

ENSIGN

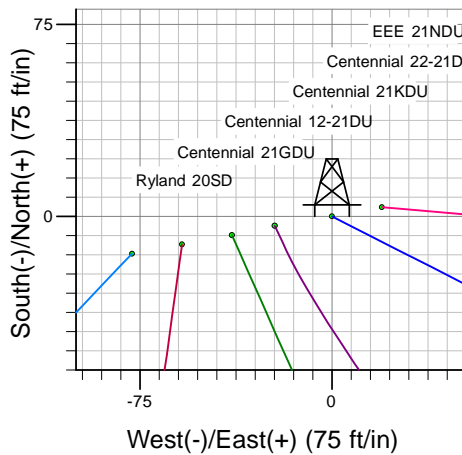
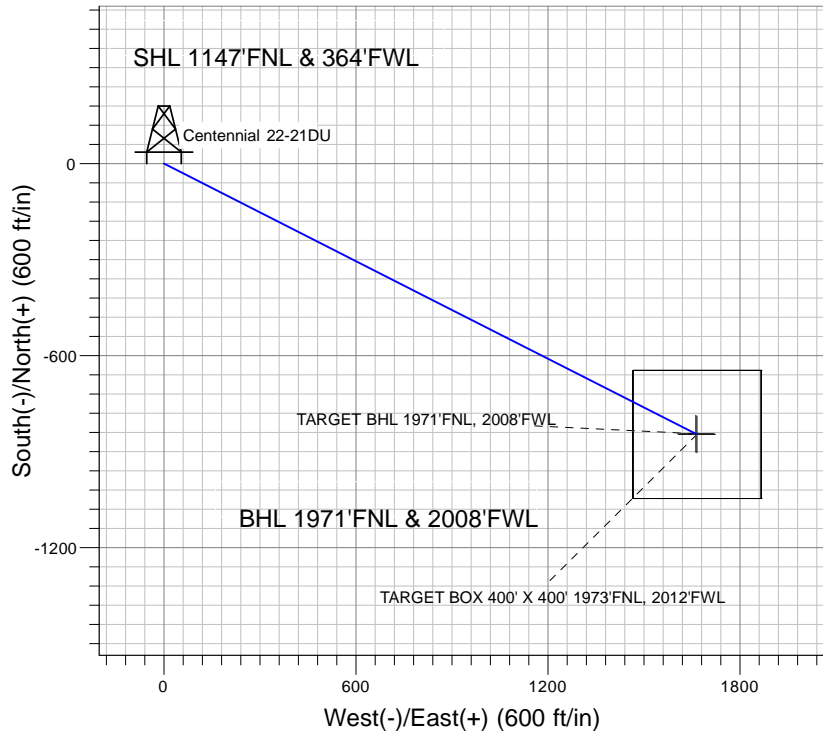
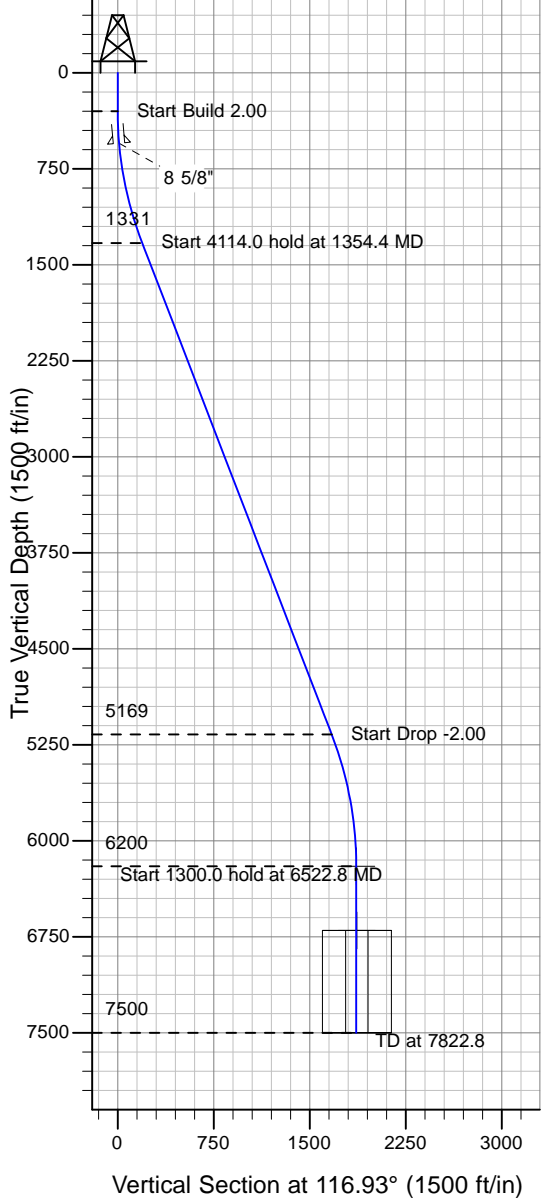
Directional

Well Name: Centennial 22-21DU

Surface Location: EEE/Ryland 20SD Pad Sec.21-T4N-R67W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4922.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1353599.79 3166134.82 40° 18' 9.000 N 104° 54' 15.624 W
 Original Well Elev WELL @ 4935.0ft (Original Well Elev)

PETROLEUM DEVELOPMENT CORP Weld County CO



EEE/Ryland 20SD Pad Sec.21-T4N-R67W
 Centennial 22-21DU
 Plan #2 (3-18-10)
 13:06, March 18 2010



Azimuths to True North
 Magnetic North: 9.09°

Magnetic Field
 Strength: 53237.1nT
 Dip Angle: 67.01°
 Date: 12/31/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1971'FNL, 2008'FWL	6200.0	-844.2	1661.9	40° 18' 0.657 N	104° 53' 54.175 W	Point
TARGET BOX 400' X 400' 1973'FNL, 2012'FWL	6700.0	-846.2	1665.9	40° 18' 0.637 N	104° 53' 54.123 W	Rectangle (Sides: L400.0 W400.0)

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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1354.4	21.09	116.93	1330.8	-86.9	171.1	2.00	116.93	191.9	
4	5468.4	21.09	116.93	5169.2	-757.3	1490.8	0.00	0.00	1672.1	
5	6522.8	0.00	0.00	6200.0	-844.2	1661.9	2.00	180.00	1864.0	TARGET BHL 1971'FNL, 2008'FWL
6	7822.8	0.00	0.00	7500.0	-844.2	1661.9	0.00	0.00	1864.0	