

ENSIGN

Directional

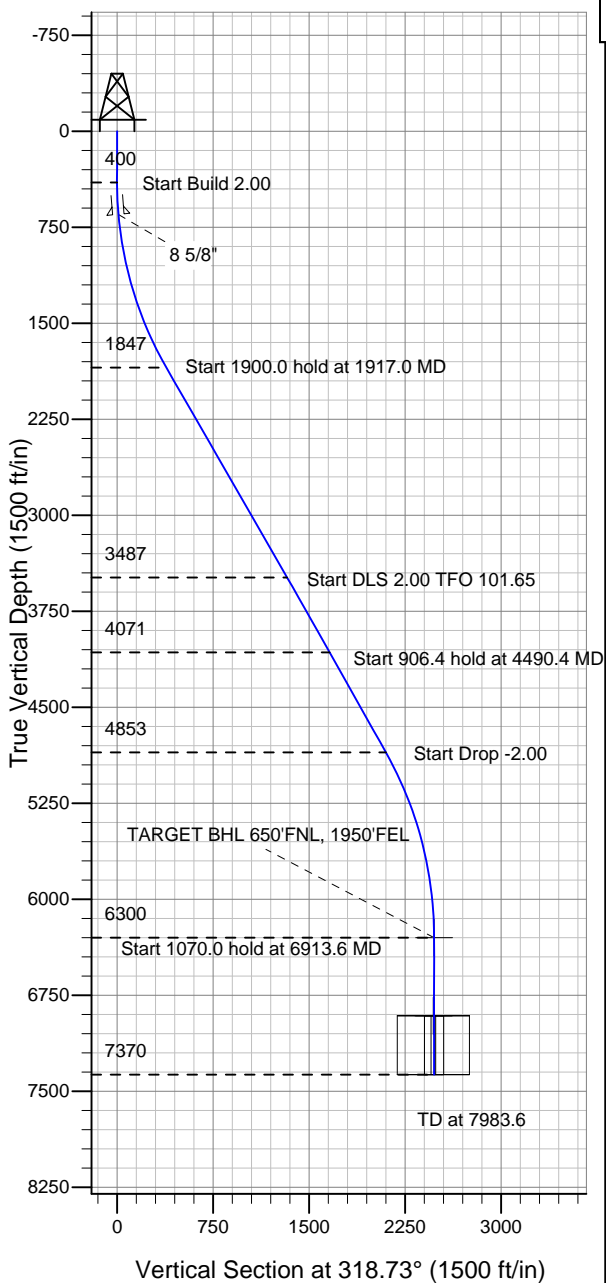
Well Name: Harper USX EE27-02D

Surface Location: Harper USX EE27-01D Pad Sec.27-T7N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

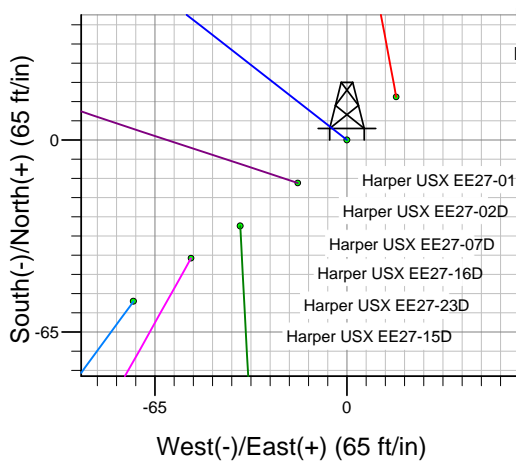
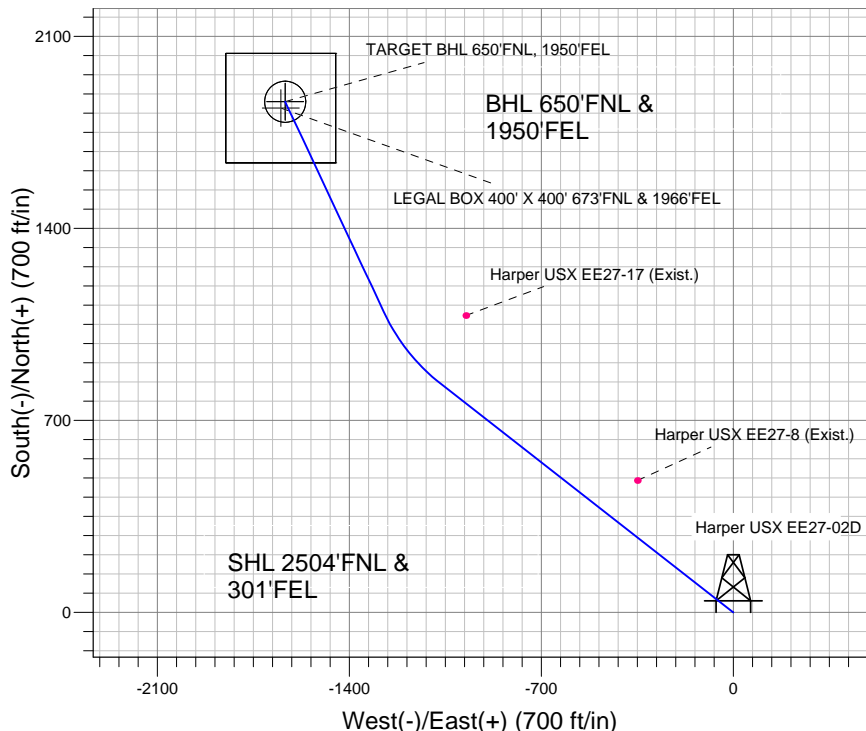
Ground Elevation: 4867.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1443185.70	3238749.28	40.546770	-104.640890	

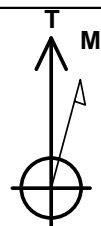
Original Well Elev WELL @ 4880.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Harper USX EE27-01D Pad Sec.27-T7N-R65W
Harper USX EE27-02D
Noble Harper USX EE27-02D Plan #1 (4-27-11)
15:34, April 28 2011



Azimuths to True North
Magnetic North: 8.83°

Magnetic Field
Strength: 53235.4snT
Dip Angle: 67.19°
Date: 4/27/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 650'FNL, 1950'FEL	6300.0	1861.8	-1634.0	40.551880	-104.646770	Point
LEGAL BOX 400' X 400' 673'FNL & 1966'FEL	6910.0	1838.8	-1650.0	40.551817	-104.646827	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 650'FNL & 1950'FEL	6910.0	1861.8	-1634.0	40.551880	-104.646770	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	1917.0	30.34	308.00	1847.1	241.6	-309.2	2.00	308.00	385.5	
4	3817.0	30.34	308.00	3486.9	832.4	-1065.5	0.00	0.00	1328.5	
5	4490.4	30.34	334.85	4070.8	1092.3	-1272.7	2.00	101.65	1660.5	
6	5396.8	30.34	334.85	4853.1	1506.7	-1467.3	0.00	0.00	2100.3	
7	6913.6	0.00	0.00	6300.0	1861.8	-1634.0	2.00	180.00	2477.1	TARGET BHL 650'FNL, 1950'FEL
8	7983.6	0.00	0.00	7370.0	1861.8	-1634.0	0.00	0.00	2477.1	