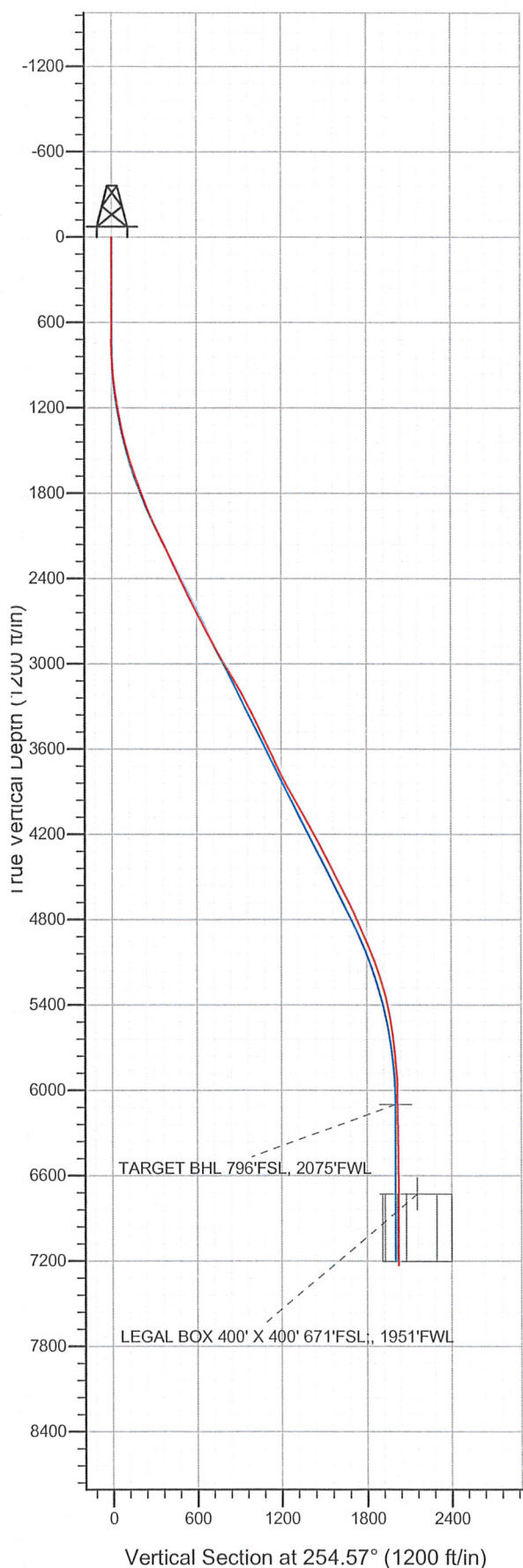
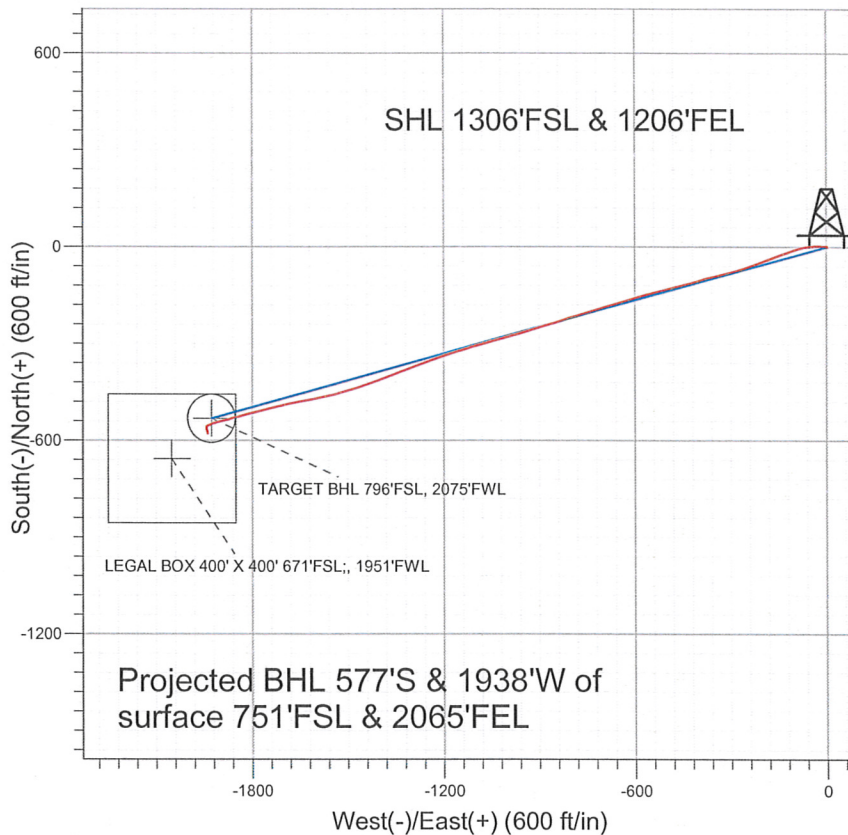


Well Name: **Howard USX A09-14D**
 Surface Location: Howard USX A09-14D Pad Sec.9-T6N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4846.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1425294.44 3264184.72 40.496950 -104.550060
 Original Well Elev WELL @ 4859.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Howard USX A09-14D, Wellbore #1, Noble Howard USX A09-14D Plan #1 (4-11-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7667'MD & 7228'TVD @ 2022'VS
 0.3 deg Inc 162.3 deg AZ

Project: SEC.9-T6N-R64W
 Site: Howard USX A09-14D Pad Sec.9-T6N-R64W
 Well: Howard USX A09-14D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.9-T6N-R64W

Howard USX A09-14D Pad Sec.9-T6N-R64W

Howard USX A09-14D

Wellbore #1

Survey: Survey #1

Standard Survey Report

28 July, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.9-T6N-R64W
 Site: Howard USX A09-14D Pad Sec.9-T6N-R64W
 Well: Howard USX A09-14D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Howard USX A09-14D
 TVD Reference: WELL @ 4859.0ft (Original Well Elev)
 MD Reference: WELL @ 4859.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.9-T6N-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 Howard USX A09-14D Pad Sec.9-T6N-R64W

Site Position:		Northing:	1,425,294.44 ft	Latitude:	40.496950
From:	Lat/Long	Easting:	3,264,184.72 ft	Longitude:	-104.550060
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.61 °

Well	Howard USX A09-14D					
Well Position	+N/-S	0.0 ft	Northing:	1,425,294.44 ft	Latitude:	40.496950
	+E/-W	0.0 ft	Easting:	3,264,184.72 ft	Longitude:	-104.550060
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,846.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/11/2011	8.78	67.17	53,224

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	254.57

Survey Program Date 7/28/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
714.0	7,667.0	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
714.0	0.70	69.20	714.0	1.5	4.1	-4.3	0.10	0.10	0.00
796.0	2.20	273.70	796.0	1.8	3.0	-3.4	3.48	1.83	-189.63
878.0	4.00	274.50	877.8	2.2	-1.4	0.8	2.20	2.20	0.98
959.0	6.30	281.40	958.5	3.3	-8.6	7.4	2.94	2.84	8.52
1,041.0	6.70	269.90	1,040.0	4.1	-17.8	16.1	1.66	0.49	-14.02
1,123.0	8.40	268.00	1,121.3	3.9	-28.6	26.5	2.10	2.07	-2.32
1,204.0	11.20	264.10	1,201.1	2.9	-42.3	40.0	3.55	3.46	-4.81
1,286.0	11.30	264.50	1,281.5	1.3	-58.2	55.8	0.15	0.12	0.49
1,368.0	12.20	256.60	1,361.8	-1.5	-74.7	72.4	2.25	1.10	-9.63
1,450.0	13.80	250.80	1,441.7	-6.7	-92.3	90.8	2.52	1.95	-7.07
1,531.0	16.40	254.50	1,519.9	-12.9	-112.5	111.9	3.42	3.21	4.57
1,613.0	17.80	248.60	1,598.3	-20.6	-135.3	135.9	2.72	1.71	-7.20

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.9-T6N-R64W
Site: Howard USX A09-14D Pad Sec.9-T6N-R64W
Well: Howard USX A09-14D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Howard USX A09-14D
TVD Reference: WELL @ 4859.0ft (Original Well Elev)
MD Reference: WELL @ 4859.0ft (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)
1,695.0	19.00	248.40	1,676.1	-30.1	-159.4	161.7	1.47	1.46	-0.24
1,777.0	20.40	249.20	1,753.3	-40.1	-185.2	189.2	1.74	1.71	0.98
1,858.0	21.60	249.30	1,828.9	-50.4	-212.3	218.1	1.48	1.48	0.12
1,940.0	22.70	251.20	1,904.8	-60.8	-241.4	248.9	1.60	1.34	2.32
2,022.0	24.40	254.50	1,980.0	-70.4	-272.7	281.6	2.62	2.07	4.02
2,104.0	25.70	254.80	2,054.3	-79.6	-306.2	316.3	1.59	1.59	0.37
2,185.0	26.20	256.70	2,127.1	-88.3	-340.5	351.8	1.20	0.62	2.35
2,267.0	24.80	254.30	2,201.1	-97.1	-374.7	387.1	2.12	-1.71	-2.93
2,349.0	25.10	253.20	2,275.5	-106.8	-407.9	421.6	0.67	0.37	-1.34
2,431.0	25.90	256.40	2,349.5	-116.1	-442.0	456.9	1.94	0.98	3.90
2,512.0	25.80	254.60	2,422.4	-124.9	-476.2	492.2	0.98	-0.12	-2.22
2,594.0	26.30	255.60	2,496.1	-134.2	-511.0	528.2	0.81	0.61	1.22
2,676.0	26.90	256.50	2,569.4	-143.0	-546.6	564.9	0.88	0.73	1.10
2,758.0	27.30	253.20	2,642.4	-152.8	-582.6	602.3	1.90	0.49	-4.02
2,839.0	27.70	252.60	2,714.2	-163.8	-618.4	639.7	0.60	0.49	-0.74
2,921.0	27.60	253.20	2,786.9	-175.0	-654.8	677.7	0.36	-0.12	0.73
3,003.0	28.30	254.00	2,859.3	-185.8	-691.6	716.1	0.97	0.85	0.98
3,084.0	29.20	253.30	2,930.3	-196.8	-729.0	755.1	1.19	1.11	-0.86
3,166.0	30.90	253.70	3,001.3	-208.4	-768.4	796.1	2.09	2.07	0.49
3,248.0	31.10	252.00	3,071.6	-220.9	-808.7	838.4	1.10	0.24	-2.07
3,330.0	29.50	252.70	3,142.4	-233.4	-848.2	879.7	2.00	-1.95	0.85
3,411.0	30.00	253.30	3,212.7	-245.2	-886.6	919.9	0.72	0.62	0.74
3,493.0	28.00	252.70	3,284.4	-256.8	-924.6	959.6	2.46	-2.44	-0.73
3,575.0	26.00	251.90	3,357.5	-268.1	-960.1	996.8	2.48	-2.44	-0.98
3,657.0	24.90	256.90	3,431.5	-277.6	-994.0	1,032.0	2.94	-1.34	6.10
3,738.0	25.80	254.30	3,504.7	-286.2	-1,027.6	1,066.7	1.77	1.11	-3.21
3,820.0	26.50	254.20	3,578.3	-296.1	-1,062.3	1,102.8	0.86	0.85	-0.12
3,902.0	25.10	253.90	3,652.2	-305.9	-1,096.7	1,138.5	1.71	-1.71	-0.37
3,984.0	25.10	253.60	3,726.4	-315.6	-1,130.0	1,173.3	0.16	0.00	-0.37
4,065.0	27.70	251.50	3,799.0	-326.4	-1,164.4	1,209.3	3.41	3.21	-2.59
4,147.0	28.60	252.70	3,871.3	-338.3	-1,201.2	1,247.9	1.30	1.10	1.46
4,229.0	29.10	251.00	3,943.1	-350.6	-1,238.8	1,287.4	1.17	0.61	-2.07
4,311.0	30.00	248.40	4,014.4	-364.7	-1,276.7	1,327.7	1.91	1.10	-3.17
4,392.0	29.70	249.90	4,084.7	-379.0	-1,314.4	1,367.8	0.99	-0.37	1.85
4,474.0	28.50	248.30	4,156.3	-393.2	-1,351.6	1,407.5	1.74	-1.46	-1.95
4,556.0	27.30	250.10	4,228.8	-406.9	-1,387.5	1,445.7	1.79	-1.46	2.20
4,638.0	27.30	249.50	4,301.7	-419.9	-1,422.8	1,483.2	0.34	0.00	-0.73
4,719.0	26.70	252.80	4,373.9	-431.7	-1,457.6	1,519.9	1.99	-0.74	4.07
4,801.0	26.90	251.80	4,447.0	-443.0	-1,492.8	1,556.9	0.60	0.24	-1.22
4,883.0	26.30	256.40	4,520.4	-453.1	-1,528.1	1,593.5	2.62	-0.73	5.61
4,965.0	26.60	258.20	4,593.8	-461.1	-1,563.7	1,630.0	1.04	0.37	2.20
5,046.0	27.60	257.80	4,665.9	-468.8	-1,599.8	1,666.9	1.25	1.23	-0.49
5,128.0	25.50	260.10	4,739.2	-475.8	-1,635.8	1,703.4	2.85	-2.56	2.80
5,210.0	22.60	258.70	4,814.1	-481.9	-1,668.6	1,736.7	3.60	-3.54	-1.71
5,291.0	23.90	255.90	4,888.5	-489.0	-1,699.8	1,768.6	2.11	1.60	-3.46
5,373.0	24.20	256.40	4,963.4	-497.0	-1,732.2	1,802.0	0.44	0.37	0.61
5,455.0	20.90	255.00	5,039.1	-504.7	-1,762.7	1,833.5	4.08	-4.02	-1.71
5,537.0	19.80	257.50	5,116.0	-511.5	-1,790.4	1,861.9	1.71	-1.34	3.05
5,618.0	18.80	253.90	5,192.5	-518.1	-1,816.3	1,888.7	1.92	-1.23	-4.44
5,700.0	16.00	254.60	5,270.7	-524.8	-1,839.9	1,913.2	3.42	-3.41	0.85
5,782.0	14.10	254.90	5,349.9	-530.4	-1,860.5	1,934.5	2.32	-2.32	0.37
5,864.0	11.70	256.10	5,429.8	-535.0	-1,878.2	1,952.8	2.94	-2.93	1.46
5,945.0	9.50	257.10	5,509.4	-538.4	-1,892.7	1,967.7	2.73	-2.72	1.23
6,027.0	7.70	254.30	5,590.5	-541.4	-1,904.6	1,980.0	2.25	-2.20	-3.41

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.9-T6N-R64W
Site: Howard USX A09-14D Pad Sec.9-T6N-R64W
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North Reference: True
Survey Calculation Method: Minimum Curvature
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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)
6,109.0	6.60	252.00	5,671.9	-544.4	-1,914.3	1,990.2	1.39	-1.34	-2.80
6,191.0	6.00	253.10	5,753.4	-547.1	-1,922.9	1,999.2	0.75	-0.73	1.34
6,272.0	4.70	243.10	5,834.0	-549.8	-1,929.9	2,006.6	1.97	-1.60	-12.35
6,354.0	2.80	243.40	5,915.8	-552.2	-1,934.7	2,011.9	2.32	-2.32	0.37
6,436.0	0.90	285.70	5,997.8	-552.9	-1,937.1	2,014.4	2.71	-2.32	51.59
6,518.0	0.50	248.50	6,079.8	-552.9	-1,938.1	2,015.3	0.71	-0.49	-45.37
6,538.0	0.53	238.88	6,099.8	-553.0	-1,938.2	2,015.5	0.46	0.16	-48.15
TARGET BHL 796'FSL, 2075'FWL									
6,599.0	0.70	217.50	6,160.8	-553.4	-1,938.7	2,016.1	0.46	0.28	-35.04
6,681.0	0.90	201.70	6,242.8	-554.4	-1,939.2	2,016.9	0.36	0.24	-19.27
6,763.0	0.90	200.20	6,324.8	-555.6	-1,939.7	2,017.6	0.03	0.00	-1.83
6,845.0	1.30	251.30	6,406.8	-556.5	-1,940.8	2,018.9	1.24	0.49	62.32
6,926.0	1.40	203.50	6,487.7	-557.7	-1,942.1	2,020.5	1.36	0.12	-59.01
7,008.0	2.40	173.30	6,569.7	-560.3	-1,942.3	2,021.3	1.69	1.22	-36.83
7,090.0	2.90	163.50	6,651.6	-564.0	-1,941.5	2,021.6	0.82	0.61	-11.95
7,166.1	2.43	162.67	6,727.6	-567.4	-1,940.5	2,021.5	0.62	-0.62	-1.10
TARGET CIRCLE 796'FSL, 2075'FWL									
7,169.7	2.41	162.62	6,731.2	-567.6	-1,940.4	2,021.5	0.62	-0.62	-1.32
LEGAL BOX 400' X 400' 671'FSL, 1951'FWL									
7,171.0	2.40	162.60	6,732.5	-567.6	-1,940.4	2,021.5	0.62	-0.62	-1.34
7,253.0	1.80	167.90	6,814.5	-570.5	-1,939.6	2,021.5	0.77	-0.73	6.46
7,335.0	1.40	158.60	6,896.4	-572.7	-1,939.0	2,021.5	0.58	-0.49	-11.34
7,417.0	0.90	162.10	6,978.4	-574.3	-1,938.4	2,021.3	0.62	-0.61	4.27
7,498.0	0.70	172.30	7,059.4	-575.4	-1,938.1	2,021.4	0.30	-0.25	12.59
7,580.0	0.60	174.90	7,141.4	-576.3	-1,938.0	2,021.5	0.13	-0.12	3.17
7,616.0	0.40	159.70	7,177.4	-576.6	-1,938.0	2,021.5	0.66	-0.56	-42.22
7,667.0	0.30	162.30	7,228.4	-576.9	-1,937.9	2,021.5	0.20	-0.20	5.10

Checked By: _____ Approved By: _____ Date: _____