

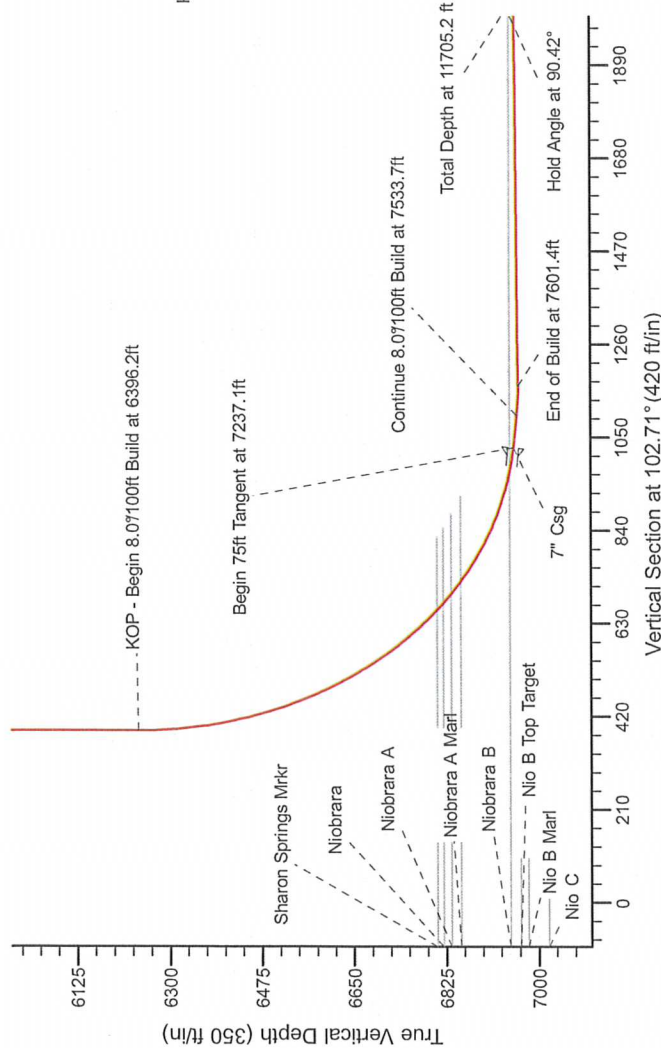
# Noble Energy

**HALIBURTON**  
Sperry Drilling

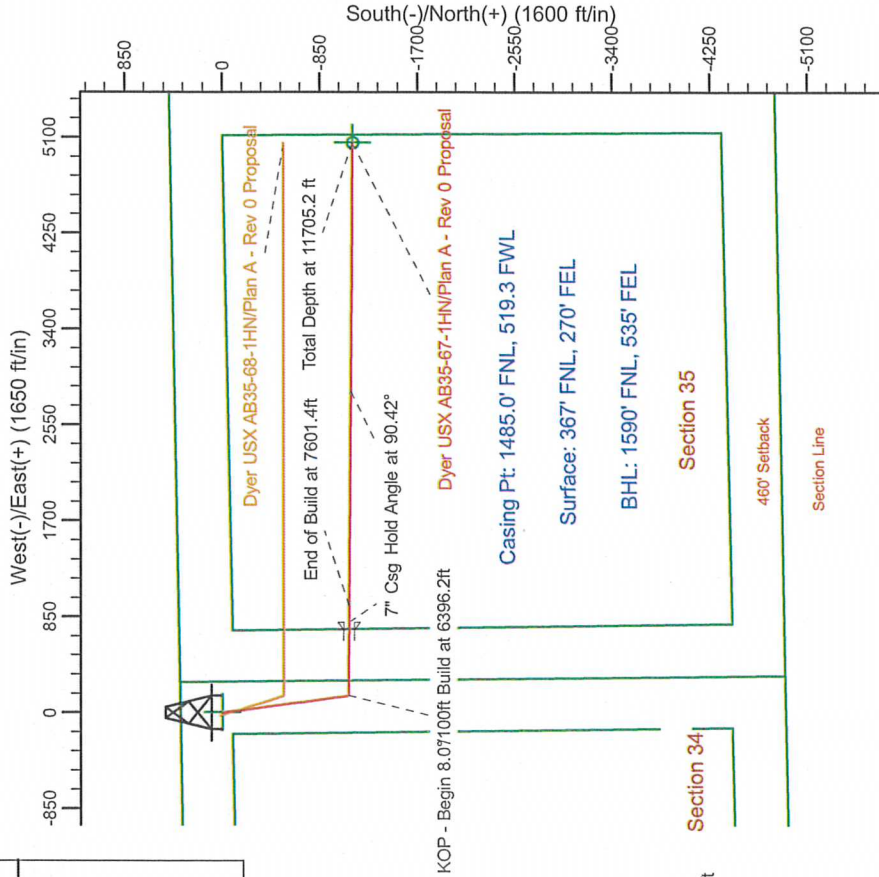
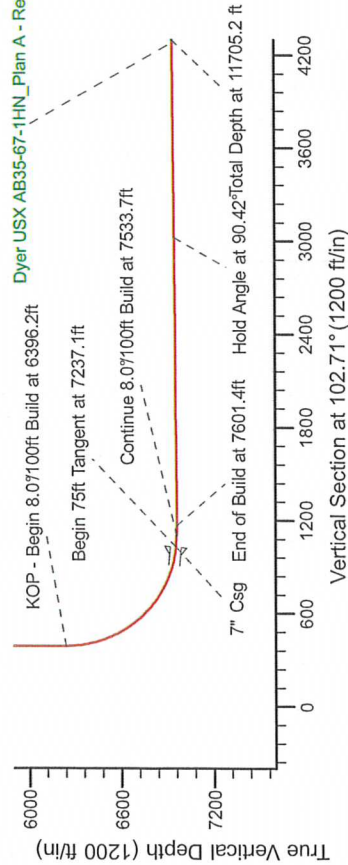
Project: Weld County Colorado (NAD 83)  
Site: Sec 34, T7N, R64W  
Well: Dyer USX AB35-67-1HN  
Wellbore: Plan A - Rev 0 (PERMITTING PLAN ONLY)  
Design: Plan A - Rev 0 Proposal

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sect	Target
1	0.0	0.00	0.00	0.00	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	1880.1	17.00	172.23	1870.2	-99.3	13.5	2.50	172.23	35.0	
4	4991.6	17.00	172.23	4845.6	-1000.7	136.5	0.00	0.00	353.3	
5	5671.7	0.00	0.00	5515.8	-1100.0	150.0	2.50	180.00	388.4	
6	6396.2	0.00	0.00	6240.3	-1100.0	150.0	0.00	0.00	388.4	
7	7458.7	85.00	90.46	6953.8	-1105.2	803.8	8.00	90.46	1027.3	
8	7533.7	85.00	90.46	6960.3	-1105.2	878.5	0.00	0.00	1100.3	
9	7601.4	90.42	90.46	6963.0	-1106.4	946.1	8.00	0.00	1166.4	
10	11705.2	90.42	90.45	6933.0	-1139.2	5049.7	0.00	-115.55	5176.6	Dyer USX AB35-67-1HN_Plan A - Rev 0_BHL Tgt-



## Dyer USX AB35-67-1HN\_Plan A - Rev 0\_BHL Tgt



WELL DETAILS: Dyer USX AB35-67-1HN(NAD83 Geodetic System)

Northing: 438788.14  
Easting: 996771.56  
Ground Level: 4872.0  
Latitude: 40° 32' 9.636 N  
Longitude: 104° 31' 39.792 W

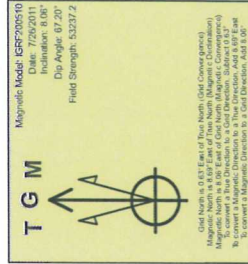
Plan: Plan A - Rev 0 Proposal (Dyer USX AB35-67-1HN\_Plan A - Rev 0 (PERMITTING PLAN ONLY))

Created By: Erasmo Mendoza  
Date: 15:34, July 26 2011

Checked: \_\_\_\_\_  
Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_  
Date: \_\_\_\_\_

Approved: \_\_\_\_\_  
Date: \_\_\_\_\_



# **Noble Energy**

**Weld County Colorado (NAD 83)**

**Sec.34, T7N, R64W**

**Dyer USX AB35-67-1HN**

**Plan A - Rev 0 (PERMITTING PLAN ONLY)**

**Plan: Plan A - Rev 0 Proposal**

## **Standard Planning Report**

**26 July, 2011**

# Halliburton Company

## Planning Report

<b>Database:</b>	Noble Single User Db	<b>Local Co-ordinate Reference:</b>	Well Dyer USX AB35-67-1HN
<b>Company:</b>	Noble Energy	<b>TVD Reference:</b>	WELL @ 4896.0ft (Original Well Elev)
<b>Project:</b>	Weld County Colorado (NAD 83)	<b>MD Reference:</b>	WELL @ 4896.0ft (Original Well Elev)
<b>Site:</b>	Sec.34, T7N, R64W	<b>North Reference:</b>	Grid
<b>Well:</b>	Dyer USX AB35-67-1HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A - Rev 0 (PERMITTING PLAN ONLY)		
<b>Design:</b>	Plan A - Rev 0 Proposal		

<b>Project</b>	Weld County Colorado (NAD 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Sec.34, T7N, R64W				
Site Position:		Northing:	438,788.14 m	Latitude:	40° 32' 9.636 N
From:	Lat/Long	Easting:	996,771.56 m	Longitude:	104° 31' 39.792 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.63 °

Well	Dyer USX AB35-67-1HN					
Well Position	+N/-S	0.0 ft	Northing:	438,788.13 m	Latitude:	40° 32' 9.636 N
	+E/-W	0.0 ft	Easting:	996,771.56 m	Longitude:	104° 31' 39.792 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,872.0 ft

<b>Wellbore</b>	Plan A - Rev 0 (PERMITTING PLAN ONLY)				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	7/26/2011	8.69	67.20	53,237

<b>Design</b>	Plan A - Rev 0 Proposal			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	102.71

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	
1,880.1	17.00	172.23	1,870.2	-99.3	13.5	2.50	2.50	0.00	172.23	
4,991.6	17.00	172.23	4,845.6	-1,000.7	136.5	0.00	0.00	0.00	0.00	
5,671.7	0.00	0.00	5,515.8	-1,100.0	150.0	2.50	-2.50	0.00	180.00	
6,396.2	0.00	0.00	6,240.3	-1,100.0	150.0	0.00	0.00	0.00	0.00	
7,458.7	85.00	90.46	6,953.8	-1,105.2	803.8	8.00	8.00	0.00	90.46	
7,533.7	85.00	90.46	6,960.3	-1,105.8	878.5	0.00	0.00	0.00	0.00	
7,601.4	90.42	90.46	6,963.0	-1,106.4	946.1	8.00	8.00	0.00	0.00	
11,705.2	90.42	90.45	6,933.0	-1,139.2	5,049.7	0.00	0.00	0.00	-115.55	Dyer USX AB35-67-1



# Halliburton Company

## Planning Report

**Database:** Noble Single User Db  
**Company:** Noble Energy  
**Project:** Weld County Colorado (NAD 83)  
**Site:** Sec.34, T7N, R64W  
**Well:** Dyer USX AB35-67-1HN  
**Wellbore:** Plan A - Rev 0 (PERMITTING PLAN ONLY)  
**Design:** Plan A - Rev 0 Proposal

**Local Co-ordinate Reference:** Well Dyer USX AB35-67-1HN  
**TVD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**North Reference:** Grid  
**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
100.0	0.00	0.00	100.0	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
300.0	0.00	0.00	300.0	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
500.0	0.00	0.00	500.0	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
700.0	0.00	0.00	700.0	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
900.0	0.00	0.00	900.0	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
1,100.0	0.00	0.00	1,100.0	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
Begin 2.5°/100ft Nudge to 17° Inclination at 1200ft									
1,300.0	2.50	172.23	1,300.0	-2.2	0.3	0.8	2.50	2.50	0.00
1,400.0	5.00	172.23	1,399.7	-8.6	1.2	3.1	2.50	2.50	0.00
1,500.0	7.50	172.23	1,499.1	-19.4	2.6	6.9	2.50	2.50	0.00
1,600.0	10.00	172.23	1,598.0	-34.5	4.7	12.2	2.50	2.50	0.00
1,700.0	12.50	172.23	1,696.0	-53.8	7.3	19.0	2.50	2.50	0.00
1,800.0	15.00	172.23	1,793.2	-77.4	10.6	27.3	2.50	2.50	0.00
1,880.1	17.00	172.23	1,870.2	-99.3	13.5	35.0	2.50	2.50	0.00
Begin 3111.5ft Tangent at 4991.6ft									
1,900.0	17.00	172.23	1,889.2	-105.0	14.3	37.1	0.00	0.00	0.00
2,000.0	17.00	172.23	1,984.8	-134.0	18.3	47.3	0.00	0.00	0.00
2,100.0	17.00	172.23	2,080.5	-163.0	22.2	57.5	0.00	0.00	0.00
2,200.0	17.00	172.23	2,176.1	-191.9	26.2	67.8	0.00	0.00	0.00
2,300.0	17.00	172.23	2,271.7	-220.9	30.1	78.0	0.00	0.00	0.00
2,400.0	17.00	172.23	2,367.3	-249.9	34.1	88.2	0.00	0.00	0.00
2,500.0	17.00	172.23	2,463.0	-278.9	38.0	98.5	0.00	0.00	0.00
2,600.0	17.00	172.23	2,558.6	-307.8	42.0	108.7	0.00	0.00	0.00
2,700.0	17.00	172.23	2,654.2	-336.8	45.9	118.9	0.00	0.00	0.00
2,800.0	17.00	172.23	2,749.9	-365.8	49.9	129.1	0.00	0.00	0.00
2,900.0	17.00	172.23	2,845.5	-394.8	53.8	139.4	0.00	0.00	0.00
3,000.0	17.00	172.23	2,941.1	-423.7	57.8	149.6	0.00	0.00	0.00
3,100.0	17.00	172.23	3,036.7	-452.7	61.7	159.8	0.00	0.00	0.00
3,200.0	17.00	172.23	3,132.4	-481.7	65.7	170.1	0.00	0.00	0.00
3,300.0	17.00	172.23	3,228.0	-510.6	69.6	180.3	0.00	0.00	0.00
3,400.0	17.00	172.23	3,323.6	-539.6	73.6	190.5	0.00	0.00	0.00
3,500.0	17.00	172.23	3,419.3	-568.6	77.5	200.8	0.00	0.00	0.00
3,600.0	17.00	172.23	3,514.9	-597.6	81.5	211.0	0.00	0.00	0.00
3,700.0	17.00	172.23	3,610.5	-626.5	85.4	221.2	0.00	0.00	0.00
3,800.0	17.00	172.23	3,706.1	-655.5	89.4	231.4	0.00	0.00	0.00
3,900.0	17.00	172.23	3,801.8	-684.5	93.3	241.7	0.00	0.00	0.00
4,000.0	17.00	172.23	3,897.4	-713.5	97.3	251.9	0.00	0.00	0.00
4,100.0	17.00	172.23	3,993.0	-742.4	101.2	262.1	0.00	0.00	0.00
4,200.0	17.00	172.23	4,088.7	-771.4	105.2	272.4	0.00	0.00	0.00
4,300.0	17.00	172.23	4,184.3	-800.4	109.1	282.6	0.00	0.00	0.00
4,400.0	17.00	172.23	4,279.9	-829.3	113.1	292.8	0.00	0.00	0.00
4,500.0	17.00	172.23	4,375.6	-858.3	117.0	303.1	0.00	0.00	0.00
4,600.0	17.00	172.23	4,471.2	-887.3	121.0	313.3	0.00	0.00	0.00
4,700.0	17.00	172.23	4,566.8	-916.3	124.9	323.5	0.00	0.00	0.00
4,800.0	17.00	172.23	4,662.4	-945.2	128.9	333.7	0.00	0.00	0.00
4,900.0	17.00	172.23	4,758.1	-974.2	132.8	344.0	0.00	0.00	0.00
4,991.6	17.00	172.23	4,845.7	-1,000.8	136.5	353.3	0.00	0.00	0.00

# Halliburton Company

## Planning Report

Database: Noble Single User Db  
 Company: Noble Energy  
 Project: Weld County Colorado (NAD 83)  
 Site: Sec.34, T7N, R64W  
 Well: Dyer USX AB35-67-1HN  
 Wellbore: Plan A - Rev 0 (PERMITTING PLAN ONLY)  
 Design: Plan A - Rev 0 Proposal

Local Co-ordinate Reference: Well Dyer USX AB35-67-1HN  
 TVD Reference: WELL @ 4896.0ft (Original Well Elev)  
 MD Reference: WELL @ 4896.0ft (Original Well Elev)  
 North Reference: Grid  
 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)
<b>Begin 2.5/100ft Drop to Vertical at 4991.6ft</b>									
5,000.0	16.79	172.23	4,853.7	-1,003.2	136.8	354.2	2.51	-2.51	0.00
5,100.0	14.29	172.23	4,950.0	-1,029.7	140.4	363.6	2.50	-2.50	0.00
5,200.0	11.79	172.23	5,047.5	-1,052.1	143.5	371.5	2.50	-2.50	0.00
5,300.0	9.29	172.23	5,145.8	-1,070.2	145.9	377.9	2.50	-2.50	0.00
5,400.0	6.79	172.23	5,244.8	-1,084.1	147.8	382.8	2.50	-2.50	0.00
5,500.0	4.29	172.23	5,344.3	-1,093.6	149.1	386.1	2.50	-2.50	0.00
5,600.0	1.79	172.23	5,444.1	-1,098.9	149.8	388.0	2.50	-2.50	0.00
5,671.7	0.00	0.00	5,515.8	-1,100.0	150.0	388.4	2.50	-2.50	0.00
<b>End of Drop at 5671.7ft</b>									
5,700.0	0.00	0.00	5,544.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,644.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
5,900.0	0.00	0.00	5,744.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,844.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
6,100.0	0.00	0.00	5,944.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
6,200.0	0.00	0.00	6,044.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
6,300.0	0.00	0.00	6,144.1	-1,100.0	150.0	388.4	0.00	0.00	0.00
6,396.2	0.00	0.00	6,240.3	-1,100.0	150.0	388.4	0.00	0.00	0.00
<b>KOP - Begin 8.0°/100ft Build at 6396.2ft</b>									
6,400.0	0.30	90.46	6,244.1	-1,100.0	150.0	388.4	8.00	8.00	0.00
6,500.0	8.30	90.46	6,343.8	-1,100.1	157.5	395.7	8.00	8.00	0.00
6,600.0	16.30	90.46	6,441.4	-1,100.2	178.8	416.5	8.00	8.00	0.00
6,700.0	24.30	90.46	6,535.1	-1,100.5	213.5	450.4	8.00	8.00	0.00
6,800.0	32.30	90.46	6,623.1	-1,100.9	260.8	496.7	8.00	8.00	0.00
6,900.0	40.30	90.46	6,703.6	-1,101.4	320.0	554.5	8.00	8.00	0.00
7,000.0	48.30	90.46	6,775.1	-1,101.9	389.8	622.7	8.00	8.00	0.00
7,051.6	52.43	90.46	6,808.0	-1,102.2	429.5	661.5	8.00	8.00	0.00
<b>Sharon Springs Mrkr</b>									
7,071.6	54.03	90.46	6,820.0	-1,102.4	445.6	677.2	8.00	8.00	0.00
<b>Niobrara</b>									
7,097.8	56.13	90.46	6,835.0	-1,102.5	467.1	698.2	8.00	8.00	0.00
<b>Niobrara A</b>									
7,100.0	56.30	90.46	6,836.2	-1,102.6	468.9	700.0	8.00	8.00	0.00
7,131.3	58.81	90.46	6,853.0	-1,102.8	495.3	725.8	8.00	8.00	0.00
<b>Niobrara A Marl</b>									
7,200.0	64.30	90.46	6,885.7	-1,103.3	555.6	784.8	8.00	8.00	0.00
7,300.0	72.30	90.46	6,922.6	-1,104.0	648.5	875.5	8.00	8.00	0.00
7,400.0	80.30	90.46	6,946.3	-1,104.8	745.6	970.4	8.00	8.00	0.00
7,404.3	80.65	90.46	6,947.0	-1,104.8	749.8	974.5	8.00	8.00	0.00
<b>Niobrara B</b>									
7,458.7	85.00	90.46	6,953.8	-1,105.2	803.8	1,027.3	8.00	8.00	0.00
<b>Begin 75ft Tangent at 7458.7ft - 7" Csg</b>									
7,500.0	85.00	90.46	6,957.4	-1,105.6	844.9	1,067.5	0.00	0.00	0.00
7,533.7	85.00	90.46	6,960.3	-1,105.8	878.5	1,100.3	0.00	0.00	0.00
<b>Continue 8.0°/100ft Build at 7533.7ft</b>									
7,600.0	90.30	90.46	6,963.1	-1,106.4	944.7	1,165.0	8.00	8.00	0.00
7,601.4	90.42	90.46	6,963.0	-1,106.4	946.1	1,166.4	8.00	8.00	0.00
<b>End of Build at 7601.4ft</b>									
7,700.0	90.42	90.46	6,962.3	-1,107.2	1,044.7	1,262.7	0.00	0.00	0.00
7,800.0	90.42	90.46	6,961.6	-1,108.0	1,144.7	1,360.4	0.00	0.00	0.00
7,900.0	90.42	90.46	6,960.9	-1,108.8	1,244.7	1,458.2	0.00	0.00	0.00
8,000.0	90.42	90.46	6,960.1	-1,109.6	1,344.7	1,555.9	0.00	0.00	0.00
8,100.0	90.42	90.46	6,959.4	-1,110.4	1,444.7	1,653.6	0.00	0.00	0.00



# Halliburton Company

## Planning Report

**Database:** Noble Single User Db  
**Company:** Noble Energy  
**Project:** Weld County Colorado (NAD 83)  
**Site:** Sec.34, T7N, R64W  
**Well:** Dyer USX AB35-67-1HN  
**Wellbore:** Plan A - Rev 0 (PERMITTING PLAN ONLY)  
**Design:** Plan A - Rev 0 Proposal

**Local Co-ordinate Reference:** Well Dyer USX AB35-67-1HN  
**TVD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**North Reference:** Grid  
**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)
8,200.0	90.42	90.46	6,958.7	-1,111.2	1,544.7	1,751.3	0.00	0.00	0.00
8,300.0	90.42	90.46	6,957.9	-1,112.0	1,644.6	1,849.0	0.00	0.00	0.00
8,400.0	90.42	90.46	6,957.2	-1,112.8	1,744.6	1,946.8	0.00	0.00	0.00
8,500.0	90.42	90.46	6,956.5	-1,113.6	1,844.6	2,044.5	0.00	0.00	0.00
8,600.0	90.42	90.46	6,955.7	-1,114.4	1,944.6	2,142.2	0.00	0.00	0.00
8,700.0	90.42	90.46	6,955.0	-1,115.2	2,044.6	2,239.9	0.00	0.00	0.00
8,800.0	90.42	90.46	6,954.3	-1,116.0	2,144.6	2,337.6	0.00	0.00	0.00
8,900.0	90.42	90.46	6,953.5	-1,116.8	2,244.6	2,435.3	0.00	0.00	0.00
9,000.0	90.42	90.46	6,952.8	-1,117.6	2,344.6	2,533.1	0.00	0.00	0.00
9,100.0	90.42	90.46	6,952.1	-1,118.4	2,444.6	2,630.8	0.00	0.00	0.00
9,200.0	90.42	90.46	6,951.3	-1,119.2	2,544.6	2,728.5	0.00	0.00	0.00
9,300.0	90.42	90.46	6,950.6	-1,120.0	2,644.6	2,826.2	0.00	0.00	0.00
9,400.0	90.42	90.46	6,949.9	-1,120.8	2,744.6	2,923.9	0.00	0.00	0.00
9,500.0	90.42	90.46	6,949.1	-1,121.6	2,844.6	3,021.7	0.00	0.00	0.00
Hold Angle at 90.42°									
9,600.0	90.42	90.46	6,948.4	-1,122.4	2,944.6	3,119.4	0.00	0.00	0.00
9,700.0	90.42	90.46	6,947.7	-1,123.2	3,044.6	3,217.1	0.00	0.00	0.00
9,800.0	90.42	90.46	6,947.0	-1,124.0	3,144.6	3,314.8	0.00	0.00	0.00
9,900.0	90.42	90.46	6,946.2	-1,124.8	3,244.6	3,412.5	0.00	0.00	0.00
10,000.0	90.42	90.46	6,945.5	-1,125.6	3,344.5	3,510.3	0.00	0.00	0.00
10,100.0	90.42	90.46	6,944.8	-1,126.4	3,444.5	3,608.0	0.00	0.00	0.00
10,200.0	90.42	90.46	6,944.0	-1,127.2	3,544.5	3,705.7	0.00	0.00	0.00
10,300.0	90.42	90.46	6,943.3	-1,128.0	3,644.5	3,803.4	0.00	0.00	0.00
10,400.0	90.42	90.46	6,942.6	-1,128.8	3,744.5	3,901.1	0.00	0.00	0.00
10,500.0	90.42	90.46	6,941.8	-1,129.6	3,844.5	3,998.8	0.00	0.00	0.00
10,600.0	90.42	90.46	6,941.1	-1,130.4	3,944.5	4,096.6	0.00	0.00	0.00
10,700.0	90.42	90.46	6,940.4	-1,131.2	4,044.5	4,194.3	0.00	0.00	0.00
10,800.0	90.42	90.46	6,939.7	-1,132.0	4,144.5	4,292.0	0.00	0.00	0.00
10,900.0	90.42	90.46	6,938.9	-1,132.8	4,244.5	4,389.7	0.00	0.00	0.00
11,000.0	90.42	90.46	6,938.2	-1,133.5	4,344.5	4,487.4	0.00	0.00	0.00
11,100.0	90.42	90.46	6,937.5	-1,134.3	4,444.5	4,585.2	0.00	0.00	0.00
11,200.0	90.42	90.46	6,936.7	-1,135.1	4,544.5	4,682.9	0.00	0.00	0.00
11,300.0	90.42	90.46	6,936.0	-1,135.9	4,644.5	4,780.6	0.00	0.00	0.00
11,400.0	90.42	90.46	6,935.3	-1,136.7	4,744.5	4,878.3	0.00	0.00	0.00
11,500.0	90.42	90.46	6,934.5	-1,137.5	4,844.5	4,976.0	0.00	0.00	0.00
11,600.0	90.42	90.45	6,933.8	-1,138.3	4,944.5	5,073.7	0.00	0.00	0.00
11,700.0	90.42	90.45	6,933.1	-1,139.1	5,044.4	5,171.5	0.00	0.00	0.00
11,705.2	90.42	90.45	6,933.1	-1,139.2	5,049.6	5,176.5	0.00	0.00	0.00
Total Depth at 11705.2 ft									

# Halliburton Company

## Planning Report

**Database:** Noble Single User Db  
**Company:** Noble Energy  
**Project:** Weld County Colorado (NAD 83)  
**Site:** Sec.34, T7N, R64W  
**Well:** Dyer USX AB35-67-1HN  
**Wellbore:** Plan A - Rev 0 (PERMITTING PLAN ONLY)  
**Design:** Plan A - Rev 0 Proposal

**Local Co-ordinate Reference:** Well Dyer USX AB35-67-1HN  
**TVD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

### Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (m)	Easting (m)	Latitude	Longitude
Dyer USX AB35-67-1HN - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	438,788.14	996,771.56	40° 32' 9.636 N	104° 31' 39.792 W
Point 1			0.0	-4,444.1	786.2	437,433.62	997,011.19		
Point 2			0.0	-89.1	725.6	438,760.98	996,992.72		
Point 3			0.0	-1.1	5,113.9	438,787.80	998,330.23		
Point 4			0.0	-4,360.1	5,145.2	437,459.22	998,339.77		
Point 5			0.0	-4,444.1	786.2	437,433.62	997,011.19		
Dyer USX AB35-67-1HN - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	438,788.14	996,771.56	40° 32' 9.636 N	104° 31' 39.792 W
Point 1			0.0	-4,530.5	-4,484.3	437,407.28	995,404.79		
Point 2			0.0	-172.3	-4,580.0	438,735.62	995,375.62		
Point 3			0.0	-89.1	-194.4	438,760.98	996,712.31		
Point 4			0.0	-4,444.1	-133.8	437,433.62	996,730.78		
Point 5			0.0	-4,530.5	-4,484.3	437,407.28	995,404.79		
Dyer USX AB35-67-1HN - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	438,788.14	996,771.56	40° 32' 9.636 N	104° 31' 39.792 W
Point 1			0.0	-4,990.5	-4,944.3	437,267.08	995,264.58		
Point 2			0.0	287.7	-5,040.0	438,875.83	995,235.42		
Point 3			0.0	370.9	265.6	438,901.18	996,852.51		
Point 4			0.0	-4,904.1	326.2	437,293.41	996,870.98		
Point 5			0.0	-4,990.5	-4,944.3	437,267.08	995,264.58		
Dyer USX AB35-67-1HN - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	438,788.14	996,771.56	40° 32' 9.636 N	104° 31' 39.792 W
Point 1			0.0	-4,904.1	326.2	437,293.41	996,870.98		
Point 2			0.0	370.9	265.6	438,901.18	996,852.51		
Point 3			0.0	458.9	5,573.9	438,928.01	998,470.43		
Point 4			0.0	-4,820.1	5,605.2	437,319.02	998,479.97		
Point 5			0.0	-4,904.1	326.2	437,293.41	996,870.98		
Dyer USX AB35-67-1HN - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,933.0	-1,139.2	5,049.7	438,440.93	998,310.66	40° 31' 57.828 N	104° 30' 34.560 W

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
7,458.7	6,953.8	7" Csg	7.000	7.500

# Halliburton Company

## Planning Report

<b>Database:</b>	Noble Single User Db	<b>Local Co-ordinate Reference:</b>	Well Dyer USX AB35-67-1HN
<b>Company:</b>	Noble Energy	<b>TVD Reference:</b>	WELL @ 4896.0ft (Original Well Elev)
<b>Project:</b>	Weld County Colorado (NAD 83)	<b>MD Reference:</b>	WELL @ 4896.0ft (Original Well Elev)
<b>Site:</b>	Sec.34, T7N, R64W	<b>North Reference:</b>	Grid
<b>Well:</b>	Dyer USX AB35-67-1HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A - Rev 0 (PERMITTING PLAN ONLY)		
<b>Design:</b>	Plan A - Rev 0 Proposal		

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,051.6	6,808.0	Sharon Springs Mrkr			
7,071.6	6,820.0	Niobrara			
7,097.8	6,835.0	Niobrara A			
7,131.3	6,853.0	Niobrara A Marl			
7,404.3	6,947.0	Niobrara B			

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,200.0	1,200.0	0.0	0.0	Begin 2.5°/100ft Nudge to 17° Inclination at 1200ft
1,880.1	1,870.2	-99.3	13.5	Begin 3111.5ft Tangent at 4991.6ft
4,991.6	4,845.7	-1,000.8	136.5	Begin 2.5/100ft Drop to Vertical at 4991.6ft
5,671.7	5,515.8	-1,100.0	150.0	End of Drop at 5671.7ft
6,396.2	6,240.3	-1,100.0	150.0	KOP - Begin 8.0°/100ft Build at 6396.2ft
7,458.7	6,953.8	-1,105.2	803.8	Begin 75ft Tangent at 7458.7ft
7,533.7	6,960.3	-1,105.8	878.5	Continue 8.0°/100ft Build at 7533.7ft
7,601.4	6,963.0	-1,106.4	946.1	End of Build at 7601.4ft
9,500.0	6,949.1	-1,121.6	2,844.6	Hold Angle at 90.42°
11,705.2	6,933.1	-1,139.2	5,049.6	Total Depth at 11705.2 ft