

ENSIGN

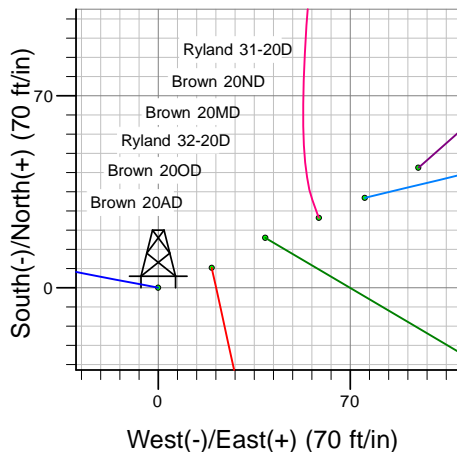
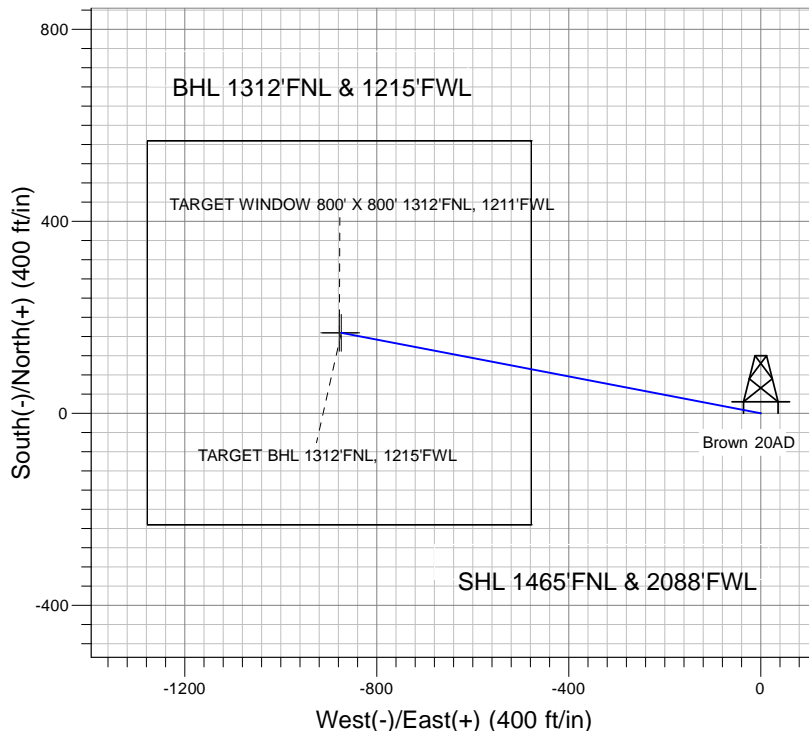
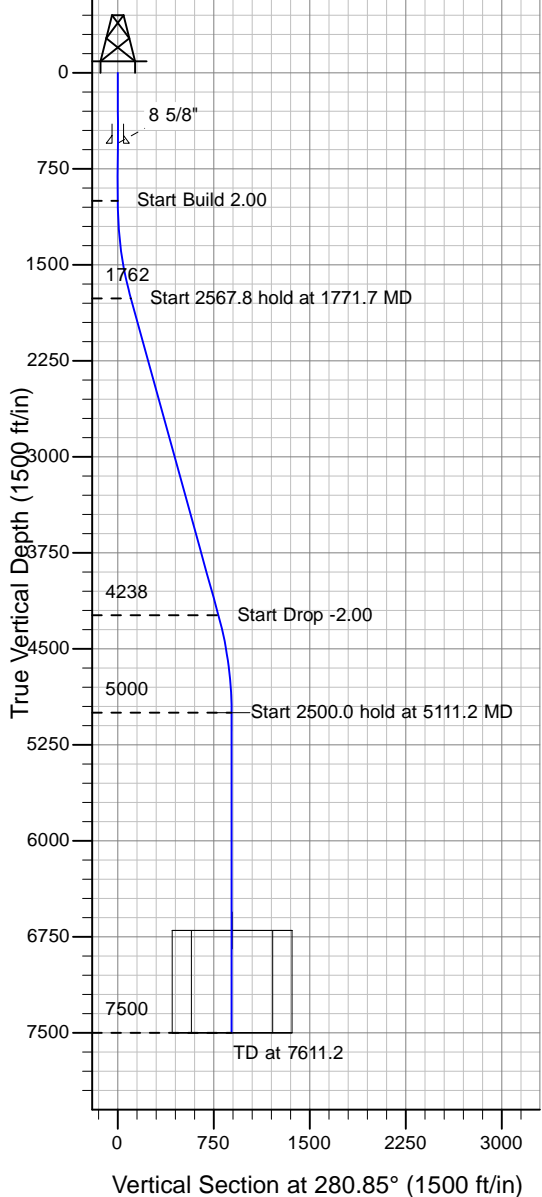
Directional

Well Name: Brown 20AD

Surface Location: Brown/Ryland Pad Sec.20-T4N-R67W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4900.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1353320.39 3163015.58 40° 18' 6.444 N 104° 54' 55.908 W
 Original Well Elev WELL @ 4913.0ft (Original Well Elev)

PETROLEUM DEVELOPMENT CORP Weld County CO



Brown/Ryland Pad Sec.20-T4N-R67W
 Brown 20AD
 Plan #1 (1-6-10)
 12:58, January 07 2010



Azimuths to True North
 Magnetic North: 9.09°

Magnetic Field
 Strength: 53235.7nT
 Dip Angle: 67.00°
 Date: 12/31/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1312'FNL, 1215'FWL	5000.0	167.5	-874.1	40° 18' 8.099 N	104° 55' 7.190 W	Point
TARGET WINDOW 800' X 800' 1312'FNL, 1211'FWL	6700.0	167.5	-878.1	40° 18' 8.099 N	104° 55' 7.241 W	Rectangle (Sides: L800.0 W800.0)

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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1771.7	15.43	280.85	1762.4	19.4	-101.5	2.00	280.85	103.3	
4	4339.5	15.43	280.85	4237.6	148.1	-772.6	0.00	0.00	786.7	
5	5111.2	0.00	0.00	5000.0	167.5	-874.1	2.00	180.00	890.0	TARGET BHL 1312'FNL, 1215'FWL
6	7611.2	0.00	0.00	7500.0	167.5	-874.1	0.00	0.00	890.0	