

ENSIGN

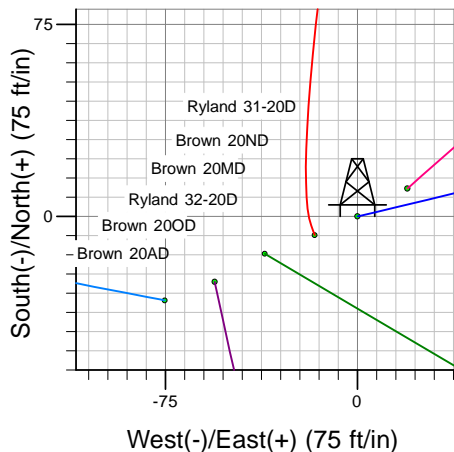
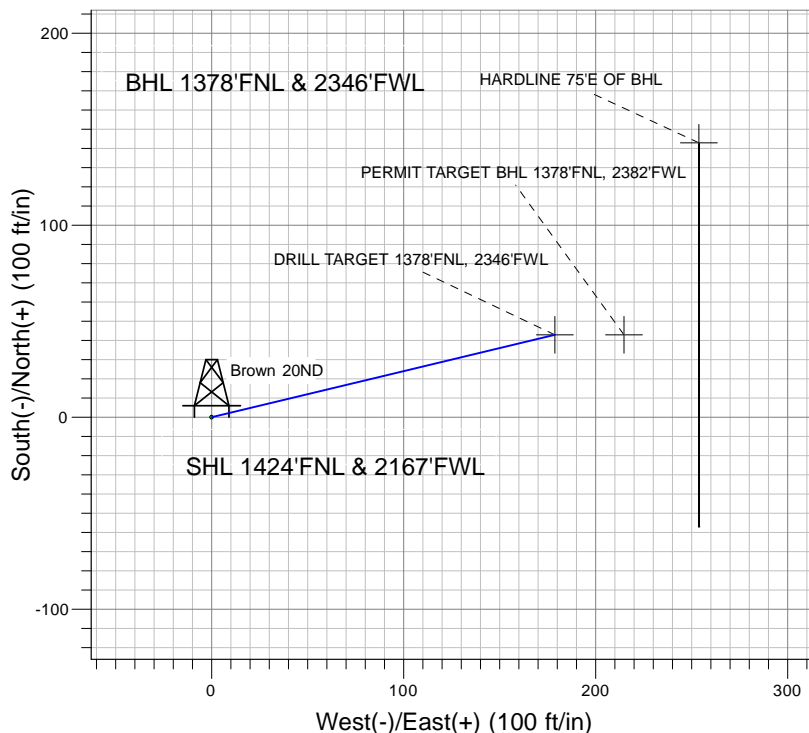
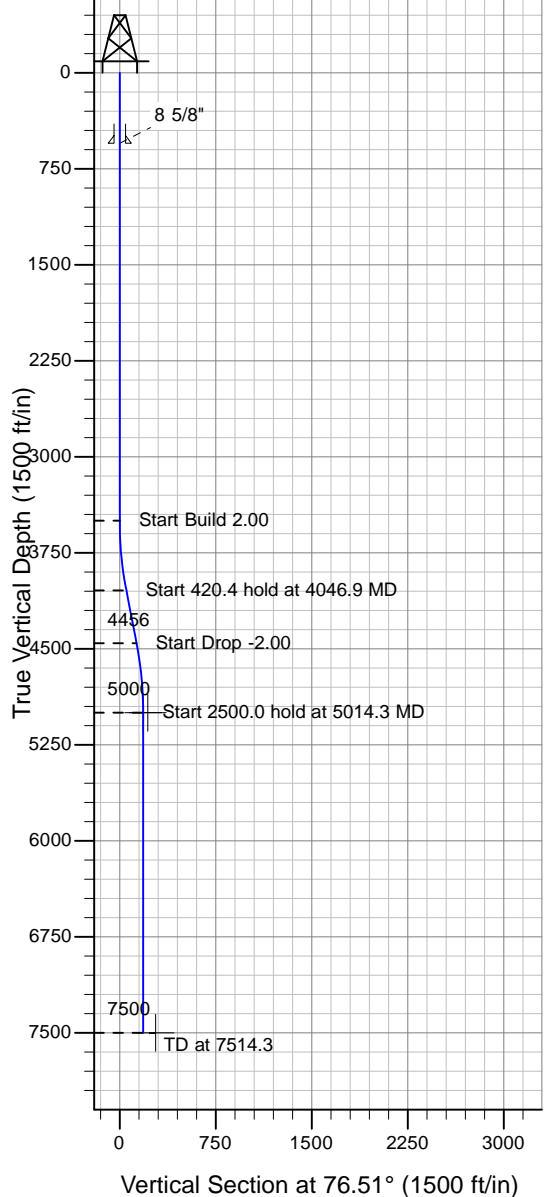
Directional

Well Name: Brown 20ND

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 1353353.67 3163090.67 40° 18' 6.768 N 104° 54' 54.936 W
 Original Well Elev WELL @ 4913.0ft (Original Well Elev)

PETROLEUM DEVELOPMENT CORP Weld County CO



Brown/Ryland Pad Sec.20-T4N-R67W
 Brown 20ND
 Plan #1 (1-6-10)
 17:56, January 07 2010



Azimuths to True North
 Magnetic North: 9.09°
 Magnetic Field
 Strength: 53235.7snT
 Dip Angle: 67.00°
 Date: 12/31/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DRILL TARGET 1378'FNL, 2346'FWL	5000.0	42.9	178.8	40° 18' 7.192 N	104° 54' 52.628 W	Point
PERMIT TARGET BHL 1378'FNL, 2382'FWL	5000.0	42.9	214.8	40° 18' 7.192 N	104° 54' 52.164 W	Point
HARDLINE 75'E OF BHL	7500.0	142.9	253.8	40° 18' 8.180 N	104° 54' 51.660 W	Polygon

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	3500.0	0.00	0.00	3500.0	0.0	0.0	0.00	0.00	0.0	
3	4046.9	10.94	76.51	4043.6	12.1	50.6	2.00	76.51	52.0	
4	4467.3	10.94	76.51	4456.4	30.8	128.2	0.00	0.00	131.8	
5	5014.3	0.00	0.00	5000.0	42.9	178.8	2.00	180.00	183.9	DRILL TARGET 1378'FNL, 2346'FWL
6	7514.3	0.00	0.00	7500.0	42.9	178.8	0.00	0.00	183.9	