Plan #2

PDC ENERGY

Project: WELD COUNTY
Site: Ottesen Pad
Well: OTTESEN FEDERAL 03C
Wellbore: OWB
Design: Plan #2
Lat: 40° 0' 15.569 N
Long: 104° 46' 41.581 W
GL: 5076.0
KB: KB 20' @ 5096.0usft

T M

Azimuths to True North
Magnetic North: 7.73°

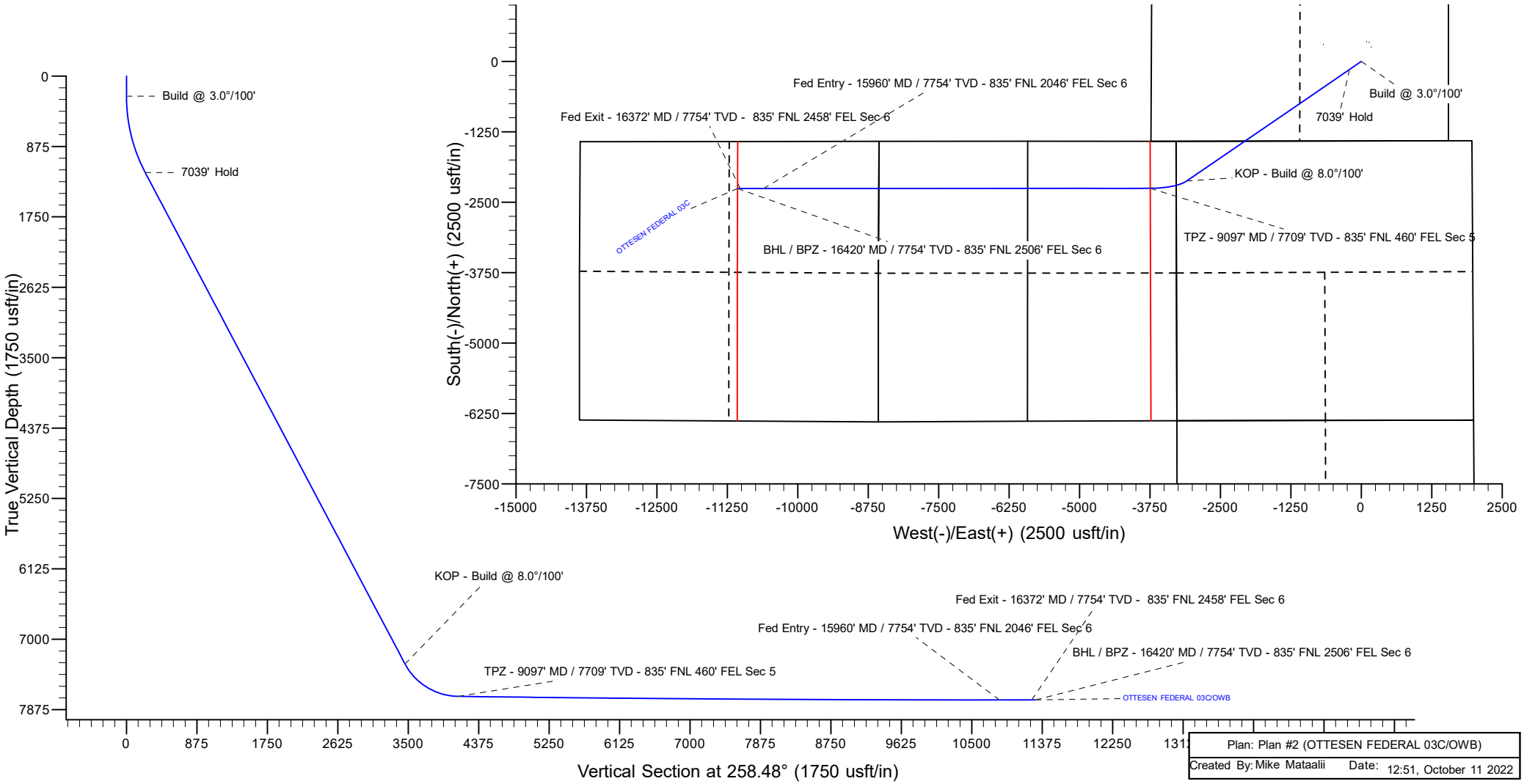
Magnetic Field
Strength: 51656.6nT
Dip Angle: 66.30°
Date: 4/12/2022
Model: IGRF2000

WELL DETAILS: OTTESEN FEDERAL 03C

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245245.09	3202195.04	40° 0' 15.569 N	104° 46' 41.581 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.0	Build @ 3.0°/100'
1244.5	29.84	235.60	1200.2	-143.0	-208.9	3.00	235.60	233.2	7039' Hold
8284.4	29.84	235.60	7306.9	-2121.8	-3098.8	0.00	0.00	3460.1	KOP - Build @ 8.0°/100'
9097.4	89.25	269.97	7709.0	-2250.4	-3742.8	8.00	38.51	4116.8	TPZ - 9097' MD / 7709' TVD - 835' FNL 460' FEL Sec 5
15960.5	90.00	269.97	7754.0	-2254.4	-10605.8	0.01	-0.12	10842.4	Fed Entry - 15960' MD / 7754' TVD - 835' FNL 2046' FEL Sec 6
16372.5	90.00	269.97	7754.0	-2254.7	-11017.7	0.00	0.00	11246.1	Fed Exit - 16372' MD / 7754' TVD - 835' FNL 2458' FEL Sec 6
16420.5	90.00	269.97	7754.0	-2254.7	-11065.8	0.00	0.00	11293.1	BHL / BPZ - 16420' MD / 7754' TVD - 835' FNL 2506' FEL Sec 6



Plan: Plan #2 (OTTESEN FEDERAL 03C/OWB)
Created By: Mike Mataalii Date: 12:51, October 11 2022

PDC Energy Inc.

Anticollision Summary Report

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 03C
Project:	WELD COUNTY	**TVD Reference:**	KB 20' @ 5096.0usft
Reference Site:	Ottesen Pad	**MD Reference:**	KB 20' @ 5096.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	OTTESEN FEDERAL 03C	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 5000.15 Single User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/11/2022

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	16,420.5	Plan #2 (OWB)	MWD	OWSG MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Ottesen Offsets						
Bailey #1 - OWB - OWB	7,932.5	6,980.7	861.4	780.4	10.627	CC
Bailey #1 - OWB - OWB	8,000.0	7,039.2	862.1	780.3	10.545	ES
Bailey #1 - OWB - OWB	8,200.0	7,212.7	871.6	788.2	10.449	SF
Great Western Sugar 3X - OWB - OWB	16,420.5	7,630.0	1,096.2	895.8	5.469	CC, ES, SF
Grein #1 - OWB - OWB	10,243.5	7,645.8	415.9	298.2	3.534	CC
Grein #1 - OWB - OWB	10,300.0	7,646.4	419.8	297.2	3.424	ES, SF
OTTESEN LE 06-290HN - OWB - OWB	620.5	618.8	27.2	21.7	4.948	CC, ES
OTTESEN LE 06-290HN - OWB - OWB	700.0	696.4	32.3	24.5	4.164	SF
OTTESEN LE 06-290HNX - OWB - OWB	682.4	679.1	34.2	28.4	5.903	CC, ES
OTTESEN LE 06-290HNX - OWB - OWB	800.0	793.0	45.5	36.5	5.037	SF
OTTESEN LE 06-311HC - OWB - OWB	727.2	722.8	40.2	34.1	6.589	CC, ES
OTTESEN LE 06-311HC - OWB - OWB	16,400.0	17,797.3	2,919.1	2,394.3	5.562	SF
OTTESEN LE 06-311HN - OWB - OWB	789.3	782.9	50.1	43.6	7.704	CC
OTTESEN LE 06-311HN - OWB - OWB	800.0	793.1	50.2	43.6	7.591	ES
OTTESEN LE 06-311HN - OWB - OWB	16,420.5	17,859.0	3,021.0	2,497.4	5.770	SF
OTTESEN LE 06-351HN - OWB - OWB	844.0	836.1	57.8	51.0	8.453	CC, ES
OTTESEN LE 06-351HN - OWB - OWB	16,400.0	17,635.0	3,286.6	2,762.0	6.265	SF
OTTESEN LE 06-351HNX - OWB - OWB	1,011.6	999.0	51.1	41.0	5.096	CC
OTTESEN LE 06-351HNX - OWB - OWB	1,100.0	1,088.0	54.4	40.3	3.861	ES
OTTESEN LE 06-351HNX - OWB - OWB	1,200.0	1,188.8	63.1	44.3	3.362	SF
OTTESEN LE 06-370HC - OWB - OWB	1,004.6	993.1	69.5	60.3	7.545	CC, ES
OTTESEN LE 06-370HC - OWB - OWB	1,200.0	1,185.7	87.1	70.6	5.260	SF
OTTESEN LE 06-370HN - OWB - OWB	1,329.6	1,300.4	12.1	-8.5	0.586	No-Go Zone - Stop Drilling, (
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	246.7			
OTTESEN LE 09-362HC - OWB - OWB	200.0	198.2	247.9	244.9	82.482	ES
OTTESEN LE 09-362HC - OWB - OWB	800.0	788.3	331.3	319.8	28.838	SF
OTTESEN LE 09-363HN - OWB - OWB	219.7	220.2	219.5	216.3	70.365	CC
OTTESEN LE 09-363HN - OWB - OWB	250.0	250.1	219.5	216.2	66.556	ES
OTTESEN LE 09-363HN - OWB - OWB	800.0	788.7	301.8	290.3	26.200	SF
OTTESEN LE 09-365HC - OWB - OWB	0.0	0.5	193.5			
OTTESEN LE 09-365HC - OWB - OWB	200.0	198.9	194.6	191.6	64.884	ES
OTTESEN LE 09-365HC - OWB - OWB	800.0	788.5	280.4	268.8	24.345	SF
OTTESEN LE 09-365HN - OWB - OWB	0.0	0.5	205.2			
OTTESEN LE 09-365HN - OWB - OWB	200.0	197.9	206.5	203.5	68.648	ES
OTTESEN LE 09-365HN - OWB - OWB	800.0	794.5	284.6	273.3	25.201	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	169.8			
OTTESEN LE 09-366HN - OWB - OWB	250.0	250.0	170.5	167.2	51.716	ES

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

PDC Energy Inc.

Anticollision Summary Report

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 03C
Project:	WELD COUNTY	**TVD Reference:**	KB 20' @ 5096.0usft
Reference Site:	Ottesen Pad	**MD Reference:**	KB 20' @ 5096.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	OTTESEN FEDERAL 03C	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 5000.15 Single User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Ottesen Offsets						
OTTESEN LE 09-366HN - OWB - OWB	700.0	693.5	228.0	217.5	21.718	SF
OTTESEN LE 09-366HNX - OWB - OWB	0.0	0.5	181.8			
OTTESEN LE 09-366HNX - OWB - OWB	250.5	251.1	182.6	179.3	55.442	ES
OTTESEN LE 09-366HNX - OWB - OWB	800.0	792.2	261.4	250.2	23.184	SF
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	146.0			
OTTESEN LE 09-368HC - OWB - OWB	200.0	199.0	146.9	143.9	48.794	ES
OTTESEN LE 09-368HC - OWB - OWB	700.0	694.5	206.5	196.1	19.916	SF
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	157.0			
OTTESEN LE 09-368HN - OWB - OWB	250.0	249.5	157.5	154.2	47.575	ES
OTTESEN LE 09-368HN - OWB - OWB	700.0	699.6	209.7	199.5	20.523	SF

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Anticollision Summary Report

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Reference Site:	Ottesen Pad	**MD Reference:**	KB 20' @ 5096.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	OTTESEN FEDERAL 03C	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 5000.15 Single User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Ottesen Pad						
OTTESEN 14NA - OWB - Plan #2	250.0	250.0	165.0	162.2	59.066	CC
OTTESEN 14NA - OWB - Plan #2	500.0	514.4	167.5	159.7	21.366	ES
OTTESEN 14NA - OWB - Plan #2	16,420.5	16,938.1	1,968.7	1,441.0	3.731	SF
OTTESEN 15C - OWB - OWB	0.0	0.0	180.4			
OTTESEN 15C - OWB - OWB	251.8	251.9	181.3	178.3	61.785	ES
OTTESEN 15C - OWB - OWB	1,600.0	1,703.5	498.5	476.6	22.809	SF
OTTESEN 15C - OWB - Plan #2	0.0	0.0	180.4			
OTTESEN 15C - OWB - Plan #2	251.8	251.9	181.3	178.3	61.785	ES
OTTESEN 15C - OWB - Plan #2	16,420.5	17,560.4	2,099.4	1,565.3	3.930	SF
OTTESEN 16N - OWB - OWB	255.1	255.6	194.5	191.5	64.635	CC, ES
OTTESEN 16N - OWB - OWB	800.0	792.4	263.5	252.8	24.609	SF
OTTESEN 16N - OWB - Plan #2	255.1	255.6	194.5	191.5	64.635	CC, ES
OTTESEN 16N - OWB - Plan #2	16,420.5	17,563.2	2,286.0	1,751.7	4.278	SF
OTTESEN 17N - OWB - OWB	690.5	685.6	158.6	153.1	28.543	CC
OTTESEN 17N - OWB - OWB	700.0	694.9	158.6	153.0	28.284	ES
OTTESEN 17N - OWB - OWB	1,100.0	1,072.0	207.9	196.7	18.563	SF
OTTESEN 17N - OWB - Plan #2	8,425.2	9,052.1	44.4	-64.3	0.409	No-Go Zone - Stop Drilling, (
OTTESEN 18C - OWB - Plan #2	250.0	250.0	156.0	153.2	55.846	CC
OTTESEN 18C - OWB - Plan #2	500.0	492.7	157.4	152.2	29.966	ES
OTTESEN 18C - OWB - Plan #2	8,550.0	8,957.3	361.3	245.5	3.120	SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	144.8	142.0	51.839	CC
OTTESEN 19NA - OWB - Plan #2	400.0	396.4	145.4	141.4	36.239	ES
OTTESEN 19NA - OWB - Plan #2	8,132.5	8,538.7	313.0	201.1	2.797	SF
OTTESEN 20N - OWB - Plan #2	250.0	250.0	134.4	131.6	48.121	CC
OTTESEN 20N - OWB - Plan #2	400.0	397.7	134.9	131.1	34.782	ES
OTTESEN 20N - OWB - Plan #2	8,300.0	8,715.3	577.4	463.6	5.073	SF
OTTESEN 21N - OWB - OWB	432.7	432.8	125.3	121.3	31.478	CC
OTTESEN 21N - OWB - OWB	500.0	500.1	125.4	121.0	28.127	ES
OTTESEN 21N - OWB - OWB	1,000.0	983.2	188.7	177.6	16.924	SF
OTTESEN 21N - OWB - Plan #2	432.7	432.8	125.3	121.3	31.478	CC
OTTESEN 21N - OWB - Plan #2	500.0	500.1	125.4	121.0	28.127	ES
OTTESEN 21N - OWB - Plan #2	8,200.0	8,757.6	723.5	615.3	6.687	SF
OTTESEN 22C - OWB - Plan #2	250.0	250.0	116.6	113.8	41.751	CC
OTTESEN 22C - OWB - Plan #2	1,000.0	1,001.4	120.4	111.6	13.678	ES
OTTESEN 22C - OWB - Plan #2	1,700.0	1,692.3	172.9	151.2	7.980	SF
OTTESEN 23NA - OWB - Plan #2	958.2	965.3	107.5	98.6	12.088	CC
OTTESEN 23NA - OWB - Plan #2	1,100.0	1,106.8	108.9	97.8	9.852	ES
OTTESEN 23NA - OWB - Plan #2	1,500.0	1,501.2	140.1	120.4	7.127	SF
OTTESEN 24N - OWB - OWB	0.0	0.0	105.3			
OTTESEN 24N - OWB - OWB	250.0	249.8	106.1	103.3	37.713	ES
OTTESEN 24N - OWB - OWB	800.0	784.7	164.8	155.0	16.780	SF
OTTESEN 24N - OWB - Plan #2	0.0	0.0	105.3			
OTTESEN 24N - OWB - Plan #2	250.0	249.8	106.1	103.3	37.713	ES
OTTESEN 24N - OWB - Plan #2	8,100.0	8,611.3	1,274.9	1,171.1	12.284	SF
OTTESEN 25N - OWB - Plan #2	920.9	936.6	90.4	78.6	7.673	CC
OTTESEN 25N - OWB - Plan #2	1,000.0	1,015.5	91.4	78.2	6.899	ES
OTTESEN 25N - OWB - Plan #2	1,200.0	1,213.0	106.8	88.9	5.980	SF
OTTESEN 26C - OWB - Plan #2	854.4	872.6	88.3	75.5	6.928	CC
OTTESEN 26C - OWB - Plan #2	900.0	918.0	88.7	75.2	6.557	ES
OTTESEN 26C - OWB - Plan #2	1,100.0	1,116.1	102.7	85.2	5.874	SF
OTTESEN 27NA - OWB - OWB	251.7	251.8	101.3	98.5	35.717	CC, ES
OTTESEN 27NA - OWB - OWB	700.0	694.3	145.0	135.9	16.055	SF
OTTESEN 27NA - OWB - Plan #2	251.7	251.8	101.3	98.5	35.717	CC, ES

PDC Energy Inc.

Anticollision Summary Report

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Reference Well:	OTTESEN FEDERAL 03C	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 5000.15 Single User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Ottesen Pad						
OTTESEN 27NA - OWB - Plan #2	700.0	694.3	145.0	135.9	16.055	SF
OTTESEN 28N - OWB - Plan #2	767.0	789.8	93.9	79.4	6.477	CC
OTTESEN 28N - OWB - Plan #2	800.0	822.7	94.2	79.2	6.282	ES
OTTESEN 28N - OWB - Plan #2	900.0	922.1	98.9	82.4	6.010	SF
OTTESEN 29C - OWB - Plan #2	705.2	728.4	102.1	88.4	7.413	CC, ES
OTTESEN 29C - OWB - Plan #2	800.0	822.7	104.8	89.7	6.968	SF
OTTESEN 30N - OWB - OWB	178.4	178.5	117.0	114.7	51.741	CC
OTTESEN 30N - OWB - OWB	200.0	199.4	117.0	114.5	46.632	ES
OTTESEN 30N - OWB - OWB	700.0	690.7	167.4	157.1	16.300	SF
OTTESEN 30N - OWB - Plan #2	178.4	178.5	117.0	114.7	51.741	CC
OTTESEN 30N - OWB - Plan #2	200.0	199.4	117.0	114.5	46.632	ES
OTTESEN 30N - OWB - Plan #2	700.0	690.7	167.4	157.1	16.300	SF
OTTESEN 31N - OWB - Plan #2	569.2	589.8	124.5	113.1	10.937	CC
OTTESEN 31N - OWB - Plan #2	600.0	622.4	124.6	112.6	10.436	ES
OTTESEN 31N - OWB - Plan #2	800.0	822.0	135.6	121.5	9.607	SF
OTTESEN 32NA - OWB - OWB	186.6	186.6	134.7	132.4	57.109	CC
OTTESEN 32NA - OWB - OWB	250.0	249.5	135.1	132.3	48.218	ES
OTTESEN 32NA - OWB - OWB	700.0	695.6	186.8	176.8	18.735	SF
OTTESEN 32NA - OWB - Plan #2	186.6	186.6	134.7	132.4	57.109	CC
OTTESEN 32NA - OWB - Plan #2	250.0	249.5	135.1	132.3	48.218	ES
OTTESEN 32NA - OWB - Plan #2	700.0	695.6	186.8	176.8	18.735	SF
OTTESEN FEDERAL 01N - OWB - Plan #2	250.0	250.0	29.4	26.6	10.530	CC
OTTESEN FEDERAL 01N - OWB - Plan #2	16,420.5	16,150.7	384.8	-98.3	0.797	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 02NA - OWB - Plan #2	250.0	250.0	14.6	11.8	5.215	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	900.0	895.9	16.6	2.9	1.215	Collision Avoidance Req., ES
OTTESEN FEDERAL 02NA - OWB - Plan #2	1,000.0	995.3	17.4	3.1	1.215	Collision Avoidance Req., SF
OTTESEN FEDERAL 04N - OWB - Plan #2	250.0	250.0	15.7	12.9	5.616	CC
OTTESEN FEDERAL 04N - OWB - Plan #2	16,420.5	16,257.7	289.0	-72.5	0.800	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 05N - OWB - Plan #2	250.0	250.0	30.5	27.7	10.931	CC
OTTESEN FEDERAL 05N - OWB - Plan #2	16,420.5	16,388.5	384.8	-111.2	0.776	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 06NA - OWB - Plan #2	250.0	250.0	45.1	42.3	16.145	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	700.0	708.2	47.5	36.1	4.144	ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	16,420.5	16,268.9	669.1	227.7	1.516	Collision Risk Procedures Re
OTTESEN FEDERAL 07C - OWB - Plan #2	250.0	250.0	60.8	58.0	21.761	CC
OTTESEN FEDERAL 07C - OWB - Plan #2	600.0	608.4	62.8	52.8	6.302	ES
OTTESEN FEDERAL 07C - OWB - Plan #2	16,420.5	16,682.0	717.8	185.1	1.348	Collision Avoidance Req., SF
OTTESEN FEDERAL 08N - OWB - Plan #2	250.0	250.0	75.6	72.8	27.076	CC
OTTESEN FEDERAL 08N - OWB - Plan #2	600.0	610.3	78.0	68.1	7.861	ES
OTTESEN FEDERAL 08N - OWB - Plan #2	16,420.5	16,533.1	904.5	382.6	1.733	Collision Risk Procedures Re
OTTESEN FEDERAL 09N - OWB - Plan #2	250.0	250.0	90.5	87.7	32.391	CC
OTTESEN FEDERAL 09N - OWB - Plan #2	600.0	612.1	93.3	83.5	9.470	ES
OTTESEN FEDERAL 09N - OWB - Plan #2	16,420.5	16,674.8	1,061.1	530.4	1.999	Collision Risk Procedures Re
OTTESEN FEDERAL 10NA - OWB - Plan #2	250.0	250.0	105.1	102.3	37.606	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	600.0	613.8	108.4	98.6	11.065	ES
OTTESEN FEDERAL 10NA - OWB - Plan #2	16,420.5	16,580.3	1,293.1	778.8	2.514	SF
OTTESEN FEDERAL 11C - OWB - OWB	252.5	252.7	120.4	117.5	40.741	CC, ES
OTTESEN FEDERAL 11C - OWB - OWB	700.0	696.5	168.0	158.6	17.711	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	252.5	252.7	120.4	117.5	40.741	CC, ES
OTTESEN FEDERAL 11C - OWB - Plan #2	16,420.5	17,124.0	1,399.6	865.7	2.621	SF
OTTESEN FEDERAL 12N - OWB - OWB	0.0	0.0	135.3			
OTTESEN FEDERAL 12N - OWB - OWB	250.0	249.9	136.5	133.7	49.697	ES
OTTESEN FEDERAL 12N - OWB - OWB	800.0	793.4	205.1	194.5	19.361	SF
OTTESEN FEDERAL 12N - OWB - Plan #2	0.0	0.0	135.3			

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

PDC Energy Inc.

Anticollision Summary Report

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 03C
Project:	WELD COUNTY	**TVD Reference:**	KB 20' @ 5096.0usft
Reference Site:	Ottesen Pad	**MD Reference:**	KB 20' @ 5096.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	OTTESEN FEDERAL 03C	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 5000.15 Single User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Ottesen Pad						
OTTESEN FEDERAL 12N - OWB - Plan #2	250.0	249.9	136.5	133.7	49.697	ES
OTTESEN FEDERAL 12N - OWB - Plan #2	16,420.5	17,149.5	1,591.3	1,058.7	2.988	SF
OTTESEN FEDERAL 13HN - OWB - Plan #2	250.0	250.0	150.2	147.4	53.751	CC
OTTESEN FEDERAL 13HN - OWB - Plan #2	500.0	513.4	152.5	144.6	19.341	ES
OTTESEN FEDERAL 13HN - OWB - Plan #2	16,420.5	17,007.3	1,756.4	1,222.7	3.291	SF

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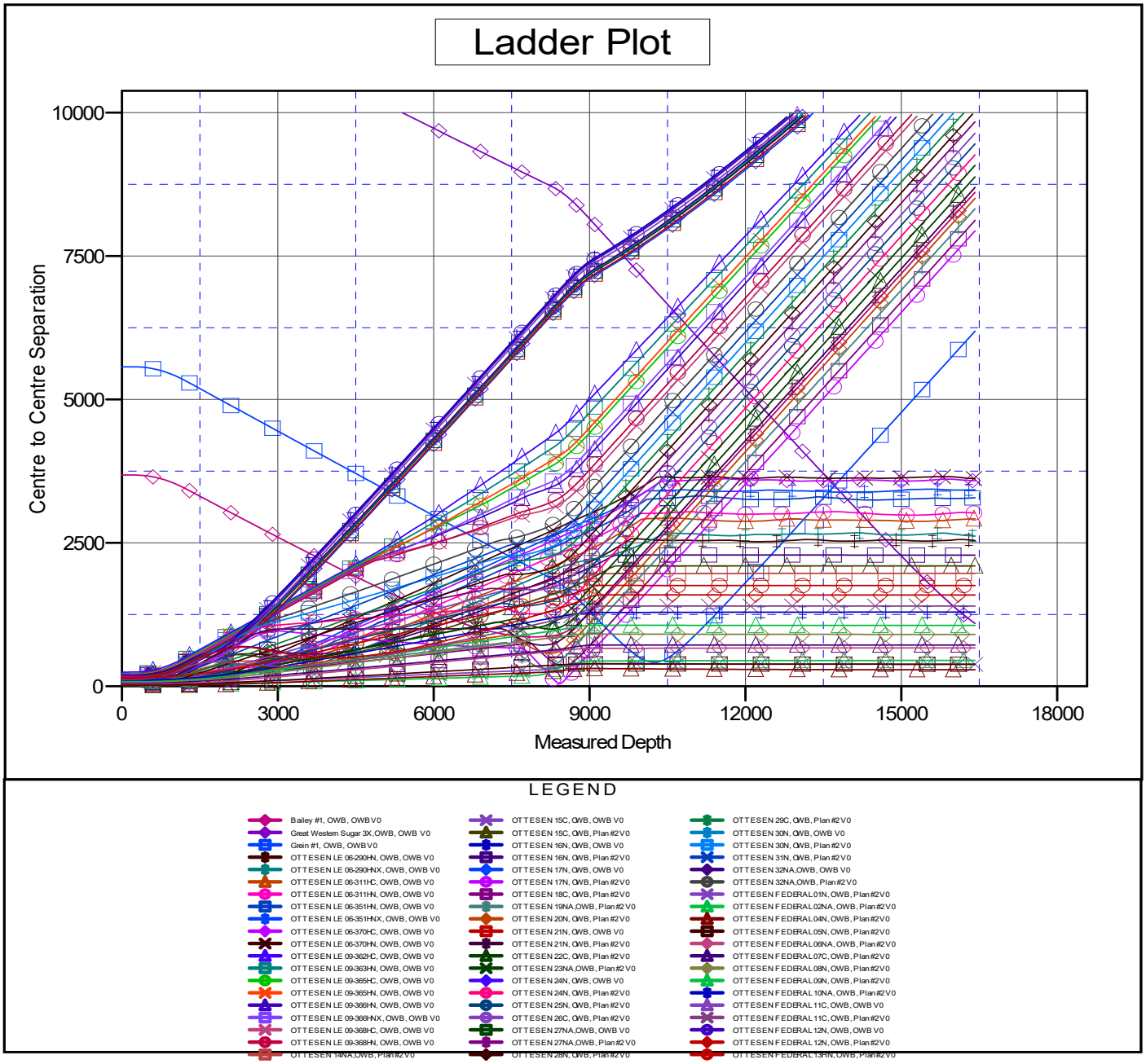
Reference Wellbore	OWB	**Database:**	EDM 5000.15 Single User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB 20' @ 5096.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: OTTESEN FEDERAL 03C
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.47°



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

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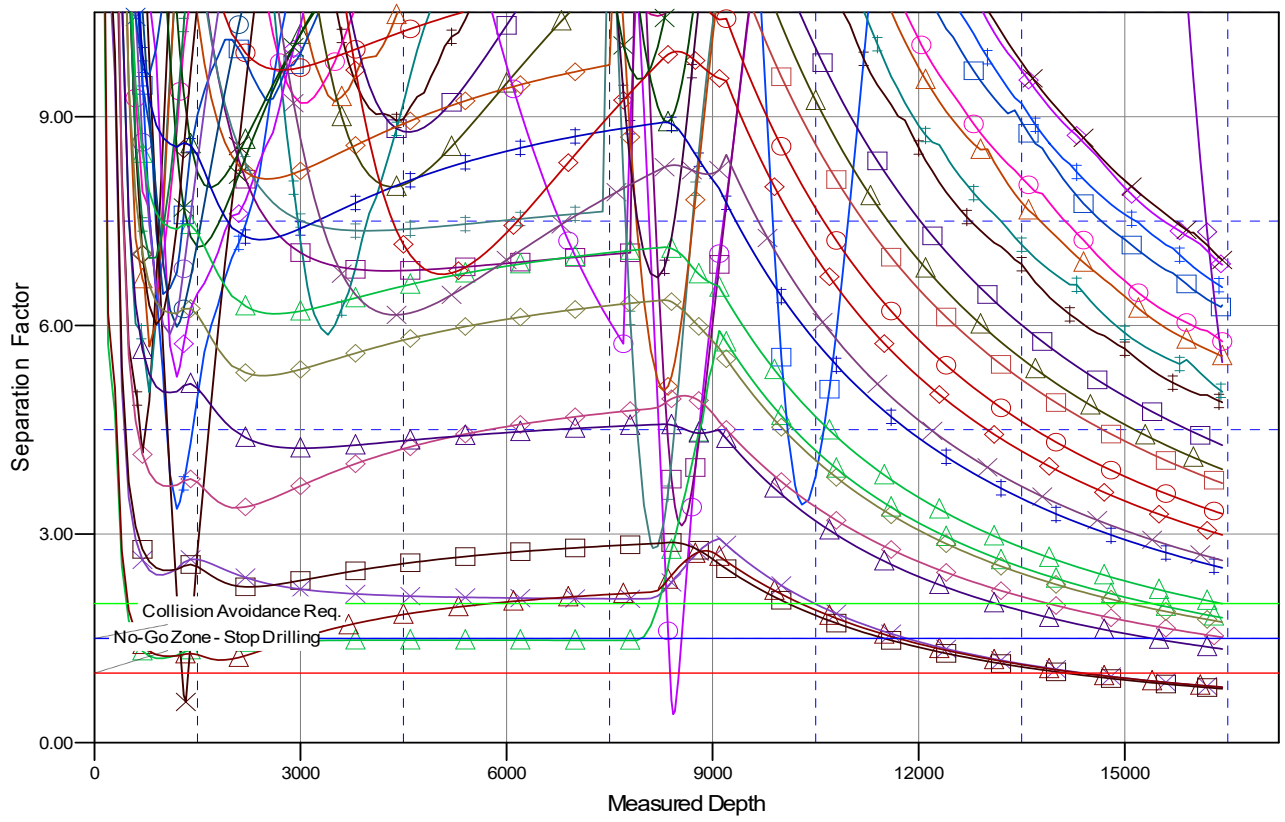
Separation Factor Plot



LEGEND

Bailey #1, OWB, OWB V0
Great Western Sugar 3X, OWB, OWB V0
Grein #1, OWB, OWB V0
OTTESEN LE 06-290HN, OWB, OWB V0
OTTESEN LE 06-290HNX, OWB, OWB V0
OTTESEN LE 06-311HC, OWB, OWB V0
OTTESEN LE 06-311HN, OWB, OWB V0
OTTESEN LE 06-351HN, OWB, OWB V0
OTTESEN LE 06-351HNX, OWB, OWB V0
OTTESEN LE 06-370HC, OWB, OWB V0
OTTESEN LE 06-370HN, OWB, OWB V0
OTTESEN LE 09-362HC, OWB, OWB V0
OTTESEN LE 09-363HN, OWB, OWB V0
OTTESEN LE 09-365HC, OWB, OWB V0
OTTESEN LE 09-365HN, OWB, OWB V0
OTTESEN LE 09-366HN, OWB, OWB V0
OTTESEN LE 09-366HNX, OWB, OWB V0
OTTESEN LE 09-368HC, OWB, OWB V0
OTTESEN LE 09-368HN, OWB, OWB V0
OTTESEN 14NA,OWB, Plan#2 V0
OTTESEN 15C, OWB, OWB V0
OTTESEN 15C, OWB, Plan#2 V0
OTTESEN 16N, OWB, OWB V0
OTTESEN 16N, OWB, Plan#2 V0
OTTESEN 17N, OWB, OWB V0
OTTESEN 17N, OWB, Plan#2 V0
OTTESEN 18C, OWB, Plan#2 V0
OTTESEN 19NA,OWB, Plan#2 V0
OTTESEN 20N, OWB, Plan#2 V0
OTTESEN 21N, OWB, OWB V0
OTTESEN 21N, OWB, Plan#2 V0
OTTESEN 22C, OWB, Plan#2 V0
OTTESEN 23NA,OWB, Plan#2 V0
OTTESEN 24N, OWB, OWB V0
OTTESEN 24N, OWB, Plan#2 V0
OTTESEN 25N, OWB, Plan#2 V0
OTTESEN 26C, OWB, Plan#2 V0
OTTESEN 27NA,OWB, OWB V0
OTTESEN 27NA,OWB, Plan#2 V0
OTTESEN 28N, OWB, Plan#2 V0
OTTESEN 29C, OWB, Plan#2 V0
OTTESEN 30N, OWB, OWB V0
OTTESEN 30N, OWB, Plan#2 V0
OTTESEN 31N, OWB, Plan#2 V0
OTTESEN 32NA,OWB, OWB V0
OTTESEN 32NA,OWB, Plan#2 V0
OTTESEN FEDERAL 01N, OWB, Plan#2 V0
OTTESEN FEDERAL 02NA, OWB, Plan#2 V0
OTTESEN FEDERAL 04N, OWB, Plan#2 V0
OTTESEN FEDERAL 05N, OWB, Plan#2 V0
OTTESEN FEDERAL 06NA, OWB, Plan#2 V0
OTTESEN FEDERAL 07C, OWB, Plan#2 V0
OTTESEN FEDERAL 08N, OWB, Plan#2 V0
OTTESEN FEDERAL 09N, OWB, Plan#2 V0
OTTESEN FEDERAL 10NA, OWB, Plan#2 V0
OTTESEN FEDERAL 11C, OWB, OWB V0
OTTESEN FEDERAL 11C, OWB, Plan#2 V0
OTTESEN FEDERAL 12N, OWB, OWB V0
OTTESEN FEDERAL 12N, OWB, Plan#2 V0
OTTESEN FEDERAL 13HN, OWB, Plan#2 V0