

Form 3160-5
(June 2019)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No. NMNM106909

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
COG OPERATING LLC

3a. Address 600 West Illinois Ave, Midland, TX 79701

3b. Phone No. (include area code)
(432) 683-74434. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC 35/T26S/R28E/NMP

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

8. Well Name and No. KEG SHELL FEDERAL COM/703H

9. API Well No. 3001548211

10. Field and Pool or Exploratory Area
Purple Sage/Wolfcamp11. Country or Parish, State
EDDY/NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

COG Operating requests a change to our approved APD for this well to reflect changes in BHL and dedicated acres.

Change BHL FROM: 200 FNL & 2310' FEL TO: 200' FNL & 2275' FEL 23-26S-28E

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
STAN WAGNER / Ph: (432) 253-9685Regulatory Advisor
Title

Signature

Date 06/05/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

GAVIN MICKWEE / Ph: (575) 234-5972 / Approved

Land Law Examiner
Title

Date 06/05/2023

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office CARLSBAD

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

Additional Information

Location of Well

0. SHL: LOT 3 / 360 FSL / 1374 FEL / TWSP: 26S / RANGE: 28E / SECTION: 35 / LAT: 32.001022 / LONG: -104.053773 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 3 / 330 FSL / 2224 FEL / TWSP: 26S / RANGE: 28E / SECTION: 35 / LAT: 32.000935 / LONG: -104.056516 (TVD: 9481 feet, MD: 9612 feet)

PPP: SWSE / 1 FSL / 2310 FEL / TWSP: 26S / RANGE: 28E / SECTION: 26 / LAT: 32.006193 / LONG: -104.056516 (TVD: 9561 feet, MD: 11923 feet)

PPP: SWSE / 1 FSL / 2310 FEL / TWSP: 26S / RANGE: 28E / SECTION: 23 / LAT: 32.0207 / LONG: -104.057127 (TVD: 9580 feet, MD: 17203 feet)

BHL: NWNE / 200 FNL / 2310 FEL / TWSP: 26S / RANGE: 28E / SECTION: 23 / LAT: 32.034728 / LONG: -104.056828 (TVD: 9596 feet, MD: 21839 feet)

CONFIDENTIAL

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 746-1283 Fax: (575) 746-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-48211	Pool Code 98220	Pool Name Purple Sage; Wolfcamp (Gas)
Property Code 330693	Property Name KEG SHELL FEDERAL COM	Well Number 703H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 2990.8'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	35	26-S	28-E		360	SOUTH	1374	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	23	26-S	28-E		200	NORTH	2275	EAST	EDDY
Dedicated Acres 1547.18	Joint or Infill	Consolidation Code Com	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

NAD 83 NME
PROPOSED BOTTOM
HOLE LOCATION
Y=376482.8 N
X=627053.6 E
LAT.=32.034730° N
LONG.=104.056715° W

POINT LEGEND	
1	Y=376724.5 N X=629332.8 E
2	Y=371459.1 N X=629248.0 E
3	Y=366250.2 N X=629365.5 E
4	Y=363869.9 N X=629371.9 E
5	Y=363857.5 N X=626664.9 E
6	Y=366066.4 N X=626603.9 E
7	Y=371365.3 N X=626543.8 E
8	Y=376674.4 N X=626590.4 E

NAD 83 NME
SURFACE LOCATION
Y=364223.5 N
X=627996.9 E
LAT.=32.001022° N
LONG.=104.053773° W

LTP
330' FNL & 2272' FEL
Y=376352.8 N
X=627054.0 E
LAT.=32.034372° N
LONG.=104.056715° W

PPP4
2208' FEL
Y=372742.9 N
X=627066.5 E
LAT.=32.024449° N
LONG.=104.056705° W

PPP3
2178' FEL
Y=371383.6 N
X=627071.2 E
LAT.=32.020712° N
LONG.=104.056701° W

PPP2
2276' FEL
Y=333098.7 N
X=627089.4 E
LAT.=32.006184° N
LONG.=104.056686° W

PPP1/FTP
330' FSL & 2275' FEL
Y=364189.5 N
X=627096.0 E
LAT.=32.000935° N
LONG.=104.056680° W
GRID AZ. TO FTP
267°50'12"

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and 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 such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Stan Wagner 5/18/23
Signature Date

Stan Wagner
Printed Name

E-mail Address

SURVEYOR CERTIFICATION

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.

OCTOBER 13, 2020
Date of Survey

Signature & Seal of Professional Surveyor

Chad Harcrow 3/16/23
Certificate No. CHAD HARCROW 17777
W.O. # 23-159 DRAWN BY: WN

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

KEG SHELL FED COM PROJECT

KEG SHELL FEDERAL COM #703H

300154821100

OWB

PWP2

Anticollision Report

17 May, 2023

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Reference	PWP2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0usft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 1,000.0usft
Warning Levels Evaluated at:	2.79 Sigma
Error Model:	ISCSWA
Scan Method:	Closest Approach 3D
Error Surface:	Combined Pedal Curve
Casing Method:	Added to Error Values

Survey Tool Program	Date	5/17/2023
From (usft)	To (usft)	Survey (Wellbore)
0.0	1,506.0	PWP2 (OWB)
1,506.0	9,181.0	PWP2 (OWB)
9,181.0	21,873.1	PWP2 (OWB)
		Tool Name
		r.5 SDI_KPR_WL_NS-CT
		r.5 MWD+IFR1+MS
		r.5 MWD+IFR1+MS
		Description
		SDI Keeper Wireline Gyrocomp.-Initilzd Cont. rev.5
		OWSG MWD + IFR1 + Multi-Station Correction rev.5
		OWSG MWD + IFR1 + Multi-Station Correction rev.5

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
	Depth	Depth	Centres	Ellipses		
Offset Well - Wellbore - Design		(usft)	(usft)	(usft)	(usft)	Factor
KEG SHELL FED COM PROJECT						
KEG SHELL FEDERAL COM #701H - OWB - PWP2		1,500.0	1,499.4	59.9	50.6	6.442 CC, ES, SF
KEG SHELL FEDERAL COM #702H - OWB - PWP2		1,500.0	1,499.5	29.9	20.6	3.215 CC, ES
KEG SHELL FEDERAL COM #702H - OWB - PWP2		1,700.0	1,701.0	31.6	21.5	3.126 SF
KEG SHELL FEDERAL COM #903H - OWB - PWP1		2,688.5	2,772.1	486.1	470.9	31.818 CC
KEG SHELL FEDERAL COM #903H - OWB - PWP1		2,700.0	2,783.1	486.1	470.8	31.696 ES
KEG SHELL FEDERAL COM #903H - OWB - PWP1		9,200.0	9,194.4	623.3	571.4	12.014 SF
KEG SHELL FEDERAL COM #904H - OWB - PWP1		8,400.0	8,486.9	167.1	124.1	3.884 SF
KEG SHELL FEDERAL COM #904H - OWB - PWP1		8,846.1	8,921.6	137.4	106.3	4.427 CC, ES

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

TD Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
KEG SHELL FED COM PROJECT						
KEG SHELL FEDERAL COM #701H - OWB - PWP2	21,873.6	21,980.7	870.2	678.7	4.543	Out of Range @TD
KEG SHELL FEDERAL COM #702H - OWB - PWP2	21,873.6	21,783.2				
KEG SHELL FEDERAL COM #903H - OWB - PWP1	21,873.6	22,798.4				Out of Range @TD
KEG SHELL FEDERAL COM #904H - OWB - PWP1	21,873.6	23,076.4				Out of Range @TD

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #701H - OWB - PWP2														Offset Site Error: 3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2506-r.5 MWD+IFR1+MS, 9209-r.5 MWD+IFR1+MS														Offset Well Error: 3.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance				Separation Factor	Warning
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
0.0	0.0	0.0	0.6	3.0	3.0	89.81	0.2	59.9	59.9					
100.0	100.0	99.4	100.0	3.0	3.0	89.81	0.2	59.9	59.9	53.4	6.51	9.197		
200.0	200.0	199.4	200.0	3.2	3.2	89.81	0.2	59.9	59.9	53.1	6.75	8.870		
300.0	300.0	299.4	300.0	3.3	3.3	89.81	0.2	59.9	59.9	52.9	6.98	8.576		
400.0	400.0	399.4	400.0	3.4	3.4	89.81	0.2	59.9	59.9	52.7	7.21	8.310		
500.0	500.0	499.4	500.0	3.5	3.5	89.81	0.2	59.9	59.9	52.5	7.42	8.068		
600.0	600.0	599.4	600.0	3.7	3.7	89.81	0.2	59.9	59.9	52.3	7.63	7.846		
700.0	700.0	699.4	700.0	3.8	3.8	89.81	0.2	59.9	59.9	52.1	7.84	7.643		
800.0	800.0	799.4	800.0	3.9	3.9	89.81	0.2	59.9	59.9	51.9	8.04	7.454		
900.0	900.0	899.4	900.0	4.0	4.0	89.81	0.2	59.9	59.9	51.7	8.23	7.279		
1,000.0	1,000.0	999.4	1,000.0	4.2	4.2	89.81	0.2	59.9	59.9	51.5	8.42	7.116		
1,100.0	1,100.0	1,099.4	1,100.0	4.3	4.3	89.81	0.2	59.9	59.9	51.3	8.60	6.964		
1,200.0	1,200.0	1,199.4	1,200.0	4.4	4.4	89.81	0.2	59.9	59.9	51.1	8.78	6.821		
1,300.0	1,300.0	1,299.4	1,300.0	4.5	4.5	89.81	0.2	59.9	59.9	50.9	8.96	6.687		
1,400.0	1,400.0	1,399.4	1,400.0	4.6	4.6	89.81	0.2	59.9	59.9	50.8	9.13	6.561		
1,500.0	1,500.0	1,499.4	1,500.0	4.7	4.7	89.81	0.2	59.9	59.9	50.6	9.30	6.442 CC, ES, SF		
1,600.0	1,600.0	1,597.3	1,597.9	4.8	4.8	-170.00	-0.3	61.5	63.2	53.6	9.66	6.545		
1,700.0	1,699.8	1,694.6	1,695.1	5.0	4.9	-169.52	-1.7	66.2	73.2	63.1	10.10	7.251		
1,800.0	1,799.5	1,790.6	1,790.7	5.2	5.0	-168.94	-4.1	74.0	89.9	79.3	10.55	8.523		
1,900.0	1,898.7	1,884.7	1,884.1	5.5	5.2	-168.40	-7.3	84.6	113.0	102.0	10.99	10.278		
2,000.0	1,997.5	1,976.3	1,974.8	5.8	5.3	-167.97	-11.4	97.7	142.3	131.0	11.34	12.547		
2,100.0	2,096.1	2,065.9	2,062.8	6.0	5.5	-167.55	-16.1	113.2	175.5	163.7	11.73	14.961		
2,200.0	2,194.7	2,153.5	2,148.4	6.3	5.7	-167.07	-21.5	130.9	211.4	199.3	12.11	17.458		
2,300.0	2,293.4	2,242.3	2,234.7	6.6	5.8	-166.57	-27.7	151.1	249.8	237.3	12.50	19.993		
2,400.0	2,392.0	2,334.4	2,324.1	7.0	5.9	-166.17	-34.2	172.4	288.7	275.8	12.90	22.383		
2,500.0	2,490.6	2,426.6	2,413.5	7.3	6.0	-165.86	-40.7	193.7	327.5	314.2	13.32	24.594		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #701H - OWB - PWP2													Offset Site Error: 3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 2506-r.5 MWD+IFR1+MS, 9209-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 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)	Minimum Separation (usft)	Separation Factor	Warning
2,600.0	2,589.3	2,518.7	2,502.9	7.6	6.1	-165.62	-47.2	215.0	366.3	352.6	13.73	26.679	
2,700.0	2,687.9	2,610.9	2,592.3	8.0	6.3	-165.42	-53.7	236.3	405.2	391.0	14.18	28.574	
2,800.0	2,786.5	2,703.0	2,681.7	8.4	6.4	-165.26	-60.3	257.6	444.0	429.4	14.66	30.289	
2,900.0	2,885.1	2,795.1	2,771.1	8.7	6.6	-165.13	-66.8	279.0	482.9	467.7	15.18	31.818	
3,000.0	2,983.8	2,887.3	2,860.5	9.1	6.8	-165.01	-73.3	300.3	521.7	506.0	15.72	33.180	
3,100.0	3,082.4	2,979.4	2,949.9	9.5	7.0	-164.91	-79.8	321.6	560.6	544.3	16.30	34.392	
3,200.0	3,181.0	3,071.6	3,039.3	9.9	7.2	-164.83	-86.3	342.9	599.4	582.5	16.90	35.470	
3,300.0	3,279.7	3,163.7	3,128.7	10.3	7.5	-164.75	-92.8	364.2	638.3	620.7	17.52	36.428	
3,400.0	3,378.3	3,255.8	3,218.1	10.7	7.8	-164.68	-99.4	385.5	677.1	658.9	18.16	37.280	
3,500.0	3,476.9	3,348.0	3,307.5	11.1	8.0	-164.62	-105.9	406.9	716.0	697.1	18.82	38.037	
3,600.0	3,575.5	3,440.1	3,396.9	11.5	8.4	-164.57	-112.4	428.2	754.8	735.3	19.50	38.712	
3,700.0	3,674.2	3,532.3	3,486.3	11.9	8.7	-164.52	-118.9	449.5	793.7	773.5	20.19	39.314	
3,800.0	3,772.8	3,624.4	3,575.8	12.3	9.0	-164.48	-125.4	470.8	832.5	811.6	20.89	39.851	
3,900.0	3,871.4	3,716.5	3,665.2	12.8	9.3	-164.44	-131.9	492.1	871.4	849.8	21.61	40.331	
4,000.0	3,970.1	3,808.7	3,754.6	13.2	9.7	-164.40	-138.5	513.5	910.2	887.9	22.33	40.762	
4,100.0	4,068.7	3,900.8	3,844.0	13.6	10.0	-164.37	-145.0	534.8	949.1	926.0	23.07	41.148	
4,200.0	4,167.3	3,993.0	3,933.4	14.0	10.4	-164.34	-151.5	556.1	987.9	964.1	23.81	41.495	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
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Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
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Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #702H - OWB - PWP2													Offset Site Error: 3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1506-r.5 MWD+IFR1+MS, 9153-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.5	3.0	3.0	89.81	0.1	29.9	29.9				
100.0	100.0	99.5	100.0	3.0	3.0	89.81	0.1	29.9	29.9	23.4	6.51	4.591	
200.0	200.0	199.5	200.0	3.2	3.2	89.81	0.1	29.9	29.9	23.1	6.75	4.428	
300.0	300.0	299.5	300.0	3.3	3.3	89.81	0.1	29.9	29.9	22.9	6.98	4.281	
400.0	400.0	399.5	400.0	3.4	3.4	89.81	0.1	29.9	29.9	22.7	7.21	4.148	
500.0	500.0	499.5	500.0	3.5	3.5	89.81	0.1	29.9	29.9	22.5	7.42	4.027	
600.0	600.0	599.5	600.0	3.7	3.7	89.81	0.1	29.9	29.9	22.3	7.63	3.917	
700.0	700.0	699.5	700.0	3.8	3.8	89.81	0.1	29.9	29.9	22.1	7.84	3.815	
800.0	800.0	799.5	800.0	3.9	3.9	89.81	0.1	29.9	29.9	21.9	8.04	3.721	
900.0	900.0	899.5	900.0	4.0	4.0	89.81	0.1	29.9	29.9	21.7	8.23	3.633	
1,000.0	1,000.0	999.5	1,000.0	4.2	4.2	89.81	0.1	29.9	29.9	21.5	8.42	3.552	
1,100.0	1,100.0	1,099.5	1,100.0	4.3	4.3	89.81	0.1	29.9	29.9	21.3	8.60	3.476	
1,200.0	1,200.0	1,199.5	1,200.0	4.4	4.4	89.81	0.1	29.9	29.9	21.1	8.78	3.405	
1,300.0	1,300.0	1,299.5	1,300.0	4.5	4.5	89.81	0.1	29.9	29.9	20.9	8.96	3.338	
1,400.0	1,400.0	1,399.5	1,400.0	4.6	4.6	89.81	0.1	29.9	29.9	20.8	9.13	3.275	
1,500.0	1,500.0	1,499.5	1,500.0	4.7	4.7	89.81	0.1	29.9	29.9	20.6	9.30	3.215 CC, ES	
1,600.0	1,600.0	1,600.3	1,600.8	4.8	4.9	-168.63	-1.0	28.6	30.3	20.7	9.63	3.147	
1,700.0	1,699.8	1,701.0	1,701.4	5.0	5.1	-164.15	-4.4	24.5	31.6	21.5	10.10	3.126 SF	
1,800.0	1,799.5	1,801.7	1,801.6	5.2	5.4	-157.51	-10.1	17.7	34.1	23.5	10.55	3.229	
1,900.0	1,898.7	1,901.5	1,900.9	5.5	5.6	-152.15	-16.8	9.8	39.1	28.2	10.97	3.567	
2,000.0	1,997.5	2,001.1	2,000.0	5.8	5.8	-150.19	-23.5	1.8	47.4	36.0	11.32	4.184	
2,100.0	2,096.1	2,100.7	2,099.0	6.0	6.1	-149.36	-30.2	-6.2	56.5	44.7	11.74	4.810	
2,200.0	2,194.7	2,200.3	2,198.1	6.3	6.3	-148.77	-36.9	-14.2	65.6	53.4	12.17	5.390	
2,300.0	2,293.4	2,299.6	2,296.8	6.6	6.5	-148.48	-43.4	-21.9	74.8	62.3	12.55	5.963	
2,400.0	2,392.0	2,398.4	2,395.3	7.0	6.8	-149.16	-48.9	-28.5	84.8	71.7	13.03	6.506	
2,500.0	2,490.6	2,497.0	2,493.6	7.3	7.1	-150.59	-53.3	-33.8	95.6	82.1	13.56	7.053	
2,600.0	2,589.3	2,595.3	2,591.8	7.6	7.4	-152.50	-56.6	-37.7	107.4	93.3	14.12	7.608	
2,700.0	2,687.9	2,693.3	2,689.7	8.0	7.6	-154.69	-58.9	-40.4	120.3	105.6	14.72	8.175	
2,800.0	2,786.5	2,790.9	2,787.3	8.4	7.9	-157.03	-60.0	-41.7	134.3	119.0	15.33	8.763	
2,900.0	2,885.1	2,888.7	2,885.1	8.7	7.9	-159.39	-60.2	-42.0	149.5	133.6	15.87	9.422	
3,000.0	2,983.8	2,987.4	2,983.8	9.1	8.0	-161.40	-60.2	-42.0	165.1	148.7	16.43	10.047	
3,100.0	3,082.4	3,086.0	3,082.4	9.5	8.1	-163.07	-60.2	-42.0	180.8	163.8	17.00	10.638	
3,200.0	3,181.0	3,184.6	3,181.0	9.9	8.2	-164.47	-60.2	-42.0	196.7	179.1	17.56	11.201	
3,300.0	3,279.7	3,283.2	3,279.7	10.3	8.3	-165.66	-60.2	-42.0	212.7	194.5	18.12	11.734	
3,400.0	3,378.3	3,381.9	3,378.3	10.7	8.3	-166.68	-60.2	-42.0	228.7	210.0	18.69	12.238	
3,500.0	3,476.9	3,480.5	3,476.9	11.1	8.4	-167.57	-60.2	-42.0	244.8	225.5	19.25	12.716	
3,600.0	3,575.5	3,579.1	3,575.5	11.5	8.5	-168.35	-60.2	-42.0	260.9	241.1	19.82	13.167	
3,700.0	3,674.2	3,677.8	3,674.2	11.9	8.6	-169.04	-60.2	-42.0	277.1	256.8	20.39	13.594	
3,800.0	3,772.8	3,776.4	3,772.8	12.3	8.7	-169.65	-60.2	-42.0	293.4	272.4	20.96	13.998	
3,900.0	3,871.4	3,875.0	3,871.4	12.8	8.8	-170.20	-60.2	-42.0	309.6	288.1	21.53	14.381	
4,000.0	3,970.1	3,973.6	3,970.1	13.2	8.8	-170.69	-60.2	-42.0	325.9	303.8	22.11	14.742	
4,100.0	4,068.7	4,072.3	4,068.7	13.6	8.9	-171.14	-60.2	-42.0	342.2	319.5	22.69	15.085	
4,200.0	4,167.3	4,170.9	4,167.3	14.0	9.0	-171.55	-60.2	-42.0	358.5	335.3	23.27	15.410	
4,300.0	4,265.9	4,269.5	4,265.9	14.5	9.1	-171.92	-60.2	-42.0	374.9	351.0	23.85	15.719	
4,400.0	4,364.6	4,368.2	4,364.6	14.9	9.2	-172.26	-60.2	-42.0	391.2	366.8	24.43	16.011	
4,500.0	4,463.2	4,466.8	4,463.2	15.3	9.2	-172.57	-60.2	-42.0	407.6	382.6	25.02	16.290	
4,600.0	4,561.8	4,565.4	4,561.8	15.7	9.3	-172.86	-60.2	-42.0	424.0	398.4	25.61	16.554	
4,700.0	4,660.5	4,664.0	4,660.5	16.2	9.4	-173.13	-60.2	-42.0	440.4	414.1	26.20	16.806	
4,800.0	4,759.1	4,762.7	4,759.1	16.6	9.5	-173.37	-60.2	-42.0	456.7	429.9	26.80	17.045	
4,900.0	4,857.7	4,861.3	4,857.7	17.0	9.6	-173.60	-60.2	-42.0	473.1	445.8	27.39	17.274	
5,000.0	4,956.3	4,959.9	4,956.3	17.5	9.6	-173.82	-60.2	-42.0	489.6	461.6	27.99	17.492	
5,100.0	5,055.0	5,058.6	5,055.0	17.9	9.7	-174.02	-60.2	-42.0	506.0	477.4	28.59	17.699	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #702H - OWB - PWP2													Offset Site Error: 3.0 usft	
Survey Program:		0-r.5 SDI_KPR_WL_NS-CT, 1506-r.5 MWD+IFR1+MS, 9153-r.5 MWD+IFR1+MS							Rule Assigned:				Offset Well Error: 3.0 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.0	5,153.6	5,157.2	5,153.6	18.3	9.8	-174.21	-60.2	-42.0	522.4	493.2	29.19	17.898		
5,300.0	5,252.2	5,255.8	5,252.2	18.8	9.9	-174.39	-60.2	-42.0	538.8	509.0	29.79	18.088		
5,400.0	5,350.9	5,354.4	5,350.9	19.2	10.0	-174.55	-60.2	-42.0	555.2	524.9	30.39	18.270		
5,500.0	5,449.5	5,453.1	5,449.5	19.7	10.1	-174.71	-60.2	-42.0	571.7	540.7	31.00	18.444		
5,600.0	5,548.1	5,551.7	5,548.1	20.1	10.1	-174.86	-60.2	-42.0	588.1	556.5	31.60	18.610		
5,700.0	5,646.7	5,650.3	5,646.7	20.5	10.2	-175.00	-60.2	-42.0	604.6	572.3	32.21	18.770		
5,800.0	5,745.4	5,749.0	5,745.4	21.0	10.3	-175.13	-60.2	-42.0	621.0	588.2	32.82	18.923		
5,900.0	5,844.0	5,847.6	5,844.0	21.4	10.4	-175.26	-60.2	-42.0	637.5	604.0	33.43	19.070		
6,000.0	5,942.6	5,946.2	5,942.6	21.9	10.5	-175.38	-60.2	-42.0	653.9	619.9	34.04	19.212		
6,100.0	6,041.3	6,044.8	6,041.3	22.3	10.5	-175.49	-60.2	-42.0	670.4	635.7	34.65	19.348		
6,200.0	6,139.9	6,143.5	6,139.9	22.7	10.6	-175.60	-60.2	-42.0	686.8	651.6	35.26	19.478		
6,300.0	6,238.5	6,242.1	6,238.5	23.2	10.7	-175.70	-60.2	-42.0	703.3	667.4	35.87	19.604		
6,400.0	6,337.1	6,340.7	6,337.1	23.6	10.8	-175.80	-60.2	-42.0	719.7	683.2	36.49	19.725		
6,500.0	6,435.8	6,439.4	6,435.8	24.1	10.9	-175.89	-60.2	-42.0	736.2	699.1	37.10	19.842		
6,600.0	6,534.4	6,538.0	6,534.4	24.5	10.9	-175.98	-60.2	-42.0	752.7	714.9	37.72	19.954		
6,700.0	6,633.0	6,636.6	6,633.0	24.9	11.0	-176.07	-60.2	-42.0	769.1	730.8	38.34	20.063		
6,800.0	6,731.7	6,735.2	6,731.7	25.4	11.1	-176.15	-60.2	-42.0	785.6	746.6	38.95	20.168		
6,900.0	6,830.4	6,833.9	6,830.4	25.8	11.2	-176.24	-60.2	-42.0	801.6	762.1	39.55	20.268		
7,000.0	6,929.3	6,932.9	6,929.3	26.2	11.3	-176.31	-60.2	-42.0	816.0	775.9	40.15	20.323		
7,100.0	7,028.5	7,032.1	7,028.5	26.7	11.4	-176.38	-60.2	-42.0	828.7	787.9	40.74	20.341		
7,200.0	7,127.9	7,131.5	7,127.9	27.1	11.4	-176.43	-60.2	-42.0	839.6	798.3	41.31	20.325		
7,300.0	7,227.5	7,231.1	7,227.5	27.5	11.5	-176.48	-60.2	-42.0	848.8	806.9	41.86	20.277		
7,400.0	7,327.2	7,330.8	7,327.2	27.8	11.6	-176.51	-60.2	-42.0	856.3	813.9	42.39	20.201		
7,500.0	7,427.0	7,430.6	7,427.0	28.2	11.7	-176.54	-60.2	-42.0	862.0	819.1	42.88	20.100		
7,600.0	7,526.9	7,530.5	7,526.9	28.5	11.8	-176.56	-60.2	-42.0	866.0	822.6	43.35	19.978		
7,700.0	7,626.9	7,630.5	7,626.9	28.8	11.8	-176.57	-60.2	-42.0	868.2	824.5	43.76	19.842		
7,800.0	7,726.9	7,730.5	7,726.9	28.9	11.9	83.43	-60.2	-42.0	868.7	824.8	43.93	19.774		
7,900.0	7,826.9	7,830.5	7,826.9	28.9	12.0	83.43	-60.2	-42.0	868.7	824.7	44.01	19.738		
8,000.0	7,926.9	7,930.5	7,926.9	28.9	12.1	83.43	-60.2	-42.0	868.7	824.7	44.09	19.705		
8,100.0	8,026.9	8,030.5	8,026.9	29.0	12.2	83.43	-60.2	-42.0	868.7	824.6	44.16	19.672		
8,200.0	8,126.9	8,130.5	8,126.9	29.0	12.3	83.43	-60.2	-42.0	868.7	824.5	44.24	19.639		
8,300.0	8,226.9	8,230.5	8,226.9	29.0	12.3	83.43	-60.2	-42.0	868.7	824.4	44.31	19.606		
8,400.0	8,326.9	8,330.5	8,326.9	29.0	12.4	83.43	-60.2	-42.0	868.7	824.4	44.39	19.572		
8,500.0	8,426.9	8,430.5	8,426.9	29.1	12.5	83.43	-60.2	-42.0	868.7	824.3	44.46	19.539		
8,600.0	8,526.9	8,530.5	8,526.9	29.1	12.6	83.43	-60.2	-42.0	868.7	824.2	44.54	19.505		
8,700.0	8,626.9	8,630.5	8,626.9	29.1	12.7	83.43	-60.2	-42.0	868.7	824.1	44.62	19.472		
8,800.0	8,726.9	8,730.5	8,726.9	29.1	12.7	83.43	-60.2	-42.0	868.7	824.1	44.69	19.438		
8,900.0	8,826.9	8,830.5	8,826.9	29.2	12.8	83.43	-60.2	-42.0	868.7	824.0	44.77	19.404		
9,000.0	8,926.9	8,930.5	8,926.9	29.2	12.9	83.43	-60.2	-42.0	868.7	823.9	44.85	19.370		
9,100.0	9,026.9	9,030.5	9,026.9	29.2	13.0	83.43	-60.2	-42.0	868.7	823.8	44.93	19.336		
9,200.0	9,126.9	9,130.5	9,126.9	29.2	13.1	83.63	-60.2	-42.0	868.7	823.7	44.99	19.308		
9,300.0	9,225.7	9,225.0	9,221.4	29.2	13.1	84.57	-58.8	-42.0	867.4	822.4	44.97	19.288		
9,400.0	9,319.4	9,308.2	9,303.4	29.2	13.1	85.82	-45.3	-42.0	865.8	820.9	44.85	19.303		
9,500.0	9,403.8	9,395.9	9,385.8	29.2	13.2	87.25	-15.9	-42.1	864.4	819.6	44.76	19.312		
9,600.0	9,475.4	9,487.0	9,464.4	29.3	13.3	88.80	30.0	-42.2	863.6	818.8	44.71	19.314		
9,672.2	9,517.2	9,555.6	9,516.9	29.3	13.3	89.97	73.9	-42.3	863.4	818.6	44.72	19.306		
9,700.0	9,530.9	9,582.6	9,535.8	29.3	13.3	90.43	93.2	-42.4	863.4	818.7	44.73	19.302		
9,800.0	9,567.9	9,683.3	9,595.9	29.3	13.5	92.08	173.9	-42.6	864.0	819.1	44.85	19.263		
9,900.0	9,584.9	9,790.3	9,639.7	29.4	13.6	93.70	271.2	-42.9	865.3	820.2	45.10	19.187		
10,000.0	9,586.5	9,904.9	9,661.4	29.5	13.7	94.96	383.5	-43.2	866.7	821.2	45.46	19.064		
10,100.0	9,587.1	10,009.6	9,663.2	29.6	13.8	95.03	488.2	-43.5	866.8	821.0	45.76	18.944		
10,200.0	9,587.8	10,109.6	9,664.0	29.8	14.0	95.04	588.2	-43.8	866.8	820.7	46.07	18.816		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #702H - OWB - PWP2												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1506-r.5 MWD+IFR1+MS, 9153-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,300.0	9,588.5	10,209.6	9,664.8	29.9	14.2	95.05	688.2	-44.1	866.8	820.4	46.43	18.671	
10,400.0	9,589.2	10,309.6	9,665.6	30.1	14.5	95.06	788.2	-44.4	866.9	820.0	46.83	18.510	
10,500.0	9,589.9	10,409.6	9,666.5	30.3	14.8	95.07	888.2	-44.7	866.9	819.6	47.28	18.335	
10,600.0	9,590.6	10,509.6	9,667.3	30.5	15.1	95.07	988.1	-45.0	866.9	819.1	47.77	18.146	
10,700.0	9,591.3	10,609.6	9,668.1	30.7	15.5	95.08	1,088.1	-45.3	866.9	818.6	48.31	17.945	
10,800.0	9,592.0	10,709.6	9,669.0	31.0	16.0	95.09	1,188.1	-45.6	867.0	818.1	48.89	17.734	
10,900.0	9,592.7	10,809.6	9,669.8	31.2	16.4	95.10	1,288.1	-45.9	867.0	817.5	49.50	17.514	
11,000.0	9,593.4	10,909.6	9,670.6	31.5	16.9	95.11	1,388.1	-46.2	867.0	816.9	50.16	17.286	
11,100.0	9,594.1	11,009.6	9,671.4	31.8	17.4	95.12	1,488.1	-46.4	867.1	816.2	50.85	17.051	
11,200.0	9,594.8	11,109.6	9,672.3	32.1	17.9	95.13	1,588.1	-46.7	867.1	815.5	51.58	16.812	
11,300.0	9,595.5	11,209.6	9,673.1	32.4	18.5	95.13	1,688.1	-47.0	867.1	814.8	52.34	16.568	
11,400.0	9,596.2	11,309.6	9,673.9	32.8	19.0	95.14	1,788.1	-47.3	867.1	814.0	53.13	16.322	
11,500.0	9,596.9	11,409.6	9,674.7	33.1	19.6	95.15	1,888.1	-47.6	867.2	813.2	53.95	16.073	
11,600.0	9,597.6	11,509.6	9,675.6	33.5	20.2	95.16	1,988.1	-47.9	867.2	812.4	54.80	15.824	
11,700.0	9,598.3	11,609.6	9,676.4	33.9	20.8	95.17	2,088.1	-48.2	867.2	811.5	55.68	15.574	
11,800.0	9,599.0	11,709.6	9,677.2	34.2	21.4	95.18	2,188.1	-48.5	867.3	810.7	56.59	15.325	
11,900.0	9,599.6	11,809.6	9,678.0	34.6	22.0	95.19	2,288.1	-48.8	867.3	809.8	57.52	15.078	
12,000.0	9,600.3	11,909.6	9,678.9	35.1	22.6	95.20	2,388.1	-49.0	867.3	808.8	58.48	14.832	
12,100.0	9,601.0	12,009.6	9,679.7	35.5	23.3	95.20	2,488.1	-49.3	867.3	807.9	59.46	14.588	
12,200.0	9,601.7	12,109.6	9,680.5	35.9	23.9	95.21	2,588.1	-49.6	867.4	806.9	60.46	14.347	
12,300.0	9,602.4	12,209.6	9,681.3	36.3	24.6	95.22	2,688.1	-49.9	867.4	805.9	61.48	14.109	
12,400.0	9,603.1	12,309.6	9,682.2	36.8	25.2	95.23	2,788.1	-50.2	867.4	804.9	62.52	13.874	
12,500.0	9,603.8	12,409.6	9,683.0	37.3	25.9	95.24	2,888.1	-50.5	867.5	803.9	63.58	13.643	
12,600.0	9,604.5	12,509.6	9,683.8	37.7	26.5	95.25	2,988.1	-50.8	867.5	802.8	64.66	13.416	
12,700.0	9,605.2	12,609.6	9,684.7	38.2	27.2	95.26	3,088.1	-51.1	867.5	801.8	65.75	13.193	
12,800.0	9,605.9	12,709.6	9,685.5	38.7	27.9	95.26	3,188.1	-51.4	867.5	800.7	66.86	12.975	
12,900.0	9,606.6	12,809.6	9,686.3	39.2	28.6	95.27	3,288.1	-51.7	867.6	799.6	67.99	12.760	
13,000.0	9,607.3	12,909.6	9,687.1	39.7	29.3	95.28	3,388.1	-51.9	867.6	798.5	69.13	12.550	
13,100.0	9,608.0	13,009.6	9,688.0	40.2	29.9	95.29	3,488.0	-52.2	867.6	797.3	70.29	12.344	
13,200.0	9,608.7	13,109.6	9,688.8	40.8	30.6	95.30	3,588.0	-52.5	867.6	796.2	71.45	12.143	
13,300.0	9,609.4	13,209.6	9,689.6	41.3	31.3	95.31	3,688.0	-52.8	867.7	795.0	72.63	11.946	
13,400.0	9,610.1	13,309.6	9,690.4	41.8	32.0	95.32	3,788.0	-53.1	867.7	793.9	73.83	11.753	
13,500.0	9,610.8	13,409.6	9,691.3	42.4	32.7	95.32	3,888.0	-53.4	867.7	792.7	75.03	11.565	
13,600.0	9,611.5	13,509.6	9,692.1	42.9	33.4	95.33	3,988.0	-53.7	867.8	791.5	76.25	11.381	
13,700.0	9,612.1	13,609.6	9,692.9	43.5	34.1	95.34	4,088.0	-54.0	867.8	790.3	77.47	11.202	
13,800.0	9,612.8	13,709.6	9,693.7	44.0	34.9	95.35	4,188.0	-54.3	867.8	789.1	78.71	11.026	
13,900.0	9,613.5	13,809.6	9,694.6	44.6	35.6	95.36	4,288.0	-54.5	867.8	787.9	79.95	10.855	
14,000.0	9,614.2	13,909.6	9,695.4	45.2	36.3	95.37	4,388.0	-54.8	867.9	786.7	81.20	10.688	
14,100.0	9,614.9	14,009.6	9,696.2	45.8	37.0	95.38	4,488.0	-55.1	867.9	785.4	82.46	10.525	
14,200.0	9,615.6	14,109.6	9,697.0	46.4	37.7	95.38	4,588.0	-55.4	867.9	784.2	83.73	10.365	
14,300.0	9,616.3	14,209.6	9,697.9	47.0	38.4	95.39	4,688.0	-55.7	868.0	783.0	85.01	10.210	
14,400.0	9,617.0	14,309.6	9,698.7	47.5	39.2	95.40	4,788.0	-56.0	868.0	781.7	86.30	10.058	
14,500.0	9,617.7	14,409.6	9,699.5	48.1	39.9	95.41	4,888.0	-56.3	868.0	780.4	87.59	9.910	
14,600.0	9,618.4	14,509.6	9,700.4	48.8	40.6	95.42	4,988.0	-56.6	868.1	779.2	88.89	9.766	
14,700.0	9,619.1	14,609.6	9,701.2	49.4	41.3	95.43	5,088.0	-56.9	868.1	777.9	90.19	9.625	
14,800.0	9,619.8	14,709.6	9,702.0	50.0	42.1	95.44	5,188.0	-57.2	868.1	776.6	91.50	9.487	
14,900.0	9,620.5	14,809.6	9,702.8	50.6	42.8	95.44	5,288.0	-57.4	868.1	775.3	92.82	9.353	
15,000.0	9,621.2	14,909.6	9,703.7	51.2	43.5	95.45	5,388.0	-57.7	868.2	774.0	94.14	9.222	
15,100.0	9,621.9	15,009.6	9,704.5	51.8	44.2	95.46	5,488.0	-58.0	868.2	772.7	95.47	9.094	
15,200.0	9,622.6	15,109.6	9,705.3	52.5	45.0	95.47	5,588.0	-58.3	868.2	771.4	96.80	8.969	
15,300.0	9,623.3	15,209.6	9,706.1	53.1	45.7	95.48	5,688.0	-58.6	868.3	770.1	98.14	8.847	
15,400.0	9,624.0	15,309.6	9,707.0	53.7	46.4	95.49	5,788.0	-58.9	868.3	768.8	99.49	8.728	

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

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #702H - OWB - PWP2												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1506-r.5 MWD+IFR1+MS, 9153-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface		Offset Wellbore Centre		Distance		Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	9,624.6	15,409.6	9,707.8	54.4	47.2	95.50	5,888.0	-59.2	868.3	767.5	100.84	8.611	
15,600.0	9,625.3	15,509.6	9,708.6	55.0	47.9	95.50	5,988.0	-59.5	868.3	766.2	102.19	8.497	
15,700.0	9,626.0	15,609.6	9,709.4	55.7	48.6	95.51	6,087.9	-59.8	868.4	764.8	103.54	8.386	
15,800.0	9,626.7	15,709.6	9,710.3	56.3	49.4	95.52	6,187.9	-60.1	868.4	763.5	104.91	8.278	
15,900.0	9,627.4	15,809.6	9,711.1	57.0	50.1	95.53	6,287.9	-60.3	868.4	762.2	106.27	8.172	
16,000.0	9,628.1	15,909.6	9,711.9	57.6	50.9	95.54	6,387.9	-60.6	868.5	760.8	107.64	8.068	
16,100.0	9,628.8	16,009.6	9,712.7	58.3	51.6	95.55	6,487.9	-60.9	868.5	759.5	109.01	7.967	
16,200.0	9,629.5	16,109.6	9,713.6	58.9	52.3	95.56	6,587.9	-61.2	868.5	758.1	110.39	7.868	
16,300.0	9,630.2	16,209.6	9,714.4	59.6	53.1	95.56	6,687.9	-61.5	868.5	756.8	111.77	7.771	
16,400.0	9,630.9	16,309.6	9,715.2	60.3	53.8	95.57	6,787.9	-61.8	868.6	755.4	113.15	7.676	
16,500.0	9,631.6	16,409.6	9,716.1	60.9	54.6	95.58	6,887.9	-62.1	868.6	754.1	114.53	7.584	
16,600.0	9,632.3	16,509.6	9,716.9	61.6	55.3	95.59	6,987.9	-62.4	868.6	752.7	115.92	7.493	
16,700.0	9,633.0	16,609.6	9,717.7	62.3	56.0	95.60	7,087.9	-62.7	868.7	751.3	117.31	7.405	
16,800.0	9,633.7	16,709.6	9,718.5	62.9	56.8	95.61	7,187.9	-62.9	868.7	750.0	118.71	7.318	
16,900.0	9,634.4	16,809.6	9,719.4	63.6	57.5	95.61	7,287.9	-63.2	868.7	748.6	120.11	7.233	
17,000.0	9,635.1	16,909.6	9,720.2	64.3	58.3	95.62	7,387.9	-63.5	868.7	747.2	121.50	7.150	
17,100.0	9,635.8	17,009.6	9,721.0	65.0	59.0	95.63	7,487.9	-63.8	868.8	745.9	122.91	7.069	
17,200.0	9,636.5	17,109.6	9,721.8	65.7	59.8	95.64	7,587.9	-64.1	868.8	744.5	124.31	6.989	
17,300.0	9,637.1	17,209.6	9,722.7	66.3	60.5	95.65	7,687.9	-64.4	868.8	743.1	125.72	6.911	
17,400.0	9,637.8	17,309.6	9,723.5	67.0	61.3	95.66	7,787.9	-64.7	868.9	741.7	127.13	6.835	
17,500.0	9,638.5	17,409.6	9,724.3	67.7	62.0	95.67	7,887.9	-65.0	868.9	740.4	128.54	6.760	
17,600.0	9,639.2	17,509.6	9,725.1	68.4	62.8	95.67	7,987.9	-65.3	868.9	739.0	129.95	6.686	
17,700.0	9,639.9	17,609.6	9,726.0	69.1	63.5	95.68	8,087.9	-65.6	869.0	737.6	131.37	6.615	
17,800.0	9,640.6	17,709.6	9,726.8	69.8	64.2	95.69	8,187.9	-65.8	869.0	736.2	132.79	6.544	
17,900.0	9,641.3	17,809.6	9,727.6	70.5	65.0	95.70	8,287.9	-66.1	869.0	734.8	134.20	6.475	
18,000.0	9,642.0	17,909.6	9,728.5	71.2	65.7	95.71	8,387.9	-66.4	869.0	733.4	135.63	6.408	
18,100.0	9,642.7	18,009.6	9,729.3	71.9	66.5	95.72	8,487.9	-66.7	869.1	732.0	137.05	6.341	
18,200.0	9,643.4	18,109.6	9,730.1	72.6	67.2	95.73	8,587.8	-67.0	869.1	730.6	138.47	6.276	
18,300.0	9,644.1	18,209.6	9,730.9	73.3	68.0	95.73	8,687.8	-67.3	869.1	729.2	139.90	6.212	
18,400.0	9,644.8	18,309.6	9,731.8	74.0	68.7	95.74	8,787.8	-67.6	869.2	727.8	141.33	6.150	
18,500.0	9,645.5	18,409.6	9,732.6	74.7	69.5	95.75	8,887.8	-67.9	869.2	726.4	142.76	6.088	
18,600.0	9,646.2	18,509.6	9,733.4	75.4	70.2	95.76	8,987.8	-68.2	869.2	725.0	144.19	6.028	
18,700.0	9,646.9	18,609.6	9,734.2	76.1	71.0	95.77	9,087.8	-68.4	869.2	723.6	145.62	5.969	
18,800.0	9,647.6	18,709.6	9,735.1	76.8	71.7	95.78	9,187.8	-68.7	869.3	722.2	147.06	5.911	
18,900.0	9,648.3	18,809.6	9,735.9	77.5	72.5	95.79	9,287.8	-69.0	869.3	720.8	148.49	5.854	
19,000.0	9,649.0	18,909.6	9,736.7	78.2	73.2	95.79	9,387.8	-69.3	869.3	719.4	149.93	5.798	
19,100.0	9,649.6	19,009.6	9,737.5	78.9	74.0	95.80	9,487.8	-69.6	869.4	718.0	151.37	5.743	
19,200.0	9,650.3	19,109.6	9,738.4	79.6	74.8	95.81	9,587.8	-69.9	869.4	716.6	152.81	5.689	
19,300.0	9,651.0	19,209.6	9,739.2	80.3	75.5	95.82	9,687.8	-70.2	869.4	715.2	154.25	5.636	
19,400.0	9,651.7	19,309.6	9,740.0	81.0	76.3	95.83	9,787.8	-70.5	869.5	713.8	155.69	5.584	
19,500.0	9,652.4	19,409.6	9,740.8	81.7	77.0	95.84	9,887.8	-70.8	869.5	712.3	157.14	5.533	
19,600.0	9,653.1	19,509.6	9,741.7	82.4	77.8	95.85	9,987.8	-71.1	869.5	710.9	158.58	5.483	
19,700.0	9,653.8	19,609.6	9,742.5	83.2	78.5	95.85	10,087.8	-71.3	869.5	709.5	160.03	5.434	
19,800.0	9,654.5	19,709.6	9,743.3	83.9	79.3	95.86	10,187.8	-71.6	869.6	708.1	161.48	5.385	
19,900.0	9,655.2	19,809.6	9,744.2	84.6	80.0	95.87	10,287.8	-71.9	869.6	706.7	162.92	5.337	
20,000.0	9,655.9	19,909.6	9,745.0	85.3	80.8	95.88	10,387.8	-72.2	869.6	705.3	164.37	5.291	
20,100.0	9,656.6	20,009.6	9,745.8	86.0	81.5	95.89	10,487.8	-72.5	869.7	703.8	165.82	5.245	
20,200.0	9,657.3	20,109.6	9,746.6	86.7	82.3	95.90	10,587.8	-72.8	869.7	702.4	167.27	5.199	
20,300.0	9,658.0	20,209.6	9,747.5	87.5	83.0	95.91	10,687.8	-73.1	869.7	701.0	168.73	5.155	
20,400.0	9,658.7	20,309.6	9,748.3	88.2	83.8	95.91	10,787.8	-73.4	869.8	699.6	170.18	5.111	
20,500.0	9,659.4	20,409.6	9,749.1	88.9	84.5	95.92	10,887.8	-73.7	869.8	698.1	171.63	5.068	
20,600.0	9,660.1	20,509.6	9,749.9	89.6	85.3	95.93	10,987.8	-73.9	869.8	696.7	173.09	5.025	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #702H - OWB - PWP2													Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1506-r.5 MWD+IFR1+MS, 9153-r.5 MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
20,700.0	9,660.8	20,609.6	9,750.8	90.3	86.1	95.94	11,087.8	-74.2	869.8	695.3	174.54	4.984		
20,800.0	9,661.5	20,709.6	9,751.6	91.1	86.8	95.95	11,187.7	-74.5	869.9	693.9	176.00	4.942		
20,900.0	9,662.1	20,809.6	9,752.4	91.8	87.6	95.96	11,287.7	-74.8	869.9	692.4	177.46	4.902		
21,000.0	9,662.8	20,909.6	9,753.2	92.5	88.3	95.97	11,387.7	-75.1	869.9	691.0	178.92	4.862		
21,100.0	9,663.5	21,009.6	9,754.1	93.2	89.1	95.97	11,487.7	-75.4	870.0	689.6	180.37	4.823		
21,200.0	9,664.2	21,109.6	9,754.9	94.0	89.8	95.98	11,587.7	-75.7	870.0	688.2	181.83	4.785		
21,300.0	9,664.9	21,209.6	9,755.7	94.7	90.6	95.99	11,687.7	-76.0	870.0	686.7	183.29	4.747		
21,400.0	9,665.6	21,309.6	9,756.5	95.4	91.3	96.00	11,787.7	-76.3	870.1	685.3	184.76	4.709		
21,500.0	9,666.3	21,409.6	9,757.4	96.1	92.1	96.01	11,887.7	-76.6	870.1	683.9	186.22	4.672		
21,600.0	9,667.0	21,509.6	9,758.2	96.9	92.9	96.02	11,987.7	-76.8	870.1	682.4	187.68	4.636		
21,700.0	9,667.7	21,609.6	9,759.0	97.6	93.6	96.02	12,087.7	-77.1	870.1	681.0	189.14	4.600		
21,800.0	9,668.4	21,709.6	9,759.9	98.3	94.3	96.03	12,187.7	-77.4	870.2	679.6	190.59	4.566		
21,873.6	9,668.9	21,783.2	9,760.5	98.9	94.8	96.04	12,261.3	-77.6	870.2	678.7	191.54	4.543		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #903H - OWB - PWP1													Offset Site Error: 3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 9944-r.5 MWD+IFR1+MS													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	3.9	3.0	3.0	89.74	2.2	488.9	488.9				
100.0	100.0	96.1	100.0	3.0	3.0	89.74	2.2	488.9	488.9	482.4	6.51	75.095	
200.0	200.0	196.1	200.0	3.2	3.2	89.74	2.2	488.9	488.9	482.2	6.75	72.452	
300.0	300.0	296.1	300.0	3.3	3.3	89.74	2.2	488.9	488.9	481.9	6.98	70.039	
400.0	400.0	396.1	400.0	3.4	3.4	89.74	2.2	488.9	488.9	481.7	7.20	67.864	
500.0	500.0	496.1	500.0	3.5	3.5	89.74	2.2	488.9	488.9	481.5	7.42	65.884	
600.0	600.0	596.1	600.0	3.7	3.7	89.74	2.2	488.9	488.9	481.3	7.63	64.072	
700.0	700.0	696.1	700.0	3.8	3.8	89.74	2.2	488.9	488.9	481.1	7.83	62.405	
800.0	800.0	796.1	800.0	3.9	3.9	89.74	2.2	488.9	488.9	480.9	8.03	60.865	
900.0	900.0	896.1	900.0	4.0	4.0	89.74	2.2	488.9	488.9	480.7	8.23	59.436	
1,000.0	1,000.0	996.1	1,000.0	4.2	4.1	89.74	2.2	488.9	488.9	480.5	8.41	58.105	
1,100.0	1,100.0	1,096.1	1,100.0	4.3	4.3	89.74	2.2	488.9	488.9	480.3	8.60	56.861	
1,200.0	1,200.0	1,196.1	1,200.0	4.4	4.4	89.74	2.2	488.9	488.9	480.1	8.78	55.695	
1,300.0	1,300.0	1,296.1	1,300.0	4.5	4.5	89.74	2.2	488.9	488.9	480.0	8.95	54.600	
1,400.0	1,400.0	1,396.1	1,400.0	4.6	4.6	89.74	2.2	488.9	488.9	479.8	9.13	53.567	
1,500.0	1,500.0	1,496.1	1,500.0	4.7	4.7	89.74	2.2	488.9	488.9	479.6	9.30	52.593	
1,600.0	1,600.0	1,610.6	1,614.5	4.8	4.9	-170.14	0.8	487.3	489.2	479.5	9.65	50.678	
1,700.0	1,699.8	1,725.6	1,729.3	5.0	5.2	-169.75	-3.5	482.1	489.9	479.7	10.18	48.126	
1,800.0	1,799.5	1,840.5	1,843.5	5.2	5.5	-169.10	-10.8	473.4	490.9	480.2	10.72	45.797	
1,900.0	1,898.7	1,955.0	1,957.0	5.5	5.8	-168.19	-21.0	461.3	492.5	481.2	11.28	43.652	
2,000.0	1,997.5	2,069.2	2,069.4	5.8	6.2	-167.04	-34.0	445.7	494.5	482.7	11.75	42.064	
2,100.0	2,096.1	2,182.9	2,180.4	6.0	6.6	-165.57	-49.9	426.8	494.7	482.4	12.29	40.251	
2,200.0	2,194.7	2,290.3	2,284.3	6.3	6.9	-163.88	-67.2	406.1	492.6	479.9	12.74	38.679	
2,300.0	2,293.4	2,389.2	2,379.9	6.6	7.2	-162.24	-83.7	386.5	490.5	477.2	13.25	37.023	
2,400.0	2,392.0	2,488.2	2,475.4	7.0	7.6	-160.59	-100.2	366.9	488.7	475.0	13.78	35.479	
2,500.0	2,490.6	2,587.2	2,571.0	7.3	7.9	-158.94	-116.6	347.3	487.4	473.1	14.31	34.069	
2,600.0	2,589.3	2,686.1	2,666.6	7.6	8.3	-157.27	-133.1	327.7	486.5	471.7	14.84	32.790	
2,688.5	2,676.6	2,772.1	2,749.8	8.0	8.6	-155.86	-147.1	310.8	486.1	470.9	15.28	31.818 CC	
2,700.0	2,687.9	2,783.1	2,760.5	8.0	8.7	-155.70	-148.7	308.7	486.1	470.8	15.34	31.696 ES	
2,800.0	2,786.5	2,879.5	2,854.3	8.4	9.1	-154.49	-161.6	291.0	486.7	470.8	15.89	30.623	
2,900.0	2,885.1	2,976.4	2,949.3	8.7	9.5	-153.64	-171.6	274.6	488.0	471.6	16.48	29.617	
3,000.0	2,983.8	3,073.7	3,045.1	9.1	9.8	-153.18	-178.6	259.5	490.0	472.9	17.10	28.662	
3,100.0	3,082.4	3,171.5	3,141.8	9.5	10.2	-153.11	-182.8	245.7	492.5	474.8	17.71	27.808	
3,200.0	3,181.0	3,271.4	3,240.8	9.9	10.5	-153.17	-185.9	232.2	495.2	476.8	18.37	26.959	
3,300.0	3,279.7	3,371.4	3,339.8	10.3	10.9	-153.23	-189.1	218.6	497.9	478.8	19.05	26.133	
3,400.0	3,378.3	3,471.4	3,438.8	10.7	11.2	-153.29	-192.2	205.1	500.5	480.8	19.74	25.352	
3,500.0	3,476.9	3,571.3	3,537.8	11.1	11.6	-153.35	-195.3	191.5	503.2	482.8	20.44	24.614	
3,600.0	3,575.5	3,671.3	3,636.8	11.5	12.0	-153.41	-198.5	178.0	505.9	484.7	21.15	23.916	
3,700.0	3,674.2	3,771.2	3,735.8	11.9	12.4	-153.47	-201.6	164.4	508.6	486.7	21.87	23.256	
3,800.0	3,772.8	3,871.2	3,834.8	12.3	12.7	-153.53	-204.7	150.8	511.3	488.7	22.59	22.631	
3,900.0	3,871.4	3,971.2	3,933.8	12.8	13.1	-153.59	-207.8	137.3	514.0	490.6	23.32	22.039	
4,000.0	3,970.1	4,071.1	4,032.7	13.2	13.5	-153.65	-211.0	123.7	516.6	492.6	24.05	21.479	
4,100.0	4,068.7	4,171.1	4,131.7	13.6	13.9	-153.70	-214.1	110.2	519.3	494.5	24.79	20.947	
4,200.0	4,167.3	4,271.1	4,230.7	14.0	14.3	-153.76	-217.2	96.6	522.0	496.5	25.54	20.443	
4,300.0	4,265.9	4,371.0	4,329.7	14.5	14.7	-153.82	-220.4	83.1	524.7	498.4	26.28	19.963	
4,400.0	4,364.6	4,471.0	4,428.7	14.9	15.1	-153.87	-223.5	69.5	527.4	500.4	27.03	19.508	
4,500.0	4,463.2	4,570.9	4,527.7	15.3	15.5	-153.93	-226.6	56.0	530.1	502.3	27.79	19.075	
4,600.0	4,561.8	4,670.9	4,626.7	15.7	15.9	-153.98	-229.7	42.4	532.8	504.2	28.55	18.662	
4,700.0	4,660.5	4,770.9	4,725.7	16.2	16.3	-154.04	-232.9	28.8	535.5	506.1	29.31	18.269	
4,800.0	4,759.1	4,870.8	4,824.7	16.6	16.7	-154.09	-236.0	15.3	538.1	508.1	30.07	17.894	
4,900.0	4,857.7	4,970.8	4,923.7	17.0	17.1	-154.14	-239.1	1.7	540.8	510.0	30.84	17.536	
5,000.0	4,956.3	5,070.8	5,022.6	17.5	17.5	-154.19	-242.3	-11.8	543.5	511.9	31.61	17.194	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #903H - OWB - PWP1												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 9944-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,100.0	5,055.0	5,170.7	5,121.6	17.9	17.9	-154.24	-245.4	-25.4	546.2	513.8	32.38	16.867	
5,200.0	5,153.6	5,270.7	5,220.6	18.3	18.3	-154.30	-248.5	-38.9	548.9	515.7	33.16	16.554	
5,300.0	5,252.2	5,370.6	5,319.6	18.8	18.8	-154.35	-251.7	-52.5	551.6	517.7	33.93	16.255	
5,400.0	5,350.9	5,470.6	5,418.6	19.2	19.2	-154.40	-254.8	-66.0	554.3	519.6	34.71	15.968	
5,500.0	5,449.5	5,570.6	5,517.6	19.7	19.6	-154.45	-257.9	-79.6	557.0	521.5	35.49	15.692	
5,600.0	5,548.1	5,670.5	5,616.6	20.1	20.0	-154.50	-261.0	-93.2	559.7	523.4	36.28	15.428	
5,700.0	5,646.7	5,770.5	5,715.6	20.5	20.4	-154.54	-264.2	-106.7	562.4	525.3	37.06	15.174	
5,800.0	5,745.4	5,870.5	5,814.6	21.0	20.8	-154.59	-267.3	-120.3	565.1	527.2	37.85	14.931	
5,900.0	5,844.0	5,970.4	5,913.6	21.4	21.2	-154.64	-270.4	-133.8	567.8	529.1	38.63	14.696	
6,000.0	5,942.6	6,070.4	6,012.5	21.9	21.7	-154.69	-273.6	-147.4	570.4	531.0	39.42	14.470	
6,100.0	6,041.3	6,170.3	6,111.5	22.3	22.1	-154.73	-276.7	-160.9	573.1	532.9	40.21	14.253	
6,200.0	6,139.9	6,270.3	6,210.5	22.7	22.5	-154.78	-279.8	-174.5	575.8	534.8	41.00	14.044	
6,300.0	6,238.5	6,370.3	6,309.5	23.2	22.9	-154.83	-282.9	-188.0	578.5	536.7	41.80	13.842	
6,400.0	6,337.1	6,470.2	6,408.5	23.6	23.3	-154.87	-286.1	-201.6	581.2	538.6	42.59	13.647	
6,500.0	6,435.8	6,570.2	6,507.5	24.1	23.8	-154.92	-289.2	-215.2	583.9	540.5	43.39	13.459	
6,600.0	6,534.4	6,670.2	6,606.5	24.5	24.2	-154.96	-292.3	-228.7	586.6	542.4	44.18	13.277	
6,700.0	6,633.0	6,770.1	6,705.5	24.9	24.6	-155.01	-295.5	-242.3	589.3	544.3	44.98	13.102	
6,800.0	6,731.7	6,863.8	6,798.3	25.4	25.0	-155.07	-298.3	-254.6	592.4	546.6	45.77	12.943	
6,900.0	6,830.4	6,955.3	6,889.1	25.8	25.4	-155.18	-300.8	-265.2	596.5	550.0	46.53	12.821	
7,000.0	6,929.3	7,046.7	6,980.1	26.2	25.8	-155.31	-302.9	-274.4	600.5	553.2	47.25	12.708	
7,100.0	7,028.5	7,138.2	7,071.2	26.7	26.1	-155.43	-304.7	-282.2	604.2	556.3	47.94	12.604	
7,200.0	7,127.9	7,229.5	7,162.3	27.1	26.4	-155.55	-306.2	-288.6	607.9	559.3	48.60	12.509	
7,300.0	7,227.5	7,320.8	7,253.4	27.5	26.8	-155.68	-307.3	-293.6	611.3	562.1	49.21	12.423	
7,400.0	7,327.2	7,412.1	7,344.6	27.8	27.0	-155.80	-308.1	-297.1	614.6	564.8	49.78	12.346	
7,500.0	7,427.0	7,500.0	7,432.5	28.2	27.3	-155.91	-308.6	-299.2	617.7	567.5	50.25	12.292	
7,600.0	7,526.9	7,594.8	7,527.3	28.5	27.4	-156.03	-308.8	-299.9	620.6	570.0	50.66	12.251	
7,700.0	7,626.9	7,694.4	7,626.9	28.8	27.5	-156.13	-308.8	-299.9	622.7	571.7	51.02	12.206	
7,800.0	7,726.9	7,794.4	7,726.9	28.9	27.5	103.85	-308.8	-299.9	623.2	572.0	51.15	12.183	
7,900.0	7,826.9	7,894.4	7,826.9	28.9	27.5	103.85	-308.8	-299.9	623.2	572.0	51.20	12.170	
8,000.0	7,926.9	7,994.4	7,926.9	28.9	27.6	103.85	-308.8	-299.9	623.2	571.9	51.26	12.158	
8,100.0	8,026.9	8,094.4	8,026.9	29.0	27.6	103.85	-308.8	-299.9	623.2	571.9	51.31	12.146	
8,200.0	8,126.9	8,194.4	8,126.9	29.0	27.6	103.85	-308.8	-299.9	623.2	571.8	51.36	12.134	
8,300.0	8,226.9	8,294.4	8,226.9	29.0	27.6	103.85	-308.8	-299.9	623.2	571.8	51.41	12.122	
8,400.0	8,326.9	8,394.4	8,326.9	29.0	27.7	103.85	-308.8	-299.9	623.2	571.7	51.46	12.109	
8,500.0	8,426.9	8,494.4	8,426.9	29.1	27.7	103.85	-308.8	-299.9	623.2	571.7	51.52	12.097	
8,600.0	8,526.9	8,594.4	8,526.9	29.1	27.7	103.85	-308.8	-299.9	623.2	571.6	51.57	12.084	
8,700.0	8,626.9	8,694.4	8,626.9	29.1	27.7	103.85	-308.8	-299.9	623.2	571.6	51.62	12.072	
8,800.0	8,726.9	8,794.4	8,726.9	29.1	27.7	103.85	-308.8	-299.9	623.2	571.5	51.68	12.059	
8,900.0	8,826.9	8,894.4	8,826.9	29.2	27.8	103.85	-308.8	-299.9	623.2	571.5	51.73	12.046	
9,000.0	8,926.9	8,994.4	8,926.9	29.2	27.8	103.85	-308.8	-299.9	623.2	571.4	51.79	12.033	
9,100.0	9,026.9	9,094.4	9,026.9	29.2	27.8	103.85	-308.8	-299.9	623.2	571.3	51.84	12.020	
9,103.6	9,030.5	9,098.0	9,030.5	29.2	27.8	104.03	-308.8	-299.9	623.2	571.3	51.85	12.020	
9,200.0	9,126.9	9,194.4	9,126.9	29.2	27.8	104.05	-308.8	-299.9	623.3	571.4	51.88	12.014 SF	
9,300.0	9,225.7	9,293.2	9,225.7	29.2	27.9	104.88	-308.8	-299.9	626.9	575.4	51.48	12.176	
9,400.0	9,319.4	9,386.9	9,319.4	29.2	27.9	106.54	-308.8	-299.9	636.9	586.4	50.45	12.624	
9,500.0	9,403.8	9,471.3	9,403.8	29.2	27.9	108.22	-308.8	-299.9	655.5	606.8	48.76	13.444	
9,600.0	9,475.4	9,542.9	9,475.4	29.3	27.9	108.87	-308.8	-299.9	685.4	638.9	46.51	14.738	
9,700.0	9,530.9	9,598.4	9,530.9	29.3	28.0	107.38	-308.8	-299.9	728.2	684.3	43.92	16.582	
9,800.0	9,567.9	9,635.4	9,567.9	29.3	28.0	102.65	-308.8	-299.9	783.7	742.4	41.28	18.984	
9,900.0	9,584.9	9,652.4	9,584.9	29.4	28.0	93.73	-308.8	-299.9	849.6	810.8	38.87	21.859	
10,000.0	9,586.5	9,653.9	9,586.5	29.5	28.0	90.46	-308.8	-299.9	922.6	885.8	36.84	25.046	
10,100.0	9,587.1	11,024.9	10,376.1	29.6	28.6	142.55	480.5	-302.6	993.8	943.2	50.57	19.652	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #903H - OWB - PWP1												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 9944-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,200.0	9,587.8	11,124.9	10,377.1	29.8	28.8	142.56	580.5	-303.0	994.0	943.1	50.90	19.528	
10,300.0	9,588.5	11,224.9	10,378.1	29.9	29.0	142.57	680.5	-303.3	994.2	943.0	51.28	19.388	
10,400.0	9,589.2	11,324.9	10,379.1	30.1	29.2	142.59	780.5	-303.7	994.5	942.8	51.70	19.235	
10,500.0	9,589.9	11,424.9	10,380.0	30.3	29.4	142.60	880.5	-304.0	994.7	942.5	52.16	19.068	
10,600.0	9,590.6	11,524.9	10,381.0	30.5	29.6	142.61	980.5	-304.3	994.9	942.2	52.67	18.890	
10,700.0	9,591.3	11,624.9	10,382.0	30.7	29.8	142.62	1,080.5	-304.7	995.1	941.9	53.21	18.701	
10,800.0	9,592.0	11,724.9	10,383.0	31.0	30.1	142.63	1,180.5	-305.0	995.3	941.5	53.79	18.503	
10,900.0	9,592.7	11,824.9	10,384.0	31.2	30.3	142.64	1,280.5	-305.4	995.5	941.1	54.41	18.296	
11,000.0	9,593.4	11,924.9	10,385.0	31.5	30.6	142.66	1,380.5	-305.7	995.7	940.7	55.07	18.082	
11,100.0	9,594.1	12,024.9	10,386.0	31.8	30.9	142.67	1,480.5	-306.0	996.0	940.2	55.76	17.862	
11,200.0	9,594.8	12,124.9	10,387.0	32.1	31.2	142.68	1,580.5	-306.4	996.2	939.7	56.48	17.637	
11,300.0	9,595.5	12,224.9	10,388.0	32.4	31.6	142.69	1,680.5	-306.7	996.4	939.2	57.24	17.408	
11,400.0	9,596.2	12,324.8	10,389.0	32.8	31.9	142.70	1,780.5	-307.1	996.6	938.6	58.02	17.176	
11,500.0	9,596.9	12,424.8	10,389.9	33.1	32.3	142.72	1,880.5	-307.4	996.8	938.0	58.84	16.942	
11,600.0	9,597.6	12,524.8	10,390.9	33.5	32.6	142.73	1,980.4	-307.8	997.0	937.4	59.68	16.706	
11,700.0	9,598.3	12,624.8	10,391.9	33.9	33.0	142.74	2,080.4	-308.1	997.2	936.7	60.55	16.469	
11,800.0	9,599.0	12,724.8	10,392.9	34.2	33.4	142.75	2,180.4	-308.4	997.5	936.0	61.45	16.232	
11,900.0	9,599.6	12,824.8	10,393.9	34.6	33.8	142.76	2,280.4	-308.8	997.7	935.3	62.37	15.995	
12,000.0	9,600.3	12,924.8	10,394.9	35.1	34.2	142.78	2,380.4	-309.1	997.9	934.6	63.32	15.759	
12,100.0	9,601.0	13,024.8	10,395.9	35.5	34.6	142.79	2,480.4	-309.5	998.1	933.8	64.29	15.525	
12,200.0	9,601.7	13,124.8	10,396.9	35.9	35.1	142.80	2,580.4	-309.8	998.3	933.0	65.28	15.293	
12,300.0	9,602.4	13,224.8	10,397.9	36.3	35.5	142.81	2,680.4	-310.1	998.5	932.2	66.29	15.063	
12,400.0	9,603.1	13,324.8	10,398.9	36.8	36.0	142.82	2,780.4	-310.5	998.8	931.4	67.32	14.835	
12,500.0	9,603.8	13,424.8	10,399.9	37.3	36.5	142.84	2,880.4	-310.8	999.0	930.6	68.37	14.610	
12,600.0	9,604.5	13,524.8	10,400.8	37.7	36.9	142.85	2,980.4	-311.2	999.2	929.7	69.44	14.389	
12,700.0	9,605.2	13,624.8	10,401.8	38.2	37.4	142.86	3,080.4	-311.5	999.4	928.9	70.53	14.170	
12,800.0	9,605.9	13,724.8	10,402.8	38.7	37.9	142.87	3,180.4	-311.8	999.6	928.0	71.63	13.955	
12,900.0	9,606.6	13,824.8	10,403.8	39.2	38.4	142.88	3,280.4	-312.2	999.8	927.1	72.75	13.744	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #904H - OWB - PWP1												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 10231-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis	Distance	Rule Assigned:									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	3.8	3.0	3.0	89.74	2.1	459.0	459.0				
100.0	100.0	96.2	100.0	3.0	3.0	89.74	2.1	459.0	459.0	452.5	6.51	70.501	
200.0	200.0	196.2	200.0	3.2	3.2	89.74	2.1	459.0	459.0	452.3	6.75	68.019	
300.0	300.0	296.2	300.0	3.3	3.3	89.74	2.1	459.0	459.0	452.0	6.98	65.755	
400.0	400.0	396.2	400.0	3.4	3.4	89.74	2.1	459.0	459.0	451.8	7.20	63.712	
500.0	500.0	496.2	500.0	3.5	3.5	89.74	2.1	459.0	459.0	451.6	7.42	61.854	
600.0	600.0	596.2	600.0	3.7	3.7	89.74	2.1	459.0	459.0	451.4	7.63	60.153	
700.0	700.0	696.2	700.0	3.8	3.8	89.74	2.1	459.0	459.0	451.2	7.83	58.588	
800.0	800.0	796.2	800.0	3.9	3.9	89.74	2.1	459.0	459.0	451.0	8.03	57.142	
900.0	900.0	896.2	900.0	4.0	4.0	89.74	2.1	459.0	459.0	450.8	8.23	55.800	
1,000.0	1,000.0	996.2	1,000.0	4.2	4.1	89.74	2.1	459.0	459.0	450.6	8.41	54.550	
1,100.0	1,100.0	1,096.2	1,100.0	4.3	4.3	89.74	2.1	459.0	459.0	450.4	8.60	53.383	
1,200.0	1,200.0	1,196.2	1,200.0	4.4	4.4	89.74	2.1	459.0	459.0	450.2	8.78	52.288	
1,300.0	1,300.0	1,296.2	1,300.0	4.5	4.5	89.74	2.1	459.0	459.0	450.1	8.95	51.260	
1,400.0	1,400.0	1,396.2	1,400.0	4.6	4.6	89.74	2.1	459.0	459.0	449.9	9.13	50.291	
1,500.0	1,500.0	1,496.2	1,500.0	4.7	4.7	89.74	2.1	459.0	459.0	449.7	9.30	49.376	
1,600.0	1,600.0	1,596.2	1,600.0	4.8	4.9	-170.29	2.1	459.0	460.7	451.1	9.65	47.743	
1,700.0	1,699.8	1,696.0	1,699.8	5.0	5.1	-170.38	2.1	459.0	465.9	455.8	10.08	46.219	
1,800.0	1,799.5	1,795.7	1,799.5	5.2	5.2	-170.53	2.1	459.0	474.5	464.0	10.52	45.099	
1,900.0	1,898.7	1,894.9	1,898.7	5.5	5.4	-170.73	2.1	459.0	486.5	475.5	10.98	44.316	
2,000.0	1,997.5	1,993.7	1,997.5	5.8	5.5	-170.98	2.1	459.0	501.8	490.5	11.34	44.250	
2,100.0	2,096.1	2,092.3	2,096.1	6.0	5.6	-171.26	2.1	459.0	518.2	506.4	11.76	44.059	
2,200.0	2,194.7	2,190.9	2,194.7	6.3	5.8	-171.53	2.1	459.0	534.5	522.3	12.19	43.843	
2,300.0	2,293.4	2,289.6	2,293.4	6.6	5.9	-171.79	2.1	459.0	550.8	538.2	12.64	43.580	
2,400.0	2,392.0	2,388.2	2,392.0	7.0	6.0	-172.02	2.1	459.0	567.2	554.1	13.10	43.281	
2,500.0	2,490.6	2,486.8	2,490.6	7.3	6.2	-172.25	2.1	459.0	583.5	569.9	13.58	42.957	
2,600.0	2,589.3	2,607.6	2,611.4	7.6	6.3	-172.47	1.7	457.0	598.3	584.1	14.18	42.181	
2,700.0	2,687.9	2,733.1	2,736.6	8.0	6.5	-172.61	0.0	449.7	608.9	594.1	14.81	41.114	
2,800.0	2,786.5	2,859.5	2,862.4	8.4	6.8	-172.65	-2.8	437.0	615.1	599.7	15.45	39.804	
2,900.0	2,885.1	2,986.4	2,987.9	8.7	7.1	-172.60	-6.8	418.8	617.0	600.9	16.12	38.276	
3,000.0	2,983.8	3,113.2	3,112.3	9.1	7.4	-172.47	-12.1	395.2	614.6	597.7	16.80	36.570	
3,100.0	3,082.4	3,220.8	3,217.2	9.5	7.7	-172.29	-17.2	371.8	608.8	591.4	17.40	34.990	
3,200.0	3,181.0	3,320.6	3,314.5	9.9	7.9	-172.12	-22.1	349.8	602.9	584.9	18.08	33.356	
3,300.0	3,279.7	3,420.4	3,411.7	10.3	8.2	-171.95	-27.0	327.9	597.0	578.3	18.77	31.804	
3,400.0	3,378.3	3,520.2	3,509.0	10.7	8.5	-171.77	-31.8	306.0	591.2	571.7	19.49	30.334	
3,500.0	3,476.9	3,620.0	3,606.2	11.1	8.8	-171.59	-36.7	284.1	585.3	565.1	20.22	28.944	
3,600.0	3,575.5	3,719.8	3,703.5	11.5	9.2	-171.41	-41.5	262.2	579.4	558.4	20.97	27.633	
3,700.0	3,674.2	3,819.7	3,800.7	11.9	9.5	-171.22	-46.4	240.2	573.5	551.8	21.73	26.396	
3,800.0	3,772.8	3,919.5	3,898.0	12.3	9.9	-171.03	-51.3	218.3	567.7	545.2	22.50	25.231	
3,900.0	3,871.4	4,019.3	3,995.2	12.8	10.3	-170.83	-56.1	196.4	561.8	538.5	23.28	24.132	
4,000.0	3,970.1	4,119.1	4,092.5	13.2	10.6	-170.63	-61.0	174.5	556.0	531.9	24.07	23.097	
4,100.0	4,068.7	4,218.9	4,189.7	13.6	11.0	-170.43	-65.8	152.6	550.1	525.3	24.87	22.121	
4,200.0	4,167.3	4,318.7	4,287.0	14.0	11.4	-170.22	-70.7	130.6	544.3	518.6	25.68	21.200	
4,300.0	4,265.9	4,418.5	4,384.2	14.5	11.8	-170.01	-75.6	108.7	538.5	512.0	26.49	20.331	
4,400.0	4,364.6	4,518.3	4,481.5	14.9	12.2	-169.79	-80.4	86.8	532.7	505.4	27.30	19.510	
4,500.0	4,463.2	4,618.1	4,578.7	15.3	12.7	-169.57	-85.3	64.9	526.9	498.7	28.12	18.733	
4,600.0	4,561.8	4,717.9	4,676.0	15.7	13.1	-169.34	-90.1	43.0	521.1	492.1	28.95	17.999	
4,700.0	4,660.5	4,817.8	4,773.2	16.2	13.5	-169.11	-95.0	21.0	515.3	485.5	29.78	17.304	
4,800.0	4,759.1	4,917.6	4,870.5	16.6	13.9	-168.87	-99.9	-0.9	509.5	478.9	30.61	16.645	
4,900.0	4,857.7	5,017.4	4,967.8	17.0	14.3	-168.63	-104.7	-22.8	503.7	472.3	31.44	16.021	
5,000.0	4,956.3	5,117.2	5,065.0	17.5	14.8	-168.38	-109.6	-44.7	497.9	465.7	32.28	15.427	
5,100.0	5,055.0	5,217.0	5,162.3	17.9	15.2	-168.12	-114.4	-66.6	492.2	459.1	33.11	14.864	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #904H - OWB - PWP1												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 10231-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.0	5,153.6	5,316.8	5,259.5	18.3	15.7	-167.86	-119.3	-88.6	486.4	452.5	33.95	14.328	
5,300.0	5,252.2	5,416.6	5,356.8	18.8	16.1	-167.60	-124.1	-110.5	480.7	445.9	34.79	13.818	
5,400.0	5,350.9	5,516.4	5,454.0	19.2	16.5	-167.32	-129.0	-132.4	475.0	439.3	35.62	13.332	
5,500.0	5,449.5	5,616.2	5,551.3	19.7	17.0	-167.04	-133.9	-154.3	469.2	432.8	36.46	12.869	
5,600.0	5,548.1	5,716.0	5,648.5	20.1	17.4	-166.76	-138.7	-176.2	463.5	426.2	37.30	12.428	
5,700.0	5,646.7	5,815.9	5,745.8	20.5	17.9	-166.46	-143.6	-198.2	457.8	419.7	38.13	12.006	
5,800.0	5,745.4	5,915.7	5,843.0	21.0	18.3	-166.16	-148.4	-220.1	452.2	413.2	38.97	11.603	
5,900.0	5,844.0	6,015.5	5,940.3	21.4	18.8	-165.85	-153.3	-242.0	446.5	406.7	39.80	11.218	
6,000.0	5,942.6	6,115.3	6,037.5	21.9	19.2	-165.54	-158.2	-263.9	440.8	400.2	40.63	10.850	
6,100.0	6,041.3	6,215.1	6,134.8	22.3	19.7	-165.21	-163.0	-285.8	435.2	393.7	41.46	10.497	
6,200.0	6,139.9	6,314.9	6,232.0	22.7	20.2	-164.88	-167.9	-307.8	429.6	387.3	42.29	10.159	
6,300.0	6,238.5	6,414.7	6,329.3	23.2	20.6	-164.53	-172.7	-329.7	424.0	380.9	43.11	9.835	
6,400.0	6,337.1	6,514.5	6,426.5	23.6	21.1	-164.18	-177.6	-351.6	418.4	374.4	43.93	9.524	
6,500.0	6,435.8	6,614.3	6,523.8	24.1	21.5	-163.82	-182.5	-373.5	412.8	368.0	44.74	9.226	
6,600.0	6,534.4	6,714.1	6,621.0	24.5	22.0	-163.45	-187.3	-395.4	407.2	361.7	45.55	8.940	
6,700.0	6,633.0	6,814.0	6,718.3	24.9	22.5	-163.07	-192.2	-417.4	401.7	355.3	46.36	8.665	
6,800.0	6,731.7	6,913.8	6,815.5	25.4	22.9	-162.68	-197.0	-439.3	396.2	349.0	47.15	8.401	
6,900.0	6,830.4	7,013.5	6,912.8	25.8	23.4	-162.24	-201.9	-461.2	390.2	342.3	47.93	8.142	
7,000.0	6,929.3	7,113.2	7,009.9	26.2	23.9	-161.71	-206.8	-483.1	382.7	334.1	48.68	7.862	
7,100.0	7,028.5	7,212.7	7,106.8	26.7	24.3	-161.06	-211.6	-504.9	373.6	324.2	49.39	7.565	
7,200.0	7,127.9	7,312.0	7,203.6	27.1	24.8	-160.28	-216.4	-526.7	362.9	312.9	50.04	7.252	
7,300.0	7,227.5	7,411.1	7,300.1	27.5	25.2	-159.34	-221.3	-548.5	350.7	300.0	50.64	6.925	
7,400.0	7,327.2	7,509.9	7,396.4	27.8	25.7	-158.23	-226.1	-570.2	336.9	285.7	51.15	6.586	
7,500.0	7,427.0	7,608.5	7,492.5	28.2	26.2	-156.90	-230.9	-591.9	321.7	270.1	51.57	6.238	
7,600.0	7,526.9	7,706.8	7,588.2	28.5	26.6	-155.30	-235.7	-613.4	305.0	253.2	51.85	5.883	
7,700.0	7,626.9	7,804.7	7,683.6	28.8	27.1	-153.35	-240.4	-634.9	287.1	235.1	51.95	5.526	
7,800.0	7,726.9	7,902.2	7,778.7	28.9	27.6	109.00	-245.2	-656.4	268.0	216.3	51.70	5.184	
7,900.0	7,826.9	7,999.7	7,873.6	28.9	28.0	111.68	-249.9	-677.8	249.0	197.8	51.17	4.865	
8,000.0	7,926.9	8,097.1	7,968.6	28.9	28.5	114.79	-254.7	-699.2	230.5	180.1	50.39	4.575	
8,100.0	8,026.9	8,194.6	8,063.5	29.0	28.9	118.42	-259.4	-720.6	212.9	163.6	49.27	4.321	
8,200.0	8,126.9	8,292.0	8,158.4	29.0	29.4	122.67	-264.1	-742.0	196.2	148.5	47.73	4.111	
8,300.0	8,226.9	8,389.4	8,253.4	29.0	29.9	127.66	-268.9	-763.4	180.9	135.2	45.68	3.960	
8,400.0	8,326.9	8,486.9	8,348.3	29.0	30.3	133.49	-273.6	-784.8	167.1	124.1	43.03	3.884 SF	
8,500.0	8,426.9	8,584.3	8,443.3	29.1	30.8	140.24	-278.4	-806.2	155.4	115.6	39.80	3.905	
8,600.0	8,526.9	8,681.7	8,538.2	29.1	31.2	147.91	-283.1	-827.5	146.3	110.0	36.22	4.037	
8,700.0	8,626.9	8,778.7	8,632.8	29.1	31.7	156.00	-287.7	-848.0	140.3	107.2	33.10	4.240	
8,800.0	8,726.9	8,876.4	8,728.6	29.1	32.2	163.97	-291.9	-867.0	137.7	106.4	31.29	4.399	
8,846.1	8,773.0	8,921.6	8,773.0	29.1	32.4	167.50	-293.7	-875.3	137.4	106.3	31.03	4.427 CC, ES	
8,900.0	8,826.9	8,974.7	8,825.2	29.2	32.6	171.45	-295.8	-884.5	137.7	106.5	31.18	4.417	
9,000.0	8,926.9	9,073.6	8,922.8	29.2	33.0	178.16	-299.3	-900.5	139.9	107.4	32.48	4.306	
9,100.0	9,026.9	9,173.1	9,021.2	29.2	33.5	-176.03	-302.5	-914.9	143.4	108.8	34.55	4.149	
9,200.0	9,126.9	9,273.0	9,120.3	29.2	33.9	-170.96	-305.3	-927.7	148.0	111.2	36.84	4.018	
9,300.0	9,225.7	9,371.9	9,218.5	29.2	34.3	-167.63	-307.8	-938.7	166.4	128.0	38.43	4.330	
9,400.0	9,319.4	9,465.7	9,311.8	29.2	34.7	-166.18	-309.7	-947.7	203.9	165.1	38.83	5.251	
9,500.0	9,403.8	9,550.3	9,396.1	29.2	35.0	-165.63	-311.2	-954.4	258.8	220.3	38.49	6.723	
9,600.0	9,475.4	9,622.1	9,467.8	29.3	35.3	-164.85	-312.3	-959.2	329.1	291.2	37.93	8.677	
9,700.0	9,530.9	9,677.8	9,523.4	29.3	35.5	-162.54	-313.0	-962.3	412.2	374.8	37.39	11.024	
9,800.0	9,567.9	9,714.8	9,560.4	29.3	35.6	-155.24	-313.4	-964.1	504.7	467.8	36.94	13.662	
9,900.0	9,584.9	9,731.4	9,576.9	29.4	35.6	-117.70	-313.5	-964.8	602.8	566.2	36.57	16.484	
10,000.0	9,586.5	9,732.0	9,577.5	29.5	35.6	-86.15	-313.6	-964.8	702.3	666.1	36.25	19.372	
10,100.0	9,587.1	9,731.8	9,577.3	29.6	35.6	-85.93	-313.5	-964.8	802.0	766.0	36.03	22.260	
10,200.0	9,587.8	9,731.6	9,577.1	29.8	35.6	-85.71	-313.5	-964.8	901.7	865.9	35.86	25.144	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #904H - OWB - PWP1												Offset Site Error: 3.0 usft	
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 10231-r.5 MWD+IFR1+MS				Rule Assigned:					Offset Well Error: 3.0 usft				
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
10,300.0	9,588.5	11,502.9	10,566.8	29.9	37.0	-176.15	676.7	-973.3	980.5	938.7	41.80	23.459	
10,400.0	9,589.2	11,602.9	10,567.8	30.1	37.2	-176.15	776.7	-973.7	980.8	938.5	42.35	23.161	
10,500.0	9,589.9	11,702.9	10,568.7	30.3	37.4	-176.15	876.7	-974.0	981.1	938.1	42.95	22.844	
10,600.0	9,590.6	11,802.9	10,569.7	30.5	37.6	-176.15	976.7	-974.4	981.3	937.7	43.59	22.511	
10,700.0	9,591.3	11,902.9	10,570.6	30.7	37.8	-176.15	1,076.7	-974.7	981.6	937.3	44.28	22.166	
10,800.0	9,592.0	12,002.9	10,571.6	31.0	38.0	-176.15	1,176.7	-975.1	981.9	936.8	45.02	21.810	
10,900.0	9,592.7	12,102.9	10,572.6	31.2	38.2	-176.15	1,276.7	-975.4	982.1	936.3	45.79	21.446	
11,000.0	9,593.4	12,202.9	10,573.5	31.5	38.5	-176.15	1,376.6	-975.7	982.4	935.8	46.61	21.077	
11,100.0	9,594.1	12,302.9	10,574.5	31.8	38.7	-176.14	1,476.6	-976.1	982.7	935.2	47.46	20.705	
11,200.0	9,594.8	12,402.9	10,575.4	32.1	39.0	-176.14	1,576.6	-976.4	982.9	934.6	48.35	20.331	
11,300.0	9,595.5	12,502.9	10,576.4	32.4	39.3	-176.14	1,676.6	-976.8	983.2	933.9	49.27	19.956	
11,400.0	9,596.2	12,602.9	10,577.4	32.8	39.5	-176.14	1,776.6	-977.1	983.5	933.2	50.22	19.584	
11,500.0	9,596.9	12,702.9	10,578.3	33.1	39.8	-176.14	1,876.6	-977.5	983.7	932.5	51.20	19.214	
11,600.0	9,597.6	12,802.9	10,579.3	33.5	40.2	-176.14	1,976.6	-977.8	984.0	931.8	52.21	18.848	
11,700.0	9,598.3	12,902.9	10,580.2	33.9	40.5	-176.14	2,076.6	-978.2	984.3	931.0	53.24	18.487	
11,800.0	9,599.0	13,002.9	10,581.2	34.2	40.8	-176.14	2,176.6	-978.5	984.5	930.2	54.30	18.131	
11,900.0	9,599.6	13,102.9	10,582.2	34.6	41.2	-176.13	2,276.6	-978.8	984.8	929.4	55.38	17.782	
12,000.0	9,600.3	13,202.9	10,583.1	35.1	41.5	-176.13	2,376.6	-979.2	985.1	928.6	56.49	17.439	
12,100.0	9,601.0	13,302.9	10,584.1	35.5	41.9	-176.13	2,476.6	-979.5	985.3	927.7	57.61	17.103	
12,200.0	9,601.7	13,402.9	10,585.0	35.9	42.3	-176.13	2,576.6	-979.9	985.6	926.8	58.75	16.775	
12,300.0	9,602.4	13,502.9	10,586.0	36.3	42.7	-176.13	2,676.6	-980.2	985.9	925.9	59.92	16.454	
12,400.0	9,603.1	13,602.9	10,586.9	36.8	43.1	-176.13	2,776.6	-980.6	986.1	925.0	61.10	16.140	
12,500.0	9,603.8	13,702.9	10,587.9	37.3	43.5	-176.13	2,876.6	-980.9	986.4	924.1	62.29	15.835	
12,600.0	9,604.5	13,802.9	10,588.9	37.7	43.9	-176.13	2,976.6	-981.2	986.7	923.2	63.50	15.537	
12,700.0	9,605.2	13,902.9	10,589.8	38.2	44.3	-176.13	3,076.6	-981.6	986.9	922.2	64.73	15.247	
12,800.0	9,605.9	14,002.9	10,590.8	38.7	44.7	-176.12	3,176.5	-981.9	987.2	921.2	65.97	14.964	
12,900.0	9,606.6	14,102.9	10,591.7	39.2	45.2	-176.12	3,276.5	-982.3	987.5	920.2	67.22	14.689	
13,000.0	9,607.3	14,202.9	10,592.7	39.7	45.6	-176.12	3,376.5	-982.6	987.7	919.2	68.49	14.422	
13,100.0	9,608.0	14,302.9	10,593.7	40.2	46.1	-176.12	3,476.5	-983.0	988.0	918.2	69.76	14.162	
13,200.0	9,608.7	14,402.9	10,594.6	40.8	46.6	-176.12	3,576.5	-983.3	988.3	917.2	71.05	13.909	
13,300.0	9,609.4	14,502.9	10,595.6	41.3	47.0	-176.12	3,676.5	-983.7	988.5	916.2	72.35	13.664	
13,400.0	9,610.1	14,602.9	10,596.5	41.8	47.5	-176.12	3,776.5	-984.0	988.8	915.1	73.65	13.425	
13,500.0	9,610.8	14,702.9	10,597.5	42.4	48.0	-176.12	3,876.5	-984.3	989.1	914.1	74.97	13.193	
13,600.0	9,611.5	14,802.9	10,598.5	42.9	48.5	-176.12	3,976.5	-984.7	989.3	913.0	76.30	12.967	
13,700.0	9,612.1	14,902.9	10,599.4	43.5	49.0	-176.11	4,076.5	-985.0	989.6	912.0	77.63	12.748	
13,800.0	9,612.8	15,002.9	10,600.4	44.0	49.5	-176.11	4,176.5	-985.4	989.9	910.9	78.97	12.534	
13,900.0	9,613.5	15,102.9	10,601.3	44.6	50.0	-176.11	4,276.5	-985.7	990.1	909.8	80.32	12.327	
14,000.0	9,614.2	15,202.9	10,602.3	45.2	50.5	-176.11	4,376.5	-986.1	990.4	908.7	81.68	12.126	
14,100.0	9,614.9	15,302.9	10,603.2	45.8	51.1	-176.11	4,476.5	-986.4	990.6	907.6	83.04	11.930	
14,200.0	9,615.6	15,402.9	10,604.2	46.4	51.6	-176.11	4,576.5	-986.7	990.9	906.5	84.41	11.740	
14,300.0	9,616.3	15,502.9	10,605.2	47.0	52.1	-176.11	4,676.5	-987.1	991.2	905.4	85.78	11.555	
14,400.0	9,617.0	15,602.9	10,606.1	47.5	52.7	-176.11	4,776.5	-987.4	991.4	904.3	87.16	11.375	
14,500.0	9,617.7	15,702.9	10,607.1	48.1	53.2	-176.10	4,876.5	-987.8	991.7	903.2	88.55	11.199	
14,600.0	9,618.4	15,802.9	10,608.0	48.8	53.8	-176.10	4,976.4	-988.1	992.0	902.0	89.94	11.029	
14,700.0	9,619.1	15,902.9	10,609.0	49.4	54.3	-176.10	5,076.4	-988.5	992.2	900.9	91.34	10.863	
14,800.0	9,619.8	16,002.9	10,610.0	50.0	54.9	-176.10	5,176.4	-988.8	992.5	899.8	92.74	10.702	
14,900.0	9,620.5	16,102.9	10,610.9	50.6	55.5	-176.10	5,276.4	-989.2	992.8	898.6	94.15	10.545	
15,000.0	9,621.2	16,202.9	10,611.9	51.2	56.0	-176.10	5,376.4	-989.5	993.0	897.5	95.56	10.392	
15,100.0	9,621.9	16,302.9	10,612.8	51.8	56.6	-176.10	5,476.4	-989.8	993.3	896.3	96.97	10.243	
15,200.0	9,622.6	16,402.9	10,613.8	52.5	57.2	-176.10	5,576.4	-990.2	993.6	895.2	98.39	10.098	
15,300.0	9,623.3	16,502.9	10,614.7	53.1	57.8	-176.10	5,676.4	-990.5	993.8	894.0	99.82	9.957	
15,400.0	9,624.0	16,602.9	10,615.7	53.7	58.4	-176.09	5,776.4	-990.9	994.1	892.9	101.24	9.819	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Offset Design: KEG SHELL FED COM PROJECT - KEG SHELL FEDERAL COM #904H - OWB - PWP1												Offset Site Error:	3.0 usft
Survey Program: 0-r.5 SDI_KPR_WL_NS-CT, 1500-r.5 MWD+IFR1+MS, 10231-r.5 MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.0	9,624.6	16,702.9	10,616.7	54.4	59.0	-176.09	5,876.4	-991.2	994.4	891.7	102.67	9.685	
15,600.0	9,625.3	16,802.9	10,617.6	55.0	59.6	-176.09	5,976.4	-991.6	994.6	890.5	104.11	9.554	
15,700.0	9,626.0	16,902.9	10,618.6	55.7	60.2	-176.09	6,076.4	-991.9	994.9	889.4	105.54	9.427	
15,800.0	9,626.7	17,002.9	10,619.5	56.3	60.8	-176.09	6,176.4	-992.2	995.2	888.2	106.98	9.302	
15,900.0	9,627.4	17,102.9	10,620.5	57.0	61.4	-176.09	6,276.4	-992.6	995.4	887.0	108.43	9.181	
16,000.0	9,628.1	17,202.9	10,621.5	57.6	62.0	-176.09	6,376.4	-992.9	995.7	885.8	109.87	9.062	
16,100.0	9,628.8	17,302.9	10,622.4	58.3	62.6	-176.09	6,476.4	-993.3	996.0	884.7	111.32	8.947	
16,200.0	9,629.5	17,402.9	10,623.4	58.9	63.2	-176.09	6,576.4	-993.6	996.2	883.5	112.77	8.834	
16,300.0	9,630.2	17,502.9	10,624.3	59.6	63.9	-176.08	6,676.4	-994.0	996.5	882.3	114.23	8.724	
16,400.0	9,630.9	17,602.9	10,625.3	60.3	64.5	-176.08	6,776.3	-994.3	996.8	881.1	115.68	8.617	
16,500.0	9,631.6	17,702.9	10,626.3	60.9	65.1	-176.08	6,876.3	-994.7	997.0	879.9	117.14	8.511	
16,600.0	9,632.3	17,802.9	10,627.2	61.6	65.7	-176.08	6,976.3	-995.0	997.3	878.7	118.60	8.409	
16,700.0	9,633.0	17,902.9	10,628.2	62.3	66.4	-176.08	7,076.3	-995.3	997.6	877.5	120.06	8.309	
16,800.0	9,633.7	18,002.9	10,629.1	62.9	67.0	-176.08	7,176.3	-995.7	997.8	876.3	121.53	8.211	
16,900.0	9,634.4	18,102.9	10,630.1	63.6	67.6	-176.08	7,276.3	-996.0	998.1	875.1	123.00	8.115	
17,000.0	9,635.1	18,202.9	10,631.0	64.3	68.3	-176.08	7,376.3	-996.4	998.4	873.9	124.47	8.021	
17,100.0	9,635.8	18,302.9	10,632.0	65.0	68.9	-176.08	7,476.3	-996.7	998.6	872.7	125.94	7.930	
17,200.0	9,636.5	18,402.9	10,633.0	65.7	69.6	-176.07	7,576.3	-997.1	998.9	871.5	127.41	7.840	
17,300.0	9,637.1	18,502.9	10,633.9	66.3	70.2	-176.07	7,676.3	-997.4	999.2	870.3	128.89	7.752	
17,400.0	9,637.8	18,602.9	10,634.9	67.0	70.9	-176.07	7,776.3	-997.7	999.4	869.1	130.36	7.667	
17,500.0	9,638.5	18,702.9	10,635.8	67.7	71.5	-176.07	7,876.3	-998.1	999.7	867.9	131.84	7.583	
17,600.0	9,639.2	18,802.9	10,636.8	68.4	72.2	-176.07	7,976.3	-998.4	1,000.0	866.6	133.32	7.501	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB=32 @ 3022.8usft

Offset Depths are relative to Offset Datum

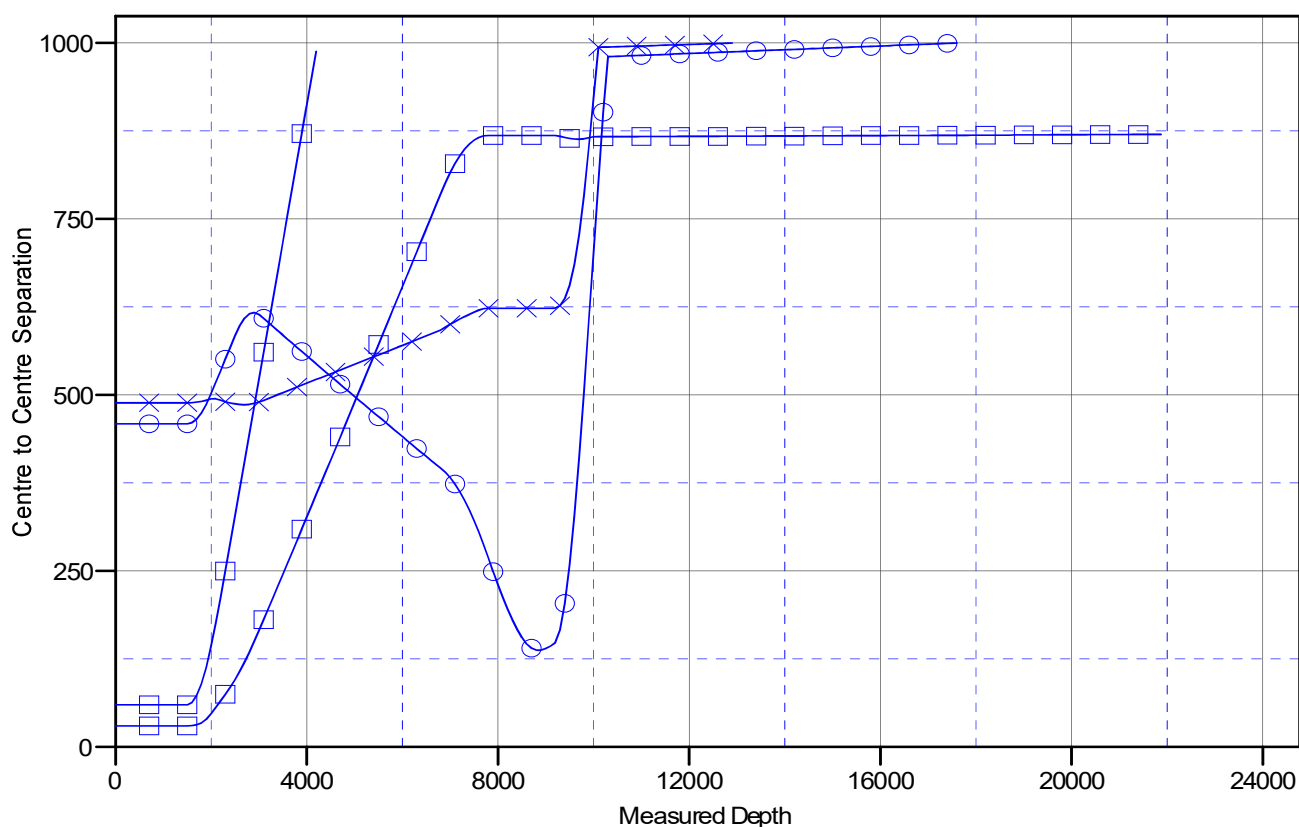
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: KEG SHELL FEDERAL COM #703H

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

Grid Convergence at Surface is: 0.15°

Ladder Plot



LEGEND

KEG SHELL FEDERAL COM#903H, OWB, PWP1 V0
 KEG SHELL FEDERAL COM#702H, OWB, PWP2 V0
 KEG SHELL FEDERAL COM#701H, OWB, PWP2 V0

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=32 @ 3022.8usft
Reference Site:	KEG SHELL FED COM PROJECT	MD Reference:	KB=32 @ 3022.8usft
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Central Planning Prod
Reference Design:	PWP2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to KB=32 @ 3022.8usft

Offset Depths are relative to Offset Datum

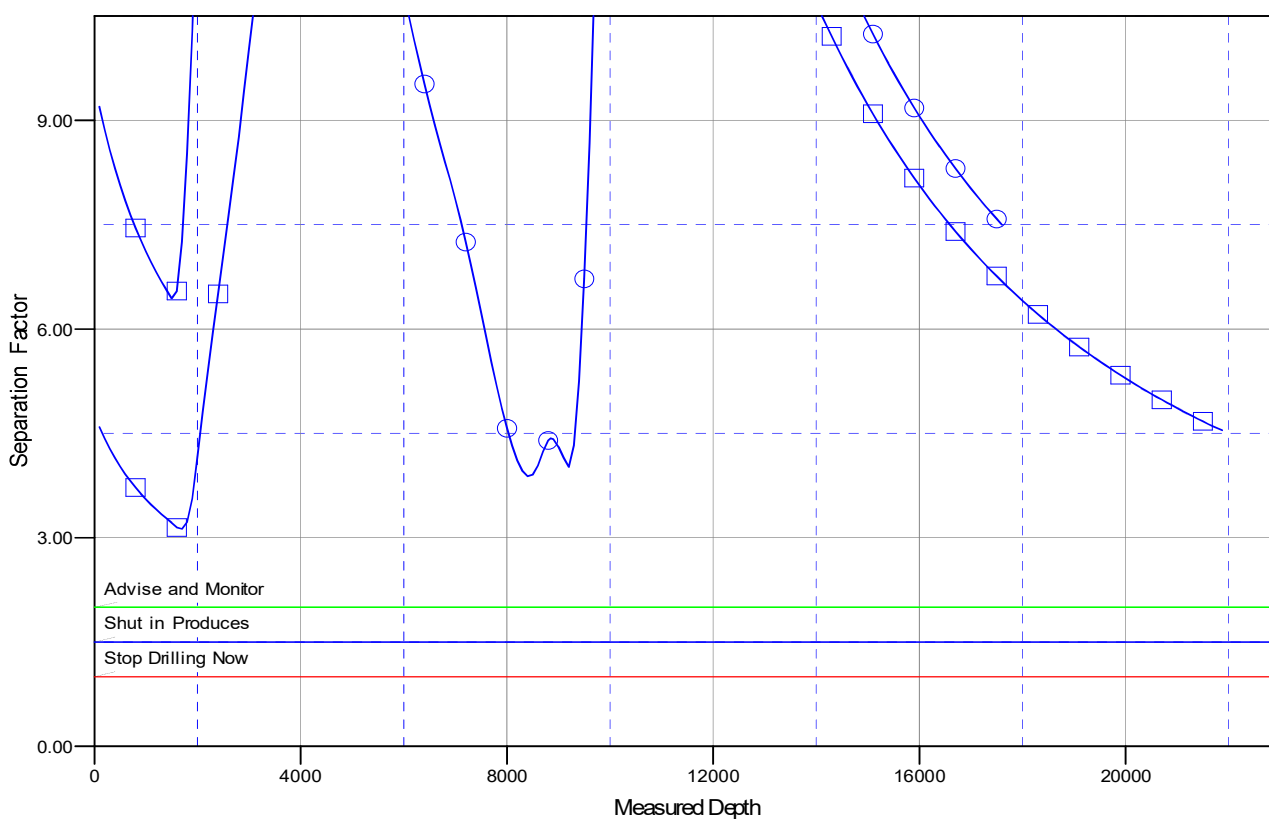
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: KEG SHELL FEDERAL COM #703H

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

Grid Convergence at Surface is: 0.15°

Separation Factor Plot



LEGEND

KEG SHELL FEDERAL COM#903H, OWB, PWP1 V0
KEG SHELL FEDERAL COM#702H, OWB, PWP2 V0KEG SHELL FEDERAL COM#904H, OWB, PWP1 V0
KEG SHELL FEDERAL COM#701H, OWB, PWP2 V0

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

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

KEG SHELL FED COM PROJECT

KEG SHELL FEDERAL COM #703H

300154821100

OWB

Plan: PWP2

Standard Planning Report

17 May, 2023

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

Project	ATLAS PROSPECT (NM-E)		
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	KEG SHELL FED COM PROJECT		
Site Position:		Northing:	363,843.46 usft
From:	Map	Easting:	588,090.89 usft
Position Uncertainty:	3.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 0' 0.003 N
		Longitude:	104° 2' 56.993 W

Well	KEG SHELL FEDERAL COM #703H					
Well Position	+N/-S	0.0 usft	Northing:	364,166.40 usft	Latitude:	32° 0' 3.232 N
	+E/-W	0.0 usft	Easting:	586,811.60 usft	Longitude:	104° 3' 11.840 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft	Ground Level:	2,990.8 usft
Grid Convergence:		0.15 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	12/1/2023	6.55	59.52	47,287.33738821

Design	PWP2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	355.60	

Plan Survey Tool Program	Date	5/17/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	1,506.0 PWP2 (OWB)	r.5 SDI_KPR_WL_NS-CT SDI Keeper Wireline Gyrocomp		
2	1,506.0	9,181.0 PWP2 (OWB)	r.5 MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St		
3	9,181.0	21,873.1 PWP2 (OWB)	r.5 MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St		

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Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

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	
1,975.0	9.50	260.00	1,972.8	-6.8	-38.7	2.00	2.00	0.00	260.00	
6,828.7	9.50	260.00	6,760.0	-145.9	-827.6	0.00	0.00	0.00	0.00	
7,778.7	0.00	0.00	7,705.7	-159.6	-905.0	1.00	-1.00	10.53	180.00	
9,181.6	0.00	0.00	9,108.5	-159.6	-905.0	0.00	0.00	0.00	0.00	
9,928.3	89.60	359.82	9,586.0	314.6	-906.5	12.00	12.00	-0.02	359.82	
21,743.1	89.60	359.82	9,668.0	12,129.1	-942.6	0.00	0.00	0.00	0.00	
21,873.1	89.60	359.82	9,668.9	12,259.1	-943.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

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
Start Build 2.00									
1,600.0	2.00	260.00	1,600.0	-0.3	-1.7	-0.2	2.00	2.00	0.00
1,700.0	4.00	260.00	1,699.8	-1.2	-6.9	-0.7	2.00	2.00	0.00
1,800.0	6.00	260.00	1,799.5	-2.7	-15.5	-1.5	2.00	2.00	0.00
1,900.0	8.00	260.00	1,898.7	-4.8	-27.5	-2.7	2.00	2.00	0.00
1,975.0	9.50	260.00	1,972.8	-6.8	-38.7	-3.8	2.00	2.00	0.00
Start 4853.7 hold at 1975.0 MD									
2,000.0	9.50	260.00	1,997.5	-7.5	-42.8	-4.2	0.00	0.00	0.00
2,100.0	9.50	260.00	2,096.1	-10.4	-59.0	-5.8	0.00	0.00	0.00
2,200.0	9.50	260.00	2,194.7	-13.3	-75.3	-7.5	0.00	0.00	0.00
2,300.0	9.50	260.00	2,293.4	-16.1	-91.5	-9.1	0.00	0.00	0.00
2,400.0	9.50	260.00	2,392.0	-19.0	-107.8	-10.7	0.00	0.00	0.00
2,500.0	9.50	260.00	2,490.6	-21.9	-124.0	-12.3	0.00	0.00	0.00
2,600.0	9.50	260.00	2,589.3	-24.7	-140.3	-13.9	0.00	0.00	0.00
2,700.0	9.50	260.00	2,687.9	-27.6	-156.5	-15.5	0.00	0.00	0.00
2,800.0	9.50	260.00	2,786.5	-30.5	-172.8	-17.1	0.00	0.00	0.00
2,900.0	9.50	260.00	2,885.1	-33.3	-189.0	-18.7	0.00	0.00	0.00
3,000.0	9.50	260.00	2,983.8	-36.2	-205.3	-20.3	0.00	0.00	0.00
3,100.0	9.50	260.00	3,082.4	-39.1	-221.5	-22.0	0.00	0.00	0.00
3,200.0	9.50	260.00	3,181.0	-41.9	-237.8	-23.6	0.00	0.00	0.00
3,300.0	9.50	260.00	3,279.7	-44.8	-254.1	-25.2	0.00	0.00	0.00
3,400.0	9.50	260.00	3,378.3	-47.7	-270.3	-26.8	0.00	0.00	0.00
3,500.0	9.50	260.00	3,476.9	-50.5	-286.6	-28.4	0.00	0.00	0.00
3,600.0	9.50	260.00	3,575.5	-53.4	-302.8	-30.0	0.00	0.00	0.00
3,700.0	9.50	260.00	3,674.2	-56.3	-319.1	-31.6	0.00	0.00	0.00
3,800.0	9.50	260.00	3,772.8	-59.1	-335.3	-33.2	0.00	0.00	0.00
3,900.0	9.50	260.00	3,871.4	-62.0	-351.6	-34.8	0.00	0.00	0.00
4,000.0	9.50	260.00	3,970.1	-64.9	-367.8	-36.5	0.00	0.00	0.00
4,100.0	9.50	260.00	4,068.7	-67.7	-384.1	-38.1	0.00	0.00	0.00
4,200.0	9.50	260.00	4,167.3	-70.6	-400.3	-39.7	0.00	0.00	0.00
4,300.0	9.50	260.00	4,265.9	-73.5	-416.6	-41.3	0.00	0.00	0.00
4,400.0	9.50	260.00	4,364.6	-76.3	-432.9	-42.9	0.00	0.00	0.00
4,500.0	9.50	260.00	4,463.2	-79.2	-449.1	-44.5	0.00	0.00	0.00
4,600.0	9.50	260.00	4,561.8	-82.1	-465.4	-46.1	0.00	0.00	0.00
4,700.0	9.50	260.00	4,660.5	-84.9	-481.6	-47.7	0.00	0.00	0.00
4,800.0	9.50	260.00	4,759.1	-87.8	-497.9	-49.3	0.00	0.00	0.00
4,900.0	9.50	260.00	4,857.7	-90.7	-514.1	-51.0	0.00	0.00	0.00
5,000.0	9.50	260.00	4,956.3	-93.5	-530.4	-52.6	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

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)	
5,100.0	9.50	260.00	5,055.0	-96.4	-546.6	-54.2	0.00	0.00	0.00	
5,200.0	9.50	260.00	5,153.6	-99.3	-562.9	-55.8	0.00	0.00	0.00	
5,300.0	9.50	260.00	5,252.2	-102.1	-579.1	-57.4	0.00	0.00	0.00	
5,400.0	9.50	260.00	5,350.9	-105.0	-595.4	-59.0	0.00	0.00	0.00	
5,500.0	9.50	260.00	5,449.5	-107.8	-611.6	-60.6	0.00	0.00	0.00	
5,600.0	9.50	260.00	5,548.1	-110.7	-627.9	-62.2	0.00	0.00	0.00	
5,700.0	9.50	260.00	5,646.7	-113.6	-644.2	-63.8	0.00	0.00	0.00	
5,800.0	9.50	260.00	5,745.4	-116.4	-660.4	-65.4	0.00	0.00	0.00	
5,900.0	9.50	260.00	5,844.0	-119.3	-676.7	-67.1	0.00	0.00	0.00	
6,000.0	9.50	260.00	5,942.6	-122.2	-692.9	-68.7	0.00	0.00	0.00	
6,100.0	9.50	260.00	6,041.3	-125.0	-709.2	-70.3	0.00	0.00	0.00	
6,200.0	9.50	260.00	6,139.9	-127.9	-725.4	-71.9	0.00	0.00	0.00	
6,300.0	9.50	260.00	6,238.5	-130.8	-741.7	-73.5	0.00	0.00	0.00	
6,400.0	9.50	260.00	6,337.1	-133.6	-757.9	-75.1	0.00	0.00	0.00	
6,500.0	9.50	260.00	6,435.8	-136.5	-774.2	-76.7	0.00	0.00	0.00	
6,600.0	9.50	260.00	6,534.4	-139.4	-790.4	-78.3	0.00	0.00	0.00	
6,700.0	9.50	260.00	6,633.0	-142.2	-806.7	-79.9	0.00	0.00	0.00	
6,800.0	9.50	260.00	6,731.7	-145.1	-822.9	-81.6	0.00	0.00	0.00	
6,828.7	9.50	260.00	6,760.0	-145.9	-827.6	-82.0	0.00	0.00	0.00	
Start DLS 1.00 TFO 180.00										
6,900.0	8.79	260.00	6,830.4	-147.9	-838.8	-83.1	1.00	-1.00	0.00	
7,000.0	7.79	260.00	6,929.3	-150.4	-853.0	-84.5	1.00	-1.00	0.00	
7,100.0	6.79	260.00	7,028.5	-152.6	-865.5	-85.8	1.00	-1.00	0.00	
7,200.0	5.79	260.00	7,127.9	-154.5	-876.2	-86.8	1.00	-1.00	0.00	
7,300.0	4.79	260.00	7,227.5	-156.1	-885.3	-87.7	1.00	-1.00	0.00	
7,400.0	3.79	260.00	7,327.2	-157.4	-892.7	-88.5	1.00	-1.00	0.00	
7,500.0	2.79	260.00	7,427.0	-158.4	-898.3	-89.0	1.00	-1.00	0.00	
7,600.0	1.79	260.00	7,526.9	-159.1	-902.3	-89.4	1.00	-1.00	0.00	
7,700.0	0.79	260.00	7,626.9	-159.5	-904.5	-89.6	1.00	-1.00	0.00	
7,778.7	0.00	0.00	7,705.7	-159.6	-905.0	-89.7	1.00	-1.00	127.00	
Start 1402.8 hold at 7778.7 MD										
7,800.0	0.00	0.00	7,726.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,826.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,926.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,026.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,126.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,226.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,326.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,426.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,526.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,626.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,726.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,826.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,926.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,026.9	-159.6	-905.0	-89.7	0.00	0.00	0.00	
9,181.6	0.00	0.00	9,108.5	-159.6	-905.0	-89.7	0.00	0.00	0.00	
Start DLS 12.00 TFO 359.82										
9,200.0	2.21	359.82	9,126.9	-159.2	-905.0	-89.3	12.00	12.00	-0.95	
9,300.0	14.21	359.82	9,225.7	-145.0	-905.0	-75.1	12.00	12.00	0.00	
9,400.0	26.21	359.82	9,319.4	-110.5	-905.2	-40.7	12.00	12.00	0.00	
9,500.0	38.21	359.82	9,403.8	-57.3	-905.3	12.3	12.00	12.00	0.00	
9,600.0	50.21	359.82	9,475.4	12.3	-905.5	81.7	12.00	12.00	0.00	
9,700.0	62.21	359.82	9,530.9	95.3	-905.8	164.5	12.00	12.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,800.0	74.21	359.82	9,567.9	188.0	-906.1	256.9	12.00	12.00	0.00
9,900.0	86.21	359.82	9,584.9	286.3	-906.4	355.0	12.00	12.00	0.00
9,928.3	89.60	359.82	9,586.0	314.6	-906.5	383.2	12.00	12.00	0.00
Start 11814.9 hold at 9928.3 MD									
10,000.0	89.60	359.82	9,586.5	386.3	-906.7	454.7	0.00	0.00	0.00
10,100.0	89.60	359.82	9,587.1	486.3	-907.0	554.4	0.00	0.00	0.00
10,200.0	89.60	359.82	9,587.8	586.3	-907.3	654.2	0.00	0.00	0.00
10,300.0	89.60	359.82	9,588.5	686.3	-907.6	753.9	0.00	0.00	0.00
10,400.0	89.60	359.82	9,589.2	786.3	-907.9	853.6	0.00	0.00	0.00
10,500.0	89.60	359.82	9,589.9	886.3	-908.2	953.3	0.00	0.00	0.00
10,600.0	89.60	359.82	9,590.6	986.3	-908.5	1,053.1	0.00	0.00	0.00
10,700.0	89.60	359.82	9,591.3	1,086.3	-908.8	1,152.8	0.00	0.00	0.00
10,800.0	89.60	359.82	9,592.0	1,186.3	-909.1	1,252.5	0.00	0.00	0.00
10,900.0	89.60	359.82	9,592.7	1,286.3	-909.4	1,352.2	0.00	0.00	0.00
11,000.0	89.60	359.82	9,593.4	1,386.3	-909.7	1,452.0	0.00	0.00	0.00
11,100.0	89.60	359.82	9,594.1	1,486.3	-910.0	1,551.7	0.00	0.00	0.00
11,200.0	89.60	359.82	9,594.8	1,586.3	-910.3	1,651.4	0.00	0.00	0.00
11,300.0	89.60	359.82	9,595.5	1,686.3	-910.7	1,751.1	0.00	0.00	0.00
11,400.0	89.60	359.82	9,596.2	1,786.3	-911.0	1,850.9	0.00	0.00	0.00
11,500.0	89.60	359.82	9,596.9	1,886.3	-911.3	1,950.6	0.00	0.00	0.00
11,600.0	89.60	359.82	9,597.6	1,986.3	-911.6	2,050.3	0.00	0.00	0.00
11,700.0	89.60	359.82	9,598.3	2,086.2	-911.9	2,150.0	0.00	0.00	0.00
11,800.0	89.60	359.82	9,599.0	2,186.2	-912.2	2,249.8	0.00	0.00	0.00
11,900.0	89.60	359.82	9,599.6	2,286.2	-912.5	2,349.5	0.00	0.00	0.00
12,000.0	89.60	359.82	9,600.3	2,386.2	-912.8	2,449.2	0.00	0.00	0.00
12,100.0	89.60	359.82	9,601.0	2,486.2	-913.1	2,549.0	0.00	0.00	0.00
12,200.0	89.60	359.82	9,601.7	2,586.2	-913.4	2,648.7	0.00	0.00	0.00
12,300.0	89.60	359.82	9,602.4	2,686.2	-913.7	2,748.4	0.00	0.00	0.00
12,400.0	89.60	359.82	9,603.1	2,786.2	-914.0	2,848.1	0.00	0.00	0.00
12,500.0	89.60	359.82	9,603.8	2,886.2	-914.3	2,947.9	0.00	0.00	0.00
12,600.0	89.60	359.82	9,604.5	2,986.2	-914.6	3,047.6	0.00	0.00	0.00
12,700.0	89.60	359.82	9,605.2	3,086.2	-914.9	3,147.3	0.00	0.00	0.00
12,800.0	89.60	359.82	9,605.9	3,186.2	-915.2	3,247.0	0.00	0.00	0.00
12,900.0	89.60	359.82	9,606.6	3,286.2	-915.5	3,346.8	0.00	0.00	0.00
13,000.0	89.60	359.82	9,607.3	3,386.2	-915.9	3,446.5	0.00	0.00	0.00
13,100.0	89.60	359.82	9,608.0	3,486.2	-916.2	3,546.2	0.00	0.00	0.00
13,200.0	89.60	359.82	9,608.7	3,586.2	-916.5	3,645.9	0.00	0.00	0.00
13,300.0	89.60	359.82	9,609.4	3,686.2	-916.8	3,745.7	0.00	0.00	0.00
13,400.0	89.60	359.82	9,610.1	3,786.2	-917.1	3,845.4	0.00	0.00	0.00
13,500.0	89.60	359.82	9,610.8	3,886.2	-917.4	3,945.1	0.00	0.00	0.00
13,600.0	89.60	359.82	9,611.5	3,986.2	-917.7	4,044.8	0.00	0.00	0.00
13,700.0	89.60	359.82	9,612.1	4,086.2	-918.0	4,144.6	0.00	0.00	0.00
13,800.0	89.60	359.82	9,612.8	4,186.2	-918.3	4,244.3	0.00	0.00	0.00
13,900.0	89.60	359.82	9,613.5	4,286.2	-918.6	4,344.0	0.00	0.00	0.00
14,000.0	89.60	359.82	9,614.2	4,386.2	-918.9	4,443.7	0.00	0.00	0.00
14,100.0	89.60	359.82	9,614.9	4,486.2	-919.2	4,543.5	0.00	0.00	0.00
14,200.0	89.60	359.82	9,615.6	4,586.2	-919.5	4,643.2	0.00	0.00	0.00
14,300.0	89.60	359.82	9,616.3	4,686.2	-919.8	4,742.9	0.00	0.00	0.00
14,400.0	89.60	359.82	9,617.0	4,786.2	-920.1	4,842.6	0.00	0.00	0.00
14,500.0	89.60	359.82	9,617.7	4,886.2	-920.4	4,942.4	0.00	0.00	0.00
14,600.0	89.60	359.82	9,618.4	4,986.2	-920.7	5,042.1	0.00	0.00	0.00
14,700.0	89.60	359.82	9,619.1	5,086.2	-921.1	5,141.8	0.00	0.00	0.00
14,800.0	89.60	359.82	9,619.8	5,186.2	-921.4	5,241.6	0.00	0.00	0.00
14,900.0	89.60	359.82	9,620.5	5,286.2	-921.7	5,341.3	0.00	0.00	0.00

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Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

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)
15,000.0	89.60	359.82	9,621.2	5,386.2	-922.0	5,441.0	0.00	0.00	0.00
15,100.0	89.60	359.82	9,621.9	5,486.2	-922.3	5,540.7	0.00	0.00	0.00
15,200.0	89.60	359.82	9,622.6	5,586.1	-922.6	5,640.5	0.00	0.00	0.00
15,300.0	89.60	359.82	9,623.3	5,686.1	-922.9	5,740.2	0.00	0.00	0.00
15,400.0	89.60	359.82	9,624.0	5,786.1	-923.2	5,839.9	0.00	0.00	0.00
15,500.0	89.60	359.82	9,624.6	5,886.1	-923.5	5,939.6	0.00	0.00	0.00
15,600.0	89.60	359.82	9,625.3	5,986.1	-923.8	6,039.4	0.00	0.00	0.00
15,700.0	89.60	359.82	9,626.0	6,086.1	-924.1	6,139.1	0.00	0.00	0.00
15,800.0	89.60	359.82	9,626.7	6,186.1	-924.4	6,238.8	0.00	0.00	0.00
15,900.0	89.60	359.82	9,627.4	6,286.1	-924.7	6,338.5	0.00	0.00	0.00
16,000.0	89.60	359.82	9,628.1	6,386.1	-925.0	6,438.3	0.00	0.00	0.00
16,100.0	89.60	359.82	9,628.8	6,486.1	-925.3	6,538.0	0.00	0.00	0.00
16,200.0	89.60	359.82	9,629.5	6,586.1	-925.6	6,637.7	0.00	0.00	0.00
16,300.0	89.60	359.82	9,630.2	6,686.1	-925.9	6,737.4	0.00	0.00	0.00
16,400.0	89.60	359.82	9,630.9	6,786.1	-926.3	6,837.2	0.00	0.00	0.00
16,500.0	89.60	359.82	9,631.6	6,886.1	-926.6	6,936.9	0.00	0.00	0.00
16,600.0	89.60	359.82	9,632.3	6,986.1	-926.9	7,036.6	0.00	0.00	0.00
16,700.0	89.60	359.82	9,633.0	7,086.1	-927.2	7,136.3	0.00	0.00	0.00
16,800.0	89.60	359.82	9,633.7	7,186.1	-927.5	7,236.1	0.00	0.00	0.00
16,900.0	89.60	359.82	9,634.4	7,286.1	-927.8	7,335.8	0.00	0.00	0.00
17,000.0	89.60	359.82	9,635.1	7,386.1	-928.1	7,435.5	0.00	0.00	0.00
17,100.0	89.60	359.82	9,635.8	7,486.1	-928.4	7,535.2	0.00	0.00	0.00
17,200.0	89.60	359.82	9,636.5	7,586.1	-928.7	7,635.0	0.00	0.00	0.00
17,300.0	89.60	359.82	9,637.1	7,686.1	-929.0	7,734.7	0.00	0.00	0.00
17,400.0	89.60	359.82	9,637.8	7,786.1	-929.3	7,834.4	0.00	0.00	0.00
17,500.0	89.60	359.82	9,638.5	7,886.1	-929.6	7,934.2	0.00	0.00	0.00
17,600.0	89.60	359.82	9,639.2	7,986.1	-929.9	8,033.9	0.00	0.00	0.00
17,700.0	89.60	359.82	9,639.9	8,086.1	-930.2	8,133.6	0.00	0.00	0.00
17,800.0	89.60	359.82	9,640.6	8,186.1	-930.5	8,233.3	0.00	0.00	0.00
17,900.0	89.60	359.82	9,641.3	8,286.1	-930.8	8,333.1	0.00	0.00	0.00
18,000.0	89.60	359.82	9,642.0	8,386.1	-931.1	8,432.8	0.00	0.00	0.00
18,100.0	89.60	359.82	9,642.7	8,486.1	-931.5	8,532.5	0.00	0.00	0.00
18,200.0	89.60	359.82	9,643.4	8,586.1	-931.8	8,632.2	0.00	0.00	0.00
18,300.0	89.60	359.82	9,644.1	8,686.1	-932.1	8,732.0	0.00	0.00	0.00
18,400.0	89.60	359.82	9,644.8	8,786.1	-932.4	8,831.7	0.00	0.00	0.00
18,500.0	89.60	359.82	9,645.5	8,886.1	-932.7	8,931.4	0.00	0.00	0.00
18,600.0	89.60	359.82	9,646.2	8,986.0	-933.0	9,031.1	0.00	0.00	0.00
18,700.0	89.60	359.82	9,646.9	9,086.0	-933.3	9,130.9	0.00	0.00	0.00
18,800.0	89.60	359.82	9,647.6	9,186.0	-933.6	9,230.6	0.00	0.00	0.00
18,900.0	89.60	359.82	9,648.3	9,286.0	-933.9	9,330.3	0.00	0.00	0.00
19,000.0	89.60	359.82	9,649.0	9,386.0	-934.2	9,430.0	0.00	0.00	0.00
19,100.0	89.60	359.82	9,649.6	9,486.0	-934.5	9,529.8	0.00	0.00	0.00
19,200.0	89.60	359.82	9,650.3	9,586.0	-934.8	9,629.5	0.00	0.00	0.00
19,300.0	89.60	359.82	9,651.0	9,686.0	-935.1	9,729.2	0.00	0.00	0.00
19,400.0	89.60	359.82	9,651.7	9,786.0	-935.4	9,828.9	0.00	0.00	0.00
19,500.0	89.60	359.82	9,652.4	9,886.0	-935.7	9,928.7	0.00	0.00	0.00
19,600.0	89.60	359.82	9,653.1	9,986.0	-936.0	10,028.4	0.00	0.00	0.00
19,700.0	89.60	359.82	9,653.8	10,086.0	-936.3	10,128.1	0.00	0.00	0.00
19,800.0	89.60	359.82	9,654.5	10,186.0	-936.7	10,227.9	0.00	0.00	0.00
19,900.0	89.60	359.82	9,655.2	10,286.0	-937.0	10,327.6	0.00	0.00	0.00
20,000.0	89.60	359.82	9,655.9	10,386.0	-937.3	10,427.3	0.00	0.00	0.00
20,100.0	89.60	359.82	9,656.6	10,486.0	-937.6	10,527.0	0.00	0.00	0.00
20,200.0	89.60	359.82	9,657.3	10,586.0	-937.9	10,626.8	0.00	0.00	0.00
20,300.0	89.60	359.82	9,658.0	10,686.0	-938.2	10,726.5	0.00	0.00	0.00

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Planning Report

Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

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)	
20,400.0	89.60	359.82	9,658.7	10,786.0	-938.5	10,826.2	0.00	0.00	0.00	
20,500.0	89.60	359.82	9,659.4	10,886.0	-938.8	10,925.9	0.00	0.00	0.00	
20,600.0	89.60	359.82	9,660.1	10,986.0	-939.1	11,025.7	0.00	0.00	0.00	
20,700.0	89.60	359.82	9,660.8	11,086.0	-939.4	11,125.4	0.00	0.00	0.00	
20,800.0	89.60	359.82	9,661.5	11,186.0	-939.7	11,225.1	0.00	0.00	0.00	
20,900.0	89.60	359.82	9,662.1	11,286.0	-940.0	11,324.8	0.00	0.00	0.00	
21,000.0	89.60	359.82	9,662.8	11,386.0	-940.3	11,424.6	0.00	0.00	0.00	
21,100.0	89.60	359.82	9,663.5	11,486.0	-940.6	11,524.3	0.00	0.00	0.00	
21,200.0	89.60	359.82	9,664.2	11,586.0	-940.9	11,624.0	0.00	0.00	0.00	
21,300.0	89.60	359.82	9,664.9	11,686.0	-941.2	11,723.7	0.00	0.00	0.00	
21,400.0	89.60	359.82	9,665.6	11,786.0	-941.6	11,823.5	0.00	0.00	0.00	
21,500.0	89.60	359.82	9,666.3	11,886.0	-941.9	11,923.2	0.00	0.00	0.00	
21,600.0	89.60	359.82	9,667.0	11,986.0	-942.2	12,022.9	0.00	0.00	0.00	
21,700.0	89.60	359.82	9,667.7	12,086.0	-942.5	12,122.6	0.00	0.00	0.00	
21,743.1	89.60	359.82	9,668.0	12,129.1	-942.6	12,165.7	0.00	0.00	0.00	
Start 130.0 hold at 21743.1 MD										
21,800.0	89.60	359.82	9,668.4	12,186.0	-942.8	12,222.4	0.00	0.00	0.00	
21,873.1	89.60	359.82	9,668.9	12,259.1	-943.0	12,295.3	0.00	0.00	0.00	
TD at 21873.1										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
(703H)TNGNT LIMITER: - plan misses target center by 145.2usft at 5670.8usft MD (5618.0 TVD, -112.7 N, -639.4 E) - Rectangle (sides W50.0 H50.0 D3,615.2)	9.50	80.00	5,594.0	-140.0	-780.0	364,026.40	586,031.60	32° 0' 1.867 N	104° 3' 20.902 W	
(703H) KOP BOX: 50' N: - plan misses target center by 5.4usft at 9061.1usft MD (8988.0 TVD, -159.6 N, -905.0 E) - Rectangle (sides W100.0 H100.0 D2,448.6)	0.00	179.86	8,988.0	-165.0	-905.0	364,001.40	585,906.60	32° 0' 1.622 N	104° 3' 22.355 W	
FTP (KEG SHELL FED C - plan misses target center by 116.0usft at 9623.0usft MD (9489.7 TVD, 30.3 N, -905.6 E) - Circle (radius 50.0)	0.00	0.00	9,586.0	-34.1	-900.9	364,132.30	585,910.70	32° 0' 2.918 N	104° 3' 22.303 W	
PPP2 (KEG SHELL 703I - plan misses target center by 3.9usft at 11488.9usft MD (9596.8 TVD, 1875.2 N, -911.2 E) - Point	0.00	0.00	9,598.0	1,875.2	-907.5	366,041.60	585,904.10	32° 0' 21.814 N	104° 3' 22.323 W	
PPP3 (KEG SHELL 703I - plan misses target center by 1.9usft at 16773.9usft MD (9633.5 TVD, 7160.0 N, -927.4 E) - Point	0.00	0.00	9,633.0	7,160.0	-925.6	371,326.40	585,886.00	32° 1' 14.116 N	104° 3' 22.376 W	
PPP4 (KEG SHELL 703I - plan misses target center by 2.4usft at 18133.1usft MD (9642.9 TVD, 8519.2 N, -931.6 E) - Point	0.00	0.00	9,645.0	8,519.2	-930.3	372,685.60	585,881.30	32° 1' 27.567 N	104° 3' 22.390 W	
PBHL (KEG SHELL FED - plan misses target center by 0.9usft at 21873.1usft MD (9668.9 TVD, 12259.1 N, -943.0 E) - Rectangle (sides W100.0 H12,295.3 D20.0)	-0.40	180.94	9,668.0	12,259.1	-943.1	376,425.50	585,868.50	32° 2' 4.580 N	104° 3' 22.427 W	
LTP (KEG SHELL FED C - plan hits target center - Circle (radius 50.0)	90.00	359.86	9,668.0	12,129.1	-942.6	376,295.50	585,869.00	32° 2' 3.293 N	104° 3' 22.425 W	

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Planning Report

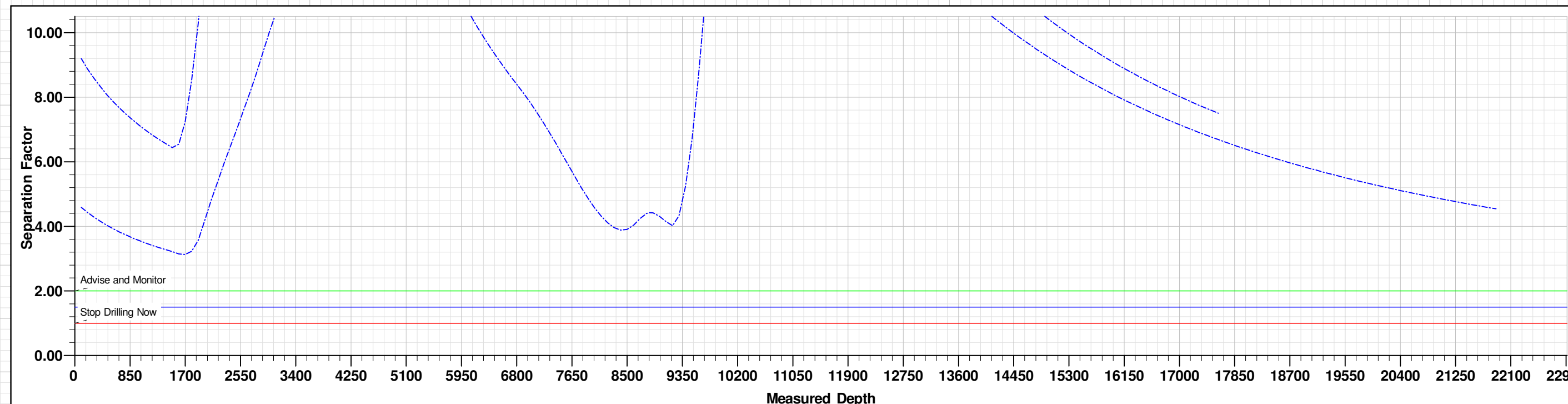
Database:	EDT 17 Central Planning Prod	Local Co-ordinate Reference:	Well KEG SHELL FEDERAL COM #703H
Company:	DELAWARE BASIN WEST	TVD Reference:	KB=32 @ 3022.8usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	KB=32 @ 3022.8usft
Site:	KEG SHELL FED COM PROJECT	North Reference:	Grid
Well:	KEG SHELL FEDERAL COM #703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
21,873.7	9,668.9	5-1/2" Production Casing	5-1/2	6-3/4	

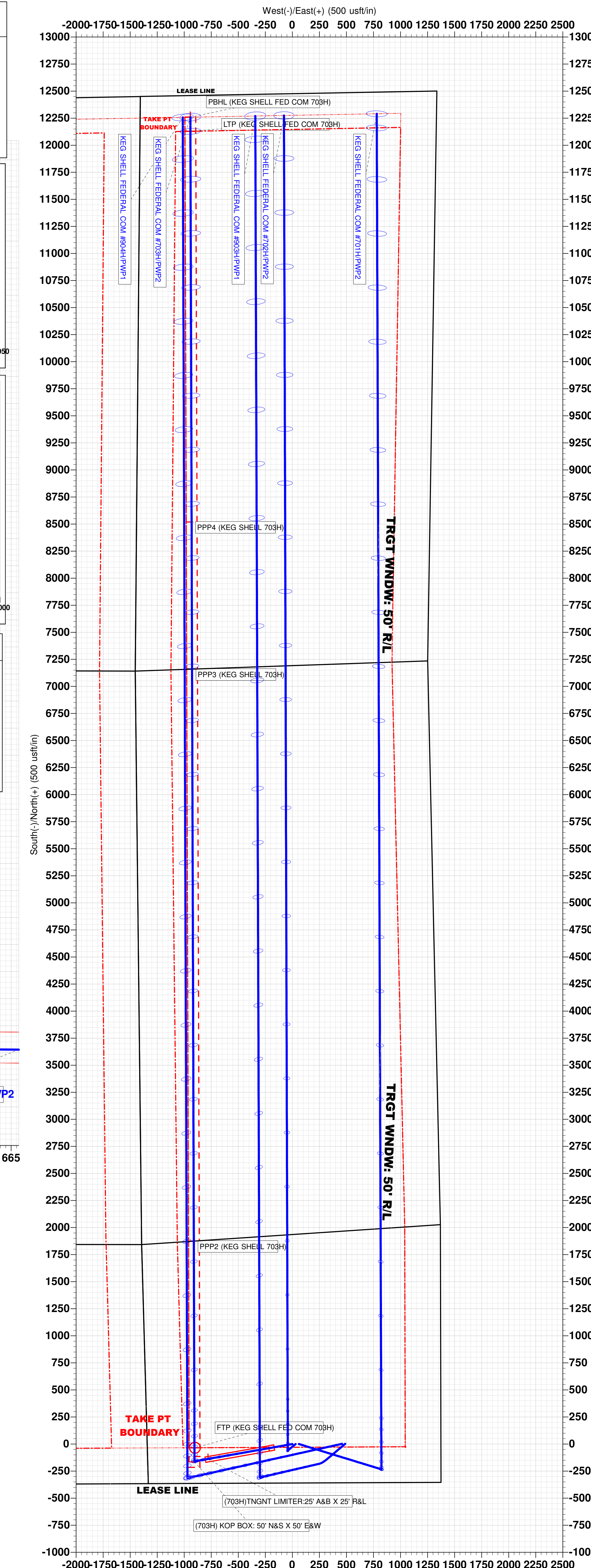
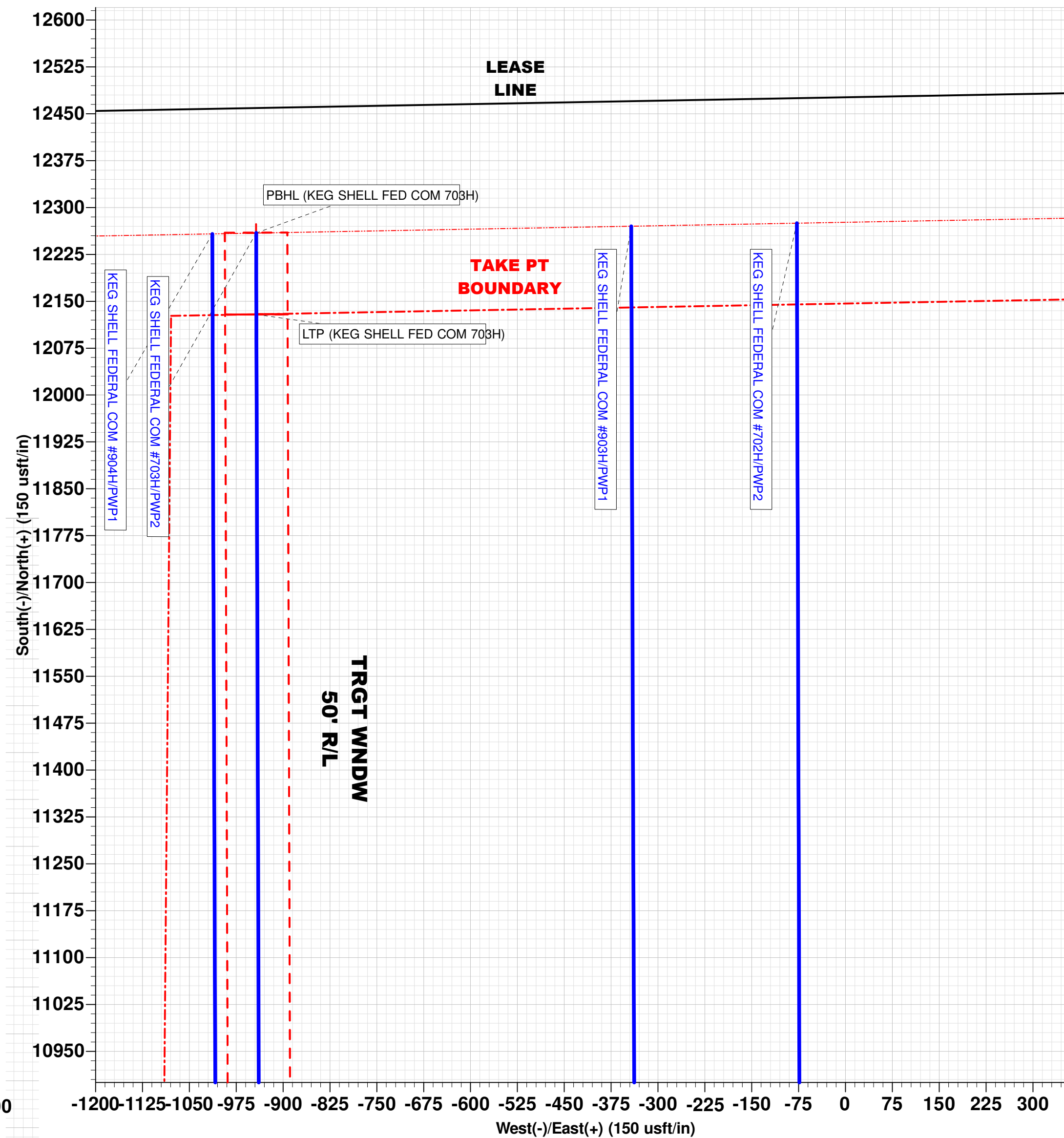
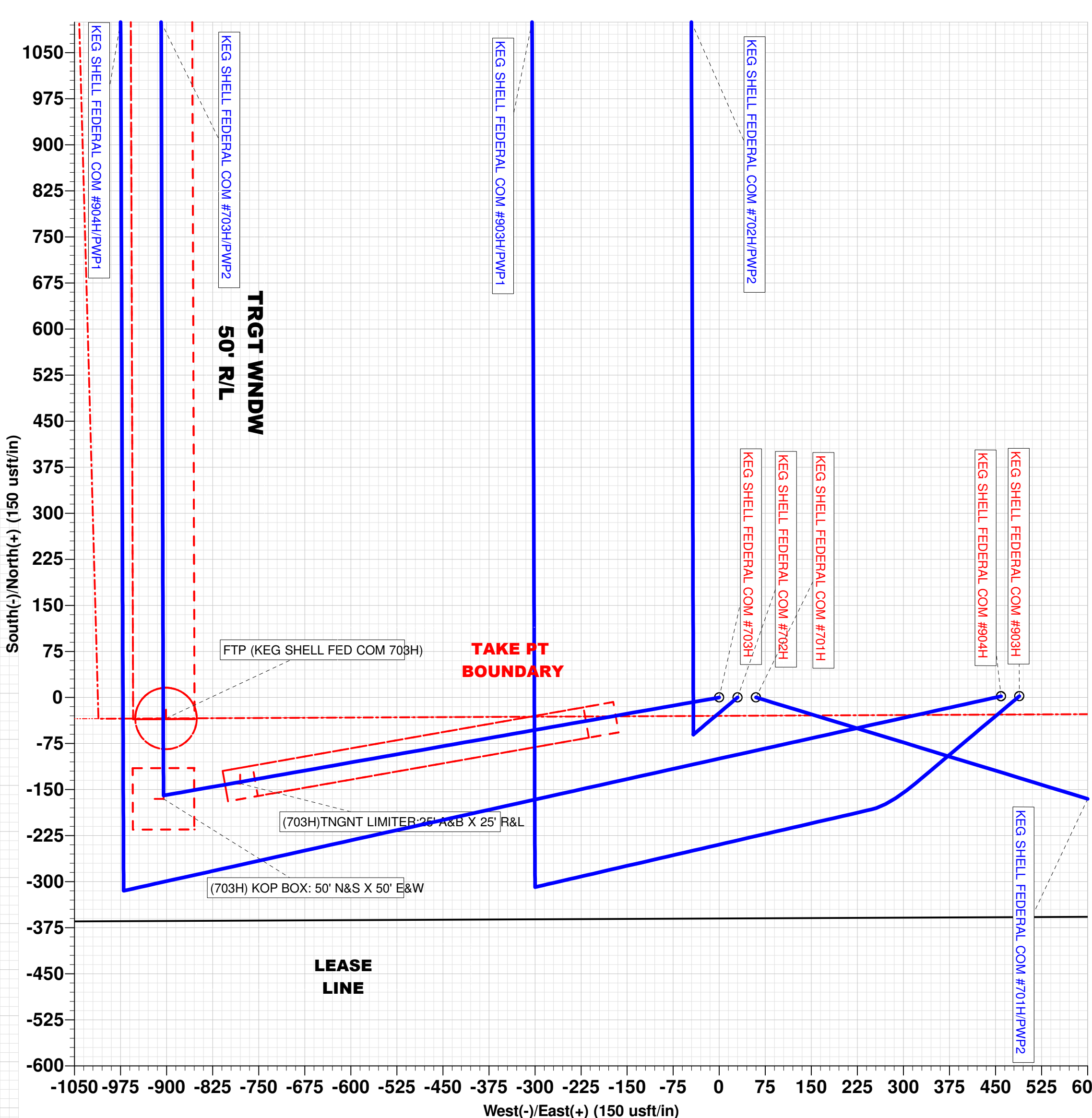
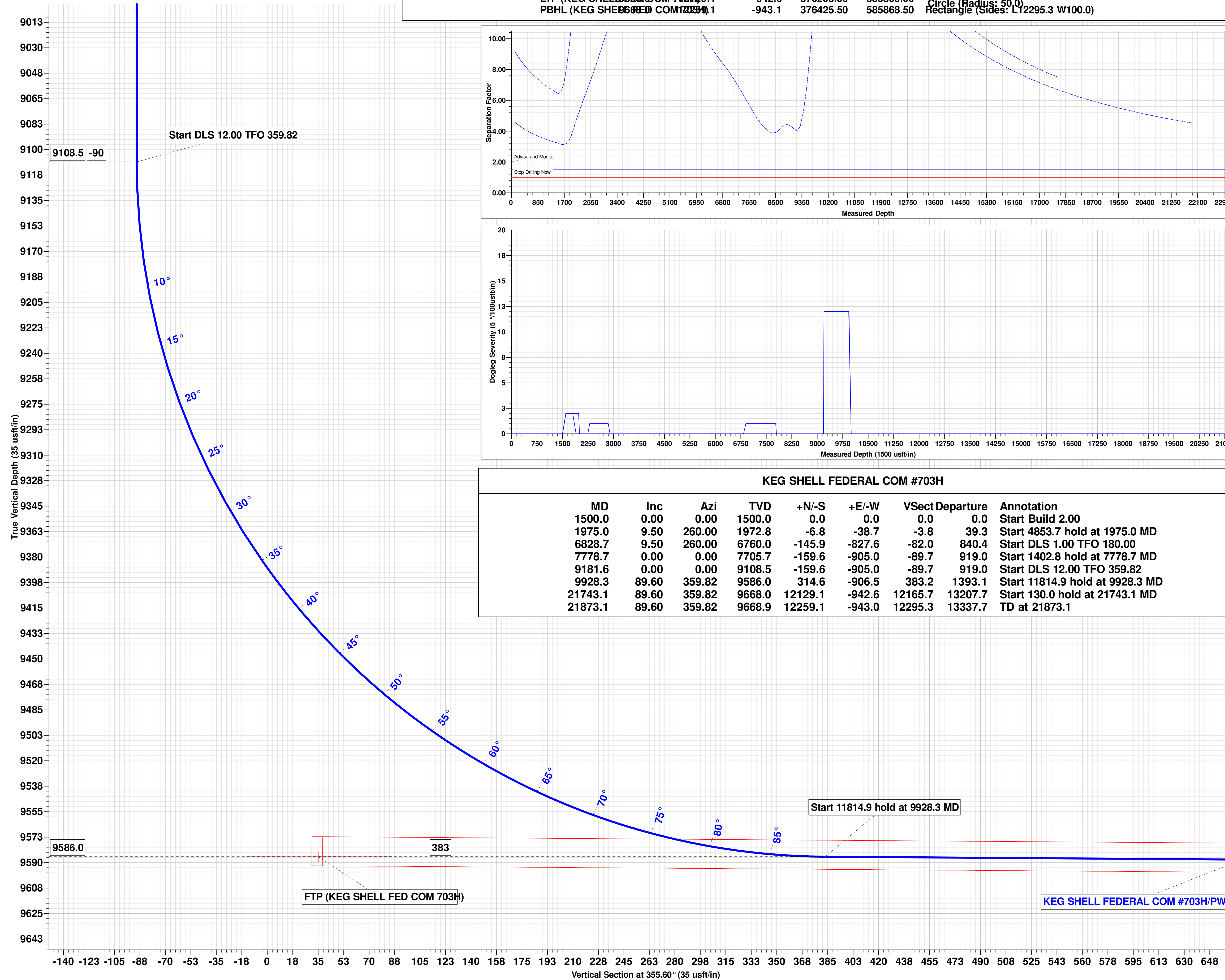
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,500.0	1,500.0	0.0	0.0	Start Build 2.00	
1,975.0	1,972.8	-6.8	-38.7	Start 4853.7 hold at 1975.0 MD	
6,828.7	6,760.0	-145.9	-827.6	Start DLS 1.00 TFO 180.00	
7,778.7	7,705.7	-159.6	-905.0	Start 1402.8 hold at 7778.7 MD	
9,181.6	9,108.5	-159.6	-905.0	Start DLS 12.00 TFO 359.82	
9,928.3	9,586.0	314.6	-906.5	Start 11814.9 hold at 9928.3 MD	
21,743.1	9,668.0	12,129.1	-942.6	Start 130.0 hold at 21743.1 MD	
21,873.1	9,668.9	12,259.1	-943.0	TD at 21873.1	

WELL DETAILS: KEG SHELL FEDERAL COM #703H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	364166.40	586811.60	32° 0' 3.232 N	104° 3' 11.840 W

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
(703H)TNGNT LIMITER 25' A&B X 25' R&L	1875.2	-1875.2	-900.9	364026.40	586031.60
(703H) KOP BOX: 50' N&S X 50' E&W	7160.0	-7160.0	-900.9	364001.40	585906.60
PPP2 (KEG SHELL FEDERAL COM #703H)	1875.2	-1875.2	-907.5	366041.60	585904.10
PPP3 (KEG SHELL FEDERAL COM #703H)	7160.0	-7160.0	-925.6	371326.40	585886.00
PPP4 (KEG SHELL FEDERAL COM #703H)	8519.2	-8519.2	-930.3	372685.60	585881.30
LTP (KEG SHELL FEDERAL COM #703H)	21743.1	-21743.1	-942.6	376295.50	585869.00
PBHL (KEG SHELL FEDERAL COM #703H)	21873.1	-21873.1	-943.1	376425.50	585868.50
					Shape
					Rectangle (Sides: L50.0 W50.0)
					Rectangle (Sides: L100.0 W100.0)
					Circle (Radius: 50.0)
					Point
					Point
					Circle (Radius: 50.0)
					Rectangle (Sides: L12295.3 W100.0)



KEG SHELL FEDERAL COM #703H									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation	
1500.0	0.00	0.00	1500.0	0.0	0.0	0.0	0.0	Start Build 2.00	
1975.0	9.50	260.00	1972.8	-6.8	-38.7	-3.8	39.3	Start 4853.7 hold at 1975.0 MD	
6828.7	9.50	260.00	6760.0	-145.9	-827.6	-82.0	840.4	Start DLS 1.00 TFO 180.00	
7778.7	0.00	0.00	7705.7	-159.6	-905.0	-89.7	919.0	Start 1402.8 hold at 7778.7 MD	
9181.6	0.00	0.00	9108.5	-159.6	-905.0	-89.7	919.0	Start DLS 12.00 TFO 359.82	
9928.3	89.60	359.82	9586.0	314.6	-906.5	383.2	1393.1	Start 11814.9 hold at 9928.3 MD	
21743.1	89.60	359.82	9668.0	12129.1	-942.6	12165.7	13207.7	Start 130.0 hold at 21743.1 MD	
21873.1	89.60	359.82	9668.9	12259.1	-943.0	12295.3	13337.7	TD at 21873.1	



District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 240841

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 240841
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Original COA's still apply.	11/1/2023