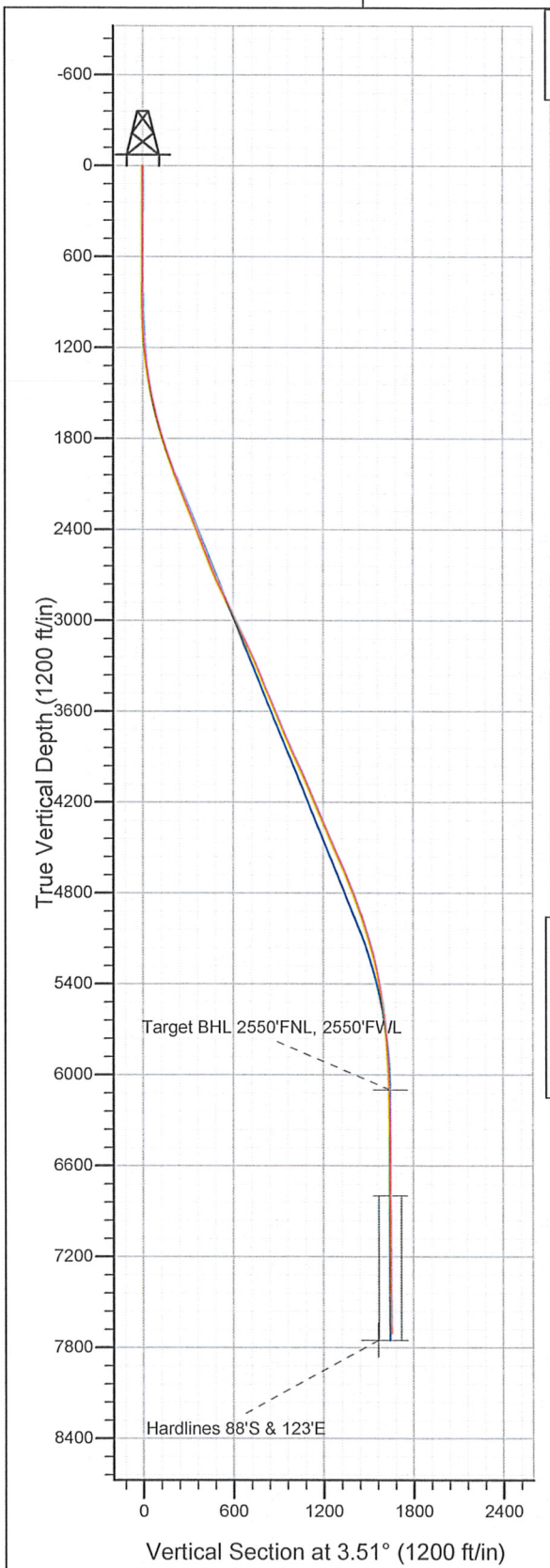
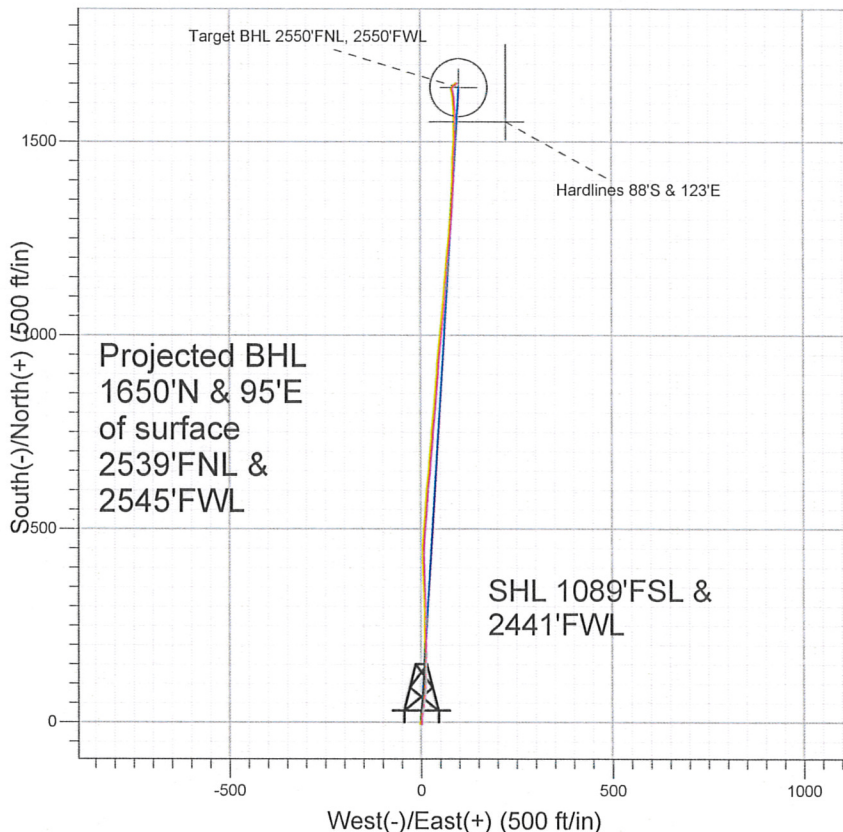


Well Name: **Moser PC H22-21D**
 Surface Location: Moser PC H22-21D Pad Sec.22-T3N-65W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4808.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1319261.27 3237248.93 40° 12' 23.940 N 104° 39' 2.016 W
 Original Well Elev WELL @ 4821.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Moser PC H22-21D, Wellbore #1, Noble Moser PC H22-21D Plan#2 (9-22-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 8007'MD & 7704'TVD @ 1653'VS
 0.4 deg Inc 22.6 deg AZ

Project: SEC.22-T3N-R65W
 Site: Moser PC H22-21D Pad Sec.22-T3N-65W
 Well: Moser PC H22-21D
 Plan: Wellbore #1

Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.22-T3N-R65W
 Site: Moser PC H22-21D Pad Sec.22-T3N-65W
 Well: Moser PC H22-21D
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Site Moser PC H22-21D Pad Sec.22-T3N-65W
 TVD Reference: WELL @ 4821.0ft (Original Well Elev)
 MD Reference: WELL @ 4821.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.22-T3N-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 Moser PC H22-21D Pad Sec.22-T3N-65W

Site Position:	Lat/Long	Northing:	1,319,261.29 ft	Latitude:	40° 12' 23.940 N
From:		Easting:	3,237,248.93 ft	Longitude:	104° 39' 2.016 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.55 °

Well	Moser PC H22-21D					
Well Position	+N/-S	0.0 ft	Northing:	1,319,261.27 ft	Latitude:	40° 12' 23.940 N
	+E/-W	0.0 ft	Easting:	3,237,248.93 ft	Longitude:	104° 39' 2.016 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,808.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/23/2010	8.88	66.94	53,119

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	3.51

Survey Program Date 4/25/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
770.0	8,007.0	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
770.0	0.60	165.80	770.0	-3.9	1.0	-3.8	0.08	0.08	0.00
856.0	0.40	173.90	856.0	-4.7	1.1	-4.6	0.25	-0.23	9.42
941.0	0.90	17.80	941.0	-4.3	1.4	-4.2	1.50	0.59	-183.65
1,027.0	2.40	3.80	1,026.9	-1.9	1.7	-1.8	1.79	1.74	-16.28
1,112.0	3.80	358.90	1,111.8	2.7	1.8	2.8	1.67	1.65	-5.76
1,198.0	5.60	0.20	1,197.5	9.8	1.7	9.9	2.10	2.09	1.51
1,284.0	7.00	8.60	1,283.0	19.1	2.5	19.3	1.94	1.63	9.77
1,369.0	8.90	12.40	1,367.2	30.7	4.7	30.9	2.32	2.24	4.47
1,455.0	10.40	5.90	1,452.0	44.9	6.9	45.3	2.15	1.74	-7.56
1,540.0	12.40	8.70	1,535.3	61.6	9.1	62.0	2.44	2.35	3.29
1,626.0	14.20	4.60	1,619.0	81.2	11.3	81.8	2.36	2.09	-4.77
1,712.0	15.40	1.50	1,702.1	103.1	12.5	103.7	1.67	1.40	-3.60

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.22-T3N-R65W
Site: Moser PC H22-21D Pad Sec.22-T3N-65W
Well: Moser PC H22-21D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Site Moser PC H22-21D Pad Sec.22-T3N-65W
TVD Reference: WELL @ 4821.0ft (Original Well Elev)
MD Reference: WELL @ 4821.0ft (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)
1,797.0	17.00	357.90	1,783.7	126.8	12.3	127.4	2.22	1.88	-4.24
1,883.0	18.60	3.10	1,865.6	153.1	12.6	153.6	2.62	1.86	6.05
1,968.0	19.10	358.70	1,946.1	180.5	13.0	181.0	1.77	0.59	-5.18
2,054.0	20.10	358.10	2,027.1	209.4	12.2	209.7	1.19	1.16	-0.70
2,140.0	21.10	0.40	2,107.6	239.6	11.8	239.9	1.50	1.16	2.67
2,225.0	21.80	0.80	2,186.7	270.7	12.2	271.0	0.84	0.82	0.47
2,311.0	22.30	358.80	2,266.4	303.0	12.0	303.2	1.05	0.58	-2.33
2,396.0	22.10	357.30	2,345.1	335.1	11.0	335.1	0.71	-0.24	-1.76
2,482.0	21.40	357.90	2,425.0	366.9	9.6	366.8	0.85	-0.81	0.70
2,568.0	21.20	355.80	2,505.1	398.1	7.9	397.9	0.92	-0.23	-2.44
2,653.0	21.60	0.90	2,584.3	429.1	7.0	428.7	2.24	0.47	6.00
2,739.0	23.20	3.00	2,663.8	461.8	8.2	461.5	2.08	1.86	2.44
2,824.0	24.70	6.10	2,741.5	496.2	10.9	496.0	2.30	1.76	3.65
2,910.0	25.10	4.20	2,819.5	532.3	14.2	532.2	1.04	0.47	-2.21
2,996.0	25.80	3.20	2,897.1	569.1	16.5	569.1	0.96	0.81	-1.16
3,081.0	25.40	5.00	2,973.8	605.8	19.2	605.8	1.03	-0.47	2.12
3,167.0	25.10	6.70	3,051.6	642.3	22.9	642.5	0.91	-0.35	1.98
3,252.0	24.10	4.10	3,128.9	677.5	26.2	677.8	1.73	-1.18	-3.06
3,338.0	24.70	4.80	3,207.2	712.9	29.0	713.4	0.77	0.70	0.81
3,424.0	23.70	3.50	3,285.6	748.1	31.6	748.6	1.32	-1.16	-1.51
3,509.0	22.60	7.10	3,363.8	781.3	34.6	782.0	2.11	-1.29	4.24
3,595.0	22.80	4.00	3,443.1	814.3	37.8	815.1	1.41	0.23	-3.60
3,680.0	23.00	4.90	3,521.4	847.3	40.4	848.2	0.47	0.24	1.06
3,766.0	22.70	5.70	3,600.7	880.6	43.5	881.6	0.50	-0.35	0.93
3,852.0	22.40	2.40	3,680.1	913.5	45.8	914.6	1.51	-0.35	-3.84
3,937.0	23.00	4.70	3,758.5	946.2	47.9	947.4	1.26	0.71	2.71
4,023.0	23.10	7.10	3,837.6	979.7	51.3	981.0	1.10	0.12	2.79
4,108.0	25.00	5.50	3,915.3	1,014.1	55.1	1,015.6	2.36	2.24	-1.88
4,194.0	24.90	5.40	3,993.2	1,050.2	58.5	1,051.8	0.13	-0.12	-0.12
4,280.0	24.40	6.00	4,071.4	1,085.9	62.1	1,087.7	0.65	-0.58	0.70
4,365.0	22.90	2.60	4,149.3	1,119.9	64.7	1,121.8	2.38	-1.76	-4.00
4,451.0	22.90	5.70	4,228.5	1,153.3	67.1	1,155.2	1.40	0.00	3.60
4,536.0	23.20	3.70	4,306.7	1,186.4	69.8	1,188.5	0.99	0.35	-2.35
4,622.0	23.30	6.20	4,385.7	1,220.2	72.8	1,222.4	1.15	0.12	2.91
4,708.0	23.20	6.90	4,464.7	1,254.0	76.6	1,256.3	0.34	-0.12	0.81
4,793.0	24.20	3.90	4,542.6	1,288.0	79.8	1,290.5	1.84	1.18	-3.53
4,879.0	24.10	2.70	4,621.0	1,323.1	81.9	1,325.6	0.58	-0.12	-1.40
4,964.0	22.60	3.40	4,699.1	1,356.7	83.6	1,359.3	1.79	-1.76	0.82
5,050.0	21.80	3.40	4,778.7	1,389.2	85.6	1,391.8	0.93	-0.93	0.00
5,136.0	20.40	1.40	4,858.9	1,420.1	86.9	1,422.8	1.83	-1.63	-2.33
5,221.0	18.60	0.50	4,939.1	1,448.5	87.4	1,451.1	2.15	-2.12	-1.06
5,307.0	17.80	3.70	5,020.8	1,475.3	88.3	1,478.0	1.49	-0.93	3.72
5,392.0	16.80	3.10	5,101.9	1,500.5	89.8	1,503.2	1.20	-1.18	-0.71
5,478.0	14.60	359.70	5,184.7	1,523.8	90.5	1,526.5	2.77	-2.56	-3.95
5,564.0	13.20	358.60	5,268.2	1,544.4	90.2	1,547.1	1.66	-1.63	-1.28
5,649.0	11.40	1.10	5,351.2	1,562.5	90.1	1,565.1	2.21	-2.12	2.94
5,735.0	9.80	358.10	5,435.8	1,578.4	90.0	1,580.9	1.97	-1.86	-3.49
5,820.0	8.60	354.60	5,519.7	1,591.9	89.2	1,594.4	1.56	-1.41	-4.12
5,906.0	7.30	352.70	5,604.8	1,603.7	87.9	1,606.1	1.54	-1.51	-2.21
5,992.0	5.40	358.80	5,690.3	1,613.2	87.1	1,615.5	2.34	-2.21	7.09
6,077.0	4.50	353.00	5,775.0	1,620.5	86.6	1,622.8	1.21	-1.06	-6.82
6,163.0	3.80	346.70	5,860.8	1,626.6	85.5	1,628.8	0.97	-0.81	-7.33
6,248.0	3.30	342.00	5,945.6	1,631.7	84.1	1,633.8	0.68	-0.59	-5.53
6,334.0	2.20	343.80	6,031.5	1,635.6	82.9	1,637.7	1.28	-1.28	2.09

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.22-T3N-R65W
Site: Moser PC H22-21D Pad Sec.22-T3N-65W
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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Site Moser PC H22-21D Pad Sec.22-T3N-65W
TVD Reference: WELL @ 4821.0ft (Original Well Elev)
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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)
6,402.6	1.50	9.81	6,100.0	1,637.8	82.7	1,639.8	1.57	-1.02	37.93
Target BHL 2550'FNL, 2550'FWL									
6,420.0	1.40	19.90	6,117.5	1,638.2	82.8	1,640.2	1.57	-0.57	57.88
6,591.0	1.00	51.50	6,288.4	1,641.1	84.7	1,643.2	0.44	-0.23	18.48
6,762.0	0.80	37.30	6,459.4	1,643.0	86.6	1,645.2	0.17	-0.12	-8.30
6,933.0	0.40	72.10	6,630.4	1,644.1	87.9	1,646.4	0.31	-0.23	20.35
7,099.7	0.69	39.26	6,797.0	1,645.1	89.0	1,647.5	0.25	0.17	-19.70
Target Circle 2550'FNL, 2550'FWL									
7,104.0	0.70	38.80	6,801.4	1,645.1	89.1	1,647.5	0.25	0.21	-10.65
7,276.0	0.40	31.30	6,973.4	1,646.4	90.0	1,648.9	0.18	-0.17	-4.36
7,447.0	0.60	77.90	7,144.4	1,647.1	91.2	1,649.7	0.26	0.12	27.25
7,618.0	0.60	88.20	7,315.4	1,647.4	93.0	1,650.0	0.06	0.00	6.02
7,789.0	0.80	27.40	7,486.3	1,648.4	94.4	1,651.1	0.43	0.12	-35.56
7,960.0	0.40	22.60	7,657.3	1,650.1	95.2	1,652.8	0.24	-0.23	-2.81
8,007.0	0.40	22.60	7,704.3	1,650.4	95.4	1,653.1	0.00	0.00	0.00
Hardlines 88'S & 123'E									

Checked By: _____	Approved By: _____	Date: _____
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