

ENSIGN

Directional

Well Name: Schneider USX II31-11D

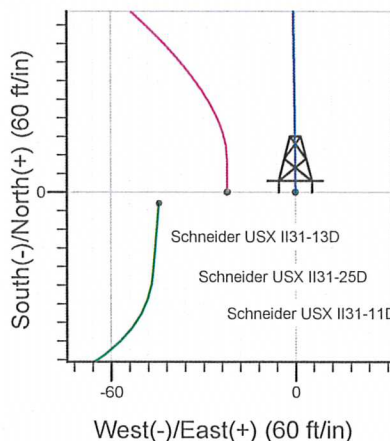
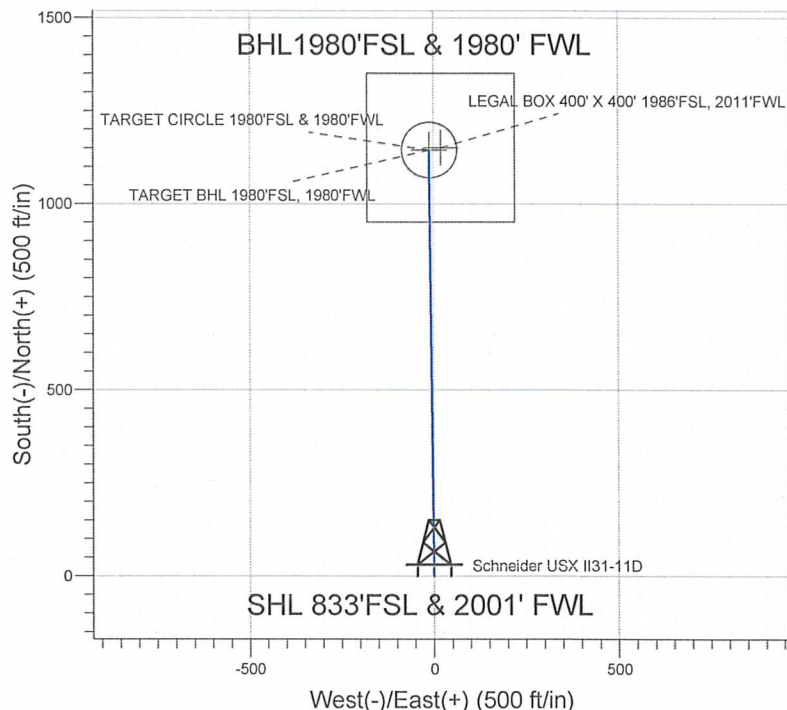
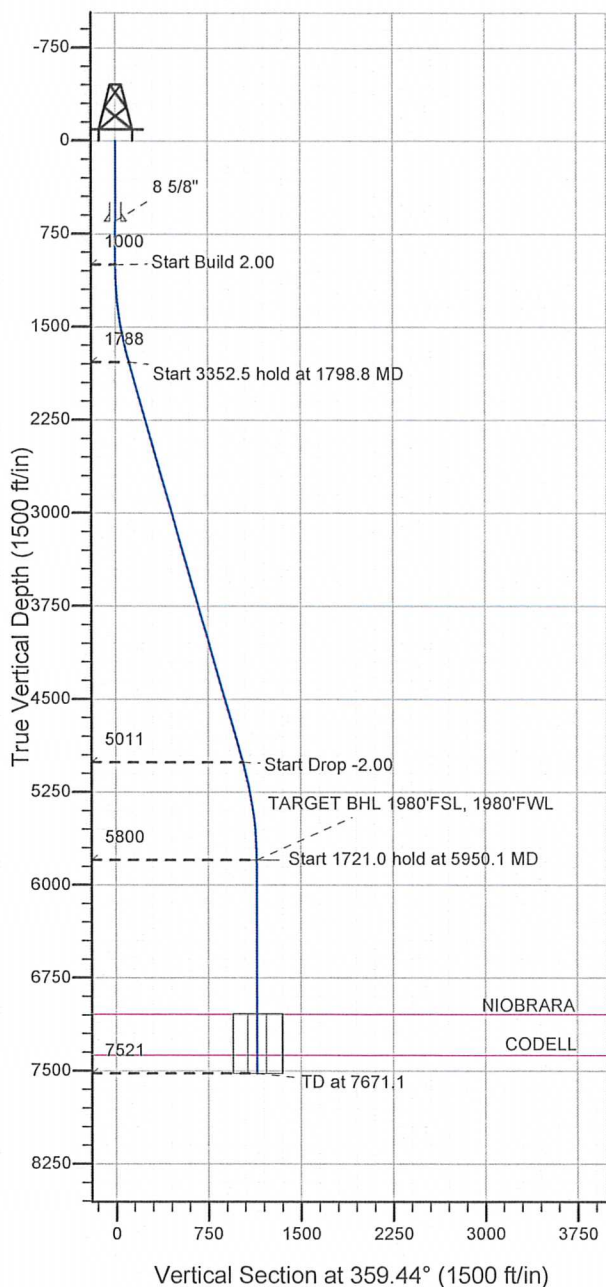
Surface Location: Schneider USX II31-13D Pad Sec.31-T7N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4906.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1435111.09	3187646.55	40.525820	-104.824990	

Original Well Elev WELL @ 4919.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Schneider USX II31-11D
Noble Schneider USX II31-11D Plan #1 (8-10-11)
12:34, August 23 2011
Schneider USX II31-13D Pad Sec.31-T7N-R66W



Azimuths to True North
Magnetic North: 8.89°

Magnetic Field
Strength: 53174.0snT
Dip Angle: 67.14°
Date: 8/10/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1980'FSL, 1980'FWL	5800.0	1144.0	-11.1	40.528960	-104.825030	Point
LEGAL BOX 400' X 400' 1986'FSL, 2011'FWL	7040.0	1150.0	19.9	40.528977	-104.824918	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 1980'FSL & 1980'FWL	7040.0	1144.0	-11.1	40.528960	-104.825030	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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1798.8	15.98	359.44	1788.5	110.6	-1.1	2.00	359.44	110.6	
4	5151.3	15.98	359.44	5011.5	1033.3	-10.0	0.00	0.00	1033.4	
5	5950.1	0.00	0.00	5800.0	1144.0	-11.1	2.00	180.00	1144.0	TARGET BHL 1980'FSL, 1980'FWL
6	7671.1	0.00	0.00	7521.0	1144.0	-11.1	0.00	0.00	1144.0	



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.31-T7N-R66W

Schneider USX II31-13D Pad Sec.31-T7N-R66W

Schneider USX II31-11D

Wellbore #1

Plan: Noble Schneider USX II31-11D Plan #1 (8-10-11)

Standard Planning Report

23 August, 2011



Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.31-T7N-R66W
Site: Schneider USX II31-13D Pad
 Sec.31-T7N-R66W
Well: Schneider USX II31-11D
Wellbore: Wellbore #1
Design: Noble Schneider USX II31-11D Plan #1 (8-10-1)

Local Co-ordinate Reference: Well Schneider USX II31-11D
TVD Reference: WELL @ 4919.0ft (Original Well Elev)
MD Reference: WELL @ 4919.0ft (Original Well Elev)
North Reference: True

Survey Calculation Method: Minimum Curvature

Project	SEC.31-T7N-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	Schneider USX II31-13D Pad Sec.31-T7N-R66W				
Site Position:		Northing:	1,435,107.12 ft	Latitude:	40.525810
From:	Lat/Long	Easting:	3,187,602.10 ft	Longitude:	-104.825150
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.44 °

Well	Schneider USX II31-11D					
Well Position	+N/-S	3.6 ft	Northing:	1,435,111.09 ft	Latitude:	40.525820
	+E/-W	44.5 ft	Easting:	3,187,646.55 ft	Longitude:	-104.824990
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,906.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/10/2011	8.89	67.14	53,174

Design Noble Schneider USX II31-11D Plan #1 (8-10-11)

Audit Notes:

Version: **Phase:** PROTOTYPE **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	359.44

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,798.8	15.98	359.44	1,788.5	110.6	-1.1	2.00	2.00	0.00	359.44	
5,151.3	15.98	359.44	5,011.5	1,033.3	-10.0	0.00	0.00	0.00	0.00	
5,950.1	0.00	0.00	5,800.0	1,144.0	-11.1	2.00	-2.00	0.00	180.00	TARGET BHL 198C
7,671.1	0.00	0.00	7,521.0	1,144.0	-11.1	0.00	0.00	0.00	0.00	

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.31-T7N-R66W
 Site: Schneider USX II31-13D Pad
 Sec.31-T7N-R66W
 Well: Schneider USX II31-11D
 Wellbore: Wellbore #1
 Design: Noble Schneider USX II31-11D Plan #1 (8-10-1)

Local Co-ordinate Reference: Well Schneider USX II31-11D
 TVD Reference: WELL @ 4919.0ft (Original Well Elev)
 MD Reference: WELL @ 4919.0ft (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
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	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
1,040.0	0.80	359.44	1,040.0	0.3	0.0	0.3	2.00	2.00	0.00
1,080.0	1.60	359.44	1,080.0	1.1	0.0	1.1	2.00	2.00	0.00
1,120.0	2.40	359.44	1,120.0	2.5	0.0	2.5	2.00	2.00	0.00
1,160.0	3.20	359.44	1,159.9	4.5	0.0	4.5	2.00	2.00	0.00
1,200.0	4.00	359.44	1,199.8	7.0	-0.1	7.0	2.00	2.00	0.00
1,240.0	4.80	359.44	1,239.7	10.0	-0.1	10.0	2.00	2.00	0.00
1,280.0	5.60	359.44	1,279.6	13.7	-0.1	13.7	2.00	2.00	0.00
1,320.0	6.40	359.44	1,319.3	17.9	-0.2	17.9	2.00	2.00	0.00
1,360.0	7.20	359.44	1,359.1	22.6	-0.2	22.6	2.00	2.00	0.00
1,400.0	8.00	359.44	1,398.7	27.9	-0.3	27.9	2.00	2.00	0.00
1,440.0	8.80	359.44	1,438.3	33.7	-0.3	33.7	2.00	2.00	0.00
1,480.0	9.60	359.44	1,477.8	40.1	-0.4	40.1	2.00	2.00	0.00
1,520.0	10.40	359.44	1,517.1	47.1	-0.5	47.1	2.00	2.00	0.00
1,560.0	11.20	359.44	1,556.4	54.6	-0.5	54.6	2.00	2.00	0.00
1,600.0	12.00	359.44	1,595.6	62.6	-0.6	62.6	2.00	2.00	0.00
1,640.0	12.80	359.44	1,634.7	71.2	-0.7	71.2	2.00	2.00	0.00
1,680.0	13.60	359.44	1,673.6	80.3	-0.8	80.3	2.00	2.00	0.00
1,720.0	14.40	359.44	1,712.4	90.0	-0.9	90.0	2.00	2.00	0.00
1,760.0	15.20	359.44	1,751.1	100.2	-1.0	100.2	2.00	2.00	0.00
1,798.8	15.98	359.44	1,788.5	110.6	-1.1	110.6	2.00	2.00	0.00
1,800.0	15.98	359.44	1,789.6	111.0	-1.1	111.0	0.00	0.00	0.00
1,840.0	15.98	359.44	1,828.1	122.0	-1.2	122.0	0.00	0.00	0.00
1,880.0	15.98	359.44	1,866.6	133.0	-1.3	133.0	0.00	0.00	0.00
1,920.0	15.98	359.44	1,905.0	144.0	-1.4	144.0	0.00	0.00	0.00
1,960.0	15.98	359.44	1,943.5	155.0	-1.5	155.0	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.31-T7N-R66W
Site: Schneider USX II31-13D Pad
 Sec.31-T7N-R66W
Well: Schneider USX II31-11D
Wellbore: Wellbore #1
Design: Noble Schneider USX II31-11D Plan #1 (8-10-1)

Local Co-ordinate Reference: Well Schneider USX II31-11D
TVD Reference: WELL @ 4919.0ft (Original Well Elev)
MD Reference: WELL @ 4919.0ft (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)
2,000.0	15.98	359.44	1,981.9	166.0	-1.6	166.0	0.00	0.00	0.00
2,040.0	15.98	359.44	2,020.4	177.0	-1.7	177.0	0.00	0.00	0.00
2,080.0	15.98	359.44	2,058.8	188.0	-1.8	188.0	0.00	0.00	0.00
2,120.0	15.98	359.44	2,097.3	199.0	-1.9	199.1	0.00	0.00	0.00
2,160.0	15.98	359.44	2,135.7	210.1	-2.0	210.1	0.00	0.00	0.00
2,200.0	15.98	359.44	2,174.2	221.1	-2.1	221.1	0.00	0.00	0.00
2,240.0	15.98	359.44	2,212.6	232.1	-2.3	232.1	0.00	0.00	0.00
2,280.0	15.98	359.44	2,251.1	243.1	-2.4	243.1	0.00	0.00	0.00
2,320.0	15.98	359.44	2,289.6	254.1	-2.5	254.1	0.00	0.00	0.00
2,360.0	15.98	359.44	2,328.0	265.1	-2.6	265.1	0.00	0.00	0.00
2,400.0	15.98	359.44	2,366.5	276.1	-2.7	276.1	0.00	0.00	0.00
2,440.0	15.98	359.44	2,404.9	287.1	-2.8	287.1	0.00	0.00	0.00
2,480.0	15.98	359.44	2,443.4	298.1	-2.9	298.1	0.00	0.00	0.00
2,520.0	15.98	359.44	2,481.8	309.1	-3.0	309.1	0.00	0.00	0.00
2,560.0	15.98	359.44	2,520.3	320.1	-3.1	320.2	0.00	0.00	0.00
2,600.0	15.98	359.44	2,558.7	331.2	-3.2	331.2	0.00	0.00	0.00
2,640.0	15.98	359.44	2,597.2	342.2	-3.3	342.2	0.00	0.00	0.00
2,680.0	15.98	359.44	2,635.7	353.2	-3.4	353.2	0.00	0.00	0.00
2,720.0	15.98	359.44	2,674.1	364.2	-3.5	364.2	0.00	0.00	0.00
2,760.0	15.98	359.44	2,712.6	375.2	-3.6	375.2	0.00	0.00	0.00
2,800.0	15.98	359.44	2,751.0	386.2	-3.8	386.2	0.00	0.00	0.00
2,840.0	15.98	359.44	2,789.5	397.2	-3.9	397.2	0.00	0.00	0.00
2,880.0	15.98	359.44	2,827.9	408.2	-4.0	408.2	0.00	0.00	0.00
2,920.0	15.98	359.44	2,866.4	419.2	-4.1	419.2	0.00	0.00	0.00
2,960.0	15.98	359.44	2,904.8	430.2	-4.2	430.3	0.00	0.00	0.00
3,000.0	15.98	359.44	2,943.3	441.2	-4.3	441.3	0.00	0.00	0.00
3,040.0	15.98	359.44	2,981.7	452.3	-4.4	452.3	0.00	0.00	0.00
3,080.0	15.98	359.44	3,020.2	463.3	-4.5	463.3	0.00	0.00	0.00
3,120.0	15.98	359.44	3,058.7	474.3	-4.6	474.3	0.00	0.00	0.00
3,160.0	15.98	359.44	3,097.1	485.3	-4.7	485.3	0.00	0.00	0.00
3,200.0	15.98	359.44	3,135.6	496.3	-4.8	496.3	0.00	0.00	0.00
3,240.0	15.98	359.44	3,174.0	507.3	-4.9	507.3	0.00	0.00	0.00
3,280.0	15.98	359.44	3,212.5	518.3	-5.0	518.3	0.00	0.00	0.00
3,320.0	15.98	359.44	3,250.9	529.3	-5.1	529.3	0.00	0.00	0.00
3,360.0	15.98	359.44	3,289.4	540.3	-5.3	540.3	0.00	0.00	0.00
3,400.0	15.98	359.44	3,327.8	551.3	-5.4	551.4	0.00	0.00	0.00
3,440.0	15.98	359.44	3,366.3	562.3	-5.5	562.4	0.00	0.00	0.00
3,480.0	15.98	359.44	3,404.8	573.3	-5.6	573.4	0.00	0.00	0.00
3,520.0	15.98	359.44	3,443.2	584.4	-5.7	584.4	0.00	0.00	0.00
3,560.0	15.98	359.44	3,481.7	595.4	-5.8	595.4	0.00	0.00	0.00
3,600.0	15.98	359.44	3,520.1	606.4	-5.9	606.4	0.00	0.00	0.00
3,640.0	15.98	359.44	3,558.6	617.4	-6.0	617.4	0.00	0.00	0.00
3,680.0	15.98	359.44	3,597.0	628.4	-6.1	628.4	0.00	0.00	0.00
3,720.0	15.98	359.44	3,635.5	639.4	-6.2	639.4	0.00	0.00	0.00
3,760.0	15.98	359.44	3,673.9	650.4	-6.3	650.4	0.00	0.00	0.00
3,800.0	15.98	359.44	3,712.4	661.4	-6.4	661.5	0.00	0.00	0.00
3,840.0	15.98	359.44	3,750.9	672.4	-6.5	672.5	0.00	0.00	0.00
3,880.0	15.98	359.44	3,789.3	683.4	-6.6	683.5	0.00	0.00	0.00
3,920.0	15.98	359.44	3,827.8	694.4	-6.8	694.5	0.00	0.00	0.00
3,960.0	15.98	359.44	3,866.2	705.5	-6.9	705.5	0.00	0.00	0.00
4,000.0	15.98	359.44	3,904.7	716.5	-7.0	716.5	0.00	0.00	0.00
4,040.0	15.98	359.44	3,943.1	727.5	-7.1	727.5	0.00	0.00	0.00
4,080.0	15.98	359.44	3,981.6	738.5	-7.2	738.5	0.00	0.00	0.00

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.31-T7N-R66W
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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	15.98	359.44	4,020.0	749.5	-7.3	749.5	0.00	0.00	0.00
4,160.0	15.98	359.44	4,058.5	760.5	-7.4	760.5	0.00	0.00	0.00
4,200.0	15.98	359.44	4,096.9	771.5	-7.5	771.5	0.00	0.00	0.00
4,240.0	15.98	359.44	4,135.4	782.5	-7.6	782.6	0.00	0.00	0.00
4,280.0	15.98	359.44	4,173.9	793.5	-7.7	793.6	0.00	0.00	0.00
4,320.0	15.98	359.44	4,212.3	804.5	-7.8	804.6	0.00	0.00	0.00
4,360.0	15.98	359.44	4,250.8	815.5	-7.9	815.6	0.00	0.00	0.00
4,400.0	15.98	359.44	4,289.2	826.6	-8.0	826.6	0.00	0.00	0.00
4,440.0	15.98	359.44	4,327.7	837.6	-8.1	837.6	0.00	0.00	0.00
4,480.0	15.98	359.44	4,366.1	848.6	-8.2	848.6	0.00	0.00	0.00
4,520.0	15.98	359.44	4,404.6	859.6	-8.4	859.6	0.00	0.00	0.00
4,560.0	15.98	359.44	4,443.0	870.6	-8.5	870.6	0.00	0.00	0.00
4,600.0	15.98	359.44	4,481.5	881.6	-8.6	881.6	0.00	0.00	0.00
4,640.0	15.98	359.44	4,520.0	892.6	-8.7	892.7	0.00	0.00	0.00
4,680.0	15.98	359.44	4,558.4	903.6	-8.8	903.7	0.00	0.00	0.00
4,720.0	15.98	359.44	4,596.9	914.6	-8.9	914.7	0.00	0.00	0.00
4,760.0	15.98	359.44	4,635.3	925.6	-9.0	925.7	0.00	0.00	0.00
4,800.0	15.98	359.44	4,673.8	936.6	-9.1	936.7	0.00	0.00	0.00
4,840.0	15.98	359.44	4,712.2	947.7	-9.2	947.7	0.00	0.00	0.00
4,880.0	15.98	359.44	4,750.7	958.7	-9.3	958.7	0.00	0.00	0.00
4,920.0	15.98	359.44	4,789.1	969.7	-9.4	969.7	0.00	0.00	0.00
4,960.0	15.98	359.44	4,827.6	980.7	-9.5	980.7	0.00	0.00	0.00
5,000.0	15.98	359.44	4,866.0	991.7	-9.6	991.7	0.00	0.00	0.00
5,040.0	15.98	359.44	4,904.5	1,002.7	-9.7	1,002.7	0.00	0.00	0.00
5,080.0	15.98	359.44	4,943.0	1,013.7	-9.9	1,013.8	0.00	0.00	0.00
5,120.0	15.98	359.44	4,981.4	1,024.7	-10.0	1,024.8	0.00	0.00	0.00
5,151.3	15.98	359.44	5,011.5	1,033.3	-10.0	1,033.4	0.00	0.00	0.00
5,160.0	15.80	359.44	5,019.9	1,035.7	-10.1	1,035.8	2.00	-2.00	0.00
5,200.0	15.00	359.44	5,058.4	1,046.3	-10.2	1,046.4	2.00	-2.00	0.00
5,240.0	14.20	359.44	5,097.1	1,056.4	-10.3	1,056.5	2.00	-2.00	0.00
5,280.0	13.40	359.44	5,136.0	1,066.0	-10.4	1,066.0	2.00	-2.00	0.00
5,320.0	12.60	359.44	5,175.0	1,075.0	-10.4	1,075.0	2.00	-2.00	0.00
5,360.0	11.80	359.44	5,214.1	1,083.4	-10.5	1,083.5	2.00	-2.00	0.00
5,400.0	11.00	359.44	5,253.3	1,091.3	-10.6	1,091.4	2.00	-2.00	0.00
5,440.0	10.20	359.44	5,292.6	1,098.7	-10.7	1,098.7	2.00	-2.00	0.00
5,480.0	9.40	359.44	5,332.0	1,105.5	-10.7	1,105.5	2.00	-2.00	0.00
5,520.0	8.60	359.44	5,371.5	1,111.8	-10.8	1,111.8	2.00	-2.00	0.00
5,560.0	7.80	359.44	5,411.1	1,117.5	-10.9	1,117.5	2.00	-2.00	0.00
5,600.0	7.00	359.44	5,450.8	1,122.6	-10.9	1,122.7	2.00	-2.00	0.00
5,640.0	6.20	359.44	5,490.5	1,127.2	-11.0	1,127.3	2.00	-2.00	0.00
5,680.0	5.40	359.44	5,530.3	1,131.3	-11.0	1,131.3	2.00	-2.00	0.00
5,720.0	4.60	359.44	5,570.1	1,134.7	-11.0	1,134.8	2.00	-2.00	0.00
5,760.0	3.80	359.44	5,610.0	1,137.7	-11.1	1,137.7	2.00	-2.00	0.00
5,800.0	3.00	359.44	5,650.0	1,140.0	-11.1	1,140.1	2.00	-2.00	0.00
5,840.0	2.20	359.44	5,689.9	1,141.9	-11.1	1,141.9	2.00	-2.00	0.00
5,880.0	1.40	359.44	5,729.9	1,143.1	-11.1	1,143.2	2.00	-2.00	0.00
5,920.0	0.60	359.44	5,769.9	1,143.8	-11.1	1,143.9	2.00	-2.00	0.00
5,950.1	0.00	0.00	5,800.0	1,144.0	-11.1	1,144.0	2.00	-2.00	0.00
5,960.0	0.00	0.00	5,809.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,849.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,040.0	0.00	0.00	5,889.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,080.0	0.00	0.00	5,929.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,120.0	0.00	0.00	5,969.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.31-T7N-R66W
Site: Schneider USX II31-13D Pad
 Sec.31-T7N-R66W
Well: Schneider USX II31-11D
Wellbore: Wellbore #1
Design: Noble Schneider USX II31-11D Plan #1 (8-10-1

Local Co-ordinate Reference: Well Schneider USX II31-11D
TVD Reference: WELL @ 4919.0ft (Original Well Elev)
MD Reference: WELL @ 4919.0ft (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)
6,160.0	0.00	0.00	6,009.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,049.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,240.0	0.00	0.00	6,089.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,280.0	0.00	0.00	6,129.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,320.0	0.00	0.00	6,169.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,360.0	0.00	0.00	6,209.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,249.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,440.0	0.00	0.00	6,289.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,480.0	0.00	0.00	6,329.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,520.0	0.00	0.00	6,369.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,560.0	0.00	0.00	6,409.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,449.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,489.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,529.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,720.0	0.00	0.00	6,569.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,609.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,649.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,840.0	0.00	0.00	6,689.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,880.0	0.00	0.00	6,729.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,769.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
6,960.0	0.00	0.00	6,809.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,849.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,040.0	0.00	0.00	6,889.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,080.0	0.00	0.00	6,929.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,120.0	0.00	0.00	6,969.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,160.0	0.00	0.00	7,009.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,190.1	0.00	0.00	7,040.0	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
NIOBRARA									
7,200.0	0.00	0.00	7,049.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,240.0	0.00	0.00	7,089.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,280.0	0.00	0.00	7,129.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,320.0	0.00	0.00	7,169.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,360.0	0.00	0.00	7,209.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,249.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,440.0	0.00	0.00	7,289.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,480.0	0.00	0.00	7,329.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,520.0	0.00	0.00	7,369.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,521.1	0.00	0.00	7,371.0	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
CODELL									
7,560.0	0.00	0.00	7,409.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,449.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,640.0	0.00	0.00	7,489.9	1,144.0	-11.1	1,144.0	0.00	0.00	0.00
7,671.1	0.00	0.00	7,521.0	1,144.0	-11.1	1,144.0	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.31-T7N-R66W
Site: Schneider USX II31-13D Pad
 Sec.31-T7N-R66W
Well: Schneider USX II31-11D
Wellbore: Wellbore #1
Design: Noble Schneider USX II31-11D Plan #1 (8-10-1)

Local Co-ordinate Reference: Well Schneider USX II31-11D
TVD Reference: WELL @ 4919.0ft (Original Well Elev)
MD Reference: WELL @ 4919.0ft (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
LEGAL BOX 400' X 41 - plan misses target center by 31.6ft at 7190.1ft MD (7040.0 TVD, 1144.0 N, -11.1 E) - Rectangle (sides W400.0 H400.0 D481.0)	0.00	0.00	7,040.0	1,150.0	19.9	1,436,261.17	3,187,657.69	40.528977	-104.824918
TARGET BHL 1980'F - plan hits target center - Point	0.00	0.00	5,800.0	1,144.0	-11.1	1,436,254.91	3,187,626.72	40.528960	-104.825030
TARGET CIRCLE 198 - plan hits target center - Circle (radius 75.0)	0.00	0.00	7,040.0	1,144.0	-11.1	1,436,254.91	3,187,626.72	40.528960	-104.825030

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
650.0	650.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,190.1	7,040.0	NIOBRARA		0.00	
7,521.1	7,371.0	CODELL		0.00	