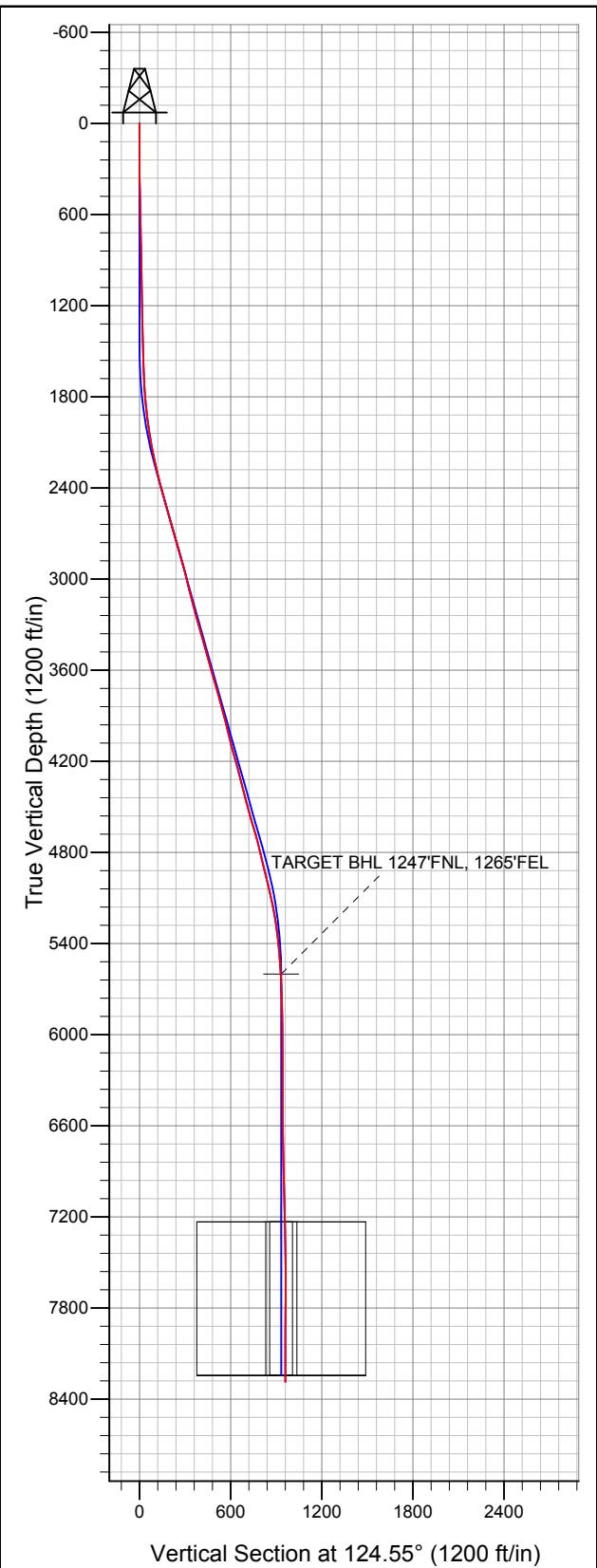
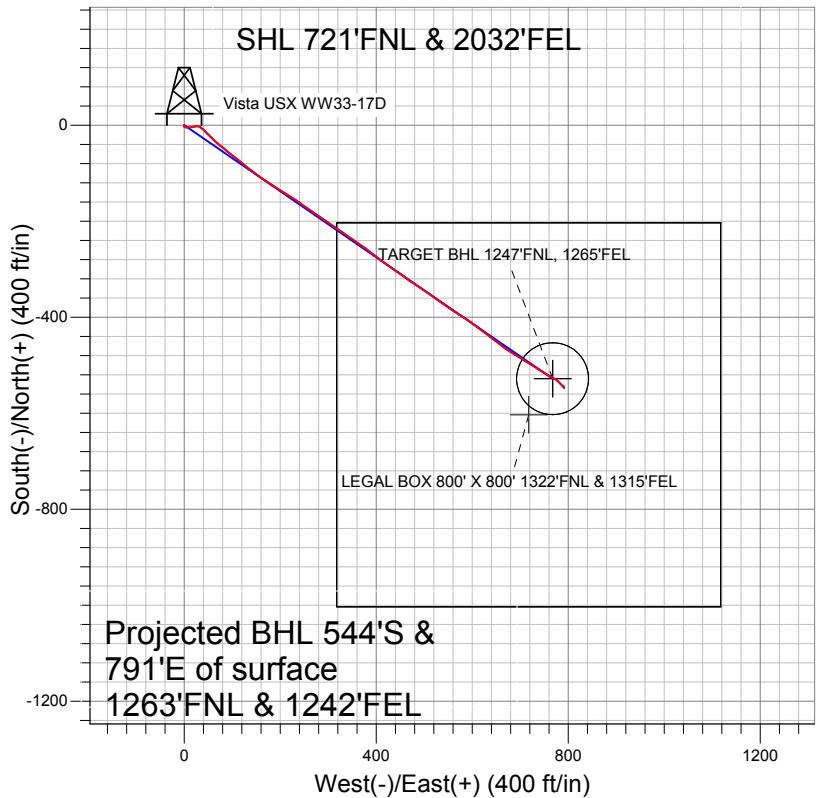




Well Name: **Vista USX WW33-17D**  
Surface Location: Stewardson USX WW33-01D Pad Sec.33-T1N-R66W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 5071.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1248393.95 3201683.98 40.012980 -104.779950  
Original Well EleWELL @ 5084.0ft (Original Well Elev)



## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- Vista USX WW33-17D, Wellbore #1, Vista USX WW33-17D Plan #2 (8-18-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
8398'MD & 8286'TVD @ 960' VS  
0.2 deg Inc 103.9 deg AZ

Project: SEC.33-T1N-R66W  
Site: Stewardson USX WW33-01D Pad Sec.33-T1N-R66W  
Well: Vista USX WW33-17D  
Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.33-T1N-R66W**

**Stewardson USX WW33-01D Pad Sec.33-T1N-R66W**

**Vista USX WW33-17D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**06 October, 2011**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Vista USX WW33-17D
<b>Project:</b>	SEC.33-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5084.0ft (Original Well Elev)
<b>Site:</b>	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	<b>MD Reference:</b>	WELL @ 5084.0ft (Original Well Elev)
<b>Well:</b>	Vista USX WW33-17D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.33-T1N-R66W, Weld County, Colorado		
<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		Stewardson USX WW33-01D Pad Sec.33-T1N-R66W			
Site Position:		Northing:	1,248,458.80 ft	Latitude:	40.013160
From:	Lat/Long	Easting:	3,201,593.82 ft	Longitude:	-104.780270
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.47 °

Well	Vista USX WW33-17D					
Well Position	+N-S	0.0 ft	Northing:	1,248,393.95 ft	Latitude:	40.012980
	+E-W	0.0 ft	Easting:	3,201,683.98 ft	Longitude:	-104.779950
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,071.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/18/2011	8.81	66.73	52,905

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	124.55	

<b>Survey Program</b>	<b>Date</b>	10/6/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
228.0	8,398.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
228.0	0.30	236.50	228.0	-0.3	-0.5	-0.2	0.13	0.13	0.00	
351.0	0.90	182.50	351.0	-1.5	-0.8	0.2	0.62	0.49	-43.90	
474.0	1.10	120.30	474.0	-3.0	0.2	1.9	0.85	0.16	-50.57	
597.0	1.20	113.20	597.0	-4.1	2.4	4.3	0.14	0.08	-5.77	
720.0	1.20	93.40	719.9	-4.7	4.8	6.7	0.34	0.00	-16.10	
853.0	1.70	85.10	852.9	-4.6	8.2	9.4	0.41	0.38	-6.24	
1,016.0	1.60	84.40	1,015.8	-4.2	12.9	13.0	0.06	-0.06	-0.43	
1,180.0	1.50	84.80	1,179.8	-3.8	17.3	16.4	0.06	-0.06	0.24	
1,391.0	1.40	79.70	1,390.7	-3.1	22.6	20.3	0.08	-0.05	-2.42	
1,477.0	1.40	72.10	1,476.7	-2.6	24.6	21.7	0.22	0.00	-8.84	
1,559.0	2.00	86.20	1,558.6	-2.2	27.0	23.5	0.89	0.73	17.20	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Vista USX WW33-17D
<b>Project:</b>	SEC.33-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5084.0ft (Original Well Elev)
<b>Site:</b>	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	<b>MD Reference:</b>	WELL @ 5084.0ft (Original Well Elev)
<b>Well:</b>	Vista USX WW33-17D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,640.0	2.60	104.10	1,639.6	-2.5	30.2	26.3	1.15	0.74	22.10
1,722.0	3.50	129.80	1,721.4	-4.6	33.9	30.5	1.97	1.10	31.34
1,804.0	5.10	128.20	1,803.2	-8.4	38.7	36.7	1.96	1.95	-1.95
1,886.0	6.40	134.20	1,884.8	-13.9	44.8	44.8	1.74	1.59	7.32
1,967.0	7.80	139.40	1,965.2	-21.2	51.6	54.6	1.90	1.73	6.42
2,049.0	8.80	130.80	2,046.3	-29.5	60.0	66.2	1.94	1.22	-10.49
2,131.0	10.70	130.50	2,127.1	-38.6	70.6	80.0	2.32	2.32	-0.37
2,212.0	12.10	130.50	2,206.5	-49.0	82.7	95.9	1.73	1.73	0.00
2,294.0	12.90	127.70	2,286.6	-60.1	96.5	113.6	1.22	0.98	-3.41
2,376.0	14.50	127.00	2,366.3	-71.9	112.0	133.0	1.96	1.95	-0.85
2,458.0	15.90	131.00	2,445.4	-85.5	128.6	154.4	2.13	1.71	4.88
2,539.0	15.70	126.40	2,523.3	-99.2	145.8	176.4	1.57	-0.25	-5.68
2,621.0	15.90	125.50	2,602.2	-112.3	163.9	198.7	0.39	0.24	-1.10
2,703.0	15.70	122.40	2,681.1	-124.8	182.4	221.0	1.06	-0.24	-3.78
2,785.0	16.80	121.50	2,759.9	-137.0	201.9	243.9	1.38	1.34	-1.10
2,866.0	15.50	122.00	2,837.7	-148.8	221.0	266.4	1.61	-1.60	0.62
2,948.0	15.70	125.70	2,916.6	-161.1	239.3	288.5	1.24	0.24	4.51
3,030.0	14.00	124.30	2,995.9	-173.1	256.5	309.5	2.12	-2.07	-1.71
3,111.0	14.10	123.10	3,074.5	-184.1	272.9	329.2	0.38	0.12	-1.48
3,193.0	13.60	125.90	3,154.1	-195.2	289.1	348.8	1.02	-0.61	3.41
3,275.0	14.90	126.30	3,233.6	-207.1	305.4	369.0	1.59	1.59	0.49
3,357.0	15.70	123.60	3,312.7	-219.4	323.1	390.6	1.31	0.98	-3.29
3,438.0	16.60	123.30	3,390.5	-231.9	341.9	413.1	1.12	1.11	-0.37
3,520.0	15.90	125.50	3,469.2	-244.8	360.9	436.1	1.14	-0.85	2.68
3,602.0	15.60	126.30	3,548.1	-257.9	378.9	458.3	0.45	-0.37	0.98
3,683.0	15.80	128.40	3,626.1	-271.2	396.3	480.2	0.74	0.25	2.59
3,765.0	15.80	125.50	3,705.0	-284.6	414.2	502.5	0.96	0.00	-3.54
3,847.0	15.20	125.00	3,784.0	-297.2	432.0	524.4	0.75	-0.73	-0.61
3,929.0	14.90	124.70	3,863.2	-309.4	449.5	545.7	0.38	-0.37	-0.37
4,010.0	13.90	127.10	3,941.7	-321.2	465.8	565.8	1.44	-1.23	2.96
4,092.0	14.20	123.40	4,021.2	-332.7	482.1	585.7	1.15	0.37	-4.51
4,174.0	14.90	124.00	4,100.6	-344.1	499.2	606.3	0.87	0.85	0.73
4,255.0	15.00	123.80	4,178.8	-355.8	516.6	627.2	0.14	0.12	-0.25
4,337.0	15.00	125.90	4,258.0	-367.9	534.0	648.4	0.66	0.00	2.56
4,419.0	14.00	126.60	4,337.4	-380.0	550.5	669.0	1.24	-1.22	0.85
4,501.0	14.20	121.50	4,417.0	-391.2	567.1	688.9	1.53	0.24	-6.22
4,582.0	15.60	123.30	4,495.2	-402.4	584.7	709.7	1.82	1.73	2.22
4,664.0	17.00	125.90	4,573.9	-415.4	603.6	732.7	1.92	1.71	3.17
4,746.0	16.00	128.70	4,652.6	-429.5	622.1	756.0	1.56	-1.22	3.41
4,827.0	14.70	125.90	4,730.7	-442.5	639.2	777.4	1.85	-1.60	-3.46
4,909.0	13.50	129.10	4,810.2	-454.7	655.0	797.4	1.74	-1.46	3.90
4,991.0	13.30	124.30	4,890.0	-466.0	670.2	816.3	1.38	-0.24	-5.85
5,073.0	13.40	121.00	4,969.8	-476.2	686.2	835.2	0.94	0.12	-4.02
5,154.0	13.50	122.40	5,048.5	-486.1	702.2	854.1	0.42	0.12	1.73
5,236.0	12.00	121.50	5,128.5	-495.7	717.5	872.1	1.85	-1.83	-1.10
5,318.0	9.90	122.60	5,209.0	-504.0	730.8	887.7	2.57	-2.56	1.34
5,400.0	8.20	122.20	5,290.0	-510.9	741.6	900.6	2.07	-2.07	-0.49
5,481.0	6.50	122.70	5,370.3	-516.4	750.4	910.9	2.10	-2.10	0.62
5,563.0	4.90	119.40	5,451.9	-520.7	757.3	919.1	1.99	-1.95	-4.02
5,645.0	3.90	117.60	5,533.7	-523.7	762.9	925.3	1.23	-1.22	-2.20
5,711.6	3.41	118.72	5,600.1	-525.7	766.6	929.5	0.75	-0.74	1.67
TARGET BHL 1247°FNL, 1265°FEL									
5,726.0	3.30	119.00	5,614.5	-526.1	767.4	930.4	0.75	-0.74	1.98

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Vista USX WW33-17D
<b>Project:</b>	SEC.33-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5084.0ft (Original Well Elev)
<b>Site:</b>	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	<b>MD Reference:</b>	WELL @ 5084.0ft (Original Well Elev)
<b>Well:</b>	Vista USX WW33-17D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
5,808.0	1.90	116.10	5,696.4	-527.8	770.6	934.1	1.71	-1.71	-3.54
5,972.0	1.10	121.00	5,860.4	-529.8	774.4	938.3	0.49	-0.49	2.99
6,135.0	0.40	142.20	6,023.3	-531.1	776.1	940.4	0.45	-0.43	13.01
6,298.0	0.20	153.80	6,186.3	-531.8	776.6	941.2	0.13	-0.12	7.12
6,462.0	0.40	138.40	6,350.3	-532.5	777.1	942.0	0.13	0.12	-9.39
6,625.0	0.40	126.80	6,513.3	-533.3	777.9	943.2	0.05	0.00	-7.12
6,789.0	0.70	132.40	6,677.3	-534.3	779.1	944.7	0.19	0.18	3.41
6,952.0	0.90	139.10	6,840.3	-535.9	780.7	946.9	0.14	0.12	4.11
7,116.0	1.10	134.80	7,004.3	-538.0	782.7	949.7	0.13	0.12	-2.62
7,279.0	1.50	136.60	7,167.2	-540.6	785.2	953.4	0.25	0.25	1.10
7,343.1	1.65	134.40	7,231.4	-541.9	786.5	955.1	0.26	0.24	-3.43
TARGET CIRCLE 1247'FNL & 1265'FEL									
7,343.6	1.66	134.39	7,231.8	-541.9	786.5	955.1	0.26	0.24	-3.10
LEGAL BOX 800' X 800' 1322'FNL & 1315'FEL									
7,443.0	1.90	131.70	7,331.2	-544.0	788.7	958.2	0.26	0.25	-2.70
7,606.0	0.60	151.20	7,494.1	-546.6	791.2	961.6	0.83	-0.80	11.96
7,769.0	0.50	336.10	7,657.1	-546.7	791.3	961.8	0.67	-0.06	-107.42
7,933.0	0.40	350.50	7,821.1	-545.4	790.9	960.8	0.09	-0.06	8.78
8,096.0	0.30	305.50	7,984.1	-544.6	790.5	959.9	0.17	-0.06	-27.61
8,260.0	0.10	86.30	8,148.1	-544.4	790.3	959.6	0.23	-0.12	85.85
8,348.0	0.20	103.90	8,236.1	-544.4	790.5	959.8	0.12	0.11	20.00
8,398.0	0.20	103.90	8,286.1	-544.4	790.7	960.0	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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