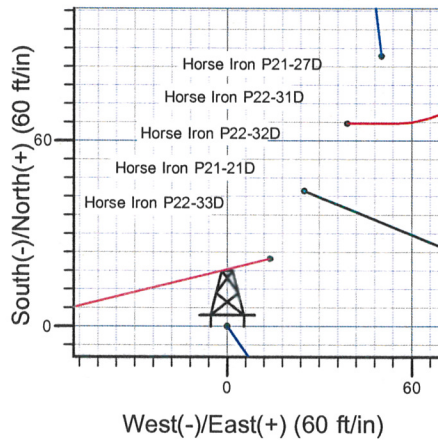
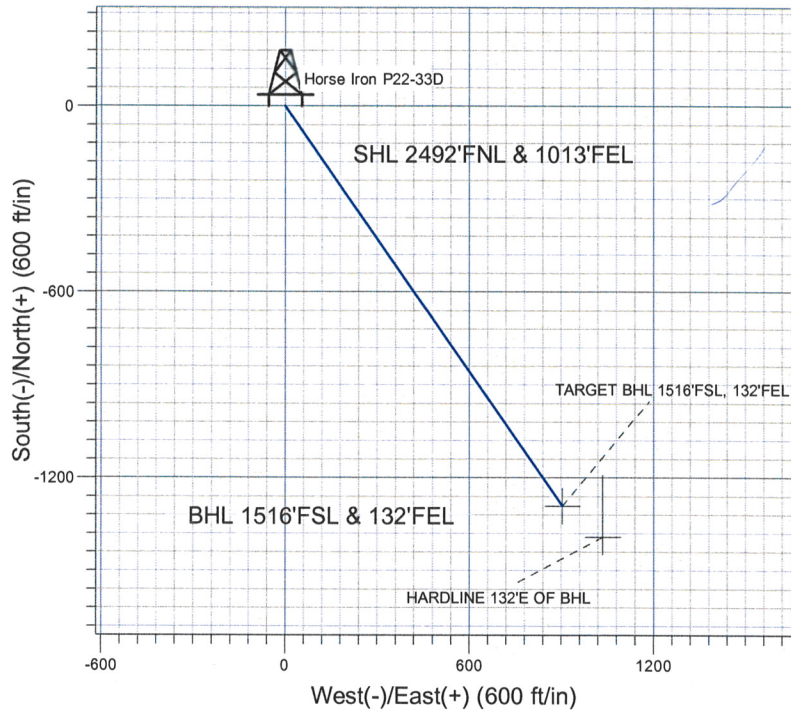
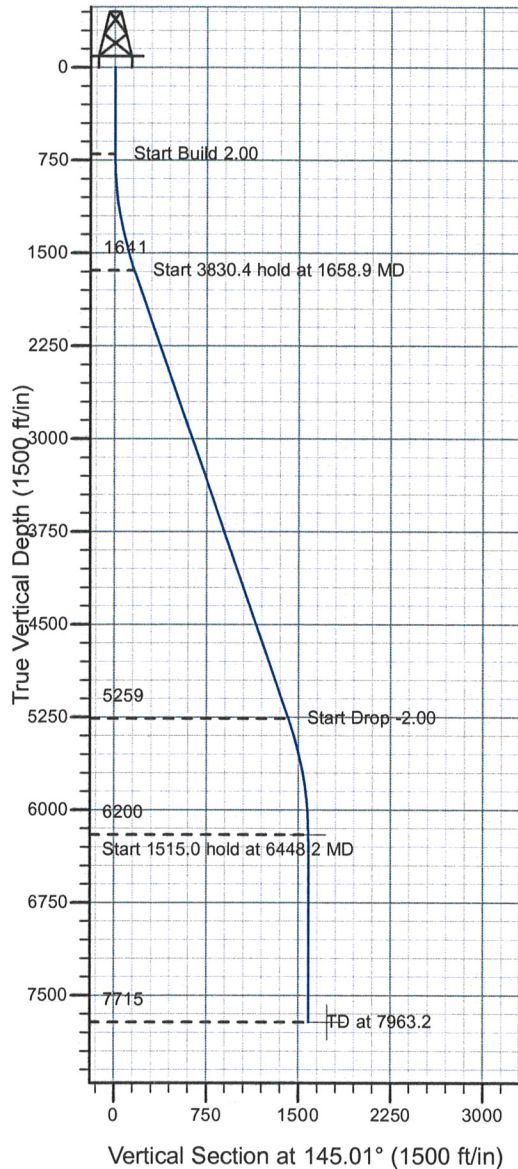


Well Name: Horse Iron P22-33D

Surface Location: Horse Iron Pad Sec.21-T3N-R67W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4790.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1320540.30 3170462.46 40° 12' 42.012 N 104° 53' 22.704 W
 Original Well Elev WELL @ 4803.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Horse Iron Pad Sec.21-T3N-R67W
 Horse Iron P22-33D
 Plan #2 (7-22-09)
 13:11, July 22 2009



Azimuths to True North
 Magnetic North: 9.14°

Magnetic Field
 Strength: 53245.0snT
 Dip Angle: 66.95°
 Date: 6/26/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1516'FSL, 132'FEL	6200.0	-1291.3	903.9	40° 12' 29.251 N	104° 53' 11.054 W	Point
HARDLINE 132'E OF BHL	7715.0	-1391.3	1035.9	40° 12' 28.263 N	104° 53' 9.352 W	Polygon

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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	1658.9	19.18	145.01	1641.1	-130.2	91.2	2.00	145.01	159.0	
4	5489.3	19.18	145.01	5258.9	-1161.1	812.7	0.00	0.00	1417.2	
5	6448.2	0.00	0.00	6200.0	-1291.3	903.9	2.00	180.00	1576.2	TARGET BHL 1516'FSL, 132'FEL
6	7963.2	0.00	0.00	7715.0	-1291.3	903.9	0.00	0.00	1576.2	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Horse Iron P22-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Project:	SEC.21-T3N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Horse Iron Pad Sec.21-T3N-R67W	North Reference:	True
Well:	Horse Iron P22-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-22-09)		

Project	SEC.21-T3N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Horse Iron Pad Sec.21-T3N-R67W			
Site Position:		Northing:	1,320,540.31 ft	Latitude:	40° 12' 42.012 N
From:	Lat/Long	Easting:	3,170,462.46 ft	Longitude:	104° 53' 22.704 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.39 °

Well	Horse Iron P22-33D					
Well Position	+N/-S	0.0 ft	Northing:	1,320,540.30 ft	Latitude:	40° 12' 42.012 N
	+E/-W	0.0 ft	Easting:	3,170,462.46 ft	Longitude:	104° 53' 22.704 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,790.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/26/2009	9.14	66.95	53,245

Design	Plan #2 (7-22-09)			
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	145.01

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,658.9	19.18	145.01	1,641.1	-130.2	91.2	2.00	2.00	0.00	145.01	
5,489.3	19.18	145.01	5,258.9	-1,161.1	812.7	0.00	0.00	0.00	0.00	
6,448.2	0.00	0.00	6,200.0	-1,291.3	903.9	2.00	-2.00	0.00	180.00	TARGET BHL 1516
7,963.2	0.00	0.00	7,715.0	-1,291.3	903.9	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Horse Iron P22-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Project:	SEC.21-T3N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Horse Iron Pad Sec.21-T3N-R67W	North Reference:	True
Well:	Horse Iron P22-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-22-09)		

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
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
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.40	145.01	720.0	-0.1	0.0	0.1	2.00	2.00	0.00
760.0	1.20	145.01	760.0	-0.5	0.4	0.6	2.00	2.00	0.00
800.0	2.00	145.01	800.0	-1.4	1.0	1.7	2.00	2.00	0.00
840.0	2.80	145.01	839.9	-2.8	2.0	3.4	2.00	2.00	0.00
880.0	3.60	145.01	879.9	-4.6	3.2	5.7	2.00	2.00	0.00
920.0	4.40	145.01	919.8	-6.9	4.8	8.4	2.00	2.00	0.00
960.0	5.20	145.01	959.6	-9.7	6.8	11.8	2.00	2.00	0.00
1,000.0	6.00	145.01	999.5	-12.9	9.0	15.7	2.00	2.00	0.00
1,040.0	6.80	145.01	1,039.2	-16.5	11.6	20.2	2.00	2.00	0.00
1,080.0	7.60	145.01	1,078.9	-20.6	14.4	25.2	2.00	2.00	0.00
1,120.0	8.40	145.01	1,118.5	-25.2	17.6	30.7	2.00	2.00	0.00
1,160.0	9.20	145.01	1,158.0	-30.2	21.1	36.9	2.00	2.00	0.00
1,200.0	10.00	145.01	1,197.5	-35.7	25.0	43.5	2.00	2.00	0.00
1,240.0	10.80	145.01	1,236.8	-41.6	29.1	50.7	2.00	2.00	0.00
1,280.0	11.60	145.01	1,276.0	-47.9	33.6	58.5	2.00	2.00	0.00
1,320.0	12.40	145.01	1,315.2	-54.7	38.3	66.8	2.00	2.00	0.00
1,360.0	13.20	145.01	1,354.2	-62.0	43.4	75.7	2.00	2.00	0.00
1,400.0	14.00	145.01	1,393.1	-69.7	48.8	85.1	2.00	2.00	0.00
1,440.0	14.80	145.01	1,431.8	-77.9	54.5	95.0	2.00	2.00	0.00
1,480.0	15.60	145.01	1,470.4	-86.5	60.5	105.5	2.00	2.00	0.00
1,520.0	16.40	145.01	1,508.8	-95.5	66.8	116.6	2.00	2.00	0.00
1,560.0	17.20	145.01	1,547.1	-105.0	73.5	128.1	2.00	2.00	0.00
1,600.0	18.00	145.01	1,585.3	-114.9	80.4	140.2	2.00	2.00	0.00
1,640.0	18.80	145.01	1,623.2	-125.2	87.6	152.8	2.00	2.00	0.00
1,658.9	19.18	145.01	1,641.1	-130.2	91.2	159.0	2.00	2.00	0.00
1,680.0	19.18	145.01	1,661.0	-135.9	95.1	165.9	0.00	0.00	0.00
1,720.0	19.18	145.01	1,698.8	-146.7	102.7	179.1	0.00	0.00	0.00
1,760.0	19.18	145.01	1,736.6	-157.5	110.2	192.2	0.00	0.00	0.00
1,800.0	19.18	145.01	1,774.4	-168.2	117.7	205.3	0.00	0.00	0.00
1,840.0	19.18	145.01	1,812.1	-179.0	125.3	218.5	0.00	0.00	0.00
1,880.0	19.18	145.01	1,849.9	-189.8	132.8	231.6	0.00	0.00	0.00
1,920.0	19.18	145.01	1,887.7	-200.5	140.4	244.8	0.00	0.00	0.00
1,960.0	19.18	145.01	1,925.5	-211.3	147.9	257.9	0.00	0.00	0.00
2,000.0	19.18	145.01	1,963.3	-222.0	155.4	271.0	0.00	0.00	0.00
2,040.0	19.18	145.01	2,001.0	-232.8	163.0	284.2	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Horse Iron P22-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Project:	SEC.21-T3N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Horse Iron Pad Sec.21-T3N-R67W	North Reference:	True
Well:	Horse Iron P22-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-22-09)		

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	19.18	145.01	2,038.8	-243.6	170.5	297.3	0.00	0.00	0.00
2,120.0	19.18	145.01	2,076.6	-254.3	178.0	310.5	0.00	0.00	0.00
2,160.0	19.18	145.01	2,114.4	-265.1	185.6	323.6	0.00	0.00	0.00
2,200.0	19.18	145.01	2,152.2	-275.9	193.1	336.7	0.00	0.00	0.00
2,240.0	19.18	145.01	2,189.9	-286.6	200.6	349.9	0.00	0.00	0.00
2,280.0	19.18	145.01	2,227.7	-297.4	208.2	363.0	0.00	0.00	0.00
2,320.0	19.18	145.01	2,265.5	-308.2	215.7	376.2	0.00	0.00	0.00
2,360.0	19.18	145.01	2,303.3	-318.9	223.2	389.3	0.00	0.00	0.00
2,400.0	19.18	145.01	2,341.1	-329.7	230.8	402.4	0.00	0.00	0.00
2,440.0	19.18	145.01	2,378.8	-340.5	238.3	415.6	0.00	0.00	0.00
2,480.0	19.18	145.01	2,416.6	-351.2	245.8	428.7	0.00	0.00	0.00
2,520.0	19.18	145.01	2,454.4	-362.0	253.4	441.9	0.00	0.00	0.00
2,560.0	19.18	145.01	2,492.2	-372.8	260.9	455.0	0.00	0.00	0.00
2,600.0	19.18	145.01	2,530.0	-383.5	268.4	468.1	0.00	0.00	0.00
2,640.0	19.18	145.01	2,567.8	-394.3	276.0	481.3	0.00	0.00	0.00
2,680.0	19.18	145.01	2,605.5	-405.0	283.5	494.4	0.00	0.00	0.00
2,720.0	19.18	145.01	2,643.3	-415.8	291.0	507.6	0.00	0.00	0.00
2,760.0	19.18	145.01	2,681.1	-426.6	298.6	520.7	0.00	0.00	0.00
2,800.0	19.18	145.01	2,718.9	-437.3	306.1	533.8	0.00	0.00	0.00
2,840.0	19.18	145.01	2,756.7	-448.1	313.7	547.0	0.00	0.00	0.00
2,880.0	19.18	145.01	2,794.4	-458.9	321.2	560.1	0.00	0.00	0.00
2,920.0	19.18	145.01	2,832.2	-469.6	328.7	573.2	0.00	0.00	0.00
2,960.0	19.18	145.01	2,870.0	-480.4	336.3	586.4	0.00	0.00	0.00
3,000.0	19.18	145.01	2,907.8	-491.2	343.8	599.5	0.00	0.00	0.00
3,040.0	19.18	145.01	2,945.6	-501.9	351.3	612.7	0.00	0.00	0.00
3,080.0	19.18	145.01	2,983.3	-512.7	358.9	625.8	0.00	0.00	0.00
3,120.0	19.18	145.01	3,021.1	-523.5	366.4	638.9	0.00	0.00	0.00
3,160.0	19.18	145.01	3,058.9	-534.2	373.9	652.1	0.00	0.00	0.00
3,200.0	19.18	145.01	3,096.7	-545.0	381.5	665.2	0.00	0.00	0.00
3,240.0	19.18	145.01	3,134.5	-555.8	389.0	678.4	0.00	0.00	0.00
3,280.0	19.18	145.01	3,172.2	-566.5	396.5	691.5	0.00	0.00	0.00
3,320.0	19.18	145.01	3,210.0	-577.3	404.1	704.6	0.00	0.00	0.00
3,360.0	19.18	145.01	3,247.8	-588.0	411.6	717.8	0.00	0.00	0.00
3,400.0	19.18	145.01	3,285.6	-598.8	419.1	730.9	0.00	0.00	0.00
3,440.0	19.18	145.01	3,323.4	-609.6	426.7	744.1	0.00	0.00	0.00
3,480.0	19.18	145.01	3,361.1	-620.3	434.2	757.2	0.00	0.00	0.00
3,520.0	19.18	145.01	3,398.9	-631.1	441.7	770.3	0.00	0.00	0.00
3,560.0	19.18	145.01	3,436.7	-641.9	449.3	783.5	0.00	0.00	0.00
3,600.0	19.18	145.01	3,474.5	-652.6	456.8	796.6	0.00	0.00	0.00
3,640.0	19.18	145.01	3,512.3	-663.4	464.3	809.8	0.00	0.00	0.00
3,680.0	19.18	145.01	3,550.0	-674.2	471.9	822.9	0.00	0.00	0.00
3,720.0	19.18	145.01	3,587.8	-684.9	479.4	836.0	0.00	0.00	0.00
3,760.0	19.18	145.01	3,625.6	-695.7	486.9	849.2	0.00	0.00	0.00
3,800.0	19.18	145.01	3,663.4	-706.5	494.5	862.3	0.00	0.00	0.00
3,840.0	19.18	145.01	3,701.2	-717.2	502.0	875.5	0.00	0.00	0.00
3,880.0	19.18	145.01	3,738.9	-728.0	509.6	888.6	0.00	0.00	0.00
3,920.0	19.18	145.01	3,776.7	-738.8	517.1	901.7	0.00	0.00	0.00
3,960.0	19.18	145.01	3,814.5	-749.5	524.6	914.9	0.00	0.00	0.00
4,000.0	19.18	145.01	3,852.3	-760.3	532.2	928.0	0.00	0.00	0.00
4,040.0	19.18	145.01	3,890.1	-771.0	539.7	941.2	0.00	0.00	0.00
4,080.0	19.18	145.01	3,927.8	-781.8	547.2	954.3	0.00	0.00	0.00
4,120.0	19.18	145.01	3,965.6	-792.6	554.8	967.4	0.00	0.00	0.00
4,160.0	19.18	145.01	4,003.4	-803.3	562.3	980.6	0.00	0.00	0.00
4,200.0	19.18	145.01	4,041.2	-814.1	569.8	993.7	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Horse Iron P22-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Project:	SEC.21-T3N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Horse Iron Pad Sec.21-T3N-R67W	North Reference:	True
Well:	Horse Iron P22-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-22-09)		

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	19.18	145.01	4,079.0	-824.9	577.4	1,006.9	0.00	0.00	0.00
4,280.0	19.18	145.01	4,116.7	-835.6	584.9	1,020.0	0.00	0.00	0.00
4,320.0	19.18	145.01	4,154.5	-846.4	592.4	1,033.1	0.00	0.00	0.00
4,360.0	19.18	145.01	4,192.3	-857.2	600.0	1,046.3	0.00	0.00	0.00
4,400.0	19.18	145.01	4,230.1	-867.9	607.5	1,059.4	0.00	0.00	0.00
4,440.0	19.18	145.01	4,267.9	-878.7	615.0	1,072.6	0.00	0.00	0.00
4,480.0	19.18	145.01	4,305.6	-889.5	622.6	1,085.7	0.00	0.00	0.00
4,520.0	19.18	145.01	4,343.4	-900.2	630.1	1,098.8	0.00	0.00	0.00
4,560.0	19.18	145.01	4,381.2	-911.0	637.6	1,112.0	0.00	0.00	0.00
4,600.0	19.18	145.01	4,419.0	-921.8	645.2	1,125.1	0.00	0.00	0.00
4,640.0	19.18	145.01	4,456.8	-932.5	652.7	1,138.3	0.00	0.00	0.00
4,680.0	19.18	145.01	4,494.5	-943.3	660.2	1,151.4	0.00	0.00	0.00
4,720.0	19.18	145.01	4,532.3	-954.0	667.8	1,164.5	0.00	0.00	0.00
4,760.0	19.18	145.01	4,570.1	-964.8	675.3	1,177.7	0.00	0.00	0.00
4,800.0	19.18	145.01	4,607.9	-975.6	682.9	1,190.8	0.00	0.00	0.00
4,840.0	19.18	145.01	4,645.7	-986.3	690.4	1,204.0	0.00	0.00	0.00
4,880.0	19.18	145.01	4,683.4	-997.1	697.9	1,217.1	0.00	0.00	0.00
4,920.0	19.18	145.01	4,721.2	-1,007.9	705.5	1,230.2	0.00	0.00	0.00
4,960.0	19.18	145.01	4,759.0	-1,018.6	713.0	1,243.4	0.00	0.00	0.00
5,000.0	19.18	145.01	4,796.8	-1,029.4	720.5	1,256.5	0.00	0.00	0.00
5,040.0	19.18	145.01	4,834.6	-1,040.2	728.1	1,269.7	0.00	0.00	0.00
5,080.0	19.18	145.01	4,872.3	-1,050.9	735.6	1,282.8	0.00	0.00	0.00
5,120.0	19.18	145.01	4,910.1	-1,061.7	743.1	1,295.9	0.00	0.00	0.00
5,160.0	19.18	145.01	4,947.9	-1,072.5	750.7	1,309.1	0.00	0.00	0.00
5,200.0	19.18	145.01	4,985.7	-1,083.2	758.2	1,322.2	0.00	0.00	0.00
5,240.0	19.18	145.01	5,023.5	-1,094.0	765.7	1,335.3	0.00	0.00	0.00
5,280.0	19.18	145.01	5,061.2	-1,104.8	773.3	1,348.5	0.00	0.00	0.00
5,320.0	19.18	145.01	5,099.0	-1,115.5	780.8	1,361.6	0.00	0.00	0.00
5,360.0	19.18	145.01	5,136.8	-1,126.3	788.3	1,374.8	0.00	0.00	0.00
5,400.0	19.18	145.01	5,174.6	-1,137.0	795.9	1,387.9	0.00	0.00	0.00
5,440.0	19.18	145.01	5,212.4	-1,147.8	803.4	1,401.0	0.00	0.00	0.00
5,480.0	19.18	145.01	5,250.2	-1,158.6	810.9	1,414.2	0.00	0.00	0.00
5,489.3	19.18	145.01	5,258.9	-1,161.1	812.7	1,417.2	0.00	0.00	0.00
5,520.0	18.56	145.01	5,288.0	-1,169.2	818.4	1,427.2	2.00	-2.00	0.00
5,560.0	17.76	145.01	5,326.0	-1,179.4	825.5	1,439.6	2.00	-2.00	0.00
5,600.0	16.96	145.01	5,364.2	-1,189.2	832.4	1,451.6	2.00	-2.00	0.00
5,640.0	16.16	145.01	5,402.5	-1,198.5	838.9	1,463.0	2.00	-2.00	0.00
5,680.0	15.36	145.01	5,441.0	-1,207.5	845.2	1,473.8	2.00	-2.00	0.00
5,720.0	14.56	145.01	5,479.6	-1,215.9	851.1	1,484.2	2.00	-2.00	0.00
5,760.0	13.76	145.01	5,518.4	-1,223.9	856.7	1,494.0	2.00	-2.00	0.00
5,800.0	12.96	145.01	5,557.3	-1,231.5	862.0	1,503.2	2.00	-2.00	0.00
5,840.0	12.16	145.01	5,596.4	-1,238.6	867.0	1,511.9	2.00	-2.00	0.00
5,880.0	11.36	145.01	5,635.5	-1,245.3	871.7	1,520.1	2.00	-2.00	0.00
5,920.0	10.56	145.01	5,674.8	-1,251.5	876.0	1,527.7	2.00	-2.00	0.00
5,960.0	9.76	145.01	5,714.2	-1,257.3	880.1	1,534.7	2.00	-2.00	0.00
6,000.0	8.96	145.01	5,753.7	-1,262.7	883.8	1,541.2	2.00	-2.00	0.00
6,040.0	8.16	145.01	5,793.2	-1,267.5	887.2	1,547.2	2.00	-2.00	0.00
6,080.0	7.36	145.01	5,832.8	-1,272.0	890.3	1,552.6	2.00	-2.00	0.00
6,120.0	6.56	145.01	5,872.5	-1,275.9	893.1	1,557.4	2.00	-2.00	0.00
6,160.0	5.76	145.01	5,912.3	-1,279.5	895.6	1,561.7	2.00	-2.00	0.00
6,200.0	4.96	145.01	5,952.1	-1,282.5	897.7	1,565.5	2.00	-2.00	0.00
6,240.0	4.16	145.01	5,992.0	-1,285.1	899.5	1,568.7	2.00	-2.00	0.00
6,280.0	3.36	145.01	6,031.9	-1,287.3	901.0	1,571.3	2.00	-2.00	0.00
6,320.0	2.56	145.01	6,071.9	-1,289.0	902.2	1,573.4	2.00	-2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Horse Iron P22-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Project:	SEC.21-T3N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Horse Iron Pad Sec.21-T3N-R67W	North Reference:	True
Well:	Horse Iron P22-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-22-09)		

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)
6,360.0	1.76	145.01	6,111.8	-1,290.2	903.1	1,574.9	2.00	-2.00	0.00
6,400.0	0.96	145.01	6,151.8	-1,291.0	903.6	1,575.8	2.00	-2.00	0.00
6,440.0	0.16	145.01	6,191.8	-1,291.3	903.9	1,576.2	2.00	-2.00	0.00
6,448.2	0.00	0.00	6,200.0	-1,291.3	903.9	1,576.2	2.00	-2.00	-1,775.02
TARGET BHL 1516'FSL, 132'FEL									
6,480.0	0.00	0.00	6,231.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,271.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,311.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,351.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,391.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,431.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,471.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,511.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,551.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,591.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,631.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,671.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,711.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,751.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,791.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,044.2	0.00	0.00	6,796.0	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
NIOBRARA									
7,080.0	0.00	0.00	6,831.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,871.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,160.0	0.00	0.00	6,911.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,200.0	0.00	0.00	6,951.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,240.0	0.00	0.00	6,991.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,031.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,071.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,336.2	0.00	0.00	7,088.0	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
CODELL									
7,360.0	0.00	0.00	7,111.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,151.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,191.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,480.0	0.00	0.00	7,231.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,271.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,311.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,351.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,640.0	0.00	0.00	7,391.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,680.0	0.00	0.00	7,431.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,720.0	0.00	0.00	7,471.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,760.0	0.00	0.00	7,511.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,763.2	0.00	0.00	7,515.0	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
J-SAND									
7,800.0	0.00	0.00	7,551.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,840.0	0.00	0.00	7,591.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,880.0	0.00	0.00	7,631.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,920.0	0.00	0.00	7,671.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,960.0	0.00	0.00	7,711.8	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
7,963.2	0.00	0.00	7,715.0	-1,291.3	903.9	1,576.2	0.00	0.00	0.00
HARDLINE 132'E OF BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Horse Iron P22-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Project:	SEC.21-T3N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Horse Iron Pad Sec.21-T3N-R67W	North Reference:	True
Well:	Horse Iron P22-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (7-22-09)		

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TARGET BHL 1516'F	0.00	0.00	6,200.0	-1,291.3	903.9	1,319,255.29	3,171,375.15	40° 12' 29.251 N	104° 53' 11.054 W
- plan hits target center									
- Point									
HARDLINE 132'E OF	0.00	0.00	7,715.0	-1,391.3	1,035.9	1,319,156.23	3,171,507.87	40° 12' 28.263 N	104° 53' 9.352 W
- plan misses target center by 165.6ft at 7963.2ft MD (7715.0 TVD, -1291.3 N, 903.9 E)									
- Polygon									
Point 1			7,715.0	0.0	0.0	1,319,156.23	3,171,507.87		
Point 2			7,715.0	200.0	0.0	1,319,356.21	3,171,506.49		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,044.2	6,796.0	NIOBRARA		0.00	
7,336.2	7,088.0	CODELL		0.00	
7,763.2	7,515.0	J-SAND		0.00	