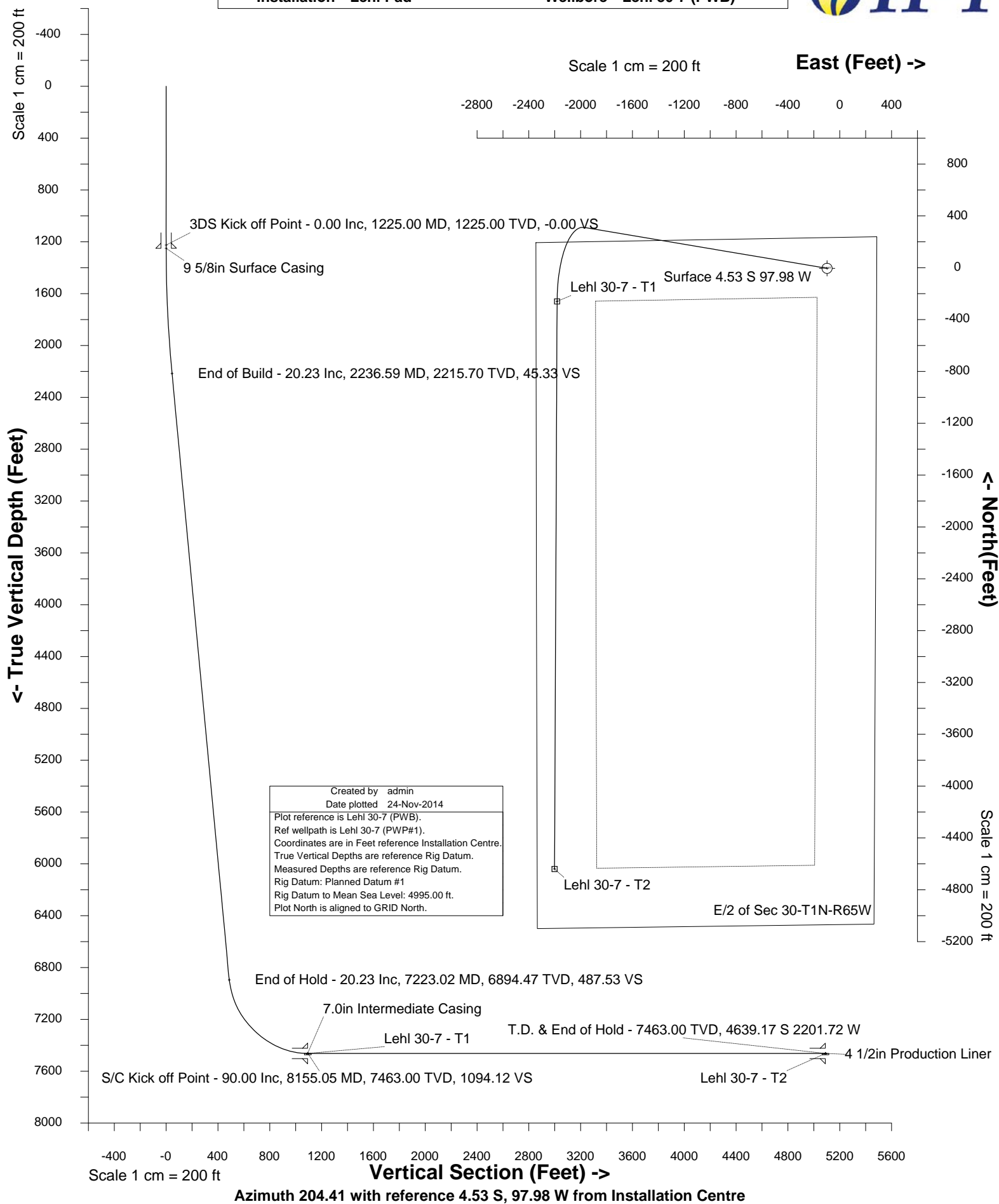


HRM Resources			
Location	Windsor	Slot	Slot #7
Field	WATTENBERG	Well	Lehl 30-7
Installation	Lehl Pad	Wellbore	Lehl 30-7 (PWB)





Peterson Energy Operating, Inc
SYSDRILL
Well Design Combined Report
Wellbore: Lehl 30-7 (PWB)

Wellhead Details							
Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
Slot #7	1254421.2100	3224413.7935	40.02899000	-104.69861000	4.53S	97.98W	5.00

Declination			
Date	Source	Time	
14-Feb-2014	IGRF Model [1900.0-2015.0]	11:31	

Site Details				
Name	Northing	Easting	Coord System Name	North Alignment
Lehl Pad	1254425.7386	3224511.7687	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	1254421.21	3224413.79
12534.19	90.00	180.260	7463.00	4634.64S	2103.75W	==>	5089.76	1249786.74	3222310.13

Interpolated Wellpath							
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00
16.00	0.00	0.000	16.00	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
1209.00	0.00	0.000	1209.00	0.00N	0.00E	==>	0.00
1309.00	1.68	279.560	1308.99	0.20N	1.21W	2.00	0.32
1409.00	3.68	279.560	1408.87	0.98N	5.83W	2.00	1.51
1509.00	5.68	279.560	1508.54	2.33N	13.87W	2.00	3.61
1609.00	7.68	279.560	1607.85	4.27N	25.34W	2.00	6.59
1709.00	9.68	279.560	1706.70	6.77N	40.22W	2.00	10.46
1809.00	11.68	279.560	1804.96	9.85N	58.50W	2.00	15.21
1909.00	13.68	279.560	1902.52	13.49N	80.14W	2.00	20.84
2009.00	15.68	279.560	1999.25	17.70N	105.13W	2.00	27.34
2109.00	17.68	279.560	2095.04	22.46N	133.43W	2.00	34.70
2209.00	19.68	279.560	2189.77	27.78N	165.02W	2.00	42.91
2300.00	20.23	279.560	2275.20	32.98N	195.93W	==>	50.95
2400.00	20.23	279.560	2369.03	38.72N	230.03W	==>	59.82
2500.00	20.23	279.560	2462.86	44.46N	264.13W	==>	68.69
2600.00	20.23	279.560	2556.69	50.20N	298.23W	==>	77.56
2700.00	20.23	279.560	2650.52	55.94N	332.33W	==>	86.42
2800.00	20.23	279.560	2744.35	61.68N	366.44W	==>	95.29
2900.00	20.23	279.560	2838.18	67.42N	400.54W	==>	104.16
3000.00	20.23	279.560	2932.01	73.16N	434.64W	==>	113.03
3100.00	20.23	279.560	3025.84	78.90N	468.74W	==>	121.90
3200.00	20.23	279.560	3119.67	84.64N	502.85W	==>	130.76
3300.00	20.23	279.560	3213.50	90.39N	536.95W	==>	139.63
3400.00	20.23	279.560	3307.33	96.13N	571.05W	==>	148.50
3500.00	20.23	279.560	3401.16	101.87N	605.15W	==>	157.37
3600.00	20.23	279.560	3494.99	107.61N	639.26W	==>	166.24
3700.00	20.23	279.560	3588.82	113.35N	673.36W	==>	175.11

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Vertical Section is from 0.00N 0.00E on azimuth 204.410 degrees
Bottom hole distance is 5089.76 Feet on azimuth 204.41 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 24-Nov-2014



Interpolated Wellpath							
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
3800.00	20.23	279.560	3682.65	119.09N	707.46W	==>	183.97
3900.00	20.23	279.560	3776.48	124.83N	741.56W	==>	192.84
4000.00	20.23	279.560	3870.31	130.57N	775.66W	==>	201.71
4100.00	20.23	279.560	3964.14	136.31N	809.77W	==>	210.58
4200.00	20.23	279.560	4057.97	142.05N	843.87W	==>	219.45
4300.00	20.23	279.560	4151.80	147.79N	877.97W	==>	228.32
4400.00	20.23	279.560	4245.63	153.53N	912.07W	==>	237.18
4500.00	20.23	279.560	4339.46	159.27N	946.18W	==>	246.05
4600.00	20.23	279.560	4433.29	165.01N	980.28W	==>	254.92
4700.00	20.23	279.560	4527.12	170.75N	1014.38W	==>	263.79
4800.00	20.23	279.560	4620.95	176.49N	1048.48W	==>	272.66
4900.00	20.23	279.560	4714.78	182.23N	1082.58W	==>	281.53
5000.00	20.23	279.560	4808.61	187.97N	1116.69W	==>	290.39
5100.00	20.23	279.560	4902.44	193.71N	1150.79W	==>	299.26
5200.00	20.23	279.560	4996.27	199.45N	1184.89W	==>	308.13
5300.00	20.23	279.560	5090.10	205.20N	1218.99W	==>	317.00
5400.00	20.23	279.560	5183.93	210.94N	1253.10W	==>	325.87
5500.00	20.23	279.560	5277.76	216.68N	1287.20W	==>	334.73
5600.00	20.23	279.560	5371.59	222.42N	1321.30W	==>	343.60
5700.00	20.23	279.560	5465.42	228.16N	1355.40W	==>	352.47
5800.00	20.23	279.560	5559.25	233.90N	1389.50W	==>	361.34
5900.00	20.23	279.560	5653.08	239.64N	1423.61W	==>	370.21
6000.00	20.23	279.560	5746.91	245.38N	1457.71W	==>	379.08
6100.00	20.23	279.560	5840.74	251.12N	1491.81W	==>	387.94
6200.00	20.23	279.560	5934.57	256.86N	1525.91W	==>	396.81
6300.00	20.23	279.560	6028.40	262.60N	1560.02W	==>	405.68
6400.00	20.23	279.560	6122.23	268.34N	1594.12W	==>	414.55
6500.00	20.23	279.560	6216.06	274.08N	1628.22W	==>	423.42
6600.00	20.23	279.560	6309.89	279.82N	1662.32W	==>	432.29
6700.00	20.23	279.560	6403.72	285.56N	1696.43W	==>	441.15
6800.00	20.23	279.560	6497.55	291.30N	1730.53W	==>	450.02
6900.00	20.23	279.560	6591.38	297.04N	1764.63W	==>	458.89
7000.00	20.23	279.560	6685.21	302.78N	1798.73W	==>	467.76
7100.00	20.23	279.560	6779.04	308.52N	1832.83W	==>	476.63
7200.00	20.23	279.560	6872.87	314.26N	1866.94W	==>	485.50
7300.00	20.47	257.300	6966.75	314.84N	1901.08W	10.00	499.09
7400.00	24.51	233.150	7059.33	298.51N	1934.82W	10.00	527.90
7500.00	31.22	217.130	7147.80	265.32N	1967.15W	10.00	571.48
7600.00	39.24	206.700	7229.50	216.29N	1997.09W	10.00	628.51
7700.00	47.91	199.440	7301.92	152.88N	2023.72W	10.00	697.25
7800.00	56.92	193.960	7362.89	77.04N	2046.23W	10.00	775.61
7900.00	66.13	189.520	7410.53	8.93S	2063.94W	10.00	861.21
8000.00	75.45	185.670	7443.41	102.42S	2076.32W	10.00	951.46
8100.00	84.83	182.140	7460.52	200.59S	2082.98W	10.00	1043.61
8200.00	90.00	180.260	7463.00	300.50S	2084.33W	==>	1135.14
8300.00	90.00	180.260	7463.00	400.50S	2084.78W	==>	1226.39
8400.00	90.00	180.260	7463.00	500.50S	2085.23W	==>	1317.63
8500.00	90.00	180.260	7463.00	600.49S	2085.68W	==>	1408.87
8600.00	90.00	180.260	7463.00	700.49S	2086.12W	==>	1500.11
8700.00	90.00	180.260	7463.00	800.49S	2086.57W	==>	1591.35
8800.00	90.00	180.260	7463.00	900.49S	2087.02W	==>	1682.60
8900.00	90.00	180.260	7463.00	1000.49S	2087.47W	==>	1773.84
9000.00	90.00	180.260	7463.00	1100.49S	2087.92W	==>	1865.08
9100.00	90.00	180.260	7463.00	1200.49S	2088.36W	==>	1956.32
9200.00	90.00	180.260	7463.00	1300.49S	2088.81W	==>	2047.57
9300.00	90.00	180.260	7463.00	1400.49S	2089.26W	==>	2138.81
9400.00	90.00	180.260	7463.00	1500.49S	2089.71W	==>	2230.05
9500.00	90.00	180.260	7463.00	1600.48S	2090.16W	==>	2321.29
9600.00	90.00	180.260	7463.00	1700.48S	2090.60W	==>	2412.54
9700.00	90.00	180.260	7463.00	1800.48S	2091.05W	==>	2503.78

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Vertical Section is from 0.00N 0.00E on azimuth 204.410 degrees
Bottom hole distance is 5089.76 Feet on azimuth 204.41 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 24-Nov-2014



Interpolated Wellpath							
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
9800.00	90.00	180.260	7463.00	1900.48S	2091.50W	==>	2595.02
9900.00	90.00	180.260	7463.00	2000.48S	2091.95W	==>	2686.26
10000.00	90.00	180.260	7463.00	2100.48S	2092.39W	==>	2777.51
10100.00	90.00	180.260	7463.00	2200.48S	2092.84W	==>	2868.75
10200.00	90.00	180.260	7463.00	2300.48S	2093.29W	==>	2959.99
10300.00	90.00	180.260	7463.00	2400.48S	2093.74W	==>	3051.23
10400.00	90.00	180.260	7463.00	2500.48S	2094.19W	==>	3142.48
10500.00	90.00	180.260	7463.00	2600.47S	2094.63W	==>	3233.72
10600.00	90.00	180.260	7463.00	2700.47S	2095.08W	==>	3324.96
10700.00	90.00	180.260	7463.00	2800.47S	2095.53W	==>	3416.20
10800.00	90.00	180.260	7463.00	2900.47S	2095.98W	==>	3507.44
10900.00	90.00	180.260	7463.00	3000.47S	2096.43W	==>	3598.69
11000.00	90.00	180.260	7463.00	3100.47S	2096.87W	==>	3689.93
11100.00	90.00	180.260	7463.00	3200.47S	2097.32W	==>	3781.17
11200.00	90.00	180.260	7463.00	3300.47S	2097.77W	==>	3872.41
11300.00	90.00	180.260	7463.00	3400.47S	2098.22W	==>	3963.66
11400.00	90.00	180.260	7463.00	3500.47S	2098.67W	==>	4054.90
11500.00	90.00	180.260	7463.00	3600.46S	2099.11W	==>	4146.14
11600.00	90.00	180.260	7463.00	3700.46S	2099.56W	==>	4237.38
11700.00	90.00	180.260	7463.00	3800.46S	2100.01W	==>	4328.63
11800.00	90.00	180.260	7463.00	3900.46S	2100.46W	==>	4419.87
11900.00	90.00	180.260	7463.00	4000.46S	2100.90W	==>	4511.11
12000.00	90.00	180.260	7463.00	4100.46S	2101.35W	==>	4602.35
12100.00	90.00	180.260	7463.00	4200.46S	2101.80W	==>	4693.60
12200.00	90.00	180.260	7463.00	4300.46S	2102.25W	==>	4784.84
12300.00	90.00	180.260	7463.00	4400.46S	2102.70W	==>	4876.08
12400.00	90.00	180.260	7463.00	4500.46S	2103.14W	==>	4967.32
12500.00	90.00	180.260	7463.00	4600.45S	2103.59W	==>	5058.57
12534.19	90.00	180.260	7463.00	4634.64S	2103.75W	==>	5089.76



Peterson Energy Operating, Inc
SYSDRILL
Well Design Combined Report
Wellbore: Lehl 30-7 (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	16.00	16.00	0.00N	0.00E	1250.00	1250.00	0.02N	0.11W
8 3/4	1250.00	1250.00	0.02N	0.11W	8153.00	7463.00	253.50S	2084.12W
6 1/8	8153.00	7463.00	253.50S	2084.12W	12532.65	7463.00	4633.11S	2103.74W

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	16.00	16.00	0.00N	0.00E	1250.00	1250.00	0.02N	0.11W
7.0in Intermediate Casing	16.00	16.00	0.00N	0.00E	8153.00	7463.00	253.50S	2084.12W
4 1/2in Production Liner	7953.00	7429.87	57.72S	2071.19W	12532.65	7463.00	4633.11S	2103.74W

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
Lehl 30-7 - T1	255.55S	2084.13W	7463.00	40.02834000	-104.70606000	1254165.67	3222329.74	17-Feb-2014
Lehl 30-7 - T2	4634.64S	2103.75W	7463.00	40.01632000	-104.70627000	1249786.74	3222310.13	17-Feb-2014

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
325300	Planned	12534.19	7463.00	WdW Rate Gyro	Standard

Notes

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Date Printed: 24-Nov-2014



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Lehl 30-7 (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 2000.00ft 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
Lehl 30-7 (PWB)	24-Nov-2014	24-Nov-2014

Well		
Name	Government ID	Last Revised
Lehl 30-7		24-Nov-2014

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #7	1254421.2100	3224413.7935	40.02899000	-104.69861000	4.53S	97.98W

Installation					North Alignment
Name	Easting	Northing	Coord System Name		
Lehl Pad	3224511.7687	1254425.7386	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid	

Field					North Alignment
Name	Easting	Northing	Coord System Name		
WATTENBERG	3217412.9943	1407601.8800	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]
Lehl 30-6	16.80	1225.00	1225.00	13.89	1229.91	5.73	1246.31
Lehl 30-5	33.61	1225.00	1225.00	30.69	1229.91	7.75	12516.00
Lehl 30-4	50.41	1225.00	1225.00	47.50	1229.91	13.56	12516.00
Lehl 30-3	64.51	1225.00	1225.00	61.60	1229.91	15.57	12516.00
Lehl 30-2	81.29	1225.00	1225.00	78.38	1229.91	20.66	12516.00
Lehl 30-1	98.08	1225.00	1225.00	95.17	1229.91	23.39	12516.00
Lehl 30-8	112.08	1225.00	1225.00	109.17	1229.91	38.14	1246.31
M B LEHL A #1	458.34	9664.83	9664.83	409.40	9645.27	9.16	9579.65
MARGUERITE B LEHL #A-1	496.97	9559.02	9559.02	454.61	9546.84	11.44	9464.82
GILMORE #1-30	983.97	8860.82	8860.82	946.74	8874.27	23.59	9284.37
ELLS #XX 19-4D	1111.67	4084.24	4084.24	1085.24	4133.45	37.18	5478.60
DECHANT #1-19	1629.63	7529.12	7529.12	1594.11	7529.12	43.62	7890.02
LEHL #1	1776.77	11363.38	11363.38	1719.48	11400.51	28.42	11958.26
CHARLES M BROWN GAS UNIT #1	1940.37	1229.91	1229.91	1928.70	1246.31	134.72	2033.72