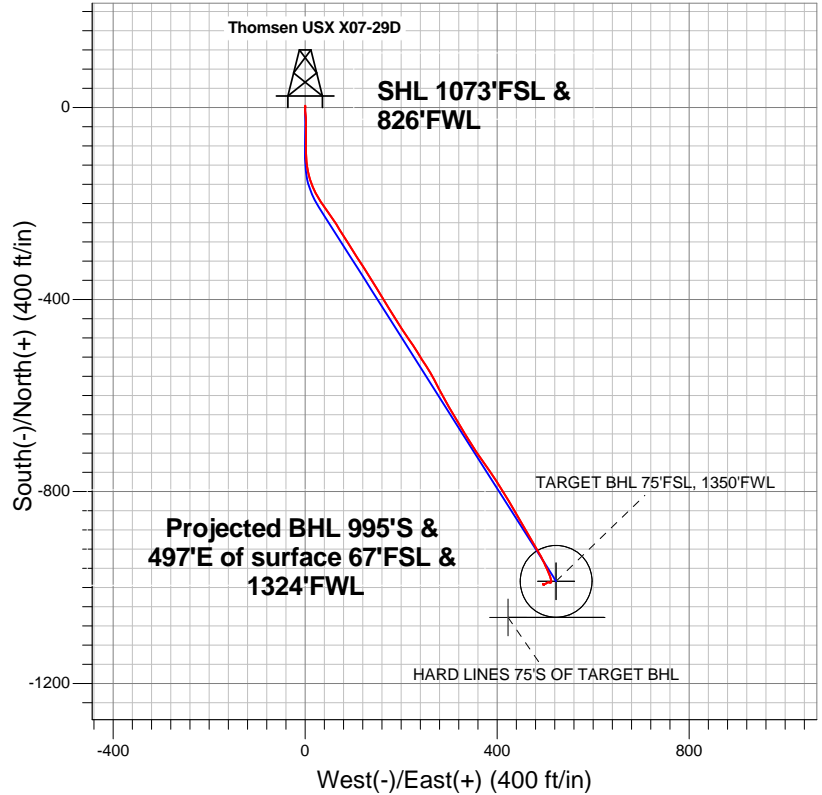


Well Name: Thomsen USX X07-29D

Surface Location: Rehder X06-33D Pad Sec.6-T2N-R65W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4978.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1303262.26	3219981.20	40.163170	-104.712890	
Original Well Elev		WELL @ 4991.0ft (Original Well Elev)				

NOBLE ENERGY INC WELD COUNTY CO

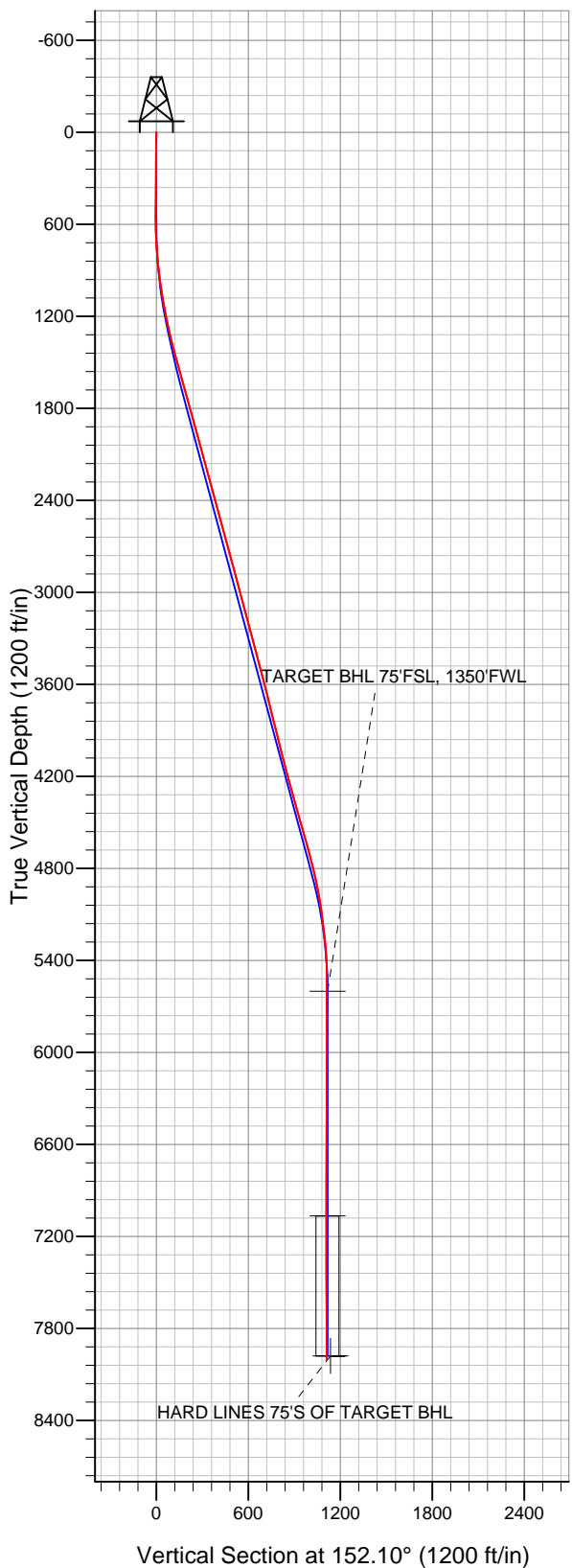


- LEGEND
- Wellbore #1
 - Thomsen USX X07-29D, Wellbore #1, Noble Thomsen USX X07-29D Plan #3 (6-27-12) R V0
 - Survey #1

Final Survey Plot

Projected Final Survey -
8145'MD & 8004'TVD @ 1112'VS
0.20 deg Inc 196.60 deg AZ

Project: Sec.6-T2N-R65W
Site: Rehder X06-33D Pad Sec.6-T2N-R65W
Well: Thomsen USX X07-29D
Plan: Wellbore #1





NOBLE ENERGY INC WELD COUNTY CO

Sec.6-T2N-R65W

Rehder X06-33D Pad Sec.6-T2N-R65W

Thomsen USX X07-29D

Wellbore #1

Survey: Survey #1

Standard Survey Report

05 July, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Thomsen USX X07-29D
Project:	Sec.6-T2N-R65W	TVD Reference:	WELL @ 4991.0ft (Original Well Elev)
Site:	Rehder X06-33D Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4991.0ft (Original Well Elev)
Well:	Thomsen USX X07-29D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	Sec.6-T2N-R65W, 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	Rehder X06-33D Pad Sec.6-T2N-R65W		
Site Position:		Northing:	1,303,261.68ft
From:	Lat/Long	Easting:	3,219,914.13ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.163170
		Longitude:	-104.713130
		Grid Convergence:	0.51 °

Well	Thomsen USX X07-29D		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.163170
		Longitude:	-104.712890
		Ground Level:	4,978.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/27/2012	8.68	66.83	52,902

Design	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	152.10

Survey Program	Date	7/5/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
148.0	8,145.0	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
148.0	0.40	334.10	148.0	0.5	-0.2	-0.5	0.27	0.27	0.00
394.0	0.50	12.90	394.0	2.3	-0.4	-2.2	0.13	0.04	15.77
492.0	0.70	25.70	492.0	3.2	0.0	-2.9	0.24	0.20	13.06
620.0	0.80	186.40	620.0	3.1	0.2	-2.6	1.16	0.08	125.55
747.0	4.20	182.70	746.8	-2.5	-0.1	2.1	2.68	2.68	-2.91
875.0	6.50	173.70	874.3	-14.4	0.5	12.9	1.91	1.80	-7.03
1,009.0	9.70	179.40	1,006.9	-33.2	1.4	30.0	2.46	2.39	4.25
1,074.0	10.60	179.70	1,070.9	-44.6	1.5	40.2	1.39	1.38	0.46
1,202.0	12.80	180.80	1,196.2	-70.6	1.4	63.0	1.73	1.72	0.86
1,330.0	14.50	178.00	1,320.6	-100.8	1.8	89.9	1.42	1.33	-2.19
1,459.0	15.60	168.50	1,445.2	-133.9	5.8	121.1	2.09	0.85	-7.36
1,587.0	15.90	156.50	1,568.4	-166.9	16.2	155.1	2.55	0.23	-9.38

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Thomsen USX X07-29D
Project:	Sec.6-T2N-R65W	TVD Reference:	WELL @ 4991.0ft (Original Well Elev)
Site:	Rehder X06-33D Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4991.0ft (Original Well Elev)
Well:	Thomsen USX X07-29D	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)
1,715.0	15.70	144.60	1,691.6	-197.1	33.2	189.7	2.53	-0.16	-9.30
1,843.0	15.70	146.90	1,814.9	-225.7	52.7	224.2	0.49	0.00	1.80
1,972.0	15.20	147.50	1,939.2	-254.6	71.3	258.4	0.41	-0.39	0.47
2,100.0	15.80	147.70	2,062.5	-283.5	89.7	292.5	0.47	0.47	0.16
2,228.0	15.50	147.90	2,185.8	-312.7	108.1	326.9	0.24	-0.23	0.16
2,356.0	15.00	146.40	2,309.3	-341.0	126.3	360.5	0.50	-0.39	-1.17
2,485.0	15.40	148.30	2,433.8	-369.5	144.6	394.2	0.50	0.31	1.47
2,613.0	15.20	148.40	2,557.2	-398.2	162.3	427.9	0.16	-0.16	0.08
2,741.0	14.50	149.00	2,681.0	-426.2	179.3	460.6	0.56	-0.55	0.47
2,869.0	14.90	148.40	2,804.8	-454.0	196.2	493.0	0.33	0.31	-0.47
2,998.0	15.30	143.30	2,929.3	-481.8	215.1	526.4	1.08	0.31	-3.95
3,126.0	15.50	149.30	3,052.7	-510.0	233.9	560.2	1.25	0.16	4.69
3,254.0	15.00	145.80	3,176.2	-538.4	251.9	593.7	0.82	-0.39	-2.73
3,382.0	14.80	152.80	3,299.9	-566.7	268.7	626.5	1.41	-0.16	5.47
3,511.0	15.70	152.50	3,424.4	-596.8	284.3	660.5	0.70	0.70	-0.23
3,639.0	14.40	148.80	3,548.0	-625.8	300.6	693.7	1.26	-1.02	-2.89
3,767.0	13.60	150.70	3,672.2	-652.5	316.2	724.6	0.72	-0.63	1.48
3,895.0	14.00	148.10	3,796.5	-678.8	331.7	755.1	0.58	0.31	-2.03
4,024.0	13.60	147.70	3,921.8	-704.9	348.1	785.8	0.32	-0.31	-0.31
4,152.0	14.60	144.90	4,045.9	-730.8	365.4	816.8	0.95	0.78	-2.19
4,280.0	15.00	144.60	4,169.7	-757.5	384.3	849.2	0.32	0.31	-0.23
4,408.0	15.70	147.70	4,293.1	-785.6	403.1	882.9	0.84	0.55	2.42
4,537.0	16.00	150.50	4,417.2	-815.8	421.2	918.1	0.64	0.23	2.17
4,665.0	15.80	148.80	4,540.3	-846.1	438.9	953.1	0.40	-0.16	-1.33
4,793.0	15.50	149.30	4,663.6	-875.7	456.7	987.6	0.26	-0.23	0.39
4,921.0	14.10	150.00	4,787.3	-903.9	473.2	1,020.3	1.10	-1.09	0.55
5,050.0	11.30	150.90	4,913.2	-928.6	487.2	1,048.6	2.18	-2.17	0.70
5,178.0	9.00	154.10	5,039.1	-948.6	497.7	1,071.2	1.85	-1.80	2.50
5,306.0	6.80	157.40	5,165.9	-964.6	505.0	1,088.7	1.75	-1.72	2.58
5,434.0	5.50	160.40	5,293.2	-977.3	509.9	1,102.3	1.05	-1.02	2.34
5,563.0	2.40	167.10	5,421.9	-985.8	512.6	1,111.1	2.43	-2.40	5.19
5,691.0	1.30	224.50	5,549.8	-989.4	512.2	1,114.1	1.58	-0.86	44.84
5,741.0	1.04	243.75	5,599.8	-990.0	511.4	1,114.3	0.94	-0.52	38.50
TARGET BHL 75°FSL, 1350°FWL									
5,819.0	1.00	285.70	5,677.8	-990.2	510.1	1,113.8	0.94	-0.05	53.78
5,947.0	1.10	282.70	5,805.8	-989.6	507.8	1,112.2	0.09	0.08	-2.34
6,076.0	0.90	258.60	5,934.7	-989.5	505.6	1,111.1	0.36	-0.16	-18.68
6,204.0	1.40	239.10	6,062.7	-990.5	503.3	1,110.9	0.49	0.39	-15.23
6,332.0	1.10	236.50	6,190.7	-992.0	500.9	1,111.1	0.24	-0.23	-2.03
6,460.0	1.10	240.70	6,318.7	-993.3	498.8	1,111.3	0.06	0.00	3.28
6,589.0	0.30	239.80	6,447.7	-994.1	497.5	1,111.3	0.62	-0.62	-0.70
6,717.0	0.10	22.70	6,575.7	-994.1	497.2	1,111.2	0.30	-0.16	111.64
6,845.0	0.50	322.80	6,703.7	-993.6	496.9	1,110.6	0.36	0.31	-46.80
6,973.0	0.30	292.00	6,831.6	-993.0	496.3	1,109.8	0.22	-0.16	-24.06
7,102.0	0.40	265.50	6,960.6	-992.9	495.5	1,109.4	0.15	0.08	-20.54
7,206.3	0.10	320.59	7,064.9	-992.9	495.1	1,109.1	0.34	-0.29	52.84
TARGET CIRCLE 75°FSL & 1350°FWL									
7,230.0	0.10	8.90	7,088.6	-992.8	495.1	1,109.1	0.34	0.01	203.53
7,358.0	0.20	103.10	7,216.6	-992.8	495.3	1,109.2	0.18	0.08	73.59
7,486.0	0.40	194.00	7,344.6	-993.3	495.4	1,109.6	0.35	0.16	71.02
7,615.0	0.20	143.70	7,473.6	-993.9	495.4	1,110.2	0.24	-0.16	-38.99
7,743.0	0.20	108.00	7,601.6	-994.1	495.8	1,110.6	0.10	0.00	-27.89
7,871.0	0.40	95.30	7,729.6	-994.2	496.4	1,111.0	0.16	0.16	-9.92
7,999.0	0.10	154.60	7,857.6	-994.4	496.9	1,111.3	0.28	-0.23	46.33

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Thomsen USX X07-29D
Project:	Sec.6-T2N-R65W	TVD Reference:	WELL @ 4991.0ft (Original Well Elev)
Site:	Rehder X06-33D Pad Sec.6-T2N-R65W	MD Reference:	WELL @ 4991.0ft (Original Well Elev)
Well:	Thomsen USX X07-29D	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)
8,100.0	0.20	196.60	7,958.6	-994.6	496.9	1,111.6	0.14	0.10	41.58
HARD LINES 75'S OF TARGET BHL									
8,145.0	0.20	196.60	8,003.6	-994.8	496.9	1,111.7	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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