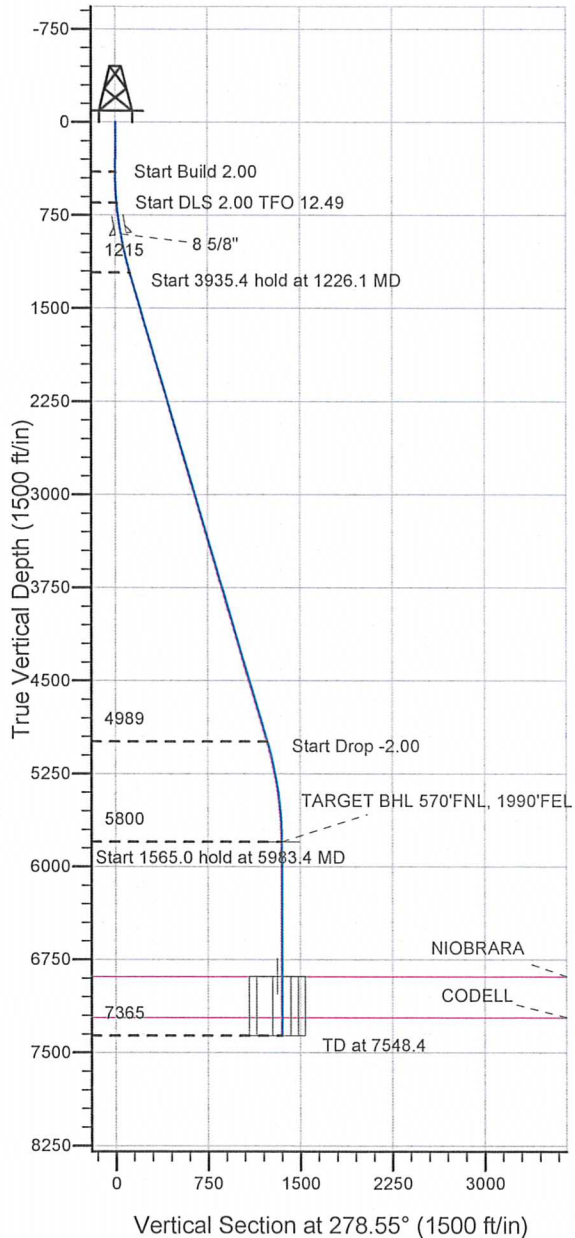
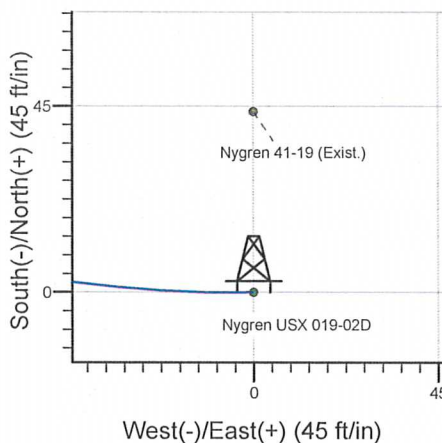
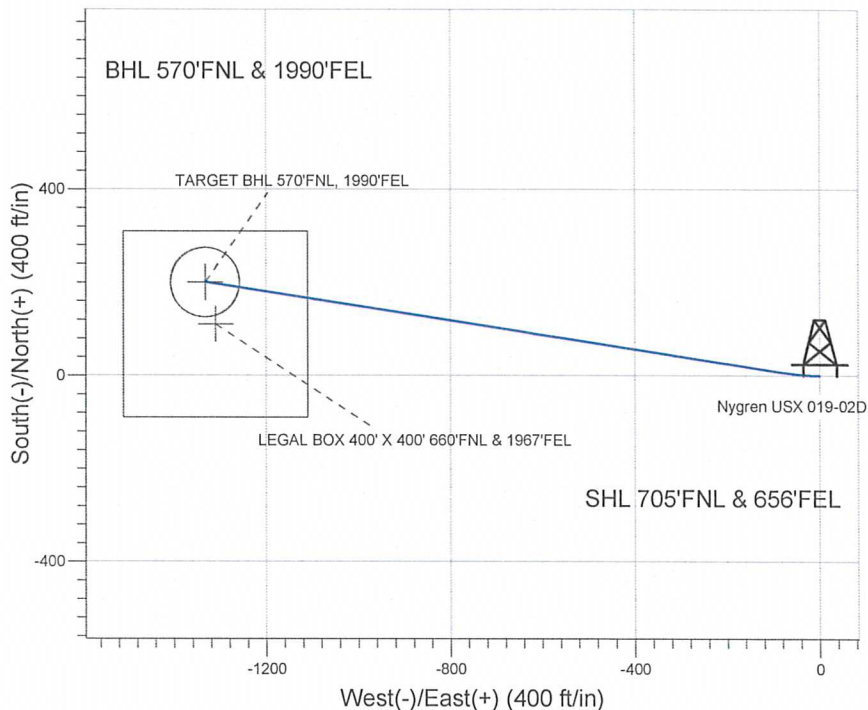


Well Name: Nygren USX 019-02D

Surface Location: Nygren UX9 019-02D Pad Sec.19-T4N-R67W				
North American Datum 1983		US State Plane 1983		Colorado Northern Zone
Ground Elevation: 4865.0				
S +E/-W	Northing	Easting	Latitude	Longitude
0.0	1354125.73	3160265.79	40.304050	-104.925370
Original Well Elev		WELL @ 4878.0ft (Original Well Elev)		



NOBLE ENERGY INC WELD COUNTY CO



Nygren USX 019-02D Pad Sec.19-T4N-R67W  
Nygren USX 019-02D  
Noble Nygren USX 019-02D Plan #1 (7-20-11)  
14:41, July 20 2011



Azimuths to True North  
Magnetic North: 8.93°

Magnetic Field  
Strength: 53053.1nT  
Dip Angle: 66.94°  
Date: 7/20/2011  
Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 570'FNL, 1990'FEL	5800.0	200.4	-1333.2	40.304600	-104.930150	Point
LEGAL BOX 400' X 400' 660'FNL & 1967'FEL	6884.0	110.4	-1310.2	40.304353	-104.930067	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 570'FNL & 1990'FEL	6884.0	200.4	-1333.2	40.304600	-104.930150	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	650.0	5.00	270.00	649.7	0.0	-10.9	2.00	270.00	10.8	
4	1226.1	16.44	278.78	1214.8	12.5	-116.9	2.00	12.49	117.5	
5	5161.5	16.44	278.78	4989.3	182.5	-1217.5	0.00	0.00	1231.1	
6	5983.4	0.00	0.00	5800.0	200.4	-1333.2	2.00	180.00	1348.2	TARGET BHL 570'FNL, 1990'FEL
7	7548.4	0.00	0.00	7365.0	200.4	-1333.2	0.00	0.00	1348.2	



## **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.19-T4N-R67W**

**Nygren USX 019-02D Pad Sec.19-T4N-R67W**

**Nygren USX 019-02D**

**Wellbore #1**

**Plan: Noble Nygren USX 019-02D Plan #1 (7-20-11)**

## **Standard Planning Report**

**20 July, 2011**



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.19-T4N-R67W  
**Site:** Nygren USX 019-02D Pad Sec.19-T4N-R67W  
**Well:** Nygren USX 019-02D  
**Wellbore:** Wellbore #1  
**Design:** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Local Co-ordinate Reference:** Well Nygren USX 019-02D  
**TVD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	SEC.19-T4N-R67W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Nygren USX 019-02D Pad Sec.19-T4N-R67W				
Site Position:		Northing:	1,354,125.73 ft	Latitude:	40.304050
From:	Lat/Long	Easting:	3,160,265.79 ft	Longitude:	-104.925370
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.37 °

Well	Nygren USX 019-02D					
Well Position	+N/-S	0.0 ft	Northing:	1,354,125.73 ft	Latitude:	40.304050
	+E/-W	0.0 ft	Easting:	3,160,265.79 ft	Longitude:	-104.925370
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,865.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/20/2011	8.93	66.94	53,053

**Design** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Audit Notes:**

<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	278.55

#### 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	
650.0	5.00	270.00	649.7	0.0	-10.9	2.00	2.00	0.00	270.00	
1,226.1	16.44	278.78	1,214.8	12.5	-116.9	2.00	1.99	1.52	12.49	
5,161.5	16.44	278.78	4,989.3	182.5	-1,217.5	0.00	0.00	0.00	0.00	
5,983.4	0.00	0.00	5,800.0	200.4	-1,333.2	2.00	-2.00	0.00	180.00	TARGET BHL 570'I
7,548.4	0.00	0.00	7,365.0	200.4	-1,333.2	0.00	0.00	0.00	0.00	



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.19-T4N-R67W  
**Site:** Nygren USX 019-02D Pad Sec.19-T4N-R67W  
**Well:** Nygren USX 019-02D  
**Wellbore:** Wellbore #1  
**Design:** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Local Co-ordinate Reference:** Well Nygren USX 019-02D  
**TVD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4878.0ft (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	0.80	270.00	440.0	0.0	-0.3	0.3	2.00	2.00	0.00
480.0	1.60	270.00	480.0	0.0	-1.1	1.1	2.00	2.00	0.00
520.0	2.40	270.00	520.0	0.0	-2.5	2.5	2.00	2.00	0.00
560.0	3.20	270.00	559.9	0.0	-4.5	4.4	2.00	2.00	0.00
600.0	4.00	270.00	599.8	0.0	-7.0	6.9	2.00	2.00	0.00
640.0	4.80	270.00	639.7	0.0	-10.0	9.9	2.00	2.00	0.00
650.0	5.00	270.00	649.7	0.0	-10.9	10.8	2.00	2.00	0.00
680.0	5.59	271.33	679.6	0.0	-13.7	13.5	2.00	1.96	4.44
720.0	6.37	272.73	719.3	0.2	-17.8	17.7	2.00	1.97	3.49
760.0	7.16	273.82	759.1	0.5	-22.5	22.4	2.00	1.97	2.72
800.0	7.96	274.69	798.7	0.8	-27.8	27.6	2.00	1.98	2.18
840.0	8.75	275.41	838.3	1.4	-33.6	33.4	2.00	1.98	1.79
880.0	9.54	276.01	877.8	2.0	-39.9	39.8	2.00	1.99	1.50
902.6	9.99	276.30	900.0	2.4	-43.7	43.6	2.00	1.99	1.31
8 5/8"									
920.0	10.34	276.51	917.2	2.8	-46.8	46.7	2.00	1.99	1.21
960.0	11.13	276.95	956.5	3.6	-54.2	54.1	2.00	1.99	1.09
1,000.0	11.93	277.33	995.7	4.6	-62.1	62.1	2.00	1.99	0.94
1,040.0	12.73	277.66	1,034.7	5.7	-70.6	70.6	2.00	1.99	0.83
1,080.0	13.52	277.95	1,073.7	7.0	-79.6	79.7	2.00	1.99	0.73
1,120.0	14.32	278.21	1,112.5	8.3	-89.1	89.3	2.00	1.99	0.65
1,160.0	15.12	278.45	1,151.2	9.8	-99.2	99.5	2.00	1.99	0.58
1,200.0	15.92	278.66	1,189.8	11.4	-109.7	110.2	2.00	2.00	0.53
1,226.1	16.44	278.78	1,214.8	12.5	-116.9	117.5	2.00	2.00	0.49
1,240.0	16.44	278.78	1,228.1	13.1	-120.8	121.4	0.00	0.00	0.00
1,280.0	16.44	278.78	1,266.5	14.8	-132.0	132.7	0.00	0.00	0.00
1,320.0	16.44	278.78	1,304.9	16.5	-143.2	144.1	0.00	0.00	0.00
1,360.0	16.44	278.78	1,343.2	18.3	-154.4	155.4	0.00	0.00	0.00
1,400.0	16.44	278.78	1,381.6	20.0	-165.6	166.7	0.00	0.00	0.00
1,440.0	16.44	278.78	1,420.0	21.7	-176.7	178.0	0.00	0.00	0.00
1,480.0	16.44	278.78	1,458.3	23.5	-187.9	189.3	0.00	0.00	0.00
1,520.0	16.44	278.78	1,496.7	25.2	-199.1	200.6	0.00	0.00	0.00
1,560.0	16.44	278.78	1,535.1	26.9	-210.3	212.0	0.00	0.00	0.00
1,600.0	16.44	278.78	1,573.4	28.6	-221.5	223.3	0.00	0.00	0.00
1,640.0	16.44	278.78	1,611.8	30.4	-232.7	234.6	0.00	0.00	0.00
1,680.0	16.44	278.78	1,650.2	32.1	-243.9	245.9	0.00	0.00	0.00
1,720.0	16.44	278.78	1,688.5	33.8	-255.0	257.2	0.00	0.00	0.00
1,760.0	16.44	278.78	1,726.9	35.6	-266.2	268.6	0.00	0.00	0.00
1,800.0	16.44	278.78	1,765.3	37.3	-277.4	279.9	0.00	0.00	0.00
1,840.0	16.44	278.78	1,803.6	39.0	-288.6	291.2	0.00	0.00	0.00
1,880.0	16.44	278.78	1,842.0	40.7	-299.8	302.5	0.00	0.00	0.00
1,920.0	16.44	278.78	1,880.4	42.5	-311.0	313.8	0.00	0.00	0.00
1,960.0	16.44	278.78	1,918.7	44.2	-322.2	325.2	0.00	0.00	0.00

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.19-T4N-R67W  
**Site:** Nygren USX 019-02D Pad Sec.19-T4N-R67W  
**Well:** Nygren USX 019-02D  
**Wellbore:** Wellbore #1  
**Design:** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Local Co-ordinate Reference:** Well Nygren USX 019-02D  
**TVD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4878.0ft (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	16.44	278.78	1,957.1	45.9	-333.4	336.5	0.00	0.00	0.00
2,040.0	16.44	278.78	1,995.5	47.7	-344.5	347.8	0.00	0.00	0.00
2,080.0	16.44	278.78	2,033.8	49.4	-355.7	359.1	0.00	0.00	0.00
2,120.0	16.44	278.78	2,072.2	51.1	-366.9	370.4	0.00	0.00	0.00
2,160.0	16.44	278.78	2,110.5	52.8	-378.1	381.8	0.00	0.00	0.00
2,200.0	16.44	278.78	2,148.9	54.6	-389.3	393.1	0.00	0.00	0.00
2,240.0	16.44	278.78	2,187.3	56.3	-400.5	404.4	0.00	0.00	0.00
2,280.0	16.44	278.78	2,225.6	58.0	-411.7	415.7	0.00	0.00	0.00
2,320.0	16.44	278.78	2,264.0	59.8	-422.8	427.0	0.00	0.00	0.00
2,360.0	16.44	278.78	2,302.4	61.5	-434.0	438.3	0.00	0.00	0.00
2,400.0	16.44	278.78	2,340.7	63.2	-445.2	449.7	0.00	0.00	0.00
2,440.0	16.44	278.78	2,379.1	64.9	-456.4	461.0	0.00	0.00	0.00
2,480.0	16.44	278.78	2,417.5	66.7	-467.6	472.3	0.00	0.00	0.00
2,520.0	16.44	278.78	2,455.8	68.4	-478.8	483.6	0.00	0.00	0.00
2,560.0	16.44	278.78	2,494.2	70.1	-490.0	494.9	0.00	0.00	0.00
2,600.0	16.44	278.78	2,532.6	71.9	-501.1	506.3	0.00	0.00	0.00
2,640.0	16.44	278.78	2,570.9	73.6	-512.3	517.6	0.00	0.00	0.00
2,680.0	16.44	278.78	2,609.3	75.3	-523.5	528.9	0.00	0.00	0.00
2,720.0	16.44	278.78	2,647.7	77.0	-534.7	540.2	0.00	0.00	0.00
2,760.0	16.44	278.78	2,686.0	78.8	-545.9	551.5	0.00	0.00	0.00
2,800.0	16.44	278.78	2,724.4	80.5	-557.1	562.9	0.00	0.00	0.00
2,840.0	16.44	278.78	2,762.8	82.2	-568.3	574.2	0.00	0.00	0.00
2,880.0	16.44	278.78	2,801.1	84.0	-579.5	585.5	0.00	0.00	0.00
2,920.0	16.44	278.78	2,839.5	85.7	-590.6	596.8	0.00	0.00	0.00
2,960.0	16.44	278.78	2,877.8	87.4	-601.8	608.1	0.00	0.00	0.00
3,000.0	16.44	278.78	2,916.2	89.1	-613.0	619.5	0.00	0.00	0.00
3,040.0	16.44	278.78	2,954.6	90.9	-624.2	630.8	0.00	0.00	0.00
3,080.0	16.44	278.78	2,992.9	92.6	-635.4	642.1	0.00	0.00	0.00
3,120.0	16.44	278.78	3,031.3	94.3	-646.6	653.4	0.00	0.00	0.00
3,160.0	16.44	278.78	3,069.7	96.0	-657.8	664.7	0.00	0.00	0.00
3,200.0	16.44	278.78	3,108.0	97.8	-668.9	676.0	0.00	0.00	0.00
3,240.0	16.44	278.78	3,146.4	99.5	-680.1	687.4	0.00	0.00	0.00
3,280.0	16.44	278.78	3,184.8	101.2	-691.3	698.7	0.00	0.00	0.00
3,320.0	16.44	278.78	3,223.1	103.0	-702.5	710.0	0.00	0.00	0.00
3,360.0	16.44	278.78	3,261.5	104.7	-713.7	721.3	0.00	0.00	0.00
3,400.0	16.44	278.78	3,299.9	106.4	-724.9	732.6	0.00	0.00	0.00
3,440.0	16.44	278.78	3,338.2	108.1	-736.1	744.0	0.00	0.00	0.00
3,480.0	16.44	278.78	3,376.6	109.9	-747.3	755.3	0.00	0.00	0.00
3,520.0	16.44	278.78	3,415.0	111.6	-758.4	766.6	0.00	0.00	0.00
3,560.0	16.44	278.78	3,453.3	113.3	-769.6	777.9	0.00	0.00	0.00
3,600.0	16.44	278.78	3,491.7	115.1	-780.8	789.2	0.00	0.00	0.00
3,640.0	16.44	278.78	3,530.1	116.8	-792.0	800.6	0.00	0.00	0.00
3,680.0	16.44	278.78	3,568.4	118.5	-803.2	811.9	0.00	0.00	0.00
3,720.0	16.44	278.78	3,606.8	120.2	-814.4	823.2	0.00	0.00	0.00
3,760.0	16.44	278.78	3,645.1	122.0	-825.6	834.5	0.00	0.00	0.00
3,800.0	16.44	278.78	3,683.5	123.7	-836.7	845.8	0.00	0.00	0.00
3,840.0	16.44	278.78	3,721.9	125.4	-847.9	857.2	0.00	0.00	0.00
3,880.0	16.44	278.78	3,760.2	127.2	-859.1	868.5	0.00	0.00	0.00
3,920.0	16.44	278.78	3,798.6	128.9	-870.3	879.8	0.00	0.00	0.00
3,960.0	16.44	278.78	3,837.0	130.6	-881.5	891.1	0.00	0.00	0.00
4,000.0	16.44	278.78	3,875.3	132.3	-892.7	902.4	0.00	0.00	0.00
4,040.0	16.44	278.78	3,913.7	134.1	-903.9	913.7	0.00	0.00	0.00
4,080.0	16.44	278.78	3,952.1	135.8	-915.0	925.1	0.00	0.00	0.00
4,120.0	16.44	278.78	3,990.4	137.5	-926.2	936.4	0.00	0.00	0.00



**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.19-T4N-R67W  
**Site:** Nygren USX 019-02D Pad Sec.19-T4N-R67W  
**Well:** Nygren USX 019-02D  
**Wellbore:** Wellbore #1  
**Design:** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Local Co-ordinate Reference:** Well Nygren USX 019-02D  
**TVD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4878.0ft (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)
4,160.0	16.44	278.78	4,028.8	139.3	-937.4	947.7	0.00	0.00	0.00
4,200.0	16.44	278.78	4,067.2	141.0	-948.6	959.0	0.00	0.00	0.00
4,240.0	16.44	278.78	4,105.5	142.7	-959.8	970.3	0.00	0.00	0.00
4,280.0	16.44	278.78	4,143.9	144.4	-971.0	981.7	0.00	0.00	0.00
4,320.0	16.44	278.78	4,182.3	146.2	-982.2	993.0	0.00	0.00	0.00
4,360.0	16.44	278.78	4,220.6	147.9	-993.4	1,004.3	0.00	0.00	0.00
4,400.0	16.44	278.78	4,259.0	149.6	-1,004.5	1,015.6	0.00	0.00	0.00
4,440.0	16.44	278.78	4,297.4	151.4	-1,015.7	1,026.9	0.00	0.00	0.00
4,480.0	16.44	278.78	4,335.7	153.1	-1,026.9	1,038.3	0.00	0.00	0.00
4,520.0	16.44	278.78	4,374.1	154.8	-1,038.1	1,049.6	0.00	0.00	0.00
4,560.0	16.44	278.78	4,412.4	156.5	-1,049.3	1,060.9	0.00	0.00	0.00
4,600.0	16.44	278.78	4,450.8	158.3	-1,060.5	1,072.2	0.00	0.00	0.00
4,640.0	16.44	278.78	4,489.2	160.0	-1,071.7	1,083.5	0.00	0.00	0.00
4,680.0	16.44	278.78	4,527.5	161.7	-1,082.8	1,094.9	0.00	0.00	0.00
4,720.0	16.44	278.78	4,565.9	163.5	-1,094.0	1,106.2	0.00	0.00	0.00
4,760.0	16.44	278.78	4,604.3	165.2	-1,105.2	1,117.5	0.00	0.00	0.00
4,800.0	16.44	278.78	4,642.6	166.9	-1,116.4	1,128.8	0.00	0.00	0.00
4,840.0	16.44	278.78	4,681.0	168.6	-1,127.6	1,140.1	0.00	0.00	0.00
4,880.0	16.44	278.78	4,719.4	170.4	-1,138.8	1,151.5	0.00	0.00	0.00
4,920.0	16.44	278.78	4,757.7	172.1	-1,150.0	1,162.8	0.00	0.00	0.00
4,960.0	16.44	278.78	4,796.1	173.8	-1,161.1	1,174.1	0.00	0.00	0.00
5,000.0	16.44	278.78	4,834.5	175.6	-1,172.3	1,185.4	0.00	0.00	0.00
5,040.0	16.44	278.78	4,872.8	177.3	-1,183.5	1,196.7	0.00	0.00	0.00
5,080.0	16.44	278.78	4,911.2	179.0	-1,194.7	1,208.0	0.00	0.00	0.00
5,120.0	16.44	278.78	4,949.6	180.7	-1,205.9	1,219.4	0.00	0.00	0.00
5,160.0	16.44	278.78	4,987.9	182.5	-1,217.1	1,230.7	0.00	0.00	0.00
5,161.5	16.44	278.78	4,989.3	182.5	-1,217.5	1,231.1	0.00	0.00	0.00
5,200.0	15.67	278.78	5,026.4	184.2	-1,228.0	1,241.8	2.00	-2.00	0.00
5,240.0	14.87	278.78	5,064.9	185.8	-1,238.4	1,252.3	2.00	-2.00	0.00
5,280.0	14.07	278.78	5,103.7	187.3	-1,248.3	1,262.3	2.00	-2.00	0.00
5,320.0	13.27	278.78	5,142.5	188.7	-1,257.6	1,271.7	2.00	-2.00	0.00
5,360.0	12.47	278.78	5,181.5	190.1	-1,266.5	1,280.6	2.00	-2.00	0.00
5,400.0	11.67	278.78	5,220.7	191.4	-1,274.7	1,289.0	2.00	-2.00	0.00
5,440.0	10.87	278.78	5,259.9	192.6	-1,282.4	1,296.8	2.00	-2.00	0.00
5,480.0	10.07	278.78	5,299.2	193.7	-1,289.6	1,304.1	2.00	-2.00	0.00
5,520.0	9.27	278.78	5,338.7	194.7	-1,296.3	1,310.8	2.00	-2.00	0.00
5,560.0	8.47	278.78	5,378.2	195.6	-1,302.4	1,317.0	2.00	-2.00	0.00
5,600.0	7.67	278.78	5,417.8	196.5	-1,307.9	1,322.6	2.00	-2.00	0.00
5,640.0	6.87	278.78	5,457.5	197.3	-1,312.9	1,327.6	2.00	-2.00	0.00
5,680.0	6.07	278.78	5,497.2	198.0	-1,317.4	1,332.1	2.00	-2.00	0.00
5,720.0	5.27	278.78	5,537.0	198.6	-1,321.3	1,336.1	2.00	-2.00	0.00
5,760.0	4.47	278.78	5,576.9	199.1	-1,324.6	1,339.5	2.00	-2.00	0.00
5,800.0	3.67	278.78	5,616.8	199.5	-1,327.4	1,342.3	2.00	-2.00	0.00
5,840.0	2.87	278.78	5,656.7	199.9	-1,329.7	1,344.6	2.00	-2.00	0.00
5,880.0	2.07	278.78	5,696.7	200.1	-1,331.4	1,346.3	2.00	-2.00	0.00
5,920.0	1.27	278.78	5,736.6	200.3	-1,332.5	1,347.5	2.00	-2.00	0.00
5,960.0	0.47	278.78	5,776.6	200.4	-1,333.1	1,348.1	2.00	-2.00	0.00
5,983.4	0.00	0.00	5,800.0	200.4	-1,333.2	1,348.2	2.00	-2.00	0.00
TARGET BHL 570'FNL, 1990'FEL									
6,000.0	0.00	0.00	5,816.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,856.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,080.0	0.00	0.00	5,896.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,120.0	0.00	0.00	5,936.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,160.0	0.00	0.00	5,976.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.19-T4N-R67W  
**Site:** Nygren USX 019-02D Pad Sec.19-T4N-R67W  
**Well:** Nygren USX 019-02D  
**Wellbore:** Wellbore #1  
**Design:** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Local Co-ordinate Reference:** Well Nygren USX 019-02D  
**TVD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4878.0ft (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)
6,200.0	0.00	0.00	6,016.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,056.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,096.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,136.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,176.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,216.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,256.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,296.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,336.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,376.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,416.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,456.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,496.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,536.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,576.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,616.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,656.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,696.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,736.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,776.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,816.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,856.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,067.4	0.00	0.00	6,884.0	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
<b>NIOBRARA - TARGET CIRCLE 570'FNL &amp; 1990'FEL - LEGAL BOX 400' X 400' 660'FNL &amp; 1967'FEL</b>									
7,080.0	0.00	0.00	6,896.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,936.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,160.0	0.00	0.00	6,976.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,016.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,056.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,096.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,136.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,176.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,398.4	0.00	0.00	7,215.0	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
<b>CODELL</b>									
7,400.0	0.00	0.00	7,216.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,256.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,480.0	0.00	0.00	7,296.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,336.6	200.4	-1,333.2	1,348.2	0.00	0.00	0.00
7,548.4	0.00	0.00	7,365.0	200.4	-1,333.2	1,348.2	0.00	0.00	0.00

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.19-T4N-R67W  
**Site:** Nygren USX 019-02D Pad Sec.19-T4N-R67W  
**Well:** Nygren USX 019-02D  
**Wellbore:** Wellbore #1  
**Design:** Noble Nygren USX 019-02D Plan #1 (7-20-11)

**Local Co-ordinate Reference:** Well Nygren USX 019-02D  
**TVD Reference:** WELL @ 4878.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4878.0ft (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
TARGET BHL 570'FN - plan hits target center - Point	0.00	0.00	5,800.0	200.4	-1,333.2	1,354,317.49	3,158,931.37	40.304600	-104.930150
TARGET CIRCLE 570' - plan hits target center - Circle (radius 75.0)	0.00	0.00	6,884.0	200.4	-1,333.2	1,354,317.49	3,158,931.37	40.304600	-104.930150
LEGAL BOX 400' X 400' - plan misses target center by 92.9ft at 7067.4ft MD (6884.0 TVD, 200.4 N, -1333.2 E) - Rectangle (sides W400.0 H400.0 D481.0)	0.00	0.00	6,884.0	110.4	-1,310.2	1,354,227.63	3,158,954.96	40.304353	-104.930067

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
902.6	900.0	8 5/8"	8-5/8	12-1/4

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,067.4	6,884.0	NIOBRARA		0.00	
7,398.4	7,215.0	CODELL		0.00	