

ENSIGN

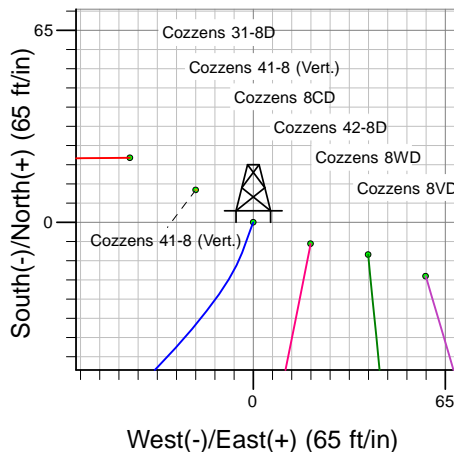
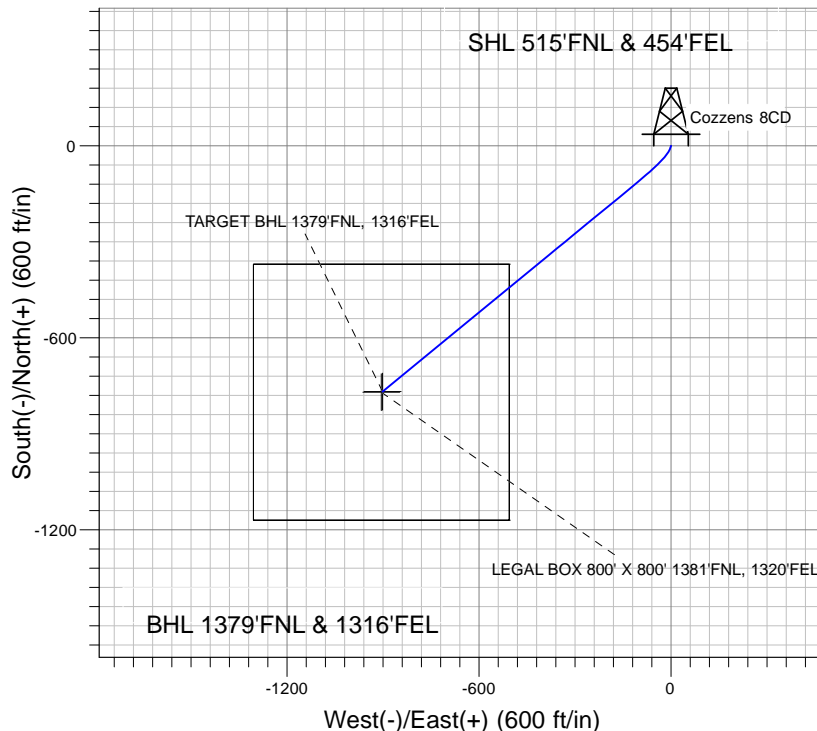
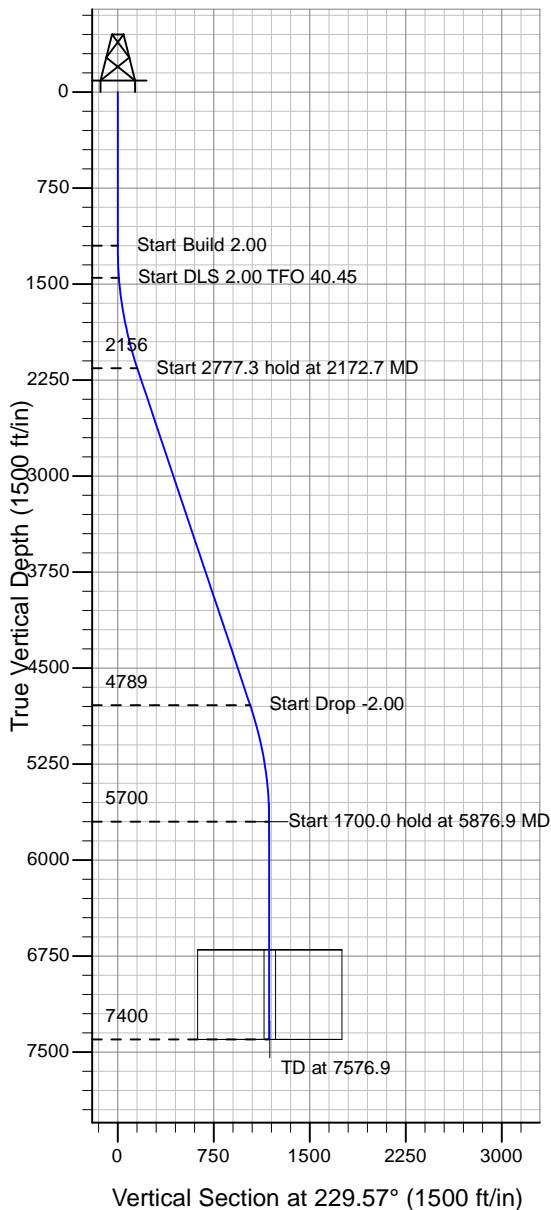
Directional

Well Name: Cozzens 8CD

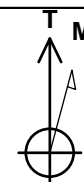
Surface Location: Cozzens 31-8D Pad Sec.8-T6N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4780.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.01428665.21 3228133.71 40° 30' 25.884 N 104° 40' 46.452 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 8CD
 Plan #1 (9-24-09)
 10:51, 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 1379'FNL, 1316'FEL	5700.0	-767.9	-901.2	40° 30' 18.296 N	104° 40' 58.119 W	Point
LEGAL BOX 800' X 800' 1381'FNL, 1320'FEL	7400.0	-769.9	-905.2	40° 30' 18.276 N	104° 40' 58.170 W	Rectangle (Sides: L800.0 W800.0)

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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1450.0	5.00	200.00	1449.7	-10.2	-3.7	2.00	200.00	9.5	
4	2172.7	18.54	230.62	2156.0	-113.3	-103.8	2.00	40.45	152.5	
5	4950.0	18.54	230.62	4789.2	-673.6	-786.3	0.00	0.00	1035.4	
6	5876.9	0.00	0.00	5700.0	-767.9	-901.2	2.00	180.00	1184.0	TARGET BHL 1379'FNL, 1316'FEL
7	7576.9	0.00	0.00	7400.0	-767.9	-901.2	0.00	0.00	1184.0	