

WARD PETROLEUM

Location	ADAMS COUNTY, CO	Slot	Slot #7
Field	West Brighton	Well	Schaefer 24-3-7HC
Installation	Schaefer	Wellbore	Schaefer 24-3-7HC (PWB)

Tie on - 0.00 Inc, 15.00 MD, 15.00 TVD, 0.00 VS

Scale 1 cm = 200 ft East (feet) ->

-1200 -800 -400 0 400

9 5/8in Surface Casing
3DS Kick off Point - 0.00 Inc, 1300.00 MD, 1300.00 TVD, 0.00 VS

End of Build - 7.86 Inc, 1692.79 MD, 1691.56 TVD, -15.33 VS

WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00
KOP	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00
End of Build	1692.79	7.86	226.69	1691.56	-18.44	-19.56	2.00	-15.33
End of Hold	7196.78	7.86	226.69	7143.89	-534.51	-566.92	0.00	-444.35
Target Schaefer 24-3-7	8153.62	90.34	359.64	7767.00	38.95	-633.80	10.00	132.68
T.D. & Target Schaefer	12514.20	90.34	359.64	7741.00	4399.36	-660.97	0.00	4448.74

Created by admin
Date plotted 13-Feb-2014
Plot reference is Schaefer 24-3-7HC (PWB).
Ref wellpath is Schaefer 24-3-7HC (PWP#1).
Coordinates are in feet reference Slot #7.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 5037.00 ft.
Plot North is aligned to GRID North.

End of Hold - 7.86 Inc, 7196.78 MD, 7143.89 TVD, -444.35 VS

7.0in Intermediate Casing

Schaefer 24-3-7HC-T1

T.D. & End of Hold - 7741.00 TVD, 4399.36 N 660.97 W

Schaefer 24-3-7HC-T2

S/C Kick off Point - 90.34 Inc, 8153.62 MD, 7767.00 TVD, 132.68 VS

4 1/2in Production Liner

Scale 1 cm = 200 ft Vertical Section (feet) ->

Azimuth 351.46 with reference 0.00 N, 0.00 E from Slot #7

<- North(feet)

Scale 1 cm = 200 ft



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: Schaefer 24-3-7HC (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #7	1223317.9291	3186457.6944	39.94447000	-104.83498000	0.67S	89.72W	-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	1223317.93	3186457.69
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1692.79	7.86	226.690	1691.56	18.44S	19.56W	2.00	-15.33	1223299.49	3186438.13
7196.78	7.86	226.690	7143.89	534.51S	566.92W	==>	-444.35	1222783.43	3185890.79
8153.62	90.34	359.640	7767.00	38.95N	633.80W	10.00	132.68	1223356.88	3185823.92
12514.20	90.34	359.640	7741.00	4399.36N	660.97W	==>	4448.74	1227717.16	3185796.74

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	1223317.93	3186457.69
15.00	0.00	0.000	15.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1285.00	0.00	0.000	1285.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	1223317.93	3186457.69
1385.00	1.70	226.690	1384.99	0.86S	0.92W	2.00	-0.72	1223317.06	3186456.78
1485.00	3.70	226.690	1484.87	4.10S	4.34W	2.00	-3.41	1223313.83	3186453.35
1585.00	5.70	226.690	1584.53	9.72S	10.31W	2.00	-8.08	1223308.21	3186447.39
1685.00	7.70	226.690	1683.84	17.72S	18.79W	2.00	-14.73	1223300.21	3186438.90
1692.79	7.86	226.690	1691.56	18.44S	19.56W	2.00	-15.33	1223299.49	3186438.13
1700.00	7.86	226.690	1698.70	19.12S	20.28W	==>	-15.89	1223298.81	3186437.42
1800.00	7.86	226.690	1797.76	28.50S	30.22W	==>	-23.69	1223289.43	3186427.47
1900.00	7.86	226.690	1896.83	37.87S	40.17W	==>	-31.48	1223280.06	3186417.53
2000.00	7.86	226.690	1995.89	47.25S	50.11W	==>	-39.28	1223270.68	3186407.58
2100.00	7.86	226.690	2094.95	56.62S	60.06W	==>	-47.07	1223261.31	3186397.64
2200.00	7.86	226.690	2194.01	66.00S	70.00W	==>	-54.87	1223251.93	3186387.69
2300.00	7.86	226.690	2293.07	75.38S	79.95W	==>	-62.66	1223242.55	3186377.75
2400.00	7.86	226.690	2392.13	84.75S	89.89W	==>	-70.46	1223233.18	3186367.81
2500.00	7.86	226.690	2491.20	94.13S	99.84W	==>	-78.25	1223223.80	3186357.86
2600.00	7.86	226.690	2590.26	103.51S	109.78W	==>	-86.05	1223214.43	3186347.92
2700.00	7.86	226.690	2689.32	112.88S	119.73W	==>	-93.84	1223205.05	3186337.97
2800.00	7.86	226.690	2788.38	122.26S	129.67W	==>	-101.64	1223195.67	3186328.03
2900.00	7.86	226.690	2887.44	131.63S	139.62W	==>	-109.43	1223186.30	3186318.08
3000.00	7.86	226.690	2986.50	141.01S	149.56W	==>	-117.23	1223176.92	3186308.14
3100.00	7.86	226.690	3085.56	150.39S	159.51W	==>	-125.02	1223167.55	3186298.19
3200.00	7.86	226.690	3184.63	159.76S	169.45W	==>	-132.81	1223158.17	3186288.25
3300.00	7.86	226.690	3283.69	169.14S	179.39W	==>	-140.61	1223148.79	3186278.31

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 351.460 degrees
Bottom hole distance is 4448.74 Feet on azimuth 351.46 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 24-3-7HC (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	7.86	226.690	3382.75	178.52S	189.34W	==>	-148.40	1223139.42	3186268.36
3500.00	7.86	226.690	3481.81	187.89S	199.28W	==>	-156.20	1223130.04	3186258.42
3600.00	7.86	226.690	3580.87	197.27S	209.23W	==>	-163.99	1223120.67	3186248.47
3700.00	7.86	226.690	3679.93	206.65S	219.17W	==>	-171.79	1223111.29	3186238.53
3800.00	7.86	226.690	3779.00	216.02S	229.12W	==>	-179.58	1223101.91	3186228.58
3900.00	7.86	226.690	3878.06	225.40S	239.06W	==>	-187.38	1223092.54	3186218.64
4000.00	7.86	226.690	3977.12	234.77S	249.01W	==>	-195.17	1223083.16	3186208.69
4100.00	7.86	226.690	4076.18	244.15S	258.95W	==>	-202.97	1223073.79	3186198.75
4200.00	7.86	226.690	4175.24	253.53S	268.90W	==>	-210.76	1223064.41	3186188.81
4300.00	7.86	226.690	4274.30	262.90S	278.84W	==>	-218.56	1223055.03	3186178.86
4400.00	7.86	226.690	4373.36	272.28S	288.79W	==>	-226.35	1223045.66	3186168.92
4500.00	7.86	226.690	4472.43	281.66S	298.73W	==>	-234.15	1223036.28	3186158.97
4600.00	7.86	226.690	4571.49	291.03S	308.68W	==>	-241.94	1223026.91	3186149.03
4700.00	7.86	226.690	4670.55	300.41S	318.62W	==>	-249.73	1223017.53	3186139.08
4800.00	7.86	226.690	4769.61	309.78S	328.57W	==>	-257.53	1223008.15	3186129.14
4900.00	7.86	226.690	4868.67	319.16S	338.51W	==>	-265.32	1222998.78	3186119.19
5000.00	7.86	226.690	4967.73	328.54S	348.46W	==>	-273.12	1222989.40	3186109.25
5100.00	7.86	226.690	5066.79	337.91S	358.40W	==>	-280.91	1222980.03	3186099.31
5200.00	7.86	226.690	5165.86	347.29S	368.34W	==>	-288.71	1222970.65	3186089.36
5300.00	7.86	226.690	5264.92	356.67S	378.29W	==>	-296.50	1222961.27	3186079.42
5400.00	7.86	226.690	5363.98	366.04S	388.23W	==>	-304.30	1222951.90	3186069.47
5500.00	7.86	226.690	5463.04	375.42S	398.18W	==>	-312.09	1222942.52	3186059.53
5600.00	7.86	226.690	5562.10	384.79S	408.12W	==>	-319.89	1222933.15	3186049.58
5700.00	7.86	226.690	5661.16	394.17S	418.07W	==>	-327.68	1222923.77	3186039.64
5800.00	7.86	226.690	5760.23	403.55S	428.01W	==>	-335.48	1222914.39	3186029.69
5900.00	7.86	226.690	5859.29	412.92S	437.96W	==>	-343.27	1222905.02	3186019.75
6000.00	7.86	226.690	5958.35	422.30S	447.90W	==>	-351.07	1222895.64	3186009.81
6100.00	7.86	226.690	6057.41	431.68S	457.85W	==>	-358.86	1222886.27	3185999.86
6200.00	7.86	226.690	6156.47	441.05S	467.79W	==>	-366.65	1222876.89	3185989.92
6300.00	7.86	226.690	6255.53	450.43S	477.74W	==>	-374.45	1222867.51	3185979.97
6400.00	7.86	226.690	6354.59	459.80S	487.68W	==>	-382.24	1222858.14	3185970.03
6500.00	7.86	226.690	6453.66	469.18S	497.63W	==>	-390.04	1222848.76	3185960.08
6600.00	7.86	226.690	6552.72	478.56S	507.57W	==>	-397.83	1222839.39	3185950.14
6700.00	7.86	226.690	6651.78	487.93S	517.52W	==>	-405.63	1222830.01	3185940.19
6800.00	7.86	226.690	6750.84	497.31S	527.46W	==>	-413.42	1222820.63	3185930.25
6900.00	7.86	226.690	6849.90	506.69S	537.40W	==>	-421.22	1222811.26	3185920.31
7000.00	7.86	226.690	6948.96	516.06S	547.35W	==>	-429.01	1222801.88	3185910.36
7100.00	7.86	226.690	7048.03	525.44S	557.29W	==>	-436.81	1222792.51	3185900.42
7196.78	7.86	226.690	7143.89	534.51S	566.92W	==>	-444.35	1222783.43	3185890.79
7200.00	7.64	228.470	7147.09	534.81S	567.24W	10.00	-444.59	1222783.14	3185890.47
7300.00	7.62	310.540	7246.46	534.91S	577.28W	10.00	-443.20	1222783.04	3185880.43
7400.00	16.03	339.020	7344.32	517.66S	587.28W	10.00	-424.66	1222800.28	3185870.43
7500.00	25.60	347.430	7437.70	483.60S	596.95W	10.00	-389.54	1222834.34	3185860.76
7600.00	35.39	351.430	7523.77	433.75S	605.99W	10.00	-338.90	1222884.19	3185851.72
7700.00	45.27	353.860	7599.91	369.63S	614.12W	10.00	-274.29	1222948.31	3185843.59
7800.00	55.18	355.580	7663.81	293.19S	621.10W	10.00	-197.66	1223024.74	3185836.61
7900.00	65.12	356.920	7713.52	206.75S	626.71W	10.00	-111.34	1223111.18	3185831.00
8000.00	75.06	358.060	7747.54	112.94S	630.79W	10.00	-17.97	1223204.99	3185826.92
8100.00	85.01	359.100	7764.82	14.60S	633.21W	10.00	79.64	1223303.33	3185824.50
8153.62	90.34	359.640	7767.00	38.95N	633.80W	10.00	132.68	1223356.88	3185823.92
8200.00	90.34	359.640	7766.72	85.33N	634.08W	==>	178.59	1223403.25	3185823.63
8300.00	90.34	359.640	7766.13	185.32N	634.71W	==>	277.57	1223503.25	3185823.01
8400.00	90.34	359.640	7765.53	285.32N	635.33W	==>	376.55	1223603.24	3185822.38
8500.00	90.34	359.640	7764.93	385.32N	635.95W	==>	475.53	1223703.23	3185821.76
8600.00	90.34	359.640	7764.34	485.31N	636.58W	==>	574.51	1223803.23	3185821.14
8700.00	90.34	359.640	7763.74	585.31N	637.20W	==>	673.49	1223903.22	3185820.51
8800.00	90.34	359.640	7763.15	685.31N	637.82W	==>	772.46	1224003.21	3185819.89
8900.00	90.34	359.640	7762.55	785.30N	638.45W	==>	871.44	1224103.21	3185819.27
9000.00	90.34	359.640	7761.95	885.30N	639.07W	==>	970.42	1224203.20	3185818.64
9100.00	90.34	359.640	7761.36	985.29N	639.69W	==>	1069.40	1224303.19	3185818.02
9200.00	90.34	359.640	7760.76	1085.29N	640.32W	==>	1168.38	1224403.19	3185817.40

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Bottom hole distance is 4448.74 Feet on azimuth 351.46 degrees from Wellhead
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SYSDRILL
Well Design Combined Report
Wellbore: Schaefer 24-3-7HC (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	90.34	359.640	7760.16	1185.29N	640.94W	==>	1267.36	1224503.18	3185816.77
9400.00	90.34	359.640	7759.57	1285.28N	641.56W	==>	1366.34	1224603.17	3185816.15
9500.00	90.34	359.640	7758.97	1385.28N	642.19W	==>	1465.32	1224703.17	3185815.53
9600.00	90.34	359.640	7758.38	1485.28N	642.81W	==>	1564.30	1224803.16	3185814.90
9700.00	90.34	359.640	7757.78	1585.27N	643.43W	==>	1663.28	1224903.15	3185814.28
9800.00	90.34	359.640	7757.18	1685.27N	644.06W	==>	1762.25	1225003.15	3185813.66
9900.00	90.34	359.640	7756.59	1785.26N	644.68W	==>	1861.23	1225103.14	3185813.03
10000.00	90.34	359.640	7755.99	1885.26N	645.30W	==>	1960.21	1225203.13	3185812.41
10100.00	90.34	359.640	7755.39	1985.26N	645.93W	==>	2059.19	1225303.12	3185811.79
10200.00	90.34	359.640	7754.80	2085.25N	646.55W	==>	2158.17	1225403.12	3185811.16
10300.00	90.34	359.640	7754.20	2185.25N	647.17W	==>	2257.15	1225503.11	3185810.54
10400.00	90.34	359.640	7753.61	2285.25N	647.80W	==>	2356.13	1225603.10	3185809.92
10500.00	90.34	359.640	7753.01	2385.24N	648.42W	==>	2455.11	1225703.10	3185809.29
10600.00	90.34	359.640	7752.41	2485.24N	649.04W	==>	2554.09	1225803.09	3185808.67
10700.00	90.34	359.640	7751.82	2585.23N	649.67W	==>	2653.07	1225903.08	3185808.05
10800.00	90.34	359.640	7751.22	2685.23N	650.29W	==>	2752.04	1226003.08	3185807.42
10900.00	90.34	359.640	7750.62	2785.23N	650.91W	==>	2851.02	1226103.07	3185806.80
11000.00	90.34	359.640	7750.03	2885.22N	651.54W	==>	2950.00	1226203.06	3185806.18
11100.00	90.34	359.640	7749.43	2985.22N	652.16W	==>	3048.98	1226303.06	3185805.55
11200.00	90.34	359.640	7748.84	3085.22N	652.78W	==>	3147.96	1226403.05	3185804.93
11300.00	90.34	359.640	7748.24	3185.21N	653.41W	==>	3246.94	1226503.04	3185804.31
11400.00	90.34	359.640	7747.64	3285.21N	654.03W	==>	3345.92	1226603.04	3185803.68
11500.00	90.34	359.640	7747.05	3385.20N	654.65W	==>	3444.90	1226703.03	3185803.06
11600.00	90.34	359.640	7746.45	3485.20N	655.28W	==>	3543.88	1226803.02	3185802.44
11700.00	90.34	359.640	7745.85	3585.20N	655.90W	==>	3642.86	1226903.02	3185801.81
11800.00	90.34	359.640	7745.26	3685.19N	656.52W	==>	3741.84	1227003.01	3185801.19
11900.00	90.34	359.640	7744.66	3785.19N	657.15W	==>	3840.81	1227103.00	3185800.57
12000.00	90.34	359.640	7744.07	3885.19N	657.77W	==>	3939.79	1227203.00	3185799.95
12100.00	90.34	359.640	7743.47	3985.18N	658.39W	==>	4038.77	1227302.99	3185799.32
12200.00	90.34	359.640	7742.87	4085.18N	659.02W	==>	4137.75	1227402.98	3185798.70
12300.00	90.34	359.640	7742.28	4185.18N	659.64W	==>	4236.73	1227502.97	3185798.08
12400.00	90.34	359.640	7741.68	4285.17N	660.26W	==>	4335.71	1227602.97	3185797.45
12500.00	90.34	359.640	7741.08	4385.17N	660.89W	==>	4434.69	1227702.96	3185796.83
12514.20	90.34	359.640	7741.00	4399.36N	660.97W	==>	4448.74	1227717.16	3185796.74

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 351.460 degrees
Bottom hole distance is 4448.74 Feet on azimuth 351.46 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 24-3-7HC (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	8153.00	7767.00	38.33N	633.79W
6 1/8	8153.00	7767.00	38.33N	633.79W	12514.20	7741.00	4399.36N	660.97W

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	8153.00	7767.00	38.33N	633.79W
4 1/2in Production Liner	7953.00	7733.58	157.77S	629.07W	12514.20	7741.00	4399.36N	660.97W

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
Schaefer 24-3-7HC-T1	38.95N	636.80W	7767.00	39.94459000	-104.83725000	1223356.88	3185820.92	11-Feb-2014
Schaefer 24-3-7HC-T2	4399.36N	660.97W	7741.00	39.95656000	-104.83722000	1227717.16	3185796.74	11-Feb-2014

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
153404	Planned	12514.20	7741.00	WdW Rate Gyro	Standard

Notes



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Schaefer 24-3-7HC (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 24-3-7HC (PWB)	12-Feb-2014	12-Feb-2014

Well		
Name	Government ID	Last Revised
Schaefer 24-3-7HC		12-Feb-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #7	1223317.9291	3186457.6944	39.94447000	-104.83498000	0.67S	89.72W

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 24-3-8HN	Schaefer 24-3-8HN (PWB)	Slot #8	Schaefer	14.02	1250.00	1250.00	11.15	1196.10	4.89	1196.10
Schaefer 25-1-7HN	Schaefer 25-1-7HN (PWB)	Slot #15	Schaefer	15.49	1507.78	7475.39	8.94	7475.39	1.57	7475.39
Shaefer 25-1-8HC	Shaefer 25-1-8HC (PWB)	Slot #16	Schaefer	15.61	1215.00	7641.06	12.75	1196.10	5.45	1196.10
Schaefer 24-3-6HN	Schaefer 24-3-6HN (PWB)	Slot #6	Schaefer	16.82	1300.00	1300.00	13.96	1196.10	5.87	1196.10
Schaefer 25-1-6HC	Schaefer 25-1-6HC (PWB)	Slot #14	Schaefer	26.71	1310.93	7579.48	23.88	1196.10	8.99	1507.78
Schaefer 24-3-5HC	Schaefer 24-3-5HC (PWB)	Slot #5	Schaefer	30.84	1300.00	1300.00	27.98	1196.10	10.76	1196.10
Schaefer 25-1-5HN	Schaefer 25-1-5HN (PWB)	Slot #13	Schaefer	41.87	1300.00	1300.00	39.01	1196.10	14.61	1196.10
Schaefer 24-3-4HN	Schaefer 24-3-4HN (PWB)	Slot #4	Schaefer	44.86	1300.00	12514.20	42.00	1196.10	15.65	1196.10
Schaefer 25-1-4HC	Schaefer 25-1-4HC (PWB)	Slot #12	Schaefer	55.23	1300.00	1300.00	52.36	1196.10	19.27	1196.10
Schaefer	Schaefer	Slot #3	Schaefer	61.69	1300.00	1300.00	58.82	1196.10	21.52	1196.10

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Vertical Section is from 0.00N 0.00E on azimuth 351.460 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 13-Feb-2014



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Schaefer 24-3-7HC (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	68.85	1300.00	1300.00	65.99	1196.10	24.02	1196.10
Schaefer 24-3-2HN	Schaefer 24-3-2HN (PWB)	Slot #2	Schaefer	75.71	1250.00	1250.00	72.84	1196.10	26.41	1196.10
Schaefer 25-1-2HC	Schaefer 25-1-2HC (PWB)	Slot #10	Schaefer	85.37	1300.00	1300.00	82.50	1196.10	29.78	1196.10
Schaefer 24-3-1HC	Schaefer 24-3-1HC (PWB)	Slot #1	Schaefer	89.72	1200.00	1200.00	86.85	1200.00	31.24	1200.00
Schaefer 25-1-1HN	Schaefer 25-1-1HN (PWB)	Slot #9	Schaefer	99.21	1250.00	1250.00	96.35	1196.10	34.61	1196.10
SHARP #24-3-9HC	SHARP #24-3-9HC (PWB)	Slot #7	Sharp Pad	900.38	8156.09	8156.09	823.57	12514.20	11.04	12514.20
Sharp #24-3-9HC	Sharp #24-3-9HC (PWB)	Slot #10	Sharp Pad	900.38	8156.09	8156.09	823.58	12514.20	11.04	12514.20
Sharp #25-1-9HN	Sharp #25-1-9HN (PWB)	Slot #4	Sharp Pad	951.65	7567.31	7567.31	934.89	7567.31	56.77	7577.34
Sharp #24-3-10H N	Sharp #24-3-10HN (PWB)	Slot #9	Sharp Pad	1355.60	8156.86	8156.86	1279.64	12514.20	16.78	12514.20
Sharp #25-1-10H C	Sharp #25-1-10HC (PWB)	Slot #3	Sharp Pad	1383.35	7724.97	7724.97	1367.89	7724.97	85.07	8774.84
W Letterly-Scott 1	W Letterly-Scott 1 (AWB)	Letterly-Scott 1	Offsets	1480.47	11441.78	11441.78	1424.18	11448.73	26.16	11563.56
SHARP #24-3-11H C	SHARP #24-3-11HC (PWB)	Slot #5	Sharp Pad	1780.69	8155.09	8155.09	1703.90	12514.20	21.81	12514.20
Sharp #24-3-11H C	Sharp #24-3-11HC (PWB)	Slot #8	Sharp Pad	1780.69	8155.09	8155.09	1703.90	12514.20	21.81	12514.20
Sharp #25-1-11H N	Sharp #25-1-11HN (PWB)	Slot #2	Sharp Pad	1814.24	7638.20	7638.20	1798.98	7638.20	111.12	9299.78
Sharp #24-3-12H N	Sharp #24-3-12HN (PWB)	Slot #7	Sharp Pad	2219.18	8144.49	8144.49	2151.65	12514.20	27.38	12514.20
Sharp #25-1-12H C	Sharp #25-1-12HC (PWB)	Slot #1	Sharp Pad	2248.21	7769.69	7769.69	2233.90	7769.69	139.31	8856.86