

PDC ENERGY INC

Location: COLORADO Slot: SLOT#17 WINDOM 17NA (1817FSL & 2385FEL, SEC.24)
 Field: WELD COUNTY (NAD83/GRID) Well: WINDOM 17NA
 Facility: SEC.24-T05N-R67W Wellbore: WINDOM 17NA PWB

Plot reference wellpath is WINDOM 17NA (REV-A.0) PWP
 True vertical depths are referenced to (5000'GL+28.5KB@5029'RKB) (RKB)
 Reference wellpath measured depths are referenced to (5000'GL+28.5KB@5029'RKB) (RKB)
 (5000'GL+28.5KB@5029'RKB) (RKB) to Mean Sea Level: 5028.5 feet
 Mean Sea Level to Ground level (At Slot: SLOT#17 WINDOM 17NA (1817FSL & 2385FEL, SEC.24)): 0 feet
 Offset wellpath MDs are referenced to each path's default MD datum
 Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
 North Reference: Grid north
 Scale: True distance
 Coordinates are in feet referenced to Slot
 Depths are in feet
 Created by: martsam01 on 2024-03-26; Database: WA_Denver

Location Information

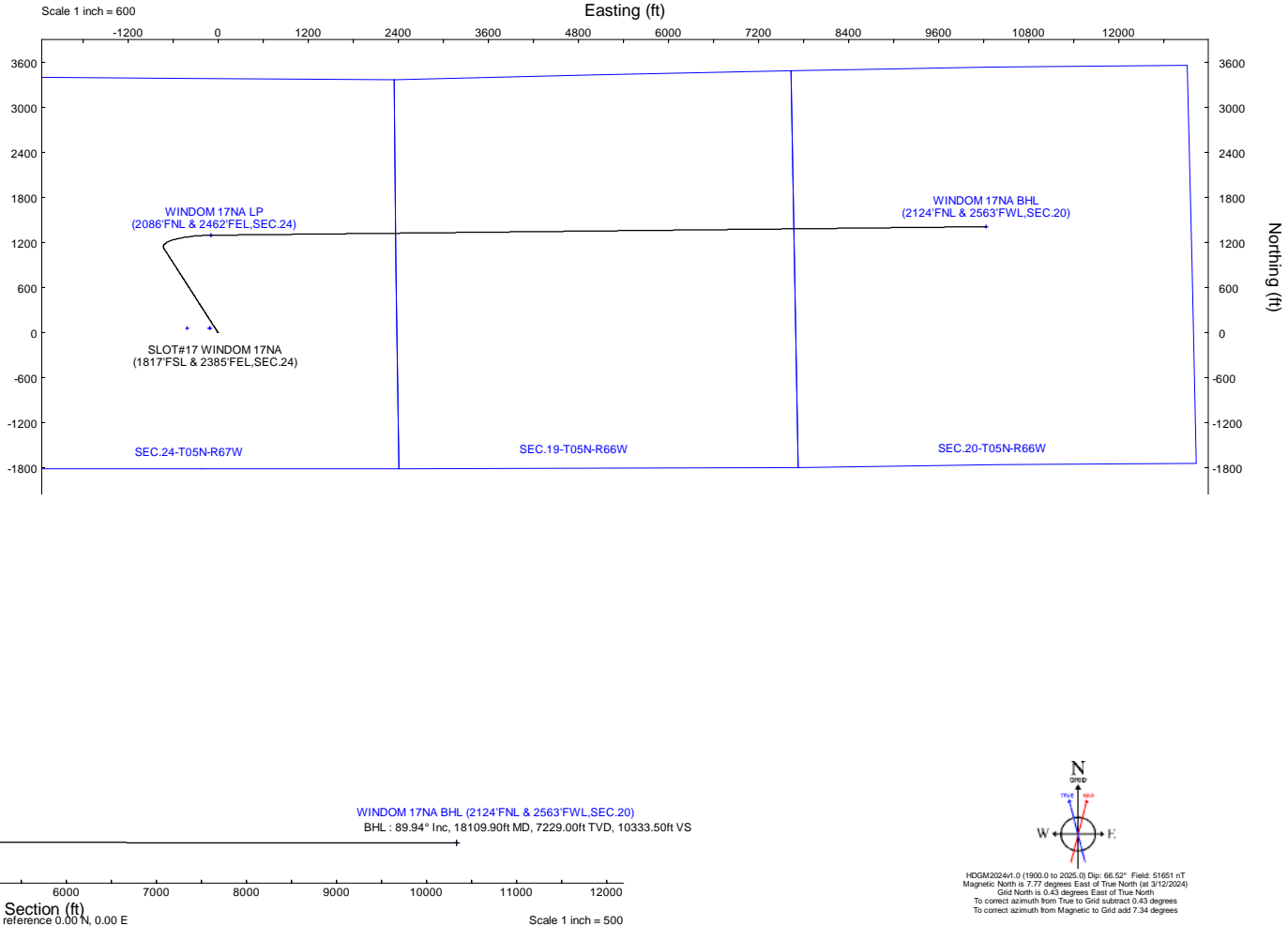
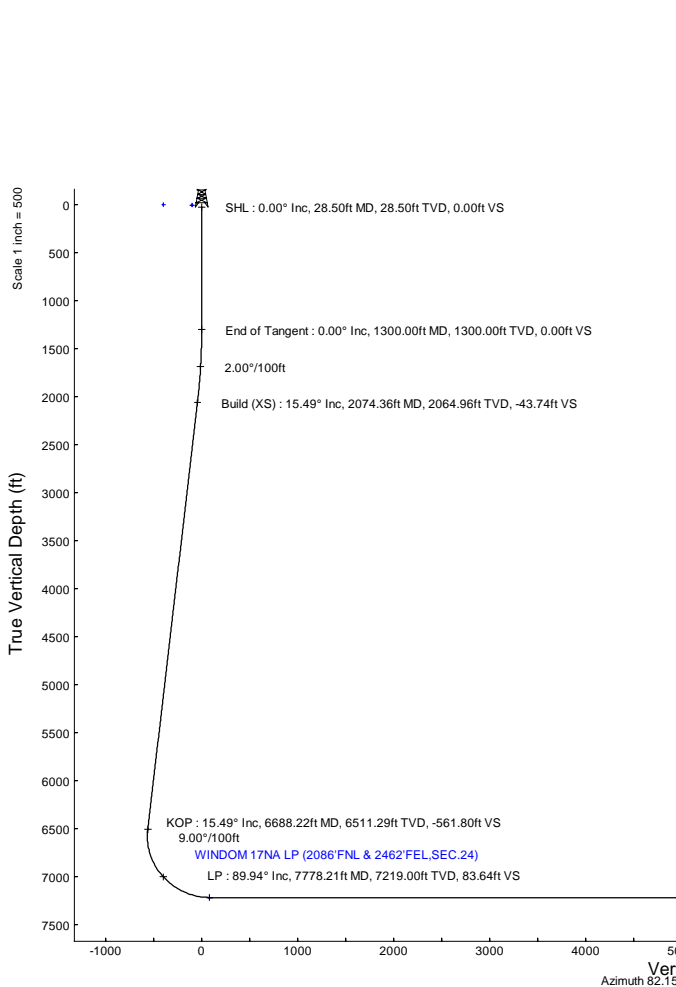
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SEC.24-T05N-R67W		3183745.419	1383040.882	40°22'58.7028"N	104°50'25.4978"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#17 WINDOM 17NA (1817FSL & 2385FEL, SEC.24)	-59.98	-80.07	3183665.353	1382980.915	40°22'58.1169"N	104°50'26.5380"W
(5000'GL+28.5KB@5029'RKB) (RKB) to Ground level (At Slot: SLOT#17 WINDOM 17NA (1817FSL & 2385FEL, SEC.24))					5028.5ft	
Mean Sea Level to Ground level (At Slot: SLOT#17 WINDOM 17NA (1817FSL & 2385FEL, SEC.24))					0ft	
(5000'GL+28.5KB@5029'RKB) (RKB) to Mean Sea Level					5028.5ft	

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	327.286	28.50	0.00	0.00	0.00	0.00
End of Tangent	1300.00	0.000	327.286	1300.00	0.00	0.00	0.00	0.00
Build (XS)	2074.36	15.487	327.286	2064.96	87.52	-56.22	2.00	-43.74
KOP	6688.22	15.487	327.286	6511.29	1124.10	-722.05	0.00	-561.80
LP	7778.21	89.945	89.368	7219.00	1297.01	-94.33	9.00	83.64
BHL	18109.90	89.945	89.368	7229.00	1410.92	10236.72	0.00	10333.50

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	3.00	59.98	-408.96	3183256.41	1383040.89	40°22'58.7387"N	104°50'31.8167"W
SEC.19-T05N-R66W	N/A	7.00	60.11	-109.07	3183556.28	1383041.03	40°22'58.7180"N	104°50'27.9416"W
SEC.20-T05N-R66W	N/A	7.00	60.11	-109.07	3183556.28	1383041.03	40°22'58.7180"N	104°50'27.9416"W
WINDOM 17NA LP (2086'FNL & 2462'FEL, SEC.24)	7778.21	7219.00	1297.01	-94.33	3183571.02	1384277.87	40°23'10.9392"N	104°50'27.6324"W
WINDOM 17NA BHL (2124'FNL & 2563'FWL, SEC.20)	18109.90	7229.00	1410.92	10236.72	3193901.64	1384391.78	40°23'11.2848"N	104°48'14.1192"W
WINDOM 17NA BPZ (2124'FNL & 2513'FWL, SEC.20)	N/A	7229.00	1410.53	10186.58	3193851.50	1384391.39	40°23'11.2848"N	104°48'14.7672"W



N
 True
 Magnetic
 W E
 HDGM2024v1.0 (1900.0 to 2025.0) Dip: 66.52° Field: 51851 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

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REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'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 11:31:17 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	-59.98	-80.07	3183665.35	1382980.92	40.3828100°	-104.8407050°
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	(5000'GL+28.5'KB@5029'RKB) (RKB) to Facility Vertical Datum	5028.50ft
Horizontal Reference Pt	Slot	(5000'GL+28.5'KB@5029'RKB) (RKB) to Mean Sea Level	5028.50ft
Vertical Reference Pt	(5000'GL+28.5'KB@5029'RKB) (RKB)	(5000'GL+28.5'KB@5029'RKB) (RKB) to Ground Level at Slot (SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24))	5028.50ft
MD Reference Pt	(5000'GL+28.5'KB@5029'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	82.15°



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Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

WELLPATH DATA (188 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	327.286	0.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
28.50	0.000	327.286	28.50	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	SHL
100.00†	0.000	327.286	100.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
200.00†	0.000	327.286	200.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
300.00†	0.000	327.286	300.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
400.00†	0.000	327.286	400.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
500.00†	0.000	327.286	500.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
600.00†	0.000	327.286	600.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
700.00†	0.000	327.286	700.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
800.00†	0.000	327.286	800.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
900.00†	0.000	327.286	900.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
1000.00†	0.000	327.286	1000.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
1100.00†	0.000	327.286	1100.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
1200.00†	0.000	327.286	1200.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	
1300.00	0.000	327.286	1300.00	0.00	0.00	0.00	40.3828100	-104.8407050	0.00	End of Tangent
1400.00†	2.000	327.286	1399.98	-0.73	1.47	-0.94	40.3828140	-104.8407083	2.00	
1500.00†	4.000	327.286	1499.84	-2.93	5.87	-3.77	40.3828262	-104.8407184	2.00	
1600.00†	6.000	327.286	1599.45	-6.60	13.20	-8.48	40.3828464	-104.8407351	2.00	
1700.00†	8.000	327.286	1698.70	-11.72	23.46	-15.07	40.3828747	-104.8407585	2.00	
1800.00†	10.000	327.286	1797.47	-18.30	36.62	-23.52	40.3829110	-104.8407885	2.00	
1900.00†	12.000	327.286	1895.62	-26.32	52.67	-33.83	40.3829553	-104.8408250	2.00	
2000.00†	14.000	327.286	1993.06	-35.78	71.60	-45.99	40.3830075	-104.8408682	2.00	
2074.35	15.487	327.286	2064.96	-43.74	87.52	-56.22	40.3830514	-104.8409044	2.00	Build (XS)
2100.00†	15.487	327.286	2089.67	-46.62	93.28	-59.92	40.3830673	-104.8409176	0.00	
2200.00†	15.487	327.286	2186.04	-57.85	115.75	-74.35	40.3831292	-104.8409688	0.00	
2300.00†	15.487	327.286	2282.41	-69.07	138.21	-88.78	40.3831912	-104.8410200	0.00	
2400.00†	15.487	327.286	2378.78	-80.30	160.68	-103.21	40.3832531	-104.8410712	0.00	
2500.00†	15.487	327.286	2475.15	-91.53	183.15	-117.64	40.3833151	-104.8411224	0.00	
2600.00†	15.487	327.286	2571.52	-102.76	205.61	-132.07	40.3833771	-104.8411736	0.00	
2700.00†	15.487	327.286	2667.89	-113.99	228.08	-146.50	40.3834390	-104.8412248	0.00	
2800.00†	15.487	327.286	2764.26	-125.21	250.55	-160.93	40.3835010	-104.8412760	0.00	
2900.00†	15.487	327.286	2860.63	-136.44	273.01	-175.37	40.3835630	-104.8413272	0.00	
3000.00†	15.487	327.286	2957.00	-147.67	295.48	-189.80	40.3836249	-104.8413784	0.00	
3100.00†	15.487	327.286	3053.36	-158.90	317.95	-204.23	40.3836869	-104.8414296	0.00	
3200.00†	15.487	327.286	3149.73	-170.13	340.41	-218.66	40.3837488	-104.8414808	0.00	
3300.00†	15.487	327.286	3246.10	-181.35	362.88	-233.09	40.3838108	-104.8415320	0.00	
3400.00†	15.487	327.286	3342.47	-192.58	385.34	-247.52	40.3838728	-104.8415832	0.00	
3500.00†	15.487	327.286	3438.84	-203.81	407.81	-261.95	40.3839347	-104.8416344	0.00	
3600.00†	15.487	327.286	3535.21	-215.04	430.28	-276.38	40.3839967	-104.8416856	0.00	
3700.00†	15.487	327.286	3631.58	-226.27	452.74	-290.81	40.3840586	-104.8417368	0.00	
3800.00†	15.487	327.286	3727.95	-237.49	475.21	-305.25	40.3841206	-104.8417880	0.00	
3900.00†	15.487	327.286	3824.32	-248.72	497.68	-319.68	40.3841826	-104.8418392	0.00	
4000.00†	15.487	327.286	3920.69	-259.95	520.14	-334.11	40.3842445	-104.8418904	0.00	
4100.00†	15.487	327.286	4017.06	-271.18	542.61	-348.54	40.3843065	-104.8419416	0.00	
4200.00†	15.487	327.286	4113.42	-282.40	565.08	-362.97	40.3843684	-104.8419928	0.00	



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Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

WELLPATH DATA (188 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4300.00†	15.487	327.286	4209.79	-293.63	587.54	-377.40	40.3844304	-104.8420440	0.00	
4400.00†	15.487	327.286	4306.16	-304.86	610.01	-391.83	40.3844924	-104.8420952	0.00	
4500.00†	15.487	327.286	4402.53	-316.09	632.48	-406.26	40.3845543	-104.8421464	0.00	
4600.00†	15.487	327.286	4498.90	-327.32	654.94	-420.69	40.3846163	-104.8421976	0.00	
4700.00†	15.487	327.286	4595.27	-338.54	677.41	-435.12	40.3846782	-104.8422488	0.00	
4800.00†	15.487	327.286	4691.64	-349.77	699.88	-449.56	40.3847402	-104.8423000	0.00	
4900.00†	15.487	327.286	4788.01	-361.00	722.34	-463.99	40.3848022	-104.8423512	0.00	
5000.00†	15.487	327.286	4884.38	-372.23	744.81	-478.42	40.3848641	-104.8424024	0.00	
5100.00†	15.487	327.286	4980.75	-383.46	767.27	-492.85	40.3849261	-104.8424536	0.00	
5200.00†	15.487	327.286	5077.12	-394.68	789.74	-507.28	40.3849880	-104.8425048	0.00	
5300.00†	15.487	327.286	5173.48	-405.91	812.21	-521.71	40.3850500	-104.8425560	0.00	
5400.00†	15.487	327.286	5269.85	-417.14	834.67	-536.14	40.3851120	-104.8426072	0.00	
5500.00†	15.487	327.286	5366.22	-428.37	857.14	-550.57	40.3851739	-104.8426584	0.00	
5600.00†	15.487	327.286	5462.59	-439.60	879.61	-565.00	40.3852359	-104.8427096	0.00	
5700.00†	15.487	327.286	5558.96	-450.82	902.07	-579.43	40.3852978	-104.8427608	0.00	
5800.00†	15.487	327.286	5655.33	-462.05	924.54	-593.87	40.3853598	-104.8428120	0.00	
5900.00†	15.487	327.286	5751.70	-473.28	947.01	-608.30	40.3854218	-104.8428632	0.00	
6000.00†	15.487	327.286	5848.07	-484.51	969.47	-622.73	40.3854837	-104.8429144	0.00	
6100.00†	15.487	327.286	5944.44	-495.74	991.94	-637.16	40.3855457	-104.8429656	0.00	
6200.00†	15.487	327.286	6040.81	-506.96	1014.41	-651.59	40.3856076	-104.8430168	0.00	
6300.00†	15.487	327.286	6137.18	-518.19	1036.87	-666.02	40.3856696	-104.8430680	0.00	
6400.00†	15.487	327.286	6233.55	-529.42	1059.34	-680.45	40.3857316	-104.8431192	0.00	
6500.00†	15.487	327.286	6329.91	-540.65	1081.81	-694.88	40.3857935	-104.8431704	0.00	
6600.00†	15.487	327.286	6426.28	-551.87	1104.27	-709.31	40.3858555	-104.8432216	0.00	
6688.22	15.487	327.286	6511.30	-561.78	1124.09	-722.04	40.3859175	-104.8432728	0.00	KOP
6700.00†	14.965	330.802	6522.67	-563.00	1126.74	-723.64	40.3859175	-104.8432724	9.00	
6800.00†	13.344	7.658	6619.82	-564.61	1149.50	-728.41	40.3859800	-104.8432890	9.00	
6900.00†	17.067	39.511	6716.47	-550.70	1172.30	-717.51	40.3860424	-104.8432492	9.00	
7000.00†	23.740	57.123	6810.23	-521.61	1194.60	-691.22	40.3861030	-104.8431543	9.00	
7100.00†	31.541	66.896	6898.79	-478.05	1215.83	-650.17	40.3861605	-104.8430064	9.00	
7200.00†	39.811	73.023	6979.98	-421.09	1235.48	-595.38	40.3862133	-104.8428092	9.00	
7300.00†	48.307	77.311	7051.79	-352.14	1253.07	-528.20	40.3862602	-104.8425676	9.00	
7400.00†	56.924	80.587	7112.46	-272.89	1268.15	-450.28	40.3863000	-104.8422875	9.00	
7500.00†	65.612	83.271	7160.49	-185.30	1280.37	-363.54	40.3863318	-104.8419758	9.00	
7600.00†	74.341	85.608	7194.70	-91.52	1289.41	-270.12	40.3863547	-104.8416402	9.00	
7700.00†	83.093	87.751	7214.25	6.14	1295.05	-172.32	40.3863682	-104.8412890	9.00	
7778.21	89.944	89.367	7219.00†	83.66	1297.01	-94.33	40.3863720	-104.8410090	9.00	LP
7800.00†	89.944	89.367	7219.02	105.29	1297.25	-72.54	40.3863722	-104.8409308	0.00	
7900.00†	89.944	89.367	7219.12	204.49	1298.36	27.45	40.3863732	-104.8405718	0.00	
8000.00†	89.944	89.367	7219.22	303.70	1299.46	127.45	40.3863742	-104.8402128	0.00	
8100.00†	89.944	89.367	7219.31	402.91	1300.56	227.44	40.3863752	-104.8398539	0.00	
8200.00†	89.944	89.367	7219.41	502.12	1301.67	327.43	40.3863762	-104.8394949	0.00	
8300.00†	89.944	89.367	7219.51	601.33	1302.77	427.43	40.3863772	-104.8391360	0.00	
8400.00†	89.944	89.367	7219.60	700.53	1303.88	527.42	40.3863781	-104.8387770	0.00	
8500.00†	89.944	89.367	7219.70	799.74	1304.98	627.42	40.3863791	-104.8384180	0.00	



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Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
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Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8600.00†	89.944	89.367	7219.80	898.95	1306.08	727.41	40.3863801	-104.8380591	0.00	
8700.00†	89.944	89.367	7219.90	998.16	1307.19	827.40	40.3863811	-104.8377001	0.00	
8800.00†	89.944	89.367	7219.99	1097.37	1308.29	927.40	40.3863821	-104.8373411	0.00	
8900.00†	89.944	89.367	7220.09	1196.57	1309.40	1027.39	40.3863830	-104.8369822	0.00	
9000.00†	89.944	89.367	7220.19	1295.78	1310.50	1127.39	40.3863840	-104.8366232	0.00	
9100.00†	89.944	89.367	7220.29	1394.99	1311.60	1227.38	40.3863850	-104.8362642	0.00	
9200.00†	89.944	89.367	7220.38	1494.20	1312.71	1327.37	40.3863860	-104.8359053	0.00	
9300.00†	89.944	89.367	7220.48	1593.40	1313.81	1427.37	40.3863869	-104.8355463	0.00	
9400.00†	89.944	89.367	7220.58	1692.61	1314.92	1527.36	40.3863879	-104.8351874	0.00	
9500.00†	89.944	89.367	7220.67	1791.82	1316.02	1627.35	40.3863889	-104.8348284	0.00	
9600.00†	89.944	89.367	7220.77	1891.03	1317.13	1727.35	40.3863899	-104.8344694	0.00	
9700.00†	89.944	89.367	7220.87	1990.24	1318.23	1827.34	40.3863908	-104.8341105	0.00	
9800.00†	89.944	89.367	7220.97	2089.44	1319.33	1927.34	40.3863918	-104.8337515	0.00	
9900.00†	89.944	89.367	7221.06	2188.65	1320.44	2027.33	40.3863928	-104.8333925	0.00	
10000.00†	89.944	89.367	7221.16	2287.86	1321.54	2127.32	40.3863937	-104.8330336	0.00	
10100.00†	89.944	89.367	7221.26	2387.07	1322.65	2227.32	40.3863947	-104.8326746	0.00	
10200.00†	89.944	89.367	7221.36	2486.28	1323.75	2327.31	40.3863957	-104.8323156	0.00	
10300.00†	89.944	89.367	7221.45	2585.48	1324.85	2427.31	40.3863966	-104.8319567	0.00	
10400.00†	89.944	89.367	7221.55	2684.69	1325.96	2527.30	40.3863976	-104.8315977	0.00	
10500.00†	89.944	89.367	7221.65	2783.90	1327.06	2627.29	40.3863986	-104.8312388	0.00	
10600.00†	89.944	89.367	7221.74	2883.11	1328.17	2727.29	40.3863995	-104.8308798	0.00	
10700.00†	89.944	89.367	7221.84	2982.32	1329.27	2827.28	40.3864005	-104.8305208	0.00	
10800.00†	89.944	89.367	7221.94	3081.52	1330.37	2927.27	40.3864014	-104.8301619	0.00	
10900.00†	89.944	89.367	7222.04	3180.73	1331.48	3027.27	40.3864024	-104.8298029	0.00	
11000.00†	89.944	89.367	7222.13	3279.94	1332.58	3127.26	40.3864033	-104.8294439	0.00	
11100.00†	89.944	89.367	7222.23	3379.15	1333.69	3227.26	40.3864043	-104.8290850	0.00	
11200.00†	89.944	89.367	7222.33	3478.36	1334.79	3327.25	40.3864053	-104.8287260	0.00	
11300.00†	89.944	89.367	7222.43	3577.56	1335.90	3427.24	40.3864062	-104.8283671	0.00	
11400.00†	89.944	89.367	7222.52	3676.77	1337.00	3527.24	40.3864072	-104.8280081	0.00	
11500.00†	89.944	89.367	7222.62	3775.98	1338.10	3627.23	40.3864081	-104.8276491	0.00	
11600.00†	89.944	89.367	7222.72	3875.19	1339.21	3727.23	40.3864091	-104.8272902	0.00	
11700.00†	89.944	89.367	7222.81	3974.39	1340.31	3827.22	40.3864100	-104.8269312	0.00	
11800.00†	89.944	89.367	7222.91	4073.60	1341.42	3927.21	40.3864110	-104.8265722	0.00	
11900.00†	89.944	89.367	7223.01	4172.81	1342.52	4027.21	40.3864119	-104.8262133	0.00	
12000.00†	89.944	89.367	7223.11	4272.02	1343.62	4127.20	40.3864128	-104.8258543	0.00	
12100.00†	89.944	89.367	7223.20	4371.23	1344.73	4227.19	40.3864138	-104.8254953	0.00	
12200.00†	89.944	89.367	7223.30	4470.43	1345.83	4327.19	40.3864147	-104.8251364	0.00	
12300.00†	89.944	89.367	7223.40	4569.64	1346.94	4427.18	40.3864157	-104.8247774	0.00	
12400.00†	89.944	89.367	7223.50	4668.85	1348.04	4527.18	40.3864166	-104.8244185	0.00	
12500.00†	89.944	89.367	7223.59	4768.06	1349.14	4627.17	40.3864175	-104.8240595	0.00	
12600.00†	89.944	89.367	7223.69	4867.27	1350.25	4727.16	40.3864185	-104.8237005	0.00	
12700.00†	89.944	89.367	7223.79	4966.47	1351.35	4827.16	40.3864194	-104.8233416	0.00	
12800.00†	89.944	89.367	7223.88	5065.68	1352.46	4927.15	40.3864204	-104.8229826	0.00	
12900.00†	89.944	89.367	7223.98	5164.89	1353.56	5027.15	40.3864213	-104.8226236	0.00	
13000.00†	89.944	89.367	7224.08	5264.10	1354.67	5127.14	40.3864222	-104.8222647	0.00	



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WINDOM 17NA (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

WELLPATH DATA (188 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13100.00†	89.944	89.367	7224.18	5363.31	1355.77	5227.13	40.3864232	-104.8219057	0.00	
13200.00†	89.944	89.367	7224.27	5462.51	1356.87	5327.13	40.3864241	-104.8215467	0.00	
13300.00†	89.944	89.367	7224.37	5561.72	1357.98	5427.12	40.3864250	-104.8211878	0.00	
13400.00†	89.944	89.367	7224.47	5660.93	1359.08	5527.12	40.3864259	-104.8208288	0.00	
13500.00†	89.944	89.367	7224.57	5760.14	1360.19	5627.11	40.3864269	-104.8204699	0.00	
13600.00†	89.944	89.367	7224.66	5859.35	1361.29	5727.10	40.3864278	-104.8201109	0.00	
13700.00†	89.944	89.367	7224.76	5958.55	1362.39	5827.10	40.3864287	-104.8197519	0.00	
13800.00†	89.944	89.367	7224.86	6057.76	1363.50	5927.09	40.3864297	-104.8193930	0.00	
13900.00†	89.944	89.367	7224.95	6156.97	1364.60	6027.08	40.3864306	-104.8190340	0.00	
14000.00†	89.944	89.367	7225.05	6256.18	1365.71	6127.08	40.3864315	-104.8186750	0.00	
14100.00†	89.944	89.367	7225.15	6355.39	1366.81	6227.07	40.3864324	-104.8183161	0.00	
14200.00†	89.944	89.367	7225.25	6454.59	1367.91	6327.07	40.3864333	-104.8179571	0.00	
14300.00†	89.944	89.367	7225.34	6553.80	1369.02	6427.06	40.3864343	-104.8175981	0.00	
14400.00†	89.944	89.367	7225.44	6653.01	1370.12	6527.05	40.3864352	-104.8172392	0.00	
14500.00†	89.944	89.367	7225.54	6752.22	1371.23	6627.05	40.3864361	-104.8168802	0.00	
14600.00†	89.944	89.367	7225.63	6851.42	1372.33	6727.04	40.3864370	-104.8165213	0.00	
14700.00†	89.944	89.367	7225.73	6950.63	1373.43	6827.04	40.3864379	-104.8161623	0.00	
14800.00†	89.944	89.367	7225.83	7049.84	1374.54	6927.03	40.3864388	-104.8158033	0.00	
14900.00†	89.944	89.367	7225.93	7149.05	1375.64	7027.02	40.3864397	-104.8154444	0.00	
15000.00†	89.944	89.367	7226.02	7248.26	1376.75	7127.02	40.3864407	-104.8150854	0.00	
15100.00†	89.944	89.367	7226.12	7347.46	1377.85	7227.01	40.3864416	-104.8147264	0.00	
15200.00†	89.944	89.367	7226.22	7446.67	1378.96	7327.00	40.3864425	-104.8143675	0.00	
15300.00†	89.944	89.367	7226.32	7545.88	1380.06	7427.00	40.3864434	-104.8140085	0.00	
15400.00†	89.944	89.367	7226.41	7645.09	1381.16	7526.99	40.3864443	-104.8136495	0.00	
15500.00†	89.944	89.367	7226.51	7744.30	1382.27	7626.99	40.3864452	-104.8132906	0.00	
15600.00†	89.944	89.367	7226.61	7843.50	1383.37	7726.98	40.3864461	-104.8129316	0.00	
15700.00†	89.944	89.367	7226.70	7942.71	1384.48	7826.97	40.3864470	-104.8125726	0.00	
15800.00†	89.944	89.367	7226.80	8041.92	1385.58	7926.96	40.3864479	-104.8122137	0.00	
15900.00†	89.944	89.367	7226.90	8141.13	1386.68	8026.96	40.3864488	-104.8118547	0.00	
16000.00†	89.944	89.367	7227.00	8240.34	1387.79	8126.96	40.3864497	-104.8114958	0.00	
16100.00†	89.944	89.367	7227.09	8339.54	1388.89	8226.95	40.3864506	-104.8111368	0.00	
16200.00†	89.944	89.367	7227.19	8438.75	1390.00	8326.94	40.3864515	-104.8107778	0.00	
16300.00†	89.944	89.367	7227.29	8537.96	1391.10	8426.94	40.3864524	-104.8104189	0.00	
16400.00†	89.944	89.367	7227.39	8637.17	1392.20	8526.93	40.3864533	-104.8100599	0.00	
16500.00†	89.944	89.367	7227.48	8736.38	1393.31	8626.92	40.3864542	-104.8097009	0.00	
16600.00†	89.944	89.367	7227.58	8835.58	1394.41	8726.92	40.3864551	-104.8093420	0.00	
16700.00†	89.944	89.367	7227.68	8934.79	1395.52	8826.91	40.3864560	-104.8089830	0.00	
16800.00†	89.944	89.367	7227.77	9034.00	1396.62	8926.91	40.3864569	-104.8086240	0.00	
16900.00†	89.944	89.367	7227.87	9133.21	1397.73	9026.90	40.3864578	-104.8082651	0.00	
17000.00†	89.944	89.367	7227.97	9232.41	1398.83	9126.89	40.3864586	-104.8079061	0.00	
17100.00†	89.944	89.367	7228.07	9331.62	1399.93	9226.89	40.3864595	-104.8075472	0.00	
17200.00†	89.944	89.367	7228.16	9430.83	1401.04	9326.88	40.3864604	-104.8071882	0.00	
17300.00†	89.944	89.367	7228.26	9530.04	1402.14	9426.88	40.3864613	-104.8068292	0.00	
17400.00†	89.944	89.367	7228.36	9629.25	1403.25	9526.87	40.3864622	-104.8064703	0.00	
17500.00†	89.944	89.367	7228.46	9728.45	1404.35	9626.86	40.3864631	-104.8061113	0.00	



Planned Wellpath Report

WINDOM 17NA (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

WELLPATH DATA (188 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17600.00†	89.944	89.367	7228.55	9827.66	1405.45	9726.86	40.3864640	-104.8057523	0.00	
17700.00†	89.944	89.367	7228.65	9926.87	1406.56	9826.85	40.3864648	-104.8053934	0.00	
17800.00†	89.944	89.367	7228.75	10026.08	1407.66	9926.84	40.3864657	-104.8050344	0.00	
17900.00†	89.944	89.367	7228.84	10125.29	1408.77	10026.84	40.3864666	-104.8046754	0.00	
18000.00†	89.944	89.367	7228.94	10224.49	1409.87	10126.83	40.3864675	-104.8043165	0.00	
18059.75	89.944	89.367	7229.00‡	10283.77	1410.53	10186.58	40.3864680	-104.8041020	0.00	BPZ
18100.00†	89.944	89.367	7229.04	10323.70	1410.97	10226.83	40.3864684	-104.8039575	0.00	
18109.75	89.944	89.367	7229.05	10333.37	1411.08	10236.57	40.3864684	-104.8039225	0.00	BHL (2124'FNL & 2563'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	3.00	59.98	-408.96	3183256.41	1383040.89	40.3829830	-104.8421713	polygon
2D Polygon: dimensions not calculated									
SEC.19-T05N-R66W	N/A	7.00	60.11	-109.07	3183556.28	1383041.03	40.3829772	-104.8410949	polygon
2D Polygon: dimensions not calculated									
SEC.20-T05N-R66W	N/A	7.00	60.11	-109.07	3183556.28	1383041.03	40.3829772	-104.8410949	polygon
2D Polygon: dimensions not calculated									
1) WINDOM 17NA LP (2086'FNL & 2462'FEL,SEC.24)	7778.21	7219.00	1297.01	-94.33	3183571.02	1384277.87	40.3863720	-104.8410090	point
WINDOM 17NA BHL (2124'FNL & 2563'FWL,SEC.20)	N/A	7229.00	1410.92	10236.72	3193901.64	1384391.78	40.3864680	-104.8039220	point
2) WINDOM 17NA BPZ (2124'FNL&2513'FWL Sec.20)	18059.75	7229.00	1410.53	10186.58	3193851.50	1384391.39	40.3864680	-104.8041020	point

SURVEY PROGRAM - Ref Wellbore: WINDOM 17NA PWB Ref Wellpath: WINDOM 17NA (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 17NA PWB
1950.00	18109.90	OWSG MWD rev2 (MS+IFR1)		WINDOM 17NA PWB



Planned Wellpath Report

WINDOM 17NA (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
28.50	0.000	327.286	28.50	SHL
1300.00	0.000	327.286	1300.00	End of Tangent
2074.35	15.487	327.286	2064.96	Build (XS)
6688.22	15.487	327.286	6511.30	KOP
7778.21	89.944	89.367	7219.00	LP
18059.75	89.944	89.367	7229.00	BPZ
18109.75	89.944	89.367	7229.05	BHL (2124'FNL & 2563'FWL,SEC.20)



Closest Approach Clearance Summary Report

WINDOM 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'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 10:18:17 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	-59.98	-80.07	3183665.35	1382980.92	40°22'58.1160"N	104°50'26.5380"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	(5000'GL+28.5'KB@5029'RKB) (RKB) to Facility Vertical Datum	5028.50ft
Horizontal Reference Pt	Slot	(5000'GL+28.5'KB@5029'RKB) (RKB) to Mean Sea Level	5028.50ft
Vertical Reference Pt	(5000'GL+28.5'KB@5029'RKB) (RKB)	(5000'GL+28.5'KB@5029'RKB) (RKB) to Ground Level at Slot (SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24))	5028.50ft
MD Reference Pt	(5000'GL+28.5'KB@5029'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 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'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 17NA PWB Ref Wellpath: WINDOM 17NA (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 17NA PWB
1950.00	18109.90	OWSG MWD rev2 (MS+IFR1)		WINDOM 17NA PWB



Closest Approach Clearance Summary Report

WINDOM 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18109.90ft 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.20-T5N-R66W (EXIST)	BARNETT #5-20 (05-123-22662)	Barnett 5-20	Barnett 5-20	Barnett 5-20\Barnett 5-20 (Vert)	Drilling	16271.89	17.56	16271.89	16271.89	0.00	16271.89	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	9774.94	39.16	9774.94	9774.94	0.01	9774.94	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	17437.35	330.75	17437.35	17437.38	0.04	17437.38	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	4083.41	395.13	4083.41	4615.20	0.08	4615.20	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	7146.61	258.27	7146.61	7195.58	0.11	7195.58	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	8464.50	353.84	8464.50	8464.50	0.13	8464.50	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	17721.68	1258.83	17721.68	17722.01	0.14	17722.01	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	8302.19	1393.07	8302.19	8302.46	0.16	8302.46	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	9628.45	1400.39	9628.45	9628.75	0.16	9628.75	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	18109.90	1632.17	18109.90	18109.90	0.19	18109.90	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	6948.93	1640.87	6948.93	7122.01	0.20	7122.01	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	7249.63	1796.59	7249.63	7407.80	0.21	7407.80	FAIL
SEC.20-T5N-R66W (EXIST)	HAYES #1 (05-123-05178)	HAYES 1	HAYES 1	HAYES 1\HAYES 1 (VERT)	Drilling	18109.90	2073.04	18109.90	18109.90	0.24	18109.90	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	16574.14	2136.51	16574.14	16574.98	0.24	16574.98	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	6828.50	2014.92	6828.50	7016.72	0.25	7016.72	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	6944.31	2304.48	6944.31	7177.70	0.28	7177.70	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	18109.90	2576.52	18109.90	18109.90	0.29	18109.90	FAIL
Stugart State 6-20	Stugart #10N (05-123-51275) PR	Stugart 10N	Stugart 10N	Stugart 10N\Stugart 10N Final Surveys	Drilling	18109.90	67.63	18109.90	18109.90	0.39	18109.90	FAIL
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	13345.00	73.63	13345.00	13346.82	0.47	13346.82	FAIL
SEC.19-T05N-R66W	SLOT#14 CHISMAR #19-24 (05-123-19468)	CHISMAR #19-24	CHISMAR #19-24 AWB	CHISMAR #19-24 AWP	Drilling	12379.59	73.89	12379.59	12381.61	0.54	12381.61	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	3624.71	1049.55	3624.71	7342.39	0.62	7342.39	FAIL
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	11179.96	89.51	11179.96	11182.88	0.78	11182.88	FAIL
Stugart State 6-20	Stugart #11N (05-123-51278) PR	Stugart 11N	Stugart 11N	Stugart 11N\Stugart 11N Final Surveys	Drilling	18079.19	198.90	18079.19	18093.79	0.81	18093.79	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	6598.22	1776.05	6598.22	7286.10	0.82	7286.10	FAIL
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	14.94	1300.00	1323.02	0.86	18109.90	FAIL



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WINDOM 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18109.90ft 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#16 WINDOM 16C (1832'FSL & 2384'FEL,SEC.24)	WINDOM 16C	WINDOM 16C PWB	WINDOM 16C (REV-A.0) PWP	Planned	28.50	14.94	1028.50	1123.98	0.98	18109.90	FAIL
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	7831.98	60.62	7831.98	7831.53	0.98	7831.53	FAIL
Stugart State 6-20	Stugart #09C (05-123-51266) PR	Stugart 09C	Stugart 09C	Stugart 09C\Stugart 09C Final Surveys	Drilling	17978.35	251.40	17978.35	17980.41	1.03	17980.41	WARN
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	2527.49	2464.68	2527.49	7484.36	1.18	7484.36	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	15038.48	218.49	15038.48	15045.09	1.18	15045.09	PASS
Stugart State 6-20	Stugart #12N (05-123-51271) PR	Stugart 12N	Stugart 12N	Stugart 12N\Stugart 12N Final Surveys	Drilling	18109.90	414.45	18109.90	18109.90	1.72	18109.90	PASS
Stugart State 6-20	Stugart #08N (05-123-51256) PR	Stugart 08N	Stugart 08N	Stugart 08N\Stugart 08N Final Surveys	Drilling	18109.90	465.60	18109.90	18109.90	1.91	18109.90	PASS
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	29.87	1300.00	1354.28	2.01	18109.90	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	29.87	828.50	18109.90	2.61	18109.90	PASS
Stugart State 6-20	Stugart #13NA (05-123-51261) PR	Stugart 13NA	Stugart 13NA	Stugart 13NA\Stugart 13NA Final Surveys	Drilling	18109.90	633.83	18109.90	18109.90	2.61	18109.90	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	18109.90	625.38	18109.90	18109.90	2.63	18109.90	PASS
Stugart State 6-20	Stugart #07N (05-123-51263) PR	Stugart 07N	Stugart 07N	Stugart 07N\Stugart 07N Final Surveys	Drilling	18109.90	688.39	18109.90	18109.90	2.82	18109.90	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	16891.72	657.19	16891.72	16901.07	3.00	16901.07	PASS
SEC.24-T05N-R67W	SLOT#20 WINDOM 20C (1772'FSL & 2385'FEL,SEC.24)	WINDOM 20C	WINDOM 20C PWB	WINDOM 20C (REV-A.0) PWP	Planned	28.50	45.18	1300.00	1385.41	3.17	18109.90	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	18109.90	775.84	18109.90	18109.90	3.36	18109.90	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	15699.25	660.57	15699.25	15731.95	3.40	15731.95	PASS
Stugart State 6-20	Stugart #14N (05-123-51270) PR	Stugart 14N	Stugart 14N	Stugart 14N\Stugart 14N Final Surveys	Drilling	18109.90	874.03	18109.90	18109.90	3.59	18109.90	PASS
Stugart State 6-20	Stugart #06N (05-123-51269) PR	Stugart 06N	Stugart 06N	Stugart 06N\Stugart 06N Final Surveys	Drilling	18063.94	914.52	18063.94	18109.90	3.76	18109.90	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	44.81	628.50	18109.90	3.78	18109.90	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	16809.23	865.71	16809.23	16859.26	4.06	16859.26	PASS
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	60.11	1300.00	1415.29	4.27	18109.90	PASS
Stugart State 6-20	Stugart #15N (05-123-51255) PR	Stugart 15N	Stugart 15N	Stugart 15N\Stugart 15N Final Surveys	Drilling	18109.90	1096.18	18109.90	18109.90	4.51	18109.90	PASS
Stugart State 6-20	Stugart #05NA (05-123-51277) PR	Stugart 05NA	Stugart 05NA	Stugart 05NA\Stugart 05NA Final Surveys	Drilling	18109.90	1114.61	18109.90	18109.90	4.57	18109.90	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	81.48	8028.50	8044.27	5.07	8044.27	PASS
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	60.11	428.50	18109.90	5.07	18109.90	PASS



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WINDOM 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18109.90ft 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.20-T5N-R66W (EXIST)	LUNDVALL #11-20 (05-123-22759)	Ludvall 11-20	Ludvall 11-20	Ludvall 11-20\Ludvall 11-20	Drilling	17548.76	1199.37	17548.76	17591.77	5.13	17591.77	PASS
SEC.20-T5N-R66W (EXIST)	LUNDVALL #12-20 (05-123-22760)	Lundvall 12-20	Lundvall 12-20	Lundvall 12-20\Lundvall 12-20	Drilling	16063.43	1067.38	16063.43	16115.31	5.27	16115.31	PASS
Stugart State 6-20	Stugart #16N (05-123-51264) PR	Stugart 16N	Stugart 16N	Stugart 16N\Stugart 16N Final Surveys	Drilling	17975.72	1287.80	17975.72	18109.90	5.30	18109.90	PASS
Stugart State 6-20	Stugart #04N (05-123-51276) PR	Stugart 04N	Stugart 04N	Stugart 04N\Stugart 04N Final Surveys	Drilling	18109.90	1345.02	18109.90	18109.90	5.51	18109.90	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	75.05	1128.50	1339.71	5.67	18109.90	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	81.48	7828.50	1485.23	5.77	7828.50	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	18109.90	1300.23	18109.90	18109.90	5.81	18109.90	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	85.61	7328.50	1472.33	6.11	7428.50	PASS
Stugart State 6-20	Stugart #17C (05-123-51268) PR	Stugart 17C	Stugart 17C	Stugart 17C\Stugart 17C Final Surveys	Drilling	18079.47	1514.34	18079.47	18109.90	6.20	18109.90	PASS
SEC.20-T5N-R66W (EXIST)	BARNETT 1-20 (05-123-13311)	BARNETT 1-20	BARNETT 1-20 AWB	BARNETT 1-20 AWP	Drilling	16159.19	1256.33	16159.19	16265.45	6.29	16265.45	PASS
Stugart State 6-20	Stugart #03N (05-123-51272) PR	Stugart 03N	Stugart 03N	Stugart 03N\Stugart 03N Final Surveys	Drilling	17981.49	1547.39	17981.49	18109.90	6.37	18109.90	PASS
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	14852.56	1172.37	14852.56	14915.51	6.55	14915.51	PASS
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	28.50	91.77	8028.50	1470.30	6.57	8128.50	PASS
Stugart State 6-20	Stugart #18N (05-123-51274) PR	Stugart 18N	Stugart 18N	Stugart 18N\Stugart 18N Final Surveys	Drilling	18109.90	1733.06	18109.90	18109.90	7.12	18109.90	PASS
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	100.03	7028.50	1476.67	7.18	7128.50	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	18094.92	1774.38	18094.92	18109.90	7.32	18109.90	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	85.49	8028.50	1196.90	7.53	8128.50	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	89.99	728.50	18109.90	7.53	18109.90	PASS
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	13521.29	1168.09	13521.29	13593.95	7.63	13593.95	PASS
Stugart State 6-20	Stugart #19N (05-123-51267) PR	Stugart 19N	Stugart 19N	Stugart 19N\Stugart 19N Final Surveys	Drilling	18109.90	1968.39	18109.90	18109.90	8.06	18109.90	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	18109.90	2000.52	18109.90	18109.90	8.22	18109.90	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	12137.35	1049.61	12137.35	12204.36	8.25	12204.36	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	109.76	8128.50	1354.34	8.40	8628.50	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	104.92	428.50	18109.90	8.80	18109.90	PASS
Stugart State 6-20	Stugart #20N (05-123-51260) PR	Stugart 20N	Stugart 20N	Stugart 20N\Stugart 20N Final Surveys	Drilling	18109.90	2183.52	18109.90	18109.90	8.95	18109.90	PASS



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WINDOM 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18109.90ft 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	Drilling	13673.87	1404.10	13673.87	13841.16	9.12	13841.16	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	18109.90	1954.63	18109.90	18109.90	9.17	18109.90	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	18109.90	772.73	18109.90	18109.90	9.19	18109.90	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	91.97	8128.50	1012.15	9.41	8328.50	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	13602.93	2520.17	13602.93	13790.89	9.43	13790.89	PASS
Stugart State 6-20	Stugart #21NA (05-123-51262) PR	Stugart 21NA	Stugart 21NA	Stugart 21NA\Stugart 21NA Final Surveys	Drilling	18109.90	2388.98	18109.90	18109.90	9.78	18109.90	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	18109.90	1360.20	18109.90	18109.90	10.48	18109.90	PASS
Stugart State 6-20	Stugart #22N (05-123-51259) PR	Stugart 22N	Stugart 22N	Stugart 22N\Stugart 22N Final Surveys	Drilling	18109.90	2615.09	18109.90	18109.90	10.68	18109.90	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	18109.90	2630.11	18109.90	18109.90	11.04	18109.90	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	17655.86	2642.34	17655.86	17944.11	11.21	17944.11	PASS
Sec.19-T5N-R66W	CHISMAR #19-21 (05-123-19466) PA	CHISMAR 19-21	CHISMAR 19-21	CHISMAR 19-21\CHISMAR 19-21	Drilling	12010.43	1424.61	12010.43	12221.65	11.58	12221.65	PASS
Stugart State 6-20	Stugart #23N (05-123-51257) PR	Stugart 23N	Stugart 23N	Stugart 23N\Stugart 23N Final Surveys	Drilling	18091.15	2832.35	18091.15	18109.90	11.61	18109.90	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	120.55	8128.50	1083.84	11.75	9028.50	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	14338.76	2003.11	14338.76	14558.80	11.79	14558.80	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	100.04	8128.50	825.22	11.92	8428.50	PASS
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	10663.74	1235.94	10663.74	10783.74	12.04	10783.74	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	18109.90	2525.88	18109.90	18109.90	12.12	18109.90	PASS
Stugart State 6-20	Stugart #24N (05-123-51258) PR	Stugart 24N	Stugart 24N	Stugart 24N\Stugart 24N Final Surveys	Drilling	17982.62	3045.13	17982.62	18109.90	12.50	18109.90	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	2524.98	467.97	2524.98	2623.48	12.53	7778.21	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	18109.90	1727.35	18109.90	18109.90	13.37	18109.90	PASS
Sec.19-T5N-R66W	CHISMAR #19-22 (05-123-19467) PA	CHISMAR 19-22	CHISMAR 19-22	CHISMAR 19-22\CHISMAR 19-22	Drilling	10733.10	1355.24	10733.10	10961.53	13.43	10961.53	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	14936.52	2503.13	14936.52	15266.96	13.70	15266.96	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	Drilling	747.92	774.15	6688.22	6784.70	14.07	6784.70	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	Drilling	18109.90	2455.75	18109.90	18109.90	15.56	18109.90	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	11567.06	1865.35	11567.06	11826.68	15.72	11826.68	PASS



Closest Approach Clearance Summary Report

WINDOM 17NA (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 17NA
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 17NA PWB
Slot	SLOT#17 WINDOM 17NA (1817'FSL & 2385'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 18109.90ft 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#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)	WINDOM 12N	WINDOM 12N PWB	WINDOM 12N (REV-A.0) PWP	Planned	28.50	132.16	8128.50	828.50	15.87	9328.50	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	Drilling	18109.90	3268.20	18109.90	18109.90	16.63	18109.90	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	12390.60	2366.43	12390.60	12784.85	17.60	12784.85	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 AWP	Drilling	28.50	3289.54	10928.50	11795.75	22.76	11795.75	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	11003.87	2618.64	11003.87	11587.29	23.55	11587.29	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	18109.90	1979.02	18109.90	18109.90	24.00	18109.90	PASS
SEC.20-T5N-R66W (EXIST)	WIEDEMAN #40-20 (05-123-27034)	WIEDEMAN 40-20	WIEDEMAN 40-20	WIEDEMAN 40-20\WIEDEMAN 40-20	Drilling	18109.90	2792.11	18109.90	18109.90	24.07	18109.90	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	Drilling	6760.46	2086.71	6760.46	6868.36	30.79	6868.36	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	1356.00	2197.95	9728.50	10396.67	31.29	10396.67	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	Drilling	7073.73	2317.04	7073.73	7257.11	34.65	7257.11	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	Drilling	6847.27	2505.31	6847.27	6990.07	38.99	6990.07	PASS
Phillips 24-2-20 (Dir) Pad Sec.24-T5N-R67W	BLEHM #7 (05-123-11217) PA	BLEHM #7	BLEHM #7 AWB	BLEHM #7 AWP	Drilling	1309.47	1239.40	8228.50	1542.28	40.45	9028.50	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	Drilling	28.50	1517.99	28.50	7339.02	40.63	7339.02	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	Drilling	28.50	1491.45	28.50	6928.50	45.87	6928.50	PASS