

# PDC ENERGY INC

Location: COLORADO Slot: SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL, SEC.24)  
 Field: WELD COUNTY (NAD83/GRID) Well: WINDOM 12N  
 Facility: SEC.24-T05N-R67W Wellbore: WINDOM 12N PWB

Plot reference wellpath is WINDOM 12N (REV-B.0) PWP  
 Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet  
 True vertical depths are referenced to (5004'GL+28.5'KB@5033'RKB) (RKB)  
 North Reference: Grid north  
 Reference wellpath measured depths are referenced to (5004'GL+28.5'KB@5033'RKB) (RKB)  
 Scale: True distance  
 (5004'GL+28.5'KB@5033'RKB) (RKB) to Mean Sea Level: 5032.5 feet  
 Coordinates are in feet referenced to Slot  
 Mean Sea Level to Ground level (At Slot: SLOT#12 WINDOM 12N (1712'FSL & 2306'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 2024-06-04; Database: WA\_Danver

## 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°50'25.4978"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL, SEC.24)	-165.04	0.11	3183745.532	1382875.883	40°22'57.0720"N	104°50'25.5120"W
(5004'GL+28.5'KB@5033'RKB) (RKB) to Ground level (At Slot: SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL, SEC.24))				5032.5ft		
Mean Sea Level to Ground level (At Slot: SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL, SEC.24))				0ft		
(5004'GL+28.5'KB@5033'RKB) (RKB) to Mean Sea Level				5032.5ft		

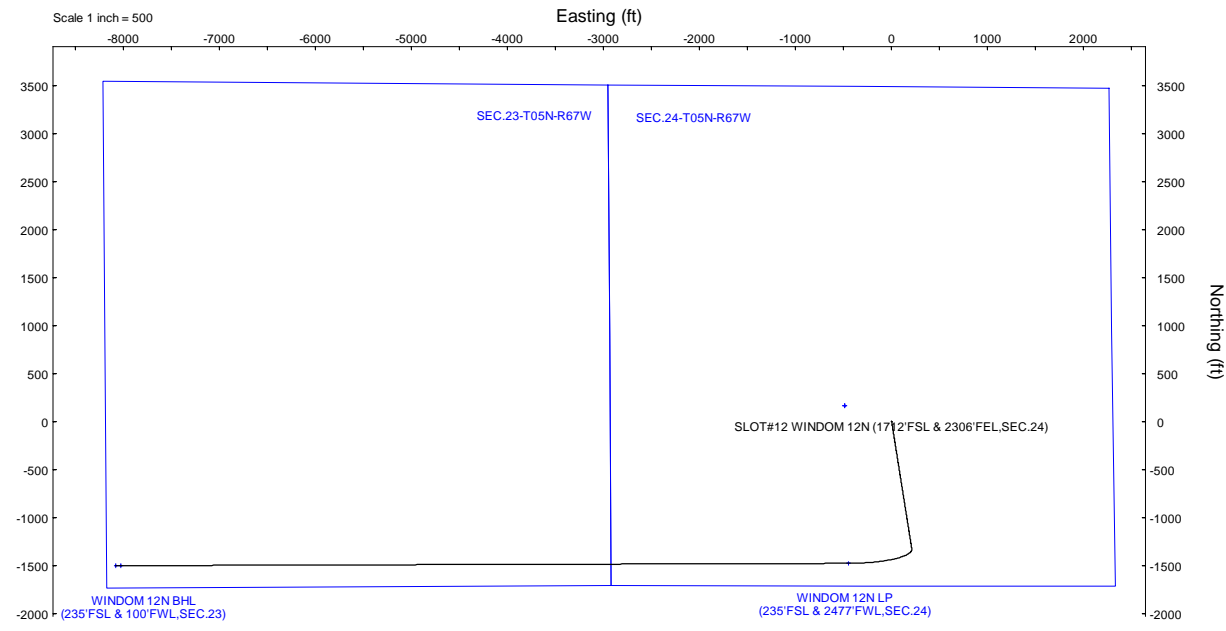
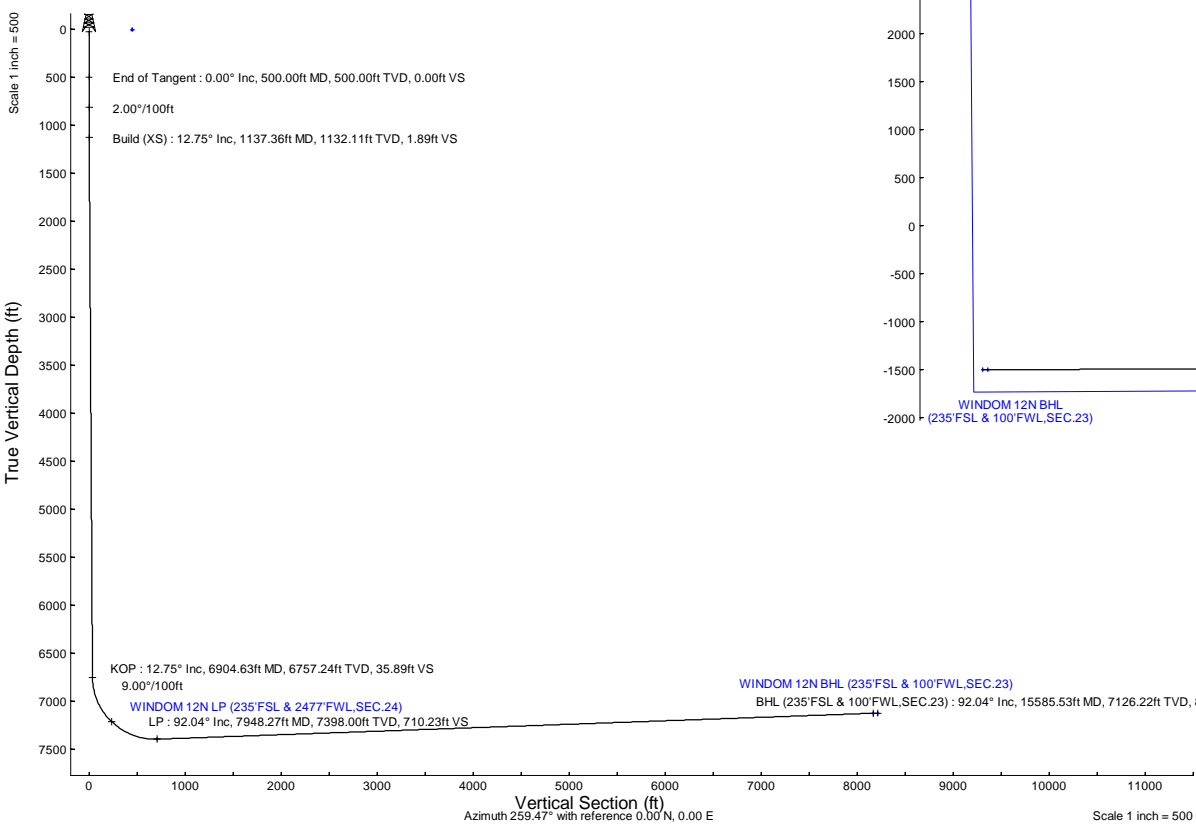


### Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
SHL	28.50	0.000	171.006	28.50	0.00	0.00	0.00	0.00
End of Tangent	500.00	0.000	171.006	500.00	0.00	0.00	0.00	0.00
Build (XS)	1137.36	12.747	171.006	1132.11	-69.74	11.04	2.00	1.89
KOP	6904.63	12.747	171.006	6757.24	-1326.64	209.98	0.00	35.89
LP	7948.27	92.039	269.820	7398.00	-1477.37	-447.90	9.00	710.23
BPZ	15535.53	92.039	269.820	7128.00	-1501.13	-8030.31	0.00	8169.40
BHL (235'FSL & 100'FWL, SEC.23)	15585.53	92.039	269.820	7126.22	-1501.29	-8080.27	0.00	8218.56

### Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.23-T05N-R67W	N/A	7.00	165.04	-489.14	3183256.41	1383040.89	40°22'58.7387"N	104°50'31.8167"W
SEC.24-T05N-R67W	N/A	7.00	165.04	-489.14	3183256.41	1383040.89	40°22'58.7387"N	104°50'31.8167"W
WINDOM 12N BHL (235'FSL & 100'FWL, SEC.23)	N/A	7128.00	-1501.13	-8080.46	3175715.57	1381374.80	40°22'42.8196"N	104°52'0.0632"W
WINDOM 12N BPZ (235'FSL & 150'FWL, SEC.23)	15535.53	7128.00	-1501.13	-8030.31	3175715.57	1381374.79	40°22'42.8160"N	104°52'0.4152"W
WINDOM 12N LP (235'FSL & 2477'FWL, SEC.24)	7948.27	7398.00	-1477.37	-447.90	3183297.66	1381398.56	40°22'42.5064"N	104°50'31.4412"W



N  
 ↑  
 True  
 ↓  
 Grid  
 W ← → E  
 S

HDMG2024v1.0 (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 12N (REV-B.0) PWP

Page 1 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'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 2:59:24 PM
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	-165.04	0.11	3183745.53	1382875.86	40.3825200°	-104.8404200°
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	(5004'GL+28.5'KB@5033'RKB) (RKB) to Facility Vertical Datum	5032.50ft
Horizontal Reference Pt	Slot	(5004'GL+28.5'KB@5033'RKB) (RKB) to Mean Sea Level	5032.50ft
Vertical Reference Pt	(5004'GL+28.5'KB@5033'RKB) (RKB)	(5004'GL+28.5'KB@5033'RKB) (RKB) to Ground Level at Slot (SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24))	5032.50ft
MD Reference Pt	(5004'GL+28.5'KB@5033'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	259.47°

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Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

### WELLPATH DATA (162 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	171.006	0.00	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	
28.50	0.000	171.006	28.50	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	SHL
100.00†	0.000	171.006	100.00	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	
200.00†	0.000	171.006	200.00	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	
300.00†	0.000	171.006	300.00	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	
400.00†	0.000	171.006	400.00	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	
500.00	0.000	171.006	500.00	0.00	0.00	0.00	40.3825200	-104.8404200	0.00	End of Tangent
600.00†	2.000	171.006	599.98	0.05	-1.72	0.27	40.3825153	-104.8404191	2.00	
700.00†	4.000	171.006	699.84	0.19	-6.89	1.09	40.3825011	-104.8404163	2.00	
800.00†	6.000	171.006	799.45	0.42	-15.50	2.45	40.3824774	-104.8404116	2.00	
900.00†	8.000	171.006	898.70	0.75	-27.54	4.36	40.3824443	-104.8404051	2.00	
1000.00†	10.000	171.006	997.47	1.16	-42.99	6.80	40.3824019	-104.8403967	2.00	
1100.00†	12.000	171.006	1095.62	1.67	-61.83	9.79	40.3823501	-104.8403865	2.00	
1137.36	12.747	171.006	1132.11	1.89	-69.74	11.04	40.3823284	-104.8403822	2.00	Build (XS)
1200.00†	12.747	171.006	1193.21	2.26	-83.39	13.20	40.3822908	-104.8403749	0.00	
1300.00†	12.747	171.006	1290.75	2.85	-105.19	16.65	40.3822309	-104.8403631	0.00	
1400.00†	12.747	171.006	1388.28	3.44	-126.98	20.10	40.3821711	-104.8403513	0.00	
1500.00†	12.747	171.006	1485.82	4.03	-148.77	23.55	40.3821112	-104.8403395	0.00	
1600.00†	12.747	171.006	1583.35	4.61	-170.57	27.00	40.3820513	-104.8403277	0.00	
1700.00†	12.747	171.006	1680.89	5.20	-192.36	30.45	40.3819914	-104.8403159	0.00	
1800.00†	12.747	171.006	1778.42	5.79	-214.15	33.90	40.3819315	-104.8403041	0.00	
1900.00†	12.747	171.006	1875.96	6.38	-235.95	37.35	40.3818716	-104.8402923	0.00	
2000.00†	12.747	171.006	1973.49	6.97	-257.74	40.79	40.3818117	-104.8402805	0.00	
2100.00†	12.747	171.006	2071.03	7.56	-279.53	44.24	40.3817518	-104.8402687	0.00	
2200.00†	12.747	171.006	2168.56	8.15	-301.33	47.69	40.3816919	-104.8402569	0.00	
2300.00†	12.747	171.006	2266.10	8.74	-323.12	51.14	40.3816320	-104.8402451	0.00	
2400.00†	12.747	171.006	2363.63	9.33	-344.92	54.59	40.3815722	-104.8402333	0.00	
2500.00†	12.747	171.006	2461.17	9.92	-366.71	58.04	40.3815123	-104.8402215	0.00	
2600.00†	12.747	171.006	2558.71	10.51	-388.50	61.49	40.3814524	-104.8402097	0.00	
2700.00†	12.747	171.006	2656.24	11.10	-410.30	64.94	40.3813925	-104.8401979	0.00	
2800.00†	12.747	171.006	2753.78	11.69	-432.09	68.39	40.3813326	-104.8401861	0.00	
2900.00†	12.747	171.006	2851.31	12.28	-453.88	71.84	40.3812727	-104.8401743	0.00	
3000.00†	12.747	171.006	2948.85	12.87	-475.68	75.29	40.3812128	-104.8401625	0.00	
3100.00†	12.747	171.006	3046.38	13.46	-497.47	78.74	40.3811529	-104.8401507	0.00	
3200.00†	12.747	171.006	3143.92	14.05	-519.26	82.19	40.3810930	-104.8401389	0.00	
3300.00†	12.747	171.006	3241.45	14.64	-541.06	85.64	40.3810331	-104.8401271	0.00	
3400.00†	12.747	171.006	3338.99	15.23	-562.85	89.09	40.3809732	-104.8401153	0.00	
3500.00†	12.747	171.006	3436.52	15.82	-584.65	92.54	40.3809134	-104.8401035	0.00	
3600.00†	12.747	171.006	3534.06	16.41	-606.44	95.99	40.3808535	-104.8400917	0.00	
3700.00†	12.747	171.006	3631.59	17.00	-628.23	99.44	40.3807936	-104.8400799	0.00	
3800.00†	12.747	171.006	3729.13	17.59	-650.03	102.89	40.3807337	-104.8400681	0.00	
3900.00†	12.747	171.006	3826.66	18.18	-671.82	106.34	40.3806738	-104.8400563	0.00	
4000.00†	12.747	171.006	3924.20	18.77	-693.61	109.78	40.3806139	-104.8400445	0.00	
4100.00†	12.747	171.006	4021.74	19.36	-715.41	113.23	40.3805540	-104.8400327	0.00	
4200.00†	12.747	171.006	4119.27	19.94	-737.20	116.68	40.3804941	-104.8400209	0.00	



# Planned Wellpath Report

WINDOM 12N (REV-B.0) PWP

Page 3 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

## WELLPATH DATA (162 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4300.00†	12.747	171.006	4216.81	20.53	-758.99	120.13	40.3804342	-104.8400091	0.00	
4400.00†	12.747	171.006	4314.34	21.12	-780.79	123.58	40.3803743	-104.8399973	0.00	
4500.00†	12.747	171.006	4411.88	21.71	-802.58	127.03	40.3803145	-104.8399855	0.00	
4600.00†	12.747	171.006	4509.41	22.30	-824.38	130.48	40.3802546	-104.8399737	0.00	
4700.00†	12.747	171.006	4606.95	22.89	-846.17	133.93	40.3801947	-104.8399619	0.00	
4800.00†	12.747	171.006	4704.48	23.48	-867.96	137.38	40.3801348	-104.8399501	0.00	
4900.00†	12.747	171.006	4802.02	24.07	-889.76	140.83	40.3800749	-104.8399383	0.00	
5000.00†	12.747	171.006	4899.55	24.66	-911.55	144.28	40.3800150	-104.8399265	0.00	
5100.00†	12.747	171.006	4997.09	25.25	-933.34	147.73	40.3799551	-104.8399147	0.00	
5200.00†	12.747	171.006	5094.62	25.84	-955.14	151.18	40.3798952	-104.8399029	0.00	
5300.00†	12.747	171.006	5192.16	26.43	-976.93	154.63	40.3798353	-104.8398911	0.00	
5400.00†	12.747	171.006	5289.69	27.02	-998.72	158.08	40.3797754	-104.8398793	0.00	
5500.00†	12.747	171.006	5387.23	27.61	-1020.52	161.53	40.3797155	-104.8398675	0.00	
5600.00†	12.747	171.006	5484.77	28.20	-1042.31	164.98	40.3796557	-104.8398557	0.00	
5700.00†	12.747	171.006	5582.30	28.79	-1064.11	168.43	40.3795958	-104.8398439	0.00	
5800.00†	12.747	171.006	5679.84	29.38	-1085.90	171.88	40.3795359	-104.8398321	0.00	
5900.00†	12.747	171.006	5777.37	29.97	-1107.69	175.32	40.3794760	-104.8398203	0.00	
6000.00†	12.747	171.006	5874.91	30.56	-1129.49	178.77	40.3794161	-104.8398085	0.00	
6100.00†	12.747	171.006	5972.44	31.15	-1151.28	182.22	40.3793562	-104.8397967	0.00	
6200.00†	12.747	171.006	6069.98	31.74	-1173.07	185.67	40.3792963	-104.8397849	0.00	
6300.00†	12.747	171.006	6167.51	32.33	-1194.87	189.12	40.3792364	-104.8397731	0.00	
6400.00†	12.747	171.006	6265.05	32.92	-1216.66	192.57	40.3791765	-104.8397613	0.00	
6500.00†	12.747	171.006	6362.58	33.51	-1238.46	196.02	40.3791166	-104.8397495	0.00	
6600.00†	12.747	171.006	6460.12	34.10	-1260.25	199.47	40.3790568	-104.8397377	0.00	
6700.00†	12.747	171.006	6557.65	34.69	-1282.04	202.92	40.3789969	-104.8397259	0.00	
6800.00†	12.747	171.006	6655.19	35.28	-1303.84	206.37	40.3789370	-104.8397141	0.00	
6900.00†	12.747	171.006	6752.72	35.86	-1325.63	209.82	40.3788771	-104.8397023	0.00	
6904.63	12.747	171.006	6757.24	35.89	-1326.64	209.98	40.3788743	-104.8397018	0.00	KOP
7000.00†	14.280	207.800	6850.14	43.48	-1347.47	206.13	40.3788172	-104.8397161	9.00	
7100.00†	20.076	231.599	6945.75	66.35	-1369.09	186.89	40.3787583	-104.8397858	9.00	
7200.00†	27.594	244.008	7037.21	103.92	-1389.94	152.55	40.3787017	-104.8399096	9.00	
7300.00†	35.763	251.259	7122.27	155.27	-1409.52	103.96	40.3786490	-104.8400845	9.00	
7400.00†	44.222	256.067	7198.83	219.13	-1427.35	42.31	40.3786013	-104.8403062	9.00	
7500.00†	52.828	259.592	7265.01	293.94	-1442.97	-30.87	40.3785599	-104.8405693	9.00	
7600.00†	61.517	262.389	7319.18	377.84	-1456.02	-113.79	40.3785258	-104.8408673	9.00	
7700.00†	70.255	264.756	7360.00	468.78	-1466.16	-204.40	40.3784998	-104.8411928	9.00	
7800.00†	79.021	266.875	7386.47	564.52	-1473.15	-300.47	40.3784826	-104.8415378	9.00	
7900.00†	87.800	268.871	7397.93	662.69	-1476.82	-399.64	40.3784745	-104.8418938	9.00	
7948.27	92.039	269.820	7398.00†	710.23	-1477.37	-447.90	40.3784740	-104.8420670	9.00	LP
8000.00†	92.039	269.820	7396.16	761.09	-1477.53	-499.59	40.3784746	-104.8422525	0.00	
8100.00†	92.039	269.820	7392.60	859.40	-1477.85	-599.53	40.3784758	-104.8426112	0.00	
8200.00†	92.039	269.820	7389.04	957.71	-1478.16	-699.46	40.3784770	-104.8429699	0.00	
8300.00†	92.039	269.820	7385.48	1056.02	-1478.47	-799.40	40.3784781	-104.8433286	0.00	
8400.00†	92.039	269.820	7381.92	1154.33	-1478.78	-899.34	40.3784793	-104.8436873	0.00	
8500.00†	92.039	269.820	7378.37	1252.65	-1479.10	-999.27	40.3784805	-104.8440460	0.00	

### REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

### WELLPATH DATA (162 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS ["/100ft]	Comments
8600.00†	92.039	269.820	7374.81	1350.96	-1479.41	-1099.21	40.3784816	-104.8444047	0.00	
8700.00†	92.039	269.820	7371.25	1449.27	-1479.72	-1199.14	40.3784828	-104.8447634	0.00	
8800.00†	92.039	269.820	7367.69	1547.58	-1480.04	-1299.08	40.3784840	-104.8451221	0.00	
8900.00†	92.039	269.820	7364.13	1645.89	-1480.35	-1399.02	40.3784851	-104.8454808	0.00	
9000.00†	92.039	269.820	7360.57	1744.21	-1480.66	-1498.95	40.3784863	-104.8458395	0.00	
9100.00†	92.039	269.820	7357.01	1842.52	-1480.98	-1598.89	40.3784875	-104.8461982	0.00	
9200.00†	92.039	269.820	7353.46	1940.83	-1481.29	-1698.82	40.3784886	-104.8465569	0.00	
9300.00†	92.039	269.820	7349.90	2039.14	-1481.60	-1798.76	40.3784898	-104.8469156	0.00	
9400.00†	92.039	269.820	7346.34	2137.45	-1481.92	-1898.70	40.3784909	-104.8472743	0.00	
9500.00†	92.039	269.820	7342.78	2235.76	-1482.23	-1998.63	40.3784921	-104.8476329	0.00	
9600.00†	92.039	269.820	7339.22	2334.08	-1482.54	-2098.57	40.3784933	-104.8479916	0.00	
9700.00†	92.039	269.820	7335.66	2432.39	-1482.86	-2198.51	40.3784944	-104.8483503	0.00	
9800.00†	92.039	269.820	7332.10	2530.70	-1483.17	-2298.44	40.3784956	-104.8487090	0.00	
9900.00†	92.039	269.820	7328.55	2629.01	-1483.48	-2398.38	40.3784967	-104.8490677	0.00	
10000.00†	92.039	269.820	7324.99	2727.32	-1483.80	-2498.31	40.3784979	-104.8494264	0.00	
10100.00†	92.039	269.820	7321.43	2825.64	-1484.11	-2598.25	40.3784990	-104.8497851	0.00	
10200.00†	92.039	269.820	7317.87	2923.95	-1484.42	-2698.19	40.3785002	-104.8501438	0.00	
10300.00†	92.039	269.820	7314.31	3022.26	-1484.74	-2798.12	40.3785013	-104.8505025	0.00	
10400.00†	92.039	269.820	7310.75	3120.57	-1485.05	-2898.06	40.3785025	-104.8508612	0.00	
10500.00†	92.039	269.820	7307.19	3218.88	-1485.36	-2998.00	40.3785036	-104.8512199	0.00	
10600.00†	92.039	269.820	7303.64	3317.20	-1485.68	-3097.93	40.3785048	-104.8515786	0.00	
10700.00†	92.039	269.820	7300.08	3415.51	-1485.99	-3197.87	40.3785059	-104.8519373	0.00	
10800.00†	92.039	269.820	7296.52	3513.82	-1486.30	-3297.80	40.3785071	-104.8522960	0.00	
10900.00†	92.039	269.820	7292.96	3612.13	-1486.62	-3397.74	40.3785082	-104.8526547	0.00	
11000.00†	92.039	269.820	7289.40	3710.44	-1486.93	-3497.68	40.3785094	-104.8530133	0.00	
11100.00†	92.039	269.820	7285.84	3808.75	-1487.24	-3597.61	40.3785105	-104.8533720	0.00	
11200.00†	92.039	269.820	7282.28	3907.07	-1487.55	-3697.55	40.3785116	-104.8537307	0.00	
11300.00†	92.039	269.820	7278.73	4005.38	-1487.87	-3797.48	40.3785128	-104.8540894	0.00	
11400.00†	92.039	269.820	7275.17	4103.69	-1488.18	-3897.42	40.3785139	-104.8544481	0.00	
11500.00†	92.039	269.820	7271.61	4202.00	-1488.49	-3997.36	40.3785151	-104.8548068	0.00	
11600.00†	92.039	269.820	7268.05	4300.31	-1488.81	-4097.29	40.3785162	-104.8551655	0.00	
11700.00†	92.039	269.820	7264.49	4398.63	-1489.12	-4197.23	40.3785173	-104.8555242	0.00	
11800.00†	92.039	269.820	7260.93	4496.94	-1489.43	-4297.17	40.3785185	-104.8558829	0.00	
11900.00†	92.039	269.820	7257.37	4595.25	-1489.75	-4397.10	40.3785196	-104.8562416	0.00	
12000.00†	92.039	269.820	7253.82	4693.56	-1490.06	-4497.04	40.3785207	-104.8566003	0.00	
12100.00†	92.039	269.820	7250.26	4791.87	-1490.37	-4596.97	40.3785219	-104.8569590	0.00	
12200.00†	92.039	269.820	7246.70	4890.19	-1490.69	-4696.91	40.3785230	-104.8573177	0.00	
12300.00†	92.039	269.820	7243.14	4988.50	-1491.00	-4796.85	40.3785241	-104.8576764	0.00	
12400.00†	92.039	269.820	7239.58	5086.81	-1491.31	-4896.78	40.3785252	-104.8580351	0.00	
12500.00†	92.039	269.820	7236.02	5185.12	-1491.63	-4996.72	40.3785264	-104.8583938	0.00	
12600.00†	92.039	269.820	7232.46	5283.43	-1491.94	-5096.65	40.3785275	-104.8587524	0.00	
12700.00†	92.039	269.820	7228.90	5381.74	-1492.25	-5196.59	40.3785286	-104.8591111	0.00	
12800.00†	92.039	269.820	7225.35	5480.06	-1492.57	-5296.53	40.3785297	-104.8594698	0.00	
12900.00†	92.039	269.820	7221.79	5578.37	-1492.88	-5396.46	40.3785309	-104.8598285	0.00	
13000.00†	92.039	269.820	7218.23	5676.68	-1493.19	-5496.40	40.3785320	-104.8601872	0.00	



# Planned Wellpath Report

WINDOM 12N (REV-B.0) PWP

Page 5 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

## WELLPATH DATA (162 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13100.00†	92.039	269.820	7214.67	5774.99	-1493.51	-5596.34	40.3785331	-104.8605459	0.00	
13200.00†	92.039	269.820	7211.11	5873.30	-1493.82	-5696.27	40.3785342	-104.8609046	0.00	
13300.00†	92.039	269.820	7207.55	5971.62	-1494.13	-5796.21	40.3785353	-104.8612633	0.00	
13400.00†	92.039	269.820	7203.99	6069.93	-1494.45	-5896.14	40.3785364	-104.8616220	0.00	
13500.00†	92.039	269.820	7200.44	6168.24	-1494.76	-5996.08	40.3785376	-104.8619807	0.00	
13600.00†	92.039	269.820	7196.88	6266.55	-1495.07	-6096.02	40.3785387	-104.8623394	0.00	
13700.00†	92.039	269.820	7193.32	6364.86	-1495.39	-6195.95	40.3785398	-104.8626981	0.00	
13800.00†	92.039	269.820	7189.76	6463.18	-1495.70	-6295.89	40.3785409	-104.8630568	0.00	
13900.00†	92.039	269.820	7186.20	6561.49	-1496.01	-6395.82	40.3785420	-104.8634155	0.00	
14000.00†	92.039	269.820	7182.64	6659.80	-1496.32	-6495.76	40.3785431	-104.8637742	0.00	
14100.00†	92.039	269.820	7179.08	6758.11	-1496.64	-6595.70	40.3785442	-104.8641329	0.00	
14200.00†	92.039	269.820	7175.53	6856.42	-1496.95	-6695.63	40.3785453	-104.8644916	0.00	
14300.00†	92.039	269.820	7171.97	6954.73	-1497.26	-6795.57	40.3785464	-104.8648502	0.00	
14400.00†	92.039	269.820	7168.41	7053.05	-1497.58	-6895.51	40.3785475	-104.8652089	0.00	
14500.00†	92.039	269.820	7164.85	7151.36	-1497.89	-6995.44	40.3785486	-104.8655676	0.00	
14600.00†	92.039	269.820	7161.29	7249.67	-1498.20	-7095.38	40.3785497	-104.8659263	0.00	
14700.00†	92.039	269.820	7157.73	7347.98	-1498.52	-7195.31	40.3785508	-104.8662850	0.00	
14800.00†	92.039	269.820	7154.17	7446.29	-1498.83	-7295.25	40.3785519	-104.8666437	0.00	
14900.00†	92.039	269.820	7150.62	7544.61	-1499.14	-7395.19	40.3785530	-104.8670024	0.00	
15000.00†	92.039	269.820	7147.06	7642.92	-1499.46	-7495.12	40.3785541	-104.8673611	0.00	
15100.00†	92.039	269.820	7143.50	7741.23	-1499.77	-7595.06	40.3785552	-104.8677198	0.00	
15200.00†	92.039	269.820	7139.94	7839.54	-1500.08	-7695.00	40.3785563	-104.8680785	0.00	
15300.00†	92.039	269.820	7136.38	7937.85	-1500.40	-7794.93	40.3785574	-104.8684372	0.00	
15400.00†	92.039	269.820	7132.82	8036.17	-1500.71	-7894.87	40.3785585	-104.8687959	0.00	
15500.00†	92.039	269.820	7129.26	8134.48	-1501.02	-7994.80	40.3785596	-104.8691546	0.00	
15535.53	92.039	269.820	7128.00 <sup>2</sup>	8169.40	-1501.13	-8030.31	40.3785600	-104.8692820	0.00	BPZ
15585.53	92.039	269.820	7126.22	8218.56	-1501.29	-8080.27	40.3785605	-104.8694613	0.00	BHL (235'FSL & 100'FWL,SEC.23)



# Planned Wellpath Report

WINDOM 12N (REV-B.0) PWP

Page 6 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.23-T05N-R67W	N/A	7.00	165.04	-489.14	3183256.41	1383040.89	40.3829830	-104.8421713	polygon
2D Polygon: dimensions not calculated									
SEC.24-T05N-R67W	N/A	7.00	165.04	-489.14	3183256.41	1383040.89	40.3829830	-104.8421713	polygon
2D Polygon: dimensions not calculated									
WINDOM 12N BHL (235'FSL & 100'FWL,SEC.23)	N/A	7128.00	-1501.13	-8080.46	3175665.42	1381374.80	40.3785610	-104.8694620	point
2) WINDOM 12N BPZ (235'FSL&150'FWL Sec.23)	15535.53	7128.00	-1501.13	-8030.31	3175715.57	1381374.79	40.3785600	-104.8692820	point
1) WINDOM 12N LP (235'FSL & 2477'FWL,SEC.24)	7948.27	7398.00	-1477.37	-447.90	3183297.66	1381398.56	40.3784740	-104.8420670	point

## SURVEY PROGRAM - Ref Wellbore: WINDOM 12N PWB Ref Wellpath: WINDOM 12N (REV-B.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
28.50	1950.00	OWSG MWD rev2 - Standard		WINDOM 12N PWB
1950.00	15585.53	OWSG MWD rev2 (MS+IFR1)		WINDOM 12N PWB



# Planned Wellpath Report

WINDOM 12N (REV-B.0) PWP

Page 7 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
28.50	0.000	171.006	28.50	SHL
500.00	0.000	171.006	500.00	End of Tangent
1137.36	12.747	171.006	1132.11	Build (XS)
6904.63	12.747	171.006	6757.24	KOP
7948.27	92.039	269.820	7398.00	LP
15535.53	92.039	269.820	7128.00	BPZ
15585.53	92.039	269.820	7126.22	BHL (235'FSL & 100'FWL,SEC.23)



# Closest Approach Clearance Summary Report

WINDOM 12N (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 1 of 6



## REFERENCE WELLPATH IDENTIFICATION

Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'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 9:53:41 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	-165.04	0.11	3183745.53	1382875.86	40°22'57.0720"N	104°50'25.5120"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	(5004'GL+28.5'KB@5033'RKB) (RKB) to Facility Vertical Datum	5032.50ft
Horizontal Reference Pt	Slot	(5004'GL+28.5'KB@5033'RKB) (RKB) to Mean Sea Level	5032.50ft
Vertical Reference Pt	(5004'GL+28.5'KB@5033'RKB) (RKB)	(5004'GL+28.5'KB@5033'RKB) (RKB) to Ground Level at Slot (SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24))	5032.50ft
MD Reference Pt	(5004'GL+28.5'KB@5033'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 12N (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'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 12N PWB    Ref Wellpath: WINDOM 12N (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 12N PWB
1950.00	15585.49	OWSG MWD rev2 (MS+IFR1)		WINDOM 12N PWB



# Closest Approach Clearance Summary Report

WINDOM 12N (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 15585.49ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (95 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	9775.51	445.41	9775.51	9772.45	0.16	9772.45	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	28.50	872.35	8235.66	8235.66	0.21	8235.66	FAIL
Sec.23-T5N-R67W	PHILLIPS #23-43 (05-123-19269) PA	PHILLIPS #23-43	PHILLIPS #23-43 AWB	PHILLIPS #23-43 AWP	Drilling	12501.93	227.46	12501.93	12500.13	0.26	12500.13	FAIL
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	7797.38	21.99	7797.38	7798.43	0.31	7798.43	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	128.50	3333.67	10228.50	10130.29	0.39	10130.29	FAIL
Sec.23-T5N-R67W	PHILLIPS PC #N23-17 (05-123-25876)	PHILLIPS PC N23-17 (Vert)	PHILLIPS PC N23-17	PHILLIPS PC N23-17\PHILLIPS PC N23-17	Drilling	12015.15	3718.50	12015.15	11947.45	0.42	11947.45	FAIL
Sec.23-T5N-R67W	KINZER #18-23 (05-123-24000)	KINZER 18-23 (Vert)	KINZER 18-23	KINZER 18-23\KINZER 18-23	Drilling	14465.68	3807.55	14465.68	14394.02	0.44	14394.02	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	128.50	3140.61	9328.50	9262.15	0.45	9262.15	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	128.50	2820.68	500.00	7695.38	0.48	7695.38	FAIL
Sec.23-T5N-R67W	HSR-KINZER #4-23 (05-123-19498)	HSR-KINZER 4-23 (Vert)	HSR-KINZER 4-23	HSR-KINZER 4-23\HSR-KINZER 4-23	Drilling	15041.34	4373.94	15041.34	14946.78	0.50	14946.78	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	128.50	3800.41	9828.50	9697.34	0.51	9697.34	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	128.50	3277.27	8628.50	8484.34	0.51	8484.34	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	28.50	1243.48	8728.50	8707.06	0.52	8707.06	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	128.50	3274.78	500.00	7461.21	0.52	7461.21	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	9779.56	1732.15	9779.56	9733.10	0.62	9733.10	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	128.50	1762.33	8328.50	8145.14	1.06	8145.14	WARN
Sec.23-T5N-R67W	PHILLIPS #23-13 (05-123-17204) PR	PHILLIPS #23-13	PHILLIPS #23-13 AWB	PHILLIPS #23-13 AWP	Drilling	12029.22	3077.98	12029.22	11879.93	1.14	11879.93	PASS
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	28.50	1835.12	500.00	7791.26	1.16	7791.26	PASS
Sec.23-T5N-R67W	HSR-KINZER #5-23 (05-123-19499) PA	HSR-KINZER #5-23	HSR-KINZER #5-23 AWB	HSR-KINZER #5-23 AWP	Drilling	15038.39	3019.08	15038.39	14890.50	1.17	14890.50	PASS
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	128.50	2289.02	500.00	7656.54	1.23	7656.54	PASS
Sec.23-T5N-R67W	HSR-KINZER #6-23 (05-123-19500) TA	HSR-KINZER #6-23	HSR-KINZER #6-23 AWB	HSR-KINZER #6-23 AWP	Drilling	13820.36	3251.70	13820.36	13650.39	1.24	13650.39	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	14.94	500.00	523.75	1.52	15585.49	PASS
Sec.23-T5N-R67W	PHILLIPS #23-11 (05-123-17267) PR	PHILLIPS #23-11	PHILLIPS #23-11 AWB	PHILLIPS #23-11 AWP	Drilling	11101.80	4342.73	11101.80	10807.27	1.58	10807.27	PASS
Sec.23-T5N-R67W	PHILLIPS #23-12 (05-123-17203) PA	PHILLIPS #23-12	PHILLIPS #23-12 AWB	PHILLIPS #23-12 AWP	Drilling	12012.21	4353.15	12012.21	11712.64	1.61	11712.64	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	9144.44	157.97	9144.44	9160.15	1.91	9160.15	PASS



# Closest Approach Clearance Summary Report

WINDOM 12N (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 15585.49ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (95 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	BLEHM #7 (05-123-11217) PA	BLEHM #7	BLEHM #7 AWB	BLEHM #7 AWP	Drilling	5866.29	132.22	5866.29	5898.43	2.91	5898.43	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	8330.33	206.91	8330.33	8327.54	2.95	8327.54	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	29.87	500.00	15585.49	3.28	15585.49	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	45.18	500.00	15585.49	5.03	15585.49	PASS
Sec.23-T5N-R67W	KINZER #23-3D (05-123-19424) PA	KINZER #23-3D	KINZER #23-3D AWB	KINZER #23-3D AWP	Drilling	15320.62	1091.42	15320.62	15360.11	6.09	15360.11	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	81.48	7478.44	7478.44	6.50	7478.44	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	60.11	500.00	15585.49	6.52	15585.49	PASS
Sec.23-T5N-R67W	KINZER #23-3C (05-123-19423) PA	KINZER #23-3C	KINZER #23-3C AWB	KINZER #23-3C AWP	Drilling	14783.23	1146.45	14783.23	14831.91	6.83	14831.91	PASS
Sec.23-T5N-R67W	KINZER #23-3B (05-123-19415) PA	KINZER #23-3B	KINZER #23-3B AWB	KINZER #23-3B AWP	Drilling	14275.59	1160.19	14275.59	14333.78	7.37	14333.78	PASS
Sec.23-T5N-R67W	KINZER #23-3A (05-123-19414) PA	KINZER #23-3A	KINZER #23-3A AWB	KINZER #23-3A AWP	Drilling	13759.63	1099.15	13759.63	13812.42	7.48	13812.42	PASS
SEC.22-T05N-R67W	SLOT#09 BLUE CHIP #22-9HZ (05-123-51939) PR	BLUE CHIP #22-9HZ	BLUE CHIP #22-9HZ PR AWB	BLUE CHIP #22-9HZ AWP	Drilling	15585.49	1229.04	15585.49	15585.49	7.68	15585.49	PASS
Sec.23-T5N-R67W	SHEEP DRAW #23-44 (05-123-11290) PA	SHEEP DRAW #23-44	SHEEP DRAW #23-44 AWB	SHEEP DRAW #23-44 AWP	Drilling	11650.91	808.74	11650.91	11677.98	7.69	11677.98	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	75.05	500.00	15585.49	8.17	15585.49	PASS
SEC.22-T05N-R67W	SLOT#08 BLUE CHIP #22-8HZ (05-123-51930) PR	BLUE CHIP #22-8HZ	BLUE CHIP #22-8HZ PR AWB	BLUE CHIP #22-8HZ AWP	Drilling	15585.49	1550.29	15585.49	15585.49	8.41	15585.49	PASS
SEC.22-T05N-R67W	SLOT#10 BLUE CHIP #22-10HZ (05-123-51931) PR	BLUE CHIP #22-10HZ	BLUE CHIP #22-10HZ PR AWB	BLUE CHIP #22-10HZ PR AWP	Drilling	15585.49	1116.74	15585.49	15585.49	9.23	15585.49	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	89.99	500.00	15585.49	9.76	15585.49	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	85.61	7428.50	819.61	10.08	7428.50	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	91.77	7228.50	803.92	10.97	7328.50	PASS
SEC.22-T05N-R67W	SLOT#07 BLUE CHIP #22-7HZ (05-123-51933) PR	BLUE CHIP #22-7HZ	BLUE CHIP #22-7HZ PR AWB	BLUE CHIP #22-7HZ AWP	Drilling	15585.49	2119.77	15585.49	15585.49	11.27	15585.49	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	104.92	500.00	15585.49	11.39	15585.49	PASS
SEC.22-T05N-R67W	SLOT#11 BLUE CHIP #22-11HZ (05-123-51934) PR	BLUE CHIP #22-11HZ	BLUE CHIP #22-11HZ PR AWB	BLUE CHIP #22-11HZ AWP	Drilling	15585.49	1306.54	15585.49	15585.49	11.48	15585.49	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	100.03	8128.50	802.85	12.04	8228.50	PASS
SEC.22-T05N-R67W	SLOT#06 BLUE CHIP #22-6HZ (05-123-51937) PR	BLUE CHIP #22-6HZ	BLUE CHIP #22-6HZ PR AWB	BLUE CHIP #22-6HZ AWP	Drilling	15585.49	2541.96	15585.49	15585.49	12.62	15585.49	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	119.86	500.00	15585.49	12.99	15585.49	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	109.96	8128.50	811.81	13.27	8428.50	PASS



# Closest Approach Clearance Summary Report

## WINDOM 12N (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)

Page 5 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 15585.49ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (95 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 24-3-23 (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	4353.57	650.58	7828.50	4542.06	13.54	8028.50	PASS
Sec.23-T5N-R67W	PHILLIPS #23-42 (05-123-19268) PA	PHILLIPS #23-42	PHILLIPS #23-42 AWB	PHILLIPS #23-42 AWP	Drilling	12727.82	1840.58	12727.82	12952.27	14.46	12952.27	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	120.55	8128.50	826.29	14.52	8928.50	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	135.16	500.00	15585.49	14.63	15585.49	PASS
SEC.22-T05N-R67W	SLOT#05 BLUE CHIP #22-5HZ (05-123-51936) PR	BLUE CHIP #22-5HZ	BLUE CHIP #22-5HZ PR AWB	BLUE CHIP #22-5HZ PR AWP	Drilling	15585.49	3083.90	15585.49	15585.49	15.44	15585.49	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	132.16	8328.50	828.50	15.87	9428.50	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	150.10	500.00	15585.49	16.20	15585.49	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	144.23	8328.50	828.50	17.24	9728.50	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	5321.52	2835.04	5321.52	5289.46	17.35	5289.46	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	165.04	500.00	15585.49	17.79	15585.49	PASS
Sec.23-T5N-R67W	PHILLIPS #23-14 (05-123-16960) PR	PHILLIPS #23-14	PHILLIPS #23-14 AWB	PHILLIPS #23-14 AWP	Drilling	11096.02	3026.12	11096.02	11419.28	18.05	11419.28	PASS
SEC.22-T05N-R67W	SLOT#04 BLUE CHIP #22-4HZ (05-123-51935) PR	BLUE CHIP #22-4HZ	BLUE CHIP #22-4HZ PR AWB	BLUE CHIP #22-4HZ AWP	Drilling	15585.49	3663.21	15585.49	15585.49	18.21	15585.49	PASS
Sec.23-T5N-R67W	Phillips #23-1-20 (05-123-29703) PR	Phillips #23-1-20	Phillips #23-1-20 AWB	Phillips #23-1-20 AWP	Drilling	13020.78	2488.31	13020.78	13424.17	18.45	13424.17	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	156.93	8228.50	937.06	18.67	10228.50	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	170.00	8228.50	808.58	20.44	10528.50	PASS
SEC.22-T05N-R67W	SLOT#03 BLUE CHIP #22-3HZ (05-123-51938) PR	BLUE CHIP #22-3HZ	BLUE CHIP #22-3HZ PR AWB	BLUE CHIP #22-3HZ PR AWP	Drilling	15561.79	4192.46	15561.79	15585.49	20.86	15585.49	PASS
Sec.23-T5N-R67W	Phillips #23-1-21 (05-123-29704) PR	Phillips #23-1-21	Phillips #23-1-21 AWB	Phillips #23-1-21 AWP	Drilling	11795.45	2477.35	11795.45	12280.15	22.23	12280.15	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	183.56	8228.50	730.67	23.31	10828.50	PASS
SEC.22-T05N-R67W	SLOT#02 BLUE CHIP #22-2HZ (05-123-51929) PR	BLUE CHIP #22-2HZ	BLUE CHIP #22-2HZ PR AWB	BLUE CHIP #22-2HZ PR AWP	Drilling	15197.53	4493.33	15197.53	15585.49	23.37	15585.49	PASS
SEC.22-T05N-R67W	SLOT#01 BLUE CHIP #22-1HZ (05-123-51932) PR	BLUE CHIP #22-1HZ	BLUE CHIP #22-1HZ PR AWB	BLUE CHIP #22-1HZ PR AWP	Drilling	15090.55	4643.05	15090.55	15585.49	24.08	15585.49	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	6919.56	5474.43	6919.56	7290.88	24.66	7290.88	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	10375.10	2439.57	10375.10	10902.97	25.67	10902.97	PASS
Sec.23-T5N-R67W	HSR-KINZER #3-23 (05-123-19497)	HSR-KINZER 3-23	HSR-KINZER 3-23	HSR-KINZER 3-23\HSR-KINZER 3-23	Drilling	13998.02	4367.30	13998.02	15133.67	26.17	15133.67	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	528.78	891.35	9128.50	9654.85	28.08	9654.85	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	6911.17	1611.18	6911.17	7027.35	31.80	7027.35	PASS



# Closest Approach Clearance Summary Report

WINDOM 12N (REV-A.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	PDC ENERGY INC	Well	WINDOM 12N
Field	WELD COUNTY (NAD83/GRID)	API/Legal	
Facility	SEC.24-T05N-R67W	Wellbore	WINDOM 12N PWB
Slot	SLOT#12 WINDOM 12N (1712'FSL & 2306'FEL,SEC.24)		

CALCULATION RANGE & CUTOFF		
From: 28.50ft MD	To: 15585.49ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (95 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.23-T5N-R67W	PHILLIPS #23-41 (05-123-19267) PA	PHILLIPS #23-41	PHILLIPS #23-41 AWB	PHILLIPS #23-41 AWP	Drilling	11342.69	4415.33	11342.69	13014.05	39.02	13014.05	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	70.50	3777.09	10428.50	11898.52	39.64	11898.52	PASS
Sec.23-T5N-R67W	Phillips #23-1-17 (05-123-29702) PR	Phillips #23-1-17	Phillips #23-1-17 AWB	Phillips #23-1-17 AWP	Drilling	11786.69	4976.83	11786.69	13753.32	39.97	13753.32	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	6928.50	2880.08	6928.50	7083.27	40.35	7083.27	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	2294.38	2754.55	2294.38	7056.51	41.78	7056.51	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	5762.32	3545.23	5762.32	7129.00	49.80	7129.00	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	69.50	3815.18	9128.50	11178.38	52.63	11628.50	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	567.54	3616.88	567.54	7128.50	59.04	7128.50	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	6909.08	4270.70	6909.08	7171.67	60.06	7171.67	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	2209.34	4190.40	2209.34	7165.96	61.14	7165.96	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	57.50	4727.20	57.50	7197.58	72.25	7197.58	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	88.50	4003.08	88.50	7477.94	74.77	7477.94	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	4505.30	5555.25	4505.30	7182.36	78.93	7182.36	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	240.18	5626.32	528.50	7243.86	83.75	7243.86	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	6685.82	6243.02	6685.82	7328.50	87.61	7328.50	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	328.54	4955.41	328.54	7477.70	87.63	7477.70	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	6919.90	6807.32	6919.90	7277.88	95.19	7277.88	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	4367.61	6862.17	4367.61	7255.59	96.56	7255.59	PASS
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	581.63	6490.65	581.63	7477.26	103.82	7477.26	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	582.25	7333.79	582.25	7259.95	104.56	7259.95	PASS