

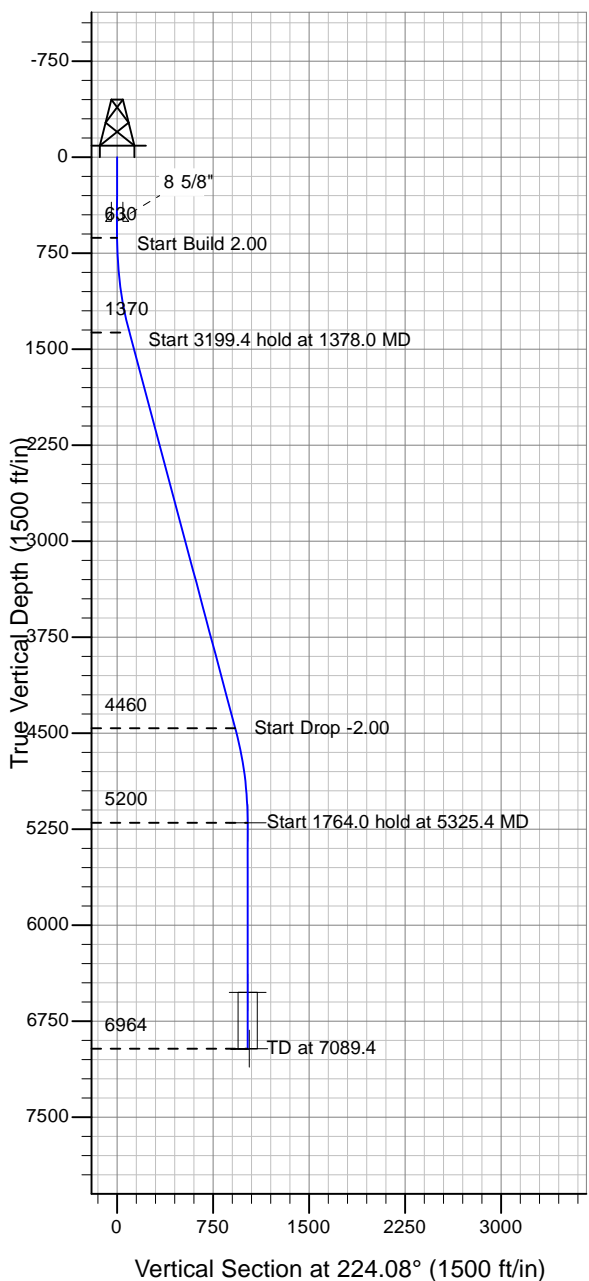
ENSIGN

Directional

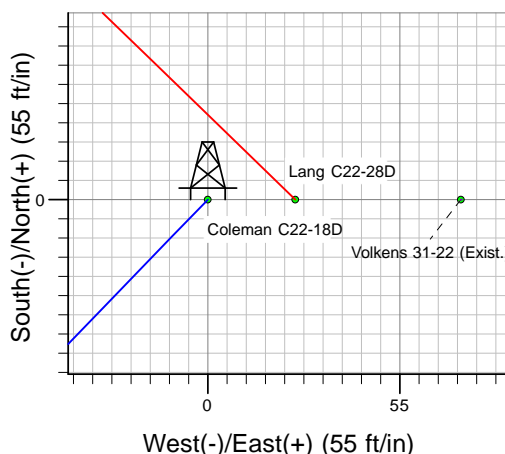
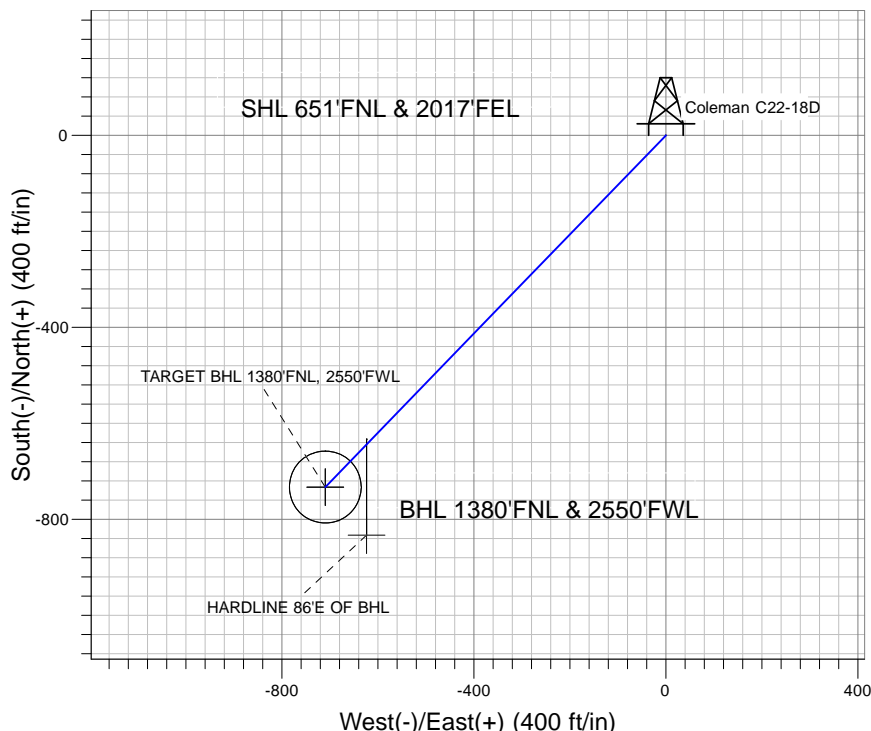
Well Name: Coleman C22-18D

Surface Location: Coleman C22-18D Pad Sec.22-T4N-R64W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4656.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1354838.98 3269251.66 40° 18' 12.276 N 104° 32' 4.560 W
 Original Well Elev WELL @ 4669.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Coleman C22-18D Pad Sec.22-T4N-R64W
 Coleman C22-18D
 Noble Coleman C22-18D Plan #1 (05-03-10)
 16:45, May 04 2010



Azimuths to True North
 Magnetic North: 8.88°

Magnetic Field
 Strength: 53225.2snT
 Dip Angle: 67.05°
 Date: 5/3/2010
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1380'FNL, 2550'FWL	5200.0	-732.8	-709.6	40° 18' 5.034 N	104° 32' 13.719 W	Point
TARGET CIRCLE 1380'FNL, 2550'FWL	6524.0	-732.8	-709.6	40° 18' 5.034 N	104° 32' 13.718 W	Circle (Radius: 75.0)
HARDLINE 86'E OF BHL	6964.0	-832.8	-623.6	40° 18' 4.046 N	104° 32' 12.608 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	630.0	0.00	0.00	630.0	0.0	0.0	0.00	0.00	0.0	
3	1378.0	14.96	224.08	1369.5	-69.8	-67.5	2.00	224.08	97.1	
4	4577.4	14.96	224.08	4460.5	-663.1	-642.1	0.00	0.00	923.0	
5	5325.4	0.00	0.00	5200.0	-732.8	-709.6	2.00	180.00	1020.1	TARGET BHL 1380'FNL, 2550'FWL
6	7089.4	0.00	0.00	6964.0	-732.8	-709.6	0.00	0.00	1020.1	



NOBLE ENERGY INC WELD COUNTY CO

SEC.22-T4N-R64W

Coleman C22-18D Pad Sec.22-T4N-R64W

Coleman C22-18D

Wellbore #1

Plan: Noble Coleman C22-18D Plan #1 (05-03-10)

Standard Planning Report

04 May, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Coleman C22-18D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4669.0ft (Original Well Elev)
Project:	SEC.22-T4N-R64W	MD Reference:	WELL @ 4669.0ft (Original Well Elev)
Site:	Coleman C22-18D Pad Sec.22-T4N-R64W	North Reference:	True
Well:	Coleman C22-18D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Coleman C22-18D Plan #1 (05-03-10)		

Project	SEC.22-T4N-R64W, 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 Coleman C22-18D Pad Sec.22-T4N-R64W					
Site Position:		Northing:	1,354,838.99ft	Latitude:	40° 18' 12.276 N
From:	Lat/Long	Easting:	3,269,251.66ft	Longitude:	104° 32' 4.560 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.62 °

Well	Coleman C22-18D					
Well Position	+N/-S	0.0 ft	Northing:	1,354,838.98 ft	Latitude:	40° 18' 12.276 N
	+E/-W	0.0 ft	Easting:	3,269,251.66 ft	Longitude:	104° 32' 4.560 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,656.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/3/2010	8.88	67.05	53,225

Design	Noble Coleman C22-18D Plan #1 (05-03-10)			
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	224.08

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	
630.0	0.00	0.00	630.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,378.0	14.96	224.08	1,369.5	-69.8	-67.5	2.00	2.00	0.00	224.08	
4,577.4	14.96	224.08	4,460.5	-663.1	-642.1	0.00	0.00	0.00	0.00	
5,325.4	0.00	0.00	5,200.0	-732.8	-709.6	2.00	-2.00	0.00	180.00	TARGET BHL 138C
7,089.4	0.00	0.00	6,964.0	-732.8	-709.6	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Coleman C22-18D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4669.0ft (Original Well Elev)
Project:	SEC.22-T4N-R64W	MD Reference:	WELL @ 4669.0ft (Original Well Elev)
Site:	Coleman C22-18D Pad Sec.22-T4N-R64W	North Reference:	True
Well:	Coleman C22-18D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Coleman C22-18D Plan #1 (05-03-10)		

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
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
630.0	0.00	0.00	630.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.20	224.08	640.0	0.0	0.0	0.0	2.00	2.00	0.00
680.0	1.00	224.08	680.0	-0.3	-0.3	0.4	2.00	2.00	0.00
720.0	1.80	224.08	720.0	-1.0	-1.0	1.4	2.00	2.00	0.00
760.0	2.60	224.08	760.0	-2.1	-2.1	2.9	2.00	2.00	0.00
800.0	3.40	224.08	799.9	-3.6	-3.5	5.0	2.00	2.00	0.00
840.0	4.20	224.08	839.8	-5.5	-5.4	7.7	2.00	2.00	0.00
880.0	5.00	224.08	879.7	-7.8	-7.6	10.9	2.00	2.00	0.00
920.0	5.80	224.08	919.5	-10.5	-10.2	14.7	2.00	2.00	0.00
960.0	6.60	224.08	959.3	-13.6	-13.2	19.0	2.00	2.00	0.00
1,000.0	7.40	224.08	999.0	-17.1	-16.6	23.9	2.00	2.00	0.00
1,040.0	8.20	224.08	1,038.6	-21.0	-20.4	29.3	2.00	2.00	0.00
1,080.0	9.00	224.08	1,078.2	-25.3	-24.5	35.3	2.00	2.00	0.00
1,120.0	9.80	224.08	1,117.6	-30.0	-29.1	41.8	2.00	2.00	0.00
1,160.0	10.60	224.08	1,157.0	-35.1	-34.0	48.9	2.00	2.00	0.00
1,200.0	11.40	224.08	1,196.2	-40.6	-39.3	56.5	2.00	2.00	0.00
1,240.0	12.20	224.08	1,235.4	-46.5	-45.0	64.7	2.00	2.00	0.00
1,280.0	13.00	224.08	1,274.4	-52.7	-51.1	73.4	2.00	2.00	0.00
1,320.0	13.80	224.08	1,313.3	-59.4	-57.5	82.7	2.00	2.00	0.00
1,360.0	14.60	224.08	1,352.1	-66.5	-64.4	92.5	2.00	2.00	0.00
1,378.0	14.96	224.08	1,369.5	-69.8	-67.5	97.1	2.00	2.00	0.00
1,400.0	14.96	224.08	1,390.8	-73.8	-71.5	102.8	0.00	0.00	0.00
1,440.0	14.96	224.08	1,429.4	-81.2	-78.7	113.1	0.00	0.00	0.00
1,480.0	14.96	224.08	1,468.1	-88.7	-85.9	123.4	0.00	0.00	0.00
1,520.0	14.96	224.08	1,506.7	-96.1	-93.0	133.8	0.00	0.00	0.00
1,560.0	14.96	224.08	1,545.4	-103.5	-100.2	144.1	0.00	0.00	0.00
1,600.0	14.96	224.08	1,584.0	-110.9	-107.4	154.4	0.00	0.00	0.00
1,640.0	14.96	224.08	1,622.6	-118.3	-114.6	164.7	0.00	0.00	0.00
1,680.0	14.96	224.08	1,661.3	-125.8	-121.8	175.1	0.00	0.00	0.00
1,720.0	14.96	224.08	1,699.9	-133.2	-129.0	185.4	0.00	0.00	0.00
1,760.0	14.96	224.08	1,738.6	-140.6	-136.1	195.7	0.00	0.00	0.00
1,800.0	14.96	224.08	1,777.2	-148.0	-143.3	206.0	0.00	0.00	0.00
1,840.0	14.96	224.08	1,815.9	-155.4	-150.5	216.4	0.00	0.00	0.00
1,880.0	14.96	224.08	1,854.5	-162.8	-157.7	226.7	0.00	0.00	0.00
1,920.0	14.96	224.08	1,893.2	-170.3	-164.9	237.0	0.00	0.00	0.00
1,960.0	14.96	224.08	1,931.8	-177.7	-172.1	247.3	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Coleman C22-18D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4669.0ft (Original Well Elev)
Project:	SEC.22-T4N-R64W	MD Reference:	WELL @ 4669.0ft (Original Well Elev)
Site:	Coleman C22-18D Pad Sec.22-T4N-R64W	North Reference:	True
Well:	Coleman C22-18D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Coleman C22-18D Plan #1 (05-03-10)		

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)
2,000.0	14.96	224.08	1,970.4	-185.1	-179.2	257.7	0.00	0.00	0.00
2,040.0	14.96	224.08	2,009.1	-192.5	-186.4	268.0	0.00	0.00	0.00
2,080.0	14.96	224.08	2,047.7	-199.9	-193.6	278.3	0.00	0.00	0.00
2,120.0	14.96	224.08	2,086.4	-207.3	-200.8	288.6	0.00	0.00	0.00
2,160.0	14.96	224.08	2,125.0	-214.8	-208.0	299.0	0.00	0.00	0.00
2,200.0	14.96	224.08	2,163.7	-222.2	-215.2	309.3	0.00	0.00	0.00
2,240.0	14.96	224.08	2,202.3	-229.6	-222.3	319.6	0.00	0.00	0.00
2,280.0	14.96	224.08	2,241.0	-237.0	-229.5	329.9	0.00	0.00	0.00
2,320.0	14.96	224.08	2,279.6	-244.4	-236.7	340.3	0.00	0.00	0.00
2,360.0	14.96	224.08	2,318.2	-251.9	-243.9	350.6	0.00	0.00	0.00
2,400.0	14.96	224.08	2,356.9	-259.3	-251.1	360.9	0.00	0.00	0.00
2,440.0	14.96	224.08	2,395.5	-266.7	-258.3	371.2	0.00	0.00	0.00
2,480.0	14.96	224.08	2,434.2	-274.1	-265.4	381.6	0.00	0.00	0.00
2,520.0	14.96	224.08	2,472.8	-281.5	-272.6	391.9	0.00	0.00	0.00
2,560.0	14.96	224.08	2,511.5	-288.9	-279.8	402.2	0.00	0.00	0.00
2,600.0	14.96	224.08	2,550.1	-296.4	-287.0	412.5	0.00	0.00	0.00
2,640.0	14.96	224.08	2,588.8	-303.8	-294.2	422.9	0.00	0.00	0.00
2,680.0	14.96	224.08	2,627.4	-311.2	-301.4	433.2	0.00	0.00	0.00
2,720.0	14.96	224.08	2,666.0	-318.6	-308.5	443.5	0.00	0.00	0.00
2,760.0	14.96	224.08	2,704.7	-326.0	-315.7	453.9	0.00	0.00	0.00
2,800.0	14.96	224.08	2,743.3	-333.4	-322.9	464.2	0.00	0.00	0.00
2,840.0	14.96	224.08	2,782.0	-340.9	-330.1	474.5	0.00	0.00	0.00
2,880.0	14.96	224.08	2,820.6	-348.3	-337.3	484.8	0.00	0.00	0.00
2,920.0	14.96	224.08	2,859.3	-355.7	-344.5	495.2	0.00	0.00	0.00
2,960.0	14.96	224.08	2,897.9	-363.1	-351.6	505.5	0.00	0.00	0.00
3,000.0	14.96	224.08	2,936.6	-370.5	-358.8	515.8	0.00	0.00	0.00
3,040.0	14.96	224.08	2,975.2	-378.0	-366.0	526.1	0.00	0.00	0.00
3,080.0	14.96	224.08	3,013.8	-385.4	-373.2	536.5	0.00	0.00	0.00
3,120.0	14.96	224.08	3,052.5	-392.8	-380.4	546.8	0.00	0.00	0.00
3,160.0	14.96	224.08	3,091.1	-400.2	-387.6	557.1	0.00	0.00	0.00
3,200.0	14.96	224.08	3,129.8	-407.6	-394.7	567.4	0.00	0.00	0.00
3,240.0	14.96	224.08	3,168.4	-415.0	-401.9	577.8	0.00	0.00	0.00
3,280.0	14.96	224.08	3,207.1	-422.5	-409.1	588.1	0.00	0.00	0.00
3,320.0	14.96	224.08	3,245.7	-429.9	-416.3	598.4	0.00	0.00	0.00
3,360.0	14.96	224.08	3,284.4	-437.3	-423.5	608.7	0.00	0.00	0.00
3,400.0	14.96	224.08	3,323.0	-444.7	-430.7	619.1	0.00	0.00	0.00
3,440.0	14.96	224.08	3,361.6	-452.1	-437.8	629.4	0.00	0.00	0.00
3,480.0	14.96	224.08	3,400.3	-459.5	-445.0	639.7	0.00	0.00	0.00
3,520.0	14.96	224.08	3,438.9	-467.0	-452.2	650.0	0.00	0.00	0.00
3,560.0	14.96	224.08	3,477.6	-474.4	-459.4	660.4	0.00	0.00	0.00
3,600.0	14.96	224.08	3,516.2	-481.8	-466.6	670.7	0.00	0.00	0.00
3,640.0	14.96	224.08	3,554.9	-489.2	-473.8	681.0	0.00	0.00	0.00
3,680.0	14.96	224.08	3,593.5	-496.6	-480.9	691.3	0.00	0.00	0.00
3,720.0	14.96	224.08	3,632.2	-504.1	-488.1	701.7	0.00	0.00	0.00
3,760.0	14.96	224.08	3,670.8	-511.5	-495.3	712.0	0.00	0.00	0.00
3,800.0	14.96	224.08	3,709.4	-518.9	-502.5	722.3	0.00	0.00	0.00
3,840.0	14.96	224.08	3,748.1	-526.3	-509.7	732.6	0.00	0.00	0.00
3,880.0	14.96	224.08	3,786.7	-533.7	-516.9	743.0	0.00	0.00	0.00
3,920.0	14.96	224.08	3,825.4	-541.1	-524.0	753.3	0.00	0.00	0.00
3,960.0	14.96	224.08	3,864.0	-548.6	-531.2	763.6	0.00	0.00	0.00
4,000.0	14.96	224.08	3,902.7	-556.0	-538.4	773.9	0.00	0.00	0.00
4,040.0	14.96	224.08	3,941.3	-563.4	-545.6	784.3	0.00	0.00	0.00
4,080.0	14.96	224.08	3,980.0	-570.8	-552.8	794.6	0.00	0.00	0.00
4,120.0	14.96	224.08	4,018.6	-578.2	-560.0	804.9	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Coleman C22-18D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4669.0ft (Original Well Elev)
Project:	SEC.22-T4N-R64W	MD Reference:	WELL @ 4669.0ft (Original Well Elev)
Site:	Coleman C22-18D Pad Sec.22-T4N-R64W	North Reference:	True
Well:	Coleman C22-18D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Coleman C22-18D Plan #1 (05-03-10)		

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)
4,160.0	14.96	224.08	4,057.2	-585.7	-567.1	815.2	0.00	0.00	0.00
4,200.0	14.96	224.08	4,095.9	-593.1	-574.3	825.6	0.00	0.00	0.00
4,240.0	14.96	224.08	4,134.5	-600.5	-581.5	835.9	0.00	0.00	0.00
4,280.0	14.96	224.08	4,173.2	-607.9	-588.7	846.2	0.00	0.00	0.00
4,320.0	14.96	224.08	4,211.8	-615.3	-595.9	856.6	0.00	0.00	0.00
4,360.0	14.96	224.08	4,250.5	-622.7	-603.1	866.9	0.00	0.00	0.00
4,400.0	14.96	224.08	4,289.1	-630.2	-610.2	877.2	0.00	0.00	0.00
4,440.0	14.96	224.08	4,327.7	-637.6	-617.4	887.5	0.00	0.00	0.00
4,480.0	14.96	224.08	4,366.4	-645.0	-624.6	897.9	0.00	0.00	0.00
4,520.0	14.96	224.08	4,405.0	-652.4	-631.8	908.2	0.00	0.00	0.00
4,560.0	14.96	224.08	4,443.7	-659.8	-639.0	918.5	0.00	0.00	0.00
4,577.4	14.96	224.08	4,460.5	-663.1	-642.1	923.0	0.00	0.00	0.00
4,600.0	14.51	224.08	4,482.3	-667.2	-646.1	928.7	2.00	-2.00	0.00
4,640.0	13.71	224.08	4,521.1	-674.2	-652.9	938.5	2.00	-2.00	0.00
4,680.0	12.91	224.08	4,560.1	-680.8	-659.3	947.7	2.00	-2.00	0.00
4,720.0	12.11	224.08	4,599.1	-687.0	-665.3	956.4	2.00	-2.00	0.00
4,760.0	11.31	224.08	4,638.3	-692.9	-671.0	964.5	2.00	-2.00	0.00
4,800.0	10.51	224.08	4,677.6	-698.3	-676.2	972.1	2.00	-2.00	0.00
4,840.0	9.71	224.08	4,716.9	-703.3	-681.1	979.1	2.00	-2.00	0.00
4,880.0	8.91	224.08	4,756.4	-708.0	-685.6	985.5	2.00	-2.00	0.00
4,920.0	8.11	224.08	4,796.0	-712.2	-689.7	991.5	2.00	-2.00	0.00
4,960.0	7.31	224.08	4,835.6	-716.1	-693.5	996.8	2.00	-2.00	0.00
5,000.0	6.51	224.08	4,875.3	-719.5	-696.8	1,001.6	2.00	-2.00	0.00
5,040.0	5.71	224.08	4,915.1	-722.6	-699.8	1,005.9	2.00	-2.00	0.00
5,080.0	4.91	224.08	4,954.9	-725.3	-702.3	1,009.6	2.00	-2.00	0.00
5,120.0	4.11	224.08	4,994.8	-727.5	-704.5	1,012.7	2.00	-2.00	0.00
5,160.0	3.31	224.08	5,034.7	-729.4	-706.3	1,015.3	2.00	-2.00	0.00
5,200.0	2.51	224.08	5,074.7	-730.8	-707.7	1,017.3	2.00	-2.00	0.00
5,240.0	1.71	224.08	5,114.6	-731.9	-708.8	1,018.8	2.00	-2.00	0.00
5,280.0	0.91	224.08	5,154.6	-732.5	-709.4	1,019.7	2.00	-2.00	0.00
5,320.0	0.11	224.08	5,194.6	-732.8	-709.6	1,020.1	2.00	-2.00	0.00
5,325.4	0.00	0.00	5,200.0	-732.8	-709.6	1,020.1	2.00	-2.00	2,527.96
TARGET BHL 1380'FNL, 2550'FWL									
5,360.0	0.00	0.00	5,234.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,274.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,440.0	0.00	0.00	5,314.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,480.0	0.00	0.00	5,354.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,520.0	0.00	0.00	5,394.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,560.0	0.00	0.00	5,434.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,474.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,640.0	0.00	0.00	5,514.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,680.0	0.00	0.00	5,554.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,720.0	0.00	0.00	5,594.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,760.0	0.00	0.00	5,634.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,674.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,840.0	0.00	0.00	5,714.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,880.0	0.00	0.00	5,754.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,920.0	0.00	0.00	5,794.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,834.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,874.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,040.0	0.00	0.00	5,914.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,080.0	0.00	0.00	5,954.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,120.0	0.00	0.00	5,994.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,034.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Coleman C22-18D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4669.0ft (Original Well Elev)
Project:	SEC.22-T4N-R64W	MD Reference:	WELL @ 4669.0ft (Original Well Elev)
Site:	Coleman C22-18D Pad Sec.22-T4N-R64W	North Reference:	True
Well:	Coleman C22-18D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Coleman C22-18D Plan #1 (05-03-10)		

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)
6,200.0	0.00	0.00	6,074.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,114.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,280.0	0.00	0.00	6,154.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,194.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,234.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,274.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,314.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,354.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,394.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,434.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,474.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,514.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,649.4	0.00	0.00	6,524.0	-732.8	-709.6	1,020.1	0.00	0.00	0.00
NIORARA - TARGET CIRCLE 1380'FNL, 2550'FWL									
6,680.0	0.00	0.00	6,554.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,594.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,634.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,674.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,714.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,754.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,920.0	0.00	0.00	6,794.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
6,939.4	0.00	0.00	6,814.0	-732.8	-709.6	1,020.1	0.00	0.00	0.00
CODELL									
6,960.0	0.00	0.00	6,834.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,874.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,914.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
7,080.0	0.00	0.00	6,954.6	-732.8	-709.6	1,020.1	0.00	0.00	0.00
7,089.4	0.00	0.00	6,964.0	-732.8	-709.6	1,020.1	0.00	0.00	0.00
HARDLINE 86'E OF BHL									

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 1380'F	0.00	0.00	5,200.0	-732.8	-709.6	1,354,098.53	3,268,550.07	40° 18' 5.034 N	104° 32' 13.719 W
- plan hits target center									
- Point									
HARDLINE 86'E OF E	0.00	0.00	6,964.0	-832.8	-623.6	1,353,999.48	3,268,637.19	40° 18' 4.046 N	104° 32' 12.608 W
- plan misses target center by 131.9ft at 7089.4ft MD (6964.0 TVD, -732.8 N, -709.6 E)									
- Polygon									
Point 1			6,964.0	0.0	0.0	1,353,999.48	3,268,637.19		
Point 2			6,964.0	200.0	0.0	1,354,199.46	3,268,635.01		
TARGET CIRCLE 1380'F	0.00	0.00	6,524.0	-732.8	-709.6	1,354,098.53	3,268,550.11	40° 18' 5.034 N	104° 32' 13.718 W
- plan hits target center									
- Circle (radius 75.0)									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Coleman C22-18D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4669.0ft (Original Well Elev)
Project:	SEC.22-T4N-R64W	MD Reference:	WELL @ 4669.0ft (Original Well Elev)
Site:	Coleman C22-18D Pad Sec.22-T4N-R64W	North Reference:	True
Well:	Coleman C22-18D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Coleman C22-18D Plan #1 (05-03-10)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
500.0	500.0	8 5/8"	8-5/8	12-1/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,649.4	6,524.0	NIOBRARA		0.00		
6,939.4	6,814.0	CODELL		0.00		