



Edge Energy, LLC
SYSDRILL
Well Design Combined Report
Wellbore: Long 22-15-6NCH ST

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Long 22-15-6NCH	1259813.4074	3237718.4574	40.04345200	-104.65091700	36.91N	25.83W	-0.00

Declination			
Date	Source	Time	
	9-Jan-2015		09:02

Installation Details				
Name	Northing	Easting	Coord System Name	North Alignment
Long Pad	1259776.4969	3237744.2898	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
11848.52	90.34	359.270	7237.00	5109.81N	157.39E		5112.24	1264923.02	3237875.84

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	Rig Datum Slot Datum
25.00	0.00	0.000	25.00	0.00N	0.00E	==>	0.00	
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	
1300.00	1.50	36.110	1299.99	0.79N	0.58E	2.00	0.81	
1400.00	3.50	36.110	1399.89	4.32N	3.15E	2.00	4.41	
1500.00	3.96	36.110	1499.66	9.83N	7.17E	==>	10.04	
1600.00	3.96	36.110	1599.42	15.41N	11.24E	==>	15.75	
1700.00	3.96	36.110	1699.18	21.00N	15.32E	==>	21.46	
1800.00	3.96	36.110	1798.94	26.58N	19.39E	==>	27.17	
1900.00	3.96	36.110	1898.70	32.17N	23.47E	==>	32.87	
2000.00	3.96	36.110	1998.46	37.75N	27.54E	==>	38.58	
2100.00	3.96	36.110	2098.22	43.34N	31.62E	==>	44.29	
2200.00	3.96	36.110	2197.98	48.92N	35.69E	==>	50.00	
2300.00	3.96	36.110	2297.74	54.51N	39.77E	==>	55.71	
2400.00	3.96	36.110	2397.50	60.09N	43.84E	==>	61.42	
2500.00	3.96	36.110	2497.27	65.68N	47.92E	==>	67.12	
2600.00	3.96	36.110	2597.03	71.27N	51.99E	==>	72.83	
2700.00	3.96	36.110	2696.79	76.85N	56.06E	==>	78.54	
2800.00	3.96	36.110	2796.55	82.44N	60.14E	==>	84.25	
2900.00	3.96	36.110	2896.31	88.02N	64.21E	==>	89.96	
3000.00	3.96	36.110	2996.07	93.61N	68.29E	==>	95.66	
3100.00	3.96	36.110	3095.83	99.19N	72.36E	==>	101.37	
3200.00	3.96	36.110	3195.59	104.78N	76.44E	==>	107.08	
3300.00	3.96	36.110	3295.35	110.36N	80.51E	==>	112.79	
3400.00	3.96	36.110	3395.11	115.95N	84.59E	==>	118.50	
3500.00	3.96	36.110	3494.87	121.53N	88.66E	==>	124.21	
3600.00	3.96	36.110	3594.63	127.12N	92.74E	==>	129.91	
3700.00	3.96	36.110	3694.39	132.70N	96.81E	==>	135.62	
3800.00	3.96	36.110	3794.15	138.29N	100.89E	==>	141.33	
3900.00	3.96	36.110	3893.92	143.88N	104.96E	==>	147.04	
4000.00	3.96	36.110	3993.68	149.46N	109.04E	==>	152.75	

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 5077.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 1.760 degrees
Bottom hole distance is 5112.24 Feet on azimuth 1.76 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 2-Apr-2015



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
4100.00	3.96	36.110	4093.44	155.05N	113.11E	==>	158.45	
4200.00	3.96	36.110	4193.20	160.63N	117.19E	==>	164.16	
4300.00	3.96	36.110	4292.96	166.22N	121.26E	==>	169.87	
4400.00	3.96	36.110	4392.72	171.80N	125.33E	==>	175.58	
4500.00	3.96	36.110	4492.48	177.39N	129.41E	==>	181.29	
4600.00	3.96	36.110	4592.24	182.97N	133.48E	==>	187.00	
4700.00	3.96	36.110	4692.00	188.56N	137.56E	==>	192.70	
4800.00	3.96	36.110	4791.76	194.14N	141.63E	==>	198.41	
4900.00	3.96	36.110	4891.52	199.73N	145.71E	==>	204.12	
5000.00	3.96	36.110	4991.28	205.31N	149.78E	==>	209.83	
5100.00	3.96	36.110	5091.04	210.90N	153.86E	==>	215.54	
5200.00	3.96	36.110	5190.80	216.48N	157.93E	==>	221.24	
5300.00	3.96	36.110	5290.57	222.07N	162.01E	==>	226.95	
5400.00	3.96	36.110	5390.33	227.66N	166.08E	==>	232.66	
5500.00	3.96	36.110	5490.09	233.24N	170.16E	==>	238.37	
5600.00	3.96	36.110	5589.85	238.83N	174.23E	==>	244.08	
5700.00	3.96	36.110	5689.61	244.41N	178.31E	==>	249.79	
5800.00	3.96	36.110	5789.37	250.00N	182.38E	==>	255.49	
5900.00	3.96	36.110	5889.13	255.58N	186.46E	==>	261.20	
6000.00	3.96	36.110	5988.89	261.17N	190.53E	==>	266.91	
6100.00	3.96	36.110	6088.65	266.75N	194.60E	==>	272.62	
6200.00	3.96	36.110	6188.41	272.34N	198.68E	==>	278.33	
6300.00	3.96	36.110	6288.17	277.92N	202.75E	==>	284.03	
6400.00	3.96	36.110	6387.93	283.51N	206.83E	==>	289.74	
6500.00	2.25	36.110	6487.77	288.05N	210.14E	2.00	294.39	
6600.00	0.25	36.110	6587.74	289.81N	211.43E	2.00	296.18	
6612.26	0.00	36.110	6600.00	289.83N	211.44E	2.00	296.20	Sidetrack Tie
6712.26	1.26	29.560	6699.99	290.18N	212.51E	10.00	296.59	
6812.26	11.11	2.520	6799.30	300.79N	213.48E	10.00	307.22	
6912.26	21.10	0.920	6895.25	328.49N	214.20E	10.00	334.92	
7012.26	31.10	0.330	6984.94	372.42N	214.64E	10.00	378.85	
7112.26	41.09	0.000	7065.64	431.26N	214.79E	10.00	437.66	
7212.26	51.09	359.790	7134.90	503.21N	214.65E	10.00	509.58	
7312.26	61.09	359.630	7190.62	586.10N	214.22E	10.00	592.42	
7412.26	71.09	359.490	7231.09	677.40N	213.51E	10.00	683.65	
7512.26	81.09	359.370	7255.10	774.34N	212.55E	10.00	780.52	
7612.26	90.34	359.270	7261.96	873.98N	211.36E	==>	880.07	
7712.26	90.34	359.270	7261.37	973.97N	210.09E	==>	979.97	
7812.26	90.34	359.270	7260.78	1073.96N	208.81E	==>	1079.88	
7912.26	90.34	359.270	7260.19	1173.95N	207.54E	==>	1179.78	
8012.26	90.34	359.270	7259.60	1273.94N	206.26E	==>	1279.68	
8112.26	90.34	359.270	7259.01	1373.93N	204.99E	==>	1379.59	
8212.26	90.34	359.270	7258.42	1473.92N	203.72E	==>	1479.49	
8312.26	90.34	359.270	7257.83	1573.91N	202.44E	==>	1579.39	
8412.26	90.34	359.270	7257.24	1673.90N	201.17E	==>	1679.30	
8512.26	90.34	359.270	7256.65	1773.89N	199.89E	==>	1779.20	
8612.26	90.34	359.270	7256.06	1873.88N	198.62E	==>	1879.10	
8712.26	90.34	359.270	7255.48	1973.87N	197.35E	==>	1979.01	
8812.26	90.34	359.270	7254.89	2073.86N	196.07E	==>	2078.91	
8912.26	90.34	359.270	7254.30	2173.85N	194.80E	==>	2178.81	
9012.26	90.34	359.270	7253.71	2273.84N	193.52E	==>	2278.72	
9112.26	90.34	359.270	7253.12	2373.83N	192.25E	==>	2378.62	
9212.26	90.34	359.270	7252.53	2473.82N	190.97E	==>	2478.53	
9312.26	90.34	359.270	7251.94	2573.81N	189.70E	==>	2578.43	
9412.26	90.34	359.270	7251.35	2673.80N	188.43E	==>	2678.33	
9512.26	90.34	359.270	7250.76	2773.79N	187.15E	==>	2778.24	
9612.26	90.34	359.270	7250.17	2873.78N	185.88E	==>	2878.14	
9712.26	90.34	359.270	7249.58	2973.77N	184.60E	==>	2978.04	
9812.26	90.34	359.270	7249.00	3073.76N	183.33E	==>	3077.95	
9912.26	90.34	359.270	7248.41	3173.75N	182.06E	==>	3177.85	

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Vertical Section is from 0.00N 0.00E on azimuth 1.760 degrees
Bottom hole distance is 5112.24 Feet on azimuth 1.76 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 2-Apr-2015



Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
10012.26	90.34	359.270	7247.82	3273.74N	180.78E	==>	3277.75	
10112.26	90.34	359.270	7247.23	3373.73N	179.51E	==>	3377.66	
10212.26	90.34	359.270	7246.64	3473.72N	178.23E	==>	3477.56	
10312.26	90.34	359.270	7246.05	3573.71N	176.96E	==>	3577.46	
10412.26	90.34	359.270	7245.46	3673.70N	175.69E	==>	3677.37	
10512.26	90.34	359.270	7244.87	3773.69N	174.41E	==>	3777.27	
10612.26	90.34	359.270	7244.28	3873.68N	173.14E	==>	3877.17	
10712.26	90.34	359.270	7243.69	3973.67N	171.86E	==>	3977.08	
10812.26	90.34	359.270	7243.10	4073.66N	170.59E	==>	4076.98	
10912.26	90.34	359.270	7242.52	4173.65N	169.32E	==>	4176.89	
11012.26	90.34	359.270	7241.93	4273.64N	168.04E	==>	4276.79	
11112.26	90.34	359.270	7241.34	4373.63N	166.77E	==>	4376.69	
11212.26	90.34	359.270	7240.75	4473.62N	165.49E	==>	4476.60	
11312.26	90.34	359.270	7240.16	4573.61N	164.22E	==>	4576.50	
11412.26	90.34	359.270	7239.57	4673.60N	162.95E	==>	4676.40	
11512.26	90.34	359.270	7238.98	4773.59N	161.67E	==>	4776.31	
11612.26	90.34	359.270	7238.39	4873.58N	160.40E	==>	4876.21	
11712.26	90.34	359.270	7237.80	4973.57N	159.12E	==>	4976.11	
11812.26	90.34	359.270	7237.21	5073.56N	157.85E	==>	5076.02	
11848.52	90.34	359.270	7237.00	5109.81N	157.39E	==>	5112.24	



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	25.00	25.00	0.00N	0.00E	1200.00	1200.00	0.00N	0.00E
8 3/4	1200.00	1200.00	0.00N	0.00E	6612.26	6600.00	289.83N	211.44E
8 3/4	6612.26	6600.00	289.83N	211.44E	7466.00	7246.10	728.98N	213.02E
6 1/8	7466.00	7246.10	728.98N	213.02E	11848.00	7237.00	5109.30N	157.39E

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	25.00	25.00	0.00N	0.00E	1200.00	1200.00	0.00N	0.00E
7.0in Intermediate Casing	25.00	25.00	0.00N	0.00E	7466.00	7246.10	728.98N	213.02E
4 1/2in Production Liner	6704.00	6691.73	290.08N	212.42E	11848.00	7237.00	5109.30N	157.39E

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
Long 22-15-6NCH - T1	724.45N	211.46E	7262.00	40.04543500	-104.65013700	1260537.82	3237929.90	19-Mar-2015
Long 22-15-6NCH - T2	5109.81N	157.39E	7237.00	40.05747400	-104.65018000	1264923.02	3237875.84	19-Mar-2015

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
364975	Planned	6612.26	6600.00	WdW Rate Gyro	Standard
362591	Planned	11848.52	7237.00	WdW Rate Gyro	Standard

Notes

SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Long 22-15-6NCH ST



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
Long 22-15-6NCH ST	19-Mar-2015	2-Apr-2015

Well		
Name	Government ID	Last Revised
Long 22-15-6NCH		19-Mar-2015

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Long 22-15-6NCH	1259813.4074	3237718.4574	40.04345200	-104.65091700	36.91N	25.83W

Installation				
Name	Easting	Northing	Coord System Name	North Alignment
Long Pad	3237744.2898	1259776.4969	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field				
Name	Easting	Northing	Coord System Name	North Alignment
Wattenberg	3224403.5855	1243770.7568	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
Long 22-15-6NCH	0.00	6612.26	6612.26	-0.04	6652.30	0.92	6652.30
Long 22-15-2NBH	367.06	6612.26	6612.26	354.71	6612.26	29.54	6849.15
Long 22-15-2NBH	367.07	6612.26	11848.52	297.72	11836.02	4.50	11836.02
Long 22-15-12NBH	372.53	7162.27	7162.27	298.81	11836.02	4.42	11836.02
Long 22-15-1CH	513.55	6612.26	6612.26	501.09	6612.26	40.69	6963.98
Long 22-15-1CH	513.55	6612.26	6612.26	464.77	11836.02	6.58	11836.02
Long 22-15-13CH	521.15	6612.26	7603.74	463.53	11836.02	6.38	11836.02
Long 22-15-14NCH	708.45	6612.26	7505.31	664.98	11836.02	8.45	11836.02
Long 22-15-8NCH	745.33	6612.26	11848.52	665.05	11836.02	8.48	11836.02
Ottesen #3L-3H-L165	942.46	11848.52	11848.52	920.28	11848.52	42.41	11836.02
Ottesen #3K-3H-L165	1012.92	11848.52	11848.52	975.42	11848.52	27.01	11848.52
Long 22-15-15NBH	1018.87	6612.26	6612.26	1005.64	6612.26	12.70	11836.02
Long 22-15-7NBH	1060.01	6612.26	11848.52	1045.01	11836.02	12.75	11836.02
Drake #01N-65W-22-1C	1066.57	7095.21	7095.21	1033.15	7095.21	31.89	7078.81
Drake #01N-65W-22-2N	1107.40	7029.59	7029.59	1068.67	7029.59	28.59	7013.19
Ottesen #3J-3H-L165	1113.94	11848.52	11848.52	1058.77	11848.52	20.19	11848.52
Drake #01N-65W-22-3N	1240.62	7029.59	7029.59	1199.35	7029.59	30.06	7029.59
Ottesen #3I-3H-L165	1260.49	11848.52	11848.52	1192.29	11848.52	18.48	11848.52
Long 22-15-16NCH	1299.79	6612.26	7538.12	1286.38	6612.26	16.82	11836.02
Long 22-15-17CH	1322.61	6612.26	7603.74	1309.16	6612.26	17.82	11836.02
Long 22-15 11NCH	1354.66	6612.26	11848.52	1342.25	6612.26	16.94	11836.02

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Closest Approach + Clearance Factor Summary Report
Wellbore: Long 22-15-6NCH ST



Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
LONG 22-15-5CH	1378.76	6612.26	11848.52	1366.27	6612.26	17.86	11836.02
Drake #01N-65W-22-4N	1381.25	7029.59	7029.59	1338.06	7029.59	31.99	7029.59
Ottesen #3H-3H-L165	1442.85	11848.52	11848.52	1364.28	11848.52	18.36	11848.52
Long 22-15-18NBH	1592.42	6612.26	6612.26	1578.69	6612.26	20.95	11836.02
Ottesen #3G-3H-L165	1625.68	11848.52	11848.52	1539.65	11848.52	18.90	11848.52
LONG 22-15-4NBH	1653.04	6612.26	11848.52	1640.28	6612.26	21.07	11836.02
Ottesen #3F-3H-L165	1802.03	11848.52	11848.52	1711.74	11848.52	19.96	11848.52
LONG 22-15-3NCH	1907.71	6612.26	11848.52	1894.72	6612.26	25.20	11836.02
Ottesen #3E-3H-L165	2005.57	11848.52	11848.52	1911.54	11848.52	21.33	11848.52
Long 22-15-19CH	2015.43	6612.26	6612.26	2001.50	6612.26	126.67	7784.19
Long 22-15-20NBH	2087.96	6612.26	6612.26	2073.98	6612.26	139.43	7570.93
Long 22-15-9CH	2121.90	6612.26	6612.26	2109.02	6612.26	154.41	7587.34
Long 22-15-10NBH	2175.53	6612.26	6612.26	2162.59	6612.26	164.39	7412.26
Ottesen #3D-3H-L165	2214.08	11848.52	11848.52	2116.86	11848.52	22.77	11848.52
Ottesen #3C-3H-L165	2396.14	11848.52	11848.52	2297.16	11848.52	24.21	11848.52