

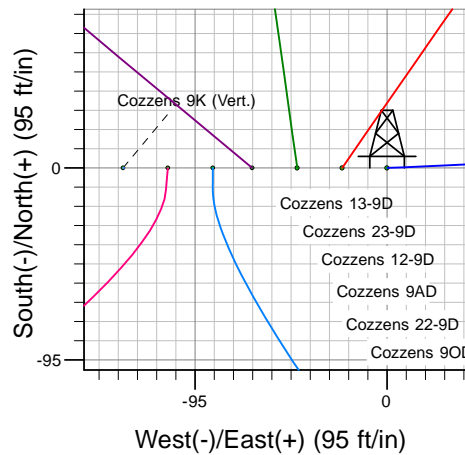
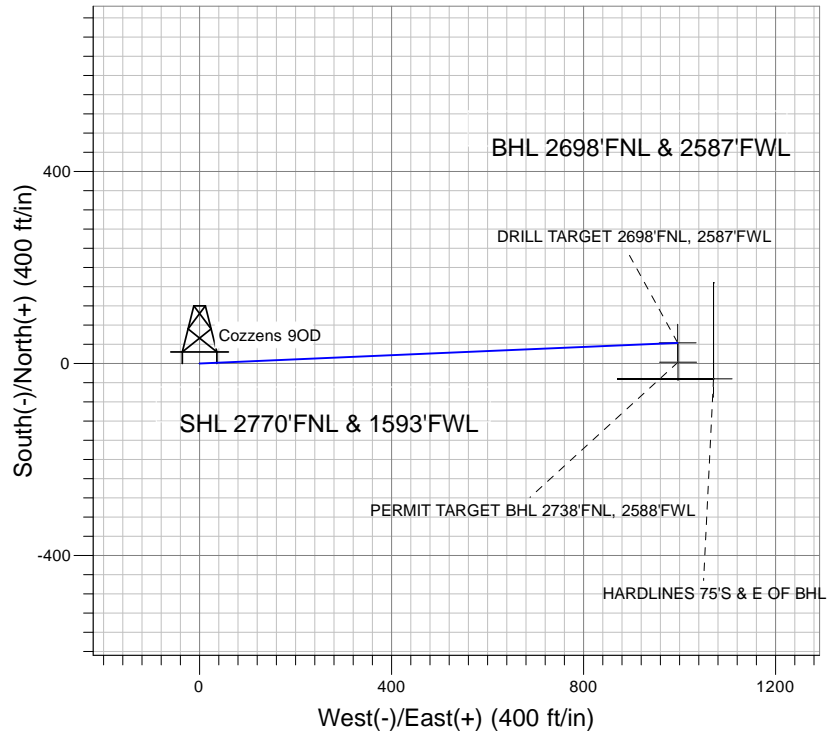
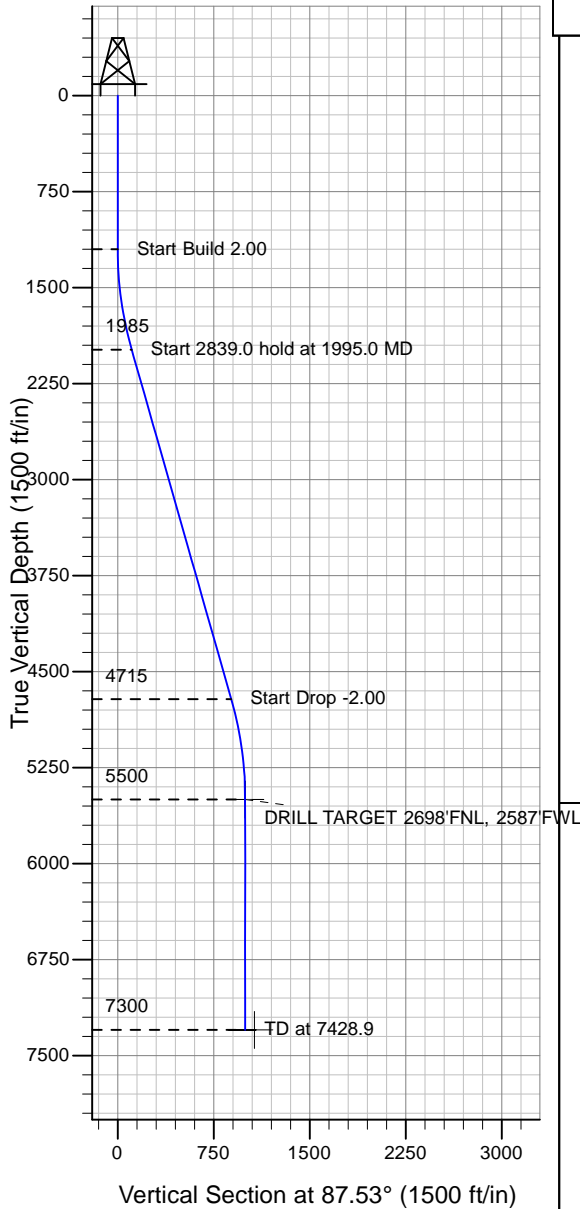
# ENSIGN

## Directional

### Well Name: Cozzens 90D

Surface Location: Cozzens 13-9D Pad Sec.9-TN-R65W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4750.0  
 +N/-S+E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1426407.03 3230159.76 40° 30' 3.384 N 104° 40' 20.496 W  
 Original Well Elev WELL @ 4763.0ft (Original Well Elev)

### PETROLEUM DEVELOPMENT CORP Weld County CO



Cozzens 13-9D Pad Sec.9-TN-R65W  
 Cozzens 90D  
 Plan #1 (10-5-09)  
 15:57, October 06 2009



Azimuths to True North  
 Magnetic North: 9.01°  
 Magnetic Field  
 Strength: 53392.1nT  
 Dip Angle: 67.21°  
 Date: 10/5/2009  
 Model: IGRF200510

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DRILL TARGET 2698'FNL, 2587'FWL	5500.0	43.0	996.0	40° 30' 3.809 N	104° 40' 7.603 W	Point
PERMIT TARGET BHL 2738'FNL, 2588'FWL	5500.0	3.0	997.0	40° 30' 3.413 N	104° 40' 7.590 W	Point
HARDLINES 75'S & E OF BHL	7300.0	-32.0	1071.0	40° 30' 3.067 N	104° 40' 6.632 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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1995.0	15.90	87.53	1984.8	4.7	109.5	2.00	87.53	109.6	
4	4834.0	15.90	87.53	4715.2	38.3	886.5	0.00	0.00	887.3	
5	5628.9	0.00	0.00	5500.0	43.0	996.0	2.00	180.00	996.9	DRILL TARGET 2698'FNL, 2587'FWL
6	7428.9	0.00	0.00	7300.0	43.0	996.0	0.00	0.00	996.9	