

# ENSIGN

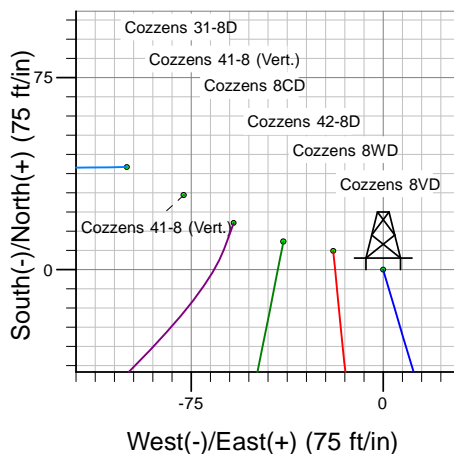
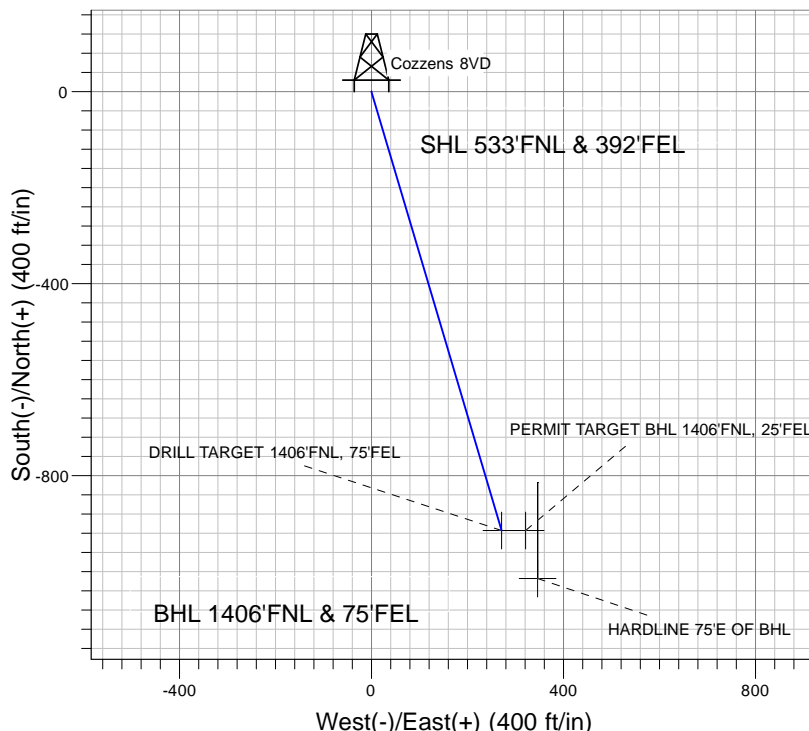
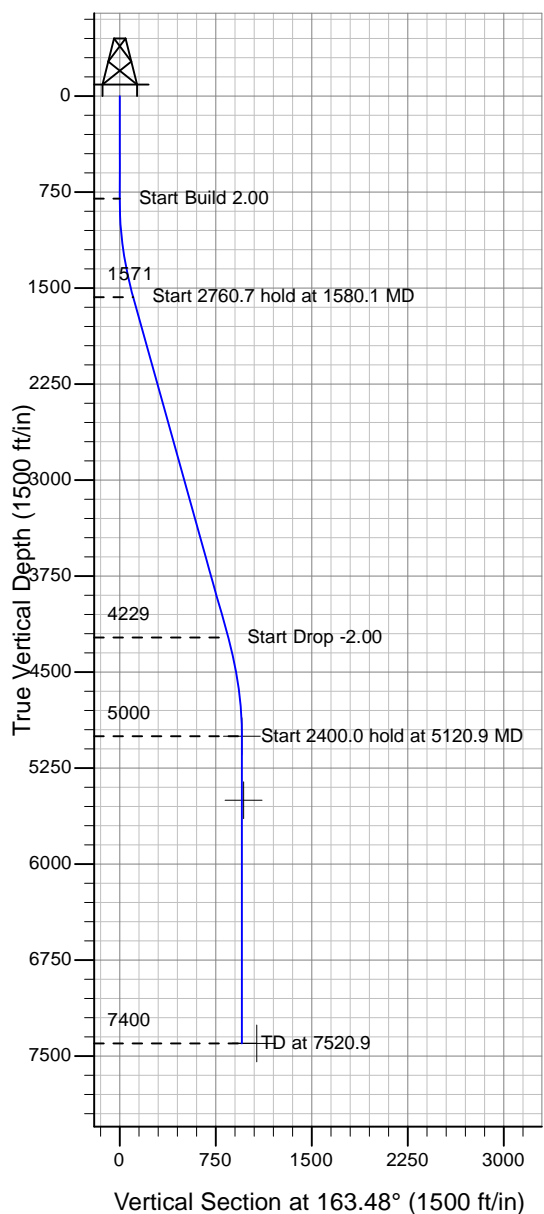
## Directional

### Well Name: Cozzens 8VD

Surface Location: Cozzens 31-8D Pad Sec.8-T6N-R65W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4780.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1428647.54 3228192.27 40° 30' 25.704 N 104° 40' 45.696 W  
 Original Well Elev WELL @ 4793.0ft (Original Well Elev)

### PETROLEUM DEVELOPMENT CORP Weld County CO



Cozzens 31-8D Pad Sec.8-T6N-R65W  
 Cozzens 8VD  
 Plan #1 (9-24-09)  
 9:56, October 02 2009



Azimuths to True North  
 Magnetic North: 9.02°  
 Magnetic Field  
 Strength: 53397.5nT  
 Dip Angle: 67.22°  
 Date: 9/24/2009  
 Model: IGRF200510

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

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DRILL TARGET 1406'FNL, 75'FEL	5000.0	-914.3	271.1	40° 30' 16.669 N	104° 40' 42.186 W	Point
PERMIT TARGET BHL 1406'FNL, 25'FEL	5500.0	-914.3	321.1	40° 30' 16.670 N	104° 40' 41.540 W	Point
HARDLINE 75'E OF BHL	7400.0	-1014.3	346.1	40° 30' 15.681 N	104° 40' 41.216 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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1580.1	15.60	163.48	1570.5	-101.2	30.0	2.00	163.48	105.6	
4	4340.8	15.60	163.48	4229.5	-813.1	241.1	0.00	0.00	848.1	
5	5120.9	0.00	0.00	5000.0	-914.3	271.1	2.00	180.00	953.6	DRILL TARGET 1406'FNL, 75'FEL
6	7520.9	0.00	0.00	7400.0	-914.3	271.1	0.00	0.00	953.6	