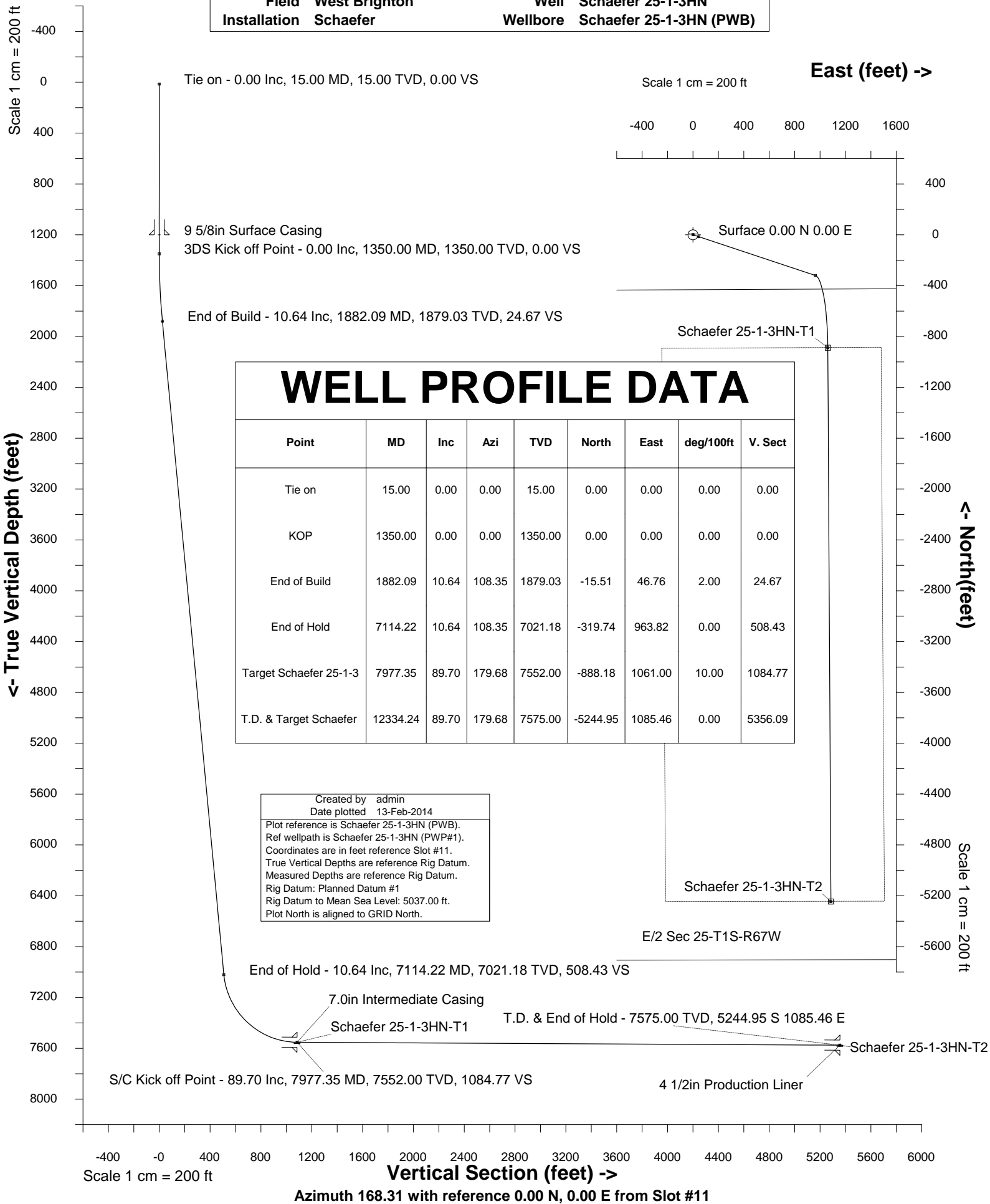


# WARD PETROLEUM

Location	ADAMS COUNTY, CO	Slot	Slot #11
Field	West Brighton	Well	Schaefer 25-1-3HN
Installation	Schaefer	Wellbore	Schaefer 25-1-3HN (PWB)





INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-3HN (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #11	1223333.0043	3186524.8748	39.94451000	-104.83474000	14.40N	22.54W	-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	1223333.00	3186524.87
1350.00	0.00	0.000	1350.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1882.09	10.64	108.350	1879.03	15.51S	46.76E	2.00	24.67	1223317.49	3186571.64
7114.22	10.64	108.350	7021.18	319.74S	963.82E	==>	508.43	1223013.28	3187488.67
7977.35	89.70	179.680	7552.00	888.18S	1061.00E	10.00	1084.77	1222444.85	3187585.84
12334.24	89.70	179.680	7575.00	5244.95S	1085.46E	==>	5356.09	1218088.22	3187610.30

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	1223333.00	3186524.87
15.00	0.00	0.000	15.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1335.00	0.00	0.000	1335.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1350.00	0.00	0.000	1350.00	0.00N	0.00E	==>	0.00	1223333.00	3186524.87
1435.00	1.70	108.350	1434.99	0.40S	1.20E	2.00	0.63	1223332.61	3186526.07
1535.00	3.70	108.350	1534.87	1.88S	5.67E	2.00	2.99	1223331.12	3186530.54
1635.00	5.70	108.350	1634.53	4.46S	13.44E	2.00	7.09	1223328.54	3186538.32
1735.00	7.70	108.350	1733.84	8.13S	24.52E	2.00	12.93	1223324.87	3186549.39
1835.00	9.70	108.350	1832.69	12.90S	38.87E	2.00	20.51	1223320.11	3186563.75
1882.09	10.64	108.350	1879.03	15.51S	46.76E	2.00	24.67	1223317.49	3186571.64
1900.00	10.64	108.350	1896.64	16.56S	49.90E	==>	26.33	1223316.45	3186574.78
2000.00	10.64	108.350	1994.92	22.37S	67.43E	==>	35.57	1223310.63	3186592.30
2100.00	10.64	108.350	2093.20	28.18S	84.96E	==>	44.82	1223304.82	3186609.83
2200.00	10.64	108.350	2191.48	34.00S	102.49E	==>	54.06	1223299.01	3186627.36
2300.00	10.64	108.350	2289.76	39.81S	120.01E	==>	63.31	1223293.19	3186644.89
2400.00	10.64	108.350	2388.04	45.63S	137.54E	==>	72.56	1223287.38	3186662.41
2500.00	10.64	108.350	2486.32	51.44S	155.07E	==>	81.80	1223281.56	3186679.94
2600.00	10.64	108.350	2584.60	57.26S	172.60E	==>	91.05	1223275.75	3186697.47
2700.00	10.64	108.350	2682.88	63.07S	190.12E	==>	100.29	1223269.93	3186714.99
2800.00	10.64	108.350	2781.16	68.89S	207.65E	==>	109.54	1223264.12	3186732.52
2900.00	10.64	108.350	2879.44	74.70S	225.18E	==>	118.79	1223258.31	3186750.05
3000.00	10.64	108.350	2977.72	80.52S	242.71E	==>	128.03	1223252.49	3186767.57
3100.00	10.64	108.350	3076.00	86.33S	260.23E	==>	137.28	1223246.68	3186785.10
3200.00	10.64	108.350	3174.28	92.14S	277.76E	==>	146.52	1223240.86	3186802.63
3300.00	10.64	108.350	3272.56	97.96S	295.29E	==>	155.77	1223235.05	3186820.15

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Vertical Section is from 0.00N 0.00E on azimuth 168.310 degrees  
Bottom hole distance is 5356.09 Feet on azimuth 168.31 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 25-1-3HN (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	10.64	108.350	3370.84	103.77S	312.82E	==>	165.02	1223229.23	3186837.68
3500.00	10.64	108.350	3469.12	109.59S	330.34E	==>	174.26	1223223.42	3186855.21
3600.00	10.64	108.350	3567.40	115.40S	347.87E	==>	183.51	1223217.61	3186872.73
3700.00	10.64	108.350	3665.68	121.22S	365.40E	==>	192.75	1223211.79	3186890.26
3800.00	10.64	108.350	3763.96	127.03S	382.93E	==>	202.00	1223205.98	3186907.79
3900.00	10.64	108.350	3862.24	132.85S	400.45E	==>	211.24	1223200.16	3186925.31
4000.00	10.64	108.350	3960.52	138.66S	417.98E	==>	220.49	1223194.35	3186942.84
4100.00	10.64	108.350	4058.80	144.48S	435.51E	==>	229.74	1223188.53	3186960.37
4200.00	10.64	108.350	4157.08	150.29S	453.03E	==>	238.98	1223182.72	3186977.90
4300.00	10.64	108.350	4255.36	156.10S	470.56E	==>	248.23	1223176.90	3186995.42
4400.00	10.64	108.350	4353.64	161.92S	488.09E	==>	257.47	1223171.09	3187012.95
4500.00	10.64	108.350	4451.92	167.73S	505.62E	==>	266.72	1223165.28	3187030.48
4600.00	10.64	108.350	4550.20	173.55S	523.14E	==>	275.97	1223159.46	3187048.00
4700.00	10.64	108.350	4648.48	179.36S	540.67E	==>	285.21	1223153.65	3187065.53
4800.00	10.64	108.350	4746.76	185.18S	558.20E	==>	294.46	1223147.83	3187083.06
4900.00	10.64	108.350	4845.04	190.99S	575.73E	==>	303.70	1223142.02	3187100.58
5000.00	10.64	108.350	4943.32	196.81S	593.25E	==>	312.95	1223136.20	3187118.11
5100.00	10.64	108.350	5041.60	202.62S	610.78E	==>	322.20	1223130.39	3187135.64
5200.00	10.64	108.350	5139.88	208.44S	628.31E	==>	331.44	1223124.58	3187153.16
5300.00	10.64	108.350	5238.16	214.25S	645.84E	==>	340.69	1223118.76	3187170.69
5400.00	10.64	108.350	5336.44	220.06S	663.36E	==>	349.93	1223112.95	3187188.22
5500.00	10.64	108.350	5434.72	225.88S	680.89E	==>	359.18	1223107.13	3187205.74
5600.00	10.64	108.350	5533.00	231.69S	698.42E	==>	368.43	1223101.32	3187223.27
5700.00	10.64	108.350	5631.28	237.51S	715.95E	==>	377.67	1223095.50	3187240.80
5800.00	10.64	108.350	5729.56	243.32S	733.47E	==>	386.92	1223089.69	3187258.33
5900.00	10.64	108.350	5827.84	249.14S	751.00E	==>	396.16	1223083.87	3187275.85
6000.00	10.64	108.350	5926.12	254.95S	768.53E	==>	405.41	1223078.06	3187293.38
6100.00	10.64	108.350	6024.40	260.77S	786.06E	==>	414.66	1223072.25	3187310.91
6200.00	10.64	108.350	6122.68	266.58S	803.58E	==>	423.90	1223066.43	3187328.43
6300.00	10.64	108.350	6220.96	272.40S	821.11E	==>	433.15	1223060.62	3187345.96
6400.00	10.64	108.350	6319.24	278.21S	838.64E	==>	442.39	1223054.80	3187363.49
6500.00	10.64	108.350	6417.52	284.02S	856.16E	==>	451.64	1223048.99	3187381.01
6600.00	10.64	108.350	6515.80	289.84S	873.69E	==>	460.89	1223043.17	3187398.54
6700.00	10.64	108.350	6614.08	295.65S	891.22E	==>	470.13	1223037.36	3187416.07
6800.00	10.64	108.350	6712.36	301.47S	908.75E	==>	479.38	1223031.55	3187433.59
6900.00	10.64	108.350	6810.64	307.28S	926.27E	==>	488.62	1223025.73	3187451.12
7000.00	10.64	108.350	6908.92	313.10S	943.80E	==>	497.87	1223019.92	3187468.65
7100.00	10.64	108.350	7007.20	318.91S	961.33E	==>	507.12	1223014.10	3187486.17
7114.22	10.64	108.350	7021.18	319.74S	963.82E	==>	508.43	1223013.28	3187488.67
7200.00	15.60	140.120	7104.80	331.11S	978.76E	10.00	522.59	1223001.91	3187503.61
7300.00	24.06	156.230	7198.85	360.16S	995.65E	10.00	554.46	1222972.86	3187520.49
7400.00	33.35	164.040	7286.49	405.36S	1011.46E	10.00	601.93	1222927.66	3187536.31
7500.00	42.94	168.700	7365.06	465.34S	1025.74E	10.00	663.56	1222867.68	3187550.58
7600.00	52.65	171.920	7432.17	538.28S	1038.03E	10.00	737.47	1222794.74	3187562.87
7700.00	62.43	174.400	7485.79	621.95S	1047.96E	10.00	821.42	1222711.07	3187572.81
7800.00	72.25	176.460	7524.27	713.82S	1055.25E	10.00	912.87	1222619.20	3187580.09
7900.00	82.08	178.310	7546.46	811.10S	1059.65E	10.00	1009.02	1222521.93	3187584.49
7977.35	89.70	179.680	7552.00	888.18S	1061.00E	10.00	1084.77	1222444.85	3187585.84
8000.00	89.70	179.680	7552.12	910.83S	1061.13E	==>	1106.98	1222422.20	3187585.97
8100.00	89.70	179.680	7552.65	1010.83S	1061.69E	==>	1205.01	1222322.21	3187586.53
8200.00	89.70	179.680	7553.18	1110.82S	1062.25E	==>	1303.05	1222222.21	3187587.09
8300.00	89.70	179.680	7553.70	1210.82S	1062.81E	==>	1401.08	1222122.22	3187587.65
8400.00	89.70	179.680	7554.23	1310.82S	1063.37E	==>	1499.12	1222022.23	3187588.21
8500.00	89.70	179.680	7554.76	1410.82S	1063.93E	==>	1597.16	1221922.23	3187588.77
8600.00	89.70	179.680	7555.29	1510.81S	1064.49E	==>	1695.19	1221822.24	3187589.34
8700.00	89.70	179.680	7555.81	1610.81S	1065.05E	==>	1793.23	1221722.24	3187589.90
8800.00	89.70	179.680	7556.34	1710.81S	1065.62E	==>	1891.26	1221622.25	3187590.46
8900.00	89.70	179.680	7556.87	1810.80S	1066.18E	==>	1989.30	1221522.26	3187591.02
9000.00	89.70	179.680	7557.40	1910.80S	1066.74E	==>	2087.33	1221422.26	3187591.58
9100.00	89.70	179.680	7557.93	2010.80S	1067.30E	==>	2185.37	1221322.27	3187592.14
9200.00	89.70	179.680	7558.45	2110.79S	1067.86E	==>	2283.41	1221222.27	3187592.70

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Vertical Section is from 0.00N 0.00E on azimuth 168.310 degrees  
Bottom hole distance is 5356.09 Feet on azimuth 168.31 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 13-Feb-2014



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SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-3HN (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	89.70	179.680	7558.98	2210.79S	1068.42E	==>	2381.44	1221122.28	3187593.26
9400.00	89.70	179.680	7559.51	2310.79S	1068.98E	==>	2479.48	1221022.29	3187593.83
9500.00	89.70	179.680	7560.04	2410.79S	1069.55E	==>	2577.51	1220922.29	3187594.39
9600.00	89.70	179.680	7560.57	2510.78S	1070.11E	==>	2675.55	1220822.30	3187594.95
9700.00	89.70	179.680	7561.09	2610.78S	1070.67E	==>	2773.58	1220722.30	3187595.51
9800.00	89.70	179.680	7561.62	2710.78S	1071.23E	==>	2871.62	1220622.31	3187596.07
9900.00	89.70	179.680	7562.15	2810.77S	1071.79E	==>	2969.66	1220522.32	3187596.63
10000.00	89.70	179.680	7562.68	2910.77S	1072.35E	==>	3067.69	1220422.32	3187597.19
10100.00	89.70	179.680	7563.21	3010.77S	1072.91E	==>	3165.73	1220322.33	3187597.76
10200.00	89.70	179.680	7563.73	3110.77S	1073.48E	==>	3263.76	1220222.34	3187598.32
10300.00	89.70	179.680	7564.26	3210.76S	1074.04E	==>	3361.80	1220122.34	3187598.88
10400.00	89.70	179.680	7564.79	3310.76S	1074.60E	==>	3459.84	1220022.35	3187599.44
10500.00	89.70	179.680	7565.32	3410.76S	1075.16E	==>	3557.87	1219922.35	3187600.00
10600.00	89.70	179.680	7565.84	3510.75S	1075.72E	==>	3655.91	1219822.36	3187600.56
10700.00	89.70	179.680	7566.37	3610.75S	1076.28E	==>	3753.94	1219722.37	3187601.12
10800.00	89.70	179.680	7566.90	3710.75S	1076.84E	==>	3851.98	1219622.37	3187601.68
10900.00	89.70	179.680	7567.43	3810.74S	1077.40E	==>	3950.01	1219522.38	3187602.25
11000.00	89.70	179.680	7567.96	3910.74S	1077.97E	==>	4048.05	1219422.38	3187602.81
11100.00	89.70	179.680	7568.48	4010.74S	1078.53E	==>	4146.09	1219322.39	3187603.37
11200.00	89.70	179.680	7569.01	4110.74S	1079.09E	==>	4244.12	1219222.40	3187603.93
11300.00	89.70	179.680	7569.54	4210.73S	1079.65E	==>	4342.16	1219122.40	3187604.49
11400.00	89.70	179.680	7570.07	4310.73S	1080.21E	==>	4440.19	1219022.41	3187605.05
11500.00	89.70	179.680	7570.60	4410.73S	1080.77E	==>	4538.23	1218922.41	3187605.61
11600.00	89.70	179.680	7571.12	4510.72S	1081.33E	==>	4636.27	1218822.42	3187606.18
11700.00	89.70	179.680	7571.65	4610.72S	1081.90E	==>	4734.30	1218722.43	3187606.74
11800.00	89.70	179.680	7572.18	4710.72S	1082.46E	==>	4832.34	1218622.43	3187607.30
11900.00	89.70	179.680	7572.71	4810.71S	1083.02E	==>	4930.37	1218522.44	3187607.86
12000.00	89.70	179.680	7573.24	4910.71S	1083.58E	==>	5028.41	1218422.44	3187608.42
12100.00	89.70	179.680	7573.76	5010.71S	1084.14E	==>	5126.44	1218322.45	3187608.98
12200.00	89.70	179.680	7574.29	5110.71S	1084.70E	==>	5224.48	1218222.46	3187609.54
12300.00	89.70	179.680	7574.82	5210.70S	1085.26E	==>	5322.52	1218122.46	3187610.10
12334.24	89.70	179.680	7575.00	5244.95S	1085.46E	==>	5356.09	1218088.22	3187610.30

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SYSDRILL  
Well Design Combined Report  
Wellbore: Schaefer 25-1-3HN (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	7977.00	7552.00	887.83S	1061.00E
6 1/8	7977.00	7552.00	887.83S	1061.00E	12334.24	7575.00	5244.95S	1085.46E

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	7977.00	7552.00	887.83S	1061.00E
4 1/2in Production Liner	7777.00	7516.83	692.11S	1053.82E	12334.24	7575.00	5244.95S	1085.46E

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
Schaefer 25-1-3HN-T1	888.18S	1061.00E	7552.00	39.94205000	-104.83098000	1222444.85	3187585.84	11-Feb-2014
Schaefer 25-1-3HN-T2	5244.95S	1085.46E	7575.00	39.93009000	-104.83101000	1218088.22	3187610.30	11-Feb-2014

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
153505	Planned	12334.24	7575.00	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 168.310 degrees  
Bottom hole distance is 5356.09 Feet on azimuth 168.31 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 25-1-3HN (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 25-1-3HN (PWB)	12-Feb-2014	12-Feb-2014

Well		
Name	Government ID	Last Revised
Schaefer 25-1-3HN		12-Feb-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #11	1223333.0043	3186524.8748	39.94451000	-104.83474000	14.40N	22.54W

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 25-1-4HC	Schaefer 25-1-4HC (PWB)	Slot #12	Schaefer	14.02	1350.00	12334.24	11.15	1196.10	4.89	1196.10
Schaefer 24-3-3HC	Schaefer 24-3-3HC (PWB)	Slot #3	Schaefer	15.61	1300.00	7548.53	12.75	1196.10	1.87	7528.12
Schaefer 25-1-2HC	Schaefer 25-1-2HC (PWB)	Slot #10	Schaefer	16.82	1300.00	12334.24	13.96	1196.10	5.56	12334.24
Schaefer 24-3-2HN	Schaefer 24-3-2HN (PWB)	Slot #2	Schaefer	16.83	1250.00	7479.01	13.96	1196.10	5.87	1196.10
Schaefer 24-3-4HN	Schaefer 24-3-4HN (PWB)	Slot #4	Schaefer	26.75	1360.14	7389.44	23.88	1196.10	9.23	1474.97
Schaefer 24-3-1HC	Schaefer 24-3-1HC (PWB)	Slot #1	Schaefer	26.75	1200.00	1200.00	23.88	1200.00	9.31	1200.00
Schaefer 25-1-5HN	Schaefer 25-1-5HN (PWB)	Slot #13	Schaefer	28.03	1360.14	1360.14	25.17	1196.10	9.26	12334.24
Schaefer 25-1-1HN	Schaefer 25-1-1HN (PWB)	Slot #9	Schaefer	30.84	1250.00	1250.00	27.98	1196.10	9.25	12334.24
Schaefer 24-3-5HC	Schaefer 24-3-5HC (PWB)	Slot #5	Schaefer	39.26	1350.00	1350.00	36.39	1196.10	13.67	1425.76
Schaefer	Schaefer	Slot #14	Schaefer	44.86	1300.00	1300.00	42.00	1196.10	14.23	12334.24

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SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: Schaefer 25-1-3HN (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]
25-1-6HC	25-1-6HC (PWB)									
Schaefer 24-3-6HN	Schaefer 24-3-6HN (PWB)	Slot #6	Schaefer	52.53	1350.00	1350.00	49.67	1196.10	18.33	1196.10
Schaefer 25-1-7HN	Schaefer 25-1-7HN (PWB)	Slot #15	Schaefer	58.88	1265.00	12323.08	56.02	1196.10	18.54	12334.24
Schaefer 24-3-7HC	Schaefer 24-3-7HC (PWB)	Slot #7	Schaefer	68.85	1300.00	1300.00	65.99	1196.10	24.02	1196.10
Shaefer 25-1-8HC	Shaefer 25-1-8HC (PWB)	Slot #16	Schaefer	72.90	1215.00	12328.62	70.04	1196.10	23.31	12334.24
Schaefer 24-3-8HN	Schaefer 24-3-8HN (PWB)	Slot #8	Schaefer	82.61	1250.00	1250.00	79.74	1196.10	28.82	1196.10
W Huebner 25-44	W Huebner 25-44 (AWB)	Huebner 25-44	Offsets	396.44	11806.79	11806.79	328.35	11806.79	5.81	11793.22
W LEWIS #1	W LEWIS #1 (AWB)	LEWIS #1	Offsets	1459.45	12334.24	12334.24	1417.45	12334.24	34.74	12334.24
W AMEND #1	W AMEND #1 (AWB)	AMEND #1	Offsets	1844.58	11802.39	11802.39	1776.39	11826.02	26.06	12203.32