

MINERAL RESOURCES, INC. (Original)

Location	Weld County, CO, USA (Original)	Slot	Slot #10
Field	Wattenberg	Well	DT-Habitat #5-5-6
Installation	Downtown	Wellbore	DT-Habitat #5-5-6 (PWB_2)

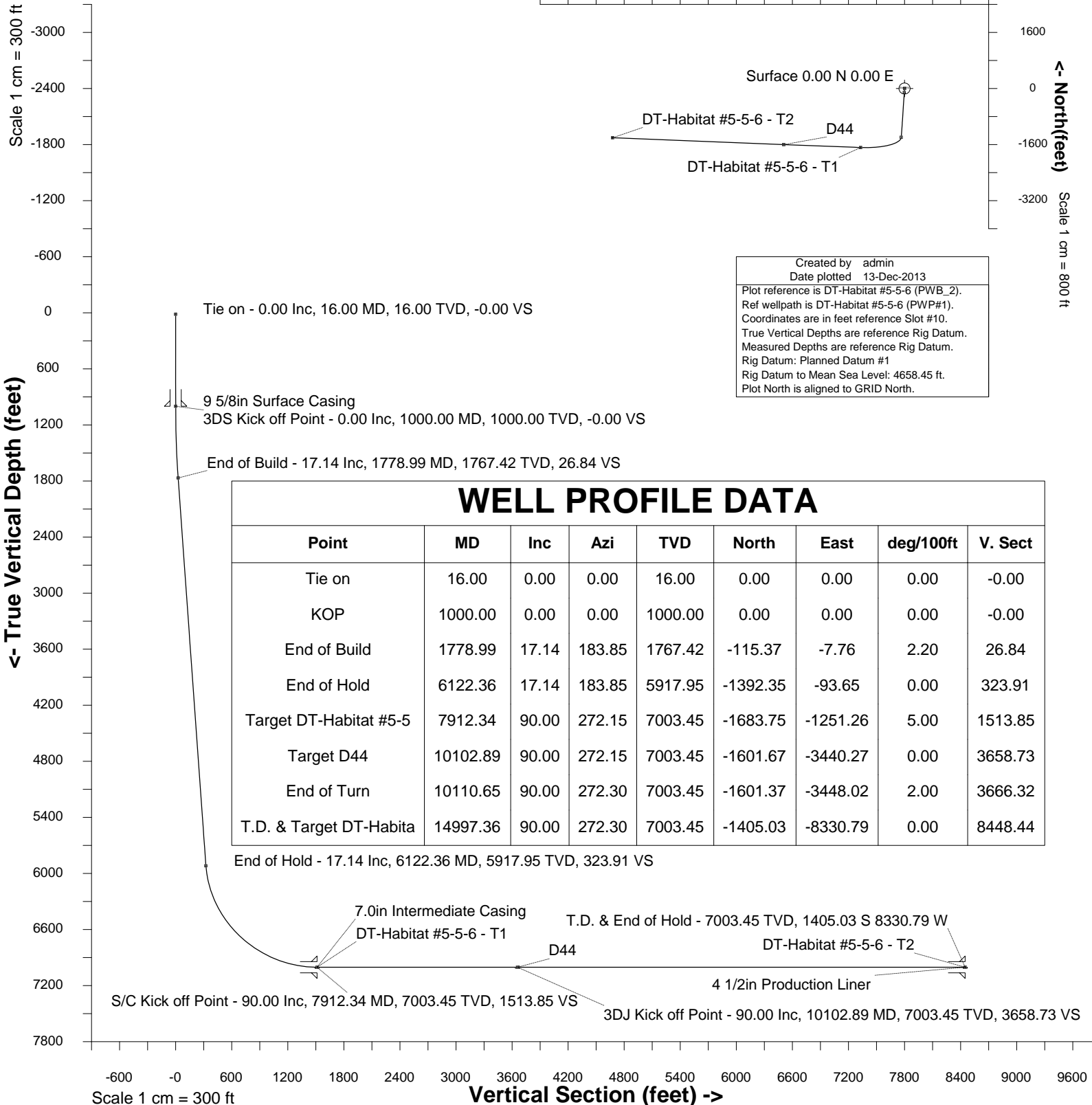
Scale 1 cm = 800 ft

East (feet) ->

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

<- North (feet)

Scale 1 cm = 800 ft





INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #10	1402548.3247	3227066.9814	40.43553000	-104.68427000	145.75S	1.44W	-0.60

Declination			
Date	Source	Time	
30-Jan-2013	IGRF Model [1900.0-2015.0]	10:11	
5-Dec-2013	IGRF Model [1900.0-2015.0]	14:34	
5-Dec-2013	IGRF Model [1900.0-2015.0]	14:37	
5-Dec-2013	IGRF Model [1900.0-2015.0]	14:38	
5-Dec-2013	IGRF Model [1900.0-2015.0]	14:41	

Site Details				
Name	Northing	Easting	Coord System Name	North Alignment
Downtown	1402694.0641	3227068.4245	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
16.00	0.00	0.000	16.00	0.00N	0.00E		0.00	1402548.32	3227066.98
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
1778.99	17.14	183.850	1767.42	115.37S	7.76W	2.20	26.84	1402432.96	3227059.22
6122.36	17.14	183.850	5917.95	1392.35S	93.65W	==>	323.91	1401156.03	3226973.33
7912.34	90.00	272.150	7003.45	1683.75S	1251.26W	5.00	1513.85	1400864.64	3225815.77
10102.89	90.00	272.150	7003.45	1601.67S	3440.27W	==>	3658.73	1400946.72	3223626.85
10110.65	90.00	272.300	7003.45	1601.37S	3448.02W	2.00	3666.32	1400947.02	3223619.10
14997.36	90.00	272.300	7003.45	1405.03S	8330.79W	==>	8448.44	1401143.35	3218736.52

Interpolated 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	1402548.32	3227066.98
16.00	0.00	0.000	16.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
984.00	0.00	0.000	984.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1402548.32	3227066.98
1084.00	1.85	183.850	1083.99	1.35S	0.09W	2.20	0.31	1402546.97	3227066.89
1184.00	4.05	183.850	1183.85	6.48S	0.44W	2.20	1.51	1402541.84	3227066.55
1284.00	6.25	183.850	1283.44	15.43S	1.04W	2.20	3.59	1402532.89	3227065.94
1384.00	8.45	183.850	1382.61	28.19S	1.90W	2.20	6.56	1402520.13	3227065.09
1484.00	10.65	183.850	1481.22	44.74S	3.01W	2.20	10.41	1402503.58	3227063.97
1584.00	12.85	183.850	1579.12	65.06S	4.38W	2.20	15.13	1402483.27	3227062.61
1684.00	15.05	183.850	1676.16	89.11S	5.99W	2.20	20.73	1402459.22	3227060.99
1778.99	17.14	183.850	1767.42	115.37S	7.76W	2.20	26.84	1402432.96	3227059.22
1800.00	17.14	183.850	1787.50	121.55S	8.18W	==>	28.28	1402426.78	3227058.81
1900.00	17.14	183.850	1883.06	150.95S	10.15W	==>	35.12	1402397.38	3227056.83
2000.00	17.14	183.850	1978.62	180.35S	12.13W	==>	41.96	1402367.98	3227054.85
2100.00	17.14	183.850	2074.18	209.75S	14.11W	==>	48.80	1402338.58	3227052.87
2200.00	17.14	183.850	2169.74	239.15S	16.09W	==>	55.64	1402309.18	3227050.90
2300.00	17.14	183.850	2265.30	268.55S	18.06W	==>	62.47	1402279.78	3227048.92
2400.00	17.14	183.850	2360.86	297.96S	20.04W	==>	69.31	1402250.38	3227046.94
2500.00	17.14	183.850	2456.42	327.36S	22.02W	==>	76.15	1402220.98	3227044.96
2600.00	17.14	183.850	2551.98	356.76S	24.00W	==>	82.99	1402191.58	3227042.99
2700.00	17.14	183.850	2647.54	386.16S	25.97W	==>	89.83	1402162.18	3227041.01
2800.00	17.14	183.850	2743.10	415.56S	27.95W	==>	96.67	1402132.78	3227039.03
2900.00	17.14	183.850	2838.66	444.96S	29.93W	==>	103.51	1402103.39	3227037.05

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 4658.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 260.430 degrees
Bottom hole distance is 8448.44 Feet on azimuth 260.43 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 13-Dec-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL

Well Design Combined Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3000.00	17.14	183.850	2934.22	474.36S	31.91W	==>	110.35	1402073.99	3227035.08
3100.00	17.14	183.850	3029.78	503.76S	33.88W	==>	117.19	1402044.59	3227033.10
3200.00	17.14	183.850	3125.34	533.16S	35.86W	==>	124.03	1402015.19	3227031.12
3300.00	17.14	183.850	3220.90	562.56S	37.84W	==>	130.87	1401985.79	3227029.14
3400.00	17.14	183.850	3316.46	591.96S	39.82W	==>	137.71	1401956.39	3227027.17
3500.00	17.14	183.850	3412.02	621.36S	41.79W	==>	144.55	1401926.99	3227025.19
3600.00	17.14	183.850	3507.58	650.76S	43.77W	==>	151.39	1401897.59	3227023.21
3700.00	17.14	183.850	3603.14	680.16S	45.75W	==>	158.23	1401868.19	3227021.23
3800.00	17.14	183.850	3698.70	709.56S	47.73W	==>	165.07	1401838.79	3227019.26
3900.00	17.14	183.850	3794.26	738.96S	49.71W	==>	171.91	1401809.39	3227017.28
4000.00	17.14	183.850	3889.82	768.36S	51.68W	==>	178.75	1401779.99	3227015.30
4100.00	17.14	183.850	3985.38	797.76S	53.66W	==>	185.59	1401750.59	3227013.32
4200.00	17.14	183.850	4080.94	827.16S	55.64W	==>	192.43	1401721.19	3227011.35
4300.00	17.14	183.850	4176.50	856.56S	57.62W	==>	199.27	1401691.80	3227009.37
4400.00	17.14	183.850	4272.06	885.96S	59.59W	==>	206.10	1401662.40	3227007.39
4500.00	17.14	183.850	4367.62	915.36S	61.57W	==>	212.94	1401633.00	3227005.41
4600.00	17.14	183.850	4463.18	944.77S	63.55W	==>	219.78	1401603.60	3227003.44
4700.00	17.14	183.850	4558.74	974.17S	65.53W	==>	226.62	1401574.20	3227001.46
4800.00	17.14	183.850	4654.30	1003.57S	67.50W	==>	233.46	1401544.80	3226999.48
4900.00	17.14	183.850	4749.86	1032.97S	69.48W	==>	240.30	1401515.40	3226997.50
5000.00	17.14	183.850	4845.42	1062.37S	71.46W	==>	247.14	1401486.00	3226995.53
5100.00	17.14	183.850	4940.98	1091.77S	73.44W	==>	253.98	1401456.60	3226993.55
5200.00	17.14	183.850	5036.54	1121.17S	75.41W	==>	260.82	1401427.20	3226991.57
5300.00	17.14	183.850	5132.10	1150.57S	77.39W	==>	267.66	1401397.80	3226989.59
5400.00	17.14	183.850	5227.66	1179.97S	79.37W	==>	274.50	1401368.40	3226987.62
5500.00	17.14	183.850	5323.22	1209.37S	81.35W	==>	281.34	1401339.00	3226985.64
5600.00	17.14	183.850	5418.78	1238.77S	83.32W	==>	288.18	1401309.60	3226983.66
5700.00	17.14	183.850	5514.34	1268.17S	85.30W	==>	295.02	1401280.21	3226981.68
5800.00	17.14	183.850	5609.90	1297.57S	87.28W	==>	301.86	1401250.81	3226979.71
5900.00	17.14	183.850	5705.46	1326.97S	89.26W	==>	308.70	1401221.41	3226977.73
6000.00	17.14	183.850	5801.02	1356.37S	91.23W	==>	315.54	1401192.01	3226975.75
6100.00	17.14	183.850	5896.58	1385.77S	93.21W	==>	322.38	1401162.61	3226973.77
6122.36	17.14	183.850	5917.95	1392.35S	93.65W	==>	323.91	1401156.03	3226973.33
6200.00	17.67	196.730	5992.06	1415.05S	97.82W	5.00	331.79	1401133.33	3226969.17
6300.00	19.46	211.440	6086.91	1443.81S	110.88W	5.00	349.45	1401104.57	3226956.10
6400.00	22.23	223.190	6180.39	1471.84S	132.53W	5.00	375.46	1401076.55	3226934.45
6500.00	25.65	232.210	6271.81	1498.91S	162.60W	5.00	409.61	1401049.48	3226904.39
6600.00	29.49	239.130	6360.46	1524.81S	200.86W	5.00	451.65	1401023.57	3226866.13
6700.00	33.62	244.530	6445.67	1549.37S	247.01W	5.00	501.24	1400999.02	3226819.98
6800.00	37.94	248.860	6526.79	1572.37S	300.72W	5.00	558.02	1400976.02	3226766.28
6900.00	42.39	252.410	6603.20	1593.66S	361.56W	5.00	621.56	1400954.73	3226705.44
7000.00	46.92	255.400	6674.33	1613.07S	429.07W	5.00	691.36	1400935.32	3226637.93
7100.00	51.53	257.970	6739.62	1630.44S	502.75W	5.00	766.90	1400917.95	3226564.26
7200.00	56.18	260.230	6798.59	1645.66S	582.02W	5.00	847.60	1400902.73	3226484.98
7300.00	60.88	262.260	6850.79	1658.60S	666.29W	5.00	932.85	1400889.79	3226400.71
7400.00	65.60	264.110	6895.81	1669.16S	754.92W	5.00	1022.00	1400879.23	3226312.09
7500.00	70.34	265.820	6933.32	1677.27S	847.23W	5.00	1114.38	1400871.12	3226219.78
7600.00	75.09	267.440	6963.02	1682.86S	942.52W	5.00	1209.27	1400865.53	3226124.50
7700.00	79.86	268.990	6984.70	1685.89S	1040.06W	5.00	1305.95	1400862.50	3226026.96
7800.00	84.63	270.490	6998.19	1686.33S	1139.12W	5.00	1403.70	1400862.06	3225927.91
7900.00	89.41	271.970	7003.39	1684.19S	1238.93W	5.00	1501.77	1400864.20	3225828.10
7912.34	90.00	272.150	7003.45	1683.75S	1251.26W	5.00	1513.85	1400864.64	3225815.77
8000.00	90.00	272.150	7003.45	1680.47S	1338.86W	==>	1599.69	1400867.93	3225728.18
8100.00	90.00	272.150	7003.45	1676.72S	1438.79W	==>	1697.60	1400871.67	3225628.25
8200.00	90.00	272.150	7003.45	1672.97S	1538.72W	==>	1795.52	1400875.42	3225528.33
8300.00	90.00	272.150	7003.45	1669.22S	1638.65W	==>	1893.43	1400879.17	3225428.40
8400.00	90.00	272.150	7003.45	1665.48S	1738.58W	==>	1991.35	1400882.91	3225328.47
8500.00	90.00	272.150	7003.45	1661.73S	1838.51W	==>	2089.26	1400886.66	3225228.55
8600.00	90.00	272.150	7003.45	1657.98S	1938.44W	==>	2187.18	1400890.41	3225128.62
8700.00	90.00	272.150	7003.45	1654.24S	2038.37W	==>	2285.09	1400894.15	3225028.70
8800.00	90.00	272.150	7003.45	1650.49S	2138.30W	==>	2383.01	1400897.90	3224928.77

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Vertical Section is from 0.00N 0.00E on azimuth 260.430 degrees
Bottom hole distance is 8448.44 Feet on azimuth 260.43 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 13-Dec-2013



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SYSDRILL

Well Design Combined Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
8900.00	90.00	272.150	7003.45	1646.74S	2238.23W	==>	2480.92	1400901.65	3224828.85
9000.00	90.00	272.150	7003.45	1642.99S	2338.16W	==>	2578.84	1400905.40	3224728.92
9100.00	90.00	272.150	7003.45	1639.25S	2438.09W	==>	2676.75	1400909.14	3224628.99
9200.00	90.00	272.150	7003.45	1635.50S	2538.02W	==>	2774.67	1400912.89	3224529.07
9300.00	90.00	272.150	7003.45	1631.75S	2637.94W	==>	2872.58	1400916.64	3224429.14
9400.00	90.00	272.150	7003.45	1628.01S	2737.87W	==>	2970.50	1400920.38	3224329.22
9500.00	90.00	272.150	7003.45	1624.26S	2837.80W	==>	3068.41	1400924.13	3224229.29
9600.00	90.00	272.150	7003.45	1620.51S	2937.73W	==>	3166.33	1400927.88	3224129.36
9700.00	90.00	272.150	7003.45	1616.76S	3037.66W	==>	3264.24	1400931.63	3224029.44
9800.00	90.00	272.150	7003.45	1613.02S	3137.59W	==>	3362.16	1400935.37	3223929.51
9900.00	90.00	272.150	7003.45	1609.27S	3237.52W	==>	3460.07	1400939.12	3223829.59
10000.00	90.00	272.150	7003.45	1605.52S	3337.45W	==>	3557.99	1400942.87	3223729.66
10100.00	90.00	272.150	7003.45	1601.78S	3437.38W	==>	3655.90	1400946.61	3223629.74
10102.89	90.00	272.150	7003.45	1601.67S	3440.27W	==>	3658.73	1400946.72	3223626.85
10110.65	90.00	272.300	7003.45	1601.37S	3448.02W	2.00	3666.32	1400947.02	3223619.10
10200.00	90.00	272.300	7003.45	1597.78S	3537.30W	==>	3753.76	1400950.61	3223529.82
10300.00	90.00	272.300	7003.45	1593.76S	3637.22W	==>	3851.62	1400954.63	3223429.90
10400.00	90.00	272.300	7003.45	1589.74S	3737.14W	==>	3949.48	1400958.65	3223329.99
10500.00	90.00	272.300	7003.45	1585.72S	3837.06W	==>	4047.34	1400962.67	3223230.07
10600.00	90.00	272.300	7003.45	1581.71S	3936.98W	==>	4145.20	1400966.68	3223130.16
10700.00	90.00	272.300	7003.45	1577.69S	4036.90W	==>	4243.06	1400970.70	3223030.24
10800.00	90.00	272.300	7003.45	1573.67S	4136.82W	==>	4340.92	1400974.72	3222930.33
10900.00	90.00	272.300	7003.45	1569.65S	4236.74W	==>	4438.78	1400978.74	3222830.41
11000.00	90.00	272.300	7003.45	1565.63S	4336.66W	==>	4536.64	1400982.75	3222730.50
11100.00	90.00	272.300	7003.45	1561.62S	4436.58W	==>	4634.50	1400986.77	3222630.58
11200.00	90.00	272.300	7003.45	1557.60S	4536.50W	==>	4732.36	1400990.79	3222530.67
11300.00	90.00	272.300	7003.45	1553.58S	4636.41W	==>	4830.22	1400994.81	3222430.75
11400.00	90.00	272.300	7003.45	1549.56S	4736.33W	==>	4928.08	1400998.82	3222330.84
11500.00	90.00	272.300	7003.45	1545.55S	4836.25W	==>	5025.94	1401002.84	3222230.92
11600.00	90.00	272.300	7003.45	1541.53S	4936.17W	==>	5123.80	1401006.86	3222131.01
11700.00	90.00	272.300	7003.45	1537.51S	5036.09W	==>	5221.66	1401010.88	3222031.09
11800.00	90.00	272.300	7003.45	1533.49S	5136.01W	==>	5319.52	1401014.89	3221931.18
11900.00	90.00	272.300	7003.45	1529.47S	5235.93W	==>	5417.38	1401018.91	3221831.26
12000.00	90.00	272.300	7003.45	1525.46S	5335.85W	==>	5515.24	1401022.93	3221731.35
12100.00	90.00	272.300	7003.45	1521.44S	5435.77W	==>	5613.10	1401026.95	3221631.43
12200.00	90.00	272.300	7003.45	1517.42S	5535.69W	==>	5710.96	1401030.96	3221531.51
12300.00	90.00	272.300	7003.45	1513.40S	5635.61W	==>	5808.82	1401034.98	3221431.60
12400.00	90.00	272.300	7003.45	1509.39S	5735.53W	==>	5906.68	1401039.00	3221331.68
12500.00	90.00	272.300	7003.45	1505.37S	5835.45W	==>	6004.53	1401043.02	3221231.77
12600.00	90.00	272.300	7003.45	1501.35S	5935.37W	==>	6102.39	1401047.03	3221131.85
12700.00	90.00	272.300	7003.45	1497.33S	6035.28W	==>	6200.25	1401051.05	3221031.94
12800.00	90.00	272.300	7003.45	1493.32S	6135.20W	==>	6298.11	1401055.07	3220932.02
12900.00	90.00	272.300	7003.45	1489.30S	6235.12W	==>	6395.97	1401059.09	3220832.11
13000.00	90.00	272.300	7003.45	1485.28S	6335.04W	==>	6493.83	1401063.10	3220732.19
13100.00	90.00	272.300	7003.45	1481.26S	6434.96W	==>	6591.69	1401067.12	3220632.28
13200.00	90.00	272.300	7003.45	1477.24S	6534.88W	==>	6689.55	1401071.14	3220532.36
13300.00	90.00	272.300	7003.45	1473.23S	6634.80W	==>	6787.41	1401075.16	3220432.45
13400.00	90.00	272.300	7003.45	1469.21S	6734.72W	==>	6885.27	1401079.17	3220332.53
13500.00	90.00	272.300	7003.45	1465.19S	6834.64W	==>	6983.13	1401083.19	3220232.62
13600.00	90.00	272.300	7003.45	1461.17S	6934.56W	==>	7080.99	1401087.21	3220132.70
13700.00	90.00	272.300	7003.45	1457.16S	7034.48W	==>	7178.85	1401091.23	3220032.79
13800.00	90.00	272.300	7003.45	1453.14S	7134.40W	==>	7276.71	1401095.24	3219932.87
13900.00	90.00	272.300	7003.45	1449.12S	7234.32W	==>	7374.57	1401099.26	3219832.96
14000.00	90.00	272.300	7003.45	1445.10S	7334.23W	==>	7472.43	1401103.28	3219733.04
14100.00	90.00	272.300	7003.45	1441.08S	7434.15W	==>	7570.29	1401107.30	3219633.12
14200.00	90.00	272.300	7003.45	1437.07S	7534.07W	==>	7668.15	1401111.32	3219533.21
14300.00	90.00	272.300	7003.45	1433.05S	7633.99W	==>	7766.01	1401115.33	3219433.29
14400.00	90.00	272.300	7003.45	1429.03S	7733.91W	==>	7863.87	1401119.35	3219333.38
14500.00	90.00	272.300	7003.45	1425.01S	7833.83W	==>	7961.73	1401123.37	3219233.46
14600.00	90.00	272.300	7003.45	1421.00S	7933.75W	==>	8059.59	1401127.39	3219133.55
14700.00	90.00	272.300	7003.45	1416.98S	8033.67W	==>	8157.45	1401131.40	3219033.63

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4658.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 260.430 degrees
Bottom hole distance is 8448.44 Feet on azimuth 260.43 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 13-Dec-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
14800.00	90.00	272.300	7003.45	1412.96S	8133.59W	==>	8255.31	1401135.42	3218933.72
14900.00	90.00	272.300	7003.45	1408.94S	8233.51W	==>	8353.17	1401139.44	3218833.80
14997.36	90.00	272.300	7003.45	1405.03S	8330.79W	==>	8448.44	1401143.35	3218736.52

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SYSDRILL
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Hole Sections								
Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
12 1/4	16.00	16.00	0.00N	0.00E	1000.00	1000.00	0.00N	0.00E
8 3/4	1000.00	1000.00	0.00N	0.00E	7912.00	7003.45	1683.76S	1250.92W
6 1/8	7912.00	7003.45	1683.76S	1250.92W	14997.36	7003.45	1405.03S	8330.79W

Casings								
Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Surface Casing	16.00	16.00	0.00N	0.00E	1000.00	1000.00	0.00N	0.00E
7.0in Intermediate Casing	16.00	16.00	0.00N	0.00E	7912.00	7003.45	1683.76S	1250.92W
4 1/2in Production Liner	6122.00	5917.60	1392.24S	93.65W	14997.36	7003.45	1405.03S	8330.79W

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
D44	1601.67S	3440.27W	7003.45	40.43122000	-104.69668000	1400946.72	3223626.85	27-Nov-2013
DT-Habitat #5-5-6	1683.75S	1251.26W	7003.45	40.43094000	-104.68882000	1400864.64	3225815.77	27-Nov-2013
- T1								
DT-Habitat #5-5-6	1405.03S	8330.79W	7003.45	40.43188000	-104.71424000	1401143.35	3218736.52	27-Nov-2013
- T2								

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
142896	Planned	14997.36	7003.45	WdW Rate Gyro	Standard	

Notes

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SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Proximities beyond 2500.00ft with expansion rate of 0.00ft/1000ft are not reported
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
DT-Habitat #5-5-6 (PWB_2)	12-Dec-2013	13-Dec-2013

Well		
Name	Government ID	Last Revised
DT-Habitat #5-5-6		4-Apr-2013

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #10	1402548.3247	3227066.9814	40.43553000	-104.68427000	145.75S	1.44W

Installation				
Name	Easting	Northing	Coord System Name	North Alignment
Downtown	3227068.4245	1402694.0641	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field				
Name	Easting	Northing	Coord System Name	North Alignment
Wattenberg	3211772.6087	1400656.3763	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary										
Offset WellName	Offset Wellbore	Offset Slot	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
DT-Martinez #1-5-6	DT-Martinez #1-5-6 (PWB)	Slot #11	Downtown	14.57	850.10	14984.24	12.43	850.10	2.63	14997.36
DT-Habitat #4-5-6	DT-Habitat #4-5-6 (PWB_2)	Slot #9	Downtown	14.57	1000.25	14997.36	12.10	983.85	2.59	14997.36
DT-Pioneer #2-5-17	DT-Pioneer #2-5-17 (PWB)	Slot #12	Downtown	32.79	800.20	800.20	30.72	800.20	15.31	901.83
DT-Habitat #3-5-6	DT-Habitat #3-5-6 (PWB_2)	Slot #8	Downtown	32.79	1000.25	14997.36	30.21	983.85	4.35	14997.36
ERBES #5-2H5	ERBES #5-2H5 (AWB)	ERBES #5-2H5	Island Grove Offsets	46.36	2104.14	2104.14	31.14	2104.14	3.04	2115.74
Erbes #5-2H5	Erbes #5-2H5 (AWB)	Erbes #5-2H5	Downtown Pad offsets	46.36	2104.14	2104.14	31.14	2104.14	3.04	2115.74
DT-Pioneer #1-5-17	DT-Pioneer #1-5-17 (PWB)	Slot #13	Downtown	47.36	750.30	750.30	45.38	750.30	22.64	885.42
DT-Habitat #2-5-6	DT-Habitat #2-5-6 (PWB_2)	Slot #7	Downtown	47.44	1000.25	14997.36	44.95	1000.00	6.64	14997.36
DT-StarPak #5-5-17	DT-StarPak #5-5-17 (PWB)	Slot #14	Downtown	65.58	700.30	700.30	63.67	700.30	32.13	869.02
DT-Habitat #1-5-6	DT-Habitat #1-5-6 (PWB_2)	Slot #6	Downtown	65.64	1000.25	14997.36	63.16	983.85	8.68	14997.36

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SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Clearance Summary										
Offset WellName	Offset Wellbore	Offset Slot	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
DT-Lopez #2-5-6	DT-Lopez #2-5-6 (PWB)	Slot #5	Downtown	78.80	1016.66	12956.53	76.45	1000.00	11.25	13336.21
DT-StarPak #4-5-17	DT-StarPak #4-5-17 (PWB)	Slot #15	Downtown	80.20	650.50	650.50	78.37	650.50	34.24	6167.57
DT-Heath #1-5-8	DT-Heath #1-5-8 (PWB)	Slot #1	Downtown	87.94	7465.96	7465.96	66.90	7479.91	3.54	7512.72
DT-StarPak #3-5-17	DT-StarPak #3-5-17 (PWB)	Slot #16	Downtown	94.76	590.15	590.15	92.98	557.34	29.78	6282.40
DT-Lextron #1-32-32	DT-Lextron #1-32-32 (PWB)	Slot #4	Downtown	94.77	704.98	704.98	92.82	754.19	40.59	1000.00
DT-StarPak #2-5-17	DT-StarPak #2-5-17 (PWB)	Slot #17	Downtown	112.97	550.40	550.40	111.20	550.40	23.09	6643.30
DT-Lopez #1-5-6	DT-Lopez #1-5-6 (PWB)	Slot #3	Downtown	112.97	699.50	12975.32	111.07	699.50	13.52	14997.36
DT-StarPak #1-5-17	DT-StarPak #1-5-17 (PWB)	Slot #18	Downtown	127.54	491.72	491.72	125.86	491.72	22.83	7004.19
DT-Heath #2-5-8	DT-Heath #2-5-8 (PWB)	Slot #2	Downtown	127.54	649.40	7272.36	125.72	649.40	14.07	7430.70
DT-Martinez #2-5-6	DT-Martinez #2-5-6 (PWB)	Slot #19	Downtown	145.75	450.30	14968.35	144.14	450.30	4.34	14997.36
DT-Martinez #3-5-6	DT-Martinez #3-5-6 (PWB)	Slot #20	Downtown	160.32	400.30	14952.81	158.79	400.30	6.62	14997.36
DT-Forbes #1-5-6	DT-Forbes #1-5-6 (PWB)	Slot #21	Downtown	174.89	350.50	14936.55	173.44	350.50	8.67	14997.36
DT-Forbes #2-5-6	DT-Forbes #2-5-6 (PWB)	Slot #22	Downtown	193.11	300.70	14920.30	191.74	300.70	10.99	14997.36
DT-Forbes #3-5-6	DT-Forbes #3-5-6 (PWB)	Slot #23	Downtown	207.66	250.45	14901.08	206.37	250.45	13.12	14997.36
DT-Forbes #4-5-6	DT-Forbes #4-5-6 (PWB)	Slot #24	Downtown	222.25	200.45	14884.83	221.04	200.45	15.41	14997.36
DT-Forbes #5-5-6	DT-Forbes #5-5-6 (PWB)	Slot #25	Downtown	240.46	151.45	14868.40	239.33	151.45	17.56	14997.36
DT-Luther #1-5-6	DT-Luther #1-5-6 (PWB)	Slot #26	Downtown	255.04	101.45	101.45	253.98	101.45	99.77	7397.89
CS-Longmeadow #2-1-12	CS-Longmeadow #2-1-12 (PWB)	Slot #17	C Street Pad	457.46	14997.36	14997.36	417.74	14997.36	11.52	14997.36
CS-Longmeadow #1-1-12	CS-Longmeadow #1-1-12 (PWB)	Slot #18	C Street Pad	790.49	14997.36	14997.36	751.15	14997.36	20.09	14997.36
Warnoco 6-2-6	Warnoco 6-2-6 (AWB)	Warnoco 6-2-6	Island Grove Offsets	810.07	11428.67	11428.67	713.50	11367.71	7.72	11138.05
Gas 2-2-5	Gas 2-2-5 (AWB)	Gas 2-2-5	Island Grove Offsets	870.65	8867.73	8867.73	805.96	8907.08	12.18	9235.16
W Mcelroy #41-5	W Mcelroy #41-5 (AWB)	Mcelroy #41-5	Downtown Pad offsets	899.62	2716.00	2716.00	881.15	2771.91	40.02	4395.92
Namara 3-7-32	Namara 3-7-32 (AWB)	Namara 3-7-32	Island Grove Offsets	1048.68	819.81	819.81	1044.58	934.64	68.48	5232.54

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SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: DT-Habitat #5-5-6 (PWB_2)

Clearance Summary										
Offset WellName	Offset Wellbore	Offset Slot	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
Joz A 5-7-32	Joz A 5-7-32 (AWB)	Joz A 5-7-32	Island Grove Offsets	1078.54	1000.25	1000.25	1068.47	1000.00	87.63	3067.18
Thermo 5-5-32	Thermo 5-5-32 (AWB)	Thermo 5-5-32	Island Grove Offsets	1081.44	17.45	17.45	1079.84	130.83	169.54	3854.58
CS-Kinkade #5-1-12	CS-Kinkade #5-1-12 (PWB)	Slot #19	C Street Pad	1122.62	14997.36	14997.36	1082.86	14997.36	28.23	14997.36
Arnold #1	Arnold #1 (AWB)	Arnold #1	Downtown Pad offsets	1328.12	6216.79	6216.79	1293.80	6216.79	38.10	6430.04
CS-Kinkade #4-1-12	CS-Kinkade #4-1-12 (PWB)	Slot #20	C Street Pad	1456.52	14997.36	14997.36	1416.99	14997.36	36.84	14997.36
CS-Kinkade #3-1-12	CS-Kinkade #3-1-12 (PWB)	Slot #21	C Street Pad	1789.10	14997.36	14997.36	1749.46	14997.36	45.14	14997.36
CS-Kinkade #2-1-12	CS-Kinkade #2-1-12 (PWB)	Slot #22	C Street Pad	2124.27	14997.36	14997.36	2084.77	14997.36	53.79	14997.36
CS-Kinkade #1-1-12	CS-Kinkade #1-1-12 (PWB)	Slot #23	C Street Pad	2457.83	14997.36	14997.36	2418.22	14997.36	62.05	14997.36
4H 5-7-31	4H 5-7-31 (AWB)	4H 5-7-31	Island Grove Offsets	2483.60	12245.84	12245.84	2367.55	12220.72	21.18	11974.66