

ENSIGN

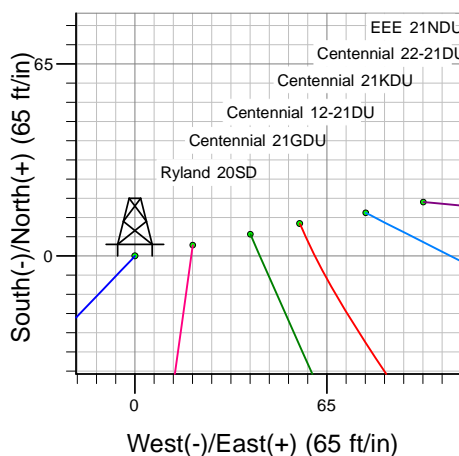
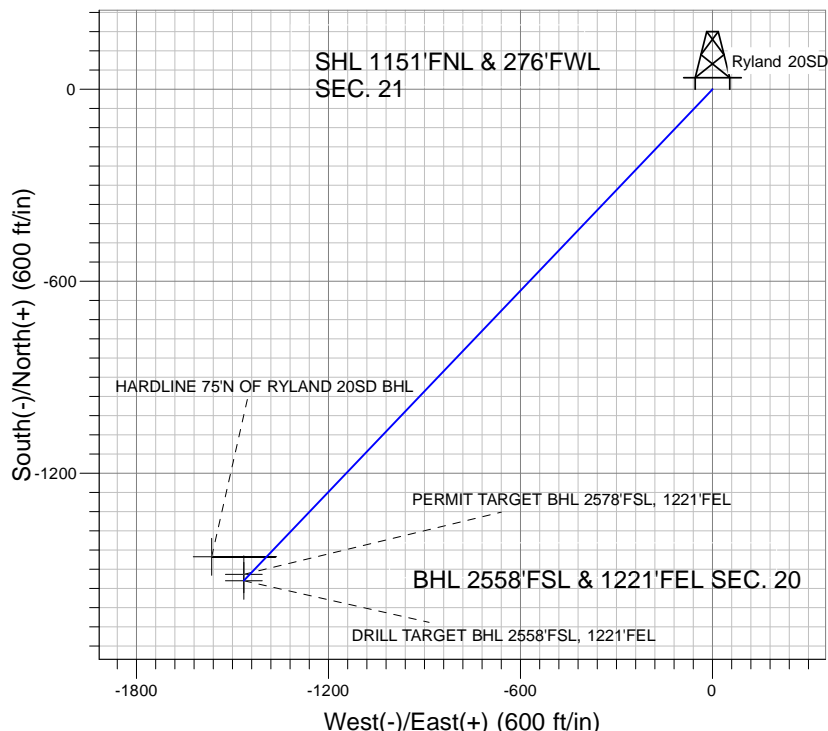
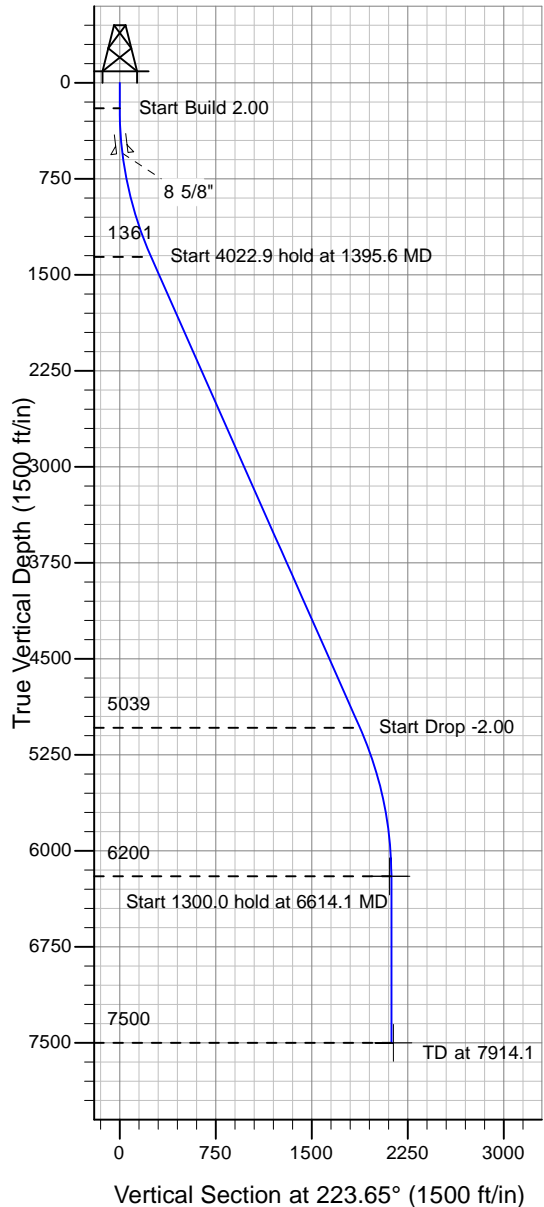
Directional

Well Name: Ryland 20SD

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 1353584.70 3166056.83 40° 18' 8.856 N 104° 54' 16.632 W
 Original Well Elev WELL @ 4935.0ft (Original Well Elev)

PETROLEUM DEVELOPMENT CORP Weld County CO



EEE/Ryland 20SD Pad Sec.21-T4N-R67W
 Ryland 20SD
 Plan #1 (3-18-10)
 13:18, March 18 2010



Azimuths to True North
 Magnetic North: 9.09°

Magnetic Field
 Strength: 53237.0nT
 Dip Angle: 67.01°
 Date: 12/31/2009
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DRILL TARGET BHL 2558'FSL, 1221'FEL	6200.0	-1535.6	-1465.1	40° 17' 53.681 N	104° 54' 35.541 W	Point
PERMIT TARGET BHL 2578'FSL, 1221'FEL	6200.0	-1515.6	-1465.1	40° 17' 53.879 N	104° 54' 35.541 W	Point
HARDLINE 75'N OF RYLAND 20SD BHL	7500.0	-1460.6	-1565.1	40° 17' 54.422 N	104° 54' 36.831 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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1395.6	23.91	223.65	1361.2	-177.9	-169.7	2.00	223.65	245.9	
4	5418.5	23.91	223.65	5038.8	-1357.7	-1295.4	0.00	0.00	1876.5	
5	6614.1	0.00	0.00	6200.0	-1535.6	-1465.1	2.00	180.00	2122.4	DRILL TARGET BHL 2558'FSL, 1221'FEL
6	7914.1	0.00	0.00	7500.0	-1535.6	-1465.1	0.00	0.00	2122.4	