

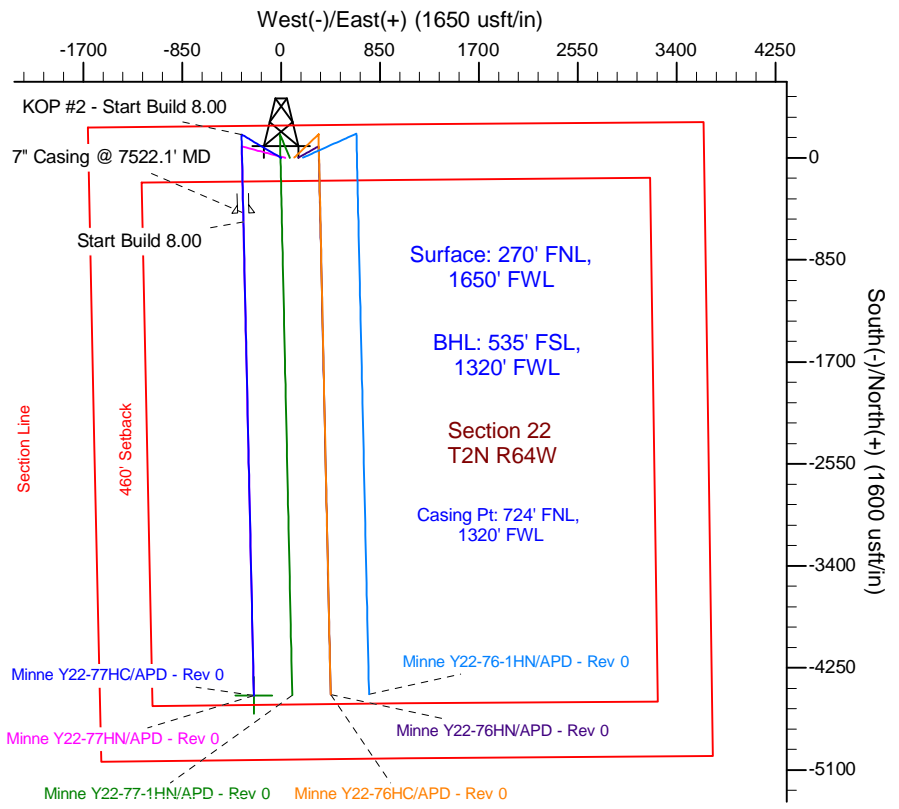
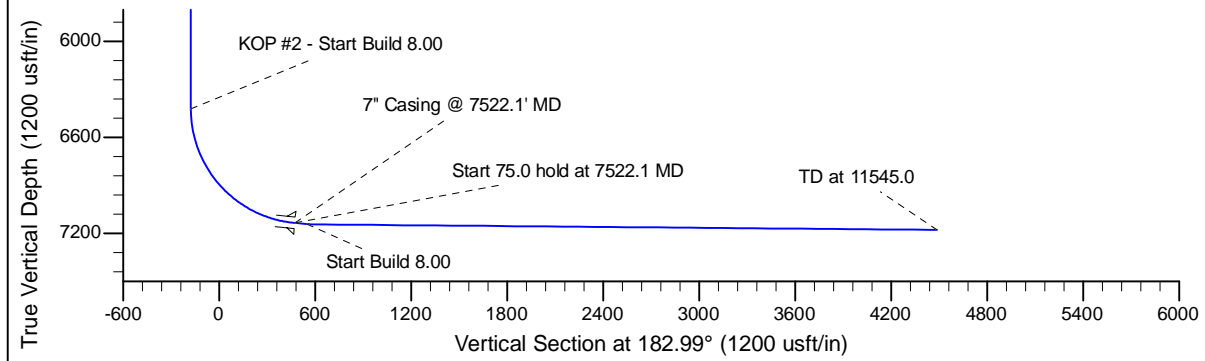
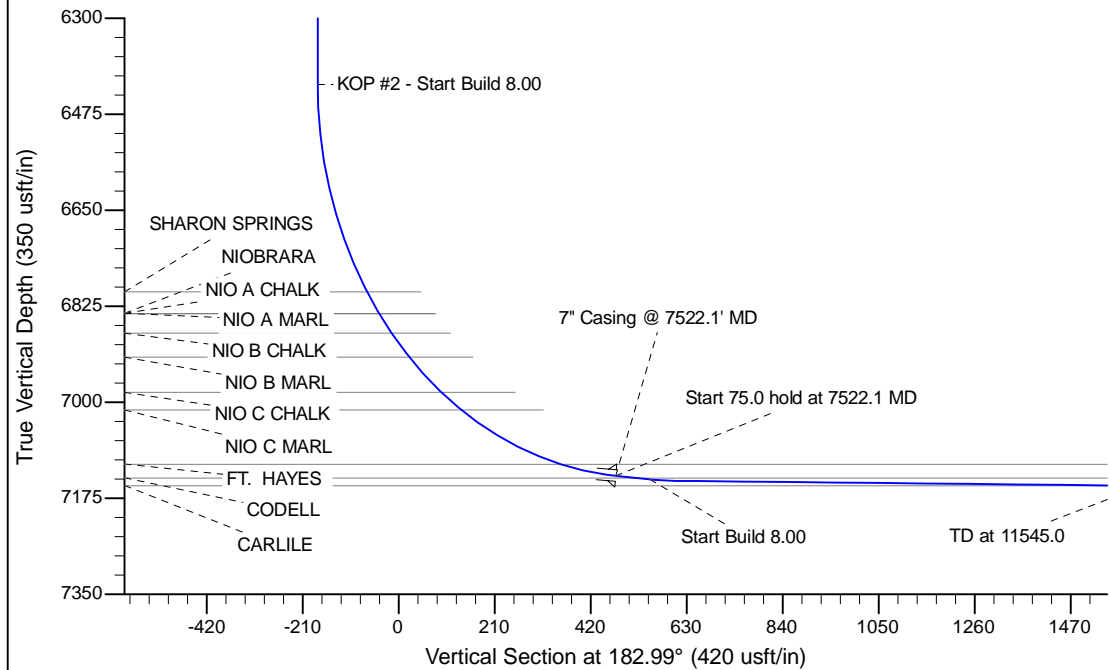
Project: Wattenberg Field  
Site: Y (Sec.22-T02N-R64W) Weld County, CO  
Well: Minne Y22-77HC  
Wellbore: Original Drilling  
Design: APD - Rev 0

# 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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1850.3	13.01	299.84	1844.7	36.6	-63.8	2.00	299.84	-33.2	
4	2938.8	13.01	299.84	2905.3	158.4	-276.2	0.00	0.00	-143.8	
5	3589.1	0.00	0.00	3550.0	195.0	-340.0	2.00	180.00	-177.0	
6	6459.6	0.00	0.00	6420.5	195.0	-340.0	0.00	0.00	-177.0	
7	7522.1	85.00	178.70	7134.0	-458.6	-325.2	8.00	178.70	474.9	
8	7597.1	85.00	178.70	7140.5	-533.3	-323.5	0.00	0.00	549.5	
9	7653.3	89.50	178.70	7143.2	-589.5	-322.2	8.00	0.00	605.5	
10	11545.0	89.50	178.70	7177.2	-4479.9	-234.0	0.00	0.00	4486.0	Minne Y22-77HC BHL 535'FSL, 1320'FWL



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Azimuths to Grid North  
True North: -0.62°  
Magnetic North: 7.81°

Magnetic Field  
Strength: 52850.0snT  
Dip Angle: 66.82°  
Date: 3/27/2013  
Model: IGRF200510

WELL DETAILS: Minne Y22-77HC			
Ground Level:	5008.0	Latitude	40.130470
Northing	1291823.67	Easting	3268122.91
		Longitude	-104.541090
Plan: APD - Rev 0 (Minne Y22-77HC/Original Drilling)			
Created By: Carrie Willers	Date: 17:54, April 03 2013		
Checked: _____	Date: _____		
Reviewed: _____	Date: _____		
Approved: _____	Date: _____		