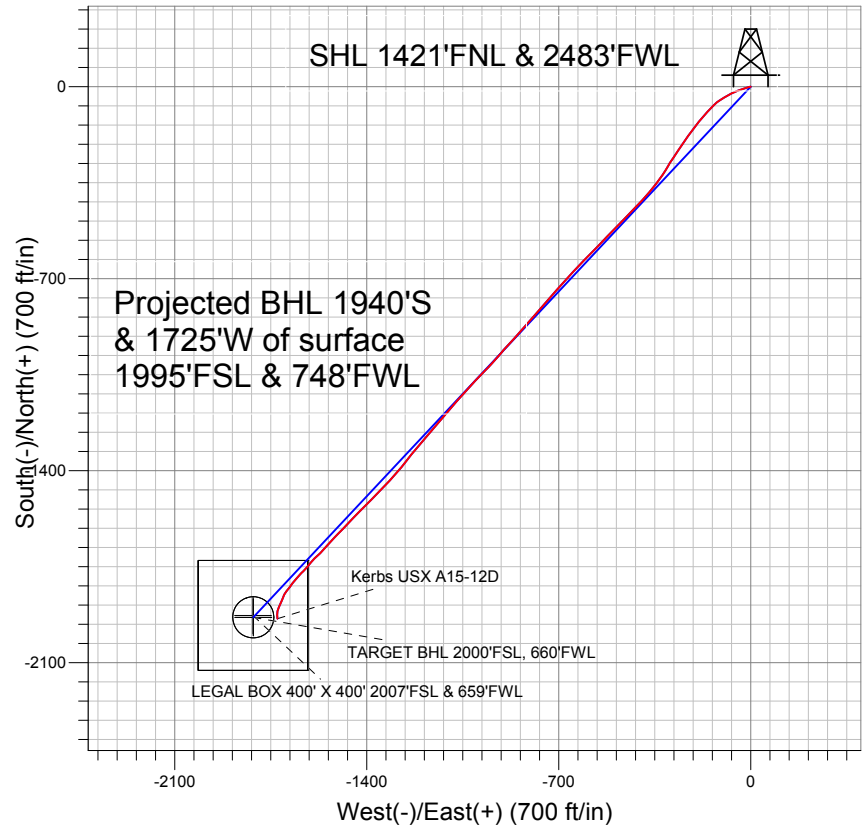


NOBLE ENERGY INC WELD COUNTY CO



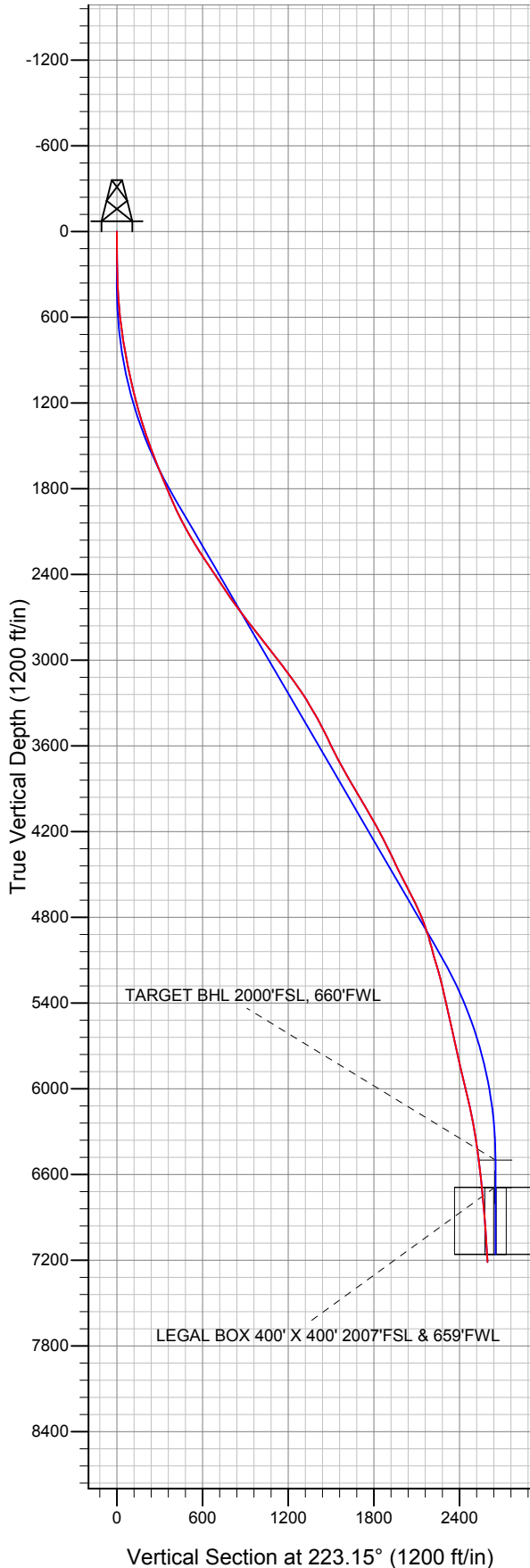
LEGEND

- x Kerbs USX A15-12D, Wellbore #1, Noble Kerbs USX A15-12D Plan #1 (6-01-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7820'MD & 7214'TVD @ 2595'VS
4.7 deg Inc 172.2 deg AZ

Project: SEC.15-T6N-R64W
Site: Tye and Kerbs Pad Sec.15-T6N-R64W
Well: Kerbs USX A15-12D
Plan: Wellbore #1





Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.15-T6N-R64W

Tye and Kerbs Pad Sec.15-T6N-R64W

Kerbs USX A15-12D

Wellbore #1

Survey: Survey #1

Standard Survey Report

09 September, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Kerbs USX A15-12D
Project:	SEC.15-T6N-R64W	TVD Reference:	WELL @ 4810.0ft (Original Well Elev)
Site:	Tye and Kerbs Pad Sec.15-T6N-R64W	MD Reference:	WELL @ 4810.0ft (Original Well Elev)
Well:	Kerbs USX A15-12D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.15-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	Tye and Kerbs Pad Sec.15-T6N-R64W		
Site Position:		Northing:	1,422,671.21 ft
From:	Lat/Long	Easting:	3,267,892.85 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.489640
		Longitude:	-104.536830
		Grid Convergence:	0.62 °

Well	Kerbs USX A15-12D		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.489510
		Longitude:	-104.536830
		Ground Level:	4,797.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/7/2011	8.75	67.16	53,205

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	223.15	

Survey Program	Date	9/9/2011			
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	0.60	270.00	104.0	0.0	-0.5	0.4	0.58	0.58	0.00	
199.0	0.80	260.60	199.0	-0.1	-1.7	1.2	0.24	0.21	-9.89	
292.0	1.10	255.40	292.0	-0.4	-3.2	2.5	0.34	0.32	-5.59	
363.0	2.50	258.70	362.9	-0.9	-5.4	4.3	1.98	1.97	4.65	
445.0	4.20	249.70	444.8	-2.3	-9.9	8.5	2.16	2.07	-10.98	
527.0	5.80	254.00	526.5	-4.5	-16.7	14.7	2.00	1.95	5.24	
609.0	7.20	252.20	608.0	-7.2	-25.6	22.8	1.73	1.71	-2.20	
690.0	8.50	251.90	688.2	-10.6	-36.1	32.5	1.61	1.60	-0.37	
772.0	10.00	249.70	769.1	-15.0	-48.6	44.2	1.88	1.83	-2.68	
854.0	11.30	243.80	849.7	-21.0	-62.5	58.0	2.07	1.59	-7.20	
864.0	11.50	242.90	859.5	-21.9	-64.2	59.9	2.68	2.00	-9.00	
954.0	12.30	241.30	947.6	-30.6	-80.6	77.4	0.96	0.89	-1.78	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Kerbs USX A15-12D
Project:	SEC.15-T6N-R64W	TVD Reference:	WELL @ 4810.0ft (Original Well Elev)
Site:	Tye and Kerbs Pad Sec.15-T6N-R64W	MD Reference:	WELL @ 4810.0ft (Original Well Elev)
Well:	Kerbs USX A15-12D	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)	
1,117.0	13.90	237.60	1,106.3	-49.4	-112.4	112.9	1.11	0.98	-2.27	
1,199.0	14.90	228.50	1,185.8	-61.7	-128.6	132.9	3.01	1.22	-11.10	
1,281.0	15.80	224.80	1,264.8	-76.6	-144.4	154.6	1.62	1.10	-4.51	
1,363.0	17.20	219.90	1,343.5	-93.8	-160.0	177.9	2.41	1.71	-5.98	
1,444.0	18.90	220.90	1,420.5	-112.9	-176.3	202.9	2.13	2.10	1.23	
1,526.0	20.00	219.00	1,497.8	-133.8	-193.8	230.2	1.55	1.34	-2.32	
1,608.0	21.50	217.10	1,574.5	-156.7	-211.7	259.1	2.00	1.83	-2.32	
1,690.0	22.20	213.70	1,650.6	-181.6	-229.4	289.4	1.76	0.85	-4.15	
1,771.0	22.50	215.80	1,725.5	-206.9	-246.9	319.8	1.05	0.37	2.59	
1,853.0	22.40	215.10	1,801.3	-232.4	-265.1	350.8	0.35	-0.12	-0.85	
1,935.0	23.80	212.00	1,876.7	-259.2	-282.8	382.6	2.26	1.71	-3.78	
2,017.0	26.30	210.90	1,951.0	-288.8	-300.9	416.5	3.10	3.05	-1.34	
2,098.0	27.50	214.40	2,023.2	-319.7	-320.7	452.6	2.45	1.48	4.32	
2,180.0	29.50	215.60	2,095.3	-351.7	-343.2	491.3	2.54	2.44	1.46	
2,262.0	30.80	222.00	2,166.2	-383.7	-369.0	532.3	4.23	1.59	7.80	
2,344.0	32.40	222.50	2,236.1	-415.5	-397.9	575.3	1.98	1.95	0.61	
2,425.0	34.10	222.30	2,303.8	-448.3	-427.8	619.7	2.10	2.10	-0.25	
2,507.0	34.20	226.20	2,371.7	-481.3	-459.9	665.7	2.67	0.12	4.76	
2,589.0	33.40	224.40	2,439.8	-513.4	-492.3	711.3	1.56	-0.98	-2.20	
2,670.0	33.00	223.00	2,507.6	-545.4	-523.0	755.6	1.07	-0.49	-1.73	
2,752.0	36.00	223.90	2,575.2	-579.1	-554.9	802.0	3.71	3.66	1.10	
2,834.0	36.50	224.30	2,641.3	-614.0	-588.7	850.5	0.67	0.61	0.49	
2,916.0	37.20	224.40	2,706.9	-649.1	-623.1	899.7	0.86	0.85	0.12	
2,997.0	38.10	222.90	2,771.0	-684.9	-657.2	949.2	1.59	1.11	-1.85	
3,079.0	37.60	221.10	2,835.8	-722.3	-690.9	999.5	1.48	-0.61	-2.20	
3,161.0	38.30	220.60	2,900.5	-760.5	-723.8	1,049.8	0.93	0.85	-0.61	
3,243.0	38.70	221.80	2,964.6	-798.9	-757.5	1,100.9	1.03	0.49	1.46	
3,324.0	36.50	220.70	3,028.8	-836.0	-790.1	1,150.3	2.84	-2.72	-1.36	
3,406.0	37.00	222.50	3,094.5	-872.7	-822.6	1,199.3	1.45	0.61	2.20	
3,488.0	35.90	221.40	3,160.5	-908.9	-855.2	1,248.0	1.56	-1.34	-1.34	
3,570.0	33.80	221.80	3,227.8	-944.0	-886.3	1,294.8	2.58	-2.56	0.49	
3,651.0	30.80	220.60	3,296.2	-976.5	-914.8	1,338.1	3.79	-3.70	-1.48	
3,733.0	29.90	222.70	3,367.0	-1,007.5	-942.4	1,379.5	1.70	-1.10	2.56	
3,815.0	28.10	224.40	3,438.7	-1,036.3	-969.7	1,419.2	2.41	-2.20	2.07	
3,897.0	27.20	223.00	3,511.3	-1,063.8	-996.0	1,457.3	1.35	-1.10	-1.71	
3,978.0	25.90	224.10	3,583.8	-1,090.0	-1,021.0	1,493.5	1.72	-1.60	1.36	
4,060.0	26.00	222.00	3,657.5	-1,116.3	-1,045.5	1,529.4	1.13	0.12	-2.56	
4,142.0	28.60	220.20	3,730.4	-1,144.6	-1,070.2	1,567.0	3.33	3.17	-2.20	
4,224.0	29.40	220.90	3,802.1	-1,174.8	-1,096.0	1,606.7	1.06	0.98	0.85	
4,305.0	30.10	219.90	3,872.4	-1,205.4	-1,122.0	1,646.8	1.06	0.86	-1.23	
4,387.0	31.00	220.40	3,943.0	-1,237.3	-1,148.9	1,688.4	1.14	1.10	0.61	
4,469.0	31.20	221.30	4,013.3	-1,269.3	-1,176.6	1,730.8	0.62	0.24	1.10	
4,551.0	30.40	219.70	4,083.7	-1,301.2	-1,203.9	1,772.7	1.40	-0.98	-1.95	
4,632.0	28.80	220.40	4,154.1	-1,331.9	-1,229.6	1,812.6	2.02	-1.98	0.86	
4,714.0	27.30	216.70	4,226.5	-1,362.0	-1,253.7	1,851.1	2.80	-1.83	-4.51	
4,796.0	26.60	219.00	4,299.6	-1,391.3	-1,276.5	1,888.1	1.53	-0.85	2.80	
4,877.0	26.70	224.30	4,372.0	-1,418.4	-1,300.6	1,924.3	2.94	0.12	6.54	
4,959.0	24.80	221.40	4,445.8	-1,444.5	-1,324.8	1,960.0	2.78	-2.32	-3.54	
5,041.0	26.90	223.60	4,519.6	-1,470.9	-1,349.0	1,995.7	2.82	2.56	2.68	
5,123.0	27.60	224.40	4,592.5	-1,497.9	-1,375.1	2,033.2	0.96	0.85	0.98	
5,204.0	27.70	225.80	4,664.3	-1,524.4	-1,401.7	2,070.8	0.81	0.12	1.73	
5,286.0	24.70	224.40	4,737.9	-1,549.9	-1,427.4	2,107.0	3.74	-3.66	-1.71	
5,368.0	21.00	223.60	4,813.4	-1,572.8	-1,449.5	2,138.8	4.53	-4.51	-0.98	
5,450.0	19.10	223.70	4,890.4	-1,593.2	-1,468.9	2,166.9	2.32	-2.32	0.12	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Kerbs USX A15-12D
Project:	SEC.15-T6N-R64W	TVD Reference:	WELL @ 4810.0ft (Original Well Elev)
Site:	Tye and Kerbs Pad Sec.15-T6N-R64W	MD Reference:	WELL @ 4810.0ft (Original Well Elev)
Well:	Kerbs USX A15-12D	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)
5,531.0	16.00	223.60	4,967.7	-1,610.8	-1,485.8	2,191.3	3.83	-3.83	-0.12
5,613.0	14.90	224.30	5,046.7	-1,626.6	-1,500.9	2,213.2	1.36	-1.34	0.85
5,695.0	16.40	224.30	5,125.6	-1,642.4	-1,516.4	2,235.3	1.83	1.83	0.00
5,777.0	15.70	222.30	5,204.5	-1,658.9	-1,531.9	2,258.0	1.09	-0.85	-2.44
5,858.0	13.00	220.40	5,282.9	-1,673.9	-1,545.2	2,278.0	3.38	-3.33	-2.35
5,940.0	12.80	224.10	5,362.9	-1,687.5	-1,557.5	2,296.3	1.04	-0.24	4.51
6,022.0	12.80	224.00	5,442.8	-1,700.5	-1,570.1	2,314.5	0.03	0.00	-0.12
6,104.0	13.10	227.60	5,522.7	-1,713.3	-1,583.3	2,332.8	1.05	0.37	4.39
6,185.0	12.50	222.30	5,601.7	-1,726.0	-1,596.0	2,350.8	1.63	-0.74	-6.54
6,267.0	12.40	221.10	5,681.8	-1,739.2	-1,607.7	2,368.4	0.34	-0.12	-1.46
6,349.0	12.40	218.50	5,761.9	-1,752.7	-1,619.0	2,386.0	0.68	0.00	-3.17
6,431.0	12.80	225.30	5,841.9	-1,766.0	-1,630.9	2,403.9	1.87	0.49	8.29
6,512.0	13.80	223.20	5,920.7	-1,779.4	-1,643.9	2,422.5	1.37	1.23	-2.59
6,594.0	13.40	220.70	6,000.4	-1,793.7	-1,656.8	2,441.8	0.87	-0.49	-3.05
6,676.0	13.60	217.90	6,080.2	-1,808.5	-1,668.9	2,460.8	0.83	0.24	-3.41
6,757.0	12.00	216.20	6,159.2	-1,822.8	-1,679.8	2,478.7	2.03	-1.98	-2.10
6,839.0	10.60	219.70	6,239.6	-1,835.5	-1,689.6	2,494.7	1.90	-1.71	4.27
6,921.0	9.00	212.30	6,320.4	-1,846.7	-1,697.9	2,508.5	2.48	-1.95	-9.02
7,003.0	7.70	202.80	6,401.5	-1,857.2	-1,703.4	2,520.0	2.31	-1.59	-11.59
7,084.0	7.80	198.10	6,481.8	-1,867.5	-1,707.2	2,530.0	0.79	0.12	-5.80
7,115.7	7.79	200.26	6,513.2	-1,871.5	-1,708.7	2,534.0	0.93	-0.03	6.83
TARGET BHL 2000'FSL, 660'FWL									
7,166.0	7.80	203.70	6,563.0	-1,877.8	-1,711.2	2,540.3	0.93	0.02	6.83
7,248.0	7.80	207.70	6,644.2	-1,887.9	-1,716.0	2,550.9	0.66	0.00	4.88
7,302.7	6.84	201.60	6,698.5	-1,894.2	-1,719.0	2,557.5	2.25	-1.75	-11.15
LEGAL BOX 400' X 400' 2007'FSL & 659'FWL - TARGET CIRCLE 2000'FSL & 660'FWL									
7,330.0	6.40	197.90	6,725.6	-1,897.1	-1,720.0	2,560.4	2.25	-1.62	-13.56
7,411.0	5.50	199.60	6,806.2	-1,905.1	-1,722.7	2,568.1	1.13	-1.11	2.10
7,493.0	5.10	193.80	6,887.8	-1,912.3	-1,724.9	2,574.8	0.81	-0.49	-7.07
7,575.0	4.80	185.90	6,969.5	-1,919.3	-1,726.1	2,580.7	0.91	-0.37	-9.63
7,657.0	5.00	179.60	7,051.2	-1,926.3	-1,726.4	2,586.1	0.70	0.24	-7.68
7,738.0	4.70	174.20	7,131.9	-1,933.1	-1,726.1	2,590.8	0.67	-0.37	-6.67
7,769.0	4.70	172.20	7,162.8	-1,935.6	-1,725.8	2,592.4	0.53	0.00	-6.45
7,820.0	4.70	172.20	7,213.7	-1,939.8	-1,725.2	2,595.1	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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