



WELL DETAILS: OTTESEN 20N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245344.42	3202104.47	40° 0' 16.558 N	104° 46' 42.735 W

Project: WELD COUNTY
 Site: Ottesen Pad
 Well: OTTESEN 20N
 Wellbore: OWB
 Design: Plan #2
 Lat: 40° 0' 16.558 N
 Long: 104° 46' 42.735 W
 GL: 5076.0
 KB: KB 20' @ 5096.0usft

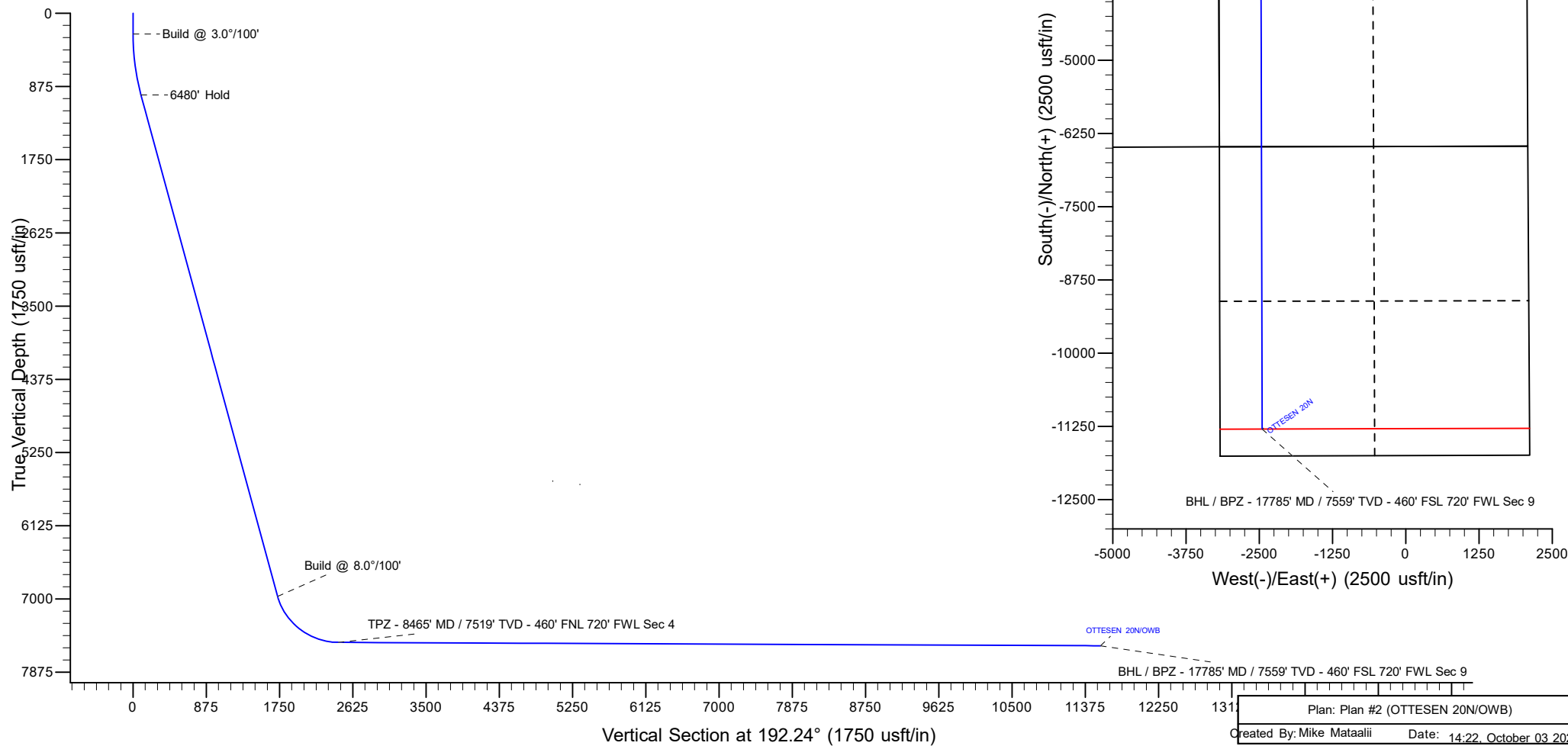


Azimuths to True North
 Magnetic North: 7.73°

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'
995.8	22.37	240.83	977.0	-70.1	-125.5	3.00	240.83	95.1	6480' Hold
7475.9	22.37	240.83	6969.3	-1272.1	-2279.4	0.00	0.00	1726.5	Build @ 8.0°/100'
8465.0	89.75	179.85	7519.0	-1973.6	-2474.5	8.00	-62.93	2453.4	TPZ - 8465' MD / 7519' TVD - 460' FNL 720' FWL Sec 4
17785.7	89.75	179.85	7559.0	-11294.2	-2450.2	0.00	0.00	11557.0	BHL / BPZ - 17785' MD / 7559' TVD - 460' FSL 720' FWL Sec 9



PDC Energy Inc.
Anticollision Summary Report

Company:	GWP - PLANNING DB	Local Co-ordinate Reference:	Well OTTESEN 20N
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 20N	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	10/3/2022		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,785.7	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	9,300.0	7,501.6	97.7	19.6	1.251	Collision Avoidance Req., ES
Bailey #1 - OWB - OWB	9,325.3	7,501.7	94.3	20.8	1.283	Collision Avoidance Req., CC
Great Western Sugar 3X - OWB - OWB	9,677.7	7,400.2	9,190.1	9,111.9	117.505	CC
Great Western Sugar 3X - OWB - OWB	9,800.0	7,400.7	9,190.9	9,110.7	114.538	ES
Great Western Sugar 3X - OWB - OWB	13,600.0	7,417.0	9,992.1	9,848.7	69.678	SF
Grein #1 - OWB - OWB	9,252.4	7,445.4	2,326.4	2,253.8	32.066	CC
Grein #1 - OWB - OWB	9,300.0	7,445.6	2,326.9	2,253.2	31.605	ES
Grein #1 - OWB - OWB	10,300.0	7,449.9	2,551.4	2,457.7	27.238	SF
OTTESEN LE 06-290HN - OWB - OWB	481.4	482.0	107.4	102.8	23.049	CC
OTTESEN LE 06-290HN - OWB - OWB	500.0	500.3	107.5	102.7	22.472	ES
OTTESEN LE 06-290HN - OWB - OWB	11,300.0	9,627.8	706.5	515.6	3.701	SF
OTTESEN LE 06-290HNN - OWB - OWB	533.5	532.7	101.4	96.4	20.437	CC, ES
OTTESEN LE 06-290HNN - OWB - OWB	11,600.0	9,624.9	1,543.3	1,340.0	7.594	SF
OTTESEN LE 06-311HC - OWB - OWB	583.9	581.8	95.8	90.5	18.106	CC
OTTESEN LE 06-311HC - OWB - OWB	600.0	597.7	95.8	90.4	17.861	ES
OTTESEN LE 06-311HC - OWB - OWB	11,600.0	9,755.0	645.4	443.4	3.195	SF
OTTESEN LE 06-311HN - OWB - OWB	681.0	677.5	87.6	81.8	14.946	CC
OTTESEN LE 06-311HN - OWB - OWB	700.0	696.0	87.7	81.8	14.686	ES
OTTESEN LE 06-311HN - OWB - OWB	11,800.0	9,768.5	732.8	529.5	3.604	SF
OTTESEN LE 06-351HN - OWB - OWB	722.2	716.9	79.8	73.7	13.228	CC, ES
OTTESEN LE 06-351HN - OWB - OWB	12,000.0	9,873.0	709.3	499.8	3.386	SF
OTTESEN LE 06-351HNN - OWB - OWB	699.5	689.5	80.0	72.0	10.056	CC
OTTESEN LE 06-351HNN - OWB - OWB	700.0	690.0	80.0	72.0	10.049	ES
OTTESEN LE 06-351HNN - OWB - OWB	12,300.0	9,821.2	874.0	664.6	4.173	SF
OTTESEN LE 06-370HC - OWB - OWB	821.8	811.9	67.0	60.1	9.685	CC, ES
OTTESEN LE 06-370HC - OWB - OWB	12,200.0	9,982.0	629.1	412.6	2.905	SF
OTTESEN LE 06-370HN - OWB - OWB	809.8	789.3	93.4	82.6	8.678	CC, ES
OTTESEN LE 06-370HN - OWB - OWB	12,400.0	9,961.0	732.4	513.9	3.352	SF
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	314.7			
OTTESEN LE 09-362HC - OWB - OWB	250.0	249.5	316.0	312.7	95.295	ES
OTTESEN LE 09-362HC - OWB - OWB	17,785.7	17,899.0	4,039.9	3,635.7	9.994	SF
OTTESEN LE 09-363HN - OWB - OWB	0.0	0.5	284.4			
OTTESEN LE 09-363HN - OWB - OWB	250.0	249.8	284.6	281.3	86.270	ES
OTTESEN LE 09-363HN - OWB - OWB	17,785.7	17,453.0	3,694.0	3,294.4	9.244	SF
OTTESEN LE 09-365HC - OWB - OWB	0.0	0.5	254.1			
OTTESEN LE 09-365HC - OWB - OWB	200.0	198.2	255.4	252.4	85.118	ES
OTTESEN LE 09-365HC - OWB - OWB	17,785.7	17,578.3	3,347.0	2,948.7	8.403	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 20N
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 20N	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 09-365HN - OWB - OWB	0.0	0.5	268.8			
OTTESEN LE 09-365HN - OWB - OWB	200.0	198.5	269.6	266.6	89.851	ES
OTTESEN LE 09-365HN - OWB - OWB	17,785.7	17,626.0	3,427.3	3,023.8	8.493	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	225.3			
OTTESEN LE 09-366HN - OWB - OWB	254.6	255.6	225.6	222.3	68.138	ES
OTTESEN LE 09-366HN - OWB - OWB	17,785.7	17,533.2	2,930.7	2,529.9	7.311	SF
OTTESEN LE 09-366HNX - OWB - OWB	0.0	0.5	240.0			
OTTESEN LE 09-366HNX - OWB - OWB	250.0	250.2	240.9	237.6	73.095	ES
OTTESEN LE 09-366HNX - OWB - OWB	17,785.7	17,154.0	3,077.9	2,684.3	7.820	SF
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	194.9			
OTTESEN LE 09-368HC - OWB - OWB	200.0	199.2	195.6	192.6	65.092	ES
OTTESEN LE 09-368HC - OWB - OWB	17,785.7	17,646.2	2,584.6	2,185.4	6.474	SF
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	209.7			
OTTESEN LE 09-368HN - OWB - OWB	250.0	249.6	209.9	206.6	63.605	ES
OTTESEN LE 09-368HN - OWB - OWB	17,785.7	17,458.4	2,666.3	2,267.4	6.685	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 20N	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 15C - OWB - OWB	0.0	0.0	287.9			
OTTESEN 15C - OWB - OWB	252.3	252.5	288.6	285.7	98.508	ES
OTTESEN 15C - OWB - OWB	1,700.0	1,734.0	519.7	499.2	25.313	SF
OTTESEN 15C - OWB - Plan #2	0.0	0.0	287.9			
OTTESEN 15C - OWB - Plan #2	252.3	252.5	288.6	285.7	98.508	ES
OTTESEN 15C - OWB - Plan #2	10,800.0	9,362.0	558.1	378.6	3.110	SF
OTTESEN 16N - OWB - OWB	252.2	252.4	301.3	298.3	101.249	CC, ES
OTTESEN 16N - OWB - OWB	1,700.0	1,735.0	596.1	575.4	28.836	SF
OTTESEN 16N - OWB - Plan #2	252.2	252.4	301.3	298.3	101.249	CC, ES
OTTESEN 16N - OWB - Plan #2	11,100.0	9,517.7	687.6	504.0	3.745	SF
OTTESEN 17N - OWB - OWB	639.3	636.7	21.6	16.3	4.105	CC, ES
OTTESEN 17N - OWB - OWB	700.0	695.8	25.5	18.3	3.547	SF
OTTESEN 17N - OWB - Plan #2	639.3	636.7	21.6	16.3	4.105	CC
OTTESEN 17N - OWB - Plan #2	5,932.7	6,155.0	71.8	-7.9	0.901	No-Go Zone - Stop Drilling, ES
OTTESEN 18C - OWB - Plan #2	999.5	989.5	29.3	12.3	1.725	Collision Risk Procedures Required
OTTESEN 18C - OWB - Plan #2	1,000.0	990.0	29.3	12.3	1.725	Collision Risk Procedures Required
OTTESEN 18C - OWB - Plan #2	17,700.0	17,825.8	419.8	56.6	1.156	Collision Avoidance Required, SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	15.0	12.2	5.356	CC
OTTESEN 19NA - OWB - Plan #2	17,785.7	17,655.7	302.2	-9.0	0.971	No-Go Zone - Stop Drilling, ES
OTTESEN 21N - OWB - OWB	212.2	212.2	15.5	12.9	6.084	CC
OTTESEN 21N - OWB - OWB	250.9	250.9	15.5	12.7	5.586	ES
OTTESEN 21N - OWB - OWB	400.0	399.8	20.7	15.8	4.167	SF
OTTESEN 21N - OWB - Plan #2	212.2	212.2	15.5	12.9	6.084	CC
OTTESEN 21N - OWB - Plan #2	17,785.7	17,855.9	202.4	-166.9	0.548	No-Go Zone - Stop Drilling, ES
OTTESEN 22C - OWB - Plan #2	250.0	250.0	30.0	27.2	10.736	CC
OTTESEN 22C - OWB - Plan #2	800.0	807.2	32.2	18.8	2.410	ES
OTTESEN 22C - OWB - Plan #2	17,785.7	17,851.4	414.2	29.2	1.076	Collision Avoidance Required, SF
OTTESEN 23NA - OWB - Plan #2	250.0	250.0	45.0	42.2	16.117	CC
OTTESEN 23NA - OWB - Plan #2	700.0	708.7	47.5	35.5	3.969	ES
OTTESEN 23NA - OWB - Plan #2	17,785.7	17,445.5	614.5	248.9	1.681	Collision Risk Procedures Required
OTTESEN 24N - OWB - OWB	255.6	255.7	58.3	55.4	20.200	CC, ES
OTTESEN 24N - OWB - OWB	600.0	596.0	90.6	82.1	10.557	SF
OTTESEN 24N - OWB - Plan #2	255.6	255.7	58.3	55.4	20.200	CC, ES
OTTESEN 24N - OWB - Plan #2	17,785.7	17,737.7	759.8	362.0	1.910	Collision Risk Procedures Required
OTTESEN 25N - OWB - Plan #2	250.0	250.0	75.2	72.4	26.918	CC
OTTESEN 25N - OWB - Plan #2	600.0	610.6	78.4	68.2	7.696	ES
OTTESEN 25N - OWB - Plan #2	17,784.9	17,469.7	952.0	555.6	2.402	SF
OTTESEN 26C - OWB - Plan #2	250.0	250.0	89.8	87.0	32.133	CC
OTTESEN 26C - OWB - Plan #2	500.0	508.7	91.9	83.7	11.188	ES
OTTESEN 26C - OWB - Plan #2	17,785.7	17,680.9	1,148.3	748.4	2.871	SF
OTTESEN 27NA - OWB - OWB	0.0	0.0	105.2			
OTTESEN 27NA - OWB - OWB	250.0	250.0	105.9	103.0	37.479	ES
OTTESEN 27NA - OWB - OWB	700.0	694.9	153.9	144.3	16.034	SF
OTTESEN 27NA - OWB - Plan #2	0.0	0.0	105.2			
OTTESEN 27NA - OWB - Plan #2	250.0	250.0	105.9	103.0	37.479	ES
OTTESEN 27NA - OWB - Plan #2	17,785.7	17,364.8	1,349.4	959.7	3.463	SF
OTTESEN 28N - OWB - Plan #2	250.0	250.0	120.3	117.5	43.064	CC
OTTESEN 28N - OWB - Plan #2	400.0	406.0	121.7	116.2	22.173	ES
OTTESEN 28N - OWB - Plan #2	17,785.7	17,449.6	1,519.6	1,120.7	3.809	SF
OTTESEN 29C - OWB - Plan #2	250.0	250.0	134.9	132.1	48.278	CC
OTTESEN 29C - OWB - Plan #2	400.0	406.0	136.7	131.3	25.464	ES
OTTESEN 29C - OWB - Plan #2	17,785.7	17,591.9	1,716.1	1,316.2	4.292	SF
OTTESEN 30N - OWB - OWB	256.5	257.0	149.2	146.1	48.045	CC

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 20N
Project:	WELD COUNTY	TVD Reference:	KB 20' @ 5096.0usft
Reference Site:	Ottesen Pad	MD Reference:	KB 20' @ 5096.0usft
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Reference Well:	OTTESEN 20N	Survey Calculation Method:	Minimum Curvature
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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 30N - OWB - OWB	300.0	301.2	149.6	146.0	41.808	ES
OTTESEN 30N - OWB - OWB	800.0	789.9	225.6	214.4	20.032	SF
OTTESEN 30N - OWB - Plan #2	256.5	257.0	149.2	146.1	48.045	CC
OTTESEN 30N - OWB - Plan #2	300.0	301.2	149.6	146.0	41.808	ES
OTTESEN 30N - OWB - Plan #2	17,784.1	17,395.0	1,900.6	1,502.8	4.777	SF
OTTESEN 31N - OWB - Plan #2	250.0	250.0	165.4	162.6	59.209	CC, ES
OTTESEN 31N - OWB - Plan #2	17,785.7	17,390.0	2,089.4	1,690.5	5.237	SF
OTTESEN 32NA - OWB - OWB	204.8	204.8	178.1	175.4	67.614	CC
OTTESEN 32NA - OWB - OWB	250.0	249.7	178.2	175.3	61.598	ES
OTTESEN 32NA - OWB - OWB	800.0	792.1	251.4	240.7	23.540	SF
OTTESEN 32NA - OWB - Plan #2	204.8	204.8	178.1	175.4	67.614	CC
OTTESEN 32NA - OWB - Plan #2	250.0	249.7	178.2	175.3	61.598	ES
OTTESEN 32NA - OWB - Plan #2	17,785.7	17,211.7	2,293.0	1,898.0	5.805	SF
OTTESEN FEDERAL 01N - OWB - Plan #2	250.0	250.0	116.9	114.1	41.842	CC
OTTESEN FEDERAL 01N - OWB - Plan #2	1,200.0	1,200.1	121.1	109.7	10.634	ES
OTTESEN FEDERAL 01N - OWB - Plan #2	8,600.0	8,116.5	697.0	580.7	5.995	SF
OTTESEN FEDERAL 02NA - OWB - Plan #2	250.0	250.0	125.2	122.4	44.814	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	500.0	501.3	126.1	121.5	27.328	ES
OTTESEN FEDERAL 02NA - OWB - Plan #2	8,900.0	8,075.4	846.3	725.4	6.998	SF
OTTESEN FEDERAL 03C - OWB - Plan #2	250.0	250.0	134.4	131.6	48.121	CC
OTTESEN FEDERAL 03C - OWB - Plan #2	400.0	401.4	134.9	131.1	34.687	ES
OTTESEN FEDERAL 03C - OWB - Plan #2	8,900.0	8,294.3	606.2	479.8	4.796	SF
OTTESEN FEDERAL 04N - OWB - Plan #2	250.0	250.0	145.4	142.6	52.035	CC
OTTESEN FEDERAL 04N - OWB - Plan #2	400.0	402.1	146.0	142.1	36.600	ES
OTTESEN FEDERAL 04N - OWB - Plan #2	9,100.0	8,250.0	726.7	600.3	5.749	SF
OTTESEN FEDERAL 05N - OWB - Plan #2	250.0	250.0	156.5	153.7	56.007	CC
OTTESEN FEDERAL 05N - OWB - Plan #2	400.0	402.6	157.3	153.2	38.518	ES
OTTESEN FEDERAL 05N - OWB - Plan #2	9,300.0	8,350.0	696.2	561.6	5.172	SF
OTTESEN FEDERAL 06NA - OWB - Plan #2	250.0	250.0	167.9	165.1	60.105	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	400.0	403.2	168.9	164.7	40.498	ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	9,500.0	8,315.0	813.7	680.2	6.094	SF
OTTESEN FEDERAL 07C - OWB - Plan #2	250.0	250.0	180.7	177.9	64.699	CC
OTTESEN FEDERAL 07C - OWB - Plan #2	400.0	403.7	181.9	177.6	42.770	ES
OTTESEN FEDERAL 07C - OWB - Plan #2	9,600.0	8,550.0	605.4	459.6	4.152	SF
OTTESEN FEDERAL 08N - OWB - Plan #2	250.0	250.0	193.3	190.5	69.186	CC
OTTESEN FEDERAL 08N - OWB - Plan #2	400.0	404.3	194.5	190.2	44.936	ES
OTTESEN FEDERAL 08N - OWB - Plan #2	9,800.0	8,522.8	726.5	581.1	4.997	SF
OTTESEN FEDERAL 09N - OWB - Plan #2	250.0	250.0	206.1	203.3	73.783	CC
OTTESEN FEDERAL 09N - OWB - Plan #2	400.0	404.8	207.5	203.1	47.248	ES
OTTESEN FEDERAL 09N - OWB - Plan #2	9,900.0	8,619.1	668.4	519.9	4.501	SF
OTTESEN FEDERAL 10NA - OWB - Plan #2	250.0	250.0	219.0	216.2	78.381	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	400.0	405.2	220.4	216.0	49.592	ES
OTTESEN FEDERAL 10NA - OWB - Plan #2	10,200.0	8,622.1	809.0	656.6	5.310	SF
OTTESEN FEDERAL 11C - OWB - OWB	242.9	242.9	231.7	228.8	79.924	CC
OTTESEN FEDERAL 11C - OWB - OWB	250.0	249.9	231.7	228.8	78.694	ES
OTTESEN FEDERAL 11C - OWB - OWB	1,700.0	1,736.0	436.8	416.7	21.690	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	242.9	242.9	231.7	228.8	79.924	CC
OTTESEN FEDERAL 11C - OWB - Plan #2	250.0	249.9	231.7	228.8	78.694	ES
OTTESEN FEDERAL 11C - OWB - Plan #2	10,200.0	8,969.0	585.8	422.6	3.591	SF
OTTESEN FEDERAL 12N - OWB - OWB	0.0	0.0	246.1			
OTTESEN FEDERAL 12N - OWB - OWB	250.0	249.7	247.0	244.3	90.167	ES
OTTESEN FEDERAL 12N - OWB - OWB	1,700.0	1,742.0	560.9	541.2	28.466	SF
OTTESEN FEDERAL 12N - OWB - Plan #1	0.0	0.0	246.1			

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 20N
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 20N	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

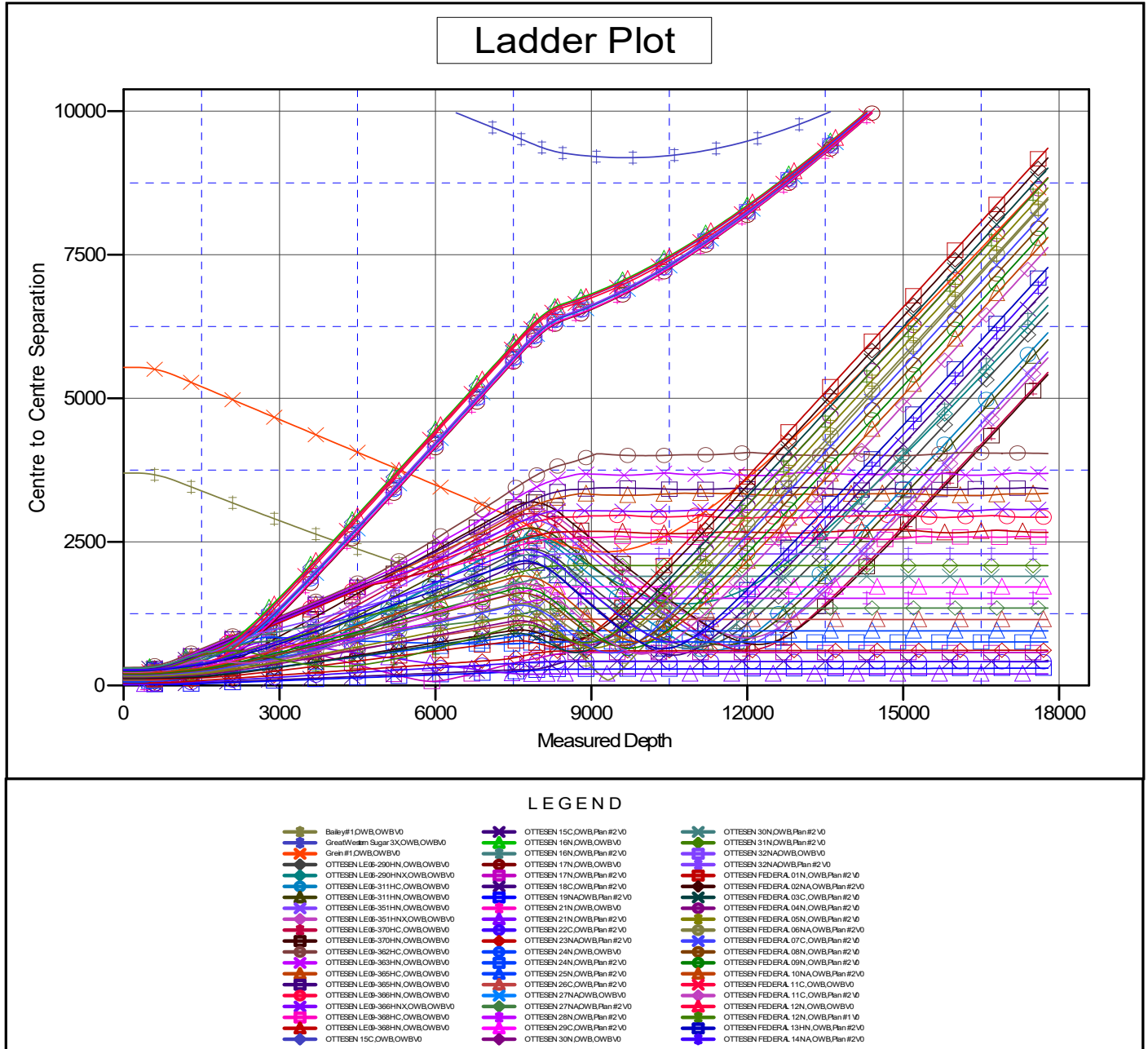
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Pad						
OTTESEN FEDERAL 12N - OWB - Plan #1	250.0	249.7	247.0	244.3	90.167	ES
OTTESEN FEDERAL 12N - OWB - Plan #1	4,400.0	4,596.3	341.6	281.4	5.676	SF
OTTESEN FEDERAL 13HN - OWB - Plan #2	250.0	250.0	259.9	257.1	93.041	CC
OTTESEN FEDERAL 13HN - OWB - Plan #2	300.0	302.2	260.1	257.1	85.468	ES
OTTESEN FEDERAL 13HN - OWB - Plan #2	10,600.0	8,950.0	669.6	500.4	3.957	SF
OTTESEN FEDERAL 14NA - OWB - Plan #2	250.0	250.0	273.7	270.9	97.966	CC
OTTESEN FEDERAL 14NA - OWB - Plan #2	300.0	302.3	273.9	270.8	89.936	ES
OTTESEN FEDERAL 14NA - OWB - Plan #2	10,800.0	8,950.0	776.6	611.0	4.688	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 20N
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

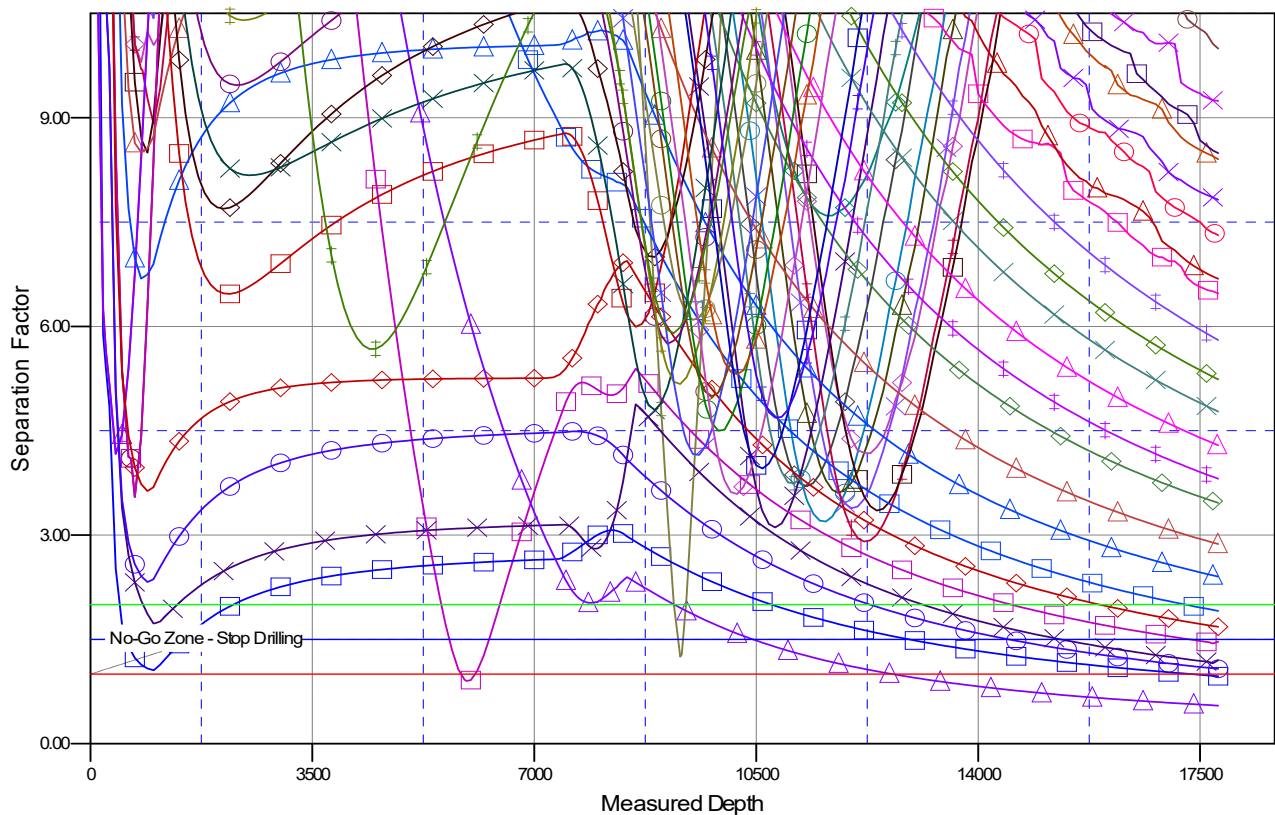
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Separation Factor Plot



LEGEND

Bailey#1.OWB,OWB#0	OTTESSEN 15C,OWB,Plan#2 V0	OTTESSEN 30N,OWB,Plan#2 V0
GreatWell#1 Sugar 3X,OWB,OWB#0	OTTESSEN 16N,OWB,OWB#0	OTTESSEN 31N,OWB,Plan#2 V0
Green#1.OWB,OWB#0	OTTESSEN 16N,OWB,Plan#2 V0	OTTESSEN 32N,OWB,OWB#0
OTTESSEN LE03-290HN,OWB,OWB#0	OTTESSEN 17N,OWB,OWB#0	OTTESSEN 32N,OWB,Plan#2 V0
OTTESSEN LE03-290HN,OWB,OWB#0	OTTESSEN 17N,OWB,Plan#2 V0	OTTESSEN FEDERAL 01N,OWB,Plan#2 V0
OTTESSEN LE03-311HC,OWB,OWB#0	OTTESSEN 18C,OWB,Plan#2 V0	OTTESSEN FEDERAL 02NA,OWB,Plan#2 V0
OTTESSEN LE03-311HN,OWB,OWB#0	OTTESSEN 18N,OWB,Plan#2 V0	OTTESSEN FEDERAL 03C,OWB,Plan#2 V0
OTTESSEN LE03-351HN,OWB,OWB#0	OTTESSEN 21N,OWB,OWB#0	OTTESSEN FEDERAL 04N,OWB,Plan#2 V0
OTTESSEN LE03-351HN,OWB,OWB#0	OTTESSEN 21N,OWB,Plan#2 V0	OTTESSEN FEDERAL 05N,OWB,Plan#2 V0
OTTESSEN LE03-370HC,OWB,OWB#0	OTTESSEN 22C,OWB,Plan#2 V0	OTTESSEN FEDERAL 06NA,OWB,Plan#2 V0
OTTESSEN LE03-370HN,OWB,OWB#0	OTTESSEN 23N,OWB,Plan#2 V0	OTTESSEN FEDERAL 07C,OWB,Plan#2 V0
OTTESSEN LE03-362HC,OWB,OWB#0	OTTESSEN 24N,OWB,OWB#0	OTTESSEN FEDERAL 08N,OWB,Plan#2 V0
OTTESSEN LE03-363HN,OWB,OWB#0	OTTESSEN 24N,OWB,Plan#2 V0	OTTESSEN FEDERAL 09N,OWB,Plan#2 V0
OTTESSEN LE03-365HC,OWB,OWB#0	OTTESSEN 25N,OWB,Plan#2 V0	OTTESSEN FEDERAL 10NA,OWB,Plan#2 V0
OTTESSEN LE03-365HN,OWB,OWB#0	OTTESSEN 26C,OWB,Plan#2 V0	OTTESSEN FEDERAL 11C,OWB,OWB#0
OTTESSEN LE03-366HN,OWB,OWB#0	OTTESSEN 27N,OWB,OWB#0	OTTESSEN FEDERAL 11C,OWB,Plan#2 V0
OTTESSEN LE03-366HN,OWB,OWB#0	OTTESSEN 27N,OWB,Plan#2 V0	OTTESSEN FEDERAL 12N,OWB,OWB#0
OTTESSEN LE03-368HC,OWB,OWB#0	OTTESSEN 28N,OWB,Plan#2 V0	OTTESSEN FEDERAL 12N,OWB,Plan#1 V0
OTTESSEN LE03-368HN,OWB,OWB#0	OTTESSEN 29C,OWB,Plan#2 V0	OTTESSEN FEDERAL 13HN,OWB,Plan#2 V0
OTTESSEN 15C,OWB,OWB#0	OTTESSEN 30N,OWB,OWB#0	OTTESSEN FEDERAL 14NA,OWB,Plan#2 V0

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