

HRM Resources

Location	DJ Basin	Slot	PC SOUTH 1S-66-2928-20NH
Field	WATTENBERG	Well	W PC SOUTH 1S-66-2928-20NH
Installation	PC 1S-66-2928 PAD	Wellbore	W PC SOUTH 1S-66-2928-20NH (PWB)

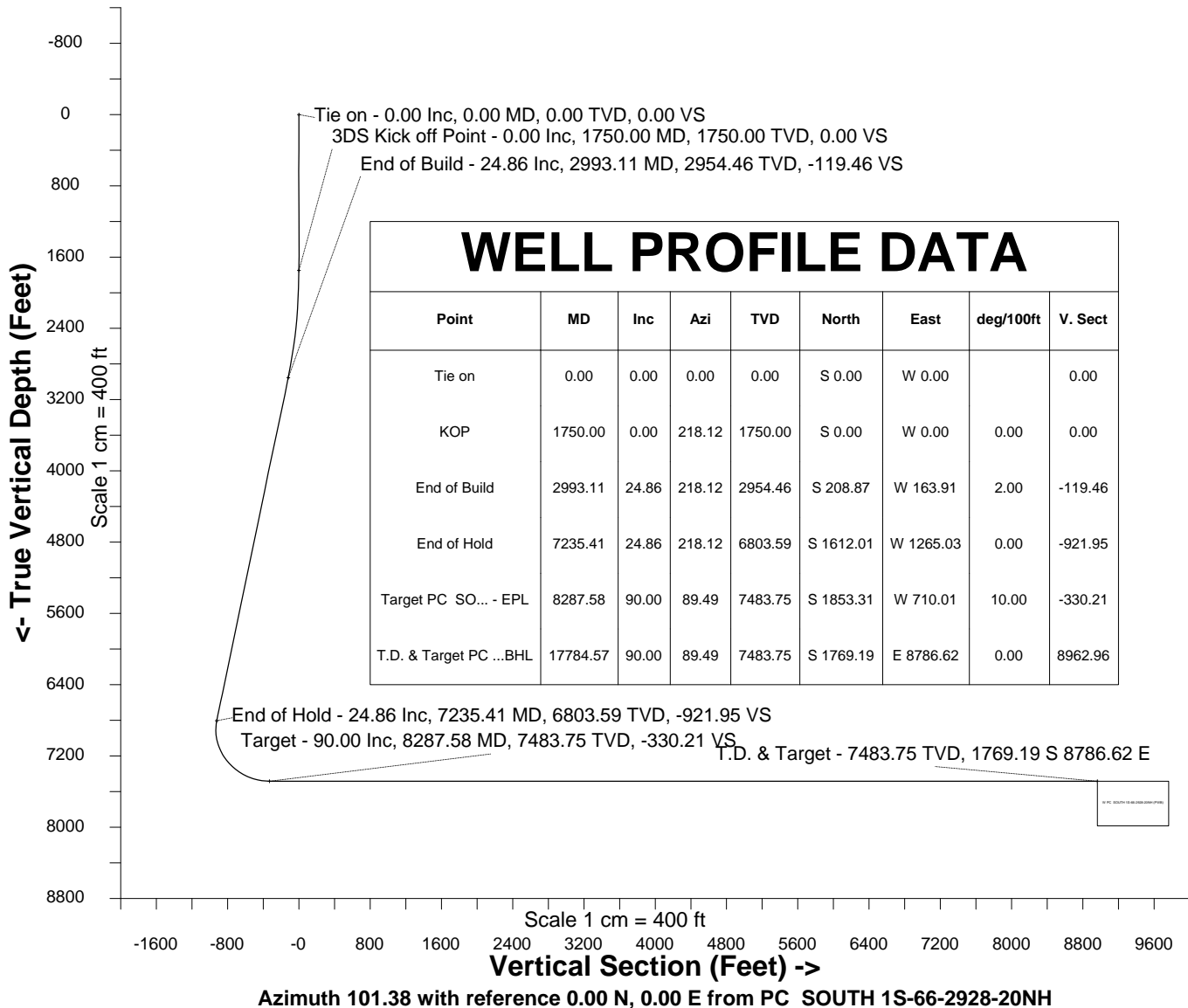
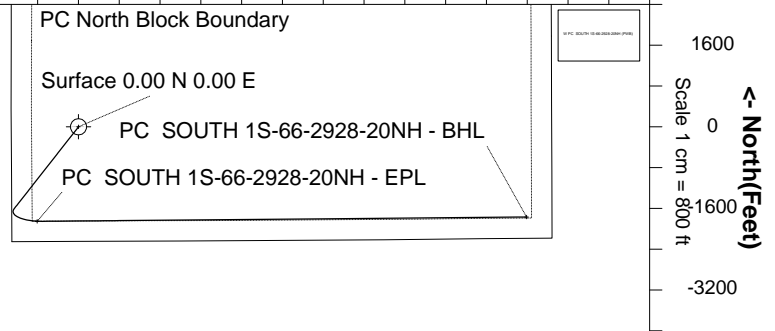
N
GRID

East (Feet) ->

-3200 -1600 0 1600 3200 4800 6400 8000 9600 11200
Scale 1 cm = 800 ft

Jan-24-2017
EMM-2015 [2000.0-2020.0] Dip: 66.34 deg Field: 52071.6 nT
Lat: N39 56 7.4760 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

Created by	admin
Date plotted	1-Feb-2017
Plot reference is W PC SOUTH 1S-66-2928-20NH (PWB).	
Ref wellpath is W PC SOUTH 1S-66-2928-20NH (PWP#1).	
Coordinates are in Feet reference PC SOUTH 1S-66-2928-20NH.	
True Vertical Depths are reference Rig Datum.	
Measured Depths are reference Rig Datum.	
Rig Datum: Planned Datum #1	
Rig Datum to Mean Sea Level: 5062.75 ft.	
Plot North is aligned to GRID North.	



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	1750.00	0.00	218.12	1750.00	S 0.00	W 0.00	0.00	0.00
End of Build	2993.11	24.86	218.12	2954.46	S 208.87	W 163.91	2.00	-119.46
End of Hold	7235.41	24.86	218.12	6803.59	S 1612.01	W 1265.03	0.00	-921.95
Target PC SO... - EPL	8287.58	90.00	89.49	7483.75	S 1853.31	W 710.01	10.00	-330.21
T.D. & Target PC ...BHL	17784.57	90.00	89.49	7483.75	S 1769.19	E 8786.62	0.00	8962.96



SYSDRILL
Well Design Combined Report
Wellbore: W PC SOUTH 1S-66-2928-20NH (PWB)



Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
PC SOUTH 1S-66-2928-20NH	N39 56 6.1440	W104 48 15.1560	1219949.1477	3195111.7387	134.54S	31.90E	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	1219949.15	3195111.74
1750.00	0.00	218.120	1750.00	0.00N	0.00E	==>	0.00	1219949.15	3195111.74
2993.11	24.86	218.120	2954.46	208.87S	163.91W	2.00	-119.46	1219740.29	3194947.83
7235.41	24.86	218.120	6803.59	1612.01S	1265.03W	==>	-921.95	1218337.18	3193846.74
8287.58	90.00	89.490	7483.75	1853.31S	710.01W	10.00	-330.21	1218095.89	3194401.75
17784.57	90.00	89.490	7483.75	1769.19S	8786.62E	==>	8962.96	1218180.01	3203898.09

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	0.000	1200.00	0.00N	0.00E	==>	0.00	
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	
1400.00	0.00	0.000	1400.00	0.00N	0.00E	==>	0.00	
1500.00	0.00	0.000	1500.00	0.00N	0.00E	==>	0.00	
1600.00	0.00	0.000	1600.00	0.00N	0.00E	==>	0.00	
1700.00	0.00	0.000	1700.00	0.00N	0.00E	==>	0.00	
1800.00	1.00	218.120	1800.00	0.34S	0.27W	2.00	-0.20	
1900.00	3.00	218.120	1899.93	3.09S	2.42W	2.00	-1.77	
2000.00	5.00	218.120	1999.68	8.58S	6.73W	2.00	-4.90	
2100.00	7.00	218.120	2099.13	16.80S	13.18W	2.00	-9.61	
2200.00	9.00	218.120	2198.15	27.75S	21.77W	2.00	-15.87	
2300.00	11.00	218.120	2296.63	41.41S	32.49W	2.00	-23.68	
2400.00	13.00	218.120	2394.44	57.76S	45.33W	2.00	-33.04	
2500.00	15.00	218.120	2491.46	76.79S	60.26W	2.00	-43.92	
2600.00	17.00	218.120	2587.58	98.48S	77.28W	2.00	-56.32	
2700.00	19.00	218.120	2682.68	122.78S	96.36W	2.00	-70.22	
2800.00	21.00	218.120	2776.65	149.69S	117.47W	2.00	-85.61	
2900.00	23.00	218.120	2869.36	179.16S	140.59W	2.00	-102.46	
3000.00	24.86	218.120	2960.72	211.15S	165.70W	==>	-120.76	
3100.00	24.86	218.120	3051.45	244.22S	191.65W	==>	-139.68	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5062.7ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 101.380 degrees
Bottom hole distance is 8962.96 Feet on azimuth 101.38 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by IPT
Date Printed: 1-Feb-2017



SYSDRILL
Well Design Combined Report
Wellbore: W PC SOUTH 1S-66-2928-20NH (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	24.86	218.120	3142.18	277.30S	217.61W	==>	-158.59	
3300.00	24.86	218.120	3232.91	310.37S	243.57W	==>	-177.51	
3400.00	24.86	218.120	3323.64	343.45S	269.52W	==>	-196.43	
3500.00	24.86	218.120	3414.38	376.52S	295.48W	==>	-215.34	
3600.00	24.86	218.120	3505.11	409.60S	321.43W	==>	-234.26	
3700.00	24.86	218.120	3595.84	442.67S	347.39W	==>	-253.18	
3800.00	24.86	218.120	3686.57	475.75S	373.35W	==>	-272.09	
3900.00	24.86	218.120	3777.31	508.82S	399.30W	==>	-291.01	
4000.00	24.86	218.120	3868.04	541.90S	425.26W	==>	-309.93	
4100.00	24.86	218.120	3958.77	574.97S	451.21W	==>	-328.84	
4200.00	24.86	218.120	4049.50	608.05S	477.17W	==>	-347.76	
4300.00	24.86	218.120	4140.23	641.12S	503.12W	==>	-366.67	
4400.00	24.86	218.120	4230.97	674.20S	529.08W	==>	-385.59	
4500.00	24.86	218.120	4321.70	707.27S	555.04W	==>	-404.51	
4600.00	24.86	218.120	4412.43	740.35S	580.99W	==>	-423.42	
4700.00	24.86	218.120	4503.16	773.42S	606.95W	==>	-442.34	
4800.00	24.86	218.120	4593.90	806.50S	632.90W	==>	-461.26	
4900.00	24.86	218.120	4684.63	839.57S	658.86W	==>	-480.17	
5000.00	24.86	218.120	4775.36	872.65S	684.82W	==>	-499.09	
5100.00	24.86	218.120	4866.09	905.72S	710.77W	==>	-518.01	
5200.00	24.86	218.120	4956.82	938.80S	736.73W	==>	-536.92	
5300.00	24.86	218.120	5047.56	971.87S	762.68W	==>	-555.84	
5400.00	24.86	218.120	5138.29	1004.95S	788.64W	==>	-574.76	
5500.00	24.86	218.120	5229.02	1038.02S	814.59W	==>	-593.67	
5600.00	24.86	218.120	5319.75	1071.10S	840.55W	==>	-612.59	
5700.00	24.86	218.120	5410.49	1104.17S	866.51W	==>	-631.51	
5800.00	24.86	218.120	5501.22	1137.25S	892.46W	==>	-650.42	
5900.00	24.86	218.120	5591.95	1170.32S	918.42W	==>	-669.34	
6000.00	24.86	218.120	5682.68	1203.40S	944.37W	==>	-688.26	
6100.00	24.86	218.120	5773.41	1236.47S	970.33W	==>	-707.17	
6200.00	24.86	218.120	5864.15	1269.55S	996.29W	==>	-726.09	
6300.00	24.86	218.120	5954.88	1302.63S	1022.24W	==>	-745.01	
6400.00	24.86	218.120	6045.61	1335.70S	1048.20W	==>	-763.92	
6500.00	24.86	218.120	6136.34	1368.78S	1074.15W	==>	-782.84	
6600.00	24.86	218.120	6227.07	1401.85S	1100.11W	==>	-801.75	
6700.00	24.86	218.120	6317.81	1434.93S	1126.06W	==>	-820.67	
6800.00	24.86	218.120	6408.54	1468.00S	1152.02W	==>	-839.59	
6900.00	24.86	218.120	6499.27	1501.08S	1177.98W	==>	-858.50	
7000.00	24.86	218.120	6590.00	1534.15S	1203.93W	==>	-877.42	
7100.00	24.86	218.120	6680.74	1567.23S	1229.89W	==>	-896.34	
7200.00	24.86	218.120	6771.47	1600.30S	1255.84W	==>	-915.25	
7300.00	21.67	203.840	6862.97	1633.62S	1278.25W	10.00	-930.64	
7400.00	19.94	175.850	6956.68	1667.60S	1284.50W	10.00	-930.06	
7500.00	22.74	149.210	7050.03	1701.30S	1273.34W	10.00	-912.47	
7600.00	28.79	130.700	7140.20	1733.69S	1245.12W	10.00	-878.41	
7700.00	36.49	118.790	7224.43	1763.78S	1200.69W	10.00	-828.91	
7800.00	45.01	110.710	7300.17	1790.68S	1141.40W	10.00	-765.48	
7900.00	53.94	104.780	7365.12	1813.55S	1069.06W	10.00	-690.05	
8000.00	63.10	100.070	7417.30	1831.70S	985.86W	10.00	-604.91	
8100.00	72.40	96.090	7455.13	1844.59S	894.33W	10.00	-512.64	
8200.00	81.77	92.490	7477.47	1851.81S	797.26W	10.00	-416.05	
8300.00	90.00	89.490	7483.75	1853.20S	697.58W	==>	-318.06	
8400.00	90.00	89.490	7483.75	1852.32S	597.59W	==>	-220.20	
8500.00	90.00	89.490	7483.75	1851.43S	497.59W	==>	-122.35	
8600.00	90.00	89.490	7483.75	1850.54S	397.60W	==>	-24.50	
8700.00	90.00	89.490	7483.75	1849.66S	297.60W	==>	73.36	
8800.00	90.00	89.490	7483.75	1848.77S	197.60W	==>	171.21	
8900.00	90.00	89.490	7483.75	1847.89S	97.61W	==>	269.07	
9000.00	90.00	89.490	7483.75	1847.00S	2.39E	==>	366.92	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5062.7ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 101.380 degrees
Bottom hole distance is 8962.96 Feet on azimuth 101.38 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by IPT
Date Printed: 1-Feb-2017



SYSDRILL
Well Design Combined Report
Wellbore: W PC SOUTH 1S-66-2928-20NH (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	89.490	7483.75	1846.12S	102.39E	==>	464.77	
9200.00	90.00	89.490	7483.75	1845.23S	202.38E	==>	562.63	
9300.00	90.00	89.490	7483.75	1844.34S	302.38E	==>	660.48	
9400.00	90.00	89.490	7483.75	1843.46S	402.37E	==>	758.34	
9500.00	90.00	89.490	7483.75	1842.57S	502.37E	==>	856.19	
9600.00	90.00	89.490	7483.75	1841.69S	602.37E	==>	954.04	
9700.00	90.00	89.490	7483.75	1840.80S	702.36E	==>	1051.90	
9800.00	90.00	89.490	7483.75	1839.92S	802.36E	==>	1149.75	
9900.00	90.00	89.490	7483.75	1839.03S	902.35E	==>	1247.60	
10000.00	90.00	89.490	7483.75	1838.14S	1002.35E	==>	1345.46	
10100.00	90.00	89.490	7483.75	1837.26S	1102.35E	==>	1443.31	
10200.00	90.00	89.490	7483.75	1836.37S	1202.34E	==>	1541.17	
10300.00	90.00	89.490	7483.75	1835.49S	1302.34E	==>	1639.02	
10400.00	90.00	89.490	7483.75	1834.60S	1402.33E	==>	1736.87	
10500.00	90.00	89.490	7483.75	1833.72S	1502.33E	==>	1834.73	
10600.00	90.00	89.490	7483.75	1832.83S	1602.33E	==>	1932.58	
10700.00	90.00	89.490	7483.75	1831.94S	1702.32E	==>	2030.44	
10800.00	90.00	89.490	7483.75	1831.06S	1802.32E	==>	2128.29	
10900.00	90.00	89.490	7483.75	1830.17S	1902.31E	==>	2226.14	
11000.00	90.00	89.490	7483.75	1829.29S	2002.31E	==>	2324.00	
11100.00	90.00	89.490	7483.75	1828.40S	2102.31E	==>	2421.85	
11200.00	90.00	89.490	7483.75	1827.51S	2202.30E	==>	2519.70	
11300.00	90.00	89.490	7483.75	1826.63S	2302.30E	==>	2617.56	
11400.00	90.00	89.490	7483.75	1825.74S	2402.29E	==>	2715.41	
11500.00	90.00	89.490	7483.75	1824.86S	2502.29E	==>	2813.27	
11600.00	90.00	89.490	7483.75	1823.97S	2602.29E	==>	2911.12	
11700.00	90.00	89.490	7483.75	1823.09S	2702.28E	==>	3008.97	
11800.00	90.00	89.490	7483.75	1822.20S	2802.28E	==>	3106.83	
11900.00	90.00	89.490	7483.75	1821.31S	2902.28E	==>	3204.68	
12000.00	90.00	89.490	7483.75	1820.43S	3002.27E	==>	3302.54	
12100.00	90.00	89.490	7483.75	1819.54S	3102.27E	==>	3400.39	
12200.00	90.00	89.490	7483.75	1818.66S	3202.26E	==>	3498.24	
12300.00	90.00	89.490	7483.75	1817.77S	3302.26E	==>	3596.10	
12400.00	90.00	89.490	7483.75	1816.89S	3402.26E	==>	3693.95	
12500.00	90.00	89.490	7483.75	1816.00S	3502.25E	==>	3791.80	
12600.00	90.00	89.490	7483.75	1815.11S	3602.25E	==>	3889.66	
12700.00	90.00	89.490	7483.75	1814.23S	3702.24E	==>	3987.51	
12800.00	90.00	89.490	7483.75	1813.34S	3802.24E	==>	4085.37	
12900.00	90.00	89.490	7483.75	1812.46S	3902.24E	==>	4183.22	
13000.00	90.00	89.490	7483.75	1811.57S	4002.23E	==>	4281.07	
13100.00	90.00	89.490	7483.75	1810.69S	4102.23E	==>	4378.93	
13200.00	90.00	89.490	7483.75	1809.80S	4202.22E	==>	4476.78	
13300.00	90.00	89.490	7483.75	1808.91S	4302.22E	==>	4574.64	
13400.00	90.00	89.490	7483.75	1808.03S	4402.22E	==>	4672.49	
13500.00	90.00	89.490	7483.75	1807.14S	4502.21E	==>	4770.34	
13600.00	90.00	89.490	7483.75	1806.26S	4602.21E	==>	4868.20	
13700.00	90.00	89.490	7483.75	1805.37S	4702.20E	==>	4966.05	
13800.00	90.00	89.490	7483.75	1804.49S	4802.20E	==>	5063.90	
13900.00	90.00	89.490	7483.75	1803.60S	4902.20E	==>	5161.76	
14000.00	90.00	89.490	7483.75	1802.71S	5002.19E	==>	5259.61	
14100.00	90.00	89.490	7483.75	1801.83S	5102.19E	==>	5357.47	
14200.00	90.00	89.490	7483.75	1800.94S	5202.19E	==>	5455.32	
14300.00	90.00	89.490	7483.75	1800.06S	5302.18E	==>	5553.17	
14400.00	90.00	89.490	7483.75	1799.17S	5402.18E	==>	5651.03	
14500.00	90.00	89.490	7483.75	1798.28S	5502.17E	==>	5748.88	
14600.00	90.00	89.490	7483.75	1797.40S	5602.17E	==>	5846.74	
14700.00	90.00	89.490	7483.75	1796.51S	5702.17E	==>	5944.59	
14800.00	90.00	89.490	7483.75	1795.63S	5802.16E	==>	6042.44	
14900.00	90.00	89.490	7483.75	1794.74S	5902.16E	==>	6140.30	

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Vertical Section is from 0.00N 0.00E on azimuth 101.380 degrees
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Well Design Combined Report
Wellbore: W PC SOUTH 1S-66-2928-20NH (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	89.490	7483.75	1793.86S	6002.15E	==>	6238.15	
15100.00	90.00	89.490	7483.75	1792.97S	6102.15E	==>	6336.00	
15200.00	90.00	89.490	7483.75	1792.08S	6202.15E	==>	6433.86	
15300.00	90.00	89.490	7483.75	1791.20S	6302.14E	==>	6531.71	
15400.00	90.00	89.490	7483.75	1790.31S	6402.14E	==>	6629.57	
15500.00	90.00	89.490	7483.75	1789.43S	6502.13E	==>	6727.42	
15600.00	90.00	89.490	7483.75	1788.54S	6602.13E	==>	6825.27	
15700.00	90.00	89.490	7483.75	1787.66S	6702.13E	==>	6923.13	
15800.00	90.00	89.490	7483.75	1786.77S	6802.12E	==>	7020.98	
15900.00	90.00	89.490	7483.75	1785.88S	6902.12E	==>	7118.83	
16000.00	90.00	89.490	7483.75	1785.00S	7002.11E	==>	7216.69	
16100.00	90.00	89.490	7483.75	1784.11S	7102.11E	==>	7314.54	
16200.00	90.00	89.490	7483.75	1783.23S	7202.11E	==>	7412.40	
16300.00	90.00	89.490	7483.75	1782.34S	7302.10E	==>	7510.25	
16400.00	90.00	89.490	7483.75	1781.46S	7402.10E	==>	7608.10	
16500.00	90.00	89.490	7483.75	1780.57S	7502.09E	==>	7705.96	
16600.00	90.00	89.490	7483.75	1779.68S	7602.09E	==>	7803.81	
16700.00	90.00	89.490	7483.75	1778.80S	7702.09E	==>	7901.67	
16800.00	90.00	89.490	7483.75	1777.91S	7802.08E	==>	7999.52	
16900.00	90.00	89.490	7483.75	1777.03S	7902.08E	==>	8097.37	
17000.00	90.00	89.490	7483.75	1776.14S	8002.08E	==>	8195.23	
17100.00	90.00	89.490	7483.75	1775.25S	8102.07E	==>	8293.08	
17200.00	90.00	89.490	7483.75	1774.37S	8202.07E	==>	8390.93	
17300.00	90.00	89.490	7483.75	1773.48S	8302.06E	==>	8488.79	
17400.00	90.00	89.490	7483.75	1772.60S	8402.06E	==>	8586.64	
17500.00	90.00	89.490	7483.75	1771.71S	8502.06E	==>	8684.50	
17600.00	90.00	89.490	7483.75	1770.83S	8602.05E	==>	8782.35	
17700.00	90.00	89.490	7483.75	1769.94S	8702.05E	==>	8880.20	
17784.57	90.00	89.490	7483.75	1769.19S	8786.62E	==>	8962.96	

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 5062.7ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 101.380 degrees
Bottom hole distance is 8962.96 Feet on azimuth 101.38 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by IPT
Date Printed: 1-Feb-2017



Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
PC SOUTH 1S-66-2928-20NH - BHL	1769.19S	8786.62E	7483.75	N39 55 47.9640	W104 46 22.5480	1218180.01	3203898.09
PC SOUTH 1S-66-2928-20NH - EPL	1853.31S	810.01W	7483.75	N39 55 47.8920	W104 48 25.7400	1218095.89	3194301.76

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
523215	Planned	1500.00	1500.00	WdW Rate Gyro	Standard
523214	Planned	17784.57	7483.75	ISCWSA MWD	Rev 4 + SAG + FLT

Notes



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: W PC SOUTH 1S-66-2928-20NH (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 SOUTH 1S-66-2928-20NH (PWB)	Jan-24-2017	Jan-24-2017

Well		
Name	Government ID	Last Revised
W PC SOUTH 1S-66-2928-20NH		Jan-24-2017

Slot						
Name	Latitude	Longitude	Grid Northing	Grid Easting	North	East
PC SOUTH 1S-66-2928-20NH	N39 56 6.1440	W104 48 15.1560	1219949.1477	3195111.7387	134.54S	31.90E

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 SOUTH 1S-66-2928-19C DH	14.57	1750.00	17784.57	-41.91	17784.57	0.86	17784.57
W PC SOUTH 1S-66-2928-18NH	29.14	1750.00	17784.57	-338.43	17784.57	0.54	17784.57
W PC NORTH 1S-66-2928-10C DH	30.85	1550.13	17784.57	28.41	1550.13	3.37	17784.57
W PC NORTH 1S-66-2928-9NH	34.12	1500.23	17784.57	31.70	1500.23	3.54	17784.57
W PC NORTH 1S-66-2928-8NH	42.44	1450.24	17784.57	40.10	1450.24	4.01	17784.57
W PC SOUTH 1S-66-2928-17NH	43.71	1750.00	17784.57	25.95	17784.57	1.04	17784.57
W PC NORTH 1S-66-2928-7CDH	53.50	1400.00	17784.57	51.25	1400.00	4.16	17784.57
W PC SOUTH 1S-66-2928-16C DH	58.29	1750.00	17784.57	55.06	1771.65	1.29	17784.57
W PC NORTH 1S-66-2928-6NH	65.94	1350.30	17784.57	63.77	1350.30	4.47	17784.57
W PC SOUTH 1S-66-2928-15NH	72.86	1750.00	17784.57	69.63	1771.65	1.54	17784.57
W PC NORTH 1S-66-2928-5NH	79.12	1300.42	17784.57	77.02	1300.42	4.99	17784.57

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Vertical Section is from 0.00N 0.00E on azimuth 101.380 degrees
Prepared by IPT
Date Printed: 1-Feb-2017



SYS DRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: W PC SOUTH 1S-66-2928-20NH (PWB)



Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
W PC SOUTH 1S-66-2928-14N H	91.07	1750.00	17784.57	87.84	1771.65	2.05	17784.57
W PC NORTH 1S-66-2928-4CD H	96.15	1250.65	17784.57	94.14	1250.65	5.24	17784.57
W PC SOUTH 1S-66-2928-13C DH	105.64	1750.00	17784.57	102.42	1771.65	2.34	17784.57
W PC NORTH 1S-66-2928-3NH	110.05	1200.68	17784.57	108.12	1200.68	5.46	17784.57
W PC SOUTH 1S-66-2928-12N H	120.21	1750.00	17784.57	116.99	1771.65	2.56	17784.57
W PC NORTH 1S-66-2928-2NH	124.11	1150.81	17784.57	122.25	1150.81	5.86	17784.57
W PC NORTH 1S-66-2928-11N H	134.78	1750.00	17784.57	131.56	1771.65	3.04	17784.57
W POLLARD #1	250.77	13665.53	13665.53	-5.02	13665.53	0.98	13664.70

