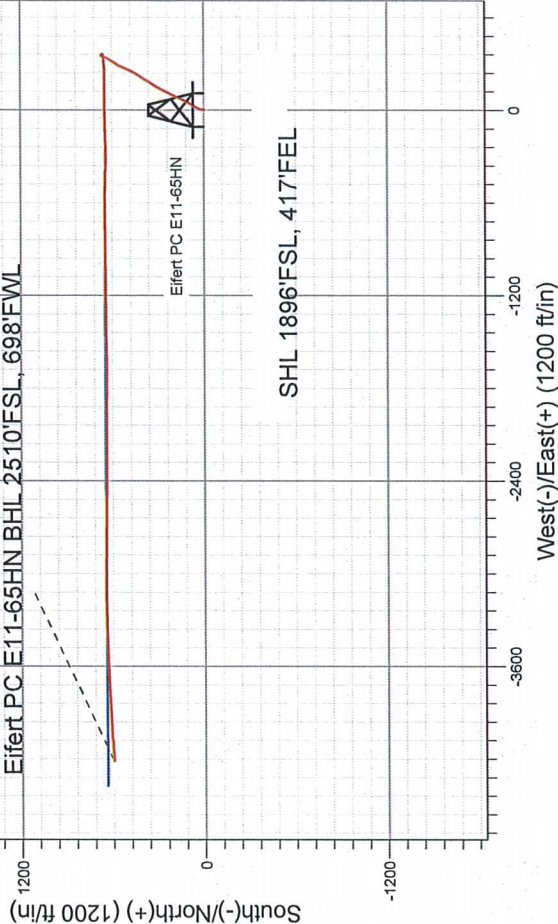


NOBLE ENERGY INC WELD COUNTY CO

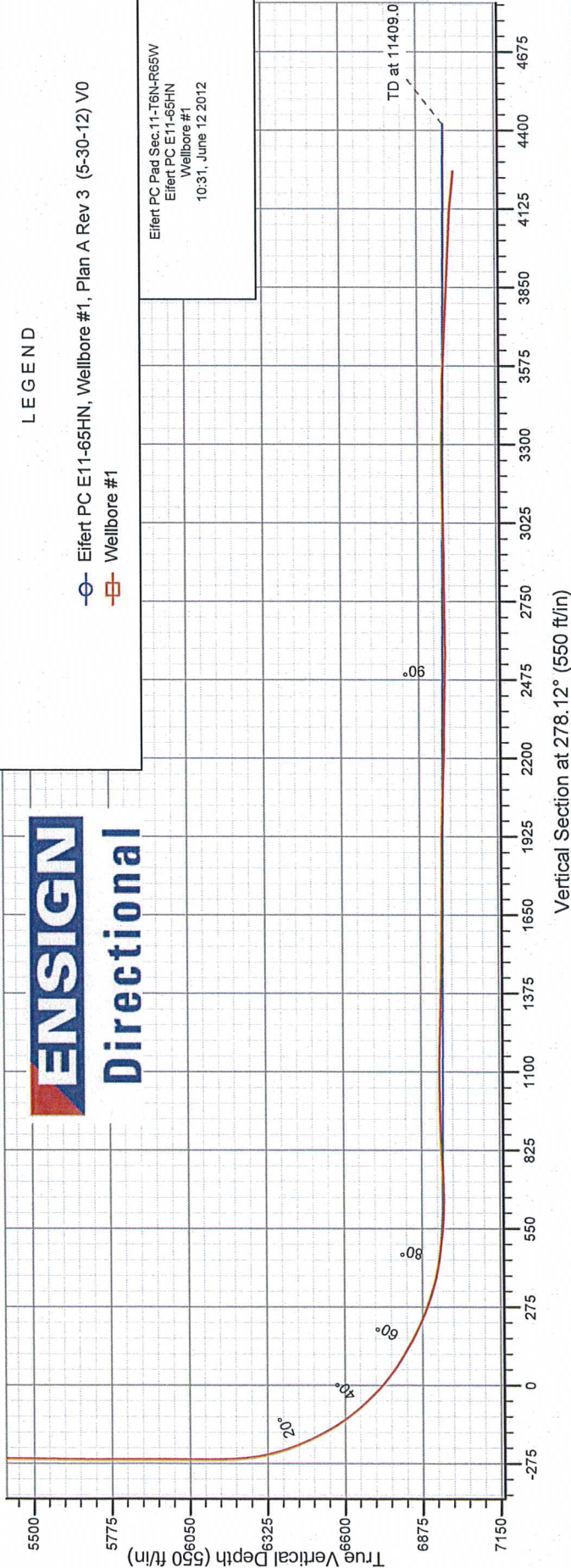
Well Name: Eifert PC E11-65HN			
Surface Location: Eifert PC Pad Sec.11-T6N-R65W			
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone			
Ground Elevation: 4749.0			
+N/-S	+E/-W	Northing	Longitude
0.0	0.0	1425739.38	3244080.17
Original Well Elev		WELL @ 4762.0ft (Original Well Elev)	

FINAL SURVEY

Projected Bottom Hole Location
11250' MD 7005.8' TVD 601.66' N &
4212.78' W of SHL
84.2 degree Incl @ 265.6 degree AZM



ENSIGN
Directional





Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

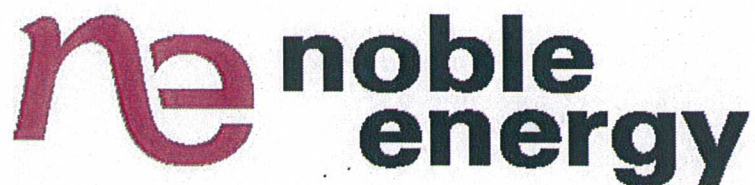
SEC.11-T6N-R65W (Grid North)
Eifert PC Pad Sec.11-T6N-R65W
Eifert PC E11-65HN

Wellbore #1

Design: Wellbore #1

Standard Survey Report

12 June, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Eifert PC E11-65HN
Project:	SEC.11-T6N-R65W (Grid North)	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Eifert PC Pad Sec.11-T6N-R65W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Well:	Eifert PC E11-65HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.11-T6N-R65W (Grid North), Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Eifert PC Pad Sec.11-T6N-R65W			
Site Position:		Northing:	1,425,739.61 ft	Latitude:	40.498740
From:	Lat/Long	Easting:	3,244,102.42 ft	Longitude:	-104.622250
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	Eifert PC E11-65HN					
Well Position	+N/-S	0.0 ft	Northing:	1,425,739.38 ft	Latitude:	40.498740
	+E/-W	0.0 ft	Easting:	3,244,080.17 ft	Longitude:	-104.622330
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,749.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/25/2012	8.68	67.12	53,108

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	278.12	

Survey Program	Date 6/12/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
686.0	11,250.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
686.0	0.00	0.00	686.0	0.0	0.0	0.0	0.00	0.00	0.00
729.0	1.30	13.90	729.0	0.5	0.1	0.0	3.02	3.02	0.00
822.0	4.00	10.70	821.9	4.7	1.0	-0.3	2.91	2.90	-3.44
915.0	6.20	9.90	914.5	12.8	2.4	-0.6	2.37	2.37	-0.86
1,009.0	7.90	12.50	1,007.8	24.1	4.7	-1.3	1.84	1.81	2.77
1,102.0	10.50	20.60	1,099.6	38.3	9.1	-3.6	3.12	2.80	8.71
1,201.0	13.40	31.80	1,196.5	56.5	18.3	-10.1	3.74	2.93	11.31
1,296.0	13.40	31.30	1,288.9	75.3	29.8	-18.9	0.12	0.00	-0.53
1,391.0	12.90	33.40	1,381.4	93.5	41.4	-27.7	0.73	-0.53	2.21
1,484.0	12.80	23.90	1,472.1	111.6	51.3	-35.0	2.27	-0.11	-10.22
1,578.0	12.20	24.10	1,563.8	130.2	59.5	-40.5	0.64	-0.64	0.21
1,673.0	12.70	28.50	1,656.6	148.5	68.6	-46.9	1.13	0.53	4.63

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Eifert PC E11-65HN
Project:	SEC.11-T6N-R65W (Grid North)	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Eifert PC Pad Sec.11-T6N-R65W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Well:	Eifert PC E11-65HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,768.0	13.40	28.10	1,749.1	167.4	78.8	-54.3	0.74	0.74	-0.42
1,863.0	12.00	22.90	1,841.8	186.2	87.8	-60.6	1.90	-1.47	-5.47
1,958.0	11.60	25.30	1,934.8	204.0	95.7	-66.0	0.67	-0.42	2.53
2,053.0	12.40	26.20	2,027.7	221.8	104.3	-72.0	0.86	0.84	0.95
2,148.0	12.80	26.90	2,120.5	240.3	113.6	-78.5	0.45	0.42	0.74
2,243.0	13.30	23.60	2,213.0	259.7	122.7	-84.8	0.94	0.53	-3.47
2,338.0	12.70	25.50	2,305.6	279.1	131.6	-90.8	0.78	-0.63	2.00
2,433.0	11.40	31.70	2,398.5	296.5	141.0	-97.7	1.93	-1.37	6.53
2,528.0	12.00	31.30	2,491.5	313.0	151.1	-105.4	0.64	0.63	-0.42
2,623.0	12.20	28.50	2,584.4	330.2	161.0	-112.7	0.65	0.21	-2.95
2,718.0	11.70	32.70	2,677.3	347.2	171.0	-120.3	1.06	-0.53	4.42
2,813.0	12.50	32.70	2,770.2	363.9	181.8	-128.5	0.84	0.84	0.00
2,908.0	12.90	28.70	2,862.9	381.9	192.4	-136.5	1.02	0.42	-4.21
3,003.0	13.40	35.40	2,955.4	400.1	203.9	-145.3	1.69	0.53	7.05
3,098.0	13.60	32.40	3,047.8	418.6	216.2	-155.0	0.77	0.21	-3.16
3,193.0	13.30	33.10	3,140.2	437.1	228.2	-164.2	0.36	-0.32	0.74
3,288.0	13.50	25.20	3,232.6	456.3	238.9	-172.0	1.94	0.21	-8.32
3,382.0	11.70	28.70	3,324.3	474.6	248.1	-178.6	2.08	-1.91	3.72
3,477.0	11.30	25.50	3,417.4	491.5	256.8	-184.8	0.79	-0.42	-3.37
3,572.0	11.80	18.80	3,510.5	509.1	263.9	-189.3	1.51	0.53	-7.05
3,667.0	10.30	26.00	3,603.8	525.9	270.8	-193.8	2.14	-1.58	7.58
3,762.0	9.30	22.20	3,697.4	540.6	277.4	-198.2	1.25	-1.05	-4.00
3,857.0	10.60	28.70	3,790.9	555.4	284.5	-203.2	1.81	1.37	6.84
3,952.0	11.20	38.30	3,884.2	570.3	294.4	-210.9	2.01	0.63	10.11
4,047.0	11.90	31.10	3,977.3	585.9	305.2	-219.3	1.69	0.74	-7.58
4,142.0	11.60	32.50	4,070.3	602.4	315.4	-227.1	0.44	-0.32	1.47
4,237.0	10.90	31.00	4,163.5	618.1	325.1	-234.5	0.80	-0.74	-1.58
4,332.0	10.40	25.20	4,256.9	633.6	333.4	-240.6	1.24	-0.53	-6.11
4,427.0	8.40	22.20	4,350.6	647.8	339.7	-244.8	2.17	-2.11	-3.16
4,522.0	6.40	20.40	4,444.8	659.2	344.1	-247.6	2.12	-2.11	-1.89
4,617.0	4.50	25.30	4,539.4	667.5	347.6	-249.8	2.06	-2.00	5.16
4,711.0	2.70	34.70	4,633.2	672.7	350.4	-251.9	2.01	-1.91	10.00
4,806.0	1.20	99.20	4,728.1	674.3	352.7	-253.9	2.57	-1.58	67.89
4,901.0	1.80	89.30	4,823.1	674.2	355.1	-256.3	0.69	0.63	-10.42
4,996.0	0.20	303.40	4,918.1	674.3	356.5	-257.7	2.07	-1.68	-153.58
5,091.0	0.40	194.40	5,013.1	674.1	356.3	-257.5	0.53	0.21	-114.74
5,186.0	0.40	158.20	5,108.1	673.4	356.3	-257.6	0.26	0.00	-38.11
5,281.0	0.40	200.90	5,203.1	672.8	356.3	-257.7	0.31	0.00	44.95
5,376.0	0.30	226.30	5,298.1	672.3	356.0	-257.5	0.19	-0.11	26.74
5,471.0	0.60	130.10	5,393.1	671.9	356.2	-257.7	0.74	0.32	-101.26
5,566.0	1.00	158.80	5,488.0	670.8	356.9	-258.6	0.58	0.42	30.21
5,661.0	0.70	133.30	5,583.0	669.6	357.6	-259.5	0.50	-0.32	-26.84
5,756.0	1.20	129.20	5,678.0	668.6	358.8	-260.8	0.53	0.53	-4.32
5,851.0	1.00	187.90	5,773.0	667.1	359.5	-261.6	1.15	-0.21	61.79
5,946.0	1.90	180.00	5,868.0	664.7	359.4	-261.9	0.97	0.95	-8.32
6,041.0	0.40	239.60	5,963.0	663.0	359.1	-261.8	1.82	-1.58	62.74
6,136.0	0.20	275.80	6,058.0	662.8	358.6	-261.4	0.28	-0.21	38.11
6,231.0	0.60	165.10	6,153.0	662.4	358.6	-261.4	0.73	0.42	-116.53
6,326.0	6.20	259.80	6,247.8	661.0	353.7	-256.8	6.61	5.89	99.68
6,421.0	14.70	263.20	6,341.1	658.6	336.6	-240.2	8.97	8.95	3.58
6,515.0	22.00	264.40	6,430.3	655.5	307.2	-211.5	7.78	7.77	1.28
6,610.0	27.70	266.20	6,516.4	652.3	267.4	-172.6	6.05	6.00	1.89
6,705.0	35.30	270.70	6,597.4	651.2	217.9	-123.7	8.37	8.00	4.74
6,800.0	42.40	271.40	6,671.3	652.3	158.3	-64.6	7.49	7.47	0.74

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Eifert PC E11-65HN
Project:	SEC.11-T6N-R65W (Grid North)	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Eifert PC Pad Sec.11-T6N-R65W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Well:	Eifert PC E11-65HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,895.0	49.90	268.80	6,737.1	652.3	89.9	3.2	8.14	7.89	-2.74
6,990.0	58.70	269.80	6,792.5	651.4	12.8	79.3	9.30	9.26	1.05
7,085.0	60.80	269.50	6,840.3	650.9	-69.2	160.5	2.23	2.21	-0.32
7,132.0	65.20	268.80	6,861.7	650.3	-111.1	201.8	9.46	9.36	-1.49
7,180.0	68.10	267.70	6,880.7	648.9	-155.1	245.2	6.40	6.04	-2.29
7,227.0	71.50	267.90	6,896.9	647.2	-199.2	288.6	7.25	7.23	0.43
7,275.0	74.00	268.60	6,911.2	645.8	-245.0	333.8	5.39	5.21	1.46
7,322.0	76.90	269.80	6,923.0	645.2	-290.5	378.7	6.65	6.17	2.55
7,372.0	80.60	271.80	6,932.7	645.9	-339.5	427.4	8.38	7.40	4.00
7,422.0	85.00	271.80	6,939.0	647.4	-389.1	476.7	8.80	8.80	0.00
7,435.0	83.00	273.00	6,940.3	648.0	-402.0	489.5	17.92	-15.38	9.23
7,483.0	83.00	273.00	6,946.2	650.5	-449.6	537.0	0.00	0.00	0.00
7,530.0	86.40	271.10	6,950.5	652.2	-496.4	583.5	8.28	7.23	-4.04
7,578.0	90.10	269.30	6,952.0	652.3	-544.3	631.0	8.57	7.71	-3.75
7,673.0	92.90	269.10	6,949.5	651.0	-639.3	724.8	2.95	2.95	-0.21
7,768.0	92.60	269.30	6,945.0	649.7	-734.2	818.6	0.38	-0.32	0.21
7,863.0	92.00	269.80	6,941.1	648.9	-829.1	912.4	0.82	-0.63	0.53
7,958.0	90.60	270.00	6,939.0	648.8	-924.0	1,006.4	1.49	-1.47	0.21
8,053.0	89.80	269.80	6,938.7	648.6	-1,019.0	1,100.4	0.87	-0.84	-0.21
8,148.0	88.70	270.00	6,939.9	648.4	-1,114.0	1,194.5	1.18	-1.16	0.21
8,243.0	88.50	269.30	6,942.2	647.8	-1,209.0	1,288.4	0.77	-0.21	-0.74
8,338.0	87.80	268.40	6,945.3	645.9	-1,303.9	1,382.1	1.20	-0.74	-0.95
8,433.0	88.40	269.70	6,948.4	644.4	-1,398.9	1,475.9	1.51	0.63	1.37
8,527.0	90.20	270.00	6,949.6	644.1	-1,492.9	1,568.9	1.94	1.91	0.32
8,623.0	89.20	269.50	6,950.1	643.7	-1,588.8	1,663.8	1.16	-1.04	-0.52
8,707.0	89.40	270.40	6,951.1	643.6	-1,672.8	1,747.0	1.10	0.24	1.07
8,802.0	89.90	269.80	6,951.7	643.8	-1,767.8	1,841.1	0.82	0.53	-0.63
8,897.0	89.00	269.30	6,952.6	643.0	-1,862.8	1,935.0	1.08	-0.95	-0.53
8,992.0	88.10	269.80	6,955.0	642.3	-1,957.8	2,028.9	1.08	-0.95	0.53
9,087.0	87.60	269.80	6,958.6	642.0	-2,052.7	2,122.8	0.53	-0.53	0.00
9,182.0	88.50	270.40	6,961.8	642.1	-2,147.7	2,216.8	1.14	0.95	0.63
9,277.0	89.30	270.40	6,963.6	642.8	-2,242.7	2,311.0	0.84	0.84	0.00
9,372.0	89.20	270.70	6,964.9	643.7	-2,337.6	2,405.1	0.33	-0.11	0.32
9,466.0	88.90	270.60	6,966.4	644.8	-2,431.6	2,498.3	0.34	-0.32	-0.11
9,561.0	90.10	270.60	6,967.3	645.8	-2,526.6	2,592.5	1.26	1.26	0.00
9,655.0	90.90	270.20	6,966.4	646.4	-2,620.6	2,685.6	0.95	0.85	-0.43
9,750.0	90.00	270.40	6,965.7	646.9	-2,715.6	2,779.7	0.97	-0.95	0.21
9,845.0	90.60	270.40	6,965.2	647.6	-2,810.6	2,873.9	0.63	0.63	0.00
9,940.0	91.20	271.10	6,963.7	648.8	-2,905.6	2,968.1	0.97	0.63	0.74
10,035.0	91.10	270.40	6,961.8	650.1	-3,000.5	3,062.3	0.74	-0.11	-0.74
10,130.0	90.60	269.50	6,960.4	650.0	-3,095.5	3,156.3	1.08	-0.53	-0.95
10,225.0	90.30	268.80	6,959.6	648.6	-3,190.5	3,250.1	0.80	-0.32	-0.74
10,320.0	89.20	269.00	6,960.1	646.8	-3,285.5	3,343.9	1.18	-1.16	0.21
10,415.0	89.10	267.90	6,961.5	644.2	-3,380.5	3,437.6	1.16	-0.11	-1.16
10,510.0	88.50	267.40	6,963.5	640.3	-3,475.3	3,530.9	0.82	-0.63	-0.53
10,605.0	87.80	267.90	6,966.5	636.4	-3,570.2	3,624.3	0.91	-0.74	0.53
10,700.0	86.30	267.20	6,971.4	632.3	-3,665.0	3,717.6	1.74	-1.58	-0.74
10,795.0	87.10	267.00	6,976.9	627.5	-3,759.7	3,810.7	0.87	0.84	-0.21
10,890.0	87.90	267.40	6,981.0	622.9	-3,854.5	3,903.9	0.94	0.84	0.42
10,985.0	87.20	266.90	6,985.1	618.2	-3,949.3	3,997.0	0.91	-0.74	-0.53
11,080.0	87.20	266.90	6,989.7	613.1	-4,044.1	4,090.1	0.00	0.00	0.00
11,175.0	84.20	265.60	6,996.8	606.9	-4,138.6	4,182.8	3.44	-3.16	-1.37
11,250.0	84.20	265.60	7,004.4	601.1	-4,213.0	4,255.6	0.00	0.00	0.00

Eifert PC E11-65HN BHL 2550'FSL, 535'FWL

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T6N-R65W (Grid North)
Site: Eifert PC Pad Sec.11-T6N-R65W
Well: Eifert PC E11-65HN
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Eifert PC E11-65HN
TVD Reference: WELL @ 4762.0ft (Original Well Elev)
MD Reference: WELL @ 4762.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Landmark

Checked By: _____ Approved By: _____ Date: _____