

# PDC ENERGY INC

Location: COLORADO Slot: SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL, SEC.24)  
 Field: WELD COUNTY (NAD83/GRID) Well: WINDOM 20C  
 Facility: SEC.24-T05N-R67W Wellbore: WINDOM 20C PWB

Plot reference wellpath is WINDOM 20C (REV-A.0) PWP  
 Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet  
 True vertical depths are referenced to (5002'GL+28.5'KB@5030'RKB) (RKB)  
 North Reference: Grid north  
 Reference wellpath measured depths are referenced to (5002'GL+28.5'KB@5030'RKB) (RKB)  
 Scale: True distance  
 (5002'GL+28.5'KB@5030'RKB) (RKB) to Mean Sea Level: 5030.5 feet  
 Coordinates are in feet referenced to Slot  
 Mean Sea Level to Ground level (At Slot: SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL, SEC.24)): 0 feet  
 Depths are in feet  
 Offset wellpath MDs are referenced to each path's default MD datum  
 Created by: martsam01 on 2024-03-27; Database: WA\_Denver

### Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SEC.24-T05N-R67W		3183745.419	1383040.892	40°22'58.7028"N	104°50'25.4976"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL, SEC.24)	-105.16	-80.01	3183665.410	1382935.742	40°22'57.6696"N	104°50'26.5416"W
(5002'GL+28.5'KB@5030'RKB) (RKB) to Ground level (At Slot: SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL, SEC.24))				5030.5ft		
Mean Sea Level to Ground level (At Slot: SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL, SEC.24))				0ft		
(5002'GL+28.5'KB@5030'RKB) (RKB) to Mean Sea Level				5030.5ft		

### Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
SHL	28.50	0.000	277.006	28.50	0.00	0.00	0.00	0.00
End of Tangent	2000.00	0.000	277.006	2000.00	0.00	0.00	0.00	0.00
Build (XS)	2447.65	8.953	277.006	2445.84	4.26	-34.64	2.00	-34.56
KOP	6845.72	8.953	277.006	6790.31	87.74	-713.99	0.00	-712.17
LP	7946.49	90.194	89.508	7525.00	108.32	-82.99	9.00	-80.90
BHL	18302.66	90.194	89.508	7490.00	197.28	10272.73	0.00	10274.63

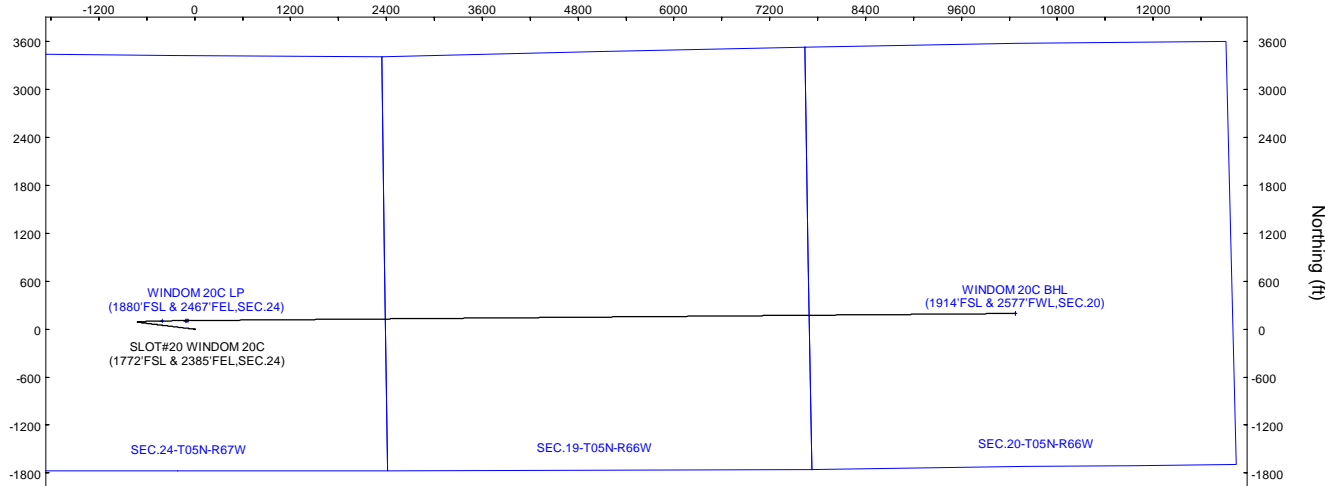
### Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.24-T05N-R67W	N/A	5.00	105.16	-409.01	3183256.41	1383040.89	40°22'58.7387"N	104°50'31.8167"W
SEC.19-T05N-R66W	N/A	9.00	105.29	-109.13	3183556.28	1383041.03	40°22'58.7180"N	104°50'27.9416"W
SEC.20-T05N-R66W	N/A	9.00	105.29	-109.13	3183556.28	1383041.03	40°22'58.7180"N	104°50'27.9416"W
WINDOM 20C BHL (1914'FSL & 2577'FWL, SEC.20)	18302.66	7490.00	197.28	10272.73	3193837.71	1383133.02	40°22'58.8432"N	104°48'13.7808"W
WINDOM 20C BPZ (1914'FSL & 2527'FWL, SEC.20)	N/A	7490.00	196.53	10222.87	3193887.84	1383132.26	40°22'58.8396"N	104°48'14.4252"W
WINDOM 20C LP (1880'FSL & 2467'FEL, SEC.24)	7946.49	7525.00	108.32	-82.99	3183582.42	1383044.05	40°22'58.7460"N	104°50'27.6036"W



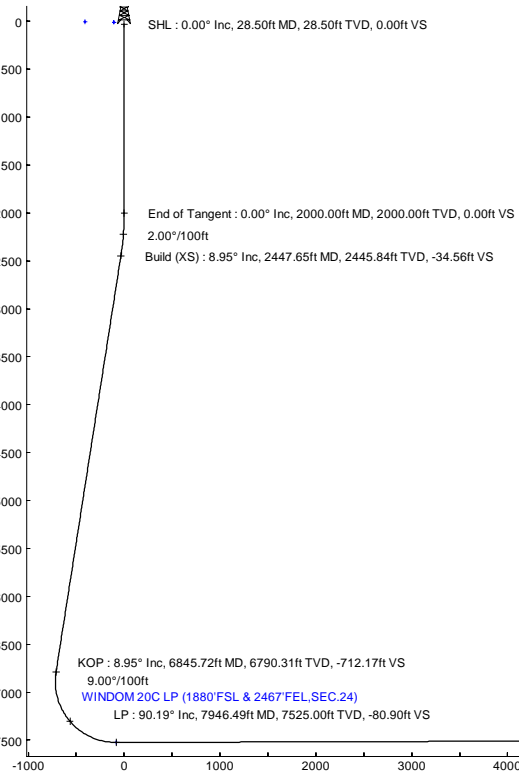
Scale 1 inch = 600

Easting (ft)



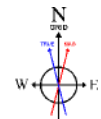
Scale 1 inch = 500

True Vertical Depth (ft)



Vertical Section (ft)  
 Azimuth 88.90° with reference 0.00 N, 0.00 E

Scale 1 inch = 500



HDM2024v1.0 (1900.0 to 2025.0) Dip: 66.52° Field: 51650.9 nT  
 Magnetic North is 7.77 degrees East of True North (at 3/12/2024)  
 Grid North is 0.43 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.43 degrees  
 To correct azimuth from Magnetic to Grid add 7.34 degrees



# Planned Wellpath Report

WINDOM 20C (REV-A.0) PWP

Page 1 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Martsam01
Scale	0.999959	Report Generated	6/4/2024 at 11:43:35 AM
Convergence at slot	0.43° East	Database	WA_Denver

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-105.16	-80.01	3183665.41	1382935.74	40.3826860°	-104.8407060°
Facility Reference Pt			3183745.42	1383040.89	40.3829730°	-104.8404160°
Field Reference Pt			3296400.32	1413291.61	40.4630000°	-104.4347500°

## WELLPATH DATUM

Calculation method	Minimum curvature	(5002'GL+28.5'KB@5030'RKB) (RKB) to Facility Vertical Datum	5030.50ft
Horizontal Reference Pt	Slot	(5002'GL+28.5'KB@5030'RKB) (RKB) to Mean Sea Level	5030.50ft
Vertical Reference Pt	(5002'GL+28.5'KB@5030'RKB) (RKB)	(5002'GL+28.5'KB@5030'RKB) (RKB) to Ground Level at Slot (SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24))	5030.50ft
MD Reference Pt	(5002'GL+28.5'KB@5030'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	88.90°



# Planned Wellpath Report

WINDOM 20C (REV-A.0) PWP

Page 2 of 7



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Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	277.007	0.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
28.50	0.000	277.007	28.50	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	SHL
100.00†	0.000	277.007	100.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
200.00†	0.000	277.007	200.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
300.00†	0.000	277.007	300.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
400.00†	0.000	277.007	400.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
500.00†	0.000	277.007	500.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
600.00†	0.000	277.007	600.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
700.00†	0.000	277.007	700.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
800.00†	0.000	277.007	800.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
900.00†	0.000	277.007	900.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1000.00†	0.000	277.007	1000.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1100.00†	0.000	277.007	1100.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1200.00†	0.000	277.007	1200.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1300.00†	0.000	277.007	1300.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1400.00†	0.000	277.007	1400.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1500.00†	0.000	277.007	1500.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1600.00†	0.000	277.007	1600.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1700.00†	0.000	277.007	1700.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1800.00†	0.000	277.007	1800.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
1900.00†	0.000	277.007	1900.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	
2000.00	0.000	277.007	2000.00	0.00	0.00	0.00	40.3826860	-104.8407060	0.00	End of Tangent
2100.00†	2.000	277.007	2099.98	-1.73	0.21	-1.73	40.3826866	-104.8407122	2.00	
2200.00†	4.000	277.007	2199.84	-6.91	0.85	-6.93	40.3826885	-104.8407308	2.00	
2300.00†	6.000	277.007	2299.45	-15.54	1.91	-15.58	40.3826916	-104.8407619	2.00	
2400.00†	8.000	277.007	2398.70	-27.60	3.40	-27.67	40.3826959	-104.8408052	2.00	
2447.66	8.953	277.007	2445.84	-34.56	4.26	-34.65	40.3826984	-104.8408302	2.00	Build (XS)
2500.00†	8.953	277.007	2497.54	-42.62	5.25	-42.73	40.3827013	-104.8408592	0.00	
2600.00†	8.953	277.007	2596.32	-58.03	7.15	-58.18	40.3827068	-104.8409146	0.00	
2700.00†	8.953	277.007	2695.11	-73.44	9.05	-73.62	40.3827123	-104.8409700	0.00	
2800.00†	8.953	277.007	2793.89	-88.84	10.95	-89.07	40.3827179	-104.8410254	0.00	
2900.00†	8.953	277.007	2892.67	-104.25	12.85	-104.52	40.3827234	-104.8410808	0.00	
3000.00†	8.953	277.007	2991.45	-119.66	14.74	-119.96	40.3827289	-104.8411362	0.00	
3100.00†	8.953	277.007	3090.23	-135.07	16.64	-135.41	40.3827344	-104.8411916	0.00	
3200.00†	8.953	277.007	3189.01	-150.47	18.54	-150.86	40.3827400	-104.8412470	0.00	
3300.00†	8.953	277.007	3287.80	-165.88	20.44	-166.30	40.3827455	-104.8413024	0.00	
3400.00†	8.953	277.007	3386.58	-181.29	22.34	-181.75	40.3827510	-104.8413578	0.00	
3500.00†	8.953	277.007	3485.36	-196.69	24.24	-197.20	40.3827566	-104.8414132	0.00	
3600.00†	8.953	277.007	3584.14	-212.10	26.14	-212.64	40.3827621	-104.8414686	0.00	
3700.00†	8.953	277.007	3682.92	-227.51	28.03	-228.09	40.3827676	-104.8415239	0.00	
3800.00†	8.953	277.007	3781.70	-242.92	29.93	-243.54	40.3827731	-104.8415793	0.00	
3900.00†	8.953	277.007	3880.48	-258.32	31.83	-258.98	40.3827787	-104.8416347	0.00	
4000.00†	8.953	277.007	3979.27	-273.73	33.73	-274.43	40.3827842	-104.8416901	0.00	
4100.00†	8.953	277.007	4078.05	-289.14	35.63	-289.88	40.3827897	-104.8417455	0.00	
4200.00†	8.953	277.007	4176.83	-304.55	37.53	-305.32	40.3827952	-104.8418009	0.00	



# Planned Wellpath Report

WINDOM 20C (REV-A.0) PWP

Page 3 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4300.00†	8.953	277.007	4275.61	-319.95	39.43	-320.77	40.3828008	-104.8418563	0.00	
4400.00†	8.953	277.007	4374.39	-335.36	41.32	-336.22	40.3828063	-104.8419117	0.00	
4500.00†	8.953	277.007	4473.17	-350.77	43.22	-351.66	40.3828118	-104.8419671	0.00	
4600.00†	8.953	277.007	4571.96	-366.18	45.12	-367.11	40.3828173	-104.8420225	0.00	
4700.00†	8.953	277.007	4670.74	-381.58	47.02	-382.56	40.3828229	-104.8420779	0.00	
4800.00†	8.953	277.007	4769.52	-396.99	48.92	-398.00	40.3828284	-104.8421333	0.00	
4900.00†	8.953	277.007	4868.30	-412.40	50.82	-413.45	40.3828339	-104.8421887	0.00	
5000.00†	8.953	277.007	4967.08	-427.81	52.72	-428.90	40.3828394	-104.8422441	0.00	
5100.00†	8.953	277.007	5065.86	-443.21	54.61	-444.34	40.3828450	-104.8422995	0.00	
5200.00†	8.953	277.007	5164.64	-458.62	56.51	-459.79	40.3828505	-104.8423548	0.00	
5300.00†	8.953	277.007	5263.43	-474.03	58.41	-475.24	40.3828560	-104.8424102	0.00	
5400.00†	8.953	277.007	5362.21	-489.44	60.31	-490.68	40.3828615	-104.8424656	0.00	
5500.00†	8.953	277.007	5460.99	-504.84	62.21	-506.13	40.3828671	-104.8425210	0.00	
5600.00†	8.953	277.007	5559.77	-520.25	64.11	-521.58	40.3828726	-104.8425764	0.00	
5700.00†	8.953	277.007	5658.55	-535.66	66.01	-537.02	40.3828781	-104.8426318	0.00	
5800.00†	8.953	277.007	5757.33	-551.07	67.90	-552.47	40.3828836	-104.8426872	0.00	
5900.00†	8.953	277.007	5856.12	-566.47	69.80	-567.92	40.3828892	-104.8427426	0.00	
6000.00†	8.953	277.007	5954.90	-581.88	71.70	-583.36	40.3828947	-104.8427980	0.00	
6100.00†	8.953	277.007	6053.68	-597.29	73.60	-598.81	40.3829002	-104.8428534	0.00	
6200.00†	8.953	277.007	6152.46	-612.69	75.50	-614.25	40.3829057	-104.8429088	0.00	
6300.00†	8.953	277.007	6251.24	-628.10	77.40	-629.70	40.3829113	-104.8429642	0.00	
6400.00†	8.953	277.007	6350.02	-643.51	79.30	-645.15	40.3829168	-104.8430196	0.00	
6500.00†	8.953	277.007	6448.81	-658.92	81.19	-660.59	40.3829223	-104.8430750	0.00	
6600.00†	8.953	277.007	6547.59	-674.32	83.09	-676.04	40.3829278	-104.8431303	0.00	
6700.00†	8.953	277.007	6646.37	-689.73	84.99	-691.49	40.3829334	-104.8431857	0.00	
6800.00†	8.953	277.007	6745.15	-705.14	86.89	-706.93	40.3829389	-104.8432411	0.00	
6845.72	8.953	277.007	6790.31	-712.18	87.76	-714.00	40.3829414	-104.8432665	0.00	KOP
6900.00†	4.161	285.930	6844.22	-718.25	88.81	-720.09	40.3829444	-104.8432883	9.00	
7000.00†	5.146	76.302	6944.10	-717.34	90.88	-719.22	40.3829501	-104.8432851	9.00	
7100.00†	14.058	84.794	7042.60	-700.82	93.04	-702.73	40.3829557	-104.8432259	9.00	
7200.00†	23.038	86.733	7137.31	-669.09	95.27	-671.03	40.3829612	-104.8431121	9.00	
7300.00†	32.029	87.621	7225.89	-622.93	97.49	-624.91	40.3829663	-104.8429464	9.00	
7400.00†	41.023	88.151	7306.17	-563.48	99.65	-565.49	40.3829710	-104.8427331	9.00	
7500.00†	50.020	88.517	7376.16	-492.20	101.70	-494.24	40.3829752	-104.8424773	9.00	
7600.00†	59.017	88.798	7434.15	-410.86	103.60	-412.92	40.3829788	-104.8421854	9.00	
7700.00†	68.014	89.030	7478.70	-321.45	105.29	-323.52	40.3829816	-104.8418644	9.00	
7800.00†	77.012	89.234	7508.71	-226.17	106.73	-228.25	40.3829836	-104.8415224	9.00	
7900.00†	86.010	89.423	7523.46	-127.37	107.88	-129.46	40.3829848	-104.8411678	9.00	
7946.50	90.195	89.510	7525.00†	-80.90	108.32	-82.99	40.3829850	-104.8410010	9.00	LP
8000.00†	90.195	89.510	7524.82	-27.41	108.77	-29.50	40.3829852	-104.8408090	0.00	
8100.00†	90.195	89.510	7524.48	72.59	109.63	70.50	40.3829855	-104.8404500	0.00	
8200.00†	90.195	89.510	7524.14	172.58	110.48	170.49	40.3829858	-104.8400911	0.00	
8300.00†	90.195	89.510	7523.80	272.57	111.34	270.49	40.3829861	-104.8397321	0.00	
8400.00†	90.195	89.510	7523.46	372.57	112.20	370.49	40.3829864	-104.8393732	0.00	
8500.00†	90.195	89.510	7523.12	472.56	113.05	470.48	40.3829867	-104.8390142	0.00	



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Page 4 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8600.00†	90.195	89.510	7522.78	572.56	113.91	570.48	40.3829870	-104.8386553	0.00	
8700.00†	90.195	89.510	7522.44	672.55	114.76	670.47	40.3829873	-104.8382964	0.00	
8800.00†	90.195	89.510	7522.10	772.54	115.62	770.47	40.3829876	-104.8379374	0.00	
8900.00†	90.195	89.510	7521.76	872.54	116.48	870.46	40.3829879	-104.8375785	0.00	
9000.00†	90.195	89.510	7521.42	972.53	117.33	970.46	40.3829882	-104.8372195	0.00	
9100.00†	90.195	89.510	7521.08	1072.52	118.19	1070.46	40.3829885	-104.8368606	0.00	
9200.00†	90.195	89.510	7520.74	1172.52	119.04	1170.45	40.3829888	-104.8365016	0.00	
9300.00†	90.195	89.510	7520.40	1272.51	119.90	1270.45	40.3829891	-104.8361427	0.00	
9400.00†	90.195	89.510	7520.06	1372.51	120.76	1370.44	40.3829894	-104.8357837	0.00	
9500.00†	90.195	89.510	7519.72	1472.50	121.61	1470.44	40.3829897	-104.8354248	0.00	
9600.00†	90.195	89.510	7519.38	1572.49	122.47	1570.43	40.3829900	-104.8350658	0.00	
9700.00†	90.195	89.510	7519.05	1672.49	123.32	1670.43	40.3829903	-104.8347069	0.00	
9800.00†	90.195	89.510	7518.71	1772.48	124.18	1770.43	40.3829905	-104.8343480	0.00	
9900.00†	90.195	89.510	7518.37	1872.48	125.04	1870.42	40.3829908	-104.8339890	0.00	
10000.00†	90.195	89.510	7518.03	1972.47	125.89	1970.42	40.3829911	-104.8336301	0.00	
10100.00†	90.195	89.510	7517.69	2072.46	126.75	2070.41	40.3829914	-104.8332711	0.00	
10200.00†	90.195	89.510	7517.35	2172.46	127.60	2170.41	40.3829917	-104.8329122	0.00	
10300.00†	90.195	89.510	7517.01	2272.45	128.46	2270.40	40.3829920	-104.8325532	0.00	
10400.00†	90.195	89.510	7516.67	2372.44	129.31	2370.40	40.3829923	-104.8321943	0.00	
10500.00†	90.195	89.510	7516.33	2472.44	130.17	2470.40	40.3829925	-104.8318353	0.00	
10600.00†	90.195	89.510	7515.99	2572.43	131.03	2570.39	40.3829928	-104.8314764	0.00	
10700.00†	90.195	89.510	7515.65	2672.43	131.88	2670.39	40.3829931	-104.8311174	0.00	
10800.00†	90.195	89.510	7515.31	2772.42	132.74	2770.38	40.3829934	-104.8307585	0.00	
10900.00†	90.195	89.510	7514.97	2872.41	133.59	2870.38	40.3829937	-104.8303996	0.00	
11000.00†	90.195	89.510	7514.63	2972.41	134.45	2970.38	40.3829939	-104.8300406	0.00	
11100.00†	90.195	89.510	7514.29	3072.40	135.31	3070.37	40.3829942	-104.8296817	0.00	
11200.00†	90.195	89.510	7513.95	3172.39	136.16	3170.37	40.3829945	-104.8293227	0.00	
11300.00†	90.195	89.510	7513.61	3272.39	137.02	3270.36	40.3829948	-104.8289638	0.00	
11400.00†	90.195	89.510	7513.27	3372.38	137.87	3370.36	40.3829950	-104.8286048	0.00	
11500.00†	90.195	89.510	7512.93	3472.38	138.73	3470.35	40.3829953	-104.8282459	0.00	
11600.00†	90.195	89.510	7512.59	3572.37	139.59	3570.35	40.3829956	-104.8278869	0.00	
11700.00†	90.195	89.510	7512.25	3672.36	140.44	3670.35	40.3829958	-104.8275280	0.00	
11800.00†	90.195	89.510	7511.91	3772.36	141.30	3770.34	40.3829961	-104.8271690	0.00	
11900.00†	90.195	89.510	7511.57	3872.35	142.15	3870.34	40.3829964	-104.8268101	0.00	
12000.00†	90.195	89.510	7511.23	3972.34	143.01	3970.33	40.3829966	-104.8264512	0.00	
12100.00†	90.195	89.510	7510.89	4072.34	143.87	4070.33	40.3829969	-104.8260922	0.00	
12200.00†	90.195	89.510	7510.56	4172.33	144.72	4170.32	40.3829972	-104.8257333	0.00	
12300.00†	90.195	89.510	7510.22	4272.33	145.58	4270.32	40.3829974	-104.8253743	0.00	
12400.00†	90.195	89.510	7509.88	4372.32	146.43	4370.32	40.3829977	-104.8250154	0.00	
12500.00†	90.195	89.510	7509.54	4472.31	147.29	4470.31	40.3829979	-104.8246564	0.00	
12600.00†	90.195	89.510	7509.20	4572.31	148.15	4570.31	40.3829982	-104.8242975	0.00	
12700.00†	90.195	89.510	7508.86	4672.30	149.00	4670.30	40.3829985	-104.8239385	0.00	
12800.00†	90.195	89.510	7508.52	4772.30	149.86	4770.30	40.3829987	-104.8235796	0.00	
12900.00†	90.195	89.510	7508.18	4872.29	150.71	4870.29	40.3829990	-104.8232206	0.00	
13000.00†	90.195	89.510	7507.84	4972.28	151.57	4970.29	40.3829992	-104.8228617	0.00	



# Planned Wellpath Report

WINDOM 20C (REV-A.0) PWP

Page 5 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13100.00†	90.195	89.510	7507.50	5072.28	152.42	5070.29	40.3829995	-104.8225028	0.00	
13200.00†	90.195	89.510	7507.16	5172.27	153.28	5170.28	40.3829997	-104.8221438	0.00	
13300.00†	90.195	89.510	7506.82	5272.26	154.14	5270.28	40.3830000	-104.8217849	0.00	
13400.00†	90.195	89.510	7506.48	5372.26	154.99	5370.27	40.3830002	-104.8214259	0.00	
13500.00†	90.195	89.510	7506.14	5472.25	155.85	5470.27	40.3830005	-104.8210670	0.00	
13600.00†	90.195	89.510	7505.80	5572.25	156.70	5570.27	40.3830007	-104.8207080	0.00	
13700.00†	90.195	89.510	7505.46	5672.24	157.56	5670.26	40.3830010	-104.8203491	0.00	
13800.00†	90.195	89.510	7505.12	5772.23	158.42	5770.26	40.3830012	-104.8199901	0.00	
13900.00†	90.195	89.510	7504.78	5872.23	159.27	5870.25	40.3830015	-104.8196312	0.00	
14000.00†	90.195	89.510	7504.44	5972.22	160.13	5970.25	40.3830017	-104.8192722	0.00	
14100.00†	90.195	89.510	7504.10	6072.21	160.98	6070.24	40.3830019	-104.8189133	0.00	
14200.00†	90.195	89.510	7503.76	6172.21	161.84	6170.24	40.3830022	-104.8185544	0.00	
14300.00†	90.195	89.510	7503.42	6272.20	162.70	6270.24	40.3830024	-104.8181954	0.00	
14400.00†	90.195	89.510	7503.08	6372.20	163.55	6370.23	40.3830027	-104.8178365	0.00	
14500.00†	90.195	89.510	7502.74	6472.19	164.41	6470.23	40.3830029	-104.8174775	0.00	
14600.00†	90.195	89.510	7502.40	6572.18	165.26	6570.22	40.3830031	-104.8171186	0.00	
14700.00†	90.195	89.510	7502.07	6672.18	166.12	6670.22	40.3830034	-104.8167596	0.00	
14800.00†	90.195	89.510	7501.73	6772.17	166.98	6770.21	40.3830036	-104.8164007	0.00	
14900.00†	90.195	89.510	7501.39	6872.16	167.83	6870.21	40.3830038	-104.8160417	0.00	
15000.00†	90.195	89.510	7501.05	6972.16	168.69	6970.21	40.3830041	-104.8156828	0.00	
15100.00†	90.195	89.510	7500.71	7072.15	169.54	7070.20	40.3830043	-104.8153238	0.00	
15200.00†	90.195	89.510	7500.37	7172.15	170.40	7170.20	40.3830045	-104.8149649	0.00	
15300.00†	90.195	89.510	7500.03	7272.14	171.25	7270.19	40.3830048	-104.8146060	0.00	
15400.00†	90.195	89.510	7499.69	7372.13	172.11	7370.19	40.3830050	-104.8142470	0.00	
15500.00†	90.195	89.510	7499.35	7472.13	172.97	7470.18	40.3830052	-104.8138881	0.00	
15600.00†	90.195	89.510	7499.01	7572.12	173.82	7570.18	40.3830054	-104.8135291	0.00	
15700.00†	90.195	89.510	7498.67	7672.12	174.68	7670.18	40.3830057	-104.8131702	0.00	
15800.00†	90.195	89.510	7498.33	7772.11	175.53	7770.17	40.3830059	-104.8128112	0.00	
15900.00†	90.195	89.510	7497.99	7872.10	176.39	7870.17	40.3830061	-104.8124523	0.00	
16000.00†	90.195	89.510	7497.65	7972.10	177.25	7970.16	40.3830063	-104.8120933	0.00	
16100.00†	90.195	89.510	7497.31	8072.09	178.10	8070.16	40.3830065	-104.8117344	0.00	
16200.00†	90.195	89.510	7496.97	8172.08	178.96	8170.15	40.3830068	-104.8113754	0.00	
16300.00†	90.195	89.510	7496.63	8272.08	179.81	8270.15	40.3830070	-104.8110165	0.00	
16400.00†	90.195	89.510	7496.29	8372.07	180.67	8370.15	40.3830072	-104.8106575	0.00	
16500.00†	90.195	89.510	7495.95	8472.07	181.53	8470.14	40.3830074	-104.8102986	0.00	
16600.00†	90.195	89.510	7495.61	8572.06	182.38	8570.14	40.3830076	-104.8099397	0.00	
16700.00†	90.195	89.510	7495.27	8672.05	183.24	8670.13	40.3830078	-104.8095807	0.00	
16800.00†	90.195	89.510	7494.93	8772.05	184.09	8770.13	40.3830080	-104.8092218	0.00	
16900.00†	90.195	89.510	7494.59	8872.04	184.95	8870.13	40.3830083	-104.8088628	0.00	
17000.00†	90.195	89.510	7494.25	8972.03	185.81	8970.12	40.3830085	-104.8085039	0.00	
17100.00†	90.195	89.510	7493.91	9072.03	186.66	9070.12	40.3830087	-104.8081449	0.00	
17200.00†	90.195	89.510	7493.58	9172.02	187.52	9170.11	40.3830089	-104.8077860	0.00	
17300.00†	90.195	89.510	7493.24	9272.02	188.37	9270.11	40.3830091	-104.8074270	0.00	
17400.00†	90.195	89.510	7492.90	9372.01	189.23	9370.10	40.3830093	-104.8070681	0.00	
17500.00†	90.195	89.510	7492.56	9472.00	190.08	9470.10	40.3830095	-104.8067091	0.00	



# Planned Wellpath Report

WINDOM 20C (REV-A.0) PWP

Page 6 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17600.00†	90.195	89.510	7492.22	9572.00	190.94	9570.10	40.3830097	-104.8063502	0.00	
17700.00†	90.195	89.510	7491.88	9671.99	191.80	9670.09	40.3830099	-104.8059913	0.00	
17800.00†	90.195	89.510	7491.54	9771.98	192.65	9770.09	40.3830101	-104.8056323	0.00	
17900.00†	90.195	89.510	7491.20	9871.98	193.51	9870.08	40.3830103	-104.8052734	0.00	
18000.00†	90.195	89.510	7490.86	9971.97	194.36	9970.08	40.3830105	-104.8049144	0.00	
18100.00†	90.195	89.510	7490.52	10071.97	195.22	10070.07	40.3830107	-104.8045555	0.00	
18200.00†	90.195	89.510	7490.18	10171.96	196.08	10170.07	40.3830109	-104.8041965	0.00	
18252.80	90.195	89.510	7490.00‡	10224.76	196.53	10222.87	40.3830110	-104.8040070	0.00	BPZ
18300.00†	90.195	89.510	7489.84	10271.95	196.93	10270.07	40.3830111	-104.8038376	0.00	
18302.80	90.195	89.510	7489.83	10274.75	196.96	10272.87	40.3830111	-104.8038275	0.00	BHL (1914'FSL & 2577'FWL,SEC.20)

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.24-T05N-R67W	N/A	5.00	105.16	-409.01	3183256.41	1383040.89	40.3829830	-104.8421713	polygon
2D Polygon: dimensions not calculated									
SEC.19-T05N-R66W	N/A	9.00	105.29	-109.13	3183556.28	1383041.03	40.3829772	-104.8410949	polygon
2D Polygon: dimensions not calculated									
SEC.20-T05N-R66W	N/A	9.00	105.29	-109.13	3183556.28	1383041.03	40.3829772	-104.8410949	polygon
2D Polygon: dimensions not calculated									
WINDOM 20C BHL (1914'FSL & 2577'FWL,SEC.20)	N/A	7490.00	197.28	10272.73	3193937.71	1383133.02	40.3830120	-104.8038280	point
2) WINDOM 20C BPZ (1914'FSL&2527'FWL Sec.20)	18252.80	7490.00	196.53	10222.87	3193887.84	1383132.26	40.3830110	-104.8040070	point
1) WINDOM 20C LP (1880'FSL & 2467'FEL,SEC.24)	7946.50	7525.00	108.32	-82.99	3183582.42	1383044.05	40.3829850	-104.8410010	point

## SURVEY PROGRAM - Ref Wellbore: WINDOM 20C PWB Ref Wellpath: WINDOM 20C (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
28.50	1950.00	OWSG MWD rev2 - Standard		WINDOM 20C PWB
1950.00	18302.80	OWSG MWD rev2 (MS+IFR1)		WINDOM 20C PWB



# Planned Wellpath Report

WINDOM 20C (REV-A.0) PWP

Page 7 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
28.50	0.000	277.007	28.50	SHL
2000.00	0.000	277.007	2000.00	End of Tangent
2447.66	8.953	277.007	2445.84	Build (XS)
6845.72	8.953	277.007	6790.31	KOP
7946.50	90.195	89.510	7525.00	LP
18252.80	90.195	89.510	7490.00	BPZ
18302.80	90.195	89.510	7489.83	BHL (1914'FSL & 2577'FWL,SEC.20)



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 1 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Guenaler
Scale	0.999959	Report Generated	5/2/2024 at 10:39:27 AM
Convergence at slot	0.43° East	Database	WA_Denver

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-105.16	-80.01	3183665.41	1382935.74	40°22'57.6696"N	104°50'26.5416"W
Facility Reference Pt			3183745.42	1383040.89	40°22'58.7028"N	104°50'25.4976"W
Field Reference Pt			3296400.32	1413291.61	40°27'46.8000"N	104°26'5.1000"W

WELLPATH DATUM			
Calculation method	Minimum Curvature	(5002'GL+28.5'KB@5030'RKB) (RKB) to Facility Vertical Datum	5030.50ft
Horizontal Reference Pt	Slot	(5002'GL+28.5'KB@5030'RKB) (RKB) to Mean Sea Level	5030.50ft
Vertical Reference Pt	(5002'GL+28.5'KB@5030'RKB) (RKB)	(5002'GL+28.5'KB@5030'RKB) (RKB) to Ground Level at Slot (SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24))	5030.50ft
MD Reference Pt	(5002'GL+28.5'KB@5030'RKB) (RKB)		
Field Vertical Reference	Mean Sea Level		

POSITIONAL UNCERTAINTY CALCULATION SETTINGS					
Ellipse Confidence Limit	3.50 Std Dev	Ellipse Start MD	28.50ft	Surface Position Uncertainty	included
Declination	7.77° East of TN	Dip Angle	66.52°	Mag Field Strength	51651 nT
Slot Surface Uncertainty @1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD		Horizontal	8.200ft	Vertical	3.000ft
Positional Uncertainty values in the WELLPATH DATA table are the projection of the ellipsoid of uncertainty onto the vertical and horizontal planes					



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 2 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

PROXIMITY-SCAN RULE			
Rule Name	SPE WPTS Stop Drilling HSE Risk (2017)	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.00
Include Casing & Hole Size	yes	Apply Cone of Safety	no

SURVEY PROGRAM - Ref Wellbore: WINDOM 20C PWB    Ref Wellpath: WINDOM 20C (REV-A.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
28.50	1950.00	OWSG MWD rev2 - Standard		WINDOM 20C PWB
1950.00	18302.66	OWSG MWD rev2 (MS+IFR1)		WINDOM 20C PWB



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 3 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18302.66ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (114 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
SEC.19-T05N-R66W	SLOT#07 KORI J #19-12 (05-123-22721)	KORI J #19-12	KORI J #19-12 AWB	KORI J #19-12 AWB	Drilling	10833.73	5.18	10833.73	10833.74	0.01	10833.74	FAIL
Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W	D. L. PHILLIPS #24-31 (05-123-21347)	D. L. PHILLIPS #24-31	D. L. PHILLIPS #24-31 AWB	D. L. PHILLIPS #24-31 AWP	Drilling	7217.60	275.27	7217.60	7257.71	0.03	7257.71	FAIL
SEC.20-T5N-R66W (EXIST)	WIEDEMAN R J #20-13 (05-123-10815)	Wiedeman R J 20-13	Wiedeman R J 20-13	Wiedeman R J 20-13\Wiedeman R J 20-13 (Vert)	Drilling	16746.84	881.16	16746.84	16746.52	0.10	16746.52	FAIL
SEC.20-T5N-R66W (EXIST)	BARNETT #5-20 (05-123-22662)	Barnett 5-20	Barnett 5-20	Barnett 5-20\Barnett 5-20 (Vert)	Drilling	16439.35	1272.16	16439.35	16438.70	0.14	16438.70	FAIL
SEC.20-T5N-R66W (EXIST)	STUGART #6-20 (05-123-22661)	Stugart 6-20	Stugart 6-20	Stugart 6-20\Stugart 6-20 (Vert)	Drilling	17604.05	1588.19	17604.05	17603.05	0.17	17603.05	FAIL
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	PHILLIPS PC #N24-25 (05-123-25877) SI	PHILLIPS PC #N24-25	PHILLIPS PC #N24-25 AWB	PHILLIPS PC #N24-25 AWP	Drilling	6939.26	475.19	6939.26	7105.02	0.20	7105.02	FAIL
SEC.20-T5N-R66W (EXIST)	LUNDVALL #11-20 (05-123-22759)	Ludvall 11-20	Ludvall 11-20	Ludvall 11-20\Ludvall 11-20	Drilling	17720.23	57.86	17720.23	17720.84	0.23	17720.84	FAIL
SEC.20-T5N-R66W (EXIST)	HAYES #1 (05-123-05178)	HAYES 1	HAYES 1	HAYES 1\HAYES 1 (VERT)	Drilling	18302.66	2480.58	18302.66	18302.66	0.28	18302.66	FAIL
SEC.20-T5N-R66W (EXIST)	STUGART #3-20 (05-123-22663)	STUGART 3-20	STUGART 3-20	STUGART 3-20\STUGART 3-20 (Vert)	Drilling	17886.11	2516.96	17886.11	17883.61	0.28	17883.61	FAIL
Sec.23-T5N-R67W	GOLDBERG #N 24-2 (05-123-18983)	GOLDBERG N 24-2 (Vert)	GOLDBERG N 24-2	GOLDBERG N 24-2\GOLDBERG N 24-2	Drilling	8466.27	2628.26	8466.27	8463.19	0.29	8463.19	FAIL
Sec.23-T5N-R67W	GOLDBERG #1-24 (05-123-13117)	GOLDBERG 1-24 (Vert)	GOLDBERG 1-24	GOLDBERG 1-24\GOLDBERG 1-24	Drilling	9792.53	2638.81	9792.53	9789.47	0.29	9789.47	FAIL
Sec.23-T5N-R67W	PHILLIPS PC #N24-19 (05-123-25878)	PHILLIPS PC N24-19 (Vert)	PHILLIPS PC N24-19	PHILLIPS PC N24-19 AWP	Drilling	6974.76	2607.46	6974.76	7399.60	0.30	7399.60	FAIL
SEC.20-T5N-R66W (EXIST)	HAYES #2-20 (05-123-13227)	HAYES 2-20 (Vert)	HAYES 2-20	HAYES 2-20\HAYES 2-20	Drilling	18302.66	2765.00	18302.66	18302.66	0.30	18302.66	FAIL
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	DL PHILLIPS #24-23 (05-123-17231)	DL PHILLIPS #24-23 (Exist.)	DL PHILLIPS #24-23 AWB	DL PHILLIPS #24-23 AWP	Drilling	6964.45	2620.61	6964.45	7255.67	0.31	7255.67	FAIL
Sec.23-T5N-R67W	D.L. PHILLIPS #24-21 (05-123-18368)	D.L. PHILLIPS 24-21 (Vert)	D.L. PHILLIPS 24-21	D.L. PHILLIPS 24-21\D.L. PHILLIPS 24-21	Drilling	7077.03	2951.51	7077.03	7653.29	0.33	7653.29	FAIL
Sec.23-T5N-R67W	D.L. PHILLIPS #24-22 (05-123-18369)	D.L. PHILLIPS 24-22 (Vert)	D.L. PHILLIPS 24-22	D.L. PHILLIPS 24-22\D.L. PHILLIPS 24-22	Drilling	6969.77	3240.65	6969.77	7428.40	0.37	7428.40	FAIL
SEC.20-T5N-R66W (EXIST)	HAYES #1-20 (05-123-13218)	HAYES 1-20	HAYES 1-20	HAYES 1-20\HAYES 1-20 (Vert)	Drilling	18302.66	3400.22	18302.66	18302.66	0.37	18302.66	FAIL
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	GOLDBERG N #24-8 (05-123-21109) TA	GOLDBERG N #24-8	GOLDBERG N #24-8 AWB	GOLDBERG N #24-8 AWP	Drilling	9942.52	1199.63	9942.52	9940.74	0.39	9940.74	FAIL
SEC.19-T05N-R66W	SLOT#12 KORI #J 19-9 (05-123-17993)	KORI #J 19-9	KORI #J 19-9 AWB	KORI #J 19-9 AWP	Drilling	15022.49	80.42	15022.49	15023.04	0.43	15023.04	FAIL
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	D.L. PHILLIPS #24-24 (05-123-19879) TA	D.L. PHILLIPS #24-24	D.L. PHILLIPS 24-24 AWB	D.L. PHILLIPS 24-24 AWP	Drilling	7255.23	1418.30	7255.23	7694.51	0.49	7694.51	FAIL
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	GOLDBERG N #24-7 (05-123-18984) TA	GOLDBERG N #24-7	GOLDBERG N #24-7 AWB	GOLDBERG N #24-7 AWP	Drilling	8631.12	1589.44	8631.12	8627.84	0.52	8627.84	FAIL
SEC.19-T05N-R66W	SLOT#09 KORI #J 19-10 (05-123-17994)	KORI #J 19-10	KORI #J 19-10 AWB	KORI #J 19-10 AWP	Drilling	13691.45	84.98	13691.45	13692.18	0.53	13692.18	FAIL
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	D.L. PHILLIPS #24-32 (05-123-19878) SI	D.L. PHILLIPS #24-32	D.L. PHILLIPS #24-32 AWB	D.L. PHILLIPS #24-32 AWP	Drilling	6950.14	1485.22	6950.14	7346.80	0.60	7346.80	FAIL
SEC.24-T05N-R67W	SLOT#19 WINDOM 19N (1787'FSL & 2385'FEL,SEC.24)	WINDOM 19N	WINDOM 19N PWB	WINDOM 19N (REV-A.0) PWP	Planned	28.50	15.30	1628.50	1732.69	0.71	18302.66	FAIL
SEC.24-T05N-R67W	SLOT#21 WINDOM 21N (1757'FSL & 2386'FEL,SEC.24)	WINDOM 21N	WINDOM 21N PWB	WINDOM 21N (REV-A.0) PWP	Planned	28.50	14.94	1528.50	1647.71	0.72	18302.66	FAIL



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 4 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18302.66ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (114 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	PHILLIPS # #1 (05-123-11720) SI	PHILLIPS # #1	PHILLIPS # #1 AWB	PHILLIPS # #1 AWP	Drilling	6935.88	1892.42	6935.88	7468.51	0.73	7468.51	FAIL
SEC.24-T05N-R67W	SLOT#08 WINDOM 08C (1772'FSL & 2305'FEL,SEC.24)	WINDOM 08C	WINDOM 08C PWB	WINDOM 08C (REV-A.0) PWP	Planned	7791.59	44.67	7791.59	7792.57	0.75	7792.57	FAIL
SEC.20-T5N-R66W (EXIST)	LUNDVALL #12-20 (05-123-22760)	Lundvall 12-20	Lundvall 12-20	Lundvall 12-20\Lundvall 12-20	Drilling	16231.99	187.17	16231.99	16233.06	0.91	16233.06	FAIL
Stugart State 6-20	Stugart #17C (05-123-51268) PR	Stugart 17C	Stugart 17C	Stugart 17C\Stugart 17C Final Surveys	Drilling	18302.66	284.34	18302.66	18302.66	1.24	18302.66	PASS
Stugart State 6-20	Stugart #16N (05-123-51264) PR	Stugart 16N	Stugart 16N	Stugart 16N\Stugart 16N Final Surveys	Drilling	18302.66	188.30	18302.66	18302.66	1.27	18302.66	PASS
SEC.19-T05N-R66W	SLOT#06 KORI J #19-11 (05-123-22718)	KORI J #19-11	KORI J #19-11 AWB	KORI J #19-11 AWP	Drilling	12302.15	195.90	12302.15	12305.94	1.52	12305.94	PASS
SEC.24-T05N-R67W	SLOT#18 WINDOM 18N (1802'FSL & 2385'FEL,SEC.24)	WINDOM 18N	WINDOM 18N PWB	WINDOM 18N (REV-A.0) PWP	Planned	28.50	30.24	15228.50	1558.31	1.81	18302.66	PASS
Stugart State 6-20	Stugart #15N (05-123-51255) PR	Stugart 15N	Stugart 15N	Stugart 15N\Stugart 15N Final Surveys	Drilling	18302.66	343.02	18302.66	18302.66	1.97	18302.66	PASS
Stugart State 6-20	Stugart #14N (05-123-51270) PR	Stugart 14N	Stugart 14N	Stugart 14N\Stugart 14N Final Surveys	Drilling	18302.66	446.04	18302.66	18302.66	2.02	18302.66	PASS
SEC.24-T05N-R67W	SLOT#22 WINDOM 22N (1742'FSL & 2386'FEL,SEC.24)	WINDOM 22N	WINDOM 22N PWB	WINDOM 22N (REV-A.0) PWP	Planned	28.50	29.87	1128.50	1270.65	2.13	18302.66	PASS
Stugart State 6-20	Stugart #18N (05-123-51274) PR	Stugart 18N	Stugart 18N	Stugart 18N\Stugart 18N Final Surveys	Drilling	18302.66	559.00	18302.66	18302.66	2.54	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	STUGART #22-20 (05-123-28089)	Stugart 22-20	Stugart 22-20	Stugart 22-20\Stugart 22-20	Drilling	17063.76	596.66	17063.76	17085.02	2.72	17085.02	PASS
SEC.20-T5N-R66W (EXIST)	WIEDEMAN #25-20 (05-123-27032)	WIEDEMAN 25-20	WIEDEMAN 25-20	WIEDEMAN 25-20\WIEDEMAN 25-20	Drilling	18302.66	673.64	18302.66	18302.66	2.80	18302.66	PASS
Stugart State 6-20	Stugart #13NA (05-123-51261) PR	Stugart 13NA	Stugart 13NA	Stugart 13NA\Stugart 13NA Final Surveys	Drilling	18302.66	683.64	18302.66	18302.66	2.94	18302.66	PASS
Stugart State 6-20	Stugart #19N (05-123-51267) PR	Stugart 19N	Stugart 19N	Stugart 19N\Stugart 19N Final Surveys	Drilling	18302.66	744.70	18302.66	18302.66	3.14	18302.66	PASS
SEC.24-T05N-R67W	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)	WINDOM 17NA	WINDOM 17NA PWB	WINDOM 17NA (REV-A.0) PWP	Planned	28.50	45.18	1228.50	1387.44	3.17	18302.66	PASS
Stugart State 6-20	Stugart #12N (05-123-51271) PR	Stugart 12N	Stugart 12N	Stugart 12N\Stugart 12N Final Surveys	Drilling	18302.66	896.03	18302.66	18302.66	3.78	18302.66	PASS
SEC.24-T05N-R67W	SLOT#23 WINDOM 23N (1727'FSL & 2386'FEL,SEC.24)	WINDOM 23N	WINDOM 23N PWB	WINDOM 23N (REV-A.0) PWP	Planned	28.50	44.81	728.50	18302.66	3.82	18302.66	PASS
Stugart State 6-20	Stugart #20N (05-123-51260) PR	Stugart 20N	Stugart 20N	Stugart 20N\Stugart 20N Final Surveys	Drilling	18302.66	970.05	18302.66	18302.66	4.08	18302.66	PASS
Stugart State 6-20	Stugart #11N (05-123-51278) PR	Stugart 11N	Stugart 11N	Stugart 11N\Stugart 11N Final Surveys	Drilling	18302.66	1073.42	18302.66	18302.66	4.44	18302.66	PASS
SEC.19-T05N-R66W	SLOT#10 KORI J #19-23 (05-123-22722)	KORI J #19-23	KORI J #19-23 AWB	KORI J #19-23 AWP	Drilling	14510.54	754.46	14510.54	14545.49	4.45	14545.49	PASS
SEC.19-T05N-R66W	SLOT#03 KORI #J 19-15 (05-123-16363)	KORI #J 19-15	KORI #J 19-15 AWB	KORI #J 19-15 AWP	Drilling	13776.56	1272.05	13776.56	13826.43	4.65	13826.43	PASS
SEC.24-T05N-R67W	SLOT#07 WINDOM 07N (1787'FSL & 2305'FEL,SEC.24)	WINDOM 07N	WINDOM 07N PWB	WINDOM 07N (REV-A.0) PWP	Planned	28.50	81.55	7428.50	1875.78	4.66	7428.50	PASS
Stugart State 6-20	Stugart #21NA (05-123-51262) PR	Stugart 21NA	Stugart 21NA	Stugart 21NA\Stugart 21NA Final Surveys	Drilling	18302.66	1161.80	18302.66	18302.66	4.83	18302.66	PASS
SEC.24-T05N-R67W	SLOT#16 WINDOM 16C (1832'FSL & 2384'FEL,SEC.24)	WINDOM 16C	WINDOM 16C PWB	WINDOM 16C (REV-A.0) PWP	Planned	28.50	60.11	1028.50	1221.85	4.85	18302.66	PASS



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 5 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18302.66ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (114 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
SEC.24-T05N-R67W	SLOT#09 WINDOM 09NA (1757'FSL & 2306'FEL,SEC.24)	WINDOM 09NA	WINDOM 09NA PWB	WINDOM 09NA (REV-A.0) PWP	Planned	28.50	81.41	7328.50	1760.59	4.92	7328.50	PASS
SEC.24-T05N-R67W	SLOT#24 WINDOM 24N (1712'FSL & 2386'FEL,SEC.24)	WINDOM 24N	WINDOM 24N PWB	WINDOM 24N (REV-A.0) PWP	Planned	28.50	59.75	428.50	18302.66	5.02	18302.66	PASS
SEC.19-T05N-R66W	SLOT#11 KORI J #19-25 (05-123-23230)	KORI J #19-25	KORI J #19-25 AWB	KORI J #19-25 AWP	Drilling	11729.60	616.35	11729.60	11761.34	5.24	11761.34	PASS
SEC.24-T05N-R67W	SLOT#06 WINDOM 06N (1802'FSL & 2305'FEL,SEC.24)	WINDOM 06N	WINDOM 06N PWB	WINDOM 06N (REV-A.0) PWP	Planned	28.50	85.49	7628.50	1704.67	5.39	7628.50	PASS
Stugart State 6-20	Stugart #10N (05-123-51275) PR	Stugart 10N	Stugart 10N	Stugart 10N\Stugart 10N Final Surveys	Drilling	18302.66	1316.88	18302.66	18302.66	5.47	18302.66	PASS
Stugart State 6-20	Stugart #22N (05-123-51259) PR	Stugart 22N	Stugart 22N	Stugart 22N\Stugart 22N Final Surveys	Drilling	18302.66	1373.28	18302.66	18302.66	5.64	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	HSR-WIEDEMAN #14-20 (05-123-19139)	HSR-Wiedeman 14-20	HSR-Wiedeman 14-20	HSR-Wiedeman 14-20\HSR-Wiedeman 14-20	Drilling	17833.09	1386.68	17833.09	17920.77	5.90	17920.77	PASS
Stugart State 6-20	Stugart #09C (05-123-51266) PR	Stugart 09C	Stugart 09C	Stugart 09C\Stugart 09C Final Surveys	Drilling	18287.64	1518.67	18287.64	18302.66	6.23	18302.66	PASS
SEC.24-T05N-R67W	SLOT#15 WINDOM 15N (1847'FSL & 2384'FEL,SEC.24)	WINDOM 15N	WINDOM 15N PWB	WINDOM 15N (REV-A.0) PWP	Planned	28.50	75.05	828.50	18302.66	6.24	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	HSR-WIEDEMAN #15-20 (05-123-19140)	HSR-Wiedeman 15-20	HSR-Wiedeman 15-20	HSR-Wiedeman 15-20\HSR-Wiedeman 15-20	Drilling	18302.66	1425.41	18302.66	18302.66	6.29	18302.66	PASS
SEC.24-T05N-R67W	SLOT#10 WINDOM 10N (1742'FSL & 2306'FEL,SEC.24)	WINDOM 10N	WINDOM 10N PWB	WINDOM 10N (REV-A.0) PWP	Planned	28.50	85.35	7528.50	1417.91	6.38	8528.50	PASS
SEC.24-T05N-R67W	SLOT#05 WINDOM 05N (1817'FSL & 2305'FEL,SEC.24)	WINDOM 05N	WINDOM 05N PWB	WINDOM 05N (REV-A.0) PWP	Planned	28.50	91.72	8028.50	1522.81	6.46	7528.50	PASS
Stugart State 6-20	Stugart #23N (05-123-51257) PR	Stugart 23N	Stugart 23N	Stugart 23N\Stugart 23N Final Surveys	Drilling	18302.66	1600.98	18302.66	18302.66	6.60	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	HSR-WIEDEMAN #10-20 (05-123-19138)	HSR-Wiedeman 10-20	HSR-Wiedeman 10-20	HSR-Wiedeman 10-20\HSR-Wiedeman 10-20	Drilling	18302.66	556.76	18302.66	18302.66	6.72	18302.66	PASS
SEC.19-T05N-R66W	SLOT#04 KORI #J 19-16 (05-123-17999)	KORI #J 19-16	KORI #J 19-16 AWB	KORI #J 19-16 AWP	Drilling	15110.42	1251.89	15110.42	15201.93	6.90	15201.93	PASS
Stugart State 6-20	Stugart #08N (05-123-51256) PR	Stugart 08N	Stugart 08N	Stugart 08N\Stugart 08N Final Surveys	Drilling	18302.66	1731.91	18302.66	18302.66	7.13	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	HURST #7-20 (05-123-24976)	HURST 7-20	HURST 7-20	HURST 7-20\HURST 7-20	Drilling	18302.66	1589.43	18302.66	18302.66	7.28	18302.66	PASS
Stugart State 6-20	Stugart #24N (05-123-51258) PR	Stugart 24N	Stugart 24N	Stugart 24N\Stugart 24N Final Surveys	Drilling	18302.66	1805.71	18302.66	18302.66	7.39	18302.66	PASS
SEC.24-T05N-R67W	SLOT#14 WINDOM 14N (1862'FSL & 2384'FEL,SEC.24)	WINDOM 14N	WINDOM 14N PWB	WINDOM 14N (REV-A.0) PWP	Planned	28.50	89.99	628.50	18302.66	7.50	18302.66	PASS
SEC.24-T05N-R67W	SLOT#04 WINDOM 04N (1832'FSL & 2304'FEL,SEC.24)	WINDOM 04N	WINDOM 04N PWB	WINDOM 04N (REV-A.0) PWP	Planned	28.50	100.04	8228.50	1347.78	7.95	8528.50	PASS
SEC.19-T05N-R66W	SLOT#16 HSR-LUNDVALL #8-19 (05-123-20564) TA	HSR-LUNDVALL #8-19	HSR-LUNDVALL #8-19 AWB	HSR-LUNDVALL #8-19 AWP	Drilling	15201.26	1466.55	15201.26	15331.34	7.99	15331.34	PASS
Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W	PHILLIPS #24-3-23 (05-123-29446)	Phillips 24-3-23 (Dir)	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	3438.45	347.76	7728.50	3515.65	8.08	7728.50	PASS
Stugart State 6-20	Stugart #07N (05-123-51263) PR	Stugart 07N	Stugart 07N	Stugart 07N\Stugart 07N Final Surveys	Drilling	18302.66	1964.57	18302.66	18302.66	8.09	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	GREELEY #21-20 (05-123-25782)	GREELEY 21-20	GREELEY 21-20	GREELEY 21-20\GREELEY 21-20	Drilling	18302.66	2005.65	18302.66	18302.66	8.26	18302.66	PASS
SEC.19-T05N-R66W	SLOT#02 KORI #J 19-14 (05-123-22719)	KORI #J 19-14	KORI #J 19-14 AWB	KORI #J 19-14 AWP	Drilling	12565.35	1116.99	12565.35	12662.69	8.42	12662.69	PASS



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 6 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18302.66ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (114 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
SEC.24-T05N-R67W	SLOT#13 WINDOM 13N (1877'FSL & 2384'FEL,SEC.24)	WINDOM 13N	WINDOM 13N PWB	WINDOM 13N (REV-A.0) PWP	Planned	28.50	105.29	428.50	18302.66	8.73	18302.66	PASS
SEC.19-T05N-R66W	SLOT#15 LUNDVALL UP #7-19 (05-123-13484)	LUNDVALL UP #7-19	LUNDVALL UP #7-19 AWB	LUNDVALL UP #7-19 AWP	Drilling	13512.28	1319.47	13512.28	13640.44	8.77	13640.44	PASS
SEC.24-T05N-R67W	SLOT#11 WINDOM 11N (1727'FSL & 2306'FEL,SEC.24)	WINDOM 11N	WINDOM 11N PWB	WINDOM 11N (REV-A.0) PWP	Planned	28.50	91.77	7328.50	1064.93	8.88	7428.50	PASS
Stugart State 6-20	Stugart #06N (05-123-51269) PR	Stugart 06N	Stugart 06N	Stugart 06N\Stugart 06N Final Surveys	Drilling	18302.66	2184.30	18302.66	18302.66	8.96	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	WIEDEMAN #20-20 (05-123-22699)	WIEDEMAN 20-20	WIEDEMAN 20-20	WIEDEMAN 20-20\WIEDEMAN 20-20	Drilling	18302.66	1078.15	18302.66	18302.66	9.55	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	SW GREELEY #31-20 (05-123-28090)	SW Greeley 31-20	SW Greeley 31-20	SW Greeley 31-20\SW Greeley 31-20	Drilling	15866.10	1911.74	15866.10	16066.47	9.77	16066.47	PASS
Stugart State 6-20	Stugart #05NA (05-123-51277) PR	Stugart 05NA	Stugart 05NA	Stugart 05NA\Stugart 05NA Final Surveys	Drilling	18302.66	2386.37	18302.66	18302.66	9.80	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	SW GREELEY #18-20 (05-123-26603)	SW GREELEY #18-20	SW GREELEY #18-20 AWB	SW GREELEY #18-20 AWP	Drilling	16981.60	2120.40	16981.60	17213.41	9.88	17213.41	PASS
SEC.24-T05N-R67W	SLOT#03 WINDOM 03NA (1847'FSL & 2304'FEL,SEC.24)	WINDOM 03NA	WINDOM 03NA PWB	WINDOM 03NA (REV-A.1) PWP	Planned	28.50	109.82	8228.50	1179.59	9.93	8828.50	PASS
SEC.19-T05N-R66W	SLOT#14 CHISMAR #19-24 (05-123-19468)	CHISMAR #19-24	CHISMAR #19-24 AWB	CHISMAR #19-24 AWP	Drilling	12548.14	1318.14	12548.14	12692.03	9.94	12692.03	PASS
SEC.20-T5N-R66W (EXIST)	WIEDEMAN #24-20 (05-123-27033)	WIEDEMAN 24-20	WIEDEMAN 24-20	WIEDEMAN 24-20\WIEDEMAN 24-20	Drilling	18302.66	1396.96	18302.66	18302.66	10.16	18302.66	PASS
Stugart State 6-20	Stugart #04N (05-123-51276) PR	Stugart 04N	Stugart 04N	Stugart 04N\Stugart 04N Final Surveys	Drilling	18302.66	2616.29	18302.66	18302.66	10.72	18302.66	PASS
Stugart State 6-20	Stugart #03N (05-123-51272) PR	Stugart 03N	Stugart 03N	Stugart 03N\Stugart 03N Final Surveys	Drilling	18302.66	2812.08	18302.66	18302.66	11.50	18302.66	PASS
SEC.19-T05N-R66W	SLOT#13 SHEEP DRAW #19-23 (05-123-11521)	SHEEP DRAW #19-23	SHEEP DRAW #19-23 AWB	SHEEP DRAW #19-23 AWP	Drilling	11346.95	1330.90	11346.95	11516.32	11.86	11516.32	PASS
SEC.24-T05N-R67W	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)	WINDOM 12N	WINDOM 12N PWB	WINDOM 12N (REV-A.0) PWP	Planned	28.50	100.03	8128.50	803.69	12.05	8528.50	PASS
Stugart State 6-20	Stugart State #02C (05-123-51273) PR	Stugart State 02C	Stugart State 02C	Stugart State 02C\Stugart State 02C Final Surveys	Drilling	18302.66	3026.83	18302.66	18302.66	12.37	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	BARNETT 1-20 (05-123-13311)	BARNETT 1-20	BARNETT 1-20 AWB	BARNETT 1-20 AWP	Drilling	16323.68	2512.76	16323.68	16670.25	12.45	16670.25	PASS
SEC.24-T05N-R67W	SLOT#02 WINDOM 02C (1862'FSL & 2304'FEL,SEC.24)	WINDOM 02C	WINDOM 02C PWB	WINDOM 02C (REV-A.0) PWP	Planned	28.50	120.66	8328.50	1035.94	12.49	9128.50	PASS
SEC.19-T05N-R66W	SLOT#01 KORI #J 19-13 (05-123-22720)	KORI #J 19-13	KORI #J 19-13 AWB	KORI #J 19-13 AWP	Drilling	11179.73	1378.31	11179.73	11355.90	12.62	11355.90	PASS
SEC.20-T5N-R66W (EXIST)	GREELEY #17-20 (05-123-26022)	GREELEY 17-20	GREELEY 17-20	GREELEY 17-20\GREELEY 17-20	Drilling	18302.66	2581.30	18302.66	18302.66	12.69	18302.66	PASS
Stugart State 6-20	Stugart State #01N (05-123-51265) PR	Stugart State 01N	Stugart State 01N	Stugart State 01N\Stugart State 01N Final Surveys	Drilling	18302.66	3263.39	18302.66	18302.66	13.34	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	HURST #8-20 (05-123-24996)	HURST 8-20	HURST 8-20	HURST 8-20\HURST 8-20	Drilling	18302.66	2492.72	18302.66	18302.66	14.91	18302.66	PASS
SEC.24-T05N-R67W	SLOT#01 WINDOM 01N (1877'FSL & 2304'FEL,SEC.24)	WINDOM 01N	WINDOM 01N PWB	WINDOM 01N (REV-A.0) PWP	Planned	28.50	132.13	8328.50	828.50	15.75	9428.50	PASS
SEC.20-T5N-R66W (EXIST)	GREELEY #27-20 (05-123-26706)	Greeley 27-20 (Exist.)	Greeley 27-20	Greeley 27-20\Greeley 27-20	Drilling	18302.66	3658.26	18302.66	18302.66	15.93	18302.66	PASS
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	NYC N #24-16 (05-123-21127) PA	NYC N #24-16	NYC N #24-16 AWB	NYC N #24-16 AWP	Drilling	9874.40	1172.19	9874.40	10066.33	16.05	10066.33	PASS



# Closest Approach Clearance Summary Report

WINDOM 20C (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 7 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 20C
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 20C PWB
Slot	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18302.66ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (114 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane													
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio				
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status	
Sec.19-T5N-R66W	LUNDVALL UP #2-19 (05-123-13483) SI	LUNDVALL UP 2-19	LUNDVALL UP 2-19	LUNDVALL UP 2-19	LUNDVALL UP 2-19\LUNDVALL UP 2-19	Drilling	13831.84	2639.88	13831.84	14316.42	16.78	14316.42	PASS
SEC.20-T5N-R66W (EXIST)	HSR-WIEDEMAN #16-20 (05-123-19141)	HSR-Wiedeman 16-20	HSR-Wiedeman 16-20	HSR-Wiedeman 16-20	HSR-Wiedeman 16-20\HSR-Wiedeman 16-20	Drilling	18302.66	2411.01	18302.66	18302.66	17.03	18302.66	PASS
Phillips 24-3-23 (Dir) Pad Sec.24-T5N-R67W	PHILLIPS #24-3-17 (05-123-29447)	Phillips 24-3-17 (Dir)	Wellbore #1	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	749.51	792.06	6928.50	7037.95	17.24	7037.95	PASS
Sec.19-T5N-R66W	CHISMAR #19-21 (05-123-19466) PA	CHISMAR 19-21	CHISMAR 19-21	CHISMAR 19-21	CHISMAR 19-21\CHISMAR 19-21	Drilling	12173.99	2669.35	12173.99	12787.37	21.08	12787.37	PASS
Phillips 24-3-21 (Dir) Pad Sec.24-T5N-R67W	D.L. PHILLIPS #24-34 (05-123-21349)	Phillips 24-34 (Exist.)	Wellbore #1	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	7027.52	1433.23	7027.52	7442.14	22.25	7442.14	PASS
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	BLEHM #7 (05-123-11217) PA	BLEHM #7	BLEHM #7 AWB	BLEHM #7 AWB	BLEHM #7 AWB	Drilling	2013.43	1195.37	8428.50	8603.57	22.75	8603.57	PASS
SEC.19-T05N-R66W	SLOT#05 UPRR 61 PAN AM C #1 (05-123-09638)	UPRR 61 PAN AM C #1	UPRR 61 PAN AM C #1 AWB	UPRR 61 PAN AM C #1 AWB	UPRR 61 PAN AM C #1 AWB	Drilling	11092.56	2744.93	11092.56	5121.90	22.84	12728.50	PASS
Sec.19-T5N-R66W	CHISMAR #19-22 (05-123-19467) PA	CHISMAR 19-22	CHISMAR 19-22	CHISMAR 19-22	CHISMAR 19-22\CHISMAR 19-22	Drilling	10895.82	2596.66	10895.82	11585.54	24.82	11585.54	PASS
SEC.20-T5N-R66W (EXIST)	HSR-WIEDEMAN #9-20 (05-123-19149)	HSR-Wiedeman 9-20	HSR-Wiedeman 9-20	HSR-Wiedeman 9-20	HSR-Wiedeman 9-20\HSR-Wiedeman 9-20	Drilling	18302.66	1976.58	18302.66	18302.66	26.54	18302.66	PASS
SEC.20-T5N-R66W (EXIST)	WIEDEMAN #40-20 (05-123-27034)	WIEDEMAN 40-20	WIEDEMAN 40-20	WIEDEMAN 40-20	WIEDEMAN 40-20\WIEDEMAN 40-20	Drilling	18302.66	2783.73	18302.66	18302.66	30.31	18302.66	PASS
Phillips 24-3-21 (Dir) Pad Sec.24-T5N-R67W	PHILLIPS #24-3-21 (05-123-29448)	Phillips 24-3-21 (Dir)	Wellbore #1	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	28.50	1451.41	6928.50	7136.01	30.35	7136.01	PASS
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	PHILLIPS #24-2-20 (05-123-29908)	Phillips 24-2-20 (Dir)	Wellbore #1	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	6928.50	2225.52	6928.50	7072.42	32.45	7072.42	PASS
Phillips PC N24-29 Pad Sec.24-T5N-R67W	PHILLIPS PC #N24-31D (05-123-29077)	Phillips PC N24-31D	Wellbore #1	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	6913.62	3254.66	6913.62	7189.64	49.38	7189.64	PASS
Phillips PC N24-29 Pad Sec.24-T5N-R67W	PHILLIPS PC #N24-29D (05-123-29345)	Phillips PC N24-29D	Wellbore #1	Wellbore #1	Wellbore #1\Wellbore #1	Drilling	6964.96	3400.93	6964.96	7540.16	50.83	7540.16	PASS