

ENSIGN

Directional

Well Name: Howard USX A09-14D

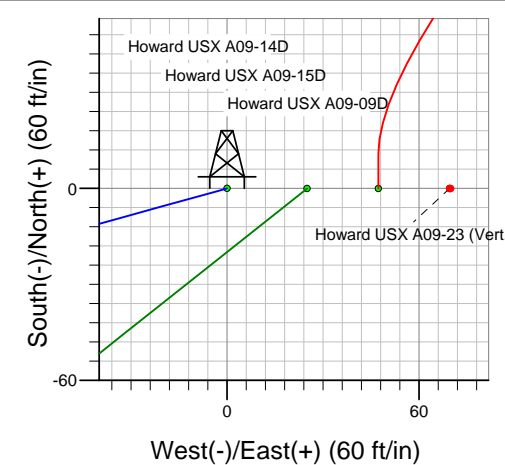
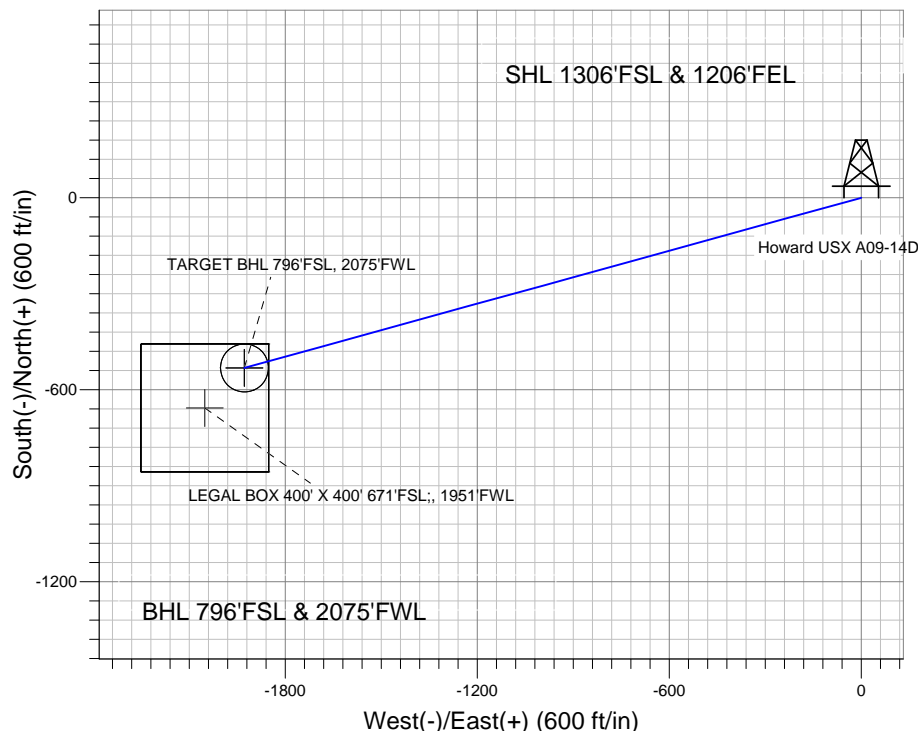
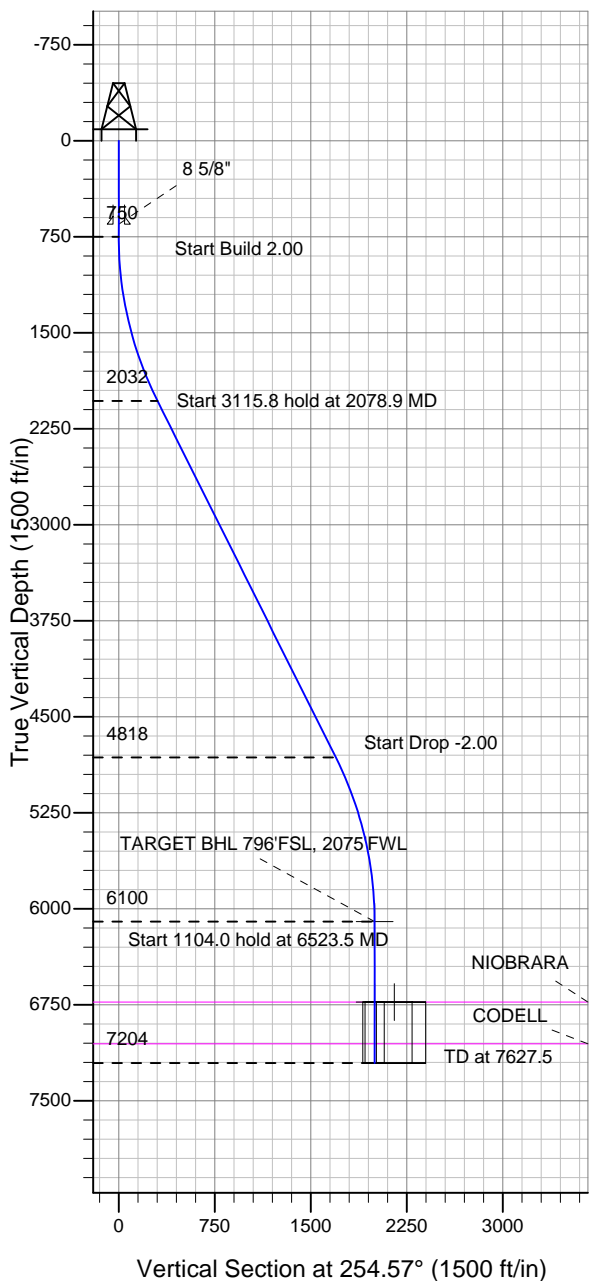
Surface Location: Howard USX A09-14D Pad Sec.9-T6N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4846.0

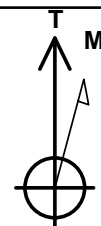
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1425294.44	3264184.72	40.496950	-104.550060	

Original Well Elev WELL @ 4859.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Howard USX A09-14D Pad Sec.9-T6N-R64W
Howard USX A09-14D
Noble Howard USX A09-14D Plan #1 (4-11-11)
13:25, 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 796'FSL, 2075'FWL	6100.0	-531.8	-1927.4	40.495490	-104.556990	Point
LEGAL BOX 400' X 400' 671'FSL, 1951'FWL	6729.0	-656.8	-2051.4	40.495147	-104.557436	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 796'FSL, 2075'FWL	6729.0	-531.8	-1927.4	40.495490	-104.556990	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	2078.9	26.58	254.57	2031.7	-80.5	-291.8	2.00	254.57	302.7	
4	5194.7	26.58	254.57	4818.3	-451.3	-1635.6	0.00	0.00	1696.7	
5	6523.5	0.00	0.00	6100.0	-531.8	-1927.4	2.00	180.00	1999.5	TARGET BHL 796'FSL, 2075'FWL
6	7627.5	0.00	0.00	7204.0	-531.8	-1927.4	0.00	0.00	1999.5	