



Project: WELD COUNTY  
Site: Ottesen Pad  
Well: OTTESEN FEDERAL 01N  
Wellbore: OWB  
Design: Plan #2  
Lat: 40° 0' 15.568 N  
Long: 104° 46' 41.959 W  
GL: 5076.0  
KB: KB 20' @ 5096.0usft



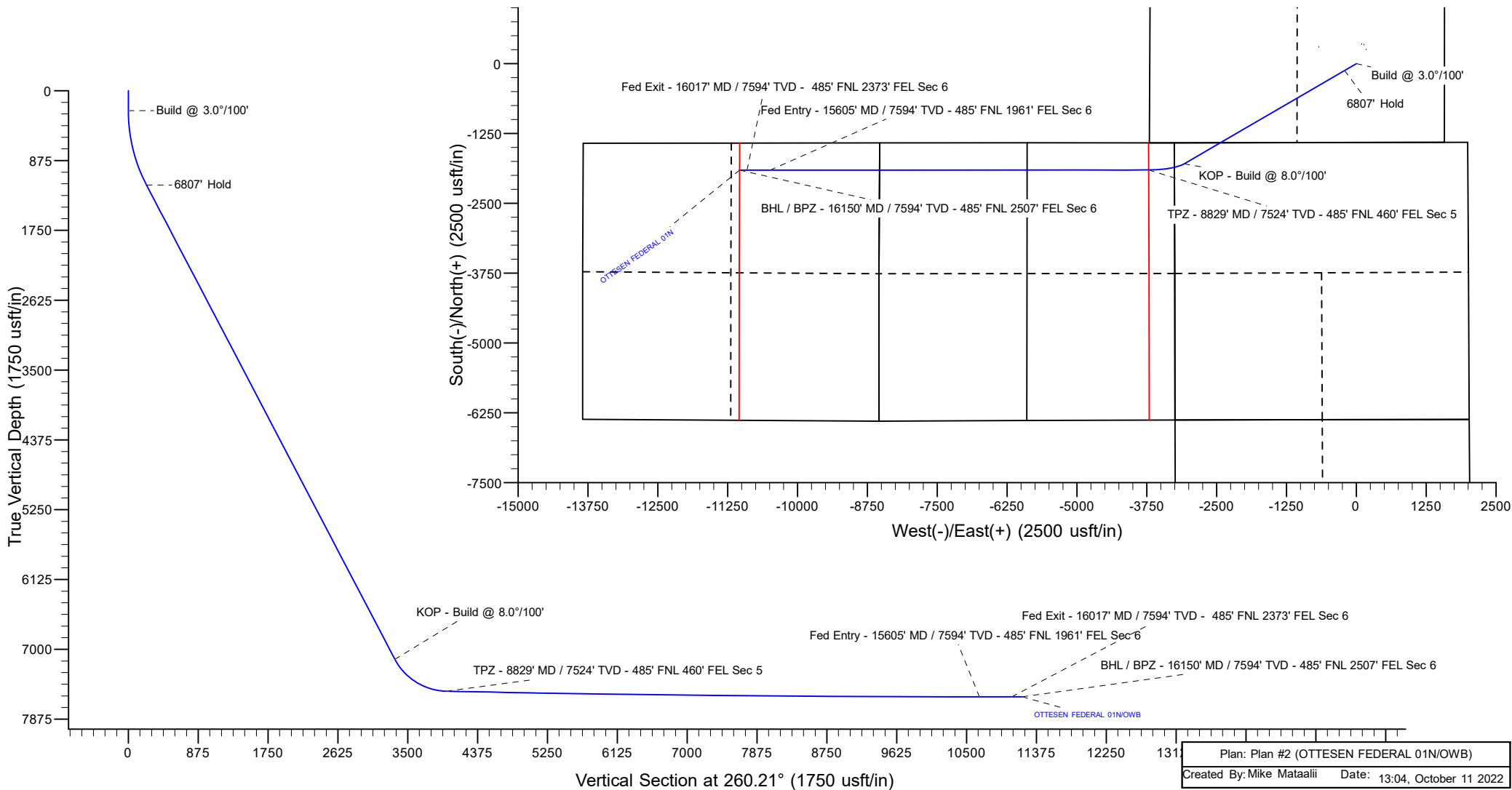
Azimuths to True North  
Magnetic North: 7.73°  
Magnetic Field  
Strength: 51656.5nT  
Dip Angle: 66.30°  
Date: 4/12/2022  
Model: IGRF2000

WELL DETAILS: OTTESEN FEDERAL 01N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1245244.82	3202165.63	40° 0' 15.568 N	104° 46' 41.959 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'
1222.9	29.19	239.82	1181.3	-121.9	-209.6	3.00	239.82	227.3	6807' Hold
8030.5	29.19	239.82	7124.7	-1790.6	-3079.4	0.00	0.00	3339.1	KOP - Build @ 8.0°/100'
8829.5	88.82	269.96	7524.0	-1900.4	-3714.5	8.00	33.98	3983.6	TPZ - 8829' MD / 7524' TVD - 485' FNL 460' FEL Sec 5
15605.5	90.00	269.97	7594.0	-1904.5	-10490.0	0.02	0.15	10661.1	Fed Entry - 15605' MD / 7594' TVD - 485' FNL 1961' FEL Sec 6
16017.4	90.00	269.97	7594.0	-1904.7	-10901.9	0.00	0.00	11067.0	Fed Exit - 16017' MD / 7594' TVD - 485' FNL 2373' FEL Sec 6
16150.7	90.00	269.97	7594.0	-1904.8	-11035.2	0.00	0.00	11198.4	BHL / BPZ - 16150' MD / 7594' TVD - 485' FNL 2507' FEL Sec 6



**PDC Energy Inc.**  
Anticollision Summary Report

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN FEDERAL 01N
<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 FEDERAL 01N	<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>	10/11/2022		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	16,150.7	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	7,866.0	6,960.1	1,137.4	1,057.8	14.280	CC
Bailey #1 - OWB - OWB	7,900.0	6,989.8	1,137.6	1,057.5	14.218	ES
Bailey #1 - OWB - OWB	8,150.0	7,203.5	1,152.2	1,069.7	13.968	SF
Great Western Sugar 3X - OWB - OWB	16,150.7	7,470.0	1,387.2	1,157.7	6.045	CC, ES, SF
Grein #1 - OWB - OWB	9,974.9	7,468.7	765.8	649.0	6.558	CC
Grein #1 - OWB - OWB	10,000.0	7,469.1	766.2	648.0	6.480	ES
Grein #1 - OWB - OWB	10,100.0	7,470.8	776.0	652.8	6.301	SF
OTTESEN LE 06-290HN - OWB - OWB	464.0	464.0	9.7	5.1	2.124	CC, ES
OTTESEN LE 06-290HN - OWB - OWB	500.0	499.7	10.6	5.3	2.006	SF
OTTESEN LE 06-290HNX - OWB - OWB	568.0	567.1	15.8	10.7	3.067	CC, ES
OTTESEN LE 06-290HNX - OWB - OWB	600.0	598.6	16.8	10.8	2.811	SF
OTTESEN LE 06-311HC - OWB - OWB	633.6	631.7	21.4	15.9	3.847	CC, ES
OTTESEN LE 06-311HC - OWB - OWB	700.0	696.3	26.4	18.3	3.280	SF
OTTESEN LE 06-311HN - OWB - OWB	705.2	701.5	30.1	24.1	5.007	CC, ES
OTTESEN LE 06-311HN - OWB - OWB	800.0	793.0	39.2	30.1	4.307	SF
OTTESEN LE 06-351HN - OWB - OWB	761.9	757.0	37.8	31.5	6.002	CC, ES
OTTESEN LE 06-351HN - OWB - OWB	900.0	890.5	54.2	43.4	5.002	SF
OTTESEN LE 06-351HNX - OWB - OWB	908.2	900.1	31.5	21.9	3.297	CC, ES
OTTESEN LE 06-351HNX - OWB - OWB	1,000.0	989.8	38.8	24.6	2.736	SF
OTTESEN LE 06-370HC - OWB - OWB	896.1	887.7	50.0	42.1	6.334	CC
OTTESEN LE 06-370HC - OWB - OWB	900.0	891.5	50.0	42.0	6.235	ES
OTTESEN LE 06-370HC - OWB - OWB	1,000.0	990.0	55.7	43.3	4.489	SF
OTTESEN LE 06-370HN - OWB - OWB	1,171.7	1,150.3	15.9	-2.2	0.881	No-Go Zone - Stop Drilling, (
OTTESEN LE 09-362HC - OWB - OWB	0.0	0.5	273.8			
OTTESEN LE 09-362HC - OWB - OWB	200.0	198.0	275.0	272.0	91.531	ES
OTTESEN LE 09-362HC - OWB - OWB	900.0	883.9	390.0	377.4	31.052	SF
OTTESEN LE 09-363HN - OWB - OWB	215.5	216.0	246.0	242.9	79.536	CC
OTTESEN LE 09-363HN - OWB - OWB	250.0	250.0	246.0	242.7	74.599	ES
OTTESEN LE 09-363HN - OWB - OWB	800.0	788.9	327.6	316.1	28.419	SF
OTTESEN LE 09-365HC - OWB - OWB	0.0	0.5	219.1			
OTTESEN LE 09-365HC - OWB - OWB	200.0	198.6	220.2	217.2	73.420	ES
OTTESEN LE 09-365HC - OWB - OWB	800.0	788.7	305.1	293.6	26.540	SF
OTTESEN LE 09-365HN - OWB - OWB	0.0	0.5	231.4			
OTTESEN LE 09-365HN - OWB - OWB	200.0	197.7	232.6	229.6	77.368	ES
OTTESEN LE 09-365HN - OWB - OWB	800.0	794.5	310.7	299.4	27.505	SF
OTTESEN LE 09-366HN - OWB - OWB	0.0	0.5	194.1			
OTTESEN LE 09-366HN - OWB - OWB	250.0	250.0	194.8	191.5	59.095	ES

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 FEDERAL 01N
<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 FEDERAL 01N	<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	800.0	789.6	278.5	266.9	23.968	SF
OTTESEN LE 09-366HNX - OWB - OWB	0.0	0.5	206.8			
OTTESEN LE 09-366HNX - OWB - OWB	250.1	250.6	207.6	204.3	63.050	ES
OTTESEN LE 09-366HNX - OWB - OWB	800.0	792.0	286.6	275.4	25.408	SF
OTTESEN LE 09-368HC - OWB - OWB	0.0	0.5	168.5			
OTTESEN LE 09-368HC - OWB - OWB	200.0	198.8	169.3	166.3	56.264	ES
OTTESEN LE 09-368HC - OWB - OWB	700.0	694.7	228.3	217.9	22.026	SF
OTTESEN LE 09-368HN - OWB - OWB	0.0	0.5	180.5			
OTTESEN LE 09-368HN - OWB - OWB	250.0	249.4	181.0	177.6	54.695	ES
OTTESEN LE 09-368HN - OWB - OWB	800.0	795.5	257.7	246.3	22.688	SF

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<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 FEDERAL 01N	<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
Ottesen Pad						
OTTESEN 14NA - OWB - Plan #2	250.0	250.0	194.4	191.6	69.596	CC
OTTESEN 14NA - OWB - Plan #2	500.0	517.1	197.5	189.5	24.667	ES
OTTESEN 14NA - OWB - Plan #2	16,150.7	16,936.4	2,288.6	1,755.5	4.293	SF
OTTESEN 15C - OWB - OWB	0.0	0.0	209.8			
OTTESEN 15C - OWB - OWB	251.7	251.9	210.7	207.8	71.820	ES
OTTESEN 15C - OWB - OWB	1,600.0	1,718.8	525.8	503.9	24.081	SF
OTTESEN 15C - OWB - Plan #2	0.0	0.0	209.8			
OTTESEN 15C - OWB - Plan #2	251.7	251.9	210.7	207.8	71.820	ES
OTTESEN 15C - OWB - Plan #2	16,150.7	17,558.2	2,454.9	1,923.0	4.616	SF
OTTESEN 16N - OWB - OWB	254.9	255.4	223.9	220.9	74.429	CC, ES
OTTESEN 16N - OWB - OWB	900.0	888.5	323.6	311.7	27.157	SF
OTTESEN 16N - OWB - Plan #2	254.9	255.4	223.9	220.9	74.429	CC, ES
OTTESEN 16N - OWB - Plan #2	16,150.7	17,560.6	2,625.2	2,090.2	4.907	SF
OTTESEN 17N - OWB - OWB	646.1	643.3	139.2	133.9	26.240	CC, ES
OTTESEN 17N - OWB - OWB	1,100.0	1,072.0	203.2	191.4	17.210	SF
OTTESEN 17N - OWB - Plan #2	646.1	643.3	139.2	133.9	26.240	CC
OTTESEN 17N - OWB - Plan #2	8,300.0	8,739.0	172.2	68.0	1.652	Collision Risk Procedures Re
OTTESEN 18C - OWB - Plan #2	250.0	250.0	134.8	132.0	48.246	CC
OTTESEN 18C - OWB - Plan #2	1,500.0	1,485.6	142.6	126.6	8.924	ES
OTTESEN 18C - OWB - Plan #2	8,400.0	8,603.0	498.6	392.1	4.682	SF
OTTESEN 19NA - OWB - Plan #2	250.0	250.0	125.2	122.4	44.828	CC
OTTESEN 19NA - OWB - Plan #2	600.0	596.3	126.6	121.2	23.347	ES
OTTESEN 19NA - OWB - Plan #2	8,050.0	8,252.8	399.3	292.7	3.744	SF
OTTESEN 20N - OWB - Plan #2	250.0	250.0	116.9	114.1	41.842	CC
OTTESEN 20N - OWB - Plan #2	1,200.0	1,198.1	121.1	109.7	10.638	ES
OTTESEN 20N - OWB - Plan #2	8,150.0	8,400.9	671.2	564.7	6.305	SF
OTTESEN 21N - OWB - OWB	259.7	259.8	110.6	107.8	39.160	CC
OTTESEN 21N - OWB - OWB	400.0	400.0	111.3	107.5	29.374	ES
OTTESEN 21N - OWB - OWB	900.0	889.2	164.9	154.7	16.120	SF
OTTESEN 21N - OWB - Plan #2	259.7	259.8	110.6	107.8	39.160	CC
OTTESEN 21N - OWB - Plan #2	400.0	400.0	111.3	107.5	29.374	ES
OTTESEN 21N - OWB - Plan #2	8,050.0	8,460.2	804.0	702.2	7.897	SF
OTTESEN 22C - OWB - Plan #2	1,014.0	1,023.6	98.1	87.9	9.579	CC
OTTESEN 22C - OWB - Plan #2	1,100.0	1,109.3	98.9	87.1	8.376	ES
OTTESEN 22C - OWB - Plan #2	1,500.0	1,504.2	129.5	109.0	6.318	SF
OTTESEN 23NA - OWB - Plan #2	1,016.8	1,031.7	89.5	77.3	7.346	CC
OTTESEN 23NA - OWB - Plan #2	1,100.0	1,114.6	90.6	76.7	6.513	ES
OTTESEN 23NA - OWB - Plan #2	1,300.0	1,312.2	104.7	86.1	5.615	SF
OTTESEN 24N - OWB - OWB	0.0	0.0	101.1			
OTTESEN 24N - OWB - OWB	250.0	249.9	101.3	98.5	36.136	ES
OTTESEN 24N - OWB - OWB	700.0	689.0	145.6	136.7	16.393	SF
OTTESEN 24N - OWB - Plan #2	0.0	0.0	101.1			
OTTESEN 24N - OWB - Plan #2	250.0	249.9	101.3	98.5	36.136	ES
OTTESEN 24N - OWB - Plan #2	8,050.0	8,350.0	1,366.0	1,267.4	13.861	SF
OTTESEN 25N - OWB - Plan #2	902.7	924.7	86.6	71.9	5.896	CC, ES
OTTESEN 25N - OWB - Plan #2	1,100.0	1,120.6	96.5	78.1	5.255	SF
OTTESEN 26C - OWB - Plan #2	828.9	852.4	91.6	76.9	6.219	CC, ES
OTTESEN 26C - OWB - Plan #2	1,000.0	1,022.4	99.5	82.0	5.698	SF
OTTESEN 27NA - OWB - OWB	251.3	251.3	109.9	107.1	38.895	CC, ES
OTTESEN 27NA - OWB - OWB	700.0	694.2	157.7	148.3	16.854	SF
OTTESEN 27NA - OWB - Plan #2	251.3	251.3	109.9	107.1	38.895	CC, ES
OTTESEN 27NA - OWB - Plan #2	700.0	694.2	157.7	148.3	16.854	SF
OTTESEN 28N - OWB - Plan #2	735.5	762.5	108.7	94.0	7.409	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

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN FEDERAL 01N
<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 FEDERAL 01N	<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 28N - OWB - Plan #2	900.0	925.8	116.8	100.1	6.998	SF
OTTESEN 29C - OWB - Plan #2	675.1	701.7	120.2	106.7	8.915	CC
OTTESEN 29C - OWB - Plan #2	700.0	726.5	120.4	106.6	8.721	ES
OTTESEN 29C - OWB - Plan #2	800.0	825.8	124.9	109.9	8.352	SF
OTTESEN 30N - OWB - OWB	179.7	179.7	134.4	132.1	58.819	CC
OTTESEN 30N - OWB - OWB	200.0	199.4	134.4	131.9	53.176	ES
OTTESEN 30N - OWB - OWB	700.0	689.6	186.5	176.2	18.135	SF
OTTESEN 30N - OWB - Plan #2	179.7	179.7	134.4	132.1	58.819	CC
OTTESEN 30N - OWB - Plan #2	200.0	199.4	134.4	131.9	53.176	ES
OTTESEN 30N - OWB - Plan #2	700.0	689.6	186.5	176.2	18.135	SF
OTTESEN 31N - OWB - Plan #2	324.6	330.1	145.3	141.4	37.739	CC
OTTESEN 31N - OWB - Plan #2	600.0	624.4	146.8	135.2	12.631	ES
OTTESEN 31N - OWB - Plan #2	800.0	823.6	161.4	147.7	11.790	SF
OTTESEN 32NA - OWB - OWB	190.9	190.9	155.6	153.2	64.359	CC
OTTESEN 32NA - OWB - OWB	250.0	249.4	155.9	153.1	55.488	ES
OTTESEN 32NA - OWB - OWB	800.0	793.0	233.7	222.6	20.938	SF
OTTESEN 32NA - OWB - Plan #2	190.9	190.9	155.6	153.2	64.359	CC
OTTESEN 32NA - OWB - Plan #2	250.0	249.4	155.9	153.1	55.488	ES
OTTESEN 32NA - OWB - Plan #2	800.0	793.0	233.7	222.6	20.938	SF
OTTESEN FEDERAL 02NA - OWB - Plan #2	250.0	250.0	14.8	12.1	5.315	CC
OTTESEN FEDERAL 02NA - OWB - Plan #2	16,150.7	16,015.6	309.2	-32.4	0.905	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 03C - OWB - Plan #2	250.0	250.0	29.4	26.6	10.530	CC
OTTESEN FEDERAL 03C - OWB - Plan #2	16,150.7	16,419.1	384.7	-98.5	0.796	No-Go Zone - Stop Drilling, ES
OTTESEN FEDERAL 04N - OWB - Plan #2	250.0	250.0	45.1	42.3	16.145	CC
OTTESEN FEDERAL 04N - OWB - Plan #2	16,150.7	16,256.8	529.5	-0.4	0.999	No-Go Zone - Stop Drilling, ES
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	711.2	63.3	51.5	5.375	ES
OTTESEN FEDERAL 05N - OWB - Plan #2	16,150.7	16,387.1	699.8	167.4	1.314	Collision Avoidance Req., SF
OTTESEN FEDERAL 06NA - OWB - Plan #2	250.0	250.0	74.5	71.7	26.675	CC
OTTESEN FEDERAL 06NA - OWB - Plan #2	600.0	610.7	77.0	66.7	7.500	ES
OTTESEN FEDERAL 06NA - OWB - Plan #2	16,150.7	16,267.5	911.2	393.2	1.759	Collision Risk Procedures Req., ES
OTTESEN FEDERAL 07C - OWB - Plan #2	250.0	250.0	90.2	87.4	32.291	CC
OTTESEN FEDERAL 07C - OWB - Plan #2	600.0	612.6	93.3	83.1	9.163	ES
OTTESEN FEDERAL 07C - OWB - Plan #2	16,150.7	16,680.7	1,079.6	554.6	2.056	SF
OTTESEN FEDERAL 08N - OWB - Plan #2	250.0	250.0	105.1	102.3	37.606	CC
OTTESEN FEDERAL 08N - OWB - Plan #2	600.0	614.5	108.5	98.3	10.706	ES
OTTESEN FEDERAL 08N - OWB - Plan #2	16,150.7	16,531.7	1,226.7	693.5	2.301	SF
OTTESEN FEDERAL 09N - OWB - Plan #2	250.0	250.0	119.9	117.1	42.921	CC
OTTESEN FEDERAL 09N - OWB - Plan #2	500.0	511.7	121.8	113.6	14.794	ES
OTTESEN FEDERAL 09N - OWB - Plan #2	16,150.7	16,673.4	1,399.6	866.5	2.626	SF
OTTESEN FEDERAL 10NA - OWB - Plan #2	250.0	250.0	134.5	131.7	48.136	CC
OTTESEN FEDERAL 10NA - OWB - Plan #2	500.0	512.8	136.7	128.5	16.692	ES
OTTESEN FEDERAL 10NA - OWB - Plan #2	16,150.7	16,579.0	1,595.1	1,065.0	3.009	SF
OTTESEN FEDERAL 11C - OWB - OWB	252.4	252.5	149.8	146.9	50.699	CC, ES
OTTESEN FEDERAL 11C - OWB - OWB	1,700.0	1,736.0	457.1	434.8	20.438	SF
OTTESEN FEDERAL 11C - OWB - Plan #2	252.4	252.5	149.8	146.9	50.699	CC, ES
OTTESEN FEDERAL 11C - OWB - Plan #2	16,150.7	17,122.7	1,757.3	1,227.0	3.314	SF
OTTESEN FEDERAL 12N - OWB - OWB	0.0	0.0	164.7			
OTTESEN FEDERAL 12N - OWB - OWB	250.0	249.9	165.9	163.2	60.409	ES
OTTESEN FEDERAL 12N - OWB - OWB	800.0	793.5	236.0	225.4	22.164	SF
OTTESEN FEDERAL 12N - OWB - Plan #2	0.0	0.0	164.7			
OTTESEN FEDERAL 12N - OWB - Plan #2	250.0	249.9	165.9	163.2	60.409	ES
OTTESEN FEDERAL 12N - OWB - Plan #2	16,150.7	17,148.1	1,925.7	1,390.5	3.598	SF

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**PDC Energy Inc.**  
Anticollision Summary Report

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESEN FEDERAL 01N
<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 FEDERAL 01N	<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

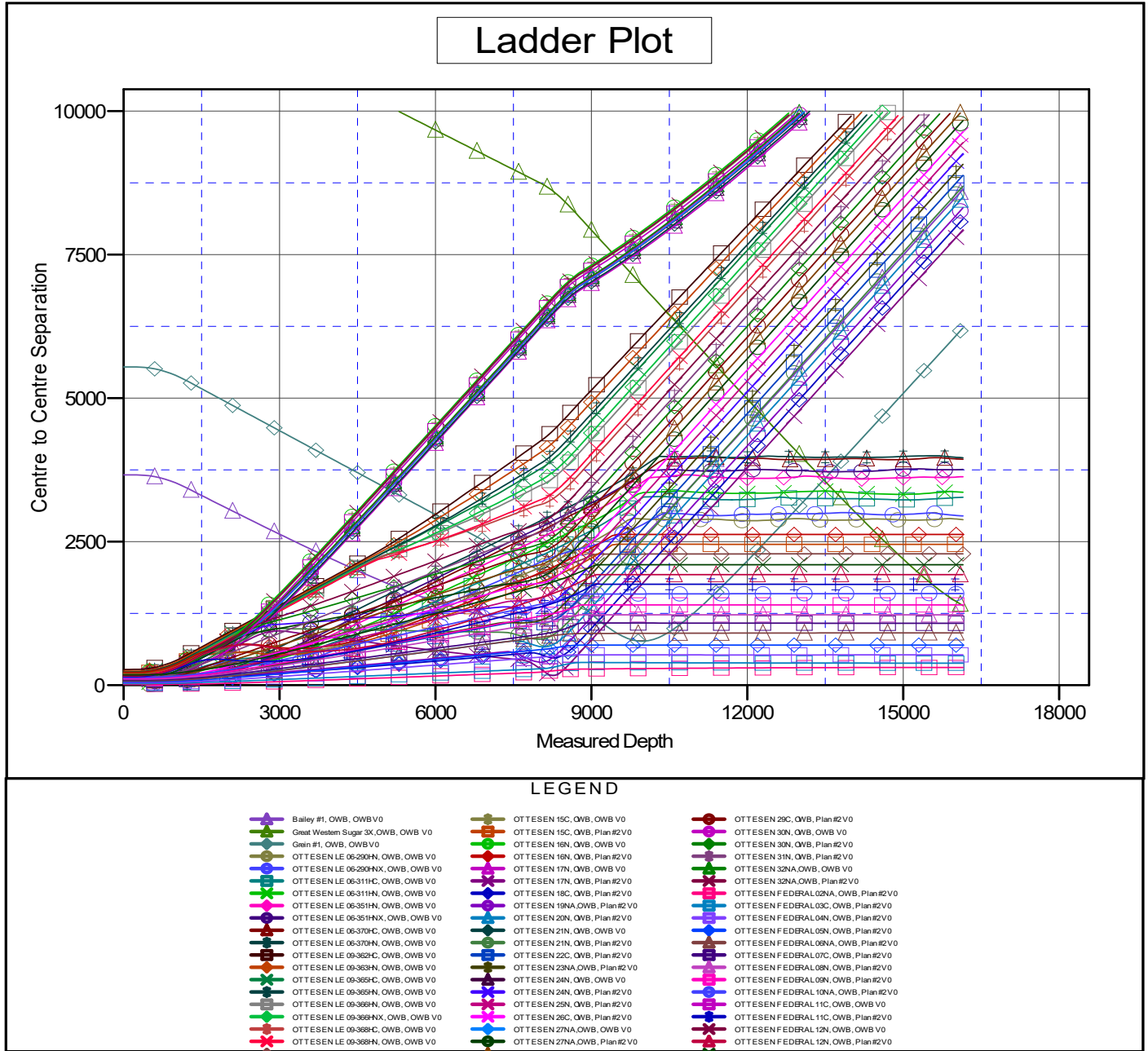
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Ottesen Pad						
OTTESEN FEDERAL 13HN - OWB - Plan #2	250.0	250.0	179.6	176.8	64.281	CC
OTTESEN FEDERAL 13HN - OWB - Plan #2	500.0	516.1	182.4	174.4	22.665	ES
OTTESEN FEDERAL 13HN - OWB - Plan #2	16,150.7	17,005.9	2,099.4	1,565.7	3.934	SF

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

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESSEN FEDERAL 01N
<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 FEDERAL 01N	<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: OTTESSEN FEDERAL 01N  
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



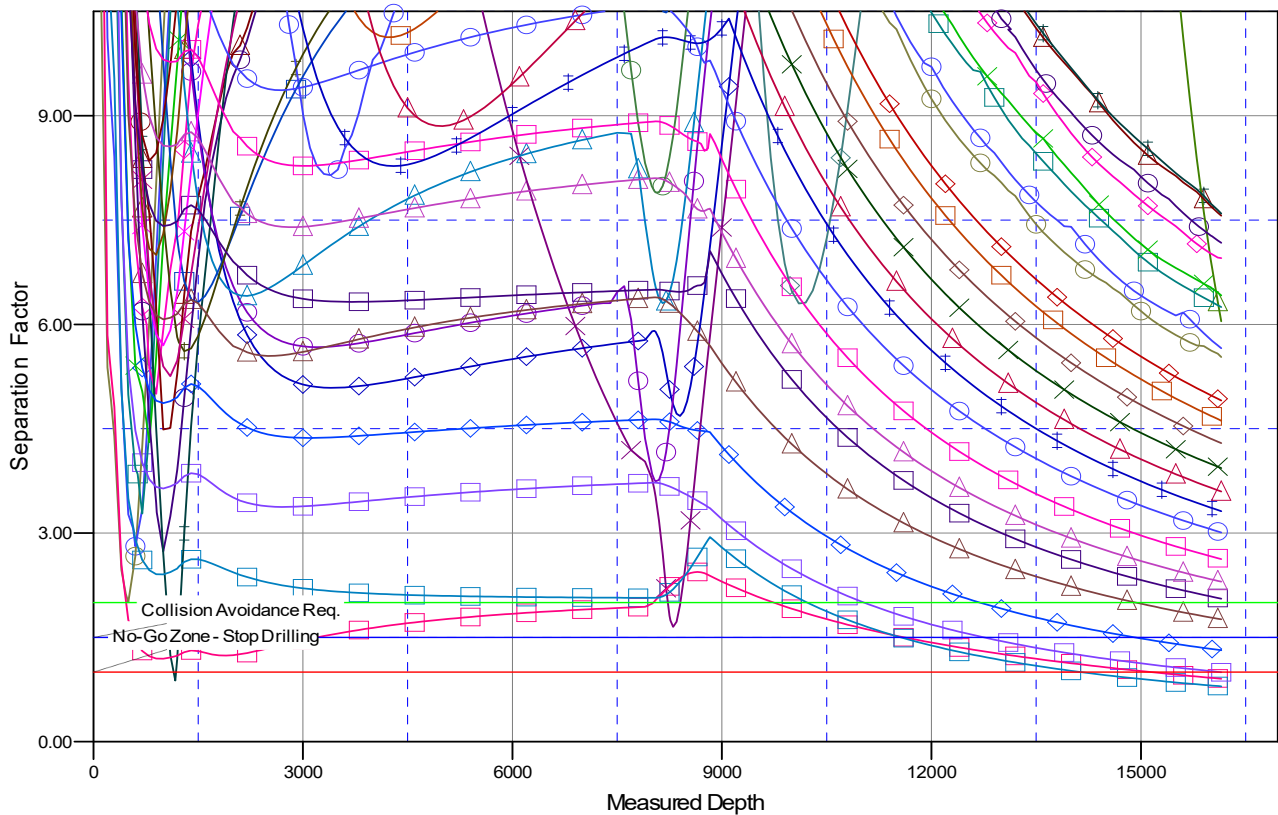
**PDC Energy Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	GWP - PLANNING DB	<b>Local Co-ordinate Reference:</b>	Well OTTESSEN FEDERAL 01N
<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 FEDERAL 01N	<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: OTTESSEN FEDERAL 01N  
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	● 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 02NA, OWB, Plan#2 V0
● OTTESSEN LE 06-351HN, OWB, OWB V0	● OTTESSEN 19NA, OWB, Plan#2 V0	● OTTESSEN FEDERAL 03C, OWB, Plan#2 V0
● OTTESSEN LE 06-351HN, OWB, OWB V0	● OTTESSEN 20N, OWB, Plan#2 V0	● OTTESSEN FEDERAL 04N, OWB, Plan#2 V0
● OTTESSEN LE 06-370HC, OWB, OWB V0	● OTTESSEN 21N, OWB, OWB V0	● OTTESSEN FEDERAL 05N, OWB, Plan#2 V0
● OTTESSEN LE 06-370HN, OWB, OWB V0	● OTTESSEN 21N, OWB, Plan#2 V0	● OTTESSEN FEDERAL 06NA, OWB, Plan#2 V0
● OTTESSEN LE 06-362HC, OWB, OWB V0	● OTTESSEN 22C, OWB, Plan#2 V0	● OTTESSEN FEDERAL 07C, OWB, Plan#2 V0
● OTTESSEN LE 06-363HN, OWB, OWB V0	● OTTESSEN 23NA, OWB, Plan#2 V0	● OTTESSEN FEDERAL 08N, OWB, Plan#2 V0
● OTTESSEN LE 06-363HN, OWB, OWB V0	● OTTESSEN 24N, OWB, OWB V0	● OTTESSEN FEDERAL 09N, 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 06-368C, OWB, OWB V0	● OTTESSEN 27NA, OWB, OWB V0	● OTTESSEN FEDERAL 12N, OWB, OWB V0
● OTTESSEN LE 06-368N, 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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