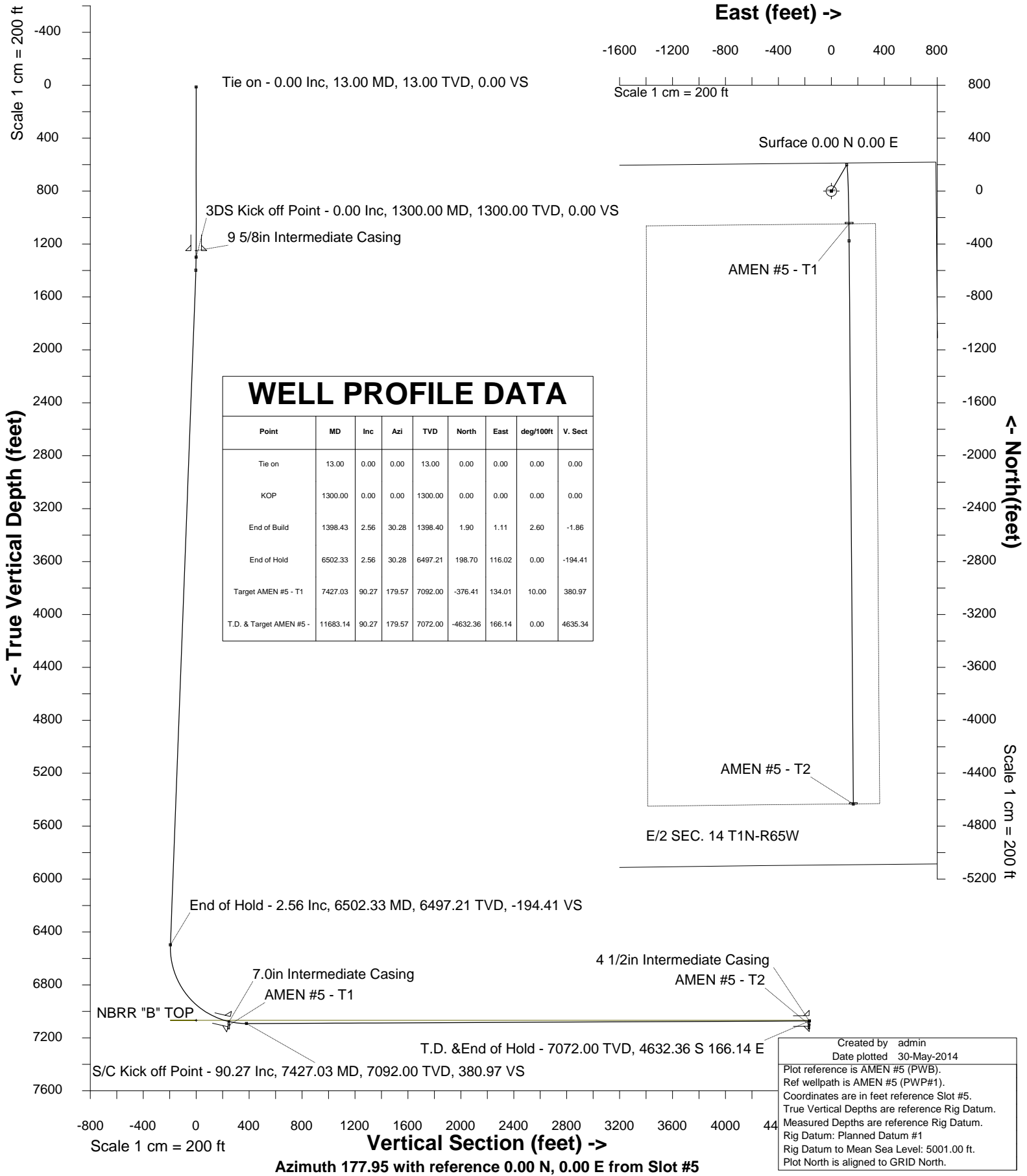


VERDAD OIL & GAS CORP			
Location	WELD COUNTY, CO	Slot	Slot #5
Field	Wattenburg	Well	AMEN #5
Installation	AMEN PAD	Wellbore	AMEN #5 (PWB)

Slot	Slot #5
Well	AMEN #5
Wellbore	AMEN #5 (PWB)



	Created by admin
	Date plotted 30-May-2014
	Plot reference is AMEN #5 (PWB).
	Ref wellpath is AMEN #5 (PWP#1).
	Coordinates are in feet reference Slot 5.
	True Vertical Depths are reference Rig Datum.
4	Measured Depths are reference Rig Datum.
	Rig Datum: Planned Datum #1
	Rig Datum to Mean Sea Level: 5001.00 ft.
	Plot North is aligned to GRID North.

INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL

Well Design Combined Report  
Wellbore: AMEN #5 (PWB)



Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #5	1265243.1666	3245094.9006	40.05816000	-104.62438000	31525.54N	88773.72E	-1.00

Declination			
Date	Source	Time	
14-May-2014	IGRF Model [1900.0-2015.0]		10:32

Site Details				
Name	Northing	Easting	Coord System Name	North Alignment
AMEN PAD	1233718.6881	3156324.1575	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
13.00	0.00	0.000	13.00	0.00N	0.00E		0.00	1265243.17	3245094.90
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1398.43	2.56	30.280	1398.40	1.90N	1.11E	2.60	-1.86	1265245.06	3245096.01
6502.33	2.56	30.280	6497.21	198.70N	116.02E	==>	-194.41	1265441.86	3245210.92
7427.03	90.27	179.570	7092.00	376.41S	134.01E	10.00	380.97	1264866.77	3245228.90
11683.14	90.27	179.570	7072.00	4632.36S	166.14E	==>	4635.34	1260610.99	3245261.03

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	1265243.17	3245094.90
13.00	0.00	0.000	13.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1287.00	0.00	0.000	1287.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	1265243.17	3245094.90
1387.00	2.26	30.280	1386.98	1.48N	0.87E	2.60	-1.45	1265244.65	3245095.77
1398.43	2.56	30.280	1398.40	1.90N	1.11E	2.60	-1.86	1265245.06	3245096.01
1400.00	2.56	30.280	1399.97	1.96N	1.14E	==>	-1.92	1265245.13	3245096.04
1500.00	2.56	30.280	1499.87	5.81N	3.40E	==>	-5.69	1265248.98	3245098.30
1600.00	2.56	30.280	1599.77	9.67N	5.65E	==>	-9.46	1265252.84	3245100.55
1700.00	2.56	30.280	1699.67	13.53N	7.90E	==>	-13.23	1265256.69	3245102.80
1800.00	2.56	30.280	1799.57	17.38N	10.15E	==>	-17.01	1265260.55	3245105.05
1900.00	2.56	30.280	1899.47	21.24N	12.40E	==>	-20.78	1265264.40	3245107.30
2000.00	2.56	30.280	1999.37	25.09N	14.65E	==>	-24.55	1265268.26	3245109.55
2100.00	2.56	30.280	2099.27	28.95N	16.90E	==>	-28.33	1265272.12	3245111.80
2200.00	2.56	30.280	2199.17	32.81N	19.16E	==>	-32.10	1265275.97	3245114.06
2300.00	2.56	30.280	2299.07	36.66N	21.41E	==>	-35.87	1265279.83	3245116.31
2400.00	2.56	30.280	2398.97	40.52N	23.66E	==>	-39.64	1265283.68	3245118.56
2500.00	2.56	30.280	2498.87	44.37N	25.91E	==>	-43.42	1265287.54	3245120.81
2600.00	2.56	30.280	2598.77	48.23N	28.16E	==>	-47.19	1265291.39	3245123.06
2700.00	2.56	30.280	2698.67	52.09N	30.41E	==>	-50.96	1265295.25	3245125.31
2800.00	2.56	30.280	2798.57	55.94N	32.66E	==>	-54.73	1265299.11	3245127.56
2900.00	2.56	30.280	2898.47	59.80N	34.92E	==>	-58.51	1265302.96	3245129.81
3000.00	2.56	30.280	2998.37	63.65N	37.17E	==>	-62.28	1265306.82	3245132.07
3100.00	2.56	30.280	3098.27	67.51N	39.42E	==>	-66.05	1265310.67	3245134.32
3200.00	2.56	30.280	3198.17	71.37N	41.67E	==>	-69.83	1265314.53	3245136.57

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 5001.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 177.950 degrees  
Bottom hole distance is 4635.34 Feet on azimuth 177.95 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 30-May-2014

INTEGRATED PETROLEUM TECHNOLOGIES, INC

SYSDRILL

Well Design Combined Report

Wellbore: AMEN #5 (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
3300.00	2.56	30.280	3298.07	75.22N	43.92E	==>	-73.60	1265318.38	3245138.82
3400.00	2.56	30.280	3397.97	79.08N	46.17E	==>	-77.37	1265322.24	3245141.07
3500.00	2.56	30.280	3497.87	82.93N	48.42E	==>	-81.14	1265326.10	3245143.32
3600.00	2.56	30.280	3597.77	86.79N	50.68E	==>	-84.92	1265329.95	3245145.57
3700.00	2.56	30.280	3697.67	90.64N	52.93E	==>	-88.69	1265333.81	3245147.83
3800.00	2.56	30.280	3797.57	94.50N	55.18E	==>	-92.46	1265337.66	3245150.08
3900.00	2.56	30.280	3897.47	98.36N	57.43E	==>	-96.24	1265341.52	3245152.33
4000.00	2.56	30.280	3997.37	102.21N	59.68E	==>	-100.01	1265345.38	3245154.58
4100.00	2.56	30.280	4097.27	106.07N	61.93E	==>	-103.78	1265349.23	3245156.83
4200.00	2.56	30.280	4197.17	109.92N	64.18E	==>	-107.55	1265353.09	3245159.08
4300.00	2.56	30.280	4297.07	113.78N	66.44E	==>	-111.33	1265356.94	3245161.33
4400.00	2.56	30.280	4396.97	117.64N	68.69E	==>	-115.10	1265360.80	3245163.59
4500.00	2.56	30.280	4496.87	121.49N	70.94E	==>	-118.87	1265364.65	3245165.84
4600.00	2.56	30.280	4596.77	125.35N	73.19E	==>	-122.64	1265368.51	3245168.09
4700.00	2.56	30.280	4696.67	129.20N	75.44E	==>	-126.42	1265372.37	3245170.34
4800.00	2.56	30.280	4796.57	133.06N	77.69E	==>	-130.19	1265376.22	3245172.59
4900.00	2.56	30.280	4896.47	136.92N	79.95E	==>	-133.96	1265380.08	3245174.84
5000.00	2.56	30.280	4996.38	140.77N	82.20E	==>	-137.74	1265383.93	3245177.09
5100.00	2.56	30.280	5096.28	144.63N	84.45E	==>	-141.51	1265387.79	3245179.35
5200.00	2.56	30.280	5196.18	148.48N	86.70E	==>	-145.28	1265391.64	3245181.60
5300.00	2.56	30.280	5296.08	152.34N	88.95E	==>	-149.05	1265395.50	3245183.85
5400.00	2.56	30.280	5395.98	156.20N	91.20E	==>	-152.83	1265399.36	3245186.10
5500.00	2.56	30.280	5495.88	160.05N	93.45E	==>	-156.60	1265403.21	3245188.35
5600.00	2.56	30.280	5595.78	163.91N	95.71E	==>	-160.37	1265407.07	3245190.60
5700.00	2.56	30.280	5695.68	167.76N	97.96E	==>	-164.14	1265410.92	3245192.85
5800.00	2.56	30.280	5795.58	171.62N	100.21E	==>	-167.92	1265414.78	3245195.11
5900.00	2.56	30.280	5895.48	175.48N	102.46E	==>	-171.69	1265418.64	3245197.36
6000.00	2.56	30.280	5995.38	179.33N	104.71E	==>	-175.46	1265422.49	3245199.61
6100.00	2.56	30.280	6095.28	183.19N	106.96E	==>	-179.24	1265426.35	3245201.86
6200.00	2.56	30.280	6195.18	187.04N	109.21E	==>	-183.01	1265430.20	3245204.11
6300.00	2.56	30.280	6295.08	190.90N	111.47E	==>	-186.78	1265434.06	3245206.36
6400.00	2.56	30.280	6394.98	194.76N	113.72E	==>	-190.55	1265437.91	3245208.61
6500.00	2.56	30.280	6494.88	198.61N	115.97E	==>	-194.33	1265441.77	3245210.86
6502.33	2.56	30.280	6497.21	198.70N	116.02E	==>	-194.41	1265441.86	3245210.92
6600.00	7.68	169.810	6594.63	194.15N	118.28E	10.00	-189.79	1265437.31	3245213.18
6700.00	17.61	175.440	6692.08	172.44N	120.67E	10.00	-168.00	1265415.60	3245215.57
6800.00	27.60	177.060	6784.28	134.13N	123.07E	10.00	-129.63	1265377.29	3245217.97
6900.00	37.59	177.860	6868.43	80.38N	125.40E	10.00	-75.84	1265323.55	3245220.30
7000.00	47.58	178.370	6941.97	12.84N	127.60E	10.00	-8.26	1265256.01	3245222.50
7100.00	57.58	178.730	7002.66	66.45S	129.59E	10.00	71.05	1265176.72	3245224.49
7200.00	67.57	179.020	7048.66	155.08S	131.32E	10.00	159.69	1265088.09	3245226.22
7300.00	77.57	179.270	7078.57	250.36S	132.73E	10.00	254.96	1264992.82	3245227.63
7400.00	87.57	179.510	7091.49	349.39S	133.79E	10.00	353.96	1264893.79	3245228.68
7427.03	90.27	179.570	7092.00	376.41S	134.01E	10.00	380.97	1264866.77	3245228.90
7500.00	90.27	179.570	7091.66	449.38S	134.56E	==>	453.91	1264793.81	3245229.45
7600.00	90.27	179.570	7091.19	549.37S	135.31E	==>	553.87	1264693.81	3245230.21
7700.00	90.27	179.570	7090.72	649.37S	136.07E	==>	653.83	1264593.82	3245230.96
7800.00	90.27	179.570	7090.25	749.37S	136.82E	==>	753.79	1264493.83	3245231.72
7900.00	90.27	179.570	7089.78	849.36S	137.58E	==>	853.75	1264393.84	3245232.47
8000.00	90.27	179.570	7089.31	949.36S	138.33E	==>	953.71	1264293.85	3245233.23
8100.00	90.27	179.570	7088.84	1049.35S	139.09E	==>	1053.67	1264193.85	3245233.98
8200.00	90.27	179.570	7088.37	1149.35S	139.84E	==>	1153.62	1264093.86	3245234.74
8300.00	90.27	179.570	7087.90	1249.35S	140.60E	==>	1253.58	1263993.87	3245235.49
8400.00	90.27	179.570	7087.43	1349.34S	141.35E	==>	1353.54	1263893.88	3245236.25
8500.00	90.27	179.570	7086.96	1449.34S	142.11E	==>	1453.50	1263793.88	3245237.00
8600.00	90.27	179.570	7086.49	1549.34S	142.86E	==>	1553.46	1263693.89	3245237.76
8700.00	90.27	179.570	7086.02	1649.33S	143.62E	==>	1653.42	1263593.90	3245238.51
8800.00	90.27	179.570	7085.55	1749.33S	144.37E	==>	1753.38	1263493.91	3245239.27
8900.00	90.27	179.570	7085.08	1849.32S	145.13E	==>	1853.34	1263393.92	3245240.02
9000.00	90.27	179.570	7084.61	1949.32S	145.88E	==>	1953.30	1263293.92	3245240.78

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 5001.0ft above Mean Sea Level )

Vertical Section is from 0.00N 0.00E on azimuth 177.950 degrees

Bottom hole distance is 4635.34 Feet on azimuth 177.95 degrees from Wellhead

Calculation method uses Minimum Curvature method

Prepared by Integrated Petroleum Technologies, Inc.

Date Printed: 30-May-2014

INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL  
Well Design Combined Report  
Wellbore: AMEN #5 (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
9100.00	90.27	179.570	7084.14	2049.32S	146.64E	==>	2053.25	1263193.93	3245241.53
9200.00	90.27	179.570	7083.67	2149.31S	147.39E	==>	2153.21	1263093.94	3245242.29
9300.00	90.27	179.570	7083.20	2249.31S	148.15E	==>	2253.17	1262993.95	3245243.04
9400.00	90.27	179.570	7082.73	2349.30S	148.90E	==>	2353.13	1262893.96	3245243.80
9500.00	90.27	179.570	7082.26	2449.30S	149.66E	==>	2453.09	1262793.96	3245244.55
9600.00	90.27	179.570	7081.79	2549.30S	150.41E	==>	2553.05	1262693.97	3245245.31
9700.00	90.27	179.570	7081.32	2649.29S	151.17E	==>	2653.01	1262593.98	3245246.06
9800.00	90.27	179.570	7080.85	2749.29S	151.92E	==>	2752.97	1262493.99	3245246.82
9900.00	90.27	179.570	7080.38	2849.28S	152.68E	==>	2852.93	1262394.00	3245247.57
10000.00	90.27	179.570	7079.91	2949.28S	153.43E	==>	2952.88	1262294.00	3245248.33
10100.00	90.27	179.570	7079.44	3049.28S	154.19E	==>	3052.84	1262194.01	3245249.08
10200.00	90.27	179.570	7078.97	3149.27S	154.94E	==>	3152.80	1262094.02	3245249.84
10300.00	90.27	179.570	7078.50	3249.27S	155.70E	==>	3252.76	1261994.03	3245250.59
10400.00	90.27	179.570	7078.03	3349.26S	156.45E	==>	3352.72	1261894.04	3245251.35
10500.00	90.27	179.570	7077.56	3449.26S	157.21E	==>	3452.68	1261794.04	3245252.10
10600.00	90.27	179.570	7077.09	3549.26S	157.96E	==>	3552.64	1261694.05	3245252.86
10700.00	90.27	179.570	7076.62	3649.25S	158.72E	==>	3652.60	1261594.06	3245253.61
10800.00	90.27	179.570	7076.15	3749.25S	159.47E	==>	3752.55	1261494.07	3245254.37
10900.00	90.27	179.570	7075.68	3849.24S	160.23E	==>	3852.51	1261394.07	3245255.12
11000.00	90.27	179.570	7075.21	3949.24S	160.98E	==>	3952.47	1261294.08	3245255.88
11100.00	90.27	179.570	7074.74	4049.24S	161.74E	==>	4052.43	1261194.09	3245256.63
11200.00	90.27	179.570	7074.27	4149.23S	162.49E	==>	4152.39	1261094.10	3245257.39
11300.00	90.27	179.570	7073.80	4249.23S	163.25E	==>	4252.35	1260994.11	3245258.14
11400.00	90.27	179.570	7073.33	4349.22S	164.00E	==>	4352.31	1260894.11	3245258.90
11500.00	90.27	179.570	7072.86	4449.22S	164.76E	==>	4452.27	1260794.12	3245259.65
11600.00	90.27	179.570	7072.39	4549.22S	165.51E	==>	4552.23	1260694.13	3245260.41
11683.14	90.27	179.570	7072.00	4632.36S	166.14E	==>	4635.34	1260610.99	3245261.03

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 5001.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 177.950 degrees  
Bottom hole distance is 4635.34 Feet on azimuth 177.95 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 30-May-2014

INTEGRATED PETROLEUM TECHNOLOGIES, INC  
SYSDRILL  
Well Design Combined Report  
Wellbore: AMEN #5 (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	13.00	13.00	0.00N	0.00E	1250.00	1250.00	0.00N	0.00E
8 3/4	1250.00	1250.00	0.00N	0.00E	7294.00	7077.25	244.51S	132.66E
6 1/8	7294.00	7077.25	244.51S	132.66E	11680.32	7072.01	4629.54S	166.12E

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 Intermediate Casing	13.00	13.00	0.00N	0.00E	1250.00	1250.00	0.00N	0.00E
7.0in Intermediate Casing	13.00	13.00	0.00N	0.00E	7294.00	7077.25	244.51S	132.66E
4 1/2in Intermediate Casing	7094.00	6999.41	61.41S	129.48E	11680.32	7072.01	4629.54S	166.12E

Targets								
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
AMEN #5 - T1	246.41S	134.01E	7102.00	40.05748000	-104.62391000	1264996.77	3245228.90	14-May-2014
AMEN #5 - T2	4632.36S	166.14E	7102.00	40.04544000	-104.62395000	1260610.99	3245261.03	14-May-2014

Formations						
Formation Name	MD[ft]	TVD[ft]	Dip Angle[deg]	Dip Azimuth[deg]	Incidence Angle[deg]	Remarks
NBRR "B" TOP	7254.42	7067.00	0.00	0.00	16.99	

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
192624	Planned	11683.14	7072.00	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 5001.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 177.950 degrees  
Bottom hole distance is 4635.34 Feet on azimuth 177.95 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Integrated Petroleum Technologies, Inc.  
Date Printed: 30-May-2014

SYSDRILL  
Closest Approach + Clearance Factor Summary Report  
Wellbore: AMEN #5 (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  
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
AMEN #5 (PWB)	14-May-2014	30-May-2014

Well		
Name	Government ID	Last Revised
AMEN #5		14-May-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #5	1265243.1666	3245094.9006	40.05816000	-104.62438000	31525.54N	88773.72E

Installation				
Name	Easting	Northing	Coord System Name	North Alignment
AMEN PAD	3156324.1575	1233718.6881	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field				
Name	Easting	Northing	Coord System Name	North Alignment
Wattenburg	3156324.1603	1233718.6881	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary								
Offset Wellbore	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
AMEN #4 (PWB)	AMEN PAD	14.00	1249.00	1249.00	11.04	1249.00	3.94	11676.39
AMEN #3 (PWB)	AMEN PAD	30.79	1194.10	1194.10	27.93	1194.10	7.87	11676.39
AMEN #2 (PWB)	AMEN PAD	44.79	1149.00	1149.00	41.99	1149.00	11.80	11676.39
AMEN #1 (PWB)	AMEN PAD	58.78	1099.00	1099.00	56.07	1099.00	15.72	11676.39
WUERTZ #12-3 (AWB)	Amen Pad Offsets	1934.26	6541.87	6541.87	1905.89	6541.87	67.72	6705.91
STEINWALD #37 (AWB)	Amen Pad Offsets	3381.29	10794.62	10794.62	3322.96	10823.37	54.32	11676.39