	1,059.9	739.8	678.9	60.85	12.157	
14,400.0	10,666.6	13,501.1	9,950.4	50.2	48.5	14.40	-4,207.9	1,060.5	739.5	677.6	61.84	11.957	
14,500.0	10,666.5	13,601.1	9,950.6	50.8	49.2	14.41	-4,307.9	1,061.1	739.1	676.3	62.84	11.762	
14,600.0	10,666.4	13,701.1	9,950.8	51.4	50.0	14.41	-4,407.9	1,061.8	738.8	675.0	63.85	11.571	
14,700.0	10,666.2	13,801.1	9,951.0	52.0	50.8	14.42	-4,507.9	1,062.4	738.5	673.6	64.87	11.384	
14,800.0	10,666.1	13,901.1	9,951.2	52.6	51.6	14.42	-4,607.9	1,063.0	738.2	672.3	65.90	11.201	
14,900.0	10,666.0	14,001.1	9,951.4	53.2	52.3	14.43	-4,707.9	1,063.6	737.8	670.9	66.94	11.022	
15,000.0	10,665.8	14,101.1	9,951.6	53.9	53.1	14.44	-4,807.9	1,064.2	737.5	669.5	67.99	10.847	
15,100.0	10,665.7	14,201.1	9,951.8	54.5	53.9	14.44	-4,907.9	1,064.8	737.2	668.1	69.05	10.676	
15,200.0	10,665.6	14,301.1	9,952.0	55.2	54.7	14.45	-5,007.9	1,065.4	736.9	666.7	70.12	10.509	
15,300.0	10,665.5	14,401.1	9,952.2	55.8	55.5	14.46	-5,107.9	1,066.1	736.5	665.3	71.19	10.346	
15,400.0	10,665.3	14,501.1	9,952.4	56.5	56.3	14.46	-5,207.9	1,066.7	736.2	663.9	72.27	10.186	
15,500.0	10,665.2	14,601.0	9,952.6	57.1	57.2	14.47	-5,307.9	1,067.3	735.9	662.5	73.36	10.031	
15,600.0	10,665.1	14,701.0	9,952.8	57.8	58.0	14.47	-5,407.9	1,067.9	735.6	661.1	74.46	9.879	
15,700.0	10,664.9	14,801.0	9,953.1	58.4	58.8	14.48	-5,507.9	1,068.5	735.2	659.7	75.56	9.730	
15,800.0	10,664.8	14,901.0	9,953.3	59.1	59.7	14.49	-5,607.9	1,069.1	734.9	658.2	76.67	9.585	
15,900.0	10,664.7	15,001.0	9,953.5	59.8	60.5	14.49	-5,707.9	1,069.7	734.6	656.8	77.79	9.443	
16,000.0	10,664.5	15,101.0	9,953.7	60.5	61.3	14.50	-5,807.9	1,070.3	734.3	655.4	78.91	9.305	
16,100.0	10,664.4	15,201.0	9,953.9	61.2	62.2	14.51	-5,907.9	1,071.0	733.9	653.9	80.04	9.170	
16,200.0	10,664.3	15,301.0	9,954.1	61.9	63.0	14.51	-6,007.8	1,071.6	733.6	652.4	81.17	9.038	
16,300.0	10,664.2	15,401.0	9,954.3	62.6	63.9	14.52	-6,107.8	1,072.2	733.3	651.0	82.31	8.909	
16,400.0	10,664.0	15,501.0	9,954.5	63.3	64.7	14.53	-6,207.8	1,072.8	733.0	649.5	83.45	8.783	
16,500.0	10,663.9	15,601.0	9,954.7	64.0	65.6	14.53	-6,307.8	1,073.4	732.6	648.0	84.60	8.660	
16,600.0	10,663.8	15,701.0	9,954.9	64.7	66.4	14.54	-6,407.8	1,074.0	732.3	646.6	85.75	8.540	
16,700.0	10,663.6	15,801.0	9,955.1	65.4	67.3	14.55	-6,507.8	1,074.6	732.0	645.1	86.91	8.423	
16,800.0	10,663.5	15,901.0	9,955.3	66.1	68.2	14.55	-6,607.8	1,075.3	731.7	643.6	88.07	8.308	
16,900.0	10,663.4	16,001.0	9,955.5	66.8	69.0	14.56	-6,707.8	1,075.9	731.3	642.1	89.23	8.196	
17,000.0	10,663.2	16,101.0	9,955.7	67.6	69.9	14.56	-6,807.8	1,076.5	731.0	640.6	90.40	8.087	
17,100.0	10,663.1	16,201.0	9,955.9	68.3	70.8	14.57	-6,907.8	1,077.1	730.7	639.1	91.57	7.980	

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 903H
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 903H	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		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)			
17,200.0	10,663.0	16,301.0	9,956.1	69.0	71.7	14.58	-7,007.8	1,077.7	730.4	637.6	92.75	7.875	
17,300.0	10,662.9	16,401.0	9,956.3	69.8	72.5	14.58	-7,107.8	1,078.3	730.0	636.1	93.93	7.773	
17,400.0	10,662.7	16,501.0	9,956.5	70.5	73.4	14.59	-7,207.8	1,078.9	729.7	634.6	95.11	7.672	
17,500.0	10,662.6	16,601.0	9,956.7	71.2	74.3	14.60	-7,307.8	1,079.5	729.4	633.1	96.29	7.575	
17,600.0	10,662.5	16,701.0	9,957.0	72.0	75.2	14.60	-7,407.8	1,080.2	729.1	631.6	97.48	7.479	
17,700.0	10,662.3	16,801.0	9,957.2	72.7	76.1	14.61	-7,507.8	1,080.8	728.7	630.1	98.68	7.385	
17,800.0	10,662.2	16,901.0	9,957.4	73.5	77.0	14.62	-7,607.8	1,081.4	728.4	628.5	99.87	7.294	
17,900.0	10,662.1	17,001.0	9,957.6	74.2	77.9	14.62	-7,707.8	1,082.0	728.1	627.0	101.07	7.204	
18,000.0	10,661.9	17,101.0	9,957.8	75.0	78.8	14.63	-7,807.8	1,082.6	727.8	625.5	102.27	7.116	
18,100.0	10,661.8	17,201.0	9,958.0	75.7	79.7	14.64	-7,907.8	1,083.2	727.4	624.0	103.47	7.030	
18,200.0	10,661.7	17,301.0	9,958.2	76.5	80.6	14.64	-8,007.8	1,083.8	727.1	622.4	104.68	6.946	
18,300.0	10,661.6	17,401.0	9,958.4	77.2	81.4	14.65	-8,107.8	1,084.5	726.8	620.9	105.88	6.864	
18,400.0	10,661.4	17,501.0	9,958.6	78.0	82.3	14.66	-8,207.8	1,085.1	726.5	619.4	107.09	6.783	
18,500.0	10,661.3	17,601.0	9,958.8	78.8	83.3	14.66	-8,307.8	1,085.7	726.1	617.8	108.31	6.705	
18,600.0	10,661.2	17,701.0	9,959.0	79.5	84.2	14.67	-8,407.8	1,086.3	725.8	616.3	109.52	6.627	
18,700.0	10,661.0	17,801.0	9,959.2	80.3	85.1	14.68	-8,507.8	1,086.9	725.5	614.8	110.74	6.551	
18,800.0	10,660.9	17,901.0	9,959.4	81.1	86.0	14.68	-8,607.8	1,087.5	725.2	613.2	111.96	6.477	
18,900.0	10,660.8	18,001.0	9,959.6	81.8	86.9	14.69	-8,707.8	1,088.1	724.8	611.7	113.18	6.405	
19,000.0	10,660.6	18,101.0	9,959.8	82.6	87.8	14.69	-8,807.8	1,088.8	724.5	610.1	114.40	6.333	
19,100.0	10,660.5	18,201.0	9,960.0	83.4	88.7	14.70	-8,907.8	1,089.4	724.2	608.6	115.63	6.263	
19,200.0	10,660.4	18,301.0	9,960.2	84.2	89.6	14.71	-9,007.8	1,090.0	723.9	607.0	116.85	6.195	
19,300.0	10,660.3	18,401.0	9,960.4	84.9	90.5	14.71	-9,107.8	1,090.6	723.6	605.5	118.08	6.128	
19,400.0	10,660.1	18,501.0	9,960.6	85.7	91.4	14.72	-9,207.8	1,091.2	723.2	603.9	119.31	6.062	
19,500.0	10,660.0	18,601.0	9,960.8	86.5	92.3	14.73	-9,307.8	1,091.8	722.9	602.4	120.54	5.997	
19,600.0	10,659.9	18,701.0	9,961.1	87.3	93.3	14.73	-9,407.8	1,092.4	722.6	600.8	121.78	5.934	
19,700.0	10,659.7	18,801.0	9,961.3	88.1	94.2	14.74	-9,507.8	1,093.0	722.3	599.2	123.01	5.871	
19,800.0	10,659.6	18,901.0	9,961.5	88.9	95.1	14.75	-9,607.8	1,093.7	721.9	597.7	124.25	5.810	
19,900.0	10,659.5	19,001.0	9,961.7	89.6	96.0	14.75	-9,707.8	1,094.3	721.6	596.1	125.49	5.751	
20,000.0	10,659.3	19,101.0	9,961.9	90.4	96.9	14.76	-9,807.7	1,094.9	721.3	594.6	126.72	5.692	
20,100.0	10,659.2	19,201.0	9,962.1	91.2	97.8	14.77	-9,907.7	1,095.5	721.0	593.0	127.97	5.634	
20,200.0	10,659.1	19,301.0	9,962.3	92.0	98.8	14.77	-10,007.7	1,096.1	720.6	591.4	129.21	5.577	
20,300.0	10,659.0	19,401.0	9,962.5	92.8	99.7	14.78	-10,107.7	1,096.7	720.3	589.9	130.45	5.522	
20,400.0	10,658.8	19,501.0	9,962.7	93.6	100.6	14.79	-10,207.7	1,097.3	720.0	588.3	131.70	5.467	
20,500.0	10,658.7	19,601.0	9,962.9	94.4	101.5	14.79	-10,307.7	1,098.0	719.7	586.7	132.94	5.413	
20,600.0	10,658.6	19,701.0	9,963.1	95.2	102.5	14.80	-10,407.7	1,098.6	719.3	585.1	134.19	5.361	
20,700.0	10,658.4	19,801.0	9,963.3	96.0	103.4	14.81	-10,507.7	1,099.2	719.0	583.6	135.44	5.309	
20,800.0	10,658.3	19,901.0	9,963.5	96.8	104.3	14.81	-10,607.7	1,099.8	718.7	582.0	136.69	5.258	
20,900.0	10,658.2	20,001.0	9,963.7	97.6	105.2	14.82	-10,707.7	1,100.4	718.4	580.4	137.94	5.208	
21,000.0	10,658.0	20,101.0	9,963.9	98.4	106.2	14.83	-10,807.7	1,101.0	718.0	578.9	139.19	5.159	
21,038.6	10,658.0	20,137.9	9,964.0	98.7	106.4	14.83	-10,844.6	1,101.2	717.9	578.4	139.47	5.147	

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 903H
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 903H	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	89.84	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	7.557 CC	
1,100.0	1,100.0	1,096.9	1,097.9	4.1	5.2	-46.27	0.1	61.7	60.5	50.9	9.62	6.285 ES	
1,200.0	1,199.8	1,194.8	1,195.6	4.4	5.5	-49.47	0.0	66.7	62.1	52.0	10.11	6.140 SF	
1,250.0	1,249.7	1,243.6	1,244.3	4.5	5.6	-51.75	0.0	70.4	63.4	53.1	10.27	6.174	
1,300.0	1,299.5	1,292.4	1,292.9	4.5	5.7	-46.33	-0.1	75.0	65.0	54.6	10.43	6.231	
1,400.0	1,398.8	1,390.0	1,389.8	4.8	6.0	-39.76	-0.4	86.6	68.4	57.5	10.89	6.278	
1,500.0	1,497.8	1,487.6	1,486.2	5.1	6.3	-36.49	-0.7	101.6	71.9	60.5	11.36	6.324	
1,555.8	1,552.8	1,542.0	1,539.8	5.3	6.5	-35.43	-0.8	111.3	73.8	62.3	11.58	6.375	
1,600.0	1,596.4	1,585.1	1,582.0	5.4	6.6	-36.56	-1.0	119.7	75.7	64.0	11.75	6.444	
1,700.0	1,694.8	1,682.4	1,676.9	5.7	7.0	-38.25	-1.4	141.1	82.4	70.1	12.24	6.726	
1,800.0	1,793.3	1,779.2	1,770.6	6.0	7.3	-38.84	-1.9	165.6	92.1	79.4	12.78	7.210	
1,900.0	1,891.8	1,875.3	1,862.7	6.3	7.7	-38.59	-2.5	193.0	105.0	91.6	13.35	7.862	
2,000.0	1,990.2	1,970.6	1,953.1	6.7	8.0	-37.79	-3.1	223.2	120.9	106.9	13.97	8.654	
2,100.0	2,088.7	2,064.8	2,041.4	7.1	8.4	-36.69	-3.7	255.9	139.8	125.2	14.59	9.585	
2,200.0	2,187.2	2,161.5	2,131.2	7.5	8.8	-35.54	-4.4	291.7	160.9	145.6	15.30	10.518	
2,300.0	2,285.6	2,259.2	2,221.9	7.8	9.2	-34.64	-5.1	327.9	182.2	166.1	16.05	11.348	
2,400.0	2,384.1	2,356.9	2,312.7	8.2	9.5	-33.93	-5.8	364.0	203.4	186.6	16.81	12.102	
2,500.0	2,482.6	2,454.5	2,403.4	8.6	9.9	-33.35	-6.5	400.2	224.7	207.1	17.58	12.783	
2,600.0	2,581.0	2,552.2	2,494.1	9.0	10.3	-32.87	-7.3	436.4	246.0	227.7	18.36	13.397	
2,700.0	2,679.5	2,649.9	2,584.9	9.4	10.8	-32.47	-8.0	472.6	267.3	248.2	19.16	13.954	
2,800.0	2,777.9	2,747.6	2,675.6	9.9	11.2	-32.12	-8.7	508.8	288.7	268.7	19.96	14.460	
2,900.0	2,876.4	2,845.3	2,766.3	10.3	11.6	-31.83	-9.4	545.0	310.0	289.2	20.78	14.919	
3,000.0	2,974.9	2,943.0	2,857.1	10.7	12.0	-31.57	-10.1	581.1	331.4	309.8	21.60	15.339	
3,100.0	3,073.3	3,040.6	2,947.8	11.1	12.5	-31.34	-10.8	617.3	352.7	330.3	22.43	15.723	
3,200.0	3,171.8	3,138.3	3,038.5	11.6	12.9	-31.14	-11.6	653.5	374.1	350.8	23.27	16.075	
3,300.0	3,270.3	3,236.0	3,129.3	12.0	13.4	-30.97	-12.3	689.7	395.4	371.3	24.11	16.399	
3,400.0	3,368.7	3,333.7	3,220.0	12.4	13.9	-30.80	-13.0	725.9	416.8	391.8	24.96	16.697	
3,500.0	3,467.2	3,431.4	3,310.7	12.8	14.3	-30.66	-13.7	762.1	438.2	412.4	25.82	16.973	
3,600.0	3,565.7	3,529.1	3,401.5	13.3	14.8	-30.53	-14.4	798.2	459.5	432.9	26.67	17.229	
3,700.0	3,664.1	3,626.8	3,492.2	13.7	15.3	-30.41	-15.1	834.4	480.9	453.4	27.53	17.466	
3,800.0	3,762.6	3,724.4	3,582.9	14.2	15.7	-30.30	-15.8	870.6	502.3	473.9	28.40	17.686	
3,900.0	3,861.1	3,822.1	3,673.7	14.6	16.2	-30.20	-16.6	906.8	523.7	494.4	29.27	17.892	
4,000.0	3,959.5	3,919.8	3,764.4	15.0	16.7	-30.11	-17.3	943.0	545.0	514.9	30.14	18.084	
4,100.0	4,058.0	4,017.5	3,855.2	15.5	17.2	-30.02	-18.0	979.2	566.4	535.4	31.01	18.264	
4,200.0	4,156.5	4,115.2	3,945.9	15.9	17.7	-29.94	-18.7	1,015.3	587.8	555.9	31.89	18.432	
4,300.0	4,254.9	4,212.9	4,036.6	16.4	18.1	-29.87	-19.4	1,051.5	609.2	576.4	32.77	18.590	
4,400.0	4,353.4	4,310.5	4,127.4	16.8	18.6	-29.80	-20.1	1,087.7	630.6	596.9	33.65	18.738	
4,500.0	4,451.9	4,408.2	4,218.1	17.2	19.1	-29.73	-20.8	1,123.9	651.9	617.4	34.53	18.878	
4,600.0	4,550.3	4,505.9	4,308.8	17.7	19.6	-29.67	-21.6	1,160.1	673.3	637.9	35.42	19.010	
4,700.0	4,648.8	4,603.6	4,399.6	18.1	20.1	-29.62	-22.3	1,196.3	694.7	658.4	36.31	19.135	
4,800.0	4,747.3	4,701.3	4,490.3	18.6	20.6	-29.56	-23.0	1,232.4	716.1	678.9	37.19	19.253	

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 903H
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 903H	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)			
4,900.0	4,845.7	4,799.0	4,581.0	19.0	21.1	-29.51	-23.7	1,268.6	737.5	699.4	38.08	19.364	
5,000.0	4,944.2	4,896.7	4,671.8	19.5	21.6	-29.47	-24.4	1,304.8	758.9	719.9	38.98	19.470	
5,100.0	5,042.7	4,994.3	4,762.5	19.9	22.1	-29.42	-25.1	1,341.0	780.2	740.4	39.87	19.571	
5,200.0	5,141.1	5,092.0	4,853.2	20.4	22.6	-29.38	-25.8	1,377.2	801.6	760.9	40.76	19.666	
5,300.0	5,239.6	5,189.7	4,944.0	20.8	23.1	-29.34	-26.6	1,413.4	823.0	781.4	41.66	19.757	
5,400.0	5,338.0	5,287.4	5,034.7	21.3	23.6	-29.30	-27.3	1,449.5	844.4	801.9	42.55	19.844	
5,500.0	5,436.5	5,385.1	5,125.4	21.7	24.1	-29.26	-28.0	1,485.7	865.8	822.3	43.45	19.926	
5,600.0	5,535.0	5,482.8	5,216.2	22.2	24.6	-29.23	-28.7	1,521.9	887.2	842.8	44.35	20.005	
5,700.0	5,633.4	5,580.4	5,306.9	22.6	25.1	-29.20	-29.4	1,558.1	908.6	863.3	45.25	20.080	
5,800.0	5,731.9	5,678.1	5,397.6	23.1	25.6	-29.17	-30.1	1,594.3	930.0	883.8	46.15	20.152	
5,900.0	5,830.4	5,775.8	5,488.4	23.5	26.1	-29.14	-30.8	1,630.5	951.3	904.3	47.05	20.221	
6,000.0	5,928.8	5,873.5	5,579.1	24.0	26.6	-29.11	-31.6	1,666.7	972.7	924.8	47.95	20.287	
6,100.0	6,027.3	5,971.2	5,669.8	24.4	27.1	-29.08	-32.3	1,702.8	994.1	945.3	48.85	20.350	

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 903H
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 903H	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	89.85	0.1	30.0	30.0				
100.0	100.0	99.0	100.0	0.8	0.8	89.85	0.1	30.0	30.0	28.0	1.97	15.220	
200.0	200.0	199.0	200.0	1.4	1.4	89.85	0.1	30.0	30.0	26.7	3.30	9.096	
300.0	300.0	299.0	300.0	1.9	1.9	89.85	0.1	30.0	30.0	25.8	4.19	7.167	
400.0	400.0	399.0	400.0	2.2	2.2	89.85	0.1	30.0	30.0	25.1	4.90	6.117	
500.0	500.0	499.0	500.0	2.6	2.6	89.85	0.1	30.0	30.0	24.5	5.53	5.429	
600.0	600.0	599.0	600.0	2.8	2.8	89.85	0.1	30.0	30.0	23.9	6.08	4.931	
700.0	700.0	699.0	700.0	3.1	3.1	89.85	0.1	30.0	30.0	23.4	6.60	4.549	
800.0	800.0	799.0	800.0	3.3	3.3	89.85	0.1	30.0	30.0	22.9	7.07	4.243	
900.0	900.0	899.0	900.0	3.6	3.6	89.85	0.1	30.0	30.0	22.5	7.52	3.990	
1,000.0	1,000.0	999.0	1,000.0	3.8	3.8	89.85	0.1	30.0	30.0	22.1	7.94	3.777	
1,100.0	1,100.0	1,099.0	1,100.0	4.1	4.0	-47.63	0.1	30.0	28.8	20.4	8.39	3.432	
1,200.0	1,199.8	1,198.8	1,199.8	4.4	4.2	-56.38	0.1	30.0	25.6	16.8	8.77	2.913 Normal Operations	
1,250.0	1,249.7	1,248.7	1,249.7	4.5	4.3	-64.34	0.1	30.0	23.6	14.7	8.87	2.661 Normal Operations	
1,300.0	1,299.5	1,298.5	1,299.5	4.5	4.4	-67.22	0.1	30.0	21.7	12.7	8.97	2.416 Caution - Monitor Closely	
1,400.0	1,398.8	1,397.8	1,398.8	4.8	4.6	-87.52	0.1	30.0	19.0	9.6	9.35	2.029 Caution - Monitor Closely	
1,408.2	1,407.0	1,406.0	1,407.0	4.8	4.6	-90.00	0.1	30.0	19.0	9.6	9.39	2.018 Caution - Monitor Closely, CC, ES, SF	
1,500.0	1,497.8	1,496.8	1,497.8	5.1	4.7	-119.30	0.1	30.0	22.4	12.4	9.98	2.244 Caution - Monitor Closely	
1,555.8	1,552.8	1,552.2	1,553.2	5.3	4.9	-132.78	-0.1	30.4	27.6	17.3	10.32	2.677 Normal Operations	
1,600.0	1,596.4	1,596.3	1,597.3	5.4	5.0	-141.45	-0.5	31.5	32.5	21.9	10.58	3.069	
1,700.0	1,694.8	1,696.7	1,697.5	5.7	5.2	-152.26	-2.2	36.3	42.8	31.6	11.17	3.829	
1,800.0	1,793.3	1,797.7	1,798.1	6.0	5.4	-157.38	-5.1	44.5	50.7	39.1	11.62	4.364	
1,900.0	1,891.8	1,899.0	1,898.7	6.3	5.7	-159.19	-8.2	56.3	56.0	43.8	12.21	4.584	
2,000.0	1,990.2	2,000.6	1,999.1	6.7	6.0	-158.67	-11.4	71.7	58.4	45.6	12.82	4.559	
2,100.0	2,088.7	2,102.2	2,098.9	7.1	6.3	-156.05	-14.6	90.6	58.1	44.7	13.40	4.336	
2,200.0	2,187.2	2,203.6	2,197.7	7.5	6.7	-150.94	-18.0	112.9	55.3	41.4	13.90	3.977	
2,300.0	2,285.6	2,303.9	2,294.7	7.8	6.9	-142.65	-21.4	138.2	51.0	36.8	14.14	3.603	
2,400.0	2,384.1	2,403.5	2,390.9	8.2	7.3	-132.59	-24.7	163.7	47.6	33.4	14.23	3.347	
2,500.0	2,482.6	2,503.0	2,487.1	8.6	7.6	-121.43	-28.1	189.3	46.0	31.9	14.11	3.258	
2,540.3	2,522.2	2,543.2	2,525.8	8.8	7.8	-116.78	-29.4	199.6	45.8	31.8	14.03	3.266	
2,600.0	2,581.0	2,602.6	2,583.3	9.0	8.0	-109.90	-31.4	214.8	46.2	32.2	13.91	3.318	
2,700.0	2,679.5	2,702.2	2,679.4	9.4	8.3	-98.91	-34.8	240.4	48.2	34.3	13.84	3.480	
2,800.0	2,777.9	2,801.7	2,775.6	9.9	8.7	-89.11	-38.1	265.9	51.8	37.7	14.06	3.682	
2,900.0	2,876.4	2,901.3	2,871.8	10.3	9.1	-80.80	-41.5	291.5	56.7	42.1	14.60	3.884	
3,000.0	2,974.9	3,000.9	2,968.0	10.7	9.5	-73.92	-44.8	317.0	62.6	47.3	15.36	4.078	
3,100.0	3,073.3	3,100.4	3,064.1	11.1	10.0	-68.29	-48.2	342.6	69.3	53.0	16.25	4.265	
3,200.0	3,171.8	3,200.0	3,160.3	11.6	10.4	-63.68	-51.5	368.1	76.5	59.3	17.20	4.449	
3,300.0	3,270.3	3,299.6	3,256.5	12.0	10.8	-59.89	-54.9	393.7	84.1	66.0	18.17	4.631	
3,400.0	3,368.7	3,399.1	3,352.7	12.4	11.2	-56.73	-58.2	419.2	92.1	72.9	19.14	4.810	
3,500.0	3,467.2	3,498.7	3,448.8	12.8	11.7	-54.08	-61.6	444.8	100.2	80.1	20.10	4.985	
3,600.0	3,565.7	3,598.3	3,545.0	13.3	12.1	-51.83	-64.9	470.3	108.6	87.5	21.06	5.155	
3,700.0	3,664.1	3,697.8	3,641.2	13.7	12.6	-49.91	-68.3	495.9	117.1	95.0	22.01	5.318	
3,800.0	3,762.6	3,797.4	3,737.4	14.2	13.0	-48.25	-71.6	521.4	125.7	102.7	22.95	5.476	
3,900.0	3,861.1	3,897.0	3,833.5	14.6	13.5	-46.80	-75.0	547.0	134.3	110.5	23.88	5.626	
4,000.0	3,959.5	3,996.6	3,929.7	15.0	13.9	-45.52	-78.3	572.5	143.1	118.3	24.80	5.771	
4,100.0	4,058.0	4,096.1	4,025.9	15.5	14.4	-44.40	-81.7	598.1	151.9	126.2	25.72	5.908	
4,200.0	4,156.5	4,195.7	4,122.1	15.9	14.8	-43.40	-85.0	623.6	160.8	134.2	26.63	6.040	
4,300.0	4,254.9	4,295.3	4,218.2	16.4	15.3	-42.50	-88.4	649.2	169.7	142.2	27.53	6.165	
4,400.0	4,353.4	4,394.8	4,314.4	16.8	15.8	-41.69	-91.7	674.7	178.7	150.3	28.43	6.285	
4,500.0	4,451.9	4,494.4	4,410.6	17.2	16.2	-40.96	-95.1	700.3	187.7	158.4	29.33	6.398	
4,600.0	4,550.3	4,594.0	4,506.8	17.7	16.7	-40.30	-98.4	725.8	196.7	166.5	30.23	6.507	

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 903H
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 903H	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)			
4,700.0	4,648.8	4,693.5	4,602.9	18.1	17.2	-39.70	-101.8	751.4	205.8	174.6	31.12	6.611	
4,800.0	4,747.3	4,793.1	4,699.1	18.6	17.7	-39.14	-105.1	776.9	214.8	182.8	32.02	6.710	
4,900.0	4,845.7	4,892.7	4,795.3	19.0	18.1	-38.63	-108.5	802.5	223.9	191.0	32.91	6.804	
5,000.0	4,944.2	4,992.2	4,891.5	19.5	18.6	-38.16	-111.8	828.1	233.0	199.2	33.80	6.894	
5,100.0	5,042.7	5,091.8	4,987.6	19.9	19.1	-37.73	-115.2	853.6	242.1	207.4	34.68	6.981	
5,200.0	5,141.1	5,191.4	5,083.8	20.4	19.6	-37.33	-118.5	879.2	251.2	215.7	35.57	7.063	
5,300.0	5,239.6	5,290.9	5,180.0	20.8	20.0	-36.95	-121.9	904.7	260.4	223.9	36.46	7.142	
5,400.0	5,338.0	5,390.5	5,276.2	21.3	20.5	-36.60	-125.2	930.3	269.5	232.2	37.34	7.218	
5,500.0	5,436.5	5,490.1	5,372.3	21.7	21.0	-36.28	-128.6	955.8	278.7	240.5	38.23	7.290	
5,600.0	5,535.0	5,589.6	5,468.5	22.2	21.5	-35.97	-131.9	981.4	287.9	248.7	39.11	7.360	
5,700.0	5,633.4	5,689.2	5,564.7	22.6	22.0	-35.69	-135.3	1,006.9	297.0	257.0	39.99	7.427	
5,800.0	5,731.9	5,788.8	5,660.9	23.1	22.4	-35.42	-138.6	1,032.5	306.2	265.3	40.88	7.491	
5,900.0	5,830.4	5,888.3	5,757.0	23.5	22.9	-35.16	-142.0	1,058.0	315.4	273.6	41.76	7.552	
6,000.0	5,928.8	5,987.9	5,853.2	24.0	23.4	-34.93	-145.3	1,083.6	324.6	281.9	42.64	7.612	
6,100.0	6,027.3	6,087.5	5,949.4	24.4	23.9	-34.70	-148.7	1,109.1	333.8	290.3	43.53	7.669	
6,200.0	6,125.8	6,187.0	6,045.6	24.9	24.4	-34.49	-152.0	1,134.7	343.0	298.6	44.41	7.724	
6,300.0	6,224.2	6,286.6	6,141.7	25.3	24.9	-34.28	-155.4	1,160.2	352.2	306.9	45.29	7.777	
6,400.0	6,322.7	6,386.2	6,237.9	25.8	25.3	-34.09	-158.7	1,185.8	361.4	315.2	46.17	7.828	
6,500.0	6,421.2	6,485.7	6,334.1	26.2	25.8	-33.91	-162.1	1,211.3	370.6	323.6	47.05	7.877	
6,600.0	6,519.6	6,585.3	6,430.3	26.7	26.3	-33.73	-165.4	1,236.9	379.8	331.9	47.93	7.924	
6,700.0	6,618.1	6,684.9	6,526.4	27.1	26.8	-33.57	-168.8	1,262.4	389.1	340.2	48.81	7.970	
6,800.0	6,716.6	6,784.4	6,622.6	27.6	27.3	-33.41	-172.1	1,288.0	398.3	348.6	49.70	8.014	
6,900.0	6,815.0	6,884.0	6,718.8	28.0	27.8	-33.26	-175.5	1,313.5	407.5	356.9	50.58	8.057	
7,000.0	6,913.5	6,983.6	6,815.0	28.5	28.3	-33.12	-178.8	1,339.1	416.7	365.3	51.46	8.099	
7,100.0	7,012.0	7,083.2	6,911.1	28.9	28.7	-32.98	-182.2	1,364.6	426.0	373.6	52.34	8.139	
7,200.0	7,110.4	7,182.7	7,007.3	29.4	29.2	-32.85	-185.5	1,390.2	435.2	382.0	53.22	8.177	
7,300.0	7,208.9	7,282.3	7,103.5	29.8	29.7	-32.72	-188.9	1,415.7	444.4	390.3	54.10	8.215	
7,400.0	7,307.4	7,381.9	7,199.7	30.3	30.2	-32.60	-192.2	1,441.3	453.7	398.7	54.98	8.251	
7,500.0	7,405.8	7,481.4	7,295.8	30.8	30.7	-32.48	-195.6	1,466.8	462.9	407.1	55.86	8.287	
7,600.0	7,504.3	7,581.0	7,392.0	31.2	31.2	-32.37	-198.9	1,492.4	472.2	415.4	56.74	8.321	
7,700.0	7,602.7	7,680.6	7,488.2	31.7	31.7	-32.26	-202.3	1,517.9	481.4	423.8	57.62	8.354	
7,800.0	7,701.2	7,796.2	7,600.4	32.1	32.3	-32.22	-205.9	1,545.9	489.2	430.6	58.64	8.344	
7,900.0	7,799.7	7,914.8	7,716.5	32.6	32.9	-32.41	-209.1	1,569.8	493.3	433.8	59.49	8.292	
8,000.0	7,898.1	8,033.6	7,833.6	33.0	33.4	-32.82	-211.6	1,589.1	493.6	433.4	60.17	8.203	
8,100.0	7,996.6	8,135.1	7,934.1	33.5	33.8	-33.28	-213.4	1,603.1	491.7	430.9	60.78	8.089	
8,103.5	8,000.1	8,138.6	7,937.6	33.5	33.8	-33.30	-213.5	1,603.6	491.6	430.8	60.80	8.085	
8,200.0	8,095.2	8,235.0	8,033.1	33.9	34.3	-33.68	-215.2	1,616.9	490.5	429.1	61.40	7.988	
8,232.7	8,127.5	8,267.7	8,065.4	34.1	34.4	-33.79	-215.8	1,621.4	490.4	428.8	61.61	7.959	
8,300.0	8,194.1	8,335.0	8,132.1	34.4	34.7	-33.98	-217.0	1,630.7	490.7	428.7	62.05	7.908	
8,400.0	8,293.2	8,435.0	8,231.1	34.8	35.1	-34.17	-218.9	1,644.5	492.4	429.7	62.72	7.851	
8,500.0	8,392.6	8,534.9	8,330.1	35.2	35.6	-34.26	-220.7	1,658.3	495.6	432.1	63.43	7.813	
8,600.0	8,492.1	8,634.8	8,429.0	35.6	36.0	-34.23	-222.5	1,672.0	500.2	436.0	64.16	7.796	
8,700.0	8,591.8	8,734.6	8,527.8	36.0	36.4	-34.11	-224.3	1,685.8	506.2	441.3	64.91	7.798	
8,800.0	8,691.6	8,834.3	8,626.5	36.3	36.8	-33.89	-226.1	1,699.6	513.7	448.0	65.69	7.820	
8,900.0	8,791.5	8,933.8	8,725.1	36.7	37.3	-33.58	-227.9	1,713.3	522.6	456.2	66.49	7.861	
9,000.0	8,891.4	9,033.2	8,823.5	37.0	37.7	-33.19	-229.7	1,727.0	533.1	465.8	67.29	7.922	
9,100.0	8,991.4	9,137.0	8,926.4	37.1	38.2	-32.70	-231.5	1,741.2	544.9	476.4	68.46	7.959	
9,108.6	9,000.0	9,146.9	8,936.1	37.1	38.2	74.12	-231.7	1,742.4	545.9	476.3	69.56	7.847	
9,200.0	9,091.4	9,251.6	9,040.1	37.2	38.6	74.61	-233.3	1,754.2	555.4	485.4	70.04	7.930	
9,300.0	9,191.4	9,366.8	9,154.9	37.2	39.1	75.00	-234.5	1,764.0	563.3	492.9	70.43	7.998	
9,400.0	9,291.4	9,482.5	9,270.4	37.2	39.5	75.25	-235.4	1,770.3	568.4	497.7	70.68	8.042	

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 903H
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 903H	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)			
9,500.0	9,391.4	9,598.5	9,386.4	37.2	39.8	75.36	-235.7	1,773.1	570.7	499.9	70.76	8.065	
9,600.0	9,491.4	9,703.5	9,491.4	37.2	39.9	75.36	-235.7	1,773.3	570.8	500.2	70.65	8.080	
9,700.0	9,591.4	9,803.5	9,591.4	37.2	39.9	75.36	-235.7	1,773.3	570.8	500.1	70.69	8.075	
9,800.0	9,691.4	9,903.5	9,691.4	37.3	39.9	75.36	-235.7	1,773.3	570.8	500.1	70.73	8.071	
9,900.0	9,791.4	10,003.5	9,791.4	37.3	39.9	75.36	-235.7	1,773.3	570.8	500.0	70.77	8.066	
10,000.0	9,891.4	10,103.5	9,891.4	37.3	39.9	75.36	-235.7	1,773.3	570.8	500.0	70.81	8.061	
10,100.0	9,991.4	10,203.5	9,991.4	37.3	40.0	75.36	-235.7	1,773.3	570.8	500.0	70.85	8.056	
10,200.0	10,091.4	10,303.5	10,091.4	37.3	40.0	75.36	-235.7	1,773.3	570.8	499.9	70.89	8.052	
10,300.0	10,191.4	10,403.5	10,191.4	37.4	40.0	75.36	-235.7	1,773.3	570.8	499.9	70.94	8.047	
10,302.1	10,193.5	10,405.6	10,193.5	37.4	40.0	75.36	-235.7	1,773.3	570.8	499.9	70.94	8.047	
10,325.0	10,216.4	10,428.5	10,216.4	37.4	40.0	-104.33	-235.7	1,773.3	570.9	499.9	71.05	8.036	
10,350.0	10,241.3	10,453.4	10,241.3	37.4	40.0	-104.45	-235.7	1,773.3	571.4	500.4	70.99	8.050	
10,375.0	10,266.1	10,478.2	10,266.1	37.4	40.0	-104.66	-235.7	1,773.3	572.2	501.3	70.87	8.074	
10,400.0	10,290.7	10,502.8	10,290.7	37.4	40.0	-104.95	-235.7	1,773.3	573.4	502.7	70.70	8.110	
10,425.0	10,315.1	10,527.2	10,315.1	37.4	40.0	-105.31	-235.7	1,773.3	574.9	504.4	70.48	8.157	
10,450.0	10,339.1	10,550.0	10,337.9	37.4	40.0	-105.69	-235.9	1,773.3	576.8	506.9	69.95	8.246	
10,475.0	10,362.7	10,573.3	10,361.1	37.4	40.1	-106.05	-236.7	1,773.6	579.3	509.6	69.68	8.314	
10,500.0	10,385.8	10,596.2	10,384.0	37.4	40.1	-106.37	-238.4	1,774.3	582.2	512.8	69.39	8.390	
10,525.0	10,408.4	10,619.2	10,406.9	37.4	40.2	-106.65	-241.0	1,775.2	585.6	516.5	69.07	8.478	
10,550.0	10,430.4	10,642.5	10,429.8	37.4	40.2	-106.90	-244.5	1,776.5	589.5	520.7	68.74	8.576	
10,575.0	10,451.8	10,665.9	10,452.7	37.4	40.3	-107.11	-248.9	1,778.1	593.8	525.5	68.39	8.684	
10,600.0	10,472.5	10,689.4	10,475.6	37.4	40.3	-107.28	-254.2	1,780.0	598.7	530.7	68.02	8.802	
10,625.0	10,492.4	10,713.2	10,498.4	37.4	40.4	-107.41	-260.5	1,782.3	604.0	536.3	67.64	8.930	
10,650.0	10,511.4	10,737.2	10,521.1	37.4	40.4	-107.51	-267.7	1,784.9	609.7	542.5	67.25	9.067	
10,675.0	10,529.6	10,761.3	10,543.7	37.4	40.5	-107.57	-275.8	1,787.9	616.0	549.1	66.85	9.213	
10,700.0	10,546.9	10,785.7	10,566.0	37.4	40.6	-107.58	-285.0	1,791.2	622.6	556.1	66.46	9.368	
10,725.0	10,563.2	10,810.3	10,588.2	37.4	40.6	-107.56	-295.1	1,794.9	629.7	563.6	66.06	9.531	
10,750.0	10,578.5	10,835.2	10,610.1	37.4	40.7	-107.50	-306.2	1,798.9	637.1	571.5	65.67	9.702	
10,775.0	10,592.8	10,860.4	10,631.7	37.4	40.8	-107.40	-318.4	1,803.3	645.0	579.7	65.29	9.879	
10,800.0	10,605.9	10,885.9	10,652.9	37.4	40.8	-107.26	-331.5	1,808.1	653.2	588.3	64.92	10.061	
10,825.0	10,618.0	10,911.7	10,673.8	37.5	40.9	-107.09	-345.8	1,813.3	661.8	597.2	64.57	10.250	
10,850.0	10,628.8	10,937.8	10,694.2	37.5	41.0	-106.88	-361.1	1,818.9	670.7	606.5	64.23	10.442	
10,875.0	10,638.5	10,964.3	10,714.2	37.5	41.0	-106.63	-377.5	1,824.9	679.9	616.0	63.92	10.637	
10,900.0	10,646.9	10,995.6	10,736.6	37.5	41.1	-106.50	-398.0	1,832.3	689.4	625.7	63.70	10.823	
10,925.0	10,654.2	11,197.7	10,846.5	37.5	41.5	-109.49	-561.5	1,870.2	696.2	629.8	66.47	10.475	
10,950.0	10,660.1	11,386.6	10,883.0	37.5	41.7	-108.37	-745.1	1,883.6	697.0	627.6	69.35	10.050	
10,975.0	10,664.8	11,418.1	10,883.1	37.6	41.8	-108.07	-776.6	1,883.8	695.5	625.9	69.65	9.986	
11,000.0	10,668.1	11,442.9	10,883.1	37.6	41.8	-107.93	-801.3	1,884.0	694.5	624.7	69.79	9.951	
11,025.0	10,670.2	11,467.8	10,883.1	37.6	41.8	-107.84	-826.2	1,884.1	693.8	624.0	69.87	9.930	
11,050.0	10,671.0	11,492.8	10,883.1	37.6	41.9	-107.81	-851.2	1,884.3	693.6	623.7	69.91	9.922	
11,051.9	10,671.0	11,494.6	10,883.1	37.6	41.9	-107.81	-853.1	1,884.3	693.6	623.7	69.91	9.922	
11,052.7	10,671.0	11,495.5	10,883.1	37.6	41.9	-107.81	-853.9	1,884.3	693.6	623.7	69.91	9.922	
11,100.0	10,670.9	11,542.8	10,883.1	37.7	41.9	-107.82	-901.2	1,884.6	693.6	623.7	69.93	9.919	
11,200.0	10,670.8	11,642.8	10,883.2	37.8	42.1	-107.83	-1,001.2	1,885.2	693.7	623.7	70.00	9.910	
11,300.0	10,670.6	11,742.8	10,883.3	37.9	42.3	-107.85	-1,101.2	1,885.8	693.7	623.6	70.11	9.895	
11,400.0	10,670.5	11,842.8	10,883.3	38.1	42.5	-107.86	-1,201.2	1,886.4	693.8	623.5	70.26	9.875	
11,500.0	10,670.4	11,942.8	10,883.4	38.3	42.7	-107.88	-1,301.2	1,887.0	693.9	623.4	70.45	9.849	
11,600.0	10,670.3	12,042.8	10,883.4	38.5	43.0	-107.89	-1,401.2	1,887.6	693.9	623.2	70.67	9.819	
11,700.0	10,670.1	12,142.8	10,883.5	38.7	43.2	-107.91	-1,501.2	1,888.2	694.0	623.0	70.94	9.783	
11,800.0	10,670.0	12,242.8	10,883.5	38.9	43.5	-107.92	-1,601.2	1,888.8	694.0	622.8	71.24	9.742	
11,900.0	10,669.9	12,342.8	10,883.6	39.2	43.9	-107.94	-1,701.2	1,889.4	694.1	622.5	71.57	9.697	

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 903H
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 903H	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)		
12,000.0	10,669.7	12,442.8	10,883.7	39.4	44.2	-107.95	-1,801.2	1,890.0	694.1	622.2	71.95	9.648
12,100.0	10,669.6	12,542.8	10,883.7	39.7	44.6	-107.97	-1,901.2	1,890.6	694.2	621.8	72.36	9.594
12,200.0	10,669.5	12,642.8	10,883.8	40.0	45.0	-107.98	-2,001.2	1,891.3	694.2	621.4	72.80	9.536
12,300.0	10,669.3	12,742.8	10,883.8	40.3	45.4	-108.00	-2,101.2	1,891.9	694.3	621.0	73.28	9.474
12,400.0	10,669.2	12,842.8	10,883.9	40.7	45.8	-108.01	-2,201.2	1,892.5	694.3	620.5	73.79	9.409
12,500.0	10,669.1	12,942.8	10,884.0	41.0	46.2	-108.03	-2,301.2	1,893.1	694.4	620.1	74.34	9.341
12,600.0	10,669.0	13,042.8	10,884.0	41.4	46.7	-108.04	-2,401.2	1,893.7	694.5	619.5	74.92	9.269
12,700.0	10,668.8	13,142.8	10,884.1	41.8	47.1	-108.06	-2,501.2	1,894.3	694.5	619.0	75.53	9.195
12,800.0	10,668.7	13,242.8	10,884.1	42.2	47.6	-108.07	-2,601.2	1,894.9	694.6	618.4	76.17	9.119
12,900.0	10,668.6	13,342.8	10,884.2	42.6	48.1	-108.09	-2,701.2	1,895.5	694.6	617.8	76.84	9.040
13,000.0	10,668.4	13,442.8	10,884.3	43.0	48.7	-108.10	-2,801.2	1,896.1	694.7	617.1	77.53	8.960
13,100.0	10,668.3	13,542.8	10,884.3	43.4	49.2	-108.11	-2,901.2	1,896.7	694.7	616.5	78.26	8.877
13,200.0	10,668.2	13,642.8	10,884.4	43.9	49.7	-108.13	-3,001.2	1,897.3	694.8	615.8	79.01	8.794
13,300.0	10,668.0	13,742.7	10,884.4	44.3	50.3	-108.14	-3,101.2	1,897.9	694.8	615.1	79.79	8.709
13,400.0	10,667.9	13,842.7	10,884.5	44.8	50.9	-108.16	-3,201.2	1,898.6	694.9	614.3	80.59	8.623
13,500.0	10,667.8	13,942.7	10,884.6	45.3	51.5	-108.17	-3,301.2	1,899.2	695.0	613.5	81.41	8.536
13,600.0	10,667.7	14,042.7	10,884.6	45.8	52.1	-108.19	-3,401.2	1,899.8	695.0	612.7	82.26	8.449
13,700.0	10,667.5	14,142.7	10,884.7	46.3	52.7	-108.20	-3,501.2	1,900.4	695.1	611.9	83.13	8.361
13,800.0	10,667.4	14,242.7	10,884.7	46.9	53.3	-108.22	-3,601.2	1,901.0	695.1	611.1	84.03	8.273
13,900.0	10,667.3	14,342.7	10,884.8	47.4	53.9	-108.23	-3,701.2	1,901.6	695.2	610.2	84.94	8.184
14,000.0	10,667.1	14,442.7	10,884.8	47.9	54.6	-108.25	-3,801.2	1,902.2	695.2	609.4	85.87	8.096
14,100.0	10,667.0	14,542.7	10,884.9	48.5	55.2	-108.26	-3,901.2	1,902.8	695.3	608.5	86.82	8.008
14,200.0	10,666.9	14,642.7	10,885.0	49.1	55.9	-108.28	-4,001.2	1,903.4	695.3	607.5	87.79	7.920
14,300.0	10,666.7	14,742.7	10,885.0	49.6	56.6	-108.29	-4,101.2	1,904.0	695.4	606.6	88.78	7.833
14,400.0	10,666.6	14,842.7	10,885.1	50.2	57.3	-108.31	-4,201.2	1,904.6	695.5	605.7	89.78	7.746
14,500.0	10,666.5	14,942.7	10,885.1	50.8	58.0	-108.32	-4,301.2	1,905.2	695.5	604.7	90.80	7.660
14,600.0	10,666.4	15,042.7	10,885.2	51.4	58.7	-108.34	-4,401.2	1,905.8	695.6	603.7	91.83	7.574
14,700.0	10,666.2	15,142.7	10,885.3	52.0	59.4	-108.35	-4,501.2	1,906.5	695.6	602.7	92.88	7.490
14,800.0	10,666.1	15,242.7	10,885.3	52.6	60.1	-108.37	-4,601.1	1,907.1	695.7	601.7	93.94	7.405
14,900.0	10,666.0	15,342.7	10,885.4	53.2	60.8	-108.38	-4,701.1	1,907.7	695.7	600.7	95.02	7.322
15,000.0	10,665.8	15,442.7	10,885.4	53.9	61.5	-108.40	-4,801.1	1,908.3	695.8	599.7	96.10	7.240
15,100.0	10,665.7	15,542.7	10,885.5	54.5	62.2	-108.41	-4,901.1	1,908.9	695.8	598.6	97.20	7.159
15,200.0	10,665.6	15,642.7	10,885.6	55.2	63.0	-108.43	-5,001.1	1,909.5	695.9	597.6	98.31	7.078
15,300.0	10,665.5	15,742.7	10,885.6	55.8	63.7	-108.44	-5,101.1	1,910.1	696.0	596.5	99.44	6.999
15,400.0	10,665.3	15,842.7	10,885.7	56.5	64.5	-108.46	-5,201.1	1,910.7	696.0	595.4	100.57	6.921
15,500.0	10,665.2	15,942.7	10,885.7	57.1	65.2	-108.47	-5,301.1	1,911.3	696.1	594.4	101.71	6.844
15,600.0	10,665.1	16,042.7	10,885.8	57.8	66.0	-108.49	-5,401.1	1,911.9	696.1	593.3	102.86	6.767
15,700.0	10,664.9	16,142.7	10,885.8	58.4	66.8	-108.50	-5,501.1	1,912.5	696.2	592.2	104.02	6.692
15,800.0	10,664.8	16,242.7	10,885.9	59.1	67.5	-108.52	-5,601.1	1,913.1	696.2	591.0	105.19	6.619
15,900.0	10,664.7	16,342.7	10,886.0	59.8	68.3	-108.53	-5,701.1	1,913.8	696.3	589.9	106.37	6.546
16,000.0	10,664.5	16,442.7	10,886.0	60.5	69.1	-108.55	-5,801.1	1,914.4	696.4	588.8	107.56	6.474
16,100.0	10,664.4	16,542.7	10,886.1	61.2	69.9	-108.56	-5,901.1	1,915.0	696.4	587.7	108.75	6.404
16,200.0	10,664.3	16,642.7	10,886.1	61.9	70.7	-108.58	-6,001.1	1,915.6	696.5	586.5	109.95	6.334
16,300.0	10,664.2	16,742.7	10,886.2	62.6	71.5	-108.59	-6,101.1	1,916.2	696.5	585.4	111.16	6.266
16,400.0	10,664.0	16,842.7	10,886.3	63.3	72.3	-108.61	-6,201.1	1,916.8	696.6	584.2	112.38	6.199
16,500.0	10,663.9	16,942.7	10,886.3	64.0	73.1	-108.62	-6,301.1	1,917.4	696.6	583.0	113.60	6.132
16,600.0	10,663.8	17,042.7	10,886.4	64.7	73.9	-108.63	-6,401.1	1,918.0	696.7	581.9	114.83	6.067
16,700.0	10,663.6	17,142.7	10,886.4	65.4	74.7	-108.65	-6,501.1	1,918.6	696.7	580.7	116.06	6.003
16,800.0	10,663.5	17,242.7	10,886.5	66.1	75.5	-108.66	-6,601.1	1,919.2	696.8	579.5	117.30	5.941
16,900.0	10,663.4	17,342.7	10,886.6	66.8	76.3	-108.68	-6,701.1	1,919.8	696.9	578.3	118.54	5.879
17,000.0	10,663.2	17,442.7	10,886.6	67.6	77.1	-108.69	-6,801.1	1,920.4	696.9	577.1	119.79	5.818

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 903H
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 903H	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)			
17,100.0	10,663.1	17,542.7	10,886.7	68.3	78.0	-108.71	-6,901.1	1,921.0	697.0	575.9	121.04	5.758	
17,200.0	10,663.0	17,642.7	10,886.7	69.0	78.8	-108.72	-7,001.1	1,921.7	697.0	574.7	122.30	5.699	
17,300.0	10,662.9	17,742.7	10,886.8	69.8	79.6	-108.74	-7,101.1	1,922.3	697.1	573.5	123.56	5.642	
17,400.0	10,662.7	17,842.7	10,886.9	70.5	80.5	-108.75	-7,201.1	1,922.9	697.1	572.3	124.83	5.585	
17,500.0	10,662.6	17,942.7	10,886.9	71.2	81.3	-108.77	-7,301.1	1,923.5	697.2	571.1	126.10	5.529	
17,600.0	10,662.5	18,042.7	10,887.0	72.0	82.1	-108.78	-7,401.1	1,924.1	697.3	569.9	127.37	5.474	
17,700.0	10,662.3	18,142.7	10,887.0	72.7	83.0	-108.80	-7,501.1	1,924.7	697.3	568.7	128.65	5.420	
17,800.0	10,662.2	18,242.7	10,887.1	73.5	83.8	-108.81	-7,601.1	1,925.3	697.4	567.4	129.93	5.367	
17,900.0	10,662.1	18,342.7	10,887.1	74.2	84.7	-108.83	-7,701.1	1,925.9	697.4	566.2	131.22	5.315	
18,000.0	10,661.9	18,442.7	10,887.2	75.0	85.5	-108.84	-7,801.1	1,926.5	697.5	565.0	132.50	5.264	
18,100.0	10,661.8	18,542.7	10,887.3	75.7	86.4	-108.86	-7,901.1	1,927.1	697.6	563.8	133.80	5.214	
18,200.0	10,661.7	18,642.7	10,887.3	76.5	87.2	-108.87	-8,001.1	1,927.7	697.6	562.5	135.09	5.164	
18,300.0	10,661.6	18,742.7	10,887.4	77.2	88.1	-108.89	-8,101.1	1,928.3	697.7	561.3	136.39	5.115	
18,400.0	10,661.4	18,842.7	10,887.4	78.0	89.0	-108.90	-8,201.1	1,929.0	697.7	560.0	137.69	5.067	
18,500.0	10,661.3	18,942.7	10,887.5	78.8	89.8	-108.92	-8,301.1	1,929.6	697.8	558.8	138.99	5.020	
18,600.0	10,661.2	19,042.7	10,887.6	79.5	90.7	-108.93	-8,401.1	1,930.2	697.8	557.5	140.29	4.974	
18,700.0	10,661.0	19,142.7	10,887.6	80.3	91.5	-108.95	-8,501.1	1,930.8	697.9	556.3	141.60	4.929	
18,800.0	10,660.9	19,242.7	10,887.7	81.1	92.4	-108.96	-8,601.1	1,931.4	698.0	555.0	142.91	4.884	
18,900.0	10,660.8	19,342.7	10,887.7	81.8	93.3	-108.97	-8,701.1	1,932.0	698.0	553.8	144.22	4.840	
19,000.0	10,660.6	19,442.7	10,887.8	82.6	94.2	-108.99	-8,801.1	1,932.6	698.1	552.5	145.54	4.797	
19,100.0	10,660.5	19,542.7	10,887.9	83.4	95.0	-109.00	-8,901.1	1,933.2	698.1	551.3	146.85	4.754	
19,200.0	10,660.4	19,642.7	10,887.9	84.2	95.9	-109.02	-9,001.1	1,933.8	698.2	550.0	148.17	4.712	
19,300.0	10,660.3	19,742.7	10,888.0	84.9	96.8	-109.03	-9,101.1	1,934.4	698.2	548.8	149.49	4.671	
19,400.0	10,660.1	19,842.7	10,888.0	85.7	97.7	-109.05	-9,201.1	1,935.0	698.3	547.5	150.81	4.630	
19,500.0	10,660.0	19,942.7	10,888.1	86.5	98.5	-109.06	-9,301.1	1,935.6	698.4	546.2	152.14	4.590	
19,600.0	10,659.9	20,042.7	10,888.1	87.3	99.4	-109.08	-9,401.1	1,936.2	698.4	545.0	153.46	4.551	
19,700.0	10,659.7	20,142.7	10,888.2	88.1	100.3	-109.09	-9,501.0	1,936.9	698.5	543.7	154.79	4.512	
19,800.0	10,659.6	20,242.7	10,888.3	88.9	101.2	-109.11	-9,601.0	1,937.5	698.5	542.4	156.12	4.474	
19,900.0	10,659.5	20,342.7	10,888.3	89.6	102.1	-109.12	-9,701.0	1,938.1	698.6	541.1	157.45	4.437	
20,000.0	10,659.3	20,442.7	10,888.4	90.4	103.0	-109.14	-9,801.0	1,938.7	698.7	539.9	158.78	4.400	
20,100.0	10,659.2	20,542.7	10,888.4	91.2	103.8	-109.15	-9,901.0	1,939.3	698.7	538.6	160.11	4.364	
20,200.0	10,659.1	20,642.7	10,888.5	92.0	104.7	-109.17	-10,001.0	1,939.9	698.8	537.3	161.45	4.328	
20,300.0	10,659.0	20,742.7	10,888.6	92.8	105.6	-109.18	-10,101.0	1,940.5	698.8	536.0	162.78	4.293	
20,400.0	10,658.8	20,842.7	10,888.6	93.6	106.5	-109.20	-10,201.0	1,941.1	698.9	534.8	164.12	4.258	
20,500.0	10,658.7	20,942.7	10,888.7	94.4	107.4	-109.21	-10,301.0	1,941.7	698.9	533.5	165.46	4.224	
20,600.0	10,658.6	21,042.7	10,888.7	95.2	108.3	-109.23	-10,401.0	1,942.3	699.0	532.2	166.80	4.191	
20,700.0	10,658.4	21,142.7	10,888.8	96.0	109.2	-109.24	-10,501.0	1,942.9	699.1	530.9	168.14	4.158	
20,800.0	10,658.3	21,242.7	10,888.9	96.8	110.1	-109.25	-10,601.0	1,943.5	699.1	529.6	169.48	4.125	
20,900.0	10,658.2	21,342.7	10,888.9	97.6	111.0	-109.27	-10,701.0	1,944.2	699.2	528.4	170.83	4.093	
21,000.0	10,658.0	21,442.7	10,889.0	98.4	111.9	-109.28	-10,801.0	1,944.8	699.2	527.1	172.17	4.061	
21,038.6	10,658.0	21,481.4	10,889.0	98.7	112.2	-109.29	-10,839.7	1,945.0	699.3	526.6	172.69	4.049	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - PUDGE FEDERAL COM 904H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10451-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)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.17	-0.1	-30.0	30.0				
100.0	100.0	100.0	100.0	0.8	0.8	-90.17	-0.1	-30.0	30.0	28.0	1.97	15.258	
200.0	200.0	200.0	200.0	1.4	1.4	-90.17	-0.1	-30.0	30.0	26.7	3.30	9.096	
300.0	300.0	300.0	300.0	1.9	1.9	-90.17	-0.1	-30.0	30.0	25.8	4.19	7.168	
400.0	400.0	400.0	400.0	2.2	2.2	-90.17	-0.1	-30.0	30.0	25.1	4.90	6.118	
500.0	500.0	500.0	500.0	2.6	2.6	-90.17	-0.1	-30.0	30.0	24.5	5.53	5.430	
600.0	600.0	600.0	600.0	2.8	2.8	-90.17	-0.1	-30.0	30.0	23.9	6.08	4.932	
700.0	700.0	700.0	700.0	3.1	3.1	-90.17	-0.1	-30.0	30.0	23.4	6.59	4.549	
800.0	800.0	800.0	800.0	3.3	3.3	-90.17	-0.1	-30.0	30.0	22.9	7.07	4.243	
900.0	900.0	900.0	900.0	3.6	3.6	-90.17	-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	-90.17	-0.1	-30.0	30.0	22.1	7.94	3.777 CC, ES	
1,100.0	1,100.0	1,100.0	1,100.0	4.1	4.0	137.08	-0.1	-30.0	31.3	22.9	8.40	3.721 SF	
1,200.0	1,199.8	1,199.8	1,199.8	4.4	4.2	142.83	-0.1	-30.0	35.3	26.4	8.86	3.981	
1,250.0	1,249.7	1,249.7	1,249.7	4.5	4.3	146.32	-0.1	-30.0	38.5	29.5	9.02	4.265	
1,300.0	1,299.5	1,299.5	1,299.5	4.5	4.4	157.24	-0.1	-30.0	42.6	33.4	9.18	4.636	
1,400.0	1,398.8	1,398.8	1,398.8	4.8	4.6	171.54	-0.1	-30.0	53.4	43.8	9.67	5.529	
1,500.0	1,497.8	1,497.8	1,497.8	5.1	4.7	179.37	-0.1	-30.0	67.6	57.4	10.18	6.639	
1,555.8	1,552.8	1,552.8	1,552.8	5.3	4.8	-177.94	-0.1	-30.0	76.8	66.4	10.40	7.386	
1,600.0	1,596.4	1,596.4	1,596.4	5.4	4.9	-178.13	-0.1	-30.0	84.5	74.0	10.57	7.998	
1,700.0	1,694.8	1,694.8	1,694.8	5.7	5.1	-178.45	-0.1	-30.0	102.0	90.9	11.05	9.232	
1,800.0	1,793.3	1,793.3	1,793.3	6.0	5.2	-178.67	-0.1	-30.0	119.4	107.9	11.54	10.347	
1,900.0	1,891.8	1,891.8	1,891.8	6.3	5.4	-178.84	-0.1	-30.0	136.9	124.8	12.05	11.357	
2,000.0	1,990.2	1,990.2	1,990.2	6.7	5.5	-178.97	-0.1	-30.0	154.3	141.7	12.57	12.272	
2,100.0	2,088.7	2,088.7	2,088.7	7.1	5.7	-179.08	-0.1	-30.0	171.8	158.7	13.11	13.102	
2,200.0	2,187.2	2,187.2	2,187.2	7.5	5.8	-179.16	-0.1	-30.0	189.2	175.6	13.65	13.857	
2,300.0	2,285.6	2,285.6	2,285.6	7.8	6.0	-179.23	-0.1	-30.0	206.7	192.5	14.21	14.545	
2,400.0	2,384.1	2,384.1	2,384.1	8.2	6.1	-179.29	-0.1	-30.0	224.1	209.3	14.77	15.173	
2,500.0	2,482.6	2,482.6	2,482.6	8.6	6.3	-179.34	-0.1	-30.0	241.6	226.2	15.34	15.748	
2,600.0	2,581.0	2,581.0	2,581.0	9.0	6.4	-179.39	-0.1	-30.0	259.0	243.1	15.91	16.276	
2,700.0	2,679.5	2,679.5	2,679.5	9.4	6.5	-179.43	-0.1	-30.0	276.5	260.0	16.49	16.761	
2,800.0	2,777.9	2,777.9	2,777.9	9.9	6.7	-179.46	-0.1	-30.0	293.9	276.8	17.08	17.209	
2,900.0	2,876.4	2,876.4	2,876.4	10.3	6.8	-179.49	-0.1	-30.0	311.4	293.7	17.67	17.622	
3,000.0	2,974.9	2,974.9	2,974.9	10.7	6.9	-179.52	-0.1	-30.0	328.8	310.6	18.26	18.005	
3,100.0	3,073.3	3,073.3	3,073.3	11.1	7.1	-179.54	-0.1	-30.0	346.3	327.4	18.86	18.360	
3,200.0	3,171.8	3,171.8	3,171.8	11.6	7.2	-179.56	-0.1	-30.0	363.7	344.3	19.46	18.690	
3,300.0	3,270.3	3,270.3	3,270.3	12.0	7.3	-179.58	-0.1	-30.0	381.2	361.1	20.06	18.998	
3,400.0	3,368.7	3,368.7	3,368.7	12.4	7.5	-179.60	-0.1	-30.0	398.6	378.0	20.67	19.285	
3,500.0	3,467.2	3,467.2	3,467.2	12.8	7.6	-179.62	-0.1	-30.0	416.1	394.8	21.28	19.553	
3,600.0	3,565.7	3,565.7	3,565.7	13.3	7.7	-179.71	-0.8	-29.4	432.8	411.0	21.79	19.867	
3,700.0	3,664.1	3,668.9	3,688.7	13.7	7.9	-179.91	-4.9	-26.0	446.4	424.0	22.45	19.882	
3,800.0	3,762.6	3,804.9	3,804.4	14.2	8.0	179.26	-12.3	-19.4	456.7	433.7	23.03	19.831	
3,900.0	3,861.1	3,923.6	3,922.1	14.6	8.2	178.53	-21.9	-8.4	463.1	439.4	23.67	19.562	
4,000.0	3,959.5	4,042.6	4,039.6	15.0	8.4	177.75	-33.2	7.3	465.4	441.1	24.30	19.149	
4,100.0	4,058.0	4,146.9	4,141.9	15.5	8.6	177.04	-44.2	23.8	464.8	439.9	24.92	18.654	
4,200.0	4,156.5	4,246.7	4,239.9	15.9	8.8	176.36	-54.7	39.7	464.2	438.6	25.57	18.158	
4,300.0	4,254.9	4,346.6	4,337.9	16.4	9.0	175.67	-65.3	55.7	463.7	437.4	26.22	17.682	
4,400.0	4,353.4	4,446.4	4,435.9	16.8	9.3	174.98	-75.9	71.6	463.2	436.3	26.89	17.227	
4,500.0	4,451.9	4,546.2	4,533.9	17.2	9.5	174.29	-86.4	87.5	462.8	435.2	27.56	16.793	
4,600.0	4,550.3	4,646.1	4,631.9	17.7	9.8	173.60	-97.0	103.5	462.5	434.2	28.24	16.378	
4,700.0	4,648.8	4,745.9	4,729.9	18.1	10.1	172.91	-107.5	119.4	462.2	433.3	28.92	15.983	
4,800.0	4,747.3	4,845.8	4,827.9	18.6	10.4	172.22	-118.1	135.3	462.0	432.4	29.60	15.607	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - PUDGE FEDERAL COM 904H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10451-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)	Distance Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
4,900.0	4,845.7	4,945.6	4,925.9	19.0	10.7	171.53	-128.6	151.2	461.9	431.6	30.29	15.249	
5,000.0	4,944.2	5,045.5	5,023.9	19.5	11.0	170.84	-139.2	167.2	461.8	430.9	30.98	14.908	
5,037.8	4,981.4	5,083.2	5,060.9	19.6	11.2	170.57	-143.2	173.2	461.8	430.6	31.24	14.783	
5,100.0	5,042.7	5,145.3	5,121.9	19.9	11.4	170.14	-149.7	183.1	461.8	430.2	31.67	14.584	
5,200.0	5,141.1	5,245.1	5,219.9	20.4	11.7	169.45	-160.3	199.0	461.9	429.6	32.36	14.275	
5,300.0	5,239.6	5,345.0	5,317.9	20.8	12.1	168.76	-170.8	215.0	462.1	429.0	33.05	13.983	
5,400.0	5,338.0	5,444.8	5,415.9	21.3	12.4	168.07	-181.4	230.9	462.3	428.5	33.73	13.704	
5,500.0	5,436.5	5,544.7	5,513.9	21.7	12.8	167.38	-191.9	246.8	462.6	428.1	34.42	13.440	
5,600.0	5,535.0	5,644.5	5,611.9	22.2	13.1	166.69	-202.5	262.8	462.9	427.8	35.10	13.189	
5,700.0	5,633.4	5,744.4	5,709.9	22.6	13.5	166.00	-213.1	278.7	463.3	427.5	35.77	12.951	
5,800.0	5,731.9	5,844.2	5,807.9	23.1	13.9	165.31	-223.6	294.6	463.8	427.3	36.45	12.725	
5,900.0	5,830.4	5,944.1	5,905.9	23.5	14.3	164.62	-234.2	310.5	464.3	427.2	37.12	12.510	
6,000.0	5,928.8	6,043.9	6,003.9	24.0	14.7	163.94	-244.7	326.5	465.0	427.2	37.78	12.307	
6,100.0	6,027.3	6,143.7	6,101.9	24.4	15.1	163.26	-255.3	342.4	465.6	427.2	38.44	12.113	
6,200.0	6,125.8	6,243.6	6,199.8	24.9	15.5	162.58	-265.8	358.3	466.4	427.3	39.09	11.930	
6,300.0	6,224.2	6,343.4	6,297.8	25.3	15.9	161.90	-276.4	374.3	467.2	427.5	39.74	11.756	
6,400.0	6,322.7	6,443.3	6,395.8	25.8	16.3	161.22	-286.9	390.2	468.1	427.7	40.38	11.591	
6,500.0	6,421.2	6,543.1	6,493.8	26.2	16.7	160.55	-297.5	406.1	469.0	428.0	41.02	11.435	
6,600.0	6,519.6	6,643.0	6,591.8	26.7	17.1	159.88	-308.0	422.1	470.0	428.4	41.64	11.287	
6,700.0	6,618.1	6,742.8	6,689.8	27.1	17.5	159.21	-318.6	438.0	471.1	428.8	42.26	11.147	
6,800.0	6,716.6	6,842.6	6,787.8	27.6	18.0	158.55	-329.1	453.9	472.2	429.4	42.88	11.014	
6,900.0	6,815.0	6,942.5	6,885.8	28.0	18.4	157.89	-339.7	469.8	473.4	430.0	43.47	10.890	
7,000.0	6,913.5	7,037.4	6,979.1	28.5	18.8	157.30	-349.4	484.6	475.1	431.1	44.06	10.784	
7,100.0	7,012.0	7,131.2	7,071.6	28.9	19.1	156.84	-358.3	497.9	478.1	433.4	44.66	10.704	
7,200.0	7,110.4	7,225.1	7,164.3	29.4	19.5	156.51	-366.2	509.9	482.4	437.1	45.28	10.652	
7,300.0	7,208.9	7,318.8	7,257.1	29.8	19.9	156.30	-373.4	520.7	487.9	442.0	45.92	10.624	
7,400.0	7,307.4	7,412.5	7,350.1	30.3	20.3	156.20	-379.7	530.2	494.7	448.1	46.58	10.620	
7,500.0	7,405.8	7,506.0	7,443.0	30.8	20.6	156.23	-385.1	538.4	502.7	455.4	47.25	10.639	
7,600.0	7,504.3	7,600.0	7,536.7	31.2	21.0	156.36	-389.7	545.4	511.9	464.0	47.95	10.677	
7,700.0	7,602.7	7,692.2	7,628.7	31.7	21.3	156.60	-393.4	551.0	522.4	473.8	48.65	10.739	
7,800.0	7,701.2	7,784.9	7,721.2	32.1	21.6	156.93	-396.3	555.3	534.2	484.8	49.36	10.822	
7,900.0	7,799.7	7,877.2	7,813.5	32.6	21.9	157.34	-398.4	558.5	547.2	497.1	50.08	10.925	
8,000.0	7,898.1	7,969.2	7,905.4	33.0	22.1	157.83	-399.7	560.3	561.5	510.7	50.80	11.052	
8,100.0	7,996.6	8,060.7	7,996.9	33.5	22.3	158.39	-400.1	561.0	577.0	525.4	51.61	11.181	
8,103.5	8,000.1	8,063.9	8,000.1	33.5	22.3	158.41	-400.1	561.0	577.6	525.3	52.28	11.048	
8,200.0	8,095.2	8,159.0	8,095.2	33.9	22.3	159.03	-400.1	561.0	592.6	539.6	52.96	11.190	
8,300.0	8,194.1	8,257.9	8,194.1	34.4	22.4	159.59	-400.1	561.0	606.6	552.9	53.63	11.310	
8,400.0	8,293.2	8,357.0	8,293.2	34.8	22.4	160.06	-400.1	561.0	619.0	564.7	54.27	11.406	
8,500.0	8,392.6	8,456.3	8,392.6	35.2	22.4	160.45	-400.1	561.0	629.8	574.9	54.87	11.477	
8,600.0	8,492.1	8,555.9	8,492.1	35.6	22.5	160.77	-400.1	561.0	639.0	583.5	55.44	11.525	
8,700.0	8,591.8	8,655.5	8,591.8	36.0	22.5	161.03	-400.1	561.0	646.5	590.5	55.97	11.551	
8,800.0	8,691.6	8,755.4	8,691.6	36.3	22.5	161.23	-400.1	561.0	652.4	596.0	56.47	11.554	
8,900.0	8,791.5	8,855.2	8,791.5	36.7	22.6	161.37	-400.1	561.0	656.7	599.8	56.92	11.538	
9,000.0	8,891.4	8,955.2	8,891.4	37.0	22.6	161.45	-400.1	561.0	659.3	602.0	57.31	11.505	
9,100.0	8,991.4	9,055.2	8,991.4	37.1	22.6	161.48	-400.1	561.0	660.3	602.8	57.47	11.490	
9,108.6	9,000.0	9,063.8	9,000.0	37.1	22.7	-91.74	-400.1	561.0	660.3	603.0	57.34	11.515	
9,200.0	9,091.4	9,155.2	9,091.4	37.2	22.7	-91.74	-400.1	561.0	660.3	602.9	57.39	11.506	
9,300.0	9,191.4	9,255.2	9,191.4	37.2	22.7	-91.74	-400.1	561.0	660.3	602.9	57.44	11.496	
9,400.0	9,291.4	9,355.2	9,291.4	37.2	22.8	-91.74	-400.1	561.0	660.3	602.8	57.49	11.486	
9,500.0	9,391.4	9,455.2	9,391.4	37.2	22.8	-91.74	-400.1	561.0	660.3	602.8	57.54	11.475	
9,600.0	9,491.4	9,555.2	9,491.4	37.2	22.8	-91.74	-400.1	561.0	660.3	602.7	57.59	11.465	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - PUDGE FEDERAL COM 904H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10451-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
9,700.0	9,591.4	9,655.2	9,591.4	37.2	22.9	-91.74	-400.1	561.0	660.3	602.7	57.65	11.454	
9,800.0	9,691.4	9,755.2	9,691.4	37.3	22.9	-91.74	-400.1	561.0	660.3	602.6	57.70	11.444	
9,900.0	9,791.4	9,855.2	9,791.4	37.3	23.0	-91.74	-400.1	561.0	660.3	602.6	57.75	11.433	
10,000.0	9,891.4	9,955.2	9,891.4	37.3	23.0	-91.74	-400.1	561.0	660.3	602.5	57.81	11.423	
10,100.0	9,991.4	10,055.2	9,991.4	37.3	23.0	-91.74	-400.1	561.0	660.3	602.4	57.86	11.412	
10,200.0	10,091.4	10,155.2	10,091.4	37.3	23.1	-91.74	-400.1	561.0	660.3	602.4	57.92	11.401	
10,300.0	10,191.4	10,255.2	10,191.4	37.4	23.1	-91.74	-400.1	561.0	660.3	602.3	57.97	11.390	
10,302.1	10,193.5	10,257.3	10,193.5	37.4	23.1	-91.74	-400.1	561.0	660.3	602.3	57.97	11.390	
10,325.0	10,216.4	10,280.2	10,216.4	37.4	23.1	88.66	-400.1	561.0	660.3	602.0	58.25	11.335	
10,350.0	10,241.3	10,305.1	10,241.3	37.4	23.1	88.82	-400.1	561.0	660.3	601.9	58.31	11.324	
10,375.0	10,266.1	10,329.9	10,266.1	37.4	23.2	89.10	-400.1	561.0	660.2	601.8	58.39	11.306	
10,400.0	10,290.7	10,354.5	10,290.7	37.4	23.2	89.49	-400.1	561.0	660.1	601.6	58.51	11.282	
10,425.0	10,315.1	10,378.9	10,315.1	37.4	23.2	89.97	-400.1	561.0	660.1	601.5	58.66	11.254	
10,426.2	10,316.3	10,380.1	10,316.3	37.4	23.2	90.00	-400.1	561.0	660.1	601.4	58.67	11.252	
10,450.0	10,339.1	10,402.8	10,339.1	37.4	23.2	90.55	-400.1	561.0	660.1	601.3	58.83	11.221	
10,475.0	10,362.7	10,426.4	10,362.7	37.4	23.2	91.21	-400.1	561.0	660.3	601.3	59.02	11.187	
10,500.0	10,385.8	10,449.6	10,385.8	37.4	23.2	91.94	-400.1	561.0	660.6	601.3	59.24	11.151	
10,525.0	10,408.4	10,473.8	10,410.0	37.4	23.2	92.74	-400.6	561.0	661.0	601.8	59.18	11.170	
10,550.0	10,430.4	10,498.7	10,434.9	37.4	23.2	93.54	-402.4	561.0	661.6	602.2	59.41	11.137	
10,575.0	10,451.8	10,524.2	10,460.1	37.4	23.2	94.35	-405.6	561.0	662.4	602.8	59.63	11.108	
10,600.0	10,472.5	10,550.4	10,485.9	37.4	23.2	95.15	-410.3	561.1	663.3	603.5	59.85	11.082	
10,625.0	10,492.4	10,577.2	10,511.9	37.4	23.2	95.95	-416.6	561.1	664.4	604.3	60.07	11.060	
10,650.0	10,511.4	10,604.7	10,538.3	37.4	23.2	96.75	-424.5	561.1	665.6	605.3	60.27	11.043	
10,675.0	10,529.6	10,633.1	10,564.9	37.4	23.2	97.54	-434.3	561.2	666.9	606.4	60.46	11.030	
10,700.0	10,546.9	10,662.2	10,591.6	37.4	23.2	98.33	-445.9	561.3	668.3	607.7	60.63	11.022	
10,725.0	10,563.2	10,692.3	10,618.4	37.4	23.2	99.11	-459.6	561.4	669.9	609.1	60.79	11.020	
10,750.0	10,578.5	10,723.2	10,645.0	37.4	23.3	99.87	-475.4	561.5	671.5	610.6	60.92	11.023	
10,775.0	10,592.8	10,755.1	10,671.2	37.4	23.3	100.62	-493.5	561.6	673.2	612.2	61.03	11.031	
10,800.0	10,605.9	10,788.0	10,697.0	37.4	23.3	101.35	-514.0	561.7	674.9	613.8	61.10	11.045	
10,825.0	10,618.0	10,822.0	10,722.1	37.5	23.3	102.06	-536.9	561.8	676.6	615.5	61.15	11.065	
10,850.0	10,628.8	10,857.0	10,746.1	37.5	23.3	102.74	-562.3	562.0	678.3	617.2	61.16	11.091	
10,875.0	10,638.5	10,893.0	10,768.8	37.5	23.3	103.39	-590.2	562.2	680.0	618.8	61.14	11.123	
10,900.0	10,646.9	10,930.1	10,790.0	37.5	23.3	103.99	-620.7	562.4	681.6	620.5	61.07	11.160	
10,925.0	10,654.2	10,968.2	10,809.2	37.5	23.4	104.54	-653.6	562.6	683.0	622.1	60.97	11.203	
10,950.0	10,660.1	11,007.2	10,826.0	37.5	23.4	105.04	-688.7	562.8	684.4	623.6	60.83	11.251	
10,975.0	10,664.8	11,047.1	10,840.3	37.6	23.4	105.47	-726.0	563.0	685.6	624.9	60.65	11.303	
11,000.0	10,668.1	11,087.7	10,851.5	37.6	23.5	105.83	-765.1	563.2	686.6	626.1	60.44	11.359	
11,025.0	10,670.2	11,129.0	10,859.5	37.6	23.5	106.11	-805.5	563.5	687.3	627.1	60.20	11.417	
11,050.0	10,671.0	11,170.8	10,864.0	37.6	23.6	106.30	-847.1	563.7	687.9	627.9	59.94	11.477	
11,052.7	10,671.0	11,175.3	10,864.3	37.6	23.6	106.32	-851.6	563.8	687.9	628.0	59.91	11.483	
11,100.0	10,670.9	11,233.1	10,865.0	37.7	23.6	106.38	-909.3	564.1	688.0	628.3	59.79	11.508	
11,200.0	10,670.8	11,333.1	10,865.0	37.8	23.8	106.40	-1,009.3	564.7	688.1	628.1	59.95	11.478	
11,300.0	10,670.6	11,433.1	10,865.1	37.9	24.0	106.41	-1,109.3	565.3	688.1	628.0	60.13	11.444	
11,400.0	10,670.5	11,533.1	10,865.1	38.1	24.2	106.43	-1,209.3	566.0	688.2	627.9	60.34	11.405	
11,500.0	10,670.4	11,633.1	10,865.2	38.3	24.4	106.44	-1,309.3	566.6	688.2	627.7	60.57	11.362	
11,600.0	10,670.3	11,733.1	10,865.2	38.5	24.7	106.46	-1,409.3	567.2	688.3	627.5	60.83	11.315	
11,700.0	10,670.1	11,833.1	10,865.3	38.7	25.0	106.47	-1,509.3	567.8	688.3	627.2	61.11	11.263	
11,800.0	10,670.0	11,933.1	10,865.3	38.9	25.3	106.48	-1,609.3	568.4	688.4	627.0	61.42	11.208	
11,900.0	10,669.9	12,033.1	10,865.4	39.2	25.6	106.50	-1,709.3	569.0	688.4	626.7	61.75	11.150	
12,000.0	10,669.7	12,133.1	10,865.4	39.4	26.0	106.51	-1,809.3	569.6	688.5	626.4	62.10	11.087	
12,100.0	10,669.6	12,233.1	10,865.5	39.7	26.4	106.53	-1,909.3	570.2	688.5	626.1	62.47	11.021	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - PUDGE FEDERAL COM 904H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10451-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	
12,200.0	10,669.5	12,333.1	10,865.5	40.0	26.8	106.54	-2,009.3	570.9	688.6	625.7	62.87	10.952	
12,300.0	10,669.3	12,433.1	10,865.6	40.3	27.3	106.56	-2,109.3	571.5	688.6	625.3	63.30	10.880	
12,400.0	10,669.2	12,533.1	10,865.6	40.7	27.7	106.57	-2,209.3	572.1	688.7	625.0	63.74	10.805	
12,500.0	10,669.1	12,633.1	10,865.7	41.0	28.2	106.59	-2,309.3	572.7	688.7	624.5	64.21	10.727	
12,600.0	10,669.0	12,733.1	10,865.7	41.4	28.8	106.60	-2,409.3	573.3	688.8	624.1	64.69	10.647	
12,700.0	10,668.8	12,833.1	10,865.8	41.8	29.3	106.61	-2,509.3	573.9	688.8	623.6	65.21	10.564	
12,800.0	10,668.7	12,933.1	10,865.8	42.2	29.9	106.63	-2,609.3	574.5	688.9	623.2	65.74	10.480	
12,900.0	10,668.6	13,033.1	10,865.9	42.6	30.4	106.64	-2,709.3	575.1	688.9	622.7	66.29	10.393	
13,000.0	10,668.4	13,133.1	10,865.9	43.0	31.0	106.66	-2,809.3	575.8	689.0	622.1	66.86	10.305	
13,100.0	10,668.3	13,233.1	10,866.0	43.4	31.6	106.67	-2,909.3	576.4	689.0	621.6	67.45	10.215	
13,200.0	10,668.2	13,333.1	10,866.0	43.9	32.3	106.69	-3,009.3	577.0	689.1	621.0	68.06	10.124	
13,300.0	10,668.0	13,433.1	10,866.1	44.3	32.9	106.70	-3,109.3	577.6	689.2	620.5	68.69	10.032	
13,400.0	10,667.9	13,533.1	10,866.1	44.8	33.5	106.72	-3,209.3	578.2	689.2	619.9	69.34	9.939	
13,500.0	10,667.8	13,633.1	10,866.2	45.3	34.2	106.73	-3,309.3	578.8	689.3	619.2	70.01	9.845	
13,600.0	10,667.7	13,733.1	10,866.2	45.8	34.9	106.74	-3,409.3	579.4	689.3	618.6	70.69	9.751	
13,700.0	10,667.5	13,833.1	10,866.3	46.3	35.5	106.76	-3,509.3	580.1	689.4	618.0	71.39	9.656	
13,800.0	10,667.4	13,933.1	10,866.3	46.9	36.2	106.77	-3,609.3	580.7	689.4	617.3	72.11	9.560	
13,900.0	10,667.3	14,033.1	10,866.4	47.4	36.9	106.79	-3,709.3	581.3	689.5	616.6	72.84	9.465	
14,000.0	10,667.1	14,133.1	10,866.4	47.9	37.6	106.80	-3,809.3	581.9	689.5	615.9	73.59	9.369	
14,100.0	10,667.0	14,233.1	10,866.5	48.5	38.3	106.82	-3,909.2	582.5	689.6	615.2	74.35	9.274	
14,200.0	10,666.9	14,333.1	10,866.5	49.1	39.1	106.83	-4,009.2	583.1	689.6	614.5	75.13	9.179	
14,300.0	10,666.7	14,433.1	10,866.6	49.6	39.8	106.84	-4,109.2	583.7	689.7	613.7	75.92	9.084	
14,400.0	10,666.6	14,533.1	10,866.6	50.2	40.5	106.86	-4,209.2	584.3	689.7	613.0	76.73	8.989	
14,500.0	10,666.5	14,633.1	10,866.7	50.8	41.2	106.87	-4,309.2	585.0	689.8	612.2	77.55	8.895	
14,600.0	10,666.4	14,733.1	10,866.7	51.4	42.0	106.89	-4,409.2	585.6	689.8	611.4	78.38	8.801	
14,700.0	10,666.2	14,833.1	10,866.8	52.0	42.7	106.90	-4,509.2	586.2	689.9	610.6	79.22	8.708	
14,800.0	10,666.1	14,933.1	10,866.9	52.6	43.5	106.92	-4,609.2	586.8	689.9	609.8	80.07	8.616	
14,900.0	10,666.0	15,033.1	10,866.9	53.2	44.2	106.93	-4,709.2	587.4	690.0	609.0	80.94	8.525	
15,000.0	10,665.8	15,133.1	10,867.0	53.9	45.0	106.95	-4,809.2	588.0	690.0	608.2	81.82	8.434	
15,100.0	10,665.7	15,233.1	10,867.0	54.5	45.7	106.96	-4,909.2	588.6	690.1	607.4	82.70	8.344	
15,200.0	10,665.6	15,333.1	10,867.1	55.2	46.5	106.97	-5,009.2	589.2	690.1	606.5	83.60	8.255	
15,300.0	10,665.5	15,433.1	10,867.1	55.8	47.3	106.99	-5,109.2	589.9	690.2	605.7	84.51	8.167	
15,400.0	10,665.3	15,533.1	10,867.2	56.5	48.1	107.00	-5,209.2	590.5	690.2	604.8	85.42	8.080	
15,500.0	10,665.2	15,633.1	10,867.2	57.1	48.8	107.02	-5,309.2	591.1	690.3	603.9	86.35	7.994	
15,600.0	10,665.1	15,733.1	10,867.3	57.8	49.6	107.03	-5,409.2	591.7	690.3	603.0	87.29	7.909	
15,700.0	10,664.9	15,833.1	10,867.3	58.4	50.4	107.05	-5,509.2	592.3	690.4	602.2	88.23	7.825	
15,800.0	10,664.8	15,933.1	10,867.4	59.1	51.2	107.06	-5,609.2	592.9	690.4	601.3	89.18	7.742	
15,900.0	10,664.7	16,033.1	10,867.4	59.8	52.0	107.07	-5,709.2	593.5	690.5	600.3	90.14	7.660	
16,000.0	10,664.5	16,133.1	10,867.5	60.5	52.7	107.09	-5,809.2	594.1	690.5	599.4	91.11	7.579	
16,100.0	10,664.4	16,233.1	10,867.5	61.2	53.5	107.10	-5,909.2	594.8	690.6	598.5	92.08	7.500	
16,200.0	10,664.3	16,333.1	10,867.6	61.9	54.3	107.12	-6,009.2	595.4	690.6	597.6	93.07	7.421	
16,300.0	10,664.2	16,433.1	10,867.6	62.6	55.1	107.13	-6,109.2	596.0	690.7	596.6	94.06	7.343	
16,400.0	10,664.0	16,533.1	10,867.7	63.3	55.9	107.15	-6,209.2	596.6	690.7	595.7	95.05	7.267	
16,500.0	10,663.9	16,633.1	10,867.7	64.0	56.7	107.16	-6,309.2	597.2	690.8	594.7	96.06	7.192	
16,600.0	10,663.8	16,733.1	10,867.8	64.7	57.5	107.17	-6,409.2	597.8	690.9	593.8	97.07	7.117	
16,700.0	10,663.6	16,833.1	10,867.8	65.4	58.3	107.19	-6,509.2	598.4	690.9	592.8	98.08	7.044	
16,800.0	10,663.5	16,933.1	10,867.9	66.1	59.1	107.20	-6,609.2	599.0	691.0	591.9	99.10	6.972	
16,900.0	10,663.4	17,033.1	10,867.9	66.8	59.9	107.22	-6,709.2	599.7	691.0	590.9	100.13	6.901	
17,000.0	10,663.2	17,133.0	10,868.0	67.6	60.7	107.23	-6,809.2	600.3	691.1	589.9	101.16	6.831	
17,100.0	10,663.1	17,233.0	10,868.0	68.3	61.5	107.25	-6,909.2	600.9	691.1	588.9	102.20	6.762	
17,200.0	10,663.0	17,333.0	10,868.1	69.0	62.4	107.26	-7,009.2	601.5	691.2	587.9	103.24	6.694	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: PUDGE FED COM PROJECT - PUDGE FEDERAL COM 904H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1, 10451-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)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
17,300.0	10,662.9	17,433.0	10,868.1	69.8	63.2	107.27	-7,109.2	602.1	691.2	586.9	104.29	6.628	
17,400.0	10,662.7	17,533.0	10,868.2	70.5	64.0	107.29	-7,209.2	602.7	691.3	585.9	105.35	6.562	
17,500.0	10,662.6	17,633.0	10,868.2	71.2	64.8	107.30	-7,309.2	603.3	691.3	584.9	106.40	6.497	
17,600.0	10,662.5	17,733.0	10,868.3	72.0	65.6	107.32	-7,409.2	603.9	691.4	583.9	107.47	6.433	
17,700.0	10,662.3	17,833.0	10,868.3	72.7	66.4	107.33	-7,509.2	604.6	691.4	582.9	108.53	6.371	
17,800.0	10,662.2	17,933.0	10,868.4	73.5	67.2	107.35	-7,609.2	605.2	691.5	581.9	109.61	6.309	
17,900.0	10,662.1	18,033.0	10,868.4	74.2	68.1	107.36	-7,709.2	605.8	691.5	580.9	110.68	6.248	
18,000.0	10,661.9	18,133.0	10,868.5	75.0	68.9	107.37	-7,809.2	606.4	691.6	579.8	111.76	6.188	
18,100.0	10,661.8	18,233.0	10,868.5	75.7	69.7	107.39	-7,909.2	607.0	691.6	578.8	112.84	6.129	
18,200.0	10,661.7	18,333.0	10,868.6	76.5	70.5	107.40	-8,009.2	607.6	691.7	577.8	113.93	6.071	
18,300.0	10,661.6	18,433.0	10,868.6	77.2	71.3	107.42	-8,109.2	608.2	691.7	576.7	115.02	6.014	
18,400.0	10,661.4	18,533.0	10,868.7	78.0	72.2	107.43	-8,209.2	608.8	691.8	575.7	116.12	5.958	
18,500.0	10,661.3	18,633.0	10,868.7	78.8	73.0	107.45	-8,309.2	609.5	691.9	574.6	117.22	5.902	
18,600.0	10,661.2	18,733.0	10,868.8	79.5	73.8	107.46	-8,409.2	610.1	691.9	573.6	118.32	5.848	
18,700.0	10,661.0	18,833.0	10,868.8	80.3	74.6	107.47	-8,509.2	610.7	692.0	572.5	119.42	5.794	
18,800.0	10,660.9	18,933.0	10,868.9	81.1	75.5	107.49	-8,609.2	611.3	692.0	571.5	120.53	5.741	
18,900.0	10,660.8	19,033.0	10,868.9	81.8	76.3	107.50	-8,709.2	611.9	692.1	570.4	121.64	5.689	
19,000.0	10,660.6	19,133.0	10,869.0	82.6	77.1	107.52	-8,809.1	612.5	692.1	569.4	122.76	5.638	
19,100.0	10,660.5	19,233.0	10,869.0	83.4	78.0	107.53	-8,909.1	613.1	692.2	568.3	123.87	5.588	
19,200.0	10,660.4	19,333.0	10,869.1	84.2	78.8	107.55	-9,009.1	613.7	692.2	567.2	124.99	5.538	
19,300.0	10,660.3	19,433.0	10,869.1	84.9	79.6	107.56	-9,109.1	614.4	692.3	566.2	126.12	5.489	
19,400.0	10,660.1	19,533.0	10,869.2	85.7	80.4	107.57	-9,209.1	615.0	692.3	565.1	127.24	5.441	
19,500.0	10,660.0	19,633.0	10,869.2	86.5	81.3	107.59	-9,309.1	615.6	692.4	564.0	128.37	5.394	
19,600.0	10,659.9	19,733.0	10,869.3	87.3	82.1	107.60	-9,409.1	616.2	692.4	562.9	129.50	5.347	
19,700.0	10,659.7	19,833.0	10,869.3	88.1	82.9	107.62	-9,509.1	616.8	692.5	561.9	130.64	5.301	
19,800.0	10,659.6	19,933.0	10,869.4	88.9	83.8	107.63	-9,609.1	617.4	692.5	560.8	131.77	5.256	
19,900.0	10,659.5	20,033.0	10,869.4	89.6	84.6	107.65	-9,709.1	618.0	692.6	559.7	132.91	5.211	
20,000.0	10,659.3	20,133.0	10,869.5	90.4	85.4	107.66	-9,809.1	618.7	692.7	558.6	134.05	5.167	
20,100.0	10,659.2	20,233.0	10,869.5	91.2	86.3	107.67	-9,909.1	619.3	692.7	557.5	135.19	5.124	
20,200.0	10,659.1	20,333.0	10,869.6	92.0	87.1	107.69	-10,009.1	619.9	692.8	556.4	136.34	5.081	
20,300.0	10,659.0	20,433.0	10,869.6	92.8	87.9	107.70	-10,109.1	620.5	692.8	555.3	137.48	5.039	
20,400.0	10,658.8	20,533.0	10,869.7	93.6	88.8	107.72	-10,209.1	621.1	692.9	554.2	138.63	4.998	
20,500.0	10,658.7	20,633.0	10,869.7	94.4	89.6	107.73	-10,309.1	621.7	692.9	553.1	139.79	4.957	
20,600.0	10,658.6	20,733.0	10,869.8	95.2	90.5	107.75	-10,409.1	622.3	693.0	552.0	140.94	4.917	
20,700.0	10,658.4	20,833.0	10,869.8	96.0	91.3	107.76	-10,509.1	622.9	693.0	550.9	142.09	4.877	
20,800.0	10,658.3	20,933.0	10,869.9	96.8	92.1	107.77	-10,609.1	623.6	693.1	549.8	143.25	4.838	
20,900.0	10,658.2	21,033.0	10,869.9	97.6	93.0	107.79	-10,709.1	624.2	693.1	548.7	144.41	4.800	
21,000.0	10,658.0	21,133.0	10,870.0	98.4	93.8	107.80	-10,809.1	624.8	693.2	547.6	145.57	4.762	
21,000.5	10,658.0	21,133.5	10,870.0	98.4	93.8	107.80	-10,809.6	624.8	693.2	547.6	145.57	4.762	
21,038.6	10,658.0	21,167.5	10,870.0	98.7	94.1	107.81	-10,843.6	625.0	693.2	547.2	145.99	4.749	

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 903H
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 903H	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
3,100.0	3,073.3	3,172.2	3,174.2	11.1	7.7	-40.39	270.1	1,200.3	978.9	961.8	17.13	57.132	
3,200.0	3,171.8	3,269.3	3,270.5	11.6	7.8	-40.51	257.8	1,194.6	955.3	937.7	17.64	54.152	
3,300.0	3,270.3	3,366.5	3,366.7	12.0	8.0	-40.64	245.6	1,188.9	931.8	913.6	18.15	51.333	
3,400.0	3,368.7	3,463.6	3,462.9	12.4	8.2	-40.77	233.3	1,183.1	908.2	889.5	18.66	48.664	
3,500.0	3,467.2	3,560.8	3,559.1	12.8	8.4	-40.91	221.1	1,177.4	884.6	865.4	19.17	46.136	
3,600.0	3,565.7	3,657.9	3,655.3	13.3	8.6	-41.05	208.8	1,171.7	861.0	841.3	19.69	43.738	
3,700.0	3,664.1	3,755.1	3,751.5	13.7	8.7	-41.20	196.6	1,166.0	837.5	817.3	20.20	41.461	
3,800.0	3,762.6	3,852.3	3,847.7	14.2	8.9	-41.37	184.3	1,160.3	813.9	793.2	20.71	39.298	
3,900.0	3,861.1	3,949.4	3,944.0	14.6	9.1	-41.54	172.1	1,154.6	790.4	769.1	21.22	37.240	
4,000.0	3,959.5	4,046.6	4,040.2	15.0	9.3	-41.72	159.8	1,148.9	766.8	745.1	21.74	35.281	
4,100.0	4,058.0	4,143.7	4,136.4	15.5	9.5	-41.92	147.5	1,143.1	743.3	721.1	22.25	33.414	
4,200.0	4,156.5	4,240.9	4,232.6	15.9	9.6	-42.13	135.3	1,137.4	719.8	697.0	22.75	31.633	
4,300.0	4,254.9	4,338.1	4,328.8	16.4	9.8	-42.35	123.0	1,131.7	696.3	673.0	23.26	29.933	
4,400.0	4,353.4	4,435.2	4,425.0	16.8	10.0	-42.58	110.8	1,126.0	672.8	649.0	23.76	28.309	
4,500.0	4,451.9	4,532.4	4,521.2	17.2	10.2	-42.84	98.5	1,120.3	649.3	625.0	24.27	26.756	
4,600.0	4,550.3	4,629.5	4,617.5	17.7	10.4	-43.11	86.3	1,114.6	625.8	601.0	24.76	25.270	
4,700.0	4,648.8	4,726.7	4,713.7	18.1	10.6	-43.40	74.0	1,108.9	602.3	577.1	25.26	23.847	
4,800.0	4,747.3	4,823.9	4,809.9	18.6	10.8	-43.72	61.8	1,103.1	578.9	553.1	25.75	22.484	
4,900.0	4,845.7	4,921.0	4,906.1	19.0	10.9	-44.07	49.5	1,097.4	555.4	529.2	26.23	21.177	
5,000.0	4,944.2	5,018.2	5,002.3	19.5	11.1	-44.44	37.2	1,091.7	532.0	505.3	26.70	19.923	
5,100.0	5,042.7	5,115.3	5,098.5	19.9	11.3	-44.85	25.0	1,086.0	508.6	481.5	27.17	18.719	
5,200.0	5,141.1	5,212.5	5,194.7	20.4	11.5	-45.30	12.7	1,080.3	485.3	457.7	27.63	17.563	
5,300.0	5,239.6	5,309.7	5,291.0	20.8	11.7	-45.80	0.5	1,074.6	462.0	433.9	28.08	16.452	
5,400.0	5,338.0	5,406.8	5,387.2	21.3	11.9	-46.34	-11.8	1,068.8	438.7	410.1	28.51	15.384	
5,500.0	5,436.5	5,504.0	5,483.4	21.7	12.0	-46.95	-24.0	1,063.1	415.4	386.5	28.93	14.357	
5,600.0	5,535.0	5,601.1	5,579.6	22.2	12.2	-47.63	-36.3	1,057.4	392.2	362.9	29.34	13.369	
5,700.0	5,633.4	5,698.3	5,675.8	22.6	12.4	-48.40	-48.5	1,051.7	369.1	339.4	29.72	12.419	
5,800.0	5,731.9	5,795.5	5,772.0	23.1	12.6	-49.26	-60.8	1,046.0	346.0	315.9	30.07	11.505	
5,900.0	5,830.4	5,892.6	5,868.2	23.5	12.8	-50.25	-73.0	1,040.3	323.0	292.6	30.40	10.626	
6,000.0	5,928.8	5,989.8	5,964.5	24.0	13.0	-51.39	-85.3	1,034.6	300.1	269.4	30.69	9.781	
6,100.0	6,027.3	6,086.9	6,060.7	24.4	13.2	-52.72	-97.6	1,028.8	277.4	246.5	30.92	8.970	
6,200.0	6,125.8	6,184.1	6,156.9	24.9	13.4	-54.28	-109.8	1,023.1	254.8	223.7	31.11	8.192	
6,300.0	6,224.2	6,281.3	6,253.1	25.3	13.5	-56.15	-122.1	1,017.4	232.4	201.2	31.21	7.447	
6,400.0	6,322.7	6,375.8	6,346.8	25.8	13.8	-58.40	-133.5	1,012.1	210.9	179.5	31.35	6.726	
6,500.0	6,421.2	6,470.2	6,440.6	26.2	14.0	-61.30	-143.6	1,007.4	191.2	159.9	31.28	6.111	
6,600.0	6,519.6	6,565.1	6,535.0	26.7	14.2	-65.01	-152.2	1,003.3	173.6	142.6	31.01	5.599	
6,700.0	6,618.1	6,660.4	6,629.9	27.1	14.4	-69.64	-159.5	999.9	158.6	128.0	30.59	5.185	
6,800.0	6,716.6	6,755.9	6,725.2	27.6	14.5	-75.24	-165.4	997.2	146.5	116.4	30.09	4.868	
6,900.0	6,815.0	6,851.8	6,820.9	28.0	14.7	-81.75	-169.9	995.1	137.8	108.1	29.71	4.638	
7,000.0	6,913.5	6,947.8	6,916.9	28.5	14.8	-88.93	-172.9	993.7	132.8	103.1	29.68	4.475	
7,073.8	6,986.1	7,018.8	6,987.9	28.8	14.9	-94.39	-174.1	993.1	131.7	101.7	30.01	4.390 CC	
7,100.0	7,012.0	7,044.1	7,013.1	28.9	14.9	-96.33	-174.4	993.0	131.9	101.7	30.20	4.367 ES	
7,200.0	7,110.4	7,141.3	7,110.4	29.4	15.1	-103.56	-174.6	992.9	134.7	103.4	31.31	4.302	
7,300.0	7,208.9	7,239.8	7,208.9	29.8	15.2	-110.43	-174.6	992.9	139.9	107.0	32.89	4.253	
7,400.0	7,307.4	7,338.3	7,307.4	30.3	15.2	-116.75	-174.6	992.9	146.9	112.3	34.66	4.240 SF	
7,500.0	7,405.8	7,436.7	7,405.8	30.8	15.2	-122.43	-174.6	992.9	155.7	119.2	36.51	4.263	
7,600.0	7,504.3	7,535.2	7,504.3	31.2	15.2	-127.48	-174.6	992.9	165.8	127.5	38.33	4.325	
7,700.0	7,602.7	7,633.7	7,602.7	31.7	15.3	-131.93	-174.6	992.9	177.0	137.0	40.05	4.421	
7,800.0	7,701.2	7,732.1	7,701.2	32.1	15.3	-135.83	-174.6	992.9	189.2	147.6	41.64	4.545	
7,900.0	7,799.7	7,830.6	7,799.7	32.6	15.3	-139.26	-174.6	992.9	202.2	159.1	43.10	4.692	
8,000.0	7,898.1	7,929.1	7,898.1	33.0	15.4	-142.26	-174.6	992.9	215.8	171.4	44.44	4.856	

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 903H
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 903H	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		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)			
8,100.0	7,996.6	8,027.5	7,996.6	33.5	15.4	-144.91	-174.6	992.9	229.9	184.3	45.68	5.034	
8,103.5	8,000.1	8,031.0	8,000.1	33.5	15.4	-145.00	-174.6	992.9	230.4	184.7	45.72	5.040	
8,200.0	8,095.2	8,126.1	8,095.2	33.9	15.4	-147.23	-174.6	992.9	243.8	197.0	46.79	5.211	
8,300.0	8,194.1	8,225.0	8,194.1	34.4	15.5	-149.09	-174.6	992.9	256.5	208.8	47.77	5.370	
8,400.0	8,293.2	8,324.1	8,293.2	34.8	15.5	-150.60	-174.6	992.9	268.0	219.3	48.65	5.509	
8,500.0	8,392.6	8,423.5	8,392.6	35.2	15.5	-151.80	-174.6	992.9	278.1	228.6	49.43	5.625	
8,600.0	8,492.1	8,523.0	8,492.1	35.6	15.6	-152.76	-174.6	992.9	286.7	236.5	50.14	5.717	
8,700.0	8,591.8	8,622.7	8,591.8	36.0	15.6	-153.51	-174.6	992.9	293.8	243.0	50.78	5.786	
8,800.0	8,691.6	8,722.5	8,691.6	36.3	15.6	-154.06	-174.6	992.9	299.4	248.1	51.35	5.831	
8,900.0	8,791.5	8,822.4	8,791.5	36.7	15.7	-154.45	-174.6	992.9	303.5	251.6	51.85	5.853	
9,000.0	8,891.4	8,922.3	8,891.4	37.0	15.7	-154.69	-174.6	992.9	306.0	253.7	52.27	5.854	
9,100.0	8,991.4	9,022.3	8,991.4	37.1	15.8	-154.77	-174.6	992.9	306.9	254.5	52.44	5.853	
9,108.6	9,000.0	9,030.9	9,000.0	37.1	15.8	-48.00	-174.6	992.9	306.9	254.8	52.17	5.884	
9,200.0	9,091.4	9,122.3	9,091.4	37.2	15.8	-48.00	-174.6	992.9	306.9	254.7	52.21	5.879	
9,300.0	9,191.4	9,222.3	9,191.4	37.2	15.8	-48.00	-174.6	992.9	306.9	254.7	52.25	5.874	
9,310.0	9,201.4	9,232.3	9,201.4	37.2	15.8	-48.00	-174.6	992.9	306.9	254.7	52.25	5.874	
9,400.0	9,291.4	9,300.0	9,269.0	37.2	15.9	-47.78	-173.0	992.9	308.8	257.1	51.71	5.972	
9,500.0	9,391.4	9,376.7	9,344.9	37.2	16.0	-46.33	-162.2	992.8	318.9	268.1	50.74	6.284	
9,600.0	9,491.4	9,450.0	9,415.4	37.2	16.1	-43.86	-142.4	992.7	338.2	288.8	49.31	6.857	
9,700.0	9,591.4	9,500.0	9,461.9	37.2	16.1	-41.72	-123.8	992.6	366.9	319.7	47.13	7.785	
9,800.0	9,691.4	9,565.2	9,519.6	37.3	16.2	-38.61	-93.7	992.4	404.7	359.3	45.38	8.918	
9,900.0	9,791.4	9,616.3	9,562.3	37.3	16.3	-36.04	-65.5	992.2	451.4	407.8	43.58	10.358	
10,000.0	9,891.4	9,661.6	9,597.9	37.3	16.3	-33.77	-37.5	992.0	505.8	463.8	42.06	12.026	
10,100.0	9,991.4	9,700.0	9,626.2	37.3	16.4	-31.89	-11.7	991.8	567.1	526.2	40.87	13.874	
10,200.0	10,091.4	9,736.7	9,651.6	37.3	16.4	-30.16	14.8	991.6	633.9	593.9	40.05	15.830	
10,300.0	10,191.4	9,767.6	9,671.7	37.4	16.4	-28.75	38.3	991.5	705.5	666.0	39.49	17.865	
10,302.1	10,193.5	9,768.2	9,672.1	37.4	16.4	-28.73	38.8	991.5	707.0	667.6	39.48	17.908	
10,325.0	10,216.4	9,774.5	9,676.0	37.4	16.4	150.38	43.7	991.4	724.4	685.1	39.22	18.469	
10,350.0	10,241.3	9,780.8	9,679.9	37.4	16.4	148.75	48.6	991.4	744.1	705.0	39.14	19.014	
10,375.0	10,266.1	9,800.0	9,691.3	37.4	16.5	147.65	64.0	991.3	765.1	725.9	39.13	19.552	
10,400.0	10,290.7	9,800.0	9,691.3	37.4	16.5	144.97	64.0	991.3	786.3	747.2	39.04	20.138	
10,425.0	10,315.1	9,800.0	9,691.3	37.4	16.5	141.68	64.0	991.3	808.2	769.2	38.98	20.735	
10,450.0	10,339.1	9,800.0	9,691.3	37.4	16.5	137.58	64.0	991.3	830.8	791.9	38.93	21.343	
10,475.0	10,362.7	9,800.0	9,691.3	37.4	16.5	132.46	64.0	991.3	853.9	815.0	38.89	21.957	
10,500.0	10,385.8	9,800.0	9,691.3	37.4	16.5	126.02	64.0	991.3	877.4	838.6	38.86	22.577	
10,525.0	10,408.4	9,800.0	9,691.3	37.4	16.5	118.00	64.0	991.3	901.2	862.4	38.85	23.200	
10,550.0	10,430.4	9,800.0	9,691.3	37.4	16.5	108.20	64.0	991.3	925.3	886.5	38.84	23.825	
10,575.0	10,451.8	9,800.0	9,691.3	37.4	16.5	96.81	64.0	991.3	949.5	910.7	38.84	24.449	
10,600.0	10,472.5	9,800.0	9,691.3	37.4	16.5	84.51	64.0	991.3	973.8	935.0	38.84	25.072	
10,625.0	10,492.4	9,800.0	9,691.3	37.4	16.5	72.40	64.0	991.3	998.1	959.3	38.85	25.693	

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 903H
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 903H	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)			
2,500.0	2,482.6	2,658.9	2,658.0	8.6	9.4	-43.10	336.3	1,091.3	995.7	978.7	16.98	58.652	
2,600.0	2,581.0	2,754.0	2,751.4	9.0	9.8	-43.53	325.3	1,077.9	965.5	947.8	17.66	54.659	
2,700.0	2,679.5	2,849.1	2,844.9	9.4	10.2	-44.00	314.2	1,064.6	935.3	917.0	18.36	50.953	
2,800.0	2,777.9	2,944.1	2,938.4	9.9	10.6	-44.50	303.1	1,051.3	905.2	886.2	19.05	47.509	
2,900.0	2,876.4	3,039.2	3,031.8	10.3	11.0	-45.03	292.1	1,038.0	875.2	855.4	19.75	44.304	
3,000.0	2,974.9	3,134.2	3,125.3	10.7	11.4	-45.60	281.0	1,024.6	845.3	824.8	20.46	41.319	
3,100.0	3,073.3	3,229.3	3,218.8	11.1	11.8	-46.20	269.9	1,011.3	815.4	794.2	21.16	38.533	
3,200.0	3,171.8	3,324.4	3,312.2	11.6	12.2	-46.86	258.9	998.0	785.6	763.7	21.86	35.931	
3,300.0	3,270.3	3,419.4	3,405.7	12.0	12.6	-47.57	247.8	984.6	755.9	733.4	22.57	33.498	
3,400.0	3,368.7	3,514.5	3,499.2	12.4	13.0	-48.33	236.8	971.3	726.4	703.1	23.27	31.220	
3,500.0	3,467.2	3,609.5	3,592.7	12.8	13.4	-49.16	225.7	958.0	697.0	673.0	23.96	29.086	
3,600.0	3,565.7	3,704.6	3,686.1	13.3	13.9	-50.06	214.6	944.7	667.7	643.0	24.65	27.084	
3,700.0	3,664.1	3,799.7	3,779.6	13.7	14.3	-51.04	203.6	931.3	638.5	613.2	25.33	25.205	
3,800.0	3,762.6	3,894.7	3,873.1	14.2	14.7	-52.11	192.5	918.0	609.6	583.6	26.01	23.441	
3,900.0	3,861.1	3,989.8	3,966.5	14.6	15.1	-53.29	181.4	904.7	580.9	554.2	26.67	21.785	
4,000.0	3,959.5	4,084.8	4,060.0	15.0	15.5	-54.59	170.4	891.3	552.5	525.1	27.31	20.230	
4,100.0	4,058.0	4,179.9	4,153.5	15.5	15.9	-56.02	159.3	878.0	524.3	496.4	27.93	18.770	
4,200.0	4,156.5	4,275.0	4,246.9	15.9	16.4	-57.61	148.2	864.7	496.5	467.9	28.53	17.401	
4,300.0	4,254.9	4,370.0	4,340.4	16.4	16.8	-59.39	137.2	851.4	469.1	440.0	29.10	16.121	
4,400.0	4,353.4	4,465.1	4,433.9	16.8	17.2	-61.38	126.1	838.0	442.1	412.5	29.62	14.925	
4,500.0	4,451.9	4,560.1	4,527.3	17.2	17.6	-63.62	115.0	824.7	415.8	385.7	30.10	13.812	
4,600.0	4,550.3	4,655.2	4,620.8	17.7	18.1	-66.14	104.0	811.4	390.1	359.6	30.52	12.783	
4,700.0	4,648.8	4,750.3	4,714.3	18.1	18.5	-69.01	92.9	798.0	365.2	334.4	30.86	11.837	
4,800.0	4,747.3	4,845.3	4,807.7	18.6	18.9	-72.26	81.8	784.7	341.4	310.3	31.10	10.977	
4,900.0	4,845.7	4,940.4	4,901.2	19.0	19.3	-75.97	70.8	771.4	318.8	287.6	31.24	10.207	
5,000.0	4,944.2	5,035.4	4,994.7	19.5	19.8	-80.19	59.7	758.1	297.8	266.5	31.25	9.530	
5,100.0	5,042.7	5,130.5	5,088.1	19.9	20.2	-84.98	48.6	744.7	278.6	247.5	31.12	8.953	
5,200.0	5,141.1	5,225.6	5,181.6	20.4	20.6	-90.39	37.6	731.4	261.7	230.9	30.87	8.478	
5,300.0	5,239.6	5,320.6	5,275.1	20.8	21.1	-96.43	26.5	718.1	247.6	217.1	30.54	8.108	
5,400.0	5,338.0	5,415.7	5,368.5	21.3	21.5	-103.05	15.4	704.7	236.7	206.5	30.21	7.835	
5,500.0	5,436.5	5,510.7	5,462.0	21.7	21.9	-110.15	4.4	691.4	229.5	199.5	30.04	7.641	
5,600.0	5,535.0	5,605.8	5,555.5	22.2	22.4	-117.54	-6.7	678.1	226.4	196.2	30.17	7.504	
5,623.5	5,558.1	5,628.2	5,577.5	22.3	22.5	-119.30	-9.3	675.0	226.3	196.0	30.26	7.478 CC, ES	
5,700.0	5,633.4	5,700.9	5,648.9	22.6	22.8	-125.00	-17.8	664.8	227.5	196.8	30.73	7.404	
5,800.0	5,731.9	5,795.9	5,742.4	23.1	23.2	-132.26	-28.8	651.4	232.8	201.1	31.73	7.339	
5,900.0	5,830.4	5,891.0	5,835.9	23.5	23.6	-139.13	-39.9	638.1	242.0	209.0	33.08	7.317 SF	
6,000.0	5,928.8	5,986.0	5,929.4	24.0	24.1	-145.45	-51.0	624.8	254.7	220.1	34.65	7.351	
6,100.0	6,027.3	6,081.1	6,022.8	24.4	24.5	-151.15	-62.0	611.4	270.4	234.0	36.30	7.447	
6,200.0	6,125.8	6,176.2	6,116.3	24.9	24.9	-156.23	-73.1	598.1	288.5	250.6	37.95	7.602	
6,300.0	6,224.2	6,272.5	6,211.2	25.3	25.4	-160.64	-83.8	585.2	308.5	269.0	39.54	7.803	
6,400.0	6,322.7	6,369.8	6,307.2	25.8	25.8	-164.27	-93.6	573.4	329.6	288.6	41.01	8.038	
6,500.0	6,421.2	6,467.9	6,404.3	26.2	26.2	-167.23	-102.5	562.7	351.3	308.9	42.35	8.294	
6,600.0	6,519.6	6,566.8	6,502.5	26.7	26.6	-169.63	-110.3	553.3	373.0	329.4	43.58	8.559	
6,700.0	6,618.1	6,666.4	6,601.5	27.1	27.0	-171.54	-117.1	545.1	394.6	349.8	44.71	8.825	
6,800.0	6,716.6	6,766.7	6,701.5	27.6	27.4	-173.04	-122.8	538.2	415.7	370.0	45.75	9.087	
6,900.0	6,815.0	6,867.7	6,802.2	28.0	27.8	-174.20	-127.4	532.7	436.3	389.6	46.71	9.340	
7,000.0	6,913.5	6,969.3	6,903.6	28.5	28.2	-175.05	-130.9	528.4	456.2	408.6	47.60	9.583	
7,100.0	7,012.0	7,071.3	7,005.6	28.9	28.5	-175.64	-133.3	525.6	475.3	426.9	48.43	9.815	
7,200.0	7,110.4	7,173.9	7,108.1	29.4	28.7	-175.99	-134.5	524.1	493.6	444.4	49.19	10.036	
7,300.0	7,208.9	7,274.7	7,208.9	29.8	28.8	-176.16	-134.7	523.9	511.2	461.5	49.62	10.301	
7,400.0	7,307.4	7,373.1	7,307.4	30.3	28.9	-176.29	-134.7	523.9	528.6	478.4	50.21	10.528	

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 903H
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 903H	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)				
7,500.0	7,405.8	7,471.6	7,405.8	30.8	28.9	-176.41	-134.7	523.9	546.0	495.2	50.79	10.750		
7,600.0	7,504.3	7,570.1	7,504.3	31.2	28.9	-176.52	-134.7	523.9	563.4	512.1	51.38	10.967		
7,700.0	7,602.7	7,668.5	7,602.7	31.7	28.9	-176.62	-134.7	523.9	580.8	528.9	51.96	11.179		
7,800.0	7,701.2	7,767.0	7,701.2	32.1	28.9	-176.72	-134.7	523.9	598.3	545.7	52.55	11.386		
7,900.0	7,799.7	7,865.5	7,799.7	32.6	29.0	-176.81	-134.7	523.9	615.7	562.6	53.13	11.588		
8,000.0	7,898.1	7,963.9	7,898.1	33.0	29.0	-176.90	-134.7	523.9	633.1	579.4	53.72	11.786		
8,100.0	7,996.6	8,062.4	7,996.6	33.5	29.0	-176.98	-134.7	523.9	650.6	596.2	54.31	11.979		
8,103.5	8,000.1	8,065.8	8,000.1	33.5	29.0	-176.99	-134.7	523.9	651.2	596.8	54.33	11.986		
8,200.0	8,095.2	8,161.0	8,095.2	33.9	29.0	-177.07	-134.7	523.9	667.2	612.3	54.89	12.156		
8,300.0	8,194.1	8,259.9	8,194.1	34.4	29.0	-177.14	-134.7	523.9	682.1	626.6	55.45	12.300		
8,400.0	8,293.2	8,359.0	8,293.2	34.8	29.1	-177.20	-134.7	523.9	695.3	639.3	56.00	12.415		
8,500.0	8,392.6	8,458.3	8,392.6	35.2	29.1	-177.25	-134.7	523.9	706.7	650.2	56.54	12.500		
8,600.0	8,492.1	8,557.9	8,492.1	35.6	29.1	-177.29	-134.7	523.9	716.5	659.4	57.05	12.557		
8,700.0	8,591.8	8,657.5	8,591.8	36.0	29.1	-177.33	-134.7	523.9	724.4	666.9	57.55	12.589		
8,800.0	8,691.6	8,757.3	8,691.6	36.3	29.1	-177.35	-134.7	523.9	730.7	672.7	58.01	12.595		
8,900.0	8,791.5	8,857.2	8,791.5	36.7	29.2	-177.37	-134.7	523.9	735.2	676.7	58.45	12.579		
9,000.0	8,891.4	8,957.2	8,891.4	37.0	29.2	-177.38	-134.7	523.9	738.0	679.1	58.84	12.543		
9,100.0	8,991.4	9,057.2	8,991.4	37.1	29.2	-177.39	-134.7	523.9	739.0	680.0	58.99	12.527		
9,108.6	9,000.0	9,065.8	9,000.0	37.1	29.2	-70.61	-134.7	523.9	739.0	680.2	58.76	12.577		
9,200.0	9,091.4	9,157.2	9,091.4	37.2	29.2	-70.61	-134.7	523.9	739.0	680.2	58.79	12.569		
9,300.0	9,191.4	9,257.2	9,191.4	37.2	29.3	-70.61	-134.7	523.9	739.0	680.2	58.84	12.560		
9,400.0	9,291.4	9,357.2	9,291.4	37.2	29.3	-70.61	-134.7	523.9	739.0	680.1	58.88	12.551		
9,500.0	9,391.4	9,457.2	9,391.4	37.2	29.3	-70.61	-134.7	523.9	739.0	680.1	58.92	12.542		
9,508.4	9,399.9	9,465.6	9,399.9	37.2	29.3	-70.61	-134.7	523.9	739.0	680.1	58.93	12.541		
9,600.0	9,491.4	9,550.0	9,484.2	37.2	29.3	-70.60	-134.5	523.9	739.1	680.1	58.95	12.538		
9,700.0	9,591.4	9,615.6	9,549.6	37.2	29.2	-70.23	-129.3	523.5	742.4	683.6	58.71	12.645		
9,800.0	9,691.4	9,679.0	9,611.7	37.3	29.1	-69.38	-117.2	522.6	750.5	692.2	58.29	12.875		
9,900.0	9,791.4	9,739.0	9,669.0	37.3	28.9	-68.15	-99.5	521.3	763.7	706.1	57.67	13.242		
10,000.0	9,891.4	9,800.0	9,725.1	37.3	28.8	-66.53	-75.4	519.5	782.7	725.8	56.90	13.754		
10,100.0	9,991.4	9,850.0	9,768.9	37.3	28.7	-64.96	-51.4	517.7	807.6	751.7	55.91	14.444		
10,200.0	10,091.4	9,900.0	9,810.4	37.3	28.6	-63.20	-23.7	515.6	838.8	784.0	54.82	15.302		
10,300.0	10,191.4	9,933.1	9,836.5	37.4	28.5	-61.95	-3.4	514.0	876.1	822.6	53.56	16.357		
10,302.1	10,193.5	9,933.9	9,837.1	37.4	28.5	-61.92	-2.9	514.0	877.0	823.5	53.54	16.380		
10,325.0	10,216.4	9,950.0	9,849.3	37.4	28.5	117.96	7.6	513.2	886.8	833.5	53.23	16.658		
10,350.0	10,241.3	9,950.0	9,849.3	37.4	28.5	116.59	7.6	513.2	898.2	845.4	52.83	17.002		
10,375.0	10,266.1	9,950.0	9,849.3	37.4	28.5	115.03	7.6	513.2	910.6	858.2	52.41	17.374		
10,400.0	10,290.7	9,966.5	9,861.6	37.4	28.4	114.17	18.6	512.4	923.8	871.7	52.12	17.726		
10,425.0	10,315.1	9,973.0	9,866.3	37.4	28.4	112.66	23.1	512.1	937.8	886.1	51.74	18.124		
10,450.0	10,339.1	9,978.8	9,870.5	37.4	28.4	110.95	27.1	511.8	952.6	901.3	51.37	18.544		
10,475.0	10,362.7	9,983.9	9,874.1	37.4	28.4	109.03	30.6	511.5	968.2	917.2	51.00	18.985		
10,500.0	10,385.8	10,000.0	9,885.4	37.4	28.3	107.69	42.1	510.6	984.5	933.8	50.69	19.421		

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 903H
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 903H	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)			
0.0	0.0	0.0	19.0	0.0	0.0	-52.57	199.5	-260.7	328.8				
100.0	100.0	81.0	100.0	0.8	1.0	-52.57	199.5	-260.7	328.3	326.1	2.20	148.929	
200.0	200.0	181.0	200.0	1.4	1.6	-52.57	199.5	-260.7	328.3	324.8	3.49	94.008	
300.0	300.0	281.0	300.0	1.9	2.0	-52.57	199.5	-260.7	328.3	323.9	4.34	75.655	
400.0	400.0	381.0	400.0	2.2	2.4	-52.57	199.5	-260.7	328.3	323.2	5.03	65.200	
500.0	500.0	481.0	500.0	2.6	2.7	-52.57	199.5	-260.7	328.3	322.6	5.64	58.183	
600.0	600.0	581.0	600.0	2.8	2.9	-52.57	199.5	-260.7	328.3	322.1	6.19	53.038	
700.0	700.0	681.0	700.0	3.1	3.2	-52.57	199.5	-260.7	328.3	321.6	6.69	49.049	
800.0	800.0	781.0	800.0	3.3	3.4	-52.57	199.5	-260.7	328.3	321.1	7.16	45.835	
900.0	900.0	881.0	900.0	3.6	3.7	-52.57	199.5	-260.7	328.3	320.7	7.60	43.171	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-52.57	199.5	-260.7	328.3	320.2	8.02	40.913 CC, ES	
1,100.0	1,100.0	1,087.7	1,106.7	4.1	4.1	172.39	198.6	-260.3	329.2	320.6	8.56	38.443	
1,200.0	1,199.8	1,195.9	1,214.9	4.4	4.4	172.19	195.0	-258.6	331.1	322.0	9.08	36.443	
1,250.0	1,249.7	1,250.1	1,268.9	4.5	4.5	172.03	192.1	-257.2	332.4	323.1	9.26	35.900	
1,300.0	1,299.5	1,304.2	1,322.9	4.5	4.6	179.61	188.5	-255.6	333.8	324.4	9.44	35.372	
1,400.0	1,398.8	1,412.3	1,430.5	4.8	4.9	-170.62	179.4	-251.3	336.8	326.8	9.97	33.784	
1,500.0	1,497.8	1,520.1	1,537.5	5.1	5.2	-165.50	167.5	-245.7	340.1	329.6	10.52	32.327	
1,555.8	1,552.8	1,576.5	1,593.4	5.3	5.3	-163.86	160.4	-242.4	342.4	331.7	10.73	31.904	
1,600.0	1,596.4	1,620.3	1,636.8	5.4	5.4	-164.75	154.9	-239.9	344.7	333.8	10.91	31.580	
1,700.0	1,694.8	1,719.5	1,734.9	5.7	5.7	-166.73	142.4	-234.0	350.1	338.6	11.46	30.545	
1,800.0	1,793.3	1,818.6	1,833.1	6.0	6.0	-168.65	129.8	-228.2	355.9	343.8	12.03	29.589	
1,900.0	1,891.8	1,917.7	1,931.2	6.3	6.4	-170.50	117.3	-222.4	362.0	349.4	12.61	28.713	
2,000.0	1,990.2	2,016.8	2,029.4	6.7	6.7	-172.29	104.8	-216.5	368.6	355.4	13.20	27.919	
2,100.0	2,088.7	2,116.0	2,127.6	7.1	7.1	-174.01	92.3	-210.7	375.5	361.7	13.80	27.202	
2,200.0	2,187.2	2,215.1	2,225.7	7.5	7.4	-175.68	79.8	-204.9	382.7	368.3	14.41	26.559	
2,300.0	2,285.6	2,314.2	2,323.9	7.8	7.8	-177.28	67.3	-199.0	390.3	375.3	15.02	25.983	
2,400.0	2,384.1	2,413.3	2,422.0	8.2	8.1	-178.82	54.8	-193.2	398.1	382.5	15.63	25.470	
2,500.0	2,482.6	2,512.5	2,520.2	8.6	8.5	179.70	42.3	-187.4	406.2	390.0	16.24	25.013	
2,600.0	2,581.0	2,611.6	2,618.4	9.0	8.9	178.28	29.8	-181.6	414.6	397.8	16.85	24.607	
2,700.0	2,679.5	2,710.7	2,716.5	9.4	9.3	176.92	17.3	-175.7	423.2	405.8	17.46	24.246	
2,800.0	2,777.9	2,809.8	2,814.7	9.9	9.7	175.61	4.8	-169.9	432.1	414.0	18.06	23.927	
2,900.0	2,876.4	2,909.0	2,912.8	10.3	10.1	174.35	-7.7	-164.1	441.2	422.5	18.66	23.645	
3,000.0	2,974.9	3,008.1	3,011.0	10.7	10.5	173.14	-20.2	-158.2	450.4	431.2	19.25	23.395	
3,100.0	3,073.3	3,107.2	3,109.2	11.1	10.9	171.99	-32.7	-152.4	459.9	440.1	19.84	23.175	
3,200.0	3,171.8	3,206.3	3,207.3	11.6	11.3	170.88	-45.2	-146.6	469.6	449.1	20.43	22.981	
3,300.0	3,270.3	3,305.5	3,305.5	12.0	11.7	169.81	-57.7	-140.7	479.4	458.4	21.02	22.811	
3,400.0	3,368.7	3,404.6	3,403.6	12.4	12.1	168.79	-70.2	-134.9	489.3	467.8	21.59	22.661	
3,500.0	3,467.2	3,503.7	3,501.8	12.8	12.5	167.80	-82.7	-129.1	499.5	477.3	22.17	22.530	
3,600.0	3,565.7	3,602.8	3,600.0	13.3	12.9	166.86	-95.2	-123.2	509.7	487.0	22.74	22.416	
3,700.0	3,664.1	3,702.0	3,698.1	13.7	13.3	165.95	-107.7	-117.4	520.1	496.8	23.31	22.318	
3,800.0	3,762.6	3,801.1	3,796.3	14.2	13.7	165.08	-120.2	-111.6	530.7	506.8	23.87	22.232	
3,900.0	3,861.1	3,900.2	3,894.4	14.6	14.1	164.25	-132.7	-105.8	541.3	516.9	24.43	22.159	
4,000.0	3,959.5	3,999.3	3,992.6	15.0	14.5	163.44	-145.2	-99.9	552.1	527.1	24.98	22.096	
4,100.0	4,058.0	4,098.5	4,090.8	15.5	14.9	162.67	-157.7	-94.1	562.9	537.4	25.54	22.043	
4,200.0	4,156.5	4,197.6	4,188.9	15.9	15.3	161.92	-170.2	-88.3	573.9	547.8	26.09	21.999	
4,300.0	4,254.9	4,296.7	4,287.1	16.4	15.8	161.21	-182.7	-82.4	584.9	558.3	26.63	21.962	
4,400.0	4,353.4	4,395.8	4,385.3	16.8	16.2	160.52	-195.2	-76.6	596.0	568.9	27.18	21.932	
4,500.0	4,451.9	4,495.0	4,483.4	17.2	16.6	159.85	-207.7	-70.8	607.3	579.5	27.72	21.909 SF	
4,600.0	4,550.3	4,591.7	4,579.3	17.7	17.0	159.25	-219.6	-65.2	618.7	590.5	28.23	21.918	
4,700.0	4,648.8	4,687.1	4,674.0	18.1	17.4	158.81	-230.1	-60.4	630.7	601.9	28.77	21.922	
4,800.0	4,747.3	4,782.5	4,768.8	18.6	17.7	158.52	-239.0	-56.2	643.4	614.0	29.33	21.932	

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 903H
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 903H	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)			
4,900.0	4,845.7	4,877.8	4,863.8	19.0	18.1	158.37	-246.6	-52.7	656.6	626.7	29.92	21.948	
5,000.0	4,944.2	4,973.0	4,958.8	19.5	18.5	158.35	-252.7	-49.8	670.4	639.9	30.52	21.968	
5,100.0	5,042.7	5,068.1	5,053.6	19.9	18.8	158.46	-257.3	-47.6	684.8	653.7	31.14	21.994	
5,200.0	5,141.1	5,162.9	5,148.4	20.4	19.1	158.69	-260.6	-46.1	699.8	668.0	31.77	22.025	
5,300.0	5,239.6	5,257.4	5,242.9	20.8	19.3	159.02	-262.4	-45.3	715.3	682.9	32.42	22.065	
5,400.0	5,338.0	5,352.5	5,338.0	21.3	19.5	159.46	-262.8	-45.1	731.5	698.3	33.17	22.050	
5,500.0	5,436.5	5,451.0	5,436.5	21.7	19.5	159.93	-262.8	-45.1	747.9	714.1	33.81	22.119	
5,600.0	5,535.0	5,549.5	5,535.0	22.2	19.5	160.38	-262.8	-45.1	764.4	729.9	34.46	22.183	
5,700.0	5,633.4	5,647.9	5,633.4	22.6	19.6	160.81	-262.8	-45.1	780.8	745.7	35.10	22.245	
5,800.0	5,731.9	5,746.4	5,731.9	23.1	19.6	161.22	-262.8	-45.1	797.4	761.6	35.74	22.307	
5,900.0	5,830.4	5,844.9	5,830.4	23.5	19.6	161.61	-262.8	-45.1	813.9	777.5	36.39	22.368	
6,000.0	5,928.8	5,943.3	5,928.8	24.0	19.6	161.99	-262.8	-45.1	830.5	793.5	37.03	22.429	
6,100.0	6,027.3	6,041.8	6,027.3	24.4	19.7	162.36	-262.8	-45.1	847.2	809.5	37.67	22.489	
6,200.0	6,125.8	6,140.3	6,125.8	24.9	19.7	162.71	-262.8	-45.1	863.8	825.5	38.31	22.547	
6,300.0	6,224.2	6,238.7	6,224.2	25.3	19.7	163.05	-262.8	-45.1	880.5	841.6	38.95	22.605	
6,400.0	6,322.7	6,337.2	6,322.7	25.8	19.8	163.37	-262.8	-45.1	897.3	857.7	39.59	22.662	
6,500.0	6,421.2	6,435.7	6,421.2	26.2	19.8	163.68	-262.8	-45.1	914.0	873.8	40.23	22.718	
6,600.0	6,519.6	6,534.1	6,519.6	26.7	19.8	163.98	-262.8	-45.1	930.8	889.9	40.87	22.774	
6,700.0	6,618.1	6,632.6	6,618.1	27.1	19.9	164.27	-262.8	-45.1	947.6	906.1	41.51	22.828	
6,800.0	6,716.6	6,731.1	6,716.6	27.6	19.9	164.56	-262.8	-45.1	964.5	922.3	42.15	22.881	
6,900.0	6,815.0	6,829.5	6,815.0	28.0	19.9	164.83	-262.8	-45.1	981.3	938.5	42.79	22.934	
7,000.0	6,913.5	6,928.0	6,913.5	28.5	19.9	165.09	-262.8	-45.1	998.2	954.7	43.43	22.985	

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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			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	-55.54	199.5	-290.7	353.1				
100.0	100.0	81.0	100.0	0.8	1.0	-55.54	199.5	-290.7	352.5	350.3	2.20	159.938	
200.0	200.0	181.0	200.0	1.4	1.6	-55.54	199.5	-290.7	352.5	349.0	3.49	100.957	
300.0	300.0	281.0	300.0	1.9	2.0	-55.54	199.5	-290.7	352.5	348.2	4.34	81.248	
400.0	400.0	381.0	400.0	2.2	2.4	-55.54	199.5	-290.7	352.5	347.5	5.03	70.020	
500.0	500.0	481.0	500.0	2.6	2.7	-55.54	199.5	-290.7	352.5	346.9	5.64	62.484	
600.0	600.0	581.0	600.0	2.8	2.9	-55.54	199.5	-290.7	352.5	346.3	6.19	56.959	
700.0	700.0	681.0	700.0	3.1	3.2	-55.54	199.5	-290.7	352.5	345.8	6.69	52.675	
800.0	800.0	781.0	800.0	3.3	3.4	-55.54	199.5	-290.7	352.5	345.4	7.16	49.224	
900.0	900.0	881.0	900.0	3.6	3.7	-55.54	199.5	-290.7	352.5	344.9	7.60	46.362	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-55.54	199.5	-290.7	352.5	344.5	8.02	43.938 CC, ES	
1,100.0	1,100.0	1,081.0	1,100.0	4.1	4.1	169.50	199.5	-290.7	354.3	345.7	8.53	41.530	
1,200.0	1,199.8	1,180.8	1,199.8	4.4	4.3	169.64	199.5	-290.7	359.4	350.4	9.02	39.855	
1,250.0	1,249.7	1,230.7	1,249.7	4.5	4.4	169.73	199.5	-290.7	363.3	354.1	9.17	39.614	
1,300.0	1,299.5	1,280.5	1,299.5	4.5	4.4	177.68	199.5	-290.7	367.9	358.6	9.32	39.453	
1,400.0	1,398.8	1,379.8	1,398.8	4.8	4.6	-171.53	199.5	-290.7	379.1	369.3	9.79	38.712	
1,500.0	1,497.8	1,478.8	1,497.8	5.1	4.8	-165.05	199.5	-290.7	392.9	382.7	10.29	38.178	
1,555.8	1,552.8	1,533.8	1,552.8	5.3	4.9	-162.59	199.5	-290.7	401.8	391.3	10.51	38.231	
1,600.0	1,596.4	1,577.4	1,596.4	5.4	5.0	-162.91	199.5	-290.7	409.2	398.5	10.68	38.327	
1,700.0	1,694.8	1,675.8	1,694.8	5.7	5.1	-163.60	199.5	-290.7	425.9	414.8	11.15	38.205	
1,800.0	1,793.3	1,774.3	1,793.3	6.0	5.3	-164.24	199.5	-290.7	442.7	431.1	11.64	38.044	
1,900.0	1,891.8	1,872.8	1,891.8	6.3	5.4	-164.83	199.5	-290.7	459.6	447.4	12.14	37.856	
2,000.0	1,990.2	1,971.2	1,990.2	6.7	5.6	-165.38	199.5	-290.7	476.5	463.8	12.66	37.648	
2,100.0	2,088.7	2,069.8	2,088.8	7.1	5.8	-165.96	198.9	-291.0	493.4	480.2	13.17	37.449	
2,200.0	2,187.2	2,168.1	2,187.1	7.5	5.9	-166.79	196.3	-292.5	510.3	496.7	13.68	37.305	
2,300.0	2,285.6	2,266.0	2,284.8	7.8	6.1	-167.83	191.4	-295.3	527.4	513.3	14.19	37.159	
2,400.0	2,384.1	2,363.4	2,381.9	8.2	6.3	-169.07	184.5	-299.3	544.8	530.1	14.72	37.014	
2,500.0	2,482.6	2,460.1	2,478.0	8.6	6.5	-170.47	175.5	-304.5	562.6	547.3	15.25	36.882	
2,600.0	2,581.0	2,556.3	2,573.4	9.0	6.6	-172.02	164.5	-310.9	580.9	565.1	15.76	36.848	
2,700.0	2,679.5	2,653.3	2,669.4	9.4	6.8	-173.55	152.8	-317.6	599.7	583.4	16.30	36.783	
2,800.0	2,777.9	2,750.2	2,765.4	9.9	7.1	-174.99	141.1	-324.4	618.9	602.0	16.87	36.693	
2,900.0	2,876.4	2,847.2	2,861.4	10.3	7.3	-176.35	129.5	-331.1	638.5	621.0	17.44	36.615	
3,000.0	2,974.9	2,944.1	2,957.4	10.7	7.6	-177.63	117.8	-337.9	658.4	640.3	18.01	36.547	
3,100.0	3,073.3	3,041.1	3,053.4	11.1	7.9	-178.83	106.1	-344.6	678.5	659.9	18.60	36.486	
3,200.0	3,171.8	3,138.0	3,149.4	11.6	8.1	-179.96	94.4	-351.3	699.0	679.8	19.19	36.433	
3,300.0	3,270.3	3,235.0	3,245.4	12.0	8.4	178.97	82.7	-358.1	719.7	700.0	19.78	36.386	
3,400.0	3,368.7	3,331.9	3,341.4	12.4	8.8	177.96	71.0	-364.8	740.7	720.3	20.38	36.344	
3,500.0	3,467.2	3,428.9	3,437.4	12.8	9.1	177.00	59.3	-371.6	761.9	740.9	20.98	36.306	
3,600.0	3,565.7	3,525.8	3,533.4	13.3	9.4	176.10	47.7	-378.3	783.2	761.6	21.59	36.272	
3,700.0	3,664.1	3,622.8	3,629.4	13.7	9.7	175.24	36.0	-385.1	804.7	782.5	22.21	36.240	
3,800.0	3,762.6	3,719.7	3,725.5	14.2	10.1	174.42	24.3	-391.8	826.5	803.6	22.82	36.211	
3,900.0	3,861.1	3,816.7	3,821.5	14.6	10.4	173.65	12.6	-398.6	848.3	824.9	23.44	36.184	
4,000.0	3,959.5	3,913.6	3,917.5	15.0	10.8	172.92	0.9	-405.3	870.3	846.2	24.07	36.158	
4,100.0	4,058.0	4,010.6	4,013.5	15.5	11.1	172.22	-10.8	-412.1	892.4	867.7	24.70	36.134	
4,200.0	4,156.5	4,107.5	4,109.5	15.9	11.5	171.56	-22.5	-418.8	914.7	889.4	25.33	36.112	
4,300.0	4,254.9	4,204.5	4,205.5	16.4	11.9	170.92	-34.1	-425.6	937.0	911.1	25.96	36.090	
4,400.0	4,353.4	4,301.4	4,301.5	16.8	12.2	170.32	-45.8	-432.3	959.5	932.9	26.60	36.069	
4,500.0	4,451.9	4,398.4	4,397.5	17.2	12.6	169.75	-57.5	-439.1	982.1	954.8	27.24	36.049 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 903H
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 903H	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			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	-58.12	199.5	-320.7	378.1				
100.0	100.0	81.0	100.0	0.8	1.0	-58.12	199.5	-320.7	377.7	375.5	2.20	171.334	
200.0	200.0	181.0	200.0	1.4	1.6	-58.12	199.5	-320.7	377.7	374.2	3.49	108.150	
300.0	300.0	281.0	300.0	1.9	2.0	-58.12	199.5	-320.7	377.7	373.3	4.34	87.037	
400.0	400.0	381.0	400.0	2.2	2.4	-58.12	199.5	-320.7	377.7	372.6	5.03	75.009	
500.0	500.0	481.0	500.0	2.6	2.7	-58.12	199.5	-320.7	377.7	372.0	5.64	66.936	
600.0	600.0	581.0	600.0	2.8	2.9	-58.12	199.5	-320.7	377.7	371.5	6.19	61.017	
700.0	700.0	681.0	700.0	3.1	3.2	-58.12	199.5	-320.7	377.7	371.0	6.69	56.429	
800.0	800.0	781.0	800.0	3.3	3.4	-58.12	199.5	-320.7	377.7	370.5	7.16	52.731	
900.0	900.0	881.0	900.0	3.6	3.7	-58.12	199.5	-320.7	377.7	370.1	7.60	49.666	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-58.12	199.5	-320.7	377.7	369.6	8.02	47.069 CC, ES	
1,100.0	1,100.0	1,077.9	1,096.8	4.1	4.1	166.82	199.0	-321.3	379.7	371.2	8.52	44.558	
1,200.0	1,199.8	1,173.7	1,192.7	4.4	4.3	166.53	197.2	-323.9	386.1	377.1	8.98	42.977	
1,250.0	1,249.7	1,221.5	1,240.3	4.5	4.4	166.30	195.8	-326.0	391.0	381.9	9.13	42.839	
1,300.0	1,299.5	1,269.0	1,287.8	4.5	4.5	173.89	194.1	-328.5	396.9	387.6	9.27	42.799	
1,400.0	1,398.8	1,363.4	1,381.9	4.8	4.8	-176.18	189.7	-335.0	411.6	401.9	9.73	42.300	
1,500.0	1,497.8	1,456.4	1,474.4	5.1	5.1	-170.67	184.1	-343.2	430.4	420.2	10.23	42.064 SF	
1,555.8	1,552.8	1,507.6	1,525.1	5.3	5.2	-168.79	180.5	-348.5	442.7	432.2	10.46	42.338	
1,600.0	1,596.4	1,547.8	1,564.9	5.4	5.3	-169.60	177.4	-353.1	453.1	442.5	10.63	42.630	
1,700.0	1,694.8	1,638.2	1,654.2	5.7	5.6	-171.47	169.5	-364.6	477.9	466.9	11.08	43.131	
1,800.0	1,793.3	1,733.5	1,748.2	6.0	5.8	-173.35	160.6	-377.6	503.8	492.2	11.58	43.498	
1,900.0	1,891.8	1,828.8	1,842.2	6.3	6.2	-175.06	151.8	-390.6	530.1	517.9	12.14	43.648	
2,000.0	1,990.2	1,924.1	1,936.2	6.7	6.5	-176.60	142.9	-403.6	556.8	544.1	12.73	43.729	
2,100.0	2,088.7	2,019.4	2,030.2	7.1	6.8	-178.00	134.0	-416.6	583.9	570.5	13.34	43.755	
2,200.0	2,187.2	2,114.7	2,124.2	7.5	7.2	-179.28	125.2	-429.6	611.2	597.3	13.98	43.737	
2,300.0	2,285.6	2,210.0	2,218.2	7.8	7.5	179.54	116.3	-442.6	638.9	624.2	14.62	43.685	
2,400.0	2,384.1	2,305.3	2,312.2	8.2	7.9	178.47	107.4	-455.6	666.7	651.4	15.29	43.608	
2,500.0	2,482.6	2,400.6	2,406.2	8.6	8.2	177.47	98.6	-468.6	694.8	678.8	15.97	43.513	
2,600.0	2,581.0	2,495.9	2,500.2	9.0	8.6	176.56	89.7	-481.6	723.0	706.4	16.66	43.404	
2,700.0	2,679.5	2,591.2	2,594.2	9.4	9.0	175.71	80.9	-494.6	751.4	734.1	17.36	43.287	
2,800.0	2,777.9	2,686.5	2,688.2	9.9	9.4	174.93	72.0	-507.6	780.0	761.9	18.07	43.164	
2,900.0	2,876.4	2,781.8	2,782.2	10.3	9.8	174.20	63.1	-520.6	808.6	789.8	18.79	43.037	
3,000.0	2,974.9	2,877.1	2,876.2	10.7	10.2	173.52	54.3	-533.5	837.4	817.9	19.52	42.910	
3,100.0	3,073.3	2,972.4	2,970.2	11.1	10.6	172.88	45.4	-546.5	866.3	846.0	20.25	42.783	
3,200.0	3,171.8	3,067.7	3,064.2	11.6	11.0	172.28	36.5	-559.5	895.3	874.3	20.99	42.657	
3,300.0	3,270.3	3,163.0	3,158.2	12.0	11.4	171.73	27.7	-572.5	924.3	902.6	21.73	42.534	
3,400.0	3,368.7	3,258.4	3,252.2	12.4	11.8	171.20	18.8	-585.5	953.5	931.0	22.48	42.413	
3,500.0	3,467.2	3,353.7	3,346.2	12.8	12.2	170.71	9.9	-598.5	982.7	959.4	23.23	42.295	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 709H - OWB - PWP0													Offset Site Error: 0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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	-60.37	199.5	-350.7	403.9				
100.0	100.0	81.0	100.0	0.8	1.0	-60.37	199.5	-350.7	403.4	401.2	2.20	183.029	
200.0	200.0	181.0	200.0	1.4	1.6	-60.37	199.5	-350.7	403.4	399.9	3.49	115.532	
300.0	300.0	281.0	300.0	1.9	2.0	-60.37	199.5	-350.7	403.4	399.1	4.34	92.978	
400.0	400.0	381.0	400.0	2.2	2.4	-60.37	199.5	-350.7	403.4	398.4	5.03	80.129	
500.0	500.0	481.0	500.0	2.6	2.7	-60.37	199.5	-350.7	403.4	397.8	5.64	71.505	
600.0	600.0	581.0	600.0	2.8	2.9	-60.37	199.5	-350.7	403.4	397.2	6.19	65.182	
700.0	700.0	681.0	700.0	3.1	3.2	-60.37	199.5	-350.7	403.4	396.7	6.69	60.280	
800.0	800.0	781.0	800.0	3.3	3.4	-60.37	199.5	-350.7	403.4	396.3	7.16	56.330	
900.0	900.0	881.0	900.0	3.6	3.7	-60.37	199.5	-350.7	403.4	395.8	7.60	53.056	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-60.37	199.5	-350.7	403.4	395.4	8.02	50.281 CC, ES	
1,100.0	1,100.0	1,076.2	1,095.2	4.1	4.1	164.59	199.1	-351.4	405.6	397.1	8.52	47.587	
1,200.0	1,199.8	1,170.0	1,188.9	4.4	4.3	164.40	197.9	-354.1	412.6	403.6	8.99	45.874	
1,250.0	1,249.7	1,216.6	1,235.5	4.5	4.4	164.25	197.0	-356.3	417.8	408.7	9.14	45.712	
1,300.0	1,299.5	1,263.1	1,281.9	4.5	4.5	171.93	195.8	-359.0	424.3	415.0	9.29	45.653	
1,400.0	1,398.8	1,355.3	1,373.8	4.8	4.8	-177.87	192.7	-365.8	440.3	430.6	9.76	45.102	
1,500.0	1,497.8	1,446.1	1,464.1	5.1	5.0	-172.03	188.9	-374.5	460.8	450.6	10.28	44.836 SF	
1,555.8	1,552.8	1,496.0	1,513.6	5.3	5.2	-169.93	186.4	-380.1	474.2	463.7	10.51	45.114	
1,600.0	1,596.4	1,535.2	1,552.4	5.4	5.3	-170.57	184.2	-384.9	485.6	474.9	10.69	45.410	
1,700.0	1,694.8	1,623.0	1,639.2	5.7	5.6	-172.04	178.8	-397.0	512.5	501.3	11.20	45.766	
1,800.0	1,793.3	1,709.6	1,724.5	6.0	5.9	-173.52	172.7	-410.7	541.3	529.6	11.73	46.148	
1,900.0	1,891.8	1,794.9	1,808.1	6.3	6.2	-174.99	165.9	-426.0	572.0	559.7	12.28	46.562	
2,000.0	1,990.2	1,880.2	1,891.5	6.7	6.5	-176.45	158.4	-442.9	604.5	591.7	12.81	47.179	
2,100.0	2,088.7	1,973.2	1,982.0	7.1	6.8	-177.93	149.9	-462.0	638.0	624.6	13.44	47.475	
2,200.0	2,187.2	2,066.2	2,072.6	7.5	7.1	-179.28	141.4	-481.1	671.8	657.7	14.10	47.636	
2,300.0	2,285.6	2,159.1	2,163.2	7.8	7.5	179.51	132.9	-500.2	705.9	691.2	14.79	47.737	
2,400.0	2,384.1	2,252.1	2,253.8	8.2	7.8	178.41	124.4	-519.3	740.3	724.8	15.49	47.790	
2,500.0	2,482.6	2,345.1	2,344.4	8.6	8.2	177.40	115.9	-538.4	774.9	758.7	16.21	47.807	
2,600.0	2,581.0	2,438.0	2,435.0	9.0	8.6	176.48	107.4	-557.5	809.7	792.8	16.94	47.795	
2,700.0	2,679.5	2,531.0	2,525.6	9.4	9.0	175.63	98.9	-576.6	844.7	827.0	17.69	47.762	
2,800.0	2,777.9	2,624.0	2,616.1	9.9	9.4	174.85	90.3	-595.7	879.9	861.4	18.44	47.712	
2,900.0	2,876.4	2,716.9	2,706.7	10.3	9.8	174.13	81.8	-614.9	915.1	895.9	19.20	47.651	
3,000.0	2,974.9	2,809.9	2,797.3	10.7	10.2	173.46	73.3	-634.0	950.5	930.5	19.98	47.581	
3,100.0	3,073.3	2,902.9	2,887.9	11.1	10.6	172.84	64.8	-653.1	986.0	965.2	20.76	47.505	

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 903H
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 903H	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	-62.33	199.5	-380.6	430.2				
100.0	100.0	81.0	100.0	0.8	1.0	-62.33	199.5	-380.6	429.8	427.6	2.20	194.975	
200.0	200.0	181.0	200.0	1.4	1.6	-62.33	199.5	-380.6	429.8	426.3	3.49	123.073	
300.0	300.0	281.0	300.0	1.9	2.0	-62.33	199.5	-380.6	429.8	425.4	4.34	99.047	
400.0	400.0	381.0	400.0	2.2	2.4	-62.33	199.5	-380.6	429.8	424.7	5.03	85.359	
500.0	500.0	481.0	500.0	2.6	2.7	-62.33	199.5	-380.6	429.8	424.1	5.64	76.172	
600.0	600.0	581.0	600.0	2.8	2.9	-62.33	199.5	-380.6	429.8	423.6	6.19	69.437	
700.0	700.0	681.0	700.0	3.1	3.2	-62.33	199.5	-380.6	429.8	423.1	6.69	64.215	
800.0	800.0	781.0	800.0	3.3	3.4	-62.33	199.5	-380.6	429.8	422.6	7.16	60.007	
900.0	900.0	881.0	900.0	3.6	3.7	-62.33	199.5	-380.6	429.8	422.2	7.60	56.519	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-62.33	199.5	-380.6	429.8	421.7	8.02	53.563 CC, ES	
1,100.0	1,100.0	1,074.6	1,093.6	4.1	4.1	162.65	199.4	-381.3	432.0	423.5	8.53	50.673	
1,200.0	1,199.8	1,166.4	1,185.3	4.4	4.3	162.55	198.7	-384.2	439.4	430.4	9.00	48.800	
1,250.0	1,249.7	1,212.0	1,230.9	4.5	4.4	162.46	198.2	-386.4	445.0	435.9	9.16	48.599	
1,300.0	1,299.5	1,257.5	1,276.3	4.5	4.5	170.24	197.6	-389.1	451.9	442.6	9.32	48.503	
1,400.0	1,398.8	1,347.6	1,366.1	4.8	4.8	-179.31	196.0	-396.0	469.1	459.3	9.80	47.864	
1,500.0	1,497.8	1,436.3	1,454.3	5.1	5.0	-173.15	193.9	-404.9	491.0	480.7	10.33	47.533 SF	
1,555.8	1,552.8	1,485.0	1,502.7	5.3	5.2	-170.85	192.6	-410.6	505.3	494.7	10.57	47.791	
1,600.0	1,596.4	1,523.2	1,540.6	5.4	5.3	-171.33	191.5	-415.5	517.4	506.6	10.76	48.080	
1,700.0	1,694.8	1,608.9	1,625.3	5.7	5.6	-172.44	188.6	-427.8	546.1	534.8	11.28	48.412	
1,800.0	1,793.3	1,693.3	1,708.5	6.0	5.8	-173.55	185.4	-441.8	576.8	564.9	11.82	48.776	
1,900.0	1,891.8	1,776.5	1,790.2	6.3	6.1	-174.64	181.8	-457.3	609.4	597.0	12.39	49.176	
2,000.0	1,990.2	1,858.3	1,870.1	6.7	6.4	-175.72	177.9	-474.2	643.9	630.9	12.97	49.626	
2,100.0	2,088.7	1,938.8	1,948.4	7.1	6.7	-176.76	173.7	-492.5	680.3	666.7	13.55	50.216	
2,200.0	2,187.2	2,026.2	2,033.0	7.5	7.0	-177.85	168.8	-513.7	718.2	704.1	14.16	50.716	
2,300.0	2,285.6	2,117.7	2,121.6	7.8	7.4	-178.89	163.7	-536.0	756.5	741.7	14.87	50.891	
2,400.0	2,384.1	2,209.2	2,210.2	8.2	7.7	-179.84	158.5	-558.4	795.0	779.4	15.59	50.999	
2,500.0	2,482.6	2,300.8	2,298.8	8.6	8.1	179.31	153.4	-580.7	833.6	817.3	16.33	51.057	
2,600.0	2,581.0	2,392.3	2,387.5	9.0	8.5	178.53	148.2	-603.0	872.4	855.4	17.08	51.073	
2,700.0	2,679.5	2,483.8	2,476.1	9.4	8.9	177.81	143.0	-625.4	911.4	893.5	17.85	51.058	
2,800.0	2,777.9	2,575.4	2,564.7	9.9	9.3	177.15	137.9	-647.7	950.4	931.8	18.63	51.021	
2,900.0	2,876.4	2,666.9	2,653.3	10.3	9.7	176.55	132.7	-670.0	989.5	970.1	19.41	50.967	

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 903H
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 903H	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 903H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR, 10342-r.5 MWD+IFR1+SAG+FDIR												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning
4,200.0	4,156.5	4,192.4	4,165.1	15.9	9.1	-23.15	-53.4	1,476.5	997.5	973.1	24.41	40.872	
4,300.0	4,254.9	4,289.7	4,259.8	16.4	9.2	-22.22	-75.5	1,478.0	980.7	955.5	25.11	39.059	
4,400.0	4,353.4	4,387.0	4,354.5	16.8	9.4	-21.26	-97.7	1,479.5	964.1	938.3	25.82	37.342	
4,500.0	4,451.9	4,484.3	4,449.2	17.2	9.6	-20.27	-119.9	1,481.0	947.8	921.3	26.54	35.716	
4,600.0	4,550.3	4,581.5	4,543.9	17.7	9.7	-19.25	-142.0	1,482.5	931.9	904.6	27.27	34.176	
4,700.0	4,648.8	4,678.8	4,638.6	18.1	9.9	-18.19	-164.2	1,484.0	916.2	888.2	28.00	32.718	
4,800.0	4,747.3	4,776.1	4,733.3	18.6	10.1	-17.10	-186.3	1,485.5	900.8	872.1	28.75	31.338	
4,900.0	4,845.7	4,873.6	4,828.3	19.0	10.2	-15.97	-208.5	1,487.0	885.8	856.4	29.47	30.054	
5,000.0	4,944.2	4,972.5	4,924.9	19.5	10.4	-14.85	-229.9	1,488.5	871.1	840.9	30.21	28.833	
5,100.0	5,042.7	5,071.9	5,022.3	19.9	10.6	-13.81	-249.8	1,489.9	856.4	825.5	30.94	27.676	
5,200.0	5,141.1	5,171.8	5,120.5	20.4	10.8	-12.85	-268.0	1,491.1	841.8	810.2	31.67	26.583	
5,300.0	5,239.6	5,272.1	5,219.4	20.8	11.0	-11.97	-284.6	1,492.2	827.2	794.8	32.38	25.547	
5,400.0	5,338.0	5,372.8	5,318.9	21.3	11.1	-11.17	-299.5	1,493.2	812.4	779.4	33.08	24.562	
5,500.0	5,436.5	5,473.7	5,418.9	21.7	11.3	-10.47	-312.6	1,494.1	797.6	763.8	33.76	23.622	
5,600.0	5,535.0	5,574.8	5,519.4	22.2	11.5	-9.87	-324.1	1,494.9	782.4	748.0	34.44	22.722	
5,700.0	5,633.4	5,676.0	5,620.2	22.6	11.6	-9.38	-333.8	1,495.6	767.1	732.0	35.10	21.856	
5,800.0	5,731.9	5,777.4	5,721.2	23.1	11.8	-9.00	-341.7	1,496.1	751.4	715.6	35.74	21.022	
5,900.0	5,830.4	5,878.8	5,822.4	23.5	12.0	-8.75	-347.8	1,496.5	735.4	699.0	36.38	20.216	
6,000.0	5,928.8	5,980.1	5,923.7	24.0	12.1	-8.62	-352.1	1,496.8	719.0	682.0	37.00	19.434	
6,100.0	6,027.3	6,081.3	6,024.9	24.4	12.2	-8.63	-354.7	1,497.0	702.3	664.7	37.60	18.676	
6,200.0	6,125.8	6,182.2	6,125.8	24.9	12.3	-8.79	-355.5	1,497.1	685.2	646.8	38.37	17.858	
6,300.0	6,224.2	6,280.7	6,224.2	25.3	12.4	-9.02	-355.5	1,497.1	667.9	629.0	38.94	17.151	
6,400.0	6,322.7	6,379.2	6,322.7	25.8	12.4	-9.26	-355.5	1,497.1	650.7	611.2	39.52	16.464	
6,500.0	6,421.2	6,477.6	6,421.2	26.2	12.5	-9.52	-355.5	1,497.1	633.5	593.4	40.10	15.797	
6,600.0	6,519.6	6,576.1	6,519.6	26.7	12.5	-9.78	-355.5	1,497.1	616.3	575.6	40.68	15.149	
6,700.0	6,618.1	6,674.6	6,618.1	27.1	12.6	-10.07	-355.5	1,497.1	599.1	557.8	41.25	14.521	
6,800.0	6,716.6	6,773.0	6,716.6	27.6	12.6	-10.37	-355.5	1,497.1	581.9	540.0	41.83	13.911	
6,900.0	6,815.0	6,871.5	6,815.0	28.0	12.7	-10.69	-355.5	1,497.1	564.7	522.3	42.40	13.318	
7,000.0	6,913.5	6,970.0	6,913.5	28.5	12.7	-11.02	-355.5	1,497.1	547.6	504.6	42.97	12.742	
7,100.0	7,012.0	7,068.4	7,012.0	28.9	12.8	-11.38	-355.5	1,497.1	530.4	486.9	43.54	12.183	
7,200.0	7,110.4	7,166.9	7,110.4	29.4	12.8	-11.77	-355.5	1,497.1	513.3	469.2	44.10	11.639	
7,300.0	7,208.9	7,265.4	7,208.9	29.8	12.9	-12.18	-355.5	1,497.1	496.2	451.6	44.66	11.111	
7,400.0	7,307.4	7,363.8	7,307.4	30.3	12.9	-12.62	-355.5	1,497.1	479.2	434.0	45.22	10.597	
7,500.0	7,405.8	7,462.3	7,405.8	30.8	13.0	-13.09	-355.5	1,497.1	462.1	416.4	45.76	10.098	
7,600.0	7,504.3	7,560.8	7,504.3	31.2	13.0	-13.60	-355.5	1,497.1	445.2	398.8	46.31	9.613	
7,700.0	7,602.7	7,659.2	7,602.7	31.7	13.1	-14.15	-355.5	1,497.1	428.2	381.4	46.84	9.142	
7,800.0	7,701.2	7,757.7	7,701.2	32.1	13.1	-14.74	-355.5	1,497.1	411.3	363.9	47.36	8.684	
7,900.0	7,799.7	7,856.1	7,799.7	32.6	13.2	-15.39	-355.5	1,497.1	394.4	346.5	47.87	8.239	
8,000.0	7,898.1	7,954.6	7,898.1	33.0	13.2	-16.09	-355.5	1,497.1	377.6	329.2	48.37	7.807	
8,100.0	7,996.6	8,053.1	7,996.6	33.5	13.3	-16.86	-355.5	1,497.1	360.8	312.0	48.84	7.387	
8,103.5	8,000.1	8,056.5	8,000.1	33.5	13.3	-16.88	-355.5	1,497.1	360.2	311.4	48.86	7.373	
8,200.0	8,095.2	8,151.7	8,095.2	33.9	13.4	-17.61	-355.5	1,497.1	344.9	295.6	49.30	6.996	
8,300.0	8,194.1	8,250.6	8,194.1	34.4	13.4	-18.35	-355.5	1,497.1	330.7	281.0	49.74	6.649	
8,400.0	8,293.2	8,349.7	8,293.2	34.8	13.5	-19.05	-355.5	1,497.1	318.2	268.0	50.16	6.344	
8,500.0	8,392.6	8,449.0	8,392.6	35.2	13.5	-19.71	-355.5	1,497.1	307.4	256.8	50.56	6.079	
8,600.0	8,492.1	8,548.5	8,492.1	35.6	13.6	-20.31	-355.5	1,497.1	298.2	247.3	50.95	5.853	
8,700.0	8,591.8	8,648.2	8,591.8	36.0	13.6	-20.83	-355.5	1,497.1	290.7	239.4	51.33	5.664	
8,800.0	8,691.6	8,748.0	8,691.6	36.3	13.7	-21.26	-355.5	1,497.1	284.9	233.2	51.69	5.511	
8,900.0	8,791.5	8,847.9	8,791.5	36.7	13.7	-21.58	-355.5	1,497.1	280.7	228.6	52.05	5.392	
9,000.0	8,891.4	8,947.9	8,891.4	37.0	13.8	-21.78	-355.5	1,497.1	278.1	225.7	52.39	5.308	
9,100.0	8,991.4	9,047.9	8,991.4	37.1	13.9	-21.85	-355.5	1,497.1	277.2	224.6	52.53	5.276	

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 903H
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 903H	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 903H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+SAG+FDIR, 10342-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)			
9,108.6	9,000.0	9,056.5	9,000.0	37.1	13.9	84.92	-355.5	1,497.1	277.1	224.9	52.21	5.309	
9,200.0	9,091.4	9,147.9	9,091.4	37.2	13.9	84.92	-355.5	1,497.1	277.1	224.9	52.25	5.304	
9,300.0	9,191.4	9,247.9	9,191.4	37.2	14.0	84.92	-355.5	1,497.1	277.1	224.8	52.30	5.299	
9,400.0	9,291.4	9,347.9	9,291.4	37.2	14.0	84.92	-355.5	1,497.1	277.1	224.8	52.35	5.294	
9,500.0	9,391.4	9,447.9	9,391.4	37.2	14.1	84.92	-355.5	1,497.1	277.1	224.7	52.40	5.289	
9,600.0	9,491.4	9,547.9	9,491.4	37.2	14.1	84.92	-355.5	1,497.1	277.1	224.7	52.46	5.283	
9,700.0	9,591.4	9,647.9	9,591.4	37.2	14.2	84.92	-355.5	1,497.1	277.1	224.6	52.51	5.278	
9,800.0	9,691.4	9,747.9	9,691.4	37.3	14.3	84.92	-355.5	1,497.1	277.1	224.6	52.56	5.273	
9,900.0	9,791.4	9,847.9	9,791.4	37.3	14.3	84.92	-355.5	1,497.1	277.1	224.5	52.62	5.267	
10,000.0	9,891.4	9,947.9	9,891.4	37.3	14.4	84.92	-355.5	1,497.1	277.1	224.5	52.67	5.262	
10,100.0	9,991.4	10,047.9	9,991.4	37.3	14.4	84.92	-355.5	1,497.1	277.1	224.4	52.73	5.256	
10,200.0	10,091.4	10,147.9	10,091.4	37.3	14.5	84.92	-355.5	1,497.1	277.1	224.4	52.78	5.251	
10,300.0	10,191.4	10,247.9	10,191.4	37.4	14.6	84.92	-355.5	1,497.1	277.1	224.3	52.84	5.245	
10,302.1	10,193.5	10,250.0	10,193.5	37.4	14.6	84.92	-355.5	1,497.1	277.1	224.3	52.84	5.245 CC	
10,325.0	10,216.4	10,272.9	10,216.4	37.4	14.6	-94.84	-355.5	1,497.1	277.2	223.8	53.44	5.187 ES, SF	
10,350.0	10,241.3	10,297.8	10,241.3	37.4	14.6	-95.20	-355.5	1,497.1	277.4	224.0	53.35	5.199	
10,375.0	10,266.1	10,322.6	10,266.1	37.4	14.6	-95.80	-355.5	1,497.1	277.7	224.5	53.20	5.220	
10,400.0	10,290.7	10,347.2	10,290.7	37.4	14.6	-96.64	-355.5	1,497.1	278.1	225.2	52.97	5.251	
10,425.0	10,315.1	10,370.3	10,313.8	37.4	14.6	-97.68	-355.2	1,497.1	278.9	226.2	52.68	5.295	
10,450.0	10,339.1	10,392.3	10,335.8	37.4	14.7	-99.00	-354.1	1,497.0	280.2	227.9	52.28	5.360	
10,475.0	10,362.7	10,413.2	10,356.6	37.4	14.7	-100.50	-352.3	1,497.0	282.1	230.3	51.76	5.450	
10,500.0	10,385.8	10,432.8	10,376.1	37.4	14.7	-102.09	-349.8	1,497.0	284.8	233.7	51.12	5.572	
10,525.0	10,408.4	10,450.0	10,393.1	37.4	14.8	-103.54	-347.2	1,497.0	288.6	238.2	50.40	5.726	
10,550.0	10,430.4	10,467.8	10,410.6	37.4	14.8	-105.13	-343.9	1,497.0	293.5	244.0	49.51	5.928	
10,575.0	10,451.8	10,483.1	10,425.5	37.4	14.8	-106.39	-340.6	1,497.0	299.8	251.2	48.58	6.171	
10,600.0	10,472.5	10,500.0	10,441.9	37.4	14.8	-107.87	-336.6	1,496.9	307.5	260.0	47.48	6.477	
10,625.0	10,492.4	10,509.0	10,450.6	37.4	14.9	-108.08	-334.2	1,496.9	316.7	270.1	46.56	6.802	
10,650.0	10,511.4	10,519.7	10,460.9	37.4	14.9	-108.41	-331.2	1,496.9	327.4	281.8	45.53	7.191	
10,675.0	10,529.6	10,529.0	10,469.8	37.4	14.9	-108.33	-328.5	1,496.9	339.5	295.0	44.52	7.626	
10,700.0	10,546.9	10,536.9	10,477.3	37.4	14.9	-107.82	-326.0	1,496.9	353.1	309.6	43.56	8.106	
10,725.0	10,563.2	10,550.0	10,489.6	37.4	14.9	-108.00	-321.8	1,496.8	368.1	325.6	42.48	8.665	
10,750.0	10,578.5	10,550.0	10,489.6	37.4	14.9	-105.60	-321.8	1,496.8	384.1	342.3	41.81	9.186	
10,775.0	10,592.8	10,550.0	10,489.6	37.4	14.9	-102.85	-321.8	1,496.8	401.3	360.1	41.18	9.745	
10,800.0	10,605.9	10,550.0	10,489.6	37.4	14.9	-99.73	-321.8	1,496.8	419.5	378.9	40.58	10.336	
10,825.0	10,618.0	10,550.0	10,489.6	37.5	14.9	-96.27	-321.8	1,496.8	438.4	398.4	40.03	10.953	
10,850.0	10,628.8	10,560.3	10,499.3	37.5	14.9	-94.58	-318.2	1,496.8	457.9	418.6	39.30	11.650	
10,875.0	10,638.5	10,560.8	10,499.7	37.5	14.9	-90.60	-318.0	1,496.8	478.1	439.2	38.84	12.308	
10,900.0	10,646.9	10,550.0	10,489.6	37.5	14.9	-84.01	-321.8	1,496.8	498.9	460.2	38.63	12.913	
10,925.0	10,654.2	10,550.0	10,489.6	37.5	14.9	-79.48	-321.8	1,496.8	519.8	481.5	38.24	13.592	
10,950.0	10,660.1	10,550.0	10,489.6	37.5	14.9	-74.86	-321.8	1,496.8	540.9	503.0	37.89	14.277	
10,975.0	10,664.8	10,550.0	10,489.6	37.6	14.9	-70.22	-321.8	1,496.8	562.2	524.6	37.56	14.968	
11,000.0	10,668.1	10,550.0	10,489.6	37.6	14.9	-65.66	-321.8	1,496.8	583.5	546.3	37.26	15.661	
11,025.0	10,670.2	10,550.0	10,489.6	37.6	14.9	-61.25	-321.8	1,496.8	604.9	567.9	36.99	16.354	
11,050.0	10,671.0	10,550.0	10,489.6	37.6	14.9	-57.05	-321.8	1,496.8	626.2	589.5	36.74	17.046	
11,052.7	10,671.0	10,550.0	10,489.6	37.6	14.9	-56.61	-321.8	1,496.8	628.5	591.8	36.71	17.121	
11,100.0	10,670.9	10,550.0	10,489.6	37.7	14.9	-56.61	-321.8	1,496.8	669.2	632.9	36.32	18.423	
11,200.0	10,670.8	10,523.1	10,464.1	37.8	14.9	-53.08	-330.3	1,496.9	756.6	720.6	36.02	21.006	
11,300.0	10,670.6	10,500.0	10,441.9	37.9	14.8	-50.25	-336.6	1,496.9	846.8	810.9	35.86	23.614	
11,400.0	10,670.5	10,500.0	10,441.9	38.1	14.8	-50.25	-336.6	1,496.9	938.3	902.6	35.69	26.292	

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 903H
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 903H	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:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
3,500.0	3,467.2	3,526.2	3,536.5	12.8	11.7	-35.35	180.4	1,314.6	996.8	975.2	21.59	46.169	
3,600.0	3,565.7	3,623.8	3,633.7	13.3	12.0	-35.63	173.5	1,309.7	975.6	953.4	22.24	43.868	
3,700.0	3,664.1	3,721.4	3,730.9	13.7	12.4	-35.93	166.5	1,304.9	954.5	931.6	22.89	41.695	
3,800.0	3,762.6	3,819.1	3,828.2	14.2	12.8	-36.24	159.5	1,300.0	933.3	909.8	23.55	39.640	
3,900.0	3,861.1	3,916.7	3,925.4	14.6	13.1	-36.57	152.6	1,295.1	912.3	888.1	24.20	37.696	
4,000.0	3,959.5	4,014.3	4,022.7	15.0	13.5	-36.91	145.6	1,290.2	891.2	866.3	24.86	35.854	
4,100.0	4,058.0	4,111.9	4,119.9	15.5	13.9	-37.27	138.6	1,285.3	870.2	844.6	25.51	34.107	
4,200.0	4,156.5	4,209.5	4,217.2	15.9	14.2	-37.64	131.7	1,280.5	849.2	823.0	26.17	32.448	
4,300.0	4,254.9	4,307.1	4,314.4	16.4	14.6	-38.03	124.7	1,275.6	828.2	801.4	26.83	30.872	
4,400.0	4,353.4	4,404.7	4,411.6	16.8	14.9	-38.45	117.7	1,270.7	807.3	779.8	27.48	29.372	
4,500.0	4,451.9	4,502.4	4,508.9	17.2	15.3	-38.88	110.7	1,265.8	786.4	758.2	28.14	27.945	
4,600.0	4,550.3	4,600.0	4,606.1	17.7	15.7	-39.34	103.8	1,260.9	765.5	736.8	28.80	26.584	
4,700.0	4,648.8	4,697.6	4,703.4	18.1	16.1	-39.83	96.8	1,256.1	744.8	715.3	29.45	25.287	
4,800.0	4,747.3	4,795.2	4,800.6	18.6	16.4	-40.34	89.8	1,251.2	724.0	693.9	30.11	24.049	
4,900.0	4,845.7	4,892.8	4,897.9	19.0	16.8	-40.89	82.9	1,246.3	703.4	672.6	30.76	22.867	
5,000.0	4,944.2	4,990.4	4,995.1	19.5	17.2	-41.46	75.9	1,241.4	682.8	651.3	31.41	21.738	
5,100.0	5,042.7	5,106.3	5,110.4	19.9	17.6	-42.13	66.4	1,234.8	661.2	629.2	32.04	20.637	
5,200.0	5,141.1	5,226.5	5,229.4	20.4	18.2	-42.65	52.7	1,225.1	636.3	603.6	32.67	19.476	
5,300.0	5,239.6	5,329.8	5,331.2	20.8	18.6	-42.97	38.2	1,215.0	608.7	575.4	33.32	18.266	
5,400.0	5,338.0	5,425.9	5,425.8	21.3	19.0	-43.30	24.5	1,205.4	580.9	546.9	34.03	17.073	
5,500.0	5,436.5	5,521.9	5,520.3	21.7	19.4	-43.66	10.8	1,195.9	553.2	518.5	34.73	15.930	
5,600.0	5,535.0	5,617.9	5,614.9	22.2	19.9	-44.05	-2.8	1,186.3	525.5	490.1	35.43	14.833	
5,700.0	5,633.4	5,713.9	5,709.5	22.6	20.3	-44.49	-16.5	1,176.7	497.9	461.7	36.13	13.779	
5,800.0	5,731.9	5,809.9	5,804.0	23.1	20.7	-44.98	-30.1	1,167.2	470.2	433.4	36.83	12.768	
5,900.0	5,830.4	5,906.0	5,898.6	23.5	21.1	-45.53	-43.8	1,157.6	442.6	405.1	37.52	11.796	
6,000.0	5,928.8	6,002.0	5,993.1	24.0	21.6	-46.16	-57.4	1,148.0	415.1	376.8	38.21	10.861	
6,100.0	6,027.3	6,098.0	6,087.7	24.4	22.0	-46.87	-71.1	1,138.5	387.5	348.6	38.90	9.963	
6,200.0	6,125.8	6,194.0	6,182.3	24.9	22.4	-47.69	-84.8	1,128.9	360.1	320.5	39.58	9.099	
6,300.0	6,224.2	6,290.0	6,276.8	25.3	22.8	-48.65	-98.4	1,119.4	332.7	292.5	40.24	8.268	
6,400.0	6,322.7	6,386.1	6,371.4	25.8	23.3	-49.77	-112.1	1,109.8	305.5	264.6	40.90	7.469	
6,500.0	6,421.2	6,482.1	6,466.0	26.2	23.7	-51.12	-125.7	1,100.2	278.3	236.8	41.53	6.702	
6,600.0	6,519.6	6,578.1	6,560.5	26.7	24.1	-52.75	-139.4	1,090.7	251.4	209.2	42.14	5.965	
6,700.0	6,618.1	6,674.1	6,655.1	27.1	24.5	-54.77	-153.1	1,081.1	224.7	181.9	42.71	5.260	
6,800.0	6,716.6	6,770.2	6,749.6	27.6	25.0	-57.33	-166.7	1,071.5	198.3	155.0	43.22	4.587	
6,900.0	6,815.0	6,866.2	6,844.2	28.0	25.4	-60.66	-180.4	1,062.0	172.4	128.7	43.64	3.950	
7,000.0	6,913.5	6,962.2	6,938.8	28.5	25.8	-65.12	-194.0	1,052.4	147.2	103.3	43.91	3.352	
7,100.0	7,012.0	7,058.2	7,033.3	28.9	26.3	-71.33	-207.7	1,042.8	123.2	79.3	43.94	2.804 Normal Operations	
7,200.0	7,110.4	7,153.6	7,127.2	29.4	26.7	-80.20	-221.1	1,033.4	101.4	57.8	43.61	2.326 Caution - Monitor Closely	
7,300.0	7,208.9	7,248.4	7,220.9	29.8	27.1	-92.78	-233.5	1,024.8	84.5	41.7	42.84	1.973 Caution - Monitor Closely	
7,400.0	7,307.4	7,343.9	7,315.4	30.3	27.5	-109.28	-244.6	1,017.0	75.0	33.0	42.08	1.783 Caution - Monitor Closely	
7,455.1	7,361.6	7,396.8	7,367.9	30.6	27.7	-119.29	-250.2	1,013.0	73.6	31.5	42.12	1.748 Caution - Monitor Closely, CC, ES, SF	
7,500.0	7,405.8	7,440.1	7,410.8	30.8	27.9	-127.29	-254.5	1,010.0	74.5	32.0	42.52	1.753 Caution - Monitor Closely	
7,600.0	7,504.3	7,536.8	7,506.9	31.2	28.3	-142.92	-263.2	1,004.0	82.1	37.9	44.26	1.856 Caution - Monitor Closely	
7,700.0	7,602.7	7,634.0	7,603.7	31.7	28.7	-154.36	-270.5	998.8	95.1	48.9	46.25	2.056 Caution - Monitor Closely	
7,800.0	7,701.2	7,731.7	7,701.1	32.1	29.0	-162.05	-276.5	994.6	110.9	63.0	47.94	2.314 Caution - Monitor Closely	
7,900.0	7,799.7	7,829.8	7,799.1	32.6	29.4	-167.04	-281.2	991.3	128.1	78.8	49.30	2.599 Normal Operations	
8,000.0	7,898.1	7,928.2	7,897.4	33.0	29.7	-170.19	-284.5	989.0	145.7	95.3	50.40	2.891 Normal Operations	
8,100.0	7,996.6	8,027.0	7,996.2	33.5	30.0	-172.07	-286.5	987.7	163.4	112.0	51.33	3.183	
8,103.5	8,000.1	8,030.4	7,999.6	33.5	30.0	-172.11	-286.5	987.6	164.0	112.6	51.36	3.193	
8,200.0	8,095.2	8,126.0	8,095.2	33.9	30.2	-173.03	-287.0	987.3	180.0	127.9	52.08	3.456	
8,300.0	8,194.1	8,224.9	8,194.1	34.4	30.2	-173.58	-287.0	987.3	194.8	142.1	52.73	3.695	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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													
Offset Wellbore Centre													
Distance													
Between Centres													
Between Ellipses													
No-Go 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)	Separation Factor	Warning
8,400.0	8,293.2	8,324.0	8,293.2	34.8	30.2	-174.00	-287.0	987.3	208.0	154.6	53.35	3.898	
8,500.0	8,392.6	8,423.4	8,392.6	35.2	30.2	-174.33	-287.0	987.3	219.4	165.4	53.94	4.067	
8,600.0	8,492.1	8,522.9	8,492.1	35.6	30.2	-174.58	-287.0	987.3	229.1	174.6	54.49	4.203	
8,700.0	8,591.8	8,622.6	8,591.8	36.0	30.2	-174.77	-287.0	987.3	237.0	182.0	55.02	4.308	
8,800.0	8,691.6	8,722.4	8,691.6	36.3	30.3	-174.91	-287.0	987.3	243.3	187.7	55.52	4.382	
8,900.0	8,791.5	8,822.3	8,791.5	36.7	30.3	-175.00	-287.0	987.3	247.7	191.8	55.97	4.426	
9,000.0	8,891.4	8,922.2	8,891.4	37.0	30.3	-175.06	-287.0	987.3	250.5	194.1	56.37	4.444	
9,100.0	8,991.4	9,022.2	8,991.4	37.1	30.3	-175.08	-287.0	987.3	251.5	195.0	56.53	4.449	
9,108.6	9,000.0	9,030.8	9,000.0	37.1	30.3	-68.31	-287.0	987.3	251.5	195.2	56.31	4.466	
9,200.0	9,091.4	9,122.2	9,091.4	37.2	30.3	-68.31	-287.0	987.3	251.5	195.2	56.35	4.464	
9,300.0	9,191.4	9,222.2	9,191.4	37.2	30.3	-68.31	-287.0	987.3	251.5	195.1	56.38	4.461	
9,400.0	9,291.4	9,322.2	9,291.4	37.2	30.4	-68.31	-287.0	987.3	251.5	195.1	56.42	4.458	
9,500.0	9,391.4	9,422.2	9,391.4	37.2	30.4	-68.31	-287.0	987.3	251.5	195.1	56.46	4.455	
9,600.0	9,491.4	9,522.2	9,491.4	37.2	30.4	-68.31	-287.0	987.3	251.5	195.0	56.50	4.452	
9,700.0	9,591.4	9,622.2	9,591.4	37.2	30.4	-68.31	-287.0	987.3	251.5	195.0	56.54	4.449	
9,800.0	9,691.4	9,722.2	9,691.4	37.3	30.4	-68.31	-287.0	987.3	251.5	194.9	56.58	4.446	
9,900.0	9,791.4	9,822.2	9,791.4	37.3	30.4	-68.31	-287.0	987.3	251.5	194.9	56.62	4.442	
10,000.0	9,891.4	9,922.2	9,891.4	37.3	30.5	-68.31	-287.0	987.3	251.5	194.9	56.66	4.439	
10,100.0	9,991.4	10,022.2	9,991.4	37.3	30.5	-68.31	-287.0	987.3	251.5	194.8	56.70	4.436	
10,200.0	10,091.4	10,122.2	10,091.4	37.3	30.5	-68.31	-287.0	987.3	251.5	194.8	56.74	4.433	
10,210.0	10,101.4	10,132.2	10,101.4	37.3	30.5	-68.31	-287.0	987.3	251.5	194.8	56.75	4.432	
10,300.0	10,191.4	10,215.7	10,184.9	37.4	30.5	-68.03	-285.7	987.3	252.1	195.5	56.60	4.454	
10,302.1	10,193.5	10,217.5	10,186.7	37.4	30.5	-68.00	-285.6	987.3	252.2	195.6	56.59	4.456	
10,325.0	10,216.4	10,237.0	10,206.1	37.4	30.5	112.69	-283.9	987.3	253.2	196.3	56.81	4.456	
10,350.0	10,241.3	10,257.8	10,226.7	37.4	30.5	113.33	-281.3	987.2	255.1	198.6	56.55	4.511	
10,375.0	10,266.1	10,278.0	10,246.7	37.4	30.5	114.17	-278.1	987.2	258.0	201.8	56.21	4.591	
10,400.0	10,290.7	10,300.0	10,268.2	37.4	30.6	115.37	-273.8	987.2	262.1	206.2	55.84	4.694	
10,425.0	10,315.1	10,315.8	10,283.6	37.4	30.6	116.20	-270.3	987.2	267.3	212.1	55.25	4.838	
10,450.0	10,339.1	10,333.1	10,300.4	37.4	30.6	117.22	-265.9	987.2	273.8	219.2	54.65	5.011	
10,475.0	10,362.7	10,350.0	10,316.6	37.4	30.6	118.23	-261.1	987.1	281.8	227.7	54.01	5.217	
10,500.0	10,385.8	10,364.0	10,329.8	37.4	30.6	118.88	-256.7	987.1	291.1	237.8	53.28	5.464	
10,525.0	10,408.4	10,377.4	10,342.6	37.4	30.6	119.39	-252.3	987.1	302.0	249.4	52.54	5.747	
10,550.0	10,430.4	10,389.6	10,353.9	37.4	30.6	119.62	-248.0	987.0	314.3	262.5	51.81	6.066	
10,575.0	10,451.8	10,400.0	10,363.6	37.4	30.6	119.44	-244.1	987.0	328.0	276.9	51.08	6.422	
10,600.0	10,472.5	10,410.0	10,372.8	37.4	30.6	119.03	-240.2	987.0	343.1	292.7	50.41	6.807	
10,625.0	10,492.4	10,418.3	10,380.4	37.4	30.6	118.13	-236.9	987.0	359.5	309.7	49.77	7.222	
10,650.0	10,511.4	10,425.4	10,386.9	37.4	30.6	116.76	-233.9	987.0	376.9	327.8	49.19	7.664	
10,675.0	10,529.6	10,431.4	10,392.3	37.4	30.6	114.88	-231.4	986.9	395.5	346.8	48.66	8.127	
10,700.0	10,546.9	10,436.3	10,396.7	37.4	30.6	112.45	-229.3	986.9	414.9	366.7	48.20	8.609	
10,725.0	10,563.2	10,440.2	10,400.2	37.4	30.6	109.39	-227.6	986.9	435.1	387.3	47.79	9.105	
10,750.0	10,578.5	10,450.0	10,409.0	37.4	30.6	107.21	-223.1	986.9	456.1	408.5	47.57	9.589	
10,775.0	10,592.8	10,450.0	10,409.0	37.4	30.6	102.41	-223.1	986.9	477.5	430.3	47.22	10.112	
10,800.0	10,605.9	10,450.0	10,409.0	37.4	30.6	97.08	-223.1	986.9	499.4	452.4	46.94	10.638	
10,825.0	10,618.0	10,450.0	10,409.0	37.5	30.6	91.27	-223.1	986.9	521.6	474.9	46.72	11.164	
10,850.0	10,628.8	10,450.0	10,409.0	37.5	30.6	85.12	-223.1	986.9	544.1	497.5	46.55	11.687	
10,875.0	10,638.5	10,450.0	10,409.0	37.5	30.6	78.79	-223.1	986.9	566.7	520.3	46.42	12.207	
10,900.0	10,646.9	10,450.0	10,409.0	37.5	30.6	72.45	-223.1	986.9	589.4	543.1	46.34	12.721	
10,925.0	10,654.2	10,450.0	10,409.0	37.5	30.6	66.30	-223.1	986.9	612.2	565.9	46.28	13.228	
10,950.0	10,660.1	10,450.0	10,409.0	37.5	30.6	60.48	-223.1	986.9	634.9	588.6	46.25	13.726	
10,975.0	10,664.8	10,435.9	10,396.3	37.6	30.6	52.94	-229.5	986.9	657.2	611.1	46.06	14.268	
11,000.0	10,668.1	10,432.2	10,393.0	37.6	30.6	47.88	-231.1	986.9	679.4	633.4	46.04	14.759	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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		Rule Assigned: Distance			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)		
11,025.0	10,670.2	10,428.1	10,389.3	37.6	30.6	43.41	-232.8	986.9	701.5	655.4	46.03	15.240	
11,050.0	10,671.0	10,423.5	10,385.2	37.6	30.6	39.48	-234.7	987.0	723.2	677.2	46.03	15.710	
11,052.7	10,671.0	10,423.0	10,384.7	37.6	30.6	39.08	-234.9	987.0	725.5	679.5	46.03	15.761	
11,100.0	10,670.9	10,414.3	10,376.8	37.7	30.6	38.32	-238.5	987.0	766.5	720.4	46.07	16.639	
11,200.0	10,670.8	10,400.0	10,363.6	37.8	30.6	37.11	-244.1	987.0	854.6	808.5	46.19	18.502	
11,300.0	10,670.6	10,383.2	10,348.0	37.9	30.6	35.76	-250.3	987.1	944.5	898.2	46.30	20.402	

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 903H
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 903H	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+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)			
2,700.0	2,679.5	2,850.6	2,846.7	9.4	10.2	-33.01	170.3	1,183.7	997.0	978.4	18.62	53.547	
2,800.0	2,777.9	2,945.5	2,940.2	9.9	10.6	-33.18	160.0	1,170.0	965.9	946.5	19.34	49.942	
2,900.0	2,876.4	3,040.5	3,033.6	10.3	11.0	-33.37	149.7	1,156.3	934.7	914.7	20.07	46.583	
3,000.0	2,974.9	3,135.5	3,127.0	10.7	11.4	-33.56	139.4	1,142.6	903.6	882.8	20.80	43.448	
3,100.0	3,073.3	3,230.5	3,220.4	11.1	11.8	-33.77	129.1	1,128.9	872.5	850.9	21.53	40.517	
3,200.0	3,171.8	3,325.5	3,313.9	11.6	12.2	-34.00	118.8	1,115.2	841.3	819.1	22.27	37.774	
3,300.0	3,270.3	3,420.4	3,407.3	12.0	12.7	-34.24	108.5	1,101.5	810.2	787.2	23.02	35.202	
3,400.0	3,368.7	3,515.4	3,500.7	12.4	13.1	-34.50	98.2	1,087.8	779.1	755.4	23.76	32.788	
3,500.0	3,467.2	3,610.4	3,594.1	12.8	13.5	-34.78	88.0	1,074.0	748.1	723.6	24.51	30.518	
3,600.0	3,565.7	3,705.4	3,687.5	13.3	13.9	-35.09	77.7	1,060.3	717.0	691.7	25.26	28.382	
3,700.0	3,664.1	3,800.4	3,781.0	13.7	14.3	-35.43	67.4	1,046.6	686.0	660.0	26.02	26.367	
3,800.0	3,762.6	3,895.4	3,874.4	14.2	14.7	-35.79	57.1	1,032.9	655.0	628.2	26.77	24.466	
3,900.0	3,861.1	3,990.3	3,967.8	14.6	15.1	-36.20	46.8	1,019.2	624.0	596.4	27.52	22.670	
4,000.0	3,959.5	4,085.3	4,061.2	15.0	15.6	-36.64	36.5	1,005.5	593.0	564.7	28.28	20.971	
4,100.0	4,058.0	4,180.3	4,154.6	15.5	16.0	-37.14	26.2	991.8	562.1	533.1	29.03	19.362	
4,200.0	4,156.5	4,275.3	4,248.1	15.9	16.4	-37.69	15.9	978.1	531.2	501.4	29.78	17.837	
4,300.0	4,254.9	4,370.3	4,341.5	16.4	16.8	-38.31	5.6	964.4	500.4	469.9	30.53	16.390	
4,400.0	4,353.4	4,465.2	4,434.9	16.8	17.2	-39.01	-4.7	950.6	469.6	438.4	31.27	15.016	
4,500.0	4,451.9	4,560.2	4,528.3	17.2	17.7	-39.81	-15.0	936.9	438.9	406.9	32.01	13.712	
4,600.0	4,550.3	4,655.2	4,621.7	17.7	18.1	-40.73	-25.3	923.2	408.3	375.6	32.74	12.472	
4,700.0	4,648.8	4,750.2	4,715.2	18.1	18.5	-41.79	-35.6	909.5	377.8	344.4	33.46	11.294	
4,800.0	4,747.3	4,845.2	4,808.6	18.6	18.9	-43.05	-45.9	895.8	347.5	313.3	34.15	10.174	
4,900.0	4,845.7	4,940.1	4,902.0	19.0	19.4	-44.53	-56.2	882.1	317.3	282.5	34.82	9.112	
5,000.0	4,944.2	5,035.1	4,995.4	19.5	19.8	-46.33	-66.5	868.4	287.4	251.9	35.46	8.105	
5,100.0	5,042.7	5,130.1	5,088.9	19.9	20.2	-48.54	-76.8	854.7	257.8	221.7	36.03	7.154	
5,200.0	5,141.1	5,225.1	5,182.3	20.4	20.6	-51.31	-87.1	841.0	228.6	192.1	36.51	6.260	
5,300.0	5,239.6	5,320.1	5,275.7	20.8	21.1	-54.86	-97.4	827.2	200.1	163.2	36.86	5.428	
5,400.0	5,338.0	5,415.1	5,369.1	21.3	21.5	-59.54	-107.6	813.5	172.5	135.5	36.96	4.666	
5,500.0	5,436.5	5,510.0	5,462.5	21.7	21.9	-65.89	-117.9	799.8	146.4	109.7	36.67	3.992	
5,600.0	5,535.0	5,605.0	5,556.0	22.2	22.3	-74.71	-128.2	786.1	122.8	87.0	35.74	3.436	
5,700.0	5,633.4	5,700.0	5,649.4	22.6	22.8	-87.03	-138.5	772.4	103.3	69.4	33.91	3.046	
5,800.0	5,731.9	5,795.0	5,742.8	23.1	23.2	-103.45	-148.8	758.7	90.7	59.0	31.67	2.864 Normal Operations	
5,874.9	5,805.6	5,866.1	5,812.8	23.4	23.5	-117.70	-156.5	748.4	87.6	56.6	31.02	2.825 Normal Operations, CC, ES	
5,900.0	5,830.4	5,890.0	5,836.2	23.5	23.6	-122.56	-159.1	745.0	88.0	56.8	31.21	2.819 Normal Operations, SF	
6,000.0	5,928.8	5,984.9	5,929.6	24.0	24.1	-140.69	-169.4	731.3	96.0	62.2	33.78	2.841 Normal Operations	
6,100.0	6,027.3	6,079.9	6,023.1	24.4	24.5	-155.06	-179.7	717.6	112.4	75.1	37.32	3.012	
6,200.0	6,125.8	6,174.9	6,116.5	24.9	24.9	-165.49	-190.0	703.8	134.2	93.9	40.30	3.331	
6,300.0	6,224.2	6,269.9	6,209.9	25.3	25.4	-172.96	-200.3	690.1	159.2	116.7	42.56	3.741	
6,400.0	6,322.7	6,364.9	6,303.3	25.8	25.8	-178.39	-210.6	676.4	186.2	141.8	44.33	4.200	
6,500.0	6,421.2	6,459.9	6,396.7	26.2	26.2	-177.55	-220.9	662.7	214.3	168.5	45.77	4.681	
6,600.0	6,519.6	6,554.8	6,490.2	26.7	26.7	-174.43	-231.2	649.0	243.1	196.1	47.02	5.171	
6,700.0	6,618.1	6,649.8	6,583.6	27.1	27.1	-171.96	-241.5	635.3	272.6	224.4	48.14	5.662	
6,800.0	6,716.6	6,744.8	6,677.0	27.6	27.5	-169.97	-251.8	621.6	302.3	253.2	49.17	6.149	
6,900.0	6,815.0	6,839.8	6,770.4	28.0	27.9	-168.34	-262.1	607.9	332.4	282.3	50.15	6.628	
7,000.0	6,913.5	6,934.8	6,863.8	28.5	28.4	-166.98	-272.4	594.1	362.7	311.6	51.09	7.099	
7,100.0	7,012.0	7,029.7	6,957.3	28.9	28.8	-165.83	-282.7	580.4	393.1	341.1	52.00	7.560	
7,200.0	7,110.4	7,124.7	7,050.7	29.4	29.2	-164.84	-293.0	566.7	423.7	370.8	52.89	8.011	
7,300.0	7,208.9	7,219.7	7,144.1	29.8	29.7	-163.99	-303.2	553.0	454.3	400.6	53.75	8.452	
7,400.0	7,307.4	7,321.2	7,244.1	30.3	30.1	-163.25	-313.8	539.0	484.4	429.7	54.72	8.853	
7,500.0	7,405.8	7,424.0	7,345.7	30.8	30.6	-162.73	-323.3	526.3	513.3	457.6	55.67	9.219	
7,600.0	7,504.3	7,527.8	7,448.5	31.2	31.0	-162.38	-331.9	514.9	540.7	484.1	56.59	9.555	

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 903H
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 903H	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+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)			
7,700.0	7,602.7	7,632.5	7,552.4	31.7	31.5	162.18	-339.4	504.9	566.8	509.3	57.48	9.860	
7,800.0	7,701.2	7,738.0	7,657.4	32.1	31.9	162.11	-345.8	496.4	591.4	533.1	58.34	10.137	
7,900.0	7,799.7	7,844.3	7,763.3	32.6	32.3	162.16	-351.0	489.3	614.6	555.4	59.17	10.387	
8,000.0	7,898.1	7,951.3	7,870.1	33.0	32.7	162.32	-355.2	483.9	636.3	576.3	59.96	10.612	
8,100.0	7,996.6	8,059.0	7,977.7	33.5	33.0	162.57	-358.1	480.0	656.5	595.8	60.71	10.814	
8,103.5	8,000.1	8,062.8	7,981.5	33.5	33.0	162.58	-358.2	479.9	657.2	596.5	60.74	10.821	
8,200.0	8,095.2	8,167.4	8,086.1	33.9	33.3	162.94	-359.8	477.7	674.5	613.1	61.40	10.985	
8,300.0	8,194.1	8,275.5	8,194.1	34.4	33.5	163.34	-360.3	477.0	689.4	627.9	61.55	11.202	
8,400.0	8,293.2	8,374.6	8,293.2	34.8	33.5	163.69	-360.3	477.0	702.1	640.1	61.97	11.331	
8,500.0	8,392.6	8,473.9	8,392.6	35.2	33.5	163.97	-360.3	477.0	713.1	650.7	62.38	11.431	
8,600.0	8,492.1	8,573.5	8,492.1	35.6	33.6	164.21	-360.3	477.0	722.5	659.7	62.80	11.506	
8,700.0	8,591.8	8,673.1	8,591.8	36.0	33.6	164.40	-360.3	477.0	730.2	667.0	63.19	11.555	
8,800.0	8,691.6	8,772.9	8,691.6	36.3	33.6	164.55	-360.3	477.0	736.2	672.6	63.58	11.580	
8,900.0	8,791.5	8,872.8	8,791.5	36.7	33.6	164.66	-360.3	477.0	740.6	676.6	63.93	11.583	
9,000.0	8,891.4	8,972.8	8,891.4	37.0	33.6	164.72	-360.3	477.0	743.2	679.0	64.26	11.566	
9,100.0	8,991.4	9,072.8	8,991.4	37.1	33.6	164.74	-360.3	477.0	744.2	679.9	64.38	11.561	
9,108.6	9,000.0	9,081.4	9,000.0	37.1	33.6	-88.48	-360.3	477.0	744.2	680.2	64.07	11.617	
9,200.0	9,091.4	9,172.8	9,091.4	37.2	33.7	-88.48	-360.3	477.0	744.2	680.1	64.10	11.611	
9,300.0	9,191.4	9,272.8	9,191.4	37.2	33.7	-88.48	-360.3	477.0	744.2	680.1	64.13	11.605	
9,400.0	9,291.4	9,372.8	9,291.4	37.2	33.7	-88.48	-360.3	477.0	744.2	680.1	64.17	11.598	
9,500.0	9,391.4	9,472.8	9,391.4	37.2	33.7	-88.48	-360.3	477.0	744.2	680.0	64.20	11.592	
9,600.0	9,491.4	9,572.8	9,491.4	37.2	33.7	-88.48	-360.3	477.0	744.2	680.0	64.24	11.585	
9,700.0	9,591.4	9,672.8	9,591.4	37.2	33.7	-88.48	-360.3	477.0	744.2	680.0	64.28	11.578	
9,800.0	9,691.4	9,772.8	9,691.4	37.3	33.8	-88.48	-360.3	477.0	744.2	679.9	64.32	11.572	
9,900.0	9,791.4	9,872.8	9,791.4	37.3	33.8	-88.48	-360.3	477.0	744.2	679.9	64.35	11.565	
10,000.0	9,891.4	9,972.8	9,891.4	37.3	33.8	-88.48	-360.3	477.0	744.2	679.8	64.39	11.558	
10,100.0	9,991.4	10,072.8	9,991.4	37.3	33.8	-88.48	-360.3	477.0	744.2	679.8	64.43	11.551	
10,200.0	10,091.4	10,172.8	10,091.4	37.3	33.8	-88.48	-360.3	477.0	744.2	679.8	64.47	11.544	
10,300.0	10,191.4	10,272.8	10,191.4	37.4	33.9	-88.48	-360.3	477.0	744.2	679.7	64.51	11.537	
10,302.1	10,193.5	10,274.9	10,193.5	37.4	33.9	-88.48	-360.3	477.0	744.2	679.7	64.51	11.537	
10,325.0	10,216.4	10,297.8	10,216.4	37.4	33.9	91.91	-360.3	477.0	744.3	679.2	65.11	11.432	
10,350.0	10,241.3	10,322.7	10,241.3	37.4	33.9	92.04	-360.3	477.0	744.3	679.2	65.10	11.434	
10,375.0	10,266.1	10,347.5	10,266.1	37.4	33.9	92.27	-360.3	477.0	744.4	679.4	65.08	11.438	
10,400.0	10,290.7	10,372.1	10,290.7	37.4	33.9	92.58	-360.3	477.0	744.6	679.6	65.06	11.445	
10,425.0	10,315.1	10,395.2	10,313.8	37.4	33.9	92.97	-360.0	477.0	744.9	679.9	65.02	11.458	
10,450.0	10,339.1	10,417.1	10,335.7	37.4	33.8	93.46	-358.9	477.0	745.4	680.5	64.95	11.476	
10,475.0	10,362.7	10,437.9	10,356.5	37.4	33.8	94.03	-357.1	477.0	746.2	681.3	64.87	11.502	
10,500.0	10,385.8	10,457.5	10,375.9	37.4	33.8	94.64	-354.7	477.0	747.2	682.5	64.76	11.538	
10,525.0	10,408.4	10,475.7	10,393.9	37.4	33.7	95.24	-351.9	477.0	748.7	684.1	64.63	11.585	
10,550.0	10,430.4	10,492.5	10,410.3	37.4	33.7	95.81	-348.8	477.0	750.6	686.2	64.46	11.645	
10,575.0	10,451.8	10,507.7	10,425.2	37.4	33.6	96.31	-345.5	476.9	753.1	688.9	64.26	11.720	
10,600.0	10,472.5	10,521.4	10,438.5	37.4	33.6	96.71	-342.3	476.9	756.3	692.2	64.03	11.811	
10,625.0	10,492.4	10,533.6	10,450.3	37.4	33.6	96.98	-339.1	476.9	760.1	696.3	63.76	11.921	
10,650.0	10,511.4	10,550.0	10,466.0	37.4	33.5	97.47	-334.5	476.9	764.7	701.2	63.48	12.047	
10,675.0	10,529.6	10,550.0	10,466.0	37.4	33.5	96.83	-334.5	476.9	770.0	706.9	63.11	12.200	
10,700.0	10,546.9	10,561.5	10,477.0	37.4	33.5	96.86	-331.0	476.8	776.1	713.3	62.76	12.366	
10,725.0	10,563.2	10,568.2	10,483.3	37.4	33.5	96.47	-328.8	476.8	783.0	720.6	62.36	12.556	
10,750.0	10,578.5	10,573.6	10,488.4	37.4	33.5	95.89	-327.0	476.8	790.7	728.8	61.94	12.767	
10,775.0	10,592.8	10,577.9	10,492.5	37.4	33.5	95.13	-325.6	476.8	799.3	737.8	61.49	12.998	
10,800.0	10,605.9	10,581.2	10,495.6	37.4	33.5	94.17	-324.4	476.8	808.5	747.5	61.03	13.248	
10,825.0	10,618.0	10,583.5	10,497.7	37.5	33.5	93.04	-323.6	476.8	818.5	758.0	60.55	13.518	

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 903H
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 903H	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+MS													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
10,850.0	10,628.8	10,584.8	10,499.0	37.5	33.5	91.72	-323.1	476.8	829.2	769.2	60.06	13.806		
10,875.0	10,638.5	10,585.4	10,499.5	37.5	33.5	90.24	-323.0	476.8	840.6	781.0	59.57	14.110		
10,900.0	10,646.9	10,585.1	10,499.2	37.5	33.5	88.59	-323.1	476.8	852.5	793.4	59.08	14.430		
10,925.0	10,654.2	10,584.1	10,498.3	37.5	33.5	86.79	-323.4	476.8	865.0	806.4	58.59	14.763		
10,950.0	10,660.1	10,582.5	10,496.7	37.5	33.5	84.85	-324.0	476.8	877.9	819.8	58.11	15.108		
10,975.0	10,664.8	10,580.2	10,494.6	37.6	33.5	82.80	-324.8	476.8	891.2	833.6	57.64	15.463		
11,000.0	10,668.1	10,577.3	10,491.9	37.6	33.5	80.65	-325.8	476.8	904.9	847.7	57.17	15.827		
11,025.0	10,670.2	10,573.9	10,488.7	37.6	33.5	78.42	-326.9	476.8	918.9	862.1	56.73	16.198		
11,050.0	10,671.0	10,570.1	10,485.1	37.6	33.5	76.14	-328.2	476.8	933.1	876.8	56.30	16.574		
11,052.7	10,671.0	10,569.6	10,484.6	37.6	33.5	75.89	-328.4	476.8	934.6	878.3	56.25	16.615		
11,100.0	10,670.9	10,550.0	10,466.0	37.7	33.5	74.55	-334.5	476.9	962.5	907.1	55.41	17.371		

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 903H
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 903H	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)			
0.0	0.0	0.0	19.0	0.0	0.0	-90.10	-0.5	-260.6	261.3				
100.0	100.0	81.0	100.0	0.8	1.0	-90.10	-0.5	-260.6	260.6	258.4	2.20	118.230	
200.0	200.0	181.0	200.0	1.4	1.6	-90.10	-0.5	-260.6	260.6	257.1	3.49	74.630	
300.0	300.0	281.0	300.0	1.9	2.0	-90.10	-0.5	-260.6	260.6	256.3	4.34	60.060	
400.0	400.0	381.0	400.0	2.2	2.4	-90.10	-0.5	-260.6	260.6	255.6	5.03	51.760	
500.0	500.0	481.0	500.0	2.6	2.7	-90.10	-0.5	-260.6	260.6	255.0	5.64	46.189	
600.0	600.0	581.0	600.0	2.8	2.9	-90.10	-0.5	-260.6	260.6	254.4	6.19	42.105	
700.0	700.0	681.0	700.0	3.1	3.2	-90.10	-0.5	-260.6	260.6	253.9	6.69	38.939	
800.0	800.0	781.0	800.0	3.3	3.4	-90.10	-0.5	-260.6	260.6	253.4	7.16	36.387	
900.0	900.0	881.0	900.0	3.6	3.7	-90.10	-0.5	-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	-0.5	-260.6	260.6	252.6	8.02	32.480 CC, ES	
1,100.0	1,100.0	1,083.7	1,102.7	4.1	4.1	134.99	-1.3	-260.2	261.4	252.9	8.47	30.853	
1,200.0	1,199.8	1,187.0	1,205.9	4.4	4.3	135.09	-4.5	-258.5	263.5	254.6	8.89	29.638	
1,250.0	1,249.7	1,238.7	1,257.5	4.5	4.5	135.14	-7.0	-257.1	264.9	255.9	9.02	29.356	
1,300.0	1,299.5	1,290.3	1,309.0	4.5	4.6	142.95	-10.2	-255.4	266.8	257.7	9.17	29.113	
1,400.0	1,398.8	1,393.6	1,411.9	4.8	4.9	153.26	-18.3	-251.1	272.3	262.7	9.61	28.345	
1,500.0	1,497.8	1,496.6	1,514.2	5.1	5.2	159.00	-28.9	-245.5	280.0	269.9	10.08	27.773	
1,555.8	1,552.8	1,553.9	1,570.9	5.3	5.3	160.95	-35.9	-241.8	285.3	275.0	10.29	27.737	
1,600.0	1,596.4	1,599.2	1,615.7	5.4	5.5	160.24	-41.9	-238.6	289.7	279.3	10.44	27.755	
1,700.0	1,694.8	1,700.5	1,715.6	5.7	5.7	158.42	-56.9	-230.6	299.2	288.4	10.80	27.692	
1,800.0	1,793.3	1,799.6	1,813.2	6.0	6.0	156.65	-72.1	-222.5	308.7	297.4	11.25	27.434	
1,900.0	1,891.8	1,898.7	1,910.8	6.3	6.4	154.99	-87.3	-214.4	318.5	306.7	11.71	27.202	
2,000.0	1,990.2	1,997.8	2,008.4	6.7	6.7	153.42	-102.5	-206.4	328.5	316.3	12.17	26.997	
2,100.0	2,088.7	2,096.9	2,106.0	7.1	7.1	151.95	-117.7	-198.3	338.8	326.1	12.63	26.819	
2,200.0	2,187.2	2,196.0	2,203.6	7.5	7.5	150.57	-132.9	-190.2	349.2	336.1	13.10	26.666	
2,300.0	2,285.6	2,295.1	2,301.2	7.8	7.8	149.27	-148.1	-182.1	359.9	346.3	13.56	26.538	
2,400.0	2,384.1	2,394.2	2,398.8	8.2	8.2	148.04	-163.2	-174.0	370.7	356.7	14.03	26.430	
2,500.0	2,482.6	2,493.3	2,496.4	8.6	8.6	146.88	-178.4	-166.0	381.7	367.2	14.49	26.341	
2,600.0	2,581.0	2,592.4	2,594.0	9.0	9.0	145.79	-193.6	-157.9	392.9	377.9	14.96	26.270	
2,700.0	2,679.5	2,691.5	2,691.6	9.4	9.4	144.76	-208.8	-149.8	404.2	388.7	15.42	26.213	
2,800.0	2,777.9	2,790.6	2,789.2	9.9	9.8	143.78	-224.0	-141.7	415.6	399.7	15.88	26.169	
2,900.0	2,876.4	2,889.7	2,886.8	10.3	10.2	142.86	-239.2	-133.7	427.1	410.7	16.34	26.137	
3,000.0	2,974.9	2,988.8	2,984.3	10.7	10.6	141.98	-254.4	-125.6	438.7	421.9	16.77	26.165	
3,100.0	3,073.3	3,087.4	3,081.6	11.1	11.0	141.23	-269.0	-117.8	450.5	433.3	17.23	26.152	
3,200.0	3,171.8	3,186.2	3,179.1	11.6	11.4	140.61	-283.0	-110.4	462.4	444.7	17.70	26.132	
3,300.0	3,270.3	3,285.0	3,276.7	12.0	11.8	140.13	-296.1	-103.4	474.5	456.3	18.17	26.109	
3,400.0	3,368.7	3,383.8	3,374.6	12.4	12.3	139.78	-308.6	-96.8	486.7	468.0	18.66	26.081	
3,500.0	3,467.2	3,482.7	3,472.5	12.8	12.7	139.54	-320.3	-90.6	498.9	479.8	19.16	26.047	
3,600.0	3,565.7	3,581.6	3,570.6	13.3	13.1	139.41	-331.2	-84.7	511.3	491.6	19.66	26.006	
3,700.0	3,664.1	3,680.4	3,668.8	13.7	13.5	139.38	-341.4	-79.3	523.7	503.5	20.17	25.958	
3,800.0	3,762.6	3,779.3	3,767.1	14.2	13.8	139.44	-350.9	-74.3	536.1	515.4	20.70	25.902	
3,900.0	3,861.1	3,878.1	3,865.4	14.6	14.2	139.58	-359.6	-69.7	548.7	527.5	21.23	25.839	
4,000.0	3,959.5	3,976.9	3,963.8	15.0	14.6	139.81	-367.5	-65.4	561.3	539.5	21.78	25.768	
4,100.0	4,058.0	4,075.6	4,062.1	15.5	15.0	140.11	-374.7	-61.6	574.0	551.7	22.34	25.691	
4,200.0	4,156.5	4,174.2	4,160.5	15.9	15.3	140.49	-381.2	-58.2	586.8	563.9	22.92	25.608	
4,300.0	4,254.9	4,272.8	4,258.8	16.4	15.7	140.93	-386.8	-55.2	599.7	576.2	23.50	25.519	
4,400.0	4,353.4	4,371.2	4,357.1	16.8	16.0	141.42	-391.8	-52.5	612.8	588.7	24.10	25.425	
4,500.0	4,451.9	4,469.5	4,455.3	17.2	16.4	141.98	-396.0	-50.3	626.0	601.3	24.72	25.327	
4,600.0	4,550.3	4,567.7	4,553.4	17.7	16.7	142.59	-399.4	-48.5	639.4	614.0	25.34	25.227	
4,700.0	4,648.8	4,665.7	4,651.4	18.1	17.0	143.24	-402.1	-47.1	652.9	627.0	25.99	25.125	
4,800.0	4,747.3	4,763.5	4,749.2	18.6	17.3	143.94	-404.0	-46.0	666.7	640.1	26.64	25.023	

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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP1	Offset TVD Reference:	Reference Datum

Offset Design: WILD THING FED COM PROJECT - _WILD THING FED COM 906H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:	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	4,845.7	4,861.2	4,846.9	19.0	17.5	144.68	-405.3	-45.4	680.7	653.4	27.31	24.923	
5,000.0	4,944.2	4,958.7	4,944.3	19.5	17.7	145.45	-405.7	-45.1	695.0	667.0	27.98	24.843	
5,100.0	5,042.7	5,057.0	5,042.7	19.9	17.7	146.25	-405.7	-45.1	709.5	680.8	28.68	24.736	
5,200.0	5,141.1	5,155.5	5,141.1	20.4	17.7	147.01	-405.7	-45.1	724.2	694.8	29.36	24.669	
5,300.0	5,239.6	5,253.9	5,239.6	20.8	17.8	147.74	-405.7	-45.1	738.9	708.9	30.03	24.609	
5,400.0	5,338.0	5,352.4	5,338.0	21.3	17.8	148.45	-405.7	-45.1	753.8	723.1	30.70	24.554	
5,500.0	5,436.5	5,450.9	5,436.5	21.7	17.8	149.13	-405.7	-45.1	768.8	737.4	31.37	24.504	
5,600.0	5,535.0	5,549.3	5,535.0	22.2	17.9	149.78	-405.7	-45.1	783.9	751.8	32.05	24.460	
5,700.0	5,633.4	5,647.8	5,633.4	22.6	17.9	150.41	-405.7	-45.1	799.1	766.4	32.72	24.419	
5,800.0	5,731.9	5,746.3	5,731.9	23.1	17.9	151.01	-405.7	-45.1	814.4	781.0	33.40	24.383	
5,900.0	5,830.4	5,844.7	5,830.4	23.5	18.0	151.59	-405.7	-45.1	829.7	795.6	34.07	24.351	
6,000.0	5,928.8	5,943.2	5,928.8	24.0	18.0	152.15	-405.7	-45.1	845.2	810.4	34.75	24.323	
6,100.0	6,027.3	6,041.7	6,027.3	24.4	18.0	152.69	-405.7	-45.1	860.7	825.3	35.42	24.298	
6,200.0	6,125.8	6,140.1	6,125.8	24.9	18.1	153.22	-405.7	-45.1	876.3	840.2	36.09	24.277	
6,300.0	6,224.2	6,238.6	6,224.2	25.3	18.1	153.72	-405.7	-45.1	891.9	855.2	36.77	24.258	
6,400.0	6,322.7	6,337.1	6,322.7	25.8	18.1	154.21	-405.7	-45.1	907.7	870.2	37.44	24.243	
6,500.0	6,421.2	6,435.5	6,421.2	26.2	18.2	154.68	-405.7	-45.1	923.5	885.3	38.11	24.229	
6,600.0	6,519.6	6,534.0	6,519.6	26.7	18.2	155.13	-405.7	-45.1	939.3	900.5	38.78	24.219	
6,700.0	6,618.1	6,632.5	6,618.1	27.1	18.3	155.57	-405.7	-45.1	955.2	915.7	39.46	24.210	
6,800.0	6,716.6	6,730.9	6,716.6	27.6	18.3	155.99	-405.7	-45.1	971.2	931.0	40.13	24.203	
6,900.0	6,815.0	6,829.4	6,815.0	28.0	18.3	156.40	-405.7	-45.1	987.2	946.4	40.79	24.198 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 903H
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 903H	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)			
0.0	0.0	0.0	19.0	0.0	0.0	-90.11	-0.5	-290.6	291.2				
100.0	100.0	81.0	100.0	0.8	1.0	-90.11	-0.5	-290.6	290.6	288.4	2.20	131.840	
200.0	200.0	181.0	200.0	1.4	1.6	-90.11	-0.5	-290.6	290.6	287.1	3.49	83.221	
300.0	300.0	281.0	300.0	1.9	2.0	-90.11	-0.5	-290.6	290.6	286.3	4.34	66.974	
400.0	400.0	381.0	400.0	2.2	2.4	-90.11	-0.5	-290.6	290.6	285.6	5.03	57.719	
500.0	500.0	481.0	500.0	2.6	2.7	-90.11	-0.5	-290.6	290.6	285.0	5.64	51.507	
600.0	600.0	581.0	600.0	2.8	2.9	-90.11	-0.5	-290.6	290.6	284.4	6.19	46.952	
700.0	700.0	681.0	700.0	3.1	3.2	-90.11	-0.5	-290.6	290.6	283.9	6.69	43.421	
800.0	800.0	781.0	800.0	3.3	3.4	-90.11	-0.5	-290.6	290.6	283.4	7.16	40.576	
900.0	900.0	881.0	900.0	3.6	3.7	-90.11	-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	-90.11	-0.5	-290.6	290.6	282.6	8.02	36.219 CC, ES	
1,100.0	1,100.0	1,081.0	1,100.0	4.1	4.1	135.12	-0.5	-290.6	291.8	283.4	8.47	34.445	
1,200.0	1,199.8	1,180.8	1,199.8	4.4	4.3	135.78	-0.5	-290.6	295.6	286.7	8.90	33.206	
1,250.0	1,249.7	1,230.7	1,249.7	4.5	4.4	136.27	-0.5	-290.6	298.4	289.4	9.04	32.997	
1,300.0	1,299.5	1,280.5	1,299.5	4.5	4.4	144.65	-0.5	-290.6	302.0	292.8	9.19	32.862	
1,400.0	1,398.8	1,379.8	1,398.8	4.8	4.6	156.44	-0.5	-290.6	311.9	302.2	9.64	32.346	
1,500.0	1,497.8	1,478.8	1,497.8	5.1	4.8	164.07	-0.5	-290.6	325.2	315.1	10.13	32.096 SF	
1,555.8	1,552.8	1,533.8	1,552.8	5.3	4.9	167.21	-0.5	-290.6	334.2	323.9	10.35	32.290	
1,600.0	1,596.4	1,577.4	1,596.4	5.4	5.0	167.49	-0.5	-290.6	341.7	331.2	10.51	32.500	
1,700.0	1,694.8	1,675.8	1,694.8	5.7	5.1	168.10	-0.5	-290.6	358.8	347.8	10.99	32.657	
1,800.0	1,793.3	1,774.3	1,793.3	6.0	5.3	168.65	-0.5	-290.6	375.9	364.4	11.48	32.752	
1,900.0	1,891.8	1,872.8	1,891.8	6.3	5.4	169.15	-0.5	-290.6	393.0	381.1	11.98	32.799	
2,000.0	1,990.2	1,971.2	1,990.2	6.7	5.6	169.60	-0.5	-290.6	410.2	397.7	12.50	32.808	
2,100.0	2,088.7	2,069.7	2,088.7	7.1	5.7	170.03	-0.5	-290.6	427.4	414.4	13.04	32.787	
2,200.0	2,187.2	2,168.2	2,187.2	7.5	5.9	170.42	-0.5	-290.6	444.6	431.0	13.58	32.744	
2,300.0	2,285.6	2,266.6	2,285.6	7.8	6.0	170.78	-0.5	-290.6	461.8	447.7	14.13	32.684	
2,400.0	2,384.1	2,365.1	2,384.1	8.2	6.2	171.11	-0.5	-290.6	479.1	464.4	14.69	32.611	
2,500.0	2,482.6	2,463.6	2,482.6	8.6	6.3	171.42	-0.5	-290.6	496.3	481.1	15.26	32.529	
2,600.0	2,581.0	2,558.8	2,577.7	9.0	6.5	171.66	-0.9	-290.9	513.8	498.0	15.82	32.478	
2,700.0	2,679.5	2,651.8	2,670.7	9.4	6.6	171.66	-3.1	-292.2	532.2	515.8	16.35	32.546	
2,800.0	2,777.9	2,744.4	2,763.2	9.9	6.7	171.44	-7.1	-294.9	551.6	534.7	16.88	32.683	
2,900.0	2,876.4	2,836.5	2,855.1	10.3	6.9	171.04	-13.0	-298.7	572.0	554.6	17.40	32.871	
3,000.0	2,974.9	2,928.0	2,946.1	10.7	7.0	170.46	-20.6	-303.7	593.4	575.5	17.92	33.109	
3,100.0	3,073.3	3,018.8	3,036.2	11.1	7.2	169.74	-30.0	-309.8	615.9	597.5	18.44	33.396	
3,200.0	3,171.8	3,108.8	3,125.2	11.6	7.4	168.91	-41.1	-317.0	639.6	620.6	18.96	33.740	
3,300.0	3,270.3	3,200.5	3,215.6	12.0	7.6	167.95	-54.1	-325.4	664.4	645.0	19.44	34.172	
3,400.0	3,368.7	3,296.6	3,310.3	12.4	7.8	166.98	-68.1	-334.5	689.6	669.7	19.99	34.491	
3,500.0	3,467.2	3,392.7	3,404.9	12.8	8.0	166.08	-82.1	-343.6	715.1	694.5	20.55	34.788	
3,600.0	3,565.7	3,488.9	3,499.6	13.3	8.3	165.24	-96.1	-352.7	740.6	719.5	21.12	35.064	
3,700.0	3,664.1	3,585.0	3,594.2	13.7	8.6	164.46	-110.1	-361.8	766.3	744.6	21.70	35.319	
3,800.0	3,762.6	3,681.1	3,688.9	14.2	8.9	163.73	-124.1	-370.9	792.1	769.9	22.28	35.555	
3,900.0	3,861.1	3,777.2	3,783.6	14.6	9.2	163.04	-138.1	-380.0	818.1	795.2	22.87	35.774	
4,000.0	3,959.5	3,873.3	3,878.2	15.0	9.5	162.40	-152.1	-389.0	844.1	820.6	23.46	35.976	
4,100.0	4,058.0	3,969.5	3,972.9	15.5	9.8	161.79	-166.1	-398.1	870.2	846.2	24.06	36.163	
4,200.0	4,156.5	4,065.6	4,067.6	15.9	10.1	161.22	-180.1	-407.2	896.5	871.8	24.67	36.335	
4,300.0	4,254.9	4,161.7	4,162.2	16.4	10.4	160.68	-194.1	-416.3	922.8	897.5	25.29	36.494	
4,400.0	4,353.4	4,257.8	4,256.9	16.8	10.8	160.17	-208.1	-425.4	949.1	923.2	25.90	36.640	
4,500.0	4,451.9	4,354.0	4,351.5	17.2	11.1	159.69	-222.1	-434.5	975.6	949.1	26.53	36.776	

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 903H
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 903H	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		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	-90.10	-0.6	-320.6	321.2				
100.0	100.0	81.0	100.0	0.8	1.0	-90.10	-0.6	-320.6	320.6	318.4	2.20	145.450	
200.0	200.0	181.0	200.0	1.4	1.6	-90.10	-0.6	-320.6	320.6	317.1	3.49	91.812	
300.0	300.0	281.0	300.0	1.9	2.0	-90.10	-0.6	-320.6	320.6	316.3	4.34	73.888	
400.0	400.0	381.0	400.0	2.2	2.4	-90.10	-0.6	-320.6	320.6	315.6	5.03	63.677	
500.0	500.0	481.0	500.0	2.6	2.7	-90.10	-0.6	-320.6	320.6	315.0	5.64	56.824	
600.0	600.0	581.0	600.0	2.8	2.9	-90.10	-0.6	-320.6	320.6	314.4	6.19	51.799	
700.0	700.0	681.0	700.0	3.1	3.2	-90.10	-0.6	-320.6	320.6	313.9	6.69	47.904	
800.0	800.0	781.0	800.0	3.3	3.4	-90.10	-0.6	-320.6	320.6	313.4	7.16	44.765	
900.0	900.0	881.0	900.0	3.6	3.7	-90.10	-0.6	-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	-90.10	-0.6	-320.6	320.6	312.6	8.02	39.958 CC, ES	
1,100.0	1,100.0	1,075.4	1,094.4	4.1	4.1	135.01	-0.9	-321.3	322.5	314.1	8.48	38.033	
1,200.0	1,199.8	1,168.3	1,187.2	4.4	4.3	135.27	-2.4	-323.8	329.0	320.1	8.92	36.907	
1,250.0	1,249.7	1,214.5	1,233.4	4.5	4.4	135.45	-3.5	-325.9	334.0	324.9	9.06	36.856	
1,300.0	1,299.5	1,260.6	1,279.4	4.5	4.5	143.50	-4.9	-328.4	340.2	331.0	9.22	36.911	
1,400.0	1,398.8	1,351.9	1,370.5	4.8	4.8	154.55	-8.4	-334.8	356.8	347.2	9.69	36.822 SF	
1,500.0	1,497.8	1,442.0	1,460.0	5.1	5.0	161.35	-12.9	-342.9	378.9	368.7	10.21	37.109	
1,555.8	1,552.8	1,491.5	1,509.2	5.3	5.2	164.00	-15.9	-348.2	393.5	383.0	10.45	37.655	
1,600.0	1,596.4	1,530.4	1,547.7	5.4	5.3	163.89	-18.4	-352.8	405.9	395.2	10.64	38.163	
1,700.0	1,694.8	1,619.4	1,635.7	5.7	5.6	163.57	-24.8	-364.4	435.3	424.1	11.15	39.033	
1,800.0	1,793.3	1,714.7	1,729.8	6.0	5.9	163.22	-32.1	-377.4	465.3	453.6	11.71	39.724	
1,900.0	1,891.8	1,810.1	1,824.0	6.3	6.2	162.91	-39.3	-390.5	495.4	483.1	12.30	40.257	
2,000.0	1,990.2	1,905.4	1,918.2	6.7	6.5	162.64	-46.5	-403.5	525.4	512.5	12.92	40.664	
2,100.0	2,088.7	2,000.8	2,012.4	7.1	6.8	162.40	-53.7	-416.6	555.5	541.9	13.56	40.968	
2,200.0	2,187.2	2,096.1	2,106.5	7.5	7.1	162.18	-61.0	-429.6	585.6	571.3	14.22	41.191	
2,300.0	2,285.6	2,191.5	2,200.7	7.8	7.5	161.98	-68.2	-442.7	615.6	600.7	14.89	41.350	
2,400.0	2,384.1	2,286.8	2,294.9	8.2	7.8	161.81	-75.4	-455.7	645.7	630.1	15.58	41.459	
2,500.0	2,482.6	2,382.2	2,389.1	8.6	8.2	161.64	-82.7	-468.7	675.8	659.5	16.27	41.528	
2,600.0	2,581.0	2,477.5	2,483.2	9.0	8.6	161.50	-89.9	-481.8	705.9	688.9	16.98	41.565	
2,700.0	2,679.5	2,572.8	2,577.4	9.4	8.9	161.36	-97.1	-494.8	736.0	718.3	17.70	41.578	
2,800.0	2,777.9	2,668.2	2,671.6	9.9	9.3	161.23	-104.4	-507.9	766.1	747.7	18.43	41.572	
2,900.0	2,876.4	2,763.5	2,765.8	10.3	9.7	161.12	-111.6	-520.9	796.2	777.1	19.16	41.550	
3,000.0	2,974.9	2,858.9	2,859.9	10.7	10.1	161.01	-118.8	-534.0	826.3	806.4	19.90	41.517	
3,100.0	3,073.3	2,954.2	2,954.1	11.1	10.5	160.91	-126.1	-547.0	856.4	835.8	20.65	41.474	
3,200.0	3,171.8	3,049.6	3,048.3	11.6	10.9	160.82	-133.3	-560.1	886.5	865.1	21.40	41.425	
3,300.0	3,270.3	3,144.9	3,142.5	12.0	11.3	160.73	-140.5	-573.1	916.7	894.5	22.16	41.371	
3,400.0	3,368.7	3,240.3	3,236.6	12.4	11.6	160.65	-147.8	-586.2	946.8	923.9	22.92	41.313	
3,500.0	3,467.2	3,335.6	3,330.8	12.8	12.0	160.57	-155.0	-599.2	976.9	953.2	23.68	41.252	

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 903H
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 903H	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			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	-90.09	-0.5	-350.6	351.1				
100.0	100.0	81.0	100.0	0.8	1.0	-90.09	-0.5	-350.6	350.6	348.4	2.20	159.061	
200.0	200.0	181.0	200.0	1.4	1.6	-90.09	-0.5	-350.6	350.6	347.1	3.49	100.403	
300.0	300.0	281.0	300.0	1.9	2.0	-90.09	-0.5	-350.6	350.6	346.3	4.34	80.802	
400.0	400.0	381.0	400.0	2.2	2.4	-90.09	-0.5	-350.6	350.6	345.6	5.03	69.636	
500.0	500.0	481.0	500.0	2.6	2.7	-90.09	-0.5	-350.6	350.6	345.0	5.64	62.141	
600.0	600.0	581.0	600.0	2.8	2.9	-90.09	-0.5	-350.6	350.6	344.4	6.19	56.646	
700.0	700.0	681.0	700.0	3.1	3.2	-90.09	-0.5	-350.6	350.6	343.9	6.69	52.386	
800.0	800.0	781.0	800.0	3.3	3.4	-90.09	-0.5	-350.6	350.6	343.4	7.16	48.954	
900.0	900.0	881.0	900.0	3.6	3.7	-90.09	-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	-90.09	-0.5	-350.6	350.6	342.6	8.02	43.697 CC, ES	
1,100.0	1,100.0	1,074.5	1,093.5	4.1	4.1	135.03	-0.8	-351.3	352.6	344.1	8.48	41.557	
1,200.0	1,199.8	1,166.2	1,185.1	4.4	4.3	135.33	-1.7	-354.0	359.3	350.3	8.93	40.252	
1,250.0	1,249.7	1,211.8	1,230.7	4.5	4.4	135.54	-2.5	-356.2	364.4	355.3	9.08	40.148	
1,300.0	1,299.5	1,257.2	1,276.0	4.5	4.5	143.64	-3.4	-358.8	370.8	361.6	9.24	40.147	
1,400.0	1,398.8	1,347.3	1,365.8	4.8	4.8	154.84	-5.7	-365.5	387.9	378.2	9.72	39.912 SF	
1,500.0	1,497.8	1,436.0	1,454.1	5.1	5.0	161.84	-8.6	-374.1	410.6	400.3	10.25	40.063	
1,555.8	1,552.8	1,484.8	1,502.5	5.3	5.2	164.63	-10.5	-379.7	425.6	415.1	10.50	40.552	
1,600.0	1,596.4	1,523.1	1,540.4	5.4	5.3	164.62	-12.2	-384.4	438.4	427.7	10.69	41.020	
1,700.0	1,694.8	1,608.8	1,625.3	5.7	5.6	164.56	-16.3	-396.4	468.7	457.4	11.21	41.807	
1,800.0	1,793.3	1,693.4	1,708.6	6.0	5.8	164.41	-21.0	-410.0	500.9	489.2	11.76	42.610	
1,900.0	1,891.8	1,776.8	1,790.4	6.3	6.1	164.22	-26.2	-425.0	535.2	522.9	12.32	43.432	
2,000.0	1,990.2	1,867.1	1,878.8	6.7	6.4	163.97	-32.3	-442.7	570.8	557.9	12.94	44.109	
2,100.0	2,088.7	1,960.5	1,970.1	7.1	6.8	163.75	-38.6	-461.1	606.6	593.0	13.60	44.601	
2,200.0	2,187.2	2,053.8	2,061.4	7.5	7.1	163.55	-44.9	-479.4	642.3	628.0	14.28	44.979	
2,300.0	2,285.6	2,147.2	2,152.8	7.8	7.5	163.37	-51.2	-497.8	678.1	663.1	14.98	45.265	
2,400.0	2,384.1	2,240.6	2,244.1	8.2	7.8	163.21	-57.5	-516.1	713.8	698.1	15.70	45.479	
2,500.0	2,482.6	2,333.9	2,335.4	8.6	8.2	163.06	-63.9	-534.5	749.6	733.2	16.43	45.636	
2,600.0	2,581.0	2,427.3	2,426.8	9.0	8.6	162.93	-70.2	-552.8	785.4	768.2	17.17	45.746	
2,700.0	2,679.5	2,520.7	2,518.1	9.4	9.0	162.81	-76.5	-571.2	821.1	803.2	17.92	45.821	
2,800.0	2,777.9	2,614.0	2,609.4	9.9	9.3	162.70	-82.8	-589.6	856.9	838.2	18.68	45.866	
2,900.0	2,876.4	2,707.4	2,700.7	10.3	9.7	162.60	-89.1	-607.9	892.7	873.2	19.45	45.888	
3,000.0	2,974.9	2,800.8	2,792.1	10.7	10.1	162.50	-95.5	-626.3	928.5	908.2	20.23	45.892	
3,100.0	3,073.3	2,894.2	2,883.4	11.1	10.5	162.42	-101.8	-644.6	964.3	943.2	21.02	45.882	

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 903H
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 903H	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)	Distance 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	-380.6	381.1				
100.0	100.0	81.0	100.0	0.8	1.0	-90.08	-0.5	-380.6	380.6	378.4	2.20	172.671	
200.0	200.0	181.0	200.0	1.4	1.6	-90.08	-0.5	-380.6	380.6	377.1	3.49	108.994	
300.0	300.0	281.0	300.0	1.9	2.0	-90.08	-0.5	-380.6	380.6	376.3	4.34	87.716	
400.0	400.0	381.0	400.0	2.2	2.4	-90.08	-0.5	-380.6	380.6	375.6	5.03	75.594	
500.0	500.0	481.0	500.0	2.6	2.7	-90.08	-0.5	-380.6	380.6	375.0	5.64	67.458	
600.0	600.0	581.0	600.0	2.8	2.9	-90.08	-0.5	-380.6	380.6	374.4	6.19	61.493	
700.0	700.0	681.0	700.0	3.1	3.2	-90.08	-0.5	-380.6	380.6	373.9	6.69	56.869	
800.0	800.0	781.0	800.0	3.3	3.4	-90.08	-0.5	-380.6	380.6	373.4	7.16	53.143	
900.0	900.0	881.0	900.0	3.6	3.7	-90.08	-0.5	-380.6	380.6	373.0	7.60	50.053	
1,000.0	1,000.0	981.0	1,000.0	3.8	3.9	-90.08	-0.5	-380.6	380.6	372.6	8.02	47.436 CC, ES	
1,100.0	1,100.0	1,073.8	1,092.8	4.1	4.1	135.03	-0.7	-381.3	382.6	374.1	8.48	45.100	
1,200.0	1,199.8	1,164.7	1,183.7	4.4	4.3	135.32	-1.5	-384.0	389.3	380.4	8.92	43.670	
1,250.0	1,249.7	1,209.9	1,228.8	4.5	4.4	135.53	-2.0	-386.2	394.5	385.4	9.06	43.554	
1,300.0	1,299.5	1,255.0	1,273.8	4.5	4.5	143.64	-2.8	-388.8	400.9	391.7	9.20	43.571	
1,400.0	1,398.8	1,344.2	1,362.8	4.8	4.7	154.87	-4.6	-395.6	418.2	408.5	9.65	43.354 SF	
1,500.0	1,497.8	1,432.1	1,450.2	5.1	4.9	161.94	-6.9	-404.2	441.0	430.8	10.12	43.567	
1,555.8	1,552.8	1,480.4	1,498.1	5.3	5.0	164.77	-8.4	-409.7	456.1	445.7	10.33	44.146	
1,600.0	1,596.4	1,518.3	1,535.7	5.4	5.0	164.81	-9.6	-414.5	468.9	458.4	10.49	44.711	
1,700.0	1,694.8	1,600.0	1,616.5	5.7	5.2	164.84	-12.7	-426.0	499.4	488.5	10.91	45.760	
1,800.0	1,793.3	1,687.0	1,702.3	6.0	5.4	164.81	-16.5	-440.1	531.9	520.5	11.38	46.748	
1,900.0	1,891.8	1,769.5	1,783.3	6.3	5.6	164.72	-20.5	-455.2	566.4	554.5	11.83	47.857	
2,000.0	1,990.2	1,850.8	1,862.7	6.7	5.7	164.59	-25.0	-471.7	602.7	590.4	12.29	49.025	
2,100.0	2,088.7	1,930.7	1,940.5	7.1	5.9	164.43	-29.7	-489.6	641.0	628.3	12.74	50.301	
2,200.0	2,187.2	2,014.2	2,021.4	7.5	6.0	164.23	-35.2	-509.8	681.0	667.8	13.19	51.626	
2,300.0	2,285.6	2,105.7	2,109.9	7.8	6.2	164.04	-41.2	-532.2	721.3	707.6	13.74	52.513	
2,400.0	2,384.1	2,197.2	2,198.3	8.2	6.3	163.86	-47.2	-554.6	761.7	747.4	14.28	53.349	
2,500.0	2,482.6	2,288.7	2,286.8	8.6	6.5	163.70	-53.2	-577.0	802.0	787.2	14.83	54.086	
2,600.0	2,581.0	2,380.1	2,375.3	9.0	6.7	163.55	-59.2	-599.4	842.4	827.0	15.39	54.737	
2,700.0	2,679.5	2,471.6	2,463.8	9.4	6.9	163.42	-65.2	-621.9	882.7	866.7	15.96	55.314	
2,800.0	2,777.9	2,563.1	2,552.3	9.9	7.0	163.30	-71.2	-644.3	923.1	906.5	16.53	55.826	
2,900.0	2,876.4	2,654.6	2,640.8	10.3	7.2	163.19	-77.2	-666.7	963.4	946.3	17.12	56.282	

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 903H
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 903H	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 - COOPER 31 FEDERAL 2H_P&A - OWB - AWP												Offset Site Error:	0.0 usft
Survey Program: 100-r.5 GYRO-NS, 6679-r.5 MWD												Offset Well Error:	3.0 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)			
6,400.0	6,322.7	8,391.3	7,145.8	25.8	40.5	-124.68	182.3	828.5	938.9	900.5	38.41	24.445	
6,500.0	6,421.2	8,371.8	7,146.3	26.2	40.1	-122.63	182.4	848.1	857.0	816.7	40.33	21.252	
6,600.0	6,519.6	8,352.7	7,146.9	26.7	39.7	-120.59	182.4	867.2	778.8	736.2	42.61	18.278	
6,700.0	6,618.1	8,334.0	7,147.4	27.1	39.4	-118.55	182.4	885.8	705.7	660.4	45.30	15.579	
6,800.0	6,716.6	8,315.6	7,148.0	27.6	39.0	-116.53	182.5	904.2	639.2	590.9	48.35	13.220	
6,900.0	6,815.0	8,297.6	7,148.6	28.0	38.7	-114.52	182.5	922.3	581.8	530.1	51.77	11.239	
7,000.0	6,913.5	8,280.4	7,149.2	28.5	38.4	-112.59	182.6	939.4	536.4	480.3	56.12	9.559	
7,100.0	7,012.0	8,261.1	7,150.1	28.9	38.0	-110.41	182.8	958.6	506.2	446.0	60.16	8.413	
7,200.0	7,110.4	8,240.4	7,151.1	29.4	37.6	-108.06	182.9	979.4	493.8	431.9	61.93	7.973	
7,214.9	7,125.1	8,237.3	7,151.2	29.5	37.5	-107.71	183.0	982.4	493.6	431.7	61.91	7.973 CC, ES, SF	
7,300.0	7,208.9	8,220.0	7,152.1	29.8	37.2	-105.75	183.2	999.7	500.6	440.3	60.29	8.302	
7,400.0	7,307.4	8,199.1	7,153.1	30.3	36.8	-103.38	183.4	1,020.6	525.7	469.7	56.08	9.375	
7,500.0	7,405.8	8,177.4	7,154.1	30.8	36.4	-100.95	183.7	1,042.2	566.9	515.1	51.82	10.938	
7,600.0	7,504.3	8,154.7	7,155.2	31.2	36.0	-98.43	183.9	1,065.0	620.8	572.3	48.47	12.807	
7,700.0	7,602.7	8,132.7	7,156.2	31.7	35.6	-96.01	184.1	1,087.0	684.4	639.0	45.37	15.085	
7,800.0	7,701.2	8,111.4	7,157.3	32.1	35.2	-93.72	184.2	1,108.2	755.3	712.6	42.69	17.692	
7,900.0	7,799.7	8,091.8	7,158.2	32.6	34.9	-91.65	184.4	1,127.8	831.7	791.2	40.49	20.542	
8,000.0	7,898.1	8,075.3	7,159.0	33.0	34.6	-89.94	184.6	1,144.2	912.2	873.5	38.72	23.558	
8,100.0	7,996.6	8,062.0	7,159.4	33.5	34.4	-88.57	184.7	1,157.5	996.0	958.7	37.33	26.681	
8,103.5	8,000.1	8,061.5	7,159.5	33.5	34.4	-88.53	184.7	1,158.0	999.0	961.7	37.29	26.792	

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 903H
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 903H	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)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
0.0	0.0	0.0	6.0	0.0	0.0	-117.88	-201.1	-380.1	430.1					
100.0	100.0	94.0	100.0	0.8	0.5	-117.88	-201.1	-380.1	430.0	428.3	1.73	249.156		
200.0	200.0	194.0	200.0	1.4	1.0	-117.88	-201.1	-380.1	430.0	427.1	2.90	148.408		
300.0	300.0	294.0	300.0	1.9	1.3	-117.88	-201.1	-380.1	430.0	426.4	3.68	116.821		
400.0	400.0	394.0	400.0	2.2	1.6	-117.88	-201.1	-380.1	430.0	425.7	4.31	99.758		
500.0	500.0	494.0	500.0	2.6	1.9	-117.88	-201.1	-380.1	430.0	425.2	4.85	88.583		
600.0	600.0	594.0	600.0	2.8	2.1	-117.88	-201.1	-380.1	430.0	424.7	5.34	80.507		
700.0	700.0	694.0	700.0	3.1	2.3	-117.88	-201.1	-380.1	430.0	424.2	5.79	74.305		
800.0	800.0	794.0	800.0	3.3	2.5	-117.88	-201.1	-380.1	430.0	423.8	6.20	69.340 CC, ES		
900.0	900.0	881.8	887.8	3.6	2.7	-117.86	-201.5	-381.2	431.4	424.7	6.69	64.516		
1,000.0	1,000.0	968.6	974.5	3.8	2.9	-117.80	-202.9	-384.8	435.7	428.6	7.15	60.940		
1,100.0	1,100.0	1,055.1	1,060.8	4.1	3.2	107.33	-205.2	-390.7	443.6	436.0	7.58	58.525		
1,200.0	1,199.8	1,140.8	1,146.0	4.4	3.4	107.78	-208.3	-399.0	455.5	447.5	7.98	57.091		
1,250.0	1,249.7	1,183.3	1,188.2	4.5	3.5	108.10	-210.3	-404.0	463.0	454.8	8.12	57.041		
1,300.0	1,299.5	1,225.4	1,229.9	4.5	3.6	116.37	-212.4	-409.6	471.8	463.5	8.26	57.118		
1,400.0	1,398.8	1,308.4	1,311.8	4.8	3.9	128.05	-217.2	-422.1	494.0	485.4	8.69	56.850 SF		
1,500.0	1,497.8	1,389.3	1,391.2	5.1	4.1	135.69	-222.7	-436.5	522.5	513.4	9.13	57.251		
1,555.8	1,552.8	1,433.4	1,434.2	5.3	4.2	138.89	-226.0	-445.2	541.0	531.6	9.32	58.056		
1,600.0	1,596.4	1,467.8	1,467.8	5.4	4.3	139.36	-228.8	-452.5	556.6	547.1	9.46	58.835		
1,700.0	1,694.8	1,544.5	1,542.2	5.7	4.4	140.33	-235.5	-470.0	594.0	584.1	9.87	60.190		
1,800.0	1,793.3	1,619.6	1,614.4	6.0	4.6	141.18	-242.7	-488.9	633.9	623.7	10.25	61.862		
1,900.0	1,891.8	1,708.1	1,699.3	6.3	4.7	142.07	-251.8	-512.4	675.5	664.9	10.62	63.589		
2,000.0	1,990.2	1,798.5	1,786.0	6.7	4.8	142.88	-261.0	-536.5	717.2	706.2	11.05	64.890		
2,100.0	2,088.7	1,889.0	1,872.6	7.1	5.0	143.60	-270.2	-560.6	759.0	747.5	11.50	65.999		
2,200.0	2,187.2	1,979.4	1,959.3	7.5	5.1	144.25	-279.4	-584.6	800.9	789.0	11.96	66.945		
2,300.0	2,285.6	2,069.8	2,046.0	7.8	5.3	144.83	-288.7	-608.7	842.9	830.5	12.44	67.751		
2,400.0	2,384.1	2,160.3	2,132.7	8.2	5.4	145.36	-297.9	-632.8	885.0	872.0	12.93	68.435		
2,500.0	2,482.6	2,250.7	2,219.4	8.6	5.6	145.84	-307.1	-656.9	927.1	913.6	13.43	69.017		
2,600.0	2,581.0	2,341.2	2,306.1	9.0	5.7	146.27	-316.3	-681.0	969.2	955.3	13.94	69.510		

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 903H
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 903H	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		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
2,100.0	2,088.7	2,376.1	2,316.9	7.1	9.5	-44.84	361.2	984.6	973.2	957.8	15.37	63.322	
2,200.0	2,187.2	2,469.5	2,406.6	7.5	9.9	-44.66	338.6	971.5	937.7	921.6	16.02	58.519	
2,300.0	2,285.6	2,562.9	2,496.3	7.8	10.3	-44.47	316.1	958.4	902.1	885.4	16.69	54.063	
2,400.0	2,384.1	2,656.3	2,586.0	8.2	10.7	-44.26	293.5	945.3	866.6	849.2	17.36	49.923	
2,500.0	2,482.6	2,749.8	2,675.7	8.6	11.2	-44.03	271.0	932.2	831.1	813.0	18.04	46.073	
2,600.0	2,581.0	2,843.2	2,765.4	9.0	11.6	-43.78	248.4	919.1	795.6	776.8	18.72	42.489	
2,700.0	2,679.5	2,936.6	2,855.1	9.4	12.0	-43.51	225.9	906.0	760.1	740.6	19.42	39.148	
2,800.0	2,777.9	3,030.0	2,944.8	9.9	12.5	-43.21	203.3	893.0	724.6	704.5	20.11	36.028	
2,900.0	2,876.4	3,123.5	3,034.5	10.3	12.9	-42.88	180.7	879.9	689.1	668.3	20.81	33.112	
3,000.0	2,974.9	3,216.9	3,124.2	10.7	13.3	-42.51	158.2	866.8	653.7	632.2	21.52	30.381	
3,100.0	3,073.3	3,310.3	3,214.0	11.1	13.8	-42.10	135.6	853.7	618.3	596.1	22.22	27.821	
3,200.0	3,171.8	3,403.7	3,303.7	11.6	14.2	-41.65	113.1	840.6	582.9	560.0	22.93	25.418	
3,300.0	3,270.3	3,497.2	3,393.4	12.0	14.7	-41.13	90.5	827.5	547.6	523.9	23.64	23.159	
3,400.0	3,368.7	3,590.6	3,483.1	12.4	15.1	-40.54	68.0	814.4	512.3	487.9	24.35	21.034	
3,500.0	3,467.2	3,684.0	3,572.8	12.8	15.6	-39.87	45.4	801.3	477.0	451.9	25.06	19.031	
3,600.0	3,565.7	3,777.4	3,662.5	13.3	16.0	-39.09	22.9	788.2	441.8	416.1	25.77	17.142	
3,700.0	3,664.1	3,870.9	3,752.2	13.7	16.5	-38.17	0.3	775.1	406.7	380.3	26.48	15.360	
3,800.0	3,762.6	3,964.3	3,841.9	14.2	16.9	-37.09	-22.3	762.0	371.8	344.6	27.18	13.676	
3,900.0	3,861.1	4,057.7	3,931.6	14.6	17.4	-35.78	-44.8	748.9	336.9	309.0	27.88	12.086	
4,000.0	3,959.5	4,151.1	4,021.3	15.0	17.8	-34.17	-67.4	735.8	302.3	273.7	28.56	10.584	
4,100.0	4,058.0	4,244.6	4,111.1	15.5	18.3	-32.15	-89.9	722.7	267.9	238.7	29.22	9.167	
4,200.0	4,156.5	4,338.0	4,200.8	15.9	18.8	-29.55	-112.5	709.6	233.9	204.0	29.86	7.833	
4,300.0	4,254.9	4,431.4	4,290.5	16.4	19.2	-26.08	-135.0	696.5	200.5	170.0	30.45	6.584	
4,400.0	4,353.4	4,524.8	4,380.2	16.8	19.7	-21.29	-157.6	683.4	168.0	137.0	30.96	5.425	
4,500.0	4,451.9	4,618.3	4,469.9	17.2	20.1	-14.35	-180.1	670.3	137.0	105.7	31.34	4.373	
4,600.0	4,550.3	4,711.7	4,559.6	17.7	20.6	-3.84	-202.7	657.2	109.1	77.6	31.50	3.462	
4,700.0	4,648.8	4,805.1	4,649.3	18.1	21.0	12.36	-225.3	644.2	86.9	55.4	31.47	2.762 Normal Operations	
4,800.0	4,747.3	4,898.5	4,739.0	18.6	21.5	35.19	-247.8	631.1	75.9	44.0	31.83	2.384 Caution - Monitor Closely	
4,820.7	4,767.6	4,917.8	4,757.6	18.7	21.6	40.39	-252.5	628.4	75.5	43.5	32.05	2.356 Caution - Monitor Closely, CC, ES, SF	
4,900.0	4,845.7	4,991.9	4,828.7	19.0	22.0	59.69	-270.4	618.0	80.6	47.3	33.37	2.417 Caution - Monitor Closely	
5,000.0	4,944.2	5,085.4	4,918.4	19.5	22.4	78.75	-292.9	604.9	99.0	63.8	35.20	2.811 Normal Operations	
5,100.0	5,042.7	5,178.8	5,008.2	19.9	22.9	91.34	-315.5	591.8	125.0	88.4	36.61	3.414	
5,200.0	5,141.1	5,272.2	5,097.9	20.4	23.4	99.54	-338.0	578.7	154.9	117.2	37.70	4.109	
5,300.0	5,239.6	5,365.6	5,187.6	20.8	23.8	105.09	-360.6	565.6	186.9	148.3	38.63	4.838	
5,400.0	5,338.0	5,459.1	5,277.3	21.3	24.3	109.03	-383.2	552.5	220.0	180.5	39.48	5.572	
5,500.0	5,436.5	5,552.5	5,367.0	21.7	24.7	111.95	-405.7	539.4	253.8	213.5	40.29	6.299	
5,600.0	5,535.0	5,645.9	5,456.7	22.2	25.2	114.18	-428.3	526.3	288.0	246.9	41.08	7.011	
5,700.0	5,633.4	5,739.3	5,546.4	22.6	25.7	115.94	-450.8	513.2	322.6	280.7	41.86	7.706	
5,800.0	5,731.9	5,832.8	5,636.1	23.1	26.1	117.36	-473.4	500.1	357.3	314.7	42.63	8.383	
5,900.0	5,830.4	5,926.2	5,725.8	23.5	26.6	118.54	-495.9	487.0	392.3	348.9	43.39	9.039	
6,000.0	5,928.8	6,019.6	5,815.5	24.0	27.1	119.52	-518.5	473.9	427.3	383.2	44.16	9.677	
6,100.0	6,027.3	6,113.0	5,905.3	24.4	27.5	120.35	-541.0	460.8	462.5	417.5	44.92	10.294	
6,200.0	6,125.8	6,206.5	5,995.0	24.9	28.0	121.06	-563.6	447.7	497.7	452.0	45.69	10.893	
6,300.0	6,224.2	6,299.9	6,084.7	25.3	28.5	121.68	-586.2	434.6	533.0	486.5	46.45	11.474	
6,400.0	6,322.7	6,393.3	6,174.4	25.8	28.9	122.23	-608.7	421.5	568.3	521.1	47.21	12.037	
6,500.0	6,421.2	6,486.7	6,264.1	26.2	29.4	122.71	-631.3	408.5	603.7	555.7	47.98	12.583	
6,600.0	6,519.6	6,582.7	6,356.3	26.7	29.9	123.15	-654.4	395.0	639.0	590.2	48.76	13.106	
6,700.0	6,618.1	6,687.7	6,457.5	27.1	30.4	123.62	-678.6	381.0	673.3	623.6	49.65	13.561	
6,800.0	6,716.6	6,793.9	6,560.4	27.6	30.9	124.11	-701.4	367.7	705.9	655.4	50.53	13.972	
6,900.0	6,815.0	6,901.3	6,664.9	28.0	31.4	124.62	-722.8	355.3	737.0	685.7	51.39	14.343	
7,000.0	6,913.5	7,009.8	6,770.9	28.5	32.0	125.16	-742.6	343.8	766.5	714.3	52.23	14.676	

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 903H
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 903H	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		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)			
7,100.0	7,012.0	7,119.3	6,878.3	28.9	32.5	125.71	-761.0	333.2	794.4	741.3	53.05	14.973	
7,200.0	7,110.4	7,229.7	6,987.1	29.4	33.0	126.29	-777.6	323.5	820.6	766.8	53.85	15.238	
7,300.0	7,208.9	7,341.1	7,097.1	29.8	33.5	126.90	-792.6	314.8	845.2	790.6	54.63	15.471	
7,400.0	7,307.4	7,453.3	7,208.2	30.3	33.9	127.53	-805.8	307.1	868.2	812.8	55.38	15.676	
7,500.0	7,405.8	7,566.3	7,320.4	30.8	34.4	128.20	-817.2	300.5	889.5	833.4	56.10	15.854	
7,600.0	7,504.3	7,679.9	7,433.5	31.2	34.9	128.89	-826.7	295.0	909.1	852.3	56.80	16.007	
7,700.0	7,602.7	7,794.1	7,547.3	31.7	35.3	129.62	-834.3	290.6	927.1	869.7	57.45	16.137	
7,800.0	7,701.2	7,908.8	7,661.8	32.1	35.7	130.39	-840.0	287.3	943.5	885.5	58.07	16.248	
7,900.0	7,799.7	8,023.9	7,776.9	32.6	36.1	131.20	-843.7	285.2	958.3	899.7	58.64	16.343	
8,000.0	7,898.1	8,139.3	7,892.3	33.0	36.3	132.04	-845.4	284.2	971.5	912.4	59.09	16.441	
8,100.0	7,996.6	8,943.2	8,417.0	33.5	36.5	163.89	-361.3	280.4	953.5	899.9	53.59	17.794	
8,103.5	8,000.1	8,943.0	8,417.0	33.5	36.5	163.88	-361.5	280.4	952.5	898.8	53.66	17.750	
8,200.0	8,095.2	8,938.4	8,417.0	33.9	36.5	163.52	-366.2	280.5	929.2	873.5	55.69	16.687	
8,300.0	8,194.1	8,932.2	8,416.9	34.4	36.5	163.09	-372.3	280.5	913.6	856.1	57.46	15.898	
8,400.0	8,293.2	8,928.2	8,416.9	34.8	36.5	162.82	-376.4	280.5	907.1	848.3	58.79	15.428	
8,419.9	8,313.0	8,927.7	8,416.9	34.9	36.5	162.79	-376.8	280.5	906.9	847.9	59.00	15.372	
8,500.0	8,392.6	8,926.4	8,416.9	35.2	36.5	162.71	-378.1	280.5	909.9	850.3	59.59	15.269	
8,600.0	8,492.1	8,925.0	8,416.8	35.6	36.5	162.66	-379.5	280.6	921.9	862.1	59.84	15.406	
8,700.0	8,591.8	8,925.0	8,416.8	36.0	36.5	162.73	-379.5	280.6	942.9	883.3	59.58	15.826	
8,800.0	8,691.6	8,925.0	8,416.8	36.3	36.5	162.82	-379.5	280.6	972.1	913.2	58.89	16.508	

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 903H
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 903H	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	-119.86	-201.0	-350.1	403.7				
100.0	100.0	95.0	100.0	0.8	0.7	-119.86	-201.0	-350.1	403.7	401.8	1.94	207.982	
200.0	200.0	195.0	200.0	1.4	1.4	-119.86	-201.0	-350.1	403.7	400.4	3.27	123.386	
300.0	300.0	295.0	300.0	1.9	1.9	-119.86	-201.0	-350.1	403.7	399.5	4.17	96.857	
400.0	400.0	395.0	400.0	2.2	2.2	-119.86	-201.0	-350.1	403.7	398.8	4.89	82.564	
500.0	500.0	495.0	500.0	2.6	2.5	-119.86	-201.0	-350.1	403.7	398.2	5.51	73.221	
600.0	600.0	595.0	600.0	2.8	2.8	-119.86	-201.0	-350.1	403.7	397.6	6.07	66.478	
700.0	700.0	695.0	700.0	3.1	3.1	-119.86	-201.0	-350.1	403.7	397.1	6.59	61.306	
800.0	800.0	795.0	800.0	3.3	3.3	-119.86	-201.0	-350.1	403.7	396.7	7.06	57.169	
900.0	900.0	895.0	900.0	3.6	3.6	-119.86	-201.0	-350.1	403.7	396.2	7.51	53.759	
1,000.0	1,000.0	995.0	1,000.0	3.8	3.8	-119.86	-201.0	-350.1	403.7	395.8	7.93	50.883 CC, ES	
1,100.0	1,100.0	1,083.8	1,088.8	4.1	4.0	105.26	-201.9	-350.9	405.5	397.1	8.38	48.371	
1,200.0	1,199.8	1,171.8	1,176.7	4.4	4.3	105.59	-204.9	-353.5	411.1	402.3	8.81	46.652	
1,250.0	1,249.7	1,215.7	1,220.5	4.5	4.5	105.82	-207.2	-355.4	415.3	406.3	8.97	46.302	
1,300.0	1,299.5	1,259.3	1,264.0	4.5	4.6	113.94	-209.9	-357.7	420.8	411.7	9.13	46.069	
1,400.0	1,398.8	1,345.9	1,350.0	4.8	4.9	125.26	-216.9	-363.7	436.3	426.7	9.60	45.446	
1,500.0	1,497.8	1,431.1	1,434.4	5.1	5.2	132.50	-225.6	-371.2	457.8	447.7	10.08	45.409 SF	
1,555.8	1,552.8	1,477.8	1,480.6	5.3	5.3	135.45	-231.2	-376.0	472.3	462.0	10.31	45.826	
1,600.0	1,596.4	1,515.1	1,517.4	5.4	5.4	135.71	-236.1	-380.1	484.8	474.3	10.46	46.350	
1,700.0	1,694.8	1,610.8	1,611.5	5.7	5.7	136.30	-249.0	-391.2	513.5	502.5	10.99	46.726	
1,800.0	1,793.3	1,706.5	1,705.7	6.0	6.0	136.82	-261.9	-402.2	542.3	530.8	11.51	47.126	
1,900.0	1,891.8	1,802.1	1,799.8	6.3	6.3	137.30	-274.8	-413.2	571.1	559.1	12.05	47.387	
2,000.0	1,990.2	1,897.8	1,893.9	6.7	6.7	137.73	-287.7	-424.2	600.0	587.3	12.62	47.537	
2,100.0	2,088.7	1,993.4	1,988.1	7.1	7.0	138.12	-300.6	-435.2	628.8	615.6	13.21	47.600	
2,200.0	2,187.2	2,089.1	2,082.2	7.5	7.3	138.47	-313.5	-446.3	657.7	643.9	13.82	47.597	
2,300.0	2,285.6	2,184.8	2,176.4	7.8	7.7	138.80	-326.4	-457.3	686.6	672.2	14.44	47.544	
2,400.0	2,384.1	2,280.4	2,270.5	8.2	8.1	139.10	-339.2	-468.3	715.6	700.5	15.08	47.454	
2,500.0	2,482.6	2,376.1	2,364.7	8.6	8.4	139.37	-352.1	-479.3	744.5	728.8	15.73	47.335	
2,600.0	2,581.0	2,471.7	2,458.8	9.0	8.8	139.63	-365.0	-490.4	773.5	757.1	16.39	47.197	
2,700.0	2,679.5	2,567.4	2,552.9	9.4	9.2	139.86	-377.9	-501.4	802.5	785.4	17.06	47.045	
2,800.0	2,777.9	2,663.0	2,647.1	9.9	9.6	140.08	-390.8	-512.4	831.4	813.7	17.73	46.883	
2,900.0	2,876.4	2,758.7	2,741.2	10.3	10.0	140.29	-403.7	-523.4	860.4	842.0	18.42	46.714	
3,000.0	2,974.9	2,854.4	2,835.4	10.7	10.3	140.48	-416.6	-534.4	889.5	870.3	19.11	46.543	
3,100.0	3,073.3	2,950.0	2,929.5	11.1	10.7	140.66	-429.5	-545.5	918.5	898.7	19.81	46.371	
3,200.0	3,171.8	3,045.7	3,023.7	11.6	11.1	140.83	-442.4	-556.5	947.5	927.0	20.51	46.199	
3,300.0	3,270.3	3,141.3	3,117.8	12.0	11.5	140.99	-455.3	-567.5	976.5	955.3	21.22	46.028	

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 903H
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 903H	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

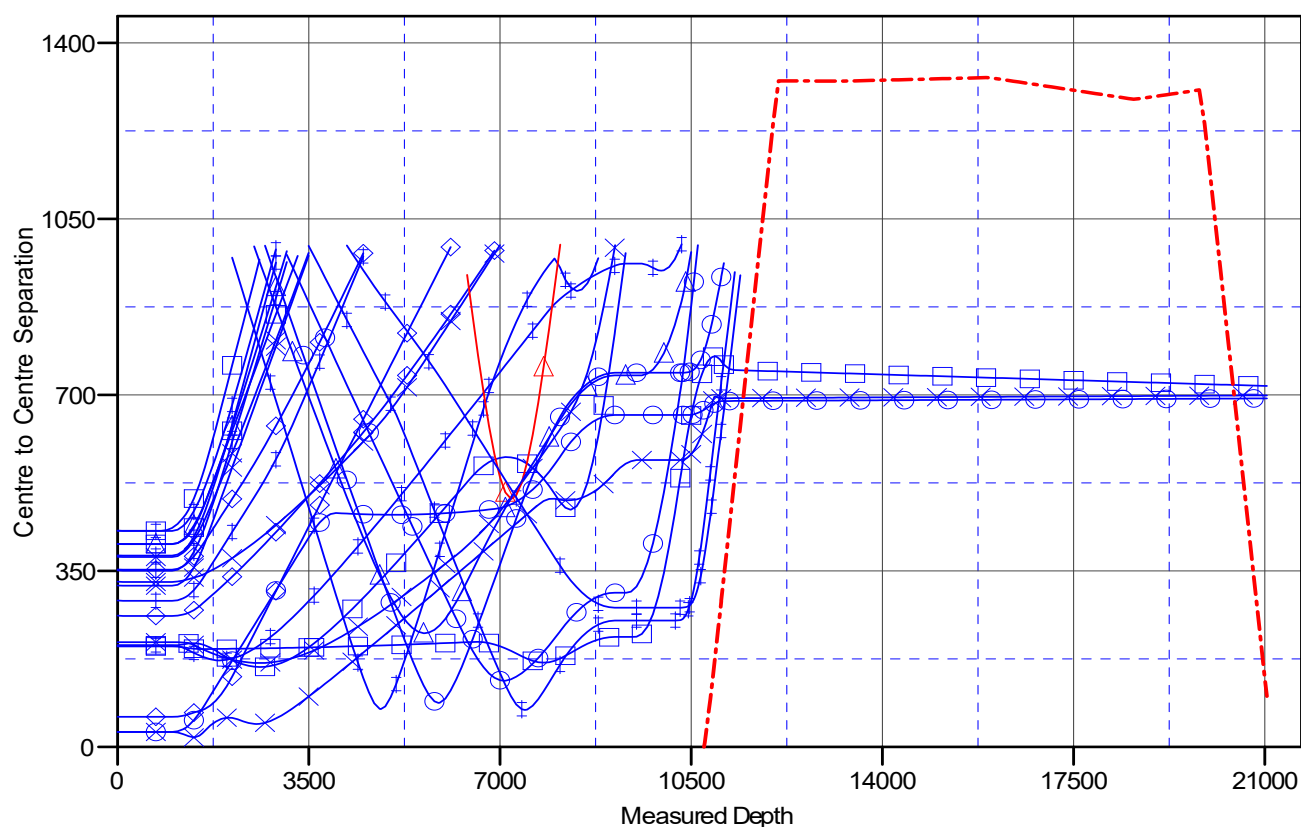
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PUDGE FEDERAL COM 903H

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 701H OWB, PWP1 V0 - PUDGE FEDERAL COM 702H OWB, PWP1 V0 - PUDGE FEDERAL COM 501H OWB, PWP1 V0 - PUDGE FEDERAL COM 904H OWB, PWP1 V0 - PUDGE FEDERAL COM 900H 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, PWP1 V0 _WILD THING FED COM 704H OWB, PWP0 V0 - WILD THING FEDERAL COM503H, OWB, PWP1 V0 _WILD THING FED COM 905H OWB, PWP0 V0 _WILD THING FED COM 906H 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 FED COM 504H,OWB, PWP1 V0 - WILD THING FEDERAL COM502H, OWB, PWP1 V0 - COOPER 31 FEDERAL 2H__R&A, OWB, AWP V0 _WILD THING FED COM 705H OWB, PWP0 V0 _WILD THING FED COM 910H OWB, PWP0 V0 _WILD THING FED COM 903H 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 903H
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 903H	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

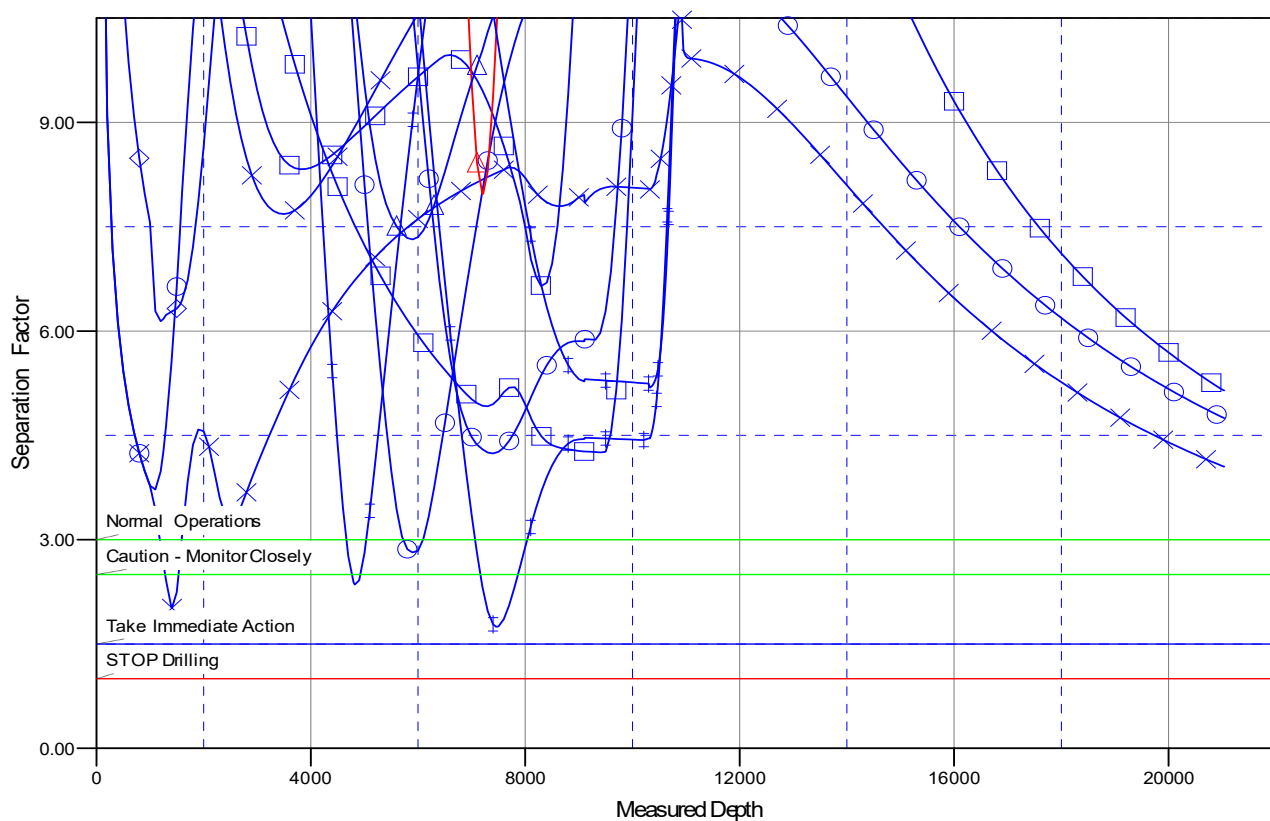
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PUDGE FEDERAL COM 903H

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 - PUDGE FEDERAL COM 701H OWB, PWP1 V0 - PUDGE FEDERAL COM 702H OWB, PWP1 V0 - PUDGE FEDERAL COM 901H OWB, PWP1 V0 - PUDGE FEDERAL COM 904H OWB, PWP1 V0 - PUDGE FEDERAL COM 900H 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, PWP1 V0 _WILD THING FED COM 704H OWB, PWP0 V0 - WILD THING FEDERAL COM503H, OWB, PWP1 V0 _WILD THING FED COM 905H OWB, PWP0 V0 _WILD THING FED COM 906H 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 FED COM 504H, OWB, PWP1 V0 - WILD THING FEDERAL COM502H, OWB, PWP1 V0 - COOPER 31 FEDERAL 2H_R&A, OWB, AWP V0 _WILD THING FED COM 705H OWB, PWP0 V0 _WILD THING FED COM 910H OWB, PWP0 V0 _WILD THING FED COM 903H OWB, PWP0 V0
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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 903H
3001556665
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 903H
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 903H	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 903H					
Well Position	+N/-S	0.0 usft	Northing:	393,006.54 usft	Latitude:	32° 4' 48.406 N
	+E/-W	0.0 usft	Easting:	595,858.08 usft	Longitude:	104° 1' 25.823 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	47,336.32449395

Design	PWP1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	173.24	

Plan Survey Tool Program	Date	8/5/2025			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	10,302.1 PWP1 (OWB)	r.5 MWD+IFR1		
			OWSG MWD + IFR1 rev.5		
2	10,302.1	21,038.6 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 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,250.0	5.00	135.00	1,249.7	-7.7	7.7	2.00	2.00	0.00	135.00	
1,555.8	10.05	106.77	1,552.8	-24.8	42.7	2.00	1.65	-9.23	-50.78	
8,103.5	10.05	106.77	8,000.1	-354.6	1,136.8	0.00	0.00	0.00	0.00	
9,108.6	0.00	0.01	9,000.0	-380.0	1,221.0	1.00	-1.00	0.00	180.00	
10,302.1	0.00	0.01	10,193.5	-380.0	1,221.0	0.00	0.00	0.00	0.01	
11,052.7	90.07	179.65	10,671.0	-858.1	1,223.9	12.00	12.00	23.93	179.65	
21,038.6	90.07	179.65	10,658.0	-10,843.8	1,285.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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
Start Build 2.00									
1,100.0	2.00	135.00	1,100.0	-1.2	1.2	1.4	2.00	2.00	0.00
1,200.0	4.00	135.00	1,199.8	-4.9	4.9	5.5	2.00	2.00	0.00
1,250.0	5.00	135.00	1,249.7	-7.7	7.7	8.6	2.00	2.00	0.00
Start DLS 2.00 TFO -50.78									
1,300.0	5.69	127.16	1,299.5	-10.7	11.2	12.0	2.00	1.37	-15.69
1,400.0	7.28	116.33	1,398.8	-16.5	20.8	18.9	2.00	1.59	-10.82
1,500.0	9.03	109.52	1,497.8	-22.0	33.9	25.8	2.00	1.75	-6.81
1,555.8	10.05	106.77	1,552.8	-24.8	42.7	29.7	2.00	1.83	-4.93
Start 6547.7 hold at 1555.8 MD									
1,600.0	10.05	106.77	1,596.4	-27.1	50.1	32.8	0.00	0.00	0.00
1,700.0	10.05	106.77	1,694.8	-32.1	66.8	39.7	0.00	0.00	0.00
1,800.0	10.05	106.77	1,793.3	-37.1	83.5	46.7	0.00	0.00	0.00
1,900.0	10.05	106.77	1,891.8	-42.2	100.2	53.7	0.00	0.00	0.00
2,000.0	10.05	106.77	1,990.2	-47.2	116.9	60.7	0.00	0.00	0.00
2,100.0	10.05	106.77	2,088.7	-52.3	133.6	67.6	0.00	0.00	0.00
2,200.0	10.05	106.77	2,187.2	-57.3	150.4	74.6	0.00	0.00	0.00
2,300.0	10.05	106.77	2,285.6	-62.3	167.1	81.6	0.00	0.00	0.00
2,400.0	10.05	106.77	2,384.1	-67.4	183.8	88.5	0.00	0.00	0.00
2,500.0	10.05	106.77	2,482.6	-72.4	200.5	95.5	0.00	0.00	0.00
2,600.0	10.05	106.77	2,581.0	-77.4	217.2	102.5	0.00	0.00	0.00
2,700.0	10.05	106.77	2,679.5	-82.5	233.9	109.4	0.00	0.00	0.00
2,800.0	10.05	106.77	2,777.9	-87.5	250.6	116.4	0.00	0.00	0.00
2,900.0	10.05	106.77	2,876.4	-92.5	267.3	123.4	0.00	0.00	0.00
3,000.0	10.05	106.77	2,974.9	-97.6	284.0	130.3	0.00	0.00	0.00
3,100.0	10.05	106.77	3,073.3	-102.6	300.7	137.3	0.00	0.00	0.00
3,200.0	10.05	106.77	3,171.8	-107.7	317.5	144.3	0.00	0.00	0.00
3,300.0	10.05	106.77	3,270.3	-112.7	334.2	151.2	0.00	0.00	0.00
3,400.0	10.05	106.77	3,368.7	-117.7	350.9	158.2	0.00	0.00	0.00
3,500.0	10.05	106.77	3,467.2	-122.8	367.6	165.2	0.00	0.00	0.00
3,600.0	10.05	106.77	3,565.7	-127.8	384.3	172.1	0.00	0.00	0.00
3,700.0	10.05	106.77	3,664.1	-132.8	401.0	179.1	0.00	0.00	0.00
3,800.0	10.05	106.77	3,762.6	-137.9	417.7	186.1	0.00	0.00	0.00
3,900.0	10.05	106.77	3,861.1	-142.9	434.4	193.0	0.00	0.00	0.00
4,000.0	10.05	106.77	3,959.5	-148.0	451.1	200.0	0.00	0.00	0.00
4,100.0	10.05	106.77	4,058.0	-153.0	467.8	207.0	0.00	0.00	0.00
4,200.0	10.05	106.77	4,156.5	-158.0	484.5	213.9	0.00	0.00	0.00
4,300.0	10.05	106.77	4,254.9	-163.1	501.3	220.9	0.00	0.00	0.00
4,400.0	10.05	106.77	4,353.4	-168.1	518.0	227.9	0.00	0.00	0.00
4,500.0	10.05	106.77	4,451.9	-173.1	534.7	234.9	0.00	0.00	0.00
4,600.0	10.05	106.77	4,550.3	-178.2	551.4	241.8	0.00	0.00	0.00
4,700.0	10.05	106.77	4,648.8	-183.2	568.1	248.8	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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	10.05	106.77	4,747.3	-188.2	584.8	255.8	0.00	0.00	0.00
4,900.0	10.05	106.77	4,845.7	-193.3	601.5	262.7	0.00	0.00	0.00
5,000.0	10.05	106.77	4,944.2	-198.3	618.2	269.7	0.00	0.00	0.00
5,100.0	10.05	106.77	5,042.7	-203.4	634.9	276.7	0.00	0.00	0.00
5,200.0	10.05	106.77	5,141.1	-208.4	651.6	283.6	0.00	0.00	0.00
5,300.0	10.05	106.77	5,239.6	-213.4	668.4	290.6	0.00	0.00	0.00
5,400.0	10.05	106.77	5,338.0	-218.5	685.1	297.6	0.00	0.00	0.00
5,500.0	10.05	106.77	5,436.5	-223.5	701.8	304.5	0.00	0.00	0.00
5,600.0	10.05	106.77	5,535.0	-228.5	718.5	311.5	0.00	0.00	0.00
5,700.0	10.05	106.77	5,633.4	-233.6	735.2	318.5	0.00	0.00	0.00
5,800.0	10.05	106.77	5,731.9	-238.6	751.9	325.4	0.00	0.00	0.00
5,900.0	10.05	106.77	5,830.4	-243.6	768.6	332.4	0.00	0.00	0.00
6,000.0	10.05	106.77	5,928.8	-248.7	785.3	339.4	0.00	0.00	0.00
6,100.0	10.05	106.77	6,027.3	-253.7	802.0	346.3	0.00	0.00	0.00
6,200.0	10.05	106.77	6,125.8	-258.8	818.7	353.3	0.00	0.00	0.00
6,300.0	10.05	106.77	6,224.2	-263.8	835.5	360.3	0.00	0.00	0.00
6,400.0	10.05	106.77	6,322.7	-268.8	852.2	367.2	0.00	0.00	0.00
6,500.0	10.05	106.77	6,421.2	-273.9	868.9	374.2	0.00	0.00	0.00
6,600.0	10.05	106.77	6,519.6	-278.9	885.6	381.2	0.00	0.00	0.00
6,700.0	10.05	106.77	6,618.1	-283.9	902.3	388.1	0.00	0.00	0.00
6,800.0	10.05	106.77	6,716.6	-289.0	919.0	395.1	0.00	0.00	0.00
6,900.0	10.05	106.77	6,815.0	-294.0	935.7	402.1	0.00	0.00	0.00
7,000.0	10.05	106.77	6,913.5	-299.0	952.4	409.0	0.00	0.00	0.00
7,100.0	10.05	106.77	7,012.0	-304.1	969.1	416.0	0.00	0.00	0.00
7,200.0	10.05	106.77	7,110.4	-309.1	985.8	423.0	0.00	0.00	0.00
7,300.0	10.05	106.77	7,208.9	-314.2	1,002.5	430.0	0.00	0.00	0.00
7,400.0	10.05	106.77	7,307.4	-319.2	1,019.3	436.9	0.00	0.00	0.00
7,500.0	10.05	106.77	7,405.8	-324.2	1,036.0	443.9	0.00	0.00	0.00
7,600.0	10.05	106.77	7,504.3	-329.3	1,052.7	450.9	0.00	0.00	0.00
7,700.0	10.05	106.77	7,602.7	-334.3	1,069.4	457.8	0.00	0.00	0.00
7,800.0	10.05	106.77	7,701.2	-339.3	1,086.1	464.8	0.00	0.00	0.00
7,900.0	10.05	106.77	7,799.7	-344.4	1,102.8	471.8	0.00	0.00	0.00
8,000.0	10.05	106.77	7,898.1	-349.4	1,119.5	478.7	0.00	0.00	0.00
8,103.5	10.05	106.77	8,000.1	-354.6	1,136.8	485.9	0.00	0.00	0.00
Start Drop -1.00									
8,200.0	9.09	106.77	8,095.2	-359.3	1,152.2	492.3	1.00	-1.00	0.00
8,300.0	8.09	106.77	8,194.1	-363.6	1,166.5	498.3	1.00	-1.00	0.00
8,400.0	7.09	106.77	8,293.2	-367.4	1,179.1	503.6	1.00	-1.00	0.00
8,500.0	6.09	106.77	8,392.6	-370.7	1,190.1	508.2	1.00	-1.00	0.00
8,600.0	5.09	106.77	8,492.1	-373.5	1,199.4	512.0	1.00	-1.00	0.00
8,700.0	4.09	106.77	8,591.8	-375.8	1,207.1	515.2	1.00	-1.00	0.00
8,800.0	3.09	106.77	8,691.6	-377.6	1,213.0	517.7	1.00	-1.00	0.00
8,900.0	2.09	106.77	8,791.5	-378.9	1,217.4	519.5	1.00	-1.00	0.00
9,000.0	1.09	106.77	8,891.4	-379.7	1,220.0	520.6	1.00	-1.00	0.00
9,108.6	0.00	0.01	9,000.0	-380.0	1,221.0	521.0	1.00	-1.00	0.00
Start 1193.5 hold at 9108.6 MD									
9,200.0	0.00	0.00	9,091.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,191.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,291.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,391.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,491.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,591.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,691.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,791.4	-380.0	1,221.0	521.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,000.0	0.00	0.00	9,891.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
10,100.0	0.00	0.00	9,991.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,091.4	-380.0	1,221.0	521.0	0.00	0.00	0.00
10,302.1	0.00	0.00	10,193.5	-380.0	1,221.0	521.0	0.00	0.00	0.00
Start DLS 12.00 TFO 179.65									
10,325.0	2.75	179.65	10,216.4	-380.5	1,221.0	521.6	12.00	12.00	0.00
10,350.0	5.75	179.65	10,241.3	-382.4	1,221.0	523.4	12.00	12.00	0.00
10,375.0	8.75	179.65	10,266.1	-385.6	1,221.0	526.6	12.00	12.00	0.00
10,400.0	11.75	179.65	10,290.7	-390.0	1,221.1	531.0	12.00	12.00	0.00
10,425.0	14.75	179.65	10,315.1	-395.7	1,221.1	536.7	12.00	12.00	0.00
10,450.0	17.75	179.65	10,339.1	-402.7	1,221.1	543.6	12.00	12.00	0.00
10,475.0	20.75	179.65	10,362.7	-411.0	1,221.2	551.8	12.00	12.00	0.00
10,500.0	23.75	179.65	10,385.8	-420.4	1,221.2	561.2	12.00	12.00	0.00
10,525.0	26.75	179.65	10,408.4	-431.1	1,221.3	571.8	12.00	12.00	0.00
10,550.0	29.75	179.65	10,430.4	-442.9	1,221.4	583.6	12.00	12.00	0.00
10,575.0	32.75	179.65	10,451.8	-455.9	1,221.5	596.5	12.00	12.00	0.00
10,600.0	35.75	179.65	10,472.5	-470.0	1,221.6	610.4	12.00	12.00	0.00
10,625.0	38.75	179.65	10,492.4	-485.1	1,221.6	625.5	12.00	12.00	0.00
10,650.0	41.75	179.65	10,511.4	-501.2	1,221.7	641.5	12.00	12.00	0.00
10,675.0	44.75	179.65	10,529.6	-518.4	1,221.8	658.6	12.00	12.00	0.00
10,700.0	47.75	179.65	10,546.9	-536.4	1,222.0	676.5	12.00	12.00	0.00
10,725.0	50.75	179.65	10,563.2	-555.4	1,222.1	695.3	12.00	12.00	0.00
10,750.0	53.75	179.65	10,578.5	-575.1	1,222.2	715.0	12.00	12.00	0.00
10,775.0	56.75	179.65	10,592.8	-595.7	1,222.3	735.4	12.00	12.00	0.00
10,800.0	59.75	179.65	10,605.9	-616.9	1,222.4	756.5	12.00	12.00	0.00
10,825.0	62.75	179.65	10,618.0	-638.8	1,222.6	778.3	12.00	12.00	0.00
10,850.0	65.75	179.65	10,628.8	-661.3	1,222.7	800.6	12.00	12.00	0.00
10,875.0	68.75	179.65	10,638.5	-684.4	1,222.9	823.5	12.00	12.00	0.00
10,900.0	71.75	179.65	10,646.9	-707.9	1,223.0	846.9	12.00	12.00	0.00
10,925.0	74.75	179.65	10,654.2	-731.9	1,223.2	870.7	12.00	12.00	0.00
10,950.0	77.75	179.65	10,660.1	-756.1	1,223.3	894.8	12.00	12.00	0.00
10,975.0	80.75	179.65	10,664.8	-780.7	1,223.5	919.3	12.00	12.00	0.00
11,000.0	83.75	179.65	10,668.1	-805.5	1,223.6	943.9	12.00	12.00	0.00
11,025.0	86.75	179.65	10,670.2	-830.4	1,223.8	968.6	12.00	12.00	0.00
11,050.0	89.75	179.65	10,671.0	-855.4	1,223.9	993.4	12.00	12.00	0.00
11,052.7	90.07	179.65	10,671.0	-858.1	1,223.9	996.1	12.00	12.00	0.00
Start 9985.9 hold at 11052.7 MD									
11,100.0	90.07	179.65	10,670.9	-905.4	1,224.2	1,043.1	0.00	0.00	0.00
11,200.0	90.07	179.65	10,670.8	-1,005.4	1,224.8	1,142.5	0.00	0.00	0.00
11,300.0	90.07	179.65	10,670.6	-1,105.4	1,225.4	1,241.9	0.00	0.00	0.00
11,400.0	90.07	179.65	10,670.5	-1,205.4	1,226.0	1,341.3	0.00	0.00	0.00
11,500.0	90.07	179.65	10,670.4	-1,305.4	1,226.7	1,440.6	0.00	0.00	0.00
11,600.0	90.07	179.65	10,670.3	-1,405.4	1,227.3	1,540.0	0.00	0.00	0.00
11,700.0	90.07	179.65	10,670.1	-1,505.4	1,227.9	1,639.4	0.00	0.00	0.00
11,800.0	90.07	179.65	10,670.0	-1,605.4	1,228.5	1,738.8	0.00	0.00	0.00
11,900.0	90.07	179.65	10,669.9	-1,705.3	1,229.1	1,838.1	0.00	0.00	0.00
12,000.0	90.07	179.65	10,669.7	-1,805.3	1,229.7	1,937.5	0.00	0.00	0.00
12,100.0	90.07	179.65	10,669.6	-1,905.3	1,230.3	2,036.9	0.00	0.00	0.00
12,200.0	90.07	179.65	10,669.5	-2,005.3	1,230.9	2,136.3	0.00	0.00	0.00
12,300.0	90.07	179.65	10,669.3	-2,105.3	1,231.6	2,235.6	0.00	0.00	0.00
12,400.0	90.07	179.65	10,669.2	-2,205.3	1,232.2	2,335.0	0.00	0.00	0.00
12,500.0	90.07	179.65	10,669.1	-2,305.3	1,232.8	2,434.4	0.00	0.00	0.00
12,600.0	90.07	179.65	10,669.0	-2,405.3	1,233.4	2,533.8	0.00	0.00	0.00
12,700.0	90.07	179.65	10,668.8	-2,505.3	1,234.0	2,633.1	0.00	0.00	0.00

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Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,800.0	90.07	179.65	10,668.7	-2,605.3	1,234.6	2,732.5	0.00	0.00	0.00
12,900.0	90.07	179.65	10,668.6	-2,705.3	1,235.2	2,831.9	0.00	0.00	0.00
13,000.0	90.07	179.65	10,668.4	-2,805.3	1,235.8	2,931.3	0.00	0.00	0.00
13,100.0	90.07	179.65	10,668.3	-2,905.3	1,236.4	3,030.6	0.00	0.00	0.00
13,200.0	90.07	179.65	10,668.2	-3,005.3	1,237.1	3,130.0	0.00	0.00	0.00
13,300.0	90.07	179.65	10,668.0	-3,105.3	1,237.7	3,229.4	0.00	0.00	0.00
13,400.0	90.07	179.65	10,667.9	-3,205.3	1,238.3	3,328.8	0.00	0.00	0.00
13,500.0	90.07	179.65	10,667.8	-3,305.3	1,238.9	3,428.1	0.00	0.00	0.00
13,600.0	90.07	179.65	10,667.7	-3,405.3	1,239.5	3,527.5	0.00	0.00	0.00
13,700.0	90.07	179.65	10,667.5	-3,505.3	1,240.1	3,626.9	0.00	0.00	0.00
13,800.0	90.07	179.65	10,667.4	-3,605.3	1,240.7	3,726.3	0.00	0.00	0.00
13,900.0	90.07	179.65	10,667.3	-3,705.3	1,241.3	3,825.6	0.00	0.00	0.00
14,000.0	90.07	179.65	10,667.1	-3,805.3	1,242.0	3,925.0	0.00	0.00	0.00
14,100.0	90.07	179.65	10,667.0	-3,905.3	1,242.6	4,024.4	0.00	0.00	0.00
14,200.0	90.07	179.65	10,666.9	-4,005.3	1,243.2	4,123.8	0.00	0.00	0.00
14,300.0	90.07	179.65	10,666.7	-4,105.3	1,243.8	4,223.1	0.00	0.00	0.00
14,400.0	90.07	179.65	10,666.6	-4,205.3	1,244.4	4,322.5	0.00	0.00	0.00
14,500.0	90.07	179.65	10,666.5	-4,305.3	1,245.0	4,421.9	0.00	0.00	0.00
14,600.0	90.07	179.65	10,666.4	-4,405.3	1,245.6	4,521.3	0.00	0.00	0.00
14,700.0	90.07	179.65	10,666.2	-4,505.3	1,246.2	4,620.6	0.00	0.00	0.00
14,800.0	90.07	179.65	10,666.1	-4,605.3	1,246.8	4,720.0	0.00	0.00	0.00
14,900.0	90.07	179.65	10,666.0	-4,705.3	1,247.5	4,819.4	0.00	0.00	0.00
15,000.0	90.07	179.65	10,665.8	-4,805.3	1,248.1	4,918.8	0.00	0.00	0.00
15,100.0	90.07	179.65	10,665.7	-4,905.3	1,248.7	5,018.1	0.00	0.00	0.00
15,200.0	90.07	179.65	10,665.6	-5,005.3	1,249.3	5,117.5	0.00	0.00	0.00
15,300.0	90.07	179.65	10,665.5	-5,105.3	1,249.9	5,216.9	0.00	0.00	0.00
15,400.0	90.07	179.65	10,665.3	-5,205.3	1,250.5	5,316.3	0.00	0.00	0.00
15,500.0	90.07	179.65	10,665.2	-5,305.3	1,251.1	5,415.6	0.00	0.00	0.00
15,600.0	90.07	179.65	10,665.1	-5,405.3	1,251.7	5,515.0	0.00	0.00	0.00
15,700.0	90.07	179.65	10,664.9	-5,505.3	1,252.3	5,614.4	0.00	0.00	0.00
15,800.0	90.07	179.65	10,664.8	-5,605.3	1,253.0	5,713.8	0.00	0.00	0.00
15,900.0	90.07	179.65	10,664.7	-5,705.3	1,253.6	5,813.1	0.00	0.00	0.00
16,000.0	90.07	179.65	10,664.5	-5,805.3	1,254.2	5,912.5	0.00	0.00	0.00
16,100.0	90.07	179.65	10,664.4	-5,905.3	1,254.8	6,011.9	0.00	0.00	0.00
16,200.0	90.07	179.65	10,664.3	-6,005.3	1,255.4	6,111.3	0.00	0.00	0.00
16,300.0	90.07	179.65	10,664.2	-6,105.3	1,256.0	6,210.6	0.00	0.00	0.00
16,400.0	90.07	179.65	10,664.0	-6,205.3	1,256.6	6,310.0	0.00	0.00	0.00
16,500.0	90.07	179.65	10,663.9	-6,305.3	1,257.2	6,409.4	0.00	0.00	0.00
16,600.0	90.07	179.65	10,663.8	-6,405.3	1,257.9	6,508.8	0.00	0.00	0.00
16,700.0	90.07	179.65	10,663.6	-6,505.3	1,258.5	6,608.1	0.00	0.00	0.00
16,800.0	90.07	179.65	10,663.5	-6,605.3	1,259.1	6,707.5	0.00	0.00	0.00
16,900.0	90.07	179.65	10,663.4	-6,705.3	1,259.7	6,806.9	0.00	0.00	0.00
17,000.0	90.07	179.65	10,663.2	-6,805.2	1,260.3	6,906.3	0.00	0.00	0.00
17,100.0	90.07	179.65	10,663.1	-6,905.2	1,260.9	7,005.6	0.00	0.00	0.00
17,200.0	90.07	179.65	10,663.0	-7,005.2	1,261.5	7,105.0	0.00	0.00	0.00
17,300.0	90.07	179.65	10,662.9	-7,105.2	1,262.1	7,204.4	0.00	0.00	0.00
17,400.0	90.07	179.65	10,662.7	-7,205.2	1,262.7	7,303.8	0.00	0.00	0.00
17,500.0	90.07	179.65	10,662.6	-7,305.2	1,263.4	7,403.2	0.00	0.00	0.00
17,600.0	90.07	179.65	10,662.5	-7,405.2	1,264.0	7,502.5	0.00	0.00	0.00
17,700.0	90.07	179.65	10,662.3	-7,505.2	1,264.6	7,601.9	0.00	0.00	0.00
17,800.0	90.07	179.65	10,662.2	-7,605.2	1,265.2	7,701.3	0.00	0.00	0.00
17,900.0	90.07	179.65	10,662.1	-7,705.2	1,265.8	7,800.7	0.00	0.00	0.00
18,000.0	90.07	179.65	10,661.9	-7,805.2	1,266.4	7,900.0	0.00	0.00	0.00
18,100.0	90.07	179.65	10,661.8	-7,905.2	1,267.0	7,999.4	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
18,200.0	90.07	179.65	10,661.7	-8,005.2	1,267.6	8,098.8	0.00	0.00	0.00	
18,300.0	90.07	179.65	10,661.6	-8,105.2	1,268.2	8,198.2	0.00	0.00	0.00	
18,400.0	90.07	179.65	10,661.4	-8,205.2	1,268.9	8,297.5	0.00	0.00	0.00	
18,500.0	90.07	179.65	10,661.3	-8,305.2	1,269.5	8,396.9	0.00	0.00	0.00	
18,600.0	90.07	179.65	10,661.2	-8,405.2	1,270.1	8,496.3	0.00	0.00	0.00	
18,700.0	90.07	179.65	10,661.0	-8,505.2	1,270.7	8,595.7	0.00	0.00	0.00	
18,800.0	90.07	179.65	10,660.9	-8,605.2	1,271.3	8,695.0	0.00	0.00	0.00	
18,900.0	90.07	179.65	10,660.8	-8,705.2	1,271.9	8,794.4	0.00	0.00	0.00	
19,000.0	90.07	179.65	10,660.6	-8,805.2	1,272.5	8,893.8	0.00	0.00	0.00	
19,100.0	90.07	179.65	10,660.5	-8,905.2	1,273.1	8,993.2	0.00	0.00	0.00	
19,200.0	90.07	179.65	10,660.4	-9,005.2	1,273.8	9,092.5	0.00	0.00	0.00	
19,300.0	90.07	179.65	10,660.3	-9,105.2	1,274.4	9,191.9	0.00	0.00	0.00	
19,400.0	90.07	179.65	10,660.1	-9,205.2	1,275.0	9,291.3	0.00	0.00	0.00	
19,500.0	90.07	179.65	10,660.0	-9,305.2	1,275.6	9,390.7	0.00	0.00	0.00	
19,600.0	90.07	179.65	10,659.9	-9,405.2	1,276.2	9,490.0	0.00	0.00	0.00	
19,700.0	90.07	179.65	10,659.7	-9,505.2	1,276.8	9,589.4	0.00	0.00	0.00	
19,800.0	90.07	179.65	10,659.6	-9,605.2	1,277.4	9,688.8	0.00	0.00	0.00	
19,900.0	90.07	179.65	10,659.5	-9,705.2	1,278.0	9,788.2	0.00	0.00	0.00	
20,000.0	90.07	179.65	10,659.3	-9,805.2	1,278.6	9,887.5	0.00	0.00	0.00	
20,100.0	90.07	179.65	10,659.2	-9,905.2	1,279.3	9,986.9	0.00	0.00	0.00	
20,200.0	90.07	179.65	10,659.1	-10,005.2	1,279.9	10,086.3	0.00	0.00	0.00	
20,300.0	90.07	179.65	10,659.0	-10,105.2	1,280.5	10,185.7	0.00	0.00	0.00	
20,400.0	90.07	179.65	10,658.8	-10,205.2	1,281.1	10,285.0	0.00	0.00	0.00	
20,500.0	90.07	179.65	10,658.7	-10,305.2	1,281.7	10,384.4	0.00	0.00	0.00	
20,600.0	90.07	179.65	10,658.6	-10,405.2	1,282.3	10,483.8	0.00	0.00	0.00	
20,700.0	90.07	179.65	10,658.4	-10,505.2	1,282.9	10,583.2	0.00	0.00	0.00	
20,800.0	90.07	179.65	10,658.3	-10,605.2	1,283.5	10,682.5	0.00	0.00	0.00	
20,900.0	90.07	179.65	10,658.2	-10,705.2	1,284.2	10,781.9	0.00	0.00	0.00	
21,000.0	90.07	179.65	10,658.0	-10,805.2	1,284.8	10,881.3	0.00	0.00	0.00	
21,038.6	90.07	179.65	10,658.0	-10,843.8	1,285.0	10,919.7	0.00	0.00	0.00	
TD at 21038.6										

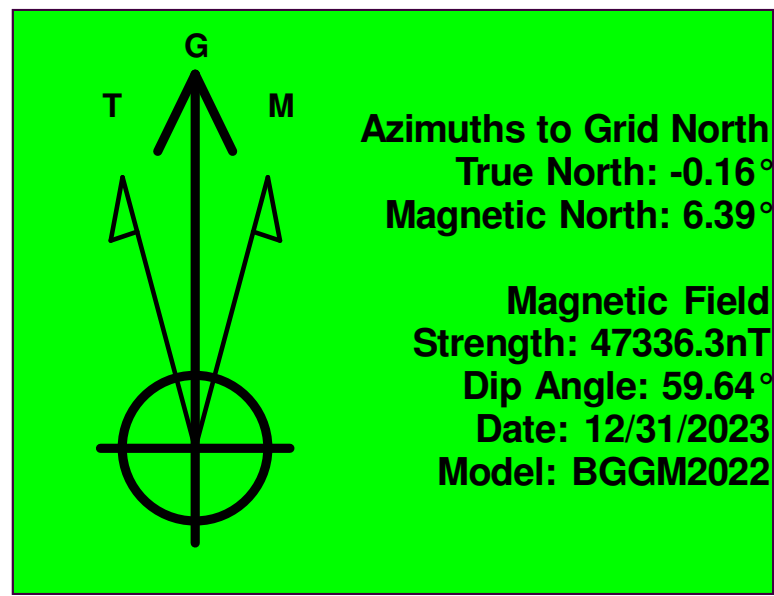
ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well PUDGE FEDERAL COM 903H
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 903H	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)		
AC_STEER CLEAR_1.5	10.05	286.77	7,361.6	-322.0	1,028.5	392,684.57	596,886.55	32° 4' 45.190 N	104° 1' 13.880 W
- plan hits target center									
- Rectangle (sides W1.0 H200.0 D100.0)									
903H_TNGNT LMTR_2(	10.05	286.77	8,000.1	-354.6	1,136.8	392,651.94	596,994.88	32° 4' 44.864 N	104° 1' 12.622 W
- plan hits target center									
- Rectangle (sides W40.0 H100.0 D6,447.3)									
903H_KOP BOX_50' N8	0.00	359.65	10,193.5	-380.0	1,221.0	392,626.54	597,079.08	32° 4' 44.610 N	104° 1' 11.644 W
- plan hits target center									
- Rectangle (sides W100.0 H100.0 D1,193.5)									
PP3_PUDGE FED COM	0.00	0.00	10,640.0	-7,084.9	1,264.4	385,921.65	597,122.52	32° 3' 38.254 N	104° 1' 11.365 W
- plan misses target center by 23.0usft at 17279.7usft MD (10662.9 TVD, -7084.9 N, 1262.0 E)									
- Circle (radius 50.0)									
PP4_PUDGE FED COM	0.00	0.00	10,640.0	-8,415.7	1,270.7	384,590.81	597,128.75	32° 3' 25.083 N	104° 1' 11.338 W
- plan misses target center by 21.2usft at 18610.5usft MD (10661.2 TVD, -8415.8 N, 1270.1 E)									
- Circle (radius 50.0)									
PP2_PUDGE FED COM	0.00	0.00	10,640.0	-5,763.5	1,258.3	387,243.07	597,116.34	32° 3' 51.332 N	104° 1' 11.393 W
- plan misses target center by 25.0usft at 15958.3usft MD (10664.6 TVD, -5763.5 N, 1253.9 E)									
- Circle (radius 50.0)									
PBHL_PUDGE FED CO	0.07	359.65	10,658.0	-10,844.8	1,284.3	382,161.77	597,142.38	32° 3' 1.044 N	104° 1' 11.262 W
- plan misses target center by 1.2usft at 21038.6usft MD (10658.0 TVD, -10843.8 N, 1285.0 E)									
- Rectangle (sides W100.0 H10,048.0 D20.0)									
LTP_PUDGE FED COM	90.00	0.01	10,658.0	-10,714.8	1,281.4	382,291.77	597,139.51	32° 3' 2.330 N	104° 1' 11.291 W
- plan misses target center by 2.8usft at 20909.6usft MD (10658.2 TVD, -10714.8 N, 1284.2 E)									
- Circle (radius 50.0)									
FTP/PP1_PUDGE FED	0.00	0.00	10,671.0	-796.5	1,221.6	392,210.01	597,079.67	32° 4' 40.488 N	104° 1' 11.651 W
- plan misses target center by 4.4usft at 10991.5usft MD (10667.1 TVD, -797.0 N, 1223.6 E)									
- Circle (radius 50.0)									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
21,038.7	10,658.0	5-1/2" Production Casing	5-1/2	6

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,000.0	1,000.0	0.0	0.0	Start Build 2.00
1,250.0	1,249.7	-7.7	7.7	Start DLS 2.00 TFO -50.78
1,555.8	1,552.8	-24.8	42.7	Start 6547.7 hold at 1555.8 MD
8,103.5	8,000.1	-354.6	1,136.8	Start Drop -1.00
9,108.6	9,000.0	-380.0	1,221.0	Start 1193.5 hold at 9108.6 MD
10,302.1	10,193.5	-380.0	1,221.0	Start DLS 12.00 TFO 179.65
11,052.7	10,671.0	-858.1	1,223.9	Start 9985.9 hold at 11052.7 MD
21,038.6	10,658.0	-10,843.8	1,285.0	TD at 21038.6



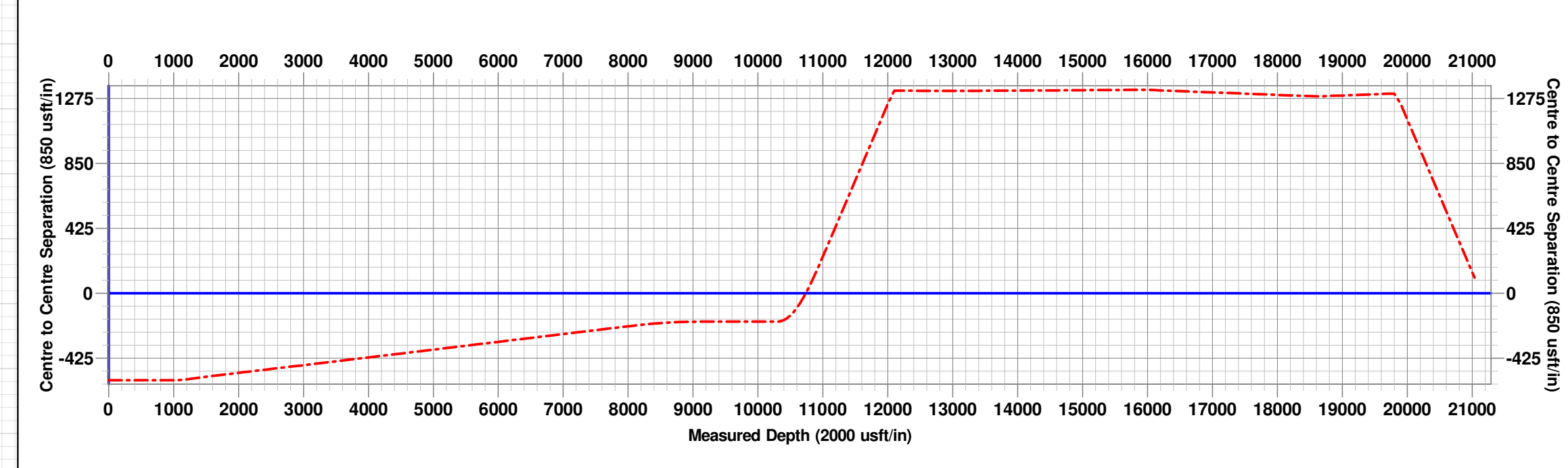
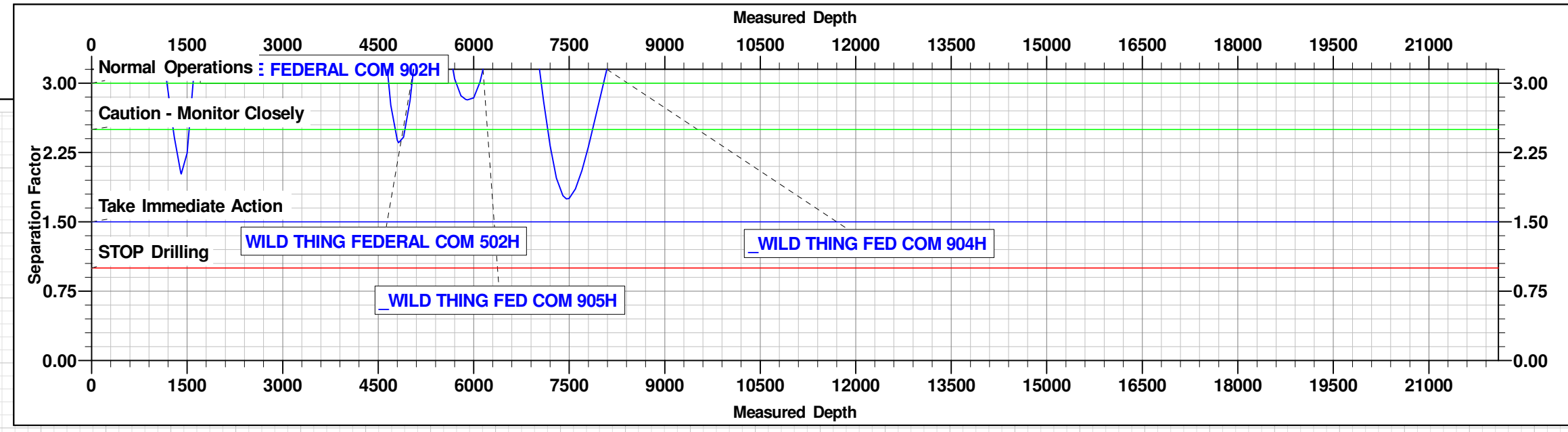
Project: ATLAS PROSPECT NME
Site: PUDGE FED COM PROJECT
Well: PUDGE FEDERAL COM 903H
Wellbore: OWB
Design: PWP1
GL: 2926.0
KB @ 2959.0usft

WELL DETAILS: PUDGE FEDERAL COM 903H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	393006.54	595858.08	32° 4' 48.406 N	104° 1' 25.823 W

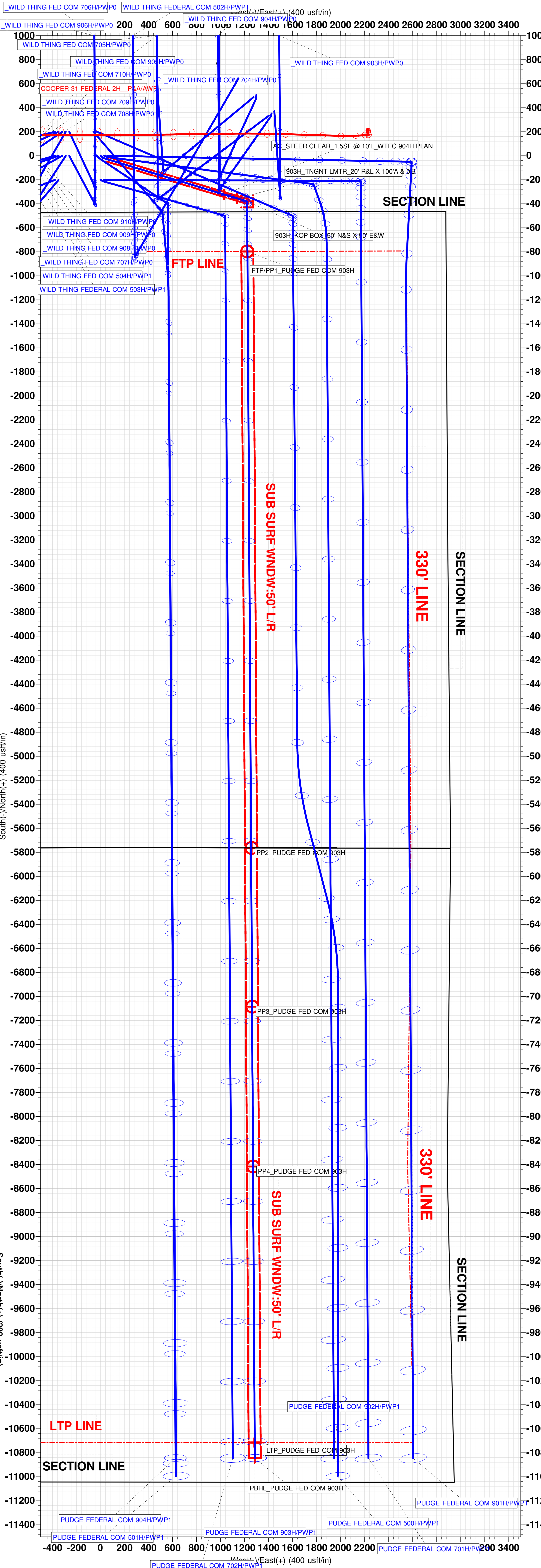
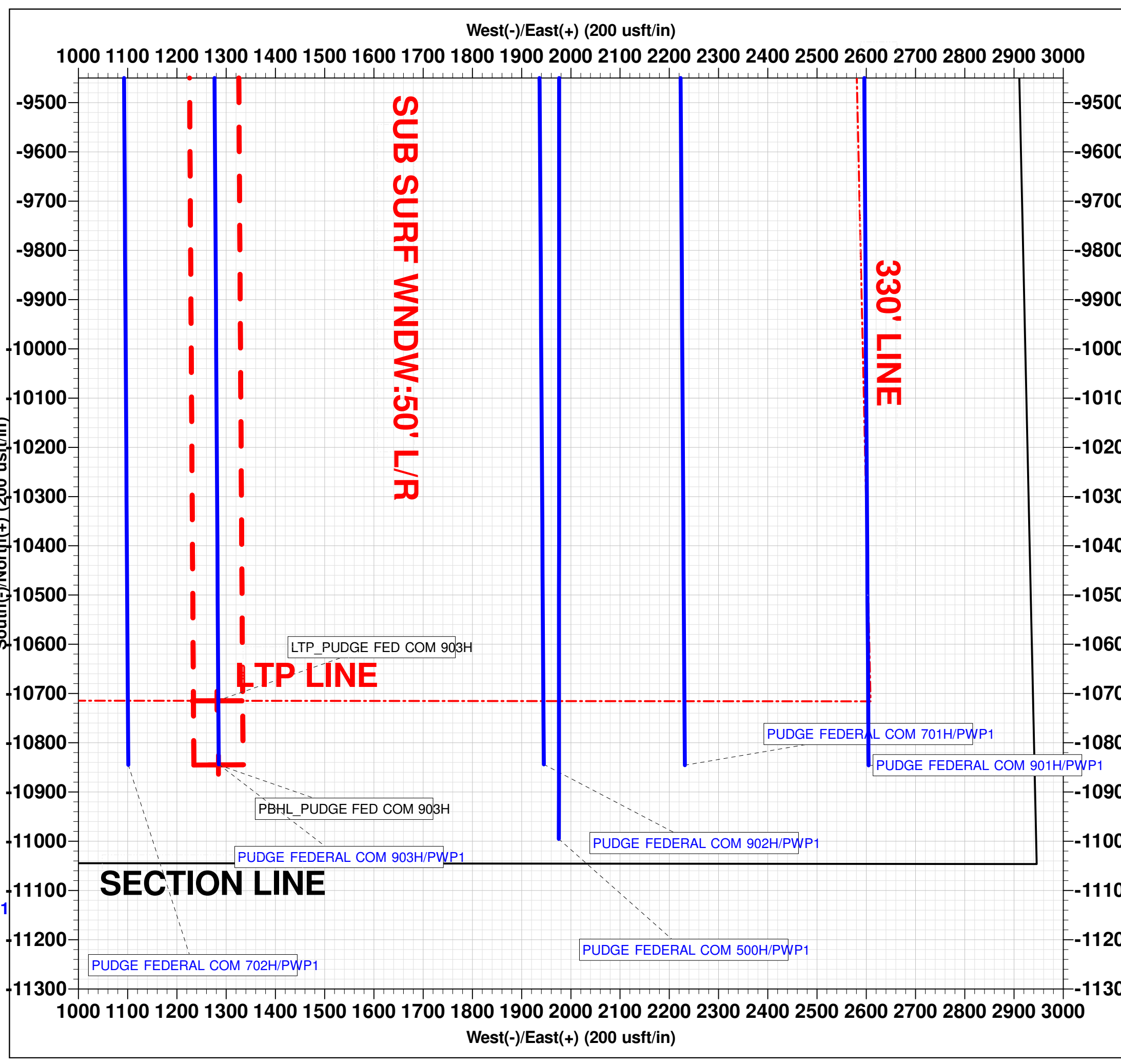
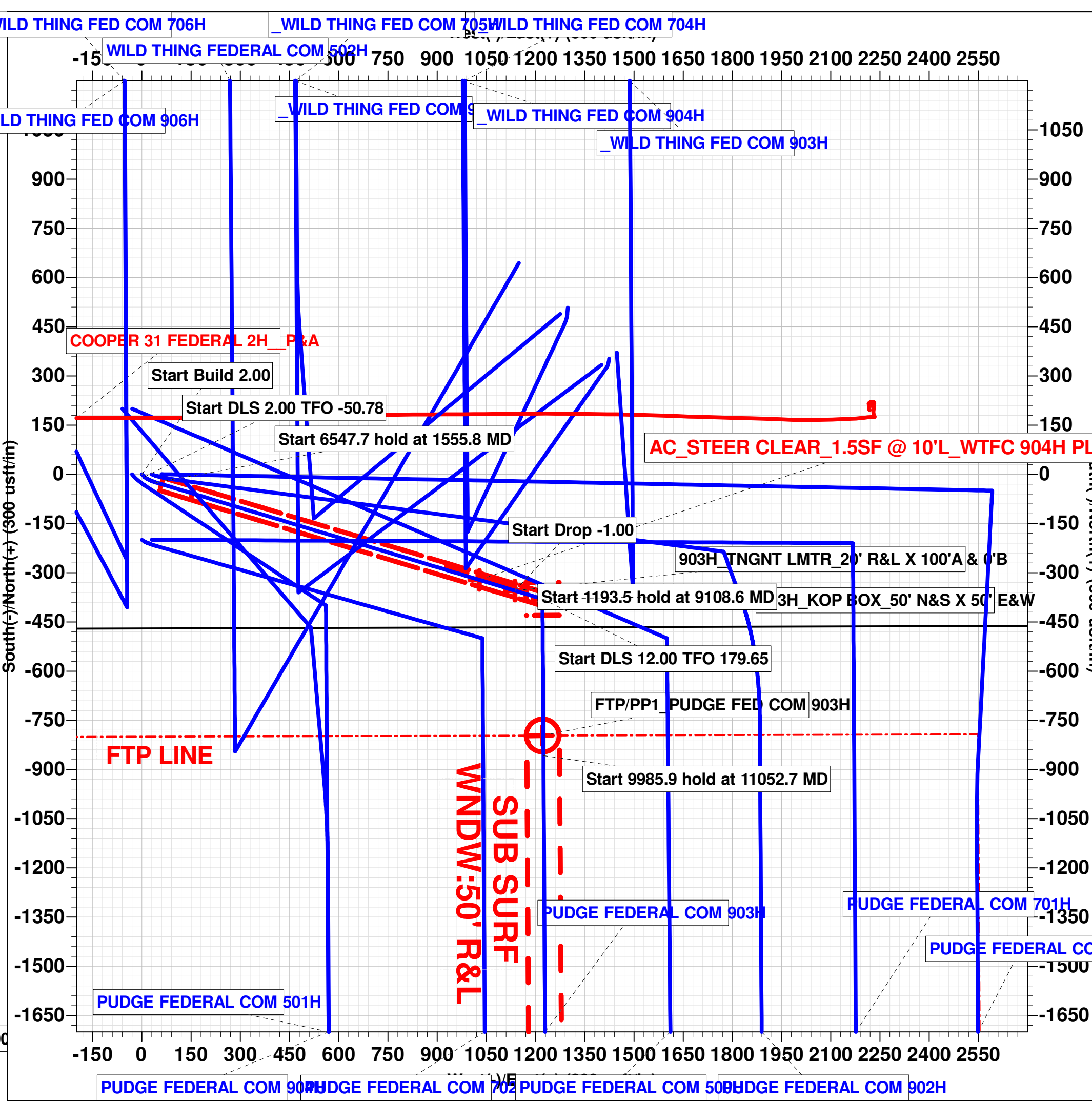
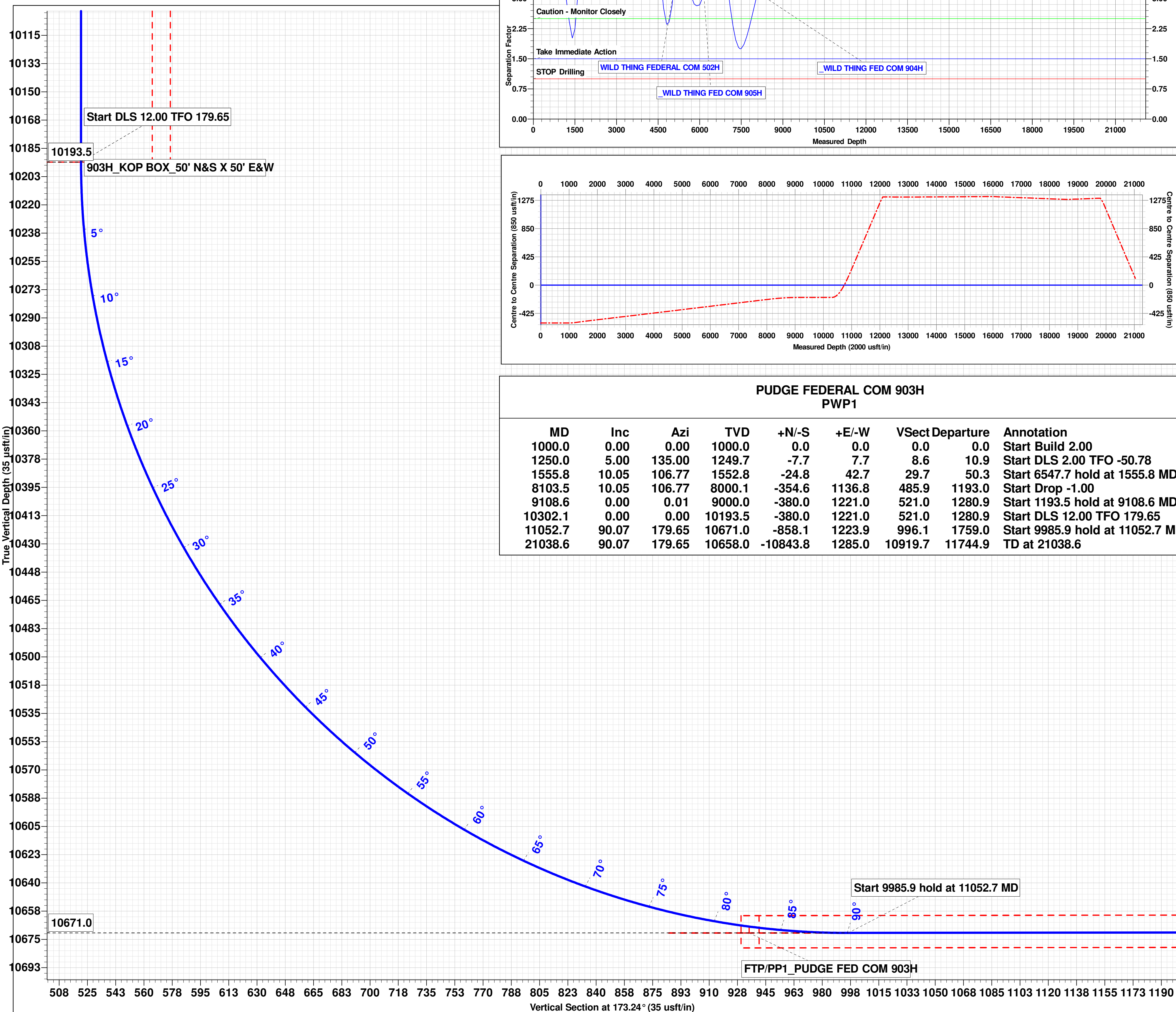
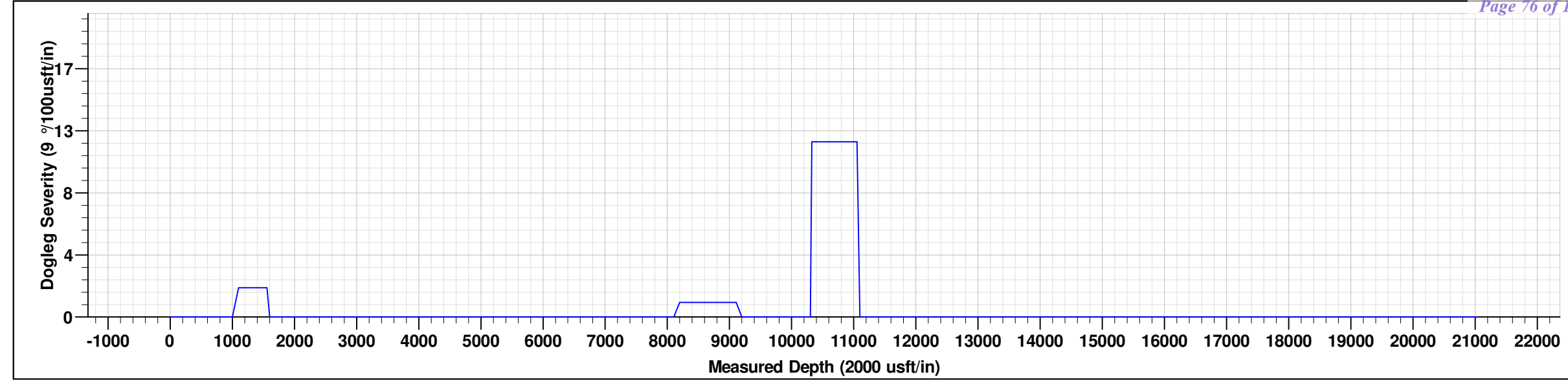
TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
AC STEER CLEAR 1.5SF @ 10'L WTCF 904H PLAN	7361.6	-322.0	1028.5	392684.57	596886.54
903H TNGNT LMTR 20' R&L X 100'A & 0'B	8000.1	-354.6	1136.8	392651.94	596994.88
903H KOP BOX 50' N&S X 50' E&W	10193.5	-380.0	1221.0	392626.54	597079.08
PP2_PUDGE FED COM 903H	10640.0	-5763.5	1258.3	387243.07	597116.34
PP3_PUDGE FED COM 903H	10640.0	-7084.9	1264.4	385921.65	597122.52
PP4_PUDGE FED COM 903H	10640.0	-8415.7	1270.7	384590.81	597128.75
LTP_PUDGE FED COM 903H	10658.0	-10714.8	1281.4	382291.77	597139.51
PBHL_PUDGE FED COM 903H	10658.0	-10844.8	1284.3	382161.77	597142.38
FTP/PP1_PUDGE FED COM 903H	10671.0	-796.5	1221.6	392210.01	597079.67



PUDGE FEDERAL COM 903H
PWP1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1000.0	0.00	0.00	1000.0	0.0	0.0	0.0	0.0	Start Build 2.00
1250.0	5.00	135.00	1249.7	-7.7	7.7	8.6	10.9	Start DLS 2.00 TFO -50.78
1555.8	10.05	106.77	1552.8	-24.8	42.7	29.7	50.3	Start 6547.7 hold at 1555.8 MD
8103.5	10.05	106.77	8000.1	-354.6	1136.8	485.9	1193.0	Start Drop -1.00
9108.6	0.00	0.01	9000.0	-380.0	1221.0	521.0	1280.9	Start 1193.5 hold at 9108.6 MD
10302.1	0.00	0.00	10193.5	-380.0	1221.0	521.0	1280.9	Start DLS 12.00 TFO 179.65
11052.7	90.07	179.65	10671.0	-858.1	1223.9	996.1	1759.0	Start 9985.9 hold at 11052.7 MD
21038.6	90.07	179.65	10658.0	-10843.8	1285.0	10919.7	11744.9	TD at 21038.6



DEFAULT TRGT WNDW: 10' A/B

ConocoPhillips - Pudge Federal Com 903H

1. Geologic Formations

TVD of Target:	10,678' EOL	Pilot hole depth:	N/A
MD at TD:	21,038'	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	1027	Salt	
Base of Salt	2575	Salt	
Lamar	2771	Salt Water	
Bell Canyon	2816	Salt Water	
Cherry Canyon	3649	Oil/Gas	
Brushy Canyon	4920	Oil/Gas	
Bone Spring	3484	Oil/Gas	
1st Bone Spring Sand	7420	Oil/Gas	
2nd Bone Spring Sand	8274	Oil/Gas	
3rd Bone Spring Sand	9311	Oil/Gas	
Wolfcamp A	9807	Oil/Gas	
Wolfcamp B	10107	Oil/Gas	
Wolfcamp C	10639	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	2.87	1.14	3.26	3.29
8.750"	7500	10310	7.625"	29.7	P110-ICY	W513	3.34	1.72	3.49	2.09
6.75"	0	10110	5.5"	20	P110-ICY	BTC	3.05	2.23	3.61	3.61
6.75"	10110	21,038	5.5"	20	P110-ICY	W441	2.95	2.23	3.41	2.78
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 903H

	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 903H

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	1045	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	559	12.7	1.68	9.09	72	Lead: Class C
	1044	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	9,810'	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	1288	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	559	12.7	1.68	9.09	72	Lead: Class C
	1044	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	3,484'	50% in OH
BH Stg 2	0'	264%
Production	9,810'	35% OH in Lateral (KOP to EOL)

ConocoPhillips - Pudge Federal Com 903H

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 903H

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 903H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7500 psi at 10678' 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
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No. NMNM118113	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No. PUDGE FEDERAL COM/903H	
9. API Well No.	
10. Field and Pool or Exploratory Area Purple Sage/(WOLFCAMP) GAS	11. Country or Parish, State EDDY/NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

2. Name of Operator
COG OPERATING LLC

3a. Address 600 West Illinois Ave, Midland, TX 79701 3b. Phone No. (include area code)
(432) 683-7443

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)
SEC 31/T25S/R29E/NMP

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# 10400101481
API# 30-015-56665

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 / 2414 FWL / TWSP: 25S / RANGE: 29E / SECTION: 31 / LAT: 32.080234 / LONG: -104.024234 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 330 FNL / 1657 FEL / TWSP: 26S / RANGE: 29E / SECTION: 6 / LAT: 32.078037 / LONG: -104.020388 (TVD: 10876 feet, MD: 11209 feet)

BHL: SWSE / 200 FSL / 1657 FEL / TWSP: 26S / RANGE: 29E / SECTION: 7 / LAT: 32.050414 / LONG: -104.020278 (TVD: 10880 feet, MD: 21257 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
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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

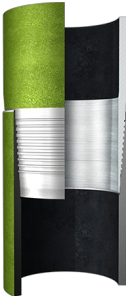
This connection is fully interchangeable with:
TXP[®] BTC - 7.625 in. - 0.328 (26.40) / 0.43 (33.70) / 0.5 (39.00) / 0.562 (42.80) / 0.595 (45.30) / 0.625 (47.10) in. (lb/ft)
Connections with Dopeless[®] Technology are fully compatible with the same connection in its doped version
Datasheet is also valid 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-ICV	Grade: P110-ICV
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-ICV
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: P110-4CY	Grade: P110-4CY
Body: White	1st Band: White
1st Band: Pale Green	2nd Band: Pale Green
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.361 in.	Grade	P110-4CY
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	Wall Thickness	0.361 in.	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 903H
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 509379

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 509379
	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