

# HRM Resources

Location	DJ Basin	Slot	PC SOUTH 1S-66-2928-15NH
Field	WATTENBERG	Well	W PC SOUTH 1S-66-2928-15NH
Installation	PC 1S-66-2928 PAD	Wellbore	W PC SOUTH 1S-66-2928-15NH (PWB)

N  
GRID

East (Feet) ->

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

Surface 0.00 N 0.00 E

PC SOUTH 1S-66-2928-15NH - EPL

PC SOUTH 1S-66-2928-15NH - BHL  
PC North Block Boundary

North (Feet)  
Scale 1 cm = 800 ft

1600  
0  
-1600  
-3200

Jan-24-2017  
EMM-2015 (2000.0-2020.0) Dip: 66.34 deg Field: 52079.8 mT  
Lat: N49 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-66-2928-15NH (PWB).  
Ref wellpath is W PC SOUTH 1S-66-2928-15NH (PWP#1).  
Coordinates are in Feet reference PC SOUTH 1S-66-2928-15NH.  
True Vertical Depths are reference Rig Datum.  
Measured Depths are reference Rig Datum.  
Rig Datum: Planned Datum #1  
Rig Datum to Mean Sea Level: 5062.22 ft.  
Plot North is aligned to GRID North.

True Vertical Depth (Feet)  
Scale 1 cm = 400 ft

-800  
0  
800  
1600  
2400  
3200  
4000  
4800  
5600  
6400  
7200  
8000  
8800

Tie on - 0.00 Inc, 0.00 MD, 0.00 TVD, 0.00 VS

3DS Kick off Point - 0.00 Inc, 2000.00 MD, 2000.00 TVD, 0.00 VS

End of Build - 18.34 Inc, 2917.11 MD, 2901.52 TVD, -123.72 VS

## 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	2000.00	0.00	242.78	2000.00	S 0.00	W 0.00	0.00	0.00
End of Build	2917.11	18.34	242.78	2901.52	S 66.56	W 129.43	2.00	-123.72
End of Hold	6979.53	18.34	242.78	6757.55	S 651.23	W 1266.31	0.00	-1210.40
Target PC SO... - EPL	8042.54	90.00	89.67	7483.22	S 756.83	W 715.77	10.00	-653.19
T.D. & Target PC ...BHL	17539.11	90.00	89.67	7483.22	S 701.86	E 8780.64	0.00	8808.65

End of Hold - 18.34 Inc, 6979.53 MD, 6757.55 TVD, -1210.40 VS

Target - 90.00 Inc, 8042.54 MD, 7483.22 TVD, -653.19 VS

T.D. & Target - 7483.22 TVD, 701.86 S 8780.64 E

Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 94.57 with reference 0.00 N, 0.00 E from PC SOUTH 1S-66-2928-15NH



SYSDRILL  
Well Design Combined Report  
Wellbore: W PC SOUTH 1S-66-2928-15NH (PWB)



### Wellhead Details

Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
PC SOUTH 1S-66-2928-15NH	N39 56 6.8640	W104 48 15.1560	1220021.9998	3195111.1670	61.68S	31.33E	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	1220022.00	3195111.17
2000.00	0.00	242.780	2000.00	0.00N	0.00E	==>	0.00	1220022.00	3195111.17
2917.11	18.34	242.780	2901.52	66.56S	129.43W	2.00	-123.72	1219955.44	3194981.74
6979.53	18.34	242.780	6757.55	651.23S	1266.31W	==>	-1210.40	1219370.79	3193844.89
8042.54	90.00	89.670	7483.22	756.83S	715.77W	10.00	-653.19	1219265.19	3194395.42
17539.11	90.00	89.670	7483.22	701.86S	8780.64E	==>	8808.65	1219320.16	3203891.55

### 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	0.00	0.000	1800.00	0.00N	0.00E	==>	0.00	
1900.00	0.00	0.000	1900.00	0.00N	0.00E	==>	0.00	
2000.00	0.00	242.780	2000.00	0.00N	0.00E	==>	0.00	
2100.00	2.00	242.780	2099.98	0.80S	1.55W	2.00	-1.48	
2200.00	4.00	242.780	2199.84	3.19S	6.21W	2.00	-5.93	
2300.00	6.00	242.780	2299.45	7.18S	13.96W	2.00	-13.34	
2400.00	8.00	242.780	2398.70	12.75S	24.79W	2.00	-23.70	
2500.00	10.00	242.780	2497.47	19.90S	38.70W	2.00	-37.00	
2600.00	12.00	242.780	2595.62	28.63S	55.67W	2.00	-53.21	
2700.00	14.00	242.780	2693.06	38.92S	75.68W	2.00	-72.33	
2800.00	16.00	242.780	2789.64	50.75S	98.69W	2.00	-94.33	
2900.00	18.00	242.780	2885.27	64.12S	124.69W	2.00	-119.18	
3000.00	18.34	242.780	2980.20	78.49S	152.63W	==>	-145.89	
3100.00	18.34	242.780	3075.12	92.89S	180.62W	==>	-172.64	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 5062.2ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 94.570 degrees  
Bottom hole distance is 8808.65 Feet on azimuth 94.57 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by IPT  
Date Printed: 1-Feb-2017



SYS DRILL  
Well Design Combined Report  
Wellbore: W PC SOUTH 1S-66-2928-15NH (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	18.34	242.780	3170.04	107.28S	208.60W	==>	-199.39	
3300.00	18.34	242.780	3264.96	121.67S	236.59W	==>	-226.14	
3400.00	18.34	242.780	3359.88	136.06S	264.57W	==>	-252.89	
3500.00	18.34	242.780	3454.80	150.45S	292.56W	==>	-279.64	
3600.00	18.34	242.780	3549.72	164.85S	320.54W	==>	-306.39	
3700.00	18.34	242.780	3644.64	179.24S	348.53W	==>	-333.14	
3800.00	18.34	242.780	3739.56	193.63S	376.51W	==>	-359.89	
3900.00	18.34	242.780	3834.48	208.02S	404.50W	==>	-386.64	
4000.00	18.34	242.780	3929.40	222.42S	432.48W	==>	-413.39	
4100.00	18.34	242.780	4024.32	236.81S	460.47W	==>	-440.14	
4200.00	18.34	242.780	4119.24	251.20S	488.45W	==>	-466.89	
4300.00	18.34	242.780	4214.16	265.59S	516.44W	==>	-493.64	
4400.00	18.34	242.780	4309.08	279.98S	544.43W	==>	-520.39	
4500.00	18.34	242.780	4404.00	294.38S	572.41W	==>	-547.14	
4600.00	18.34	242.780	4498.91	308.77S	600.40W	==>	-573.88	
4700.00	18.34	242.780	4593.83	323.16S	628.38W	==>	-600.63	
4800.00	18.34	242.780	4688.75	337.55S	656.37W	==>	-627.38	
4900.00	18.34	242.780	4783.67	351.94S	684.35W	==>	-654.13	
5000.00	18.34	242.780	4878.59	366.34S	712.34W	==>	-680.88	
5100.00	18.34	242.780	4973.51	380.73S	740.32W	==>	-707.63	
5200.00	18.34	242.780	5068.43	395.12S	768.31W	==>	-734.38	
5300.00	18.34	242.780	5163.35	409.51S	796.29W	==>	-761.13	
5400.00	18.34	242.780	5258.27	423.90S	824.28W	==>	-787.88	
5500.00	18.34	242.780	5353.19	438.30S	852.26W	==>	-814.63	
5600.00	18.34	242.780	5448.11	452.69S	880.25W	==>	-841.38	
5700.00	18.34	242.780	5543.03	467.08S	908.23W	==>	-868.13	
5800.00	18.34	242.780	5637.95	481.47S	936.22W	==>	-894.88	
5900.00	18.34	242.780	5732.87	495.86S	964.20W	==>	-921.63	
6000.00	18.34	242.780	5827.79	510.26S	992.19W	==>	-948.38	
6100.00	18.34	242.780	5922.71	524.65S	1020.17W	==>	-975.13	
6200.00	18.34	242.780	6017.63	539.04S	1048.16W	==>	-1001.88	
6300.00	18.34	242.780	6112.54	553.43S	1076.14W	==>	-1028.63	
6400.00	18.34	242.780	6207.46	567.82S	1104.13W	==>	-1055.38	
6500.00	18.34	242.780	6302.38	582.22S	1132.11W	==>	-1082.13	
6600.00	18.34	242.780	6397.30	596.61S	1160.10W	==>	-1108.87	
6700.00	18.34	242.780	6492.22	611.00S	1188.08W	==>	-1135.62	
6800.00	18.34	242.780	6587.14	625.39S	1216.07W	==>	-1162.37	
6900.00	18.34	242.780	6682.06	639.78S	1244.06W	==>	-1189.12	
7000.00	16.56	239.400	6777.08	654.19S	1271.69W	10.00	-1215.52	
7100.00	9.52	206.310	6874.56	668.90S	1287.66W	10.00	-1230.27	
7200.00	10.27	145.500	6973.32	683.69S	1286.28W	10.00	-1227.71	
7300.00	17.85	117.400	7070.36	698.13S	1267.57W	10.00	-1207.92	
7400.00	27.03	106.760	7162.73	711.77S	1232.12W	10.00	-1171.49	
7500.00	36.62	101.310	7247.61	724.20S	1180.98W	10.00	-1119.53	
7600.00	46.36	97.890	7322.44	735.05S	1115.73W	10.00	-1053.62	
7700.00	56.18	95.430	7384.94	743.97S	1038.34W	10.00	-975.76	
7800.00	66.03	93.490	7433.21	750.70S	951.17W	10.00	-888.33	
7900.00	75.91	91.830	7465.78	755.03S	856.85W	10.00	-793.97	
8000.00	85.79	90.300	7481.66	756.85S	758.27W	10.00	-695.55	
8100.00	90.00	89.670	7483.22	756.50S	658.31W	==>	-595.94	
8200.00	90.00	89.670	7483.22	755.92S	558.31W	==>	-496.30	
8300.00	90.00	89.670	7483.22	755.34S	458.31W	==>	-396.67	
8400.00	90.00	89.670	7483.22	754.76S	358.31W	==>	-297.04	
8500.00	90.00	89.670	7483.22	754.18S	258.31W	==>	-197.40	
8600.00	90.00	89.670	7483.22	753.61S	158.32W	==>	-97.77	
8700.00	90.00	89.670	7483.22	753.03S	58.32W	==>	1.87	
8800.00	90.00	89.670	7483.22	752.45S	41.68E	==>	101.50	
8900.00	90.00	89.670	7483.22	751.87S	141.68E	==>	201.14	
9000.00	90.00	89.670	7483.22	751.29S	241.68E	==>	300.77	

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Vertical Section is from 0.00N 0.00E on azimuth 94.570 degrees  
Bottom hole distance is 8808.65 Feet on azimuth 94.57 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-66-2928-15NH (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	89.670	7483.22	750.71S	341.67E	==>	400.40	
9200.00	90.00	89.670	7483.22	750.13S	441.67E	==>	500.04	
9300.00	90.00	89.670	7483.22	749.55S	541.67E	==>	599.67	
9400.00	90.00	89.670	7483.22	748.97S	641.67E	==>	699.31	
9500.00	90.00	89.670	7483.22	748.40S	741.67E	==>	798.94	
9600.00	90.00	89.670	7483.22	747.82S	841.67E	==>	898.58	
9700.00	90.00	89.670	7483.22	747.24S	941.66E	==>	998.21	
9800.00	90.00	89.670	7483.22	746.66S	1041.66E	==>	1097.84	
9900.00	90.00	89.670	7483.22	746.08S	1141.66E	==>	1197.48	
10000.00	90.00	89.670	7483.22	745.50S	1241.66E	==>	1297.11	
10100.00	90.00	89.670	7483.22	744.92S	1341.66E	==>	1396.75	
10200.00	90.00	89.670	7483.22	744.34S	1441.66E	==>	1496.38	
10300.00	90.00	89.670	7483.22	743.76S	1541.65E	==>	1596.02	
10400.00	90.00	89.670	7483.22	743.19S	1641.65E	==>	1695.65	
10500.00	90.00	89.670	7483.22	742.61S	1741.65E	==>	1795.28	
10600.00	90.00	89.670	7483.22	742.03S	1841.65E	==>	1894.92	
10700.00	90.00	89.670	7483.22	741.45S	1941.65E	==>	1994.55	
10800.00	90.00	89.670	7483.22	740.87S	2041.65E	==>	2094.19	
10900.00	90.00	89.670	7483.22	740.29S	2141.64E	==>	2193.82	
11000.00	90.00	89.670	7483.22	739.71S	2241.64E	==>	2293.45	
11100.00	90.00	89.670	7483.22	739.13S	2341.64E	==>	2393.09	
11200.00	90.00	89.670	7483.22	738.55S	2441.64E	==>	2492.72	
11300.00	90.00	89.670	7483.22	737.98S	2541.64E	==>	2592.36	
11400.00	90.00	89.670	7483.22	737.40S	2641.64E	==>	2691.99	
11500.00	90.00	89.670	7483.22	736.82S	2741.63E	==>	2791.63	
11600.00	90.00	89.670	7483.22	736.24S	2841.63E	==>	2891.26	
11700.00	90.00	89.670	7483.22	735.66S	2941.63E	==>	2990.89	
11800.00	90.00	89.670	7483.22	735.08S	3041.63E	==>	3090.53	
11900.00	90.00	89.670	7483.22	734.50S	3141.63E	==>	3190.16	
12000.00	90.00	89.670	7483.22	733.92S	3241.63E	==>	3289.80	
12100.00	90.00	89.670	7483.22	733.34S	3341.62E	==>	3389.43	
12200.00	90.00	89.670	7483.22	732.76S	3441.62E	==>	3489.07	
12300.00	90.00	89.670	7483.22	732.19S	3541.62E	==>	3588.70	
12400.00	90.00	89.670	7483.22	731.61S	3641.62E	==>	3688.33	
12500.00	90.00	89.670	7483.22	731.03S	3741.62E	==>	3787.97	
12600.00	90.00	89.670	7483.22	730.45S	3841.62E	==>	3887.60	
12700.00	90.00	89.670	7483.22	729.87S	3941.61E	==>	3987.24	
12800.00	90.00	89.670	7483.22	729.29S	4041.61E	==>	4086.87	
12900.00	90.00	89.670	7483.22	728.71S	4141.61E	==>	4186.51	
13000.00	90.00	89.670	7483.22	728.13S	4241.61E	==>	4286.14	
13100.00	90.00	89.670	7483.22	727.55S	4341.61E	==>	4385.77	
13200.00	90.00	89.670	7483.22	726.98S	4441.61E	==>	4485.41	
13300.00	90.00	89.670	7483.22	726.40S	4541.60E	==>	4585.04	
13400.00	90.00	89.670	7483.22	725.82S	4641.60E	==>	4684.68	
13500.00	90.00	89.670	7483.22	725.24S	4741.60E	==>	4784.31	
13600.00	90.00	89.670	7483.22	724.66S	4841.60E	==>	4883.95	
13700.00	90.00	89.670	7483.22	724.08S	4941.60E	==>	4983.58	
13800.00	90.00	89.670	7483.22	723.50S	5041.60E	==>	5083.21	
13900.00	90.00	89.670	7483.22	722.92S	5141.59E	==>	5182.85	
14000.00	90.00	89.670	7483.22	722.34S	5241.59E	==>	5282.48	
14100.00	90.00	89.670	7483.22	721.77S	5341.59E	==>	5382.12	
14200.00	90.00	89.670	7483.22	721.19S	5441.59E	==>	5481.75	
14300.00	90.00	89.670	7483.22	720.61S	5541.59E	==>	5581.39	
14400.00	90.00	89.670	7483.22	720.03S	5641.59E	==>	5681.02	
14500.00	90.00	89.670	7483.22	719.45S	5741.58E	==>	5780.65	
14600.00	90.00	89.670	7483.22	718.87S	5841.58E	==>	5880.29	
14700.00	90.00	89.670	7483.22	718.29S	5941.58E	==>	5979.92	
14800.00	90.00	89.670	7483.22	717.71S	6041.58E	==>	6079.56	
14900.00	90.00	89.670	7483.22	717.13S	6141.58E	==>	6179.19	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 5062.2ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 94.570 degrees  
Bottom hole distance is 8808.65 Feet on azimuth 94.57 degrees from Wellhead  
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SYSDRILL  
Well Design Combined Report  
Wellbore: W PC SOUTH 1S-66-2928-15NH (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	89.670	7483.22	716.56S	6241.58E	==>	6278.83	
15100.00	90.00	89.670	7483.22	715.98S	6341.57E	==>	6378.46	
15200.00	90.00	89.670	7483.22	715.40S	6441.57E	==>	6478.09	
15300.00	90.00	89.670	7483.22	714.82S	6541.57E	==>	6577.73	
15400.00	90.00	89.670	7483.22	714.24S	6641.57E	==>	6677.36	
15500.00	90.00	89.670	7483.22	713.66S	6741.57E	==>	6777.00	
15600.00	90.00	89.670	7483.22	713.08S	6841.57E	==>	6876.63	
15700.00	90.00	89.670	7483.22	712.50S	6941.56E	==>	6976.27	
15800.00	90.00	89.670	7483.22	711.92S	7041.56E	==>	7075.90	
15900.00	90.00	89.670	7483.22	711.35S	7141.56E	==>	7175.53	
16000.00	90.00	89.670	7483.22	710.77S	7241.56E	==>	7275.17	
16100.00	90.00	89.670	7483.22	710.19S	7341.56E	==>	7374.80	
16200.00	90.00	89.670	7483.22	709.61S	7441.56E	==>	7474.44	
16300.00	90.00	89.670	7483.22	709.03S	7541.55E	==>	7574.07	
16400.00	90.00	89.670	7483.22	708.45S	7641.55E	==>	7673.71	
16500.00	90.00	89.670	7483.22	707.87S	7741.55E	==>	7773.34	
16600.00	90.00	89.670	7483.22	707.29S	7841.55E	==>	7872.97	
16700.00	90.00	89.670	7483.22	706.71S	7941.55E	==>	7972.61	
16800.00	90.00	89.670	7483.22	706.13S	8041.55E	==>	8072.24	
16900.00	90.00	89.670	7483.22	705.56S	8141.54E	==>	8171.88	
17000.00	90.00	89.670	7483.22	704.98S	8241.54E	==>	8271.51	
17100.00	90.00	89.670	7483.22	704.40S	8341.54E	==>	8371.15	
17200.00	90.00	89.670	7483.22	703.82S	8441.54E	==>	8470.78	
17300.00	90.00	89.670	7483.22	703.24S	8541.54E	==>	8570.41	
17400.00	90.00	89.670	7483.22	702.66S	8641.54E	==>	8670.05	
17500.00	90.00	89.670	7483.22	702.08S	8741.53E	==>	8769.68	
17539.11	90.00	89.670	7483.22	701.86S	8780.64E	==>	8808.65	

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 5062.2ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 94.570 degrees  
Bottom hole distance is 8808.65 Feet on azimuth 94.57 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-66-2928-15NH - BHL	701.86S	8780.64E	7483.22	N39 55 59.2320	W104 46 22.5120	1219320.16	3203891.55
PC SOUTH 1S-66-2928-15NH - EPL	756.83S	815.77W	7483.22	N39 55 59.4480	W104 48 25.7040	1219265.19	3194295.43

## Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
523299	Planned	1500.00	1500.00	WdW Rate Gyro	Standard
523298	Planned	17539.11	7483.22	ISCWSA MWD	Rev 4 + SAG + FLT

## Notes



SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: W PC SOUTH 1S-66-2928-15NH (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-66-2928-15NH (PWB)	Jan-24-2017	Jan-24-2017

Well		
Name	Government ID	Last Revised
W PC SOUTH 1S-66-2928-15NH		Jan-24-2017

Slot						
Name	Latitude	Longitude	Grid Northing	Grid Easting	North	East
PC SOUTH 1S-66-2928-15NH	N39 56 6.8640	W104 48 15.1560	1220021.9998	3195111.1670	61.68S	31.33E

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-66-2928-16C DH	14.57	1949.86	7261.79	-185.63	17539.11	0.65	17539.11
W PC SOUTH 1S-66-2928-14N H	18.21	2001.31	17539.11	-366.05	17539.11	0.51	17539.11
W PC SOUTH 1S-66-2928-17N H	29.14	1900.00	1870.08	-365.16	17539.11	0.51	17539.11
W PC NORTH 1S-66-2928-5NH	30.85	1300.00	17539.11	28.75	1300.00	3.44	17539.11
W PC SOUTH 1S-66-2928-13C DH	32.79	2001.31	17539.11	-70.83	17539.11	0.90	17539.11
W PC NORTH 1S-66-2928-6NH	34.12	1349.77	17539.11	31.94	1361.55	2.92	17539.11
W PC NORTH 1S-66-2928-4CD H	35.82	1250.12	17539.11	33.81	1250.12	3.70	17539.11
W PC NORTH 1S-66-2928-7CD H	42.44	1400.00	17539.11	40.14	1459.97	2.65	17539.11
W PC SOUTH 1S-66-2928-18N H	43.71	1849.62	1849.62	-0.02	17539.11	1.00	17539.11
W PC NORTH 1S-66-2928-3NH	45.02	1200.15	17539.11	43.08	1200.15	3.91	17539.11
W PC SOUTH 1S-66-2928-12N	47.36	2001.31	2000.00	16.16	17539.11	1.02	17539.11

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Vertical Section is from 0.00N 0.00E on azimuth 94.570 degrees  
Prepared by IPT  
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SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: W PC SOUTH 1S-66-2928-15NH (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 NORTH 1S-66-2928-8NH	53.40	1600.00	17539.11	50.85	1640.42	2.46	17539.11
W PC NORTH 1S-66-2928-2NH	56.52	1150.28	17539.11	54.66	1150.28	4.31	17539.11
W PC SOUTH 1S-66-2928-19C DH	58.29	1800.00	17539.11	54.68	1837.27	1.49	17539.11
W PC NORTH 1S-66-2928-11N H	61.93	2001.31	17539.11	56.57	2050.52	1.50	17539.11
W PC NORTH 1S-66-2928-9NH	65.92	1607.61	17539.11	63.27	1722.44	1.99	17539.11
W PC SOUTH 1S-66-2928-20N H	72.86	1749.47	17539.11	69.64	1771.65	1.54	17539.11
W PC NORTH 1S-66-2928-10C DH	79.11	1640.42	1640.42	76.04	1771.65	1.85	17539.11
W POLLARD #1	902.08	13419.26	13419.26	644.35	13451.44	3.49	13484.25







