

Project: Weld County Colorado (NAD 83)
Site: Sec 22, T5N, R65W
Well: Lorenz F22-67-1HN
Wellbore: Plan A Rev 0 (PERMITTING PLAN ONLY)
Design: Plan A Rev 0 Proposal

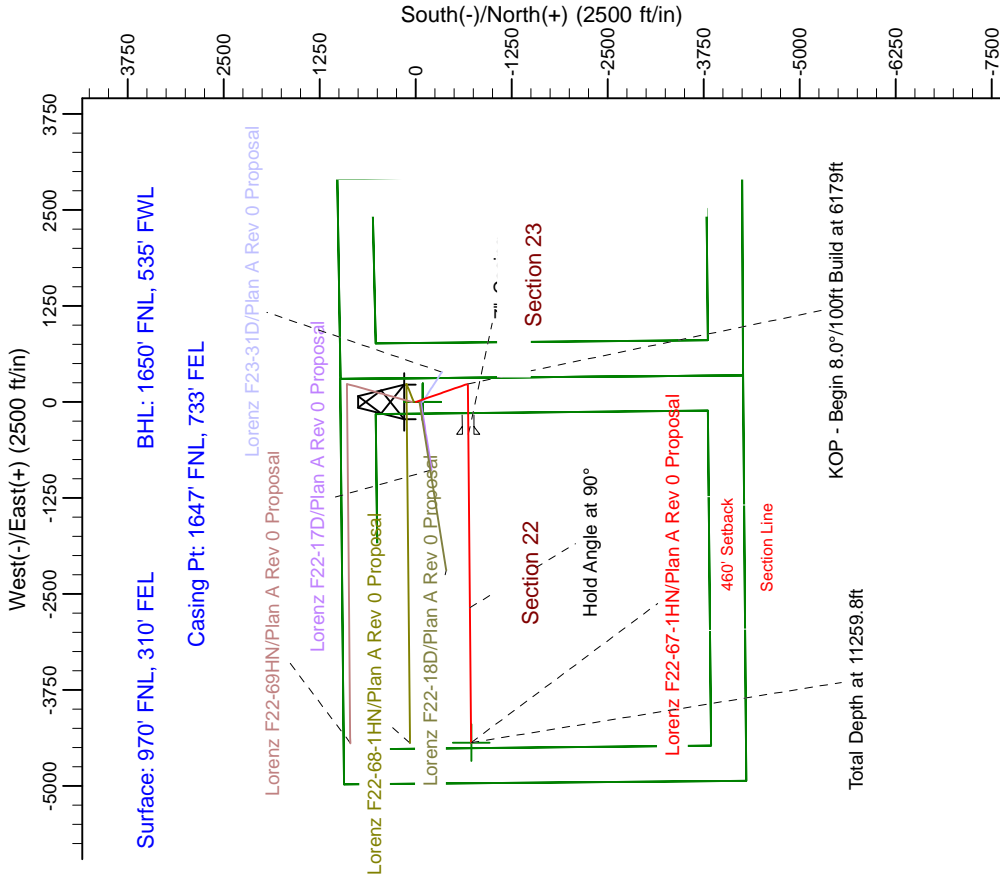
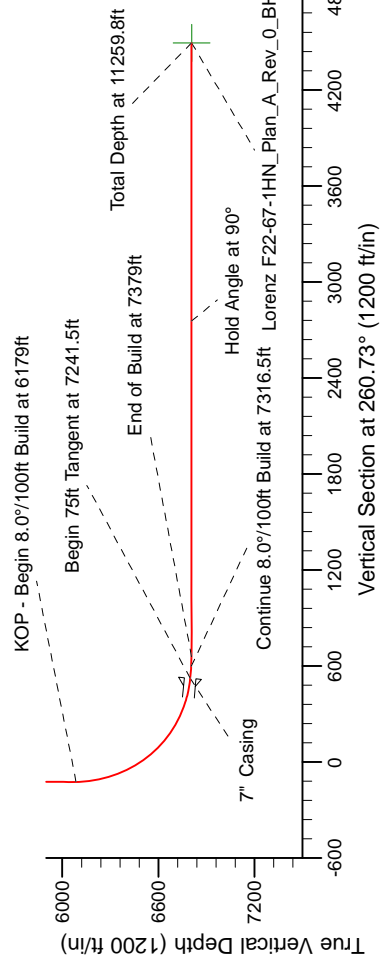
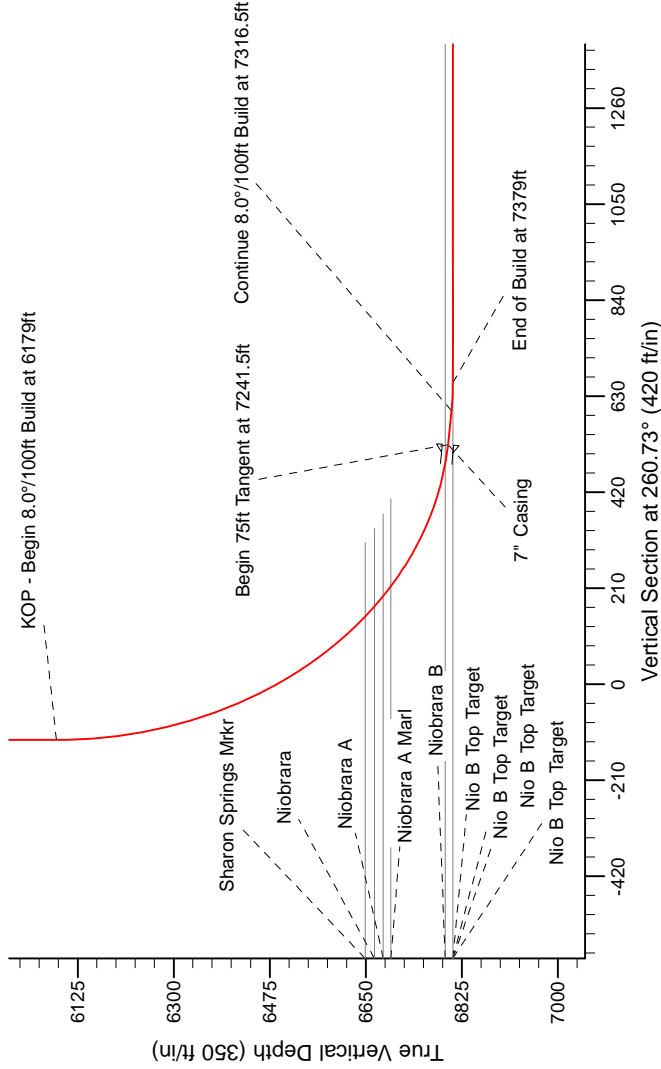
Noble Energy



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	0.0
2	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.00	0.0	0.0
3	2040.0	16.00	160.94	2031.7	-83.9	29.0	2.50	160.94	-15.1	-107.3
4	4006.0	16.00	160.94	3921.5	-596.1	206.0	0.00	0.00	-107.3	-122.4
5	4646.0	0.00	0.00	4553.3	-680.0	235.0	2.50	180.00	-122.4	-122.4
6	6179.0	0.00	0.00	6086.3	-680.0	235.0	0.00	0.00	-122.4	-122.4
7	7241.5	85.00	269.46	6799.8	-686.2	-418.7	8.00	269.46	523.8	523.8
8	7316.5	85.00	269.46	6806.3	-686.3	-493.5	0.00	0.00	597.6	597.6
9	7379.0	90.00	269.46	6809.0	-687.5	-555.9	8.00	0.00	659.3	659.3
10	121259.8	90.00	269.46	6809.0	-723.9	-4436.5	0.00	78.40	4495.1	4495.1

Lorenz F22-67-1HN_Plan_A_Rev_0_BHL



WELL DETAILS: Lorenz F22-67-1HN

Ground Level: 4625.0
Northing: 422390.30
Easting: 987332.05
Latitude: 40° 23' 21.192 N
Longitude: 104° 38' 27.636 W

Plan: Plan A Rev 0 Proposal (Lorenz F22-67-1HN/Plan A Rev 0 (PERMITTING PLAN ONLY))

Created By: Jose Patino Date: 7/25, January 12 2012

Magnetic Model: IGRF2005-10

Assumptions to Grid North:
True North: 0.00°
Magnetic North: 8.12°
Strength: 55.00 Gauss
Dip Angle: 67.05°
Date: 1/12/2012

Grid North is 0.00° East of True North (Grid Convergence)
Magnetic North is 8.12° East of True North (Magnetic Convergence)
To convert a Magnetic Direction to a True Direction, Add 8.12° East
To convert a True Direction to a Grid Direction, Add 8.12° East