

Well Name: **Vista USX WW33-07D**

Surface Location: Stewardson USX WW33-01D Pad Sec.33-T1N-R66W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 5071.0

+N/-S +E/-W  
 0.0 0.0

Northing  
 1248419.15

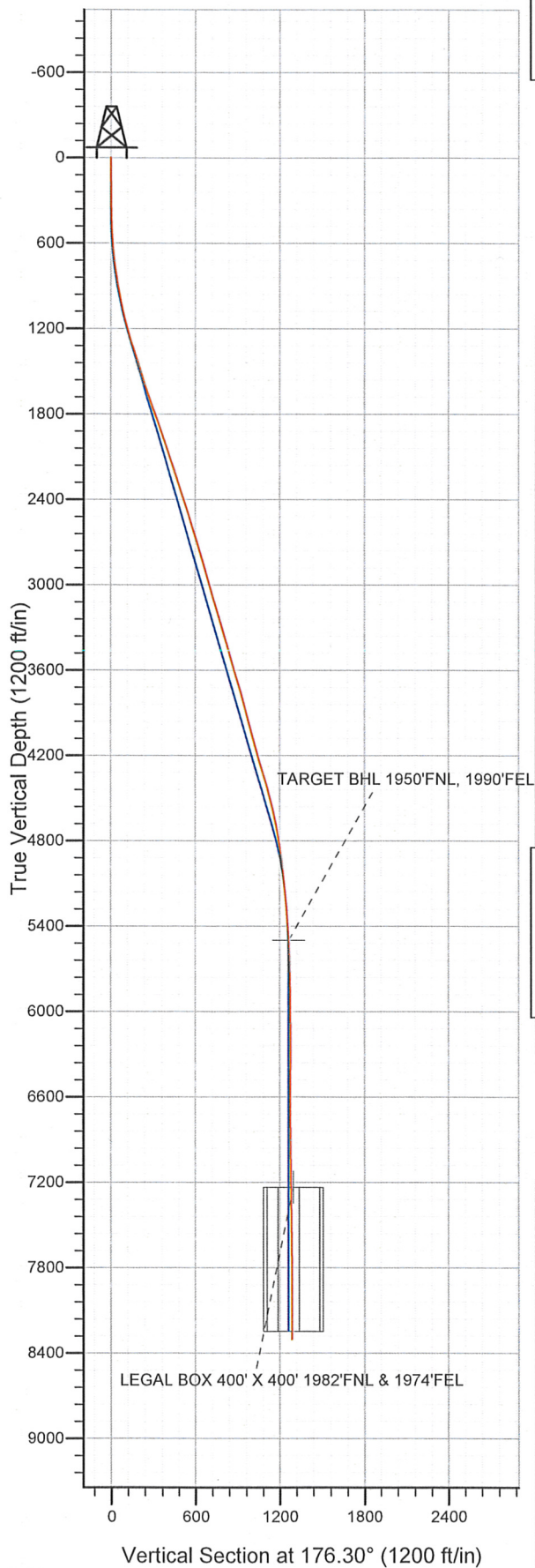
Easting  
 3201647.36

Latitude  
 40.013050

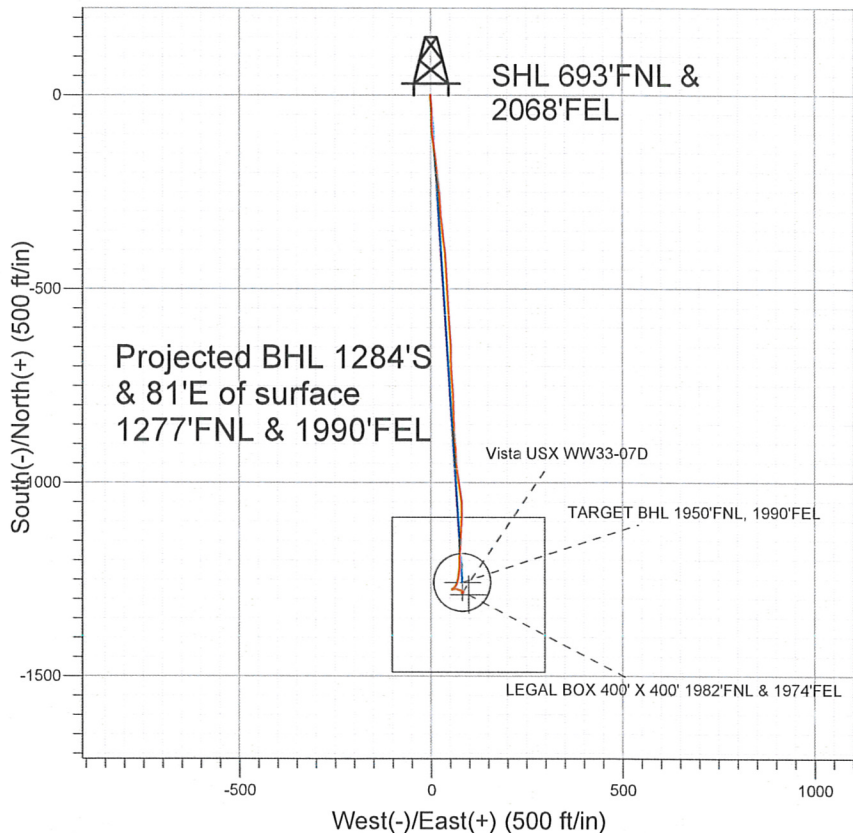
Longitude  
 -104.780080

Slot

Original Well Elev WELL @ 5084.0ft (Original Well Elev)



## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- ✕ Vista USX WW33-07D, Wellbore #1, Vista USX WW33-07D Plan #2 (8-18-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 8478'MD & 8302'TVD @ 1286'VS  
 0.4 deg Inc 311.9 deg AZ

Project: SEC.33-T1N-R66W  
 Site: Stewardson USX WW33-01D Pad Sec.33-T1N-R66W  
 Well: Vista USX WW33-07D  
 Plan: Wellbore #1



# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.33-T1N-R66W**

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

**Vista USX WW33-07D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**26 September, 2011**



**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.33-T1N-R66W  
**Site:** Stewardson USX WW33-01D Pad  
 Sec.33-T1N-R66W  
**Well:** Vista USX WW33-07D  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well Vista USX WW33-07D  
**TVD Reference:** WELL @ 5084.0ft (Original Well Elev)  
**MD Reference:** WELL @ 5084.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** 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

<b>Site Position:</b>		<b>Northing:</b>	1,248,458.80 ft	<b>Latitude:</b>	40.013160
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,201,593.82 ft	<b>Longitude:</b>	-104.780270
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.47 °

**Well** Vista USX WW33-07D

<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,248,419.15 ft	<b>Latitude:</b>	40.013050
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	3,201,647.36 ft	<b>Longitude:</b>	-104.780080
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,071.0 ft

**Wellbore** Wellbore #1

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

**Design** Wellbore #1

**Audit Notes:**

<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	176.30

**Survey Program** Date 9/26/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
168.0	8,478.0	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
168.0	0.40	174.60	168.0	-0.6	0.1	0.6	0.24	0.24	0.00
260.0	0.30	154.70	260.0	-1.1	0.2	1.1	0.17	-0.11	-21.63
352.0	0.60	183.60	352.0	-1.8	0.3	1.8	0.40	0.33	31.41
445.0	1.70	173.40	445.0	-3.7	0.4	3.7	1.20	1.18	-10.97
537.0	3.30	171.80	536.9	-7.7	0.9	7.7	1.74	1.74	-1.74
629.0	5.20	174.40	628.6	-14.4	1.7	14.5	2.08	2.07	2.83
721.0	7.00	176.50	720.1	-24.2	2.5	24.3	1.97	1.96	2.28
823.0	8.20	180.40	821.2	-37.6	2.8	37.7	1.28	1.18	3.82
905.0	9.50	179.50	902.2	-50.3	2.8	50.3	1.59	1.59	-1.10
987.0	11.50	179.30	982.8	-65.2	3.0	65.3	2.44	2.44	-0.24
1,068.0	13.40	177.60	1,061.9	-82.7	3.5	82.7	2.39	2.35	-2.10



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**Well:** Vista USX WW33-07D  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well Vista USX WW33-07D  
**TVD Reference:** WELL @ 5084.0ft (Original Well Elev)  
**MD Reference:** WELL @ 5084.0ft (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)
1,150.0	14.80	174.10	1,141.5	-102.6	4.9	102.7	2.00	1.71	-4.27
1,232.0	16.50	172.10	1,220.4	-124.5	7.6	124.8	2.17	2.07	-2.44
1,313.0	17.90	172.70	1,297.8	-148.3	10.8	148.7	1.74	1.73	0.74
1,376.0	18.30	173.00	1,357.7	-167.7	13.2	168.2	0.65	0.63	0.48
1,435.0	17.40	173.70	1,413.8	-185.6	15.3	186.2	1.57	-1.53	1.19
1,517.0	17.10	172.80	1,492.2	-209.8	18.2	210.5	0.49	-0.37	-1.10
1,599.0	18.00	174.20	1,570.3	-234.4	20.9	235.2	1.21	1.10	1.71
1,680.0	18.10	174.60	1,647.4	-259.3	23.4	260.3	0.20	0.12	0.49
1,762.0	19.10	177.20	1,725.1	-285.4	25.3	286.5	1.58	1.22	3.17
1,844.0	19.30	174.60	1,802.5	-312.3	27.2	313.4	1.07	0.24	-3.17
1,925.0	19.60	174.20	1,878.9	-339.2	29.8	340.4	0.41	0.37	-0.49
2,007.0	19.30	173.40	1,956.2	-366.3	32.8	367.7	0.49	-0.37	-0.98
2,089.0	18.60	172.70	2,033.8	-392.7	36.0	394.2	0.90	-0.85	-0.85
2,171.0	19.20	177.20	2,111.3	-419.2	38.3	420.8	1.92	0.73	5.49
2,252.0	18.90	175.60	2,187.9	-445.6	40.0	447.2	0.74	-0.37	-1.98
2,334.0	17.60	176.20	2,265.8	-471.2	41.8	472.9	1.60	-1.59	0.73
2,416.0	18.10	177.60	2,343.8	-496.3	43.2	498.0	0.80	0.61	1.71
2,497.0	18.10	177.60	2,420.8	-521.4	44.2	523.2	0.00	0.00	0.00
2,579.0	18.10	175.50	2,498.8	-546.8	45.7	548.6	0.80	0.00	-2.56
2,661.0	17.30	175.50	2,576.9	-571.7	47.7	573.6	0.98	-0.98	0.00
2,743.0	17.00	175.50	2,655.2	-595.8	49.6	597.8	0.37	-0.37	0.00
2,824.0	16.40	175.80	2,732.8	-619.0	51.4	621.0	0.75	-0.74	0.37
2,906.0	17.10	177.10	2,811.3	-642.6	52.8	644.7	0.97	0.85	1.59
2,988.0	16.30	181.30	2,889.9	-666.1	53.2	668.2	1.77	-0.98	5.12
3,069.0	15.80	177.80	2,967.7	-688.5	53.3	690.5	1.34	-0.62	-4.32
3,151.0	16.10	176.50	3,046.6	-711.0	54.5	713.1	0.57	0.37	-1.59
3,233.0	17.10	174.40	3,125.2	-734.4	56.3	736.5	1.42	1.22	-2.56
3,315.0	17.10	175.80	3,203.5	-758.4	58.4	760.6	0.50	0.00	1.71
3,396.0	17.00	179.20	3,281.0	-782.1	59.4	784.3	1.24	-0.12	4.20
3,478.0	16.20	177.60	3,359.6	-805.5	60.1	807.7	1.12	-0.98	-1.95
3,560.0	16.10	179.90	3,438.3	-828.3	60.6	830.5	0.79	-0.12	2.80
3,642.0	16.10	179.20	3,517.1	-851.1	60.7	853.2	0.24	0.00	-0.85
3,723.0	16.90	175.10	3,594.8	-874.0	61.9	876.2	1.74	0.99	-5.06
3,805.0	17.10	174.10	3,673.2	-897.9	64.2	900.2	0.43	0.24	-1.22
3,887.0	16.40	177.80	3,751.7	-921.4	65.9	923.8	1.56	-0.85	4.51
3,968.0	14.80	177.10	3,829.7	-943.2	66.8	945.6	1.99	-1.98	-0.86
4,050.0	14.30	174.20	3,909.1	-963.7	68.4	966.1	1.08	-0.61	-3.54
4,132.0	14.60	169.80	3,988.5	-984.0	71.2	986.5	1.39	0.37	-5.37
4,214.0	15.40	170.70	4,067.7	-1,004.9	74.8	1,007.6	1.02	0.98	1.10
4,295.0	15.50	171.30	4,145.8	-1,026.2	78.2	1,029.1	0.23	0.12	0.74
4,377.0	16.00	175.60	4,224.7	-1,048.3	80.7	1,051.3	1.55	0.61	5.24
4,459.0	16.90	181.40	4,303.4	-1,071.5	81.3	1,074.5	2.28	1.10	7.07
4,540.0	17.70	181.10	4,380.7	-1,095.6	80.8	1,098.5	0.99	0.99	-0.37
4,622.0	15.30	182.90	4,459.3	-1,118.9	80.0	1,121.7	2.99	-2.93	2.20
4,704.0	13.90	183.20	4,538.7	-1,139.5	78.9	1,142.2	1.71	-1.71	0.37
4,786.0	12.80	183.40	4,618.4	-1,158.4	77.8	1,161.0	1.34	-1.34	0.24
4,867.0	10.80	183.40	4,697.7	-1,174.9	76.8	1,177.4	2.47	-2.47	0.00
4,949.0	9.90	183.20	4,778.4	-1,189.6	76.0	1,192.1	1.10	-1.10	-0.24
5,031.0	7.70	182.30	4,859.4	-1,202.2	75.3	1,204.5	2.69	-2.68	-1.10
5,112.0	7.10	181.30	4,939.8	-1,212.6	75.0	1,214.9	0.76	-0.74	-1.23
5,194.0	6.30	181.10	5,021.2	-1,222.2	74.8	1,224.4	0.98	-0.98	-0.24
5,276.0	5.90	183.90	5,102.7	-1,230.9	74.4	1,233.1	0.61	-0.49	3.41
5,358.0	5.50	187.10	5,184.3	-1,239.0	73.7	1,241.1	0.62	-0.49	3.90

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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)
5,439.0	5.10	191.60	5,265.0	-1,246.3	72.5	1,248.4	0.71	-0.49	5.56
5,521.0	4.70	195.30	5,346.7	-1,253.2	70.8	1,255.1	0.62	-0.49	4.51
5,603.0	3.90	199.40	5,428.4	-1,259.0	69.0	1,260.9	1.04	-0.98	5.00
5,674.0	3.38	205.66	5,499.3	-1,263.2	67.3	1,264.9	0.92	-0.74	8.81
<b>TARGET BHL 1950'FNL, 1990'FEL</b>									
5,685.0	3.30	206.80	5,510.3	-1,263.8	67.0	1,265.5	0.92	-0.70	10.39
5,766.0	2.70	209.60	5,591.2	-1,267.5	65.0	1,269.1	0.76	-0.74	3.46
5,848.0	2.90	224.20	5,673.1	-1,270.7	62.6	1,272.1	0.90	0.24	17.80
5,930.0	2.30	242.90	5,755.0	-1,272.9	59.7	1,274.1	1.26	-0.73	22.80
6,011.0	1.20	234.90	5,836.0	-1,274.1	57.6	1,275.2	1.39	-1.36	-9.88
6,093.0	0.60	218.50	5,917.9	-1,275.0	56.6	1,276.0	0.79	-0.73	-20.00
6,257.0	0.50	106.70	6,081.9	-1,275.8	56.8	1,276.9	0.56	-0.06	-68.17
6,420.0	0.70	70.80	6,244.9	-1,275.7	58.4	1,276.8	0.26	0.12	-22.02
6,583.0	0.70	71.20	6,407.9	-1,275.1	60.3	1,276.3	0.00	0.00	0.25
6,747.0	1.00	90.90	6,571.9	-1,274.8	62.7	1,276.2	0.25	0.18	12.01
6,910.0	1.10	92.30	6,734.9	-1,274.9	65.6	1,276.4	0.06	0.06	0.86
7,074.0	1.30	101.50	6,898.8	-1,275.3	69.0	1,277.1	0.17	0.12	5.61
7,237.0	1.50	109.70	7,061.8	-1,276.4	72.9	1,278.4	0.17	0.12	5.03
7,401.0	1.80	107.10	7,225.7	-1,277.9	77.3	1,280.2	0.19	0.18	-1.59
7,410.2	1.84	107.50	7,234.9	-1,277.9	77.6	1,280.3	0.50	0.48	4.40
<b>TARGET CIRCLE 1950'FNL &amp; 1990'FEL</b>									
7,411.1	1.85	107.55	7,235.8	-1,278.0	77.7	1,280.3	0.50	0.49	4.29
<b>LEGAL BOX 400' X 400' 1982'FNL &amp; 1974'FEL</b>									
7,564.0	2.60	112.20	7,388.6	-1,280.0	83.2	1,282.7	0.50	0.49	3.05
7,728.0	1.00	194.10	7,552.5	-1,282.8	86.3	1,285.7	1.62	-0.98	49.94
7,891.0	1.10	240.30	7,715.5	-1,285.0	84.6	1,287.7	0.51	0.06	28.34
8,054.0	0.30	271.30	7,878.5	-1,285.7	82.8	1,288.4	0.53	-0.49	19.02
8,217.0	0.40	3.20	8,041.5	-1,285.1	82.4	1,287.8	0.31	0.06	56.38
8,380.0	0.60	308.00	8,204.5	-1,284.1	81.8	1,286.7	0.30	0.12	-33.87
8,428.0	0.40	311.90	8,252.5	-1,283.8	81.5	1,286.4	0.42	-0.42	8.13
8,478.0	0.40	311.90	8,302.5	-1,283.6	81.2	1,286.1	0.00	0.00	0.00

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