

ENSIGN

Directional

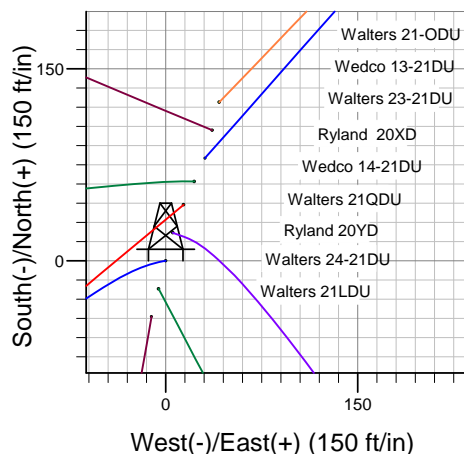
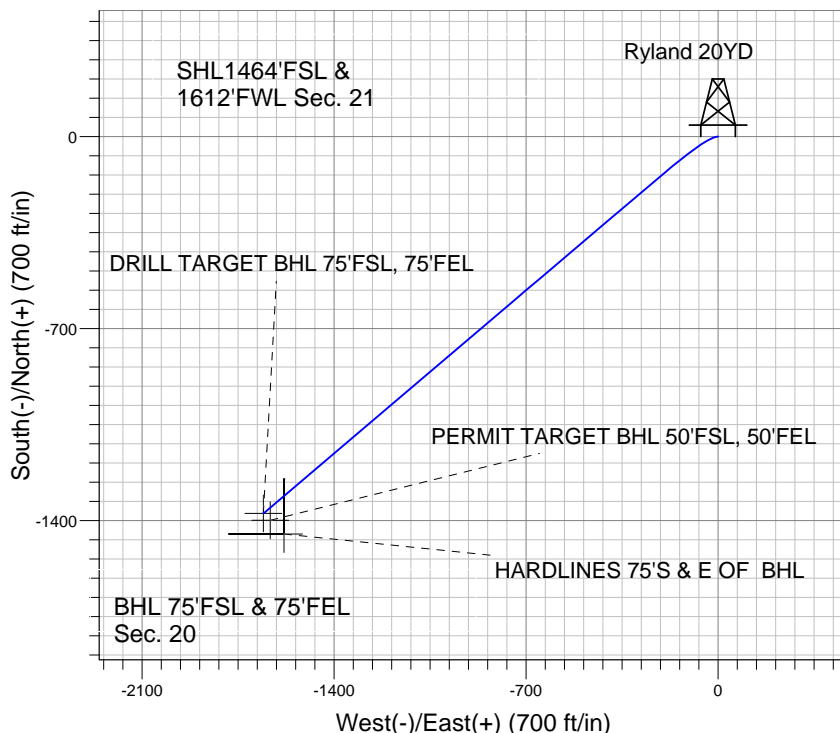
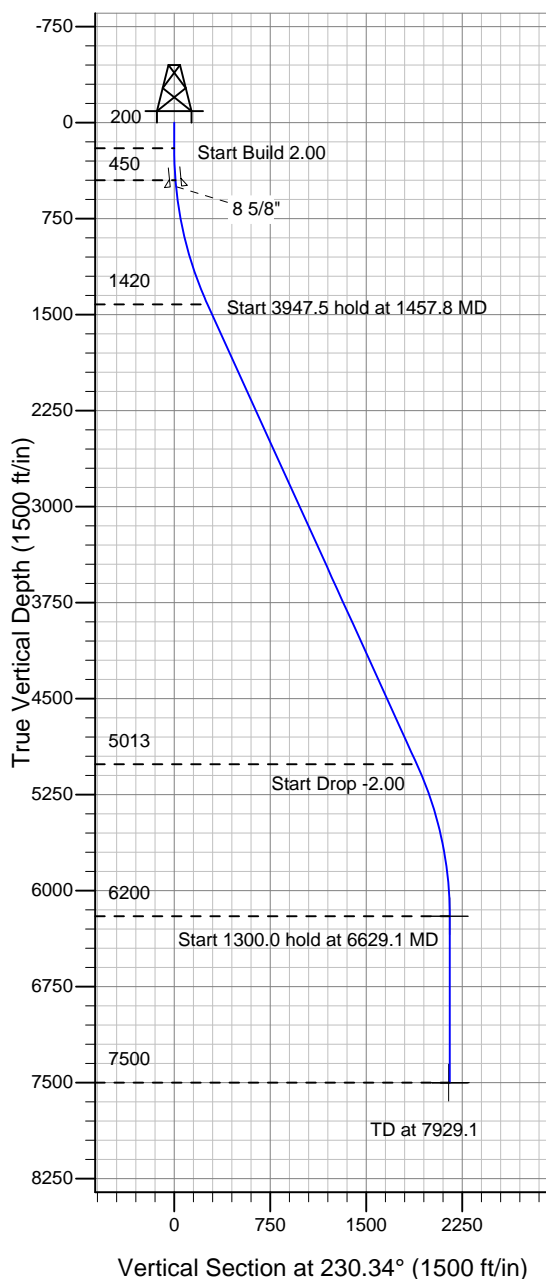
Well Name: **Ryland 20YD**

Surface Location: Walters/Wedco/Ryland Pad Sec.21-T4N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4940.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1350934.72	3167449.83	40° 17' 42.576 N	104° 53' 58.884 W	
		Original Well Elev WELL @ 4953.0ft (Original Well Elev)				

PETROLEUM DEVELOPMENT CORP Weld County CO



Ryland 20YD
Plan #1 (6-4-10)
9:02, June 09 2010



Azimuths to True North
Magnetic North: 9.09°
Magnetic Field
Strength: 53233.6snT
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 BHL 75'FSL, 75'FEL	6200.0	-1374.2	-1657.4	40° 17' 28.996 N	104° 54' 20.272 W	Point
PERMIT TARGET BHL 50'FSL, 50'FEL	6200.0	-1399.2	-1632.4	40° 17' 28.749 N	104° 54' 19.950 W	Point
HARDLINES 75'S & E OF BHL	7500.0	-1449.2	-1582.4	40° 17' 28.255 N	104° 54' 19.304 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	450.0	5.00	257.00	449.7	-2.5	-10.6	2.00	257.00	9.7	
4	1457.8	24.47	229.66	1420.3	-149.0	-214.6	2.00	-33.52	260.3	
5	5405.3	24.47	229.66	5013.2	-1207.6	-1461.2	0.00	0.00	1895.6	
6	6629.1	0.00	0.00	6200.0	-1374.2	-1657.4	2.00	180.00	2153.0	DRILL TARGET BHL 75'FSL, 75'FEL
7	7929.1	0.00	0.00	7500.0	-1374.2	-1657.4	0.00	0.00	2153.0	