

ENSIGN

Directional

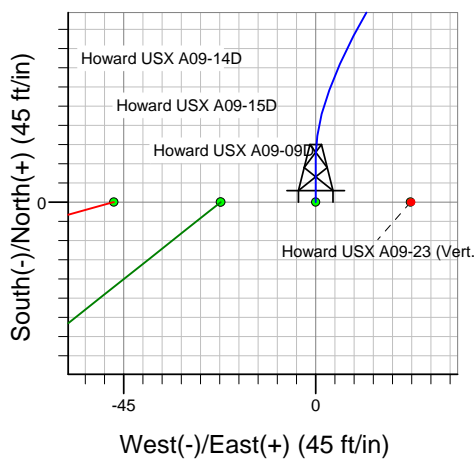
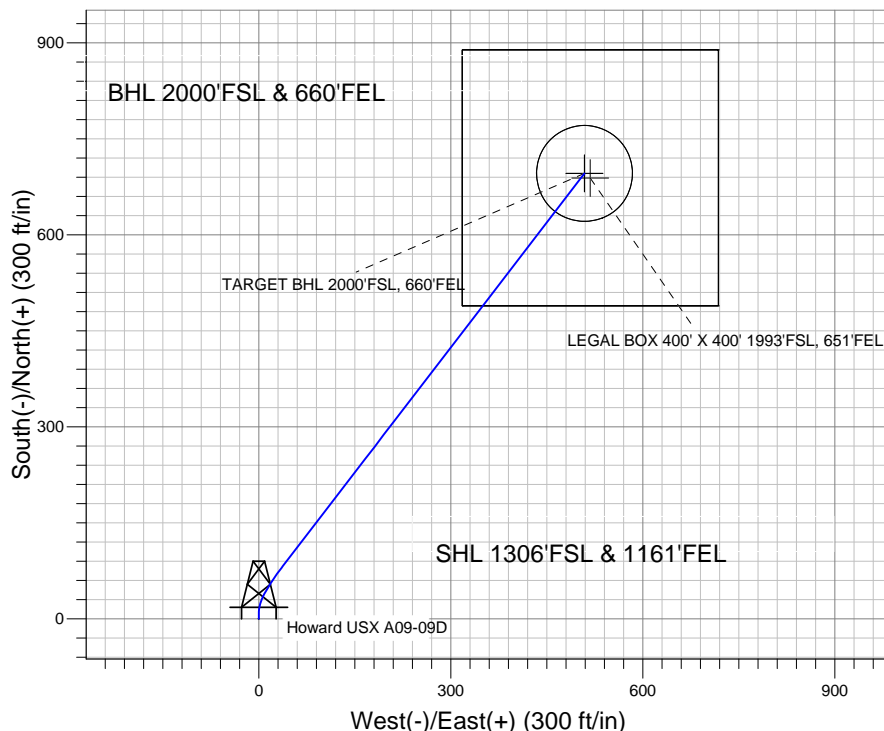
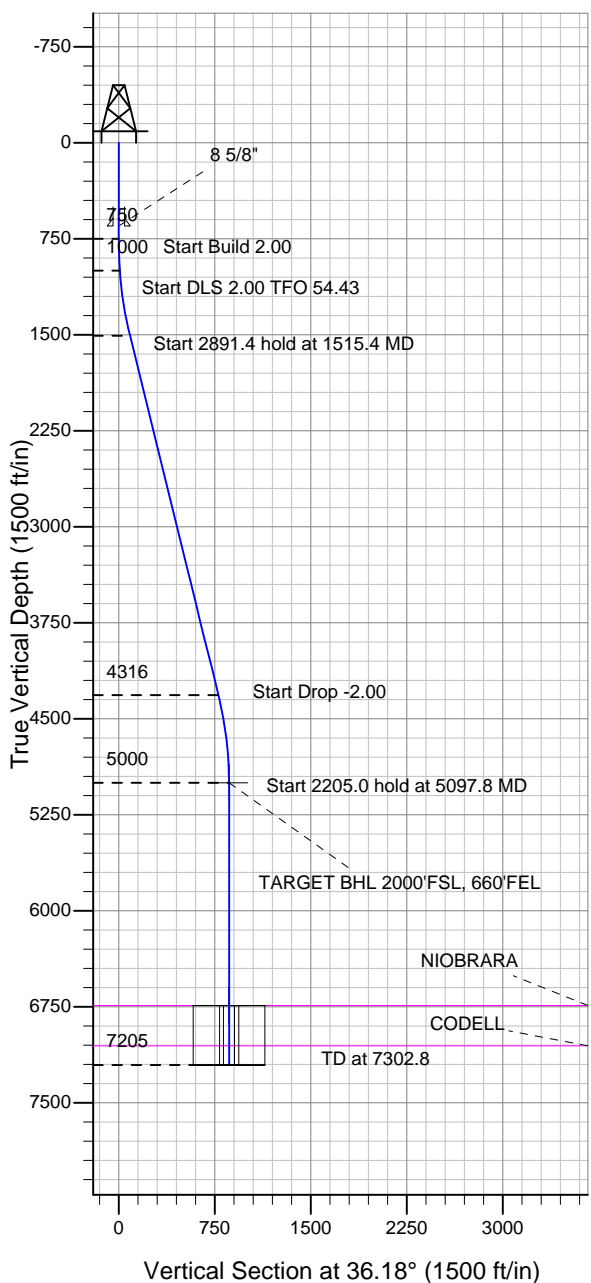
Well Name: Howard USX A09-09D

Surface Location: Howard USX A09-14D Pad Sec.9-T6N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4847.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1425294.93	3264231.99	40.496950	-104.549890	
Original Well Elev WELL @ 4860.0ft (Original Well Elev)						

NOBLE ENERGY INC WELD COUNTY CO



Howard USX A09-14D Pad Sec.9-T6N-R64W
 Howard USX A09-09D
 Noble Howard USX A09-09D Plan #1 (4-11-11)
 13:59, April 12 2011



Azimuths to True North
 Magnetic North: 8.78°

Magnetic Field
 Strength: 53223.9snT
 Dip Angle: 67.17°
 Date: 4/11/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2000'FSL, 660'FEL	5000.0	695.9	508.9	40.498860	-104.548060	Point
LEGAL BOX 400' X 400' 1993'FSL, 651'FEL	6740.0	688.9	517.9	40.498841	-104.548028	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 2000'FSL, 660'FEL	6740.0	695.9	508.9	40.498860	-104.548060	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	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1000.0	5.00	0.00	999.7	10.9	0.0	2.00	0.00	8.8	
4	1515.4	13.82	37.53	1508.0	82.4	37.6	2.00	54.43	88.7	
5	4406.7	13.82	37.53	4315.6	630.1	458.4	0.00	0.00	779.2	
6	5097.8	0.00	0.00	5000.0	695.9	508.9	2.00	180.00	862.1	TARGET BHL 2000'FSL, 660'FEL
7	7302.8	0.00	0.00	7205.0	695.9	508.9	0.00	0.00	862.1	