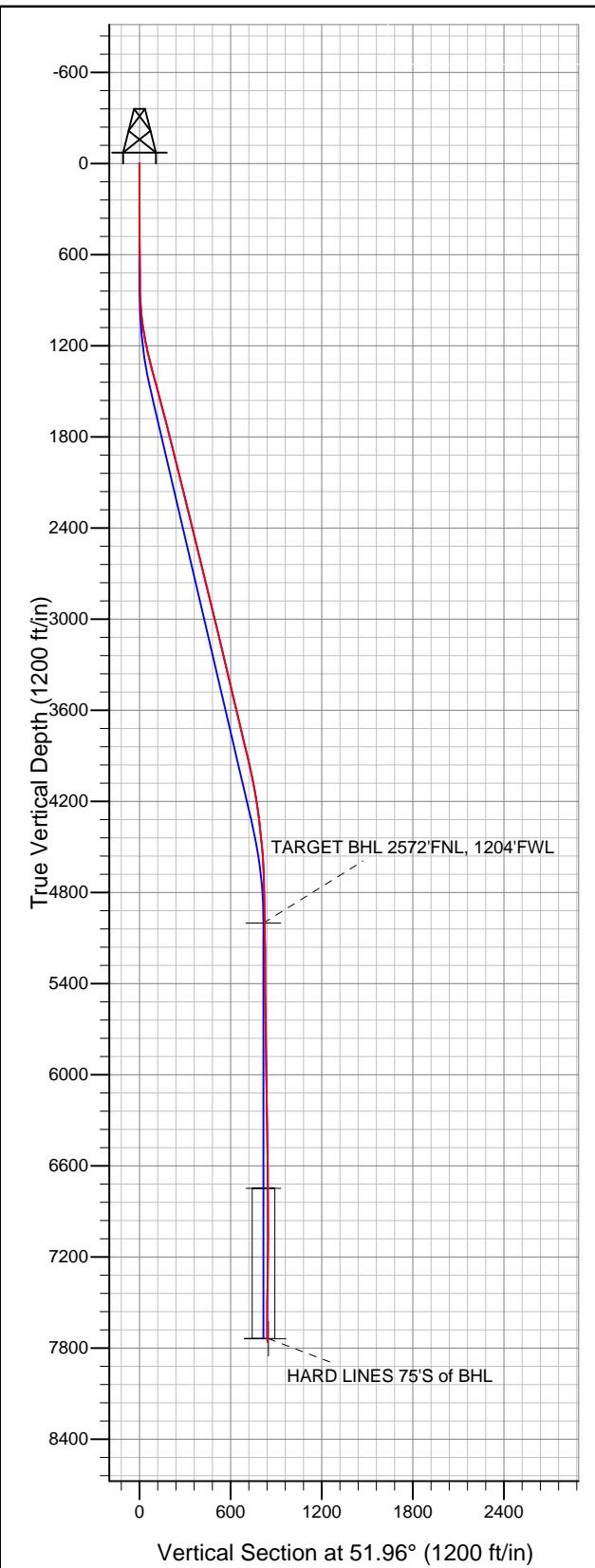


Well Name: Dechant D30-20D

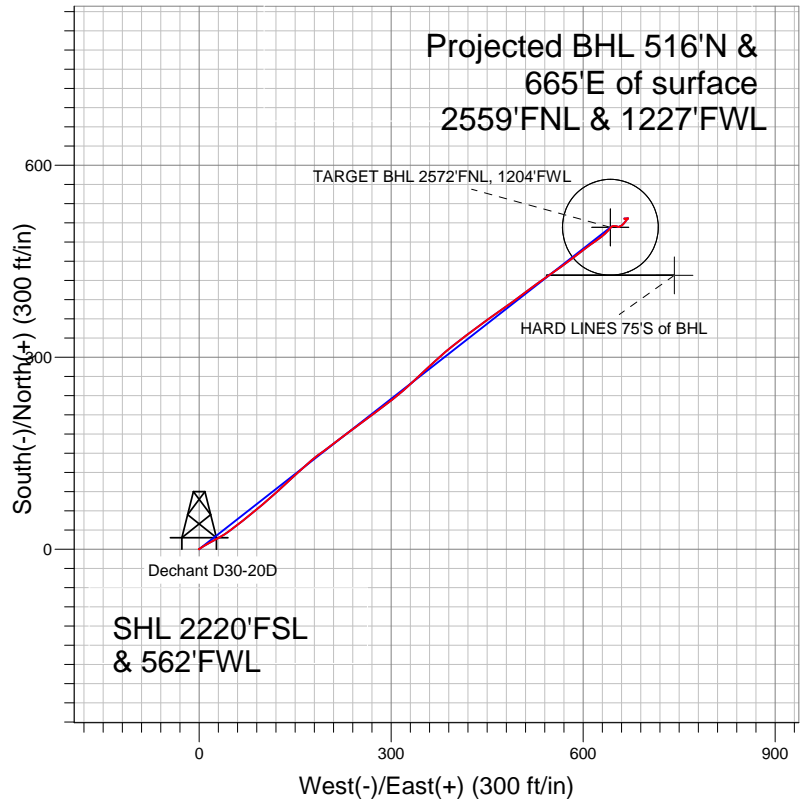
Surface Location: Dechant D30-20D Pad Sec.30-T3N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4794.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1315143.78	3251197.98	40.194970	-104.600770	

 Original Well Elev WELL @ 4807.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Dechant D30-20D, Wellbore #1, Noble Dechant D30-20D Plan #2 (11-10-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7852'MD & 7759'TVD @ 842'VS
 0.4 deg Inc 102.9 deg AZ

Project: SEC.30-T3N-R64W
 Site: Dechant D30-20D Pad Sec.30-T3N-R64W
 Well: Dechant D30-20D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.30-T3N-R64W

Dechant D30-20D Pad Sec.30-T3N-R64W

Dechant D30-20D

Wellbore #1

Survey: Survey #1

Standard Survey Report

21 November, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dechant D30-20D
Project:	SEC.30-T3N-R64W	TVD Reference:	WELL @ 4807.0ft (Original Well Elev)
Site:	Dechant D30-20D Pad Sec.30-T3N-R64W	MD Reference:	WELL @ 4807.0ft (Original Well Elev)
Well:	Dechant D30-20D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.30-T3N-R64W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Dechant D30-20D Pad Sec.30-T3N-R64W				
Site Position:		Northing:	1,315,143.80ft	Latitude:	40.194970
From:	Lat/Long	Easting:	3,251,197.98ft	Longitude:	-104.600770
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.58 °

Well	Dechant D30-20D					
Well Position	+N/-S	0.0 ft	Northing:	1,315,143.78 ft	Latitude:	40.194970
	+E/-W	0.0 ft	Easting:	3,251,197.98 ft	Longitude:	-104.600770
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,794.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/10/2011	8.84	66.93	53,103

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 (°)	
	5,000.0	0.0	0.0	51.96	

Survey Program	Date	11/21/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
180.0	7,852.0	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	
180.0	0.10	205.40	180.0	-0.1	-0.1	-0.1	0.06	0.06	0.00	
455.0	0.20	55.90	455.0	-0.1	0.2	0.1	0.11	0.04	-54.36	
747.0	0.40	48.90	747.0	0.9	1.4	1.6	0.07	0.07	-2.40	
801.0	0.60	38.70	801.0	1.2	1.7	2.1	0.40	0.37	-18.89	
895.0	2.50	56.70	895.0	2.7	3.8	4.6	2.06	2.02	19.15	
989.0	6.20	60.00	988.7	6.4	9.9	11.7	3.94	3.94	3.51	
1,083.0	8.50	62.50	1,081.9	12.1	20.4	23.6	2.47	2.45	2.66	
1,177.0	10.90	59.50	1,174.5	19.9	34.3	39.2	2.61	2.55	-3.19	
1,271.0	13.40	53.00	1,266.4	30.9	50.6	58.9	3.03	2.66	-6.91	
1,364.0	15.30	52.10	1,356.5	44.9	68.9	82.0	2.06	2.04	-0.97	
1,458.0	15.10	49.60	1,447.2	60.5	88.0	106.6	0.73	-0.21	-2.66	
1,552.0	14.70	48.90	1,538.1	76.3	106.3	130.7	0.47	-0.43	-0.74	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dechant D30-20D
Project:	SEC.30-T3N-R64W	TVD Reference:	WELL @ 4807.0ft (Original Well Elev)
Site:	Dechant D30-20D Pad Sec.30-T3N-R64W	MD Reference:	WELL @ 4807.0ft (Original Well Elev)
Well:	Dechant D30-20D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
1,646.0	15.00	49.40	1,628.9	92.0	124.5	154.8	0.35	0.32	0.53
1,740.0	14.60	46.50	1,719.8	108.1	142.4	178.7	0.90	-0.43	-3.09
1,834.0	14.00	46.30	1,810.9	124.1	159.2	201.9	0.64	-0.64	-0.21
1,928.0	13.80	50.10	1,902.2	139.2	176.0	224.4	0.99	-0.21	4.04
2,022.0	14.30	54.70	1,993.3	153.1	194.1	247.2	1.30	0.53	4.89
2,116.0	14.20	53.10	2,084.5	166.7	212.8	270.3	0.43	-0.11	-1.70
2,210.0	13.90	52.80	2,175.6	180.4	231.0	293.1	0.33	-0.32	-0.32
2,304.0	13.90	53.70	2,266.9	194.0	249.1	315.7	0.23	0.00	0.96
2,398.0	13.40	52.60	2,358.2	207.3	266.8	337.9	0.60	-0.53	-1.17
2,492.0	13.70	53.10	2,449.6	220.5	284.4	359.9	0.34	0.32	0.53
2,586.0	13.50	52.60	2,541.0	233.9	302.0	382.0	0.25	-0.21	-0.53
2,680.0	13.90	48.70	2,632.3	248.0	319.2	404.2	1.07	0.43	-4.15
2,773.0	14.40	47.00	2,722.5	263.3	336.1	426.9	0.70	0.54	-1.83
2,867.0	13.70	46.30	2,813.7	278.9	352.7	449.6	0.77	-0.74	-0.74
2,961.0	13.50	47.70	2,905.0	294.0	368.8	471.6	0.41	-0.21	1.49
3,055.0	13.60	49.40	2,996.4	308.6	385.3	493.6	0.44	0.11	1.81
3,149.0	13.50	52.60	3,087.8	322.4	402.4	515.6	0.80	-0.11	3.40
3,243.0	13.60	52.60	3,179.2	335.8	419.9	537.7	0.11	0.11	0.00
3,337.0	13.50	54.20	3,270.6	349.0	437.6	559.7	0.41	-0.11	1.70
3,431.0	13.40	54.00	3,362.0	361.8	455.3	581.5	0.12	-0.11	-0.21
3,525.0	13.70	55.10	3,453.4	374.5	473.3	603.5	0.42	0.32	1.17
3,619.0	13.30	53.70	3,544.8	387.3	491.1	625.5	0.55	-0.43	-1.49
3,713.0	13.10	53.70	3,636.3	400.0	508.4	646.9	0.21	-0.21	0.00
3,807.0	13.40	53.00	3,727.8	412.9	525.7	668.4	0.36	0.32	-0.74
3,901.0	13.60	55.40	3,819.2	425.7	543.5	690.4	0.63	0.21	2.55
3,995.0	13.20	54.00	3,910.6	438.3	561.3	712.1	0.55	-0.43	-1.49
4,088.0	12.40	53.80	4,001.3	450.4	577.9	732.7	0.86	-0.86	-0.22
4,183.0	10.60	52.10	4,094.4	461.8	593.0	751.7	1.93	-1.89	-1.79
4,277.0	9.40	53.10	4,187.0	471.7	606.0	768.0	1.29	-1.28	1.06
4,371.0	7.50	54.90	4,280.0	479.9	617.2	781.8	2.04	-2.02	1.91
4,465.0	6.10	53.80	4,373.3	486.4	626.2	792.9	1.50	-1.49	-1.17
4,558.0	6.00	47.90	4,465.8	492.5	633.8	802.7	0.68	-0.11	-6.34
4,652.0	4.50	40.50	4,559.4	498.6	639.8	811.2	1.75	-1.60	-7.87
4,746.0	2.30	40.70	4,653.2	502.9	643.5	816.7	2.34	-2.34	0.21
4,840.0	1.10	79.50	4,747.2	504.5	645.6	819.3	1.70	-1.28	41.28
4,934.0	1.20	79.50	4,841.2	504.8	647.4	821.0	0.11	0.11	0.00
5,028.0	1.40	95.70	4,935.1	504.9	649.6	822.7	0.44	0.21	17.23
5,092.7	1.40	101.97	4,999.8	504.6	651.1	823.8	0.24	-0.01	9.69
TARGET BHL 2572'FNL, 1204'FWL									
5,122.0	1.40	104.80	5,029.1	504.5	651.8	824.2	0.24	0.01	9.67
5,216.0	1.40	102.40	5,123.1	503.9	654.0	825.6	0.06	0.00	-2.55
5,310.0	0.40	146.50	5,217.1	503.4	655.3	826.3	1.22	-1.06	46.91
5,404.0	0.50	71.20	5,311.1	503.3	655.9	826.7	0.59	0.11	-80.11
5,497.0	0.10	287.80	5,404.1	503.4	656.2	827.0	0.63	-0.43	-154.19
5,592.0	0.70	48.40	5,499.1	503.8	656.6	827.6	0.80	0.63	126.95
5,686.0	0.60	60.90	5,593.1	504.5	657.4	828.6	0.18	-0.11	13.30
5,780.0	0.70	75.60	5,687.1	504.8	658.4	829.6	0.21	0.11	15.64
5,874.0	0.90	63.30	5,781.0	505.3	659.6	830.9	0.28	0.21	-13.09
5,967.0	0.90	49.80	5,874.0	506.1	660.8	832.3	0.23	0.00	-14.52
6,092.0	0.90	38.90	5,999.0	507.5	662.2	834.3	0.14	0.00	-8.72
6,218.0	1.10	44.20	6,125.0	509.1	663.7	836.4	0.17	0.16	4.21
6,343.0	1.10	35.70	6,250.0	511.0	665.2	838.8	0.13	0.00	-6.80
6,468.0	1.10	35.40	6,374.9	512.9	666.6	841.1	0.00	0.00	-0.24
6,593.0	1.00	47.50	6,499.9	514.6	668.1	843.3	0.19	-0.08	9.68

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Dechant D30-20D
Project:	SEC.30-T3N-R64W	TVD Reference:	WELL @ 4807.0ft (Original Well Elev)
Site:	Dechant D30-20D Pad Sec.30-T3N-R64W	MD Reference:	WELL @ 4807.0ft (Original Well Elev)
Well:	Dechant D30-20D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
6,719.0	0.80	40.70	6,625.9	516.1	669.5	845.3	0.18	-0.16	-5.40
6,839.8	0.32	42.44	6,746.7	516.9	670.3	846.4	0.40	-0.40	1.44
TARGET CIRCLE 2572'FNL & 1204'FWL									
6,844.0	0.30	42.60	6,750.9	517.0	670.3	846.5	0.40	-0.40	3.84
6,969.0	0.40	247.20	6,875.9	517.0	670.1	846.4	0.55	0.08	-124.32
7,095.0	0.30	272.30	7,001.9	516.9	669.4	845.7	0.14	-0.08	19.92
7,220.0	0.50	257.60	7,126.9	516.8	668.5	844.9	0.18	0.16	-11.76
7,345.0	0.90	266.50	7,251.9	516.6	667.0	843.6	0.33	0.32	7.12
7,470.0	0.50	267.10	7,376.9	516.5	665.5	842.4	0.32	-0.32	0.48
7,595.0	0.40	265.10	7,501.9	516.4	664.5	841.6	0.08	-0.08	-1.60
7,720.0	0.40	134.00	7,626.9	516.1	664.4	841.3	0.58	0.00	-104.88
7,806.0	0.40	102.90	7,712.9	515.8	664.9	841.5	0.25	0.00	-36.16
7,830.8	0.40	102.90	7,737.7	515.8	665.0	841.6	0.00	0.00	0.00
HARD LINES 75'S of BHL									
7,852.0	0.40	102.90	7,758.9	515.8	665.2	841.7	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____