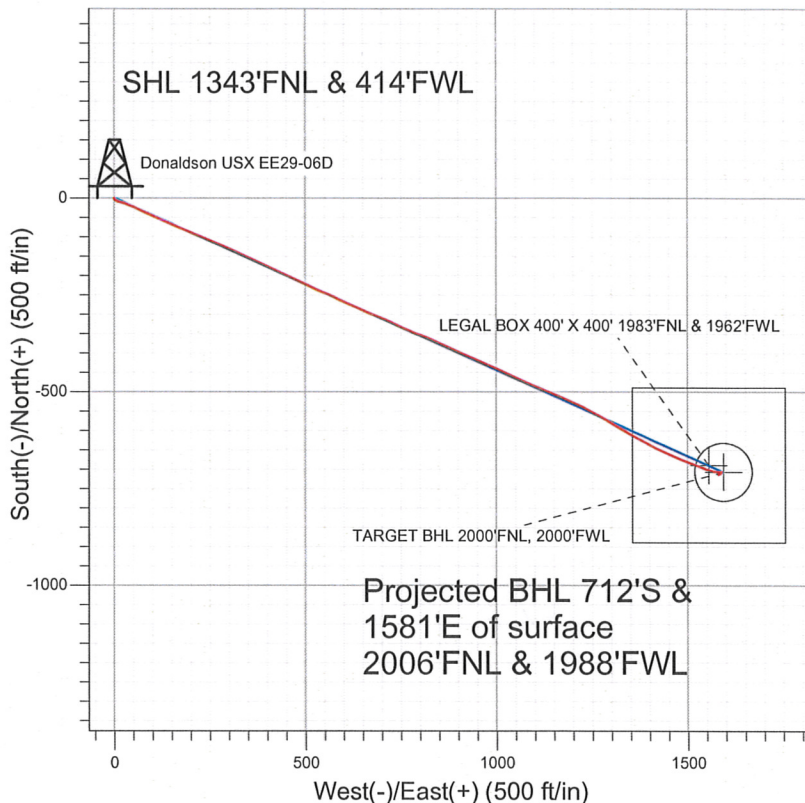


## NOBLE ENERGY INC WELD COUNTY CO



### LEGEND

- Donaldson USX EE29-06D, Wellbore #1, Noble Donaldson USX EE29-06D Plan #1 (5-04-11)
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
7820'MD & 7499'TVD @ 1734' VS  
0.1 deg Inc 190.0 deg AZ

Project: SEC.29-T7N-R65W  
Site: Donaldson USX EE29-12D Pad Sec.29-T7N-R65W  
Well: Donaldson USX EE29-06D  
Plan: Wellbore #1



**Directional**

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

**SEC.29-T7N-R65W**

**Donaldson USX EE29-12D Pad Sec.29-T7N-R65W**

**Donaldson USX EE29-06D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**13 September, 2011**



**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.29-T7N-R65W  
**Site:** Donaldson USX EE29-12D Pad  
 Sec.29-T7N-R65W  
**Well:** Donaldson USX EE29-06D  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well Donaldson USX EE29-06D  
**TVD Reference:** WELL @ 4938.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4938.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Landmark

<b>Project</b>	SEC.29-T7N-R65W, 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** Donaldson USX EE29-12D Pad Sec.29-T7N-R65W

<b>Site Position:</b>		<b>Northing:</b>	1,444,056.55 ft	<b>Latitude:</b>	40.549550
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,223,614.25 ft	<b>Longitude:</b>	-104.695320
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.52 °

**Well** Donaldson USX EE29-06D

<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,444,053.49 ft	<b>Latitude:</b>	40.549540
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	3,223,680.98 ft	<b>Longitude:</b>	-104.695080
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,925.0 ft

**Wellbore** Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/9/2011	8.85	67.19	53,227

**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	114.26

**Survey Program** Date 9/13/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
104.0	7,820.0	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
104.0	0.20	204.60	104.0	-0.2	-0.1	0.0	0.19	0.19	0.00
199.0	0.30	269.70	199.0	-0.3	-0.4	-0.2	0.30	0.11	68.53
322.0	0.10	89.80	322.0	-0.3	-0.6	-0.4	0.33	-0.16	-146.26
404.0	0.30	141.30	404.0	-0.5	-0.4	-0.2	0.31	0.24	62.81
486.0	0.30	140.80	486.0	-0.8	-0.1	0.2	0.00	0.00	-0.61
568.0	0.40	131.00	568.0	-1.2	0.2	0.7	0.14	0.12	-11.95
659.0	0.40	150.70	659.0	-1.7	0.6	1.2	0.15	0.00	21.65
710.0	0.30	200.40	710.0	-1.9	0.7	1.4	0.60	-0.20	97.45
790.0	1.10	128.00	790.0	-2.6	1.2	2.2	1.31	1.00	-90.50
872.0	2.60	128.70	871.9	-4.3	3.3	4.7	1.83	1.83	0.85
954.0	4.30	120.30	953.8	-7.0	7.4	9.6	2.16	2.07	-10.24



Company: NOBLE ENERGY INC WELD COUNTY CO  
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Site: Donaldson USX EE29-12D Pad  
Sec.29-T7N-R65W  
Well: Donaldson USX EE29-06D  
Wellbore: Wellbore #1  
Design: Wellbore #1

Local Co-ordinate Reference: Well Donaldson USX EE29-06D  
TVD Reference: WELL @ 4938.0ft (Original Well Elev)  
MD Reference: WELL @ 4938.0ft (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)
1,036.0	6.10	101.60	1,035.5	-9.4	14.3	16.9	2.99	2.20	-22.80
1,117.0	8.40	107.10	1,115.8	-12.0	24.2	27.0	2.96	2.84	6.79
1,199.0	10.40	110.90	1,196.7	-16.4	36.8	40.3	2.55	2.44	4.63
1,281.0	12.50	115.30	1,277.1	-22.8	51.7	56.6	2.77	2.56	5.37
1,363.0	14.70	115.30	1,356.8	-31.1	69.2	75.8	2.68	2.68	0.00
1,444.0	16.60	115.90	1,434.8	-40.5	88.9	97.7	2.35	2.35	0.74
1,526.0	18.60	112.90	1,512.9	-50.7	111.5	122.5	2.68	2.44	-3.66
1,608.0	20.00	113.80	1,590.3	-61.5	136.3	149.6	1.75	1.71	1.10
1,690.0	21.70	112.70	1,666.9	-73.0	163.2	178.7	2.13	2.07	-1.34
1,771.0	22.70	113.00	1,741.9	-84.9	191.4	209.3	1.24	1.23	0.37
1,853.0	23.50	110.60	1,817.4	-96.8	221.2	241.5	1.51	0.98	-2.93
1,935.0	23.80	113.60	1,892.5	-109.2	251.7	274.3	1.51	0.37	3.66
2,017.0	23.60	113.00	1,967.6	-122.2	282.0	307.3	0.38	-0.24	-0.73
2,098.0	23.00	111.80	2,041.9	-134.4	311.6	339.3	0.94	-0.74	-1.48
2,180.0	23.60	116.70	2,117.3	-147.8	341.1	371.7	2.47	0.73	5.98
2,262.0	24.30	115.20	2,192.2	-162.3	371.1	405.0	1.13	0.85	-1.83
2,344.0	23.40	112.70	2,267.2	-175.8	401.3	438.1	1.65	-1.10	-3.05
2,425.0	22.30	115.00	2,341.8	-188.5	430.1	469.6	1.75	-1.36	2.84
2,507.0	22.40	114.60	2,417.7	-201.6	458.4	500.8	0.22	0.12	-0.49
2,589.0	23.30	115.30	2,493.3	-215.0	487.3	532.6	1.15	1.10	0.85
2,670.0	22.90	115.70	2,567.8	-228.7	516.0	564.4	0.53	-0.49	0.49
2,752.0	22.70	112.20	2,643.4	-241.6	545.0	596.1	1.67	-0.24	-4.27
2,834.0	23.30	115.70	2,718.8	-254.6	574.3	628.2	1.82	0.73	4.27
2,916.0	24.80	114.10	2,793.7	-268.7	604.6	661.6	1.99	1.83	-1.95
2,997.0	24.80	112.50	2,867.3	-282.1	635.8	695.5	0.83	0.00	-1.98
3,079.0	25.00	113.00	2,941.6	-295.4	667.6	730.0	0.35	0.24	0.61
3,161.0	24.00	112.20	3,016.2	-308.5	699.0	764.0	1.28	-1.22	-0.98
3,243.0	24.00	114.80	3,091.2	-321.8	729.6	797.4	1.29	0.00	3.17
3,324.0	23.20	115.20	3,165.4	-335.5	759.0	829.8	1.01	-0.99	0.49
3,406.0	22.80	110.60	3,240.9	-348.0	788.5	861.8	2.24	-0.49	-5.61
3,488.0	23.90	111.80	3,316.2	-359.7	818.8	894.3	1.46	1.34	1.46
3,570.0	25.50	113.80	3,390.6	-373.0	850.3	928.5	2.20	1.95	2.44
3,651.0	23.40	114.30	3,464.4	-386.7	881.0	962.0	2.61	-2.59	0.62
3,733.0	21.40	114.10	3,540.2	-399.5	909.5	993.3	2.44	-2.44	-0.24
3,815.0	21.60	114.60	3,616.5	-411.9	936.8	1,023.3	0.33	0.24	0.61
3,897.0	21.40	111.80	3,692.8	-423.7	964.4	1,053.4	1.27	-0.24	-3.41
3,978.0	20.80	113.60	3,768.4	-435.0	991.3	1,082.5	1.09	-0.74	2.22
4,060.0	19.30	113.40	3,845.4	-446.2	1,017.1	1,110.6	1.83	-1.83	-0.24
4,142.0	18.70	115.70	3,922.9	-457.3	1,041.4	1,137.3	1.17	-0.73	2.80
4,224.0	19.90	116.80	4,000.3	-469.3	1,065.7	1,164.4	1.53	1.46	1.34
4,305.0	20.90	112.70	4,076.2	-481.1	1,091.3	1,192.6	2.15	1.23	-5.06
4,387.0	21.60	111.30	4,152.6	-492.2	1,118.9	1,222.3	1.05	0.85	-1.71
4,469.0	22.40	113.40	4,228.7	-503.9	1,147.3	1,253.0	1.37	0.98	2.56
4,551.0	22.40	113.00	4,304.5	-516.2	1,176.0	1,284.3	0.19	0.00	-0.49
4,632.0	21.40	114.10	4,379.6	-528.2	1,203.7	1,314.5	1.33	-1.23	1.36
4,714.0	22.20	117.40	4,455.8	-541.5	1,231.1	1,344.9	1.78	0.98	4.02
4,796.0	22.60	117.10	4,531.6	-555.8	1,258.9	1,376.1	0.51	0.49	-0.37
4,877.0	21.60	121.30	4,606.6	-570.6	1,285.5	1,406.4	2.31	-1.23	5.19
4,959.0	21.90	121.30	4,682.8	-586.4	1,311.5	1,436.6	0.37	0.37	0.00
5,041.0	23.70	120.40	4,758.4	-602.7	1,338.8	1,468.2	2.24	2.20	-1.10
5,123.0	22.00	118.50	4,834.0	-618.4	1,366.5	1,499.9	2.26	-2.07	-2.32
5,204.0	20.00	117.60	4,909.6	-632.0	1,392.1	1,528.8	2.50	-2.47	-1.11
5,286.0	18.80	114.50	4,986.9	-644.0	1,416.5	1,556.0	1.93	-1.46	-3.78

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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)
5,368.0	18.70	115.50	5,064.6	-655.1	1,440.4	1,582.4	0.41	-0.12	1.22
5,450.0	15.20	112.20	5,143.0	-664.9	1,462.2	1,606.3	4.42	-4.27	-4.02
5,531.0	15.80	113.00	5,221.1	-673.2	1,482.2	1,627.9	0.79	0.74	0.99
5,613.0	16.30	111.60	5,299.9	-681.8	1,503.2	1,650.6	0.77	0.61	-1.71
5,695.0	13.50	111.10	5,379.1	-689.5	1,522.8	1,671.6	3.42	-3.41	-0.61
5,777.0	11.10	110.20	5,459.2	-695.6	1,539.2	1,689.1	2.94	-2.93	-1.10
5,858.0	8.40	106.40	5,539.0	-700.0	1,552.2	1,702.7	3.42	-3.33	-4.69
5,940.0	7.20	106.50	5,620.3	-703.2	1,562.8	1,713.7	1.46	-1.46	0.12
6,022.0	5.90	101.60	5,701.7	-705.5	1,571.9	1,722.9	1.72	-1.59	-5.98
6,104.0	3.80	94.90	5,783.4	-706.5	1,578.7	1,729.6	2.65	-2.56	-8.17
6,185.0	2.60	84.90	5,864.3	-706.6	1,583.2	1,733.8	1.63	-1.48	-12.35
6,267.0	1.70	88.80	5,946.3	-706.4	1,586.3	1,736.5	1.11	-1.10	4.76
6,320.9	1.24	84.77	6,000.1	-706.3	1,587.7	1,737.7	0.88	-0.86	-7.47
TARGET BHL 2000'FNL, 2000'FWL									
6,349.0	1.00	81.20	6,028.2	-706.3	1,588.2	1,738.2	0.88	-0.84	-12.70
6,431.0	0.30	193.70	6,110.2	-706.4	1,588.9	1,738.8	1.40	-0.85	137.20
6,512.0	0.50	210.40	6,191.2	-706.9	1,588.7	1,738.8	0.28	0.25	20.62
6,594.0	0.30	222.20	6,273.2	-707.4	1,588.3	1,738.7	0.26	-0.24	14.39
6,676.0	0.50	233.10	6,355.2	-707.7	1,587.9	1,738.5	0.26	0.24	13.29
6,757.0	1.00	210.10	6,436.2	-708.6	1,587.3	1,738.2	0.71	0.62	-28.40
6,839.0	0.80	222.40	6,518.2	-709.6	1,586.5	1,738.0	0.34	-0.24	15.00
6,921.0	0.40	266.30	6,600.2	-710.0	1,585.8	1,737.5	0.71	-0.49	53.54
7,003.0	0.60	245.40	6,682.2	-710.2	1,585.2	1,737.0	0.33	0.24	-25.49
7,084.0	0.20	260.00	6,763.2	-710.4	1,584.6	1,736.6	0.51	-0.49	18.02
7,166.0	0.50	237.50	6,845.2	-710.7	1,584.2	1,736.3	0.40	0.37	-27.44
7,248.0	0.40	269.80	6,927.2	-710.8	1,583.6	1,735.8	0.33	-0.12	39.39
7,330.0	0.40	246.80	7,009.2	-711.0	1,583.1	1,735.4	0.19	0.00	-28.05
7,348.7	0.40	257.53	7,027.9	-711.0	1,582.9	1,735.3	0.40	0.01	57.27
TARGET CIRCLE 2000'FNL & 2000'FWL									
7,349.0	0.40	257.69	7,028.2	-711.0	1,582.9	1,735.3	0.40	0.05	56.55
LEGAL BOX 400' X 400' 1983'FNL & 1962'FWL									
7,411.0	0.50	287.20	7,090.2	-711.0	1,582.5	1,734.8	0.40	0.16	47.61
7,493.0	0.40	291.60	7,172.2	-710.8	1,581.9	1,734.2	0.13	-0.12	5.37
7,575.0	0.40	204.80	7,254.2	-710.9	1,581.5	1,733.9	0.67	0.00	-105.85
7,657.0	0.50	195.70	7,336.2	-711.5	1,581.3	1,734.0	0.15	0.12	-11.10
7,738.0	0.60	210.60	7,417.2	-712.2	1,580.9	1,734.0	0.21	0.12	18.40
7,769.0	0.10	196.40	7,448.2	-712.4	1,580.9	1,734.0	1.62	-1.61	-45.81
7,820.0	0.10	190.00	7,499.2	-712.5	1,580.8	1,734.0	0.02	0.00	-12.55

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