

Well Name: AVION FEDERAL COM	Well Location: T23S / R32E / SEC 22 / NENE / 32.296594 / -103.657895	County or Parish/State: LEA / NM
Well Number: 503H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM88163	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002553792	Operator: COG OPERATING LLC	

Notice of Intent

Sundry ID: 2833098

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 01/21/2025

Time Sundry Submitted: 02:24

Date proposed operation will begin: 01/21/2025

Procedure Description: COG Operating LLC, respectfully requests approval for the following changes to the original approved APD. SHL Change: Due to another company pipelines being in the way of the original SHL. From: 295' FNL & 1215' FEL Section 22. T23S. R32E. To: 265' FNL & 1405' FEL Section 22. T23S. R32E. BHL Change: From: 50' FSL & 2310' FEL Section 27. T23S. R32E. To: 50' FSL & 1980' FEL Section 27. T23S. R32E. C102 Attached. Drilling: Drilling Program, Directional Program, AC Report and Specs Attached.

NOI Attachments

Procedure Description

AVION_FEDERAL_COM_503H_Updated_New_C102_20250121141940.pdf

AVION_FEDERAL_COM_503H_PWP1_DIR_RPT_20250121141935.pdf

AVION_FEDERAL_COM_503H_PWP1_WPLOT_20250121141935.pdf

AVION_FEDERAL_COM_503H_PWP1_AC_RPT_20250121141934.pdf

5.500_23_P110_CY_WEDGE_441_08192024_20250121141934.pdf

Avion_Fed_Com_503H_Updated_Drilling_Program_for_Sundry_20250121141935.pdf

5.500_23_P110_CY_TXP_BTC_08192024_20250121141932.pdf

Well Name: AVION FEDERAL COM

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County or Parish/State: LEA / NM

Well Number: 503H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM88163

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002553792

Operator: COG OPERATING LLC

Conditions of Approval

Additional

SEC22_T23S_R32E_AVION_FED_COM_Lea__CONOCOPHILLIPS_COMPANY_45567_JS_20250129111333.pdf
AVION_FED_COM_503H_COAs_20250129111333.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: JAN 21, 2025 02:24 PM

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: Gerald Herrera

Street Address: 2208 West Main Street

City: Artesia

State: NM

Zip: 88210

Phone: (575)748-6940

Email address: gerald.a.herrera@conocophillips.com

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: 01/29/2025

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: <input type="checkbox"/> Initial Submittal <input checked="" type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled
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WELL LOCATION INFORMATION

API Number 30-025-53792	Pool Code 17644	Pool Name Diamondtail; Bone Spring
Property Code 325741	Property Name AVION FEDERAL COM	Well Number 503H
OGRID No. 229137	Operator Name COG OPERATING LLC	Ground Level Elevation 3701.1'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	22	23-S	32-E		265 FNL	1405 FEL	32.296675°N	103.658509°W	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
O	27	23-S	32-E		50 FSL	1980 FEL	32.268499°N	103.660362°W	LEA

Dedicated Acres 640	Infill or Defining Well Infill	Defining Well API 30-025-53791	Overlapping Spacing Unit (Y/N) N	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	22	23-S	32-E		265 FNL	1405 FEL	32.296675°N	103.658509°W	LEA

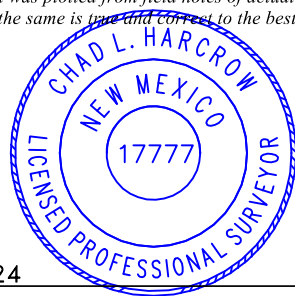
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	22	23-S	32-E		100 FNL	1980 FEL	32.297125°N	103.660371°W	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
O	27	23-S	32-E		100 FSL	1980 FEL	32.268637°N	103.660363°W	LEA

Unitized Area or Area of Uniform Interest COM	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: 3701.1'
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<p>OPERATOR CERTIFICATIONS</p> <p><i>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.</i></p> <p><i>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.</i></p>	<p>SURVEYOR CERTIFICATIONS</p> <p><i>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.</i></p> <div style="text-align: right;">  </div> <p style="text-align: right;"><i>Chad Harcrow</i> 12/16/24</p>	
Signature Mayte Reyes	Date 1/21/2025	Signature and Seal of Professional Surveyor
Printed Name Mayte Reyes	Certificate Number 17777	Date of Survey DECEMBER 10, 2024
Email Address mayte.x.reyes@cop.com	W.O.#24-1253 DRAWN BY: WN PAGE 1 OF 2	

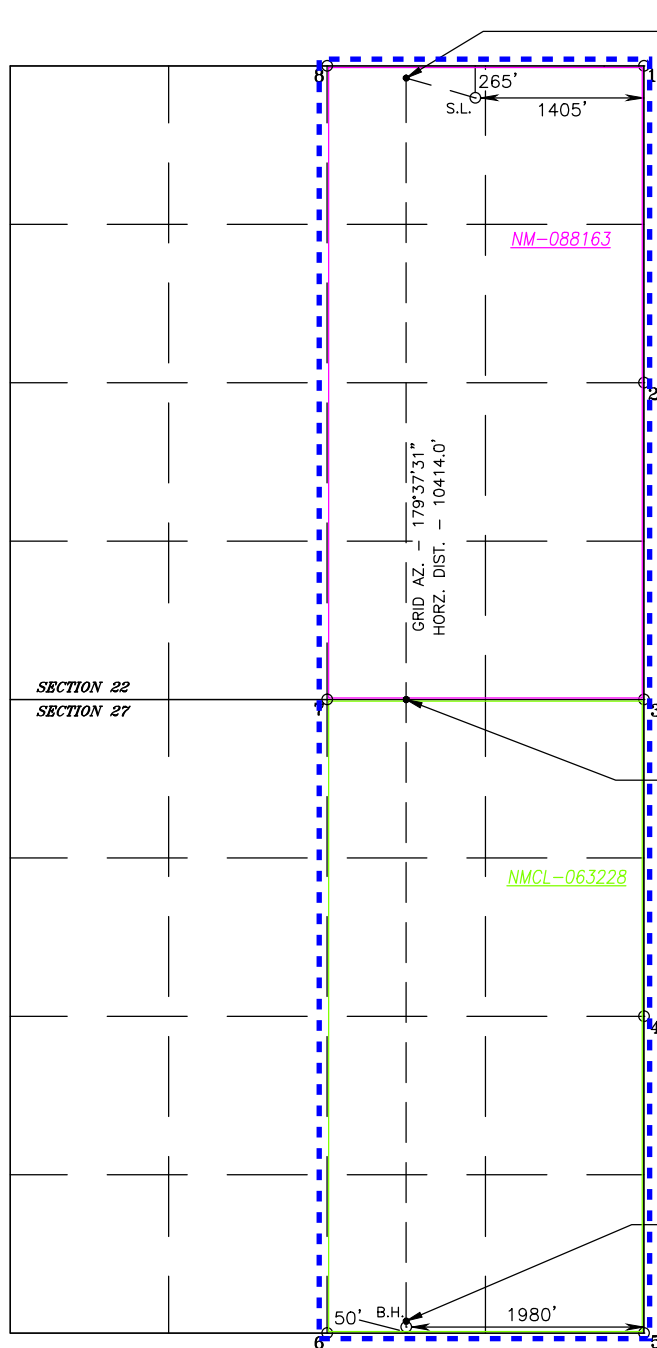
This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the 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.

NAD 83 NME
 SURFACE LOCATION
 Y=472319.2 N
 X=749850.6 E
 LAT.=32.296675° N
 LONG.=103.658509° W

POINT LEGEND	
1	Y=472596.9 N X=751253.5 E
2	Y=469956.5 N X=751271.3 E
3	Y=467315.9 N X=751289.0 E
4	Y=464675.3 N X=751305.9 E
5	Y=462034.2 N X=751322.5 E
6	Y=462008.9 N X=748660.0 E
7	Y=467289.7 N X=748646.1 E
8	Y=472573.0 N X=748611.7 E

NAD 83 NME
 PROPOSED BOTTOM
 HOLE LOCATION
 Y=462065.2 N
 X=749342.3 E
 LAT.=32.268499° N
 LONG.=103.660362° W



FTP/PPP1
 100' FNL & 1980' FEL
 Y=472479.0 N
 X=749274.2 E
 LAT.=32.297125° N
 LONG.=103.660371° W
 GRID AZ. TO FTP
 285°29'23"

PPP2
 1981' FEL
 Y=467296.3 N
 X=749308.1 E
 LAT.=32.282878° N
 LONG.=103.660367° W

LTP
 100' FSL & 1980' FEL
 Y=462115.2 N
 X=749342.0 E
 LAT.=32.268637° N
 LONG.=103.660363° W

ConocoPhillips Company - Avion Fed Com 503H

1. Geologic Formations

TVD of target	10,968' EOL	Pilot hole depth	NA
MD at TD:	21,271'	Deepest expected fresh water:	713'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1224	Water	
Top of Salt	1693	Salt	
Base of Salt	4695	Salt	
Lamar	4947	Salt Water	
Bell Canyon	5001	Salt Water	
Cherry Canyon	5896	Oil/Gas	
Brushy Canyon	7052	Oil/Gas	
Bone Spring	8783	Oil/Gas	
1st Bone Spring Sand	9908	Oil/Gas	
1st Bone Spring Shale	10156	Oil/Gas	
2nd Bone Spring Sand	10516	Target	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	1320	13.375"	54.5	J55	BTC	1.87	1.31	12.64
12.25"	0	4970	9.625"	40	L80-IC	BTC	1.50	1.33	4.76
8.75"	0	21,271	5.5"	23	P110-CY	TXP BTC	2.68	3.36	2.89
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface. All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172

ConocoPhillips Company - Avion Fed Com 503H

	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? If yes, does production casing cement tie back a minimum of 50' above the Reef? Is well within the designated 4 string boundary?	N
Is well located in SOPA but not in R-111-P? If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA? If yes, are the first three strings cemented to surface? Is 2 nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst? If yes, are there two strings cemented to surface? (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst? If yes, are there three strings cemented to surface?	N

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3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	610	13.5	1.75	9.21	12	Lead: Class C
	179	14.8	1.35	6.8	8	Tail: Class C
Inter.	990	12.8	1.8	9.21	12	Lead: Class C
	351	14.8	1.34	6.52	8	Tail: Class C
Prod.	1070	10.2	2.98	14.92	72	Lead: Tuned Light
	2430	13.2	1.42	7.45	19	Tail: Class H

Intermediate cement job to be performed offline.

Subject to Observed Hole Conditions and/or Fluid Caliper Results

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

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	4,470'	20% OH in Lateral (KOP to EOL) – 50% OH in Vertical

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4. Pressure Control Equipment

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

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12-1/4"	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram		5M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	10M	Annular	x	50% testing pressure
			Blind Ram	x	10M
			Pipe Ram	x	
			Double Ram		
			Other*		

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

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

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR Part 3170 Subpart 3172.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per 43 CFR Part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

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5. Mud Program

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

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

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

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

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

ConocoPhillips Company - Avion Fed Com 503H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5420 psi at 10968' 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	H2S is present
Y	H2S Plan attached

8. Other Facets of Operation

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

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

DELAWARE BASIN EAST

**LEA COUNTY SOUTHEAST
AVION FEDERAL COM PROJECT
AVION FEDERAL COM 503H**

**OWB
PWP1**

Anticollision Report

12 January, 2025

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset 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:	0.0 to 21,270.5usft	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	1/12/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	1,500.0	PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT	SDI Keeper Wireline Gyrocomp-Initialzd Cor
1,500.0	10,536.0	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	ISCWSA MWD + IFR1 + SAG + FDIR Corr
10,536.0	21,270.5	PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR	ISCWSA MWD + IFR1 + SAG + FDIR Corr

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						
AVION FEDERAL COM PROJECT						
AVION FEDERAL COM 501H - OWB - PWP1	1,500.0	1,501.0	79.9	72.9	11.374	CC, ES
AVION FEDERAL COM 501H - OWB - PWP1	1,600.0	1,601.0	81.5	74.2	11.062	SF
AVION FEDERAL COM 502H - OWB - PWP1	1,466.3	1,467.3	39.9	33.0	5.743	CC
AVION FEDERAL COM 502H - OWB - PWP1	1,500.0	1,501.0	39.9	32.9	5.680	ES, SF
AVION FEDERAL COM 701H - OWB - PWP1	1,466.3	1,467.3	99.9	93.0	14.380	CC
AVION FEDERAL COM 701H - OWB - PWP1	1,500.0	1,500.0	99.9	92.9	14.224	ES
AVION FEDERAL COM 701H - OWB - PWP1	1,600.0	1,597.6	103.2	95.7	13.773	SF
AVION FEDERAL COM 702H - OWB - PWP1	1,166.3	1,167.3	60.0	53.8	9.646	CC
AVION FEDERAL COM 702H - OWB - PWP1	1,200.0	1,201.0	60.0	53.7	9.512	ES
AVION FEDERAL COM 702H - OWB - PWP1	1,400.0	1,398.0	64.7	57.7	9.182	SF
AVION FEDERAL COM 703H - OWB - PWP1	1,500.0	1,500.0	19.9	12.5	2.707	Normal Operations, CC, ES, SF
AVION FEDERAL COM 704H - OWB - PWP1	1,200.0	1,200.0	20.0	13.7	3.171	CC, ES, SF
GRUMPY CAT 15 FEDERAL 213H - OWB - AWP	10,700.0	15,671.0	207.7	132.5	2.759	Normal Operations, ES, SF
GRUMPY CAT 15 FEDERAL 213H - OWB - AWP	10,711.7	15,671.0	207.3	132.5	2.773	Normal Operations, CC

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 501H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 10558-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance			Rule Assigned:		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
0.0	0.0	1.0	1.0	0.0	0.0	89.50	0.7	79.9	79.9					
100.0	100.0	101.0	101.0	0.6	0.6	89.50	0.7	79.9	79.9	78.3	1.62	49.357		
200.0	200.0	201.0	201.0	1.1	1.1	89.50	0.7	79.9	79.9	77.3	2.55	31.291		
300.0	300.0	301.0	301.0	1.4	1.4	89.50	0.7	79.9	79.9	76.7	3.18	25.139		
400.0	400.0	401.0	401.0	1.7	1.7	89.50	0.7	79.9	79.9	76.2	3.68	21.698		
500.0	500.0	501.0	501.0	1.9	1.9	89.50	0.7	79.9	79.9	75.8	4.12	19.409		
600.0	600.0	601.0	601.0	2.1	2.1	89.50	0.7	79.9	79.9	75.4	4.50	17.740		
700.0	700.0	701.0	701.0	2.3	2.3	89.50	0.7	79.9	79.9	75.0	4.86	16.451		
800.0	800.0	801.0	801.0	2.5	2.5	89.50	0.7	79.9	79.9	74.7	5.18	15.416		
900.0	900.0	901.0	901.0	2.7	2.7	89.50	0.7	79.9	79.9	74.4	5.49	14.559		
1,000.0	1,000.0	1,001.0	1,001.0	2.9	2.9	89.50	0.7	79.9	79.9	74.1	5.78	13.835		

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

ConocoPhillips Anticollision Report

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Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 501H - OWB - PWP1													Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 10558-r.5 MWD+IFR1+SAG+FDIR													Rule Assigned:		Offset Well Error:	0.0 usft
Measured Reference	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		No-Go	Separation	Warning			
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor				
1,100.0	1,100.0	1,101.0	1,101.0	3.1	3.1	89.50	0.7	79.9	79.9	73.9	6.05	13.211				
1,200.0	1,200.0	1,201.0	1,201.0	3.2	3.2	89.50	0.7	79.9	79.9	73.6	6.31	12.667				
1,300.0	1,300.0	1,301.0	1,301.0	3.4	3.4	89.50	0.7	79.9	79.9	73.3	6.56	12.187				
1,400.0	1,400.0	1,401.0	1,401.0	3.5	3.5	89.50	0.7	79.9	79.9	73.1	6.80	11.759				
1,500.0	1,500.0	1,501.0	1,501.0	3.7	3.7	89.50	0.7	79.9	79.9	72.9	7.02	11.374 CC, ES				
1,600.0	1,600.0	1,601.0	1,601.0	3.8	3.8	160.08	0.7	79.9	81.5	74.2	7.37	11.062 SF				
1,700.0	1,699.8	1,700.8	1,700.8	4.1	4.0	161.23	0.7	79.9	86.5	78.7	7.81	11.077				
1,800.0	1,799.5	1,800.5	1,800.5	4.3	4.1	162.88	0.7	79.9	94.8	86.5	8.23	11.514				
1,900.0	1,898.7	1,899.7	1,899.7	4.6	4.3	164.74	0.7	79.9	106.5	97.8	8.65	12.314				
1,950.0	1,948.2	1,949.2	1,949.2	4.6	4.3	165.69	0.7	79.9	113.6	104.9	8.76	12.976				
2,000.0	1,997.5	1,998.5	1,998.5	4.7	4.4	166.60	0.7	79.9	121.2	112.4	8.86	13.683				
2,100.0	2,096.3	2,093.3	2,093.3	4.9	4.5	167.78	1.2	81.3	137.9	128.7	9.23	14.942				
2,200.0	2,195.1	2,187.0	2,186.9	5.1	4.7	168.18	2.6	85.7	157.6	147.9	9.65	16.327				
2,300.0	2,293.8	2,279.6	2,279.1	5.2	4.9	168.05	5.0	92.8	180.0	170.0	10.06	17.905				
2,400.0	2,392.6	2,370.8	2,369.8	5.4	5.0	167.57	8.2	102.6	205.3	194.9	10.44	19.657				
2,500.0	2,491.4	2,460.6	2,458.6	5.6	5.2	166.89	12.3	115.0	233.4	222.5	10.82	21.567				
2,600.0	2,590.1	2,550.0	2,546.7	5.8	5.4	166.07	17.3	129.9	264.1	253.0	11.12	23.746				
2,700.0	2,688.9	2,643.2	2,638.1	6.0	5.5	165.28	22.9	146.7	296.3	284.9	11.41	25.957				
2,800.0	2,787.7	2,737.8	2,731.0	6.2	5.6	164.63	28.5	163.9	328.5	316.8	11.76	27.941				
2,900.0	2,886.5	2,832.4	2,823.9	6.4	5.8	164.09	34.2	181.0	360.8	348.7	12.10	29.809				
3,000.0	2,985.2	2,927.0	2,916.7	6.6	6.0	163.64	39.9	198.2	393.0	380.6	12.45	31.571				
3,100.0	3,084.0	3,021.6	3,009.6	6.8	6.1	163.26	45.6	215.3	425.3	412.5	12.80	33.234				
3,200.0	3,182.8	3,116.2	3,102.5	6.9	6.3	162.94	51.3	232.4	457.6	444.5	13.15	34.804				
3,300.0	3,281.5	3,210.8	3,195.3	7.1	6.5	162.65	56.9	249.6	490.0	476.5	13.50	36.290				
3,400.0	3,380.3	3,305.5	3,288.2	7.3	6.6	162.41	62.6	266.7	522.3	508.4	13.86	37.696				
3,500.0	3,479.1	3,400.1	3,381.1	7.5	6.8	162.19	68.3	283.8	554.6	540.4	14.21	39.029				
3,600.0	3,577.8	3,494.7	3,473.9	7.7	7.0	161.99	74.0	301.0	587.0	572.4	14.57	40.293				
3,700.0	3,676.6	3,589.3	3,566.8	7.9	7.2	161.82	79.7	318.1	619.3	604.4	14.93	41.494				
3,800.0	3,775.4	3,683.9	3,659.7	8.1	7.3	161.66	85.3	335.2	651.7	636.4	15.28	42.636				
3,900.0	3,874.1	3,778.5	3,752.5	8.3	7.5	161.52	91.0	352.4	684.0	668.4	15.65	43.722				
4,000.0	3,972.9	3,873.1	3,845.4	8.5	7.7	161.39	96.7	369.5	716.4	700.4	16.01	44.757				
4,100.0	4,071.7	3,967.7	3,938.3	8.7	7.9	161.27	102.4	386.6	748.8	732.4	16.37	45.743				
4,200.0	4,170.4	4,062.3	4,031.2	8.9	8.0	161.16	108.1	403.8	781.1	764.4	16.73	46.684				
4,300.0	4,269.2	4,156.9	4,124.0	9.1	8.2	161.06	113.7	420.9	813.5	796.4	17.10	47.583				
4,400.0	4,368.0	4,251.5	4,216.9	9.3	8.4	160.97	119.4	438.1	845.9	828.4	17.46	48.443				
4,500.0	4,466.8	4,346.1	4,309.8	9.5	8.6	160.88	125.1	455.2	878.2	860.4	17.83	49.265				
4,600.0	4,565.5	4,440.7	4,402.6	9.7	8.8	160.80	130.8	472.3	910.6	892.4	18.19	50.052				
4,700.0	4,664.3	4,535.3	4,495.5	9.9	9.0	160.73	136.5	489.5	943.0	924.4	18.56	50.805				
4,800.0	4,763.1	4,630.0	4,588.4	10.1	9.2	160.66	142.1	506.6	975.4	956.4	18.93	51.528				

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 502H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 9487-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Reference Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+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	1.0	1.0	0.0	0.0	89.28	0.5	39.9	39.9								
100.0	100.0	101.0	101.0	0.6	0.6	89.28	0.5	39.9	39.9	38.3	1.62	24.649					
200.0	200.0	201.0	201.0	1.1	1.1	89.28	0.5	39.9	39.9	37.3	2.55	15.627					
300.0	300.0	301.0	301.0	1.4	1.4	89.28	0.5	39.9	39.9	36.7	3.18	12.554					
400.0	400.0	401.0	401.0	1.7	1.7	89.28	0.5	39.9	39.9	36.2	3.68	10.836					
500.0	500.0	501.0	501.0	1.9	1.9	89.28	0.5	39.9	39.9	35.8	4.12	9.693					
600.0	600.0	601.0	601.0	2.1	2.1	89.28	0.5	39.9	39.9	35.4	4.50	8.859					
700.0	700.0	701.0	701.0	2.3	2.3	89.28	0.5	39.9	39.9	35.0	4.86	8.216					
800.0	800.0	801.0	801.0	2.5	2.5	89.28	0.5	39.9	39.9	34.7	5.18	7.698					
900.0	900.0	901.0	901.0	2.7	2.7	89.28	0.5	39.9	39.9	34.4	5.49	7.271					
1,000.0	1,000.0	1,001.0	1,001.0	2.9	2.9	89.28	0.5	39.9	39.9	34.1	5.78	6.909					
1,100.0	1,100.0	1,101.0	1,101.0	3.1	3.1	89.28	0.5	39.9	39.9	33.9	6.05	6.598					
1,200.0	1,200.0	1,201.0	1,201.0	3.2	3.2	89.28	0.5	39.9	39.9	33.6	6.31	6.326					
1,300.0	1,300.0	1,301.0	1,301.0	3.4	3.4	89.28	0.5	39.9	39.9	33.3	6.56	6.086					
1,400.0	1,400.0	1,401.0	1,401.0	3.5	3.5	89.28	0.5	39.9	39.9	33.1	6.80	5.872					
1,466.3	1,466.3	1,467.3	1,467.3	3.6	3.6	89.28	0.5	39.9	39.9	33.0	6.95	5.743 CC					
1,500.0	1,500.0	1,501.0	1,501.0	3.7	3.7	89.28	0.5	39.9	39.9	32.9	7.03	5.680 ES, SF					
1,600.0	1,600.0	1,600.7	1,600.6	3.8	3.9	157.91	2.2	40.3	41.9	34.6	7.37	5.685					
1,700.0	1,699.8	1,700.0	1,699.8	4.1	4.2	154.14	7.3	41.3	48.1	40.2	7.91	6.085					
1,800.0	1,799.5	1,798.7	1,798.2	4.3	4.5	149.68	15.8	43.0	58.7	50.3	8.41	6.981					
1,900.0	1,898.7	1,896.5	1,895.3	4.6	4.8	145.59	27.4	45.3	73.9	65.0	8.89	8.308					
1,950.0	1,948.2	1,945.0	1,943.3	4.6	4.9	143.83	34.3	46.7	83.2	74.2	9.00	9.247					
2,000.0	1,997.5	1,993.9	1,991.5	4.7	4.9	142.39	41.8	48.3	93.1	84.0	9.09	10.245					
2,100.0	2,096.3	2,091.8	2,088.2	4.9	5.1	140.26	56.8	51.3	113.1	103.7	9.45	11.966					
2,200.0	2,195.1	2,189.7	2,184.9	5.1	5.2	138.77	71.8	54.3	133.2	123.4	9.82	13.570					
2,300.0	2,293.8	2,287.6	2,281.6	5.2	5.4	137.67	86.8	57.4	153.4	143.2	10.18	15.072					
2,400.0	2,392.6	2,385.6	2,378.3	5.4	5.6	136.83	101.8	60.4	173.6	163.0	10.53	16.481					
2,500.0	2,491.4	2,483.5	2,475.1	5.6	5.8	136.16	116.9	63.4	193.8	182.9	10.88	17.806					
2,600.0	2,590.1	2,581.4	2,571.8	5.8	6.0	135.62	131.9	66.5	214.0	202.8	11.23	19.054					
2,700.0	2,688.9	2,679.5	2,668.7	6.0	6.1	135.17	146.9	69.5	234.3	222.8	11.54	20.307					
2,800.0	2,787.7	2,780.1	2,768.2	6.2	6.3	134.99	161.3	72.4	254.0	242.1	11.87	21.389					
2,900.0	2,886.5	2,881.1	2,868.3	6.4	6.4	135.13	174.0	75.0	272.6	260.4	12.23	22.301					
3,000.0	2,985.2	2,982.4	2,969.0	6.6	6.6	135.55	185.1	77.2	290.3	277.7	12.57	23.091					
3,100.0	3,084.0	3,084.0	3,070.1	6.8	6.8	136.19	194.4	79.1	306.9	294.0	12.91	23.774					
3,200.0	3,182.8	3,185.8	3,171.7	6.9	7.0	137.04	201.9	80.7	322.6	309.4	13.24	24.361					
3,300.0	3,281.5	3,287.8	3,273.5	7.1	7.2	138.07	207.7	81.8	337.5	323.9	13.57	24.863					
3,400.0	3,380.3	3,389.8	3,375.5	7.3	7.3	139.26	211.7	82.6	351.4	337.5	13.90	25.291					
3,500.0	3,479.1	3,492.0	3,477.6	7.5	7.5	140.61	214.0	83.1	364.6	350.4	14.21	25.656					
3,600.0	3,577.8	3,593.2	3,578.8	7.7	7.6	142.08	214.5	83.2	377.1	362.7	14.47	26.063					
3,700.0	3,676.6	3,692.0	3,677.6	7.9	7.7	143.48	214.5	83.2	389.7	374.9	14.76	26.393					
3,800.0	3,775.4	3,790.8	3,776.4	8.1	7.8	144.80	214.5	83.2	402.4	387.3	15.06	26.711					
3,900.0	3,874.1	3,889.5	3,875.1	8.3	7.9	146.04	214.5	83.2	415.3	400.0	15.37	27.026					
4,000.0	3,972.9	3,988.3	3,973.9	8.5	8.0	147.21	214.5	83.2	428.4	412.8	15.67	27.338					
4,100.0	4,071.7	4,087.1	4,072.7	8.7	8.1	148.30	214.5	83.2	441.7	425.7	15.98	27.645					
4,200.0	4,170.4	4,185.8	4,171.4	8.9	8.2	149.34	214.5	83.2	455.1	438.9	16.29	27.948					
4,300.0	4,269.2	4,284.6	4,270.2	9.1	8.4	150.31	214.5	83.2	468.7	452.1	16.59	28.247					
4,400.0	4,368.0	4,383.4	4,369.0	9.3	8.5	151.23	214.5	83.2	482.4	465.5	16.90	28.541					
4,500.0	4,466.8	4,482.2	4,467.8	9.5	8.6	152.09	214.5	83.2	496.2	479.0	17.21	28.830					
4,600.0	4,565.5	4,580.9	4,566.5	9.7	8.7	152.91	214.5	83.2	510.1	492.6	17.52	29.114					
4,700.0	4,664.3	4,679.7	4,665.3	9.9	8.8	153.69	214.5	83.2	524.1	506.3	17.83	29.392					
4,800.0	4,763.1	4,778.5	4,764.1	10.1	8.9	154.43	214.5	83.2	538.2	520.1	18.14	29.666					

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 502H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 9487-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning				
		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	4,861.8	4,877.2	4,862.8	10.3	9.0	155.13	214.5	83.2	552.4	534.0	18.45	29.934					
5,000.0	4,960.6	4,976.0	4,961.6	10.5	9.1	155.79	214.5	83.2	566.7	547.9	18.77	30.197					
5,100.0	5,059.4	5,074.8	5,060.4	10.7	9.2	156.42	214.5	83.2	581.0	561.9	19.08	30.455					
5,192.4	5,150.7	5,166.1	5,151.7	10.9	9.3	156.98	214.5	83.2	594.3	575.0	19.36	30.701					
5,200.0	5,158.1	5,173.5	5,159.1	10.9	9.3	157.03	214.5	83.2	595.4	576.0	19.38	30.727					
5,300.0	5,257.1	5,272.5	5,258.1	11.1	9.4	157.62	214.5	83.2	608.9	589.2	19.75	30.830					
5,400.0	5,356.2	5,371.6	5,357.2	11.3	9.5	158.11	214.5	83.2	620.9	600.9	20.05	30.962					
5,500.0	5,455.6	5,471.0	5,456.6	11.5	9.6	158.53	214.5	83.2	631.3	611.0	20.35	31.022					
5,600.0	5,555.1	5,570.5	5,556.1	11.7	9.7	158.87	214.5	83.2	640.1	619.5	20.64	31.012					
5,700.0	5,654.8	5,670.2	5,655.8	11.9	9.8	159.14	214.5	83.2	647.4	626.4	20.93	30.935					
5,800.0	5,754.7	5,770.1	5,755.7	12.0	9.9	159.35	214.5	83.2	652.9	631.7	21.20	30.797					
5,900.0	5,854.6	5,870.0	5,855.6	12.2	10.0	159.49	214.5	83.2	656.9	635.4	21.47	30.600					
6,000.0	5,954.5	5,969.9	5,955.5	12.3	10.1	159.58	214.5	83.2	659.2	637.5	21.72	30.352					
6,092.5	6,047.0	6,062.4	6,048.0	12.4	10.2	89.44	214.5	83.2	659.9	638.0	21.90	30.130					
6,100.0	6,054.5	6,069.9	6,055.5	12.4	10.2	89.44	214.5	83.2	659.9	638.0	21.91	30.119					
6,200.0	6,154.5	6,169.9	6,155.5	12.6	10.3	89.44	214.5	83.2	659.9	637.8	22.14	29.809					
6,300.0	6,254.5	6,269.9	6,255.5	12.6	10.4	89.44	214.5	83.2	659.9	637.6	22.30	29.587					
6,400.0	6,354.5	6,369.9	6,355.5	12.7	10.5	89.44	214.5	83.2	659.9	637.5	22.47	29.369					
6,500.0	6,454.5	6,469.9	6,455.5	12.8	10.6	89.44	214.5	83.2	659.9	637.3	22.64	29.154					
6,600.0	6,554.5	6,569.9	6,555.5	12.8	10.7	89.44	214.5	83.2	659.9	637.1	22.80	28.942					
6,700.0	6,654.5	6,669.9	6,655.5	12.9	10.8	89.44	214.5	83.2	659.9	637.0	22.97	28.734					
6,800.0	6,754.5	6,769.9	6,755.5	13.0	10.9	89.44	214.5	83.2	659.9	636.8	23.13	28.528					
6,900.0	6,854.5	6,869.9	6,855.5	13.0	11.0	89.44	214.5	83.2	659.9	636.6	23.30	28.326					
7,000.0	6,954.5	6,969.9	6,955.5	13.1	11.1	89.44	214.5	83.2	659.9	636.5	23.46	28.126					
7,100.0	7,054.5	7,069.9	7,055.5	13.2	11.2	89.44	214.5	83.2	659.9	636.3	23.63	27.930					
7,200.0	7,154.5	7,169.9	7,155.5	13.2	11.3	89.44	214.5	83.2	659.9	636.1	23.79	27.736					
7,300.0	7,254.5	7,269.9	7,255.5	13.3	11.4	89.44	214.5	83.2	659.9	636.0	23.96	27.545					
7,400.0	7,354.5	7,369.9	7,355.5	13.4	11.5	89.44	214.5	83.2	659.9	635.8	24.12	27.356					
7,500.0	7,454.5	7,469.9	7,455.5	13.4	11.6	89.44	214.5	83.2	659.9	635.6	24.29	27.170					
7,600.0	7,554.5	7,569.9	7,555.5	13.5	11.7	89.44	214.5	83.2	659.9	635.5	24.45	26.987					
7,700.0	7,654.5	7,669.9	7,655.5	13.6	11.8	89.44	214.5	83.2	659.9	635.3	24.62	26.806					
7,800.0	7,754.5	7,769.9	7,755.5	13.6	11.9	89.44	214.5	83.2	659.9	635.1	24.78	26.628					
7,900.0	7,854.5	7,869.9	7,855.5	13.7	12.0	89.44	214.5	83.2	659.9	635.0	24.95	26.452					
8,000.0	7,954.5	7,969.9	7,955.5	13.8	12.1	89.44	214.5	83.2	659.9	634.8	25.11	26.279					
8,100.0	8,054.5	8,069.9	8,055.5	13.9	12.2	89.44	214.5	83.2	659.9	634.7	25.28	26.108					
8,200.0	8,154.5	8,169.9	8,155.5	13.9	12.3	89.44	214.5	83.2	659.9	634.5	25.44	25.939					
8,300.0	8,254.5	8,269.9	8,255.5	14.0	12.4	89.44	214.5	83.2	659.9	634.3	25.61	25.772					
8,400.0	8,354.5	8,369.9	8,355.5	14.1	12.4	89.44	214.5	83.2	659.9	634.2	25.77	25.607					
8,500.0	8,454.5	8,469.9	8,455.5	14.1	12.5	89.44	214.5	83.2	659.9	634.0	25.94	25.445					
8,600.0	8,554.5	8,569.9	8,555.5	14.2	12.6	89.44	214.5	83.2	659.9	633.8	26.10	25.285					
8,700.0	8,654.5	8,669.9	8,655.5	14.3	12.7	89.44	214.5	83.2	659.9	633.7	26.26	25.126					
8,800.0	8,754.5	8,769.9	8,755.5	14.4	12.8	89.44	214.5	83.2	659.9	633.5	26.43	24.970					
8,900.0	8,854.5	8,869.9	8,855.5	14.4	12.9	89.44	214.5	83.2	659.9	633.3	26.59	24.816					
9,000.0	8,954.5	8,969.9	8,955.5	14.5	13.0	89.44	214.5	83.2	659.9	633.2	26.76	24.664					
9,100.0	9,054.5	9,069.9	9,055.5	14.6	13.1	89.44	214.5	83.2	659.9	633.0	26.92	24.513					
9,200.0	9,154.5	9,169.9	9,155.5	14.6	13.2	89.44	214.5	83.2	659.9	632.8	27.09	24.364					
9,300.0	9,254.5	9,269.9	9,255.5	14.7	13.3	89.44	214.5	83.2	659.9	632.7	27.25	24.218					
9,400.0	9,354.5	9,369.9	9,355.5	14.8	13.4	89.44	214.5	83.2	659.9	632.5	27.41	24.073					
9,500.0	9,454.5	9,469.9	9,455.5	14.9	13.5	89.44	214.5	83.2	659.9	632.4	27.57	23.935					
9,562.8	9,517.3	9,532.8	9,518.3	14.9	13.5	89.63	212.3	83.2	659.9	632.3	27.64	23.873					
9,600.0	9,554.5	9,569.5	9,554.7	14.9	13.5	90.05	207.4	83.2	659.9	632.3	27.68	23.842					

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 502H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 9487-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Rule Assigned:														
Measured Reference Depth (usft)	Vertical Depth (usft)	Measured Offset Depth (usft)	Vertical Offset Depth (usft)	Semi Major Axis 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	
9,700.0	9,654.5	9,662.4	9,644.1	15.0	13.6	92.20	182.6	83.4	660.7	632.9	27.79	23.772		
9,800.0	9,754.5	9,743.4	9,716.8	15.1	13.6	95.25	147.3	83.6	664.3	636.3	27.94	23.771		
9,900.0	9,854.5	9,810.8	9,772.1	15.1	13.7	98.54	108.8	83.9	673.2	645.0	28.19	23.882		
10,000.0	9,954.5	9,865.8	9,812.9	15.2	13.7	101.64	71.9	84.1	689.6	661.0	28.60	24.115		
10,100.0	10,054.5	9,910.4	9,842.6	15.3	13.8	104.36	38.7	84.3	714.8	685.6	29.21	24.473		
10,200.0	10,154.5	9,950.0	9,866.3	15.4	13.8	106.91	7.0	84.6	749.2	719.2	29.99	24.980		
10,300.0	10,254.5	9,975.0	9,879.9	15.4	13.8	108.55	-14.0	84.7	792.3	761.4	30.95	25.599		
10,400.0	10,354.5	10,000.0	9,892.4	15.5	13.8	110.22	-35.6	84.8	843.5	811.5	31.95	26.401		
10,500.0	10,454.5	10,025.0	9,903.7	15.6	13.9	111.89	-57.9	85.0	901.7	868.7	32.93	27.379		
10,536.0	10,490.5	10,025.0	9,903.7	15.6	13.9	111.89	-57.9	85.0	924.1	891.1	33.09	27.931		
10,550.0	10,504.5	10,025.0	9,903.7	15.6	13.9	-66.46	-57.9	85.0	933.0	899.8	33.23	28.075		
10,575.0	10,529.5	10,035.9	9,908.3	15.6	13.9	-63.54	-67.8	85.0	948.8	915.4	33.43	28.378		
10,600.0	10,554.3	10,041.0	9,910.4	15.6	13.9	-61.11	-72.5	85.1	964.5	930.8	33.67	28.649		
10,625.0	10,579.0	10,050.0	9,913.9	15.6	13.9	-58.57	-80.8	85.1	980.0	946.1	33.87	28.930		
10,650.0	10,603.5	10,050.0	9,913.9	15.6	13.9	-56.61	-80.8	85.1	995.3	961.1	34.13	29.161		

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 701H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 12028-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Reference Depth (usft)	Vertical Depth (usft)	Measured Offset Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+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	1.0	1.0	0.0	0.0	89.48	0.9	99.9	99.9	99.9	98.3	1.62	61.712				
100.0	100.0	101.0	101.0	0.6	0.6	89.48	0.9	99.9	99.9	99.9	97.4	2.55	39.124				
200.0	200.0	201.0	201.0	1.1	1.1	89.48	0.9	99.9	99.9	99.9	97.4	2.55	39.124				
300.0	300.0	301.0	301.0	1.4	1.4	89.48	0.9	99.9	99.9	99.9	96.7	3.18	31.432				
400.0	400.0	401.0	401.0	1.7	1.7	89.48	0.9	99.9	99.9	99.9	96.2	3.68	27.130				
500.0	500.0	501.0	501.0	1.9	1.9	89.48	0.9	99.9	99.9	99.9	95.8	4.12	24.268				
600.0	600.0	601.0	601.0	2.1	2.1	89.48	0.9	99.9	99.9	99.9	95.4	4.50	22.181				
700.0	700.0	701.0	701.0	2.3	2.3	89.48	0.9	99.9	99.9	99.9	95.0	4.86	20.569				
800.0	800.0	801.0	801.0	2.5	2.5	89.48	0.9	99.9	99.9	99.9	94.7	5.18	19.274				
900.0	900.0	901.0	901.0	2.7	2.7	89.48	0.9	99.9	99.9	99.9	94.4	5.49	18.203				
1,000.0	1,000.0	1,001.0	1,001.0	2.9	2.9	89.48	0.9	99.9	99.9	99.9	94.1	5.78	17.298				
1,100.0	1,100.0	1,101.0	1,101.0	3.1	3.1	89.48	0.9	99.9	99.9	99.9	93.9	6.05	16.518				
1,200.0	1,200.0	1,201.0	1,201.0	3.2	3.2	89.48	0.9	99.9	99.9	99.9	93.6	6.31	15.838				
1,300.0	1,300.0	1,301.0	1,301.0	3.4	3.4	89.48	0.9	99.9	99.9	99.9	93.3	6.56	15.238				
1,400.0	1,400.0	1,401.0	1,401.0	3.5	3.5	89.48	0.9	99.9	99.9	99.9	93.1	6.80	14.703				
1,466.3	1,466.3	1,467.3	1,467.3	3.6	3.6	89.48	0.9	99.9	99.9	99.9	93.0	6.95	14.380 CC				
1,500.0	1,500.0	1,500.0	1,500.0	3.7	3.7	89.48	0.9	99.9	99.9	99.9	92.9	7.02	14.224 ES				
1,600.0	1,600.0	1,597.6	1,597.5	3.8	3.8	159.76	1.3	101.5	103.2	105.0	95.7	7.49	13.773 SF				
1,700.0	1,699.8	1,693.5	1,693.4	4.1	4.0	160.04	2.4	106.3	113.1	120.7	105.0	8.12	13.928				
1,800.0	1,799.5	1,788.3	1,787.8	4.3	4.2	160.40	4.1	114.0	129.4	120.7	120.7	8.70	14.875				
1,900.0	1,898.7	1,881.2	1,880.1	4.6	4.5	160.75	6.6	124.6	152.1	142.9	142.9	9.24	16.459				
1,950.0	1,948.2	1,926.9	1,925.3	4.6	4.6	160.91	8.0	130.8	165.8	156.4	156.4	9.42	17.602				
2,000.0	1,997.5	1,972.0	1,969.8	4.7	4.8	161.11	9.6	137.7	180.6	171.0	171.0	9.58	18.844				
2,100.0	2,096.3	2,060.9	2,057.3	4.9	5.0	161.27	13.1	153.2	212.4	202.4	202.4	9.98	21.278				
2,200.0	2,195.1	2,149.9	2,144.3	5.1	5.2	161.23	17.3	171.3	246.9	236.6	236.6	10.30	23.982				
2,300.0	2,293.8	2,243.4	2,235.7	5.2	5.3	161.15	21.8	191.1	282.2	271.6	271.6	10.62	26.565				
2,400.0	2,392.6	2,337.0	2,327.0	5.4	5.5	161.09	26.3	210.8	317.4	306.5	306.5	10.97	28.935				
2,500.0	2,491.4	2,430.6	2,418.4	5.6	5.7	161.04	30.8	230.6	352.7	341.4	341.4	11.32	31.151				
2,600.0	2,590.1	2,524.2	2,509.8	5.8	5.8	161.00	35.3	250.3	387.9	376.3	376.3	11.68	33.227				
2,700.0	2,688.9	2,617.8	2,601.1	6.0	6.0	160.97	39.9	270.0	423.2	411.2	411.2	12.03	35.176				
2,800.0	2,787.7	2,711.3	2,692.5	6.2	6.2	160.94	44.4	289.8	458.4	446.0	446.0	12.39	37.006				
2,900.0	2,886.5	2,804.9	2,783.9	6.4	6.4	160.92	48.9	309.5	493.7	480.9	480.9	12.75	38.728				
3,000.0	2,985.2	2,898.5	2,875.2	6.6	6.5	160.90	53.4	329.3	528.9	515.8	515.8	13.11	40.350				
3,100.0	3,084.0	2,992.1	2,966.6	6.8	6.7	160.88	58.0	349.0	564.2	550.7	550.7	13.47	41.881				
3,200.0	3,182.8	3,085.7	3,057.9	6.9	6.9	160.86	62.5	368.8	599.5	585.6	585.6	13.84	43.326				
3,300.0	3,281.5	3,179.2	3,149.3	7.1	7.1	160.85	67.0	388.5	634.7	620.5	620.5	14.20	44.694				
3,400.0	3,380.3	3,272.8	3,240.7	7.3	7.3	160.84	71.5	408.2	670.0	655.4	655.4	14.57	45.988				
3,500.0	3,479.1	3,366.4	3,332.0	7.5	7.5	160.83	76.0	428.0	705.2	690.3	690.3	14.94	47.216				
3,600.0	3,577.8	3,460.0	3,423.4	7.7	7.7	160.82	80.6	447.7	740.5	725.2	725.2	15.30	48.381				
3,700.0	3,676.6	3,553.6	3,514.8	7.9	7.9	160.81	85.1	467.5	775.7	760.0	760.0	15.68	49.487				
3,800.0	3,775.4	3,647.1	3,606.1	8.1	8.0	160.80	89.6	487.2	811.0	794.9	794.9	16.05	50.540				
3,900.0	3,874.1	3,740.7	3,697.5	8.3	8.2	160.79	94.1	506.9	846.2	829.8	829.8	16.42	51.542				
4,000.0	3,972.9	3,834.3	3,788.8	8.5	8.4	160.78	98.7	526.7	881.5	864.7	864.7	16.79	52.497				
4,100.0	4,071.7	3,927.9	3,880.2	8.7	8.6	160.78	103.2	546.4	916.7	899.6	899.6	17.16	53.408				
4,200.0	4,170.4	4,021.5	3,971.6	8.9	8.8	160.77	107.7	566.2	952.0	934.4	934.4	17.54	54.278				
4,300.0	4,269.2	4,115.0	4,062.9	9.1	9.0	160.77	112.2	585.9	987.2	969.3	969.3	17.91	55.109				

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 702H - OWB - PWP1													Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+SAG+FDIR, 11947-r.5 MWD+IFR1+SAG+FDIR													Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning			
0.0	0.0	1.0	1.0	0.0	0.0	89.52	0.5	60.0	60.0	60.0	58.4	1.62	37.064			
100.0	100.0	101.0	101.0	0.6	0.6	89.52	0.5	60.0	60.0	60.0	57.4	2.55	23.498			
200.0	200.0	201.0	201.0	1.1	1.1	89.52	0.5	60.0	60.0	60.0	56.8	3.18	18.878			
300.0	300.0	301.0	301.0	1.4	1.4	89.52	0.5	60.0	60.0	60.0	56.3	3.68	16.294			
400.0	400.0	401.0	401.0	1.7	1.7	89.52	0.5	60.0	60.0	60.0	55.9	4.12	14.575			
500.0	500.0	501.0	501.0	1.9	1.9	89.52	0.5	60.0	60.0	60.0	55.5	4.50	13.322			
600.0	600.0	601.0	601.0	2.1	2.1	89.52	0.5	60.0	60.0	60.0	55.1	4.86	12.354			
700.0	700.0	701.0	701.0	2.3	2.3	89.52	0.5	60.0	60.0	60.0	54.8	5.18	11.576			
800.0	800.0	801.0	801.0	2.5	2.5	89.52	0.5	60.0	60.0	60.0	54.5	5.49	10.933			
900.0	900.0	901.0	901.0	2.7	2.7	89.52	0.5	60.0	60.0	60.0	54.2	5.78	10.389			
1,000.0	1,000.0	1,001.0	1,001.0	2.9	2.9	89.52	0.5	60.0	60.0	60.0	54.0	6.05	9.921			
1,100.0	1,100.0	1,101.0	1,101.0	3.1	3.1	89.52	0.5	60.0	60.0	60.0	53.8	6.22	9.646 CC			
1,166.3	1,166.3	1,167.3	1,167.3	3.2	3.2	89.52	0.5	60.0	60.0	60.0	53.7	6.31	9.512 ES			
1,200.0	1,200.0	1,201.0	1,201.0	3.2	3.2	89.52	0.5	60.0	60.0	60.0	53.7	6.31	9.512 ES			
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.5	88.28	1.8	61.1	61.2	61.2	54.5	6.62	9.234			
1,400.0	1,400.0	1,398.0	1,397.8	3.5	3.8	84.91	5.7	64.4	64.7	64.7	57.7	7.05	9.182 SF			
1,500.0	1,500.0	1,495.9	1,495.4	3.7	4.1	80.09	12.2	69.8	71.1	71.1	63.6	7.49	9.492			
1,600.0	1,600.0	1,593.0	1,591.8	3.8	4.4	145.45	21.1	77.3	82.1	82.1	74.1	8.02	10.235			
1,700.0	1,699.8	1,691.5	1,689.3	4.1	4.6	142.29	31.6	86.1	97.9	97.9	89.3	8.53	11.476			
1,800.0	1,799.5	1,787.4	1,784.2	4.3	4.8	141.54	41.2	95.8	117.4	117.4	108.4	8.98	13.075			
1,900.0	1,898.7	1,882.5	1,878.2	4.6	4.9	142.71	49.1	108.0	141.6	141.6	132.3	9.32	15.196			
1,950.0	1,948.2	1,930.6	1,925.7	4.6	5.0	143.52	52.9	114.5	155.1	155.1	145.6	9.45	16.411			
2,000.0	1,997.5	1,978.6	1,973.1	4.7	5.0	144.42	56.7	121.0	168.8	168.8	159.3	9.59	17.613			
2,100.0	2,096.3	2,074.6	2,067.9	4.9	5.2	145.86	64.4	133.9	196.5	196.5	186.6	9.95	19.759			
2,200.0	2,195.1	2,170.6	2,162.7	5.1	5.4	146.94	72.0	146.9	224.3	224.3	214.0	10.31	21.762			
2,300.0	2,293.8	2,266.5	2,257.5	5.2	5.6	147.78	79.6	159.8	252.1	252.1	241.5	10.67	23.633			
2,400.0	2,392.6	2,362.5	2,352.3	5.4	5.8	148.45	87.3	172.7	280.0	280.0	269.0	11.03	25.384			
2,500.0	2,491.4	2,458.5	2,447.1	5.6	5.9	149.01	94.9	185.7	307.9	307.9	296.5	11.39	27.026			
2,600.0	2,590.1	2,554.5	2,542.0	5.8	6.1	149.47	102.5	198.6	335.8	335.8	324.1	11.75	28.569			
2,700.0	2,688.9	2,650.5	2,636.8	6.0	6.3	149.86	110.1	211.5	363.8	363.8	351.6	12.12	30.020			
2,800.0	2,787.7	2,746.5	2,731.6	6.2	6.5	150.19	117.8	224.5	391.7	391.7	379.2	12.48	31.388			
2,900.0	2,886.5	2,842.5	2,826.4	6.4	6.7	150.48	125.4	237.4	419.7	419.7	406.8	12.84	32.679			
3,000.0	2,985.2	2,938.5	2,921.2	6.6	6.9	150.74	133.0	250.4	447.7	447.7	434.4	13.21	33.900			
3,100.0	3,084.0	3,034.5	3,016.0	6.8	7.1	150.96	140.7	263.3	475.6	475.6	462.1	13.57	35.056			
3,200.0	3,182.8	3,130.5	3,110.8	6.9	7.2	151.16	148.3	276.2	503.6	503.6	489.7	13.93	36.152			
3,300.0	3,281.5	3,226.5	3,205.6	7.1	7.4	151.34	155.9	289.2	531.6	531.6	517.3	14.29	37.192			
3,400.0	3,380.3	3,322.4	3,300.4	7.3	7.6	151.50	163.6	302.1	559.6	559.6	544.9	14.66	38.182			
3,500.0	3,479.1	3,418.4	3,395.2	7.5	7.8	151.64	171.2	315.0	587.6	587.6	572.6	15.02	39.123			
3,600.0	3,577.8	3,514.4	3,490.0	7.7	8.0	151.77	178.8	328.0	615.6	615.6	600.2	15.37	40.041			
3,700.0	3,676.6	3,617.7	3,592.1	7.9	8.1	151.92	186.8	341.5	643.2	643.2	627.5	15.72	40.927			
3,800.0	3,775.4	3,725.6	3,699.0	8.1	8.3	152.12	194.2	354.1	669.3	669.3	653.2	16.12	41.529			
3,900.0	3,874.1	3,834.4	3,807.1	8.3	8.6	152.38	200.7	365.0	693.7	693.7	677.2	16.51	42.012			
4,000.0	3,972.9	3,944.2	3,916.3	8.5	8.8	152.69	206.1	374.2	716.5	716.5	699.6	16.90	42.387			
4,100.0	4,071.7	4,054.7	4,026.5	8.7	9.0	153.04	210.5	381.6	737.5	737.5	720.2	17.29	42.665			
4,200.0	4,170.4	4,165.9	4,137.6	8.9	9.2	153.45	213.8	387.2	758.8	758.8	739.1	17.66	42.855			
4,300.0	4,269.2	4,277.9	4,249.4	9.1	9.3	153.90	216.0	391.0	774.4	774.4	756.4	18.02	42.967			
4,400.0	4,368.0	4,390.3	4,361.8	9.3	9.5	154.40	217.2	393.0	790.3	790.3	771.9	18.37	43.016			
4,500.0	4,466.8	4,496.3	4,467.8	9.5	9.6	154.91	217.3	393.2	804.7	804.7	786.1	18.62	43.212			
4,600.0	4,565.5	4,595.0	4,566.5	9.7	9.7	155.37	217.3	393.2	818.9	818.9	800.0	18.89	43.344			
4,700.0	4,664.3	4,693.8	4,665.3	9.9	9.8	155.82	217.3	393.2	833.2	833.2	814.0	19.17	43.468			
4,800.0	4,763.1	4,792.6	4,764.1	10.1	9.8	156.25	217.3	393.2	847.5	847.5	828.1	19.44	43.588			

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 702H - OWB - PWP1														Offset Site Error: 0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+SAG+FDIR, 11947-r.5 MWD+IFR1+SAG+FDIR														Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance				Warning
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		
4,900.0	4,861.8	4,891.3	4,862.8	10.3	9.9	156.67	217.3	393.2	861.9	842.2	19.72	43.705		
5,000.0	4,960.6	4,990.1	4,961.6	10.5	10.0	157.07	217.3	393.2	876.3	856.3	20.00	43.819		
5,100.0	5,059.4	5,088.9	5,060.4	10.7	10.1	157.46	217.3	393.2	890.8	870.5	20.28	43.929		
5,192.4	5,150.7	5,180.2	5,151.7	10.9	10.2	157.81	217.3	393.2	904.1	883.6	20.53	44.043		
5,200.0	5,158.1	5,187.6	5,159.1	10.9	10.2	157.85	217.3	393.2	905.2	884.7	20.55	44.061		
5,300.0	5,257.1	5,286.6	5,258.1	11.1	10.3	158.24	217.3	393.2	918.9	898.0	20.89	43.994		
5,400.0	5,356.2	5,385.7	5,357.2	11.3	10.4	158.58	217.3	393.2	930.9	909.7	21.16	43.992		
5,500.0	5,455.6	5,485.1	5,456.6	11.5	10.5	158.87	217.3	393.2	941.3	919.9	21.43	43.924		
5,600.0	5,555.1	5,584.6	5,556.1	11.7	10.5	159.10	217.3	393.2	950.1	928.4	21.70	43.792		
5,700.0	5,654.8	5,684.3	5,655.8	11.9	10.6	159.29	217.3	393.2	957.4	935.4	21.96	43.601		
5,800.0	5,754.7	5,784.2	5,755.7	12.0	10.7	159.44	217.3	393.2	963.0	940.7	22.21	43.353		
5,900.0	5,854.6	5,884.1	5,855.6	12.2	10.8	159.54	217.3	393.2	966.9	944.5	22.46	43.055		
6,000.0	5,954.5	5,984.0	5,955.5	12.3	10.9	159.60	217.3	393.2	969.2	946.6	22.69	42.713		
6,092.5	6,047.0	6,076.5	6,048.0	12.4	11.0	89.45	217.3	393.2	969.9	947.1	22.86	42.426		
6,100.0	6,054.5	6,084.0	6,055.5	12.4	11.0	89.45	217.3	393.2	969.9	947.1	22.87	42.412		
6,200.0	6,154.5	6,184.0	6,155.5	12.6	11.1	89.45	217.3	393.2	969.9	946.9	23.08	42.022		
6,300.0	6,254.5	6,284.0	6,255.5	12.6	11.2	89.45	217.3	393.2	969.9	946.7	23.24	41.744		
6,400.0	6,354.5	6,384.0	6,355.5	12.7	11.2	89.45	217.3	393.2	969.9	946.6	23.39	41.470		
6,500.0	6,454.5	6,484.0	6,455.5	12.8	11.3	89.45	217.3	393.2	969.9	946.4	23.54	41.199		
6,600.0	6,554.5	6,584.0	6,555.5	12.8	11.4	89.45	217.3	393.2	969.9	946.2	23.70	40.932		
6,700.0	6,654.5	6,684.0	6,655.5	12.9	11.5	89.45	217.3	393.2	969.9	946.1	23.85	40.668		
6,800.0	6,754.5	6,784.0	6,755.5	13.0	11.6	89.45	217.3	393.2	969.9	945.9	24.00	40.407		
6,900.0	6,854.5	6,884.0	6,855.5	13.0	11.7	89.45	217.3	393.2	969.9	945.8	24.16	40.149		
7,000.0	6,954.5	6,984.0	6,955.5	13.1	11.8	89.45	217.3	393.2	969.9	945.6	24.31	39.894		
7,100.0	7,054.5	7,084.0	7,055.5	13.2	11.9	89.45	217.3	393.2	969.9	945.5	24.47	39.643		
7,200.0	7,154.5	7,184.0	7,155.5	13.2	11.9	89.45	217.3	393.2	969.9	945.3	24.62	39.394		
7,300.0	7,254.5	7,284.0	7,255.5	13.3	12.0	89.45	217.3	393.2	969.9	945.2	24.78	39.149		
7,400.0	7,354.5	7,384.0	7,355.5	13.4	12.1	89.45	217.3	393.2	969.9	945.0	24.93	38.906		
7,500.0	7,454.5	7,484.0	7,455.5	13.4	12.2	89.45	217.3	393.2	969.9	944.9	25.09	38.666		
7,600.0	7,554.5	7,584.0	7,555.5	13.5	12.3	89.45	217.3	393.2	969.9	944.7	25.24	38.429		
7,700.0	7,654.5	7,684.0	7,655.5	13.6	12.4	89.45	217.3	393.2	969.9	944.6	25.39	38.195		
7,800.0	7,754.5	7,784.0	7,755.5	13.6	12.5	89.45	217.3	393.2	969.9	944.4	25.55	37.964		
7,900.0	7,854.5	7,884.0	7,855.5	13.7	12.5	89.45	217.3	393.2	969.9	944.2	25.70	37.735		
8,000.0	7,954.5	7,984.0	7,955.5	13.8	12.6	89.45	217.3	393.2	969.9	944.1	25.86	37.509		
8,100.0	8,054.5	8,084.0	8,055.5	13.9	12.7	89.45	217.3	393.2	969.9	943.9	26.01	37.285		
8,200.0	8,154.5	8,184.0	8,155.5	13.9	12.8	89.45	217.3	393.2	969.9	943.8	26.17	37.064		
8,300.0	8,254.5	8,284.0	8,255.5	14.0	12.9	89.45	217.3	393.2	969.9	943.6	26.32	36.846		
8,400.0	8,354.5	8,384.0	8,355.5	14.1	13.0	89.45	217.3	393.2	969.9	943.5	26.48	36.629		
8,500.0	8,454.5	8,484.0	8,455.5	14.1	13.1	89.45	217.3	393.2	969.9	943.3	26.64	36.416		
8,600.0	8,554.5	8,584.0	8,555.5	14.2	13.1	89.45	217.3	393.2	969.9	943.2	26.79	36.205		
8,700.0	8,654.5	8,684.0	8,655.5	14.3	13.2	89.45	217.3	393.2	969.9	943.0	26.95	35.996		
8,800.0	8,754.5	8,784.0	8,755.5	14.4	13.3	89.45	217.3	393.2	969.9	942.8	27.10	35.789		
8,900.0	8,854.5	8,884.0	8,855.5	14.4	13.4	89.45	217.3	393.2	969.9	942.7	27.26	35.585		
9,000.0	8,954.5	8,984.0	8,955.5	14.5	13.5	89.45	217.3	393.2	969.9	942.5	27.41	35.383		
9,100.0	9,054.5	9,084.0	9,055.5	14.6	13.6	89.45	217.3	393.2	969.9	942.4	27.57	35.183		
9,200.0	9,154.5	9,184.0	9,155.5	14.6	13.7	89.45	217.3	393.2	969.9	942.2	27.72	34.985		
9,300.0	9,254.5	9,284.0	9,255.5	14.7	13.7	89.45	217.3	393.2	969.9	942.1	27.88	34.790		
9,400.0	9,354.5	9,384.0	9,355.5	14.8	13.8	89.45	217.3	393.2	969.9	941.9	28.04	34.596		
9,500.0	9,454.5	9,484.0	9,455.5	14.9	13.9	89.45	217.3	393.2	969.9	941.8	28.19	34.405		
9,600.0	9,554.5	9,584.0	9,555.5	14.9	14.0	89.45	217.3	393.2	969.9	941.6	28.35	34.215		
9,700.0	9,654.5	9,684.0	9,655.5	15.0	14.1	89.45	217.3	393.2	969.9	941.4	28.50	34.028		

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 702H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1200-r.5 MWD+IFR1+SAG+FDIR, 11947-r.5 MWD+IFR1+SAG+FDIR													Offset Well Error:	0.0 usft
Rule Assigned:														
Measured Reference	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		No-Go	Separation	Warning	
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor		
9,800.0	9,754.5	9,784.0	9,755.5	15.1	14.2	89.45	217.3	393.2	969.9	941.3	28.66	33.843		
9,900.0	9,854.5	9,884.0	9,855.5	15.1	14.3	89.45	217.3	393.2	969.9	941.1	28.82	33.659		
10,000.0	9,954.5	9,984.0	9,955.5	15.2	14.3	89.45	217.3	393.2	969.9	941.0	28.97	33.478		
10,100.0	10,054.5	10,084.0	10,055.5	15.3	14.4	89.45	217.3	393.2	969.9	940.8	29.13	33.298		
10,200.0	10,154.5	10,184.0	10,155.5	15.4	14.5	89.45	217.3	393.2	969.9	940.7	29.29	33.120		
10,300.0	10,254.5	10,284.0	10,255.5	15.4	14.6	89.45	217.3	393.2	969.9	940.5	29.44	32.944		
10,400.0	10,354.5	10,384.0	10,355.5	15.5	14.7	89.45	217.3	393.2	969.9	940.3	29.60	32.770		
10,500.0	10,454.5	10,484.0	10,455.5	15.6	14.8	89.45	217.3	393.2	969.9	940.2	29.75	32.598		
10,536.0	10,490.5	10,520.0	10,491.5	15.6	14.8	89.45	217.3	393.2	969.9	940.2	29.79	32.555		
10,550.0	10,504.5	10,534.0	10,505.5	15.6	14.8	-90.19	217.3	393.2	969.9	940.1	29.81	32.541		
10,575.0	10,529.5	10,559.0	10,530.5	15.6	14.8	-90.27	217.3	393.2	970.0	940.1	29.83	32.516		
10,600.0	10,554.3	10,583.8	10,555.3	15.6	14.9	-90.43	217.3	393.2	970.0	940.1	29.85	32.494		
10,625.0	10,579.0	10,608.5	10,580.0	15.6	14.9	-90.65	217.3	393.2	970.0	940.1	29.87	32.473		
10,650.0	10,603.5	10,632.9	10,604.5	15.6	14.9	-90.95	217.3	393.2	970.1	940.2	29.89	32.455		
10,675.0	10,627.6	10,657.1	10,628.6	15.6	14.9	-91.31	217.3	393.2	970.2	940.3	29.91	32.440		
10,700.0	10,651.3	10,680.8	10,652.3	15.6	14.9	-91.72	217.3	393.2	970.4	940.5	29.92	32.429		
10,725.0	10,674.6	10,704.1	10,675.6	15.6	15.0	-92.17	217.3	393.2	970.8	940.8	29.94	32.424		
10,750.0	10,697.4	10,726.9	10,698.4	15.6	15.0	-92.67	217.3	393.2	971.2	941.3	29.95	32.424		
10,775.0	10,719.7	10,749.2	10,720.7	15.6	15.0	-93.19	217.3	393.2	971.9	941.9	29.97	32.431		
10,800.0	10,741.3	10,770.8	10,742.3	15.7	15.0	-93.72	217.3	393.2	972.8	942.8	29.98	32.447		
10,825.0	10,762.2	10,791.7	10,763.2	15.7	15.0	-94.26	217.3	393.2	973.9	943.9	29.99	32.472		
10,850.0	10,782.4	10,811.9	10,783.4	15.7	15.1	-94.78	217.3	393.2	975.3	945.3	30.00	32.508		
10,875.0	10,801.8	10,831.3	10,802.8	15.7	15.1	-95.29	217.3	393.2	977.1	947.1	30.01	32.556		
10,900.0	10,820.3	10,849.8	10,821.3	15.7	15.1	-95.75	217.3	393.2	979.3	949.3	30.02	32.617		
10,925.0	10,837.9	10,867.4	10,838.9	15.7	15.1	-96.17	217.3	393.2	981.9	951.9	30.03	32.694		
10,950.0	10,854.6	10,884.1	10,855.6	15.8	15.1	-96.53	217.3	393.2	985.0	954.9	30.04	32.785		
10,975.0	10,870.2	10,899.7	10,871.2	15.8	15.1	-96.81	217.3	393.2	988.6	958.5	30.05	32.894		
11,000.0	10,884.9	10,914.4	10,885.9	15.8	15.1	-97.00	217.3	393.2	992.7	962.6	30.06	33.020		
11,025.0	10,898.4	10,927.9	10,899.4	15.8	15.2	-97.10	217.3	393.2	997.4	967.3	30.07	33.165		

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 703H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 11926-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning				
0.0	0.0	0.0	0.0	0.0	0.0	89.42	0.2	19.9	19.9								
100.0	100.0	100.0	100.0	0.6	0.6	89.42	0.2	19.9	19.9	18.0	1.94	10.246					
200.0	200.0	200.0	200.0	1.1	1.1	89.42	0.2	19.9	19.9	17.0	2.88	6.914					
300.0	300.0	300.0	300.0	1.4	1.4	89.42	0.2	19.9	19.9	16.4	3.50	5.679					
400.0	400.0	400.0	400.0	1.7	1.7	89.42	0.2	19.9	19.9	15.9	4.01	4.965					
500.0	500.0	500.0	500.0	1.9	1.9	89.42	0.2	19.9	19.9	15.5	4.44	4.479					
600.0	600.0	600.0	600.0	2.1	2.1	89.42	0.2	19.9	19.9	15.1	4.83	4.120					
700.0	700.0	700.0	700.0	2.3	2.3	89.42	0.2	19.9	19.9	14.7	5.18	3.839					
800.0	800.0	800.0	800.0	2.5	2.5	89.42	0.2	19.9	19.9	14.4	5.51	3.612					
900.0	900.0	900.0	900.0	2.7	2.7	89.42	0.2	19.9	19.9	14.1	5.81	3.422					
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	89.42	0.2	19.9	19.9	13.8	6.10	3.261					
1,100.0	1,100.0	1,100.0	1,100.0	3.1	3.1	89.42	0.2	19.9	19.9	13.5	6.37	3.122					
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.2	89.42	0.2	19.9	19.9	13.3	6.63	3.000	Normal Operations				
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.4	89.42	0.2	19.9	19.9	13.0	6.88	2.891	Normal Operations				
1,400.0	1,400.0	1,400.0	1,400.0	3.5	3.5	89.42	0.2	19.9	19.9	12.8	7.12	2.794	Normal Operations				
1,500.0	1,500.0	1,500.0	1,500.0	3.7	3.7	89.42	0.2	19.9	19.9	12.5	7.35	2.707	Normal Operations, CC, ES, SF				
1,600.0	1,600.0	1,600.0	1,600.0	3.8	3.8	161.20	0.2	19.9	21.5	14.0	7.54	2.856	Normal Operations				
1,700.0	1,699.8	1,699.8	1,699.8	4.1	4.0	164.81	0.2	19.9	26.6	18.6	7.99	3.322					
1,800.0	1,799.5	1,799.5	1,799.5	4.3	4.1	168.52	0.2	19.9	35.0	26.6	8.44	4.153					
1,900.0	1,898.7	1,898.7	1,898.7	4.6	4.3	171.44	0.2	19.9	47.0	38.2	8.87	5.304					
1,950.0	1,948.2	1,948.2	1,948.2	4.6	4.3	172.58	0.2	19.9	54.4	45.4	8.98	6.051					
2,000.0	1,997.5	1,997.5	1,997.5	4.7	4.4	173.51	0.2	19.9	62.1	53.0	9.09	6.836					
2,100.0	2,096.3	2,096.3	2,096.3	4.9	4.6	174.81	0.2	19.9	77.7	68.2	9.47	8.202					
2,200.0	2,195.1	2,195.1	2,195.1	5.1	4.8	175.68	0.2	19.9	93.3	83.5	9.84	9.483					
2,300.0	2,293.8	2,297.2	2,297.2	5.2	5.0	175.99	1.2	18.6	107.4	97.1	10.28	10.446					
2,400.0	2,392.6	2,400.4	2,400.2	5.4	5.2	175.55	4.5	14.4	118.3	107.6	10.72	11.036					
2,500.0	2,491.4	2,504.2	2,503.6	5.6	5.4	174.51	10.2	7.2	125.8	114.7	11.13	11.308					
2,600.0	2,590.1	2,605.9	2,604.6	5.8	5.5	173.05	17.6	-2.2	130.6	119.2	11.39	11.474					
2,700.0	2,688.9	2,705.7	2,703.7	6.0	5.6	171.65	25.1	-11.8	135.2	123.5	11.72	11.535					
2,800.0	2,787.7	2,805.5	2,802.8	6.2	5.8	170.34	32.6	-21.4	139.9	127.8	12.06	11.598					
2,900.0	2,886.5	2,905.4	2,901.9	6.4	5.9	169.12	40.1	-31.0	144.6	132.2	12.40	11.662					
3,000.0	2,985.2	3,005.2	3,001.0	6.6	6.1	167.97	47.7	-40.5	149.4	136.6	12.74	11.727					
3,100.0	3,084.0	3,105.1	3,100.1	6.8	6.2	166.90	55.2	-50.1	154.2	141.1	13.08	11.792					
3,200.0	3,182.8	3,204.9	3,199.2	6.9	6.4	165.89	62.7	-59.7	159.1	145.7	13.42	11.857					
3,300.0	3,281.5	3,304.7	3,298.3	7.1	6.6	164.94	70.2	-69.2	164.0	150.2	13.76	11.922					
3,400.0	3,380.3	3,404.6	3,397.3	7.3	6.7	164.05	77.7	-78.8	169.0	154.9	14.10	11.988					
3,500.0	3,479.1	3,504.4	3,496.4	7.5	6.9	163.20	85.3	-88.4	174.0	159.6	14.43	12.053					
3,600.0	3,577.8	3,604.3	3,595.5	7.7	7.0	162.41	92.8	-98.0	179.0	164.3	14.77	12.119					
3,700.0	3,676.6	3,704.1	3,694.6	7.9	7.2	161.66	100.3	-107.5	184.1	169.0	15.11	12.183					
3,800.0	3,775.4	3,804.0	3,793.7	8.1	7.4	160.95	107.8	-117.1	189.2	173.8	15.45	12.248					
3,900.0	3,874.1	3,903.8	3,892.8	8.3	7.5	160.28	115.3	-126.7	194.4	178.6	15.79	12.312					
4,000.0	3,972.9	4,003.6	3,991.9	8.5	7.7	159.64	122.8	-136.2	199.5	183.4	16.12	12.375					
4,100.0	4,071.7	4,103.5	4,091.0	8.7	7.9	159.03	130.4	-145.8	204.7	188.3	16.46	12.438					
4,200.0	4,170.4	4,203.3	4,190.1	8.9	8.1	158.46	137.9	-155.4	209.9	193.1	16.79	12.500					
4,300.0	4,269.2	4,303.2	4,289.2	9.1	8.2	157.91	145.4	-165.0	215.2	198.0	17.13	12.561					
4,400.0	4,368.0	4,403.0	4,388.3	9.3	8.4	157.39	152.9	-174.5	220.4	202.9	17.46	12.622					
4,500.0	4,466.8	4,502.9	4,487.4	9.5	8.6	156.89	160.4	-184.1	225.7	207.9	17.80	12.681					
4,600.0	4,565.5	4,602.7	4,586.5	9.7	8.7	156.41	168.0	-193.7	230.9	212.8	18.13	12.740					
4,700.0	4,664.3	4,702.5	4,685.6	9.9	8.9	155.96	175.5	-203.3	236.2	217.8	18.46	12.798					
4,800.0	4,763.1	4,802.4	4,784.7	10.1	9.1	155.53	183.0	-212.8	241.6	222.8	18.80	12.851					
4,900.0	4,861.8	4,900.0	4,881.7	10.3	9.3	155.24	189.9	-221.6	247.5	228.3	19.12	12.943					

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 703H - OWB - PWP1													Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2000-r.5 MWD+IFR1+SAG+FDIR, 11926-r.5 MWD+IFR1+SAG+FDIR													Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning			
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)						
5,000.0	4,960.6	4,995.9	4,977.1	10.5	9.4	155.23	195.6	-228.9	254.6	235.1	19.45	13.091				
5,100.0	5,059.4	5,092.4	5,073.3	10.7	9.6	155.46	200.4	-235.0	263.0	243.2	19.78	13.293				
5,192.4	5,150.7	5,181.3	5,162.0	10.9	9.7	155.86	203.9	-239.5	271.8	251.7	20.09	13.531				
5,200.0	5,158.1	5,188.6	5,169.3	10.9	9.8	155.90	204.2	-239.8	272.6	252.5	20.11	13.555				
5,300.0	5,257.1	5,284.6	5,265.2	11.1	9.9	156.50	207.0	-243.4	282.5	262.0	20.51	13.777				
5,400.0	5,356.2	5,380.4	5,361.0	11.3	10.1	157.13	208.8	-245.6	292.2	271.3	20.83	14.025				
5,500.0	5,455.6	5,476.2	5,456.8	11.5	10.2	157.80	209.6	-246.6	301.5	280.4	21.14	14.262				
5,600.0	5,555.1	5,574.6	5,555.1	11.7	10.3	158.47	209.6	-246.7	310.2	288.8	21.43	14.475				
5,700.0	5,654.8	5,674.3	5,654.8	11.9	10.4	159.01	209.6	-246.7	317.4	295.7	21.71	14.618				
5,800.0	5,754.7	5,774.1	5,754.7	12.0	10.4	159.41	209.6	-246.7	323.0	301.0	21.99	14.692				
5,900.0	5,854.6	5,874.0	5,854.6	12.2	10.5	159.68	209.6	-246.7	327.0	304.7	22.24	14.700				
6,000.0	5,954.5	5,974.0	5,954.5	12.3	10.6	159.84	209.6	-246.7	329.3	306.8	22.48	14.646				
6,092.5	6,047.0	6,066.4	6,047.0	12.4	10.7	89.72	209.6	-246.7	330.0	307.3	22.66	14.565				
6,100.0	6,054.5	6,074.0	6,054.5	12.4	10.7	89.72	209.6	-246.7	330.0	307.3	22.66	14.561				
6,200.0	6,154.5	6,174.0	6,154.5	12.6	10.8	89.72	209.6	-246.7	330.0	307.1	22.88	14.425				
6,300.0	6,254.5	6,274.0	6,254.5	12.6	10.9	89.72	209.6	-246.7	330.0	307.0	23.03	14.329				
6,400.0	6,354.5	6,374.0	6,354.5	12.7	11.0	89.72	209.6	-246.7	330.0	306.8	23.18	14.234				
6,500.0	6,454.5	6,474.0	6,454.5	12.8	11.0	89.72	209.6	-246.7	330.0	306.7	23.34	14.141				
6,600.0	6,554.5	6,574.0	6,554.5	12.8	11.1	89.72	209.6	-246.7	330.0	306.5	23.49	14.048				
6,700.0	6,654.5	6,674.0	6,654.5	12.9	11.2	89.72	209.6	-246.7	330.0	306.4	23.64	13.957				
6,800.0	6,754.5	6,774.0	6,754.5	13.0	11.3	89.72	209.6	-246.7	330.0	306.2	23.80	13.867				
6,900.0	6,854.5	6,874.0	6,854.5	13.0	11.4	89.72	209.6	-246.7	330.0	306.1	23.95	13.778				
7,000.0	6,954.5	6,974.0	6,954.5	13.1	11.5	89.72	209.6	-246.7	330.0	305.9	24.11	13.690				
7,100.0	7,054.5	7,074.0	7,054.5	13.2	11.6	89.72	209.6	-246.7	330.0	305.7	24.26	13.603				
7,200.0	7,154.5	7,174.0	7,154.5	13.2	11.6	89.72	209.6	-246.7	330.0	305.6	24.41	13.517				
7,300.0	7,254.5	7,274.0	7,254.5	13.3	11.7	89.72	209.6	-246.7	330.0	305.4	24.57	13.433				
7,400.0	7,354.5	7,374.0	7,354.5	13.4	11.8	89.72	209.6	-246.7	330.0	305.3	24.72	13.349				
7,500.0	7,454.5	7,474.0	7,454.5	13.4	11.9	89.72	209.6	-246.7	330.0	305.1	24.88	13.266				
7,600.0	7,554.5	7,574.0	7,554.5	13.5	12.0	89.72	209.6	-246.7	330.0	305.0	25.03	13.184				
7,700.0	7,654.5	7,674.0	7,654.5	13.6	12.1	89.72	209.6	-246.7	330.0	304.8	25.18	13.103				
7,800.0	7,754.5	7,774.0	7,754.5	13.6	12.2	89.72	209.6	-246.7	330.0	304.7	25.34	13.023				
7,900.0	7,854.5	7,874.0	7,854.5	13.7	12.2	89.72	209.6	-246.7	330.0	304.5	25.49	12.944				
8,000.0	7,954.5	7,974.0	7,954.5	13.8	12.3	89.72	209.6	-246.7	330.0	304.4	25.65	12.866				
8,100.0	8,054.5	8,074.0	8,054.5	13.9	12.4	89.72	209.6	-246.7	330.0	304.2	25.80	12.789				
8,200.0	8,154.5	8,174.0	8,154.5	13.9	12.5	89.72	209.6	-246.7	330.0	304.0	25.96	12.713				
8,300.0	8,254.5	8,274.0	8,254.5	14.0	12.6	89.72	209.6	-246.7	330.0	303.9	26.11	12.637				
8,400.0	8,354.5	8,374.0	8,354.5	14.1	12.7	89.72	209.6	-246.7	330.0	303.7	26.27	12.563				
8,500.0	8,454.5	8,474.0	8,454.5	14.1	12.8	89.72	209.6	-246.7	330.0	303.6	26.42	12.489				
8,600.0	8,554.5	8,574.0	8,554.5	14.2	12.8	89.72	209.6	-246.7	330.0	303.4	26.58	12.416				
8,700.0	8,654.5	8,674.0	8,654.5	14.3	12.9	89.72	209.6	-246.7	330.0	303.3	26.73	12.344				
8,800.0	8,754.5	8,774.0	8,754.5	14.4	13.0	89.72	209.6	-246.7	330.0	303.1	26.89	12.273				
8,900.0	8,854.5	8,874.0	8,854.5	14.4	13.1	89.72	209.6	-246.7	330.0	303.0	27.04	12.202				
9,000.0	8,954.5	8,974.0	8,954.5	14.5	13.2	89.72	209.6	-246.7	330.0	302.8	27.20	12.133				
9,100.0	9,054.5	9,074.0	9,054.5	14.6	13.3	89.72	209.6	-246.7	330.0	302.6	27.36	12.064				
9,200.0	9,154.5	9,174.0	9,154.5	14.6	13.3	89.72	209.6	-246.7	330.0	302.5	27.51	11.995				
9,300.0	9,254.5	9,274.0	9,254.5	14.7	13.4	89.72	209.6	-246.7	330.0	302.3	27.67	11.928				
9,400.0	9,354.5	9,374.0	9,354.5	14.8	13.5	89.72	209.6	-246.7	330.0	302.2	27.82	11.861				
9,500.0	9,454.5	9,474.0	9,454.5	14.9	13.6	89.72	209.6	-246.7	330.0	302.0	27.98	11.795				
9,600.0	9,554.5	9,574.0	9,554.5	14.9	13.7	89.72	209.6	-246.7	330.0	301.9	28.13	11.730				
9,700.0	9,654.5	9,674.0	9,654.5	15.0	13.8	89.72	209.6	-246.7	330.0	301.7	28.29	11.665				
9,800.0	9,754.5	9,774.0	9,754.5	15.1	13.9	89.72	209.6	-246.7	330.0	301.6	28.45	11.601				

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 703H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CTT, 2000-r.5 MWD+IFR1+SAG+FDIR, 11926-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Reference	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		No-Go	Separation	Warning				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor					
9,900.0	9,854.5	9,874.0	9,854.5	15.1	13.9	89.72	209.6	-246.7	330.0	301.4	28.60	11.538					
10,000.0	9,954.5	9,974.0	9,954.5	15.2	14.0	89.72	209.6	-246.7	330.0	301.2	28.76	11.475					
10,100.0	10,054.5	10,074.0	10,054.5	15.3	14.1	89.72	209.6	-246.7	330.0	301.1	28.91	11.413					
10,200.0	10,154.5	10,174.0	10,154.5	15.4	14.2	89.72	209.6	-246.7	330.0	300.9	29.07	11.352					
10,300.0	10,254.5	10,274.0	10,254.5	15.4	14.3	89.72	209.6	-246.7	330.0	300.8	29.23	11.291					
10,400.0	10,354.5	10,374.0	10,354.5	15.5	14.4	89.72	209.6	-246.7	330.0	300.6	29.38	11.231					
10,500.0	10,454.5	10,474.0	10,454.5	15.6	14.4	89.72	209.6	-246.7	330.0	300.5	29.54	11.172					
10,536.0	10,490.5	10,510.0	10,490.5	15.6	14.5	89.72	209.6	-246.7	330.0	300.4	29.58	11.157					
10,550.0	10,504.5	10,524.0	10,504.5	15.6	14.5	-89.94	209.6	-246.7	330.0	300.4	29.59	11.153					
10,558.9	10,513.4	10,532.9	10,513.4	15.6	14.5	-90.00	209.6	-246.7	330.0	300.4	29.60	11.151					
10,575.0	10,529.5	10,548.9	10,529.5	15.6	14.5	-90.18	209.6	-246.7	330.0	300.4	29.60	11.147					
10,600.0	10,554.3	10,573.8	10,554.3	15.6	14.5	-90.64	209.6	-246.7	330.0	300.4	29.61	11.145					
10,625.0	10,579.0	10,598.4	10,579.0	15.6	14.6	-91.32	209.6	-246.7	330.1	300.5	29.61	11.148					
10,650.0	10,603.5	10,622.9	10,603.5	15.6	14.6	-92.19	209.6	-246.7	330.3	300.7	29.60	11.157					
10,675.0	10,627.6	10,647.0	10,627.6	15.6	14.6	-93.25	209.6	-246.7	330.6	301.0	29.58	11.174					
10,700.0	10,651.3	10,670.8	10,651.3	15.6	14.6	-94.46	209.6	-246.7	331.1	301.6	29.56	11.203					
10,725.0	10,674.6	10,694.1	10,674.6	15.6	14.6	-95.81	209.6	-246.7	332.0	302.5	29.53	11.244					
10,750.0	10,697.4	10,716.9	10,697.4	15.6	14.7	-97.25	209.6	-246.7	333.3	303.8	29.49	11.303					
10,775.0	10,719.7	10,739.1	10,719.7	15.6	14.7	-98.77	209.6	-246.7	335.1	305.6	29.44	11.381					
10,800.0	10,741.3	10,760.7	10,741.3	15.7	14.7	-100.32	209.6	-246.7	337.5	308.1	29.39	11.483					
10,825.0	10,762.2	10,781.6	10,762.2	15.7	14.7	-101.86	209.6	-246.7	340.6	311.3	29.33	11.612					
10,850.0	10,782.4	10,801.8	10,782.4	15.7	14.7	-103.36	209.6	-246.7	344.5	315.3	29.27	11.770					
10,875.0	10,801.8	10,821.2	10,801.8	15.7	14.7	-104.78	209.6	-246.7	349.4	320.2	29.21	11.960					
10,900.0	10,820.3	10,839.7	10,820.3	15.7	14.8	-106.09	209.6	-246.7	355.3	326.1	29.16	12.185					
10,925.0	10,837.9	10,857.3	10,837.9	15.7	14.8	-107.25	209.6	-246.7	362.2	333.1	29.10	12.446					
10,950.0	10,854.6	10,874.0	10,854.6	15.8	14.8	-108.23	209.6	-246.7	370.3	341.2	29.05	12.745					
10,975.0	10,870.2	10,889.7	10,870.2	15.8	14.8	-109.00	209.6	-246.7	379.5	350.5	29.01	13.082					
11,000.0	10,884.9	10,904.3	10,884.9	15.8	14.8	-109.54	209.6	-246.7	389.9	361.0	28.97	13.458					
11,025.0	10,898.4	10,917.9	10,898.4	15.8	14.8	-109.81	209.6	-246.7	401.5	372.6	28.95	13.871					
11,050.0	10,910.9	10,930.3	10,910.9	15.9	14.8	-109.80	209.6	-246.7	414.3	385.3	28.93	14.321					
11,075.0	10,922.1	10,941.6	10,922.1	15.9	14.8	-109.47	209.6	-246.7	428.1	399.2	28.91	14.806					
11,100.0	10,932.2	10,951.7	10,932.2	15.9	14.9	-108.79	209.6	-246.7	443.0	414.1	28.91	15.324					
11,125.0	10,941.1	10,960.5	10,941.1	16.0	14.9	-107.73	209.6	-246.7	458.9	430.0	28.91	15.874					
11,150.0	10,948.8	10,968.2	10,948.8	16.0	14.9	-106.27	209.6	-246.7	475.8	446.9	28.92	16.454					
11,175.0	10,955.2	10,974.6	10,955.2	16.0	14.9	-104.37	209.6	-246.7	493.5	464.6	28.93	17.059					
11,200.0	10,960.3	10,979.7	10,960.3	16.1	14.9	-102.00	209.6	-246.7	511.9	483.0	28.94	17.689					
11,225.0	10,964.1	10,983.5	10,964.1	16.1	14.9	-99.13	209.6	-246.7	531.1	502.1	28.96	18.341					
11,250.0	10,966.6	10,986.1	10,966.6	16.2	14.9	-95.75	209.6	-246.7	550.8	521.8	28.97	19.010					
11,275.0	10,967.9	10,987.3	10,967.9	16.2	14.9	-91.86	209.6	-246.7	570.9	542.0	28.99	19.696					
11,286.0	10,968.0	10,987.4	10,968.0	16.2	14.9	-90.00	209.6	-246.7	580.0	551.0	28.99	20.002					
11,300.0	10,968.0	10,987.4	10,968.0	16.2	14.9	-90.00	209.6	-246.7	591.5	562.5	29.00	20.395					
11,400.0	10,968.0	10,987.4	10,968.0	16.5	14.9	-90.00	209.6	-246.7	676.8	647.7	29.08	23.273					
11,500.0	10,968.0	10,987.4	10,968.0	16.7	14.9	-90.00	209.6	-246.7	765.7	736.5	29.16	26.254					
11,600.0	10,968.0	10,987.4	10,968.0	17.0	14.9	-90.00	209.6	-246.7	857.0	827.8	29.24	29.305					
11,700.0	10,968.0	10,987.4	10,968.0	17.3	14.9	-90.00	209.6	-246.7	950.1	920.7	29.32	32.402					

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 704H - OWB - PWP1													Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 11999-r.5 MWD+IFR1+SAG+FDIR													Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning			
0.0	0.0	0.0	0.0	0.0	0.0	-90.57	-0.2	-20.0	20.0							
100.0	100.0	100.0	100.0	0.6	0.6	-90.57	-0.2	-20.0	20.0	18.4	1.61	12.391				
200.0	200.0	200.0	200.0	1.1	1.1	-90.57	-0.2	-20.0	20.0	17.5	2.55	7.842				
300.0	300.0	300.0	300.0	1.4	1.4	-90.57	-0.2	-20.0	20.0	16.8	3.18	6.298				
400.0	400.0	400.0	400.0	1.7	1.7	-90.57	-0.2	-20.0	20.0	16.3	3.68	5.435				
500.0	500.0	500.0	500.0	1.9	1.9	-90.57	-0.2	-20.0	20.0	15.9	4.11	4.861				
600.0	600.0	600.0	600.0	2.1	2.1	-90.57	-0.2	-20.0	20.0	15.5	4.50	4.442				
700.0	700.0	700.0	700.0	2.3	2.3	-90.57	-0.2	-20.0	20.0	15.1	4.86	4.119				
800.0	800.0	800.0	800.0	2.5	2.5	-90.57	-0.2	-20.0	20.0	14.8	5.18	3.860				
900.0	900.0	900.0	900.0	2.7	2.7	-90.57	-0.2	-20.0	20.0	14.5	5.49	3.645				
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	-90.57	-0.2	-20.0	20.0	14.2	5.77	3.464				
1,100.0	1,100.0	1,100.0	1,100.0	3.1	3.1	-90.57	-0.2	-20.0	20.0	14.0	6.05	3.308				
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.2	-90.57	-0.2	-20.0	20.0	13.7	6.31	3.171	CC, ES, SF			
1,300.0	1,300.0	1,299.3	1,299.3	3.4	3.4	-89.50	0.2	-21.7	21.7	15.0	6.70	3.235				
1,400.0	1,400.0	1,398.3	1,398.2	3.5	3.6	-87.11	1.3	-26.7	26.8	19.7	7.09	3.776				
1,500.0	1,500.0	1,496.9	1,496.4	3.7	3.8	-84.67	3.3	-35.0	35.3	27.8	7.47	4.725				
1,600.0	1,600.0	1,595.0	1,593.7	3.8	4.1	-13.00	5.9	-46.5	45.6	37.7	7.94	5.743				
1,700.0	1,699.8	1,692.7	1,690.3	4.1	4.3	-12.46	9.3	-61.2	55.9	47.4	8.52	6.555				
1,800.0	1,799.5	1,790.2	1,786.0	4.3	4.6	-12.43	13.4	-79.0	66.1	57.1	9.08	7.285				
1,900.0	1,898.7	1,887.2	1,880.7	4.6	4.9	-12.70	18.3	-99.9	76.4	66.8	9.60	7.955				
1,950.0	1,948.2	1,936.7	1,928.6	4.6	5.0	-12.94	21.0	-111.6	81.3	71.5	9.75	8.336				
2,000.0	1,997.5	1,986.4	1,976.9	4.7	5.1	-13.23	23.7	-123.3	85.8	75.9	9.88	8.677				
2,100.0	2,096.3	2,086.0	2,073.6	4.9	5.2	-13.74	29.1	-146.8	94.7	84.5	10.25	9.245				
2,200.0	2,195.1	2,185.6	2,170.2	5.1	5.4	-14.16	34.5	-170.2	103.7	93.1	10.62	9.770				
2,300.0	2,293.8	2,285.2	2,266.8	5.2	5.6	-14.51	40.0	-193.7	112.7	101.7	10.99	10.257				
2,400.0	2,392.6	2,384.8	2,363.5	5.4	5.8	-14.81	45.4	-217.2	121.7	110.4	11.37	10.708				
2,500.0	2,491.4	2,484.4	2,460.1	5.6	6.0	-15.07	50.8	-240.7	130.7	119.0	11.75	11.128				
2,600.0	2,590.1	2,584.0	2,556.7	5.8	6.2	-15.29	56.3	-264.2	139.7	127.6	12.13	11.519				
2,700.0	2,688.9	2,683.6	2,653.4	6.0	6.4	-15.49	61.7	-287.6	148.7	136.2	12.52	11.885				
2,800.0	2,787.7	2,783.2	2,750.0	6.2	6.6	-15.67	67.1	-311.1	157.7	144.8	12.90	12.226				
2,900.0	2,886.5	2,882.8	2,846.6	6.4	6.7	-15.82	72.5	-334.6	166.8	153.5	13.29	12.546				
3,000.0	2,985.2	2,982.4	2,943.3	6.6	6.9	-15.96	78.0	-358.1	175.8	162.1	13.68	12.846				
3,100.0	3,084.0	3,082.0	3,039.9	6.8	7.1	-16.09	83.4	-381.5	184.8	170.7	14.08	13.128				
3,200.0	3,182.8	3,181.5	3,136.5	6.9	7.4	-16.20	88.8	-405.0	193.8	179.3	14.47	13.393				
3,300.0	3,281.5	3,281.1	3,233.2	7.1	7.6	-16.31	94.3	-428.5	202.8	187.9	14.86	13.644				
3,400.0	3,380.3	3,380.7	3,329.8	7.3	7.8	-16.40	99.7	-452.0	211.8	196.6	15.26	13.880				
3,500.0	3,479.1	3,480.3	3,426.4	7.5	8.0	-16.49	105.1	-475.5	220.8	205.2	15.66	14.103				
3,600.0	3,577.8	3,579.9	3,523.1	7.7	8.2	-16.57	110.5	-498.9	229.8	213.8	16.06	14.315				
3,700.0	3,676.6	3,679.5	3,619.7	7.9	8.4	-16.65	116.0	-522.4	238.9	222.4	16.46	14.515				
3,800.0	3,775.4	3,779.1	3,716.3	8.1	8.6	-16.72	121.4	-545.9	247.9	231.0	16.86	14.705				
3,900.0	3,874.1	3,878.7	3,812.9	8.3	8.8	-16.78	126.8	-569.4	256.9	239.6	17.26	14.886				
4,000.0	3,972.9	3,978.3	3,909.6	8.5	9.0	-16.84	132.3	-592.9	265.9	248.2	17.66	15.058				
4,100.0	4,071.7	4,077.9	4,006.2	8.7	9.2	-16.90	137.7	-616.3	274.9	256.9	18.06	15.221				
4,200.0	4,170.4	4,177.5	4,102.8	8.9	9.4	-16.95	143.1	-639.8	283.9	265.5	18.46	15.377				
4,300.0	4,269.2	4,277.1	4,199.5	9.1	9.7	-17.00	148.5	-663.3	292.9	274.1	18.87	15.526				
4,400.0	4,368.0	4,376.7	4,296.1	9.3	9.9	-17.05	154.0	-686.8	302.0	282.7	19.27	15.668				
4,500.0	4,466.8	4,476.2	4,392.7	9.5	10.1	-17.09	159.4	-710.2	311.0	291.3	19.68	15.804				
4,600.0	4,565.5	4,575.8	4,489.4	9.7	10.3	-17.13	164.8	-733.7	320.0	299.9	20.08	15.934				
4,700.0	4,664.3	4,675.4	4,586.0	9.9	10.5	-17.17	170.3	-757.2	329.0	308.5	20.49	16.059				
4,800.0	4,763.1	4,775.0	4,682.6	10.1	10.7	-17.21	175.7	-780.7	338.0	317.1	20.89	16.178				
4,900.0	4,861.8	4,878.0	4,782.6	10.3	10.9	-17.25	181.3	-804.8	346.9	325.6	21.29	16.297				

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 704H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 11999-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning				
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)							
5,000.0	4,960.6	4,987.7	4,889.6	10.5	11.2	-17.37	186.7	-828.1	353.5	331.8	21.73	16.269					
5,100.0	5,059.4	5,097.6	4,997.6	10.7	11.4	-17.57	191.4	-848.5	357.3	335.2	22.17	16.122					
5,192.4	5,150.7	5,199.4	5,098.0	10.9	11.6	-17.85	195.1	-864.6	358.4	335.8	22.54	15.897					
5,200.0	5,158.1	5,207.8	5,106.2	10.9	11.7	-17.87	195.4	-865.8	358.3	335.8	22.57	15.878					
5,300.0	5,257.1	5,317.8	5,215.4	11.1	11.9	-18.21	198.7	-880.1	357.5	334.5	23.02	15.532					
5,400.0	5,356.2	5,427.9	5,324.8	11.3	12.1	-18.56	201.3	-891.4	355.5	332.1	23.38	15.205					
5,500.0	5,455.6	5,537.8	5,434.3	11.5	12.3	-18.91	203.2	-899.5	352.3	328.6	23.71	14.857					
5,600.0	5,555.1	5,647.5	5,543.9	11.7	12.5	-19.27	204.3	-904.6	348.0	324.0	24.01	14.490					
5,700.0	5,654.8	5,757.0	5,653.4	11.9	12.6	-19.64	204.8	-906.6	342.5	318.3	24.24	14.129					
5,800.0	5,754.7	5,858.2	5,754.7	12.0	12.7	-19.97	204.8	-906.6	336.9	312.5	24.43	13.789					
5,900.0	5,854.6	5,958.1	5,854.6	12.2	12.8	-20.21	204.8	-906.6	332.9	308.3	24.64	13.512					
6,000.0	5,954.5	6,058.1	5,954.5	12.3	12.8	-20.35	204.8	-906.6	330.6	305.8	24.84	13.311					
6,092.5	6,047.0	6,150.6	6,047.0	12.4	12.9	-90.56	204.8	-906.6	329.9	304.9	24.98	13.206					
6,100.0	6,054.5	6,158.1	6,054.5	12.4	12.9	-90.56	204.8	-906.6	329.9	304.9	24.99	13.203					
6,200.0	6,154.5	6,258.1	6,154.5	12.6	13.0	-90.56	204.8	-906.6	329.9	304.7	25.17	13.106					
6,300.0	6,254.5	6,358.1	6,254.5	12.6	13.0	-90.56	204.8	-906.6	329.9	304.6	25.30	13.038					
6,400.0	6,354.5	6,458.1	6,354.5	12.7	13.1	-90.56	204.8	-906.6	329.9	304.5	25.44	12.971					
6,500.0	6,454.5	6,558.1	6,454.5	12.8	13.2	-90.56	204.8	-906.6	329.9	304.3	25.57	12.904					
6,600.0	6,554.5	6,658.1	6,554.5	12.8	13.2	-90.56	204.8	-906.6	329.9	304.2	25.70	12.838					
6,700.0	6,654.5	6,758.1	6,654.5	12.9	13.3	-90.56	204.8	-906.6	329.9	304.1	25.83	12.772					
6,800.0	6,754.5	6,858.1	6,754.5	13.0	13.4	-90.56	204.8	-906.6	329.9	304.0	25.96	12.707					
6,900.0	6,854.5	6,958.1	6,854.5	13.0	13.4	-90.56	204.8	-906.6	329.9	303.8	26.10	12.642					
7,000.0	6,954.5	7,058.1	6,954.5	13.1	13.5	-90.56	204.8	-906.6	329.9	303.7	26.23	12.578					
7,100.0	7,054.5	7,158.1	7,054.5	13.2	13.5	-90.56	204.8	-906.6	329.9	303.6	26.36	12.514					
7,200.0	7,154.5	7,258.1	7,154.5	13.2	13.6	-90.56	204.8	-906.6	329.9	303.4	26.50	12.451					
7,300.0	7,254.5	7,358.1	7,254.5	13.3	13.7	-90.56	204.8	-906.6	329.9	303.3	26.63	12.388					
7,400.0	7,354.5	7,458.1	7,354.5	13.4	13.7	-90.56	204.8	-906.6	329.9	303.1	26.77	12.326					
7,500.0	7,454.5	7,558.1	7,454.5	13.4	13.8	-90.56	204.8	-906.6	329.9	303.0	26.90	12.264					
7,600.0	7,554.5	7,658.1	7,554.5	13.5	13.9	-90.56	204.8	-906.6	329.9	302.9	27.04	12.203					
7,700.0	7,654.5	7,758.1	7,654.5	13.6	13.9	-90.56	204.8	-906.6	329.9	302.7	27.17	12.142					
7,800.0	7,754.5	7,858.1	7,754.5	13.6	14.0	-90.56	204.8	-906.6	329.9	302.6	27.31	12.082					
7,900.0	7,854.5	7,958.1	7,854.5	13.7	14.1	-90.56	204.8	-906.6	329.9	302.5	27.44	12.022					
8,000.0	7,954.5	8,058.1	7,954.5	13.8	14.2	-90.56	204.8	-906.6	329.9	302.3	27.58	11.963					
8,100.0	8,054.5	8,158.1	8,054.5	13.9	14.2	-90.56	204.8	-906.6	329.9	302.2	27.71	11.904					
8,200.0	8,154.5	8,258.1	8,154.5	13.9	14.3	-90.56	204.8	-906.6	329.9	302.1	27.85	11.845					
8,300.0	8,254.5	8,358.1	8,254.5	14.0	14.4	-90.56	204.8	-906.6	329.9	301.9	27.99	11.788					
8,400.0	8,354.5	8,458.1	8,354.5	14.1	14.4	-90.56	204.8	-906.6	329.9	301.8	28.13	11.730					
8,500.0	8,454.5	8,558.1	8,454.5	14.1	14.5	-90.56	204.8	-906.6	329.9	301.7	28.26	11.673					
8,600.0	8,554.5	8,658.1	8,554.5	14.2	14.6	-90.56	204.8	-906.6	329.9	301.5	28.40	11.616					
8,700.0	8,654.5	8,758.1	8,654.5	14.3	14.6	-90.56	204.8	-906.6	329.9	301.4	28.54	11.560					
8,800.0	8,754.5	8,858.1	8,754.5	14.4	14.7	-90.56	204.8	-906.6	329.9	301.2	28.68	11.504					
8,900.0	8,854.5	8,958.1	8,854.5	14.4	14.8	-90.56	204.8	-906.6	329.9	301.1	28.82	11.449					
9,000.0	8,954.5	9,058.1	8,954.5	14.5	14.8	-90.56	204.8	-906.6	329.9	301.0	28.95	11.394					
9,100.0	9,054.5	9,158.1	9,054.5	14.6	14.9	-90.56	204.8	-906.6	329.9	300.8	29.09	11.340					
9,200.0	9,154.5	9,258.1	9,154.5	14.6	15.0	-90.56	204.8	-906.6	329.9	300.7	29.23	11.286					
9,300.0	9,254.5	9,358.1	9,254.5	14.7	15.0	-90.56	204.8	-906.6	329.9	300.5	29.37	11.232					
9,400.0	9,354.5	9,458.1	9,354.5	14.8	15.1	-90.56	204.8	-906.6	329.9	300.4	29.51	11.179					
9,500.0	9,454.5	9,558.1	9,454.5	14.9	15.2	-90.56	204.8	-906.6	329.9	300.3	29.65	11.126					
9,600.0	9,554.5	9,658.1	9,554.5	14.9	15.3	-90.56	204.8	-906.6	329.9	300.1	29.79	11.074					
9,700.0	9,654.5	9,758.1	9,654.5	15.0	15.3	-90.56	204.8	-906.6	329.9	300.0	29.93	11.022					
9,800.0	9,754.5	9,858.1	9,754.5	15.1	15.4	-90.56	204.8	-906.6	329.9	299.8	30.07	10.971					

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - AVION FEDERAL COM 704H - OWB - PWP1														Offset Site Error:	0.0 usft		
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+SAG+FDIR, 11999-r.5 MWD+IFR1+SAG+FDIR														Rule Assigned:		Offset Well Error:	0.0 usft
Measured Reference	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		No-Go	Separation	Warning				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor					
9,900.0	9,854.5	9,958.1	9,854.5	15.1	15.5	-90.56	204.8	-906.6	329.9	299.7	30.21	10.920					
10,000.0	9,954.5	10,058.1	9,954.5	15.2	15.5	-90.56	204.8	-906.6	329.9	299.6	30.35	10.869					
10,100.0	10,054.5	10,158.1	10,054.5	15.3	15.6	-90.56	204.8	-906.6	329.9	299.4	30.49	10.819					
10,200.0	10,154.5	10,258.1	10,154.5	15.4	15.7	-90.56	204.8	-906.6	329.9	299.3	30.64	10.769					
10,300.0	10,254.5	10,358.1	10,254.5	15.4	15.7	-90.56	204.8	-906.6	329.9	299.1	30.78	10.719					
10,400.0	10,354.5	10,458.1	10,354.5	15.5	15.8	-90.56	204.8	-906.6	329.9	299.0	30.92	10.670					
10,500.0	10,454.5	10,558.1	10,454.5	15.6	15.9	-90.56	204.8	-906.6	329.9	298.9	31.06	10.621					
10,536.0	10,490.5	10,594.1	10,490.5	15.6	15.9	-90.56	204.8	-906.6	329.9	298.8	31.10	10.610					
10,550.0	10,504.5	10,608.1	10,504.5	15.6	15.9	89.85	204.8	-906.6	329.9	298.8	31.11	10.606					
10,567.7	10,522.2	10,625.8	10,522.2	15.6	15.9	90.00	204.8	-906.6	329.9	298.8	31.13	10.599					
10,575.0	10,529.5	10,633.1	10,529.5	15.6	15.9	90.09	204.8	-906.6	329.9	298.8	31.14	10.596					
10,600.0	10,554.3	10,657.9	10,554.3	15.6	16.0	90.56	204.8	-906.6	329.9	298.8	31.17	10.586					
10,625.0	10,579.0	10,682.6	10,579.0	15.6	16.0	91.23	204.8	-906.6	330.0	298.8	31.20	10.575					
10,650.0	10,603.5	10,707.0	10,603.5	15.6	16.0	92.11	204.8	-906.6	330.2	298.9	31.25	10.566					
10,675.0	10,627.6	10,731.2	10,627.6	15.6	16.0	93.16	204.8	-906.6	330.5	299.2	31.30	10.560					
10,700.0	10,651.3	10,754.9	10,651.3	15.6	16.0	94.38	204.8	-906.6	331.0	299.7	31.35	10.559					
10,725.0	10,674.6	10,778.2	10,674.6	15.6	16.0	95.73	204.8	-906.6	331.9	300.5	31.40	10.567					
10,750.0	10,697.4	10,801.0	10,697.4	15.6	16.1	97.18	204.8	-906.6	333.1	301.7	31.46	10.587					
10,775.0	10,719.7	10,823.2	10,719.7	15.6	16.1	98.70	204.8	-906.6	334.9	303.4	31.53	10.622					
10,800.0	10,741.3	10,844.9	10,741.3	15.7	16.1	100.25	204.8	-906.6	337.3	305.7	31.59	10.676					
10,825.0	10,762.2	10,865.8	10,762.2	15.7	16.1	101.79	204.8	-906.6	340.4	308.7	31.66	10.751					
10,850.0	10,782.4	10,886.0	10,782.4	15.7	16.1	103.30	204.8	-906.6	344.3	312.6	31.73	10.853					
10,875.0	10,801.8	10,905.3	10,801.8	15.7	16.1	104.72	204.8	-906.6	349.2	317.4	31.79	10.983					
10,900.0	10,820.3	10,923.9	10,820.3	15.7	16.1	106.03	204.8	-906.6	355.0	323.2	31.86	11.144					
10,925.0	10,837.9	10,941.5	10,837.9	15.7	16.2	107.20	204.8	-906.6	361.9	330.0	31.92	11.340					
10,950.0	10,854.6	10,958.1	10,854.6	15.8	16.2	108.18	204.8	-906.6	370.0	338.0	31.97	11.572					
10,975.0	10,870.2	10,973.8	10,870.2	15.8	16.2	108.96	204.8	-906.6	379.2	347.2	32.02	11.841					
11,000.0	10,884.9	10,988.4	10,884.9	15.8	16.2	109.50	204.8	-906.6	389.6	357.5	32.07	12.147					
11,025.0	10,898.4	11,002.0	10,898.4	15.8	16.2	109.78	204.8	-906.6	401.2	369.0	32.11	12.492					
11,050.0	10,910.9	11,014.4	10,910.9	15.9	16.2	109.77	204.8	-906.6	413.9	381.7	32.15	12.874					
11,075.0	10,922.1	11,025.7	10,922.1	15.9	16.2	109.44	204.8	-906.6	427.7	395.5	32.18	13.291					
11,100.0	10,932.2	11,035.8	10,932.2	15.9	16.2	108.76	204.8	-906.6	442.6	410.4	32.21	13.744					
11,125.0	10,941.1	11,044.7	10,941.1	16.0	16.2	107.71	204.8	-906.6	458.5	426.3	32.23	14.229					
11,150.0	10,948.8	11,052.3	10,948.8	16.0	16.2	106.25	204.8	-906.6	475.4	443.1	32.24	14.774					
11,175.0	10,955.2	11,058.7	10,955.2	16.0	16.2	104.35	204.8	-906.6	493.0	460.8	32.25	15.287					
11,200.0	10,960.3	11,063.8	10,960.3	16.1	16.3	101.98	204.8	-906.6	511.5	479.2	32.26	15.855					
11,225.0	10,964.1	11,067.7	10,964.1	16.1	16.3	99.12	204.8	-906.6	530.6	498.3	32.26	16.446					
11,250.0	10,966.6	11,070.2	10,966.6	16.2	16.3	95.74	204.8	-906.6	550.3	518.0	32.26	17.057					
11,275.0	10,967.9	11,071.4	10,967.9	16.2	16.3	91.86	204.8	-906.6	570.5	538.2	32.26	17.684					
11,286.0	10,968.0	11,071.6	10,968.0	16.2	16.3	90.00	204.8	-906.6	579.5	547.2	32.26	17.965					
11,300.0	10,968.0	11,071.6	10,968.0	16.2	16.3	90.00	204.8	-906.6	591.1	558.8	32.25	18.325					
11,400.0	10,968.0	11,071.6	10,968.0	16.5	16.3	90.00	204.8	-906.6	676.3	644.1	32.23	20.986					
11,500.0	10,968.0	11,071.6	10,968.0	16.7	16.3	90.00	204.8	-906.6	765.2	733.0	32.20	23.762					
11,600.0	10,968.0	11,071.6	10,968.0	17.0	16.3	90.00	204.8	-906.6	856.5	824.3	32.18	26.616					
11,700.0	10,968.0	11,071.6	10,968.0	17.3	16.3	90.00	204.8	-906.6	949.6	917.4	32.16	29.522					

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

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Offset Design: AVION FEDERAL COM PROJECT - GRUMPY CAT 15 FEDERAL 213H - OWB - AWP														Offset Site Error:	0.0 usft	
Survey Program: 72-MWD - OWSG R1										Rule Assigned:				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)						
9,800.0	9,754.5	15,671.0	10,705.0	15.1	93.5	32.85	349.7	-485.2	989.0	918.7	70.29	14.070				
9,900.0	9,854.5	15,671.0	10,705.0	15.1	93.5	32.85	349.7	-485.2	890.6	820.1	70.57	12.621				
10,000.0	9,954.5	15,671.0	10,705.0	15.2	93.5	32.85	349.7	-485.2	792.7	721.8	70.89	11.181				
10,100.0	10,054.5	15,671.0	10,705.0	15.3	93.5	32.85	349.7	-485.2	695.3	624.0	71.28	9.755				
10,200.0	10,154.5	15,671.0	10,705.0	15.4	93.5	32.85	349.7	-485.2	598.8	527.0	71.76	8.344				
10,300.0	10,254.5	15,671.0	10,705.0	15.4	93.5	32.85	349.7	-485.2	503.6	431.2	72.39	6.957				
10,400.0	10,354.5	15,671.0	10,705.0	15.5	93.5	32.85	349.7	-485.2	410.8	337.5	73.30	5.604				
10,500.0	10,454.5	15,671.0	10,705.0	15.6	93.5	32.85	349.7	-485.2	322.2	247.5	74.70	4.313				
10,536.0	10,490.5	15,671.0	10,705.0	15.6	93.5	32.85	349.7	-485.2	292.1	216.7	75.44	3.873				
10,550.0	10,504.5	15,671.0	10,705.0	15.6	93.5	-147.99	349.7	-485.2	280.9	205.2	75.73	3.710				
10,575.0	10,529.5	15,671.0	10,705.0	15.6	93.5	-149.76	349.7	-485.2	262.2	186.0	76.20	3.440				
10,600.0	10,554.3	15,671.0	10,705.0	15.6	93.5	-151.10	349.7	-485.2	245.4	168.8	76.57	3.205				
10,625.0	10,579.0	15,671.0	10,705.0	15.6	93.5	-152.11	349.7	-485.2	231.0	154.3	76.74	3.011				
10,650.0	10,603.5	15,671.0	10,705.0	15.6	93.5	-152.82	349.7	-485.2	219.6	143.0	76.63	2.866	Normal Operations			
10,675.0	10,627.6	15,671.0	10,705.0	15.6	93.5	-153.27	349.7	-485.2	211.7	135.6	76.16	2.780	Normal Operations			
10,700.0	10,651.3	15,671.0	10,705.0	15.6	93.5	-153.49	349.7	-485.2	207.7	132.5	75.28	2.759	Normal Operations, ES, SF			
10,711.7	10,662.3	15,671.0	10,705.0	15.6	93.5	-153.52	349.7	-485.2	207.3	132.5	74.75	2.773	Normal Operations, CC			
10,725.0	10,674.6	15,671.0	10,705.0	15.6	93.5	-153.49	349.7	-485.2	207.9	133.8	74.06	2.807	Normal Operations			
10,750.0	10,697.4	15,671.0	10,705.0	15.6	93.5	-153.25	349.7	-485.2	212.1	139.5	72.61	2.921	Normal Operations			
10,775.0	10,719.7	15,671.0	10,705.0	15.6	93.5	-152.78	349.7	-485.2	220.3	149.2	71.11	3.097				
10,800.0	10,741.3	15,671.0	10,705.0	15.7	93.5	-152.05	349.7	-485.2	231.9	162.2	69.71	3.326				
10,825.0	10,762.2	15,671.0	10,705.0	15.7	93.5	-151.03	349.7	-485.2	246.4	177.9	68.49	3.597				
10,850.0	10,782.4	15,671.0	10,705.0	15.7	93.5	-149.66	349.7	-485.2	263.3	195.8	67.49	3.901				
10,875.0	10,801.8	15,671.0	10,705.0	15.7	93.5	-147.86	349.7	-485.2	282.2	215.5	66.70	4.231				
10,900.0	10,820.3	15,671.0	10,705.0	15.7	93.5	-145.53	349.7	-485.2	302.6	236.5	66.09	4.579				
10,925.0	10,837.9	15,671.0	10,705.0	15.7	93.5	-142.50	349.7	-485.2	324.2	258.6	65.61	4.941				
10,950.0	10,854.6	15,671.0	10,705.0	15.8	93.5	-138.55	349.7	-485.2	346.7	281.4	65.24	5.314				
10,975.0	10,870.2	15,671.0	10,705.0	15.8	93.5	-133.35	349.7	-485.2	369.9	304.9	64.96	5.694				
11,000.0	10,884.9	15,671.0	10,705.0	15.8	93.5	-126.46	349.7	-485.2	393.6	328.9	64.72	6.081				
11,025.0	10,898.4	15,671.0	10,705.0	15.8	93.5	-117.37	349.7	-485.2	417.7	353.1	64.53	6.472				
11,050.0	10,910.9	15,671.0	10,705.0	15.9	93.5	-105.69	349.7	-485.2	442.0	377.6	64.37	6.867				
11,075.0	10,922.1	15,671.0	10,705.0	15.9	93.5	-91.67	349.7	-485.2	466.4	402.2	64.22	7.263				
11,100.0	10,932.2	15,671.0	10,705.0	15.9	93.5	-76.67	349.7	-485.2	491.0	426.9	64.08	7.661				
11,125.0	10,941.1	15,671.0	10,705.0	16.0	93.5	-62.69	349.7	-485.2	515.5	451.5	63.96	8.060				
11,150.0	10,948.8	15,671.0	10,705.0	16.0	93.5	-51.04	349.7	-485.2	539.9	476.1	63.83	8.459				
11,175.0	10,955.2	15,671.0	10,705.0	16.0	93.5	-41.94	349.7	-485.2	564.2	500.5	63.71	8.857				
11,200.0	10,960.3	15,671.0	10,705.0	16.1	93.5	-35.00	349.7	-485.2	588.4	524.8	63.58	9.254				
11,225.0	10,964.1	15,671.0	10,705.0	16.1	93.5	-29.69	349.7	-485.2	612.3	548.9	63.45	9.650				
11,250.0	10,966.6	15,671.0	10,705.0	16.2	93.5	-25.59	349.7	-485.2	636.0	572.7	63.32	10.043				
11,275.0	10,967.9	15,671.0	10,705.0	16.2	93.5	-22.35	349.7	-485.2	659.4	596.2	63.19	10.435				
11,286.0	10,968.0	15,671.0	10,705.0	16.2	93.5	-21.15	349.7	-485.2	669.6	606.4	63.13	10.606				
11,300.0	10,968.0	15,671.0	10,705.0	16.2	93.5	-21.15	349.7	-485.2	682.5	619.5	63.06	10.823				
11,400.0	10,968.0	15,671.0	10,705.0	16.5	93.5	-21.15	349.7	-485.2	776.1	713.5	62.67	12.384				
11,500.0	10,968.0	15,671.0	10,705.0	16.7	93.5	-21.15	349.7	-485.2	871.1	808.7	62.42	13.955				
11,600.0	10,968.0	15,671.0	10,705.0	17.0	93.5	-21.15	349.7	-485.2	967.2	904.9	62.27	15.533				

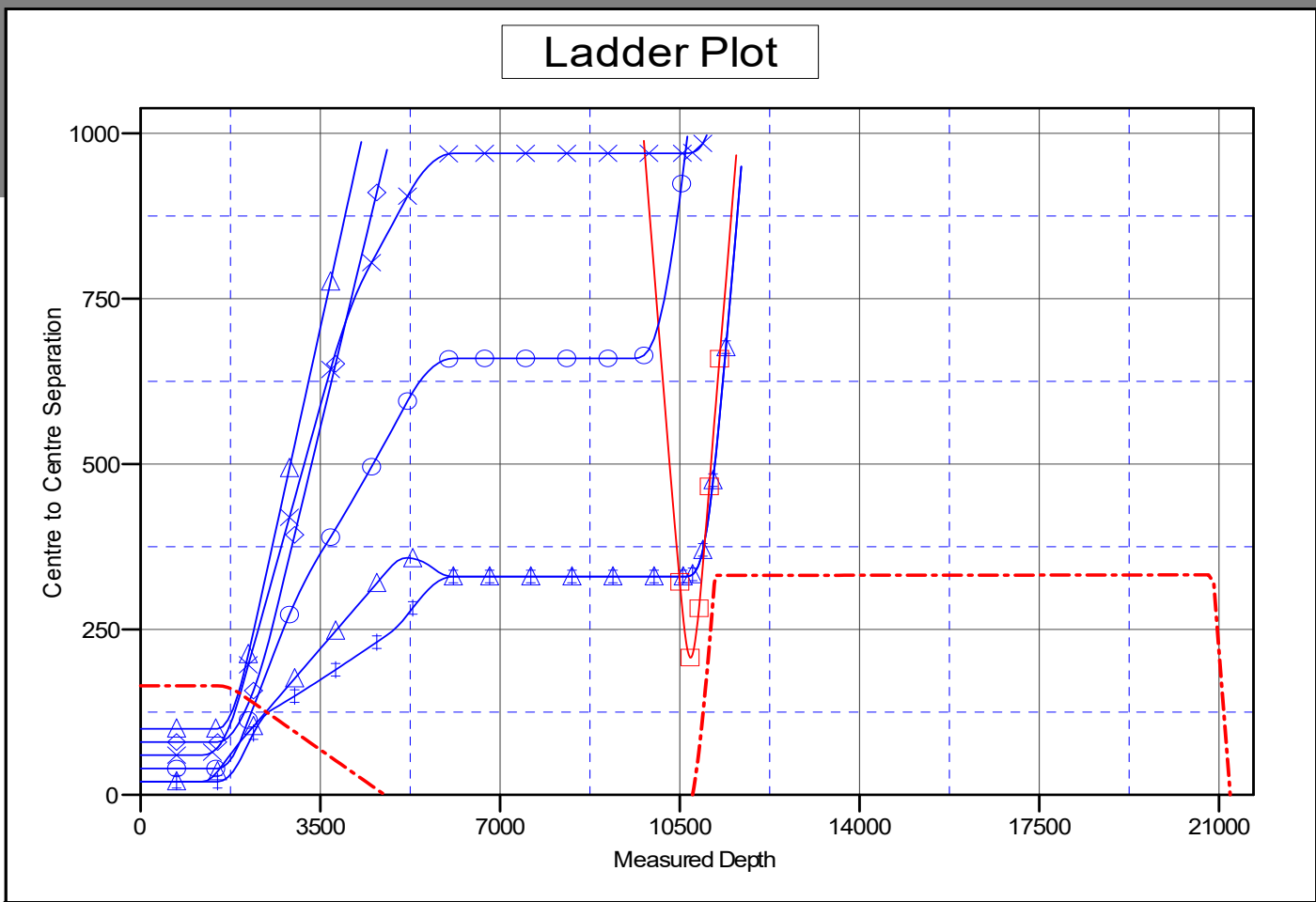
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Reference Depths are relative to RKB=27ft @ 3728.0usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: AVION FEDERAL COM 503H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.36°



LEGEND

AVION FEDERAL COM 704H, QWB, PWP1 V0	AVION FEDERAL COM 701H, QWB, PWP1 V0	AVION FEDERAL COM 702H, QWB, PWP1 V0
AVION FEDERAL COM 703H, QWB, PWP1 V0	AVION FEDERAL COM 502H, QWB, PWP1 V0	
GRUMPY CAT 15 FEDERAL 218H, QWB, AWP V0	AVION FEDERAL COM 501H, QWB, PWP1 V0	

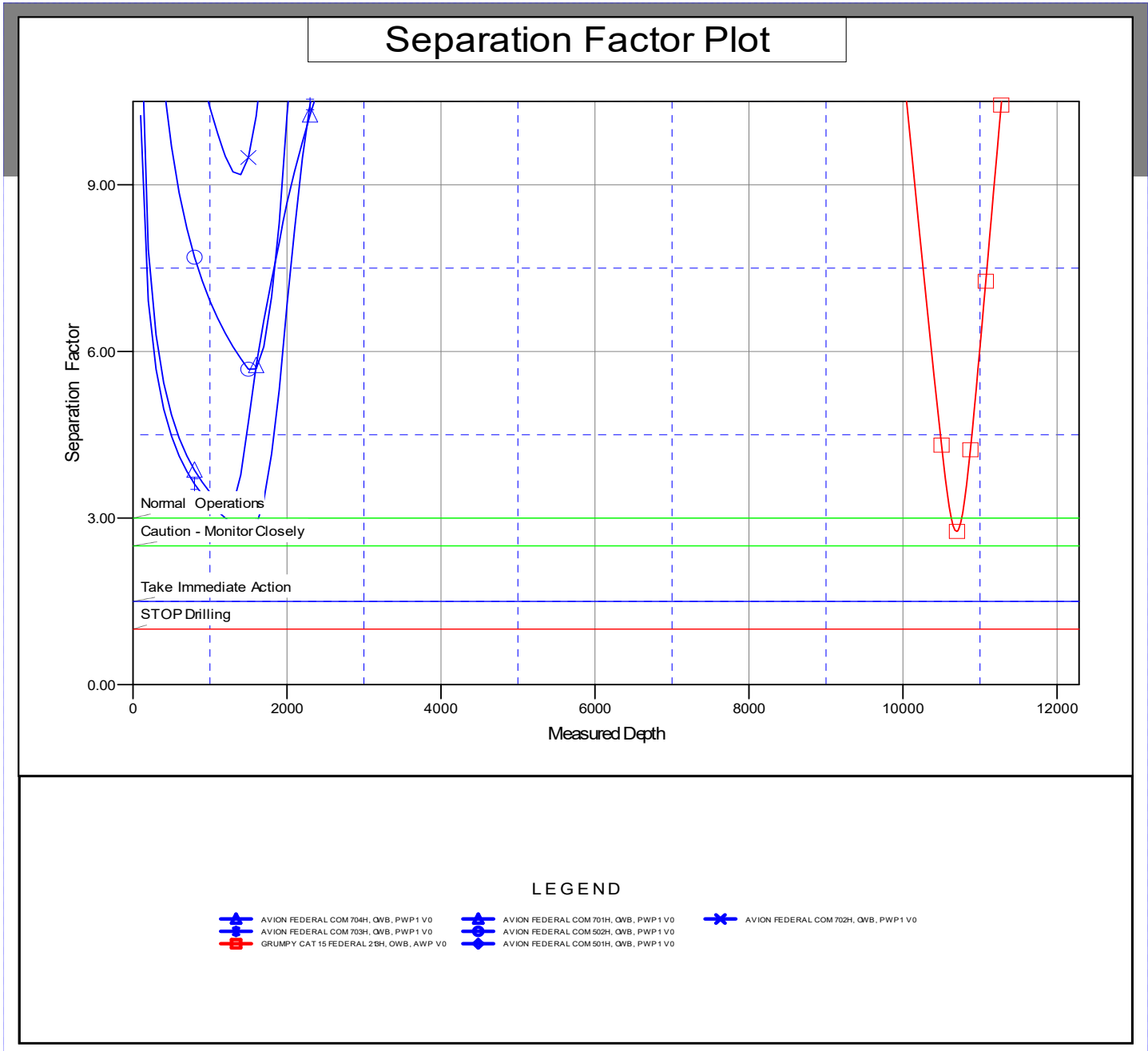
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Project:	LEA COUNTY SOUTHEAST	TVD Reference:	RKB=27ft @ 3728.0usft
Reference Site:	AVION FEDERAL COM PROJECT	MD Reference:	RKB=27ft @ 3728.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	AVION FEDERAL COM 503H	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:	Offset Datum

Reference Depths are relative to RKB=27ft @ 3728.0usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: AVION FEDERAL COM 503H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.36°



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

DELAWARE BASIN EAST

**LEA COUNTY SOUTHEAST
AVION FEDERAL COM PROJECT
AVION FEDERAL COM 503H**

OWB

Plan: PWP1

Standard Planning Report

12 January, 2025

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Project	LEA COUNTY SOUTHEAST		
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	AVION FEDERAL COM PROJECT				
Site Position:		Northing:	467,238.17 usft	Latitude:	32° 16' 57.890 N
From:	Map	Easting:	708,776.75 usft	Longitude:	103° 39' 27.986 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	AVION FEDERAL COM 503H					
Well Position	+N/-S	0.0 usft	Northing:	472,259.70 usft	Latitude:	32° 17' 47.588 N
	+E/-W	0.0 usft	Easting:	708,667.30 usft	Longitude:	103° 39' 28.893 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,701.0 usft
Grid Convergence:	0.36 °					

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2024	4/1/2025	6.30	59.88	47,320.70886600

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	182.84

Plan Survey Tool Program	Date	1/12/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	1,500.0 PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT SDI Keeper Wireline Gyrocomp	
2	1,500.0	10,536.0 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR ISCWSA MWD + IFR1 + SAG	
3	10,536.0	21,270.5 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR ISCWSA MWD + IFR1 + SAG	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,950.0	9.00	289.83	1,948.2	12.0	-33.2	2.00	2.00	0.00	289.83	
5,192.4	9.00	289.83	5,150.7	184.1	-510.3	0.00	0.00	0.00	0.00	
6,092.5	0.00	0.00	6,047.0	208.0	-576.7	1.00	-1.00	0.00	180.00	
10,536.0	0.00	0.00	10,490.5	208.0	-576.7	0.00	0.00	0.00	0.00	
11,286.0	90.00	179.63	10,968.0	-269.5	-573.6	12.00	12.00	23.95	179.63	
21,220.5	90.00	179.63	10,968.0	-10,203.7	-508.9	0.00	0.00	0.00	0.00	
21,270.5	90.00	179.63	10,968.0	-10,253.7	-508.6	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	2.00	289.83	1,600.0	0.6	-1.6	-0.5	2.00	2.00	0.00
1,700.0	4.00	289.83	1,699.8	2.4	-6.6	-2.0	2.00	2.00	0.00
1,800.0	6.00	289.83	1,799.5	5.3	-14.8	-4.6	2.00	2.00	0.00
1,900.0	8.00	289.83	1,898.7	9.5	-26.2	-8.1	2.00	2.00	0.00
1,950.0	9.00	289.83	1,948.2	12.0	-33.2	-10.3	2.00	2.00	0.00
2,000.0	9.00	289.83	1,997.5	14.6	-40.5	-12.6	0.00	0.00	0.00
2,100.0	9.00	289.83	2,096.3	19.9	-55.3	-17.2	0.00	0.00	0.00
2,200.0	9.00	289.83	2,195.1	25.2	-70.0	-21.7	0.00	0.00	0.00
2,300.0	9.00	289.83	2,293.8	30.5	-84.7	-26.3	0.00	0.00	0.00
2,400.0	9.00	289.83	2,392.6	35.9	-99.4	-30.9	0.00	0.00	0.00
2,500.0	9.00	289.83	2,491.4	41.2	-114.1	-35.5	0.00	0.00	0.00
2,600.0	9.00	289.83	2,590.1	46.5	-128.8	-40.0	0.00	0.00	0.00
2,700.0	9.00	289.83	2,688.9	51.8	-143.5	-44.6	0.00	0.00	0.00
2,800.0	9.00	289.83	2,787.7	57.1	-158.3	-49.2	0.00	0.00	0.00
2,900.0	9.00	289.83	2,886.5	62.4	-173.0	-53.7	0.00	0.00	0.00
3,000.0	9.00	289.83	2,985.2	67.7	-187.7	-58.3	0.00	0.00	0.00
3,100.0	9.00	289.83	3,084.0	73.0	-202.4	-62.9	0.00	0.00	0.00
3,200.0	9.00	289.83	3,182.8	78.3	-217.1	-67.5	0.00	0.00	0.00
3,300.0	9.00	289.83	3,281.5	83.6	-231.8	-72.0	0.00	0.00	0.00
3,400.0	9.00	289.83	3,380.3	88.9	-246.6	-76.6	0.00	0.00	0.00
3,500.0	9.00	289.83	3,479.1	94.2	-261.3	-81.2	0.00	0.00	0.00
3,600.0	9.00	289.83	3,577.8	99.5	-276.0	-85.7	0.00	0.00	0.00
3,700.0	9.00	289.83	3,676.6	104.9	-290.7	-90.3	0.00	0.00	0.00
3,800.0	9.00	289.83	3,775.4	110.2	-305.4	-94.9	0.00	0.00	0.00
3,900.0	9.00	289.83	3,874.1	115.5	-320.1	-99.5	0.00	0.00	0.00
4,000.0	9.00	289.83	3,972.9	120.8	-334.9	-104.0	0.00	0.00	0.00
4,100.0	9.00	289.83	4,071.7	126.1	-349.6	-108.6	0.00	0.00	0.00
4,200.0	9.00	289.83	4,170.4	131.4	-364.3	-113.2	0.00	0.00	0.00
4,300.0	9.00	289.83	4,269.2	136.7	-379.0	-117.8	0.00	0.00	0.00
4,400.0	9.00	289.83	4,368.0	142.0	-393.7	-122.3	0.00	0.00	0.00
4,500.0	9.00	289.83	4,466.8	147.3	-408.4	-126.9	0.00	0.00	0.00
4,600.0	9.00	289.83	4,565.5	152.6	-423.2	-131.5	0.00	0.00	0.00
4,700.0	9.00	289.83	4,664.3	157.9	-437.9	-136.0	0.00	0.00	0.00
4,800.0	9.00	289.83	4,763.1	163.2	-452.6	-140.6	0.00	0.00	0.00
4,900.0	9.00	289.83	4,861.8	168.5	-467.3	-145.2	0.00	0.00	0.00
5,000.0	9.00	289.83	4,960.6	173.9	-482.0	-149.8	0.00	0.00	0.00
5,100.0	9.00	289.83	5,059.4	179.2	-496.7	-154.3	0.00	0.00	0.00
5,192.4	9.00	289.83	5,150.7	184.1	-510.3	-158.6	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	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)	
5,200.0	8.92	289.83	5,158.1	184.5	-511.4	-158.9	1.00	-1.00	0.00	
5,300.0	7.92	289.83	5,257.1	189.4	-525.2	-163.2	1.00	-1.00	0.00	
5,400.0	6.92	289.83	5,356.2	193.8	-537.4	-167.0	1.00	-1.00	0.00	
5,500.0	5.92	289.83	5,455.6	197.6	-547.9	-170.2	1.00	-1.00	0.00	
5,600.0	4.92	289.83	5,555.1	200.8	-556.8	-173.0	1.00	-1.00	0.00	
5,700.0	3.92	289.83	5,654.8	203.4	-564.1	-175.2	1.00	-1.00	0.00	
5,800.0	2.92	289.83	5,754.7	205.5	-569.7	-177.0	1.00	-1.00	0.00	
5,900.0	1.92	289.83	5,854.6	206.9	-573.7	-178.2	1.00	-1.00	0.00	
6,000.0	0.92	289.83	5,954.5	207.7	-576.0	-179.0	1.00	-1.00	0.00	
6,092.5	0.00	0.00	6,047.0	208.0	-576.7	-179.2	1.00	-1.00	0.00	
6,100.0	0.00	0.00	6,054.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,154.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,254.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,354.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,454.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,554.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,654.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,754.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,854.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,954.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,054.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,154.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,254.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,354.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,454.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,554.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,654.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,754.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,854.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,954.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,054.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,154.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,254.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,354.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,454.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,554.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,654.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,754.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,854.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,954.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,054.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,154.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,254.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,354.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,454.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,554.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,654.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,754.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,854.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,954.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
10,100.0	0.00	0.00	10,054.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,154.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,254.5	208.0	-576.7	-179.2	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,354.5	208.0	-576.7	-179.2	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	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)
10,500.0	0.00	0.00	10,454.5	208.0	-576.7	-179.2	0.00	0.00	0.00
10,536.0	0.00	0.00	10,490.5	208.0	-576.7	-179.2	0.00	0.00	0.00
10,550.0	1.68	179.63	10,504.5	207.8	-576.7	-179.0	12.00	12.00	0.00
10,575.0	4.68	179.63	10,529.5	206.4	-576.7	-177.6	12.00	12.00	0.00
10,600.0	7.68	179.63	10,554.3	203.7	-576.7	-174.9	12.00	12.00	0.00
10,625.0	10.68	179.63	10,579.0	199.7	-576.6	-170.9	12.00	12.00	0.00
10,650.0	13.68	179.63	10,603.5	194.5	-576.6	-165.7	12.00	12.00	0.00
10,675.0	16.68	179.63	10,627.6	187.9	-576.6	-159.1	12.00	12.00	0.00
10,700.0	19.68	179.63	10,651.3	180.1	-576.5	-151.3	12.00	12.00	0.00
10,725.0	22.68	179.63	10,674.6	171.1	-576.5	-142.3	12.00	12.00	0.00
10,750.0	25.68	179.63	10,697.4	160.8	-576.4	-132.1	12.00	12.00	0.00
10,775.0	28.68	179.63	10,719.7	149.4	-576.3	-120.7	12.00	12.00	0.00
10,800.0	31.68	179.63	10,741.3	136.9	-576.2	-108.1	12.00	12.00	0.00
10,825.0	34.68	179.63	10,762.2	123.2	-576.1	-94.5	12.00	12.00	0.00
10,850.0	37.68	179.63	10,782.4	108.4	-576.1	-79.8	12.00	12.00	0.00
10,875.0	40.68	179.63	10,801.8	92.6	-575.9	-64.0	12.00	12.00	0.00
10,900.0	43.68	179.63	10,820.3	75.8	-575.8	-47.2	12.00	12.00	0.00
10,925.0	46.68	179.63	10,837.9	58.1	-575.7	-29.5	12.00	12.00	0.00
10,950.0	49.68	179.63	10,854.6	39.5	-575.6	-10.9	12.00	12.00	0.00
10,975.0	52.68	179.63	10,870.2	20.0	-575.5	8.5	12.00	12.00	0.00
11,000.0	55.68	179.63	10,884.9	-0.3	-575.3	28.8	12.00	12.00	0.00
11,025.0	58.68	179.63	10,898.4	-21.3	-575.2	49.7	12.00	12.00	0.00
11,050.0	61.68	179.63	10,910.9	-42.9	-575.1	71.4	12.00	12.00	0.00
11,075.0	64.68	179.63	10,922.1	-65.3	-574.9	93.7	12.00	12.00	0.00
11,100.0	67.68	179.63	10,932.2	-88.1	-574.8	116.5	12.00	12.00	0.00
11,125.0	70.68	179.63	10,941.1	-111.5	-574.6	139.8	12.00	12.00	0.00
11,150.0	73.68	179.63	10,948.8	-135.3	-574.5	163.6	12.00	12.00	0.00
11,175.0	76.68	179.63	10,955.2	-159.5	-574.3	187.7	12.00	12.00	0.00
11,200.0	79.68	179.63	10,960.3	-183.9	-574.1	212.1	12.00	12.00	0.00
11,225.0	82.68	179.63	10,964.1	-208.6	-574.0	236.8	12.00	12.00	0.00
11,250.0	85.68	179.63	10,966.6	-233.5	-573.8	261.6	12.00	12.00	0.00
11,275.0	88.68	179.63	10,967.9	-258.5	-573.7	286.6	12.00	12.00	0.00
11,286.0	90.00	179.63	10,968.0	-269.5	-573.6	297.5	12.00	12.00	0.00
11,300.0	90.00	179.63	10,968.0	-283.5	-573.5	311.5	0.00	0.00	0.00
11,400.0	90.00	179.63	10,968.0	-383.4	-572.8	411.4	0.00	0.00	0.00
11,500.0	90.00	179.63	10,968.0	-483.4	-572.2	511.2	0.00	0.00	0.00
11,600.0	90.00	179.63	10,968.0	-583.4	-571.5	611.0	0.00	0.00	0.00
11,700.0	90.00	179.63	10,968.0	-683.4	-570.9	710.9	0.00	0.00	0.00
11,800.0	90.00	179.63	10,968.0	-783.4	-570.2	810.7	0.00	0.00	0.00
11,900.0	90.00	179.63	10,968.0	-883.4	-569.6	910.6	0.00	0.00	0.00
12,000.0	90.00	179.63	10,968.0	-983.4	-568.9	1,010.4	0.00	0.00	0.00
12,100.0	90.00	179.63	10,968.0	-1,083.4	-568.3	1,110.3	0.00	0.00	0.00
12,200.0	90.00	179.63	10,968.0	-1,183.4	-567.6	1,210.1	0.00	0.00	0.00
12,300.0	90.00	179.63	10,968.0	-1,283.4	-567.0	1,309.9	0.00	0.00	0.00
12,400.0	90.00	179.63	10,968.0	-1,383.4	-566.3	1,409.8	0.00	0.00	0.00
12,500.0	90.00	179.63	10,968.0	-1,483.4	-565.7	1,509.6	0.00	0.00	0.00
12,600.0	90.00	179.63	10,968.0	-1,583.4	-565.0	1,609.5	0.00	0.00	0.00
12,700.0	90.00	179.63	10,968.0	-1,683.4	-564.4	1,709.3	0.00	0.00	0.00
12,800.0	90.00	179.63	10,968.0	-1,783.4	-563.7	1,809.2	0.00	0.00	0.00
12,900.0	90.00	179.63	10,968.0	-1,883.4	-563.1	1,909.0	0.00	0.00	0.00
13,000.0	90.00	179.63	10,968.0	-1,983.4	-562.4	2,008.8	0.00	0.00	0.00
13,100.0	90.00	179.63	10,968.0	-2,083.4	-561.8	2,108.7	0.00	0.00	0.00
13,200.0	90.00	179.63	10,968.0	-2,183.4	-561.1	2,208.5	0.00	0.00	0.00
13,300.0	90.00	179.63	10,968.0	-2,283.4	-560.5	2,308.4	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	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)	
13,400.0	90.00	179.63	10,968.0	-2,383.4	-559.8	2,408.2	0.00	0.00	0.00	
13,500.0	90.00	179.63	10,968.0	-2,483.4	-559.2	2,508.1	0.00	0.00	0.00	
13,600.0	90.00	179.63	10,968.0	-2,583.4	-558.5	2,607.9	0.00	0.00	0.00	
13,700.0	90.00	179.63	10,968.0	-2,683.4	-557.9	2,707.7	0.00	0.00	0.00	
13,800.0	90.00	179.63	10,968.0	-2,783.4	-557.2	2,807.6	0.00	0.00	0.00	
13,900.0	90.00	179.63	10,968.0	-2,883.4	-556.6	2,907.4	0.00	0.00	0.00	
14,000.0	90.00	179.63	10,968.0	-2,983.4	-555.9	3,007.3	0.00	0.00	0.00	
14,100.0	90.00	179.63	10,968.0	-3,083.4	-555.3	3,107.1	0.00	0.00	0.00	
14,200.0	90.00	179.63	10,968.0	-3,183.4	-554.6	3,207.0	0.00	0.00	0.00	
14,300.0	90.00	179.63	10,968.0	-3,283.4	-554.0	3,306.8	0.00	0.00	0.00	
14,400.0	90.00	179.63	10,968.0	-3,383.4	-553.3	3,406.6	0.00	0.00	0.00	
14,500.0	90.00	179.63	10,968.0	-3,483.4	-552.7	3,506.5	0.00	0.00	0.00	
14,600.0	90.00	179.63	10,968.0	-3,583.4	-552.0	3,606.3	0.00	0.00	0.00	
14,700.0	90.00	179.63	10,968.0	-3,683.4	-551.4	3,706.2	0.00	0.00	0.00	
14,800.0	90.00	179.63	10,968.0	-3,783.4	-550.7	3,806.0	0.00	0.00	0.00	
14,900.0	90.00	179.63	10,968.0	-3,883.4	-550.1	3,905.9	0.00	0.00	0.00	
15,000.0	90.00	179.63	10,968.0	-3,983.4	-549.4	4,005.7	0.00	0.00	0.00	
15,100.0	90.00	179.63	10,968.0	-4,083.4	-548.8	4,105.5	0.00	0.00	0.00	
15,200.0	90.00	179.63	10,968.0	-4,183.4	-548.1	4,205.4	0.00	0.00	0.00	
15,300.0	90.00	179.63	10,968.0	-4,283.4	-547.5	4,305.2	0.00	0.00	0.00	
15,400.0	90.00	179.63	10,968.0	-4,383.4	-546.8	4,405.1	0.00	0.00	0.00	
15,500.0	90.00	179.63	10,968.0	-4,483.4	-546.2	4,504.9	0.00	0.00	0.00	
15,600.0	90.00	179.63	10,968.0	-4,583.4	-545.5	4,604.8	0.00	0.00	0.00	
15,700.0	90.00	179.63	10,968.0	-4,683.4	-544.8	4,704.6	0.00	0.00	0.00	
15,800.0	90.00	179.63	10,968.0	-4,783.4	-544.2	4,804.4	0.00	0.00	0.00	
15,900.0	90.00	179.63	10,968.0	-4,883.4	-543.5	4,904.3	0.00	0.00	0.00	
16,000.0	90.00	179.63	10,968.0	-4,983.4	-542.9	5,004.1	0.00	0.00	0.00	
16,100.0	90.00	179.63	10,968.0	-5,083.3	-542.2	5,104.0	0.00	0.00	0.00	
16,200.0	90.00	179.63	10,968.0	-5,183.3	-541.6	5,203.8	0.00	0.00	0.00	
16,300.0	90.00	179.63	10,968.0	-5,283.3	-540.9	5,303.7	0.00	0.00	0.00	
16,400.0	90.00	179.63	10,968.0	-5,383.3	-540.3	5,403.5	0.00	0.00	0.00	
16,500.0	90.00	179.63	10,968.0	-5,483.3	-539.6	5,503.3	0.00	0.00	0.00	
16,600.0	90.00	179.63	10,968.0	-5,583.3	-539.0	5,603.2	0.00	0.00	0.00	
16,700.0	90.00	179.63	10,968.0	-5,683.3	-538.3	5,703.0	0.00	0.00	0.00	
16,800.0	90.00	179.63	10,968.0	-5,783.3	-537.7	5,802.9	0.00	0.00	0.00	
16,900.0	90.00	179.63	10,968.0	-5,883.3	-537.0	5,902.7	0.00	0.00	0.00	
17,000.0	90.00	179.63	10,968.0	-5,983.3	-536.4	6,002.6	0.00	0.00	0.00	
17,100.0	90.00	179.63	10,968.0	-6,083.3	-535.7	6,102.4	0.00	0.00	0.00	
17,200.0	90.00	179.63	10,968.0	-6,183.3	-535.1	6,202.2	0.00	0.00	0.00	
17,300.0	90.00	179.63	10,968.0	-6,283.3	-534.4	6,302.1	0.00	0.00	0.00	
17,400.0	90.00	179.63	10,968.0	-6,383.3	-533.8	6,401.9	0.00	0.00	0.00	
17,500.0	90.00	179.63	10,968.0	-6,483.3	-533.1	6,501.8	0.00	0.00	0.00	
17,600.0	90.00	179.63	10,968.0	-6,583.3	-532.5	6,601.6	0.00	0.00	0.00	
17,700.0	90.00	179.63	10,968.0	-6,683.3	-531.8	6,701.5	0.00	0.00	0.00	
17,800.0	90.00	179.63	10,968.0	-6,783.3	-531.2	6,801.3	0.00	0.00	0.00	
17,900.0	90.00	179.63	10,968.0	-6,883.3	-530.5	6,901.1	0.00	0.00	0.00	
18,000.0	90.00	179.63	10,968.0	-6,983.3	-529.9	7,001.0	0.00	0.00	0.00	
18,100.0	90.00	179.63	10,968.0	-7,083.3	-529.2	7,100.8	0.00	0.00	0.00	
18,200.0	90.00	179.63	10,968.0	-7,183.3	-528.6	7,200.7	0.00	0.00	0.00	
18,300.0	90.00	179.63	10,968.0	-7,283.3	-527.9	7,300.5	0.00	0.00	0.00	
18,400.0	90.00	179.63	10,968.0	-7,383.3	-527.3	7,400.4	0.00	0.00	0.00	
18,500.0	90.00	179.63	10,968.0	-7,483.3	-526.6	7,500.2	0.00	0.00	0.00	
18,600.0	90.00	179.63	10,968.0	-7,583.3	-526.0	7,600.0	0.00	0.00	0.00	
18,700.0	90.00	179.63	10,968.0	-7,683.3	-525.3	7,699.9	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	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)	
18,800.0	90.00	179.63	10,968.0	-7,783.3	-524.7	7,799.7	0.00	0.00	0.00	
18,900.0	90.00	179.63	10,968.0	-7,883.3	-524.0	7,899.6	0.00	0.00	0.00	
19,000.0	90.00	179.63	10,968.0	-7,983.3	-523.4	7,999.4	0.00	0.00	0.00	
19,100.0	90.00	179.63	10,968.0	-8,083.3	-522.7	8,099.3	0.00	0.00	0.00	
19,200.0	90.00	179.63	10,968.0	-8,183.3	-522.1	8,199.1	0.00	0.00	0.00	
19,300.0	90.00	179.63	10,968.0	-8,283.3	-521.4	8,298.9	0.00	0.00	0.00	
19,400.0	90.00	179.63	10,968.0	-8,383.3	-520.8	8,398.8	0.00	0.00	0.00	
19,500.0	90.00	179.63	10,968.0	-8,483.3	-520.1	8,498.6	0.00	0.00	0.00	
19,600.0	90.00	179.63	10,968.0	-8,583.3	-519.5	8,598.5	0.00	0.00	0.00	
19,700.0	90.00	179.63	10,968.0	-8,683.3	-518.8	8,698.3	0.00	0.00	0.00	
19,800.0	90.00	179.63	10,968.0	-8,783.3	-518.1	8,798.2	0.00	0.00	0.00	
19,900.0	90.00	179.63	10,968.0	-8,883.3	-517.5	8,898.0	0.00	0.00	0.00	
20,000.0	90.00	179.63	10,968.0	-8,983.3	-516.8	8,997.8	0.00	0.00	0.00	
20,100.0	90.00	179.63	10,968.0	-9,083.3	-516.2	9,097.7	0.00	0.00	0.00	
20,200.0	90.00	179.63	10,968.0	-9,183.3	-515.5	9,197.5	0.00	0.00	0.00	
20,300.0	90.00	179.63	10,968.0	-9,283.3	-514.9	9,297.4	0.00	0.00	0.00	
20,400.0	90.00	179.63	10,968.0	-9,383.3	-514.2	9,397.2	0.00	0.00	0.00	
20,500.0	90.00	179.63	10,968.0	-9,483.3	-513.6	9,497.1	0.00	0.00	0.00	
20,600.0	90.00	179.63	10,968.0	-9,583.3	-512.9	9,596.9	0.00	0.00	0.00	
20,700.0	90.00	179.63	10,968.0	-9,683.3	-512.3	9,696.7	0.00	0.00	0.00	
20,800.0	90.00	179.63	10,968.0	-9,783.2	-511.6	9,796.6	0.00	0.00	0.00	
20,900.0	90.00	179.63	10,968.0	-9,883.2	-511.0	9,896.4	0.00	0.00	0.00	
21,000.0	90.00	179.63	10,968.0	-9,983.2	-510.3	9,996.3	0.00	0.00	0.00	
21,100.0	90.00	179.63	10,968.0	-10,083.2	-509.7	10,096.1	0.00	0.00	0.00	
21,200.0	90.00	179.63	10,968.0	-10,183.2	-509.0	10,196.0	0.00	0.00	0.00	
21,220.5	90.00	179.63	10,968.0	-10,203.7	-508.9	10,216.4	0.00	0.00	0.00	
21,270.5	90.00	179.63	10,968.0	-10,253.7	-508.6	10,266.3	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
1ST TNGT WNDW_25'A - hit/miss target - Shape	9.00	109.83	2,935.9	65.0	-180.3	472,324.74	708,486.95	32° 17' 48.243 N	103° 39' 30.989 W	
- plan hits target center - Rectangle (sides W50.0 H50.0 D1,000.0)										
2ND TNGT WNDW_50'A - hit/miss target - Shape	9.00	109.63	5,150.7	184.1	-510.3	472,443.77	708,156.96	32° 17' 49.441 N	103° 39' 34.825 W	
- plan hits target center - Rectangle (sides W70.0 H100.0 D2,242.4)										
KOP BOX_0'N x 100'S x - hit/miss target - Shape	0.00	359.63	10,490.5	208.0	-576.7	472,467.70	708,090.60	32° 17' 49.682 N	103° 39' 35.596 W	
- plan hits target center - Rectangle (sides W100.0 H100.0 D4,443.5)										
FTP (AVION FEDERAL) - hit/miss target - Shape	0.00	0.00	10,968.0	159.7	-576.4	472,419.40	708,090.90	32° 17' 49.204 N	103° 39' 35.596 W	
- plan misses target center by 164.5usft at 10936.0usft MD (10845.4 TVD, 50.0 N, -575.7 E) - Circle (radius 50.0)										
LTP (AVION FEDERAL) - hit/miss target - Shape	0.00	0.00	10,968.0	-10,203.7	-508.9	462,056.00	708,158.40	32° 16' 6.648 N	103° 39' 35.568 W	
- plan hits target center - Point										
PBHL (AVION FEDERAL) - hit/miss target - Shape	0.00	359.63	10,968.0	-10,253.7	-508.6	462,006.00	708,158.70	32° 16' 6.153 N	103° 39' 35.568 W	
- plan hits target center - Rectangle (sides W100.0 H10,413.9 D20.0)										

ConocoPhillips
 Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well AVION FEDERAL COM 503H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB=27ft @ 3728.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	RKB=27ft @ 3728.0usft
Site:	AVION FEDERAL COM PROJECT	North Reference:	Grid
Well:	AVION FEDERAL COM 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	HOLD TO NUDGE KOP
1,500.0	1,500.0	0.0	0.0	NUDGE @ DLS 2.00
1,950.0	1,948.2	12.0	-33.2	HOLD TANGENT
5,192.4	5,150.6	184.1	-510.3	END NUDGE
6,092.5	6,047.0	208.0	-576.7	HOLD TO CURVE KOP
10,536.0	10,490.5	208.0	-576.7	KOP-START DLS 12.00 TFO 179.63
11,286.0	10,968.0	-269.5	-573.6	EOC-HOLD
21,220.5	10,968.0	-10,203.7	-508.9	LTP-HOLD
21,270.5	10,968.0	-10,253.7	-508.6	TD @ 21270.5 MD / 10266.3 VS



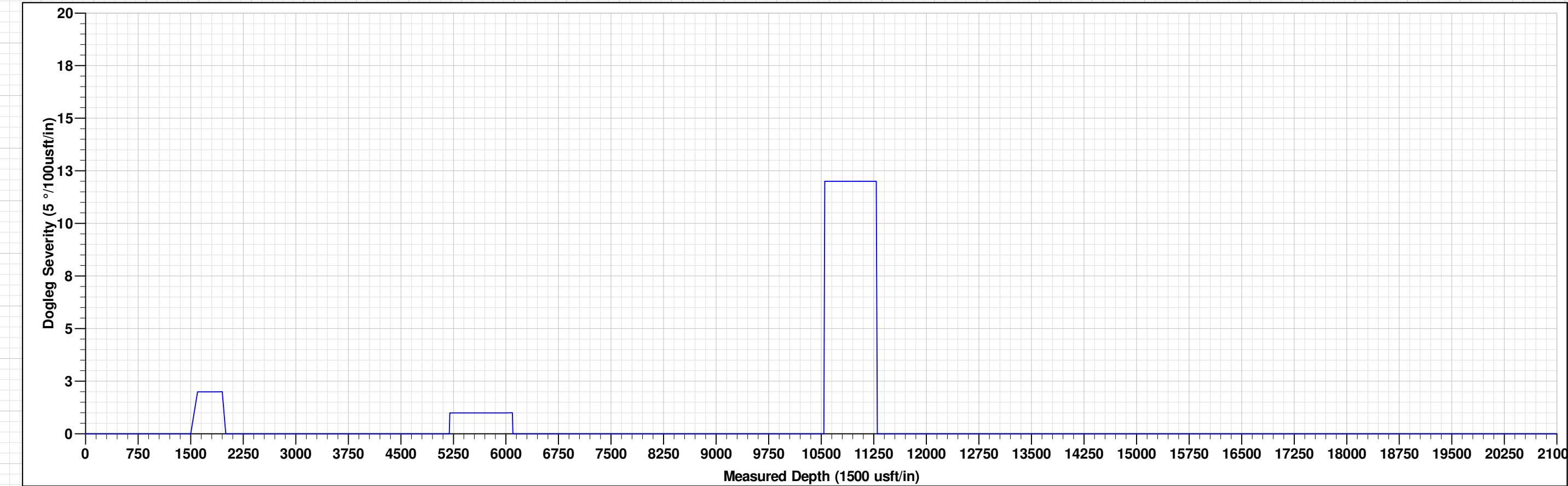
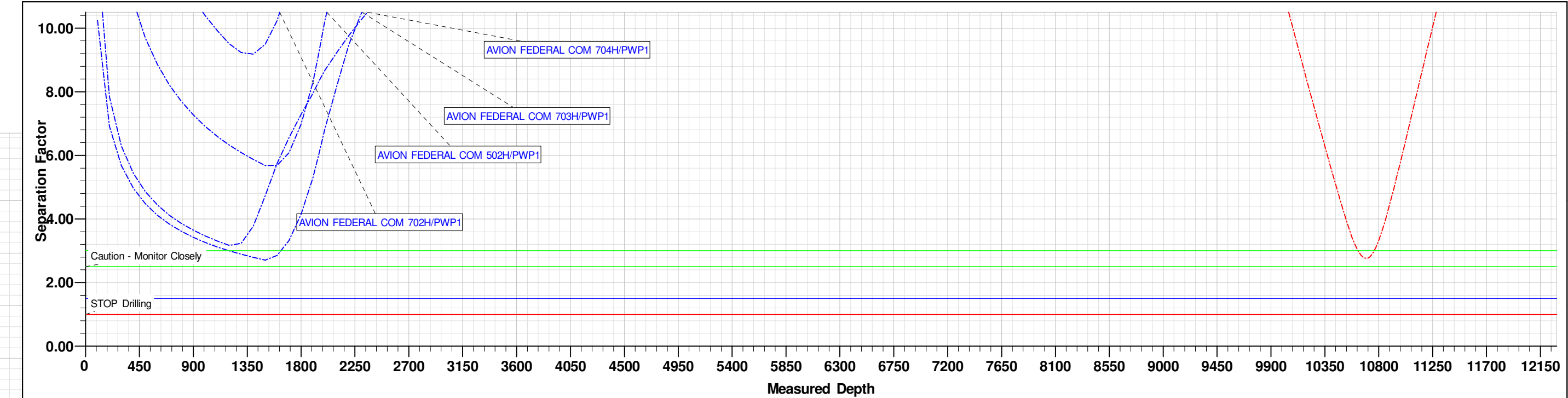
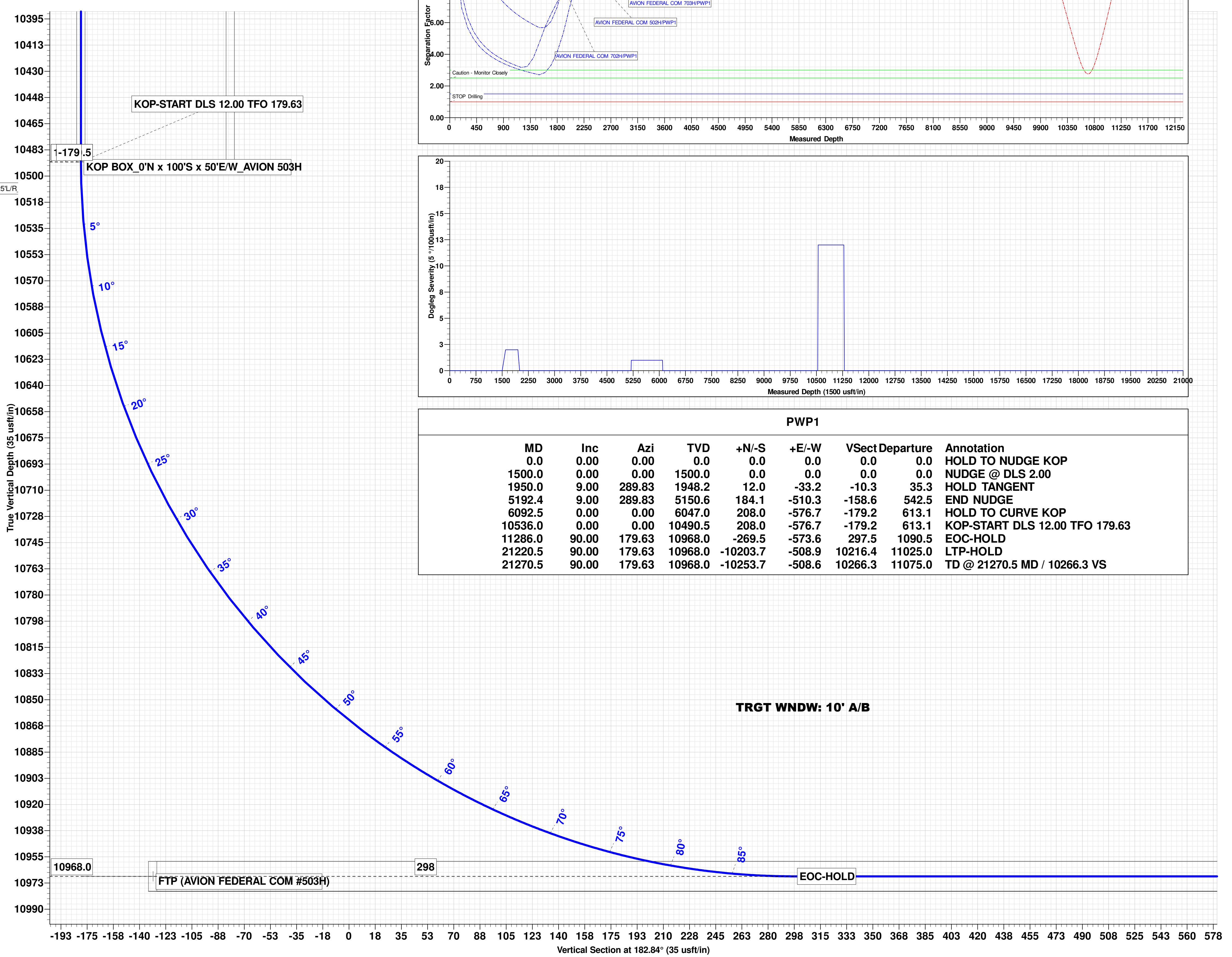
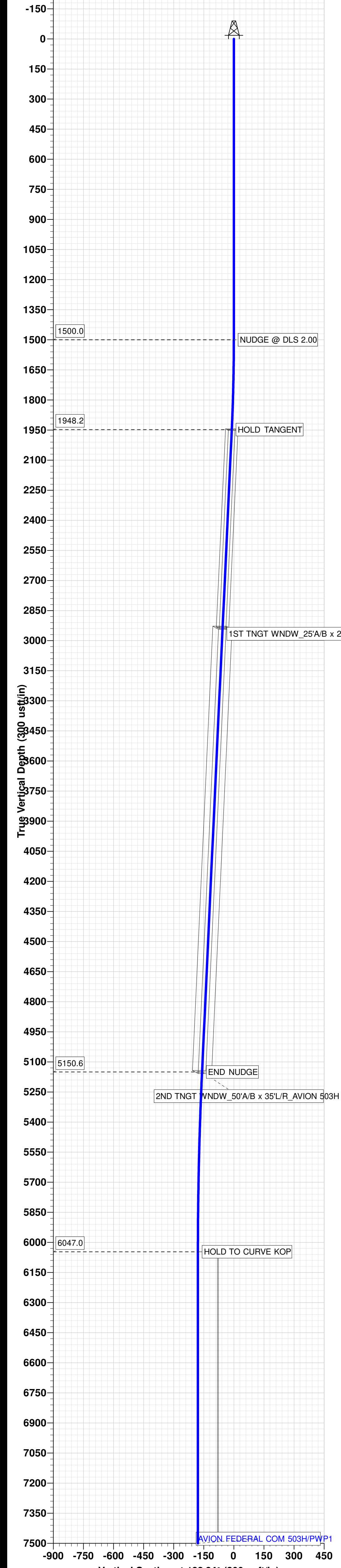
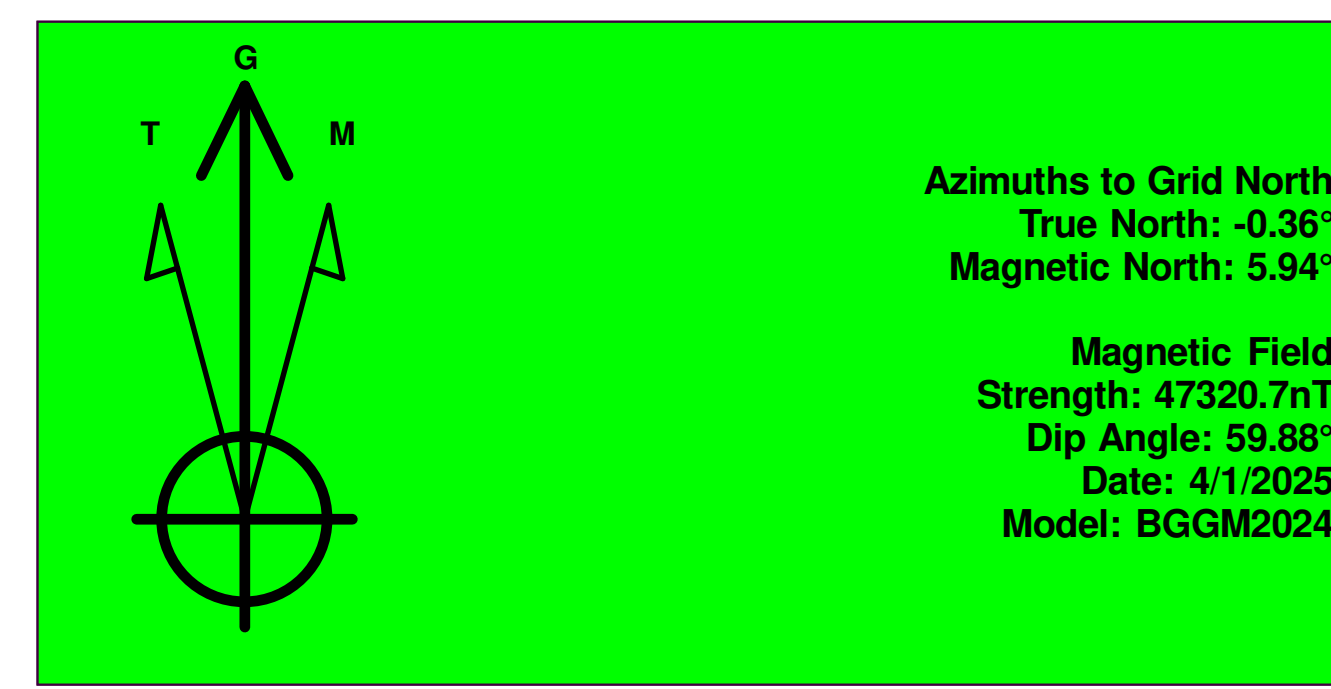
Project: LEA COUNTY SOUTHEAST
 Site: AVION FEDERAL COM PROJECT
 Well: AVION FEDERAL COM 503H
 Wellbore: OWB
 Design: PWP1
 GL: 3701.0
 RKB=27ft @ 3728.0ustf

WELL DETAILS: AVION FEDERAL COM 503H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	472259.70	708667.30	32° 17' 47.588 N	103° 39' 28.893 W

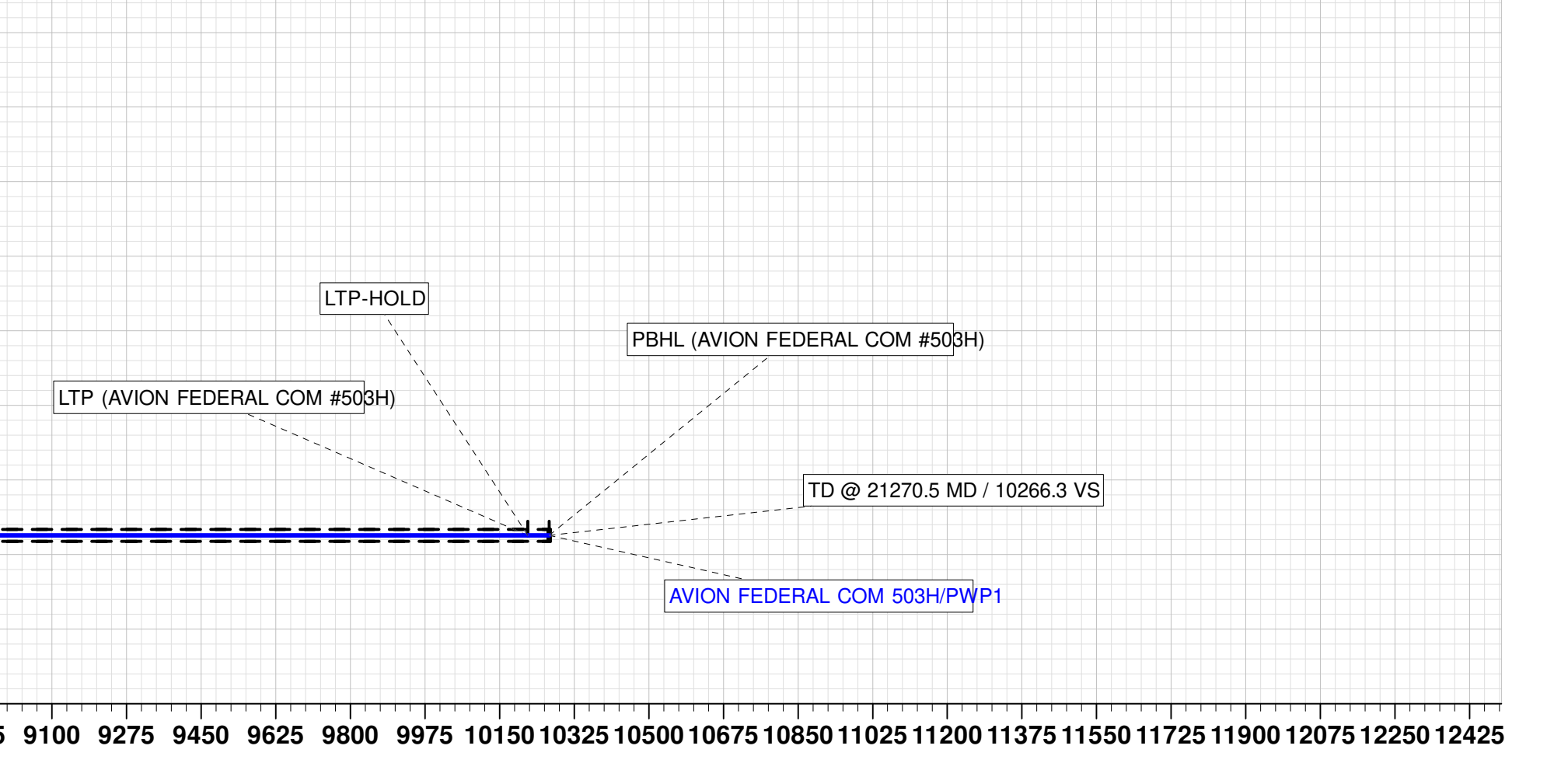
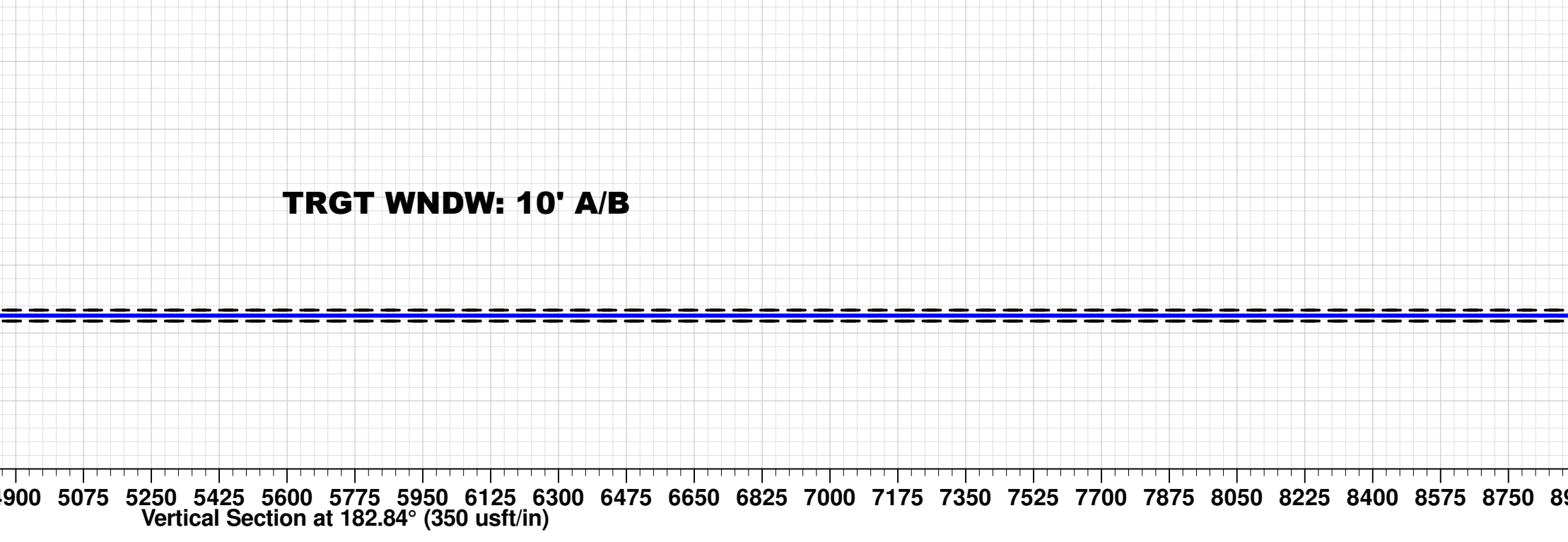
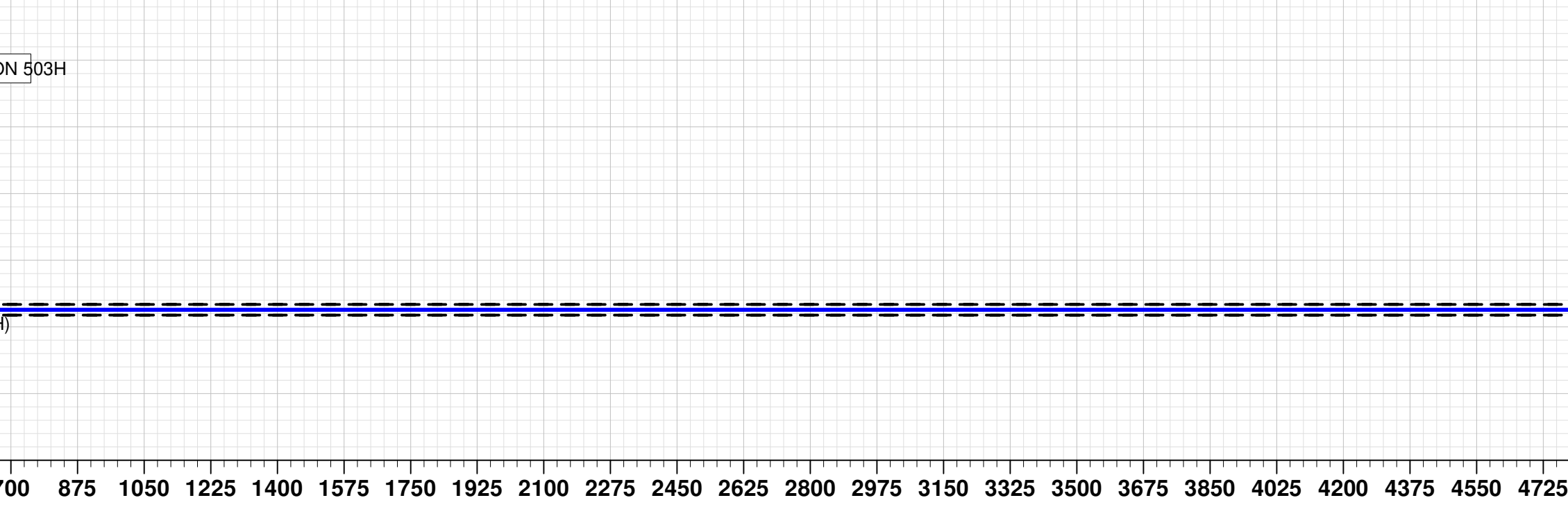
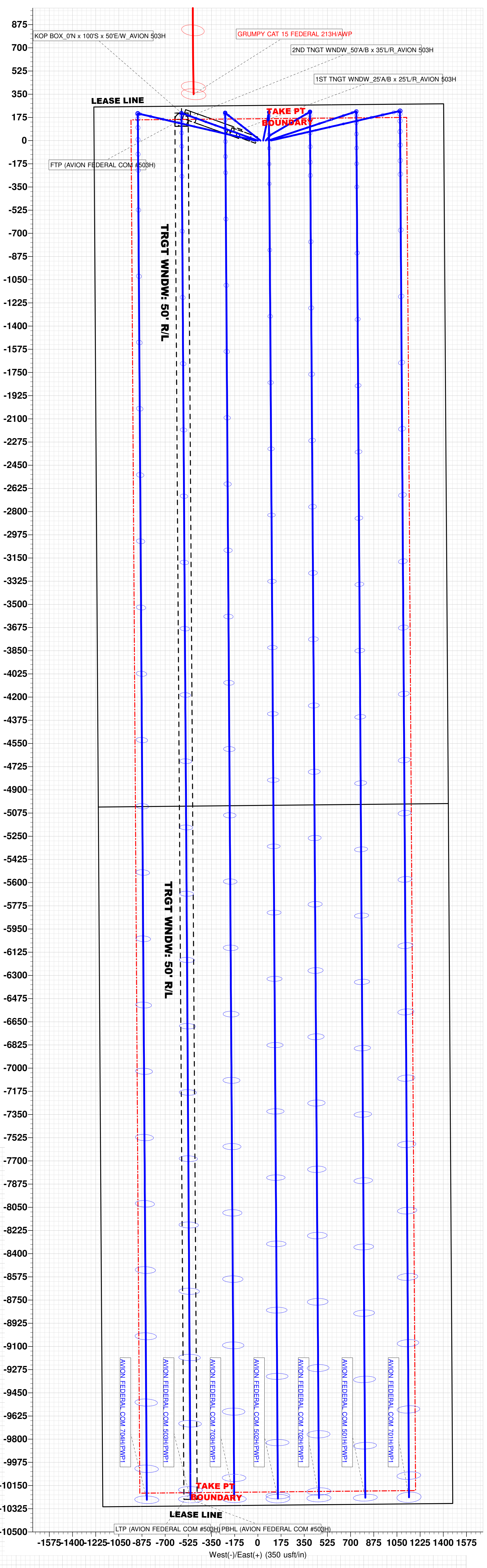
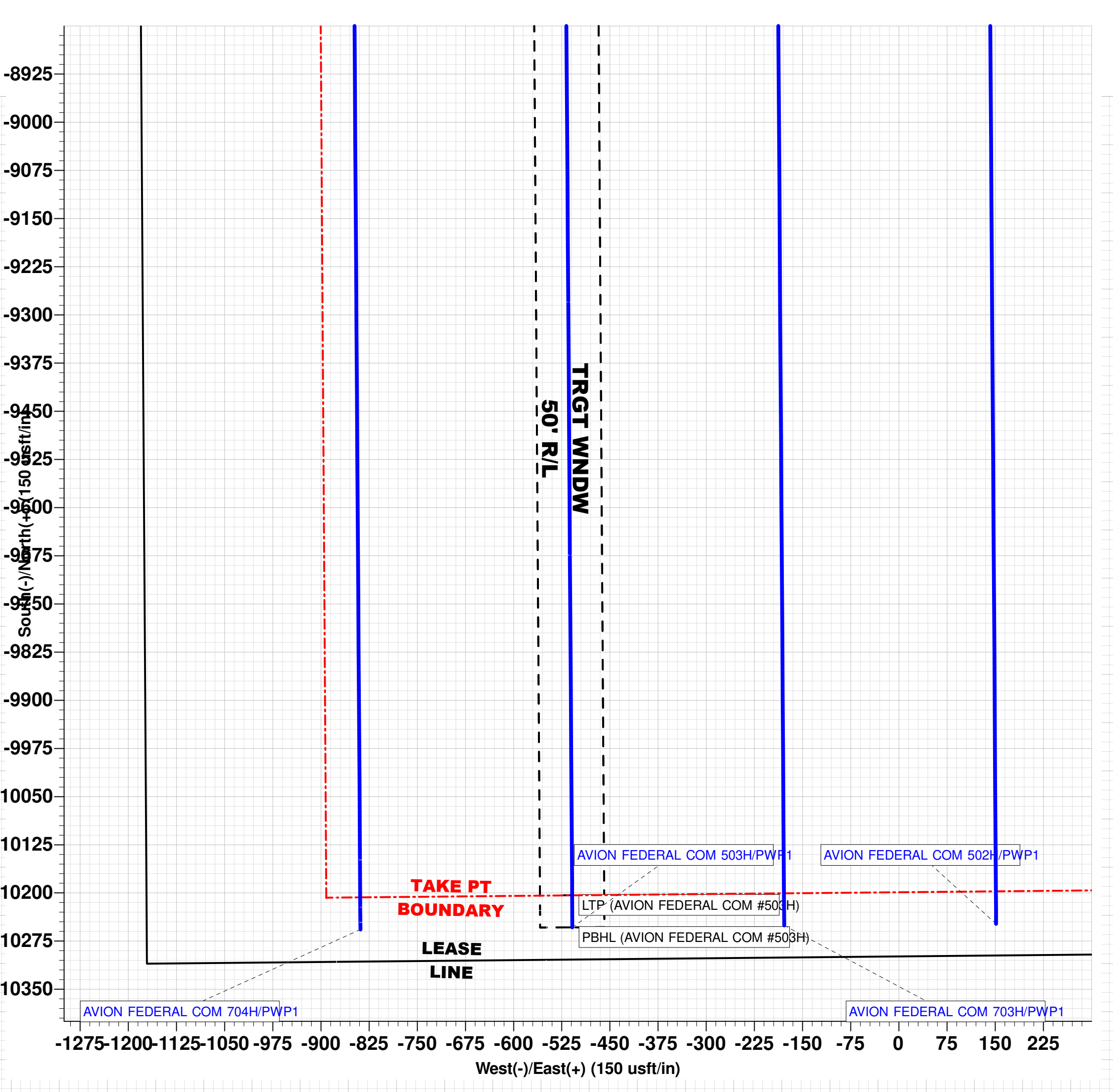
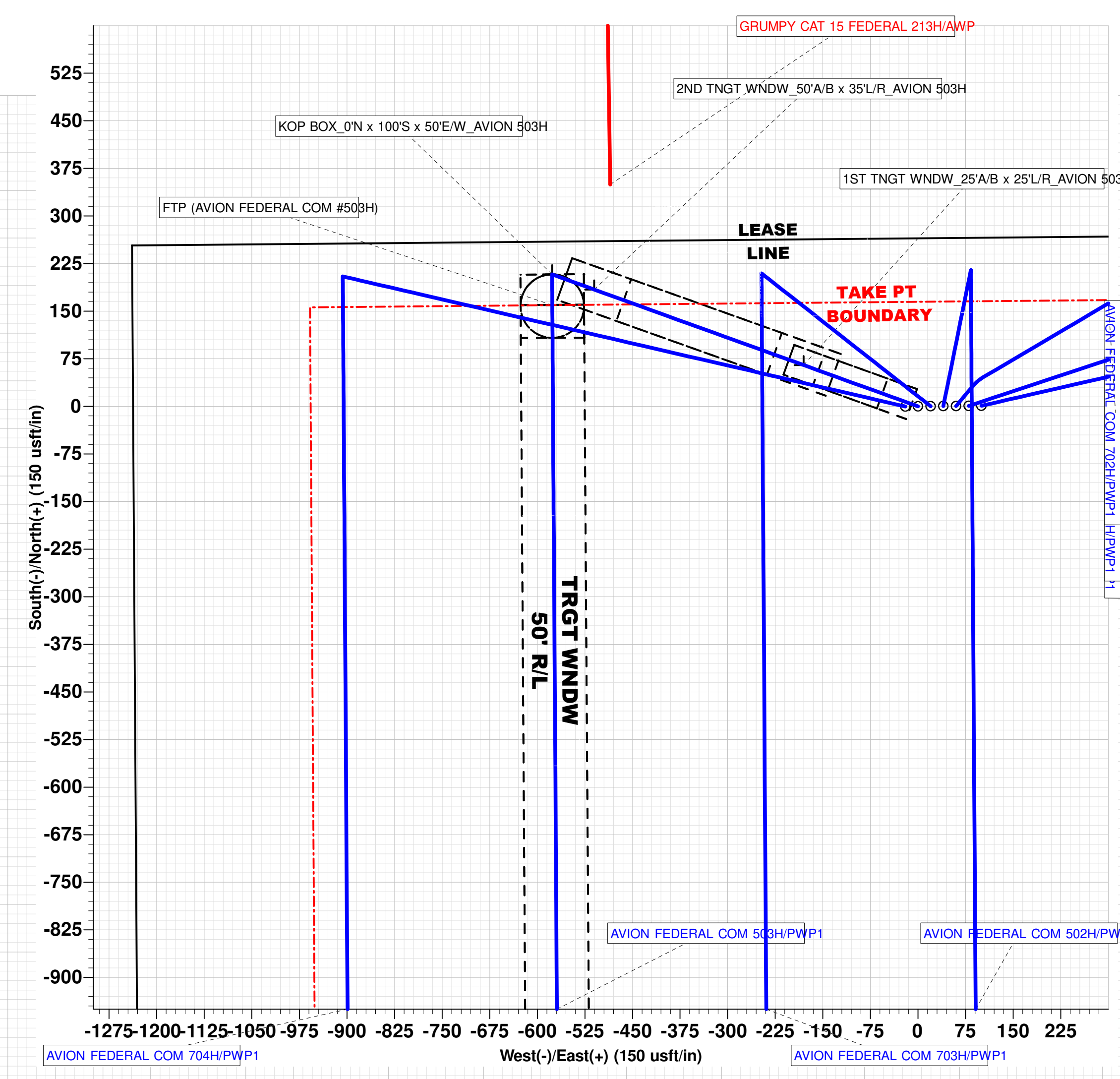
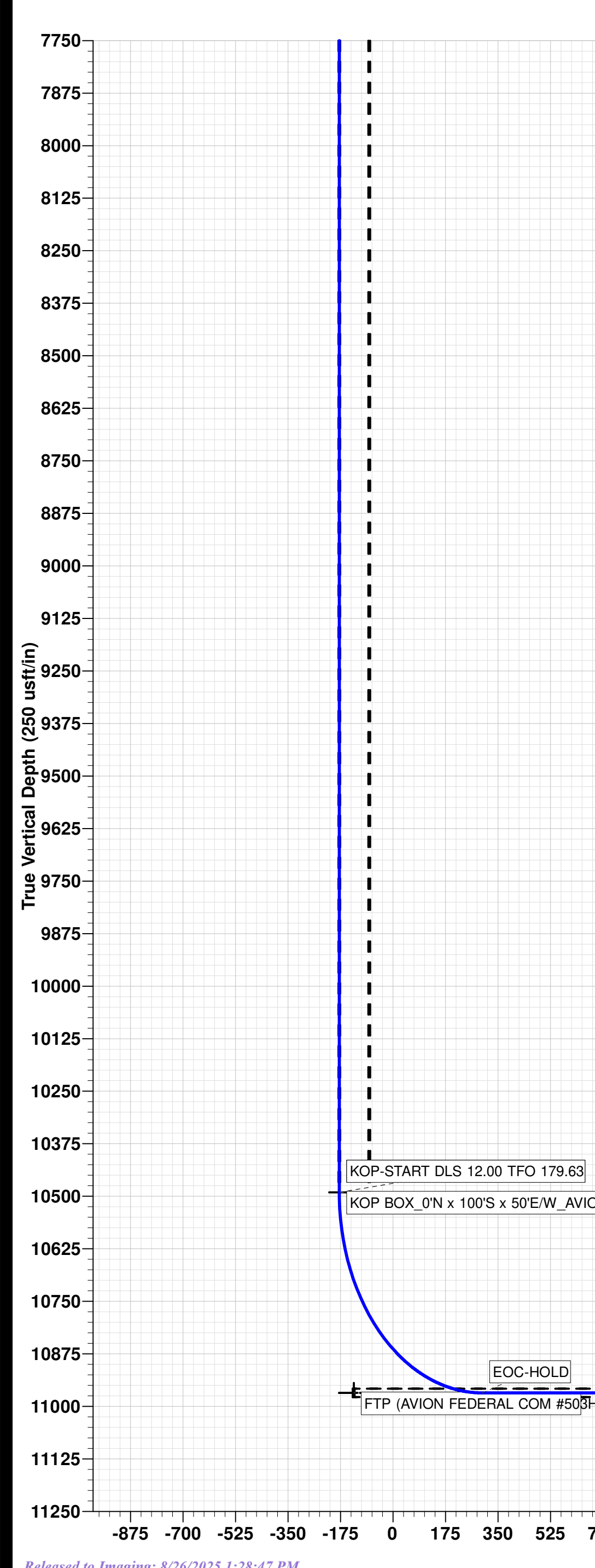
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
1ST TNGT WNDW 25'A/B x 25'L/R AVION 503H	2935.9	65.0	-180.3	472324.74	708486.96	Rectangle (Sides: L50.0 W50.0)
2ND TNGT WNDW 50'A/B x 35'L/R AVION 503H	5150.7	184.1	-510.3	472443.77	708155.96	Rectangle (Sides: L100.0 W70.0)
KOP BOX 0'N x 100'S x 50'E/W AVION 503H	10490.5	208.0	-576.7	472467.70	708090.60	Rectangle (Sides: L100.0 W100.0)
FTP (AVION FEDERAL COM #503H)	10968.0	159.7	-576.4	472419.40	708090.90	Circle (Radius: 50.0)
LTP (AVION FEDERAL COM #503H)	10968.0	-10203.7	-508.9	462056.00	708158.40	Point
PBHL (AVION FEDERAL COM #503H)	10968.0	-10253.7	-508.6	462056.00	708158.70	Rectangle (Sides: L10413.9 W100.0)



PWP1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	HOLD TO NUDDGE KOP
1500.0	0.00	0.00	1500.0	0.0	0.0	0.0	0.0	NUDDGE @ DLS 2.00
1950.0	9.00	289.83	1948.2	12.0	-33.2	-10.3	35.3	HOLD TANGENT
5192.4	9.00	289.83	5150.6	184.1	-510.3	-158.6	542.5	END NUDDGE
6092.5	0.00	0.00	6047.0	208.0	-576.7	-179.2	613.1	HOLD TO CURVE KOP
10536.0	0.00	0.00	10490.5	208.0	-576.7	-179.2	613.1	KOP-START DLS 12.00 TFO 179.63
11266.0	90.00	179.63	10968.0	-269.5	-573.6	297.5	1090.5	EOC-HOLD
21220.5	90.00	179.63	10968.0	-10203.7	-508.9	10216.4	11025.0	LTP-HOLD
21270.5	90.00	179.63	10968.0	-10253.7	-508.6	10266.3	11075.0	TD @ 21270.5 MD / 10266.3 VS





TXP[®] BTC



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.415 in.	Grade	P110-CY
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	0.415 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	23.00 lb/ft	Plain End Weight	22.56 lb/ft	Min. Internal Yield Pressure	14,530 psi
Drift	4.545 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	4.670 in.			Collapse Pressure	14,540 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.200 in.	Tension Efficiency	100 %	Minimum	12,980 ft-lb
Coupling Length	9.450 in.	Joint Yield Strength	729 x1000 lb	Optimum	14,420 ft-lb
Connection ID	4.658 in.	Internal Pressure Capacity	14,530 psi	Maximum	15,860 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	92 °/100 ft	Operating Torque	24,200 ft-lb
		External Pressure Capacity	14,540 psi	Yield Torque	26,900 ft-lb
		Coupling Face Load	302,000 lb		

Notes

This connection is fully interchangeable with:
 TXP[®] BTC - 5.5 in. - 0.275 (15.50) / 0.304 (17.00) / 0.361 (20.00) / 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.

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

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TenarisHydril Wedge 441®



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.415 in.	Grade	P110-CY
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	0.415 in.	Body Yield Strength	729 x1000 lb
Nominal Weight	23.00 lb/ft	Plain End Weight	22.56 lb/ft	Min. Internal Yield Pressure	14,530 psi
Drift	4.545 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	4.670 in.			Collapse Pressure	14,540 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	5.900 in.	Tension Efficiency	90.80 %	Minimum	15,000 ft-lb
Coupling Length	8.714 in.	Joint Yield Strength	662 x1000 lb	Optimum	16,000 ft-lb
Connection ID	4.670 in.	Internal Pressure Capacity	14,530 psi	Maximum	19,200 ft-lb
Make-up Loss	3.780 in.	Compression Efficiency	90.80 %		
Threads per inch	3.40	Compression Strength	662 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	83.54 °/100 ft	Operating Torque	33,000 ft-lb
		External Pressure Capacity	14,540 psi	Yield Torque	39,000 ft-lb
		Coupling Face Load	172,000 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. - 0.476 (26.00) in. (lb/ft)
 Connections with Dopeless® Technology are fully compatible with the same connection in its doped version

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

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PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	AVION FED COM 503H
LOCATION:	Section 22, T.23 S., R.32 E.
COUNTY:	Lea County, New Mexico

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input checked="" type="radio"/> Conventional	<input type="radio"/> Multibowl	<input type="radio"/> Both
Wellhead Variance	<input type="radio"/> Diverter		
Other	<input type="checkbox"/> 4 String	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Open Annulus
Cementing	<input type="checkbox"/> Contingency Cement Squeeze	<input type="checkbox"/> EchoMeter	<input type="checkbox"/> Primary Cement Squeeze
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry		
Special Requirements Variance	<input type="checkbox"/> Break Testing	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> 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:

Due to surface pressure Operator must use a 5M BOP system to drill below the surface shoe.

- The 13-3/8 inch surface casing shall be set at approximately **1320 feet** (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable

fresh water) and cemented to the surface. The surface hole shall be **17 1/2 inch** in diameter.

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.
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.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.

- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

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 1/29/2025

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

CONDITIONS

Action 427037

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 427037
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	The C-103 NOI was not approved or rejected; however, the work requested in the C-103 NOI was performed and completed without NMOCD approval. This action will result in review for potential compliance actions.	8/26/2025