

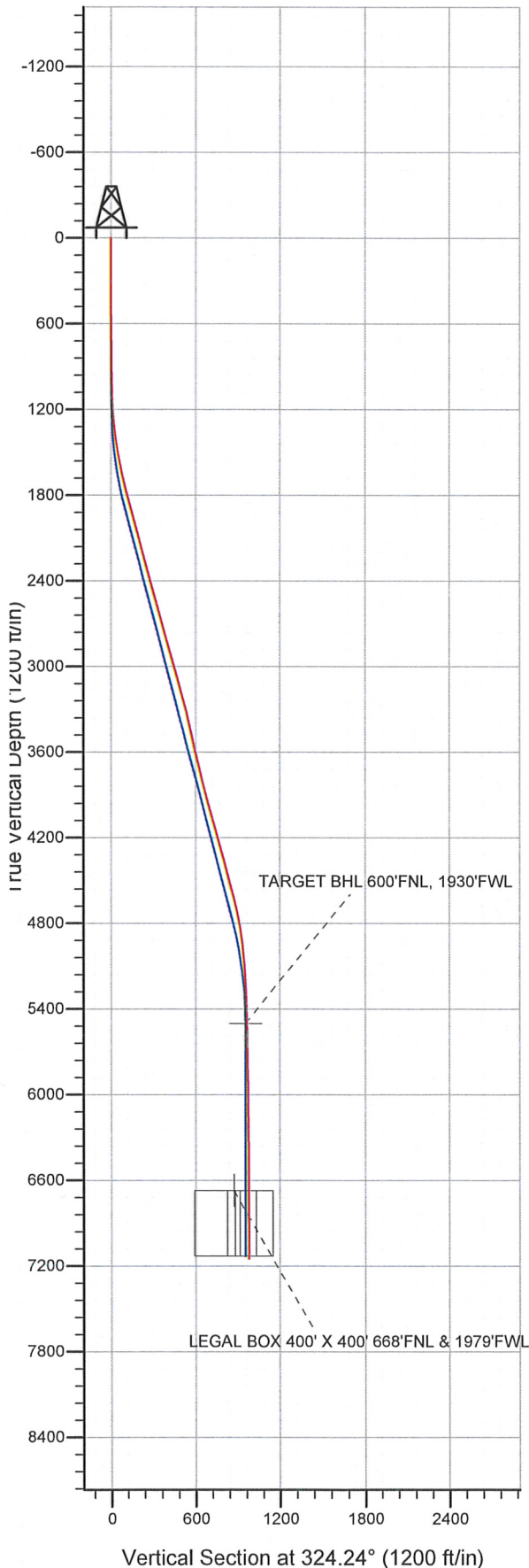
Well Name: **Tye USX A15-03D**

Surface Location: Tye and Kerbs Pad Sec.15-T6N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

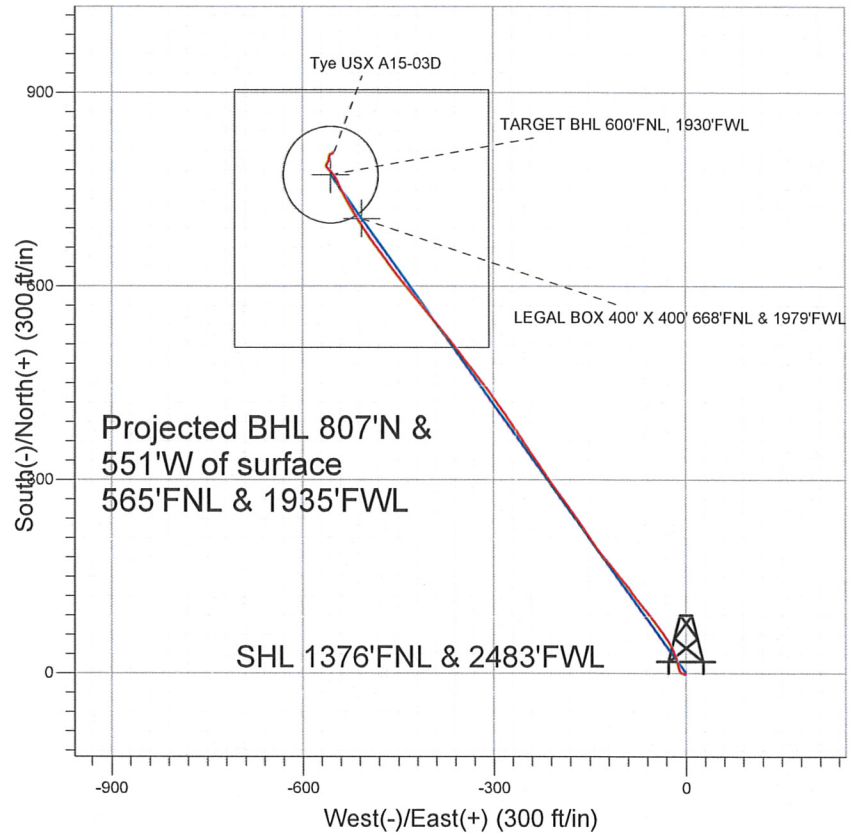
Ground Elevation: 4797.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1422671.21	3267892.85	40.489640	-104.536830	

Original Well Elev WELL @ 4810.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Tye USX A15-03D, Wellbore #1, Noble Tye USX A15-03D Plan #1 (6-01-11) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7265'MD & 7147'TVD @ 977'VS
0.4 deg Inc 20.5 deg AZ

Project: SEC.15-T6N-R64W
Site: Tye and Kerbs Pad Sec.15-T6N-R64W
Well: Tye USX A15-03D
Plan: Wellbore #1



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.15-T6N-R64W

Tye and Kerbs Pad Sec.15-T6N-R64W

Tye USX A15-03D

Wellbore #1

Survey: Survey #1

Standard Survey Report

31 August, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.15-T6N-R64W
 Site: Tye and Kerbs Pad Sec.15-T6N-R64W
 Well: Tye USX A15-03D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Tye USX A15-03D
 TVD Reference: WELL @ 4810.0ft (Original Well Elev)
 MD Reference: WELL @ 4810.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 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	Latitude:	40.489640
From:	Lat/Long	Easting:	3,267,892.85 ft	Longitude:	-104.536830
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.62 °

Well Tye USX A15-03D

Well Position	+N/-S	0.0 ft	Northing:	1,422,671.21 ft	Latitude:	40.489640
	+E/-W	0.0 ft	Easting:	3,267,892.85 ft	Longitude:	-104.536830
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	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
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	324.24

Survey Program Date 8/31/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
168.0	7,265.0	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
168.0	0.60	199.60	168.0	-0.8	-0.3	-0.5	0.36	0.36	0.00
230.0	0.50	213.70	230.0	-1.4	-0.6	-0.8	0.27	-0.16	22.74
292.0	0.50	252.60	292.0	-1.7	-1.0	-0.8	0.54	0.00	62.74
363.0	0.80	282.60	363.0	-1.7	-1.7	-0.3	0.63	0.42	42.25
445.0	0.70	284.90	445.0	-1.4	-2.8	0.5	0.13	-0.12	2.80
527.0	0.70	287.20	527.0	-1.1	-3.7	1.3	0.03	0.00	2.80
609.0	0.40	300.40	609.0	-0.8	-4.5	1.9	0.39	-0.37	16.10
690.0	0.40	324.30	690.0	-0.5	-4.9	2.5	0.20	0.00	29.51
772.0	0.40	287.00	772.0	-0.1	-5.3	3.0	0.31	0.00	-45.49
854.0	0.50	293.50	854.0	0.1	-5.9	3.5	0.14	0.12	7.93
954.0	0.90	298.40	954.0	0.6	-7.0	4.6	0.40	0.40	4.90
1,036.0	1.20	310.60	1,035.9	1.5	-8.2	6.0	0.45	0.37	14.88

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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Tye USX A15-03D
TVD Reference: WELL @ 4810.0ft (Original Well Elev)
MD Reference: WELL @ 4810.0ft (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)
1,117.0	2.40	339.00	1,116.9	3.6	-9.5	8.5	1.80	1.48	35.06
1,199.0	4.00	346.60	1,198.8	8.0	-10.8	12.8	2.01	1.95	9.27
1,281.0	5.90	348.40	1,280.5	14.9	-12.3	19.3	2.32	2.32	2.20
1,363.0	7.50	340.80	1,361.9	24.1	-14.9	28.3	2.23	1.95	-9.27
1,444.0	9.20	336.20	1,442.0	35.0	-19.2	39.7	2.25	2.10	-5.68
1,526.0	10.80	330.30	1,522.8	47.7	-25.7	53.7	2.31	1.95	-7.20
1,608.0	12.50	323.60	1,603.1	61.5	-34.8	70.2	2.65	2.07	-8.17
1,690.0	13.60	322.50	1,683.0	76.3	-45.9	88.7	1.38	1.34	-1.34
1,771.0	14.40	320.90	1,761.6	91.7	-58.0	108.3	1.10	0.99	-1.98
1,853.0	14.00	322.20	1,841.1	107.4	-70.6	128.4	0.62	-0.49	1.59
1,935.0	14.90	324.10	1,920.5	123.8	-82.8	148.9	1.24	1.10	2.32
2,017.0	16.20	321.60	1,999.5	141.3	-96.1	170.8	1.78	1.59	-3.05
2,098.0	16.00	320.40	2,077.3	158.8	-110.2	193.3	0.48	-0.25	-1.48
2,180.0	15.80	320.90	2,156.2	176.1	-124.5	215.7	0.30	-0.24	0.61
2,262.0	15.30	323.20	2,235.2	193.5	-138.0	237.6	0.97	-0.61	2.80
2,344.0	15.00	326.70	2,314.3	211.0	-150.3	259.1	1.17	-0.37	4.27
2,425.0	14.80	326.40	2,392.6	228.4	-161.8	279.9	0.26	-0.25	-0.37
2,507.0	14.80	323.80	2,471.9	245.6	-173.8	300.8	0.81	0.00	-3.17
2,589.0	15.00	324.60	2,551.1	262.7	-186.1	321.9	0.35	0.24	0.98
2,670.0	15.40	324.10	2,629.3	279.9	-198.5	343.1	0.52	0.49	-0.62
2,752.0	15.20	323.60	2,708.4	297.4	-211.2	364.8	0.29	-0.24	-0.61
2,834.0	15.70	326.60	2,787.4	315.3	-223.7	386.6	1.15	0.61	3.66
2,916.0	15.60	325.30	2,866.4	333.6	-236.1	408.7	0.44	-0.12	-1.59
2,997.0	16.70	327.30	2,944.2	352.4	-248.6	431.2	1.52	1.36	2.47
3,079.0	15.70	326.70	3,022.9	371.6	-261.1	454.1	1.24	-1.22	-0.73
3,161.0	14.90	325.00	3,102.0	389.5	-273.2	475.7	1.12	-0.98	-2.07
3,243.0	16.20	323.60	3,181.0	407.3	-286.0	497.7	1.65	1.59	-1.71
3,324.0	15.90	325.90	3,258.9	425.6	-299.0	520.1	0.87	-0.37	2.84
3,406.0	13.00	322.00	3,338.3	442.2	-310.9	540.5	3.73	-3.54	-4.76
3,488.0	12.80	321.60	3,418.2	456.6	-322.3	558.8	0.27	-0.24	-0.49
3,570.0	12.10	322.00	3,498.3	470.5	-333.2	576.5	0.86	-0.85	0.49
3,651.0	12.20	322.30	3,577.4	483.9	-343.7	593.5	0.15	0.12	0.37
3,733.0	13.50	323.40	3,657.4	498.5	-354.7	611.7	1.61	1.59	1.34
3,815.0	13.90	320.40	3,737.1	513.7	-366.6	631.1	0.99	0.49	-3.66
3,897.0	14.60	321.30	3,816.5	529.4	-379.4	651.3	0.90	0.85	1.10
3,978.0	15.00	321.30	3,894.8	545.5	-392.3	672.0	0.49	0.49	0.00
4,060.0	15.80	320.90	3,973.9	562.5	-406.0	693.7	0.98	0.98	-0.49
4,142.0	16.20	319.50	4,052.7	579.8	-420.5	716.2	0.68	0.49	-1.71
4,224.0	15.80	318.80	4,131.5	596.9	-435.2	738.8	0.54	-0.49	-0.85
4,305.0	16.30	322.70	4,209.4	614.3	-449.4	761.1	1.47	0.62	4.81
4,387.0	15.60	325.00	4,288.2	632.5	-462.7	783.6	1.15	-0.85	2.80
4,469.0	14.90	323.60	4,367.3	650.0	-475.3	805.2	0.96	-0.85	-1.71
4,551.0	14.10	321.60	4,446.7	666.3	-487.7	825.7	1.15	-0.98	-2.44
4,632.0	14.40	327.40	4,525.2	682.5	-499.3	845.6	1.80	0.37	7.16
4,714.0	14.90	327.30	4,604.6	700.0	-510.5	866.3	0.61	0.61	-0.12
4,796.0	13.80	328.70	4,684.0	717.2	-521.3	886.6	1.41	-1.34	1.71
4,877.0	11.60	330.40	4,763.0	732.5	-530.3	904.3	2.75	-2.72	2.10
4,959.0	9.10	333.90	4,843.7	745.5	-537.2	918.9	3.14	-3.05	4.27
5,041.0	7.70	335.50	4,924.8	756.4	-542.4	930.7	1.73	-1.71	1.95
5,123.0	4.80	334.60	5,006.3	764.5	-546.1	939.5	3.54	-3.54	-1.10
5,204.0	4.70	322.90	5,087.0	770.2	-549.6	946.1	1.20	-0.12	-14.44
5,286.0	4.00	321.30	5,168.8	775.1	-553.4	952.3	0.87	-0.85	-1.95
5,368.0	2.60	317.40	5,250.7	778.7	-556.4	957.0	1.73	-1.71	-4.76
5,450.0	1.60	309.50	5,332.6	780.8	-558.6	960.0	1.27	-1.22	-9.63

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5,531.0	1.70	320.70	5,413.6	782.4	-560.2	962.3	0.42	0.12	13.83
5,613.0	1.60	325.20	5,495.5	784.3	-561.6	964.7	0.20	-0.12	5.49
5,617.1	1.58	326.96	5,499.7	784.4	-561.7	964.8	1.25	-0.38	42.87
TARGET BHL 600'FNL, 1930'FWL									
5,695.0	1.60	2.60	5,577.5	786.4	-562.2	966.7	1.25	0.02	45.75
5,777.0	1.60	21.80	5,659.5	788.6	-561.8	968.2	0.65	0.00	23.41
5,858.0	1.20	58.60	5,740.5	790.1	-560.6	968.7	1.19	-0.49	45.43
5,940.0	1.30	13.80	5,822.4	791.4	-559.7	969.3	1.17	0.12	-54.63
6,022.0	1.10	26.50	5,904.4	793.0	-559.1	970.3	0.40	-0.24	15.49
6,104.0	1.50	6.30	5,986.4	794.8	-558.6	971.4	0.73	0.49	-24.63
6,185.0	1.10	19.50	6,067.4	796.6	-558.2	972.6	0.61	-0.49	16.30
6,267.0	1.00	10.20	6,149.4	798.0	-557.8	973.6	0.24	-0.12	-11.34
6,349.0	1.10	1.40	6,231.4	799.5	-557.7	974.7	0.23	0.12	-10.73
6,431.0	1.10	12.40	6,313.3	801.1	-557.5	975.9	0.26	0.00	13.41
6,512.0	0.70	15.40	6,394.3	802.3	-557.2	976.7	0.50	-0.49	3.70
6,594.0	0.90	32.70	6,476.3	803.4	-556.7	977.3	0.38	0.24	21.10
6,676.0	0.60	62.40	6,558.3	804.1	-556.0	977.4	0.59	-0.37	36.22
6,757.0	0.70	71.90	6,639.3	804.4	-555.2	977.2	0.18	0.12	11.73
6,787.5	0.70	68.37	6,669.8	804.6	-554.8	977.1	0.14	-0.01	-11.58
TARGET CIRCLE 600'FNL & 1930'FWL									
6,787.7	0.70	68.37	6,670.0	804.6	-554.8	977.1	0.00	0.00	0.00
LEGAL BOX 400' X 400' 668'FNL & 1979'FWL									
6,839.0	0.70	62.40	6,721.3	804.8	-554.2	977.0	0.14	0.00	-11.63
6,921.0	0.70	75.40	6,803.3	805.2	-553.3	976.7	0.19	0.00	15.85
7,003.0	0.40	87.30	6,885.3	805.3	-552.5	976.4	0.39	-0.37	14.51
7,084.0	0.70	50.80	6,966.3	805.7	-551.9	976.3	0.55	0.37	-45.06
7,166.0	0.40	14.70	7,048.3	806.3	-551.4	976.5	0.54	-0.37	-44.02
7,214.0	0.50	30.50	7,096.3	806.6	-551.3	976.7	0.33	0.21	32.92
7,265.0	0.40	20.50	7,147.3	807.0	-551.1	976.9	0.25	-0.20	-19.61

Checked By: _____ Approved By: _____ Date: _____