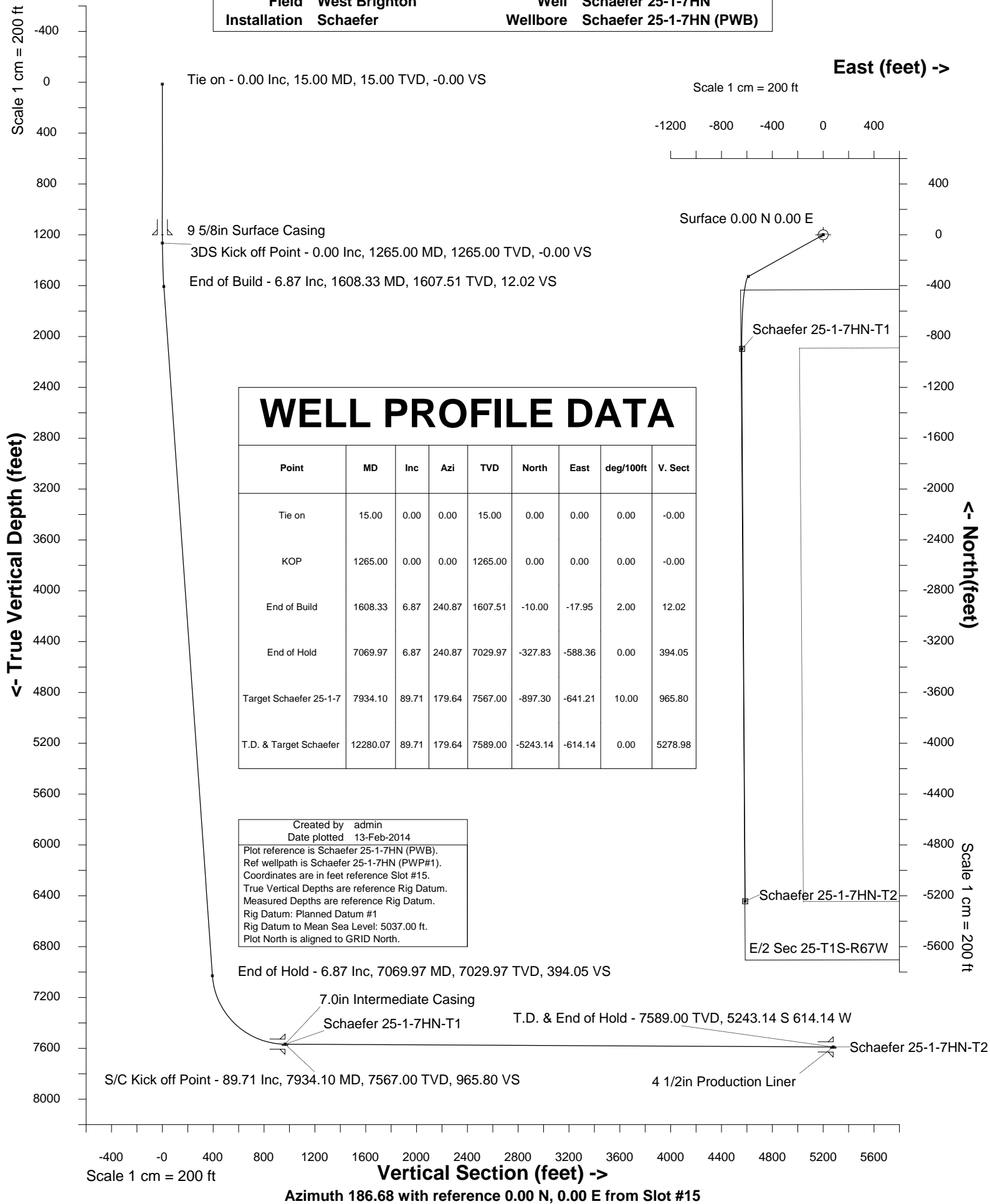


# WARD PETROLEUM

Location	ADAMS COUNTY, CO	Slot	Slot #15
Field	West Brighton	Well	Schaefer 25-1-7HN
Installation	Schaefer	Wellbore	Schaefer 25-1-7HN (PWB)





INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-7HN (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #15	1223332.5626	3186465.9963	39.94451000	-104.83495000	13.96N	81.42W	-0.00

Declination			
Date	Source	Time	
10-Feb-2014	IGRF Model [1900.0-2015.0]		13:06

Site Details				
Name	Northing	Easting	Coord System Name	North Alignment
Schaefer	1223318.6021	3186547.4140	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
15.00	0.00	0.000	15.00	0.00N	0.00E		0.00	1223332.56	3186466.00
1265.00	0.00	0.000	1265.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1608.33	6.87	240.870	1607.51	10.00S	17.95W	2.00	12.02	1223322.56	3186448.05
7069.97	6.87	240.870	7029.97	327.83S	588.36W	==>	394.05	1223004.74	3185877.66
7934.10	89.71	179.640	7567.00	897.30S	641.21W	10.00	965.80	1222435.29	3185824.81
12280.07	89.71	179.640	7589.00	5243.14S	614.14W	==>	5278.98	1218089.59	3185851.87

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	1223332.56	3186466.00
15.00	0.00	0.000	15.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1250.00	0.00	0.000	1250.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1265.00	0.00	0.000	1265.00	0.00N	0.00E	==>	0.00	1223332.56	3186466.00
1350.00	1.70	240.870	1349.99	0.61S	1.10W	2.00	0.74	1223331.95	3186464.89
1450.00	3.70	240.870	1449.87	2.91S	5.22W	2.00	3.49	1223329.66	3186460.78
1550.00	5.70	240.870	1549.53	6.89S	12.37W	2.00	8.29	1223325.67	3186453.62
1600.00	6.70	240.870	1599.24	9.52S	17.09W	2.00	11.45	1223323.04	3186448.91
1608.33	6.87	240.870	1607.51	10.00S	17.95W	2.00	12.02	1223322.56	3186448.05
1700.00	6.87	240.870	1698.52	15.34S	27.52W	==>	18.43	1223317.23	3186438.47
1800.00	6.87	240.870	1797.80	21.16S	37.97W	==>	25.43	1223311.41	3186428.03
1900.00	6.87	240.870	1897.09	26.98S	48.41W	==>	32.42	1223305.59	3186417.59
2000.00	6.87	240.870	1996.37	32.79S	58.86W	==>	39.42	1223299.77	3186407.14
2100.00	6.87	240.870	2095.65	38.61S	69.30W	==>	46.41	1223293.95	3186396.70
2200.00	6.87	240.870	2194.93	44.43S	79.74W	==>	53.41	1223288.13	3186386.26
2300.00	6.87	240.870	2294.22	50.25S	90.19W	==>	60.40	1223282.31	3186375.81
2400.00	6.87	240.870	2393.50	56.07S	100.63W	==>	67.40	1223276.49	3186365.37
2500.00	6.87	240.870	2492.78	61.89S	111.07W	==>	74.39	1223270.67	3186354.92
2600.00	6.87	240.870	2592.07	67.71S	121.52W	==>	81.39	1223264.85	3186344.48
2700.00	6.87	240.870	2691.35	73.53S	131.96W	==>	88.38	1223259.04	3186334.04
2800.00	6.87	240.870	2790.63	79.35S	142.41W	==>	95.38	1223253.22	3186323.59
2900.00	6.87	240.870	2889.91	85.17S	152.85W	==>	102.37	1223247.40	3186313.15
3000.00	6.87	240.870	2989.20	90.99S	163.29W	==>	109.37	1223241.58	3186302.71
3100.00	6.87	240.870	3088.48	96.81S	173.74W	==>	116.36	1223235.76	3186292.26
3200.00	6.87	240.870	3187.76	102.63S	184.18W	==>	123.36	1223229.94	3186281.82
3300.00	6.87	240.870	3287.04	108.45S	194.63W	==>	130.35	1223224.12	3186271.38

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Vertical Section is from 0.00N 0.00E on azimuth 186.680 degrees  
Bottom hole distance is 5278.98 Feet on azimuth 186.68 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 13-Feb-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-7HN (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3400.00	6.87	240.870	3386.33	114.27S	205.07W	==>	137.35	1223218.30	3186260.93
3500.00	6.87	240.870	3485.61	120.08S	215.51W	==>	144.34	1223212.48	3186250.49
3600.00	6.87	240.870	3584.89	125.90S	225.96W	==>	151.34	1223206.66	3186240.05
3700.00	6.87	240.870	3684.18	131.72S	236.40W	==>	158.33	1223200.84	3186229.60
3800.00	6.87	240.870	3783.46	137.54S	246.84W	==>	165.33	1223195.02	3186219.16
3900.00	6.87	240.870	3882.74	143.36S	257.29W	==>	172.32	1223189.21	3186208.72
4000.00	6.87	240.870	3982.02	149.18S	267.73W	==>	179.32	1223183.39	3186198.27
4100.00	6.87	240.870	4081.31	155.00S	278.18W	==>	186.31	1223177.57	3186187.83
4200.00	6.87	240.870	4180.59	160.82S	288.62W	==>	193.31	1223171.75	3186177.38
4300.00	6.87	240.870	4279.87	166.64S	299.06W	==>	200.30	1223165.93	3186166.94
4400.00	6.87	240.870	4379.16	172.46S	309.51W	==>	207.29	1223160.11	3186156.50
4500.00	6.87	240.870	4478.44	178.28S	319.95W	==>	214.29	1223154.29	3186146.05
4600.00	6.87	240.870	4577.72	184.10S	330.40W	==>	221.28	1223148.47	3186135.61
4700.00	6.87	240.870	4677.00	189.92S	340.84W	==>	228.28	1223142.65	3186125.17
4800.00	6.87	240.870	4776.29	195.74S	351.28W	==>	235.27	1223136.83	3186114.72
4900.00	6.87	240.870	4875.57	201.56S	361.73W	==>	242.27	1223131.01	3186104.28
5000.00	6.87	240.870	4974.85	207.37S	372.17W	==>	249.26	1223125.19	3186093.84
5100.00	6.87	240.870	5074.13	213.19S	382.62W	==>	256.26	1223119.38	3186083.39
5200.00	6.87	240.870	5173.42	219.01S	393.06W	==>	263.25	1223113.56	3186072.95
5300.00	6.87	240.870	5272.70	224.83S	403.50W	==>	270.25	1223107.74	3186062.51
5400.00	6.87	240.870	5371.98	230.65S	413.95W	==>	277.24	1223101.92	3186052.06
5500.00	6.87	240.870	5471.27	236.47S	424.39W	==>	284.24	1223096.10	3186041.62
5600.00	6.87	240.870	5570.55	242.29S	434.83W	==>	291.23	1223090.28	3186031.18
5700.00	6.87	240.870	5669.83	248.11S	445.28W	==>	298.23	1223084.46	3186020.73
5800.00	6.87	240.870	5769.11	253.93S	455.72W	==>	305.22	1223078.64	3186010.29
5900.00	6.87	240.870	5868.40	259.75S	466.17W	==>	312.22	1223072.82	3185999.84
6000.00	6.87	240.870	5967.68	265.57S	476.61W	==>	319.21	1223067.00	3185989.40
6100.00	6.87	240.870	6066.96	271.39S	487.05W	==>	326.21	1223061.18	3185978.96
6200.00	6.87	240.870	6166.24	277.21S	497.50W	==>	333.20	1223055.36	3185968.51
6300.00	6.87	240.870	6265.53	283.03S	507.94W	==>	340.20	1223049.55	3185958.07
6400.00	6.87	240.870	6364.81	288.85S	518.39W	==>	347.19	1223043.73	3185947.63
6500.00	6.87	240.870	6464.09	294.66S	528.83W	==>	354.19	1223037.91	3185937.18
6600.00	6.87	240.870	6563.38	300.48S	539.27W	==>	361.18	1223032.09	3185926.74
6700.00	6.87	240.870	6662.66	306.30S	549.72W	==>	368.18	1223026.27	3185916.30
6800.00	6.87	240.870	6761.94	312.12S	560.16W	==>	375.17	1223020.45	3185905.85
6900.00	6.87	240.870	6861.22	317.94S	570.60W	==>	382.17	1223014.63	3185895.41
7000.00	6.87	240.870	6960.51	323.76S	581.05W	==>	389.16	1223008.81	3185884.97
7069.97	6.87	240.870	7029.97	327.83S	588.36W	==>	394.05	1223004.74	3185877.66
7100.00	8.71	223.180	7059.73	330.37S	591.48W	10.00	396.93	1223002.21	3185874.53
7200.00	17.35	199.370	7157.13	350.00S	601.63W	10.00	417.62	1222982.57	3185864.38
7300.00	26.93	191.610	7249.66	386.34S	611.16W	10.00	454.82	1222946.23	3185854.86
7400.00	36.73	187.750	7334.53	438.29S	619.77W	10.00	507.41	1222894.29	3185846.25
7500.00	46.60	185.340	7409.15	504.25S	627.20W	10.00	573.80	1222828.32	3185838.82
7600.00	56.51	183.620	7471.25	582.24S	633.23W	10.00	651.95	1222750.34	3185832.79
7700.00	66.44	182.250	7518.95	669.87S	637.67W	10.00	739.51	1222662.71	3185828.34
7800.00	76.38	181.080	7550.79	764.50S	640.40W	10.00	833.81	1222568.09	3185825.62
7900.00	86.32	180.000	7565.82	863.23S	641.31W	10.00	931.97	1222469.36	3185824.70
7934.10	89.71	179.640	7567.00	897.30S	641.21W	10.00	965.80	1222435.29	3185824.81
8000.00	89.71	179.640	7567.33	963.20S	640.80W	==>	1031.21	1222369.39	3185825.22
8100.00	89.71	179.640	7567.84	1063.20S	640.18W	==>	1130.45	1222269.40	3185825.84
8200.00	89.71	179.640	7568.35	1163.19S	639.55W	==>	1229.70	1222169.41	3185826.46
8300.00	89.71	179.640	7568.85	1263.19S	638.93W	==>	1328.94	1222069.41	3185827.09
8400.00	89.71	179.640	7569.36	1363.19S	638.31W	==>	1428.19	1221969.42	3185827.71
8500.00	89.71	179.640	7569.86	1463.18S	637.68W	==>	1527.43	1221869.42	3185828.33
8600.00	89.71	179.640	7570.37	1563.18S	637.06W	==>	1626.68	1221769.43	3185828.95
8700.00	89.71	179.640	7570.88	1663.18S	636.44W	==>	1725.92	1221669.44	3185829.58
8800.00	89.71	179.640	7571.38	1763.17S	635.82W	==>	1825.17	1221569.44	3185830.20
8900.00	89.71	179.640	7571.89	1863.17S	635.19W	==>	1924.42	1221469.45	3185830.82
9000.00	89.71	179.640	7572.40	1963.17S	634.57W	==>	2023.66	1221369.46	3185831.45
9100.00	89.71	179.640	7572.90	2063.16S	633.95W	==>	2122.91	1221269.46	3185832.07
9200.00	89.71	179.640	7573.41	2163.16S	633.32W	==>	2222.15	1221169.47	3185832.69

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Vertical Section is from 0.00N 0.00E on azimuth 186.680 degrees  
Bottom hole distance is 5278.98 Feet on azimuth 186.68 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 13-Feb-2014



INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-7HN (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
9300.00	89.71	179.640	7573.91	2263.16S	632.70W	==>	2321.40	1221069.48	3185833.31
9400.00	89.71	179.640	7574.42	2363.15S	632.08W	==>	2420.64	1220969.48	3185833.94
9500.00	89.71	179.640	7574.93	2463.15S	631.46W	==>	2519.89	1220869.49	3185834.56
9600.00	89.71	179.640	7575.43	2563.15S	630.83W	==>	2619.13	1220769.49	3185835.18
9700.00	89.71	179.640	7575.94	2663.14S	630.21W	==>	2718.38	1220669.50	3185835.81
9800.00	89.71	179.640	7576.45	2763.14S	629.59W	==>	2817.62	1220569.51	3185836.43
9900.00	89.71	179.640	7576.95	2863.14S	628.97W	==>	2916.87	1220469.51	3185837.05
10000.00	89.71	179.640	7577.46	2963.13S	628.34W	==>	3016.11	1220369.52	3185837.67
10100.00	89.71	179.640	7577.96	3063.13S	627.72W	==>	3115.36	1220269.53	3185838.30
10200.00	89.71	179.640	7578.47	3163.13S	627.10W	==>	3214.60	1220169.53	3185838.92
10300.00	89.71	179.640	7578.98	3263.13S	626.47W	==>	3313.85	1220069.54	3185839.54
10400.00	89.71	179.640	7579.48	3363.12S	625.85W	==>	3413.10	1219969.54	3185840.16
10500.00	89.71	179.640	7579.99	3463.12S	625.23W	==>	3512.34	1219869.55	3185840.79
10600.00	89.71	179.640	7580.50	3563.12S	624.61W	==>	3611.59	1219769.56	3185841.41
10700.00	89.71	179.640	7581.00	3663.11S	623.98W	==>	3710.83	1219669.56	3185842.03
10800.00	89.71	179.640	7581.51	3763.11S	623.36W	==>	3810.08	1219569.57	3185842.66
10900.00	89.71	179.640	7582.01	3863.11S	622.74W	==>	3909.32	1219469.58	3185843.28
11000.00	89.71	179.640	7582.52	3963.10S	622.11W	==>	4008.57	1219369.58	3185843.90
11100.00	89.71	179.640	7583.03	4063.10S	621.49W	==>	4107.81	1219269.59	3185844.52
11200.00	89.71	179.640	7583.53	4163.10S	620.87W	==>	4207.06	1219169.60	3185845.15
11300.00	89.71	179.640	7584.04	4263.09S	620.25W	==>	4306.30	1219069.60	3185845.77
11400.00	89.71	179.640	7584.54	4363.09S	619.62W	==>	4405.55	1218969.61	3185846.39
11500.00	89.71	179.640	7585.05	4463.09S	619.00W	==>	4504.79	1218869.61	3185847.02
11600.00	89.71	179.640	7585.56	4563.08S	618.38W	==>	4604.04	1218769.62	3185847.64
11700.00	89.71	179.640	7586.06	4663.08S	617.75W	==>	4703.28	1218669.63	3185848.26
11800.00	89.71	179.640	7586.57	4763.08S	617.13W	==>	4802.53	1218569.63	3185848.88
11900.00	89.71	179.640	7587.08	4863.07S	616.51W	==>	4901.78	1218469.64	3185849.51
12000.00	89.71	179.640	7587.58	4963.07S	615.89W	==>	5001.02	1218369.65	3185850.13
12100.00	89.71	179.640	7588.09	5063.07S	615.26W	==>	5100.27	1218269.65	3185850.75
12200.00	89.71	179.640	7588.59	5163.06S	614.64W	==>	5199.51	1218169.66	3185851.37
12280.07	89.71	179.640	7589.00	5243.14S	614.14W	==>	5278.98	1218089.59	3185851.87

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Bottom hole distance is 5278.98 Feet on azimuth 186.68 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
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SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-7HN (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]
13 1/2	15.00	15.00	0.00N	0.00E	1200.00	1200.00	0.00N	0.00E
8 3/4	1200.00	1200.00	0.00N	0.00E	7934.00	7567.00	897.20S	641.21W
6 1/8	7934.00	7567.00	897.20S	641.21W	12280.00	7589.00	5243.06S	614.14W

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	15.00	15.00	0.00N	0.00E	1200.00	1200.00	0.00N	0.00E
7.0in Intermediate Casing	15.00	15.00	0.00N	0.00E	7934.00	7567.00	897.20S	641.21W
4 1/2in Production Liner	7734.00	7531.61	701.40S	638.80W	12280.00	7589.00	5243.06S	614.14W

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
Schaefer 25-1-7HN-T1	897.30S	638.21W	7567.00	39.94206000	-104.83725000	1222435.29	3185827.81	11-Feb-2014
Schaefer 25-1-7HN-T2	5243.14S	614.14W	7589.00	39.93013000	-104.83728000	1218089.59	3185851.87	11-Feb-2014

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
153615	Planned	12280.07	7589.00	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 5037.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 186.680 degrees  
Bottom hole distance is 5278.98 Feet on azimuth 186.68 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 13-Feb-2014



SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: Schaefer 25-1-7HN (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 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
Schaefer 25-1-7HN (PWB)	12-Feb-2014	13-Feb-2014

Well		
Name	Government ID	Last Revised
Schaefer 25-1-7HN		12-Feb-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #15	1223332.5626	3186465.9963	39.94451000	-104.83495000	13.96N	81.42W

Installation				
Name	Easting	Northing	Coord System Name	North Alignment
Schaefer	3186547.4140	1223318.6021	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field				
Name	Easting	Northing	Coord System Name	North Alignment
West Brighton	3178196.4983	1231661.3262	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]
Schaefer 25-1-8HC	Schaefer 25-1-8HC (PWB)	Slot #16	Schaefer	14.02	1215.00	12280.07	11.15	1196.10	4.89	1196.10
Schaefer 25-1-6HC	Schaefer 25-1-6HC (PWB)	Slot #14	Schaefer	14.02	1265.00	12280.07	11.15	1196.10	4.89	1196.10
Schaefer 24-3-7HC	Schaefer 24-3-7HC (PWB)	Slot #7	Schaefer	15.50	1501.04	7505.33	8.94	7505.33	1.52	7495.31
Schaefer 24-3-6HN	Schaefer 24-3-6HN (PWB)	Slot #6	Schaefer	16.83	1278.12	7358.72	13.96	1196.10	5.87	1196.10
Schaefer 24-3-8HN	Schaefer 24-3-8HN (PWB)	Slot #8	Schaefer	26.75	1250.00	7420.61	23.88	1196.10	8.78	1639.02
Schaefer 24-3-5HC	Schaefer 24-3-5HC (PWB)	Slot #5	Schaefer	26.75	1265.00	1265.00	23.88	1196.10	9.33	1196.10
Schaefer 25-1-5HN	Schaefer 25-1-5HN (PWB)	Slot #13	Schaefer	30.84	1265.00	12280.07	27.98	1196.10	9.32	12268.94
Schaefer 24-3-4HN	Schaefer 24-3-4HN (PWB)	Slot #4	Schaefer	39.26	1265.00	1265.00	36.39	1196.10	13.70	1196.10
Schaefer 25-1-4HC	Schaefer 25-1-4HC (PWB)	Slot #12	Schaefer	44.86	1265.00	11582.47	42.00	1196.10	14.42	12268.94
Schaefer	Schaefer	Slot #3	Schaefer	55.23	1265.00	1265.00	52.36	1196.10	19.27	1196.10

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Prepared by Integrated Petroleum Technologies, Inc.  
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SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: Schaefer 25-1-7HN (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]
24-3-3HC	24-3-3HC (PWB)									
Schaefer 25-1-3HN	Schaefer 25-1-3HN (PWB)	Slot #11	Schaefer	58.88	1265.00	12280.07	56.02	1196.10	18.58	12273.08
Schaefer 24-3-2HN	Schaefer 24-3-2HN (PWB)	Slot #2	Schaefer	68.85	1250.00	1250.00	65.99	1196.10	24.02	1196.10
Schaefer 25-1-2HC	Schaefer 25-1-2HC (PWB)	Slot #10	Schaefer	75.71	1265.00	12280.07	72.84	1196.10	23.39	12268.94
Schaefer 24-3-1HC	Schaefer 24-3-1HC (PWB)	Slot #1	Schaefer	82.61	1200.00	1200.00	79.74	1200.00	28.76	1200.00
Schaefer 25-1-1HN	Schaefer 25-1-1HN (PWB)	Slot #9	Schaefer	89.72	1250.00	1250.00	86.86	1196.10	31.30	1196.10
Sharp #25-1-9HN	Sharp #25-1-9HN (PWB)	Slot #4	Sharp Pad	872.20	12280.07	12280.07	778.88	12274.64	9.34	12274.64
Sharp #24-3-9HC	Sharp #24-3-9HC (PWB)	Slot #10	Sharp Pad	973.82	7586.14	7586.14	957.49	7593.74	53.03	8135.08
SHARP #24-3-9HC	SHARP #24-3-9HC (PWB)	Slot #7	Sharp Pad	975.97	7585.98	7585.98	959.57	7593.74	52.76	8135.08
Sharp #25-1-10H C	Sharp #25-1-10HC (PWB)	Slot #3	Sharp Pad	1331.16	12280.07	12280.07	1239.05	12268.94	14.45	12268.94
W Huebner 25-44	W Huebner 25-44 (AWB)	Huebner 25-44	Offsets	1362.31	11764.70	11764.70	1294.24	11776.81	19.96	11842.43
Sharp #24-3-10H N	Sharp #24-3-10HN (PWB)	Slot #9	Sharp Pad	1384.65	7497.71	7497.71	1369.42	7511.72	75.89	8415.00
Sharp #25-1-11H N	Sharp #25-1-11HN (PWB)	Slot #2	Sharp Pad	1752.94	12280.07	12280.07	1659.81	12268.94	18.81	12268.94
Sharp #24-3-11H C	Sharp #24-3-11HC (PWB)	Slot #8	Sharp Pad	1816.22	7615.00	7615.00	1800.54	7626.55	91.32	8692.82
SHARP #24-3-11H C	SHARP #24-3-11HC (PWB)	Slot #5	Sharp Pad	1817.47	7615.00	7615.00	1801.77	7626.55	91.19	8742.03
W LEWIS #1	W LEWIS #1 (AWB)	LEWIS #1	Offsets	2191.16	12280.07	12280.07	2126.84	12280.07	34.03	12268.94
Sharp #25-1-12H C	Sharp #25-1-12HC (PWB)	Slot #1	Sharp Pad	2203.36	12280.07	12280.07	2110.62	12280.07	23.74	12268.94
Sharp #24-3-12H N	Sharp #24-3-12HN (PWB)	Slot #7	Sharp Pad	2230.67	7556.26	7556.26	2215.63	7560.93	107.20	8692.82