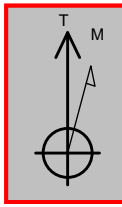
Plan #2

PDC ENERGY

Project: WELD COUNTY
Site: Ottesen Pad
Well: OTTESEN FEDERAL 13N
Wellbore: OWB
Design: Plan #2
Lat: 40° 0' 15.570 N
Long: 104° 46' 39.652 W
GL: 5076.0
KB: KB 20' @ 5096.0usft



Azimuths to True North
Magnetic North: 7.73°

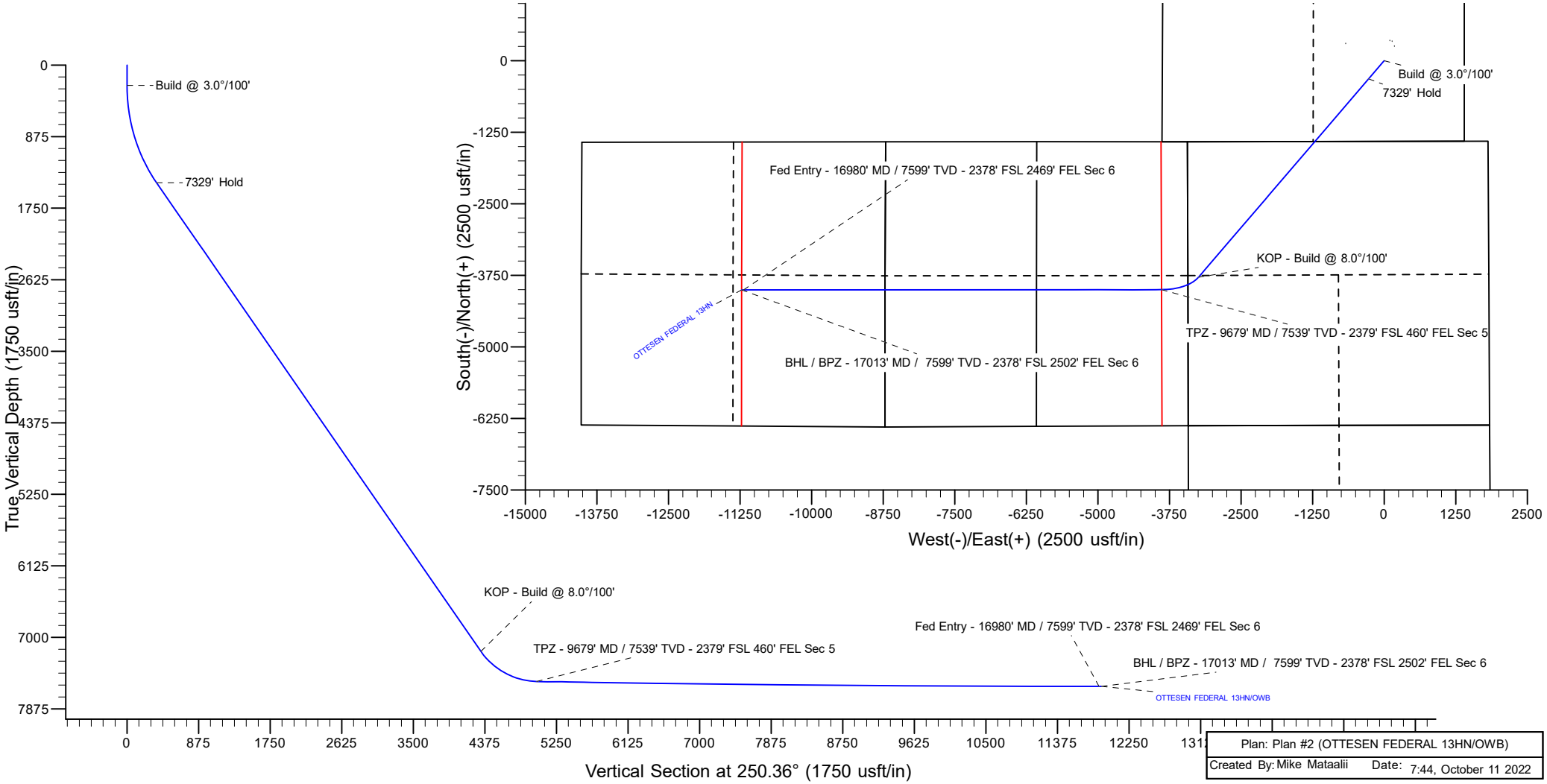
Magnetic Field
Strength: 51656.6nT
Dip Angle: 66.30°
Date: 4/12/2022
Model: IGRF2000

WELL DETAILS: OTTESEN FEDERAL 13N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245246.41	3202345.19	40° 0' 15.570 N	104° 46' 39.652 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	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'
1534.7	38.54	220.61	1440.0	-315.8	-270.8	3.00	220.61	361.2	7329' Hold
8864.3	38.54	220.61	7172.9	-3782.8	-3243.5	0.00	0.00	4326.2	KOP - Build @ 8.0°/100'
9679.9	89.06	269.97	7539.0	-4000.0	-3887.9	8.00	56.66	5006.1	TPZ - 9679' MD / 7539' TVD - 2379' FSL 460' FEL Sec 5
16980.3	90.00	269.97	7599.0	-4004.2	-11187.9	0.01	-0.01	11882.9	Fed Entry - 16980' MD / 7599' TVD - 2378' FSL 2469' FEL Sec 6
17013.5	90.00	269.97	7599.0	-4004.3	-11221.1	0.00	0.00	11914.2	BHL / BPZ - 17013' MD / 7599' TVD - 2378' FSL 2502' FEL Sec 6



Plan: Plan #2 (OTTESEN FEDERAL 13HN/OWB)
Created By: Mike Mataalii Date: 7:44, October 11 2022

PDC Energy Inc.

Anticollision Summary Report

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 13N
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 13N	**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	17,013.5	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	6,932.5	5,640.9	207.9	125.8	2.532	CC, ES, SF
Great Western Sugar 3X - OWB - OWB	17,013.5	7,475.0	1,123.4	857.5	4.224	CC, ES, SF
Grein #1 - OWB - OWB	10,700.0	7,477.6	1,339.9	1,215.8	10.792	SF
Grein #1 - OWB - OWB	10,800.0	7,479.0	1,333.9	1,211.5	10.893	ES
Grein #1 - OWB - OWB	10,830.2	7,479.4	1,333.6	1,211.7	10.944	CC
OTTESEN LE 06-290HN - OWB - OWB	946.7	932.2	147.5	140.0	19.679	CC
OTTESEN LE 06-290HN - OWB - OWB	6,600.0	6,826.8	195.1	62.5	1.472	Collision Avoidance Req., ES
OTTESEN LE 06-290HNX - OWB - OWB	4,640.1	4,775.2	142.1	53.4	1.603	Collision Risk Procedures Re
OTTESEN LE 06-290HNX - OWB - OWB	4,700.0	4,832.0	143.0	53.3	1.594	Collision Risk Procedures Re
OTTESEN LE 06-311HC - OWB - OWB	982.1	962.8	169.8	162.1	22.041	CC
OTTESEN LE 06-311HC - OWB - OWB	5,300.0	5,445.6	209.1	110.8	2.127	ES
OTTESEN LE 06-311HC - OWB - OWB	5,600.0	5,746.7	230.1	121.2	2.114	SF
OTTESEN LE 06-311HN - OWB - OWB	4,111.7	4,196.4	126.6	61.8	1.954	Collision Risk Procedures Re
OTTESEN LE 06-311HN - OWB - OWB	4,400.0	4,485.2	130.7	52.1	1.664	Collision Risk Procedures Re
OTTESEN LE 06-311HN - OWB - OWB	4,500.0	4,581.7	135.9	53.9	1.657	Collision Risk Procedures Re
OTTESEN LE 06-351HN - OWB - OWB	3,522.6	3,570.8	88.7	35.5	1.668	Collision Risk Procedures Re
OTTESEN LE 06-351HN - OWB - OWB	3,700.0	3,747.1	91.9	29.9	1.483	Collision Avoidance Req., ES
OTTESEN LE 06-351HNX - OWB - OWB	2,883.3	2,873.1	1.5	-41.7	0.035	No-Go Zone - Stop Drilling, (
OTTESEN LE 06-370HC - OWB - OWB	3,229.7	3,242.0	48.3	-0.4	0.992	No-Go Zone - Stop Drilling, (
OTTESEN LE 06-370HC - OWB - OWB	3,300.0	3,310.0	50.9	-2.2	0.959	No-Go Zone - Stop Drilling, E
OTTESEN LE 06-370HN - OWB - OWB	2,300.8	2,227.5	102.4	70.3	3.189	CC, ES
OTTESEN LE 06-370HN - OWB - OWB	2,400.0	2,326.4	103.7	70.4	3.115	SF
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	125.9			
OTTESEN LE 09-362HC - OWB - OWB	200.0	199.2	127.1	124.0	42.199	ES
OTTESEN LE 09-362HC - OWB - OWB	700.0	692.3	186.8	176.4	17.869	SF
OTTESEN LE 09-363HN - OWB - OWB	247.9	248.4	110.4	107.1	33.483	CC
OTTESEN LE 09-363HN - OWB - OWB	250.0	250.5	110.4	107.1	33.394	ES
OTTESEN LE 09-363HN - OWB - OWB	600.0	595.5	146.7	137.8	16.582	SF
OTTESEN LE 09-365HC - OWB - OWB	168.8	169.3	103.1	100.5	39.254	CC
OTTESEN LE 09-365HC - OWB - OWB	250.0	249.9	103.4	100.1	31.441	ES
OTTESEN LE 09-365HC - OWB - OWB	700.0	691.6	160.6	150.6	16.121	SF
OTTESEN LE 09-365HN - OWB - OWB	0.0	0.5	104.3			
OTTESEN LE 09-365HN - OWB - OWB	200.0	199.0	105.6	102.6	35.024	ES
OTTESEN LE 09-365HN - OWB - OWB	700.0	697.1	156.0	146.1	15.722	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	103.3			
OTTESEN LE 09-366HN - OWB - OWB	200.0	199.9	103.6	100.7	34.628	ES
OTTESEN LE 09-366HN - OWB - OWB	700.0	691.5	153.4	143.7	15.781	SF

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 13N
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 13N	**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 09-366HNX - OWB - OWB	0.0	0.5	102.2			
OTTESEN LE 09-366HNX - OWB - OWB	255.7	256.4	102.4	99.1	30.976 ES	
OTTESEN LE 09-366HNX - OWB - OWB	700.0	697.1	145.8	136.3	15.293 SF	
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	110.8			
OTTESEN LE 09-368HC - OWB - OWB	200.0	200.0	111.0	108.0	36.986 ES	
OTTESEN LE 09-368HC - OWB - OWB	800.0	790.0	174.1	163.8	16.855 SF	
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	105.6			
OTTESEN LE 09-368HN - OWB - OWB	250.0	250.1	106.1	102.7	32.016 ES	
OTTESEN LE 09-368HN - OWB - OWB	800.0	794.7	161.8	151.5	15.734 SF	

PDC Energy Inc.

Anticollision Summary Report

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 13N
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 13N	**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	14.8	12.1	5.315	CC
OTTESEN 14NA - OWB - Plan #2	17,013.5	16,943.8	313.4	-43.4	0.878	No-Go Zone - Stop Drilling, E
OTTESEN 15C - OWB - OWB	0.0	0.0	30.3			
OTTESEN 15C - OWB - OWB	252.4	252.4	31.1	28.2	10.600	ES
OTTESEN 15C - OWB - OWB	500.0	499.4	42.6	36.0	6.447	SF
OTTESEN 15C - OWB - Plan #2	0.0	0.0	30.3			
OTTESEN 15C - OWB - Plan #2	17,013.5	17,565.8	384.8	-101.0	0.792	No-Go Zone - Stop Drilling, E
OTTESEN 16N - OWB - OWB	256.5	256.6	44.4	41.4	14.715	CC, ES
OTTESEN 16N - OWB - OWB	600.0	598.2	70.2	62.1	8.669	SF
OTTESEN 16N - OWB - Plan #2	256.5	256.6	44.4	41.4	14.715	CC
OTTESEN 16N - OWB - Plan #2	17,013.5	17,568.2	530.2	-5.5	0.990	No-Go Zone - Stop Drilling, E
OTTESEN 17N - OWB - OWB	889.5	876.5	282.1	275.3	41.510	CC
OTTESEN 17N - OWB - OWB	900.0	886.3	282.1	275.2	41.101	ES
OTTESEN 17N - OWB - OWB	1,400.0	1,334.1	361.5	347.9	26.628	SF
OTTESEN 17N - OWB - Plan #2	9,109.1	10,779.6	149.1	12.5	1.091	Collision Avoidance Req., C(
OTTESEN 17N - OWB - Plan #2	9,150.0	10,794.5	154.9	3.4	1.023	Collision Avoidance Req., ES
OTTESEN 18C - OWB - Plan #2	250.0	250.0	287.8	285.0	103.026	CC
OTTESEN 18C - OWB - Plan #2	400.0	386.4	289.3	284.8	63.976	ES
OTTESEN 18C - OWB - Plan #2	9,250.0	10,702.9	487.4	332.9	3.155	SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	273.8	271.0	98.000	CC
OTTESEN 19NA - OWB - Plan #2	8,864.3	10,242.3	371.2	215.0	2.377	ES, SF
OTTESEN 20N - OWB - Plan #2	250.0	250.0	259.9	257.1	93.041	CC
OTTESEN 20N - OWB - Plan #2	400.0	388.3	261.5	257.0	58.944	ES
OTTESEN 20N - OWB - Plan #2	9,000.0	10,432.6	651.9	494.3	4.137	SF
OTTESEN 21N - OWB - OWB	747.3	740.7	237.2	231.4	40.452	CC
OTTESEN 21N - OWB - OWB	800.0	792.2	237.6	231.4	38.325	ES
OTTESEN 21N - OWB - OWB	1,300.0	1,247.0	316.9	303.8	24.334	SF
OTTESEN 21N - OWB - Plan #2	747.3	740.7	237.2	231.4	40.452	CC
OTTESEN 21N - OWB - Plan #2	800.0	792.2	237.6	231.4	38.325	ES
OTTESEN 21N - OWB - Plan #2	8,900.0	10,458.7	782.6	629.3	5.102	SF
OTTESEN 22C - OWB - Plan #2	250.0	250.0	232.5	229.8	83.246	CC
OTTESEN 22C - OWB - Plan #2	400.0	391.0	233.9	229.6	54.743	ES
OTTESEN 22C - OWB - Plan #2	9,000.0	10,498.8	1,072.4	916.5	6.881	SF
OTTESEN 23NA - OWB - Plan #2	250.0	250.0	219.1	216.3	78.426	CC
OTTESEN 23NA - OWB - Plan #2	400.0	392.5	220.3	216.1	52.775	ES
OTTESEN 23NA - OWB - Plan #2	8,700.0	9,955.3	1,074.3	922.2	7.060	SF
OTTESEN 24N - OWB - OWB	0.0	0.0	206.2			
OTTESEN 24N - OWB - OWB	600.0	596.1	206.7	201.3	38.636	ES
OTTESEN 24N - OWB - OWB	1,200.0	1,145.4	313.4	300.0	23.460	SF
OTTESEN 24N - OWB - Plan #2	0.0	0.0	206.2			
OTTESEN 24N - OWB - Plan #2	600.0	596.1	206.7	201.3	38.636	ES
OTTESEN 24N - OWB - Plan #2	8,864.3	10,324.0	1,341.2	1,189.5	8.844	SF
OTTESEN 25N - OWB - Plan #2	250.0	250.0	192.8	190.0	69.017	CC
OTTESEN 25N - OWB - Plan #2	400.0	395.5	193.6	189.6	48.886	ES
OTTESEN 25N - OWB - Plan #2	8,800.0	10,025.3	1,494.8	1,342.2	9.793	SF
OTTESEN 26C - OWB - Plan #2	250.0	250.0	180.5	177.7	64.616	CC
OTTESEN 26C - OWB - Plan #2	400.0	397.0	181.0	177.2	46.873	ES
OTTESEN 26C - OWB - Plan #2	8,950.0	10,306.4	1,774.9	1,620.5	11.492	SF
OTTESEN 27NA - OWB - OWB	365.8	365.3	167.1	163.4	45.618	CC
OTTESEN 27NA - OWB - OWB	500.0	498.4	167.6	163.1	37.615	ES
OTTESEN 27NA - OWB - OWB	1,100.0	1,070.9	241.6	229.9	20.560	SF
OTTESEN 27NA - OWB - Plan #2	365.8	365.3	167.1	163.4	45.618	CC
OTTESEN 27NA - OWB - Plan #2	500.0	498.4	167.6	163.1	37.615	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 13N
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 13N	**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	8,600.0	9,827.8	1,791.6	1,645.5	12.259	SF
OTTESEN 28N - OWB - Plan #2	956.7	957.3	151.2	143.0	18.471	CC
OTTESEN 28N - OWB - Plan #2	1,000.0	1,000.2	151.4	142.6	17.337	ES
OTTESEN 28N - OWB - Plan #2	1,500.0	1,479.4	213.6	193.7	10.737	SF
OTTESEN 29C - OWB - Plan #2	942.5	947.3	133.8	125.1	15.401	CC
OTTESEN 29C - OWB - Plan #2	1,000.0	1,004.0	134.2	124.6	13.902	ES
OTTESEN 29C - OWB - Plan #2	1,300.0	1,294.4	163.2	146.4	9.691	SF
OTTESEN 30N - OWB - OWB	0.0	0.0	134.9			
OTTESEN 30N - OWB - OWB	200.0	199.3	135.5	132.9	53.710	ES
OTTESEN 30N - OWB - OWB	900.0	888.7	183.8	172.2	15.817	SF
OTTESEN 30N - OWB - Plan #2	0.0	0.0	134.9			
OTTESEN 30N - OWB - Plan #2	200.0	199.3	135.5	132.9	53.710	ES
OTTESEN 30N - OWB - Plan #2	900.0	888.7	183.8	172.2	15.817	SF
OTTESEN 31N - OWB - Plan #2	879.3	891.0	103.3	92.6	9.678	CC
OTTESEN 31N - OWB - Plan #2	900.0	911.5	103.4	92.3	9.304	ES
OTTESEN 31N - OWB - Plan #2	1,100.0	1,107.1	117.5	101.6	7.382	SF
OTTESEN 32NA - OWB - OWB	0.0	0.0	117.5			
OTTESEN 32NA - OWB - OWB	250.0	249.8	119.2	116.3	41.124	ES
OTTESEN 32NA - OWB - OWB	800.0	793.6	159.9	150.2	16.374	SF
OTTESEN 32NA - OWB - Plan #2	0.0	0.0	117.5			
OTTESEN 32NA - OWB - Plan #2	250.0	249.8	119.2	116.3	41.124	ES
OTTESEN 32NA - OWB - Plan #2	800.0	793.6	159.9	150.2	16.374	SF
OTTESEN FEDERAL 01N - OWB - Plan #2	250.0	250.0	179.6	176.8	64.281	CC
OTTESEN FEDERAL 01N - OWB - Plan #2	500.0	481.1	182.0	174.4	23.778	ES
OTTESEN FEDERAL 01N - OWB - Plan #2	17,013.5	16,150.7	2,099.4	1,565.9	3.935	SF
OTTESEN FEDERAL 02NA - OWB - Plan #2	250.0	250.0	164.7	161.9	58.966	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	500.0	483.0	167.0	159.4	21.927	ES
OTTESEN FEDERAL 02NA - OWB - Plan #2	17,013.5	16,016.3	1,942.0	1,414.3	3.680	SF
OTTESEN FEDERAL 03C - OWB - Plan #2	250.0	250.0	150.2	147.4	53.751	CC
OTTESEN FEDERAL 03C - OWB - Plan #2	500.0	484.7	152.2	144.6	20.102	ES
OTTESEN FEDERAL 03C - OWB - Plan #2	17,007.1	16,420.3	1,756.4	1,222.7	3.291	SF
OTTESEN FEDERAL 04N - OWB - Plan #2	250.0	250.0	134.5	131.7	48.136	CC
OTTESEN FEDERAL 04N - OWB - Plan #2	500.0	486.5	136.3	128.8	18.099	ES
OTTESEN FEDERAL 04N - OWB - Plan #2	17,013.5	16,258.2	1,576.4	1,043.4	2.958	SF
OTTESEN FEDERAL 05N - OWB - Plan #2	250.0	250.0	119.6	116.8	42.821	CC
OTTESEN FEDERAL 05N - OWB - Plan #2	600.0	583.5	122.9	113.7	13.410	ES
OTTESEN FEDERAL 05N - OWB - Plan #2	17,008.4	16,389.7	1,399.6	865.0	2.618	SF
OTTESEN FEDERAL 06NA - OWB - Plan #2	250.0	250.0	105.1	102.3	37.606	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	600.0	585.8	107.9	98.8	11.852	ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	17,013.5	16,270.9	1,252.0	731.2	2.404	SF
OTTESEN FEDERAL 07C - OWB - Plan #2	250.0	250.0	89.4	86.6	31.990	CC
OTTESEN FEDERAL 07C - OWB - Plan #2	600.0	588.2	91.7	82.7	10.147	ES
OTTESEN FEDERAL 07C - OWB - Plan #2	17,013.5	16,684.8	1,043.3	510.8	1.959	Collision Risk Procedures Re
OTTESEN FEDERAL 08N - OWB - Plan #2	250.0	250.0	74.5	71.7	26.675	CC
OTTESEN FEDERAL 08N - OWB - Plan #2	600.0	590.3	76.5	67.6	8.517	ES
OTTESEN FEDERAL 08N - OWB - Plan #2	17,010.7	16,536.5	878.0	345.9	1.650	Collision Risk Procedures Re
OTTESEN FEDERAL 09N - OWB - Plan #2	250.0	250.0	59.7	56.9	21.360	CC
OTTESEN FEDERAL 09N - OWB - Plan #2	700.0	690.2	62.4	52.1	6.105	ES
OTTESEN FEDERAL 09N - OWB - Plan #2	17,013.5	16,678.8	699.8	164.5	1.307	Collision Avoidance Req., SF
OTTESEN FEDERAL 10NA - OWB - Plan #2	250.0	250.0	45.1	42.3	16.145	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	800.0	791.2	48.1	36.9	4.291	ES
OTTESEN FEDERAL 10NA - OWB - Plan #2	17,013.5	16,585.1	585.7	107.8	1.226	Collision Avoidance Req., SF
OTTESEN FEDERAL 11C - OWB - OWB	514.8	514.1	23.5	18.8	5.081	CC, 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 13N
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 13N	**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

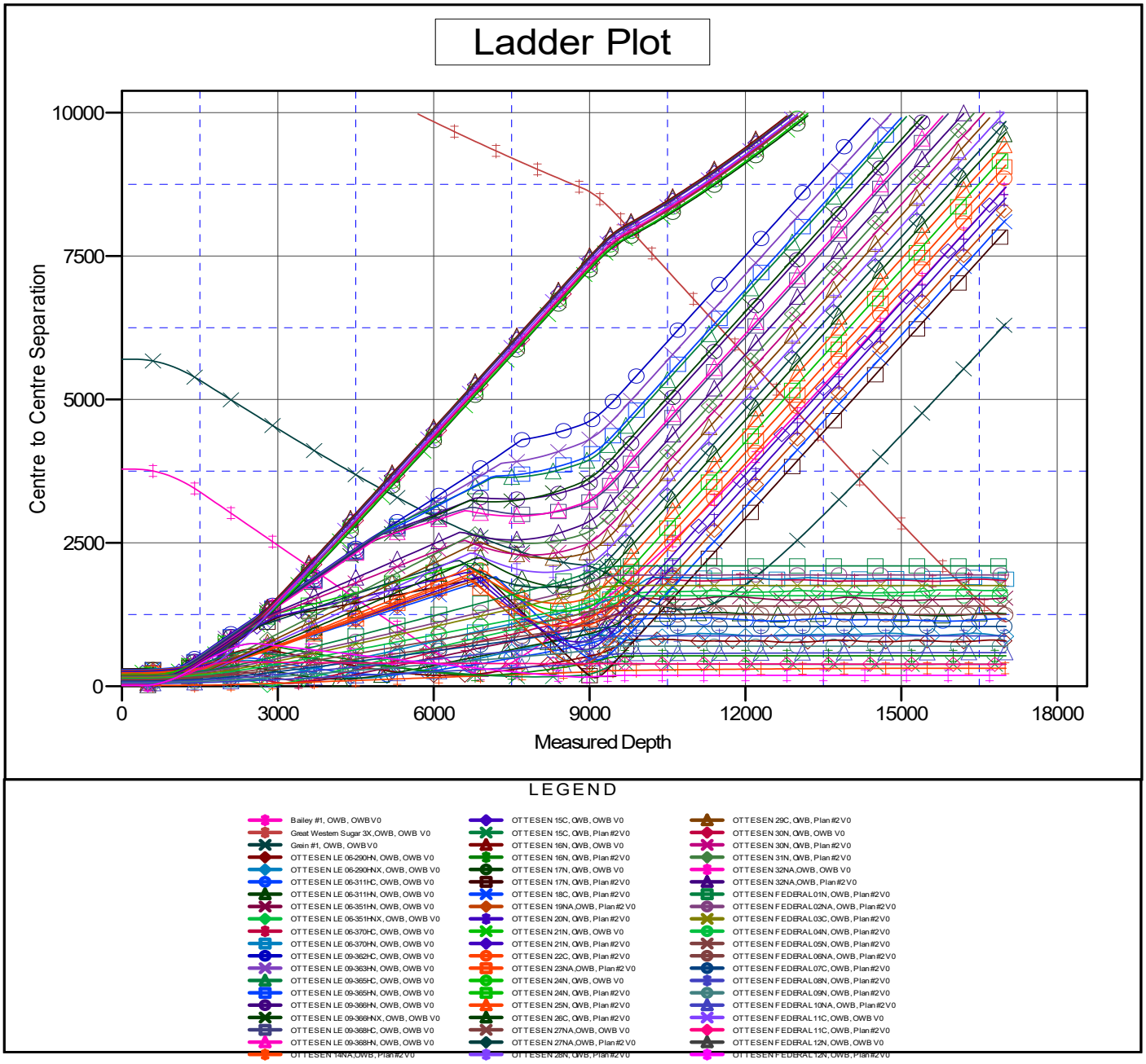
Summary

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 11C - OWB - OWB	600.0	598.3	27.2	20.7	4.207	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	514.8	514.1	23.5	18.8	5.081	CC
OTTESEN FEDERAL 11C - OWB - Plan #2	17,012.0	17,128.8	384.8	-118.2	0.765	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 12N - OWB - OWB	419.5	419.3	11.4	7.5	2.917	CC, ES
OTTESEN FEDERAL 12N - OWB - OWB	500.0	499.3	14.3	8.7	2.582	SF
OTTESEN FEDERAL 12N - OWB - Plan #2	419.5	419.3	11.4	7.5	2.917	CC
OTTESEN FEDERAL 12N - OWB - Plan #2	17,013.5	17,155.3	190.4	-301.2	0.387	No-Go Zone - Stop Drilling, E

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 13N
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 13N	**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 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 13N Coordinate
System is US State Plane 1983, Colorado Northern Zone Grid
Convergence at Surface is: 0.47°



PDC Energy Inc.

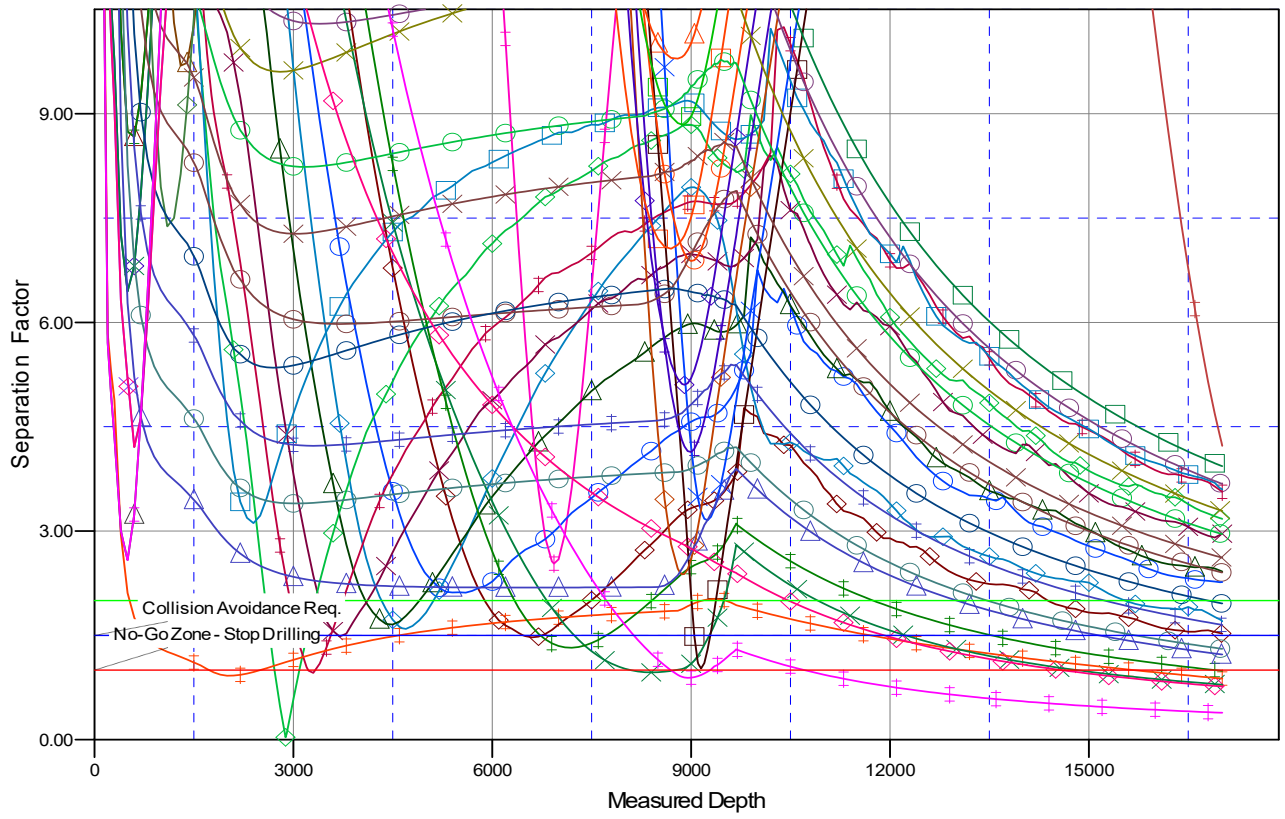
Anticollision Summary Report

Company:	GWP - PLANNING DB	**Local Co-ordinate Reference:**	Well OTTESEN FEDERAL 13N
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 13N	**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 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 13N Coordinate
System is US State Plane 1983, Colorado Northern Zone Grid
Convergence at Surface is: 0.47°

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 03C, 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

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