



Project: WELD COUNTY
Site: Ottesen Pad
Well: OTTESSEN FEDERAL 09N
Wellbore: OWB
Design: Plan #2
Lat: 40° 0' 15.570 N
Long: 104° 46' 40.418 W
GL: 5076.0
KB: KB 20' @ 5096.0usft



Azimuths to True North
Magnetic North: 7.73°

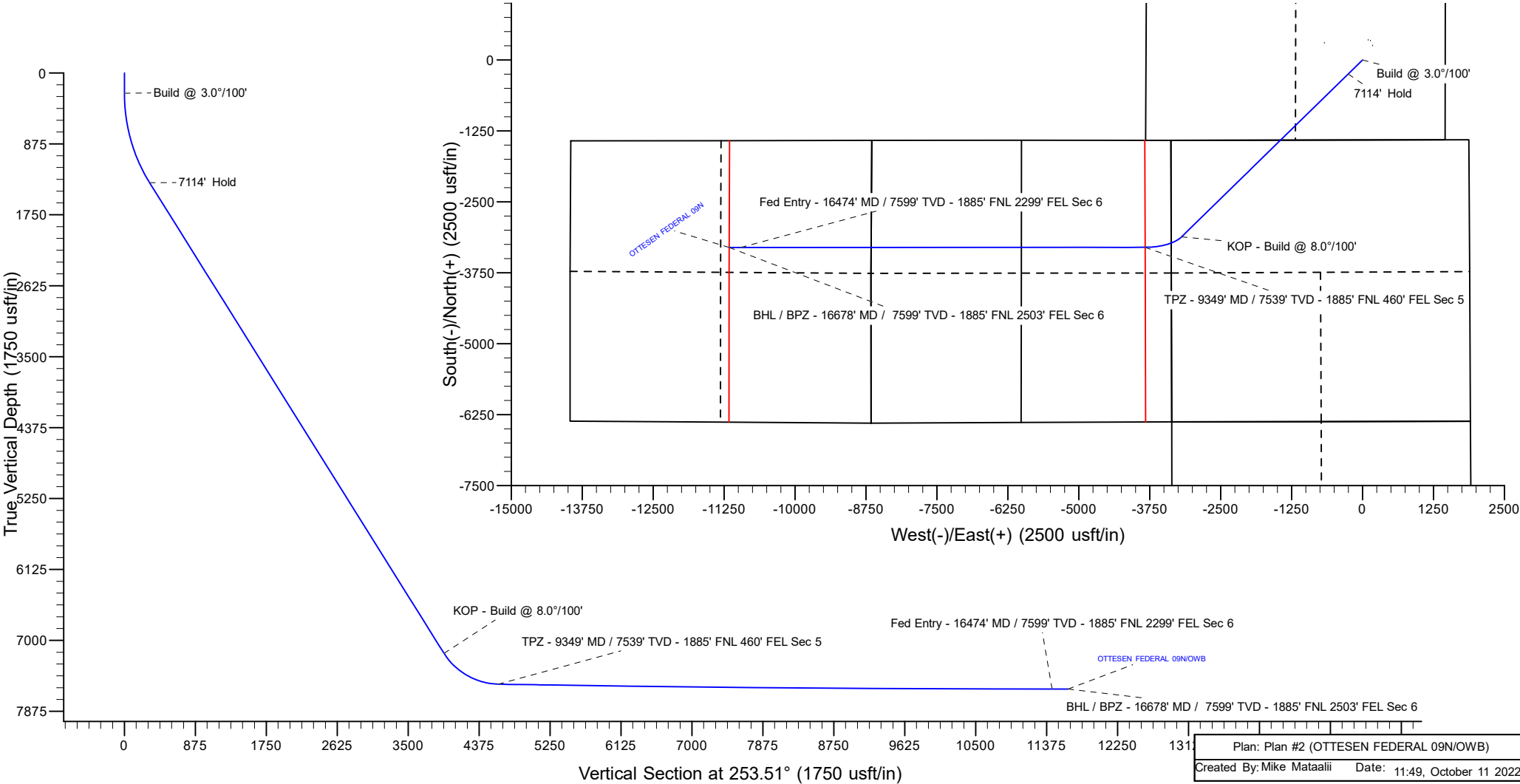
Magnetic Field
Strength: 51656.6nT
Dip Angle: 66.30°
Date: 4/12/2022
Model: IGRF2000

WELL DETAILS: OTTESSEN FEDERAL 09N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245245.93	3202285.52	40° 0' 15.570 N	104° 46' 40.418 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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'
1425.8	35.27	225.66	1352.9	-245.1	-250.8	3.00	225.66	310.1	7114' Hold
8539.9	35.27	225.66	7160.8	-3116.7	-3188.9	0.00	0.00	3942.6	KOP - Build @ 8.0°/100'
9349.0	89.04	269.97	7539.0	-3300.2	-3830.2	8.00	50.57	4609.6	TPZ - 9349' MD / 7539' TVD - 1885' FNL 460' FEL Sec 5
16474.6	90.00	269.97	7599.0	-3304.4	-10955.5	0.01	0.12	11442.8	Fed Entry - 16474' MD / 7599' TVD - 1885' FNL 2299' FEL Sec 6
16678.8	90.00	269.97	7599.0	-3304.5	-11159.7	0.00	0.00	11638.7	BHL / BPZ - 16678' MD / 7599' TVD - 1885' FNL 2503' FEL Sec 6



PDC Energy Inc.
Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN FEDERAL 09N
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 09N	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	16,678.8	Plan #2 (OWB)	MWD	OWSG MWD - Standard

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						
Ottesen Offsets						
Bailey #1 - OWB - OWB	7,295.3	6,123.7	167.0	84.4	2.023	CC
Bailey #1 - OWB - OWB	7,300.0	6,127.6	167.0	84.4	2.022	ES, SF
Great Western Sugar 3X - OWB - OWB	16,678.8	7,475.0	709.1	562.9	4.851	CC, ES, SF
Grein #1 - OWB - OWB	10,400.0	7,478.4	641.3	516.9	5.154	SF
Grein #1 - OWB - OWB	10,497.7	7,479.8	633.8	513.5	5.267	CC, ES
OTTESEN LE 06-290HN - OWB - OWB	857.7	848.5	94.6	87.7	13.704	CC, ES
OTTESEN LE 06-290HN - OWB - OWB	16,678.8	17,805.8	1,489.7	970.6	2.870	SF
OTTESEN LE 06-290HNX - OWB - OWB	3,970.0	4,109.2	70.2	1.6	1.023	Collision Avoidance Req., CC
OTTESEN LE 06-290HNX - OWB - OWB	4,000.0	4,139.2	70.4	0.4	1.006	Collision Avoidance Req., ES
OTTESEN LE 06-311HC - OWB - OWB	905.9	892.4	114.0	106.9	15.886	CC, ES
OTTESEN LE 06-311HC - OWB - OWB	16,678.8	17,902.0	1,875.9	1,352.8	3.586	SF
OTTESEN LE 06-311HN - OWB - OWB	959.4	943.6	125.3	117.5	16.205	CC, ES
OTTESEN LE 06-311HN - OWB - OWB	16,678.8	17,835.2	1,964.4	1,440.7	3.751	SF
OTTESEN LE 06-351HN - OWB - OWB	1,026.0	1,007.6	133.3	125.1	16.139	CC, ES
OTTESEN LE 06-351HN - OWB - OWB	3,200.0	3,247.6	195.0	145.4	3.930	SF
OTTESEN LE 06-351HNX - OWB - OWB	2,411.7	2,409.3	68.6	35.9	2.100	CC, ES, SF
OTTESEN LE 06-370HC - OWB - OWB	2,625.5	2,644.7	119.1	83.4	3.334	CC, ES
OTTESEN LE 06-370HC - OWB - OWB	2,700.0	2,714.2	121.6	83.7	3.208	SF
OTTESEN LE 06-370HN - OWB - OWB	1,928.5	1,873.3	48.5	21.0	1.766	Collision Risk Procedures Req.
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	168.3			
OTTESEN LE 09-362HC - OWB - OWB	200.0	198.8	169.6	166.5	56.335	ES
OTTESEN LE 09-362HC - OWB - OWB	700.0	692.4	227.8	217.4	21.895	SF
OTTESEN LE 09-363HN - OWB - OWB	236.6	237.1	145.2	142.0	44.988	CC
OTTESEN LE 09-363HN - OWB - OWB	250.0	250.3	145.2	141.9	43.993	ES
OTTESEN LE 09-363HN - OWB - OWB	700.0	692.9	203.4	193.0	19.650	SF
OTTESEN LE 09-365HC - OWB - OWB	0.0	0.5	126.1			
OTTESEN LE 09-365HC - OWB - OWB	200.0	199.7	126.7	123.7	42.294	ES
OTTESEN LE 09-365HC - OWB - OWB	700.0	692.0	187.2	176.9	18.125	SF
OTTESEN LE 09-365HN - OWB - OWB	0.0	0.5	133.7			
OTTESEN LE 09-365HN - OWB - OWB	200.0	198.6	135.1	132.1	44.823	ES
OTTESEN LE 09-365HN - OWB - OWB	700.0	697.2	188.3	178.1	18.532	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	111.7			
OTTESEN LE 09-366HN - OWB - OWB	200.0	199.8	112.2	109.3	37.446	ES
OTTESEN LE 09-366HN - OWB - OWB	600.0	594.2	147.7	138.7	16.351	SF
OTTESEN LE 09-366HNX - OWB - OWB	0.0	0.5	118.4			
OTTESEN LE 09-366HNX - OWB - OWB	252.6	253.3	119.0	115.7	36.106	ES
OTTESEN LE 09-366HNX - OWB - OWB	700.0	696.9	170.1	160.0	16.919	SF

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

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Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN FEDERAL 09N
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 09N	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	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Offsets						
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	102.3			
OTTESEN LE 09-368HC - OWB - OWB	200.0	199.6	102.9	99.9	34.230	ES
OTTESEN LE 09-368HC - OWB - OWB	700.0	694.1	158.7	148.7	15.971	SF
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	105.4			
OTTESEN LE 09-368HN - OWB - OWB	250.0	249.9	106.0	102.6	31.948	ES
OTTESEN LE 09-368HN - OWB - OWB	700.0	698.9	154.2	144.3	15.574	SF

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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 09N	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	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Pad						
OTTESEN 14NA - OWB - Plan #2	250.0	250.0	74.5	71.7	26.675	CC
OTTESEN 14NA - OWB - Plan #2	600.0	608.8	76.6	67.6	8.515	ES
OTTESEN 14NA - OWB - Plan #2	16,678.8	16,941.9	912.6	389.9	1.746	Collision Risk Procedures Re
OTTESEN 15C - OWB - OWB	0.0	0.0	89.9			
OTTESEN 15C - OWB - OWB	252.1	252.2	90.8	87.9	30.930	ES
OTTESEN 15C - OWB - OWB	700.0	695.6	132.8	123.5	14.305	SF
OTTESEN 15C - OWB - Plan #2	0.0	0.0	89.9			
OTTESEN 15C - OWB - Plan #2	252.1	252.2	90.8	87.9	30.930	ES
OTTESEN 15C - OWB - Plan #2	16,678.8	17,563.6	1,061.8	534.3	2.013	SF
OTTESEN 16N - OWB - OWB	255.9	256.2	104.0	101.0	34.531	CC, ES
OTTESEN 16N - OWB - OWB	700.0	696.3	146.9	137.7	15.842	SF
OTTESEN 16N - OWB - Plan #2	255.9	256.2	104.0	101.0	34.531	CC, ES
OTTESEN 16N - OWB - Plan #2	16,678.8	17,566.1	1,227.0	690.0	2.285	SF
OTTESEN 17N - OWB - OWB	834.3	824.5	229.4	223.0	35.655	CC, ES
OTTESEN 17N - OWB - OWB	1,300.0	1,250.6	298.8	285.9	23.274	SF
OTTESEN 17N - OWB - Plan #2	8,784.6	10,097.9	153.8	30.9	1.251	Collision Avoidance Req., CC
OTTESEN 17N - OWB - Plan #2	8,800.0	10,102.7	154.6	26.5	1.206	Collision Avoidance Req., ES
OTTESEN 18C - OWB - Plan #2	250.0	250.0	232.8	230.0	83.323	CC
OTTESEN 18C - OWB - Plan #2	400.0	389.9	234.0	229.5	52.581	ES
OTTESEN 18C - OWB - Plan #2	8,900.0	10,007.5	483.4	347.8	3.566	SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	219.3	216.5	78.502	CC
OTTESEN 19NA - OWB - Plan #2	400.0	390.6	220.6	216.2	50.064	ES
OTTESEN 19NA - OWB - Plan #2	8,550.0	9,580.1	379.3	241.1	2.745	SF
OTTESEN 20N - OWB - Plan #2	250.0	250.0	206.1	203.3	73.783	CC
OTTESEN 20N - OWB - Plan #2	400.0	391.9	207.4	203.1	48.113	ES
OTTESEN 20N - OWB - Plan #2	8,650.0	9,748.0	652.3	514.3	4.727	SF
OTTESEN 21N - OWB - OWB	634.2	629.7	187.7	182.5	36.110	CC, ES
OTTESEN 21N - OWB - OWB	1,200.0	1,160.4	261.7	249.2	21.054	SF
OTTESEN 21N - OWB - Plan #2	634.2	629.7	187.7	182.5	36.110	CC, ES
OTTESEN 21N - OWB - Plan #2	8,600.0	9,799.6	793.4	658.4	5.876	SF
OTTESEN 22C - OWB - Plan #2	250.0	250.0	180.5	177.7	64.621	CC
OTTESEN 22C - OWB - Plan #2	400.0	394.6	181.5	177.5	44.411	ES
OTTESEN 22C - OWB - Plan #2	8,700.0	9,832.4	1,085.0	947.0	7.862	SF
OTTESEN 23NA - OWB - Plan #2	250.0	250.0	168.2	165.4	60.220	CC
OTTESEN 23NA - OWB - Plan #2	400.0	396.0	169.1	165.1	42.613	ES
OTTESEN 23NA - OWB - Plan #2	8,400.0	9,310.4	1,085.5	951.8	8.121	SF
OTTESEN 24N - OWB - OWB	0.0	0.0	156.9			
OTTESEN 24N - OWB - OWB	410.8	409.9	158.2	154.3	40.189	ES
OTTESEN 24N - OWB - OWB	1,000.0	968.1	228.2	217.0	20.445	SF
OTTESEN 24N - OWB - Plan #2	0.0	0.0	156.9			
OTTESEN 24N - OWB - Plan #2	410.8	409.9	158.2	154.3	40.189	ES
OTTESEN 24N - OWB - Plan #2	8,550.0	9,661.9	1,348.9	1,216.7	10.202	SF
OTTESEN 25N - OWB - Plan #2	250.0	250.0	145.2	142.4	51.967	CC
OTTESEN 25N - OWB - Plan #2	500.0	498.2	146.1	141.6	32.220	ES
OTTESEN 25N - OWB - Plan #2	1,600.0	1,576.7	219.3	199.2	10.914	SF
OTTESEN 26C - OWB - Plan #2	250.0	250.0	135.0	132.2	48.325	CC
OTTESEN 26C - OWB - Plan #2	900.0	901.1	135.8	128.3	17.979	ES
OTTESEN 26C - OWB - Plan #2	1,425.8	1,413.9	180.6	162.6	9.997	SF
OTTESEN 27NA - OWB - OWB	257.2	257.3	124.6	121.7	43.136	CC
OTTESEN 27NA - OWB - OWB	300.0	300.0	124.6	121.5	39.880	ES
OTTESEN 27NA - OWB - OWB	900.0	890.5	178.0	167.9	17.679	SF
OTTESEN 27NA - OWB - Plan #2	257.2	257.3	124.6	121.7	43.136	CC
OTTESEN 27NA - OWB - Plan #2	300.0	300.0	124.6	121.5	39.880	ES

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

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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 09N	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	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Pad						
OTTESEN 27NA - OWB - Plan #2	8,300.0	9,189.8	1,803.0	1,676.2	14.213	SF
OTTESEN 28N - OWB - Plan #2	888.9	898.7	106.0	96.6	11.289	CC
OTTESEN 28N - OWB - Plan #2	1,000.0	1,008.8	107.9	96.4	9.335	ES
OTTESEN 28N - OWB - Plan #2	1,200.0	1,204.5	126.5	110.0	7.657	SF
OTTESEN 29C - OWB - Plan #2	838.9	851.4	96.2	85.8	9.249	CC
OTTESEN 29C - OWB - Plan #2	900.0	912.0	96.9	85.3	8.363	ES
OTTESEN 29C - OWB - Plan #2	1,100.0	1,108.7	112.7	96.6	6.975	SF
OTTESEN 30N - OWB - OWB	0.0	0.0	105.0			
OTTESEN 30N - OWB - OWB	200.0	199.4	105.3	102.8	42.345	ES
OTTESEN 30N - OWB - OWB	800.0	792.6	158.8	147.5	14.024	SF
OTTESEN 30N - OWB - Plan #2	0.0	0.0	105.0			
OTTESEN 30N - OWB - Plan #2	200.0	199.4	105.3	102.8	42.345	ES
OTTESEN 30N - OWB - Plan #2	800.0	792.6	158.8	147.5	14.024	SF
OTTESEN 31N - OWB - Plan #2	746.9	763.7	86.6	74.0	6.868	CC
OTTESEN 31N - OWB - Plan #2	800.0	816.5	87.4	73.8	6.449	ES
OTTESEN 31N - OWB - Plan #2	900.0	915.3	93.6	78.3	6.115	SF
OTTESEN 32NA - OWB - OWB	0.0	0.0	100.9			
OTTESEN 32NA - OWB - OWB	250.0	249.7	102.0	99.1	35.998	ES
OTTESEN 32NA - OWB - OWB	700.0	696.4	142.7	133.1	14.978	SF
OTTESEN 32NA - OWB - Plan #2	0.0	0.0	100.9			
OTTESEN 32NA - OWB - Plan #2	250.0	249.7	102.0	99.1	35.998	ES
OTTESEN 32NA - OWB - Plan #2	700.0	696.4	142.7	133.1	14.978	SF
OTTESEN FEDERAL 01N - OWB - Plan #2	250.0	250.0	119.9	117.1	42.921	CC
OTTESEN FEDERAL 01N - OWB - Plan #2	600.0	581.9	123.4	113.7	12.639	ES
OTTESEN FEDERAL 01N - OWB - Plan #2	16,678.8	16,150.7	1,399.6	866.7	2.626	SF
OTTESEN FEDERAL 02NA - OWB - Plan #2	250.0	250.0	105.1	102.3	37.606	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	600.0	584.4	108.2	98.5	11.146	ES
OTTESEN FEDERAL 02NA - OWB - Plan #2	16,669.8	16,012.0	1,252.0	732.0	2.408	SF
OTTESEN FEDERAL 03C - OWB - Plan #2	250.0	250.0	90.5	87.7	32.391	CC
OTTESEN FEDERAL 03C - OWB - Plan #2	600.0	586.8	93.1	83.5	9.660	ES
OTTESEN FEDERAL 03C - OWB - Plan #2	16,678.8	16,420.5	1,061.1	530.6	2.000	SF
OTTESEN FEDERAL 04N - OWB - Plan #2	250.0	250.0	74.8	72.0	26.775	CC
OTTESEN FEDERAL 04N - OWB - Plan #2	600.0	589.3	77.0	67.5	8.043	ES
OTTESEN FEDERAL 04N - OWB - Plan #2	16,678.8	16,258.2	878.0	347.4	1.655	Collision Risk Procedures Re
OTTESEN FEDERAL 05N - OWB - Plan #2	250.0	250.0	59.9	57.2	21.460	CC
OTTESEN FEDERAL 05N - OWB - Plan #2	700.0	689.2	63.0	52.1	5.792	ES
OTTESEN FEDERAL 05N - OWB - Plan #2	16,675.7	16,389.4	699.8	165.8	1.311	Collision Avoidance Req., SF
OTTESEN FEDERAL 06NA - OWB - Plan #2	250.0	250.0	45.4	42.6	16.246	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	700.0	692.0	47.6	36.8	4.409	ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	16,675.7	16,269.8	585.7	107.8	1.226	Collision Avoidance Req., SF
OTTESEN FEDERAL 07C - OWB - Plan #2	250.0	250.0	29.7	26.9	10.630	CC
OTTESEN FEDERAL 07C - OWB - Plan #2	16,676.0	16,683.2	366.3	-131.7	0.735	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 08N - OWB - Plan #2	250.0	250.0	14.8	12.1	5.315	CC
OTTESEN FEDERAL 08N - OWB - Plan #2	16,676.3	16,534.7	190.3	-299.0	0.389	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 10NA - OWB - Plan #2	250.0	250.0	14.6	11.8	5.215	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	16,678.8	16,584.4	313.4	-37.3	0.894	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 11C - OWB - OWB	0.0	0.0	30.0			
OTTESEN FEDERAL 11C - OWB - OWB	253.4	253.4	30.0	27.0	10.140	ES
OTTESEN FEDERAL 11C - OWB - OWB	500.0	499.1	44.1	37.3	6.500	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	0.0	0.0	30.0			
OTTESEN FEDERAL 11C - OWB - Plan #2	16,678.8	17,128.1	384.7	-100.5	0.793	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 12N - OWB - OWB	0.0	0.0	44.8			
OTTESEN FEDERAL 12N - OWB - OWB	250.0	250.0	46.0	43.3	16.751	ES

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PDC Energy Inc.
Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN FEDERAL 09N
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 09N	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

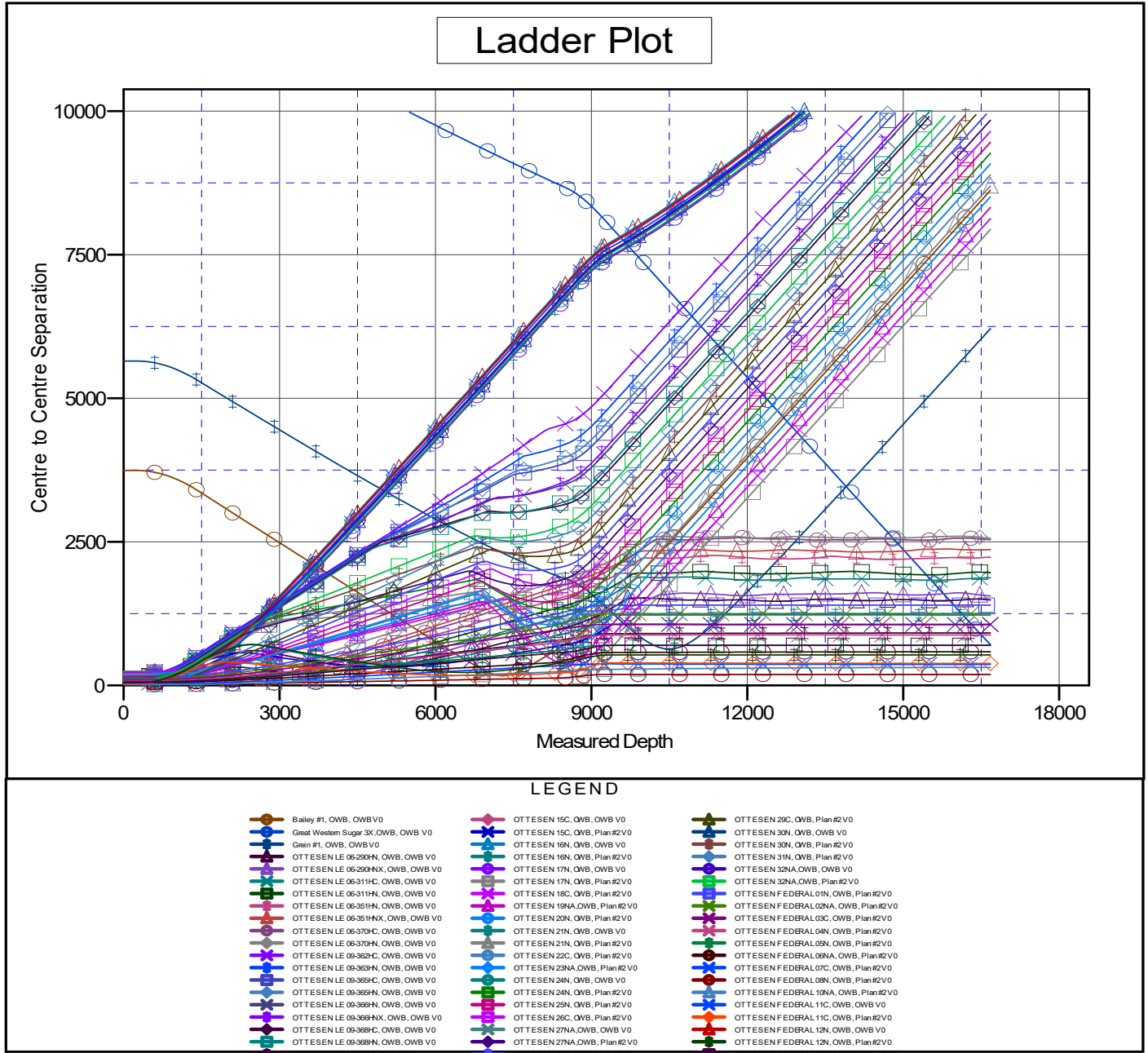
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Pad						
OTTESEN FEDERAL 12N - OWB - OWB	600.0	598.3	71.7	63.6	8.810	SF
OTTESEN FEDERAL 12N - OWB - Plan #2	0.0	0.0	44.8			
OTTESEN FEDERAL 12N - OWB - Plan #2	16,678.8	17,153.5	530.2	-4.7	0.991	No-Go Zone - Stop Drilling, E
OTTESEN FEDERAL 13HN - OWB - Plan #2	250.0	250.0	59.7	56.9	21.360	CC
OTTESEN FEDERAL 13HN - OWB - Plan #2	700.0	709.2	62.5	52.1	6.041	ES
OTTESEN FEDERAL 13HN - OWB - Plan #2	16,678.8	17,011.3	699.8	164.2	1.307	Collision Avoidance Req., SF

PDC Energy Inc.
Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN FEDERAL 09N
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:	OTTESSEN FEDERAL 09N	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: OTTESSEN FEDERAL 09N
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.47°



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

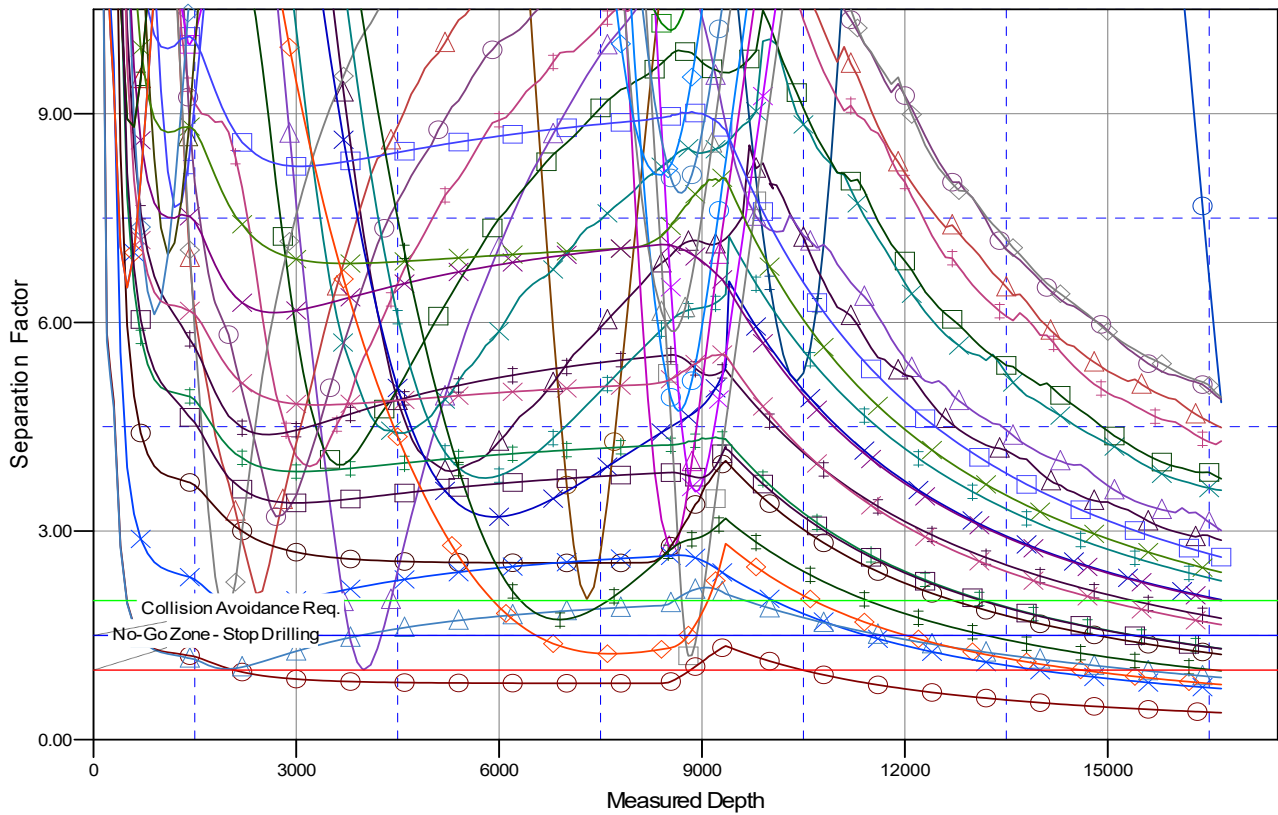
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Coordinates are relative to: OTTESSEN FEDERAL 09N
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Separation Factor Plot



LEGEND

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

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