



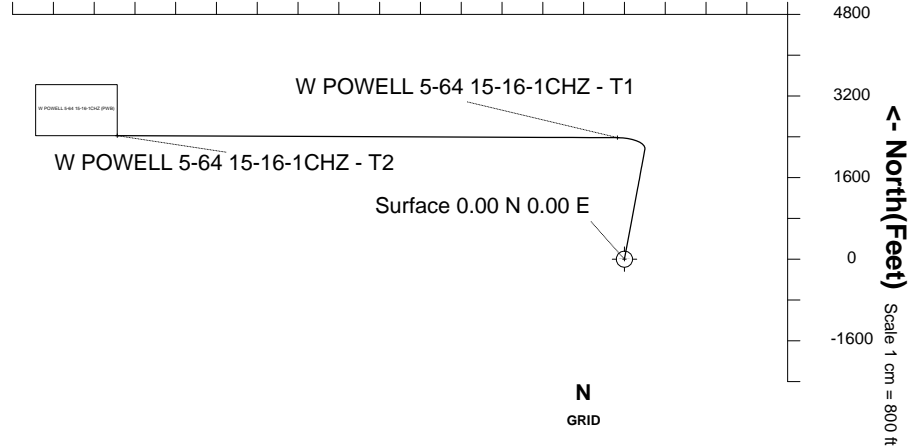
# Highlands Natural Resources

<b>Location</b>	DJ Basin Southern Extension	<b>Slot</b>	POWELL 5-64 15-16-1CHZ
<b>Field</b>	DJ Basin Southern Extension	<b>Well</b>	W POWELL 5-64 15-16-1CHZ
<b>Installation</b>	HNR Arapahoe County Pad	<b>Wellbore</b>	W POWELL 5-64 15-16-1CHZ (PWB)

Scale 1 cm = 800 ft

East (Feet) ->

-11200 -9600 -8000 -6400 -4800 -3200 -1600 0 1600 3200



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

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

Tie on - 0.00 Inc, 16.00 MD, 16.00 TVD, 0.00 VS

9 5/8in Surface Casing

3DS Kick off Point - 0.00 Inc, 1566.00 MD, 1566.00 TVD, 0.00 VS

End of Build - 23.49 Inc, 2740.71 MD, 2708.06 TVD, 13.04 VS

Jan-30-2017  
EMM-2015 [2000.0-2020.0] Dip: 66.55 deg Field: 52134.2 nT  
Lat: N39 36 54.0900 Long: W104 31 51.5568 Elev: 5936.00 ft  
Magnetic North is 8.61 deg East of True North  
GRID North is 0.61 deg East of True North  
To correct azimuth from True to GRID subtract 0.61 deg  
To correct azimuth from Magnetic to GRID add 8.00 deg

## WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	16.00	0.00	0.00	16.00	S 0.00	W 0.00	0.00	0.00
KOP	1566.00	0.00	10.54	1566.00	S 0.00	W 0.00	0.00	0.00
End of Build	2740.71	23.49	10.54	2708.06	N 233.48	E 43.45	2.00	13.04
End of Hold	7636.34	23.49	10.54	7197.85	N 2152.21	E 400.49	0.00	120.20
Target W POWE...Z - T1	8528.81	89.59	270.23	7736.00	N 2382.75	W 139.23	10.50	699.15
T.D. & Target W P... T2	18335.93	89.59	270.23	7807.00	N 2422.50	W 9946.01	0.00	10236.78

End of Hold - 23.49 Inc, 7636.34 MD, 7197.85 TVD, 120.20 VS

S/C Kick off Point - 89.59 Inc, 8528.81 MD, 7736.00 TVD, 699.15 VS

5 1/2in Production Casing

W POWELL 5-64 15-16-1CHZ - T2

T.D. & End of Hold - 7807.00 TVD, 2422.50 N 9946.01 W

W POWELL 5-64 15-16-1CHZ - T1

Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 283.69 with reference 0.00 N, 0.00 E from POWELL 5-64 15-16-1C

Created by admin  
Date plotted 31-Jan-2017  
Plot reference is W POWELL 5-64 15-16-1CHZ (PWB).  
Ref wellpath is W POWELL 5-64 15-16-1CHZ (PWP#1).  
Coordinates are in Feet reference POWELL 5-64 15-16-1CHZ.  
True Vertical Depths are reference Rig Datum.  
Measured Depths are reference Rig Datum.  
Rig Datum: Planned Datum #1  
Rig Datum to Mean Sea Level: 5953.00 ft.  
Plot North is aligned to GRID North.



SYSDRILL  
Well Design Combined Report  
Wellbore: W POWELL 5-64 15-16-1CHZ (PWB)



Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
POWELL 5-64 15-16-1CHZ	39.61497000	-104.53098900	1650337.1435	3272987.9586	20.04S	0.07W	0.00

Declination		
Date	Source	Time
Jan-30-2017	EMM-2015 [2000.0-2020.0]	15:10

Installation Details						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
HNR Arapahoe County Pad	39.61502500	-104.53098800	1650357.1793	3272988.0267	CO83-CF on NORTH AMERICAN DATUM 1983 datum	Grid

Summary Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	Vertical Depth SS	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
16.00	0.00	0.000	16.00	-5937.00	0.00N	0.00E		0.00
1566.00	0.00	10.540	1566.00	-4387.00	0.00N	0.00E	==>	0.00
2740.71	23.49	10.540	2708.06	-3244.94	233.48N	43.45E	2.00	13.04
7636.34	23.49	10.540	7197.85	1244.85	2152.21N	400.49E	==>	120.20
8528.81	89.59	270.230	7736.00	1783.00	2382.75N	139.23W	10.50	699.15
18335.93	89.59	270.230	7807.00	1854.00	2422.50N	9946.01W	==>	10236.78

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	39.61497000	-104.53098900
16.00	0.00	0.000	16.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1400.00	0.00	0.000	1400.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1500.00	0.00	0.000	1500.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1516.00	0.00	0.000	1516.00	0.00N	0.00E	==>	0.00	39.61497000	-104.53098900
1616.00	1.00	10.540	1616.00	0.43N	0.08E	2.00	0.02	39.61497118	-104.53098870
1716.00	3.00	10.540	1715.93	3.86N	0.72E	2.00	0.22	39.61498057	-104.53098630
1816.00	5.00	10.540	1815.68	10.72N	1.99E	2.00	0.60	39.61499936	-104.53098152
1916.00	7.00	10.540	1915.13	20.99N	3.91E	2.00	1.17	39.61502751	-104.53097434
2016.00	9.00	10.540	2014.15	34.68N	6.45E	2.00	1.94	39.61506500	-104.53096479
2116.00	11.00	10.540	2112.63	51.75N	9.63E	2.00	2.89	39.61511177	-104.53095286
2216.00	13.00	10.540	2210.44	72.19N	13.43E	2.00	4.03	39.61516776	-104.53093859
2316.00	15.00	10.540	2307.46	95.97N	17.86E	2.00	5.36	39.61523292	-104.53092198
2416.00	17.00	10.540	2403.58	123.07N	22.90E	2.00	6.87	39.61530716	-104.53090306
2516.00	19.00	10.540	2498.68	153.44N	28.55E	2.00	8.57	39.61539038	-104.53088185
2616.00	21.00	10.540	2592.65	187.07N	34.81E	2.00	10.45	39.61548250	-104.53085837

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 5953.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 283.690 degrees  
Bottom hole distance is 10236.78 Feet on azimuth 283.69 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 31-Jan-2017



SYSDRILL  
Well Design Combined Report  
Wellbore: W POWELL 5-64 15-16-1CHZ (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)
2716.00	23.00	10.540	2685.36	223.89N	41.66E	2.00	12.50	39.61558339	-104.53083265
2816.00	23.49	10.540	2777.11	262.99N	48.94E	==>	14.69	39.61569051	-104.53080535
2916.00	23.49	10.540	2868.82	302.18N	56.23E	==>	16.88	39.61579788	-104.53077798
3016.00	23.49	10.540	2960.53	341.38N	63.52E	==>	19.07	39.61590526	-104.53075061
3116.00	23.49	10.540	3052.24	380.57N	70.82E	==>	21.26	39.61601263	-104.53072324
3216.00	23.49	10.540	3143.95	419.76N	78.11E	==>	23.44	39.61612001	-104.53069587
3316.00	23.49	10.540	3235.66	458.95N	85.40E	==>	25.63	39.61622738	-104.53066850
3416.00	23.49	10.540	3327.38	498.15N	92.70E	==>	27.82	39.61633475	-104.53064113
3516.00	23.49	10.540	3419.09	537.34N	99.99E	==>	30.01	39.61644213	-104.53061376
3616.00	23.49	10.540	3510.80	576.53N	107.28E	==>	32.20	39.61654950	-104.53058639
3716.00	23.49	10.540	3602.51	615.72N	114.58E	==>	34.39	39.61665688	-104.53055902
3816.00	23.49	10.540	3694.22	654.92N	121.87E	==>	36.58	39.61676425	-104.53053165
3916.00	23.49	10.540	3785.93	694.11N	129.16E	==>	38.77	39.61687163	-104.53050428
4016.00	23.49	10.540	3877.64	733.30N	136.45E	==>	40.96	39.61697900	-104.53047691
4116.00	23.49	10.540	3969.35	772.50N	143.75E	==>	43.14	39.61708638	-104.53044954
4216.00	23.49	10.540	4061.06	811.69N	151.04E	==>	45.33	39.61719375	-104.53042217
4316.00	23.49	10.540	4152.77	850.88N	158.33E	==>	47.52	39.61730113	-104.53039480
4416.00	23.49	10.540	4244.48	890.07N	165.63E	==>	49.71	39.61740850	-104.53036742
4516.00	23.49	10.540	4336.19	929.27N	172.92E	==>	51.90	39.61751588	-104.53034005
4616.00	23.49	10.540	4427.90	968.46N	180.21E	==>	54.09	39.61762325	-104.53031268
4716.00	23.49	10.540	4519.61	1007.65N	187.51E	==>	56.28	39.61773063	-104.53028531
4816.00	23.49	10.540	4611.32	1046.84N	194.80E	==>	58.47	39.61783800	-104.53025794
4916.00	23.49	10.540	4703.03	1086.04N	202.09E	==>	60.66	39.61794538	-104.53023057
5016.00	23.49	10.540	4794.74	1125.23N	209.38E	==>	62.84	39.61805275	-104.53020320
5116.00	23.49	10.540	4886.45	1164.42N	216.68E	==>	65.03	39.61816013	-104.53017583
5216.00	23.49	10.540	4978.16	1203.62N	223.97E	==>	67.22	39.61826750	-104.53014846
5316.00	23.49	10.540	5069.87	1242.81N	231.26E	==>	69.41	39.61837488	-104.53012108
5416.00	23.49	10.540	5161.58	1282.00N	238.56E	==>	71.60	39.61848225	-104.53009371
5516.00	23.49	10.540	5253.29	1321.19N	245.85E	==>	73.79	39.61858963	-104.53006634
5616.00	23.49	10.540	5345.00	1360.39N	253.14E	==>	75.98	39.61869700	-104.53003897
5716.00	23.49	10.540	5436.71	1399.58N	260.44E	==>	78.17	39.61880438	-104.53001160
5816.00	23.49	10.540	5528.42	1438.77N	267.73E	==>	80.36	39.61891175	-104.52998422
5916.00	23.49	10.540	5620.13	1477.97N	275.02E	==>	82.55	39.61901913	-104.52995685
6016.00	23.49	10.540	5711.84	1517.16N	282.32E	==>	84.73	39.61912650	-104.52992948
6116.00	23.49	10.540	5803.55	1556.35N	289.61E	==>	86.92	39.61923387	-104.52990211
6216.00	23.49	10.540	5895.26	1595.54N	296.90E	==>	89.11	39.61934125	-104.52987474
6316.00	23.49	10.540	5986.97	1634.74N	304.19E	==>	91.30	39.61944862	-104.52984736
6416.00	23.49	10.540	6078.68	1673.93N	311.49E	==>	93.49	39.61955600	-104.52981999
6516.00	23.49	10.540	6170.39	1713.12N	318.78E	==>	95.68	39.61966337	-104.52979262
6616.00	23.49	10.540	6262.10	1752.31N	326.07E	==>	97.87	39.61977075	-104.52976525
6716.00	23.49	10.540	6353.81	1791.51N	333.37E	==>	100.06	39.61987812	-104.52973787
6816.00	23.49	10.540	6445.52	1830.70N	340.66E	==>	102.25	39.61998550	-104.52971050
6916.00	23.49	10.540	6537.23	1869.89N	347.95E	==>	104.43	39.62009287	-104.52968313
7016.00	23.49	10.540	6628.94	1909.09N	355.25E	==>	106.62	39.62020025	-104.52965575
7116.00	23.49	10.540	6720.65	1948.28N	362.54E	==>	108.81	39.62030762	-104.52962838
7216.00	23.49	10.540	6812.36	1987.47N	369.83E	==>	111.00	39.62041500	-104.52960101
7316.00	23.49	10.540	6904.07	2026.66N	377.12E	==>	113.19	39.62052237	-104.52957363
7416.00	23.49	10.540	6995.78	2065.86N	384.42E	==>	115.38	39.62062974	-104.52954626
7516.00	23.49	10.540	7087.49	2105.05N	391.71E	==>	117.57	39.62073712	-104.52951889
7616.00	23.49	10.540	7179.20	2144.24N	399.00E	==>	119.76	39.62084449	-104.52949151
7716.00	23.50	349.460	7271.04	2183.49N	400.49E	10.50	127.61	39.62095220	-104.52946476
7816.00	27.20	326.320	7361.61	2222.23N	384.12E	10.50	152.67	39.62105901	-104.52954138
7916.00	33.70	309.920	7447.92	2259.15N	350.08E	10.50	194.49	39.62116137	-104.52966082
8016.00	41.70	298.730	7527.08	2293.03N	299.50E	10.50	251.65	39.62125586	-104.52983908
8116.00	50.48	290.700	7596.43	2322.74N	234.07E	10.50	322.24	39.62133932	-104.53007019
8216.00	59.68	284.530	7653.65	2347.27N	155.99E	10.50	403.91	39.62140895	-104.53034640

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Vertical Section is from 0.00N 0.00E on azimuth 283.690 degrees  
Bottom hole distance is 10236.78 Feet on azimuth 283.69 degrees from Wellhead  
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Well Design Combined Report  
Wellbore: W POWELL 5-64 15-16-1CHZ (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)
8316.00	69.13	279.430	7696.82	2365.81N	67.88E	10.50	493.91	39.62146242	-104.53065848
8416.00	78.71	274.950	7724.51	2377.73N	27.32W	10.50	589.23	39.62149794	-104.53099596
8516.00	88.35	270.760	7735.77	2382.64N	126.42W	10.50	686.68	39.62151432	-104.53134754
8616.00	89.59	270.230	7736.63	2383.11N	226.42W	==>	783.94	39.62151852	-104.53170247
8716.00	89.59	270.230	7737.36	2383.51N	326.42W	==>	881.19	39.62152256	-104.53205740
8816.00	89.59	270.230	7738.08	2383.92N	426.41W	==>	978.45	39.62152660	-104.53241234
8916.00	89.59	270.230	7738.80	2384.32N	526.41W	==>	1075.70	39.62153063	-104.53276727
9016.00	89.59	270.230	7739.53	2384.73N	626.41W	==>	1172.95	39.62153467	-104.53312221
9116.00	89.59	270.230	7740.25	2385.13N	726.40W	==>	1270.20	39.62153870	-104.53347714
9216.00	89.59	270.230	7740.98	2385.54N	826.40W	==>	1367.45	39.62154273	-104.53383207
9316.00	89.59	270.230	7741.70	2385.94N	926.39W	==>	1464.71	39.62154677	-104.53418701
9416.00	89.59	270.230	7742.42	2386.35N	1026.39W	==>	1561.96	39.62155080	-104.53454194
9516.00	89.59	270.230	7743.15	2386.75N	1126.39W	==>	1659.21	39.62155483	-104.53489688
9616.00	89.59	270.230	7743.87	2387.16N	1226.38W	==>	1756.46	39.62155885	-104.53525181
9716.00	89.59	270.230	7744.59	2387.56N	1326.38W	==>	1853.72	39.62156288	-104.53560675
9816.00	89.59	270.230	7745.32	2387.97N	1426.38W	==>	1950.97	39.62156691	-104.53596168
9916.00	89.59	270.230	7746.04	2388.37N	1526.37W	==>	2048.22	39.62157093	-104.53631662
10016.00	89.59	270.230	7746.77	2388.78N	1626.37W	==>	2145.47	39.62157496	-104.53667155
10116.00	89.59	270.230	7747.49	2389.19N	1726.37W	==>	2242.72	39.62157898	-104.53702649
10216.00	89.59	270.230	7748.21	2389.59N	1826.36W	==>	2339.98	39.62158300	-104.53738142
10316.00	89.59	270.230	7748.94	2390.00N	1926.36W	==>	2437.23	39.62158702	-104.53773635
10416.00	89.59	270.230	7749.66	2390.40N	2026.36W	==>	2534.48	39.62159104	-104.53809129
10516.00	89.59	270.230	7750.39	2390.81N	2126.35W	==>	2631.73	39.62159506	-104.53844622
10616.00	89.59	270.230	7751.11	2391.21N	2226.35W	==>	2728.98	39.62159908	-104.53880116
10716.00	89.59	270.230	7751.83	2391.62N	2326.35W	==>	2826.24	39.62160309	-104.53915609
10816.00	89.59	270.230	7752.56	2392.02N	2426.34W	==>	2923.49	39.62160711	-104.53951103
10916.00	89.59	270.230	7753.28	2392.43N	2526.34W	==>	3020.74	39.62161112	-104.53986596
11016.00	89.59	270.230	7754.01	2392.83N	2626.34W	==>	3117.99	39.62161514	-104.54022090
11116.00	89.59	270.230	7754.73	2393.24N	2726.33W	==>	3215.25	39.62161915	-104.54057584
11216.00	89.59	270.230	7755.45	2393.64N	2826.33W	==>	3312.50	39.62162316	-104.54093077
11316.00	89.59	270.230	7756.18	2394.05N	2926.33W	==>	3409.75	39.62162717	-104.54128571
11416.00	89.59	270.230	7756.90	2394.45N	3026.32W	==>	3507.00	39.62163118	-104.54164064
11516.00	89.59	270.230	7757.63	2394.86N	3126.32W	==>	3604.25	39.62163519	-104.54199558
11616.00	89.59	270.230	7758.35	2395.26N	3226.32W	==>	3701.51	39.62163920	-104.54235051
11716.00	89.59	270.230	7759.07	2395.67N	3326.31W	==>	3798.76	39.62164320	-104.54270545
11816.00	89.59	270.230	7759.80	2396.08N	3426.31W	==>	3896.01	39.62164721	-104.54306038
11916.00	89.59	270.230	7760.52	2396.48N	3526.31W	==>	3993.26	39.62165121	-104.54341532
12016.00	89.59	270.230	7761.25	2396.89N	3626.30W	==>	4090.52	39.62165521	-104.54377025
12116.00	89.59	270.230	7761.97	2397.29N	3726.30W	==>	4187.77	39.62165921	-104.54412519
12216.00	89.59	270.230	7762.69	2397.70N	3826.30W	==>	4285.02	39.62166321	-104.54448012
12316.00	89.59	270.230	7763.42	2398.10N	3926.29W	==>	4382.27	39.62166721	-104.54483506
12416.00	89.59	270.230	7764.14	2398.51N	4026.29W	==>	4479.52	39.62167121	-104.54519000
12516.00	89.59	270.230	7764.87	2398.91N	4126.28W	==>	4576.78	39.62167521	-104.54554493
12616.00	89.59	270.230	7765.59	2399.32N	4226.28W	==>	4674.03	39.62167921	-104.54589987
12716.00	89.59	270.230	7766.31	2399.72N	4326.28W	==>	4771.28	39.62168320	-104.54625480
12816.00	89.59	270.230	7767.04	2400.13N	4426.27W	==>	4868.53	39.62168720	-104.54660974
12916.00	89.59	270.230	7767.76	2400.53N	4526.27W	==>	4965.78	39.62169119	-104.54696468
13016.00	89.59	270.230	7768.49	2400.94N	4626.27W	==>	5063.04	39.62169518	-104.54731961
13116.00	89.59	270.230	7769.21	2401.34N	4726.26W	==>	5160.29	39.62169917	-104.54767455
13216.00	89.59	270.230	7769.93	2401.75N	4826.26W	==>	5257.54	39.62170316	-104.54802948
13316.00	89.59	270.230	7770.66	2402.16N	4926.26W	==>	5354.79	39.62170715	-104.54838442
13416.00	89.59	270.230	7771.38	2402.56N	5026.25W	==>	5452.05	39.62171114	-104.54873936
13516.00	89.59	270.230	7772.11	2402.97N	5126.25W	==>	5549.30	39.62171512	-104.54909429
13616.00	89.59	270.230	7772.83	2403.37N	5226.25W	==>	5646.55	39.62171911	-104.54944923
13716.00	89.59	270.230	7773.55	2403.78N	5326.24W	==>	5743.80	39.62172309	-104.54980416

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Vertical Section is from 0.00N 0.00E on azimuth 283.690 degrees  
Bottom hole distance is 10236.78 Feet on azimuth 283.69 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 31-Jan-2017



SYSDRILL  
Well Design Combined Report  
Wellbore: W POWELL 5-64 15-16-1CHZ (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)
13816.00	89.59	270.230	7774.28	2404.18N	5426.24W	==>	5841.05	39.62172708	-104.55015910
13916.00	89.59	270.230	7775.00	2404.59N	5526.24W	==>	5938.31	39.62173106	-104.55051404
14016.00	89.59	270.230	7775.73	2404.99N	5626.23W	==>	6035.56	39.62173504	-104.55086897
14116.00	89.59	270.230	7776.45	2405.40N	5726.23W	==>	6132.81	39.62173902	-104.55122391
14216.00	89.59	270.230	7777.17	2405.80N	5826.23W	==>	6230.06	39.62174300	-104.55157885
14316.00	89.59	270.230	7777.90	2406.21N	5926.22W	==>	6327.31	39.62174698	-104.55193378
14416.00	89.59	270.230	7778.62	2406.61N	6026.22W	==>	6424.57	39.62175095	-104.55228872
14516.00	89.59	270.230	7779.35	2407.02N	6126.22W	==>	6521.82	39.62175493	-104.55264366
14616.00	89.59	270.230	7780.07	2407.42N	6226.21W	==>	6619.07	39.62175890	-104.55299859
14716.00	89.59	270.230	7780.79	2407.83N	6326.21W	==>	6716.32	39.62176288	-104.55335353
14816.00	89.59	270.230	7781.52	2408.23N	6426.21W	==>	6813.58	39.62176685	-104.55370847
14916.00	89.59	270.230	7782.24	2408.64N	6526.20W	==>	6910.83	39.62177082	-104.55406340
15016.00	89.59	270.230	7782.96	2409.05N	6626.20W	==>	7008.08	39.62177479	-104.55441834
15116.00	89.59	270.230	7783.69	2409.45N	6726.20W	==>	7105.33	39.62177876	-104.55477328
15216.00	89.59	270.230	7784.41	2409.86N	6826.19W	==>	7202.58	39.62178273	-104.55512821
15316.00	89.59	270.230	7785.14	2410.26N	6926.19W	==>	7299.84	39.62178670	-104.55548315
15416.00	89.59	270.230	7785.86	2410.67N	7026.18W	==>	7397.09	39.62179066	-104.55583809
15516.00	89.59	270.230	7786.58	2411.07N	7126.18W	==>	7494.34	39.62179463	-104.55619302
15616.00	89.59	270.230	7787.31	2411.48N	7226.18W	==>	7591.59	39.62179859	-104.55654796
15716.00	89.59	270.230	7788.03	2411.88N	7326.17W	==>	7688.84	39.62180256	-104.55690290
15816.00	89.59	270.230	7788.76	2412.29N	7426.17W	==>	7786.10	39.62180652	-104.55725783
15916.00	89.59	270.230	7789.48	2412.69N	7526.17W	==>	7883.35	39.62181048	-104.55761277
16016.00	89.59	270.230	7790.20	2413.10N	7626.16W	==>	7980.60	39.62181444	-104.55796771
16116.00	89.59	270.230	7790.93	2413.50N	7726.16W	==>	8077.85	39.62181840	-104.55832265
16216.00	89.59	270.230	7791.65	2413.91N	7826.16W	==>	8175.11	39.62182235	-104.55867758
16316.00	89.59	270.230	7792.38	2414.31N	7926.15W	==>	8272.36	39.62182631	-104.55903252
16416.00	89.59	270.230	7793.10	2414.72N	8026.15W	==>	8369.61	39.62183027	-104.55938746
16516.00	89.59	270.230	7793.82	2415.13N	8126.15W	==>	8466.86	39.62183422	-104.55974239
16616.00	89.59	270.230	7794.55	2415.53N	8226.14W	==>	8564.11	39.62183817	-104.56009733
16716.00	89.59	270.230	7795.27	2415.94N	8326.14W	==>	8661.37	39.62184213	-104.56045227
16816.00	89.59	270.230	7796.00	2416.34N	8426.14W	==>	8758.62	39.62184608	-104.56080721
16916.00	89.59	270.230	7796.72	2416.75N	8526.13W	==>	8855.87	39.62185003	-104.56116214
17016.00	89.59	270.230	7797.44	2417.15N	8626.13W	==>	8953.12	39.62185398	-104.56151708
17116.00	89.59	270.230	7798.17	2417.56N	8726.13W	==>	9050.37	39.62185792	-104.56187202
17216.00	89.59	270.230	7798.89	2417.96N	8826.12W	==>	9147.63	39.62186187	-104.56222696
17316.00	89.59	270.230	7799.62	2418.37N	8926.12W	==>	9244.88	39.62186582	-104.56258189
17416.00	89.59	270.230	7800.34	2418.77N	9026.12W	==>	9342.13	39.62186976	-104.56293683
17516.00	89.59	270.230	7801.06	2419.18N	9126.11W	==>	9439.38	39.62187371	-104.56329177
17616.00	89.59	270.230	7801.79	2419.58N	9226.11W	==>	9536.64	39.62187765	-104.56364671
17716.00	89.59	270.230	7802.51	2419.99N	9326.11W	==>	9633.89	39.62188159	-104.56400165
17816.00	89.59	270.230	7803.24	2420.39N	9426.10W	==>	9731.14	39.62188553	-104.56435658
17916.00	89.59	270.230	7803.96	2420.80N	9526.10W	==>	9828.39	39.62188947	-104.56471152
18016.00	89.59	270.230	7804.68	2421.20N	9626.10W	==>	9925.64	39.62189341	-104.56506646
18116.00	89.59	270.230	7805.41	2421.61N	9726.09W	==>	10022.90	39.62189734	-104.56542140
18216.00	89.59	270.230	7806.13	2422.02N	9826.09W	==>	10120.15	39.62190128	-104.56577634
18316.00	89.59	270.230	7806.86	2422.42N	9926.09W	==>	10217.40	39.62190522	-104.56613127
18335.93	89.59	270.230	7807.00	2422.50N	9946.01W	==>	10236.78	39.62190600	-104.56620200

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Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
W POWELL 5-64 15-16-1CHZ - T1	2382.75N	139.23W	7736.00	39.62151500	-104.53139300	1652719.83	3272848.73
W POWELL 5-64 15-16-1CHZ - T2	2422.50N	9946.01W	7807.00	39.62190600	-104.56620200	1652759.58	3263042.21

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
530384	Planned	1516.00	1516.00	WdW Rate Gyro	Standard	
530383	Planned	18335.93	7807.00	ISCWSA MWD	Rev 4 + SAG + FLT	

Notes