

MINERAL RESOURCES, INC.

Location	Windsor	Slot	Slot #52
Field	Wattenberg	Well	GP-Dairy #1-20-19
Installation	Mineral Resources MRI	Wellbore	GP-Dairy #1-20-19 (PWB)

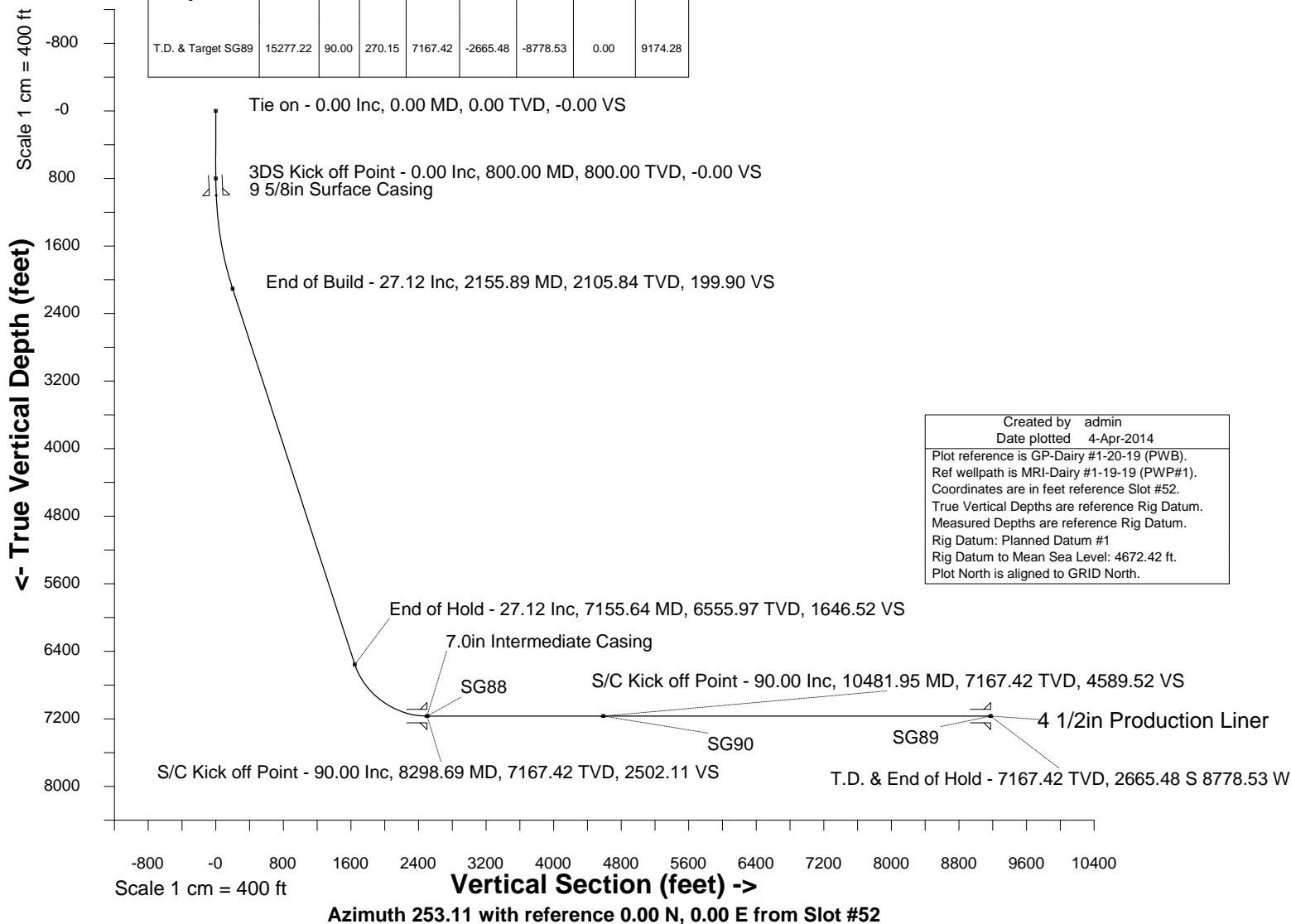
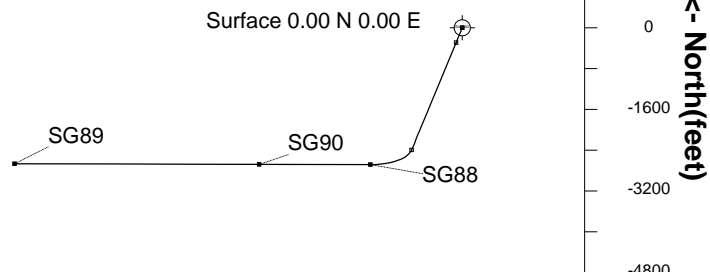
East (feet) ->

Scale 1 cm = 800 ft

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

WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
KOP	800.00	0.00	0.00	800.00	0.00	0.00	0.00	-0.00
End of Build	2155.89	27.12	202.51	2105.84	-290.93	-120.58	2.00	199.90
End of Hold	7155.64	27.12	202.51	6555.97	-2396.26	-993.16	0.00	1646.52
Target SG88	8298.69	90.00	270.15	7167.42	-2683.74	-1800.02	7.00	2502.11
Target SG90	10481.95	90.00	270.15	7167.42	-2678.03	-3983.28	0.00	4589.52
T.D. & Target SG89	15277.22	90.00	270.15	7167.42	-2665.48	-8778.53	0.00	9174.28



Created by admin
Date plotted 4-Apr-2014
Plot reference is GP-Dairy #1-20-19 (PWB).
Ref wellpath is MRI-Dairy #1-19-19 (PWP#1).
Coordinates are in feet reference Slot #52.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 4672.42 ft.
Plot North is aligned to GRID North.



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: GP-Dairy #1-20-19 (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #52	1385986.7100	3227710.8120	40.39005392	-104.68250568	508.45S	375.75W	0.42

Declination			
Date	Source	Time	
22-Jan-2013	IGRF Model [1900.0-2015.0]	09:44	
18-Sep-2013	IGRF Model [1900.0-2015.0]	10:23	

Site Details				
Name	Northing	Easting	Coord System Name	North Alignment
Mineral Resources MRI	1386495.1419	3228086.5450	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	1385986.71	3227710.81
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
2155.89	27.12	202.510	2105.84	290.93S	120.58W	2.00	199.90	1385695.80	3227590.24
7155.64	27.12	202.510	6555.97	2396.26S	993.16W	==>	1646.52	1383590.55	3226717.69
8298.69	90.00	270.150	7167.42	2683.74S	1800.02W	7.00	2502.11	1383303.08	3225910.86
10481.95	90.00	270.150	7167.42	2678.03S	3983.28W	==>	4589.52	1383308.80	3223727.70
15277.22	90.00	270.150	7167.42	2665.48S	8778.53W	==>	9174.28	1383321.34	3218932.65

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	1385986.71	3227710.81
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1385986.71	3227710.81
900.00	2.00	202.510	899.98	1.61S	0.67W	2.00	1.11	1385985.10	3227710.14
1000.00	4.00	202.510	999.84	6.45S	2.67W	2.00	4.43	1385980.26	3227708.14
1100.00	6.00	202.510	1099.45	14.50S	6.01W	2.00	9.96	1385972.21	3227704.80
1200.00	8.00	202.510	1198.70	25.76S	10.67W	2.00	17.70	1385960.96	3227700.14
1300.00	10.00	202.510	1297.47	40.21S	16.66W	2.00	27.63	1385946.51	3227694.15
1400.00	12.00	202.510	1395.62	57.83S	23.97W	2.00	39.74	1385928.88	3227686.84
1500.00	14.00	202.510	1493.06	78.61S	32.58W	2.00	54.02	1385908.10	3227678.23
1600.00	16.00	202.510	1589.64	102.52S	42.49W	2.00	70.44	1385884.19	3227668.32
1700.00	18.00	202.510	1685.27	129.53S	53.68W	2.00	89.00	1385857.19	3227657.13
1800.00	20.00	202.510	1779.82	159.60S	66.15W	2.00	109.67	1385827.11	3227644.67
1900.00	22.00	202.510	1873.17	192.71S	79.87W	2.00	132.41	1385794.01	3227630.95
2000.00	24.00	202.510	1965.21	228.80S	94.83W	2.00	157.21	1385757.92	3227615.99
2100.00	26.00	202.510	2055.84	267.84S	111.01W	2.00	184.04	1385718.88	3227599.81
2155.89	27.12	202.510	2105.84	290.93S	120.58W	2.00	199.90	1385695.80	3227590.24
2200.00	27.12	202.510	2145.09	309.50S	128.28W	==>	212.66	1385677.22	3227582.54
2300.00	27.12	202.510	2234.10	351.61S	145.73W	==>	241.60	1385635.12	3227565.09
2400.00	27.12	202.510	2323.11	393.72S	163.18W	==>	270.53	1385593.01	3227547.64
2500.00	27.12	202.510	2412.11	435.83S	180.63W	==>	299.47	1385550.90	3227530.19
2600.00	27.12	202.510	2501.12	477.93S	198.09W	==>	328.40	1385508.80	3227512.73
2700.00	27.12	202.510	2590.13	520.04S	215.54W	==>	357.33	1385466.69	3227495.28
2800.00	27.12	202.510	2679.14	562.15S	232.99W	==>	386.27	1385424.58	3227477.83
2900.00	27.12	202.510	2768.14	604.26S	250.44W	==>	415.20	1385382.47	3227460.38
3000.00	27.12	202.510	2857.15	646.37S	267.90W	==>	444.14	1385340.37	3227442.93
3100.00	27.12	202.510	2946.16	688.48S	285.35W	==>	473.07	1385298.26	3227425.48
3200.00	27.12	202.510	3035.16	730.59S	302.80W	==>	502.00	1385256.15	3227408.02
3300.00	27.12	202.510	3124.17	772.70S	320.25W	==>	530.94	1385214.05	3227390.57
3400.00	27.12	202.510	3213.18	814.80S	337.71W	==>	559.87	1385171.94	3227373.12

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 4672.4ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 253.110 degrees
Bottom hole distance is 9174.28 Feet on azimuth 253.11 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 4-Apr-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL

Well Design Combined Report
Wellbore: GP-Dairy #1-20-19 (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3500.00	27.12	202.510	3302.19	856.91S	355.16W	==>	588.80	1385129.83	3227355.67
3600.00	27.12	202.510	3391.19	899.02S	372.61W	==>	617.74	1385087.73	3227338.22
3700.00	27.12	202.510	3480.20	941.13S	390.06W	==>	646.67	1385045.62	3227320.76
3800.00	27.12	202.510	3569.21	983.24S	407.52W	==>	675.61	1385003.51	3227303.31
3900.00	27.12	202.510	3658.21	1025.35S	424.97W	==>	704.54	1384961.40	3227285.86
4000.00	27.12	202.510	3747.22	1067.46S	442.42W	==>	733.47	1384919.30	3227268.41
4100.00	27.12	202.510	3836.23	1109.57S	459.87W	==>	762.41	1384877.19	3227250.96
4200.00	27.12	202.510	3925.23	1151.68S	477.33W	==>	791.34	1384835.08	3227233.51
4300.00	27.12	202.510	4014.24	1193.78S	494.78W	==>	820.28	1384792.98	3227216.05
4400.00	27.12	202.510	4103.25	1235.89S	512.23W	==>	849.21	1384750.87	3227198.60
4500.00	27.12	202.510	4192.26	1278.00S	529.68W	==>	878.14	1384708.76	3227181.15
4600.00	27.12	202.510	4281.26	1320.11S	547.14W	==>	907.08	1384666.66	3227163.70
4700.00	27.12	202.510	4370.27	1362.22S	564.59W	==>	936.01	1384624.55	3227146.25
4800.00	27.12	202.510	4459.28	1404.33S	582.04W	==>	964.95	1384582.44	3227128.80
4900.00	27.12	202.510	4548.28	1446.44S	599.49W	==>	993.88	1384540.33	3227111.34
5000.00	27.12	202.510	4637.29	1488.55S	616.95W	==>	1022.81	1384498.23	3227093.89
5100.00	27.12	202.510	4726.30	1530.65S	634.40W	==>	1051.75	1384456.12	3227076.44
5200.00	27.12	202.510	4815.31	1572.76S	651.85W	==>	1080.68	1384414.01	3227058.99
5300.00	27.12	202.510	4904.31	1614.87S	669.30W	==>	1109.61	1384371.91	3227041.54
5400.00	27.12	202.510	4993.32	1656.98S	686.76W	==>	1138.55	1384329.80	3227024.08
5500.00	27.12	202.510	5082.33	1699.09S	704.21W	==>	1167.48	1384287.69	3227006.63
5600.00	27.12	202.510	5171.33	1741.20S	721.66W	==>	1196.42	1384245.59	3226989.18
5700.00	27.12	202.510	5260.34	1783.31S	739.11W	==>	1225.35	1384203.48	3226971.73
5800.00	27.12	202.510	5349.35	1825.42S	756.57W	==>	1254.28	1384161.37	3226954.28
5900.00	27.12	202.510	5438.35	1867.52S	774.02W	==>	1283.22	1384119.26	3226936.83
6000.00	27.12	202.510	5527.36	1909.63S	791.47W	==>	1312.15	1384077.16	3226919.37
6100.00	27.12	202.510	5616.37	1951.74S	808.92W	==>	1341.09	1384035.05	3226901.92
6200.00	27.12	202.510	5705.38	1993.85S	826.38W	==>	1370.02	1383992.94	3226884.47
6300.00	27.12	202.510	5794.38	2035.96S	843.83W	==>	1398.95	1383950.84	3226867.02
6400.00	27.12	202.510	5883.39	2078.07S	861.28W	==>	1427.89	1383908.73	3226849.57
6500.00	27.12	202.510	5972.40	2120.18S	878.73W	==>	1456.82	1383866.62	3226832.11
6600.00	27.12	202.510	6061.40	2162.29S	896.19W	==>	1485.76	1383824.52	3226814.66
6700.00	27.12	202.510	6150.41	2204.40S	913.64W	==>	1514.69	1383782.41	3226797.21
6800.00	27.12	202.510	6239.42	2246.50S	931.09W	==>	1543.62	1383740.30	3226779.76
6900.00	27.12	202.510	6328.43	2288.61S	948.54W	==>	1572.56	1383698.19	3226762.31
7000.00	27.12	202.510	6417.43	2330.72S	966.00W	==>	1601.49	1383656.09	3226744.86
7100.00	27.12	202.510	6506.44	2372.83S	983.45W	==>	1630.42	1383613.98	3226727.40
7155.64	27.12	202.510	6555.97	2396.26S	993.16W	==>	1646.52	1383590.55	3226717.69
7200.00	28.32	208.670	6595.24	2414.84S	1002.08W	7.00	1660.46	1383571.97	3226708.77
7300.00	31.92	220.670	6681.80	2455.76S	1030.73W	7.00	1699.76	1383531.06	3226680.13
7400.00	36.43	230.230	6764.57	2494.85S	1070.83W	7.00	1749.48	1383491.96	3226640.03
7500.00	41.54	237.840	6842.32	2531.54S	1121.78W	7.00	1808.90	1383455.27	3226589.08
7600.00	47.07	244.010	6913.89	2565.28S	1182.84W	7.00	1877.12	1383421.54	3226528.03
7700.00	52.87	249.140	6978.21	2595.56S	1253.08W	7.00	1953.13	1383391.26	3226457.79
7800.00	58.86	253.520	7034.32	2621.93S	1331.46W	7.00	2035.79	1383364.89	3226379.41
7900.00	64.98	257.380	7081.39	2644.00S	1416.81W	7.00	2123.88	1383342.83	3226294.06
8000.00	71.18	260.860	7118.71	2661.43S	1507.86W	7.00	2216.07	1383325.39	3226203.01
8100.00	77.45	264.100	7145.73	2673.98S	1603.26W	7.00	2310.99	1383312.84	3226107.62
8200.00	83.76	267.180	7162.05	2681.45S	1701.57W	7.00	2407.23	1383305.37	3226009.32
8298.69	90.00	270.150	7167.42	2683.74S	1800.02W	7.00	2502.11	1383303.08	3225910.86
8300.00	90.00	270.150	7167.42	2683.74S	1801.34W	==>	2503.36	1383303.09	3225909.55
8400.00	90.00	270.150	7167.42	2683.47S	1901.34W	==>	2598.97	1383303.35	3225809.56
8500.00	90.00	270.150	7167.42	2683.21S	2001.34W	==>	2694.58	1383303.61	3225709.56
8600.00	90.00	270.150	7167.42	2682.95S	2101.34W	==>	2790.19	1383303.87	3225609.57
8700.00	90.00	270.150	7167.42	2682.69S	2201.33W	==>	2885.80	1383304.13	3225509.57
8800.00	90.00	270.150	7167.42	2682.43S	2301.33W	==>	2981.41	1383304.40	3225409.57
8900.00	90.00	270.150	7167.42	2682.17S	2401.33W	==>	3077.02	1383304.66	3225309.58
9000.00	90.00	270.150	7167.42	2681.90S	2501.33W	==>	3172.63	1383304.92	3225209.58
9100.00	90.00	270.150	7167.42	2681.64S	2601.33W	==>	3268.24	1383305.18	3225109.59
9200.00	90.00	270.150	7167.42	2681.38S	2701.33W	==>	3363.85	1383305.44	3225009.59
9300.00	90.00	270.150	7167.42	2681.12S	2801.33W	==>	3459.46	1383305.70	3224909.60
9400.00	90.00	270.150	7167.42	2680.86S	2901.33W	==>	3555.07	1383305.97	3224809.60

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Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
9500.00	90.00	270.150	7167.42	2680.60S	3001.33W	==>	3650.68	1383306.23	3224709.61
9600.00	90.00	270.150	7167.42	2680.33S	3101.33W	==>	3746.29	1383306.49	3224609.61
9700.00	90.00	270.150	7167.42	2680.07S	3201.33W	==>	3841.90	1383306.75	3224509.62
9800.00	90.00	270.150	7167.42	2679.81S	3301.33W	==>	3937.51	1383307.01	3224409.62
9900.00	90.00	270.150	7167.42	2679.55S	3401.33W	==>	4033.12	1383307.27	3224309.62
10000.00	90.00	270.150	7167.42	2679.29S	3501.33W	==>	4128.73	1383307.54	3224209.63
10100.00	90.00	270.150	7167.42	2679.03S	3601.33W	==>	4224.34	1383307.80	3224109.63
10200.00	90.00	270.150	7167.42	2678.76S	3701.33W	==>	4319.95	1383308.06	3224009.64
10300.00	90.00	270.150	7167.42	2678.50S	3801.33W	==>	4415.56	1383308.32	3223909.64
10400.00	90.00	270.150	7167.42	2678.24S	3901.33W	==>	4511.17	1383308.58	3223809.65
10481.95	90.00	270.150	7167.42	2678.03S	3983.28W	==>	4589.52	1383308.80	3223727.70
10500.00	90.00	270.150	7167.42	2677.98S	4001.33W	==>	4606.78	1383308.84	3223709.65
10600.00	90.00	270.150	7167.42	2677.72S	4101.33W	==>	4702.39	1383309.10	3223609.66
10700.00	90.00	270.150	7167.42	2677.46S	4201.33W	==>	4798.00	1383309.37	3223509.66
10800.00	90.00	270.150	7167.42	2677.19S	4301.33W	==>	4893.61	1383309.63	3223409.67
10900.00	90.00	270.150	7167.42	2676.93S	4401.33W	==>	4989.22	1383309.89	3223309.67
11000.00	90.00	270.150	7167.42	2676.67S	4501.33W	==>	5084.83	1383310.15	3223209.68
11100.00	90.00	270.150	7167.42	2676.41S	4601.33W	==>	5180.44	1383310.41	3223109.68
11200.00	90.00	270.150	7167.42	2676.15S	4701.33W	==>	5276.05	1383310.67	3223009.68
11300.00	90.00	270.150	7167.42	2675.89S	4801.33W	==>	5371.66	1383310.94	3222909.69
11400.00	90.00	270.150	7167.42	2675.62S	4901.33W	==>	5467.27	1383311.20	3222809.69
11500.00	90.00	270.150	7167.42	2675.36S	5001.33W	==>	5562.88	1383311.46	3222709.70
11600.00	90.00	270.150	7167.42	2675.10S	5101.32W	==>	5658.49	1383311.72	3222609.70
11700.00	90.00	270.150	7167.42	2674.84S	5201.32W	==>	5754.10	1383311.98	3222509.71
11800.00	90.00	270.150	7167.42	2674.58S	5301.32W	==>	5849.71	1383312.24	3222409.71
11900.00	90.00	270.150	7167.42	2674.32S	5401.32W	==>	5945.32	1383312.51	3222309.72
12000.00	90.00	270.150	7167.42	2674.05S	5501.32W	==>	6040.93	1383312.77	3222209.72
12100.00	90.00	270.150	7167.42	2673.79S	5601.32W	==>	6136.54	1383313.03	3222109.73
12200.00	90.00	270.150	7167.42	2673.53S	5701.32W	==>	6232.15	1383313.29	3222009.73
12300.00	90.00	270.150	7167.42	2673.27S	5801.32W	==>	6327.76	1383313.55	3221909.73
12400.00	90.00	270.150	7167.42	2673.01S	5901.32W	==>	6423.37	1383313.81	3221809.74
12500.00	90.00	270.150	7167.42	2672.75S	6001.32W	==>	6518.98	1383314.08	3221709.74
12600.00	90.00	270.150	7167.42	2672.48S	6101.32W	==>	6614.59	1383314.34	3221609.75
12700.00	90.00	270.150	7167.42	2672.22S	6201.32W	==>	6710.20	1383314.60	3221509.75
12800.00	90.00	270.150	7167.42	2671.96S	6301.32W	==>	6805.81	1383314.86	3221409.76
12900.00	90.00	270.150	7167.42	2671.70S	6401.32W	==>	6901.42	1383315.12	3221309.76
13000.00	90.00	270.150	7167.42	2671.44S	6501.32W	==>	6997.03	1383315.38	3221209.77
13100.00	90.00	270.150	7167.42	2671.18S	6601.32W	==>	7092.64	1383315.65	3221109.77
13200.00	90.00	270.150	7167.42	2670.91S	6701.32W	==>	7188.25	1383315.91	3221009.78
13300.00	90.00	270.150	7167.42	2670.65S	6801.32W	==>	7283.86	1383316.17	3220909.78
13400.00	90.00	270.150	7167.42	2670.39S	6901.32W	==>	7379.47	1383316.43	3220809.78
13500.00	90.00	270.150	7167.42	2670.13S	7001.32W	==>	7475.08	1383316.69	3220709.79
13600.00	90.00	270.150	7167.42	2669.87S	7101.32W	==>	7570.69	1383316.95	3220609.79
13700.00	90.00	270.150	7167.42	2669.61S	7201.32W	==>	7666.30	1383317.22	3220509.80
13800.00	90.00	270.150	7167.42	2669.34S	7301.32W	==>	7761.91	1383317.48	3220409.80
13900.00	90.00	270.150	7167.42	2669.08S	7401.32W	==>	7857.52	1383317.74	3220309.81
14000.00	90.00	270.150	7167.42	2668.82S	7501.32W	==>	7953.13	1383318.00	3220209.81
14100.00	90.00	270.150	7167.42	2668.56S	7601.32W	==>	8048.74	1383318.26	3220109.82
14200.00	90.00	270.150	7167.42	2668.30S	7701.32W	==>	8144.35	1383318.52	3220009.82
14300.00	90.00	270.150	7167.42	2668.04S	7801.32W	==>	8239.96	1383318.79	3219909.83
14400.00	90.00	270.150	7167.42	2667.77S	7901.32W	==>	8335.57	1383319.05	3219809.83
14500.00	90.00	270.150	7167.42	2667.51S	8001.31W	==>	8431.18	1383319.31	3219709.83
14600.00	90.00	270.150	7167.42	2667.25S	8101.31W	==>	8526.79	1383319.57	3219609.84
14700.00	90.00	270.150	7167.42	2666.99S	8201.31W	==>	8622.40	1383319.83	3219509.84
14800.00	90.00	270.150	7167.42	2666.73S	8301.31W	==>	8718.01	1383320.09	3219409.85
14900.00	90.00	270.150	7167.42	2666.47S	8401.31W	==>	8813.62	1383320.36	3219309.85
15000.00	90.00	270.150	7167.42	2666.20S	8501.31W	==>	8909.23	1383320.62	3219209.86
15100.00	90.00	270.150	7167.42	2665.94S	8601.31W	==>	9004.84	1383320.88	3219109.86
15200.00	90.00	270.150	7167.42	2665.68S	8701.31W	==>	9100.45	1383321.14	3219009.87
15277.22	90.00	270.150	7167.42	2665.48S	8778.53W	==>	9174.28	1383321.34	3218932.65

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Bottom hole distance is 9174.28 Feet on azimuth 253.11 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 4-Apr-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: GP-Dairy #1-20-19 (PWB)

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	0.00	0.00	0.00N	0.00E	1000.00	999.84	6.45S	2.67W
8 3/4	1000.00	999.84	6.45S	2.67W	8298.00	7167.42	2683.74S	1799.34W
6 1/8	8298.00	7167.42	2683.74S	1799.34W	15277.22	7167.42	2665.48S	8778.53W

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	0.00	0.00	0.00N	0.00E	1000.00	999.84	6.45S	2.67W
7.0in Intermediate Casing	0.00	0.00	0.00N	0.00E	8298.00	7167.42	2683.74S	1799.34W
4 1/2in Production Liner	8098.00	7145.30	2673.78S	1601.31W	15277.22	7167.42	2665.48S	8778.53W

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
SG88	2683.74S	1800.02W	7167.42	40.38273299	-104.68905534	1383303.08	3225910.86	17-Mar-2014
SG89	2665.48S	8778.53W	7167.42	40.38295558	-104.711410288	1383321.34	3218932.65	17-Mar-2014
SG90	2678.03S	3983.28W	7167.42	40.38280320	-104.69689154	1383308.80	3223727.70	17-Mar-2014

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
64718	Planned	15277.22	7167.42	WdW Rate Gyro	Standard	

Notes

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Closest Approach + Clearance Factor Summary Report
Wellbore: GP-Dairy #1-20-19 (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
Proximities beyond 1500.00ft 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
GP-Dairy #1-20-19 (PWB)	23-Sep-2013	4-Apr-2014

Well		
Name	Government ID	Last Revised
GP-Dairy #1-20-19		4-Apr-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #52	1385986.7100	3227710.8120	40.39005392	-104.68250568	508.45S	375.75W

Installation				
Name	Easting	Northing	Coord System Name	North Alignment
Mineral Resources MRI	3228086.5450	1386495.1419	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]
GP-Dairy #2-19-20	GP-Dairy #2-19-20 (PWB)	Slot #53	Mineral Resources MRI	12.00	749.86	749.86	9.88	749.86	2.47	15277.22
GP-Double Clutch #3-20-19	GP-Double Clutch #3-20-19 (PWB)	Slot #51	Mineral Resources MRI	12.00	803.81	15277.22	9.80	803.81	2.53	15277.22
GP-Dairy #3-19-20	GP-Dairy #3-19-20 (PWB)	Slot #54	Mineral Resources MRI	24.00	700.00	10483.26	21.96	700.00	4.18	15277.22
GP-Double Clutch #2-19-19	GP-Double Clutch #2-19-19 (PWB)	Slot #50	Mineral Resources MRI	24.00	803.81	15277.22	21.80	803.81	4.35	15277.22
GP-Double Clutch #1-19-19	GP-Double Clutch #1-19-19 (PWB)	Slot #49	Mineral Resources MRI	33.34	528.59	15277.22	31.55	541.34	6.22	15277.22
GP-Dairy #4-19-20	GP-Dairy #4-19-20 (PWB)	Slot #55	Mineral Resources MRI	36.00	649.75	10481.95	34.04	649.75	6.38	15277.22
GP-JEvans #5-19-19	GP-JEvans #5-19-19 (PWB)	Slot #48	Mineral Resources MRI	45.59	492.13	15277.22	43.86	500.00	8.45	15277.22
GP-Dairy #5-19-20	GP-Dairy #5-19-20 (PWB)	Slot #56	Mineral Resources MRI	48.00	600.00	10481.95	46.02	600.00	8.36	15277.22
GP-JEvans 4-19-19	GP-JEvans 4-19-19	Slot #47	Mineral Resources	59.85	820.21	820.21	57.62	820.21	25.82	885.83

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Closest Approach + Clearance Factor Summary Report
Wellbore: GP-Dairy #1-20-19 (PWB)

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]
	(PWB)		MRI							
GP-Library #1-19-20	GP-Library #1-19-20 (PWB)	Slot #57	Mineral Resources MRI	60.00	549.72	549.72	58.20	549.72	10.50	15277.22
GP-JEvans #3-19-19	GP-JEvans #3-19-19 (PWB)	Slot #46	Mineral Resources MRI	70.93	803.81	803.81	68.71	803.81	30.49	900.00
GP-JEvans #2-19-19	GP-JEvans #2-19-19 (PWB)	Slot #45	Mineral Resources MRI	83.62	564.12	564.12	81.77	590.55	38.52	836.61
GP-JEvans #1-19-19	GP-JEvans #1-19-19 (PWB)	Slot #44	Mineral Resources MRI	96.01	803.81	803.81	93.80	803.81	41.54	885.83
GP-Hillside #3-19-19	GP-Hillside #3-19-19 (PWB)	Slot #43	Mineral Resources MRI	108.01	705.38	705.38	105.91	771.00	46.65	900.00
GP-Hillside #2-19-19	GP-Hillside #2-19-19 (PWB)	Slot #42	Mineral Resources MRI	120.01	500.00	500.00	118.27	541.34	53.66	902.23
Commerce Center 2 #20-7H5	Commerce Center 2 #20-7H5 (AWB)	Commerce Center 2 #20-7H5	MRI Offsets	124.19	4694.82	4694.82	99.85	4700.00	5.07	4724.41
GP-Hillside #1-18-18	GP-Hillside #1-18-18 (PWB)	Slot #41	Mineral Resources MRI	132.01	803.81	803.81	129.80	803.81	56.92	885.83
GP-Jackson #5-18-18	GP-Jackson #5-18-18 (PWB)	Slot #40	Mineral Resources MRI	145.01	803.81	803.81	142.80	803.81	62.47	885.83
GP-Jackson #4-18-18	GP-Jackson #4-18-18 (PWB)	Slot #39	Mineral Resources MRI	157.01	803.81	803.81	154.80	803.81	67.60	885.83
GP-Jackson #3-18-18	GP-Jackson #3-18-18 (PWB)	Slot #38	Mineral Resources MRI	169.01	803.81	803.81	166.80	803.81	72.70	1000.00
GP-Jackson #2-18-18	GP-Jackson #2-18-18 (PWB)	Slot #37	Mineral Resources MRI	181.01	803.81	803.81	178.80	803.81	77.44	900.00
GP-Jackson #1-18-18	GP-Jackson #1-18-18 (PWB)	Slot #36	Mineral Resources MRI	193.01	698.40	698.40	190.97	700.00	84.06	902.23
GP-Alles #3-18-18	GP-Alles #3-18-18 (PWB)	Slot #35	Mineral Resources MRI	205.01	523.45	523.45	203.25	524.93	93.11	902.23
GP-Alles #2-18-18	GP-Alles #2-18-18 (PWB)	Slot #34	Mineral Resources MRI	217.01	473.74	473.74	215.33	473.74	100.94	918.64
Commerce Center 4 #20-2H5	Commerce Center 4 #20-2H5 (AWB)	Commerce Center 4 #20-2H5	MRI Offsets	219.29	2022.51	2022.51	212.73	2022.51	32.19	2132.55
CDOT-2 #D7	CDOT-2 #D7 (AWB)	CDOT-2 #D7	Mineral Resources MRI	278.61	541.34	541.34	275.60	574.15	54.20	3133.20
CDOT-3 #D2	CDOT-3 #D2 (AWB)	CDOT-3 #D2	Mineral Resources MRI	291.58	803.81	803.81	287.65	820.21	59.32	1459.97

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Wellbore: GP-Dairy #1-20-19 (PWB)

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]
Sunnyview #E4	Sunnyview #E4 (AWB)	Sunnyview #E4	Mineral Resources MRI	296.39	984.25	9815.98	291.04	1000.00	10.70	9530.84
Ehrlich Motors #D8	Ehrlich Motors #D8 (AWB)	Ehrlich Motors #D8	Mineral Resources MRI	307.12	560.41	560.41	305.63	639.76	50.62	3740.16
Sleep Inn #E5	Sleep Inn #E5 (AWB)	Sleep Inn #E5	Mineral Resources MRI	320.53	0.00	0.00	319.41	49.21	92.64	2329.40
Tri Point #E3	Tri Point #E3 (AWB)	Tri Point #E3	Mineral Resources MRI	333.90	848.10	848.10	329.38	869.42	28.05	4625.98
CDOT-1 #E2	CDOT-1 #E2 (AWB)	CDOT-1 #E2	Mineral Resources MRI	362.95	820.21	820.21	357.88	836.61	36.00	4347.11
University Square #D6	University Square #D6 (AWB)	University Square #D6	Mineral Resources MRI	403.41	16.40	771.00	400.91	771.00	60.35	3133.20
Garden City #D5	Garden City #D5 (AWB)	Garden City #D5	Mineral Resources MRI	422.24	11.42	701.92	420.44	246.06	81.76	3395.67
University 5 Spot #D4	University 5 Spot #D4 (AWB)	University 5 Spot #D4	Mineral Resources MRI	474.55	218.75	218.75	473.02	229.66	72.21	2509.84
Wheeler #D3	Wheeler #D3 (AWB)	Wheeler #D3	Mineral Resources MRI	481.62	156.73	156.73	480.16	196.85	81.80	2200.00
Driftwood #D1	Driftwood #D1 (AWB)	Driftwood #D1	Mineral Resources MRI	488.33	0.00	318.34	487.16	49.21	99.31	2214.57
Classic Lanes #C9	Classic Lanes #C9 (AWB)	Classic Lanes #C9	Mineral Resources MRI	491.77	0.00	0.00	490.59	65.62	86.20	2230.97
District Six #C6	District Six #C6 (AWB)	District Six #C6	Mineral Resources MRI	501.15	200.00	200.00	499.64	200.00	147.42	1000.00
Volk #C7	Volk #C7 (AWB)	Volk #C7	Mineral Resources MRI	501.87	0.00	531.79	500.78	32.81	115.88	1673.23
Union Pacific #C5	Union Pacific #C5 (AWB)	Union Pacific #C5	Mineral Resources MRI	508.90	136.42	136.42	507.42	180.45	175.27	1377.95
HWY 85-3 #C4	HWY 85-3 #C4 (AWB)	HWY 85-3 #C4	Mineral Resources MRI	519.78	116.75	116.75	518.50	147.64	198.78	1500.00
Countryside Center #C3	Countryside Center #C3 (AWB)	Countryside Center #C3	Mineral Resources MRI	524.00	0.42	0.42	522.99	32.81	168.56	1000.00
Millers Green House #A10	Millers Green House #A10 (AWB)	Millers Green House #A10	Mineral Resources MRI	613.29	2.42	2.42	611.61	229.66	95.85	2870.73
Riverview #A9	Riverview #A9 (AWB)	Riverview #A9	Mineral Resources MRI	617.32	500.41	500.41	614.44	500.41	112.81	2739.50
HWY 34-2	HWY 34-2	HWY 34-2	Mineral Resources	628.61	1.42	1.42	627.05	131.23	143.97	2657.48

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Clearance Summary										
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#A8	#A8 (AWB)	#A8	MRI							
BMC #B8	BMC #B8 (AWB)	BMC #B8	Mineral Resources MRI	632.23	0.42	0.42	630.58	131.23	87.95	3215.22
HWY 34-1 #A7	HWY 34-1 #A7 (AWB)	HWY 34-1 #A7	Mineral Resources MRI	638.67	1.42	1.42	636.87	200.00	168.69	2900.00
Greeley Industrial South #B9	Greeley Industrial South #B9 (AWB)	Greeley Industrial South #B9	Mineral Resources MRI	647.62	600.42	600.42	645.46	600.42	140.56	2673.88
Shupe 5 Spot #B10	Shupe 5 Spot #B10 (AWB)	Shupe 5 Spot #B10	Mineral Resources MRI	664.59	803.81	803.81	662.14	803.81	204.43	2805.12
Sam Pak #A6	Sam Pak #A6 (AWB)	Sam Pak #A6	Mineral Resources MRI	670.21	4.42	4.42	668.54	300.00	191.84	2312.99
Bus Barn #A5	Bus Barn #A5 (AWB)	Bus Barn #A5	Mineral Resources MRI	680.24	4.42	4.42	678.19	311.68	155.65	1476.38
Highway 85-2 #B-11	Highway 85-2 #B-11 (AWB)	Highway 85-2 #B-11	Mineral Resources MRI	680.49	278.87	278.87	678.47	311.68	181.19	2148.95
Smith 5 Spot #A4	Smith 5 Spot #A4 (AWB)	Smith 5 Spot #A4	Mineral Resources MRI	695.25	3.42	3.42	693.58	147.64	206.42	1000.00
Highway 85-1 #B12	Highway 85-1 #B12 (AWB)	Highway 85-1 #B12	Mineral Resources MRI	697.92	803.81	803.81	695.47	803.81	243.02	1935.70
Parkview South #A3	Parkview South #A3 (AWB)	Parkview South #A3	Mineral Resources MRI	710.86	4.42	4.42	709.40	147.64	250.42	1919.29
Delta Park #A2	Delta Park #A2 (AWB)	Delta Park #A2	Mineral Resources MRI	722.55	204.42	204.42	720.87	204.42	177.46	1591.21
Clark #A1	Clark #A1 (AWB)	Clark #A1	Mineral Resources MRI	739.22	4.42	4.42	737.44	246.06	114.42	2969.16
Commerce Center 3 #20-1H5	Commerce Center 3 #20-1H5 (AWB)	Commerce Center 3 #20-1H5	MRI Offsets	763.99	820.21	820.21	760.54	820.21	135.48	3690.94