

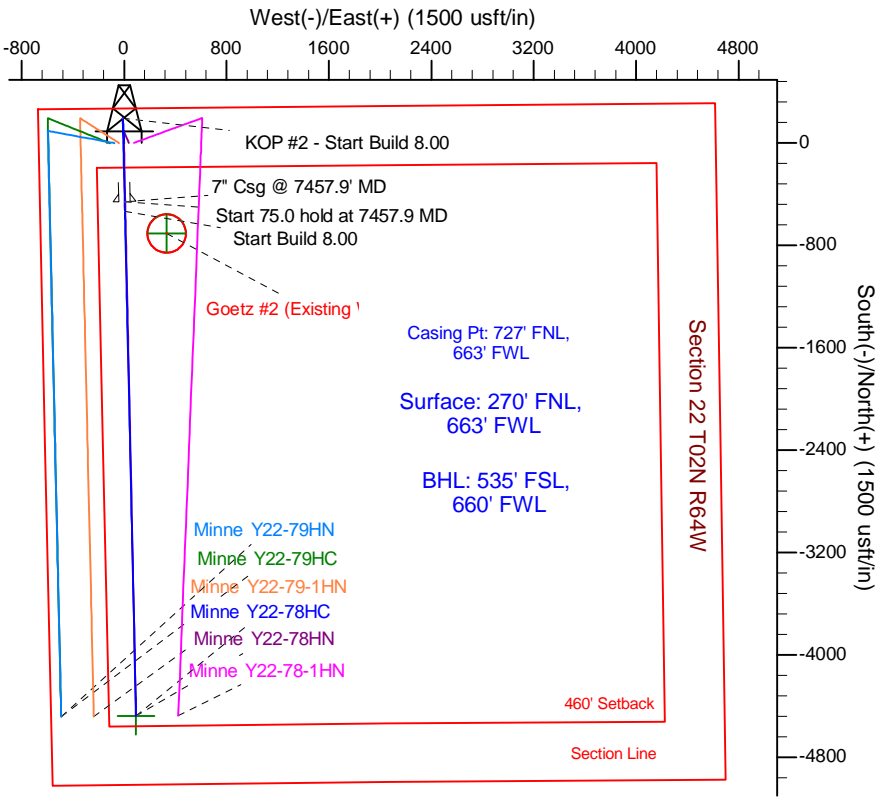
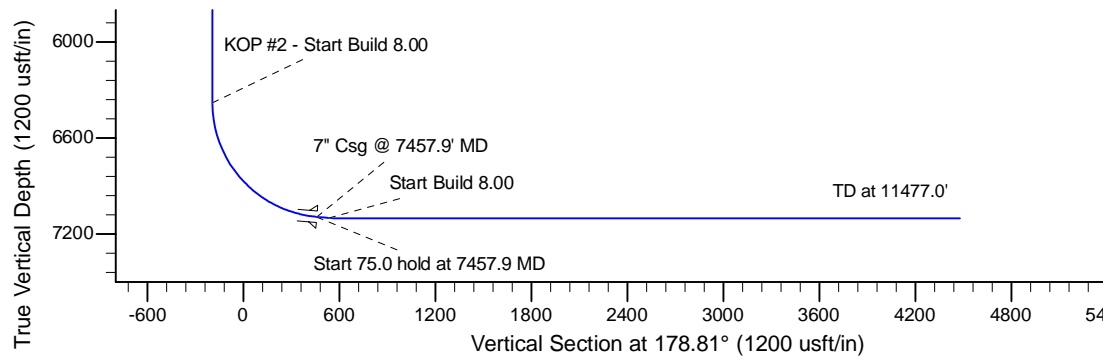
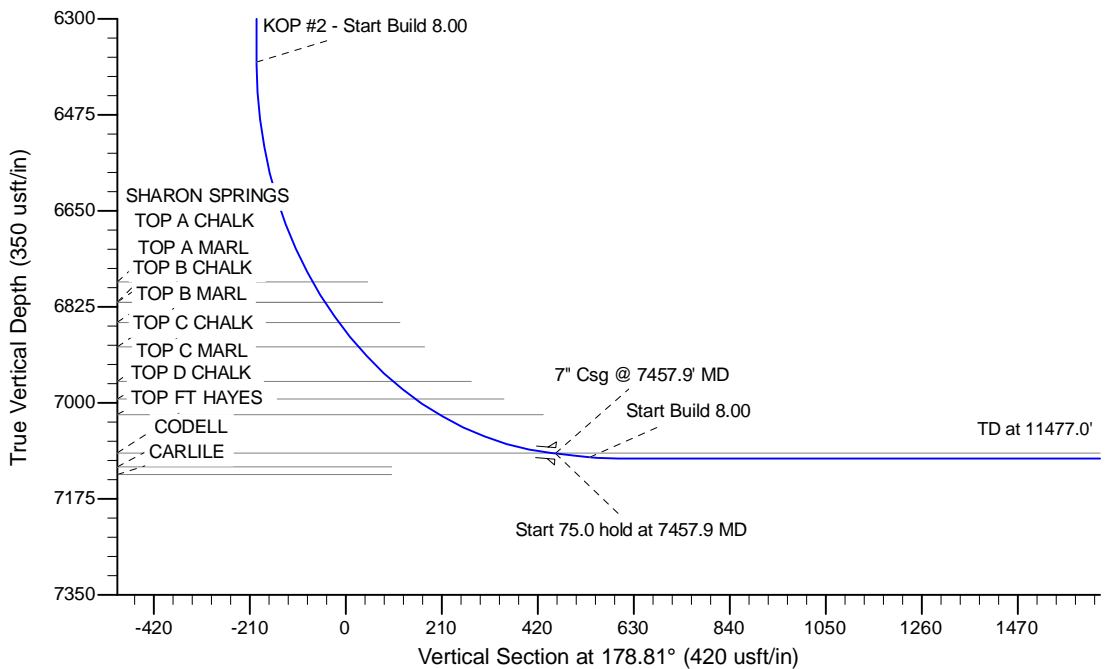
Project: Wattenberg Field  
Site: Y (Sec.22-T02N-R64W) Weld County, CO  
Well: Minne Y22-78HC  
Wellbore: Original Drilling  
Design: APD - Rev 0

# Northern Region Drilling

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0	
3	2401.4	12.03	357.06	2397.0	62.8	-3.2	2.00	357.06	-62.9	
4	2734.7	12.03	357.06	2723.0	132.2	-6.8	0.00	0.00	-132.3	
5	3336.1	0.00	0.00	3320.0	195.0	-10.0	2.00	180.00	-195.2	
6	6395.4	0.00	0.00	6379.3	195.0	-10.0	0.00	0.00	-195.2	
7	7457.9	85.00	178.74	7092.7	-458.6	4.4	8.00	178.74	458.6	
8	7532.9	85.00	178.74	7099.3	-533.3	6.1	0.00	0.00	533.3	
9	7595.4	90.00	178.74	7102.0	-595.7	7.4	8.00	0.00	595.7	
10	11477.0	90.00	178.74	7102.0	-4476.4	93.0	0.00	0.00	4477.4	Minne Y22-78HC BHL 535'FSL, 660'FWL



TGM

Azimuths to Grid North  
True North: -0.62°  
Magnetic North: 7.82°

Magnetic Field  
Strength: 52852.1snT  
Dip Angle: 66.82°  
Date: 3/19/2013  
Model: IGRF200510

WELL DETAILS: Minne Y22-78HC				
Ground Level: 4986.0				
0.0	0.0	Northing	Easting	Latitude
		1291813.05	3267135.91	40.130470
				Longitude
				-104.544620
Plan: APD - Rev 0 (Minne Y22-78HC/Original Drilling)				
Created By: Carrie Willers		Date: 14:31, March 20 2013		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		