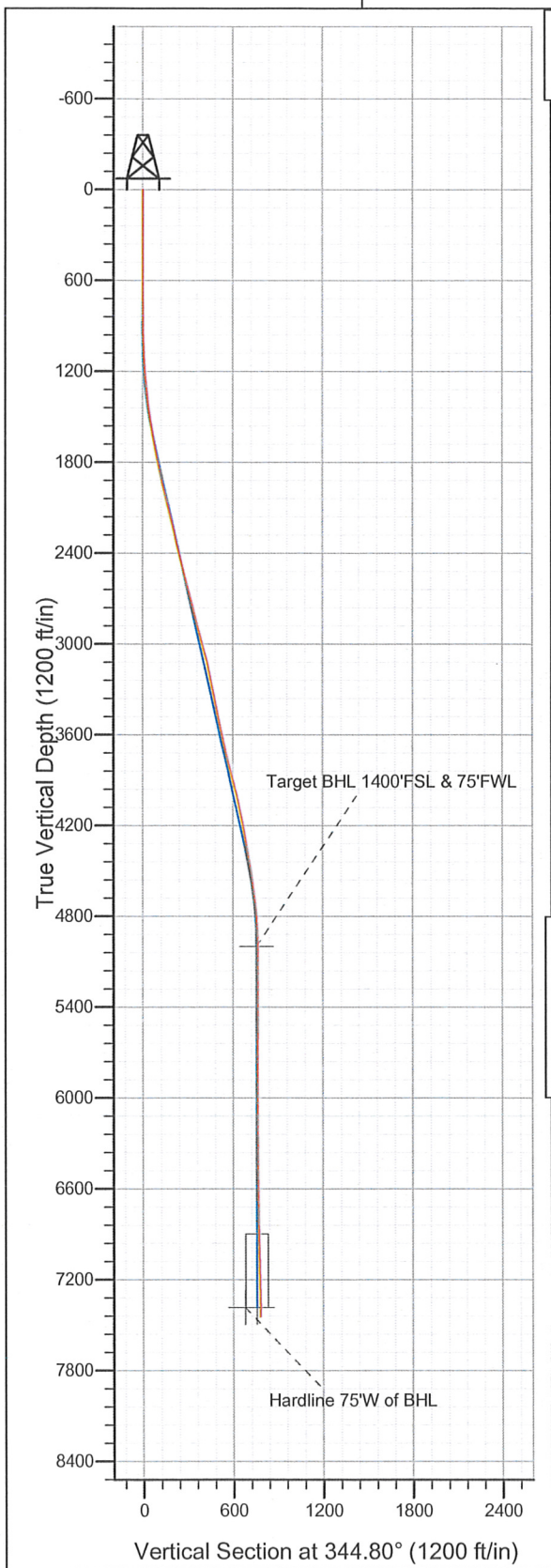
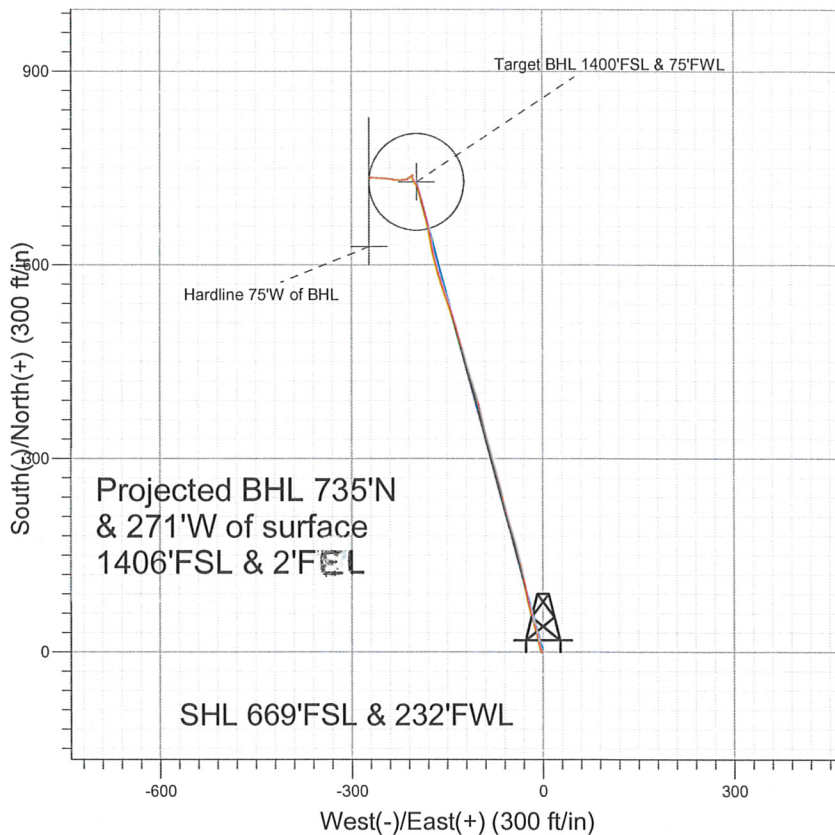


Well Name: **Five Rivers K03-33D**
 Surface Location: Five Rivers K03-33D Pad Sec.3-T4N-R66W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4721.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1365851.33 3202773.69 40° 20' 7.368 N 104° 46' 21.432 W
 Original Well Elev WELL @ 4734.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Five Rivers K03-33D, Wellbore #1, Noble Five Rivers K03-33D Plan#1 (6-29-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7525'MD & 7443'TVD @ 780'VS
 1.0 deg Inc 220.0 deg AZ

Project: SEC.3-T4N-R66W
 Site: Five Rivers K03-33D Pad Sec.3-T4N-R66W
 Well: Five Rivers K03-33D
 Plan: Wellbore #1



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.3-T4N-R66W

Five Rivers K03-33D Pad Sec.3-T4N-R66W

Five Rivers K03-33D

Wellbore #1

Survey: Survey #1

Standard Survey Report

27 June, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.3-T4N-R66W
Site: Five Rivers K03-33D Pad Sec.3-T4N-R66W
Well: Five Rivers K03-33D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Site Five Rivers K03-33D Pad Sec.3-T4N-R66W
TVD Reference: WELL @ 4734.0ft (Original Well Elev)
MD Reference: WELL @ 4734.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Project	SEC.3-T4N-R66W, 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 Five Rivers K03-33D Pad Sec.3-T4N-R66W

Site Position:		Northing:	1,365,851.35 ft	Latitude:	40° 20' 7.368 N
From:	Lat/Long	Easting:	3,202,773.69 ft	Longitude:	104° 46' 21.432 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.47 °

Well	Five Rivers K03-33D				
Well Position	+N/-S	0.0 ft	Northing:	1,365,851.33 ft	Latitude: 40° 20' 7.368 N
	+E/-W	0.0 ft	Easting:	3,202,773.69 ft	Longitude: 104° 46' 21.432 W
Position Uncertainty	0.0 ft		Wellhead Elevation:	ft	Ground Level: 4,721.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/17/2011	8.86	67.00	53,097

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	344.80

Survey Program Date 6/27/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
644.0	7,525.0	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
644.0	0.40	263.30	644.0	-0.3	-2.2	0.3	0.06	0.06	0.00
730.0	0.20	40.30	730.0	-0.2	-2.4	0.5	0.65	-0.23	159.30
815.0	0.10	343.00	815.0	0.0	-2.4	0.6	0.20	-0.12	-67.41
901.0	0.70	329.00	901.0	0.5	-2.7	1.2	0.70	0.70	-16.28
986.0	1.90	350.10	986.0	2.3	-3.2	3.1	1.50	1.41	24.82
1,072.0	2.90	349.80	1,071.9	5.9	-3.8	6.7	1.16	1.16	-0.35
1,157.0	3.60	348.30	1,156.8	10.6	-4.7	11.5	0.83	0.82	-1.76
1,243.0	4.80	345.20	1,242.5	16.7	-6.2	17.8	1.42	1.40	-3.60
1,329.0	6.20	343.00	1,328.1	24.7	-8.5	26.0	1.65	1.63	-2.56
1,414.0	7.10	342.80	1,412.6	34.1	-11.4	35.9	1.06	1.06	-0.24
1,500.0	7.80	345.60	1,497.8	44.8	-14.4	47.0	0.92	0.81	3.26
1,585.0	9.20	345.80	1,581.9	57.0	-17.5	59.6	1.65	1.65	0.24

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.3-T4N-R66W
Site: Five Rivers K03-33D Pad Sec.3-T4N-R66W
Well: Five Rivers K03-33D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Site Five Rivers K03-33D Pad Sec.3-T4N-R66W
TVD Reference: WELL @ 4734.0ft (Original Well Elev)
MD Reference: WELL @ 4734.0ft (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)
1,671.0	10.00	346.90	1,666.7	70.9	-20.9	73.9	0.95	0.93	1.28
1,756.0	11.20	348.60	1,750.2	86.2	-24.2	89.5	1.46	1.41	2.00
1,842.0	12.70	348.50	1,834.4	103.6	-27.7	107.3	1.74	1.74	-0.12
1,927.0	13.10	348.60	1,917.2	122.2	-31.5	126.2	0.47	0.47	0.12
2,013.0	13.70	344.50	2,000.9	141.6	-36.1	146.1	1.31	0.70	-4.77
2,098.0	13.80	345.70	2,083.4	161.1	-41.3	166.3	0.36	0.12	1.41
2,184.0	13.20	344.60	2,167.1	180.5	-46.4	186.4	0.76	-0.70	-1.28
2,269.0	13.10	341.80	2,249.8	199.0	-52.0	205.7	0.76	-0.12	-3.29
2,355.0	13.20	345.40	2,333.6	217.8	-57.6	225.3	0.96	0.12	4.19
2,440.0	13.10	347.90	2,416.4	236.6	-62.0	244.6	0.68	-0.12	2.94
2,526.0	14.10	345.30	2,499.9	256.3	-66.7	264.8	1.36	1.16	-3.02
2,611.0	15.00	343.70	2,582.2	276.8	-72.4	286.2	1.16	1.06	-1.88
2,697.0	15.20	344.00	2,665.3	298.4	-78.7	308.6	0.25	0.23	0.35
2,782.0	15.00	344.70	2,747.3	319.7	-84.6	330.7	0.32	-0.24	0.82
2,868.0	14.10	346.70	2,830.6	340.6	-90.0	352.3	1.20	-1.05	2.33
2,953.0	15.30	347.00	2,912.8	361.6	-94.9	373.9	1.41	1.41	0.35
3,039.0	15.00	344.60	2,995.8	383.4	-100.4	396.3	0.81	-0.35	-2.79
3,124.0	14.30	343.70	3,078.0	404.1	-106.3	417.8	0.87	-0.82	-1.06
3,210.0	12.40	342.10	3,161.7	423.1	-112.1	437.7	2.25	-2.21	-1.86
3,295.0	12.00	342.70	3,244.8	440.2	-117.5	455.6	0.49	-0.47	0.71
3,381.0	11.10	345.00	3,329.0	456.7	-122.3	472.8	1.18	-1.05	2.67
3,467.0	10.80	343.50	3,413.5	472.4	-126.7	489.2	0.48	-0.35	-1.74
3,552.0	11.30	343.60	3,496.9	488.1	-131.4	505.5	0.59	0.59	0.12
3,638.0	12.30	344.00	3,581.1	505.0	-136.3	523.0	1.17	1.16	0.47
3,723.0	12.70	340.80	3,664.1	522.5	-141.8	541.4	0.94	0.47	-3.76
3,809.0	14.60	341.40	3,747.6	541.7	-148.4	561.7	2.22	2.21	0.70
3,894.0	14.20	341.00	3,830.0	561.7	-155.2	582.8	0.48	-0.47	-0.47
3,980.0	14.30	343.40	3,913.3	581.9	-161.7	603.9	0.70	0.12	2.79
4,065.0	13.80	343.80	3,995.8	601.6	-167.5	624.5	0.60	-0.59	0.47
4,151.0	11.70	348.70	4,079.6	620.0	-172.1	643.5	2.74	-2.44	5.70
4,236.0	11.60	350.30	4,162.9	636.9	-175.2	660.6	0.40	-0.12	1.88
4,322.0	11.20	348.00	4,247.2	653.6	-178.4	677.5	0.70	-0.47	-2.67
4,407.0	9.80	347.70	4,330.8	668.8	-181.7	693.0	1.65	-1.65	-0.35
4,493.0	9.10	343.70	4,415.6	682.4	-185.1	707.1	1.12	-0.81	-4.65
4,578.0	8.50	344.50	4,499.6	694.9	-188.7	720.1	0.72	-0.71	0.94
4,664.0	8.10	345.80	4,584.7	706.9	-191.9	732.5	0.51	-0.47	1.51
4,749.0	7.10	341.40	4,669.0	717.7	-195.0	743.8	1.36	-1.18	-5.18
4,835.0	5.60	326.40	4,754.4	726.3	-199.0	753.1	2.59	-1.74	-17.44
4,920.0	4.10	331.10	4,839.1	732.4	-202.8	759.9	1.82	-1.76	5.53
5,006.0	2.30	357.30	4,925.0	736.8	-204.4	764.6	2.65	-2.09	30.47
5,080.9	0.68	61.40	4,999.8	738.5	-204.0	766.2	2.80	-2.16	85.63
Target BHL 1400'FSL & 75'FWL									
5,091.0	0.70	85.00	5,010.0	738.5	-203.9	766.2	2.80	0.15	232.74
5,177.0	0.30	110.50	5,096.0	738.5	-203.2	766.0	0.52	-0.47	29.65
5,262.0	0.10	175.50	5,181.0	738.4	-203.0	765.8	0.32	-0.24	76.47
5,348.0	0.30	227.60	5,267.0	738.1	-203.1	765.6	0.29	0.23	60.58
5,433.0	0.60	243.00	5,352.0	737.8	-203.7	765.4	0.38	0.35	18.12
5,519.0	0.70	238.00	5,438.0	737.3	-204.6	765.2	0.13	0.12	-5.81
5,605.0	1.00	235.70	5,523.9	736.6	-205.6	764.8	0.35	0.35	-2.67
5,690.0	1.40	238.70	5,608.9	735.6	-207.1	764.2	0.48	0.47	3.53
5,776.0	1.90	239.20	5,694.9	734.4	-209.2	763.5	0.58	0.58	0.58
5,861.0	1.70	242.30	5,779.8	733.1	-211.6	762.9	0.26	-0.24	3.65
5,947.0	1.50	252.20	5,865.8	732.1	-213.8	762.6	0.40	-0.23	11.51
6,032.0	1.10	274.10	5,950.8	731.8	-215.6	762.8	0.74	-0.47	25.76

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.3-T4N-R66W
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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)
6,118.0	1.30	269.00	6,036.8	731.9	-217.4	763.3	0.26	0.23	-5.93
6,203.0	1.30	263.00	6,121.8	731.7	-219.4	763.7	0.16	0.00	-7.06
6,289.0	1.10	250.70	6,207.7	731.3	-221.1	763.8	0.38	-0.23	-14.30
6,374.0	1.60	267.40	6,292.7	731.0	-223.1	764.0	0.74	0.59	19.65
6,460.0	1.20	280.00	6,378.7	731.1	-225.2	764.6	0.58	-0.47	14.65
6,545.0	1.60	274.30	6,463.7	731.4	-227.2	765.4	0.50	0.47	-6.71
6,631.0	1.90	278.30	6,549.6	731.7	-229.8	766.3	0.38	0.35	4.65
6,716.0	2.50	277.90	6,634.6	732.1	-233.0	767.6	0.71	0.71	-0.47
6,802.0	1.50	283.60	6,720.5	732.6	-236.0	768.9	1.18	-1.16	6.63
6,887.0	1.60	281.30	6,805.5	733.1	-238.2	770.0	0.14	0.12	-2.71
6,973.0	2.40	276.10	6,891.4	733.6	-241.2	771.2	0.95	0.93	-6.05
7,058.0	2.80	273.70	6,976.3	733.9	-245.1	772.5	0.49	0.47	-2.82
7,143.0	3.00	272.40	7,061.2	734.1	-249.4	773.8	0.25	0.24	-1.53
7,229.0	3.70	270.10	7,147.1	734.2	-254.4	775.2	0.83	0.81	-2.67
7,315.0	4.70	278.00	7,232.8	734.7	-260.6	777.4	1.34	1.16	9.19
7,400.0	4.10	276.30	7,317.6	735.5	-267.1	779.8	0.72	-0.71	-2.00
7,463.1	1.59	246.51	7,380.6	735.4	-270.2	780.5	4.48	-3.97	-47.21
Target Circle 1400'FSL & 75'FWL									
7,467.0	1.48	241.58	7,384.6	735.4	-270.3	780.5	4.48	-2.97	-125.27
Hardline 75'W of BHL									
7,480.0	1.20	219.50	7,397.5	735.2	-270.5	780.4	4.48	-2.14	-170.44
7,525.0	1.00	220.00	7,442.5	734.5	-271.0	779.9	0.44	-0.44	1.11

Checked By: _____	Approved By: _____	Date: _____
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