

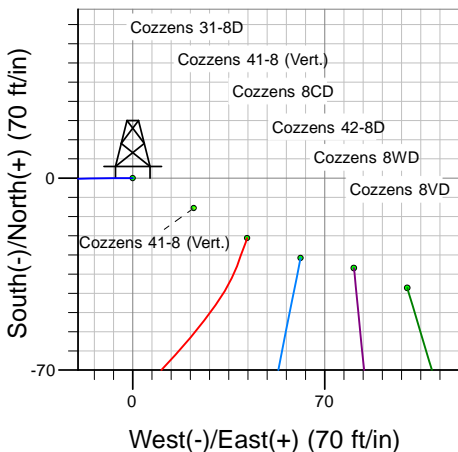
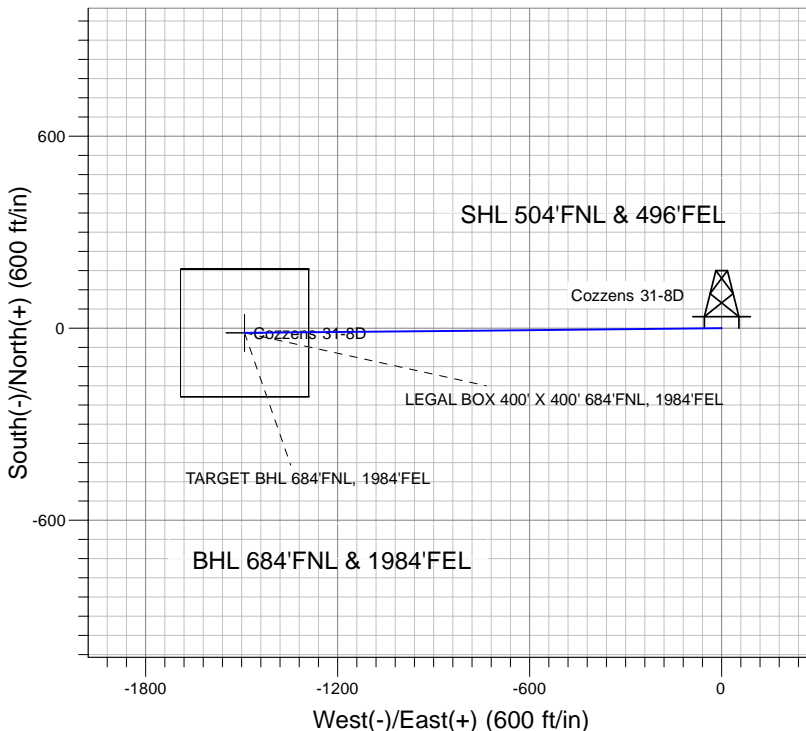
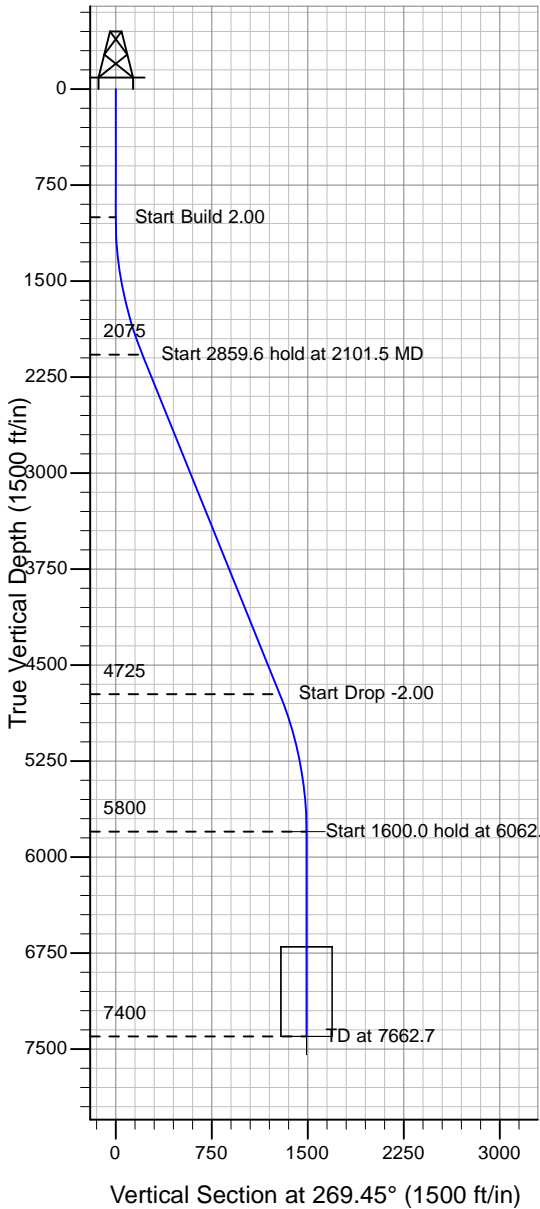
ENSIGN Directional

Well Name:Cozzens 31-8D

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 1428686.69 3228091.80 40° 30' 26.100 N104° 40' 46.992 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 31-8D
 Plan #1 (9-24-09)
 10:30, 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
TARGET BHL 684'FNL, 1984'FEL	5800.0	-14.3	-1490.9	40° 30' 25.958 N	104° 41' 6.293 W	Point
LEGAL BOX 400' X 400' 684'FNL, 1984'FEL	7400.0	-14.3	-1490.9	40° 30' 25.958 N	104° 41' 6.293 W	Rectangle (Sides: L400.0 W400.0)

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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	2101.5	22.03	269.45	2074.6	-2.0	-209.2	2.00	269.45	209.2	
4	4961.2	22.03	269.45	4725.4	-12.3	-1281.8	0.00	0.00	1281.8	
5	6062.7	0.00	0.00	5800.0	-14.3	-1490.9	2.00	180.00	1491.0	TARGET BHL 684'FNL, 1984'FEL
6	7662.7	0.00	0.00	7400.0	-14.3	-1490.9	0.00	0.00	1491.0	