

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1691.6	9.83	194.94	1689.2	-40.6	-10.8	2.00	194.94	42.1	
4	4555.3	9.83	194.94	4510.8	-513.1	-136.9	0.00	0.00	531.0	
5	5046.9	0.00	0.00	5000.0	-553.7	-147.8	2.00	180.00	573.1	Target BHL 75'FSL & 75'FWL
6	7440.9	0.00	0.00	7394.0	-553.7	-147.8	0.00	0.00	573.1	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.3-T4N-R66W

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

Five Rivers K10-30D

Wellbore #1

Plan: Noble Five Rivers K10-30D Plan#1 (6-29-10)

Standard Planning Report

07 July, 2010



Database: EDM den0-adp01 Server Data
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 K10-30D
Wellbore: Wellbore #1
Design: Noble Five Rivers K10-30D Plan#1 (6-29-10)

Local Co-ordinate Reference: Well Five Rivers K10-30D
TVD Reference: WELL @ 4734.0ft (Original Well Elev)
MD Reference: WELL @ 4734.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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:	3,202,773.69ft	Longitude:	104° 46' 21.432 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.47 °

Well	Five Rivers K10-30D					
Well Position	+N/-S	-43.7 ft	Northing:	1,365,807.81 ft	Latitude:	40° 20' 6.936 N
	+E/-W	22.3 ft	Easting:	3,202,796.35 ft	Longitude:	104° 46' 21.144 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	6/24/2010	8.99	67.03	53,200

Design	Noble Five Rivers K10-30D Plan#1 (6-29-10)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	194.94

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,691.6	9.83	194.94	1,689.2	-40.6	-10.8	2.00	2.00	0.00	194.94	
4,555.3	9.83	194.94	4,510.8	-513.1	-136.9	0.00	0.00	0.00	0.00	
5,046.9	0.00	0.00	5,000.0	-553.7	-147.8	2.00	-2.00	0.00	180.00	Target BHL 75'FSL
7,440.9	0.00	0.00	7,394.0	-553.7	-147.8	0.00	0.00	0.00	0.00	

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Local Co-ordinate Reference: Well Five Rivers K10-30D
TVD Reference: WELL @ 4734.0ft (Original Well Elev)
MD Reference: WELL @ 4734.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.80	194.94	1,240.0	-0.3	-0.1	0.3	2.00	2.00	0.00
1,280.0	1.60	194.94	1,280.0	-1.1	-0.3	1.1	2.00	2.00	0.00
1,320.0	2.40	194.94	1,320.0	-2.4	-0.6	2.5	2.00	2.00	0.00
1,360.0	3.20	194.94	1,359.9	-4.3	-1.2	4.5	2.00	2.00	0.00
1,400.0	4.00	194.94	1,399.8	-6.7	-1.8	7.0	2.00	2.00	0.00
1,440.0	4.80	194.94	1,439.7	-9.7	-2.6	10.0	2.00	2.00	0.00
1,480.0	5.60	194.94	1,479.6	-13.2	-3.5	13.7	2.00	2.00	0.00
1,520.0	6.40	194.94	1,519.3	-17.2	-4.6	17.9	2.00	2.00	0.00
1,560.0	7.20	194.94	1,559.1	-21.8	-5.8	22.6	2.00	2.00	0.00
1,600.0	8.00	194.94	1,598.7	-26.9	-7.2	27.9	2.00	2.00	0.00
1,640.0	8.80	194.94	1,638.3	-32.6	-8.7	33.7	2.00	2.00	0.00
1,680.0	9.60	194.94	1,677.8	-38.8	-10.3	40.1	2.00	2.00	0.00
1,691.6	9.83	194.94	1,689.2	-40.6	-10.8	42.1	2.00	2.00	0.00
1,720.0	9.83	194.94	1,717.2	-45.3	-12.1	46.9	0.00	0.00	0.00
1,760.0	9.83	194.94	1,756.6	-51.9	-13.9	53.8	0.00	0.00	0.00
1,800.0	9.83	194.94	1,796.0	-58.5	-15.6	60.6	0.00	0.00	0.00
1,840.0	9.83	194.94	1,835.4	-65.1	-17.4	67.4	0.00	0.00	0.00
1,880.0	9.83	194.94	1,874.8	-71.7	-19.1	74.2	0.00	0.00	0.00
1,920.0	9.83	194.94	1,914.2	-78.3	-20.9	81.1	0.00	0.00	0.00
1,960.0	9.83	194.94	1,953.6	-84.9	-22.7	87.9	0.00	0.00	0.00
2,000.0	9.83	194.94	1,993.1	-91.5	-24.4	94.7	0.00	0.00	0.00
2,040.0	9.83	194.94	2,032.5	-98.1	-26.2	101.6	0.00	0.00	0.00

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Survey Calculation Method: Minimum Curvature

Planned 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)
2,080.0	9.83	194.94	2,071.9	-104.7	-27.9	108.4	0.00	0.00	0.00
2,120.0	9.83	194.94	2,111.3	-111.3	-29.7	115.2	0.00	0.00	0.00
2,160.0	9.83	194.94	2,150.7	-117.9	-31.5	122.1	0.00	0.00	0.00
2,200.0	9.83	194.94	2,190.1	-124.5	-33.2	128.9	0.00	0.00	0.00
2,240.0	9.83	194.94	2,229.5	-131.1	-35.0	135.7	0.00	0.00	0.00
2,280.0	9.83	194.94	2,269.0	-137.7	-36.8	142.5	0.00	0.00	0.00
2,320.0	9.83	194.94	2,308.4	-144.3	-38.5	149.4	0.00	0.00	0.00
2,360.0	9.83	194.94	2,347.8	-150.9	-40.3	156.2	0.00	0.00	0.00
2,400.0	9.83	194.94	2,387.2	-157.5	-42.0	163.0	0.00	0.00	0.00
2,440.0	9.83	194.94	2,426.6	-164.1	-43.8	169.9	0.00	0.00	0.00
2,480.0	9.83	194.94	2,466.0	-170.7	-45.6	176.7	0.00	0.00	0.00
2,520.0	9.83	194.94	2,505.4	-177.3	-47.3	183.5	0.00	0.00	0.00
2,560.0	9.83	194.94	2,544.8	-183.9	-49.1	190.4	0.00	0.00	0.00
2,600.0	9.83	194.94	2,584.3	-190.5	-50.8	197.2	0.00	0.00	0.00
2,640.0	9.83	194.94	2,623.7	-197.1	-52.6	204.0	0.00	0.00	0.00
2,680.0	9.83	194.94	2,663.1	-203.7	-54.4	210.8	0.00	0.00	0.00
2,720.0	9.83	194.94	2,702.5	-210.3	-56.1	217.7	0.00	0.00	0.00
2,760.0	9.83	194.94	2,741.9	-216.9	-57.9	224.5	0.00	0.00	0.00
2,800.0	9.83	194.94	2,781.3	-223.5	-59.6	231.3	0.00	0.00	0.00
2,840.0	9.83	194.94	2,820.7	-230.1	-61.4	238.2	0.00	0.00	0.00
2,880.0	9.83	194.94	2,860.1	-236.7	-63.2	245.0	0.00	0.00	0.00
2,920.0	9.83	194.94	2,899.6	-243.3	-64.9	251.8	0.00	0.00	0.00
2,960.0	9.83	194.94	2,939.0	-249.9	-66.7	258.7	0.00	0.00	0.00
3,000.0	9.83	194.94	2,978.4	-256.5	-68.4	265.5	0.00	0.00	0.00
3,040.0	9.83	194.94	3,017.8	-263.1	-70.2	272.3	0.00	0.00	0.00
3,080.0	9.83	194.94	3,057.2	-269.7	-72.0	279.1	0.00	0.00	0.00
3,120.0	9.83	194.94	3,096.6	-276.3	-73.7	286.0	0.00	0.00	0.00
3,160.0	9.83	194.94	3,136.0	-282.9	-75.5	292.8	0.00	0.00	0.00
3,200.0	9.83	194.94	3,175.4	-289.5	-77.3	299.6	0.00	0.00	0.00
3,240.0	9.83	194.94	3,214.9	-296.1	-79.0	306.5	0.00	0.00	0.00
3,280.0	9.83	194.94	3,254.3	-302.7	-80.8	313.3	0.00	0.00	0.00
3,320.0	9.83	194.94	3,293.7	-309.3	-82.5	320.1	0.00	0.00	0.00
3,360.0	9.83	194.94	3,333.1	-315.9	-84.3	327.0	0.00	0.00	0.00
3,400.0	9.83	194.94	3,372.5	-322.5	-86.1	333.8	0.00	0.00	0.00
3,440.0	9.83	194.94	3,411.9	-329.1	-87.8	340.6	0.00	0.00	0.00
3,480.0	9.83	194.94	3,451.3	-335.7	-89.6	347.4	0.00	0.00	0.00
3,520.0	9.83	194.94	3,490.7	-342.3	-91.3	354.3	0.00	0.00	0.00
3,560.0	9.83	194.94	3,530.2	-348.9	-93.1	361.1	0.00	0.00	0.00
3,600.0	9.83	194.94	3,569.6	-355.5	-94.9	367.9	0.00	0.00	0.00
3,640.0	9.83	194.94	3,609.0	-362.1	-96.6	374.8	0.00	0.00	0.00
3,680.0	9.83	194.94	3,648.4	-368.7	-98.4	381.6	0.00	0.00	0.00
3,720.0	9.83	194.94	3,687.8	-375.3	-100.1	388.4	0.00	0.00	0.00
3,760.0	9.83	194.94	3,727.2	-381.9	-101.9	395.2	0.00	0.00	0.00
3,800.0	9.83	194.94	3,766.6	-388.5	-103.7	402.1	0.00	0.00	0.00
3,840.0	9.83	194.94	3,806.0	-395.1	-105.4	408.9	0.00	0.00	0.00
3,880.0	9.83	194.94	3,845.5	-401.7	-107.2	415.7	0.00	0.00	0.00
3,920.0	9.83	194.94	3,884.9	-408.3	-108.9	422.6	0.00	0.00	0.00
3,960.0	9.83	194.94	3,924.3	-414.9	-110.7	429.4	0.00	0.00	0.00
4,000.0	9.83	194.94	3,963.7	-421.5	-112.5	436.2	0.00	0.00	0.00
4,040.0	9.83	194.94	4,003.1	-428.1	-114.2	443.1	0.00	0.00	0.00
4,080.0	9.83	194.94	4,042.5	-434.7	-116.0	449.9	0.00	0.00	0.00
4,120.0	9.83	194.94	4,081.9	-441.3	-117.8	456.7	0.00	0.00	0.00
4,160.0	9.83	194.94	4,121.3	-447.9	-119.5	463.5	0.00	0.00	0.00
4,200.0	9.83	194.94	4,160.8	-454.5	-121.3	470.4	0.00	0.00	0.00

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Planned 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)
4,240.0	9.83	194.94	4,200.2	-461.1	-123.0	477.2	0.00	0.00	0.00
4,280.0	9.83	194.94	4,239.6	-467.7	-124.8	484.0	0.00	0.00	0.00
4,320.0	9.83	194.94	4,279.0	-474.3	-126.6	490.9	0.00	0.00	0.00
4,360.0	9.83	194.94	4,318.4	-480.9	-128.3	497.7	0.00	0.00	0.00
4,400.0	9.83	194.94	4,357.8	-487.5	-130.1	504.5	0.00	0.00	0.00
4,440.0	9.83	194.94	4,397.2	-494.1	-131.8	511.4	0.00	0.00	0.00
4,480.0	9.83	194.94	4,436.6	-500.7	-133.6	518.2	0.00	0.00	0.00
4,520.0	9.83	194.94	4,476.1	-507.3	-135.4	525.0	0.00	0.00	0.00
4,555.3	9.83	194.94	4,510.8	-513.1	-136.9	531.0	0.00	0.00	0.00
4,560.0	9.74	194.94	4,515.5	-513.9	-137.1	531.8	2.00	-2.00	0.00
4,600.0	8.94	194.94	4,554.9	-520.1	-138.8	538.3	2.00	-2.00	0.00
4,640.0	8.14	194.94	4,594.5	-525.9	-140.3	544.3	2.00	-2.00	0.00
4,680.0	7.34	194.94	4,634.1	-531.1	-141.7	549.7	2.00	-2.00	0.00
4,720.0	6.54	194.94	4,673.8	-535.7	-143.0	554.5	2.00	-2.00	0.00
4,760.0	5.74	194.94	4,713.6	-539.9	-144.1	558.8	2.00	-2.00	0.00
4,800.0	4.94	194.94	4,753.4	-543.5	-145.0	562.5	2.00	-2.00	0.00
4,840.0	4.14	194.94	4,793.3	-546.5	-145.8	565.6	2.00	-2.00	0.00
4,880.0	3.34	194.94	4,833.2	-549.0	-146.5	568.3	2.00	-2.00	0.00
4,920.0	2.54	194.94	4,873.2	-551.0	-147.0	570.3	2.00	-2.00	0.00
4,960.0	1.74	194.94	4,913.1	-552.5	-147.4	571.8	2.00	-2.00	0.00
5,000.0	0.94	194.94	4,953.1	-553.4	-147.7	572.7	2.00	-2.00	0.00
5,040.0	0.14	194.94	4,993.1	-553.7	-147.8	573.1	2.00	-2.00	0.00
5,046.9	0.00	0.00	5,000.0	-553.7	-147.8	573.1	2.00	-2.00	2,402.10
Target BHL 75'FSL & 75'FWL									
5,080.0	0.00	0.00	5,033.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,120.0	0.00	0.00	5,073.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,160.0	0.00	0.00	5,113.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,153.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,240.0	0.00	0.00	5,193.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,280.0	0.00	0.00	5,233.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,320.0	0.00	0.00	5,273.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,360.0	0.00	0.00	5,313.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,353.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,440.0	0.00	0.00	5,393.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,480.0	0.00	0.00	5,433.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,520.0	0.00	0.00	5,473.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,560.0	0.00	0.00	5,513.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,553.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,640.0	0.00	0.00	5,593.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,680.0	0.00	0.00	5,633.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,720.0	0.00	0.00	5,673.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,760.0	0.00	0.00	5,713.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,753.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,840.0	0.00	0.00	5,793.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,880.0	0.00	0.00	5,833.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,920.0	0.00	0.00	5,873.1	-553.7	-147.8	573.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,913.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,953.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,040.0	0.00	0.00	5,993.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,080.0	0.00	0.00	6,033.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,120.0	0.00	0.00	6,073.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,113.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,153.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,193.1	-553.7	-147.8	573.1	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
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 K10-30D
Wellbore: Wellbore #1
Design: Noble Five Rivers K10-30D Plan#1 (6-29-10)

Local Co-ordinate Reference: Well Five Rivers K10-30D
TVD Reference: WELL @ 4734.0ft (Original Well Elev)
MD Reference: WELL @ 4734.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned 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)
6,280.0	0.00	0.00	6,233.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,273.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,313.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,353.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,393.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,433.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,473.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,513.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,553.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,593.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,633.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,673.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,713.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,753.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,793.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,833.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,920.0	0.00	0.00	6,873.1	-553.7	-147.8	573.1	0.00	0.00	0.00
6,940.9	0.00	0.00	6,894.0	-553.7	-147.8	573.1	0.00	0.00	0.00
NIOBRARA									
6,960.0	0.00	0.00	6,913.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,953.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,993.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,080.0	0.00	0.00	7,033.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,120.0	0.00	0.00	7,073.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,160.0	0.00	0.00	7,113.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,153.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,240.0	0.00	0.00	7,193.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,280.0	0.00	0.00	7,233.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,290.9	0.00	0.00	7,244.0	-553.7	-147.8	573.1	0.00	0.00	0.00
CODELL									
7,320.0	0.00	0.00	7,273.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,360.0	0.00	0.00	7,313.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,353.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,440.0	0.00	0.00	7,393.1	-553.7	-147.8	573.1	0.00	0.00	0.00
7,440.9	0.00	0.00	7,394.0	-553.7	-147.8	573.1	0.00	0.00	0.00

Hardlines 75'S & 75'W of BHL - Target Circle 75'FSL & 75'FWL

Database: EDM den0-adp01 Server Data
 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 K10-30D
 Wellbore: Wellbore #1
 Design: Noble Five Rivers K10-30D Plan#1 (6-29-10)

Local Co-ordinate Reference: Well Five Rivers K10-30D
 TVD Reference: WELL @ 4734.0ft (Original Well Elev)
 MD Reference: WELL @ 4734.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Target BHL 75'FSL & - plan hits target center - Point	0.00	0.00	5,000.0	-553.7	-147.8	1,365,252.90	3,202,653.14	40° 20' 1.464 N	104° 46' 23.052 W
Hardlines 75'S & 75'W - plan misses target center by 106.1ft at 7440.9ft MD (7394.0 TVD, -553.7 N, -147.8 E) - Polygon	0.00	0.00	7,394.0	-628.7	-222.8	1,365,177.32	3,202,578.72	40° 20' 0.723 N	104° 46' 24.021 W
Point 1			7,394.0	0.0	0.0	1,365,177.32	3,202,578.72		
Point 2			7,394.0	0.0	200.0	1,365,178.97	3,202,778.71		
Point 3			7,394.0	0.0	0.0	1,365,177.32	3,202,578.72		
Point 4			7,394.0	200.0	0.0	1,365,377.31	3,202,577.08		
Target Circle 75'FSL & - plan misses target center by 0.1ft at 7440.9ft MD (7394.0 TVD, -553.7 N, -147.8 E) - Circle (radius 75.0)	0.00	0.00	7,394.0	-553.7	-147.8	1,365,252.93	3,202,653.10	40° 20' 1.464 N	104° 46' 23.053 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
600.0	600.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,940.9	6,894.0	NIOBRARA		0.00	
7,290.9	7,244.0	CODELL		0.00	