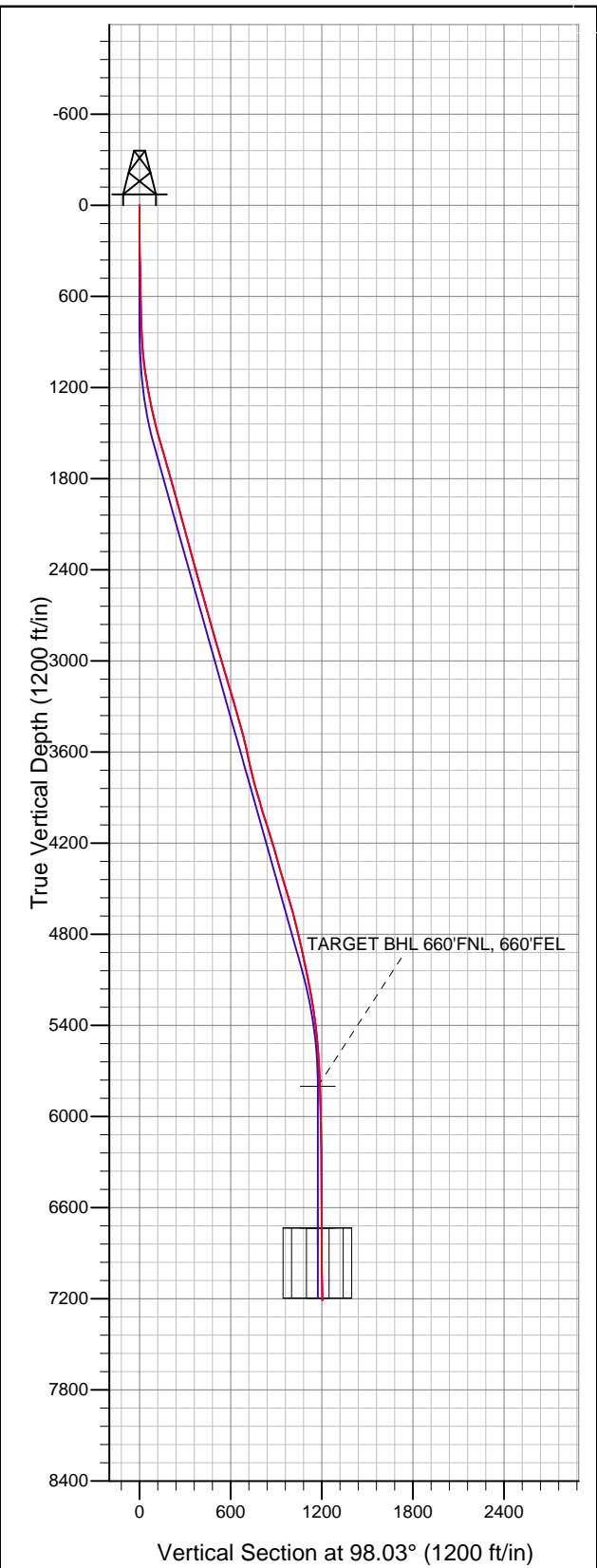




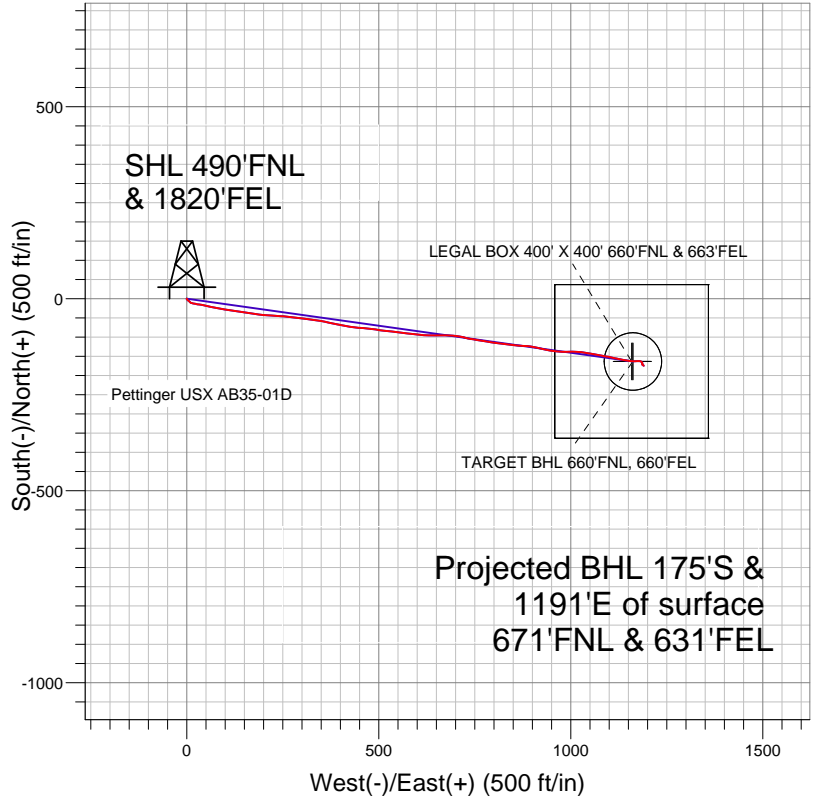
Well Name: Pettinger USX AB35-01D

Surface Location: Pettinger USX AB35-01D Pad Sec.35-T7N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4823.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1439530.20	3273997.39	40.535730	-104.514210	
		Original Well Elev. WELL @ 4836.0ft (Original Well Elev.)				



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Pettinger USX AB35-01D, Wellbore #1, Noble Pettinger USX AB35-01D Plan #2 (6-29-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7360' MD & 7209' TVD @ 1203' VS
0.5 deg Inc 140.0 deg AZ

Project: SEC.35-T7N-R64W
Site: Pettinger USX AB35-01D Pad Sec.35-T7N-R64W
Well: Pettinger USX AB35-01D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.35-T7N-R64W

Pettinger USX AB35-01D Pad Sec.35-T7N-R64W

Pettinger USX AB35-01D

Wellbore #1

Survey: Survey #1

Standard Survey Report

16 November, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Pettinger USX AB35-01D
Project:	SEC.35-T7N-R64W	TVD Reference:	WELL @ 4836.0ft (Original Well Elev.)
Site:	Pettinger USX AB35-01D Pad Sec.35-T7N-R64W	MD Reference:	WELL @ 4836.0ft (Original Well Elev.)
Well:	Pettinger USX AB35-01D	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		Pettinger USX AB35-01D Pad Sec.35-T7N-R64W			
Site Position:		Northing:	1,439,530.21 ft	Latitude:	40.535730
From:	Lat/Long	Easting:	3,273,997.39 ft	Longitude:	-104.514210
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.64 °

Well	Pettinger USX AB35-01D					
Well Position	+N-S	0.0 ft	Northing:	1,439,530.20 ft	Latitude:	40.535730
	+E-W	0.0 ft	Easting:	3,273,997.39 ft	Longitude:	-104.514210
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,823.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/11/2011	8.69	67.19	53,186

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 (°)	
	5,800.0	0.0	0.0	98.03	

Survey Program	Date	11/16/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
135.0	7,360.0	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	
135.0	0.50	204.70	135.0	-0.5	-0.2	-0.2	0.37	0.37	0.00	
229.0	0.80	126.00	229.0	-1.3	0.1	0.3	0.91	0.32	-83.72	
322.0	1.00	140.20	322.0	-2.3	1.2	1.5	0.32	0.22	15.27	
404.0	1.40	129.30	404.0	-3.5	2.4	2.9	0.56	0.49	-13.29	
485.0	1.40	129.50	484.9	-4.7	3.9	4.5	0.01	0.00	0.25	
567.0	1.40	127.20	566.9	-6.0	5.5	6.3	0.07	0.00	-2.80	
649.0	1.40	141.60	648.9	-7.4	6.9	7.9	0.43	0.00	17.56	
731.0	1.70	131.10	730.9	-9.0	8.5	9.6	0.50	0.37	-12.80	
749.0	1.80	132.00	748.9	-9.3	8.9	10.1	0.58	0.56	5.00	
800.0	2.00	130.30	799.8	-10.4	10.1	11.5	0.41	0.39	-3.33	
833.0	2.50	113.00	832.8	-11.1	11.2	12.7	2.54	1.52	-52.42	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Pettinger USX AB35-01D
Project:	SEC.35-T7N-R64W	TVD Reference:	WELL @ 4836.0ft (Original Well Elev.)
Site:	Pettinger USX AB35-01D Pad Sec.35-T7N-R64W	MD Reference:	WELL @ 4836.0ft (Original Well Elev.)
Well:	Pettinger USX AB35-01D	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)
915.0	4.00	101.20	914.7	-12.3	15.7	17.3	1.99	1.83	-14.39
997.0	6.10	102.60	996.3	-13.8	22.7	24.5	2.57	2.56	1.71
1,079.0	7.60	96.30	1,077.8	-15.4	32.4	34.2	2.04	1.83	-7.68
1,160.0	9.10	100.10	1,157.9	-17.1	44.0	46.0	1.97	1.85	4.69
1,242.0	10.60	103.70	1,238.7	-20.0	57.7	60.0	1.98	1.83	4.39
1,324.0	12.00	101.40	1,319.1	-23.5	73.4	76.0	1.79	1.71	-2.80
1,406.0	13.30	100.80	1,399.1	-27.0	91.0	93.9	1.59	1.59	-0.73
1,487.0	14.60	99.10	1,477.7	-30.3	110.3	113.4	1.68	1.60	-2.10
1,569.0	15.70	96.50	1,556.9	-33.2	131.5	134.9	1.58	1.34	-3.17
1,651.0	16.90	97.90	1,635.6	-36.1	154.3	157.9	1.54	1.46	1.71
1,733.0	16.40	100.10	1,714.1	-39.8	177.5	181.3	0.98	-0.61	2.68
1,814.0	15.20	94.50	1,792.1	-42.6	199.4	203.4	2.39	-1.48	-6.91
1,896.0	15.40	94.50	1,871.2	-44.3	221.0	225.0	0.24	0.24	0.00
1,978.0	15.20	91.90	1,950.3	-45.5	242.5	246.5	0.87	-0.24	-3.17
2,059.0	15.40	96.30	2,028.4	-47.0	263.9	267.8	1.45	0.25	5.43
2,141.0	15.00	97.20	2,107.5	-49.6	285.2	289.3	0.57	-0.49	1.10
2,223.0	15.70	97.20	2,186.6	-52.3	306.7	311.0	0.85	0.85	0.00
2,305.0	15.20	98.00	2,265.6	-55.2	328.4	332.9	0.66	-0.61	0.98
2,386.0	15.20	98.40	2,343.8	-58.2	349.4	354.1	0.13	0.00	0.49
2,468.0	15.80	103.70	2,422.8	-62.4	370.9	376.0	1.88	0.73	6.46
2,550.0	15.50	101.20	2,501.8	-67.2	392.5	398.0	0.90	-0.37	-3.05
2,632.0	15.00	101.00	2,580.9	-71.3	413.7	419.6	0.61	-0.61	-0.24
2,713.0	16.20	95.80	2,658.9	-74.5	435.2	441.3	2.27	1.48	-6.42
2,795.0	16.30	95.80	2,737.6	-76.8	458.0	464.3	0.12	0.12	0.00
2,877.0	15.70	95.60	2,816.5	-79.1	480.5	486.8	0.73	-0.73	-0.24
2,959.0	15.70	99.80	2,895.4	-82.0	502.5	509.0	1.39	0.00	5.12
3,040.0	16.00	94.50	2,973.3	-84.8	524.4	531.1	1.82	0.37	-6.54
3,122.0	17.10	97.20	3,051.9	-87.2	547.6	554.4	1.64	1.34	3.29
3,204.0	16.50	97.50	3,130.4	-90.2	571.1	578.1	0.74	-0.73	0.37
3,286.0	16.50	95.90	3,209.1	-92.9	594.3	601.4	0.55	0.00	-1.95
3,367.0	16.90	94.30	3,286.6	-95.0	617.5	624.7	0.75	0.49	-1.98
3,449.0	15.90	90.00	3,365.3	-95.9	640.6	647.7	1.92	-1.22	-5.24
3,531.0	15.00	90.10	3,444.3	-95.9	662.4	669.3	1.10	-1.10	0.12
3,613.0	13.80	90.80	3,523.8	-96.0	682.8	689.5	1.48	-1.46	0.85
3,694.0	12.70	96.60	3,602.6	-97.2	701.3	708.0	2.13	-1.36	7.16
3,776.0	12.80	103.80	3,682.6	-100.4	719.1	726.1	1.94	0.12	8.78
3,858.0	13.80	101.40	3,762.4	-104.5	737.5	744.9	1.39	1.22	-2.93
3,940.0	15.70	99.40	3,841.7	-108.2	758.0	765.7	2.40	2.32	-2.44
4,021.0	16.20	99.10	3,919.6	-111.8	780.0	788.0	0.63	0.62	-0.37
4,103.0	17.10	96.80	3,998.1	-115.1	803.3	811.5	1.36	1.10	-2.80
4,185.0	17.40	97.20	4,076.4	-118.0	827.4	835.8	0.39	0.37	0.49
4,266.0	17.20	97.20	4,153.8	-121.0	851.3	859.9	0.25	-0.25	0.00
4,348.0	16.60	92.40	4,232.2	-123.1	875.0	883.6	1.85	-0.73	-5.85
4,430.0	16.90	98.90	4,310.8	-125.4	898.5	907.2	2.31	0.37	7.93
4,512.0	15.90	103.10	4,389.4	-129.8	921.2	930.3	1.89	-1.22	5.12
4,593.0	16.70	101.00	4,467.2	-134.5	943.5	953.0	1.23	0.99	-2.59
4,675.0	16.70	94.90	4,545.7	-137.8	966.8	976.5	2.14	0.00	-7.44
4,757.0	16.50	90.50	4,624.3	-138.9	990.2	999.8	1.55	-0.24	-5.37
4,839.0	14.50	88.90	4,703.3	-138.8	1,012.1	1,021.5	2.49	-2.44	-1.95
4,920.0	12.20	95.80	4,782.1	-139.5	1,030.7	1,040.1	3.45	-2.84	8.52
5,002.0	13.30	103.50	4,862.1	-142.5	1,048.5	1,058.1	2.47	1.34	9.39
5,084.0	12.60	100.00	4,942.0	-146.3	1,066.5	1,076.5	1.28	-0.85	-4.27
5,166.0	11.60	98.80	5,022.2	-149.1	1,083.4	1,093.7	1.26	-1.22	-1.46

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Well:	Pettinger USX AB35-01D	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)
5,247.0	10.80	101.90	5,101.7	-151.9	1,098.9	1,109.4	1.24	-0.99	3.83
5,329.0	11.10	102.30	5,182.2	-155.2	1,114.2	1,124.9	0.38	0.37	0.49
5,411.0	9.10	98.70	5,262.9	-157.8	1,128.3	1,139.3	2.56	-2.44	-4.39
5,493.0	7.90	104.20	5,344.0	-160.2	1,140.1	1,151.3	1.77	-1.46	6.71
5,574.0	6.80	96.60	5,424.3	-162.1	1,150.3	1,161.7	1.81	-1.36	-9.38
5,656.0	5.30	91.90	5,505.9	-162.8	1,158.9	1,170.3	1.92	-1.83	-5.73
5,738.0	4.30	90.70	5,587.6	-163.0	1,165.8	1,177.1	1.23	-1.22	-1.46
5,820.0	2.90	86.40	5,669.4	-162.9	1,170.9	1,182.2	1.74	-1.71	-5.24
5,901.0	1.90	88.70	5,750.4	-162.7	1,174.3	1,185.5	1.24	-1.23	2.84
5,950.3	1.66	87.18	5,799.6	-162.7	1,175.8	1,187.0	0.50	-0.49	-3.09
TARGET BHL 660'FNL, 660'FEL									
5,983.0	1.50	85.90	5,832.3	-162.6	1,176.7	1,187.9	0.50	-0.49	-3.91
6,065.0	1.90	94.70	5,914.3	-162.6	1,179.2	1,190.3	0.58	0.49	10.73
6,146.0	0.90	112.10	5,995.3	-163.0	1,181.1	1,192.3	1.33	-1.23	21.48
6,228.0	1.10	121.40	6,077.2	-163.6	1,182.4	1,193.6	0.31	0.24	11.34
6,310.0	1.10	116.80	6,159.2	-164.4	1,183.7	1,195.1	0.11	0.00	-5.61
6,392.0	0.80	142.50	6,241.2	-165.2	1,184.8	1,196.2	0.63	-0.37	31.34
6,473.0	0.90	136.70	6,322.2	-166.1	1,185.6	1,197.1	0.16	0.12	-7.16
6,555.0	0.50	161.30	6,404.2	-166.9	1,186.1	1,197.8	0.60	-0.49	30.00
6,637.0	0.70	158.30	6,486.2	-167.7	1,186.4	1,198.2	0.25	0.24	-3.66
6,719.0	0.40	168.70	6,568.2	-168.5	1,186.7	1,198.6	0.38	-0.37	12.68
6,800.0	0.70	194.00	6,649.2	-169.2	1,186.6	1,198.6	0.47	0.37	31.23
6,882.0	0.90	182.40	6,731.2	-170.4	1,186.4	1,198.6	0.31	0.24	-14.15
6,884.7	0.89	182.35	6,733.9	-170.4	1,186.4	1,198.6	0.37	-0.37	-1.73
LEGAL BOX 400' X 400' 660'FNL & 663'FEL - TARGET CIRCLE 660'FNL & 660'FEL									
6,964.0	0.60	180.30	6,813.2	-171.4	1,186.4	1,198.7	0.37	-0.37	-2.59
7,046.0	0.70	117.70	6,895.2	-172.1	1,186.9	1,199.3	0.83	0.12	-76.34
7,127.0	0.80	143.40	6,976.2	-172.8	1,187.6	1,200.1	0.43	0.12	31.73
7,209.0	1.00	119.30	7,058.2	-173.6	1,188.6	1,201.2	0.52	0.24	-29.39
7,291.0	1.00	118.60	7,140.1	-174.3	1,189.9	1,202.5	0.01	0.00	-0.85
7,309.0	0.60	133.50	7,158.1	-174.4	1,190.1	1,202.8	2.49	-2.22	82.78
7,360.0	0.50	140.00	7,209.1	-174.8	1,190.4	1,203.1	0.23	-0.20	12.75

Checked By: _____ Approved By: _____ Date: _____