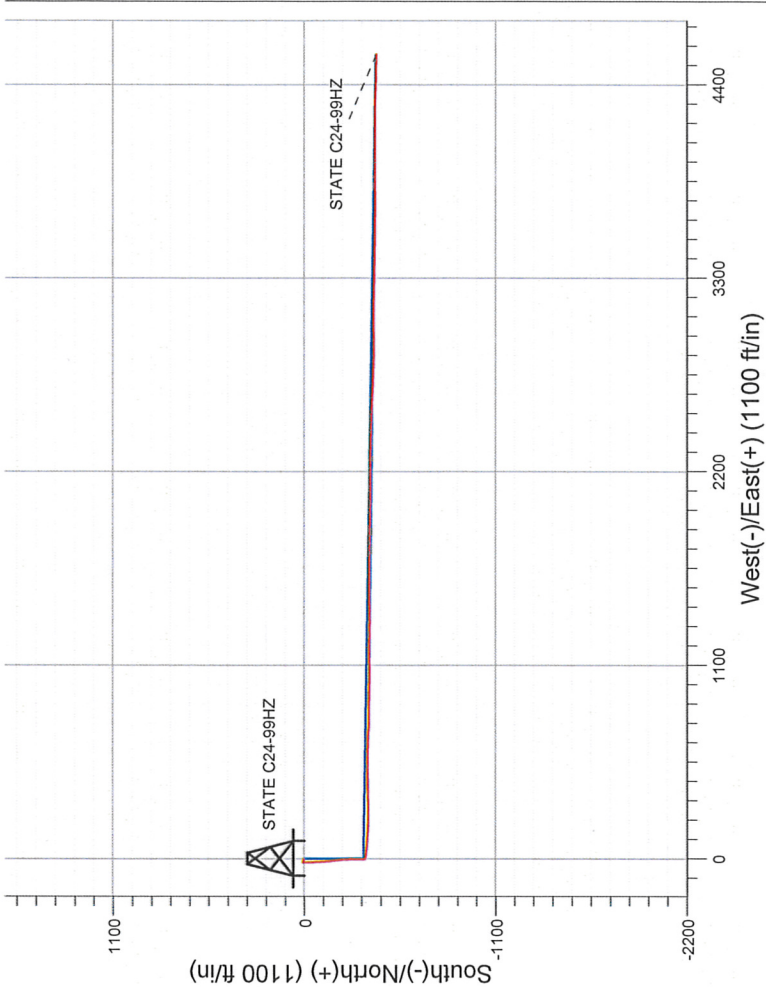
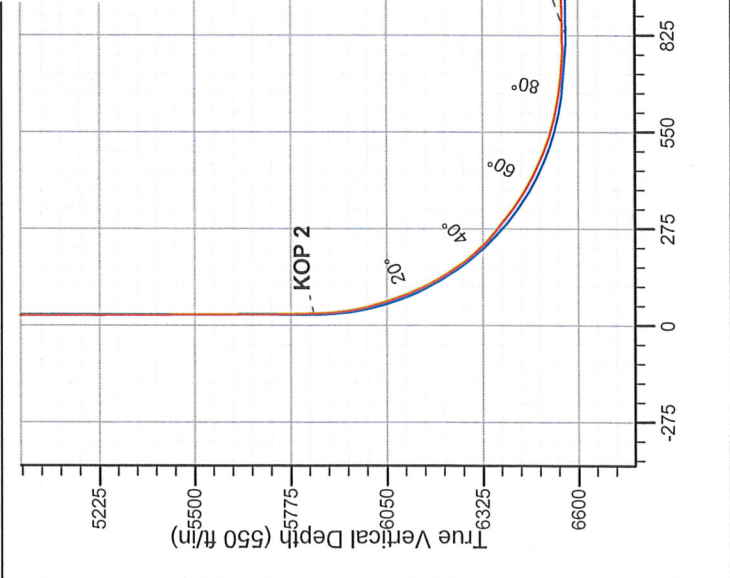


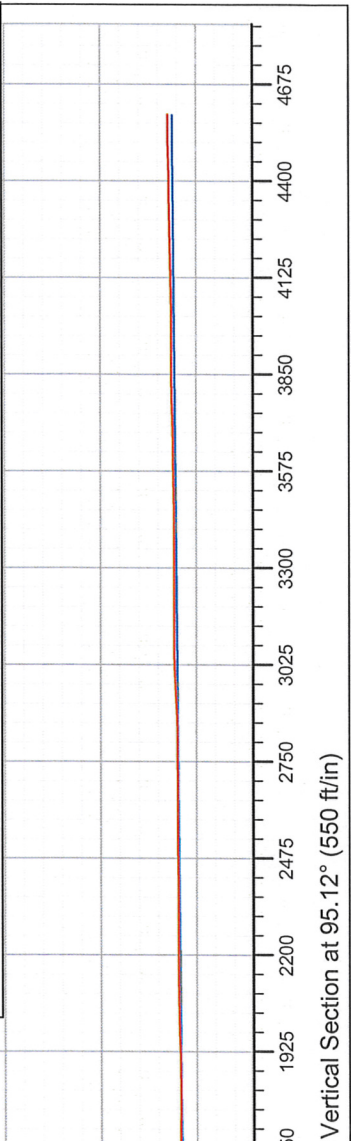
Well Name: <b>STATE C24-99HZ</b>					
Surface Location: <b>STATE C24-99HZ PAD 24-4N-64W</b>					
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone					
Ground Elevation: 4664.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1354261.96	3276713.77	40.301600	-104.507870
Original Well Elev WELL @ 4677.0ft (Original Well Elev)					
Slot					

FINAL SURVEY

Projected Bottom Hole Location  
10838'MD 6519'TVD 414'S & 4569'E of SHL  
91.0 degree Incl @ 91.5 degree AZM



STATE C24-99HZ PAD 24-4N-64W STATE C24-99HZ Wellbore #1 14:06, December 20 2011		ANNOTATIONS	
		No annotation data is available.	
		LEGEND	
		STATE C24-99HZ, Wellbore #1, PLAN 3 (MAY, 12 2011) V0	
		STATE C24-99HZ, Wellbore #1, PLAN 1 (APRIL 28, 2011) V0	
		Survey #2	





## **Directional**

### **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.24-T4N-R64W**

**STATE C24-99HZ PAD 24-4N-64W**

**STATE C24-99HZ**

**Wellbore #1**

**Survey: Survey #2**

### **Standard Survey Report**

**20 December, 2011**





**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.24-T4N-R64W  
**Site:** STATE C24-99HZ PAD 24-4N-64W  
**Well:** STATE C24-99HZ  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well STATE C24-99HZ  
**TVD Reference:** WELL @ 4677.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4677.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Landmark

<b>Project</b>	SEC.24-T4N-R64W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

**Site** STATE C24-99HZ PAD 24-4N-64W

<b>Site Position:</b>		<b>Northing:</b>	1,354,261.96 ft	<b>Latitude:</b>	40.301600
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,276,713.77 ft	<b>Longitude:</b>	-104.507870
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.64 °

<b>Well</b>	STATE C24-99HZ				
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,354,261.96 ft	<b>Latitude:</b> 40.301600
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	3,276,713.77 ft	<b>Longitude:</b> -104.507870
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,664.0 ft

**Wellbore** Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/28/2011	8.74	67.02	53,123

**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 (°)
	6,532.0	0.0	0.0	95.12

**Survey Program** Date 12/20/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
899.0	5,776.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

#### 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>HARDLINE BH 460'FEL</b>									
0.4	0.00	287.30	0.4	0.0	0.0	0.0	0.00	0.00	0.00
<b>HARDLINE SH 460'FWL</b>									
899.0	0.50	287.30	899.0	1.2	-3.7	-3.8	0.06	0.06	0.00
990.0	0.40	281.10	990.0	1.3	-4.4	-4.5	0.12	-0.11	-6.81
1,085.0	0.40	283.90	1,085.0	1.5	-5.1	-5.2	0.02	0.00	2.95
1,181.0	0.50	266.40	1,181.0	1.5	-5.8	-5.9	0.18	0.10	-18.23
1,275.0	0.80	268.20	1,275.0	1.5	-6.9	-7.0	0.32	0.32	1.91
1,371.0	0.70	285.20	1,371.0	1.6	-8.1	-8.2	0.25	-0.10	17.71
1,466.0	0.80	283.30	1,466.0	1.9	-9.3	-9.5	0.11	0.11	-2.00
1,562.0	0.70	288.60	1,561.9	2.3	-10.5	-10.7	0.13	-0.10	5.52
1,655.0	1.10	303.20	1,654.9	2.9	-11.8	-12.0	0.49	0.43	15.70

**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.24-T4N-R64W  
**Site:** STATE C24-99HZ PAD 24-4N-64W  
**Well:** STATE C24-99HZ  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well STATE C24-99HZ  
**TVD Reference:** WELL @ 4677.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4677.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**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)
1,750.0	1.00	293.50	1,749.9	3.8	-13.3	-13.6	0.21	-0.11	-10.21
1,846.0	0.90	281.80	1,845.9	4.3	-14.9	-15.2	0.23	-0.10	-12.19
1,941.0	1.00	289.10	1,940.9	4.7	-16.4	-16.7	0.17	0.11	7.68
2,036.0	0.80	255.80	2,035.9	4.8	-17.8	-18.2	0.58	-0.21	-35.05
2,131.0	1.40	255.60	2,130.9	4.3	-19.6	-19.9	0.63	0.63	-0.21
2,229.0	1.60	182.90	2,228.8	2.7	-20.8	-20.9	1.82	0.20	-74.18
2,324.0	1.70	179.70	2,323.8	-0.1	-20.9	-20.8	0.14	0.11	-3.37
2,419.0	3.10	180.60	2,418.7	-4.0	-20.9	-20.4	1.47	1.47	0.95
2,514.0	4.30	181.20	2,513.5	-10.2	-21.0	-20.0	1.26	1.26	0.63
2,610.0	6.80	179.90	2,609.1	-19.4	-21.0	-19.2	2.61	2.60	-1.35
2,705.0	8.40	182.20	2,703.2	-32.0	-21.3	-18.4	1.71	1.68	2.42
2,800.0	9.30	178.30	2,797.1	-46.6	-21.3	-17.1	1.14	0.95	-4.11
2,895.0	8.60	169.90	2,890.9	-61.3	-19.9	-14.3	1.56	-0.74	-8.84
2,990.0	8.60	174.10	2,984.9	-75.3	-17.9	-11.1	0.66	0.00	4.42
3,085.0	7.70	176.10	3,078.9	-88.7	-16.7	-8.7	0.99	-0.95	2.11
3,180.0	8.80	176.30	3,172.9	-102.4	-15.8	-6.6	1.16	1.16	0.21
3,275.0	8.60	182.10	3,266.8	-116.7	-15.6	-5.1	0.95	-0.21	6.11
3,370.0	8.20	178.70	3,360.8	-130.6	-15.7	-4.0	0.67	-0.42	-3.58
3,466.0	9.00	170.40	3,455.7	-144.8	-14.3	-1.3	1.54	0.83	-8.65
3,561.0	10.90	172.80	3,549.3	-161.1	-11.9	2.5	2.05	2.00	2.53
3,656.0	11.40	173.40	3,642.5	-179.3	-9.7	6.3	0.54	0.53	0.63
3,751.0	11.10	174.40	3,735.7	-197.7	-7.8	9.9	0.38	-0.32	1.05
3,845.0	8.90	174.10	3,828.3	-214.0	-6.1	13.0	2.34	-2.34	-0.32
3,940.0	8.00	176.10	3,922.2	-227.9	-4.9	15.4	1.00	-0.95	2.11
4,035.0	8.60	179.30	4,016.2	-241.6	-4.4	17.2	0.80	0.63	3.37
4,130.0	8.00	180.60	4,110.2	-255.3	-4.4	18.4	0.66	-0.63	1.37
4,225.0	8.40	180.10	4,204.3	-268.8	-4.5	19.6	0.43	0.42	-0.53
4,320.0	9.00	179.90	4,298.2	-283.2	-4.5	20.9	0.63	0.63	-0.21
4,415.0	8.10	179.50	4,392.1	-297.3	-4.4	22.2	0.95	-0.95	-0.42
4,510.0	7.80	180.20	4,486.2	-310.5	-4.4	23.4	0.33	-0.32	0.74
4,605.0	5.50	177.70	4,580.6	-321.5	-4.2	24.5	2.44	-2.42	-2.63
4,700.0	6.10	175.40	4,675.1	-331.0	-3.6	26.0	0.68	0.63	-2.42
4,795.0	3.60	181.80	4,769.7	-339.1	-3.3	27.0	2.69	-2.63	6.74
4,889.0	2.30	173.00	4,863.6	-343.9	-3.2	27.6	1.46	-1.38	-9.36
4,984.0	1.10	166.60	4,958.5	-346.7	-2.7	28.3	1.28	-1.26	-6.74
5,079.0	0.40	155.70	5,053.5	-347.8	-2.4	28.7	0.75	-0.74	-11.47
5,174.0	0.50	153.00	5,148.5	-348.5	-2.0	29.1	0.11	0.11	-2.84
5,269.0	0.40	138.20	5,243.5	-349.1	-1.6	29.6	0.16	-0.11	-15.58
5,364.0	0.40	170.40	5,338.5	-349.7	-1.4	29.9	0.23	0.00	33.89
5,460.0	0.50	154.00	5,434.5	-350.4	-1.1	30.2	0.17	0.10	-17.08
5,555.0	0.30	152.30	5,529.5	-351.0	-0.8	30.5	0.21	-0.21	-1.79
5,650.0	0.30	123.10	5,624.5	-351.4	-0.5	30.9	0.16	0.00	-30.74
5,776.0	0.50	124.30	5,750.5	-351.9	0.2	31.7	0.16	0.16	0.95
5,796.0	0.40	130.40	5,770.5	-351.9	0.4	31.8	0.55	-0.50	30.50
5,828.0	0.90	116.30	5,802.5	-352.1	0.7	32.1	1.63	1.56	-44.06
5,859.0	1.70	122.10	5,833.5	-352.5	1.3	32.8	2.61	2.58	18.71
5,890.0	3.00	105.90	5,864.5	-353.0	2.5	34.0	4.67	4.19	-52.26
5,922.0	4.70	99.80	5,896.4	-353.4	4.5	36.1	5.46	5.31	-19.06
5,954.0	7.40	91.90	5,928.2	-353.7	7.9	39.5	8.81	8.44	-24.69
5,985.0	10.70	94.50	5,958.8	-354.0	12.8	44.3	10.72	10.65	8.39
6,017.0	13.30	98.60	5,990.1	-354.8	19.4	51.0	8.55	8.13	12.81
6,049.0	15.70	99.10	6,021.1	-356.0	27.3	59.0	7.51	7.50	1.56
6,080.0	17.80	96.60	6,050.8	-357.2	36.1	67.9	7.16	6.77	-8.06
6,112.0	19.30	96.40	6,081.1	-358.4	46.2	78.1	4.69	4.69	-0.63



**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.24-T4N-R64W  
**Site:** STATE C24-99HZ PAD 24-4N-64W  
**Well:** STATE C24-99HZ  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well STATE C24-99HZ  
**TVD Reference:** WELL @ 4677.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4677.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**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)
6,144.0	21.80	93.30	6,111.1	-359.3	57.4	89.3	8.52	7.81	-9.69
6,175.0	24.00	95.00	6,139.7	-360.2	69.5	101.4	7.41	7.10	5.48
6,207.0	26.90	95.20	6,168.5	-361.4	83.2	115.1	9.07	9.06	0.63
6,239.0	29.60	94.00	6,196.7	-362.6	98.3	130.3	8.62	8.44	-3.75
6,270.0	32.00	94.00	6,223.4	-363.7	114.1	146.1	7.74	7.74	0.00
6,302.0	34.60	92.10	6,250.1	-364.6	131.6	163.7	8.75	8.13	-5.94
6,334.0	37.90	93.50	6,275.9	-365.6	150.5	182.6	10.63	10.31	4.38
6,365.0	41.20	94.30	6,299.8	-366.9	170.2	202.3	10.77	10.65	2.58
6,397.0	44.80	94.00	6,323.2	-368.5	192.0	224.1	11.27	11.25	-0.94
6,429.0	48.00	91.90	6,345.3	-369.7	215.1	247.3	11.07	10.00	-6.56
6,461.0	51.00	89.90	6,366.1	-370.1	239.4	271.5	10.51	9.38	-6.25
6,492.0	52.10	89.10	6,385.3	-369.8	263.7	295.7	4.08	3.55	-2.58
6,524.0	53.30	88.50	6,404.7	-369.3	289.2	321.0	4.04	3.75	-1.88
6,556.0	55.10	88.20	6,423.4	-368.6	315.1	346.8	5.68	5.63	-0.94
6,587.0	58.10	88.40	6,440.5	-367.8	341.0	372.5	9.69	9.68	0.65
6,619.0	60.90	88.70	6,456.7	-367.1	368.5	399.9	8.79	8.75	0.94
6,651.0	63.90	89.10	6,471.6	-366.6	396.9	428.0	9.44	9.38	1.25
6,682.0	65.30	89.20	6,484.9	-366.1	424.9	455.9	4.53	4.52	0.32
6,714.0	67.20	89.10	6,497.7	-365.7	454.2	485.0	5.94	5.94	-0.31
6,746.0	69.60	88.90	6,509.5	-365.2	483.9	514.6	7.52	7.50	-0.63
6,777.0	72.80	89.90	6,519.5	-364.9	513.3	543.8	10.76	10.32	3.23
6,809.0	75.50	90.10	6,528.3	-364.9	544.0	574.5	8.46	8.44	0.63
6,841.0	78.10	90.50	6,535.6	-365.0	575.2	605.5	8.22	8.13	1.25
6,873.0	80.00	91.30	6,541.6	-365.5	606.6	636.8	6.42	5.94	2.50
6,915.0	82.70	92.60	6,548.0	-366.9	648.1	678.3	7.12	6.43	3.10
6,971.0	85.00	92.60	6,554.0	-369.5	703.7	733.9	4.11	4.11	0.00
6,976.0	86.40	92.34	6,554.3	-369.7	708.7	738.9	28.48	28.00	-5.20
7,008.0	88.00	92.20	6,555.9	-371.0	740.6	770.8	5.02	5.00	-0.44
7,040.0	89.90	91.20	6,556.5	-371.9	772.6	802.7	6.71	5.94	-3.13
7,072.0	91.20	90.30	6,556.2	-372.3	804.6	834.6	4.94	4.06	-2.81
7,103.0	92.30	90.60	6,555.2	-372.6	835.6	865.5	3.68	3.55	0.97
7,135.0	92.20	91.30	6,554.0	-373.1	867.6	897.4	2.21	-0.31	2.19
7,167.0	90.90	91.30	6,553.1	-373.8	899.5	929.3	4.06	-4.06	0.00
7,198.0	89.60	91.30	6,553.0	-374.5	930.5	960.3	4.19	-4.19	0.00
7,230.0	89.30	91.30	6,553.3	-375.3	962.5	992.2	0.94	-0.94	0.00
7,262.0	89.30	90.60	6,553.7	-375.8	994.5	1,024.1	2.19	0.00	-2.19
7,293.0	89.70	90.60	6,553.9	-376.1	1,025.5	1,055.0	1.29	1.29	0.00
7,325.0	89.90	90.50	6,554.1	-376.4	1,057.5	1,086.9	0.70	0.63	-0.31
7,357.0	90.20	89.10	6,554.0	-376.3	1,089.5	1,118.8	4.47	0.94	-4.38
7,388.0	90.90	88.40	6,553.7	-375.6	1,120.5	1,149.6	3.19	2.26	-2.26
7,420.0	91.10	88.70	6,553.2	-374.8	1,152.5	1,181.4	1.13	0.63	0.94
7,451.0	90.50	90.60	6,552.7	-374.6	1,183.5	1,212.2	6.43	-1.94	6.13
7,483.0	90.10	90.80	6,552.6	-375.0	1,215.5	1,244.1	1.40	-1.25	0.63
7,515.0	89.00	90.80	6,552.8	-375.5	1,247.5	1,276.0	3.44	-3.44	0.00
7,546.0	89.90	91.20	6,553.1	-376.0	1,278.5	1,306.9	3.18	2.90	1.29
7,641.0	91.10	89.20	6,552.3	-376.3	1,373.5	1,401.6	2.46	1.26	-2.11
7,736.0	89.30	88.90	6,552.0	-374.8	1,468.4	1,496.0	1.92	-1.89	-0.32
7,831.0	89.70	89.90	6,552.8	-373.8	1,563.4	1,590.6	1.13	0.42	1.05
7,925.0	88.90	90.50	6,553.9	-374.1	1,657.4	1,684.2	1.06	-0.85	0.64
8,020.0	89.10	90.30	6,555.6	-374.8	1,752.4	1,778.9	0.30	0.21	-0.21
8,115.0	91.00	90.80	6,555.5	-375.7	1,847.4	1,873.6	2.07	2.00	0.53
8,210.0	92.60	91.70	6,552.5	-377.7	1,942.3	1,968.3	1.93	1.68	0.95
8,305.0	90.80	90.30	6,549.7	-379.4	2,037.3	2,063.0	2.40	-1.89	-1.47
8,400.0	89.60	89.60	6,549.4	-379.3	2,132.2	2,157.6	1.46	-1.26	-0.74

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**Wellbore:** Wellbore #1  
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**Local Co-ordinate Reference:** Well STATE C24-99HZ  
**TVD Reference:** WELL @ 4677.0ft (Original Well Elev)  
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**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**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)
8,495.0	90.00	91.00	6,549.7	-379.8	2,227.2	2,252.3	1.53	0.42	1.47
8,590.0	90.40	90.80	6,549.4	-381.3	2,322.2	2,347.0	0.47	0.42	-0.21
8,685.0	91.00	91.30	6,548.2	-383.0	2,417.2	2,441.8	0.82	0.63	0.53
8,780.0	90.30	91.70	6,547.1	-385.5	2,512.2	2,536.6	0.85	-0.74	0.42
8,875.0	90.10	92.80	6,546.8	-389.3	2,607.1	2,631.4	1.18	-0.21	1.16
8,970.0	89.80	93.50	6,546.9	-394.5	2,701.9	2,726.4	0.80	-0.32	0.74
9,065.0	90.70	91.30	6,546.5	-398.5	2,796.9	2,821.3	2.50	0.95	-2.32
9,160.0	93.10	89.90	6,543.3	-399.5	2,891.8	2,915.9	2.92	2.53	-1.47
9,254.0	92.40	89.10	6,538.8	-398.6	2,985.7	3,009.3	1.13	-0.74	-0.85
9,349.0	89.70	90.10	6,537.1	-398.0	3,080.6	3,103.9	3.03	-2.84	1.05
9,444.0	90.00	91.00	6,537.3	-398.9	3,175.6	3,198.6	1.00	0.32	0.95
9,539.0	90.30	91.20	6,537.1	-400.7	3,270.6	3,293.3	0.38	0.32	0.21
9,634.0	90.00	91.20	6,536.8	-402.7	3,365.6	3,388.1	0.32	-0.32	0.00
9,729.0	90.70	91.50	6,536.2	-404.9	3,460.6	3,482.9	0.80	0.74	0.32
9,823.0	90.80	90.30	6,535.0	-406.4	3,554.6	3,576.6	1.28	0.11	-1.28
9,919.0	91.10	90.30	6,533.4	-406.9	3,650.5	3,672.3	0.31	0.31	0.00
10,014.0	91.50	90.60	6,531.3	-407.7	3,745.5	3,767.0	0.53	0.42	0.32
10,109.0	90.60	88.90	6,529.5	-407.2	3,840.5	3,861.5	2.02	-0.95	-1.79
10,204.0	89.40	89.00	6,529.5	-405.5	3,935.5	3,956.0	1.27	-1.26	0.11
10,299.0	90.70	89.40	6,529.4	-404.2	4,030.5	4,050.5	1.43	1.37	0.42
10,395.0	91.60	91.00	6,527.5	-404.5	4,126.4	4,146.1	1.91	0.94	1.67
10,489.0	90.90	90.80	6,525.5	-406.0	4,220.4	4,239.8	0.77	-0.74	-0.21
10,585.0	90.70	91.30	6,524.1	-407.7	4,316.4	4,335.5	0.56	-0.21	0.52
10,680.0	91.10	91.50	6,522.6	-410.1	4,411.3	4,430.3	0.47	0.42	0.21
10,784.0	91.00	91.50	6,520.7	-412.8	4,515.3	4,534.1	0.10	-0.10	0.00
10,837.3	91.00	91.50	6,519.8	-414.2	4,568.6	4,587.3	0.00	0.00	0.00
BHL 1650'FNL & 500'FEL									
10,838.0	91.00	91.50	6,519.8	-414.2	4,569.3	4,588.0	0.00	0.00	0.00

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_