

ENSIGN

Directional

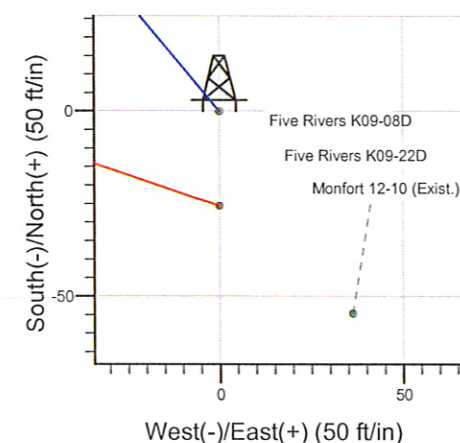
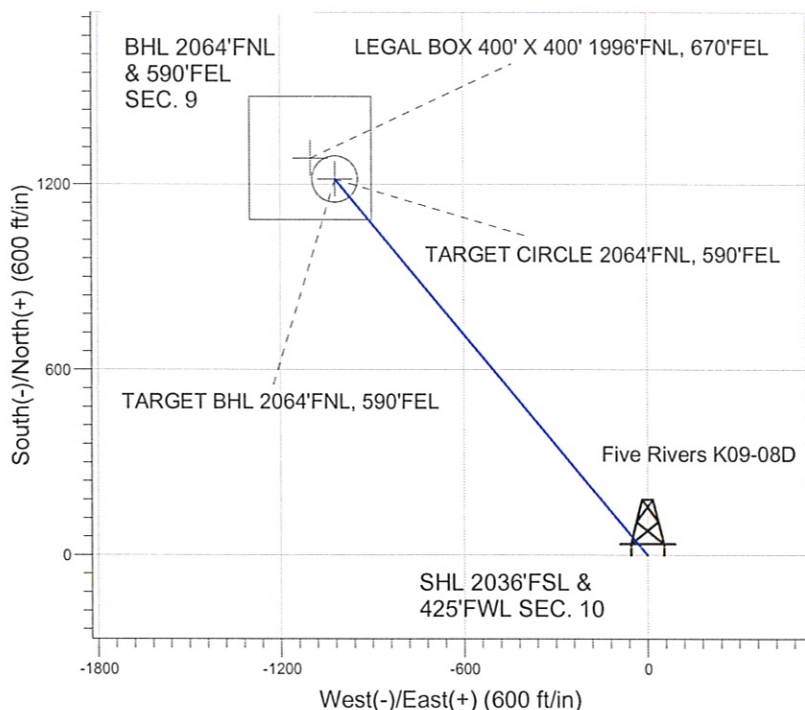
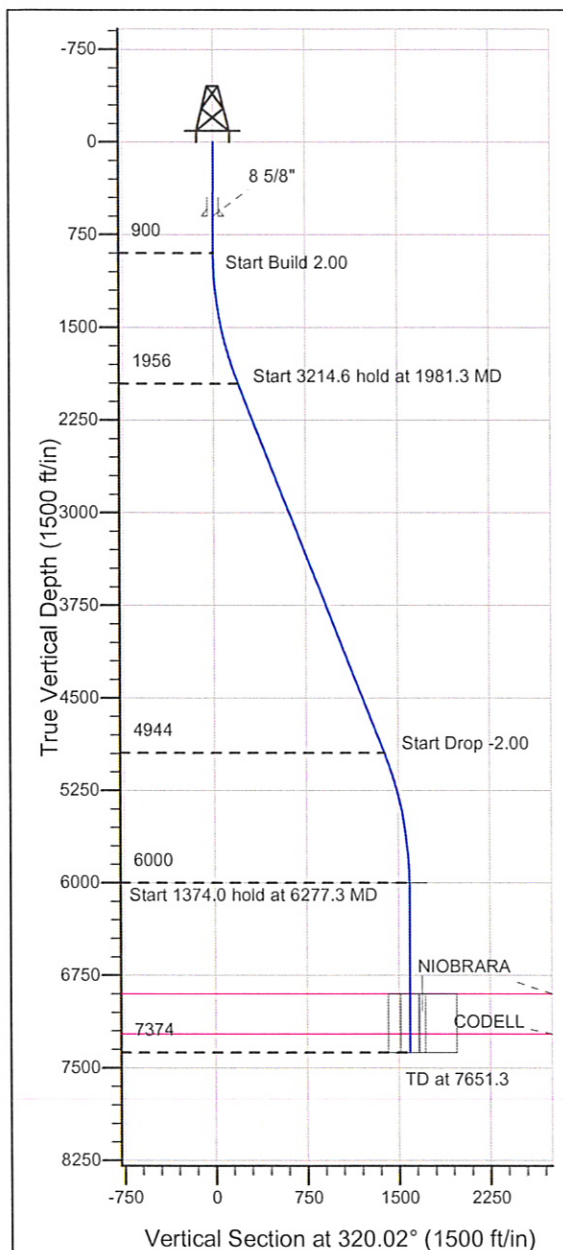
Well Name: **Five Rivers K09-08D**

Surface Location: Five Rivers K09-22D Pad Sec.10-T4N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4726.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1361900.88 3203045.89 40° 19' 28.308 N 104° 46' 18.336 W
Original Well Elev WELL @ 4739.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Five Rivers K09-08D
Noble Five Rivers K09-08D Plan #1 (06-27-10)
8:57, June 28 2010



Azimuths to True North
Magnetic North: 8.99°

Magnetic Field
Strength: 53196.5snT
Dip Angle: 67.02°
Date: 6/18/2010
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2064'FNL, 590'FEL	6000.0	1216.8	-1020.5	40° 19' 40.332 N	104° 46' 31.512 W	Point
LEGAL BOX 400' X 400' 1996'FNL, 670'FEL	6899.0	1284.8	-1100.5	40° 19' 41.004 N	104° 46' 32.545 W	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 2064'FNL, 590'FEL	6899.0	1216.8	-1020.5	40° 19' 40.332 N	104° 46' 31.512 W	Circle (Radius: 75.0)

SECTION DETAILS

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	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1981.3	21.63	320.02	1955.8	154.5	-129.6	2.00	320.02	201.7	
4	5196.0	21.63	320.02	4944.2	1062.3	-890.9	0.00	0.00	1386.4	
5	6277.3	0.00	0.00	6000.0	1216.8	-1020.5	2.00	180.00	1588.1	TARGET BHL 2064'FNL, 590'FEL
6	7651.3	0.00	0.00	7374.0	1216.8	-1020.5	0.00	0.00	1588.1	



NOBLE ENERGY INC WELD COUNTY CO

SEC.10-T4N-R66W

Five Rivers K09-22D Pad Sec.10-T4N-R66W

Five Rivers K09-08D

Wellbore #1

Plan: Noble Five Rivers K09-08D Plan #1 (06-27-10)

Standard Planning Report

28 June, 2010

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.10-T4N-R66W
Site: Five Rivers K09-22D Pad Sec.10-T4N-R66W
Well: Five Rivers K09-08D
Wellbore: Wellbore #1
Design: Noble Five Rivers K09-08D Plan #1 (06-27-10)

Local Co-ordinate Reference: Well Five Rivers K09-08D
TVD Reference: WELL @ 4739.0ft (Original Well Elev)
MD Reference: WELL @ 4739.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	SEC.10-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 K09-22D Pad Sec.10-T4N-R66W				
Site Position:		Northing:	1,361,875.38 ft	Latitude:	40° 19' 28.056 N
From:	Lat/Long	Easting:	3,203,046.10 ft	Longitude:	104° 46' 18.336 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.47 °

Well	Five Rivers K09-08D					
Well Position	+N/-S	25.5 ft	Northing:	1,361,900.88 ft	Latitude:	40° 19' 28.308 N
	+E/-W	0.0 ft	Easting:	3,203,045.89 ft	Longitude:	104° 46' 18.336 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,726.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/18/2010	9.00	67.02	53,197

Design	Noble Five Rivers K09-08D Plan #1 (06-27-10)				
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	320.02	

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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,981.3	21.63	320.02	1,955.8	154.5	-129.6	2.00	2.00	0.00	320.02	
5,196.0	21.63	320.02	4,944.2	1,062.3	-890.9	0.00	0.00	0.00	0.00	
6,277.3	0.00	0.00	6,000.0	1,216.8	-1,020.5	2.00	-2.00	0.00	180.00	TARGET BHL 2064
7,651.3	0.00	0.00	7,374.0	1,216.8	-1,020.5	0.00	0.00	0.00	0.00	

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MD Reference: WELL @ 4739.0ft (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
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.40	320.02	920.0	0.1	0.0	0.1	2.00	2.00	0.00
960.0	1.20	320.02	960.0	0.5	-0.4	0.6	2.00	2.00	0.00
1,000.0	2.00	320.02	1,000.0	1.3	-1.1	1.7	2.00	2.00	0.00
1,040.0	2.80	320.02	1,039.9	2.6	-2.2	3.4	2.00	2.00	0.00
1,080.0	3.60	320.02	1,079.9	4.3	-3.6	5.7	2.00	2.00	0.00
1,120.0	4.40	320.02	1,119.8	6.5	-5.4	8.4	2.00	2.00	0.00
1,160.0	5.20	320.02	1,159.6	9.0	-7.6	11.8	2.00	2.00	0.00
1,200.0	6.00	320.02	1,199.5	12.0	-10.1	15.7	2.00	2.00	0.00
1,240.0	6.80	320.02	1,239.2	15.4	-12.9	20.2	2.00	2.00	0.00
1,280.0	7.60	320.02	1,278.9	19.3	-16.2	25.2	2.00	2.00	0.00
1,320.0	8.40	320.02	1,318.5	23.5	-19.7	30.7	2.00	2.00	0.00
1,360.0	9.20	320.02	1,358.0	28.2	-23.7	36.9	2.00	2.00	0.00
1,400.0	10.00	320.02	1,397.5	33.3	-28.0	43.5	2.00	2.00	0.00
1,440.0	10.80	320.02	1,436.8	38.9	-32.6	50.7	2.00	2.00	0.00
1,480.0	11.60	320.02	1,476.0	44.8	-37.6	58.5	2.00	2.00	0.00
1,520.0	12.40	320.02	1,515.2	51.2	-42.9	66.8	2.00	2.00	0.00
1,560.0	13.20	320.02	1,554.2	58.0	-48.6	75.7	2.00	2.00	0.00
1,600.0	14.00	320.02	1,593.1	65.2	-54.7	85.1	2.00	2.00	0.00
1,640.0	14.80	320.02	1,631.8	72.8	-61.1	95.0	2.00	2.00	0.00
1,680.0	15.60	320.02	1,670.4	80.9	-67.8	105.5	2.00	2.00	0.00
1,720.0	16.40	320.02	1,708.8	89.3	-74.9	116.6	2.00	2.00	0.00
1,760.0	17.20	320.02	1,747.1	98.2	-82.3	128.1	2.00	2.00	0.00
1,800.0	18.00	320.02	1,785.3	107.4	-90.1	140.2	2.00	2.00	0.00
1,840.0	18.80	320.02	1,823.2	117.1	-98.2	152.8	2.00	2.00	0.00
1,880.0	19.60	320.02	1,861.0	127.2	-106.7	166.0	2.00	2.00	0.00
1,920.0	20.40	320.02	1,898.6	137.7	-115.5	179.7	2.00	2.00	0.00
1,960.0	21.20	320.02	1,936.0	148.6	-124.6	193.9	2.00	2.00	0.00
1,981.3	21.63	320.02	1,955.8	154.5	-129.6	201.7	2.00	2.00	0.00
2,000.0	21.63	320.02	1,973.2	159.8	-134.0	208.5	0.00	0.00	0.00

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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)
2,040.0	21.63	320.02	2,010.4	171.1	-143.5	223.3	0.00	0.00	0.00
2,080.0	21.63	320.02	2,047.6	182.4	-153.0	238.0	0.00	0.00	0.00
2,120.0	21.63	320.02	2,084.7	193.7	-162.4	252.8	0.00	0.00	0.00
2,160.0	21.63	320.02	2,121.9	205.0	-171.9	267.5	0.00	0.00	0.00
2,200.0	21.63	320.02	2,159.1	216.3	-181.4	282.3	0.00	0.00	0.00
2,240.0	21.63	320.02	2,196.3	227.6	-190.8	297.0	0.00	0.00	0.00
2,280.0	21.63	320.02	2,233.5	238.9	-200.3	311.7	0.00	0.00	0.00
2,320.0	21.63	320.02	2,270.7	250.2	-209.8	326.5	0.00	0.00	0.00
2,360.0	21.63	320.02	2,307.8	261.5	-219.3	341.2	0.00	0.00	0.00
2,400.0	21.63	320.02	2,345.0	272.7	-228.7	356.0	0.00	0.00	0.00
2,440.0	21.63	320.02	2,382.2	284.0	-238.2	370.7	0.00	0.00	0.00
2,480.0	21.63	320.02	2,419.4	295.3	-247.7	385.5	0.00	0.00	0.00
2,520.0	21.63	320.02	2,456.6	306.6	-257.2	400.2	0.00	0.00	0.00
2,560.0	21.63	320.02	2,493.8	317.9	-266.6	414.9	0.00	0.00	0.00
2,600.0	21.63	320.02	2,531.0	329.2	-276.1	429.7	0.00	0.00	0.00
2,640.0	21.63	320.02	2,568.1	340.5	-285.6	444.4	0.00	0.00	0.00
2,680.0	21.63	320.02	2,605.3	351.8	-295.0	459.2	0.00	0.00	0.00
2,720.0	21.63	320.02	2,642.5	363.1	-304.5	473.9	0.00	0.00	0.00
2,760.0	21.63	320.02	2,679.7	374.4	-314.0	488.6	0.00	0.00	0.00
2,800.0	21.63	320.02	2,716.9	385.7	-323.5	503.4	0.00	0.00	0.00
2,840.0	21.63	320.02	2,754.1	397.0	-332.9	518.1	0.00	0.00	0.00
2,880.0	21.63	320.02	2,791.2	408.3	-342.4	532.9	0.00	0.00	0.00
2,920.0	21.63	320.02	2,828.4	419.6	-351.9	547.6	0.00	0.00	0.00
2,960.0	21.63	320.02	2,865.6	430.9	-361.4	562.4	0.00	0.00	0.00
3,000.0	21.63	320.02	2,902.8	442.2	-370.8	577.1	0.00	0.00	0.00
3,040.0	21.63	320.02	2,940.0	453.5	-380.3	591.8	0.00	0.00	0.00
3,080.0	21.63	320.02	2,977.2	464.8	-389.8	606.6	0.00	0.00	0.00
3,120.0	21.63	320.02	3,014.4	476.1	-399.3	621.3	0.00	0.00	0.00
3,160.0	21.63	320.02	3,051.5	487.4	-408.7	636.1	0.00	0.00	0.00
3,200.0	21.63	320.02	3,088.7	498.7	-418.2	650.8	0.00	0.00	0.00
3,240.0	21.63	320.02	3,125.9	510.0	-427.7	665.6	0.00	0.00	0.00
3,280.0	21.63	320.02	3,163.1	521.3	-437.1	680.3	0.00	0.00	0.00
3,320.0	21.63	320.02	3,200.3	532.5	-446.6	695.0	0.00	0.00	0.00
3,360.0	21.63	320.02	3,237.5	543.8	-456.1	709.8	0.00	0.00	0.00
3,400.0	21.63	320.02	3,274.6	555.1	-465.6	724.5	0.00	0.00	0.00
3,440.0	21.63	320.02	3,311.8	566.4	-475.0	739.3	0.00	0.00	0.00
3,480.0	21.63	320.02	3,349.0	577.7	-484.5	754.0	0.00	0.00	0.00
3,520.0	21.63	320.02	3,386.2	589.0	-494.0	768.7	0.00	0.00	0.00
3,560.0	21.63	320.02	3,423.4	600.3	-503.5	783.5	0.00	0.00	0.00
3,600.0	21.63	320.02	3,460.6	611.6	-512.9	798.2	0.00	0.00	0.00
3,640.0	21.63	320.02	3,497.7	622.9	-522.4	813.0	0.00	0.00	0.00
3,680.0	21.63	320.02	3,534.9	634.2	-531.9	827.7	0.00	0.00	0.00
3,720.0	21.63	320.02	3,572.1	645.5	-541.3	842.5	0.00	0.00	0.00
3,760.0	21.63	320.02	3,609.3	656.8	-550.8	857.2	0.00	0.00	0.00
3,800.0	21.63	320.02	3,646.5	668.1	-560.3	871.9	0.00	0.00	0.00
3,840.0	21.63	320.02	3,683.7	679.4	-569.8	886.7	0.00	0.00	0.00
3,880.0	21.63	320.02	3,720.9	690.7	-579.2	901.4	0.00	0.00	0.00
3,920.0	21.63	320.02	3,758.0	702.0	-588.7	916.2	0.00	0.00	0.00
3,960.0	21.63	320.02	3,795.2	713.3	-598.2	930.9	0.00	0.00	0.00
4,000.0	21.63	320.02	3,832.4	724.6	-607.7	945.7	0.00	0.00	0.00
4,040.0	21.63	320.02	3,869.6	735.9	-617.1	960.4	0.00	0.00	0.00
4,080.0	21.63	320.02	3,906.8	747.2	-626.6	975.1	0.00	0.00	0.00
4,120.0	21.63	320.02	3,944.0	758.5	-636.1	989.9	0.00	0.00	0.00
4,160.0	21.63	320.02	3,981.1	769.8	-645.6	1,004.6	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)
4,200.0	21.63	320.02	4,018.3	781.1	-655.0	1,019.4	0.00	0.00	0.00
4,240.0	21.63	320.02	4,055.5	792.3	-664.5	1,034.1	0.00	0.00	0.00
4,280.0	21.63	320.02	4,092.7	803.6	-674.0	1,048.8	0.00	0.00	0.00
4,320.0	21.63	320.02	4,129.9	814.9	-683.4	1,063.6	0.00	0.00	0.00
4,360.0	21.63	320.02	4,167.1	826.2	-692.9	1,078.3	0.00	0.00	0.00
4,400.0	21.63	320.02	4,204.2	837.5	-702.4	1,093.1	0.00	0.00	0.00
4,440.0	21.63	320.02	4,241.4	848.8	-711.9	1,107.8	0.00	0.00	0.00
4,480.0	21.63	320.02	4,278.6	860.1	-721.3	1,122.6	0.00	0.00	0.00
4,520.0	21.63	320.02	4,315.8	871.4	-730.8	1,137.3	0.00	0.00	0.00
4,560.0	21.63	320.02	4,353.0	882.7	-740.3	1,152.0	0.00	0.00	0.00
4,600.0	21.63	320.02	4,390.2	894.0	-749.8	1,166.8	0.00	0.00	0.00
4,640.0	21.63	320.02	4,427.4	905.3	-759.2	1,181.5	0.00	0.00	0.00
4,680.0	21.63	320.02	4,464.5	916.6	-768.7	1,196.3	0.00	0.00	0.00
4,720.0	21.63	320.02	4,501.7	927.9	-778.2	1,211.0	0.00	0.00	0.00
4,760.0	21.63	320.02	4,538.9	939.2	-787.6	1,225.8	0.00	0.00	0.00
4,800.0	21.63	320.02	4,576.1	950.5	-797.1	1,240.5	0.00	0.00	0.00
4,840.0	21.63	320.02	4,613.3	961.8	-806.6	1,255.2	0.00	0.00	0.00
4,880.0	21.63	320.02	4,650.5	973.1	-816.1	1,270.0	0.00	0.00	0.00
4,920.0	21.63	320.02	4,687.6	984.4	-825.5	1,284.7	0.00	0.00	0.00
4,960.0	21.63	320.02	4,724.8	995.7	-835.0	1,299.5	0.00	0.00	0.00
5,000.0	21.63	320.02	4,762.0	1,007.0	-844.5	1,314.2	0.00	0.00	0.00
5,040.0	21.63	320.02	4,799.2	1,018.3	-854.0	1,328.9	0.00	0.00	0.00
5,080.0	21.63	320.02	4,836.4	1,029.6	-863.4	1,343.7	0.00	0.00	0.00
5,120.0	21.63	320.02	4,873.6	1,040.9	-872.9	1,358.4	0.00	0.00	0.00
5,160.0	21.63	320.02	4,910.7	1,052.1	-882.4	1,373.2	0.00	0.00	0.00
5,196.0	21.63	320.02	4,944.2	1,062.3	-890.9	1,386.4	0.00	0.00	0.00
5,200.0	21.55	320.02	4,947.9	1,063.4	-891.8	1,387.9	2.00	-2.00	0.00
5,240.0	20.75	320.02	4,985.2	1,074.5	-901.1	1,402.3	2.00	-2.00	0.00
5,280.0	19.95	320.02	5,022.7	1,085.2	-910.1	1,416.2	2.00	-2.00	0.00
5,320.0	19.15	320.02	5,060.4	1,095.4	-918.7	1,429.6	2.00	-2.00	0.00
5,360.0	18.35	320.02	5,098.3	1,105.3	-926.9	1,442.5	2.00	-2.00	0.00
5,400.0	17.55	320.02	5,136.4	1,114.7	-934.8	1,454.8	2.00	-2.00	0.00
5,440.0	16.75	320.02	5,174.6	1,123.7	-942.4	1,466.6	2.00	-2.00	0.00
5,480.0	15.95	320.02	5,213.0	1,132.4	-949.6	1,477.9	2.00	-2.00	0.00
5,520.0	15.15	320.02	5,251.5	1,140.6	-956.5	1,488.6	2.00	-2.00	0.00
5,560.0	14.35	320.02	5,290.2	1,148.4	-963.1	1,498.8	2.00	-2.00	0.00
5,600.0	13.55	320.02	5,329.0	1,155.8	-969.3	1,508.4	2.00	-2.00	0.00
5,640.0	12.75	320.02	5,368.0	1,162.7	-975.1	1,517.5	2.00	-2.00	0.00
5,680.0	11.95	320.02	5,407.0	1,169.3	-980.6	1,526.0	2.00	-2.00	0.00
5,720.0	11.15	320.02	5,446.2	1,175.4	-985.8	1,534.1	2.00	-2.00	0.00
5,760.0	10.35	320.02	5,485.5	1,181.1	-990.6	1,541.5	2.00	-2.00	0.00
5,800.0	9.55	320.02	5,524.9	1,186.4	-995.0	1,548.4	2.00	-2.00	0.00
5,840.0	8.75	320.02	5,564.4	1,191.3	-999.1	1,554.8	2.00	-2.00	0.00
5,880.0	7.95	320.02	5,604.0	1,195.7	-1,002.8	1,560.6	2.00	-2.00	0.00
5,920.0	7.15	320.02	5,643.6	1,199.8	-1,006.2	1,565.8	2.00	-2.00	0.00
5,960.0	6.35	320.02	5,683.4	1,203.4	-1,009.2	1,570.5	2.00	-2.00	0.00
6,000.0	5.55	320.02	5,723.2	1,206.5	-1,011.9	1,574.7	2.00	-2.00	0.00
6,040.0	4.75	320.02	5,763.0	1,209.3	-1,014.2	1,578.3	2.00	-2.00	0.00
6,080.0	3.95	320.02	5,802.9	1,211.6	-1,016.1	1,581.3	2.00	-2.00	0.00
6,120.0	3.15	320.02	5,842.8	1,213.5	-1,017.7	1,583.8	2.00	-2.00	0.00
6,160.0	2.35	320.02	5,882.8	1,215.0	-1,018.9	1,585.7	2.00	-2.00	0.00
6,200.0	1.55	320.02	5,922.7	1,216.0	-1,019.8	1,587.0	2.00	-2.00	0.00
6,240.0	0.75	320.02	5,962.7	1,216.6	-1,020.3	1,587.8	2.00	-2.00	0.00
6,277.3	0.00	0.00	6,000.0	1,216.8	-1,020.5	1,588.1	2.00	-2.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.10-T4N-R66W
Site: Five Rivers K09-22D Pad Sec.10-T4N-R66W
Well: Five Rivers K09-08D
Wellbore: Wellbore #1
Design: Noble Five Rivers K09-08D Plan #1 (06-27-10)

Local Co-ordinate Reference: Well Five Rivers K09-08D
TVD Reference: WELL @ 4739.0ft (Original Well Elev)
MD Reference: WELL @ 4739.0ft (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)
TARGET BHL 2064'FNL, 590'FEL									
6,280.0	0.00	0.00	6,002.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,042.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,082.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,122.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,162.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,202.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,242.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,282.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,322.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,362.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,402.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,442.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,482.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,522.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,562.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,602.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,920.0	0.00	0.00	6,642.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
6,960.0	0.00	0.00	6,682.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,722.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,762.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,080.0	0.00	0.00	6,802.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,120.0	0.00	0.00	6,842.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,160.0	0.00	0.00	6,882.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,176.3	0.00	0.00	6,899.0	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2064'FNL, 590'FEL - LEGAL BOX 400' X 400' 1996'FNL, 670'FEL									
7,200.0	0.00	0.00	6,922.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,240.0	0.00	0.00	6,962.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,280.0	0.00	0.00	7,002.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,320.0	0.00	0.00	7,042.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,360.0	0.00	0.00	7,082.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,122.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,440.0	0.00	0.00	7,162.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,480.0	0.00	0.00	7,202.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,501.3	0.00	0.00	7,224.0	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
CODELL									
7,520.0	0.00	0.00	7,242.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,560.0	0.00	0.00	7,282.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,322.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,640.0	0.00	0.00	7,362.7	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00
7,651.3	0.00	0.00	7,374.0	1,216.8	-1,020.5	1,588.1	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.10-T4N-R66W
Site: Five Rivers K09-22D Pad Sec.10-T4N-R66W
Well: Five Rivers K09-08D
Wellbore: Wellbore #1
Design: Noble Five Rivers K09-08D Plan #1 (06-27-10)

Local Co-ordinate Reference: Well Five Rivers K09-08D
TVD Reference: WELL @ 4739.0ft (Original Well Elev)
MD Reference: WELL @ 4739.0ft (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 CIRCLE 206' - plan hits target - Circle (radius 75.0)	0.00	0.00	6,899.0	1,216.8	-1,020.5	1,363,109.20	3,202,015.47	40° 19' 40.332 N	104° 46' 31.512 W
LEGAL BOX 400' X 400' - plan misses by 105.0ft at 7176.3ft MD (6899.0 TVD, 1216.8 N, -1020.5 E) - Rectangle (sides W400.0 H400.0 D475.0)	0.00	0.00	6,899.0	1,284.8	-1,100.5	1,363,176.54	3,201,934.92	40° 19' 41.004 N	104° 46' 32.545 W
TARGET BHL 2064'F - plan hits target - Point	0.00	0.00	6,000.0	1,216.8	-1,020.5	1,363,109.22	3,202,015.50	40° 19' 40.332 N	104° 46' 31.512 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 (°)
7,176.3	6,899.0	NIOBRARA		0.00	
7,501.3	7,224.0	CODELL		0.00	