



## WELL DETAILS: OTTESEN 31N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245345.99	3202269.86	40° 0' 16.560 N	104° 46' 40.609 W

Project: WELD COUNTY  
 Site: Ottesen Pad  
 Well: OTTESEN 31N  
 Wellbore: OWB  
 Design: Plan #2  
 Lat: 40° 0' 16.560 N  
 Long: 104° 46' 40.609 W  
 GL: 5076.0  
 KB: KB 20' @ 5096.0usft

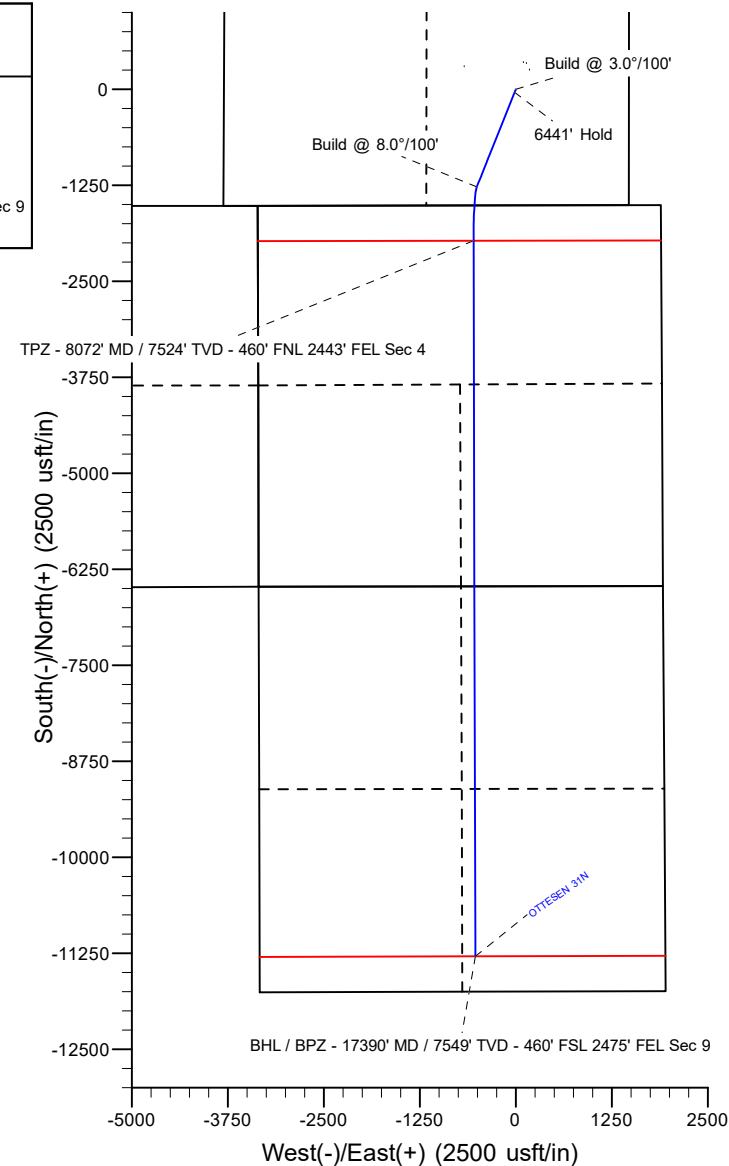
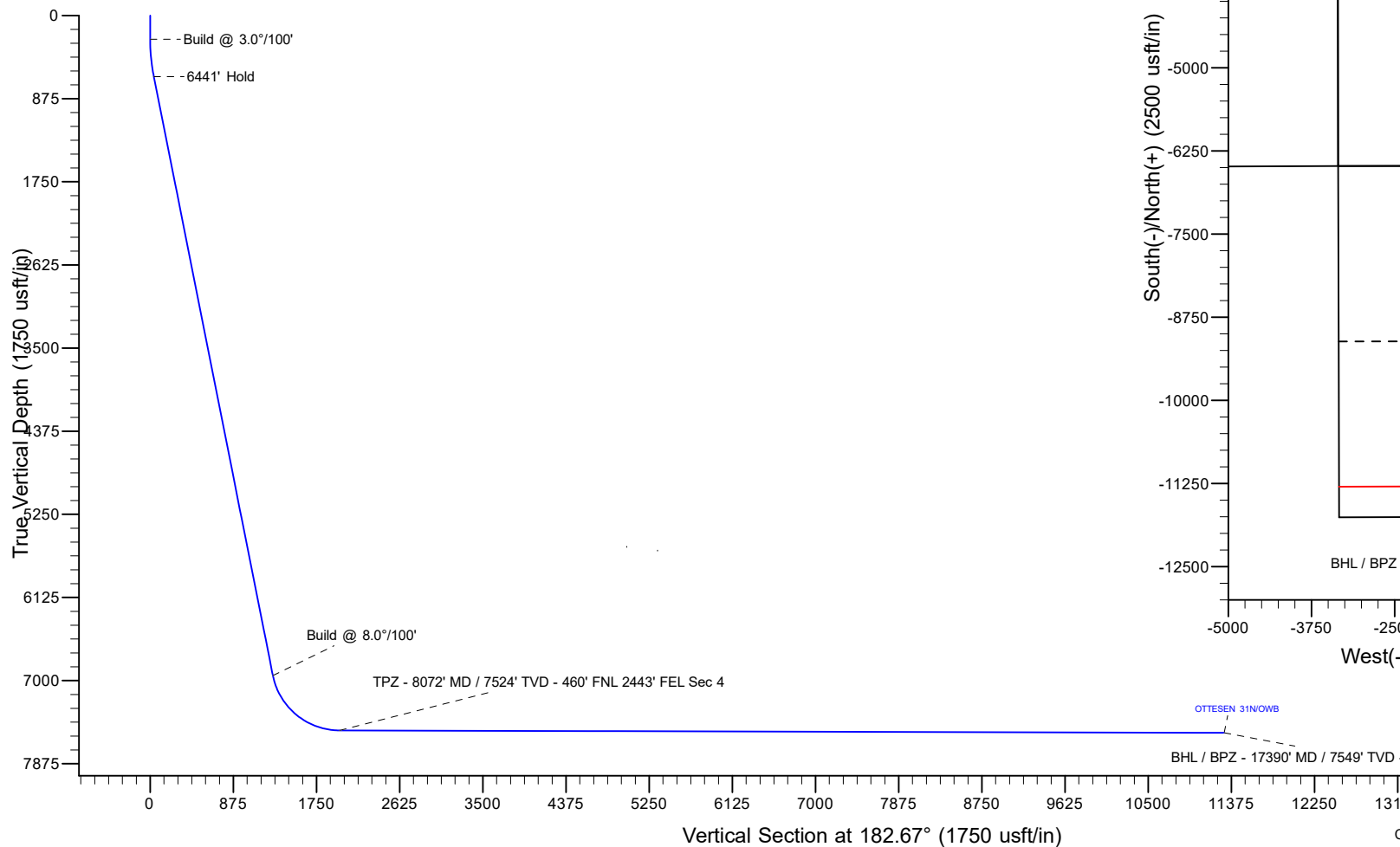


Azimuths to True North  
 Magnetic North: 7.73°

Magnetic Field  
 Strength: 51656.7nT  
 Dip Angle: 66.30°  
 Date: 4/12/2022  
 Model: IGRF2000

## 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'
645.9	11.88	201.78	643.1	-38.0	-15.2	3.00	201.78	38.6	6441' Hold
7087.0	11.88	201.78	6946.3	-1269.0	-507.1	0.00	0.00	1291.3	Build @ 8.0°/100'
8072.5	89.85	179.85	7524.0	-1970.2	-550.5	8.00	-22.38	1993.7	TPZ - 8072' MD / 7524' TVD - 460' FNL 2443' FEL Sec 4
17390.0	89.85	179.85	7549.0	-11287.6	-526.3	0.00	0.00	11299.9	BHL / BPZ - 17390' MD / 7549' TVD - 460' FSL 2475' FEL Sec 9



**PDC Energy Inc.**  
Anticollision Summary Report

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN 31N
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 20' @ 5096.0usft
<b>Reference Site:</b>	Ottesen Pad	<b>MD Reference:</b>	KB 20' @ 5096.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OTTESEN 31N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

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

<b>Survey Tool Program</b>	<b>Date</b>	10/3/2022		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	17,390.0	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	8,931.0	7,505.3	1,995.1	1,930.6	30.934	CC, ES
Bailey #1 - OWB - OWB	9,600.0	7,507.1	2,104.2	2,029.8	28.272	SF
Great Western Sugar 3X - OWB - OWB						Out of range
Grein #1 - OWB - OWB	8,858.1	7,449.1	4,415.8	4,352.6	69.839	CC
Grein #1 - OWB - OWB	8,900.0	7,449.2	4,416.0	4,352.1	69.075	ES
Grein #1 - OWB - OWB	11,300.0	7,455.7	5,046.0	4,948.4	51.682	SF
OTTESEN LE 06-290HN - OWB - OWB	1,103.9	1,091.6	73.7	65.7	9.257	CC, ES
OTTESEN LE 06-290HN - OWB - OWB	1,300.0	1,284.2	83.3	73.5	8.448	SF
OTTESEN LE 06-290HNX - OWB - OWB	1,122.3	1,107.8	89.7	81.4	10.905	CC, ES
OTTESEN LE 06-290HNX - OWB - OWB	1,700.0	1,679.4	113.5	101.7	9.574	SF
OTTESEN LE 06-311HC - OWB - OWB	1,127.5	1,113.2	103.2	95.0	12.502	CC, ES
OTTESEN LE 06-311HC - OWB - OWB	2,000.0	1,977.5	137.5	123.4	9.776	SF
OTTESEN LE 06-311HN - OWB - OWB	1,140.3	1,122.6	122.2	113.3	13.715	CC, ES
OTTESEN LE 06-311HN - OWB - OWB	1,700.0	1,666.0	150.3	136.5	10.945	SF
OTTESEN LE 06-351HN - OWB - OWB	1,071.0	1,050.1	141.9	133.1	16.244	CC, ES
OTTESEN LE 06-351HN - OWB - OWB	1,700.0	1,654.0	187.3	171.9	12.177	SF
OTTESEN LE 06-351HNX - OWB - OWB	1,002.7	975.9	178.3	168.0	17.350	CC, ES
OTTESEN LE 06-351HNX - OWB - OWB	12,200.0	9,512.0	2,843.4	2,631.2	13.400	SF
OTTESEN LE 06-370HC - OWB - OWB	1,049.0	1,024.0	180.2	170.9	19.395	CC
OTTESEN LE 06-370HC - OWB - OWB	1,100.0	1,073.5	180.5	170.9	18.848	ES
OTTESEN LE 06-370HC - OWB - OWB	12,100.0	9,438.5	2,648.4	2,441.7	12.817	SF
OTTESEN LE 06-370HN - OWB - OWB	797.0	764.6	224.3	215.0	24.094	CC
OTTESEN LE 06-370HN - OWB - OWB	800.0	767.2	224.3	214.9	24.015	ES
OTTESEN LE 06-370HN - OWB - OWB	12,500.0	9,652.1	2,806.9	2,586.5	12.733	SF
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	149.3			
OTTESEN LE 09-362HC - OWB - OWB	250.0	250.0	150.6	147.3	45.398	ES
OTTESEN LE 09-362HC - OWB - OWB	17,390.0	17,859.1	1,953.8	1,551.8	4.861	SF
OTTESEN LE 09-363HN - OWB - OWB	0.0	0.5	119.0			
OTTESEN LE 09-363HN - OWB - OWB	250.0	250.2	119.2	115.9	36.118	ES
OTTESEN LE 09-363HN - OWB - OWB	17,390.0	17,520.5	1,608.6	1,206.7	4.002	SF
OTTESEN LE 09-365HC - OWB - OWB	0.0	0.5	88.7			
OTTESEN LE 09-365HC - OWB - OWB	200.0	199.7	90.0	87.0	29.939	ES
OTTESEN LE 09-365HC - OWB - OWB	17,390.0	17,691.2	1,264.1	864.2	3.161	SF
OTTESEN LE 09-365HN - OWB - OWB	0.0	0.5	103.4			
OTTESEN LE 09-365HN - OWB - OWB	200.0	199.7	104.2	101.2	34.680	ES
OTTESEN LE 09-365HN - OWB - OWB	17,390.0	17,600.4	1,341.7	940.3	3.342	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	59.9			

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

**PDC Energy Inc.**  
Anticollision Summary Report

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN 31N
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 20' @ 5096.0usft
<b>Reference Site:</b>	Ottesen Pad	<b>MD Reference:</b>	KB 20' @ 5096.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OTTESEN 31N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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 09-366HN - OWB - OWB	257.6	258.2	60.2	56.9	18.147	ES
OTTESEN LE 09-366HN - OWB - OWB	17,390.0	17,533.2	841.4	440.4	2.098	SF
OTTESEN LE 09-366HNX - OWB - OWB	0.0	0.5	74.7			
OTTESEN LE 09-366HNX - OWB - OWB	250.0	250.4	75.6	72.3	22.920	ES
OTTESEN LE 09-366HNX - OWB - OWB	17,390.0	17,269.6	1,016.4	629.7	2.629	SF
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	29.5			
OTTESEN LE 09-368HC - OWB - OWB	200.0	200.3	30.3	27.3	10.054	ES
OTTESEN LE 09-368HC - OWB - OWB	17,390.0	17,693.3	512.4	122.8	1.315	Collision Avoidance Req., SF
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	44.3			
OTTESEN LE 09-368HN - OWB - OWB	250.0	250.3	44.5	41.2	13.490	ES
OTTESEN LE 09-368HN - OWB - OWB	17,390.0	17,472.3	582.6	187.5	1.475	Collision Avoidance Req., SF

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<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN 31N
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 20' @ 5096.0usft
<b>Reference Site:</b>	Ottesen Pad	<b>MD Reference:</b>	KB 20' @ 5096.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OTTESEN 31N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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 15C - OWB - OWB	1,720.6	1,734.0	117.9	99.4	6.376	CC, ES, SF
OTTESEN 15C - OWB - Plan #2	2,100.0	2,127.4	81.2	63.0	4.463	ES, SF
OTTESEN 15C - OWB - Plan #2	2,108.9	2,136.2	81.1	63.0	4.469	CC
OTTESEN 16N - OWB - OWB	712.3	709.2	148.2	142.5	25.856	CC, ES
OTTESEN 16N - OWB - OWB	1,719.8	1,735.0	194.2	176.2	10.815	SF
OTTESEN 16N - OWB - Plan #2	2,613.5	2,660.7	83.7	61.3	3.747	CC, ES, SF
OTTESEN 17N - OWB - OWB	819.7	812.8	195.7	189.6	31.962	CC, ES
OTTESEN 17N - OWB - OWB	1,700.0	1,672.8	265.2	252.7	21.328	SF
OTTESEN 17N - OWB - Plan #2	819.7	812.8	195.7	189.6	31.962	CC, ES
OTTESEN 17N - OWB - Plan #2	17,390.0	17,949.3	2,663.5	2,266.3	6.705	SF
OTTESEN 18C - OWB - Plan #2	250.0	250.0	195.4	192.6	69.949	CC, ES
OTTESEN 18C - OWB - Plan #2	17,390.0	17,825.8	2,479.7	2,083.4	6.257	SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	180.4	177.6	64.565	CC, ES
OTTESEN 19NA - OWB - Plan #2	17,390.0	17,654.3	2,290.4	1,891.0	5.735	SF
OTTESEN 20N - OWB - Plan #2	250.0	250.0	165.4	162.6	59.209	CC, ES
OTTESEN 20N - OWB - Plan #2	17,390.0	17,784.3	2,089.4	1,690.5	5.237	SF
OTTESEN 21N - OWB - OWB	697.4	692.9	140.1	134.7	25.737	CC
OTTESEN 21N - OWB - OWB	700.0	695.5	140.1	134.6	25.689	ES
OTTESEN 21N - OWB - OWB	1,300.0	1,284.0	183.8	173.4	17.634	SF
OTTESEN 21N - OWB - Plan #2	697.4	692.9	140.1	134.7	25.737	CC
OTTESEN 21N - OWB - Plan #2	700.0	695.5	140.1	134.6	25.689	ES
OTTESEN 21N - OWB - Plan #2	17,390.0	17,854.9	1,900.4	1,502.3	4.774	SF
OTTESEN 22C - OWB - Plan #2	250.0	250.0	135.4	132.6	48.473	CC, ES
OTTESEN 22C - OWB - Plan #2	17,390.0	17,850.0	1,718.5	1,322.9	4.344	SF
OTTESEN 23NA - OWB - Plan #2	250.0	250.0	120.4	117.6	43.092	CC, ES
OTTESEN 23NA - OWB - Plan #2	17,390.0	17,444.6	1,535.4	1,137.2	3.856	SF
OTTESEN 24N - OWB - OWB	603.8	602.0	100.7	95.5	19.113	CC, ES
OTTESEN 24N - OWB - OWB	900.0	886.3	128.4	119.7	14.796	SF
OTTESEN 24N - OWB - Plan #2	603.8	602.0	100.7	95.5	19.113	CC, ES
OTTESEN 24N - OWB - Plan #2	17,390.0	17,736.8	1,329.6	931.6	3.341	SF
OTTESEN 25N - OWB - Plan #2	250.0	250.0	90.2	87.4	32.291	CC, ES
OTTESEN 25N - OWB - Plan #2	17,390.0	17,469.3	1,141.0	741.6	2.857	SF
OTTESEN 26C - OWB - Plan #2	250.0	250.0	75.6	72.8	27.076	CC
OTTESEN 26C - OWB - Plan #2	300.0	298.6	75.9	72.8	25.089	ES
OTTESEN 26C - OWB - Plan #2	17,390.0	17,679.1	964.0	572.3	2.461	SF
OTTESEN 27NA - OWB - OWB	525.2	524.0	55.9	51.3	12.130	CC, ES
OTTESEN 27NA - OWB - OWB	800.0	794.4	77.3	69.3	9.673	SF
OTTESEN 27NA - OWB - Plan #2	525.2	524.0	55.9	51.3	12.130	CC, ES
OTTESEN 27NA - OWB - Plan #2	17,390.0	17,364.6	791.0	401.8	2.032	SF
OTTESEN 28N - OWB - Plan #2	250.0	250.0	45.1	42.3	16.145	CC
OTTESEN 28N - OWB - Plan #2	400.0	397.8	46.5	42.0	10.253	ES
OTTESEN 28N - OWB - Plan #2	17,390.0	17,449.3	569.9	170.9	1.428	Collision Avoidance Req., SF
OTTESEN 29C - OWB - Plan #2	250.0	250.0	30.5	27.7	10.931	CC
OTTESEN 29C - OWB - Plan #2	400.0	398.7	31.5	27.1	7.114	ES
OTTESEN 29C - OWB - Plan #2	17,390.0	17,591.5	412.2	43.1	1.117	Collision Avoidance Req., SF
OTTESEN 30N - OWB - OWB	0.0	0.0	15.4			
OTTESEN 30N - OWB - OWB	400.0	399.9	16.7	12.5	4.031	ES
OTTESEN 30N - OWB - OWB	500.0	499.5	20.1	14.4	3.520	SF
OTTESEN 30N - OWB - Plan #2	0.0	0.0	15.4			
OTTESEN 30N - OWB - Plan #2	17,390.0	17,395.0	197.8	-191.0	0.509	No-Go Zone - Stop Drilling, ES
OTTESEN 32NA - OWB - OWB	202.9	203.0	12.8	10.2	4.889	CC
OTTESEN 32NA - OWB - OWB	300.0	300.1	13.2	10.0	4.169	ES
OTTESEN 32NA - OWB - OWB	400.0	400.0	15.7	11.1	3.377	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

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN 31N
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 20' @ 5096.0usft
<b>Reference Site:</b>	Ottesen Pad	<b>MD Reference:</b>	KB 20' @ 5096.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OTTESEN 31N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

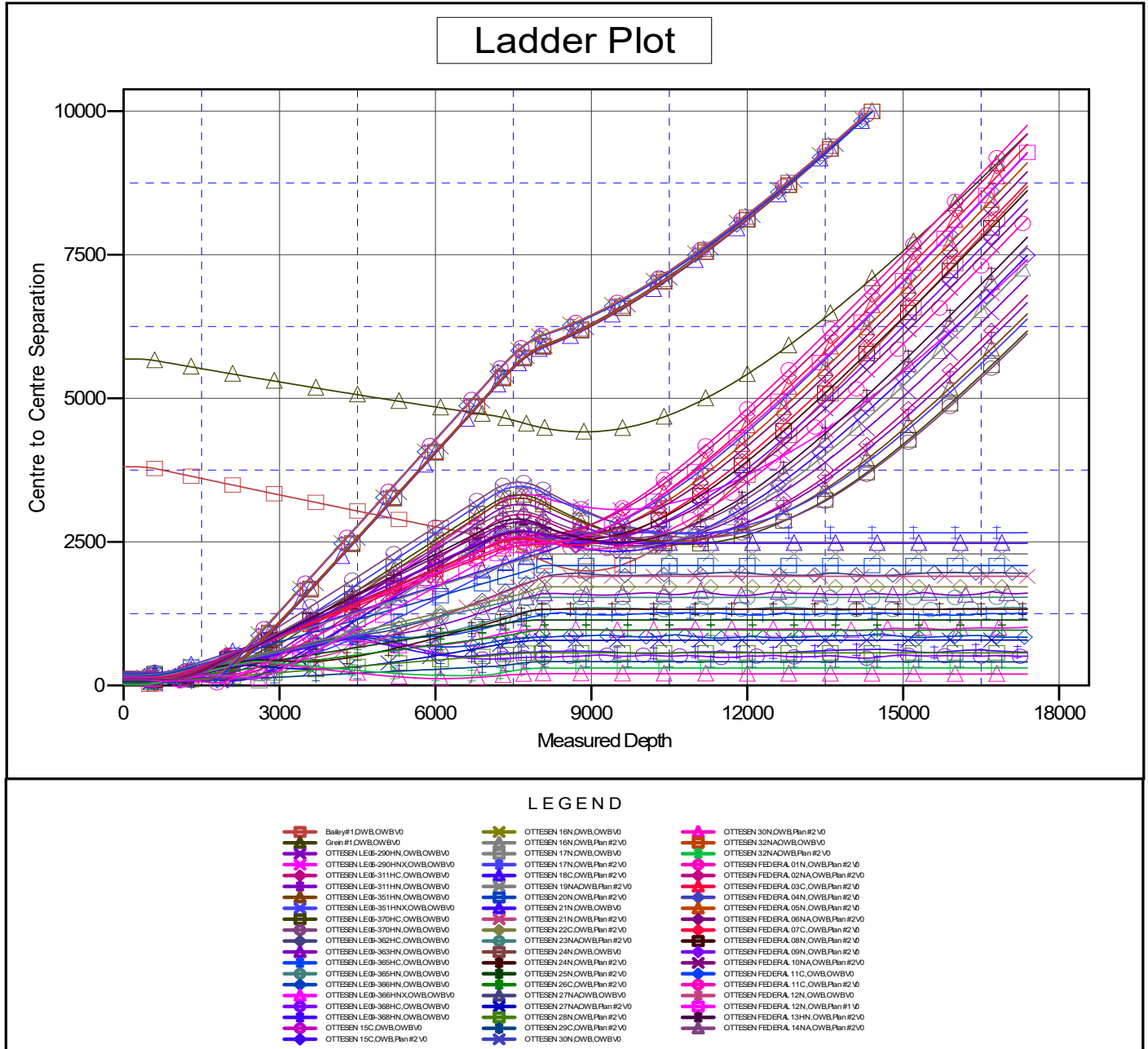
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Pad						
OTTESEN 32NA - OWB - Plan #2	202.9	203.0	12.8	10.2	4.889	CC
OTTESEN 32NA - OWB - Plan #2	300.0	300.1	13.2	10.0	4.169	ES
OTTESEN 32NA - OWB - Plan #2	17,390.0	17,211.7	306.1	29.3	1.106	Collision Avoidance Req., SF
OTTESEN FEDERAL 01N - OWB - Plan #2	330.1	324.5	145.3	141.4	37.751	CC
OTTESEN FEDERAL 01N - OWB - Plan #2	600.0	574.9	146.4	135.2	12.999	ES
OTTESEN FEDERAL 01N - OWB - Plan #2	800.0	758.6	157.3	144.1	11.930	SF
OTTESEN FEDERAL 02NA - OWB - Plan #2	489.3	473.8	134.6	125.8	15.242	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	645.9	619.5	135.5	123.4	11.268	ES
OTTESEN FEDERAL 02NA - OWB - Plan #2	800.0	761.8	144.5	131.1	10.767	SF
OTTESEN FEDERAL 03C - OWB - Plan #2	589.8	569.1	124.5	113.1	10.938	CC
OTTESEN FEDERAL 03C - OWB - Plan #2	645.9	621.6	124.7	112.4	10.209	ES
OTTESEN FEDERAL 03C - OWB - Plan #2	800.0	764.8	132.5	118.8	9.695	SF
OTTESEN FEDERAL 04N - OWB - Plan #2	652.9	630.3	114.0	101.6	9.160	CC, ES
OTTESEN FEDERAL 04N - OWB - Plan #2	800.0	768.0	120.5	106.5	8.652	SF
OTTESEN FEDERAL 05N - OWB - Plan #2	670.1	648.6	105.1	92.4	8.255	CC
OTTESEN FEDERAL 05N - OWB - Plan #2	700.0	676.9	105.4	92.3	8.057	ES
OTTESEN FEDERAL 05N - OWB - Plan #2	800.0	770.9	110.2	96.0	7.794	SF
OTTESEN FEDERAL 06NA - OWB - Plan #2	689.0	668.6	97.8	84.8	7.553	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	700.0	679.1	97.8	84.7	7.476	ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	800.0	773.7	101.4	87.2	7.116	SF
OTTESEN FEDERAL 07C - OWB - Plan #2	711.7	692.5	91.7	78.7	7.040	CC, ES
OTTESEN FEDERAL 07C - OWB - Plan #2	800.0	776.5	94.0	79.8	6.625	SF
OTTESEN FEDERAL 08N - OWB - Plan #2	736.6	718.6	88.0	75.1	6.808	CC, ES
OTTESEN FEDERAL 08N - OWB - Plan #2	900.0	874.0	95.8	80.6	6.287	SF
OTTESEN FEDERAL 09N - OWB - Plan #2	763.8	746.9	86.6	74.0	6.868	CC
OTTESEN FEDERAL 09N - OWB - Plan #2	800.0	781.7	87.0	73.8	6.586	ES
OTTESEN FEDERAL 09N - OWB - Plan #2	900.0	877.0	91.9	77.1	6.196	SF
OTTESEN FEDERAL 10NA - OWB - Plan #2	792.8	777.1	87.6	75.4	7.206	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	800.0	784.1	87.6	75.3	7.132	ES
OTTESEN FEDERAL 10NA - OWB - Plan #2	1,000.0	974.2	100.0	84.2	6.321	SF
OTTESEN FEDERAL 11C - OWB - OWB	1,729.7	1,736.0	48.1	31.0	2.824	CC, ES, SF
OTTESEN FEDERAL 11C - OWB - Plan #2	1,700.0	1,710.2	50.2	32.8	2.889	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	1,773.9	1,782.9	46.5	30.7	2.941	CC, ES
OTTESEN FEDERAL 12N - OWB - OWB	796.7	790.9	92.5	86.4	15.332	CC
OTTESEN FEDERAL 12N - OWB - OWB	800.0	794.1	92.5	86.4	15.282	ES
OTTESEN FEDERAL 12N - OWB - OWB	1,731.3	1,742.0	170.7	153.0	9.681	SF
OTTESEN FEDERAL 12N - OWB - Plan #1	796.7	790.9	92.5	86.4	15.332	CC
OTTESEN FEDERAL 12N - OWB - Plan #1	800.0	794.1	92.5	86.4	15.282	ES
OTTESEN FEDERAL 12N - OWB - Plan #1	2,400.0	2,432.3	128.0	107.3	6.193	SF
OTTESEN FEDERAL 13HN - OWB - Plan #2	891.0	879.3	103.3	92.6	9.679	CC
OTTESEN FEDERAL 13HN - OWB - Plan #2	900.0	887.9	103.3	92.5	9.521	ES
OTTESEN FEDERAL 13HN - OWB - Plan #2	1,100.0	1,077.5	115.4	100.2	7.553	SF
OTTESEN FEDERAL 14NA - OWB - Plan #2	922.5	912.1	111.7	101.4	10.801	CC
OTTESEN FEDERAL 14NA - OWB - Plan #2	1,000.0	986.5	113.2	101.1	9.420	ES
OTTESEN FEDERAL 14NA - OWB - Plan #2	1,200.0	1,172.8	134.1	117.6	8.123	SF

**PDC Energy Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN 31N
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 20' @ 5096.0usft
<b>Reference Site:</b>	Ottesen Pad	<b>MD Reference:</b>	KB 20' @ 5096.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OTTESEN 31N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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 31N  
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



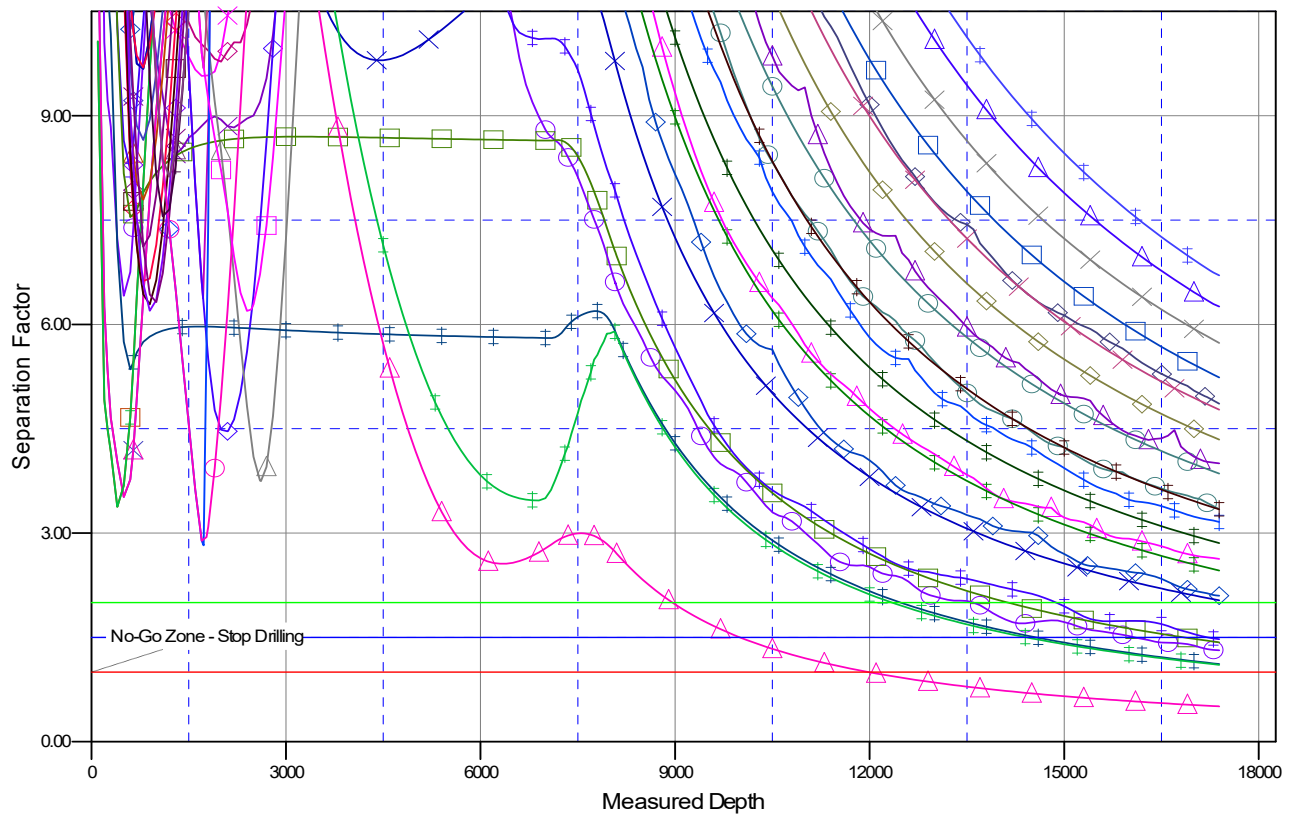
**PDC Energy Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESSEN 31N
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 20' @ 5096.0usft
<b>Reference Site:</b>	Ottesen Pad	<b>MD Reference:</b>	KB 20' @ 5096.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OTTESSEN 31N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB 20' @ 5096.0usft  
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Coordinates are relative to: OTTESSEN 31N  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.47°

## Separation Factor Plot



### LEGEND

● Bailey#11.OWB,OWBV0	★ OTTESSEN 16N,OWB,OWBV0	● OTTESSEN 30N,OWB,Plan#2 V0
● Bailey#11.OWB,OWBV0	● OTTESSEN 16N,OWB,Plan#2 V0	● OTTESSEN 32N,OWB,OWBV0
● OTTESSEN LE03-250H,OWB,OWBV0	● OTTESSEN 17N,OWB,OWBV0	● OTTESSEN 32N,OWB,Plan#2 V0
● OTTESSEN LE03-311HC,OWB,OWBV0	● OTTESSEN 18C,OWB,Plan#2 V0	● OTTESSEN FEDERAL 01N,OWB,Plan#2 V0
● OTTESSEN LE03-311HN,OWB,OWBV0	● OTTESSEN 18N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 02N,OWB,Plan#2 V0
● OTTESSEN LE03-351HN,OWB,OWBV0	● OTTESSEN 20N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 03C,OWB,Plan#2 V0
● OTTESSEN LE03-351HN,OWB,OWBV0	● OTTESSEN 21N,OWB,OWBV0	● OTTESSEN FEDERAL 04N,OWB,Plan#2 V0
● OTTESSEN LE03-370HC,OWB,OWBV0	● OTTESSEN 21N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 05N,OWB,Plan#2 V0
● OTTESSEN LE03-370HN,OWB,OWBV0	● OTTESSEN 22C,OWB,Plan#2 V0	● OTTESSEN FEDERAL 06N,OWB,Plan#2 V0
● OTTESSEN LE03-362HC,OWB,OWBV0	● OTTESSEN 23N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 07C,OWB,Plan#2 V0
● OTTESSEN LE03-363HC,OWB,OWBV0	● OTTESSEN 24N,OWB,OWBV0	● OTTESSEN FEDERAL 08N,OWB,Plan#2 V0
● OTTESSEN LE03-365HC,OWB,OWBV0	● OTTESSEN 24N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 09N,OWB,Plan#2 V0
● OTTESSEN LE03-365HN,OWB,OWBV0	● OTTESSEN 25N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 10N,OWB,Plan#2 V0
● OTTESSEN LE03-366HN,OWB,OWBV0	● OTTESSEN 26C,OWB,Plan#2 V0	● OTTESSEN FEDERAL 11C,OWB,OWBV0
● OTTESSEN LE03-366HN,OWB,OWBV0	● OTTESSEN 27N,OWB,OWBV0	● OTTESSEN FEDERAL 11C,OWB,Plan#2 V0
● OTTESSEN LE03-368HC,OWB,OWBV0	● OTTESSEN 27N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 12N,OWB,OWBV0
● OTTESSEN LE03-368HN,OWB,OWBV0	● OTTESSEN 28N,OWB,Plan#2 V0	● OTTESSEN FEDERAL 12N,OWB,Plan#1 V0
● OTTESSEN 15C,OWB,OWBV0	● OTTESSEN 29C,OWB,Plan#2 V0	● OTTESSEN FEDERAL 13HN,OWB,Plan#2 V0
● OTTESSEN 15C,OWB,Plan#2 V0	● OTTESSEN 30N,OWB,OWBV0	● OTTESSEN FEDERAL 14N,OWB,Plan#2 V0

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