

MINERAL RESOURCES, INC.

Location	Windsor	Slot	Slot #37
Field	Wattenberg	Well	GP-Jackson #2-18-18
Installation	Mineral Resources MRI	Wellbore	GP-Jackson #2-18-18 (PWB)

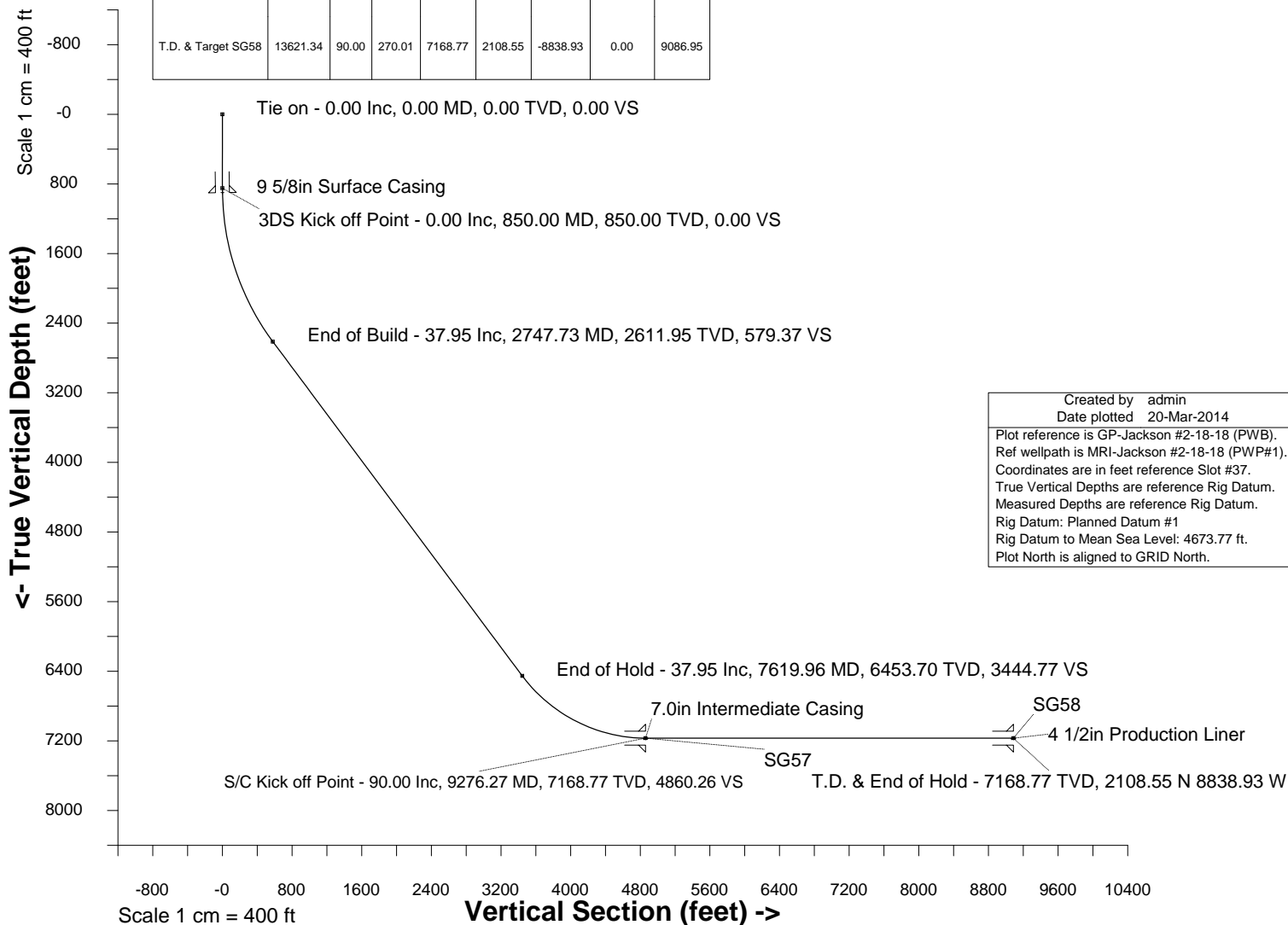
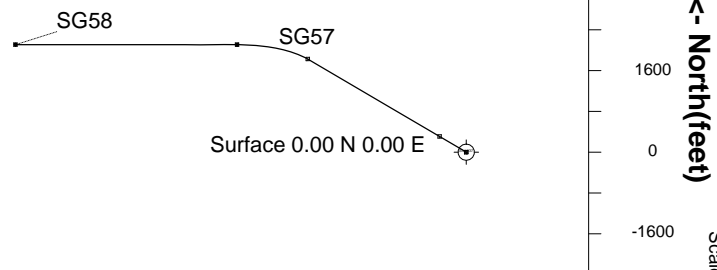
Scale 1 cm = 800 ft

East (feet) ->

-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	850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00
End of Build	2747.73	37.95	300.44	2611.95	306.93	-522.41	2.00	579.37
End of Hold	7619.96	37.95	300.44	6453.70	1824.89	-3106.09	0.00	3444.77
Target SG57	9276.27	90.00	270.01	7168.77	2107.62	-4493.86	3.50	4860.26
T.D. & Target SG58	13621.34	90.00	270.01	7168.77	2108.55	-8838.93	0.00	9086.95



Created by admin
Date plotted 20-Mar-2014
Plot reference is GP-Jackson #2-18-18 (PWB).
Ref wellpath is MRI-Jackson #2-18-18 (PWP#1).
Coordinates are in feet reference Slot #37.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 4673.77 ft.
Plot North is aligned to GRID North.

Azimuth 283.42 with reference 0.00 N, 0.00 E from Slot #37



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: GP-Jackson #2-18-18 (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #37	1386167.6980	3227708.7790	40.39055077	-104.68250699	327.46S	377.78W	1.77

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	1386167.70	3227708.78
850.00	0.00	0.000	850.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
2747.73	37.95	300.440	2611.95	306.93N	522.41W	2.00	579.37	1386474.61	3227186.39
7619.96	37.95	300.440	6453.70	1824.89N	3106.09W	==>	3444.77	1387992.51	3224602.82
9276.27	90.00	270.010	7168.77	2107.62N	4493.86W	3.50	4860.26	1388275.23	3223215.10
13621.34	90.00	270.010	7168.77	2108.55N	8838.93W	==>	9086.95	1388276.16	3218870.22

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	1386167.70	3227708.78
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
850.00	0.00	0.000	850.00	0.00N	0.00E	==>	0.00	1386167.70	3227708.78
950.00	2.00	300.440	949.98	0.88N	1.50W	2.00	1.67	1386168.58	3227707.27
1050.00	4.00	300.440	1049.84	3.54N	6.02W	2.00	6.67	1386171.23	3227702.76
1150.00	6.00	300.440	1149.45	7.95N	13.53W	2.00	15.01	1386175.65	3227695.25
1250.00	8.00	300.440	1248.70	14.12N	24.04W	2.00	26.66	1386181.82	3227684.74
1350.00	10.00	300.440	1347.47	22.05N	37.53W	2.00	41.62	1386189.74	3227671.26
1450.00	12.00	300.440	1445.62	31.71N	53.98W	2.00	59.86	1386199.41	3227654.81
1550.00	14.00	300.440	1543.06	43.11N	73.37W	2.00	81.37	1386210.80	3227635.41
1650.00	16.00	300.440	1639.64	56.22N	95.68W	2.00	106.12	1386223.91	3227613.10
1750.00	18.00	300.440	1735.27	71.03N	120.89W	2.00	134.07	1386238.72	3227587.89
1850.00	20.00	300.440	1829.82	87.52N	148.96W	2.00	165.20	1386255.21	3227559.82
1950.00	22.00	300.440	1923.17	105.67N	179.86W	2.00	199.47	1386273.36	3227528.93
2050.00	24.00	300.440	2015.21	125.46N	213.55W	2.00	236.83	1386293.15	3227495.24
2150.00	26.00	300.440	2105.84	146.87N	249.98W	2.00	277.24	1386314.56	3227458.81
2250.00	28.00	300.440	2194.94	169.87N	289.12W	2.00	320.65	1386337.56	3227419.67
2350.00	30.00	300.440	2282.39	194.42N	330.92W	2.00	367.00	1386362.11	3227377.87
2450.00	32.00	300.440	2368.11	220.51N	375.33W	2.00	416.25	1386388.20	3227333.47
2550.00	34.00	300.440	2451.97	248.10N	422.28W	2.00	468.33	1386415.79	3227286.51
2650.00	36.00	300.440	2533.88	277.15N	471.73W	2.00	523.17	1386444.84	3227237.06
2747.73	37.95	300.440	2611.95	306.93N	522.41W	2.00	579.37	1386474.61	3227186.39
2800.00	37.95	300.440	2653.17	323.21N	550.13W	==>	610.12	1386490.90	3227158.67
2900.00	37.95	300.440	2732.02	354.37N	603.16W	==>	668.93	1386522.05	3227105.64
3000.00	37.95	300.440	2810.87	385.52N	656.19W	==>	727.74	1386553.21	3227052.62
3100.00	37.95	300.440	2889.72	416.68N	709.22W	==>	786.55	1386584.36	3226999.59
3200.00	37.95	300.440	2968.57	447.84N	762.25W	==>	845.36	1386615.51	3226946.56
3300.00	37.95	300.440	3047.42	478.99N	815.28W	==>	904.17	1386646.67	3226893.54
3400.00	37.95	300.440	3126.27	510.15N	868.31W	==>	962.98	1386677.82	3226840.51
3500.00	37.95	300.440	3205.12	541.30N	921.33W	==>	1021.79	1386708.98	3226787.48

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Bottom hole distance is 9086.95 Feet on azimuth 283.42 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL

Well Design Combined Report
Wellbore: GP-Jackson #2-18-18 (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3600.00	37.95	300.440	3283.97	572.46N	974.36W	==>	1080.60	1386740.13	3226734.46
3700.00	37.95	300.440	3362.82	603.61N	1027.39W	==>	1139.41	1386771.28	3226681.43
3800.00	37.95	300.440	3441.66	634.77N	1080.42W	==>	1198.22	1386802.44	3226628.40
3900.00	37.95	300.440	3520.51	665.92N	1133.45W	==>	1257.03	1386833.59	3226575.38
4000.00	37.95	300.440	3599.36	697.08N	1186.48W	==>	1315.84	1386864.75	3226522.35
4100.00	37.95	300.440	3678.21	728.23N	1239.51W	==>	1374.66	1386895.90	3226469.33
4200.00	37.95	300.440	3757.06	759.39N	1292.53W	==>	1433.47	1386927.05	3226416.30
4300.00	37.95	300.440	3835.91	790.54N	1345.56W	==>	1492.28	1386958.21	3226363.27
4400.00	37.95	300.440	3914.76	821.70N	1398.59W	==>	1551.09	1386989.36	3226310.25
4500.00	37.95	300.440	3993.61	852.85N	1451.62W	==>	1609.90	1387020.52	3226257.22
4600.00	37.95	300.440	4072.46	884.01N	1504.65W	==>	1668.71	1387051.67	3226204.19
4700.00	37.95	300.440	4151.31	915.17N	1557.68W	==>	1727.52	1387082.82	3226151.17
4800.00	37.95	300.440	4230.16	946.32N	1610.71W	==>	1786.33	1387113.98	3226098.14
4900.00	37.95	300.440	4309.01	977.48N	1663.74W	==>	1845.14	1387145.13	3226045.11
5000.00	37.95	300.440	4387.86	1008.63N	1716.76W	==>	1903.95	1387176.29	3225992.09
5100.00	37.95	300.440	4466.71	1039.79N	1769.79W	==>	1962.76	1387207.44	3225939.06
5200.00	37.95	300.440	4545.56	1070.94N	1822.82W	==>	2021.57	1387238.60	3225886.03
5300.00	37.95	300.440	4624.41	1102.10N	1875.85W	==>	2080.38	1387269.75	3225833.01
5400.00	37.95	300.440	4703.26	1133.25N	1928.88W	==>	2139.19	1387300.90	3225779.98
5500.00	37.95	300.440	4782.11	1164.41N	1981.91W	==>	2198.00	1387332.06	3225726.96
5600.00	37.95	300.440	4860.96	1195.56N	2034.94W	==>	2256.81	1387363.21	3225673.93
5700.00	37.95	300.440	4939.81	1226.72N	2087.96W	==>	2315.62	1387394.37	3225620.90
5800.00	37.95	300.440	5018.66	1257.87N	2140.99W	==>	2374.44	1387425.52	3225567.88
5900.00	37.95	300.440	5097.51	1289.03N	2194.02W	==>	2433.25	1387456.67	3225514.85
6000.00	37.95	300.440	5176.36	1320.18N	2247.05W	==>	2492.06	1387487.83	3225461.82
6100.00	37.95	300.440	5255.21	1351.34N	2300.08W	==>	2550.87	1387518.98	3225408.80
6200.00	37.95	300.440	5334.06	1382.50N	2353.11W	==>	2609.68	1387550.14	3225355.77
6300.00	37.95	300.440	5412.91	1413.65N	2406.14W	==>	2668.49	1387581.29	3225302.74
6400.00	37.95	300.440	5491.76	1444.81N	2459.16W	==>	2727.30	1387612.44	3225249.72
6500.00	37.95	300.440	5570.61	1475.96N	2512.19W	==>	2786.11	1387643.60	3225196.69
6600.00	37.95	300.440	5649.46	1507.12N	2565.22W	==>	2844.92	1387674.75	3225143.67
6700.00	37.95	300.440	5728.31	1538.27N	2618.25W	==>	2903.73	1387705.91	3225090.64
6800.00	37.95	300.440	5807.16	1569.43N	2671.28W	==>	2962.54	1387737.06	3225037.61
6900.00	37.95	300.440	5886.01	1600.58N	2724.31W	==>	3021.35	1387768.21	3224984.59
7000.00	37.95	300.440	5964.86	1631.74N	2777.34W	==>	3080.16	1387799.37	3224931.56
7100.00	37.95	300.440	6043.71	1662.89N	2830.36W	==>	3138.97	1387830.52	3224878.53
7200.00	37.95	300.440	6122.56	1694.05N	2883.39W	==>	3197.78	1387861.68	3224825.51
7300.00	37.95	300.440	6201.41	1725.20N	2936.42W	==>	3256.59	1387892.83	3224772.48
7400.00	37.95	300.440	6280.26	1756.36N	2989.45W	==>	3315.40	1387923.98	3224719.45
7500.00	37.95	300.440	6359.11	1787.51N	3042.48W	==>	3374.22	1387955.14	3224666.43
7600.00	37.95	300.440	6437.96	1818.67N	3095.51W	==>	3433.03	1387986.29	3224613.40
7619.96	37.95	300.440	6453.70	1824.89N	3106.09W	==>	3444.77	1387992.51	3224602.82
7700.00	40.23	297.840	6515.82	1849.43N	3150.18W	3.50	3493.34	1388017.05	3224558.73
7800.00	43.15	294.930	6590.50	1878.94N	3209.76W	3.50	3558.14	1388046.56	3224499.16
7900.00	46.13	292.330	6661.65	1907.06N	3274.13W	3.50	3627.28	1388074.68	3224434.79
8000.00	49.17	289.970	6729.02	1933.68N	3343.05W	3.50	3700.50	1388101.30	3224365.87
8100.00	52.25	287.820	6792.34	1958.71N	3416.26W	3.50	3777.52	1388126.33	3224292.66
8200.00	55.36	285.850	6851.39	1982.05N	3493.50W	3.50	3858.06	1388149.67	3224215.43
8300.00	58.51	284.010	6905.95	2003.62N	3574.47W	3.50	3941.83	1388171.23	3224134.46
8400.00	61.68	282.300	6955.80	2023.33N	3658.86W	3.50	4028.49	1388190.94	3224050.07
8500.00	64.87	280.690	7000.77	2041.11N	3746.38W	3.50	4117.74	1388208.72	3223962.56
8600.00	68.08	279.160	7040.69	2056.89N	3836.68W	3.50	4209.24	1388224.50	3223872.26
8700.00	71.30	277.700	7075.40	2070.62N	3929.43W	3.50	4302.65	1388238.23	3223779.51
8800.00	74.53	276.290	7104.79	2082.25N	4024.29W	3.50	4397.62	1388249.86	3223684.66
8900.00	77.77	274.930	7128.73	2091.73N	4120.90W	3.50	4493.79	1388259.34	3223588.05
9000.00	81.01	273.590	7147.14	2099.02N	4218.91W	3.50	4590.81	1388266.63	3223490.05
9100.00	84.26	272.290	7159.95	2104.10N	4317.94W	3.50	4688.32	1388271.71	3223391.03
9200.00	87.52	270.990	7167.12	2106.95N	4417.62W	3.50	4785.95	1388274.56	3223291.34
9276.27	90.00	270.010	7168.77	2107.62N	4493.86W	3.50	4860.26	1388275.23	3223215.10
9300.00	90.00	270.010	7168.77	2107.63N	4517.59W	==>	4883.35	1388275.24	3223191.38
9400.00	90.00	270.010	7168.77	2107.65N	4617.59W	==>	4980.62	1388275.26	3223091.38
9500.00	90.00	270.010	7168.77	2107.67N	4717.59W	==>	5077.90	1388275.28	3222991.38

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Bottom hole distance is 9086.95 Feet on azimuth 283.42 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL

Well Design Combined Report
Wellbore: GP-Jackson #2-18-18 (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
9600.00	90.00	270.010	7168.77	2107.69N	4817.59W	==>	5175.17	1388275.30	3222891.39
9700.00	90.00	270.010	7168.77	2107.71N	4917.59W	==>	5272.45	1388275.32	3222791.39
9800.00	90.00	270.010	7168.77	2107.73N	5017.59W	==>	5369.72	1388275.34	3222691.40
9900.00	90.00	270.010	7168.77	2107.76N	5117.59W	==>	5467.00	1388275.36	3222591.40
10000.00	90.00	270.010	7168.77	2107.78N	5217.59W	==>	5564.28	1388275.39	3222491.41
10100.00	90.00	270.010	7168.77	2107.80N	5317.59W	==>	5661.55	1388275.41	3222391.41
10200.00	90.00	270.010	7168.77	2107.82N	5417.59W	==>	5758.83	1388275.43	3222291.41
10300.00	90.00	270.010	7168.77	2107.84N	5517.59W	==>	5856.10	1388275.45	3222191.42
10400.00	90.00	270.010	7168.77	2107.86N	5617.59W	==>	5953.38	1388275.47	3222091.42
10500.00	90.00	270.010	7168.77	2107.88N	5717.59W	==>	6050.65	1388275.49	3221991.43
10600.00	90.00	270.010	7168.77	2107.90N	5817.59W	==>	6147.93	1388275.51	3221891.43
10700.00	90.00	270.010	7168.77	2107.93N	5917.59W	==>	6245.20	1388275.53	3221791.43
10800.00	90.00	270.010	7168.77	2107.95N	6017.59W	==>	6342.48	1388275.56	3221691.44
10900.00	90.00	270.010	7168.77	2107.97N	6117.59W	==>	6439.76	1388275.58	3221591.44
11000.00	90.00	270.010	7168.77	2107.99N	6217.59W	==>	6537.03	1388275.60	3221491.45
11100.00	90.00	270.010	7168.77	2108.01N	6317.59W	==>	6634.31	1388275.62	3221391.45
11200.00	90.00	270.010	7168.77	2108.03N	6417.59W	==>	6731.58	1388275.64	3221291.46
11300.00	90.00	270.010	7168.77	2108.05N	6517.59W	==>	6828.86	1388275.66	3221191.46
11400.00	90.00	270.010	7168.77	2108.08N	6617.59W	==>	6926.13	1388275.68	3221091.46
11500.00	90.00	270.010	7168.77	2108.10N	6717.59W	==>	7023.41	1388275.71	3220991.47
11600.00	90.00	270.010	7168.77	2108.12N	6817.59W	==>	7120.68	1388275.73	3220891.47
11700.00	90.00	270.010	7168.77	2108.14N	6917.59W	==>	7217.96	1388275.75	3220791.48
11800.00	90.00	270.010	7168.77	2108.16N	7017.59W	==>	7315.24	1388275.77	3220691.48
11900.00	90.00	270.010	7168.77	2108.18N	7117.59W	==>	7412.51	1388275.79	3220591.49
12000.00	90.00	270.010	7168.77	2108.20N	7217.59W	==>	7509.79	1388275.81	3220491.49
12100.00	90.00	270.010	7168.77	2108.22N	7317.59W	==>	7607.06	1388275.83	3220391.49
12200.00	90.00	270.010	7168.77	2108.25N	7417.59W	==>	7704.34	1388275.85	3220291.50
12300.00	90.00	270.010	7168.77	2108.27N	7517.59W	==>	7801.61	1388275.88	3220191.50
12400.00	90.00	270.010	7168.77	2108.29N	7617.59W	==>	7898.89	1388275.90	3220091.51
12500.00	90.00	270.010	7168.77	2108.31N	7717.59W	==>	7996.16	1388275.92	3219991.51
12600.00	90.00	270.010	7168.77	2108.33N	7817.59W	==>	8093.44	1388275.94	3219891.52
12700.00	90.00	270.010	7168.77	2108.35N	7917.59W	==>	8190.72	1388275.96	3219791.52
12800.00	90.00	270.010	7168.77	2108.37N	8017.59W	==>	8287.99	1388275.98	3219691.52
12900.00	90.00	270.010	7168.77	2108.40N	8117.59W	==>	8385.27	1388276.00	3219591.53
13000.00	90.00	270.010	7168.77	2108.42N	8217.59W	==>	8482.54	1388276.03	3219491.53
13100.00	90.00	270.010	7168.77	2108.44N	8317.59W	==>	8579.82	1388276.05	3219391.54
13200.00	90.00	270.010	7168.77	2108.46N	8417.59W	==>	8677.09	1388276.07	3219291.54
13300.00	90.00	270.010	7168.77	2108.48N	8517.59W	==>	8774.37	1388276.09	3219191.54
13400.00	90.00	270.010	7168.77	2108.50N	8617.59W	==>	8871.64	1388276.11	3219091.55
13500.00	90.00	270.010	7168.77	2108.52N	8717.59W	==>	8968.92	1388276.13	3218991.55
13600.00	90.00	270.010	7168.77	2108.54N	8817.59W	==>	9066.20	1388276.15	3218891.56
13621.34	90.00	270.010	7168.77	2108.55N	8838.93W	==>	9086.95	1388276.16	3218870.22

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Bottom hole distance is 9086.95 Feet on azimuth 283.42 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: GP-Jackson #2-18-18 (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	900.00	900.00	0.22N	0.38W
8 3/4	900.00	900.00	0.22N	0.38W	9276.00	7168.77	2107.62N	4493.59W
6 1/8	9276.00	7168.77	2107.62N	4493.59W	13621.34	7168.77	2108.55N	8838.93W

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	900.00	900.00	0.22N	0.38W
7.0in Intermediate Casing	0.00	0.00	0.00N	0.00E	9276.00	7168.77	2107.62N	4493.59W
4 1/2in Production Liner	9076.00	7157.39	2103.08N	4294.09W	13621.34	7168.77	2108.55N	8838.93W

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
SG57	2107.62N	4493.86W	7168.77	40.39644834	-104.69857038	1388275.23	3223215.10	17-Mar-2014
SG58	2108.55N	8838.93W	7168.77	40.39655763	-104.71416935	1388276.16	3218870.22	17-Mar-2014

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
64032	Planned	13621.34	7168.77	WdW Rate Gyro	Standard	

Notes

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Bottom hole distance is 9086.95 Feet on azimuth 283.42 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: GP-Jackson #2-18-18 (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 1000.00ft 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-Jackson #2-18-18 (PWB)	18-Sep-2013	20-Mar-2014

Well		
Name	Government ID	Last Revised
GP-Jackson #2-18-18		20-Mar-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #37	1386167.6980	3227708.7790	40.39055077	-104.68250699	327.46S	377.78W

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-Jackson #3-18-18	GP-Jackson #3-18-18 (PWB)	Slot #38	Mineral Resources MRI	12.00	853.02	13617.48	9.71	853.02	2.52	13617.48
GP-Jackson #1-18-18	GP-Jackson #1-18-18 (PWB)	Slot #36	Mineral Resources MRI	12.00	700.00	13621.34	9.96	700.00	2.49	13621.34
GP-Jackson #4-18-18	GP-Jackson #4-18-18 (PWB)	Slot #39	Mineral Resources MRI	24.00	853.02	7824.80	21.71	853.02	4.19	13615.49
GP-Alles #3-18-18	GP-Alles #3-18-18 (PWB)	Slot #35	Mineral Resources MRI	24.00	524.93	8617.73	22.24	524.93	4.18	13621.34
GP-Jackson #5-18-18	GP-Jackson #5-18-18 (PWB)	Slot #40	Mineral Resources MRI	36.00	853.02	13609.76	33.71	853.02	6.44	13609.76
GP-Alles #2-18-18	GP-Alles #2-18-18 (PWB)	Slot #34	Mineral Resources MRI	36.00	475.72	13621.34	34.33	475.72	6.35	13621.34
GP-Hillside #1-18-18	GP-Hillside #1-18-18 (PWB)	Slot #41	Mineral Resources MRI	49.00	853.02	853.02	46.72	853.02	19.43	6807.74
GP-Hillside #2-19-19	GP-Hillside #2-19-19 (PWB)	Slot #42	Mineral Resources MRI	60.37	723.53	723.53	58.27	738.19	23.66	5807.09
CDOT-2 #D7	CDOT-2 #D7 (AWB)	CDOT-2 #D7	Mineral Resources MRI	71.54	2881.76	2881.76	45.63	2919.95	2.68	2936.35
GP-Hillside	GP-Hillside	Slot #43	Mineral	72.86	853.02	853.02	70.58	869.42	29.22	5118.11

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: GP-Jackson #2-18-18 (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]
#3-19-19	#3-19-19 (PWB)		Resources MRI							
GP-JEvans #1-19-19	GP-JEvans #1-19-19 (PWB)	Slot #44	Mineral Resources MRI	85.00	853.02	853.02	82.72	853.02	35.13	4600.00
GP-JEvans #2-19-19	GP-JEvans #2-19-19 (PWB)	Slot #45	Mineral Resources MRI	97.00	351.19	351.19	95.49	410.10	41.56	4019.03
Ehrlich Motors #D8	Ehrlich Motors #D8 (AWB)	Ehrlich Motors #D8	Mineral Resources MRI	101.68	1683.42	2435.81	95.47	1706.05	5.67	2837.93
CDOT-3 #D2	CDOT-3 #D2 (AWB)	CDOT-3 #D2	Mineral Resources MRI	102.85	1337.37	1337.37	97.14	1345.14	16.92	1509.19
GP-JEvans #3-19-19	GP-JEvans #3-19-19 (PWB)	Slot #46	Mineral Resources MRI	109.00	551.53	551.53	107.19	590.55	47.09	3800.00
GP-JEvans 4-19-19	GP-JEvans 4-19-19 (PWB)	Slot #47	Mineral Resources MRI	121.00	751.83	751.83	118.88	771.00	52.15	885.83
Sunnyview #E4	Sunnyview #E4 (AWB)	Sunnyview #E4	Mineral Resources MRI	123.43	903.66	903.66	119.12	899.89	24.37	1082.68
GP-JEvans #5-19-19	GP-JEvans #5-19-19 (PWB)	Slot #48	Mineral Resources MRI	133.00	200.00	200.00	131.77	229.66	65.52	3166.01
Sleep Inn #E5	Sleep Inn #E5 (AWB)	Sleep Inn #E5	Mineral Resources MRI	141.34	0.00	4204.98	140.19	49.21	8.99	6692.91
GP-Double Clutch #1-19-19	GP-Double Clutch #1-19-19 (PWB)	Slot #49	Mineral Resources MRI	145.01	251.64	251.64	143.69	251.64	71.41	3067.59
Tri Point #E3	Tri Point #E3 (AWB)	Tri Point #E3	Mineral Resources MRI	156.41	792.10	792.10	152.43	803.81	19.43	3576.12
GP-Double Clutch #2-19-19	GP-Double Clutch #2-19-19 (PWB)	Slot #50	Mineral Resources MRI	157.01	853.02	853.02	154.72	853.02	63.95	1328.74
GP-Double Clutch #3-19-19	GP-Double Clutch #3-19-19 (PWB)	Slot #51	Mineral Resources MRI	169.01	853.02	853.02	166.72	853.02	72.33	885.83
Garden City #D5	Garden City #D5 (AWB)	Garden City #D5	Mineral Resources MRI	178.81	2517.56	2517.56	162.93	2542.65	10.57	2706.69
GP-Dairy #1-19-19	GP-Dairy #1-19-19 (PWB)	Slot #52	Mineral Resources MRI	181.01	801.35	801.35	178.81	801.35	78.07	885.83
CDOT-1 #E2	CDOT-1 #E2 (AWB)	CDOT-1 #E2	Mineral Resources MRI	183.93	731.75	2501.38	179.57	754.59	10.47	2821.52
GP-Dairy #2-19-20	GP-Dairy #2-19-20 (PWB)	Slot #53	Mineral Resources MRI	193.01	751.21	751.21	190.89	751.21	83.99	885.83
University	University	University	Mineral	197.37	3800.00	3800.00	164.40	4051.84	4.12	4822.83

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: GP-Jackson #2-18-18 (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]
Square #D6	Square #D6 (AWB)	Square #D6	Resources MRI							
GP-Dairy #3-19-20	GP-Dairy #3-19-20 (PWB)	Slot #54	Mineral Resources MRI	205.01	701.16	701.16	202.97	701.16	90.37	885.83
University 5 Spot #D4	University 5 Spot #D4 (AWB)	University 5 Spot #D4	Mineral Resources MRI	213.29	6664.68	6664.68	99.44	6664.68	1.87	6664.68
GP-Dairy #4-19-20	GP-Dairy #4-19-20 (PWB)	Slot #55	Mineral Resources MRI	217.01	651.10	651.10	215.05	651.10	97.06	885.83
GP-Dairy #4-19-20	GP-Dairy #4-19-20 (PWB)	Slot #56	Mineral Resources MRI	229.01	601.08	601.08	227.13	601.08	104.06	885.83
GP-Library #1-19-20	GP-Library #1-19-20 (PWB)	Slot #57	Mineral Resources MRI	241.01	551.07	551.07	239.21	551.07	111.62	885.83
Wheeler #D3	Wheeler #D3 (AWB)	Wheeler #D3	Mineral Resources MRI	312.42	262.47	8021.65	296.62	8054.46	2.96	8087.27
Driftwood #D1	Driftwood #D1 (AWB)	Driftwood #D1	Mineral Resources MRI	323.06	0.00	380.59	321.23	410.10	14.96	4461.94
Classic Lanes #C9	Classic Lanes #C9 (AWB)	Classic Lanes #C9	Mineral Resources MRI	326.24	131.23	2790.72	324.72	164.04	10.76	6348.43
District Six #C6	District Six #C6 (AWB)	District Six #C6	Mineral Resources MRI	338.27	239.75	239.75	336.69	239.75	63.49	2350.00
Volk #C7	Volk #C7 (AWB)	Volk #C7	Mineral Resources MRI	339.34	0.00	552.92	338.24	49.21	30.41	3330.05
Union Pacific #C5	Union Pacific #C5 (AWB)	Union Pacific #C5	Mineral Resources MRI	349.58	178.43	178.43	348.04	178.43	69.84	2350.00
HWY 85-3 #C4	HWY 85-3 #C4 (AWB)	HWY 85-3 #C4	Mineral Resources MRI	363.71	158.43	158.43	362.38	158.43	72.68	2427.82
Countrysid e Center #C3	Countryside Center #C3 (AWB)	Countrysid e Center #C3	Mineral Resources MRI	369.56	1.77	1.77	368.56	32.81	94.73	1952.10
Commerce Center 4 #20-2H5	Commerce Center 4 #20-2H5 (AWB)	Commerce Center 4 #20-2H5	MRI Offsets	434.81	1614.00	1614.00	429.74	1624.02	69.68	2198.16
GG-Toddys #1-13-12	GG-Toddys #1-13-12 (PWB)	Slot #9	Gallery Green, Rev. 01	459.89	13621.34	13621.34	406.35	13621.34	8.59	13621.34
BMC #B8	BMC #B8 (AWB)	BMC #B8	Mineral Resources MRI	499.95	1.77	1799.45	498.30	147.64	33.74	3400.00
Greeley Industrial South #B9	Greeley Industrial South #B9 (AWB)	Greeley Industrial South #B9	Mineral Resources MRI	519.30	601.77	601.77	517.13	639.76	34.68	3346.46
Shupe 5 Spot #B10	Shupe 5 Spot #B10 (AWB)	Shupe 5 Spot #B10	Mineral Resources	539.10	853.02	853.02	536.59	869.42	58.33	2985.56

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 4673.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 283.420 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 20-Mar-2014



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: GP-Jackson #2-18-18 (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]
MRI										
Millers Green House #A10	Millers Green House #A10 (AWB)	Millers Green House #A10	Mineral Resources MRI	544.39	3.77	3.77	542.56	262.47	161.23	1870.08
Riverview #A9	Riverview #A9 (AWB)	Riverview #A9	Mineral Resources MRI	544.83	501.76	501.76	541.94	501.76	170.51	885.83
HWY 34-2 #A8	HWY 34-2 #A8 (AWB)	HWY 34-2 #A8	Mineral Resources MRI	552.12	2.77	2.77	550.52	131.23	168.40	885.83
HWY 34-1 #A7	HWY 34-1 #A7 (AWB)	HWY 34-1 #A7	Mineral Resources MRI	557.67	2.77	2.77	555.84	200.00	160.96	885.83
Highway 85-2 #B-11	Highway 85-2 #B-11 (AWB)	Highway 85-2 #B-11	Mineral Resources MRI	558.60	324.27	324.27	556.56	324.27	72.44	2411.42
Highway 85-1 #B12	Highway 85-1 #B12 (AWB)	Highway 85-1 #B12	Mineral Resources MRI	579.72	853.02	853.02	577.21	853.02	156.54	2723.10
Sam Pak #A6	Sam Pak #A6 (AWB)	Sam Pak #A6	Mineral Resources MRI	590.20	16.40	16.40	588.28	311.68	204.24	1788.06
Bus Barn #A5	Bus Barn #A5 (AWB)	Bus Barn #A5	Mineral Resources MRI	594.96	5.77	5.77	593.12	278.87	131.93	1919.29
Smith 5 Spot #A4	Smith 5 Spot #A4 (AWB)	Smith 5 Spot #A4	Mineral Resources MRI	604.48	4.77	4.77	602.77	180.45	163.96	2034.12
Parkview South #A3	Parkview South #A3 (AWB)	Parkview South #A3	Mineral Resources MRI	614.90	5.77	5.77	613.42	147.64	187.64	1755.25
Delta Park #A2	Delta Park #A2 (AWB)	Delta Park #A2	Mineral Resources MRI	622.05	200.00	200.00	620.37	213.25	126.10	1788.06
Clark #A1	Clark #A1 (AWB)	Clark #A1	Mineral Resources MRI	634.09	5.77	5.77	632.33	180.45	86.01	2411.42
Commerce Center 3 #20-1H5	Commerce Center 3 #20-1H5 (AWB)	Commerce Center 3 #20-1H5	MRI Offsets	732.51	844.76	844.76	729.01	853.02	169.56	2001.31
GG-Toddys #2-13-12	GG-Toddys #2-13-12 (PWB)	Slot #8	Gallery Green, Rev. 01	810.66	13621.34	13621.34	756.75	13621.34	15.04	13621.34