

MINERAL RESOURCES, INC.

Location Weld County, CO, USA(Imported)

Slot Slot #20

Field Wattenberg

Well CS-Kinkade #4-1-12

Installation C Street Pad

Wellbore CS-Kinkade #4-1-12 (PWB)

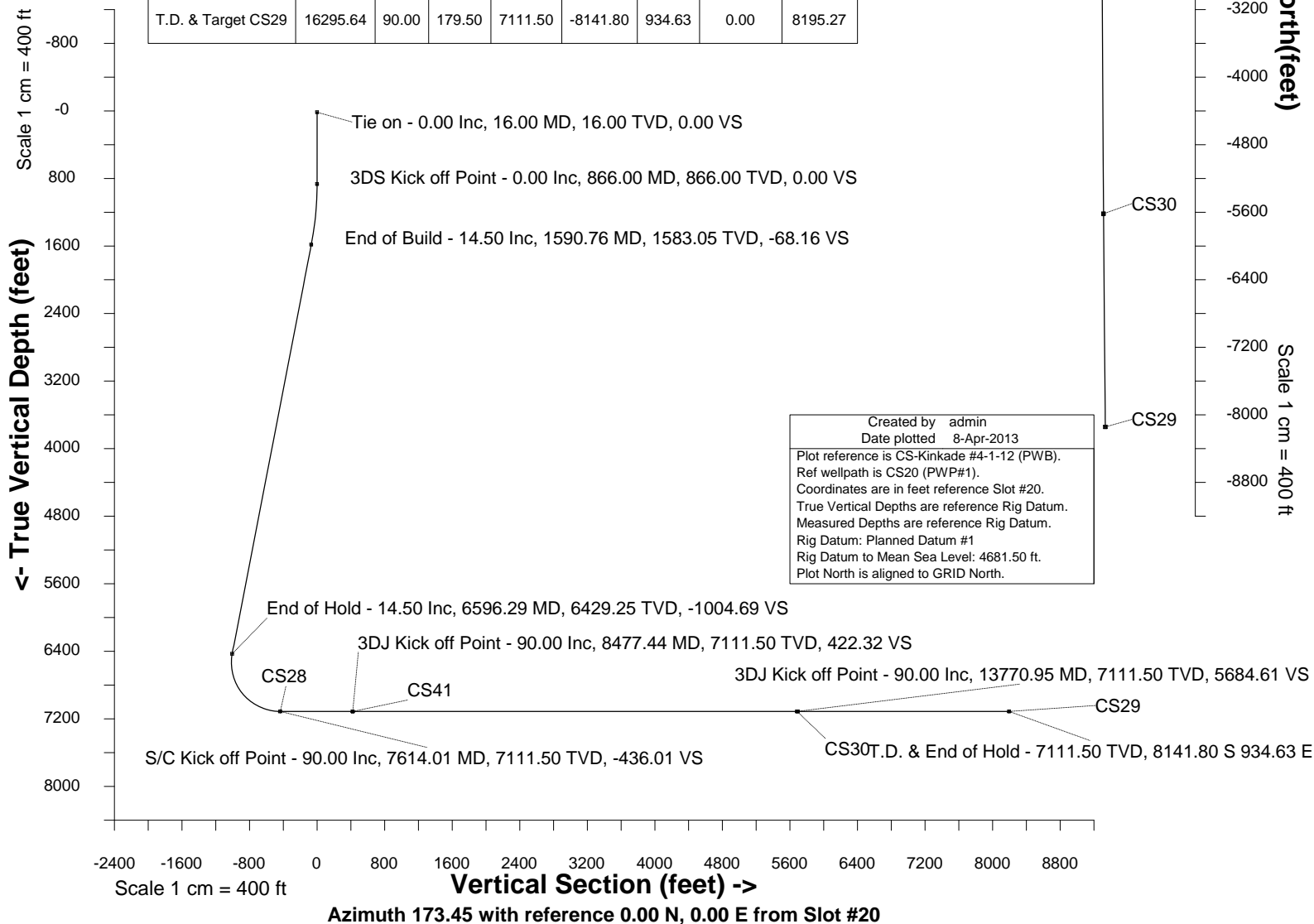
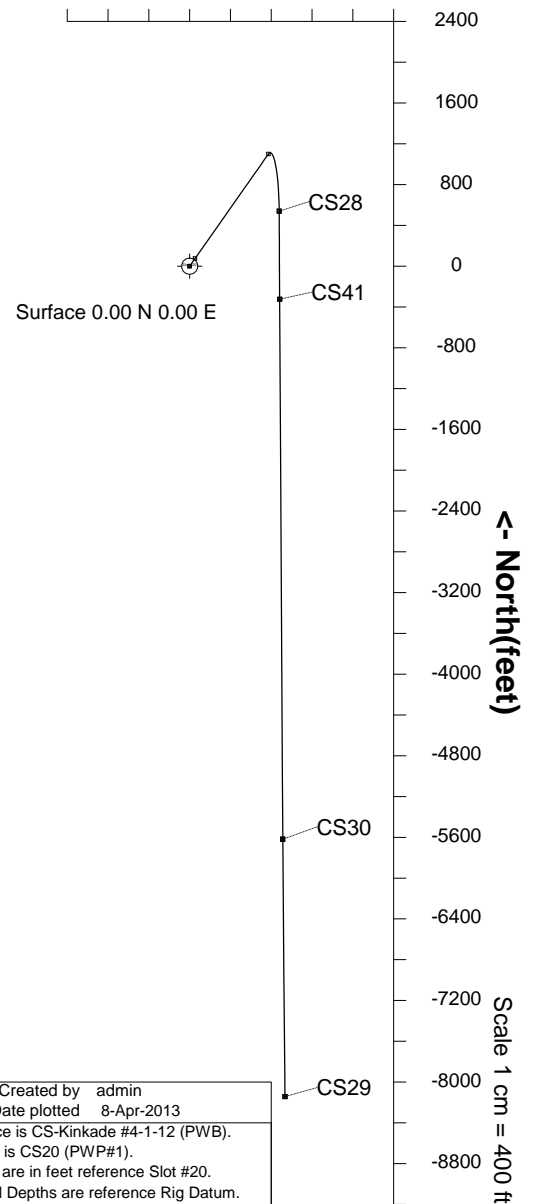
Scale 1 cm = 400 ft

East (feet) ->

-800 0 800 1600

WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	16.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00
KOP	866.00	0.00	0.00	866.00	0.00	0.00	0.00	0.00
End of Build	1590.76	14.50	35.08	1583.05	74.63	52.40	2.00	-68.16
End of Hold	6596.29	14.50	35.08	6429.25	1099.96	772.40	0.00	-1004.69
Target CS28	7614.01	90.00	179.68	7111.50	539.63	877.70	10.00	-436.01
Target CS41	8477.44	90.00	179.68	7111.50	-323.79	882.51	0.00	422.32
End of Turn	8477.50	90.00	179.68	7111.50	-323.84	882.51	4.00	422.37
Target CS30	13770.95	90.00	179.68	7111.50	-5617.21	912.40	0.00	5684.61
End of Turn	13780.10	90.00	179.50	7111.50	-5626.35	912.47	2.00	5693.71
T.D. & Target CS29	16295.64	90.00	179.50	7111.50	-8141.80	934.63	0.00	8195.27



Created by admin
Date plotted 8-Apr-2013
Plot reference is CS-Kinkade #4-1-12 (PWB).
Ref wellpath is CS20 (PWP#1).
Coordinates are in feet reference Slot #20.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 4681.50 ft.
Plot North is aligned to GRID North.



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: CS-Kinkade #4-1-12 (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #20	1403487.0522	3216388.6348	N40 26 18.1320	W104 43 21.3600	16.61S	183.87E	-0.50

Declination			
Date	Source	Time	
17-Jan-2013	IGRF Model [1900.0-2015.0]		11:43

Site Details				
Name	Northing	Easting	Coord System Name	North Alignment
C Street Pad	1403503.6566	3216204.7695	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
16.00	0.00	0.000	16.00	0.00N	0.00E		0.00	1403487.05	3216388.63
866.00	0.00	0.000	866.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
1590.76	14.50	35.080	1583.05	74.63N	52.40E	2.00	-68.16	1403561.68	3216441.04
6596.29	14.50	35.080	6429.25	1099.96N	772.40E	==>	-1004.69	1404586.97	3217161.01
7614.01	90.00	179.680	7111.50	539.63N	877.70E	10.00	-436.01	1404026.66	3217266.30
8477.44	90.00	179.680	7111.50	323.79S	882.51E	==>	422.32	1403163.28	3217271.11
8477.50	90.00	179.680	7111.50	323.84S	882.51E	4.00	422.37	1403163.23	3217271.11
13770.95	90.00	179.680	7111.50	5617.21S	912.40E	==>	5684.61	1397870.07	3217301.00
13780.10	90.00	179.500	7111.50	5626.35S	912.47E	2.00	5693.71	1397860.92	3217301.07
16295.64	90.00	179.500	7111.50	8141.80S	934.63E	==>	8195.27	1395345.58	3217323.22

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	1403487.05	3216388.63
16.00	0.00	0.000	16.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
850.00	0.00	0.000	850.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
866.00	0.00	0.000	866.00	0.00N	0.00E	==>	0.00	1403487.05	3216388.63
950.00	1.68	35.080	949.99	1.01N	0.71E	2.00	-0.92	1403488.06	3216389.34
1050.00	3.68	35.080	1049.87	4.83N	3.39E	2.00	-4.42	1403491.89	3216392.03
1150.00	5.68	35.080	1149.54	11.51N	8.08E	2.00	-10.51	1403498.56	3216396.72
1250.00	7.68	35.080	1248.85	21.03N	14.77E	2.00	-19.21	1403508.08	3216403.40
1350.00	9.68	35.080	1347.70	33.38N	23.44E	2.00	-30.49	1403520.43	3216412.07
1450.00	11.68	35.080	1445.96	48.55N	34.09E	2.00	-44.34	1403535.60	3216422.72
1550.00	13.68	35.080	1543.52	66.51N	46.70E	2.00	-60.75	1403553.56	3216435.34
1590.76	14.50	35.080	1583.05	74.63N	52.40E	2.00	-68.16	1403561.68	3216441.04
1600.00	14.50	35.080	1592.00	76.52N	53.73E	==>	-69.89	1403563.57	3216442.37
1700.00	14.50	35.080	1688.82	97.00N	68.12E	==>	-88.60	1403584.05	3216456.75
1800.00	14.50	35.080	1785.63	117.49N	82.50E	==>	-107.31	1403604.54	3216471.13
1900.00	14.50	35.080	1882.45	137.97N	96.89E	==>	-126.02	1403625.02	3216485.52
2000.00	14.50	35.080	1979.27	158.46N	111.27E	==>	-144.73	1403645.50	3216499.90
2100.00	14.50	35.080	2076.08	178.94N	125.65E	==>	-163.44	1403665.99	3216514.28
2200.00	14.50	35.080	2172.90	199.42N	140.04E	==>	-182.15	1403686.47	3216528.67
2300.00	14.50	35.080	2269.72	219.91N	154.42E	==>	-200.86	1403706.95	3216543.05
2400.00	14.50	35.080	2366.53	240.39N	168.81E	==>	-219.57	1403727.44	3216557.43
2500.00	14.50	35.080	2463.35	260.88N	183.19E	==>	-238.28	1403747.92	3216571.82
2600.00	14.50	35.080	2560.17	281.36N	197.57E	==>	-256.99	1403768.40	3216586.20
2700.00	14.50	35.080	2656.98	301.84N	211.96E	==>	-275.70	1403788.88	3216600.59
2800.00	14.50	35.080	2753.80	322.33N	226.34E	==>	-294.41	1403809.37	3216614.97
2900.00	14.50	35.080	2850.62	342.81N	240.73E	==>	-313.12	1403829.85	3216629.35

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig (Planned Datum #1 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Bottom hole distance is 8195.27 Feet on azimuth 173.45 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 20-May-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: CS-Kinkade #4-1-12 (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3000.00	14.50	35.080	2947.44	363.30N	255.11E	==>	-331.83	1403850.33	3216643.74
3100.00	14.50	35.080	3044.25	383.78N	269.50E	==>	-350.54	1403870.82	3216658.12
3200.00	14.50	35.080	3141.07	404.26N	283.88E	==>	-369.25	1403891.30	3216672.50
3300.00	14.50	35.080	3237.89	424.75N	298.26E	==>	-387.96	1403911.78	3216686.89
3400.00	14.50	35.080	3334.70	445.23N	312.65E	==>	-406.67	1403932.27	3216701.27
3500.00	14.50	35.080	3431.52	465.72N	327.03E	==>	-425.38	1403952.75	3216715.65
3600.00	14.50	35.080	3528.34	486.20N	341.42E	==>	-444.09	1403973.23	3216730.04
3700.00	14.50	35.080	3625.15	506.68N	355.80E	==>	-462.80	1403993.72	3216744.42
3800.00	14.50	35.080	3721.97	527.17N	370.18E	==>	-481.51	1404014.20	3216758.80
3900.00	14.50	35.080	3818.79	547.65N	384.57E	==>	-500.22	1404034.68	3216773.19
4000.00	14.50	35.080	3915.60	568.14N	398.95E	==>	-518.93	1404055.16	3216787.57
4100.00	14.50	35.080	4012.42	588.62N	413.34E	==>	-537.64	1404075.65	3216801.95
4200.00	14.50	35.080	4109.24	609.10N	427.72E	==>	-556.35	1404096.13	3216816.34
4300.00	14.50	35.080	4206.05	629.59N	442.10E	==>	-575.06	1404116.61	3216830.72
4400.00	14.50	35.080	4302.87	650.07N	456.49E	==>	-593.77	1404137.10	3216845.10
4500.00	14.50	35.080	4399.69	670.55N	470.87E	==>	-612.48	1404157.58	3216859.49
4600.00	14.50	35.080	4496.51	691.04N	485.26E	==>	-631.19	1404178.06	3216873.87
4700.00	14.50	35.080	4593.32	711.52N	499.64E	==>	-649.90	1404198.55	3216888.26
4800.00	14.50	35.080	4690.14	732.01N	514.02E	==>	-668.61	1404219.03	3216902.64
4900.00	14.50	35.080	4786.96	752.49N	528.41E	==>	-687.32	1404239.51	3216917.02
5000.00	14.50	35.080	4883.77	772.97N	542.79E	==>	-706.03	1404260.00	3216931.41
5100.00	14.50	35.080	4980.59	793.46N	557.18E	==>	-724.74	1404280.48	3216945.79
5200.00	14.50	35.080	5077.41	813.94N	571.56E	==>	-743.45	1404300.96	3216960.17
5300.00	14.50	35.080	5174.22	834.43N	585.94E	==>	-762.16	1404321.45	3216974.56
5400.00	14.50	35.080	5271.04	854.91N	600.33E	==>	-780.87	1404341.93	3216988.94
5500.00	14.50	35.080	5367.86	875.39N	614.71E	==>	-799.58	1404362.41	3217003.32
5600.00	14.50	35.080	5464.67	895.88N	629.10E	==>	-818.29	1404382.89	3217017.71
5700.00	14.50	35.080	5561.49	916.36N	643.48E	==>	-837.00	1404403.38	3217032.09
5800.00	14.50	35.080	5658.31	936.85N	657.87E	==>	-855.71	1404423.86	3217046.47
5900.00	14.50	35.080	5755.12	957.33N	672.25E	==>	-874.42	1404444.34	3217060.86
6000.00	14.50	35.080	5851.94	977.81N	686.63E	==>	-893.13	1404464.83	3217075.24
6100.00	14.50	35.080	5948.76	998.30N	701.02E	==>	-911.84	1404485.31	3217089.62
6200.00	14.50	35.080	6045.58	1018.78N	715.40E	==>	-930.55	1404505.79	3217104.01
6300.00	14.50	35.080	6142.39	1039.27N	729.79E	==>	-949.26	1404526.28	3217118.39
6400.00	14.50	35.080	6239.21	1059.75N	744.17E	==>	-967.97	1404546.76	3217132.77
6500.00	14.50	35.080	6336.03	1080.23N	758.55E	==>	-986.68	1404567.24	3217147.16
6596.29	14.50	35.080	6429.25	1099.96N	772.40E	==>	-1004.69	1404586.97	3217161.01
6600.00	14.20	35.970	6432.85	1100.71N	772.94E	10.00	-1005.37	1404587.71	3217161.54
6700.00	8.63	80.300	6531.00	1111.92N	787.57E	10.00	-1014.85	1404598.93	3217176.18
6800.00	12.08	135.280	6629.58	1105.74N	802.37E	10.00	-1007.02	1404592.74	3217190.97
6900.00	20.39	155.930	6725.58	1082.34N	816.88E	10.00	-982.11	1404569.34	3217205.48
7000.00	29.74	164.480	6816.09	1042.43N	830.65E	10.00	-940.90	1404529.44	3217219.26
7100.00	39.38	169.170	6898.36	987.23N	843.28E	10.00	-884.62	1404474.25	3217231.88
7200.00	49.15	172.240	6969.89	918.42N	854.38E	10.00	-814.99	1404405.44	3217242.98
7300.00	58.98	174.510	7028.51	838.09N	863.60E	10.00	-734.13	1404325.10	3217252.20
7400.00	68.85	176.360	7072.43	748.67N	870.68E	10.00	-644.49	1404235.69	3217259.28
7500.00	78.73	177.970	7100.32	652.88N	875.39E	10.00	-548.79	1404139.91	3217263.99
7600.00	88.61	179.470	7111.33	553.64N	877.59E	10.00	-449.95	1404040.67	3217266.19
7614.01	90.00	179.680	7111.50	539.63N	877.70E	10.00	-436.01	1404026.66	3217266.30
7700.00	90.00	179.680	7111.50	453.65N	878.18E	==>	-350.54	1403940.68	3217266.78
7800.00	90.00	179.680	7111.50	353.65N	878.73E	==>	-251.13	1403840.69	3217267.33
7900.00	90.00	179.680	7111.50	253.65N	879.29E	==>	-151.72	1403740.69	3217267.89
8000.00	90.00	179.680	7111.50	153.65N	879.85E	==>	-52.31	1403640.70	3217268.45
8100.00	90.00	179.680	7111.50	53.65N	880.41E	==>	47.10	1403540.70	3217269.01
8200.00	90.00	179.680	7111.50	46.35S	880.97E	==>	146.51	1403440.71	3217269.57
8300.00	90.00	179.680	7111.50	146.34S	881.52E	==>	245.92	1403340.71	3217270.12
8400.00	90.00	179.680	7111.50	246.34S	882.08E	==>	345.33	1403240.72	3217270.68
8477.44	90.00	179.680	7111.50	323.79S	882.51E	==>	422.32	1403163.28	3217271.11
8477.50	90.00	179.680	7111.50	323.84S	882.51E	4.00	422.37	1403163.23	3217271.11
8500.00	90.00	179.680	7111.50	346.34S	882.64E	==>	444.74	1403140.72	3217271.24
8600.00	90.00	179.680	7111.50	446.34S	883.21E	==>	544.15	1403040.73	3217271.81

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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Bottom hole distance is 8195.27 Feet on azimuth 173.45 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 20-May-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: CS-Kinkade #4-1-12 (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
8700.00	90.00	179.680	7111.50	546.34S	883.77E	==>	643.56	1402940.74	3217272.37
8800.00	90.00	179.680	7111.50	646.34S	884.34E	==>	742.97	1402840.74	3217272.93
8900.00	90.00	179.680	7111.50	746.33S	884.90E	==>	842.38	1402740.75	3217273.50
9000.00	90.00	179.680	7111.50	846.33S	885.46E	==>	941.79	1402640.75	3217274.06
9100.00	90.00	179.680	7111.50	946.33S	886.03E	==>	1041.20	1402540.76	3217274.63
9200.00	90.00	179.680	7111.50	1046.33S	886.59E	==>	1140.61	1402440.76	3217275.19
9300.00	90.00	179.680	7111.50	1146.33S	887.16E	==>	1240.02	1402340.77	3217275.76
9400.00	90.00	179.680	7111.50	1246.33S	887.72E	==>	1339.44	1402240.78	3217276.32
9500.00	90.00	179.680	7111.50	1346.33S	888.29E	==>	1438.85	1402140.78	3217276.89
9600.00	90.00	179.680	7111.50	1446.32S	888.85E	==>	1538.26	1402040.79	3217277.45
9700.00	90.00	179.680	7111.50	1546.32S	889.42E	==>	1637.67	1401940.79	3217278.02
9800.00	90.00	179.680	7111.50	1646.32S	889.98E	==>	1737.08	1401840.80	3217278.58
9900.00	90.00	179.680	7111.50	1746.32S	890.55E	==>	1836.49	1401740.80	3217279.15
10000.00	90.00	179.680	7111.50	1846.32S	891.11E	==>	1935.90	1401640.81	3217279.71
10100.00	90.00	179.680	7111.50	1946.32S	891.68E	==>	2035.31	1401540.81	3217280.28
10200.00	90.00	179.680	7111.50	2046.31S	892.24E	==>	2134.72	1401440.82	3217280.84
10300.00	90.00	179.680	7111.50	2146.31S	892.81E	==>	2234.13	1401340.83	3217281.40
10400.00	90.00	179.680	7111.50	2246.31S	893.37E	==>	2333.54	1401240.83	3217281.97
10500.00	90.00	179.680	7111.50	2346.31S	893.93E	==>	2432.95	1401140.84	3217282.53
10600.00	90.00	179.680	7111.50	2446.31S	894.50E	==>	2532.36	1401040.84	3217283.10
10700.00	90.00	179.680	7111.50	2546.31S	895.06E	==>	2631.77	1400940.85	3217283.66
10800.00	90.00	179.680	7111.50	2646.30S	895.63E	==>	2731.18	1400840.85	3217284.23
10900.00	90.00	179.680	7111.50	2746.30S	896.19E	==>	2830.59	1400740.86	3217284.79
11000.00	90.00	179.680	7111.50	2846.30S	896.76E	==>	2930.00	1400640.86	3217285.36
11100.00	90.00	179.680	7111.50	2946.30S	897.32E	==>	3029.41	1400540.87	3217285.92
11200.00	90.00	179.680	7111.50	3046.30S	897.89E	==>	3128.82	1400440.88	3217286.49
11300.00	90.00	179.680	7111.50	3146.30S	898.45E	==>	3228.23	1400340.88	3217287.05
11400.00	90.00	179.680	7111.50	3246.29S	899.02E	==>	3327.64	1400240.89	3217287.62
11500.00	90.00	179.680	7111.50	3346.29S	899.58E	==>	3427.05	1400140.89	3217288.18
11600.00	90.00	179.680	7111.50	3446.29S	900.15E	==>	3526.46	1400040.90	3217288.74
11700.00	90.00	179.680	7111.50	3546.29S	900.71E	==>	3625.87	1399940.90	3217289.31
11800.00	90.00	179.680	7111.50	3646.29S	901.28E	==>	3725.28	1399840.91	3217289.87
11900.00	90.00	179.680	7111.50	3746.29S	901.84E	==>	3824.69	1399740.91	3217290.44
12000.00	90.00	179.680	7111.50	3846.29S	902.40E	==>	3924.11	1399640.92	3217291.00
12100.00	90.00	179.680	7111.50	3946.28S	902.97E	==>	4023.52	1399540.93	3217291.57
12200.00	90.00	179.680	7111.50	4046.28S	903.53E	==>	4122.93	1399440.93	3217292.13
12300.00	90.00	179.680	7111.50	4146.28S	904.10E	==>	4222.34	1399340.94	3217292.70
12400.00	90.00	179.680	7111.50	4246.28S	904.66E	==>	4321.75	1399240.94	3217293.26
12500.00	90.00	179.680	7111.50	4346.28S	905.23E	==>	4421.16	1399140.95	3217293.83
12600.00	90.00	179.680	7111.50	4446.28S	905.79E	==>	4520.57	1399040.95	3217294.39
12700.00	90.00	179.680	7111.50	4546.27S	906.36E	==>	4619.98	1398940.96	3217294.96
12800.00	90.00	179.680	7111.50	4646.27S	906.92E	==>	4719.39	1398840.96	3217295.52
12900.00	90.00	179.680	7111.50	4746.27S	907.49E	==>	4818.80	1398740.97	3217296.08
13000.00	90.00	179.680	7111.50	4846.27S	908.05E	==>	4918.21	1398640.98	3217296.65
13100.00	90.00	179.680	7111.50	4946.27S	908.62E	==>	5017.62	1398540.98	3217297.21
13200.00	90.00	179.680	7111.50	5046.27S	909.18E	==>	5117.03	1398440.99	3217297.78
13300.00	90.00	179.680	7111.50	5146.26S	909.74E	==>	5216.44	1398340.99	3217298.34
13400.00	90.00	179.680	7111.50	5246.26S	910.31E	==>	5315.85	1398241.00	3217298.91
13500.00	90.00	179.680	7111.50	5346.26S	910.87E	==>	5415.26	1398141.00	3217299.47
13600.00	90.00	179.680	7111.50	5446.26S	911.44E	==>	5514.67	1398041.01	3217300.04
13700.00	90.00	179.680	7111.50	5546.26S	912.00E	==>	5614.08	1397941.01	3217300.60
13770.95	90.00	179.680	7111.50	5617.21S	912.40E	==>	5684.61	1397870.07	3217301.00
13780.10	90.00	179.500	7111.50	5626.35S	912.47E	2.00	5693.71	1397860.92	3217301.07
13800.00	90.00	179.500	7111.50	5646.26S	912.65E	==>	5713.50	1397841.02	3217301.24
13900.00	90.00	179.500	7111.50	5746.25S	913.53E	==>	5812.94	1397741.03	3217302.12
14000.00	90.00	179.500	7111.50	5846.25S	914.41E	==>	5912.39	1397641.04	3217303.01
14100.00	90.00	179.500	7111.50	5946.24S	915.29E	==>	6011.83	1397541.04	3217303.89
14200.00	90.00	179.500	7111.50	6046.24S	916.17E	==>	6111.28	1397441.05	3217304.77
14300.00	90.00	179.500	7111.50	6146.24S	917.05E	==>	6210.72	1397341.06	3217305.65
14400.00	90.00	179.500	7111.50	6246.23S	917.93E	==>	6310.17	1397241.07	3217306.53
14500.00	90.00	179.500	7111.50	6346.23S	918.81E	==>	6409.61	1397141.08	3217307.41

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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Bottom hole distance is 8195.27 Feet on azimuth 173.45 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 20-May-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
 SYSDRILL
 Well Design Combined Report
 Wellbore: CS-Kinkade #4-1-12 (PWB)

Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
14600.00	90.00	179.500	7111.50	6446.23S	919.69E	==>	6509.05	1397041.08	3217308.29
14700.00	90.00	179.500	7111.50	6546.22S	920.57E	==>	6608.50	1396941.09	3217309.17
14800.00	90.00	179.500	7111.50	6646.22S	921.45E	==>	6707.94	1396841.10	3217310.05
14900.00	90.00	179.500	7111.50	6746.21S	922.33E	==>	6807.39	1396741.11	3217310.93
15000.00	90.00	179.500	7111.50	6846.21S	923.21E	==>	6906.83	1396641.12	3217311.81
15100.00	90.00	179.500	7111.50	6946.21S	924.10E	==>	7006.27	1396541.12	3217312.69
15200.00	90.00	179.500	7111.50	7046.20S	924.98E	==>	7105.72	1396441.13	3217313.57
15300.00	90.00	179.500	7111.50	7146.20S	925.86E	==>	7205.16	1396341.14	3217314.45
15400.00	90.00	179.500	7111.50	7246.19S	926.74E	==>	7304.61	1396241.15	3217315.34
15500.00	90.00	179.500	7111.50	7346.19S	927.62E	==>	7404.05	1396141.15	3217316.22
15600.00	90.00	179.500	7111.50	7446.19S	928.50E	==>	7503.49	1396041.16	3217317.10
15700.00	90.00	179.500	7111.50	7546.18S	929.38E	==>	7602.94	1395941.17	3217317.98
15800.00	90.00	179.500	7111.50	7646.18S	930.26E	==>	7702.38	1395841.18	3217318.86
15900.00	90.00	179.500	7111.50	7746.17S	931.14E	==>	7801.83	1395741.19	3217319.74
16000.00	90.00	179.500	7111.50	7846.17S	932.02E	==>	7901.27	1395641.19	3217320.62
16100.00	90.00	179.500	7111.50	7946.17S	932.90E	==>	8000.72	1395541.20	3217321.50
16200.00	90.00	179.500	7111.50	8046.16S	933.78E	==>	8100.16	1395441.21	3217322.38
16295.64	90.00	179.500	7111.50	8141.80S	934.63E	==>	8195.27	1395345.58	3217323.22

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 4681.5ft above Mean Sea Level)
 Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
 Bottom hole distance is 8195.27 Feet on azimuth 173.45 degrees from Wellhead
 Calculation method uses Minimum Curvature method
 Prepared by Peterson Energy
 Date Printed: 20-May-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: CS-Kinkade #4-1-12 (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	16.00	16.00	0.00N	0.00E	500.00	500.00	0.00N	0.00E
8 3/4	500.00	500.00	0.00N	0.00E	7614.00	7111.50	539.63N	877.70E
6 1/8	7614.00	7111.50	539.63N	877.70E	16295.64	7111.50	8141.80S	934.63E

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				500.00	500.00	0.00N	0.00E
7.0in Intermediate Casing	0.00				7614.00	7111.50	539.63N	877.70E
4 1/2in Production Liner	6700.00	6531.00	1111.92N	787.57E	16295.64	7111.50	8141.80S	934.63E

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
CS28	539.63N	877.70E	7111.50	N40 26 23.3880	W104 43 9.9480	1404026.66	3217266.30	15-Mar-2013
CS29	8141.80S	934.63E	7111.50	N40 24 57.6000	W104 43 10.2000	1395345.58	3217323.22	15-Mar-2013
CS30	5617.21S	912.40E	7111.50	N40 25 22.5480	W104 43 10.2000	1397870.07	3217301.00	15-Mar-2013
CS41	323.79S	882.51E	7111.50	N40 26 14.8560	W104 43 9.9840	1403163.28	3217271.11	15-Mar-2013

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
33087	Planned	16295.64	7111.50	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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Bottom hole distance is 8195.27 Feet on azimuth 173.45 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 20-May-2013



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: CS-Kinkade #4-1-12 (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
Cutoff 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
CS-Kinkade #4-1-12 (PWB)	19-Mar-2013	11-Apr-2013

Well		
Name	Government ID	Last Revised
CS-Kinkade #4-1-12		8-Apr-2013

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #20	1403487.0522	3216388.6348	N40 26 18.1320	W104 43 21.3600	16.61S	183.87E

Installation					
Name	Easting	Northing	Coord System Name	North Alignment	
C Street Pad	3216204.7695	1403503.6566	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]
CS-Kinkade #3-1-12	CS-Kinkade #3-1-12 (PWB)	Slot #21	C Street Pad	13.92	869.02	8477.44	11.89	869.02	2.80	16295.64
CS-Kinkade #5-1-12	CS-Kinkade #5-1-12 (PWB)	Slot #19	C Street Pad	16.70	754.19	754.19	14.85	770.59	2.76	16295.64
CS-Kinkade #2-1-12	CS-Kinkade #2-1-12 (PWB)	Slot #22	C Street Pad	30.62	869.02	7616.15	28.59	869.02	4.61	16295.64
CS-Longmeadow #1-1-12	CS-Longmeadow #1-1-12 (PWB)	Slot #18	C Street Pad	33.40	655.76	8343.47	31.72	655.76	4.59	16295.64
CS-Kinkade #1-1-12	CS-Kinkade #1-1-12 (PWB)	Slot #23	C Street Pad	47.32	869.02	869.02	45.29	869.02	7.07	16295.64
CS-Longmeadow #2-1-12	CS-Longmeadow #2-1-12 (PWB)	Slot #17	C Street Pad	50.11	557.34	8376.75	48.43	491.72	7.05	16295.64
CS-Sherwood #3-1-12	CS-Sherwood #3-1-12 (PWB)	Slot #24	C Street Pad	64.02	869.02	8611.80	61.99	869.02	9.21	16295.64
CS-Bestway #1-1-2	CS-Bestway #1-1-2 (PWB)	Slot #8	C Street Pad	74.63	869.02	8452.12	72.60	885.42	32.46	1180.70
CS-Sherwood #2-1-12	CS-Sherwood #2-1-12 (PWB)	Slot #25	C Street Pad	77.94	869.02	16295.64	75.91	869.02	11.54	16295.64
CS-Sherwood #1-1-12	CS-Sherwood #1-1-12	Slot #26	C Street Pad	94.64	869.02	16295.64	92.61	869.02	13.74	16295.64

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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Prepared by Peterson Energy
Date Printed: 20-May-2013



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: CS-Kinkade #4-1-12 (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)									
CS-Scott #5-1-12	CS-Scott #5-1-12 (PWB)	Slot #27	C Street Pad	111.35	869.02	16295.64	109.31	869.02	16.07	16295.64
CS-Scott #4-1-12	CS-Scott #4-1-12 (PWB)	Slot #28	C Street Pad	128.05	869.02	16295.64	126.02	869.02	18.32	16295.64
CS-Scott #3-1-12	CS-Scott #3-1-12 (PWB)	Slot #29	C Street Pad	141.97	869.02	13770.95	139.93	869.02	20.71	16295.64
CS-Scott #2-1-12	CS-Scott #2-1-12 (PWB)	Slot #30	C Street Pad	158.67	869.02	16295.64	156.64	869.02	22.89	16295.64
CS-Scott #1-1-12	CS-Scott #1-1-12 (PWB)	Slot #31	C Street Pad	175.37	866.00	16295.64	173.35	866.00	25.23	16295.64
CS-Bittersweet #3-1-12	CS-Bittersweet #3-1-12 (PWB)	Slot #32	C Street Pad	189.32	754.19	16295.64	187.48	770.59	27.47	16295.64
GG-Cottonwood #2-13-12	GG-Cottonwood #2-13-12 (PWB)	Slot #43	Gallery Green	339.39	16295.64	16295.64	309.22	16295.64	11.25	16295.64
GG-Cottonwood #1-13-12	GG-Cottonwood #1-13-12 (PWB)	Slot #25	Gallery Green	472.19	16295.64	16295.64	354.26	16295.64	4.00	16295.64
GG-Cottonwood #3-13-12	GG-Cottonwood #3-13-12 (PWB)	Slot #44	Gallery Green	473.73	16295.64	16295.64	356.40	16295.64	4.04	16295.64
GG-Toddys #2-13-12	GG-Toddys #2-13-12 (PWB)	Slot #27	Gallery Green	748.16	16295.64	16295.64	601.08	16295.64	5.09	16295.64
GG-Cottonwood #4-13-12	GG-Cottonwood #4-13-12 (PWB)	Slot #45	Gallery Green	750.11	16295.64	16295.64	603.93	16295.64	5.13	16295.64
GG-Cottonwood 5-13-12	GG-Cottonwood #5-13-12 (PWB)	Slot #46	Gallery Green	1057.32	16295.64	16295.64	901.82	16295.64	6.80	16295.64
GG-Toddys #1-13-12	GG-Toddys #1-13-12 (PWB)	Slot #28	Gallery Green	1061.26	16295.64	16295.64	905.30	16295.64	6.80	16295.64
GG-Mariner #1-13-12	GG-Mariner #1-13-12 (PWB)	Slot #47	Gallery Green	1379.20	16295.64	16295.64	1220.46	16295.64	8.69	16295.64
DT-Martinez #1-5-6	DT-Martinez #1-5-6 (PWB)	Slot #11	Downtown	1453.75	10829.94	10829.94	1408.67	10793.56	26.09	10088.18
DT-Martinez #3-5-6	DT-Martinez #3-5-6 (PWB)	Slot #20	Downtown	1455.81	11471.13	11471.13	1401.54	11433.32	22.95	10842.77
DT-Martinez #2-5-6	DT-Martinez #2-5-6 (PWB)	Slot #19	Downtown	1455.82	11154.45	11154.45	1406.75	11116.00	24.61	10465.48
DT-Habitat #5-5-6	DT-Habitat #5-5-6 (PWB)	Slot #10	Downtown	1456.52	10505.70	10505.70	1416.58	10465.48	26.76	11777.81
DT-Habitat #4-5-6	DT-Habitat #4-5-6 (PWB)	Slot #9	Downtown	1457.24	10186.60	10186.60	1421.70	10153.80	26.81	11466.13
DT-Forbes	DT-Forbes	Slot #21	Downtown	1457.90	11802.66	11802.66	1398.42	11761.41	21.39	11220.07

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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Prepared by Peterson Energy
Date Printed: 20-May-2013



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: CS-Kinkade #4-1-12 (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]
#1-5-6	#1-5-6 (PWB)									
DT-Forbes #2-5-6	DT-Forbes #2-5-6 (PWB)	Slot #22	Downtown	1457.94	12134.18	12134.18	1392.92	12089.49	19.98	11597.36
DT-Habitat #2-5-6	DT-Habitat #2-5-6 (PWB)	Slot #7	Downtown	1457.95	9540.25	9540.25	1430.51	9540.25	26.95	10826.37
DT-Habitat #3-5-6	DT-Habitat #3-5-6 (PWB)	Slot #8	Downtown	1460.01	9860.85	9860.85	1429.19	9842.12	26.97	11138.05
DT-Habitat #1-5-6	DT-Habitat #1-5-6 (PWB)	Slot #6	Downtown	1460.72	9218.76	9218.76	1436.65	9235.16	27.06	10498.28
DT-Lopez #2-5-6	DT-Lopez #2-5-6 (PWB)	Slot #5	Downtown	1461.44	8895.40	8895.40	1438.88	8923.48	27.10	10186.60
DT-Forbes #3-5-6	DT-Forbes #3-5-6 (PWB)	Slot #23	Downtown	1462.82	12469.34	12469.34	1392.42	12417.57	18.76	11974.66
DT-Forbes #4-5-6	DT-Forbes #4-5-6 (PWB)	Slot #24	Downtown	1462.86	12800.86	12800.86	1386.81	12762.06	17.63	12335.55
DT-Lopez #1-5-6	DT-Lopez #1-5-6 (PWB)	Slot #3	Downtown	1464.21	8571.15	8571.15	1442.87	8616.00	27.20	9858.52
DT-Forbes #5-5-6	DT-Forbes #5-5-6 (PWB)	Slot #25	Downtown	1464.96	13136.03	13136.03	1383.44	13090.15	16.62	12696.45
DT-Luther #1-5-6	DT-Luther #1-5-6 (PWB)	Slot #26	Downtown	1465.00	13467.55	13467.55	1377.81	13418.23	15.70	13057.34
MT-Luther #3-8-7	MT-Luther #3-8-7 (PWB)	Slot #1	Midtown	1468.33	14158.12	14158.12	1380.37	14238.44	13.86	14828.99
MT-Maplewood #2-8-7	MT-Maplewood #2-8-7 (PWB)	Slot #3	Midtown	1468.92	14904.83	14904.83	1380.30	14993.03	13.83	15567.18
MT-Luther #2-8-7	MT-Luther #2-8-7 (PWB)	Slot #37	Midtown	1469.07	13804.72	13804.72	1381.32	13893.95	13.86	14468.10
MT-Maplewood #4-8-7	MT-Maplewood #4-8-7 (PWB)	Slot #5	Midtown	1469.52	15651.54	15651.54	1379.94	15731.22	13.78	16295.64
MT-Maplewood #1-8-7	MT-Maplewood #1-8-7 (PWB)	Slot #2	Midtown	1469.65	14533.72	14533.72	1381.52	14616.00	13.85	15189.88
MT-Maplewood #3-8-7	MT-Maplewood #3-8-7 (PWB)	Slot #4	Midtown	1470.24	15278.18	15278.18	1381.38	15353.93	13.82	15944.48
MT-Maplewood #5-8-7	MT-Maplewood #5-8-7 (PWB)	Slot #6	Midtown	1470.84	16026.50	16026.50	1380.90	16108.52	14.68	16295.64
MT-Heath #1-8-7	MT-Heath #1-8-7 (PWB)	Slot #7	Midtown	1473.69	16295.64	16295.64	1388.47	16295.64	17.29	16295.64
MT-Heath #2-8-7	MT-Heath #2-8-7 (PWB)	Slot #8	Midtown	1546.50	16295.64	16295.64	1458.26	16295.64	17.53	16295.64
MT-Heath #3-8-7	MT-Heath #3-8-7 (PWB)	Slot #9	Midtown	1692.06	16295.64	16295.64	1595.34	16295.64	17.49	16295.64
GG-Mariner #2-13-12	GG-Mariner #2-13-12 (PWB)	Slot #48	Gallery Green	1704.00	16295.64	16295.64	1543.36	16295.64	10.61	16295.64
MT-Glenfair #1-8-7	MT-Glenfair #1-8-7 (PWB)	Slot #10	Midtown	1905.00	16295.64	16295.64	1803.42	16295.64	18.75	16295.64
GG-Mariner	GG-Mariner	Slot #49	Gallery	2069.42	16295.64	16295.64	1907.82	16295.64	12.81	16295.64

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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Prepared by Peterson Energy
Date Printed: 20-May-2013



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: CS-Kinkade #4-1-12 (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]
r #3-13-12	#3-13-12 (PWB)		Green							
MT-Glenfair #2-8-7	MT-Glenfair #2-8-7 (PWB)	Slot #11	Midtown	2160.08	16295.64	16295.64	2056.17	16295.64	20.79	16295.64
GG-Centennial #1-13-12	GG-Centennial #1-13-12 (PWB)	Slot #50	Gallery Green	2394.86	16295.64	16295.64	2232.62	16295.64	14.76	16295.64
MT-Glenfair #3-8-7	MT-Glenfair #3-8-7 (PWB)	Slot #12	Midtown	2446.56	16295.64	16295.64	2342.07	16295.64	23.41	16295.64
GG-Centennial #2-13-12	GG-Centennial #2-13-12 (PWB)	Slot #51	Gallery Green	2722.49	16295.64	16295.64	2559.87	16295.64	16.74	16295.64
MT-Glenfair #4-8-7	MT-Glenfair #4-8-7 (PWB)	Slot #13	Midtown	2752.48	16295.64	16295.64	2648.00	16295.64	26.34	16295.64
GG-Centennial #3-13-12	GG-Centennial #3-13-12 (PWB)	Slot #52	Gallery Green	3049.63	16295.64	16295.64	2886.69	16295.64	18.72	16295.64
MT-Glenfair #5-8-7	MT-Glenfair #5-8-7 (PWB)	Slot #14	Midtown	3073.97	16295.64	16295.64	2969.99	16295.64	29.56	16295.64
Franklin Park 2-6-1	Franklin Park 2-6-1 (AWB)	Franklin Park 2-6-1	Bestway Pad Offsets	3082.05	12648.86	12648.86	2983.06	12616.00	30.36	12089.49
Poudre Trail 5 2-2-1	Poudre Trail 5 2-2-1 (AWB)	Poudre Trail 5 2-2-1	Bestway Pad Offsets	3252.43	9703.21	9703.21	3194.04	9760.09	44.35	11400.51
GG-Centennial #4-13-12	GG-Centennial #4-13-12 (PWB)	Slot #53	Gallery Green	3378.20	16295.64	16295.64	3215.05	16295.64	20.71	16295.64
MT-Glenmere #1-8-7	MT-Glenmere #1-8-7 (PWB)	Slot #15	Midtown	3404.85	16295.64	16295.64	3301.36	16295.64	32.90	16295.64
GG-Centennial #5-13-12	GG-Centennial #5-13-12 (PWB)	Slot #54	Gallery Green	3706.19	16295.64	16295.64	3542.86	16295.64	22.69	16295.64
MT-Glenmere #2-8-7	MT-Glenmere #2-8-7 (PWB)	Slot #16	Midtown	3744.21	16295.64	16295.64	3641.32	16295.64	36.39	16295.64
GG-Rangeview #1-13-12	GG-Rangeview #1-13-12 (PWB)	Slot #55	Gallery Green	4035.25	16295.64	16295.64	3871.76	16295.64	24.68	16295.64
MT-Glenmere #3-17-18	MT-Glenmere #3-17-18 (PWB)	Slot #17	Midtown	4049.44	16295.64	16295.64	3946.90	16295.64	39.49	16295.64
LUNDVALL #5	LUNDVALL #5 (AWB)	LUNDVALL #5	Bestway Pad Offsets	4224.63	869.02	9185.95	4215.32	885.42	113.21	11876.24
Bestway 12-2	Bestway 12-2 (AWB)	Bestway 12-2	Bestway Pad Offsets	4314.05	9842.12	9842.12	4264.99	9891.33	70.07	12007.47
4H 5-7-31	4H 5-7-31 (AWB)	4H 5-7-31	Island Grove Offsets	4316.44	8152.48	8152.48	4264.28	8103.27	66.65	6905.76
MT-LDS #1-17-18	MT-LDS #1-17-18 (PWB)	Slot #18	Midtown	4358.95	16295.64	16295.64	4256.89	16295.64	42.71	16295.64
MT-LDS #2-17-18	MT-LDS #2-17-18 (PWB)	Slot #19	Midtown	4670.62	16295.64	16295.64	4568.82	16295.64	45.88	16295.64
Stoney	Stoney 7-1-2	Stoney	Bestway Pad	4929.96	3920.34	9038.31	4893.18	3969.41	80.98	11154.45

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 4681.5ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 173.450 degrees
Prepared by Peterson Energy
Date Printed: 20-May-2013