



Project: WELD COUNTY
Site: Ottesen Pad
Well: OTTESEN FEDERAL 05N
Wellbore: OWB
Design: Plan #2
Lat: 40° 0' 15.569 N
Long: 104° 46' 41.189 W
GL: 5076.0
KB: KB 20' @ 5096.0usft



Azimuths to True North
Magnetic North: 7.73°

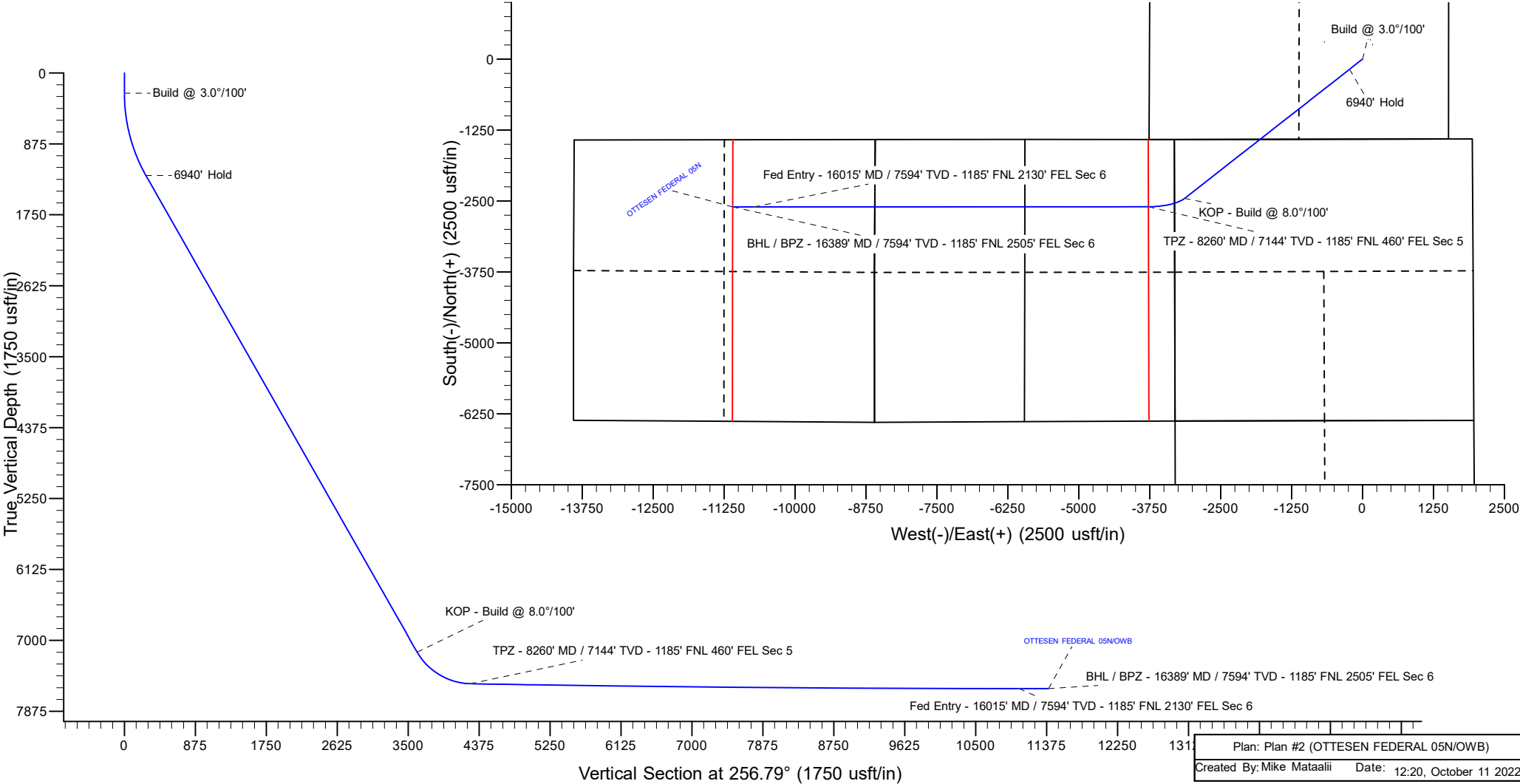
Magnetic Field
Strength: 51656.6nT
Dip Angle: 66.30°
Date: 4/12/2022
Model: IGRF2000

WELL DETAILS: OTTESEN FEDERAL 05N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245245.37	3202225.58	40° 0' 15.569 N	104° 46' 41.189 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'
1319.7	32.09	231.95	1264.7	-179.9	-229.8	3.00	231.95	264.8	6940' Hold
8260.2	32.09	231.95	7144.6	-2452.5	-3133.5	0.00	0.00	3611.0	KOP - Build @ 8.0°/100'
9064.4	89.01	269.97	7534.0	-2600.3	-3772.3	8.00	43.10	4266.7	TPZ - 8260' MD / 7144' TVD - 1185' FNL 460' FEL Sec 5
16015.1	90.00	269.96	7594.0	-2604.4	-10722.7	0.01	-0.14	11034.1	Fed Entry - 16015' MD / 7594' TVD - 1185' FNL 2130' FEL Sec 6
16389.8	90.00	269.96	7594.0	-2604.6	-11097.4	0.00	0.00	11399.0	BHL / BPZ - 16389' MD / 7594' TVD - 1185' FNL 2505' FEL Sec 6



PDC Energy Inc.
Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN FEDERAL 05N
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 05N	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	16,389.8	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	7,644.7	6,602.2	612.9	530.9	7.477	CC, ES
Bailey #1 - OWB - OWB	7,800.0	6,733.7	618.4	535.1	7.421	SF
Great Western Sugar 3X - OWB - OWB	16,389.8	7,470.0	850.8	706.6	5.901	CC, ES, SF
Grein #1 - OWB - OWB	10,211.4	7,475.2	66.0	-52.6	0.557	No-Go Zone - Stop Drilling, (
OTTESEN LE 06-290HN - OWB - OWB	722.8	718.8	47.6	41.5	7.811	CC, ES
OTTESEN LE 06-290HN - OWB - OWB	16,389.8	17,887.6	2,186.8	1,667.3	4.210	SF
OTTESEN LE 06-290HNN - OWB - OWB	770.1	764.1	56.2	49.9	8.902	CC, ES
OTTESEN LE 06-290HNN - OWB - OWB	3,500.0	3,626.8	225.3	170.3	4.093	SF
OTTESEN LE 06-311HC - OWB - OWB	799.7	792.3	62.8	56.3	9.644	CC
OTTESEN LE 06-311HC - OWB - OWB	800.0	792.6	62.8	56.3	9.642	ES
OTTESEN LE 06-311HC - OWB - OWB	16,389.8	17,904.0	2,574.3	2,050.8	4.918	SF
OTTESEN LE 06-311HN - OWB - OWB	858.1	848.5	73.4	66.4	10.559	CC, ES
OTTESEN LE 06-311HN - OWB - OWB	16,389.8	17,859.0	2,663.2	2,139.4	5.085	SF
OTTESEN LE 06-351HN - OWB - OWB	916.9	905.6	81.0	73.6	10.934	CC, ES
OTTESEN LE 06-351HN - OWB - OWB	16,300.0	17,635.0	2,929.3	2,407.2	5.611	SF
OTTESEN LE 06-351HNN - OWB - OWB	1,202.3	1,188.6	71.5	57.0	4.914	CC
OTTESEN LE 06-351HNN - OWB - OWB	1,300.0	1,286.7	74.8	56.0	3.967	ES
OTTESEN LE 06-351HNN - OWB - OWB	1,400.0	1,387.4	83.6	61.9	3.857	SF
OTTESEN LE 06-370HC - OWB - OWB	1,102.5	1,087.5	91.8	81.7	9.008	CC, ES
OTTESEN LE 06-370HC - OWB - OWB	1,700.0	1,706.8	146.9	122.5	6.015	SF
OTTESEN LE 06-370HN - OWB - OWB	1,509.3	1,471.1	14.4	-9.3	0.609	No-Go Zone - Stop Drilling, (
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	219.2			
OTTESEN LE 09-362HC - OWB - OWB	200.0	198.4	220.5	217.4	73.307	ES
OTTESEN LE 09-362HC - OWB - OWB	800.0	788.1	304.4	292.9	26.446	SF
OTTESEN LE 09-363HN - OWB - OWB	224.6	225.1	192.9	189.7	61.222	CC
OTTESEN LE 09-363HN - OWB - OWB	250.0	250.2	192.9	189.6	58.478	ES
OTTESEN LE 09-363HN - OWB - OWB	800.0	788.5	276.2	264.7	23.982	SF
OTTESEN LE 09-365HC - OWB - OWB	0.0	0.5	168.4			
OTTESEN LE 09-365HC - OWB - OWB	200.0	199.2	169.3	166.3	56.471	ES
OTTESEN LE 09-365HC - OWB - OWB	700.0	692.3	228.5	218.1	22.060	SF
OTTESEN LE 09-365HN - OWB - OWB	0.0	0.5	179.2			
OTTESEN LE 09-365HN - OWB - OWB	200.0	198.1	180.5	177.5	59.964	ES
OTTESEN LE 09-365HN - OWB - OWB	800.0	794.5	258.8	247.5	22.900	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	146.6			
OTTESEN LE 09-366HN - OWB - OWB	250.0	249.9	147.4	144.1	44.667	ES
OTTESEN LE 09-366HN - OWB - OWB	700.0	693.0	205.5	195.0	19.545	SF
OTTESEN LE 09-366HNN - OWB - OWB	0.0	0.5	157.5			

CC - Min centre to center distance or convergent 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 05N
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 05N	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 09-366HNN - OWB - OWB	251.0	251.6	158.3	155.0	48.036	ES
OTTESEN LE 09-366HNN - OWB - OWB	700.0	696.6	210.9	200.8	20.789	SF
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	125.8			
OTTESEN LE 09-368HC - OWB - OWB	200.0	199.2	126.7	123.6	42.068	ES
OTTESEN LE 09-368HC - OWB - OWB	700.0	694.4	186.4	176.1	18.055	SF
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	135.1			
OTTESEN LE 09-368HN - OWB - OWB	250.0	249.6	135.6	132.3	40.937	ES
OTTESEN LE 09-368HN - OWB - OWB	700.0	699.4	187.5	177.3	18.413	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 05N	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	134.5	131.7	48.136	CC
OTTESEN 14NA - OWB - Plan #2	500.0	511.6	136.5	128.8	17.765	ES
OTTESEN 14NA - OWB - Plan #2	16,389.8	16,939.2	1,595.1	1,062.9	2.997	SF
OTTESEN 15C - OWB - OWB	0.0	0.0	149.9			
OTTESEN 15C - OWB - OWB	251.9	252.0	150.7	147.8	51.370	ES
OTTESEN 15C - OWB - OWB	800.0	791.9	217.3	206.8	20.667	SF
OTTESEN 15C - OWB - Plan #2	0.0	0.0	149.9			
OTTESEN 15C - OWB - Plan #2	251.9	252.0	150.7	147.8	51.370	ES
OTTESEN 15C - OWB - Plan #2	16,389.8	17,560.9	1,757.3	1,226.1	3.308	SF
OTTESEN 16N - OWB - OWB	255.4	255.8	164.0	161.0	54.467	CC, ES
OTTESEN 16N - OWB - OWB	800.0	792.3	231.4	220.7	21.739	SF
OTTESEN 16N - OWB - Plan #2	255.4	255.8	164.0	161.0	54.467	CC, ES
OTTESEN 16N - OWB - Plan #2	16,389.8	17,563.3	1,925.7	1,389.6	3.592	SF
OTTESEN 17N - OWB - OWB	754.2	747.7	180.9	175.0	30.481	CC, ES
OTTESEN 17N - OWB - OWB	1,200.0	1,162.5	245.1	232.8	20.020	SF
OTTESEN 17N - OWB - Plan #2	8,508.1	9,417.7	161.3	51.6	1.470	Collision Avoidance Req., CC
OTTESEN 17N - OWB - Plan #2	8,550.0	9,428.1	167.5	48.1	1.403	Collision Avoidance Req., ES
OTTESEN 18C - OWB - Plan #2	250.0	250.0	180.5	177.7	64.612	CC
OTTESEN 18C - OWB - Plan #2	400.0	393.6	181.3	177.0	42.431	ES
OTTESEN 18C - OWB - Plan #2	8,650.0	9,326.2	500.2	377.7	4.083	SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	168.2	165.4	60.212	CC
OTTESEN 19NA - OWB - Plan #2	400.0	394.4	169.1	164.9	40.374	ES
OTTESEN 19NA - OWB - Plan #2	8,300.0	8,924.8	390.9	268.8	3.201	SF
OTTESEN 20N - OWB - Plan #2	250.0	250.0	156.5	153.7	56.007	CC
OTTESEN 20N - OWB - Plan #2	400.0	395.7	157.3	153.2	38.790	ES
OTTESEN 20N - OWB - Plan #2	8,400.0	9,084.6	665.6	543.5	5.450	SF
OTTESEN 21N - OWB - OWB	534.5	533.5	143.6	139.0	31.090	CC, ES
OTTESEN 21N - OWB - OWB	1,100.0	1,073.7	218.7	206.6	18.163	SF
OTTESEN 21N - OWB - Plan #2	534.5	533.5	143.6	139.0	31.090	CC, ES
OTTESEN 21N - OWB - Plan #2	8,300.0	9,124.5	796.3	679.3	6.807	SF
OTTESEN 22C - OWB - Plan #2	250.0	250.0	134.8	132.0	48.265	CC
OTTESEN 22C - OWB - Plan #2	400.0	398.3	135.3	131.5	35.471	ES
OTTESEN 22C - OWB - Plan #2	8,400.0	9,150.9	1,087.4	967.2	9.048	SF
OTTESEN 23NA - OWB - Plan #2	250.0	250.0	125.3	122.5	44.845	CC
OTTESEN 23NA - OWB - Plan #2	500.0	499.5	126.0	121.5	27.977	ES
OTTESEN 23NA - OWB - Plan #2	1,700.0	1,686.2	193.9	172.2	8.907	SF
OTTESEN 24N - OWB - OWB	0.0	0.0	117.6			
OTTESEN 24N - OWB - OWB	300.0	299.8	118.9	115.8	38.406	ES
OTTESEN 24N - OWB - OWB	900.0	878.5	190.4	179.6	17.739	SF
OTTESEN 24N - OWB - Plan #2	0.0	0.0	117.6			
OTTESEN 24N - OWB - Plan #2	300.0	299.8	118.9	115.8	38.406	ES
OTTESEN 24N - OWB - Plan #2	8,260.2	8,993.7	1,353.4	1,239.6	11.890	SF
OTTESEN 25N - OWB - Plan #2	917.3	926.5	104.8	95.8	11.650	CC
OTTESEN 25N - OWB - Plan #2	1,000.0	1,008.9	105.5	95.2	10.268	ES
OTTESEN 25N - OWB - Plan #2	1,319.7	1,323.1	131.7	113.8	7.369	SF
OTTESEN 26C - OWB - Plan #2	876.1	888.6	96.0	85.9	9.544	CC
OTTESEN 26C - OWB - Plan #2	900.0	912.4	96.1	85.6	9.205	ES
OTTESEN 26C - OWB - Plan #2	1,200.0	1,208.6	117.0	99.9	6.838	SF
OTTESEN 27NA - OWB - OWB	252.4	252.5	101.0	98.2	35.443	CC, ES
OTTESEN 27NA - OWB - OWB	800.0	793.3	158.4	148.5	16.038	SF
OTTESEN 27NA - OWB - Plan #2	252.4	252.5	101.0	98.2	35.443	CC, ES
OTTESEN 27NA - OWB - Plan #2	800.0	793.3	158.4	148.5	16.038	SF
OTTESEN 28N - OWB - Plan #2	805.1	823.6	87.3	74.1	6.586	CC, 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 Well:	OTTESEN FEDERAL 05N	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 28N - OWB - Plan #2	1,000.0	1,017.0	97.2	80.4	5.796	SF
OTTESEN 29C - OWB - Plan #2	743.1	762.8	90.2	76.8	6.720	CC
OTTESEN 29C - OWB - Plan #2	800.0	819.4	91.0	76.7	6.360	ES
OTTESEN 29C - OWB - Plan #2	900.0	918.6	97.1	81.2	6.114	SF
OTTESEN 30N - OWB - OWB	177.1	177.1	104.7	102.5	46.846	CC
OTTESEN 30N - OWB - OWB	200.0	199.4	104.8	102.3	42.096	ES
OTTESEN 30N - OWB - OWB	700.0	691.9	151.5	141.4	14.922	SF
OTTESEN 30N - OWB - Plan #2	177.1	177.1	104.7	102.5	46.846	CC
OTTESEN 30N - OWB - Plan #2	200.0	199.4	104.8	102.3	42.096	ES
OTTESEN 30N - OWB - Plan #2	700.0	691.9	151.5	141.4	14.922	SF
OTTESEN 31N - OWB - Plan #2	648.6	670.1	105.1	92.4	8.255	CC, ES
OTTESEN 31N - OWB - Plan #2	800.0	820.2	112.3	97.8	7.725	SF
OTTESEN 32NA - OWB - OWB	177.8	177.8	117.0	114.7	51.871	CC
OTTESEN 32NA - OWB - OWB	250.0	249.6	117.3	114.5	41.953	ES
OTTESEN 32NA - OWB - OWB	700.0	695.9	167.3	157.3	16.824	SF
OTTESEN 32NA - OWB - Plan #2	177.8	177.8	117.0	114.7	51.871	CC
OTTESEN 32NA - OWB - Plan #2	250.0	249.6	117.3	114.5	41.953	ES
OTTESEN 32NA - OWB - Plan #2	700.0	695.9	167.3	157.3	16.824	SF
OTTESEN FEDERAL 01N - OWB - Plan #2	250.0	250.0	59.9	57.2	21.460	CC
OTTESEN FEDERAL 01N - OWB - Plan #2	700.0	688.1	63.1	51.5	5.438	ES
OTTESEN FEDERAL 01N - OWB - Plan #2	16,389.8	16,150.7	699.8	167.6	1.315	Collision Avoidance Req., SF
OTTESEN FEDERAL 02NA - OWB - Plan #2	250.0	250.0	45.1	42.3	16.145	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	700.0	691.2	47.5	36.0	4.119	ES
OTTESEN FEDERAL 02NA - OWB - Plan #2	16,389.8	16,016.3	583.5	104.5	1.218	Collision Avoidance Req., SF
OTTESEN FEDERAL 03C - OWB - Plan #2	250.0	250.0	30.5	27.7	10.931	CC
OTTESEN FEDERAL 03C - OWB - Plan #2	16,389.8	16,420.5	384.8	-111.0	0.776	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 04N - OWB - Plan #2	250.0	250.0	14.8	12.1	5.315	CC
OTTESEN FEDERAL 04N - OWB - Plan #2	16,389.8	16,258.2	188.4	-305.0	0.382	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	250.0	250.0	14.6	11.8	5.215	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	16,389.8	16,270.2	309.2	-38.4	0.889	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 07C - OWB - Plan #2	250.0	250.0	30.3	27.5	10.830	CC
OTTESEN FEDERAL 07C - OWB - Plan #2	16,389.8	16,683.4	401.2	-86.4	0.823	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 08N - OWB - Plan #2	250.0	250.0	45.1	42.3	16.145	CC
OTTESEN FEDERAL 08N - OWB - Plan #2	16,389.8	16,534.4	529.5	-2.7	0.995	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 09N - OWB - Plan #2	250.0	250.0	59.9	57.2	21.460	CC
OTTESEN FEDERAL 09N - OWB - Plan #2	700.0	710.2	63.1	52.1	5.728	ES
OTTESEN FEDERAL 09N - OWB - Plan #2	16,389.8	16,676.1	699.8	165.8	1.311	Collision Avoidance Req., SF
OTTESEN FEDERAL 10NA - OWB - Plan #2	250.0	250.0	74.5	71.7	26.675	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	600.0	609.7	76.8	67.2	8.012	ES
OTTESEN FEDERAL 10NA - OWB - Plan #2	16,389.8	16,581.7	911.2	390.4	1.750	Collision Risk Procedures Req., SF
OTTESEN FEDERAL 11C - OWB - OWB	252.7	252.8	89.9	86.9	30.406	CC, ES
OTTESEN FEDERAL 11C - OWB - OWB	700.0	696.4	136.9	127.4	14.429	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	252.7	252.8	89.9	86.9	30.406	CC, ES
OTTESEN FEDERAL 11C - OWB - Plan #2	16,389.8	17,125.4	1,062.6	536.3	2.019	SF
OTTESEN FEDERAL 12N - OWB - OWB	0.0	0.0	104.8			
OTTESEN FEDERAL 12N - OWB - OWB	250.0	249.9	106.0	103.2	38.578	ES
OTTESEN FEDERAL 12N - OWB - OWB	700.0	696.0	150.1	140.8	16.076	SF
OTTESEN FEDERAL 12N - OWB - Plan #2	0.0	0.0	104.8			
OTTESEN FEDERAL 12N - OWB - Plan #2	250.0	249.9	106.0	103.2	38.578	ES
OTTESEN FEDERAL 12N - OWB - Plan #2	16,389.8	17,150.8	1,226.7	690.4	2.287	SF
OTTESEN FEDERAL 13HN - OWB - Plan #2	250.0	250.0	119.6	116.8	42.821	CC
OTTESEN FEDERAL 13HN - OWB - Plan #2	500.0	510.6	121.4	113.7	15.721	ES
OTTESEN FEDERAL 13HN - OWB - Plan #2	16,389.8	17,008.6	1,399.6	865.0	2.618	SF

CC - Min centre to center distance or convergent 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 05N
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 05N	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

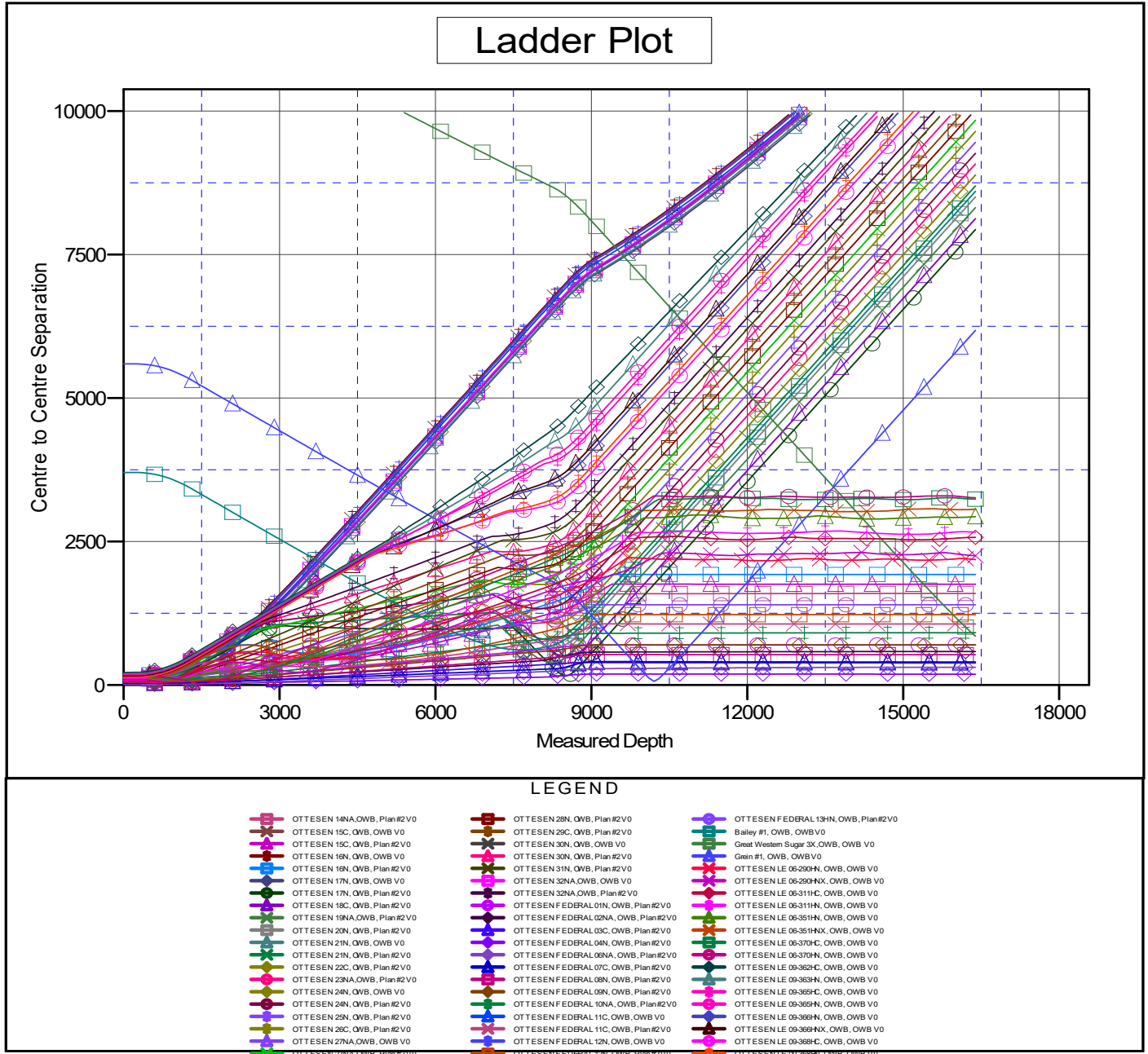
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						

PDC Energy Inc.
Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN FEDERAL 05N
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 05N	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 05N
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

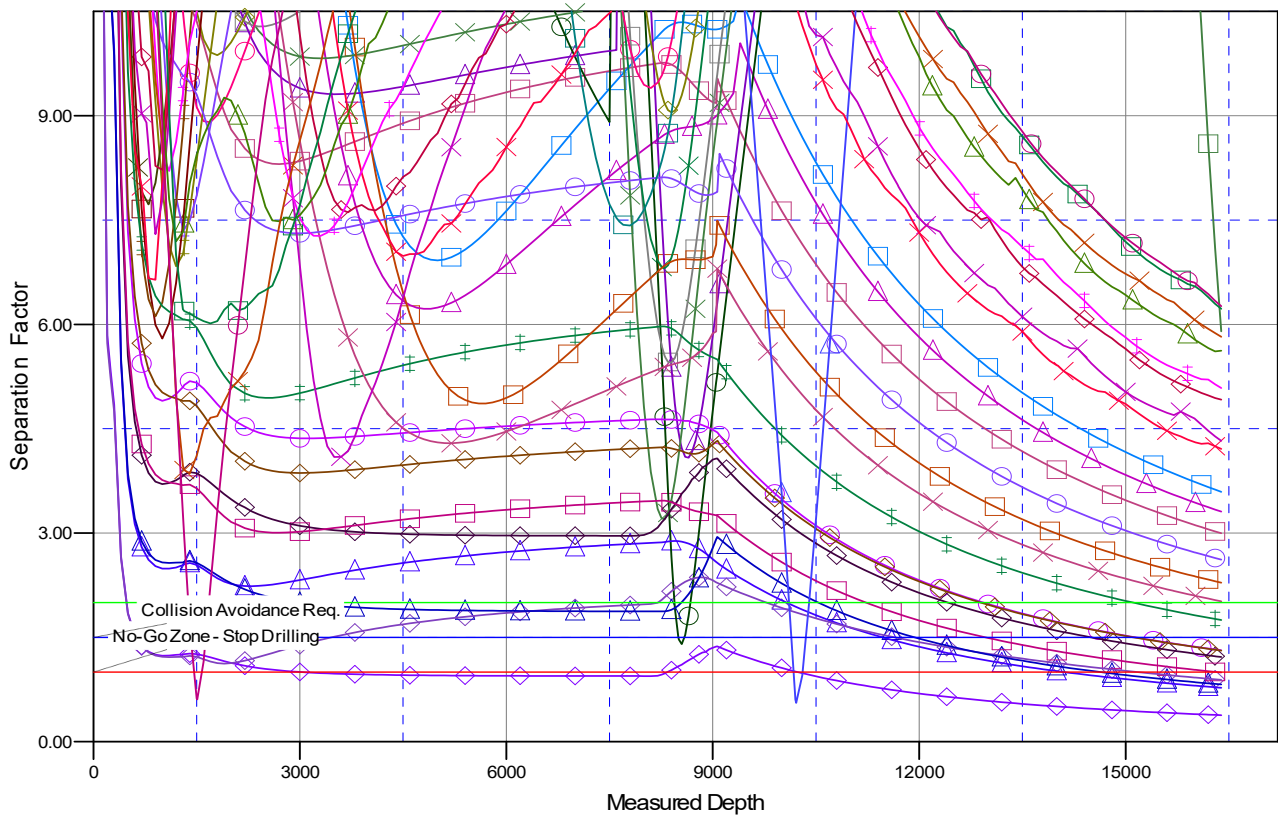
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Reference Depths are relative to KB 20' @ 5096.0usft
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Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: OTTESEN FEDERAL 05N
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.47°

Separation Factor Plot



LEGEND

OTTESEN 14NA,OWB, Plan#2V0	OTTESEN 28N, OWB, Plan#2V0	OTTESEN FEDERAL 13HN, OWB, Plan#2V0
OTTESEN 15C, OWB, OWB V0	OTTESEN 29C, OWB, Plan#2V0	Bailey #1, OWB, OWB V0
OTTESEN 15C, OWB, OWB V0	OTTESEN 30N, OWB, OWB V0	Great Western Sugar 3X,OWB, OWB V0
OTTESEN 16N, OWB, OWB V0	OTTESEN 30N, OWB, Plan#2V0	Grein #1, OWB, OWB V0
OTTESEN 16N, OWB, OWB V0	OTTESEN 31N, OWB, Plan#2V0	OTTESEN LE 05-250H, OWB, OWB V0
OTTESEN 17N, OWB, OWB V0	OTTESEN 32NA,OWB, OWB V0	OTTESEN LE 05-250HX, OWB, OWB V0
OTTESEN 17N, OWB, Plan#2V0	OTTESEN 32NA,OWB, Plan#2V0	OTTESEN LE 05-311C, OWB, OWB V0
OTTESEN 18C, OWB, Plan#2V0	OTTESEN FEDERAL 01N, OWB, Plan#2V0	OTTESEN LE 05-311H, OWB, OWB V0
OTTESEN 19NA,OWB, Plan#2V0	OTTESEN FEDERAL 02NA, OWB, Plan#2V0	OTTESEN LE 05-351H, OWB, OWB V0
OTTESEN 20N, OWB, Plan#2V0	OTTESEN FEDERAL 03C, OWB, Plan#2V0	OTTESEN LE 05-351HX, OWB, OWB V0
OTTESEN 21N, OWB, OWB V0	OTTESEN FEDERAL 04N, OWB, Plan#2V0	OTTESEN LE 05-370H, OWB, OWB V0
OTTESEN 21N, OWB, Plan#2V0	OTTESEN FEDERAL 06NA, OWB, Plan#2V0	OTTESEN LE 05-370HX, OWB, OWB V0
OTTESEN 22C, OWB, Plan#2V0	OTTESEN FEDERAL 07C, OWB, Plan#2V0	OTTESEN LE 05-362H, OWB, OWB V0
OTTESEN 23NA,OWB, Plan#2V0	OTTESEN FEDERAL 08N, OWB, Plan#2V0	OTTESEN LE 05-363H, OWB, OWB V0
OTTESEN 24N, OWB, OWB V0	OTTESEN FEDERAL 09N, OWB, Plan#2V0	OTTESEN LE 05-365H, OWB, OWB V0
OTTESEN 24N, OWB, Plan#2V0	OTTESEN FEDERAL 10NA, OWB, Plan#2V0	OTTESEN LE 05-365HX, OWB, OWB V0
OTTESEN 25N, OWB, Plan#2V0	OTTESEN FEDERAL 11C, OWB, OWB V0	OTTESEN LE 05-366H, OWB, OWB V0
OTTESEN 26C, OWB, Plan#2V0	OTTESEN FEDERAL 11C, OWB, Plan#2V0	OTTESEN LE 05-366HX, OWB, OWB V0
OTTESEN 27NA,OWB, Plan#2V0	OTTESEN FEDERAL 12N, OWB, OWB V0	OTTESEN LE 05-366H, OWB, OWB V0
OTTESEN 27NA,OWB, Plan#2V0	OTTESEN FEDERAL 12N, OWB, Plan#2V0	OTTESEN LE 05-366HX, OWB, OWB V0

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