

Well Name: Stewardson USX WW33-01D

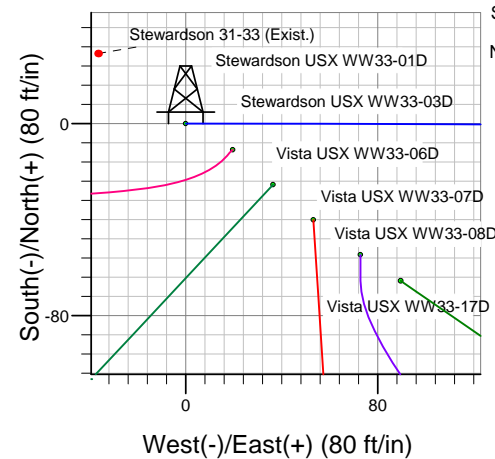
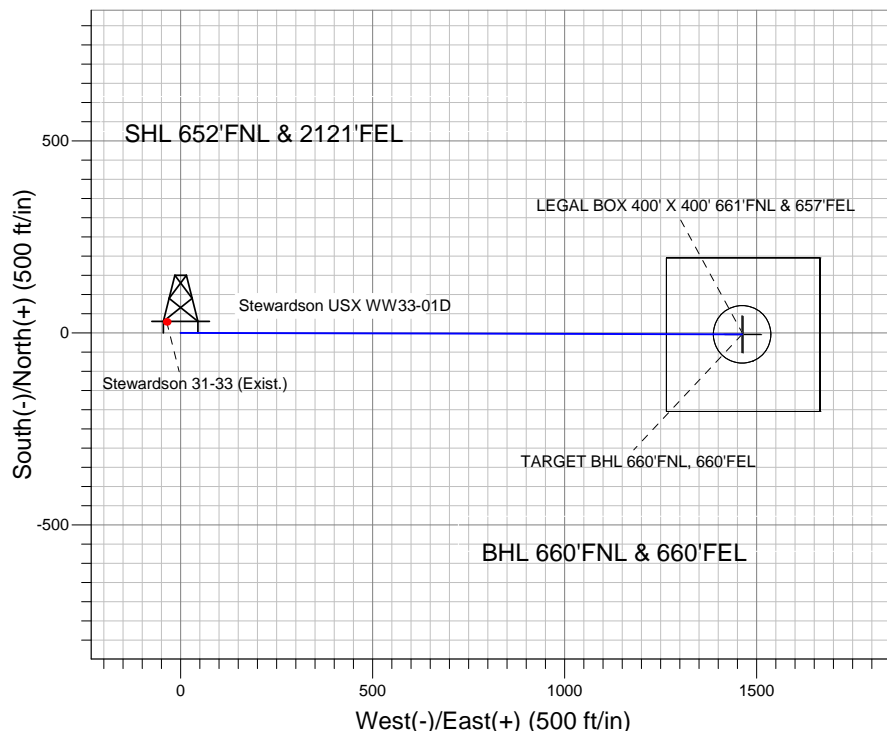
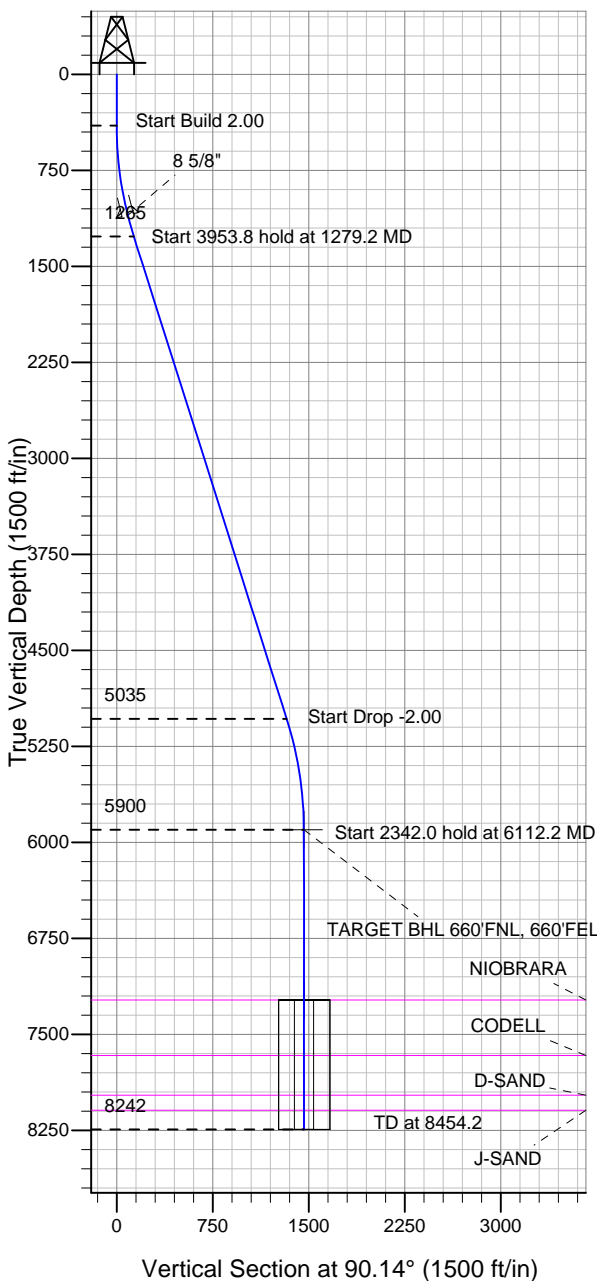
Surface Location: Stewardson USX WW33-01D Pad Sec.33-T1N-R66W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 5072.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1248458.79	3201593.82	40.013160	-104.780270	

Original Well Elev WELL @ 5085.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Stewardson USX WW33-01D Pad Sec.33-T1N-R66W
Stewardson USX WW33-01D
Noble Stewardson USX WW33-01D Plan #1 (6-15-11)
8:08, June 22 2011



Azimuths to True North
Magnetic North: 8.83°

Magnetic Field
Strength: 52921.8snT
Dip Angle: 66.73°
Date: 6/22/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FNL, 660'FEL	5900.0	-3.6	1462.2	40.013150	-104.775050	Point
LEGAL BOX 400' X 400' 661'FNL & 657'FEL	7231.0	-4.6	1465.2	40.013147	-104.775039	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FNL & 660'FEL	7231.0	-3.6	1462.2	40.013150	-104.775050	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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1279.2	17.58	90.14	1265.5	-0.3	133.9	2.00	90.14	133.9	
4	5233.0	17.58	90.14	5034.5	-3.3	1328.3	0.00	0.00	1328.3	
5	6112.2	0.00	0.00	5900.0	-3.6	1462.2	2.00	180.00	1462.2	TARGET BHL 660'FNL, 660'FEL
6	8454.2	0.00	0.00	8242.0	-3.6	1462.2	0.00	0.00	1462.2	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.33-T1N-R66W

Stewardson USX WW33-01D Pad Sec.33-T1N-R66W

Stewardson USX WW33-01D

Wellbore #1

Plan: Noble Stewardson USX WW33-01D Plan #1 (6-15-11)

Standard Planning Report

22 June, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Stewardson USX WW33-01D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 5085.0ft (Original Well Elev)
Project:	SEC.33-T1N-R66W	MD Reference:	WELL @ 5085.0ft (Original Well Elev)
Site:	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	North Reference:	True
Well:	Stewardson USX WW33-01D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Stewardson USX WW33-01D Plan #1 (6		

Project	SEC.33-T1N-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						Stewardson USX WW33-01D Pad Sec.33-T1N-R66W											
Site Position:						Northing:			1,248,458.80ft			Latitude:			40.013160		
From:			Lat/Long			Easting:			3,201,593.82ft			Longitude:			-104.780270		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.47 °		

Well	Stewardson USX WW33-01D					
Well Position	+N/-S	0.0 ft	Northing:	1,248,458.79 ft	Latitude:	40.013160
	+E/-W	0.0 ft	Easting:	3,201,593.82 ft	Longitude:	-104.780270
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,072.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/22/2011	8.84	66.73	52,922

Design	Noble Stewardson USX WW33-01D Plan #1 (6-15-11)			
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	90.14

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,279.2	17.58	90.14	1,265.5	-0.3	133.9	2.00	2.00	0.00	90.14	
5,233.0	17.58	90.14	5,034.5	-3.3	1,328.3	0.00	0.00	0.00	0.00	
6,112.2	0.00	0.00	5,900.0	-3.6	1,462.2	2.00	-2.00	0.00	180.00	TARGET BHL 660'I
8,454.2	0.00	0.00	8,242.0	-3.6	1,462.2	0.00	0.00	0.00	0.00	

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Project:	SEC.33-T1N-R66W	MD Reference:	WELL @ 5085.0ft (Original Well Elev)
Site:	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	North Reference:	True
Well:	Stewardson USX WW33-01D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Stewardson USX WW33-01D Plan #1 (6		

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	0.80	90.14	440.0	0.0	0.3	0.3	2.00	2.00	0.00
480.0	1.60	90.14	480.0	0.0	1.1	1.1	2.00	2.00	0.00
520.0	2.40	90.14	520.0	0.0	2.5	2.5	2.00	2.00	0.00
560.0	3.20	90.14	559.9	0.0	4.5	4.5	2.00	2.00	0.00
600.0	4.00	90.14	599.8	0.0	7.0	7.0	2.00	2.00	0.00
640.0	4.80	90.14	639.7	0.0	10.0	10.0	2.00	2.00	0.00
680.0	5.60	90.14	679.6	0.0	13.7	13.7	2.00	2.00	0.00
720.0	6.40	90.14	719.3	0.0	17.9	17.9	2.00	2.00	0.00
760.0	7.20	90.14	759.1	-0.1	22.6	22.6	2.00	2.00	0.00
800.0	8.00	90.14	798.7	-0.1	27.9	27.9	2.00	2.00	0.00
840.0	8.80	90.14	838.3	-0.1	33.7	33.7	2.00	2.00	0.00
880.0	9.60	90.14	877.8	-0.1	40.1	40.1	2.00	2.00	0.00
920.0	10.40	90.14	917.1	-0.1	47.1	47.1	2.00	2.00	0.00
960.0	11.20	90.14	956.4	-0.1	54.6	54.6	2.00	2.00	0.00
1,000.0	12.00	90.14	995.6	-0.2	62.6	62.6	2.00	2.00	0.00
1,040.0	12.80	90.14	1,034.7	-0.2	71.2	71.2	2.00	2.00	0.00
1,080.0	13.60	90.14	1,073.6	-0.2	80.3	80.3	2.00	2.00	0.00
1,107.2	14.14	90.14	1,100.0	-0.2	86.8	86.8	2.00	2.00	0.00
8 5/8"									
1,120.0	14.40	90.14	1,112.4	-0.2	90.0	90.0	2.00	2.00	0.00
1,160.0	15.20	90.14	1,151.1	-0.2	100.2	100.2	2.00	2.00	0.00
1,200.0	16.00	90.14	1,189.6	-0.3	111.0	111.0	2.00	2.00	0.00
1,240.0	16.80	90.14	1,228.0	-0.3	122.3	122.3	2.00	2.00	0.00
1,279.2	17.58	90.14	1,265.5	-0.3	133.9	133.9	2.00	2.00	0.00
1,280.0	17.58	90.14	1,266.2	-0.3	134.1	134.1	0.00	0.00	0.00
1,320.0	17.58	90.14	1,304.4	-0.4	146.2	146.2	0.00	0.00	0.00
1,360.0	17.58	90.14	1,342.5	-0.4	158.3	158.3	0.00	0.00	0.00
1,400.0	17.58	90.14	1,380.6	-0.4	170.4	170.4	0.00	0.00	0.00
1,440.0	17.58	90.14	1,418.8	-0.4	182.4	182.4	0.00	0.00	0.00
1,480.0	17.58	90.14	1,456.9	-0.5	194.5	194.5	0.00	0.00	0.00
1,520.0	17.58	90.14	1,495.0	-0.5	206.6	206.6	0.00	0.00	0.00
1,560.0	17.58	90.14	1,533.1	-0.5	218.7	218.7	0.00	0.00	0.00
1,600.0	17.58	90.14	1,571.3	-0.6	230.8	230.8	0.00	0.00	0.00
1,640.0	17.58	90.14	1,609.4	-0.6	242.9	242.9	0.00	0.00	0.00
1,680.0	17.58	90.14	1,647.5	-0.6	254.9	254.9	0.00	0.00	0.00
1,720.0	17.58	90.14	1,685.7	-0.7	267.0	267.0	0.00	0.00	0.00
1,760.0	17.58	90.14	1,723.8	-0.7	279.1	279.1	0.00	0.00	0.00
1,800.0	17.58	90.14	1,761.9	-0.7	291.2	291.2	0.00	0.00	0.00
1,840.0	17.58	90.14	1,800.1	-0.7	303.3	303.3	0.00	0.00	0.00
1,880.0	17.58	90.14	1,838.2	-0.8	315.4	315.4	0.00	0.00	0.00
1,920.0	17.58	90.14	1,876.3	-0.8	327.4	327.4	0.00	0.00	0.00
1,960.0	17.58	90.14	1,914.5	-0.8	339.5	339.5	0.00	0.00	0.00

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Project:	SEC.33-T1N-R66W	MD Reference:	WELL @ 5085.0ft (Original Well Elev)
Site:	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	North Reference:	True
Well:	Stewardson USX WW33-01D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Stewardson USX WW33-01D Plan #1 (6		

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	17.58	90.14	1,952.6	-0.9	351.6	351.6	0.00	0.00	0.00
2,040.0	17.58	90.14	1,990.7	-0.9	363.7	363.7	0.00	0.00	0.00
2,080.0	17.58	90.14	2,028.8	-0.9	375.8	375.8	0.00	0.00	0.00
2,120.0	17.58	90.14	2,067.0	-1.0	387.9	387.9	0.00	0.00	0.00
2,160.0	17.58	90.14	2,105.1	-1.0	399.9	400.0	0.00	0.00	0.00
2,200.0	17.58	90.14	2,143.2	-1.0	412.0	412.0	0.00	0.00	0.00
2,240.0	17.58	90.14	2,181.4	-1.0	424.1	424.1	0.00	0.00	0.00
2,280.0	17.58	90.14	2,219.5	-1.1	436.2	436.2	0.00	0.00	0.00
2,320.0	17.58	90.14	2,257.6	-1.1	448.3	448.3	0.00	0.00	0.00
2,360.0	17.58	90.14	2,295.8	-1.1	460.4	460.4	0.00	0.00	0.00
2,400.0	17.58	90.14	2,333.9	-1.2	472.5	472.5	0.00	0.00	0.00
2,440.0	17.58	90.14	2,372.0	-1.2	484.5	484.5	0.00	0.00	0.00
2,480.0	17.58	90.14	2,410.2	-1.2	496.6	496.6	0.00	0.00	0.00
2,520.0	17.58	90.14	2,448.3	-1.2	508.7	508.7	0.00	0.00	0.00
2,560.0	17.58	90.14	2,486.4	-1.3	520.8	520.8	0.00	0.00	0.00
2,600.0	17.58	90.14	2,524.5	-1.3	532.9	532.9	0.00	0.00	0.00
2,640.0	17.58	90.14	2,562.7	-1.3	545.0	545.0	0.00	0.00	0.00
2,680.0	17.58	90.14	2,600.8	-1.4	557.0	557.0	0.00	0.00	0.00
2,720.0	17.58	90.14	2,638.9	-1.4	569.1	569.1	0.00	0.00	0.00
2,760.0	17.58	90.14	2,677.1	-1.4	581.2	581.2	0.00	0.00	0.00
2,800.0	17.58	90.14	2,715.2	-1.5	593.3	593.3	0.00	0.00	0.00
2,840.0	17.58	90.14	2,753.3	-1.5	605.4	605.4	0.00	0.00	0.00
2,880.0	17.58	90.14	2,791.5	-1.5	617.5	617.5	0.00	0.00	0.00
2,920.0	17.58	90.14	2,829.6	-1.5	629.5	629.5	0.00	0.00	0.00
2,960.0	17.58	90.14	2,867.7	-1.6	641.6	641.6	0.00	0.00	0.00
3,000.0	17.58	90.14	2,905.9	-1.6	653.7	653.7	0.00	0.00	0.00
3,040.0	17.58	90.14	2,944.0	-1.6	665.8	665.8	0.00	0.00	0.00
3,080.0	17.58	90.14	2,982.1	-1.7	677.9	677.9	0.00	0.00	0.00
3,120.0	17.58	90.14	3,020.3	-1.7	690.0	690.0	0.00	0.00	0.00
3,160.0	17.58	90.14	3,058.4	-1.7	702.1	702.1	0.00	0.00	0.00
3,200.0	17.58	90.14	3,096.5	-1.8	714.1	714.1	0.00	0.00	0.00
3,240.0	17.58	90.14	3,134.6	-1.8	726.2	726.2	0.00	0.00	0.00
3,280.0	17.58	90.14	3,172.8	-1.8	738.3	738.3	0.00	0.00	0.00
3,320.0	17.58	90.14	3,210.9	-1.8	750.4	750.4	0.00	0.00	0.00
3,360.0	17.58	90.14	3,249.0	-1.9	762.5	762.5	0.00	0.00	0.00
3,400.0	17.58	90.14	3,287.2	-1.9	774.6	774.6	0.00	0.00	0.00
3,440.0	17.58	90.14	3,325.3	-1.9	786.6	786.6	0.00	0.00	0.00
3,480.0	17.58	90.14	3,363.4	-2.0	798.7	798.7	0.00	0.00	0.00
3,520.0	17.58	90.14	3,401.6	-2.0	810.8	810.8	0.00	0.00	0.00
3,560.0	17.58	90.14	3,439.7	-2.0	822.9	822.9	0.00	0.00	0.00
3,600.0	17.58	90.14	3,477.8	-2.1	835.0	835.0	0.00	0.00	0.00
3,640.0	17.58	90.14	3,516.0	-2.1	847.1	847.1	0.00	0.00	0.00
3,680.0	17.58	90.14	3,554.1	-2.1	859.1	859.1	0.00	0.00	0.00
3,720.0	17.58	90.14	3,592.2	-2.1	871.2	871.2	0.00	0.00	0.00
3,760.0	17.58	90.14	3,630.3	-2.2	883.3	883.3	0.00	0.00	0.00
3,800.0	17.58	90.14	3,668.5	-2.2	895.4	895.4	0.00	0.00	0.00
3,840.0	17.58	90.14	3,706.6	-2.2	907.5	907.5	0.00	0.00	0.00
3,880.0	17.58	90.14	3,744.7	-2.3	919.6	919.6	0.00	0.00	0.00
3,920.0	17.58	90.14	3,782.9	-2.3	931.7	931.7	0.00	0.00	0.00
3,960.0	17.58	90.14	3,821.0	-2.3	943.7	943.7	0.00	0.00	0.00
4,000.0	17.58	90.14	3,859.1	-2.3	955.8	955.8	0.00	0.00	0.00
4,040.0	17.58	90.14	3,897.3	-2.4	967.9	967.9	0.00	0.00	0.00
4,080.0	17.58	90.14	3,935.4	-2.4	980.0	980.0	0.00	0.00	0.00

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Project:	SEC.33-T1N-R66W	MD Reference:	WELL @ 5085.0ft (Original Well Elev)
Site:	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	North Reference:	True
Well:	Stewardson USX WW33-01D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Stewardson USX WW33-01D Plan #1 (6		

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)
4,120.0	17.58	90.14	3,973.5	-2.4	992.1	992.1	0.00	0.00	0.00
4,160.0	17.58	90.14	4,011.7	-2.5	1,004.2	1,004.2	0.00	0.00	0.00
4,200.0	17.58	90.14	4,049.8	-2.5	1,016.2	1,016.2	0.00	0.00	0.00
4,240.0	17.58	90.14	4,087.9	-2.5	1,028.3	1,028.3	0.00	0.00	0.00
4,280.0	17.58	90.14	4,126.1	-2.6	1,040.4	1,040.4	0.00	0.00	0.00
4,320.0	17.58	90.14	4,164.2	-2.6	1,052.5	1,052.5	0.00	0.00	0.00
4,360.0	17.58	90.14	4,202.3	-2.6	1,064.6	1,064.6	0.00	0.00	0.00
4,400.0	17.58	90.14	4,240.4	-2.6	1,076.7	1,076.7	0.00	0.00	0.00
4,440.0	17.58	90.14	4,278.6	-2.7	1,088.7	1,088.7	0.00	0.00	0.00
4,480.0	17.58	90.14	4,316.7	-2.7	1,100.8	1,100.8	0.00	0.00	0.00
4,520.0	17.58	90.14	4,354.8	-2.7	1,112.9	1,112.9	0.00	0.00	0.00
4,560.0	17.58	90.14	4,393.0	-2.8	1,125.0	1,125.0	0.00	0.00	0.00
4,600.0	17.58	90.14	4,431.1	-2.8	1,137.1	1,137.1	0.00	0.00	0.00
4,640.0	17.58	90.14	4,469.2	-2.8	1,149.2	1,149.2	0.00	0.00	0.00
4,680.0	17.58	90.14	4,507.4	-2.9	1,161.2	1,161.3	0.00	0.00	0.00
4,720.0	17.58	90.14	4,545.5	-2.9	1,173.3	1,173.3	0.00	0.00	0.00
4,760.0	17.58	90.14	4,583.6	-2.9	1,185.4	1,185.4	0.00	0.00	0.00
4,800.0	17.58	90.14	4,621.8	-2.9	1,197.5	1,197.5	0.00	0.00	0.00
4,840.0	17.58	90.14	4,659.9	-3.0	1,209.6	1,209.6	0.00	0.00	0.00
4,880.0	17.58	90.14	4,698.0	-3.0	1,221.7	1,221.7	0.00	0.00	0.00
4,920.0	17.58	90.14	4,736.1	-3.0	1,233.8	1,233.8	0.00	0.00	0.00
4,960.0	17.58	90.14	4,774.3	-3.1	1,245.8	1,245.8	0.00	0.00	0.00
5,000.0	17.58	90.14	4,812.4	-3.1	1,257.9	1,257.9	0.00	0.00	0.00
5,040.0	17.58	90.14	4,850.5	-3.1	1,270.0	1,270.0	0.00	0.00	0.00
5,080.0	17.58	90.14	4,888.7	-3.1	1,282.1	1,282.1	0.00	0.00	0.00
5,120.0	17.58	90.14	4,926.8	-3.2	1,294.2	1,294.2	0.00	0.00	0.00
5,160.0	17.58	90.14	4,964.9	-3.2	1,306.3	1,306.3	0.00	0.00	0.00
5,200.0	17.58	90.14	5,003.1	-3.2	1,318.3	1,318.3	0.00	0.00	0.00
5,233.0	17.58	90.14	5,034.5	-3.3	1,328.3	1,328.3	0.00	0.00	0.00
5,240.0	17.44	90.14	5,041.2	-3.3	1,330.4	1,330.4	2.00	-2.00	0.00
5,280.0	16.64	90.14	5,079.4	-3.3	1,342.1	1,342.1	2.00	-2.00	0.00
5,320.0	15.84	90.14	5,117.8	-3.3	1,353.3	1,353.3	2.00	-2.00	0.00
5,360.0	15.04	90.14	5,156.4	-3.4	1,364.0	1,364.0	2.00	-2.00	0.00
5,400.0	14.24	90.14	5,195.1	-3.4	1,374.1	1,374.1	2.00	-2.00	0.00
5,440.0	13.44	90.14	5,233.9	-3.4	1,383.7	1,383.7	2.00	-2.00	0.00
5,480.0	12.64	90.14	5,272.9	-3.4	1,392.7	1,392.7	2.00	-2.00	0.00
5,520.0	11.84	90.14	5,312.0	-3.4	1,401.2	1,401.2	2.00	-2.00	0.00
5,560.0	11.04	90.14	5,351.2	-3.5	1,409.1	1,409.1	2.00	-2.00	0.00
5,600.0	10.24	90.14	5,390.5	-3.5	1,416.5	1,416.5	2.00	-2.00	0.00
5,640.0	9.44	90.14	5,429.9	-3.5	1,423.3	1,423.3	2.00	-2.00	0.00
5,680.0	8.64	90.14	5,469.4	-3.5	1,429.6	1,429.6	2.00	-2.00	0.00
5,720.0	7.84	90.14	5,509.0	-3.5	1,435.4	1,435.4	2.00	-2.00	0.00
5,760.0	7.04	90.14	5,548.7	-3.5	1,440.5	1,440.6	2.00	-2.00	0.00
5,800.0	6.24	90.14	5,588.4	-3.5	1,445.2	1,445.2	2.00	-2.00	0.00
5,840.0	5.44	90.14	5,628.2	-3.6	1,449.2	1,449.3	2.00	-2.00	0.00
5,880.0	4.64	90.14	5,668.0	-3.6	1,452.8	1,452.8	2.00	-2.00	0.00
5,920.0	3.84	90.14	5,707.9	-3.6	1,455.7	1,455.7	2.00	-2.00	0.00
5,960.0	3.04	90.14	5,747.9	-3.6	1,458.1	1,458.1	2.00	-2.00	0.00
6,000.0	2.24	90.14	5,787.8	-3.6	1,460.0	1,460.0	2.00	-2.00	0.00
6,040.0	1.44	90.14	5,827.8	-3.6	1,461.3	1,461.3	2.00	-2.00	0.00
6,080.0	0.64	90.14	5,867.8	-3.6	1,462.0	1,462.0	2.00	-2.00	0.00
6,112.2	0.00	0.00	5,900.0	-3.6	1,462.2	1,462.2	2.00	-2.00	0.00
TARGET BHL 660°FNL, 660°FEL									

Database:	Landmark	Local Co-ordinate Reference:	Well Stewardson USX WW33-01D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 5085.0ft (Original Well Elev)
Project:	SEC.33-T1N-R66W	MD Reference:	WELL @ 5085.0ft (Original Well Elev)
Site:	Stewardson USX WW33-01D Pad Sec.33-T1N-R66W	North Reference:	True
Well:	Stewardson USX WW33-01D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Stewardson USX WW33-01D Plan #1 (6		

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)
6,120.0	0.00	0.00	5,907.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,160.0	0.00	0.00	5,947.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,200.0	0.00	0.00	5,987.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,027.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,067.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,107.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,147.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,187.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,227.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,267.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,307.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,347.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,387.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,427.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,467.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,507.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,547.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,587.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,627.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,667.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,707.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,747.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,787.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,827.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,867.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,907.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,160.0	0.00	0.00	6,947.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,200.0	0.00	0.00	6,987.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,027.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,067.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,107.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,147.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,187.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,227.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,443.2	0.00	0.00	7,231.0	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
NIORARA - LEGAL BOX 400' X 400' 661'FNL & 657'FEL - TARGET CIRCLE 660'FNL & 660'FEL									
7,480.0	0.00	0.00	7,267.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,307.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,347.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,387.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,640.0	0.00	0.00	7,427.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,680.0	0.00	0.00	7,467.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,720.0	0.00	0.00	7,507.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,760.0	0.00	0.00	7,547.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,587.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,840.0	0.00	0.00	7,627.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,876.2	0.00	0.00	7,664.0	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
CODELL									
7,880.0	0.00	0.00	7,667.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,920.0	0.00	0.00	7,707.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
7,960.0	0.00	0.00	7,747.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,787.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,040.0	0.00	0.00	7,827.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Stewardson USX WW33-01D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 5085.0ft (Original Well Elev)
Project:	SEC.33-T1N-R66W	MD Reference:	WELL @ 5085.0ft (Original Well Elev)
Site:	Stewardson USX WW33-01D Pad	North Reference:	True
	Sec.33-T1N-R66W		
Well:	Stewardson USX WW33-01D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Stewardson USX WW33-01D Plan #1 (6		

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)
8,080.0	0.00	0.00	7,867.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,120.0	0.00	0.00	7,907.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,160.0	0.00	0.00	7,947.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,187.2	0.00	0.00	7,975.0	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
D-SAND									
8,200.0	0.00	0.00	7,987.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,240.0	0.00	0.00	8,027.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,280.0	0.00	0.00	8,067.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,304.2	0.00	0.00	8,092.0	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
J-SAND									
8,320.0	0.00	0.00	8,107.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,360.0	0.00	0.00	8,147.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,187.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,440.0	0.00	0.00	8,227.8	-3.6	1,462.2	1,462.2	0.00	0.00	0.00
8,454.2	0.00	0.00	8,242.0	-3.6	1,462.2	1,462.2	0.00	0.00	0.00

Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LEGAL BOX 400' X 400'	- plan misses target center by 3.2ft at 7443.2ft MD (7231.0 TVD, -3.6 N, 1462.2 E)	0.00	0.00	7,231.0	-4.6	1,465.2	1,248,466.09	3,203,058.96	40.013147	-104.775039
	- Rectangle (sides W400.0 H400.0 D1,011.0)									
TARGET CIRCLE 66'	- plan hits target center	0.00	0.00	7,231.0	-3.6	1,462.2	1,248,467.07	3,203,055.92	40.013150	-104.775050
	- Circle (radius 75.0)									
TARGET BHL 660'FN	- plan hits target center	0.00	0.00	5,900.0	-3.6	1,462.2	1,248,467.07	3,203,055.92	40.013150	-104.775050
	- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,107.2	1,100.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,443.2	7,231.0	NIOBRARA		0.00	
7,876.2	7,664.0	CODELL		0.00	
8,187.2	7,975.0	D-SAND		0.00	
8,304.2	8,092.0	J-SAND		0.00	