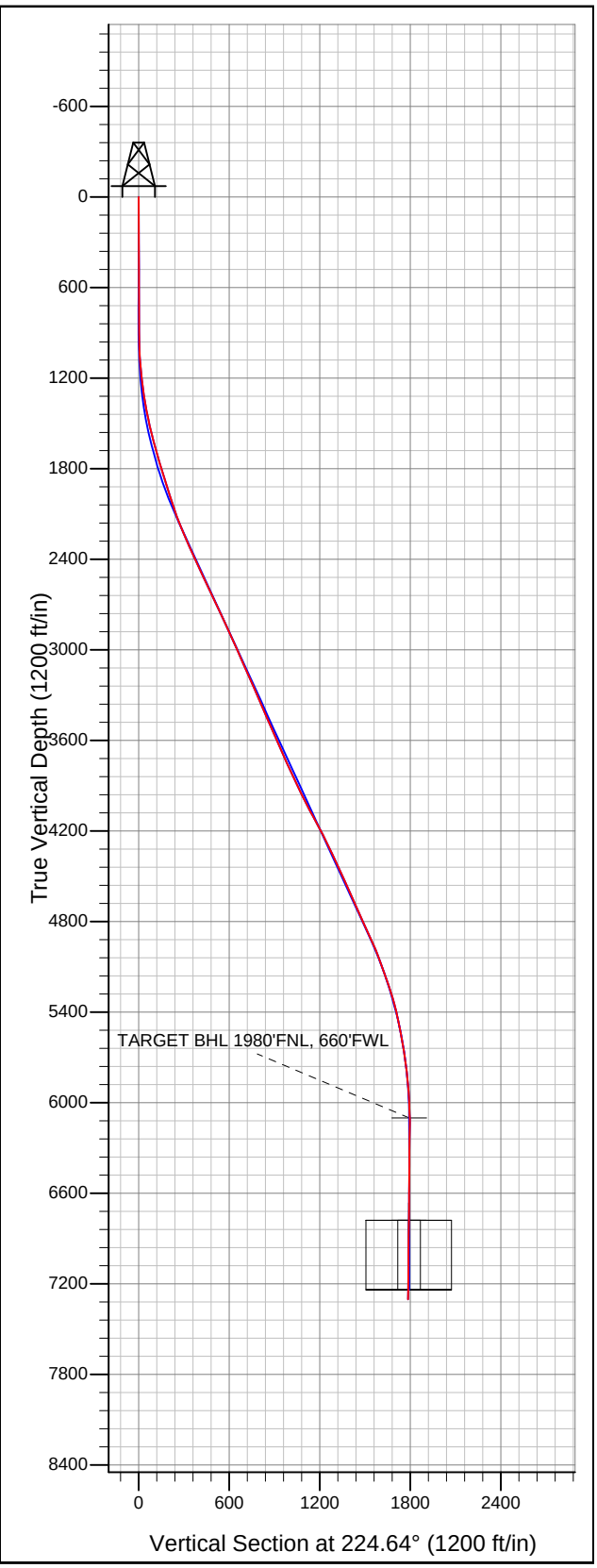
ENSIGN Directional

Well Name: Lang USX AB35-05D

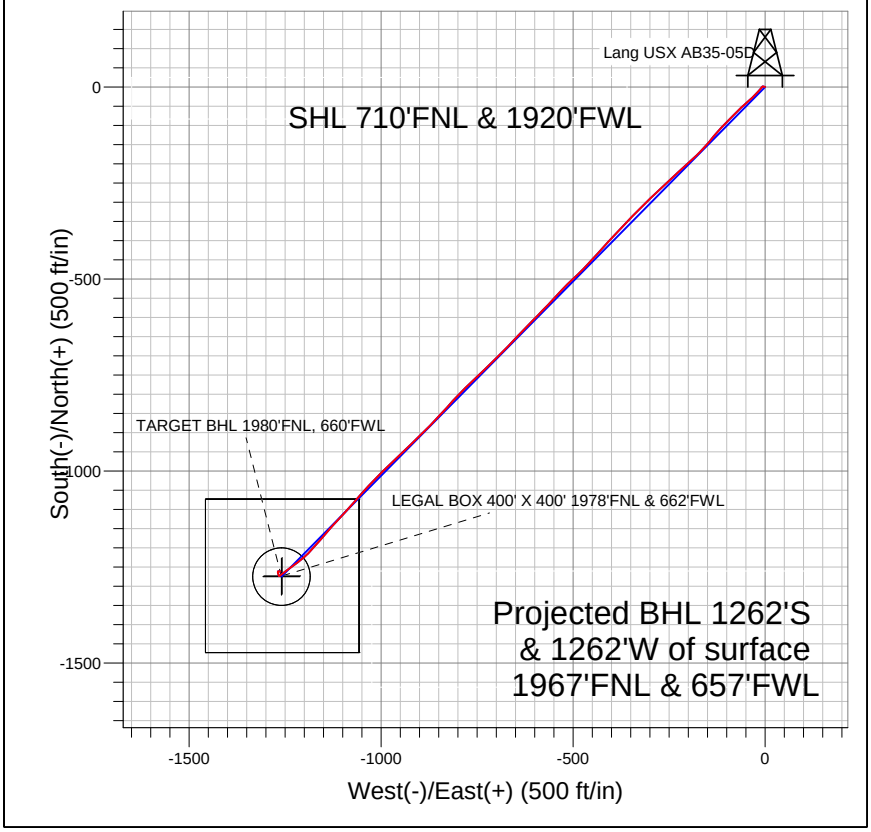
Surface Location: Lang USX AB35-05D Pad Sec.35-T7N-64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4845.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.0	0.0	1439283.34	3272435.14	40.535100	-104.519840	

Original Well Elev WELL @ 4858.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Lang USX AB35-05D, Wellbore #1, Noble Lang USX AB35-05D Plan #2 (12-2-11) R V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7653'MD & 7302'TVD @ 1785'VS
1.0 deg Inc 87.6 deg AZ

Project: SEC.35-T7N-R64W
Site: Lang USX AB35-05D Pad Sec.35-T7N-64W
Well: Lang USX AB35-05D
Plan: Wellbore #1

NOBLE ENERGY INC WELD COUNTY CO

SEC.35-T7N-R64W
Lang USX AB35-05D Pad Sec.35-T7N-64W
Lang USX AB35-05D

Wellbore #1

Survey: Survey #1

Standard Survey Report

08 December, 2011

Company:	NOBLE ENERGY INC WELD COUNTY CO	**Local Co-ordinate Reference:**	Well Lang USX AB35-05D
Project:	SEC.35-T7N-R64W	**TVD Reference:**	WELL @ 4858.0ft (Original Well Elev)
Site:	Lang USX AB35-05D Pad Sec.35-T7N-64W	**MD Reference:**	WELL @ 4858.0ft (Original Well Elev)
Well:	Lang USX AB35-05D	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	Landmark

Project SEC.35-T7N-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 Lang USX AB35-05D Pad Sec.35-T7N-64W

Site Position:		**Northing:**	1,439,283.36 ft	**Latitude:**	40.535100
From:	Lat/Long	**Easting:**	3,272,435.14 ft	**Longitude:**	-104.519840
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.63 °

Well Lang USX AB35-05D

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,439,283.34 ft	**Latitude:**	40.535100
	+E/-W	0.0 ft	**Easting:**	3,272,435.14 ft	**Longitude:**	-104.519840
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,845.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/15/2011	8.69	67.19	53,184

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	224.64

Survey Program **Date** 12/8/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
888.0	7,653.0	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
888.0	0.70	286.20	888.0	1.5	-5.2	2.6	0.08	0.08	0.00
961.0	1.30	242.50	961.0	1.3	-6.4	3.6	1.27	0.82	-59.86
1,054.0	3.10	218.70	1,053.9	-1.2	-8.9	7.1	2.13	1.94	-25.59
1,148.0	5.50	220.20	1,147.6	-6.6	-13.4	14.1	2.56	2.55	1.60
1,241.0	7.30	223.20	1,240.0	-14.3	-20.3	24.5	1.97	1.94	3.23
1,334.0	8.90	224.50	1,332.1	-23.8	-29.4	37.6	1.73	1.72	1.40
1,428.0	10.90	228.60	1,424.7	-34.8	-41.2	53.7	2.25	2.13	4.36
1,522.0	12.60	228.10	1,516.7	-47.6	-55.5	72.8	1.81	1.81	-0.53
1,616.0	14.90	223.80	1,608.0	-63.1	-71.4	95.1	2.68	2.45	-4.57
1,709.0	17.00	226.30	1,697.5	-81.2	-89.6	120.7	2.38	2.26	2.69
1,803.0	16.80	222.40	1,787.4	-100.7	-108.7	148.0	1.22	-0.21	-4.15
1,897.0	16.70	220.70	1,877.4	-121.0	-126.6	175.0	0.53	-0.11	-1.81

Company:	NOBLE ENERGY INC WELD COUNTY CO	**Local Co-ordinate Reference:**	Well Lang USX AB35-05D
Project:	SEC.35-T7N-R64W	**TVD Reference:**	WELL @ 4858.0ft (Original Well Elev)
Site:	Lang USX AB35-05D Pad Sec.35-T7N-64W	**MD Reference:**	WELL @ 4858.0ft (Original Well Elev)
Well:	Lang USX AB35-05D	**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)
1,990.0	17.40	220.30	1,966.3	-141.7	-144.3	202.2	0.76	0.75	-0.43
2,084.0	18.80	222.80	2,055.7	-163.5	-163.7	231.4	1.70	1.49	2.66
2,177.0	21.20	227.90	2,143.1	-185.8	-186.4	263.2	3.19	2.58	5.48
2,271.0	22.80	227.90	2,230.2	-209.4	-212.5	298.3	1.70	1.70	0.00
2,365.0	23.80	227.40	2,316.5	-234.5	-240.0	335.4	1.08	1.06	-0.53
2,458.0	25.50	226.80	2,401.1	-260.9	-268.4	374.2	1.85	1.83	-0.65
2,552.0	25.10	225.40	2,486.1	-288.7	-297.3	414.3	0.77	-0.43	-1.49
2,646.0	24.80	224.50	2,571.3	-316.8	-325.3	454.0	0.51	-0.32	-0.96
2,740.0	25.30	224.50	2,656.4	-345.2	-353.2	493.8	0.53	0.53	0.00
2,834.0	26.10	223.10	2,741.1	-374.6	-381.4	534.6	1.07	0.85	-1.49
2,927.0	24.20	222.30	2,825.3	-403.6	-408.3	574.1	2.08	-2.04	-0.86
3,022.0	23.90	222.40	2,912.1	-432.2	-434.3	612.7	0.32	-0.32	0.11
3,115.0	23.70	223.30	2,997.2	-459.8	-459.9	650.2	0.45	-0.22	0.97
3,208.0	24.60	225.80	3,082.0	-486.8	-486.6	688.3	1.46	0.97	2.69
3,302.0	23.70	225.80	3,167.8	-513.7	-514.1	726.7	0.96	-0.96	0.00
3,395.0	23.10	223.00	3,253.2	-540.0	-540.0	763.7	1.36	-0.65	-3.01
3,489.0	24.00	222.60	3,339.3	-567.6	-565.5	801.2	0.97	0.96	-0.43
3,581.0	23.90	225.10	3,423.4	-594.5	-591.4	838.5	1.11	-0.11	2.72
3,675.0	23.00	223.80	3,509.6	-621.2	-617.5	875.9	1.10	-0.96	-1.38
3,768.0	24.40	223.50	3,594.8	-648.3	-643.3	913.3	1.51	1.51	-0.32
3,862.0	24.10	223.80	3,680.5	-676.2	-670.0	951.9	0.35	-0.32	0.32
3,955.0	23.90	225.60	3,765.5	-703.1	-696.6	989.7	0.82	-0.22	1.94
4,048.0	25.10	225.90	3,850.1	-730.0	-724.2	1,028.3	1.30	1.29	0.32
4,141.0	25.90	226.50	3,934.0	-757.7	-753.1	1,068.3	0.90	0.86	0.65
4,235.0	26.60	225.80	4,018.3	-786.5	-783.1	1,109.9	0.81	0.74	-0.74
4,329.0	28.90	221.40	4,101.5	-818.2	-813.2	1,153.6	3.28	2.45	-4.68
4,422.0	28.00	223.70	4,183.3	-850.9	-843.2	1,197.9	1.52	-0.97	2.47
4,516.0	26.30	224.00	4,266.9	-881.8	-872.9	1,240.8	1.81	-1.81	0.32
4,610.0	26.10	226.10	4,351.3	-911.1	-902.2	1,282.3	1.01	-0.21	2.23
4,704.0	24.30	226.00	4,436.3	-938.9	-931.1	1,322.3	1.92	-1.91	-0.11
4,799.0	24.20	226.50	4,522.9	-965.9	-959.2	1,361.3	0.24	-0.11	0.53
4,892.0	23.90	225.60	4,607.9	-992.2	-986.5	1,399.2	0.51	-0.32	-0.97
4,986.0	25.10	224.50	4,693.4	-1,019.7	-1,014.1	1,438.1	1.37	1.28	-1.17
5,079.0	24.40	221.70	4,777.9	-1,048.1	-1,040.7	1,477.0	1.47	-0.75	-3.01
5,173.0	24.20	220.90	4,863.5	-1,077.2	-1,066.2	1,515.7	0.41	-0.21	-0.85
5,267.0	23.90	222.80	4,949.4	-1,105.7	-1,091.8	1,553.9	0.88	-0.32	2.02
5,362.0	20.80	223.00	5,037.2	-1,132.2	-1,116.4	1,590.0	3.26	-3.26	0.21
5,456.0	18.80	220.70	5,125.7	-1,155.9	-1,137.6	1,621.8	2.28	-2.13	-2.45
5,549.0	19.90	222.10	5,213.4	-1,179.0	-1,158.0	1,652.6	1.28	1.18	1.51
5,643.0	16.40	220.50	5,302.7	-1,201.0	-1,177.4	1,681.8	3.76	-3.72	-1.70
5,738.0	13.00	225.10	5,394.6	-1,218.7	-1,193.7	1,705.9	3.78	-3.58	4.84
5,832.0	11.50	235.30	5,486.5	-1,231.5	-1,208.9	1,725.7	2.80	-1.60	10.85
5,925.0	10.90	232.50	5,577.7	-1,242.1	-1,223.5	1,743.5	0.87	-0.65	-3.01
6,019.0	9.00	232.10	5,670.3	-1,252.1	-1,236.3	1,759.6	2.02	-2.02	-0.43
6,114.0	6.90	231.80	5,764.4	-1,260.2	-1,246.7	1,772.6	2.21	-2.21	-0.32
6,208.0	5.20	235.10	5,857.8	-1,266.1	-1,254.6	1,782.4	1.85	-1.81	3.51
6,302.0	3.70	234.90	5,951.6	-1,270.3	-1,260.6	1,789.6	1.60	-1.60	-0.21
6,395.0	2.20	232.60	6,044.4	-1,273.1	-1,264.4	1,794.3	1.62	-1.61	-2.47
6,450.5	0.87	268.22	6,099.9	-1,273.7	-1,265.7	1,795.7	2.84	-2.40	64.21
TARGET BHL 1980'FNL, 660'FWL									
6,488.0	0.90	342.50	6,137.4	-1,273.5	-1,266.1	1,795.7	2.84	0.09	197.99
6,581.0	0.90	343.70	6,230.4	-1,272.1	-1,266.5	1,795.0	0.02	0.00	1.29
6,675.0	1.00	344.10	6,324.4	-1,270.6	-1,266.9	1,794.3	0.11	0.11	0.43
6,769.0	1.00	341.80	6,418.4	-1,269.0	-1,267.4	1,793.5	0.04	0.00	-2.45

Company:	NOBLE ENERGY INC WELD COUNTY CO	**Local Co-ordinate Reference:**	Well Lang USX AB35-05D
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Site:	Lang USX AB35-05D Pad Sec.35-T7N-64W	**MD Reference:**	WELL @ 4858.0ft (Original Well Elev)
Well:	Lang USX AB35-05D	**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)
6,863.0	0.90	345.50	6,512.4	-1,267.5	-1,267.9	1,792.7	0.12	-0.11	3.94
6,957.0	1.00	353.00	6,606.3	-1,266.0	-1,268.1	1,791.8	0.17	0.11	7.98
7,050.0	0.90	356.20	6,699.3	-1,264.4	-1,268.3	1,790.9	0.12	-0.11	3.44
7,128.5	0.90	8.24	6,777.8	-1,263.2	-1,268.2	1,790.0	0.24	0.00	15.34
TARGET CIRCLE 1980'FNL & 660'FWL									
7,128.6	0.90	8.24	6,777.9	-1,263.2	-1,268.2	1,790.0	0.00	0.00	0.00
LEGAL BOX 400' X 400' 1978'FNL & 662'FWL									
7,144.0	0.90	10.60	6,793.3	-1,263.0	-1,268.2	1,789.8	0.24	0.03	15.28
7,237.0	0.70	346.40	6,886.3	-1,261.7	-1,268.2	1,788.9	0.42	-0.22	-26.02
7,331.0	0.40	63.00	6,980.3	-1,261.0	-1,268.0	1,788.2	0.77	-0.32	81.49
7,424.0	1.40	108.70	7,073.3	-1,261.2	-1,266.7	1,787.4	1.24	1.08	49.14
7,517.0	1.00	95.00	7,166.3	-1,261.7	-1,264.8	1,786.4	0.53	-0.43	-14.73
7,601.0	1.00	87.60	7,250.3	-1,261.7	-1,263.3	1,785.4	0.15	0.00	-8.81
7,653.0	1.00	87.60	7,302.3	-1,261.7	-1,262.4	1,784.8	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____