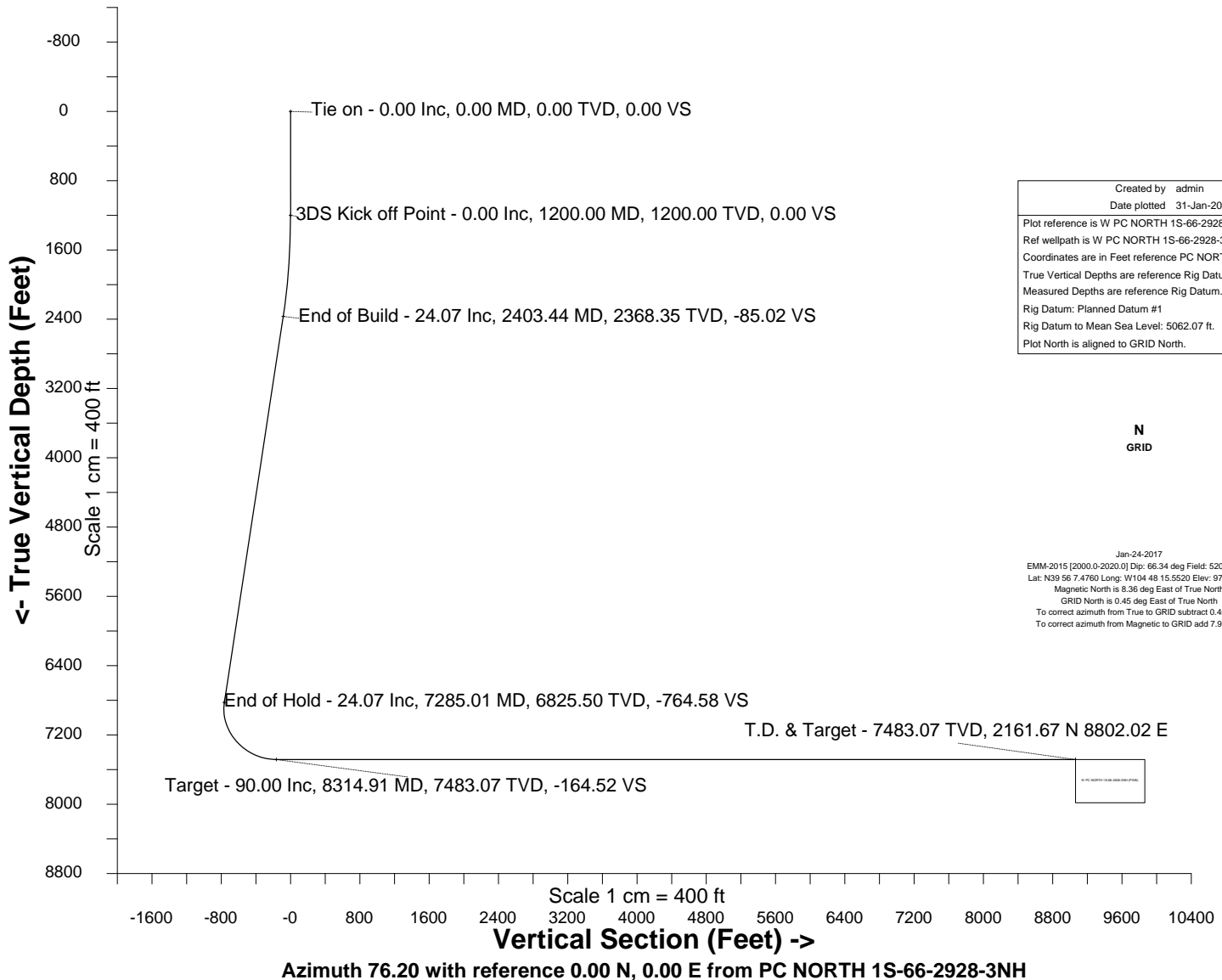
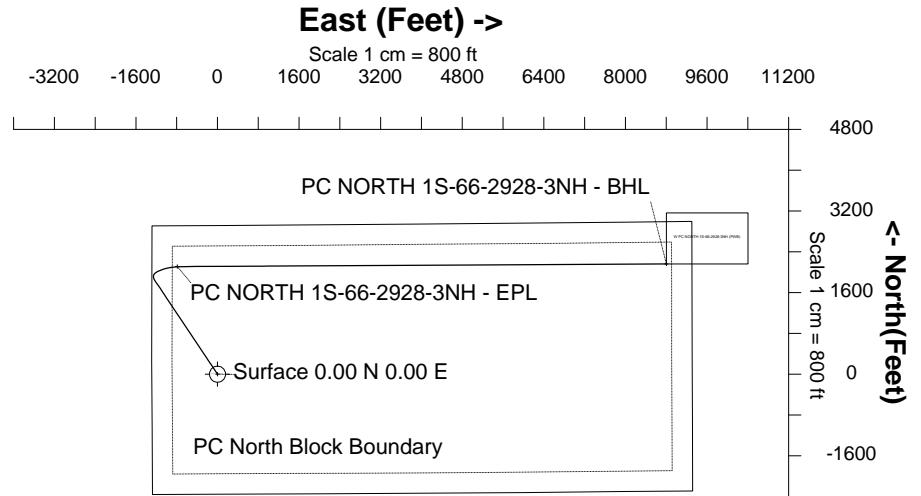


# HRM Resources

Location	DJ Basin	Slot	PC NORTH 1S-66-2928-3NH
Field	WATTENBERG	Well	W PC NORTH 1S-66-2928-3NH
Installation	PC 1S-66-2928 PAD	Wellbore	W PC NORTH 1S-66-2928-3NH (PWB)

## WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	0.00	0.00	0.00	0.00	S 0.00	W 0.00		0.00
KOP	1200.00	0.00	326.24	1200.00	S 0.00	W 0.00	0.00	0.00
End of Build	2403.44	24.07	326.24	2368.35	N 207.08	W 138.40	2.00	-85.02
End of Hold	7285.01	24.07	326.24	6825.50	N 1862.29	W 1244.65	0.00	-764.58
Target PC NOR... - EPL	8314.91	90.00	89.69	7483.07	N 2110.38	W 687.69	10.00	-164.52
T.D. & Target PC ...BHL	17804.76	90.00	89.69	7483.07	N 2161.67	E 8802.02	0.00	9063.57



Created by	admin
Date plotted	31-Jan-2017
Plot reference is	W PC NORTH 1S-66-2928-3NH (PWB).
Ref wellpath is	W PC NORTH 1S-66-2928-3NH (PWP#1).
Coordinates are in	Feet reference PC NORTH 1S-66-2928-3NH.
True Vertical Depths are	reference Rig Datum.
Measured Depths are	reference Rig Datum.
Rig Datum:	Planned Datum #1
Rig Datum to Mean Sea Level:	5062.07 ft.
Plot North is aligned to	GRID North.

**N**  
GRID

Jan-24-2017  
 EMM-2015 [2000.0-2020.0] Dip: 66.34 deg Field: 52071.6 nT  
 Lat: N39 56 7.4780 Long: W104 48 15.5520 Elev: 9723.01 ft  
 Magnetic North is 8.36 deg East of True North  
 GRID North is 0.45 deg East of True North  
 To correct azimuth from True to GRID subtract 0.45 deg  
 To correct azimuth from Magnetic to GRID add 7.91 deg



SYSDRILL  
Well Design Combined Report  
Wellbore: W PC NORTH 1S-66-2928-3NH (PWB)



### Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
PC NORTH 1S-66-2928-3NH	N39 56 7.1880	W104 48 15.5520	1220054.5412	3195080.0646	29.14S	0.23E	0.00

### Declination

Date	Source	Time
Jan-24-2017	EMM-2015 [2000.0-2020.0]	09:32

### Installation Details

Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
PC 1S-66-2928 PAD	N39 56 7.4760	W104 48 15.5520	1220083.6821	3195079.8360	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

### Summary Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	1220054.54	3195080.06
1200.00	0.00	326.240	1200.00	0.00N	0.00E	==>	0.00	1220054.54	3195080.06
2403.44	24.07	326.240	2368.35	207.08N	138.40W	2.00	-85.02	1220261.62	3194941.67
7285.01	24.07	326.240	6825.50	1862.29N	1244.65W	==>	-764.58	1221916.78	3193835.45
8314.91	90.00	89.690	7483.07	2110.38N	687.69W	10.00	-164.52	1222164.86	3194392.39
17804.76	90.00	89.690	7483.07	2161.67N	8802.02E	==>	9063.57	1222216.14	3203881.82

### Interpolated Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	Slot Datum
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	
1200.00	0.00	326.240	1200.00	0.00N	0.00E	==>	0.00	
1300.00	2.00	326.240	1299.98	1.45N	0.97W	2.00	-0.60	
1400.00	4.00	326.240	1399.84	5.80N	3.88W	2.00	-2.38	
1500.00	6.00	326.240	1499.45	13.05N	8.72W	2.00	-5.36	
1600.00	8.00	326.240	1598.70	23.18N	15.49W	2.00	-9.52	
1700.00	10.00	326.240	1697.47	36.18N	24.18W	2.00	-14.86	
1800.00	12.00	326.240	1795.62	52.05N	34.79W	2.00	-21.37	
1900.00	14.00	326.240	1893.06	70.75N	47.29W	2.00	-29.05	
2000.00	16.00	326.240	1989.64	92.27N	61.67W	2.00	-37.88	
2100.00	18.00	326.240	2085.27	116.57N	77.91W	2.00	-47.86	
2200.00	20.00	326.240	2179.82	143.64N	96.00W	2.00	-58.97	
2300.00	22.00	326.240	2273.17	173.43N	115.91W	2.00	-71.20	
2400.00	24.00	326.240	2365.21	205.92N	137.62W	2.00	-84.54	
2500.00	24.07	326.240	2456.52	239.82N	160.28W	==>	-98.46	
2600.00	24.07	326.240	2547.83	273.73N	182.95W	==>	-112.38	
2700.00	24.07	326.240	2639.13	307.64N	205.61W	==>	-126.30	
2800.00	24.07	326.240	2730.44	341.55N	228.27W	==>	-140.22	
2900.00	24.07	326.240	2821.74	375.45N	250.93W	==>	-154.14	
3000.00	24.07	326.240	2913.05	409.36N	273.59W	==>	-168.07	
3100.00	24.07	326.240	3004.36	443.27N	296.26W	==>	-181.99	

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Vertical Section is from 0.00N 0.00E on azimuth 76.200 degrees  
Bottom hole distance is 9063.57 Feet on azimuth 76.20 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 31-Jan-2017



SYSDRILL  
Well Design Combined Report  
Wellbore: W PC NORTH 1S-66-2928-3NH (PWB)



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
3200.00	24.07	326.240	3095.66	477.18N	318.92W	==>	-195.91	
3300.00	24.07	326.240	3186.97	511.08N	341.58W	==>	-209.83	
3400.00	24.07	326.240	3278.27	544.99N	364.24W	==>	-223.75	
3500.00	24.07	326.240	3369.58	578.90N	386.90W	==>	-237.67	
3600.00	24.07	326.240	3460.88	612.80N	409.56W	==>	-251.59	
3700.00	24.07	326.240	3552.19	646.71N	432.23W	==>	-265.51	
3800.00	24.07	326.240	3643.50	680.62N	454.89W	==>	-279.43	
3900.00	24.07	326.240	3734.80	714.53N	477.55W	==>	-293.35	
4000.00	24.07	326.240	3826.11	748.43N	500.21W	==>	-307.28	
4100.00	24.07	326.240	3917.41	782.34N	522.87W	==>	-321.20	
4200.00	24.07	326.240	4008.72	816.25N	545.54W	==>	-335.12	
4300.00	24.07	326.240	4100.02	850.16N	568.20W	==>	-349.04	
4400.00	24.07	326.240	4191.33	884.06N	590.86W	==>	-362.96	
4500.00	24.07	326.240	4282.64	917.97N	613.52W	==>	-376.88	
4600.00	24.07	326.240	4373.94	951.88N	636.18W	==>	-390.80	
4700.00	24.07	326.240	4465.25	985.79N	658.84W	==>	-404.72	
4800.00	24.07	326.240	4556.55	1019.69N	681.51W	==>	-418.64	
4900.00	24.07	326.240	4647.86	1053.60N	704.17W	==>	-432.56	
5000.00	24.07	326.240	4739.16	1087.51N	726.83W	==>	-446.48	
5100.00	24.07	326.240	4830.47	1121.42N	749.49W	==>	-460.41	
5200.00	24.07	326.240	4921.77	1155.32N	772.15W	==>	-474.33	
5300.00	24.07	326.240	5013.08	1189.23N	794.82W	==>	-488.25	
5400.00	24.07	326.240	5104.39	1223.14N	817.48W	==>	-502.17	
5500.00	24.07	326.240	5195.69	1257.05N	840.14W	==>	-516.09	
5600.00	24.07	326.240	5287.00	1290.95N	862.80W	==>	-530.01	
5700.00	24.07	326.240	5378.30	1324.86N	885.46W	==>	-543.93	
5800.00	24.07	326.240	5469.61	1358.77N	908.13W	==>	-557.85	
5900.00	24.07	326.240	5560.91	1392.67N	930.79W	==>	-571.77	
6000.00	24.07	326.240	5652.22	1426.58N	953.45W	==>	-585.69	
6100.00	24.07	326.240	5743.53	1460.49N	976.11W	==>	-599.61	
6200.00	24.07	326.240	5834.83	1494.40N	998.77W	==>	-613.54	
6300.00	24.07	326.240	5926.14	1528.30N	1021.43W	==>	-627.46	
6400.00	24.07	326.240	6017.44	1562.21N	1044.10W	==>	-641.38	
6500.00	24.07	326.240	6108.75	1596.12N	1066.76W	==>	-655.30	
6600.00	24.07	326.240	6200.05	1630.03N	1089.42W	==>	-669.22	
6700.00	24.07	326.240	6291.36	1663.93N	1112.08W	==>	-683.14	
6800.00	24.07	326.240	6382.67	1697.84N	1134.74W	==>	-697.06	
6900.00	24.07	326.240	6473.97	1731.75N	1157.41W	==>	-710.98	
7000.00	24.07	326.240	6565.28	1765.66N	1180.07W	==>	-724.90	
7100.00	24.07	326.240	6656.58	1799.56N	1202.73W	==>	-738.82	
7200.00	24.07	326.240	6747.89	1833.47N	1225.39W	==>	-752.74	
7300.00	23.33	329.490	6839.23	1867.39N	1247.86W	10.00	-766.48	
7400.00	20.49	355.430	6932.22	1901.99N	1259.34W	10.00	-769.37	
7500.00	22.07	22.880	7025.63	1936.83N	1253.41W	10.00	-755.31	
7600.00	27.31	43.480	7116.62	1970.87N	1230.27W	10.00	-724.71	
7700.00	34.57	56.950	7202.44	2003.07N	1190.60W	10.00	-678.51	
7800.00	42.84	65.990	7280.47	2032.45N	1135.62W	10.00	-618.11	
7900.00	51.63	72.530	7348.35	2058.12N	1067.00W	10.00	-545.35	
8000.00	60.69	77.620	7404.00	2079.29N	986.82W	10.00	-462.43	
8100.00	69.92	81.860	7445.74	2095.34N	897.52W	10.00	-371.88	
8200.00	79.24	85.630	7472.31	2105.75N	801.81W	10.00	-276.45	
8300.00	88.60	89.170	7482.89	2110.23N	702.60W	10.00	-179.03	
8400.00	90.00	89.690	7483.07	2110.84N	602.60W	==>	-81.77	
8500.00	90.00	89.690	7483.07	2111.38N	502.60W	==>	15.47	
8600.00	90.00	89.690	7483.07	2111.92N	402.60W	==>	112.71	
8700.00	90.00	89.690	7483.07	2112.46N	302.61W	==>	209.95	
8800.00	90.00	89.690	7483.07	2113.00N	202.61W	==>	307.19	
8900.00	90.00	89.690	7483.07	2113.54N	102.61W	==>	404.43	
9000.00	90.00	89.690	7483.07	2114.08N	2.61W	==>	501.68	

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Vertical Section is from 0.00N 0.00E on azimuth 76.200 degrees  
Bottom hole distance is 9063.57 Feet on azimuth 76.20 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 31-Jan-2017



SYSDRILL  
Well Design Combined Report  
Wellbore: W PC NORTH 1S-66-2928-3NH (PWB)



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
9100.00	90.00	89.690	7483.07	2114.62N	97.39E	==>	598.92	
9200.00	90.00	89.690	7483.07	2115.16N	197.39E	==>	696.16	
9300.00	90.00	89.690	7483.07	2115.70N	297.39E	==>	793.40	
9400.00	90.00	89.690	7483.07	2116.24N	397.38E	==>	890.64	
9500.00	90.00	89.690	7483.07	2116.79N	497.38E	==>	987.88	
9600.00	90.00	89.690	7483.07	2117.33N	597.38E	==>	1085.13	
9700.00	90.00	89.690	7483.07	2117.87N	697.38E	==>	1182.37	
9800.00	90.00	89.690	7483.07	2118.41N	797.38E	==>	1279.61	
9900.00	90.00	89.690	7483.07	2118.95N	897.38E	==>	1376.85	
10000.00	90.00	89.690	7483.07	2119.49N	997.38E	==>	1474.09	
10100.00	90.00	89.690	7483.07	2120.03N	1097.37E	==>	1571.33	
10200.00	90.00	89.690	7483.07	2120.57N	1197.37E	==>	1668.58	
10300.00	90.00	89.690	7483.07	2121.11N	1297.37E	==>	1765.82	
10400.00	90.00	89.690	7483.07	2121.65N	1397.37E	==>	1863.06	
10500.00	90.00	89.690	7483.07	2122.19N	1497.37E	==>	1960.30	
10600.00	90.00	89.690	7483.07	2122.73N	1597.37E	==>	2057.54	
10700.00	90.00	89.690	7483.07	2123.27N	1697.37E	==>	2154.78	
10800.00	90.00	89.690	7483.07	2123.81N	1797.36E	==>	2252.03	
10900.00	90.00	89.690	7483.07	2124.35N	1897.36E	==>	2349.27	
11000.00	90.00	89.690	7483.07	2124.89N	1997.36E	==>	2446.51	
11100.00	90.00	89.690	7483.07	2125.43N	2097.36E	==>	2543.75	
11200.00	90.00	89.690	7483.07	2125.97N	2197.36E	==>	2640.99	
11300.00	90.00	89.690	7483.07	2126.51N	2297.36E	==>	2738.24	
11400.00	90.00	89.690	7483.07	2127.05N	2397.36E	==>	2835.48	
11500.00	90.00	89.690	7483.07	2127.59N	2497.35E	==>	2932.72	
11600.00	90.00	89.690	7483.07	2128.13N	2597.35E	==>	3029.96	
11700.00	90.00	89.690	7483.07	2128.68N	2697.35E	==>	3127.20	
11800.00	90.00	89.690	7483.07	2129.22N	2797.35E	==>	3224.44	
11900.00	90.00	89.690	7483.07	2129.76N	2897.35E	==>	3321.69	
12000.00	90.00	89.690	7483.07	2130.30N	2997.35E	==>	3418.93	
12100.00	90.00	89.690	7483.07	2130.84N	3097.35E	==>	3516.17	
12200.00	90.00	89.690	7483.07	2131.38N	3197.34E	==>	3613.41	
12300.00	90.00	89.690	7483.07	2131.92N	3297.34E	==>	3710.65	
12400.00	90.00	89.690	7483.07	2132.46N	3397.34E	==>	3807.89	
12500.00	90.00	89.690	7483.07	2133.00N	3497.34E	==>	3905.14	
12600.00	90.00	89.690	7483.07	2133.54N	3597.34E	==>	4002.38	
12700.00	90.00	89.690	7483.07	2134.08N	3697.34E	==>	4099.62	
12800.00	90.00	89.690	7483.07	2134.62N	3797.33E	==>	4196.86	
12900.00	90.00	89.690	7483.07	2135.16N	3897.33E	==>	4294.10	
13000.00	90.00	89.690	7483.07	2135.70N	3997.33E	==>	4391.34	
13100.00	90.00	89.690	7483.07	2136.24N	4097.33E	==>	4488.59	
13200.00	90.00	89.690	7483.07	2136.78N	4197.33E	==>	4585.83	
13300.00	90.00	89.690	7483.07	2137.32N	4297.33E	==>	4683.07	
13400.00	90.00	89.690	7483.07	2137.86N	4397.33E	==>	4780.31	
13500.00	90.00	89.690	7483.07	2138.40N	4497.32E	==>	4877.55	
13600.00	90.00	89.690	7483.07	2138.94N	4597.32E	==>	4974.79	
13700.00	90.00	89.690	7483.07	2139.48N	4697.32E	==>	5072.04	
13800.00	90.00	89.690	7483.07	2140.02N	4797.32E	==>	5169.28	
13900.00	90.00	89.690	7483.07	2140.56N	4897.32E	==>	5266.52	
14000.00	90.00	89.690	7483.07	2141.11N	4997.32E	==>	5363.76	
14100.00	90.00	89.690	7483.07	2141.65N	5097.32E	==>	5461.00	
14200.00	90.00	89.690	7483.07	2142.19N	5197.31E	==>	5558.24	
14300.00	90.00	89.690	7483.07	2142.73N	5297.31E	==>	5655.49	
14400.00	90.00	89.690	7483.07	2143.27N	5397.31E	==>	5752.73	
14500.00	90.00	89.690	7483.07	2143.81N	5497.31E	==>	5849.97	
14600.00	90.00	89.690	7483.07	2144.35N	5597.31E	==>	5947.21	
14700.00	90.00	89.690	7483.07	2144.89N	5697.31E	==>	6044.45	
14800.00	90.00	89.690	7483.07	2145.43N	5797.31E	==>	6141.70	
14900.00	90.00	89.690	7483.07	2145.97N	5897.30E	==>	6238.94	

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Vertical Section is from 0.00N 0.00E on azimuth 76.200 degrees  
Bottom hole distance is 9063.57 Feet on azimuth 76.20 degrees from Wellhead  
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SYS DRILL  
Well Design Combined Report  
Wellbore: W PC NORTH 1S-66-2928-3NH (PWB)



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
15000.00	90.00	89.690	7483.07	2146.51N	5997.30E	==>	6336.18	
15100.00	90.00	89.690	7483.07	2147.05N	6097.30E	==>	6433.42	
15200.00	90.00	89.690	7483.07	2147.59N	6197.30E	==>	6530.66	
15300.00	90.00	89.690	7483.07	2148.13N	6297.30E	==>	6627.90	
15400.00	90.00	89.690	7483.07	2148.67N	6397.30E	==>	6725.15	
15500.00	90.00	89.690	7483.07	2149.21N	6497.30E	==>	6822.39	
15600.00	90.00	89.690	7483.07	2149.75N	6597.29E	==>	6919.63	
15700.00	90.00	89.690	7483.07	2150.29N	6697.29E	==>	7016.87	
15800.00	90.00	89.690	7483.07	2150.83N	6797.29E	==>	7114.11	
15900.00	90.00	89.690	7483.07	2151.37N	6897.29E	==>	7211.35	
16000.00	90.00	89.690	7483.07	2151.91N	6997.29E	==>	7308.60	
16100.00	90.00	89.690	7483.07	2152.45N	7097.29E	==>	7405.84	
16200.00	90.00	89.690	7483.07	2152.99N	7197.29E	==>	7503.08	
16300.00	90.00	89.690	7483.07	2153.54N	7297.28E	==>	7600.32	
16400.00	90.00	89.690	7483.07	2154.08N	7397.28E	==>	7697.56	
16500.00	90.00	89.690	7483.07	2154.62N	7497.28E	==>	7794.80	
16600.00	90.00	89.690	7483.07	2155.16N	7597.28E	==>	7892.05	
16700.00	90.00	89.690	7483.07	2155.70N	7697.28E	==>	7989.29	
16800.00	90.00	89.690	7483.07	2156.24N	7797.28E	==>	8086.53	
16900.00	90.00	89.690	7483.07	2156.78N	7897.28E	==>	8183.77	
17000.00	90.00	89.690	7483.07	2157.32N	7997.27E	==>	8281.01	
17100.00	90.00	89.690	7483.07	2157.86N	8097.27E	==>	8378.25	
17200.00	90.00	89.690	7483.07	2158.40N	8197.27E	==>	8475.50	
17300.00	90.00	89.690	7483.07	2158.94N	8297.27E	==>	8572.74	
17400.00	90.00	89.690	7483.07	2159.48N	8397.27E	==>	8669.98	
17500.00	90.00	89.690	7483.07	2160.02N	8497.27E	==>	8767.22	
17600.00	90.00	89.690	7483.07	2160.56N	8597.26E	==>	8864.46	
17700.00	90.00	89.690	7483.07	2161.10N	8697.26E	==>	8961.70	
17800.00	90.00	89.690	7483.07	2161.64N	8797.26E	==>	9058.95	
17804.76	90.00	89.690	7483.07	2161.67N	8802.02E	==>	9063.57	

All data is in Feet unless otherwise stated  
Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 5062.1ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 76.200 degrees  
Bottom hole distance is 9063.57 Feet on azimuth 76.20 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 31-Jan-2017



Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
PC NORTH 1S-66-2928-3NH - BHL	2161.67N	8802.02E	7483.07	N39 56 27.8520	W104 46 22.3320	1222216.14	3203881.82
PC NORTH 1S-66-2928-3NH - EPL	2110.38N	787.69W	7483.07	N39 56 28.1040	W104 48 25.4520	1222164.86	3194292.40

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
523016	Planned	1500.00	1499.45	WdW Rate Gyro	Standard
523015	Planned	17804.76	7483.07	ISCWSA MWD	Rev 4 + SAG + FLT

Notes



SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: W PC NORTH 1S-66-2928-3NH (PWB)



Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Scan limit is calculated on CENTRE to CENTRE distance
Summary data uses Closest Approach clearance calculation for all minima
Hole size/Casings ARE included
Hole size/Casings are NOT subtracted from Centre-Centre distance
Confidence limit of 95.00% / 2.80 SD.

Wellbore		
Name	Created	Last Revised
W PC NORTH 1S-66-2928-3NH (PWB)	Jan-24-2017	Jan-24-2017

Well		
Name	Government ID	Last Revised
W PC NORTH 1S-66-2928-3NH		Jan-24-2017

Slot						
Name	Latitude	Longitude	Grid Northing	Grid Easting	North	East
PC NORTH 1S-66-2928-3NH	N39 56 7.1880	W104 48 15.5520	1220054.5412	3195080.0646	29.14S	0.23E

Installation						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Easting	Northing	Coord System Name	North Alignment
PC 1S-66-2928 PAD	N39 56 7.4760	W104 48 15.5520	3195079.8360	1220083.6821	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
W PC NORTH 1S-66-2928-4CD H	14.57	1200.00	1200.00	-154.71	17804.76	0.66	17804.76
W PC NORTH 1S-66-2928-2NH	14.57	1150.13	17804.76	-441.63	17804.76	0.40	17804.76
W PC SOUTH 1S-66-2928-13C DH	30.85	1200.00	1200.00	28.91	1213.91	3.19	17804.76
W PC NORTH 1S-66-2928-5NH	32.79	1200.00	1200.00	-390.67	17804.76	0.47	17804.76
W PC SOUTH 1S-66-2928-12N H	34.12	1200.00	17802.32	32.16	1230.31	2.88	17804.76
W PC SOUTH 1S-66-2928-14N H	34.12	1200.00	1200.00	32.18	1200.00	3.40	17804.76
W PC NORTH 1S-66-2928-11N H	41.78	1410.76	1406.12	39.51	1427.17	2.40	17804.76
W PC SOUTH 1S-66-2928-15N H	45.02	1200.00	17800.00	43.08	1200.00	3.91	17804.76
W PC NORTH 1S-66-2928-6NH	47.36	1200.00	1200.00	-8.13	17804.76	0.99	17804.76
W PC SOUTH 1S-66-2928-16C DH	56.52	1200.00	1200.00	54.58	1200.00	4.28	17804.76
W PC NORTH 1S-66-2928-7CD	61.93	1200.00	1200.00	60.00	1200.00	1.32	17804.76

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Vertical Section is from 0.00N 0.00E on azimuth 76.200 degrees  
Prepared by IPT  
Date Printed: 31-Jan-2017



SYS DRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: W PC NORTH 1S-66-2928-3NH (PWB)



Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
H							
W PC SOUTH 1S-66-2928-17N H	69.19	1200.00	1200.00	67.25	1200.00	4.42	17804.76
W PC NORTH 1S-66-2928-8NH	76.50	1200.00	1200.00	74.57	1200.00	1.45	17804.76
W PC SOUTH 1S-66-2928-18N H	82.48	1200.00	1200.00	80.55	1200.00	4.91	17804.76
W PC NORTH 1S-66-2928-9NH	91.07	1200.00	1200.00	89.14	1200.00	1.92	17804.76
W PC SOUTH 1S-66-2928-19C DH	96.15	1200.00	17800.00	94.22	1200.00	5.35	17804.76
W PC NORTH 1S-66-2928-10C DH	105.64	1200.00	17803.54	103.71	1200.00	2.17	17804.76
W PC SOUTH 1S-66-2928-20N H	110.05	1200.00	17800.00	108.12	1200.00	5.46	17804.76
W POLLARD #1	3799.75	13681.10	13681.10	3540.98	13800.00	13.88	14665.35



