



Edge Energy, LLC
SYSDRILL
Well Design Combined Report
Wellbore: Long 22-15-1CH ST

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Long 22-15-1CH	1259751.8882	3237761.3248	40.04328200	-104.65076600	24.61S	17.04E	-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
12007.70	90.31	359.280	7388.00	5166.29N	412.28W		5182.72	1264917.98	3237349.06

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	1.00	315.170	1300.00	0.31N	0.31W	2.00	0.33	
1400.00	3.00	315.170	1399.93	2.78N	2.77W	2.00	3.00	
1500.00	5.00	315.170	1499.68	7.73N	7.69W	2.00	8.32	
1600.00	5.51	315.170	1599.23	14.46N	14.37W	==>	15.56	
1700.00	5.51	315.170	1698.77	21.26N	21.14W	==>	22.88	
1800.00	5.51	315.170	1798.31	28.07N	27.91W	==>	30.20	
1900.00	5.51	315.170	1897.85	34.88N	34.67W	==>	37.52	
2000.00	5.51	315.170	1997.39	41.68N	41.44W	==>	44.85	
2100.00	5.51	315.170	2096.92	48.49N	48.21W	==>	52.17	
2200.00	5.51	315.170	2196.46	55.29N	54.97W	==>	59.49	
2300.00	5.51	315.170	2296.00	62.10N	61.74W	==>	66.82	
2400.00	5.51	315.170	2395.54	68.91N	68.51W	==>	74.14	
2500.00	5.51	315.170	2495.08	75.71N	75.27W	==>	81.46	
2600.00	5.51	315.170	2594.62	82.52N	82.04W	==>	88.78	
2700.00	5.51	315.170	2694.15	89.33N	88.81W	==>	96.11	
2800.00	5.51	315.170	2793.69	96.13N	95.57W	==>	103.43	
2900.00	5.51	315.170	2893.23	102.94N	102.34W	==>	110.75	
3000.00	5.51	315.170	2992.77	109.74N	109.11W	==>	118.08	
3100.00	5.51	315.170	3092.31	116.55N	115.87W	==>	125.40	
3200.00	5.51	315.170	3191.85	123.36N	122.64W	==>	132.72	
3300.00	5.51	315.170	3291.38	130.16N	129.41W	==>	140.04	
3400.00	5.51	315.170	3390.92	136.97N	136.17W	==>	147.37	
3500.00	5.51	315.170	3490.46	143.78N	142.94W	==>	154.69	
3600.00	5.51	315.170	3590.00	150.58N	149.71W	==>	162.01	
3700.00	5.51	315.170	3689.54	157.39N	156.47W	==>	169.34	
3800.00	5.51	315.170	3789.08	164.19N	163.24W	==>	176.66	
3900.00	5.51	315.170	3888.61	171.00N	170.01W	==>	183.98	
4000.00	5.51	315.170	3988.15	177.81N	176.77W	==>	191.30	

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 355.440 degrees
Bottom hole distance is 5182.72 Feet on azimuth 355.44 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	5.51	315.170	4087.69	184.61N	183.54W	==>	198.63	
4200.00	5.51	315.170	4187.23	191.42N	190.31W	==>	205.95	
4300.00	5.51	315.170	4286.77	198.22N	197.07W	==>	213.27	
4400.00	5.51	315.170	4386.31	205.03N	203.84W	==>	220.60	
4500.00	5.51	315.170	4485.84	211.84N	210.61W	==>	227.92	
4600.00	5.51	315.170	4585.38	218.64N	217.37W	==>	235.24	
4700.00	5.51	315.170	4684.92	225.45N	224.14W	==>	242.57	
4800.00	5.51	315.170	4784.46	232.26N	230.91W	==>	249.89	
4900.00	5.51	315.170	4884.00	239.06N	237.67W	==>	257.21	
5000.00	5.51	315.170	4983.54	245.87N	244.44W	==>	264.53	
5100.00	5.51	315.170	5083.07	252.67N	251.21W	==>	271.86	
5200.00	5.51	315.170	5182.61	259.48N	257.97W	==>	279.18	
5300.00	5.51	315.170	5282.15	266.29N	264.74W	==>	286.50	
5400.00	5.51	315.170	5381.69	273.09N	271.51W	==>	293.83	
5500.00	5.51	315.170	5481.23	279.90N	278.27W	==>	301.15	
5600.00	5.51	315.170	5580.77	286.70N	285.04W	==>	308.47	
5700.00	5.51	315.170	5680.30	293.51N	291.81W	==>	315.79	
5800.00	5.51	315.170	5779.84	300.32N	298.57W	==>	323.12	
5900.00	5.51	315.170	5879.38	307.12N	305.34W	==>	330.44	
6000.00	5.51	315.170	5978.92	313.93N	312.11W	==>	337.76	
6100.00	5.51	315.170	6078.46	320.74N	318.87W	==>	345.09	
6200.00	5.51	315.170	6178.00	327.54N	325.64W	==>	352.41	
6300.00	5.51	315.170	6277.54	334.35N	332.41W	==>	359.73	
6400.00	4.46	315.170	6377.12	340.82N	338.84W	2.00	366.69	Sidetrack Tie
6500.00	2.46	315.170	6476.93	345.10N	343.10W	2.00	371.30	
6600.00	0.46	315.170	6576.89	346.91N	344.90W	2.00	373.25	
6623.11	0.00	315.170	6600.00	346.98N	344.96W	2.00	373.32	
6723.11	0.46	280.690	6700.00	347.12N	345.73W	==>	373.52	
6823.11	0.46	280.690	6799.99	347.27N	346.51W	==>	373.73	
6923.11	6.21	355.160	6899.87	350.66N	347.33W	10.00	377.18	
7023.11	16.20	357.730	6997.84	370.04N	348.34W	10.00	396.57	
7123.11	26.20	358.360	7090.96	406.13N	349.53W	10.00	432.65	
7223.11	36.19	358.660	7176.39	457.84N	350.85W	10.00	484.30	
7323.11	46.19	358.840	7251.54	523.60N	352.27W	10.00	549.97	
7423.11	56.19	358.970	7314.13	601.42N	353.75W	10.00	627.65	
7523.11	66.19	359.080	7362.25	688.92N	355.23W	10.00	714.99	
7623.11	76.19	359.160	7394.45	783.45N	356.69W	10.00	809.34	
7723.11	86.19	359.240	7409.74	882.13N	358.06W	10.00	907.82	
7823.11	90.31	359.280	7410.68	982.10N	359.33W	==>	1007.57	
7923.11	90.31	359.280	7410.14	1082.09N	360.60W	==>	1107.34	
8023.11	90.31	359.280	7409.60	1182.08N	361.87W	==>	1207.12	
8123.11	90.31	359.280	7409.06	1282.07N	363.13W	==>	1306.89	
8223.11	90.31	359.280	7408.51	1382.06N	364.40W	==>	1406.67	
8323.11	90.31	359.280	7407.97	1482.05N	365.66W	==>	1506.44	
8423.11	90.31	359.280	7407.43	1582.04N	366.93W	==>	1606.22	
8523.11	90.31	359.280	7406.89	1682.03N	368.19W	==>	1705.99	
8623.11	90.31	359.280	7406.35	1782.02N	369.46W	==>	1805.76	
8723.11	90.31	359.280	7405.80	1882.01N	370.72W	==>	1905.54	
8823.11	90.31	359.280	7405.26	1982.00N	371.99W	==>	2005.31	
8923.11	90.31	359.280	7404.72	2081.99N	373.25W	==>	2105.09	
9023.11	90.31	359.280	7404.18	2181.98N	374.52W	==>	2204.86	
9123.11	90.31	359.280	7403.63	2281.97N	375.78W	==>	2304.64	
9223.11	90.31	359.280	7403.09	2381.97N	377.05W	==>	2404.41	
9323.11	90.31	359.280	7402.55	2481.96N	378.31W	==>	2504.18	
9423.11	90.31	359.280	7402.01	2581.95N	379.58W	==>	2603.96	
9523.11	90.31	359.280	7401.47	2681.94N	380.85W	==>	2703.73	
9623.11	90.31	359.280	7400.92	2781.93N	382.11W	==>	2803.51	
9723.11	90.31	359.280	7400.38	2881.92N	383.38W	==>	2903.28	
9823.11	90.31	359.280	7399.84	2981.91N	384.64W	==>	3003.06	
9923.11	90.31	359.280	7399.30	3081.90N	385.91W	==>	3102.83	

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 355.440 degrees
Bottom hole distance is 5182.72 Feet on azimuth 355.44 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
10023.11	90.31	359.280	7398.76	3181.89N	387.17W	==>	3202.60	
10123.11	90.31	359.280	7398.21	3281.88N	388.44W	==>	3302.38	
10223.11	90.31	359.280	7397.67	3381.87N	389.70W	==>	3402.15	
10323.11	90.31	359.280	7397.13	3481.86N	390.97W	==>	3501.93	
10423.11	90.31	359.280	7396.59	3581.85N	392.23W	==>	3601.70	
10523.11	90.31	359.280	7396.05	3681.84N	393.50W	==>	3701.48	
10623.11	90.31	359.280	7395.50	3781.83N	394.76W	==>	3801.25	
10723.11	90.31	359.280	7394.96	3881.82N	396.03W	==>	3901.03	
10823.11	90.31	359.280	7394.42	3981.81N	397.29W	==>	4000.80	
10923.11	90.31	359.280	7393.88	4081.80N	398.56W	==>	4100.57	
11023.11	90.31	359.280	7393.34	4181.79N	399.82W	==>	4200.35	
11123.11	90.31	359.280	7392.79	4281.79N	401.09W	==>	4300.12	
11223.11	90.31	359.280	7392.25	4381.78N	402.36W	==>	4399.90	
11323.11	90.31	359.280	7391.71	4481.77N	403.62W	==>	4499.67	
11423.11	90.31	359.280	7391.17	4581.76N	404.89W	==>	4599.45	
11523.11	90.31	359.280	7390.63	4681.75N	406.15W	==>	4699.22	
11623.11	90.31	359.280	7390.08	4781.74N	407.42W	==>	4798.99	
11723.11	90.31	359.280	7389.54	4881.73N	408.68W	==>	4898.77	
11823.11	90.31	359.280	7389.00	4981.72N	409.95W	==>	4998.54	
11923.11	90.31	359.280	7388.46	5081.71N	411.21W	==>	5098.32	
12007.70	90.31	359.280	7388.00	5166.29N	412.28W	==>	5182.72	



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	6623.11	6600.00	346.98N	344.96W
8 3/4	6623.11	6600.00	346.98N	344.96W	7764.29	7411.00	923.28N	358.59W
6 1/8	7764.29	7411.00	923.28N	358.59W	12007.70	7388.00	5166.29N	412.28W

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	7764.29	7411.00	923.28N	358.59W
4 1/2in Production Liner	6863.00	6839.88	347.33N	346.82W	12007.70	7388.00	5166.29N	412.28W

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
Long 22-15-1CH - T1	781.28N	358.59W	7411.00	40.04543600	-104.65202000	1260533.14	3237402.75	19-Mar-2015
Long 22-15-1CH - T2	5166.29N	412.28W	7388.00	40.05747400	-104.65206200	1264917.98	3237349.06	19-Mar-2015

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
364883	Planned	6623.11	6600.00	WdW Rate Gyro	Standard
362541	Planned	12007.70	7388.00	WdW Rate Gyro	Standard

Notes

SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Long 22-15-1CH 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 22-15-1CH ST	19-Mar-2015	1-Apr-2015

Well		
Name	Government ID	Last Revised
Long 22-15-1CH		19-Mar-2015

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Long 22-15-1CH	1259751.8882	3237761.3248	40.04328200	-104.65076600	24.61S	17.04E

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 22-15-1CH	0.00	6623.11	6623.11	-0.02	6685.10	0.97	6685.10
Long 22-15-2NBH	146.49	6623.11	7767.78	133.55	6623.11	5.37	12007.70
Long 22-15-2NBH	146.49	6623.11	6623.11	133.55	6623.11	11.32	6862.09
Long 22-15-8NCH	223.21	7178.24	12007.70	207.67	12007.70	3.80	12007.70
Long 22-15-6NCH	513.55	6623.11	6623.11	500.80	6623.11	39.73	6996.78
Long 22-15-6NCH	513.55	6623.11	6623.11	469.81	12007.70	6.67	12007.70
Long 22-15-7NBH	582.58	6941.70	12007.70	563.56	12007.70	7.69	12007.70
Long 22-15 11NCH	870.84	6623.11	12007.70	857.07	6623.11	11.19	12007.70
Long 22-15-12NBH	882.11	6926.20	6926.20	846.82	12007.70	10.75	12007.70
LONG 22-15-5CH	895.67	6623.11	12007.70	881.76	6623.11	11.77	12007.70
Ottesen #3K-3H-L165	928.90	12007.70	12007.70	897.67	12007.70	29.74	12007.70
Ottesen #3J-3H-L165	939.39	12007.70	12007.70	918.76	12007.70	45.54	12007.70
Ottesen #3I-3H-L165	978.89	12007.70	12007.70	944.41	12007.70	28.39	12007.70
Ottesen #3L-3H-L165	983.74	12007.70	12007.70	931.81	12007.70	18.94	12007.70
Long 22-15-13CH	988.04	6623.11	7652.95	966.41	12007.70	11.80	12007.70
Ottesen #3H-3H-L165	1087.13	12007.70	12007.70	1032.56	12007.70	19.92	12007.70
LONG 22-15-4NBH	1172.08	6623.11	12007.70	1158.06	6623.11	15.51	12007.70
Long 22-15-14NCH	1190.16	6623.11	6623.11	1177.88	6623.11	14.52	12007.70
Ottesen #3G-3H-L165	1239.98	12007.70	12007.70	1170.90	12007.70	17.95	12007.70
Ottesen #3F-3H-L165	1374.67	12007.70	12007.70	1295.99	12007.70	17.47	12007.70
Drake #01N-65W-22-1C	1417.69	7201.29	7201.29	1376.45	7201.29	34.36	7177.23

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 355.440 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 2-Apr-2015

SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Long 22-15-1CH ST



Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
LONG 22-15-3NCH	1433.84	6623.11	12007.70	1419.68	6623.11	19.41	12007.70
Long 22-15-15NBH	1505.88	6623.11	6623.11	1493.28	6623.11	18.80	12007.70
Drake #01N-65W-22-2N	1519.37	7123.11	7123.11	1475.61	7123.11	34.71	7111.61
Ottesen #3E-3H-L165	1553.21	12007.70	12007.70	1466.94	12007.70	18.01	12007.70
Long 22-15-9CH	1654.68	6623.11	12007.70	1640.76	6623.11	23.58	12007.70
Drake #01N-65W-22-3N	1671.17	7123.11	7123.11	1626.30	7123.11	37.24	7111.61
Long 22-15-10NBH	1712.74	6623.11	12007.70	1698.76	6623.11	23.82	12007.70
Ottesen #3D-3H-L165	1757.25	12007.70	12007.70	1665.71	12007.70	19.20	12007.70
Long 22-15-16NCH	1783.44	6623.11	6623.11	1770.60	6623.11	22.75	12007.70
Long 22-15-17CH	1805.96	6623.11	6623.11	1793.08	6623.11	23.45	12007.70
Drake #01N-65W-22-4N	1825.90	7123.11	7123.11	1780.13	7123.11	39.89	7123.11
Ottesen #3C-3H-L165	1919.46	12007.70	12007.70	1824.29	12007.70	20.17	12007.70
Long 22-15-18NBH	2067.14	6623.11	6623.11	2053.99	6623.11	26.89	12007.70
Ottesen #3B-3H-L165	2152.23	12007.70	12007.70	2053.65	12007.70	21.83	12007.70
Ottesen #3A-3H-L165	2364.99	12007.70	12007.70	2264.34	12007.70	23.50	12007.70
Long 22-15-19CH	2469.77	6623.11	6623.11	2456.46	6623.11	185.59	6623.11