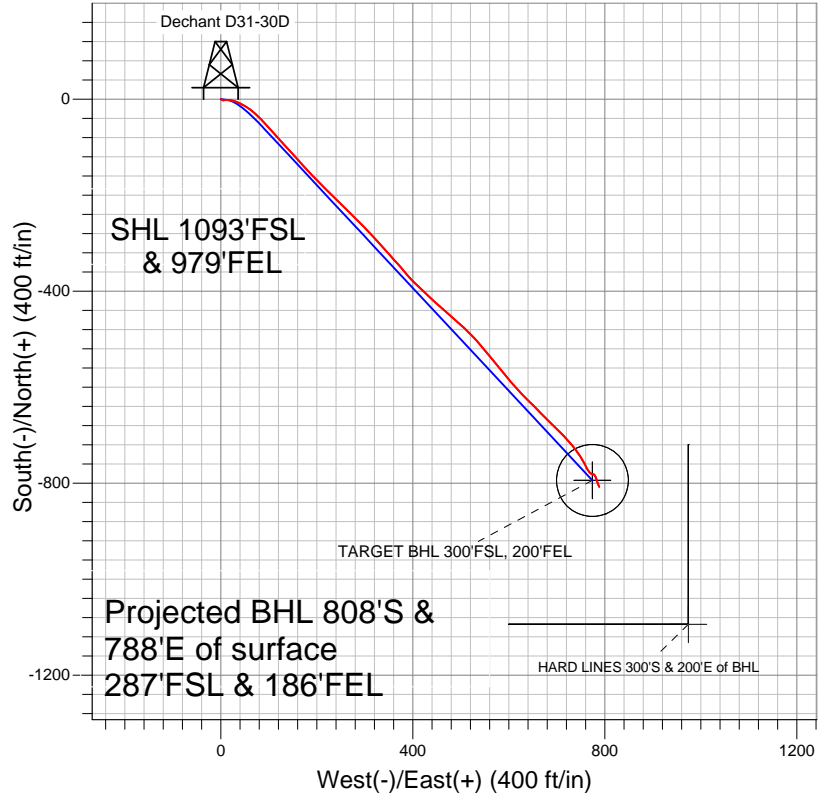


# Well Name: Dechant D31-30D

Surface Location: Dechant D31-30D Pad Sec.25-T3N-R65W  
 North American Datum 1983 US State Plane 1983Colorado Northern Zone  
 Ground Elevation: 4799.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1314002.59	3249664.58	40.191880	-104.606300	
		Original Well Elev	WELL @ 4812.0ft (Original Well Elev)			

## NOBLE ENERGY INC WELD COUNTY CO



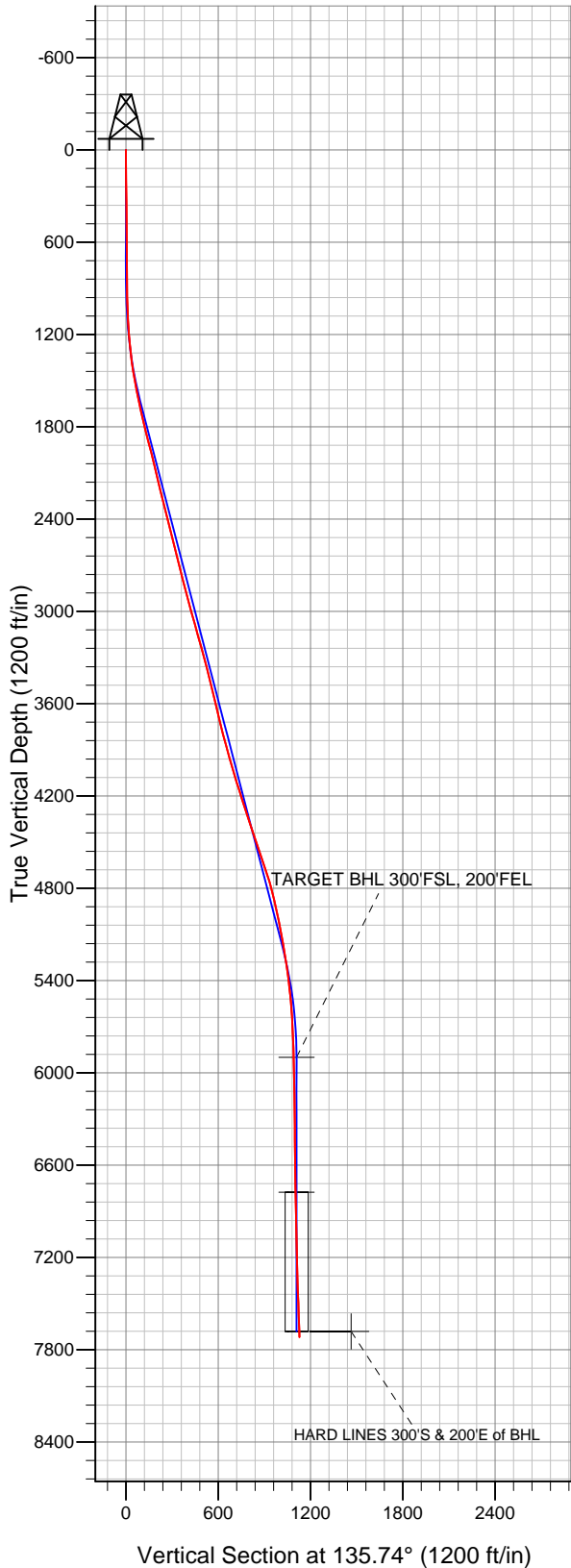
### LEGEND

- Survey #1
- Dechant D31-30D, Wellbore #1, Noble Dechant D31-30D Plan #2 (3-14-12) V0
- Wellbore #1

## Final Survey Plot

Projected Final Survey -  
 7855'MD & 7719'TVD @ 1128'VS  
 2.20 deg Inc 155.30 deg AZ

Project: SEC.25-T3N-R65W  
 Site: Dechant D31-30D Pad Sec.25-T3N-R65W  
 Well: Dechant D31-30D  
 Plan: Wellbore #1





# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.25-T3N-R65W**

**Dechant D31-30D Pad Sec.25-T3N-R65W**

**Dechant D31-30D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**02 April, 2012**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Dechant D31-30D
<b>Project:</b>	SEC.25-T3N-R65W	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Well:</b>	Dechant D31-30D	<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.25-T3N-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	Dechant D31-30D Pad Sec.25-T3N-R65W				
Site Position:		Northing:	1,314,002.60ft	Latitude:	40.191880
From:	Lat/Long	Easting:	3,249,664.58ft	Longitude:	-104.606300
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.58 °

Well	Dechant D31-30D					
Well Position	+N/-S	0.0 ft	Northing:	1,314,002.59 ft	Latitude:	40.191880
	+E/-W	0.0 ft	Easting:	3,249,664.58 ft	Longitude:	-104.606300
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,799.0 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	3/14/2012	8.66	66.88	52,960

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	5,900.0	0.0	0.0	135.74	

<b>Survey Program</b>	<b>Date</b>	4/2/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
79.0	7,855.0	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	
79.0	0.40	135.70	79.0	-0.2	0.2	0.3	0.51	0.51	0.00	
206.0	0.50	127.90	206.0	-0.9	0.9	1.3	0.09	0.08	-6.14	
333.0	0.70	107.80	333.0	-1.4	2.1	2.5	0.23	0.16	-15.83	
459.0	0.50	105.50	459.0	-1.8	3.4	3.7	0.16	-0.16	-1.83	
585.0	0.40	112.80	585.0	-2.1	4.3	4.5	0.09	-0.08	5.79	
720.0	0.20	133.40	720.0	-2.5	4.9	5.2	0.17	-0.15	15.26	
827.0	1.00	77.20	827.0	-2.4	6.0	5.9	0.84	0.75	-52.52	
926.0	1.80	72.40	925.9	-1.7	8.3	7.0	0.82	0.81	-4.85	
1,008.0	2.60	97.80	1,007.9	-1.6	11.4	9.1	1.52	0.98	30.98	
1,090.0	3.50	87.20	1,089.8	-1.7	15.7	12.2	1.29	1.10	-12.93	
1,171.0	4.80	101.50	1,170.6	-2.3	21.5	16.6	2.04	1.60	17.65	
1,253.0	6.20	109.70	1,252.2	-4.5	29.0	23.5	1.95	1.71	10.00	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Dechant D31-30D
<b>Project:</b>	SEC.25-T3N-R65W	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Well:</b>	Dechant D31-30D	<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)
1,335.0	7.20	114.10	1,333.6	-8.1	37.9	32.2	1.37	1.22	5.37
1,417.0	8.90	119.00	1,414.8	-13.2	48.1	43.1	2.23	2.07	5.98
1,498.0	10.30	125.40	1,494.7	-20.5	59.5	56.2	2.17	1.73	7.90
1,580.0	11.10	132.50	1,575.2	-30.0	71.3	71.3	1.88	0.98	8.66
1,662.0	12.30	135.70	1,655.5	-41.6	83.2	87.9	1.66	1.46	3.90
1,744.0	12.70	138.10	1,735.6	-54.6	95.3	105.6	0.80	0.49	2.93
1,826.0	13.70	137.90	1,815.4	-68.5	107.9	124.3	1.22	1.22	-0.24
1,908.0	14.90	138.40	1,894.9	-83.6	121.4	144.6	1.47	1.46	0.61
1,989.0	14.30	137.00	1,973.3	-98.7	135.1	165.0	0.86	-0.74	-1.73
2,071.0	13.60	137.60	2,052.9	-113.2	148.5	184.7	0.87	-0.85	0.73
2,153.0	13.40	136.90	2,132.6	-127.3	161.5	203.9	0.31	-0.24	-0.85
2,235.0	13.30	137.40	2,212.4	-141.2	174.4	222.8	0.19	-0.12	0.61
2,316.0	14.20	137.90	2,291.1	-155.4	187.4	242.0	1.12	1.11	0.62
2,398.0	14.20	135.90	2,370.5	-170.1	201.1	262.2	0.60	0.00	-2.44
2,480.0	14.30	135.00	2,450.0	-184.5	215.3	282.3	0.30	0.12	-1.10
2,561.0	14.30	135.70	2,528.5	-198.7	229.3	302.3	0.21	0.00	0.86
2,643.0	13.90	133.10	2,608.0	-212.7	243.6	322.3	0.91	-0.49	-3.17
2,725.0	13.90	134.70	2,687.6	-226.3	257.8	342.0	0.47	0.00	1.95
2,807.0	14.60	132.70	2,767.1	-240.3	272.4	362.2	1.04	0.85	-2.44
2,888.0	14.70	135.20	2,845.5	-254.5	287.1	382.6	0.79	0.12	3.09
2,970.0	14.90	137.40	2,924.8	-269.6	301.6	403.6	0.73	0.24	2.68
3,052.0	15.30	137.20	3,003.9	-285.3	316.1	424.9	0.49	0.49	-0.24
3,134.0	15.70	137.40	3,083.0	-301.4	330.9	446.8	0.49	0.49	0.24
3,216.0	15.10	139.40	3,162.0	-317.7	345.4	468.6	0.98	-0.73	2.44
3,297.0	15.90	136.50	3,240.1	-333.8	359.9	490.2	1.37	0.99	-3.58
3,379.0	15.50	140.00	3,319.0	-350.3	374.7	512.4	1.25	-0.49	4.27
3,461.0	14.40	140.30	3,398.2	-366.5	388.2	533.5	1.34	-1.34	0.37
3,543.0	12.90	132.90	3,477.9	-380.6	401.5	552.8	2.80	-1.83	-9.02
3,625.0	13.70	135.10	3,557.7	-393.7	415.0	571.6	1.15	0.98	2.68
3,706.0	13.10	133.00	3,636.5	-406.8	428.5	590.4	0.95	-0.74	-2.59
3,788.0	14.10	132.00	3,716.2	-419.8	442.7	609.6	1.25	1.22	-1.22
3,870.0	14.60	131.10	3,795.7	-433.3	457.9	629.9	0.67	0.61	-1.10
3,952.0	15.20	131.60	3,874.9	-447.2	473.8	650.9	0.75	0.73	0.61
4,033.0	15.80	131.40	3,952.9	-461.6	490.0	672.5	0.74	0.74	-0.25
4,115.0	16.50	133.10	4,031.7	-476.9	506.8	695.3	1.03	0.85	2.07
4,197.0	17.10	135.70	4,110.2	-493.5	523.8	719.0	1.17	0.73	3.17
4,279.0	18.20	138.70	4,188.4	-511.7	540.6	743.8	1.74	1.34	3.66
4,361.0	18.30	142.50	4,266.2	-531.6	556.9	769.4	1.46	0.12	4.63
4,442.0	17.30	140.60	4,343.4	-551.0	572.3	794.0	1.43	-1.23	-2.35
4,524.0	18.20	140.60	4,421.5	-570.3	588.2	818.9	1.10	1.10	0.00
4,606.0	18.90	139.40	4,499.2	-590.3	605.0	844.9	0.97	0.85	-1.46
4,688.0	19.40	135.70	4,576.7	-610.1	623.1	871.8	1.60	0.61	-4.51
4,769.0	18.90	134.70	4,653.2	-628.9	641.8	898.4	0.74	-0.62	-1.23
4,851.0	17.70	136.50	4,731.0	-647.3	659.9	924.1	1.62	-1.46	2.20
4,933.0	14.90	134.70	4,809.7	-663.8	675.9	947.1	3.47	-3.41	-2.20
5,015.0	12.50	133.50	4,889.4	-677.3	689.9	966.5	2.95	-2.93	-1.46
5,097.0	11.40	133.60	4,969.6	-689.0	702.2	983.5	1.34	-1.34	0.12
5,178.0	11.40	137.30	5,049.0	-700.4	713.4	999.5	0.90	0.00	4.57
5,260.0	10.50	140.60	5,129.5	-712.1	723.6	1,015.1	1.34	-1.10	4.02
5,342.0	9.50	139.70	5,210.3	-723.1	732.8	1,029.3	1.23	-1.22	-1.10
5,424.0	8.70	143.00	5,291.2	-733.2	740.9	1,042.2	1.16	-0.98	4.02
5,505.0	7.50	146.70	5,371.4	-742.5	747.5	1,053.4	1.61	-1.48	4.57
5,587.0	6.40	150.60	5,452.8	-751.0	752.6	1,063.1	1.46	-1.34	4.76
5,669.0	4.80	151.00	5,534.4	-757.9	756.5	1,070.8	1.95	-1.95	0.49

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Well Dechant D31-30D
<b>Project:</b>	SEC.25-T3N-R65W	<b>TVD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Site:</b>	Dechant D31-30D Pad Sec.25-T3N-R65W	<b>MD Reference:</b>	WELL @ 4812.0ft (Original Well Elev)
<b>Well:</b>	Dechant D31-30D	<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)
5,750.0	4.20	154.00	5,615.2	-763.6	759.5	1,076.9	0.80	-0.74	3.70
5,832.0	3.30	150.50	5,697.0	-768.3	762.0	1,082.0	1.13	-1.10	-4.27
5,914.0	2.30	146.70	5,778.9	-771.8	764.0	1,085.9	1.24	-1.22	-4.63
5,996.0	1.80	147.70	5,860.9	-774.2	765.6	1,088.8	0.61	-0.61	1.22
6,035.7	1.60	144.11	5,900.6	-775.2	766.3	1,090.0	0.57	-0.50	-9.03
<b>TARGET BHL 300'FSL, 200'FEL</b>									
6,078.0	1.40	139.20	5,942.8	-776.1	767.0	1,091.1	0.57	-0.48	-11.62
6,159.0	1.10	143.00	6,023.8	-777.4	768.1	1,092.8	0.38	-0.37	4.69
6,241.0	0.90	137.20	6,105.8	-778.5	769.0	1,094.3	0.27	-0.24	-7.07
6,323.0	0.80	123.10	6,187.8	-779.3	769.9	1,095.5	0.28	-0.12	-17.20
6,405.0	0.70	117.00	6,269.8	-779.9	770.8	1,096.5	0.16	-0.12	-7.44
6,486.0	0.80	106.70	6,350.8	-780.2	771.8	1,097.5	0.21	0.12	-12.72
6,568.0	0.70	107.10	6,432.8	-780.6	772.8	1,098.4	0.12	-0.12	0.49
6,650.0	0.70	118.90	6,514.8	-780.9	773.8	1,099.3	0.18	0.00	14.39
6,732.0	0.70	105.20	6,596.7	-781.3	774.7	1,100.2	0.20	0.00	-16.71
6,813.0	0.70	93.90	6,677.7	-781.5	775.7	1,101.0	0.17	0.00	-13.95
6,895.0	0.80	111.60	6,759.7	-781.7	776.7	1,101.9	0.31	0.12	21.59
6,912.3	0.83	117.83	6,777.1	-781.8	776.9	1,102.1	0.53	0.16	35.90
<b>TARGET CIRCLE 300'FSL &amp; 200'FEL</b>									
6,977.0	1.00	136.70	6,841.7	-782.5	777.7	1,103.2	0.53	0.27	29.19
7,059.0	1.20	144.70	6,923.7	-783.7	778.7	1,104.7	0.31	0.24	9.76
7,140.0	1.40	153.50	7,004.7	-785.3	779.6	1,106.5	0.35	0.25	10.86
7,222.0	1.50	155.10	7,086.7	-787.1	780.5	1,108.5	0.13	0.12	1.95
7,304.0	1.60	158.20	7,168.6	-789.2	781.4	1,110.5	0.16	0.12	3.78
7,385.0	1.60	162.60	7,249.6	-791.3	782.2	1,112.6	0.15	0.00	5.43
7,467.0	1.80	166.70	7,331.6	-793.6	782.8	1,114.7	0.29	0.24	5.00
7,549.0	2.10	162.50	7,413.5	-796.3	783.5	1,117.2	0.41	0.37	-5.12
7,630.0	2.40	161.40	7,494.5	-799.3	784.5	1,120.0	0.37	0.37	-1.36
7,712.0	2.30	155.30	7,576.4	-802.5	785.8	1,123.1	0.33	-0.12	-7.44
7,809.0	2.20	155.30	7,673.3	-805.9	787.4	1,126.7	0.10	-0.10	0.00
<b>HARD LINES 300'S &amp; 200'E of BHL</b>									
7,855.0	2.20	155.30	7,719.3	-807.5	788.1	1,128.4	0.00	0.00	0.00

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