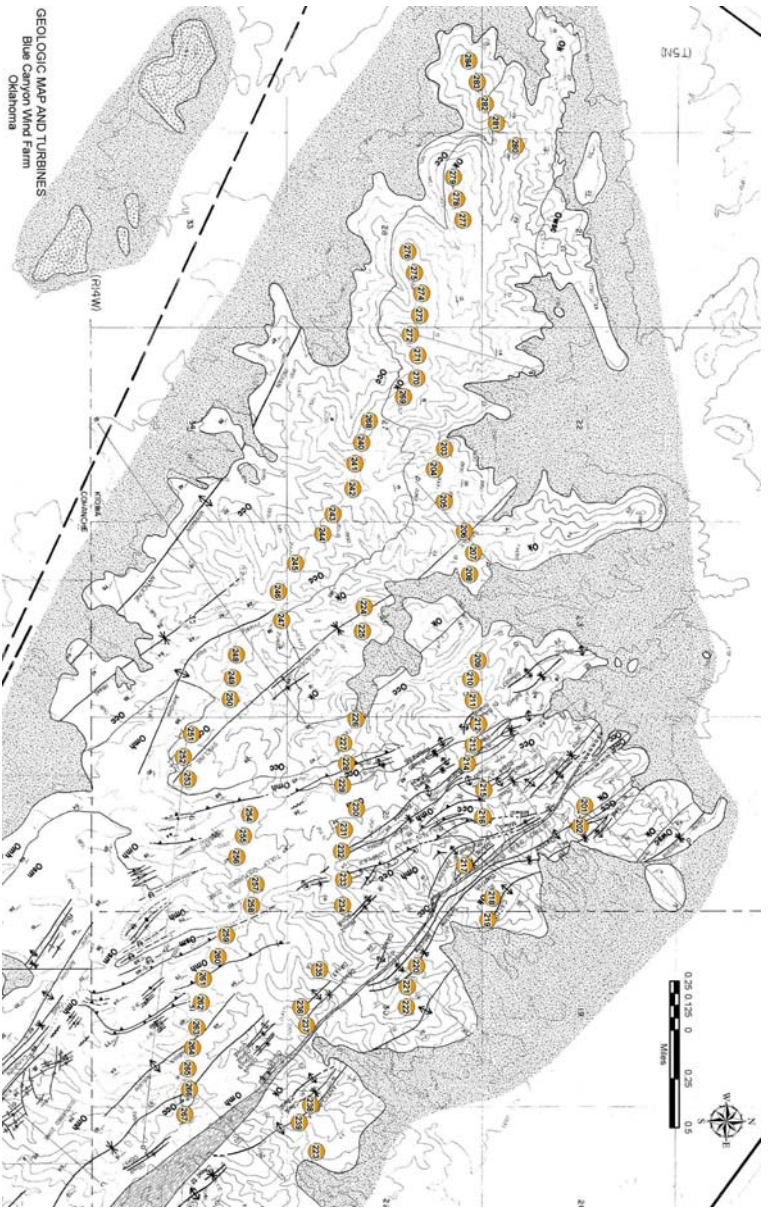


Seismic Characterization of Wind Turbine Sites Near Lawton, Oklahoma, by the MASW Method APPENDIX I: Maps from 2-D Velocity (V_s) Analysis

Choon B. Park and Richard D. Miller
Kansas Geological Survey
University of Kansas
1930 Constant Avenue
Lawrence, Kansas 66047-3726



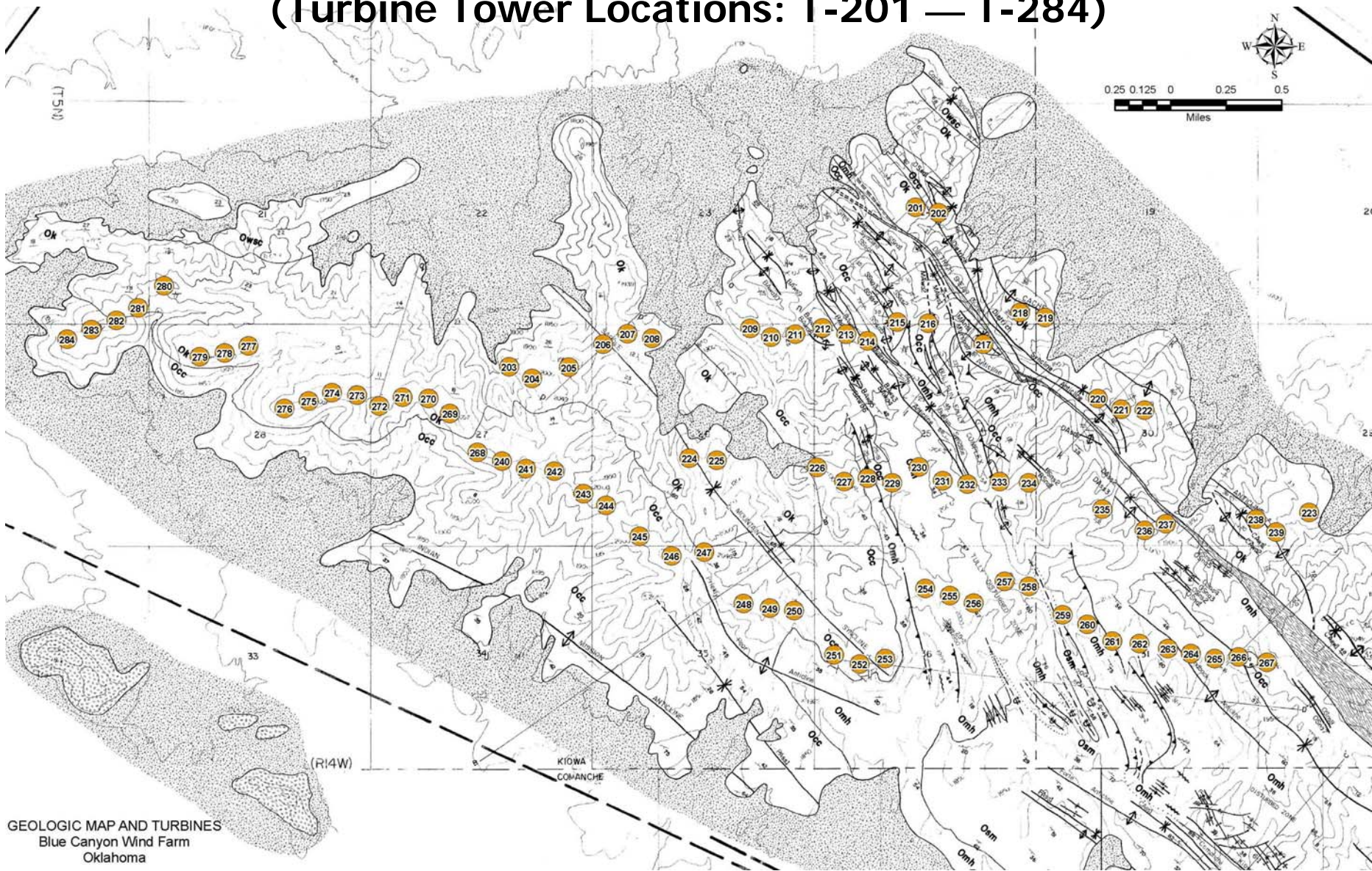
Final Report to

Rick Palm and Chris Kopchynski
Barr Engineering Company
4700 West 77th Street
Minneapolis, MN 55435-4803

Open-file Report 2005-22 (part 2 of 4)

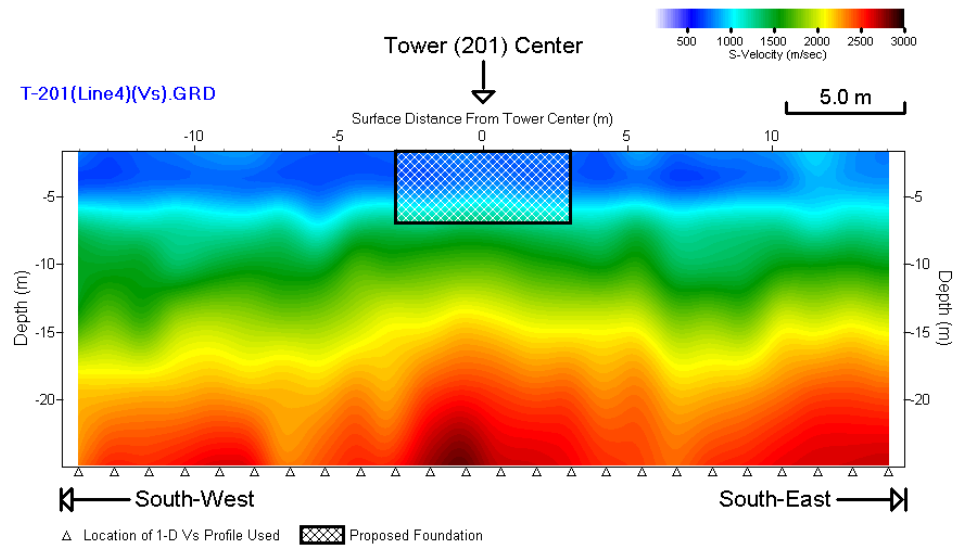
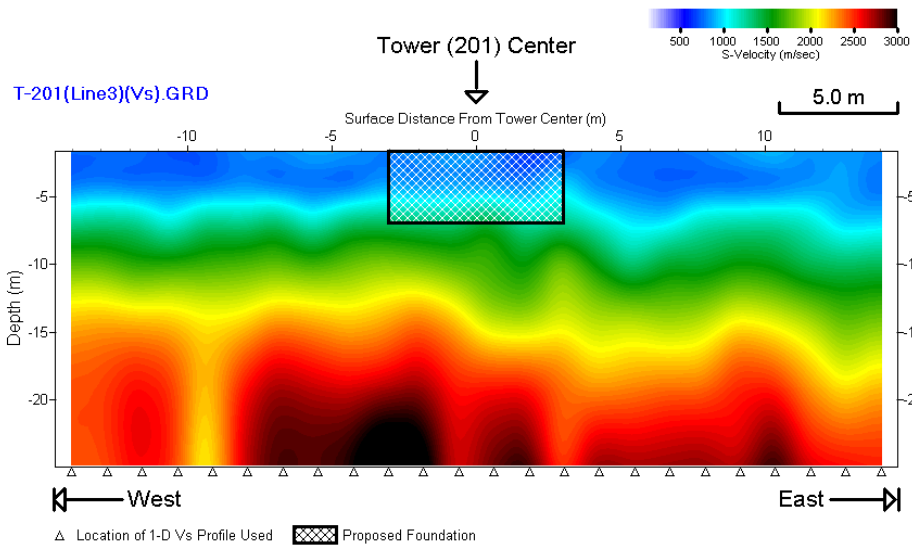
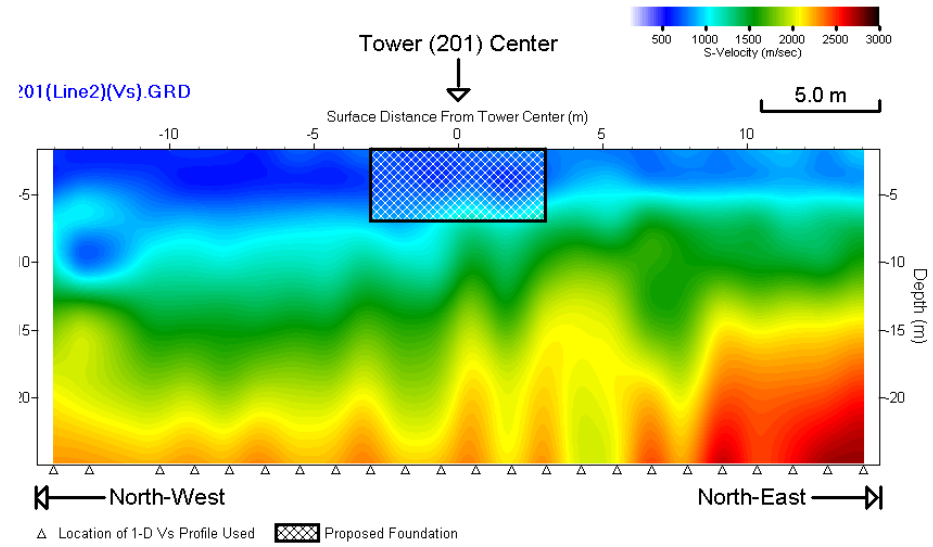
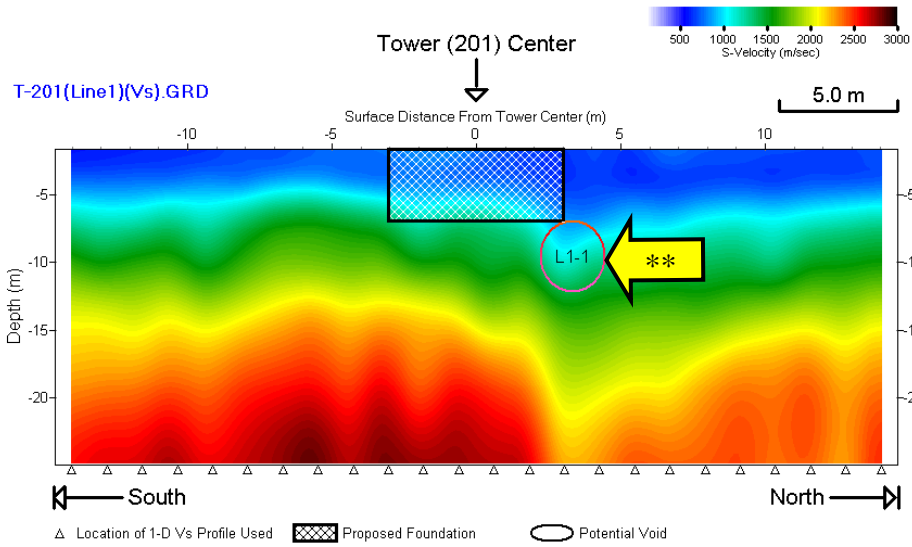
July 5, 2005

Blue Canyon Wind Mill Farm Phase II (Turbine Tower Locations: T-201 — T-284)



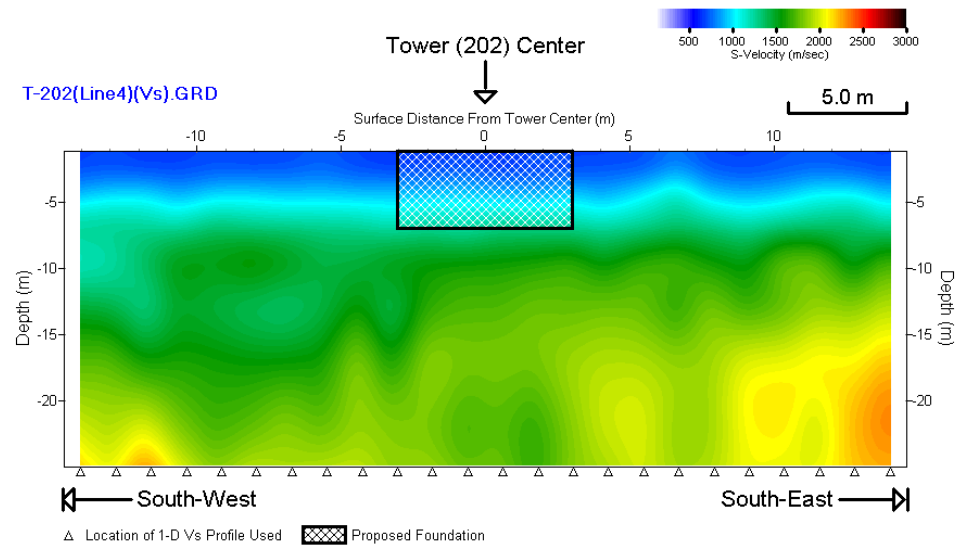
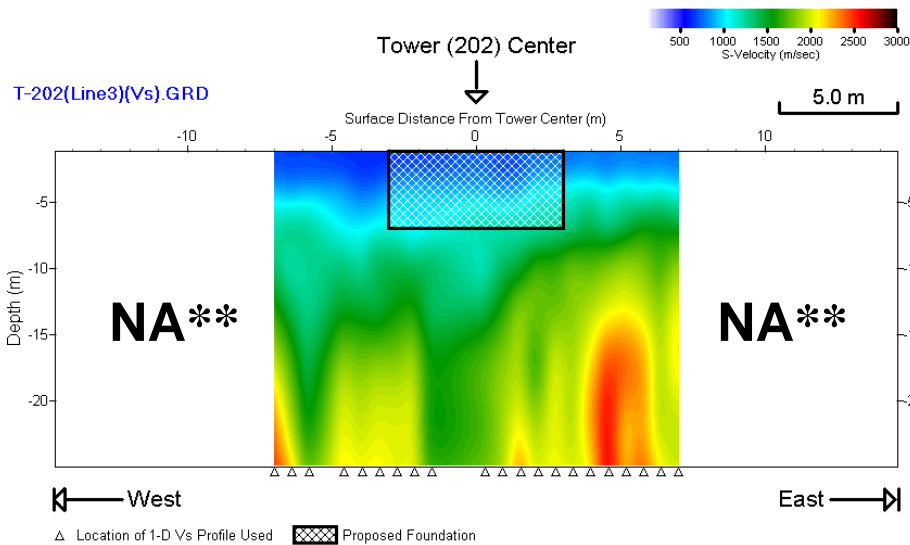
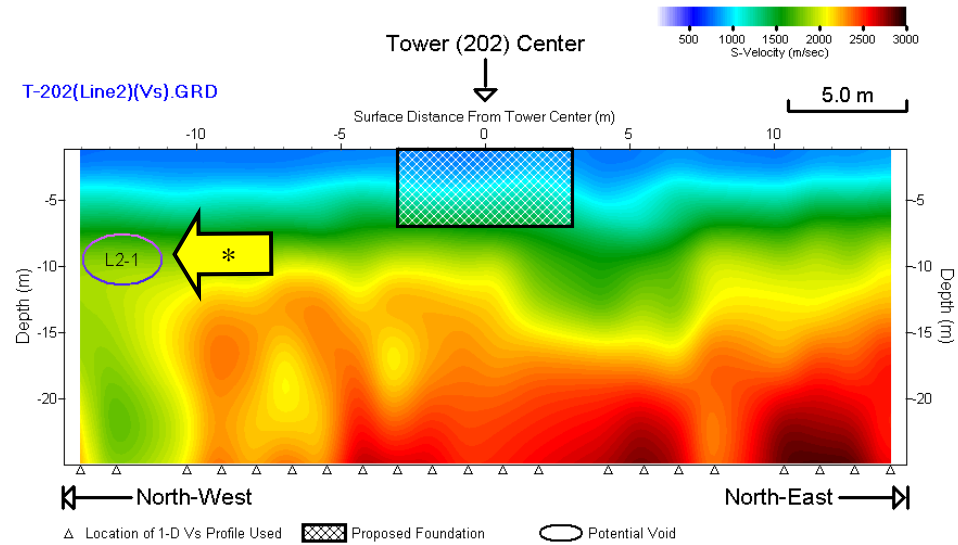
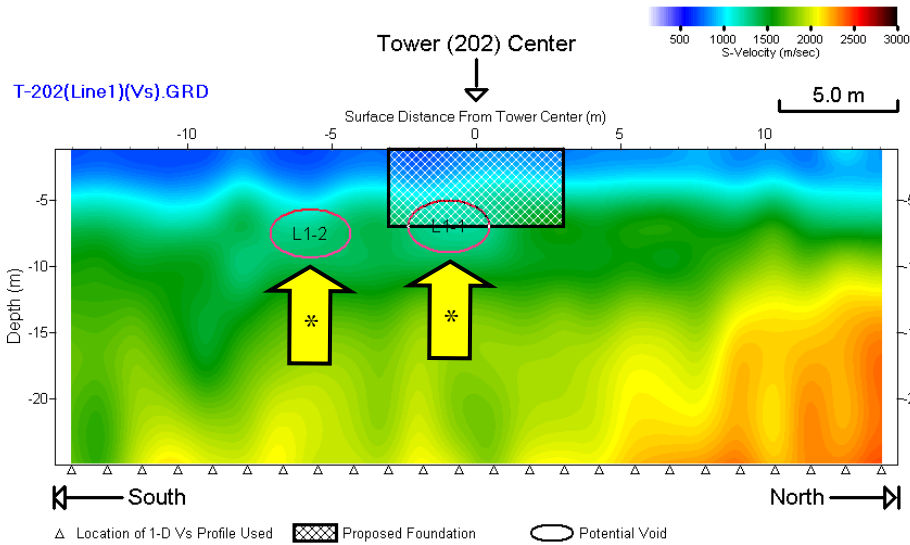
GEOLOGIC MAP AND TURBINES
Blue Canyon Wind Farm
Oklahoma

T-201



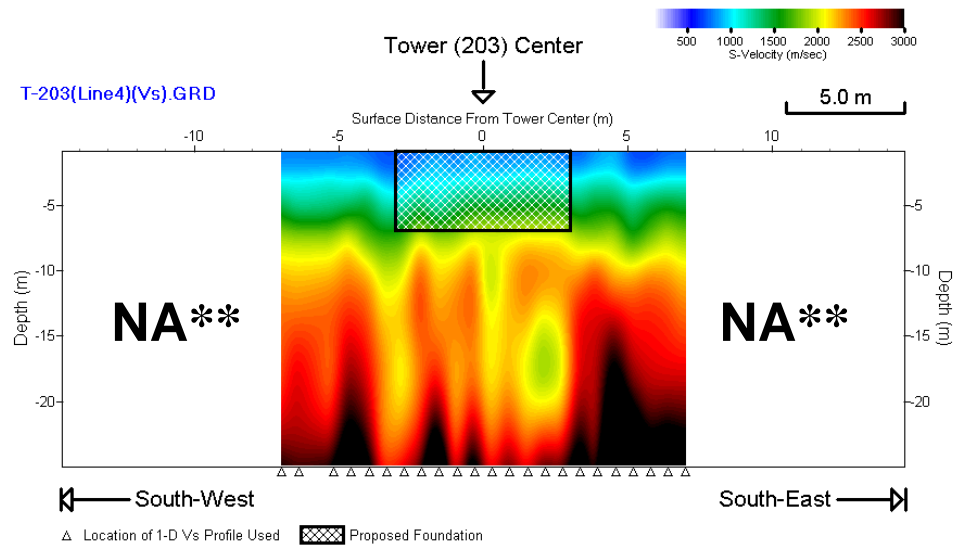
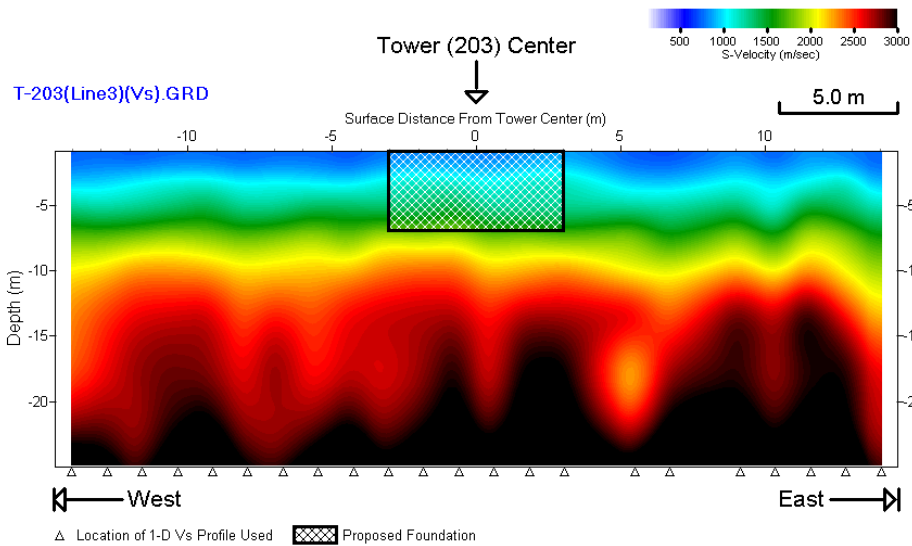
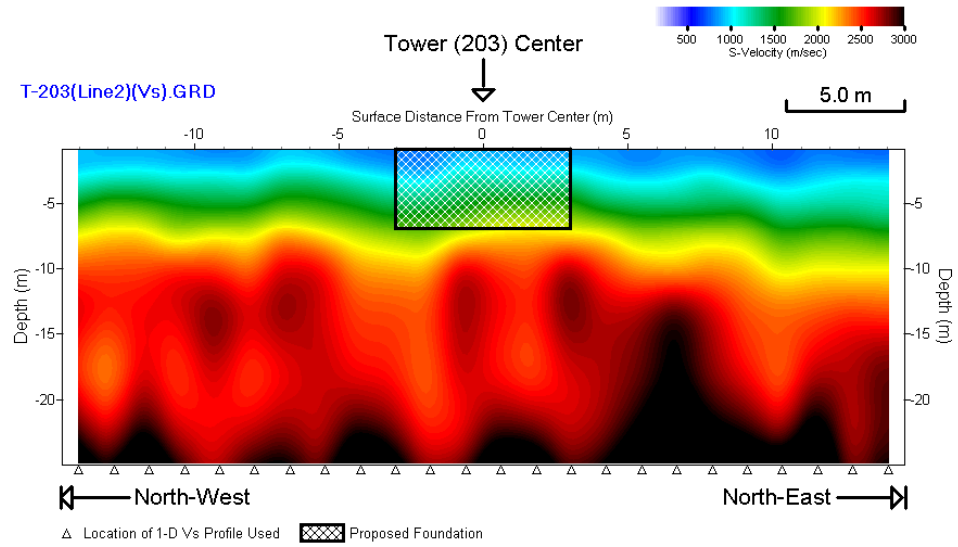
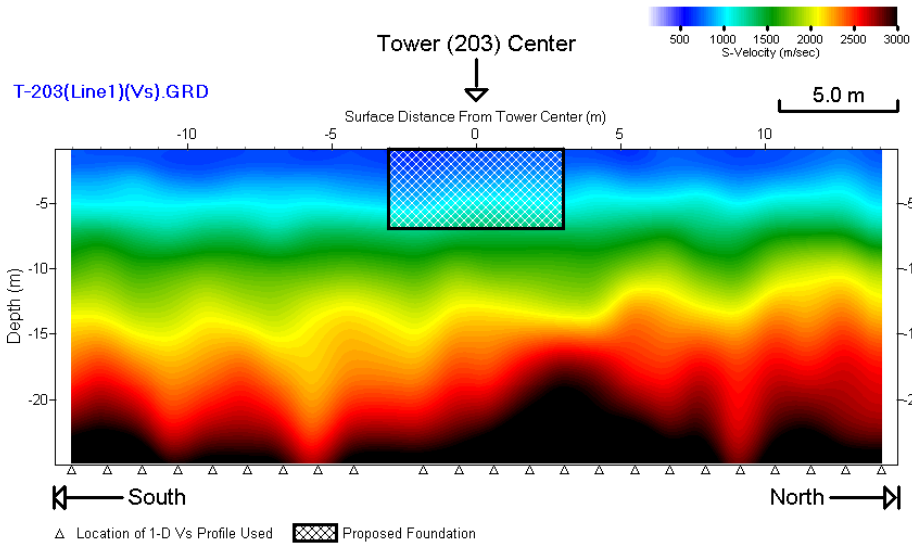
**Potential void (see separate text file for coordinates)

T-202



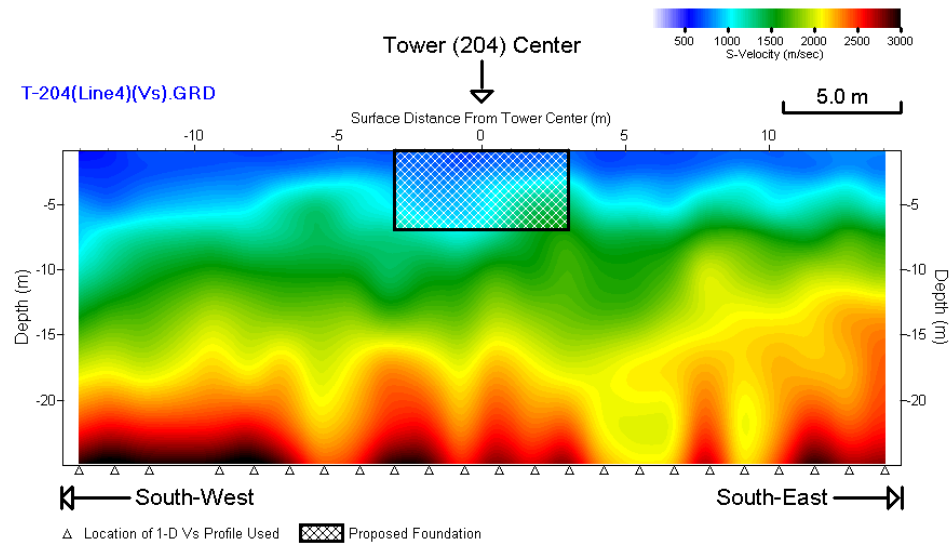
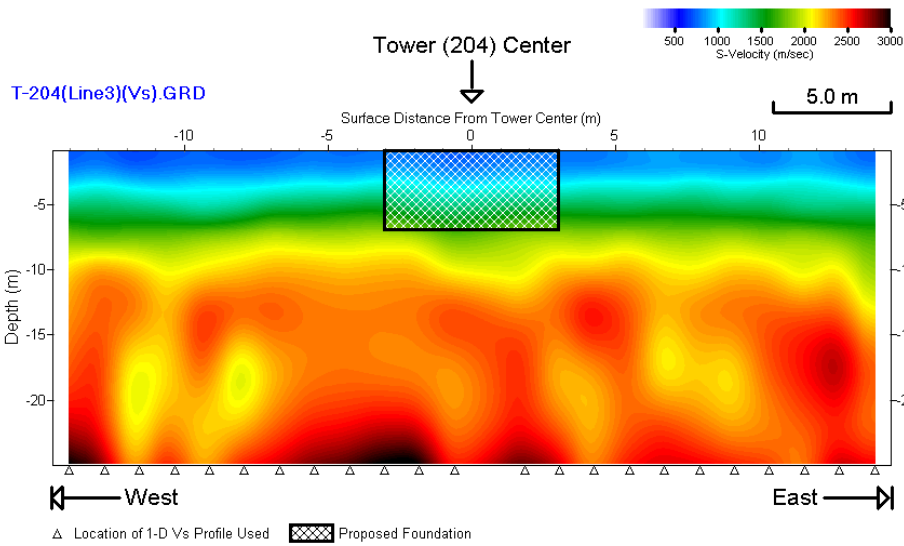
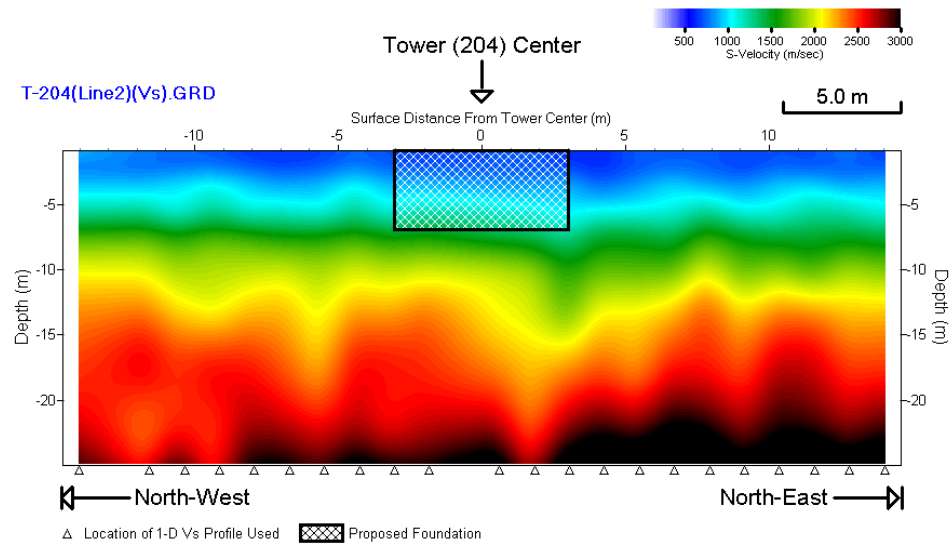
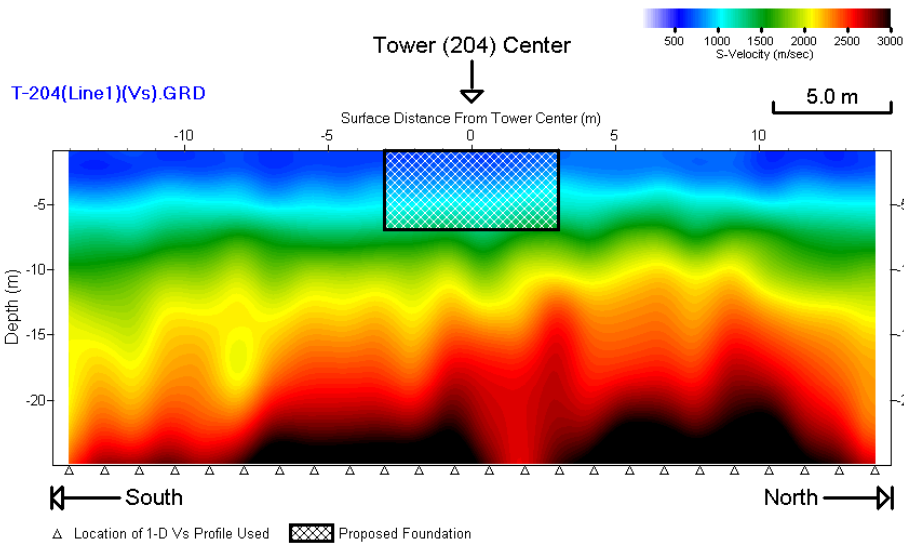
*Potential void (see separate text file for coordinates), **A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

T-203

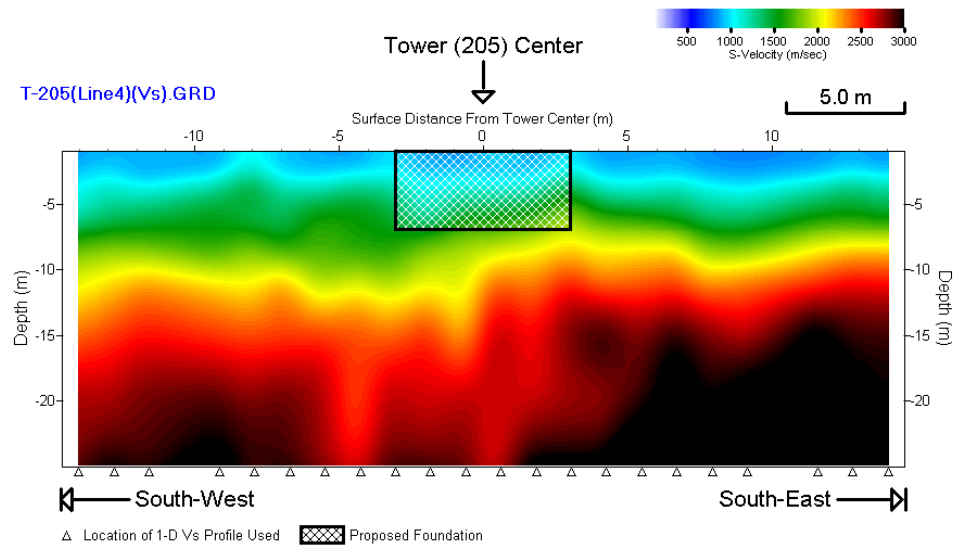
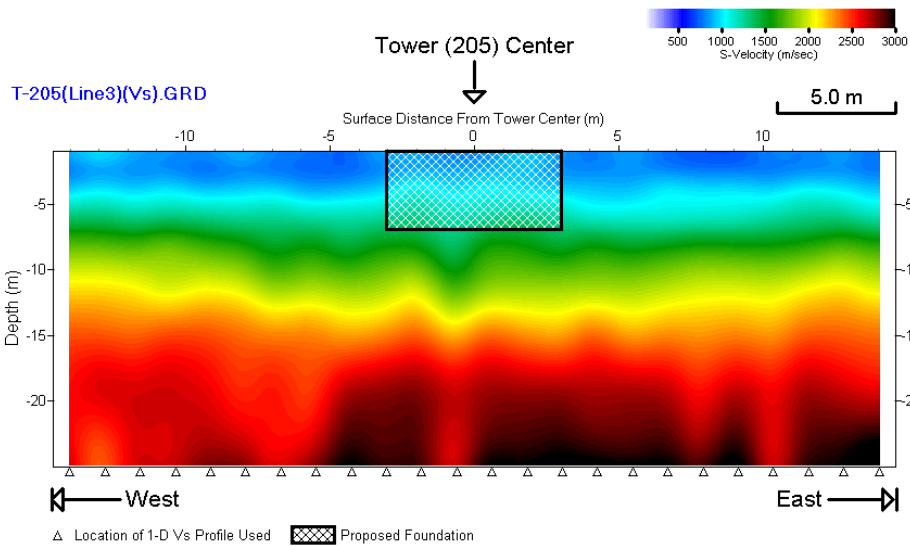
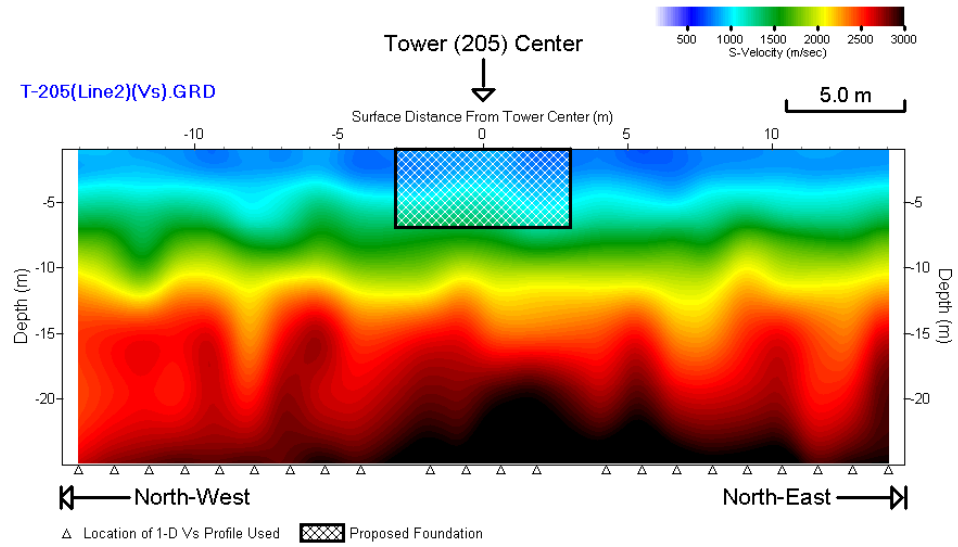
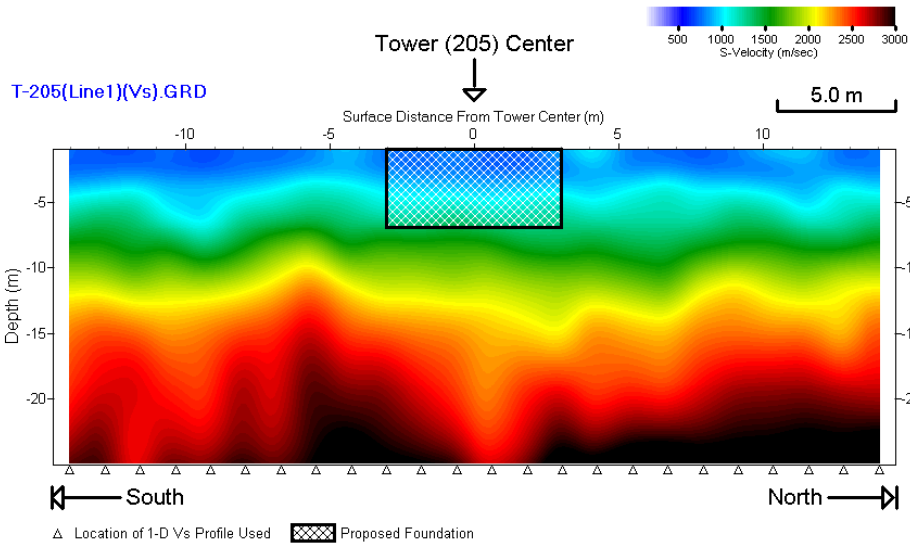


**A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

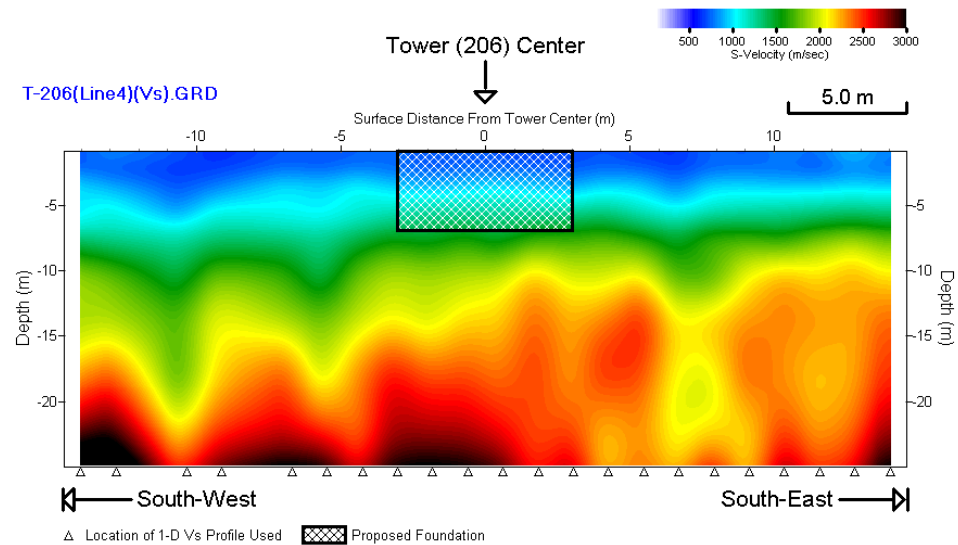
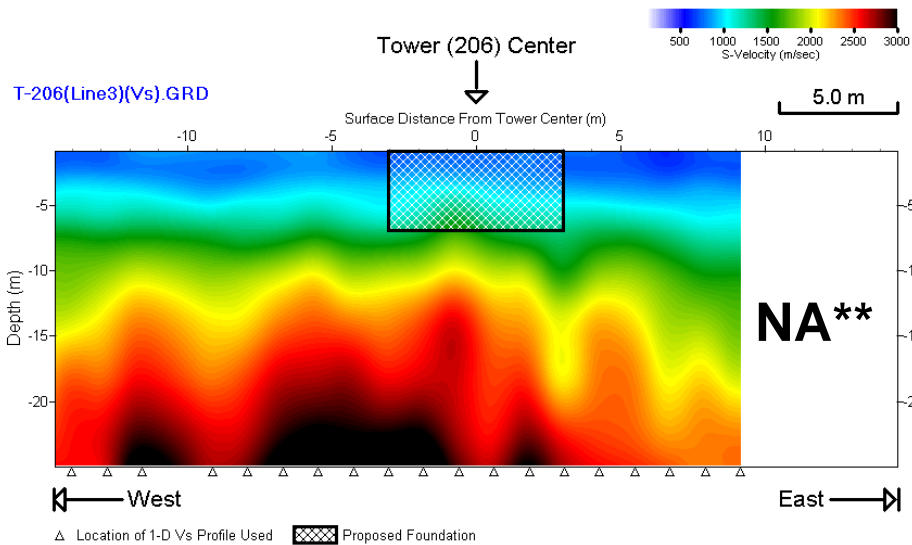
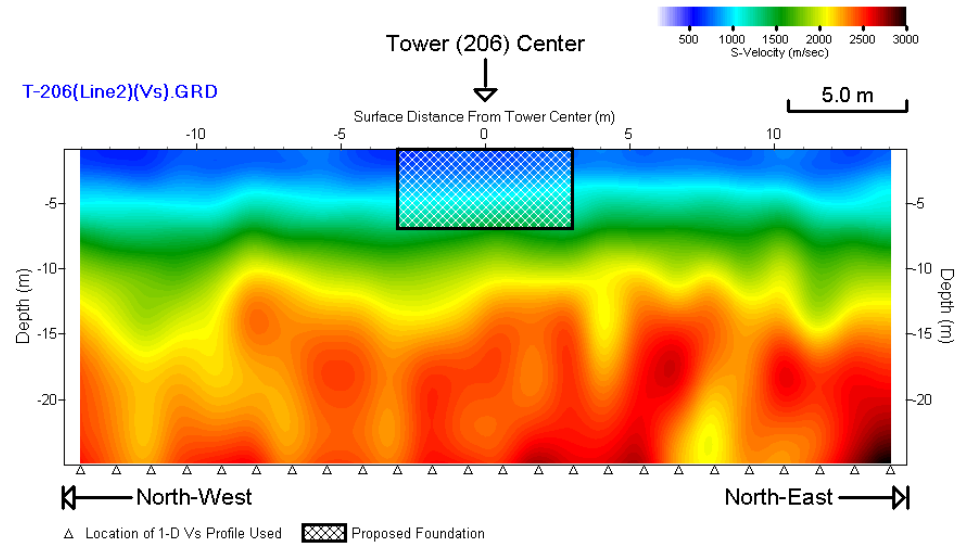
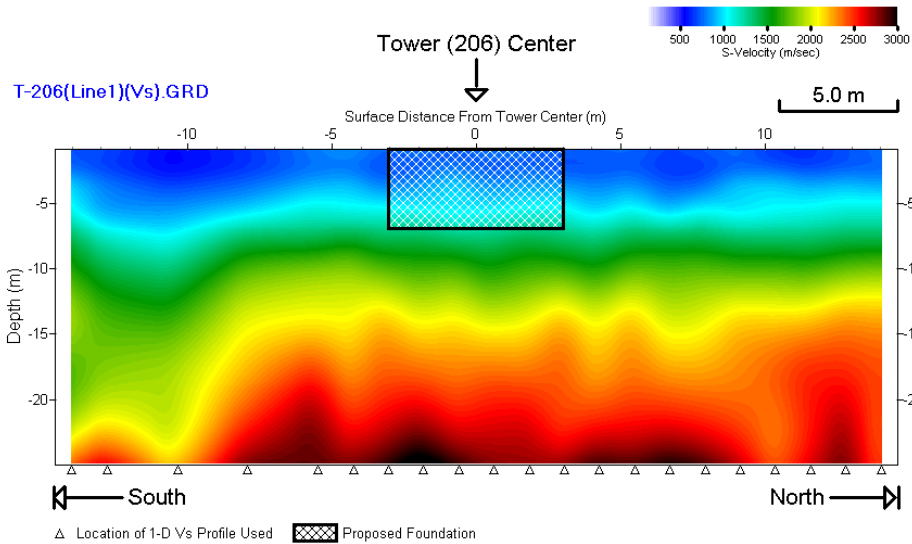
T-204



T-205



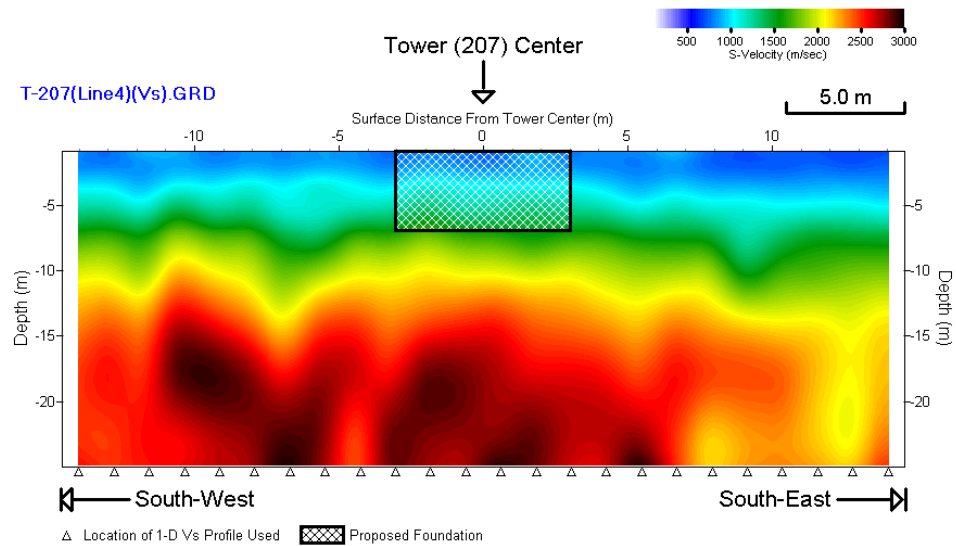
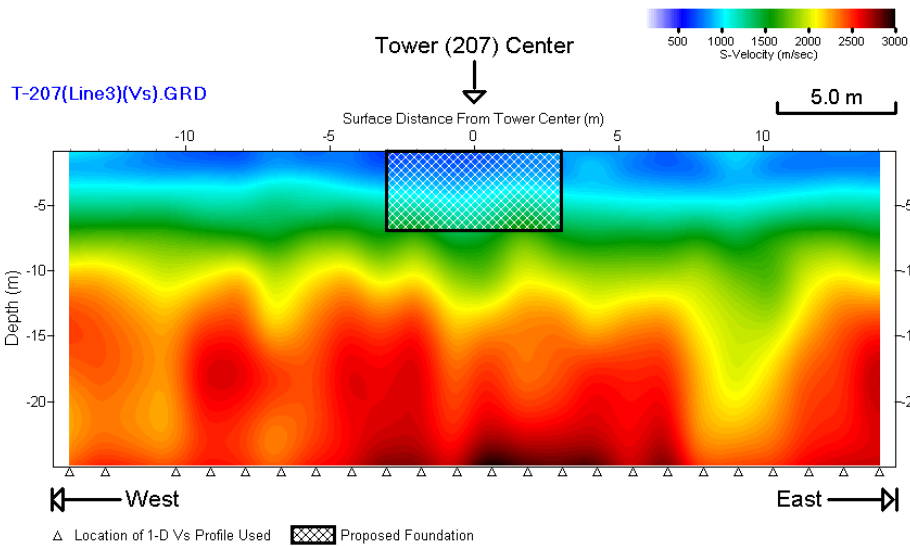
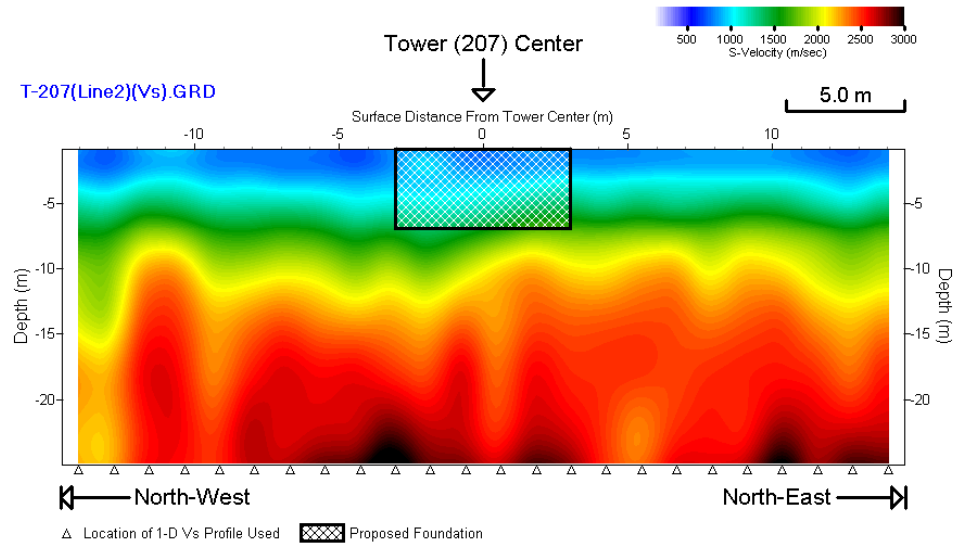
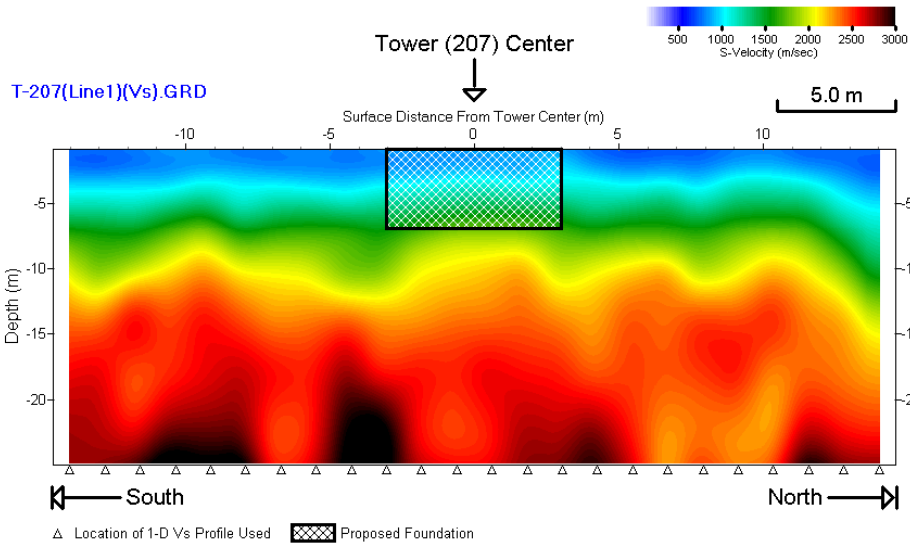
T-206*



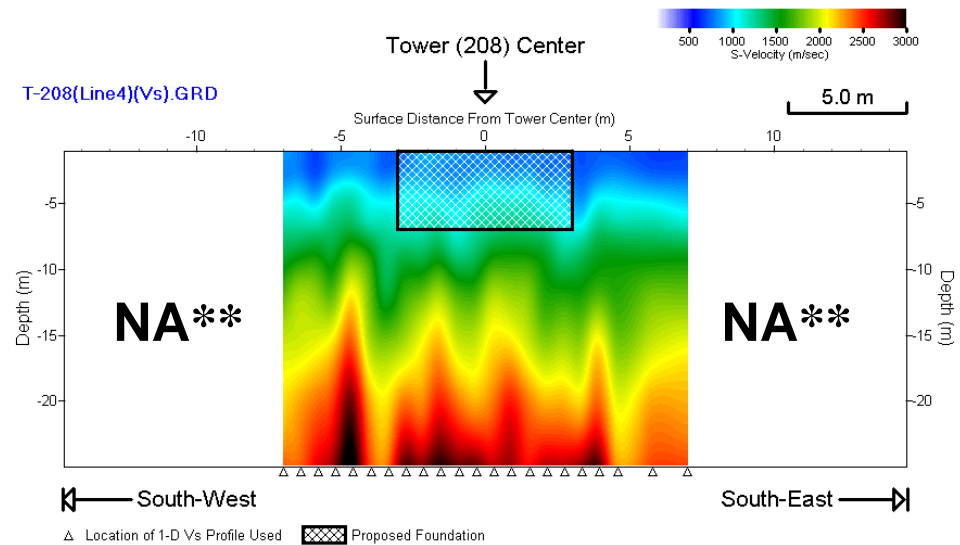
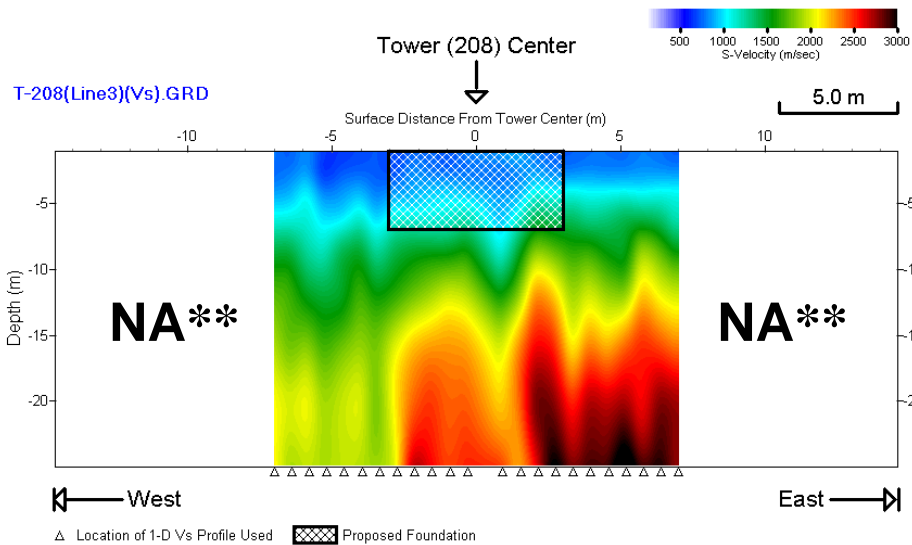
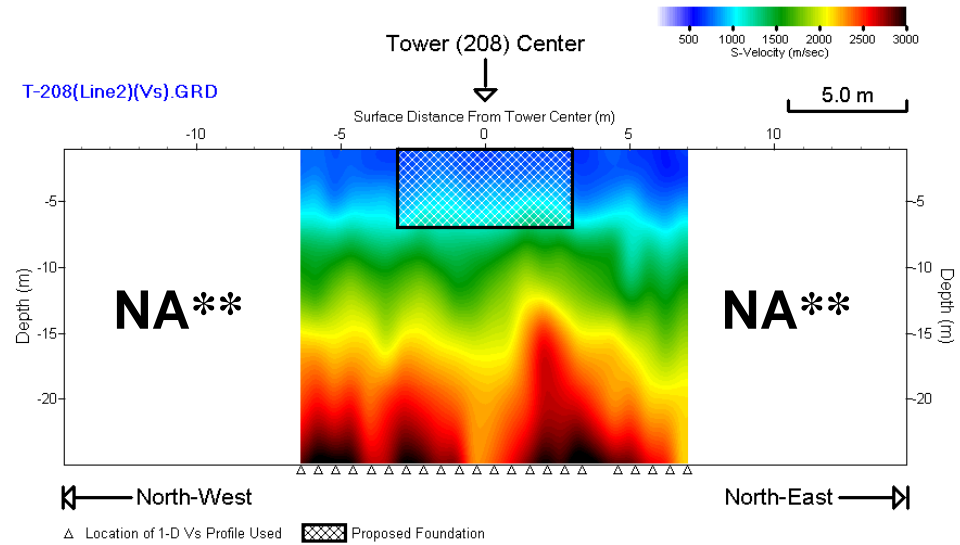
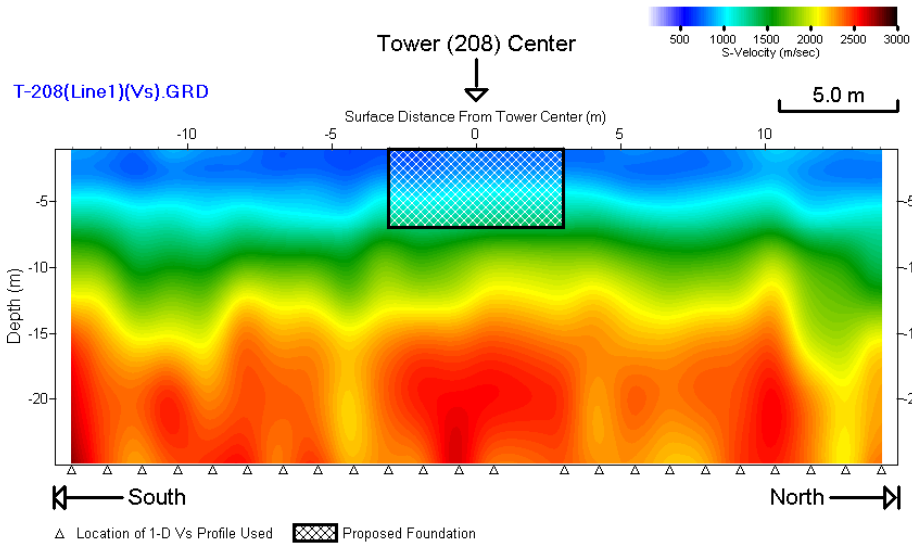
*Line 4 shifted to north by 6 stations (=24ft) from the planned position (12 stations south of tower center) due to terrain condition

**Data not acquired due to terrain condition (steep drop off)

T-207

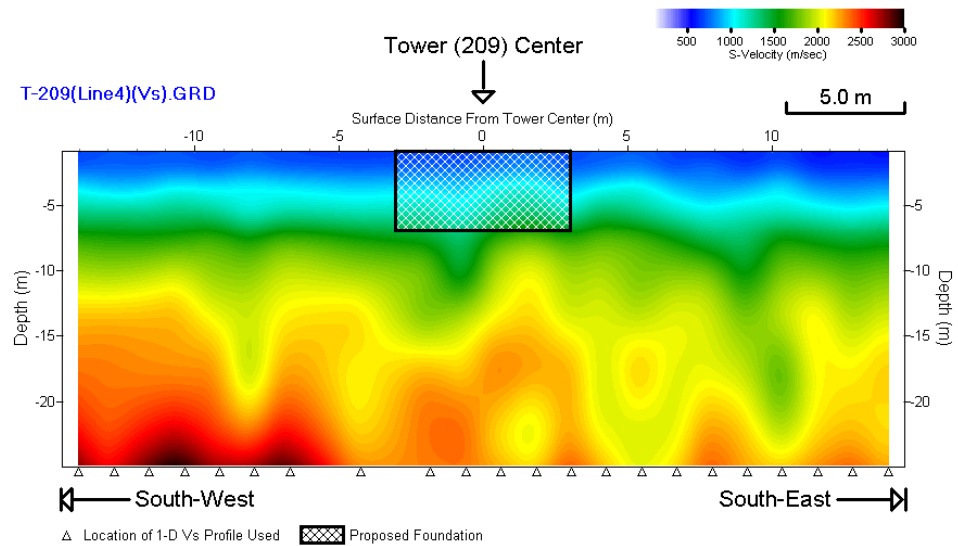
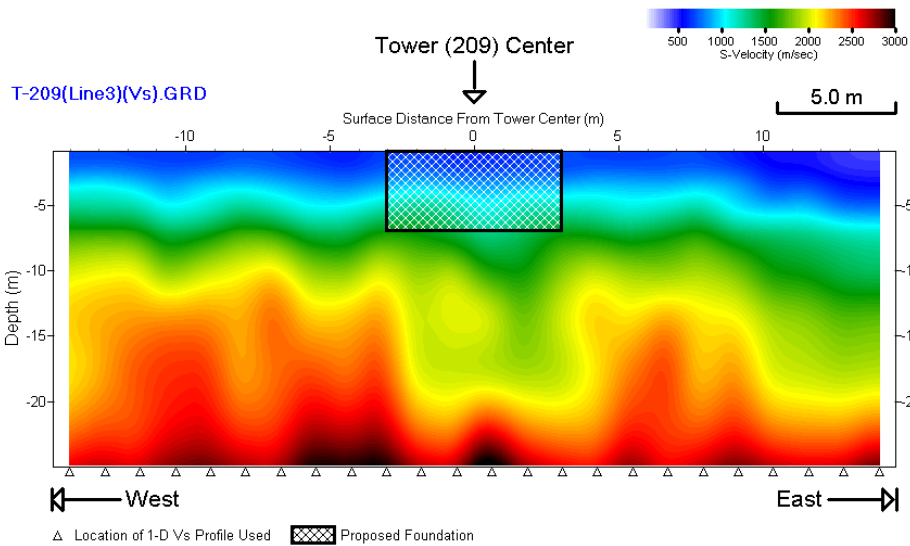
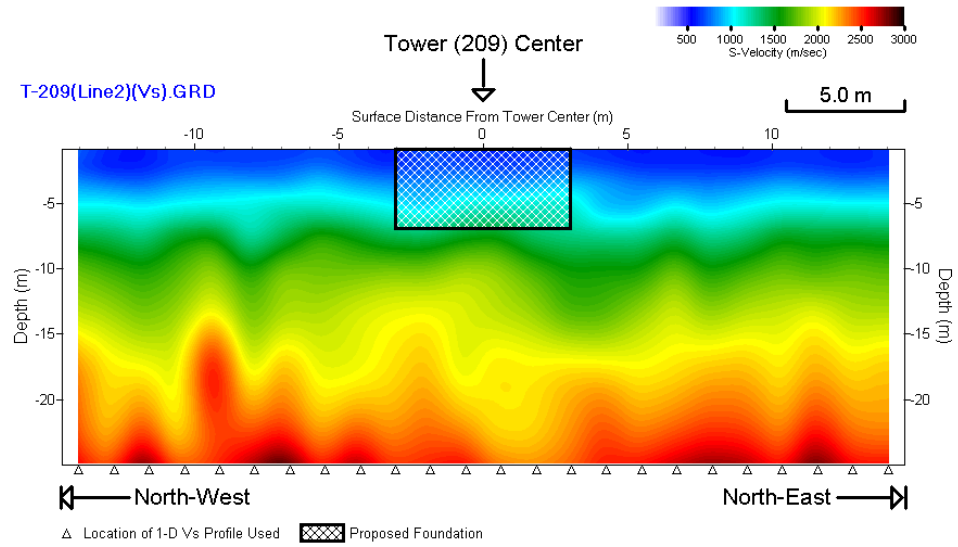
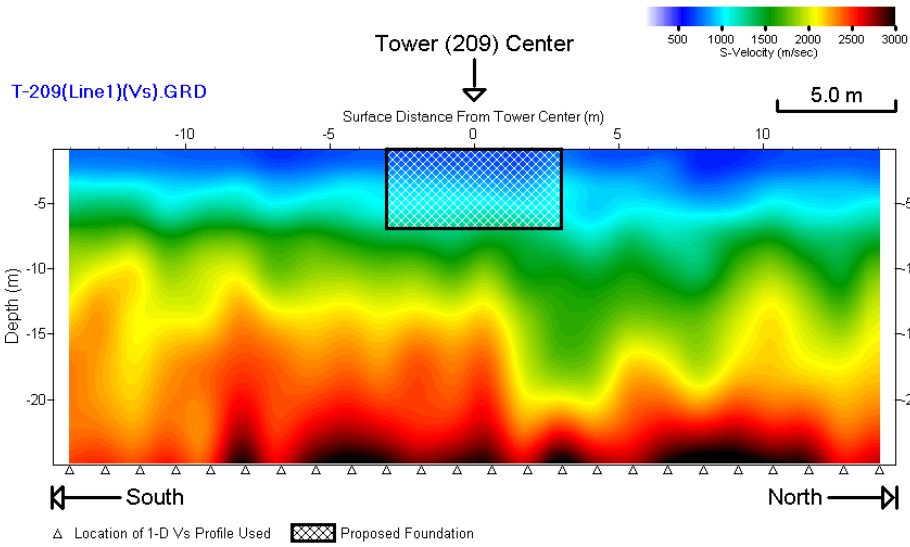


T-208**

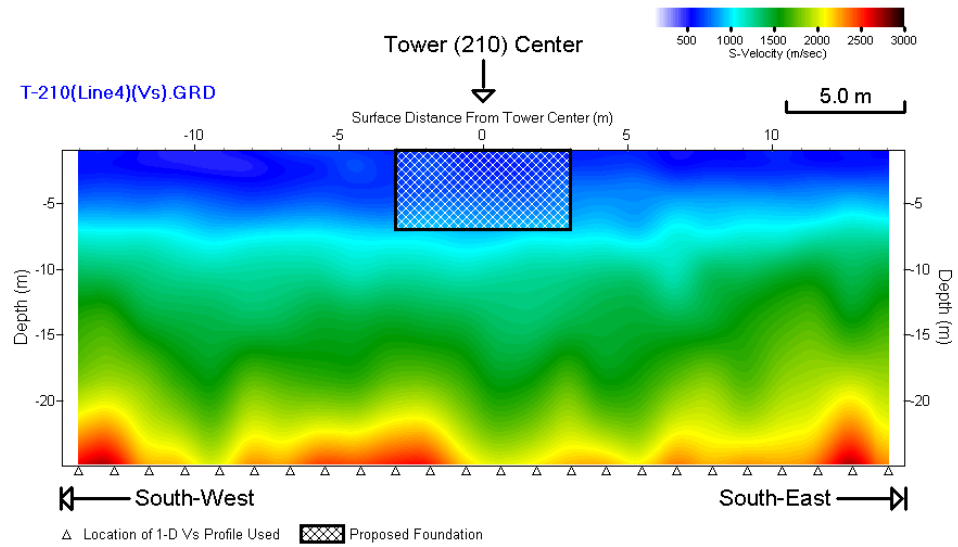
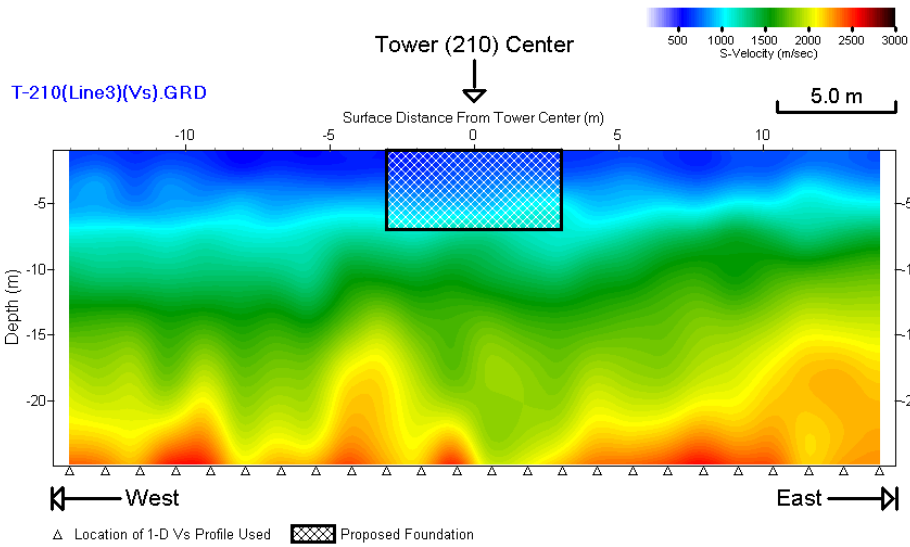
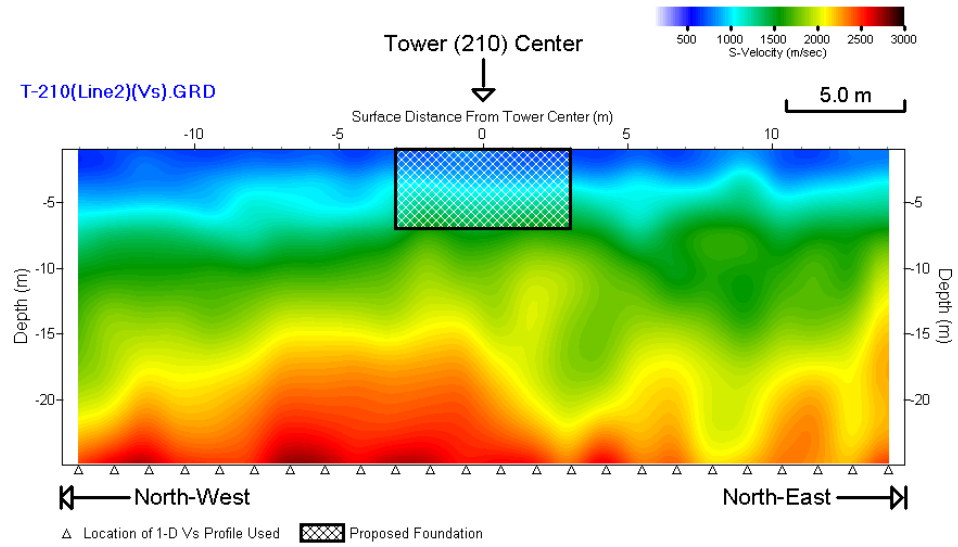
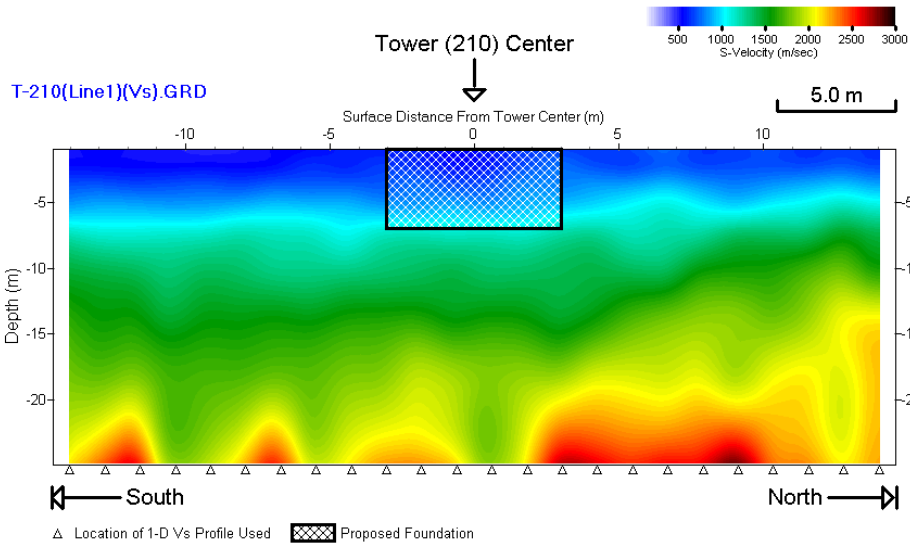


**All East-West lines (2, 3, and 4) used a shorter receiver spacing of 2 ft due to terrain condition (steep drop off).

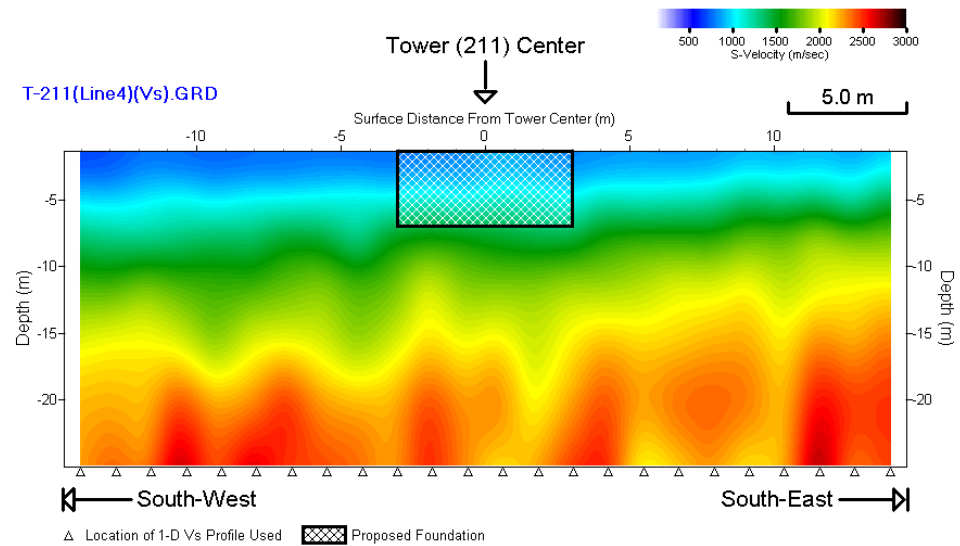
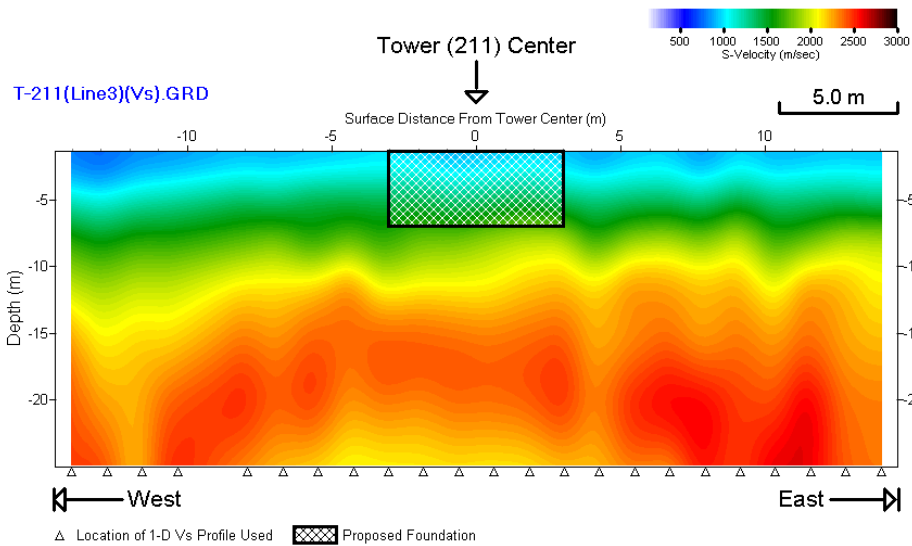
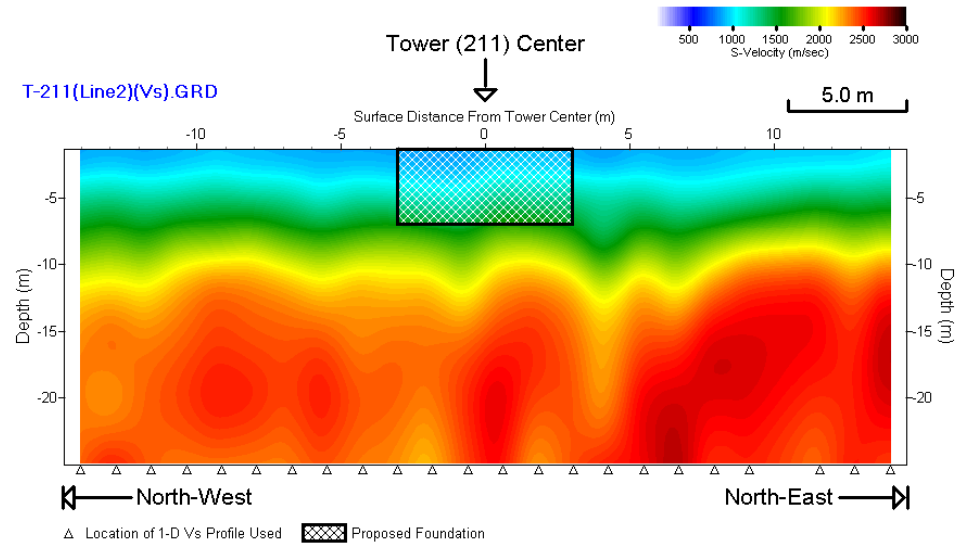
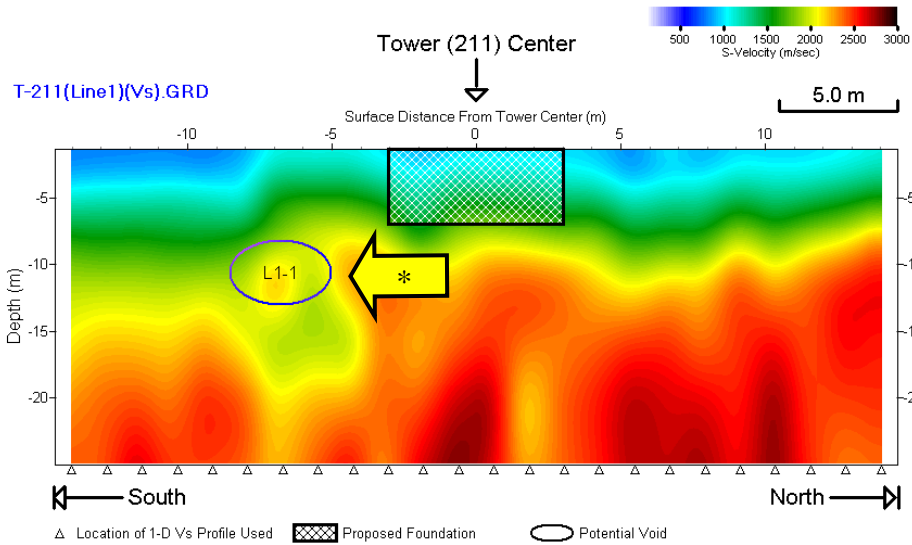
T-209



T-210

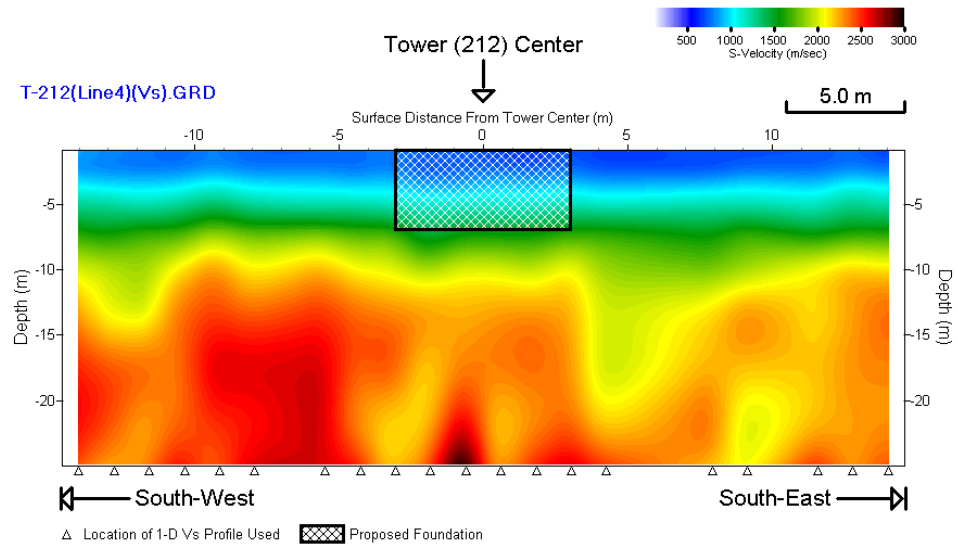
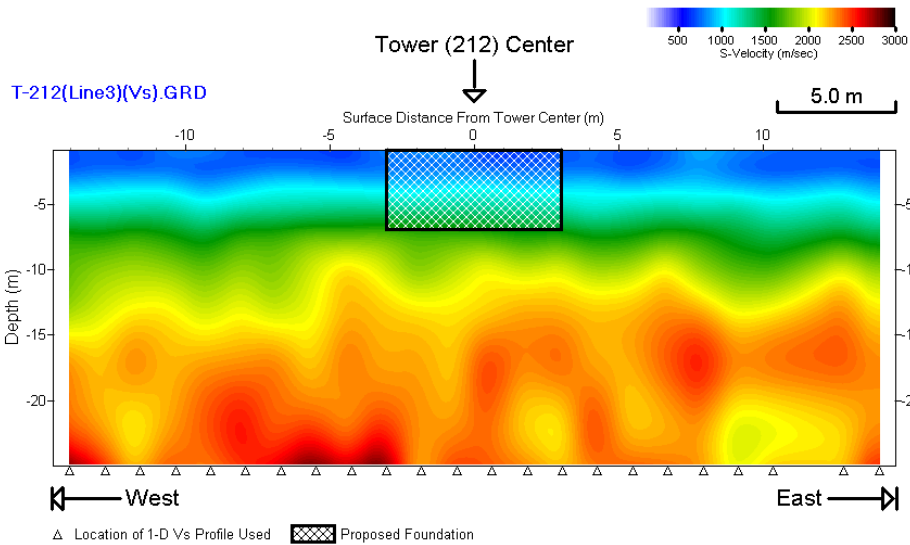
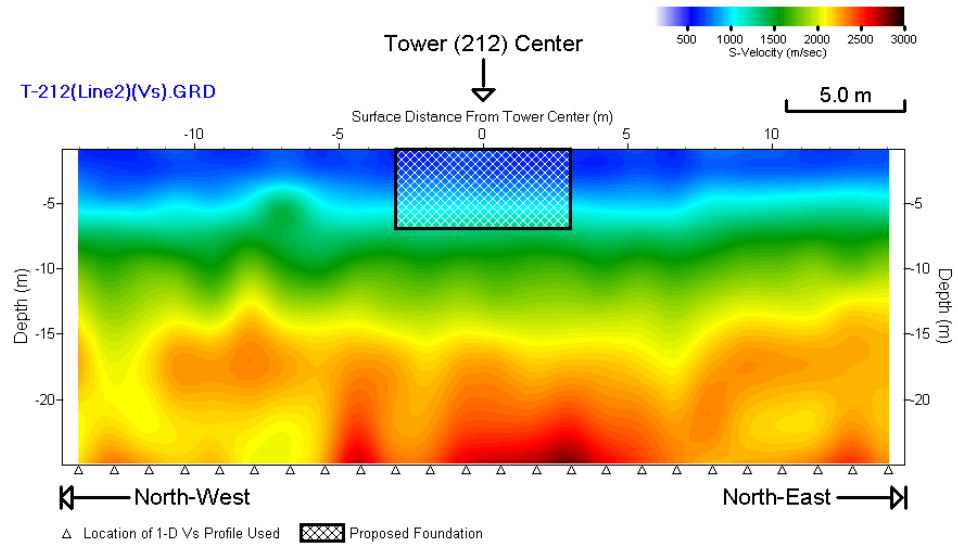
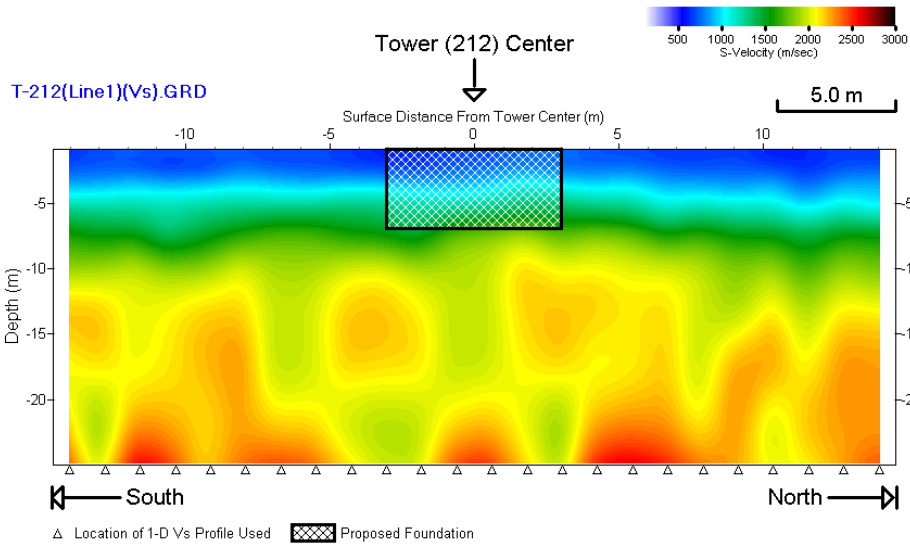


T-211

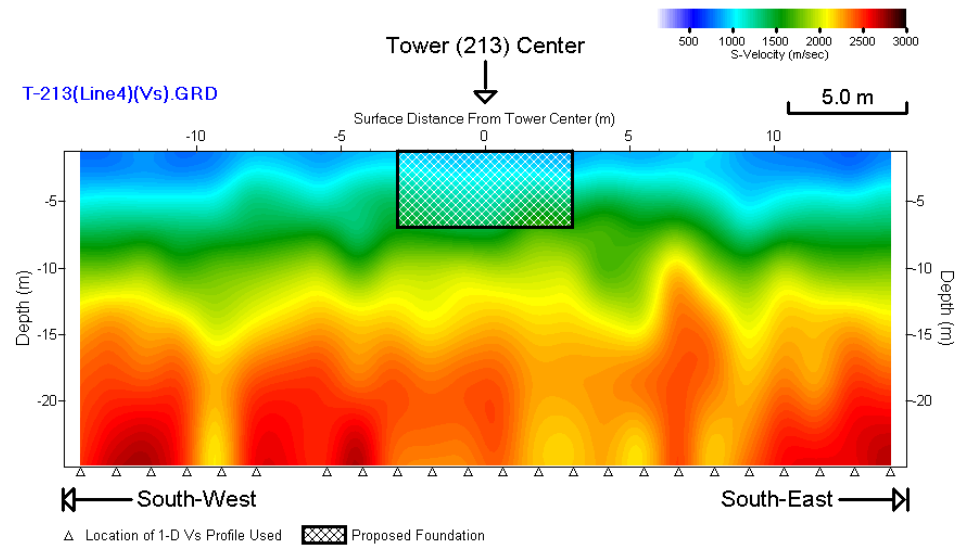
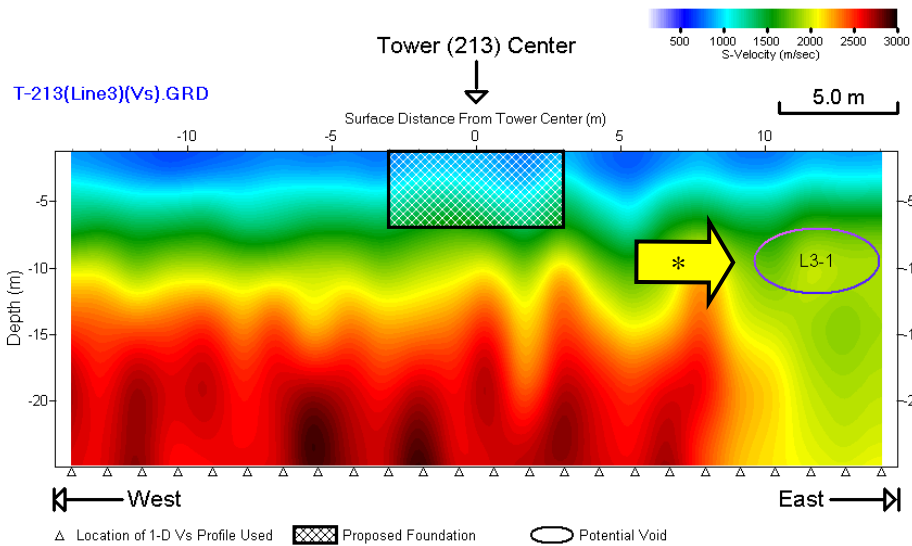
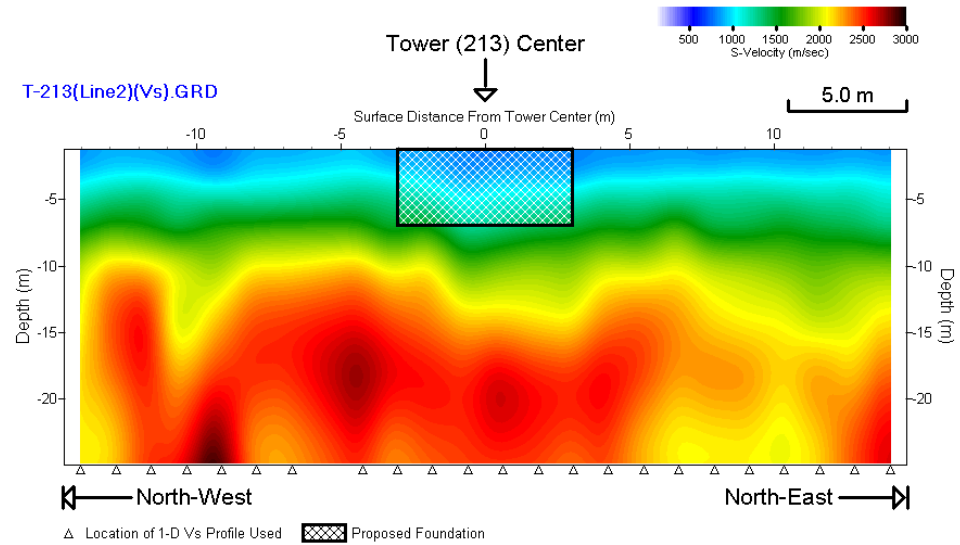
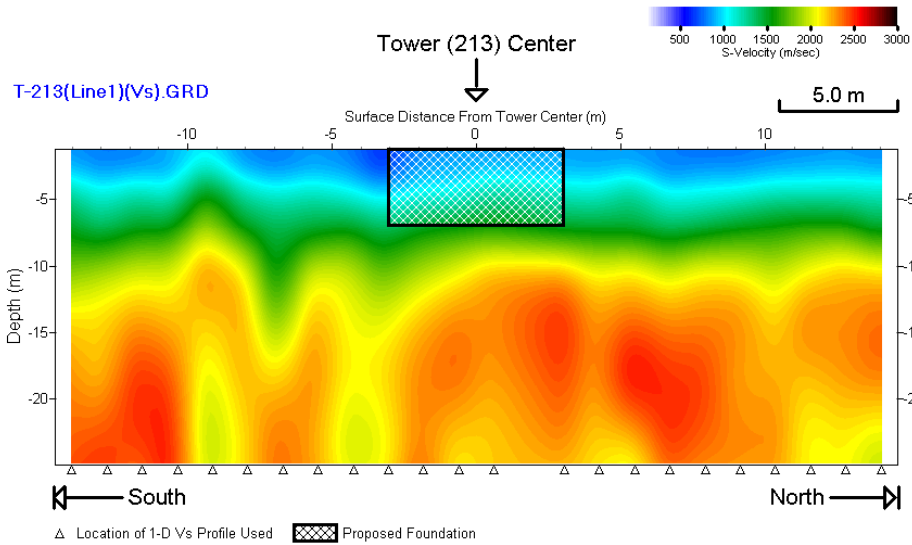


*Potential void (see separate text file for coordinates)

T-212

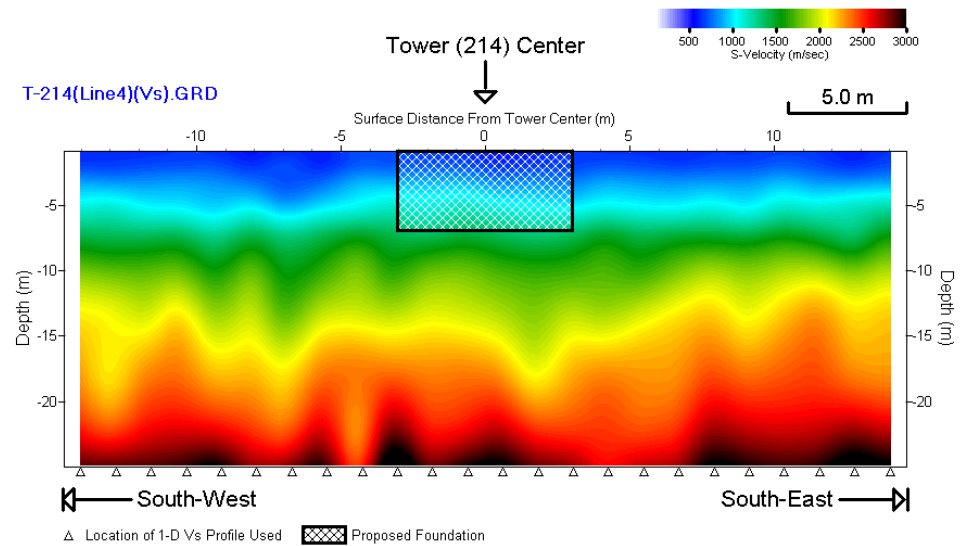
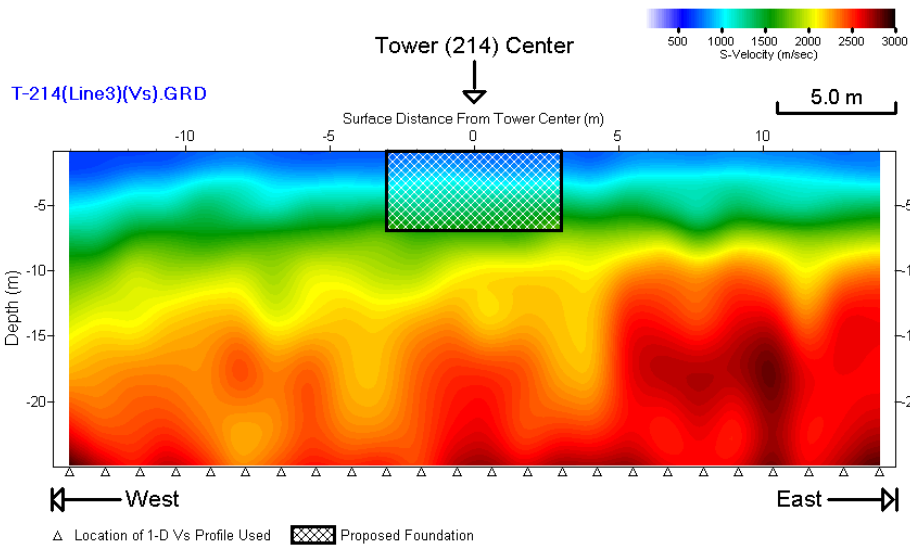
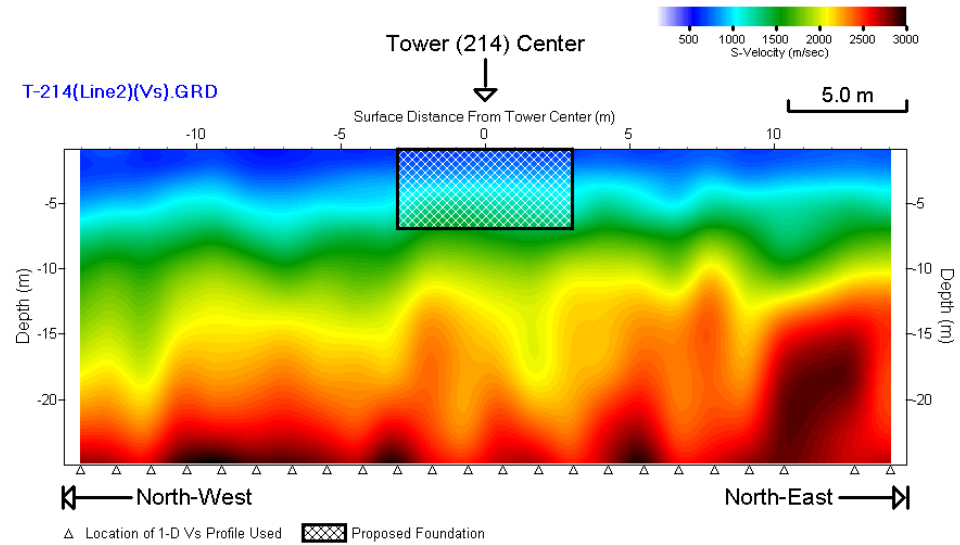
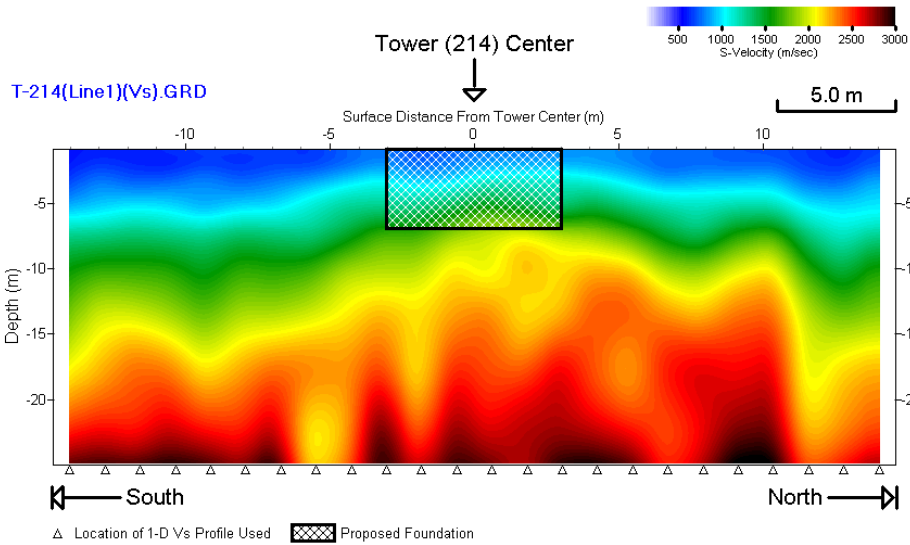


T-213

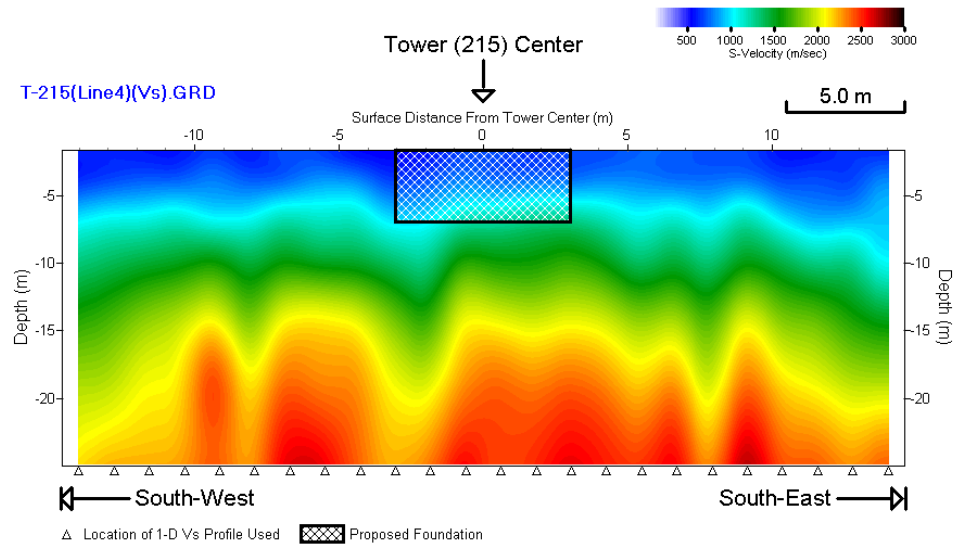
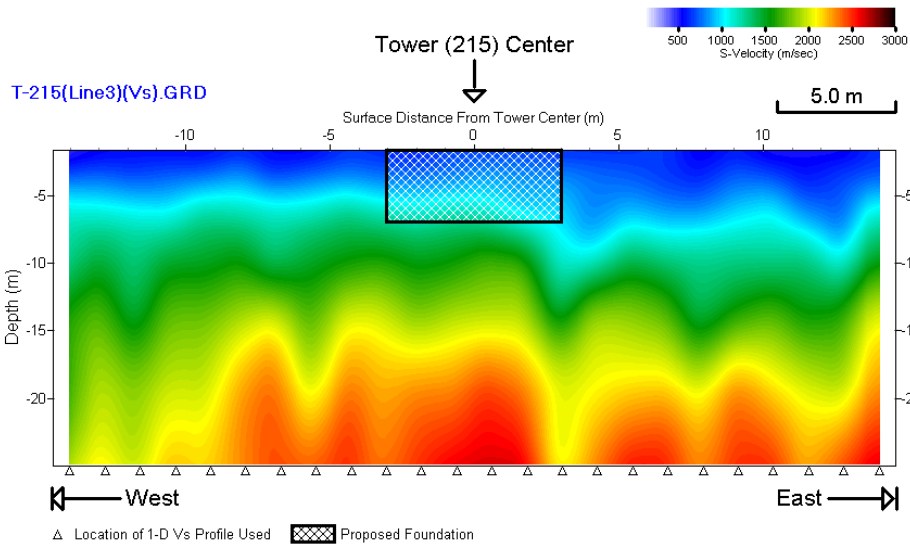
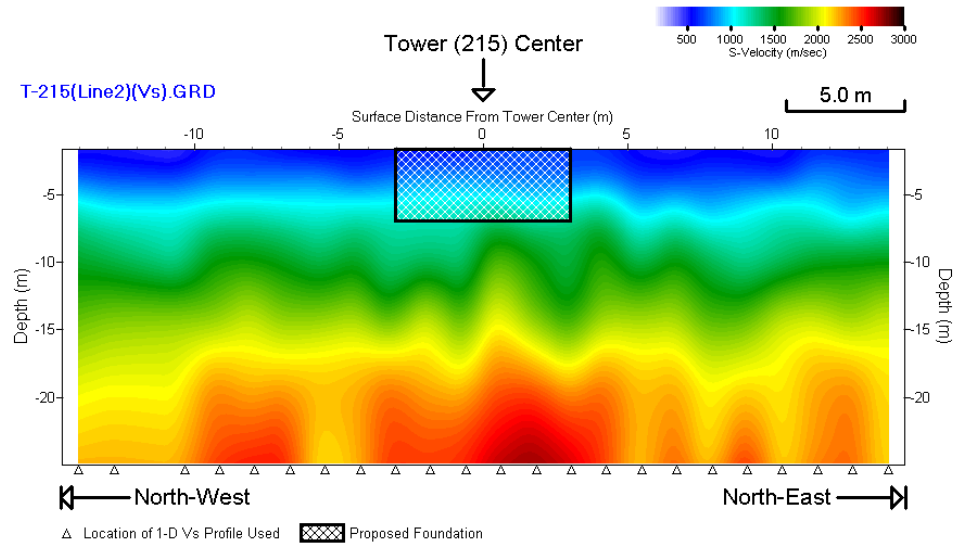
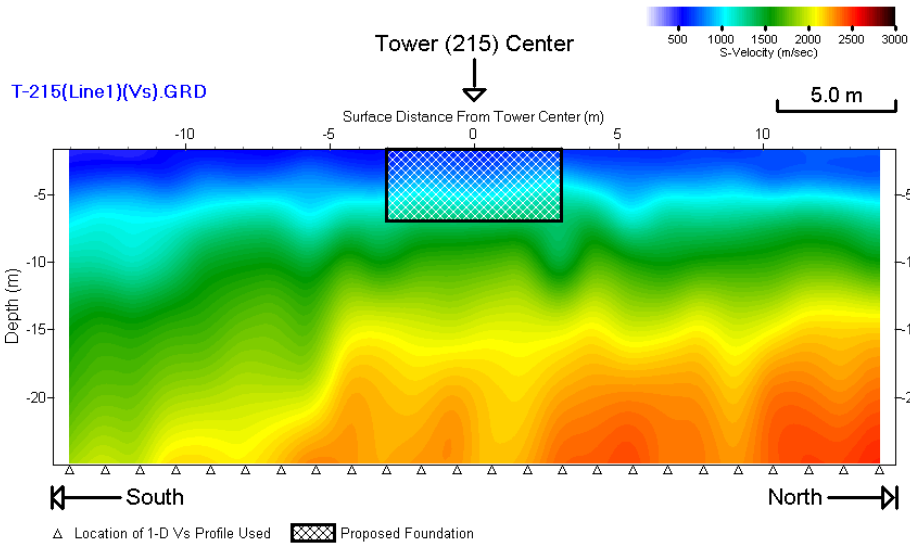


*Potential void (see separate text file for coordinates)

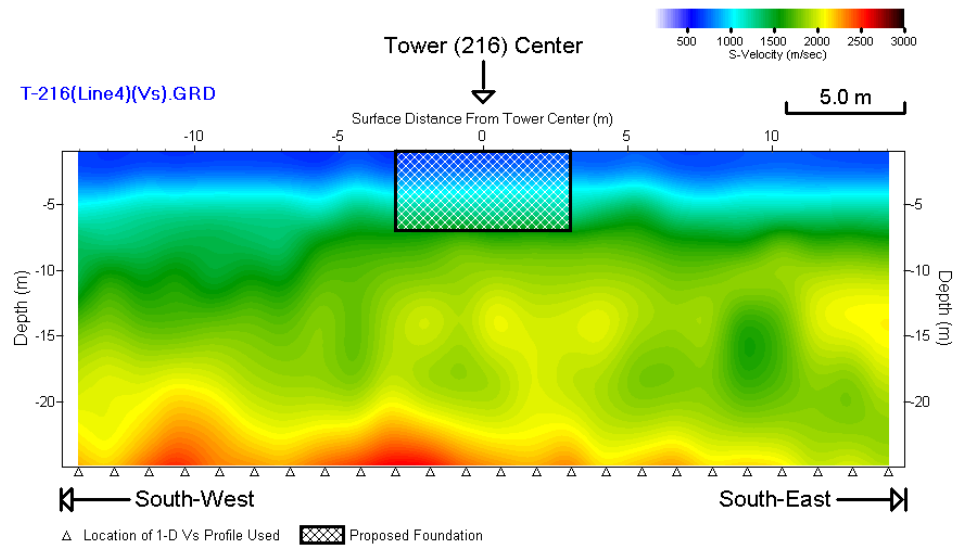
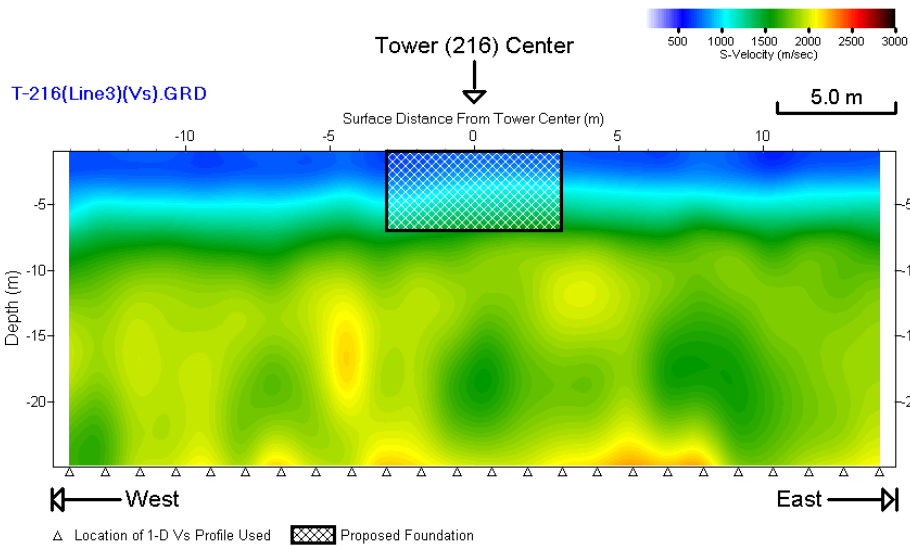
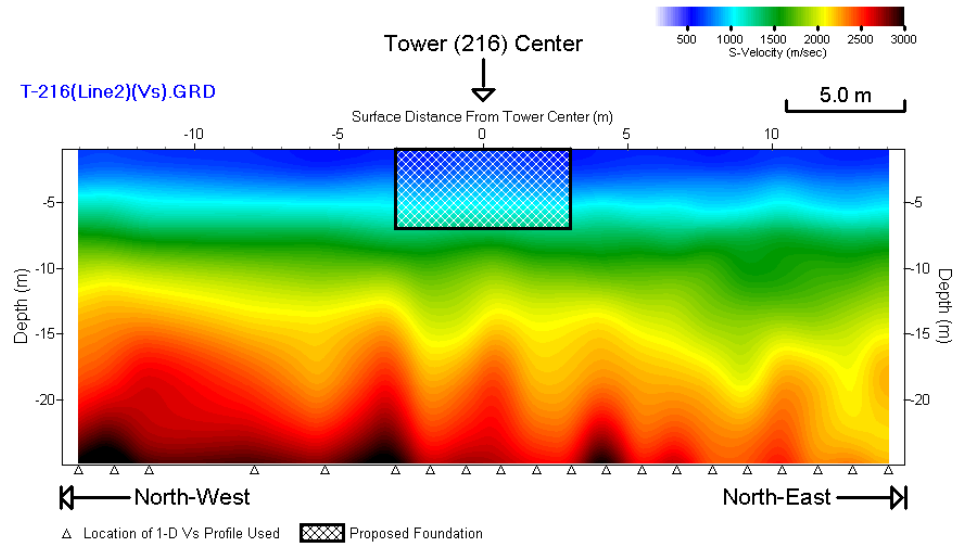
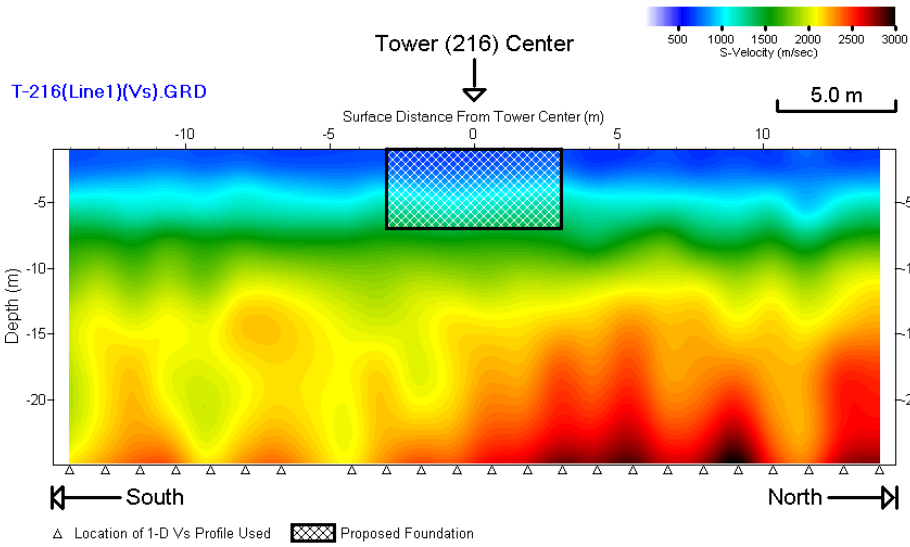
T-214



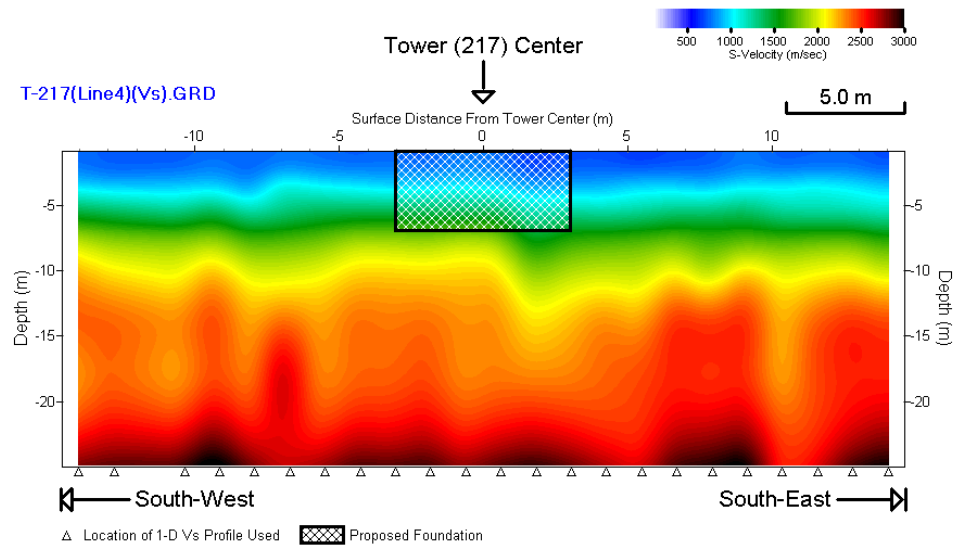
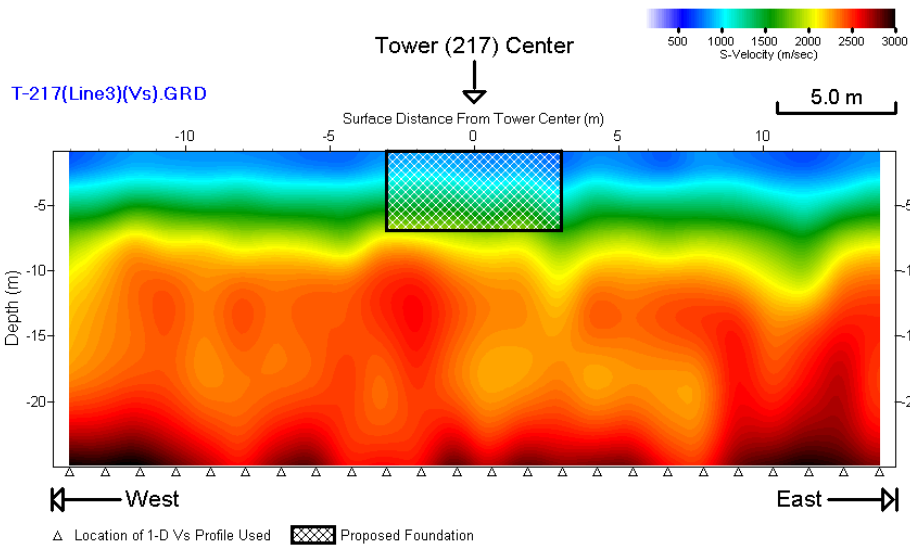
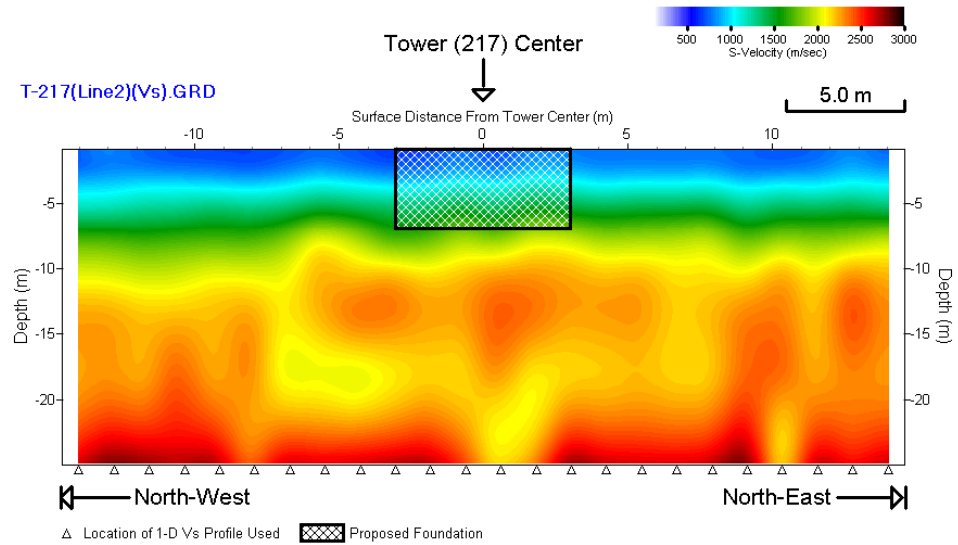
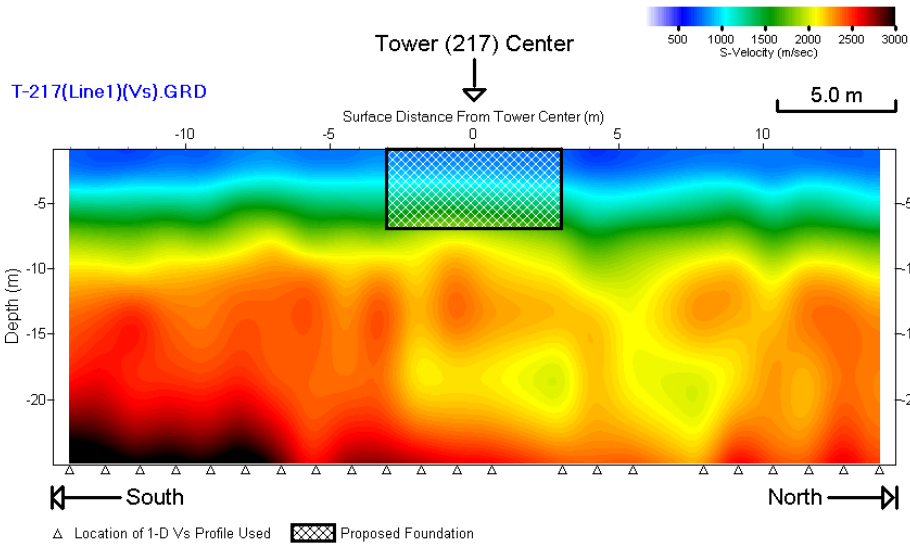
T-215



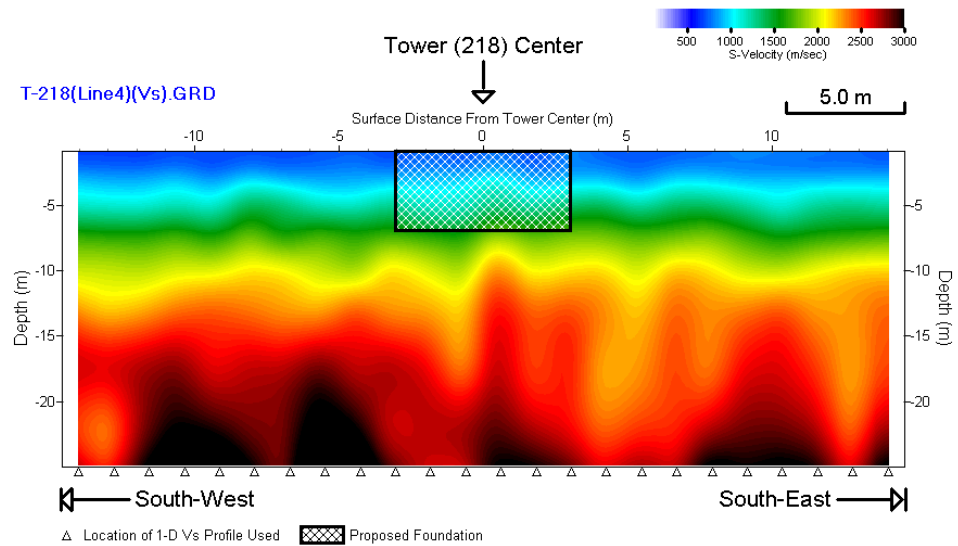
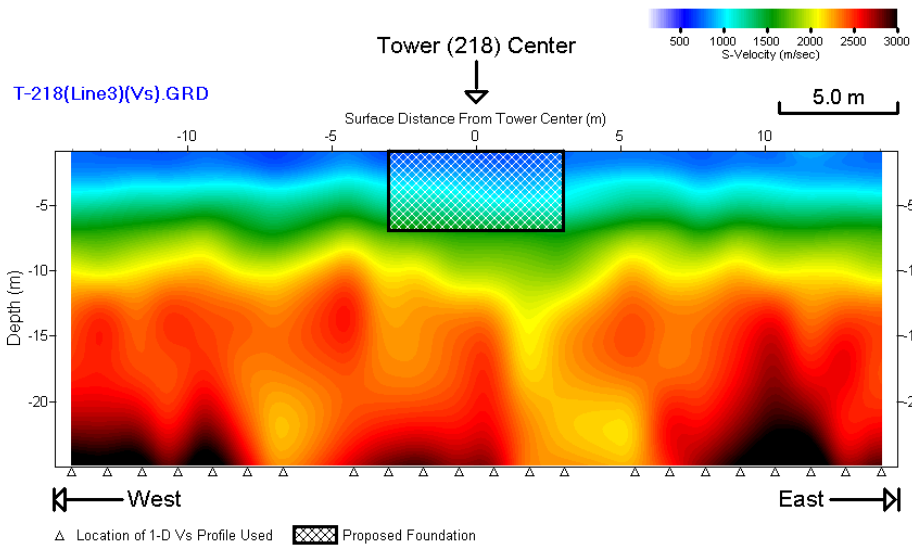
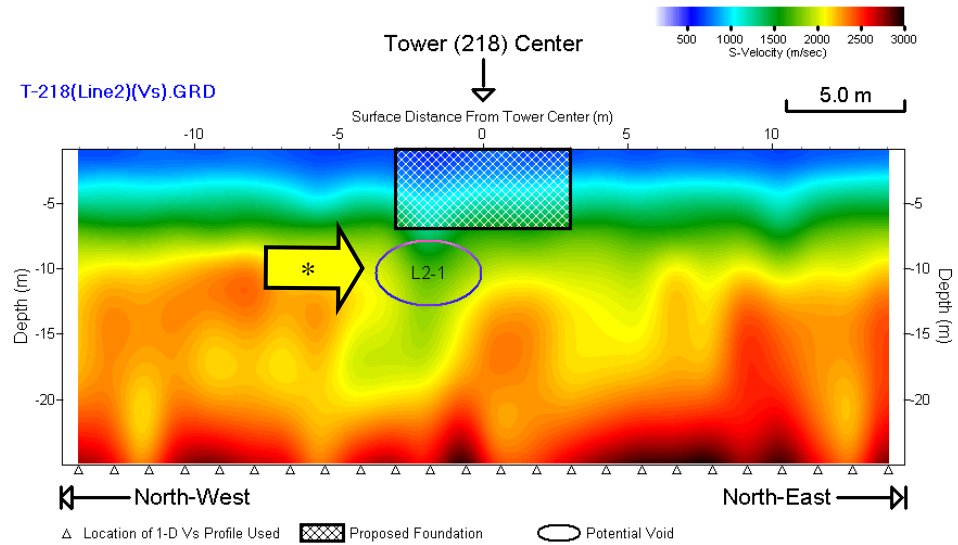
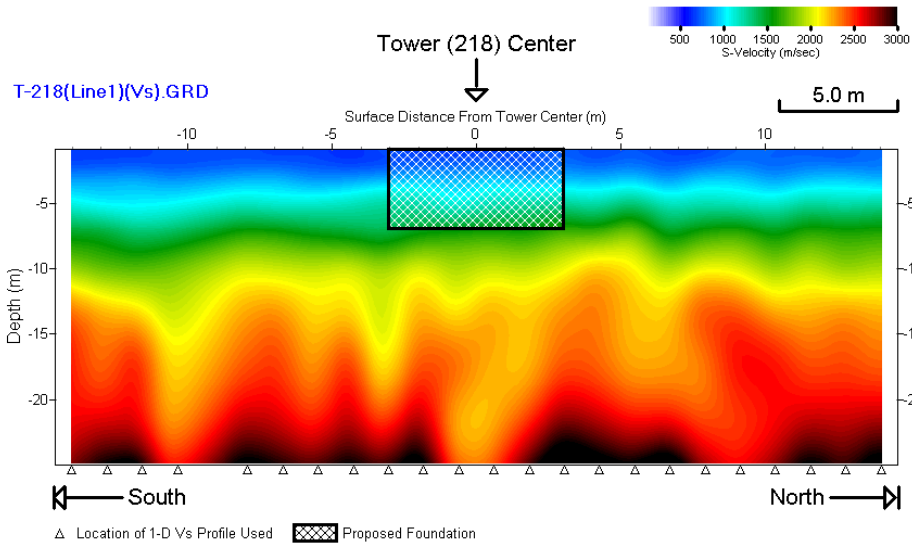
T-216



T-217

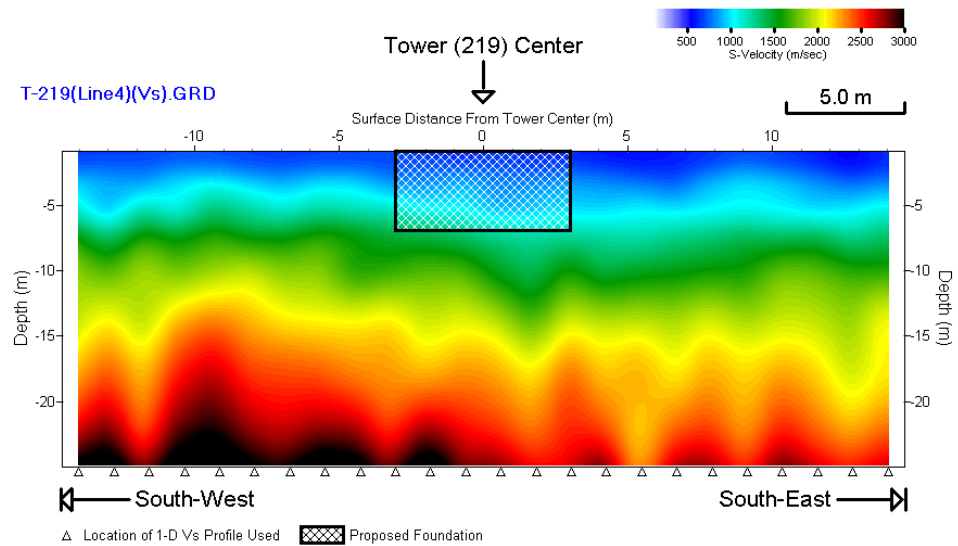
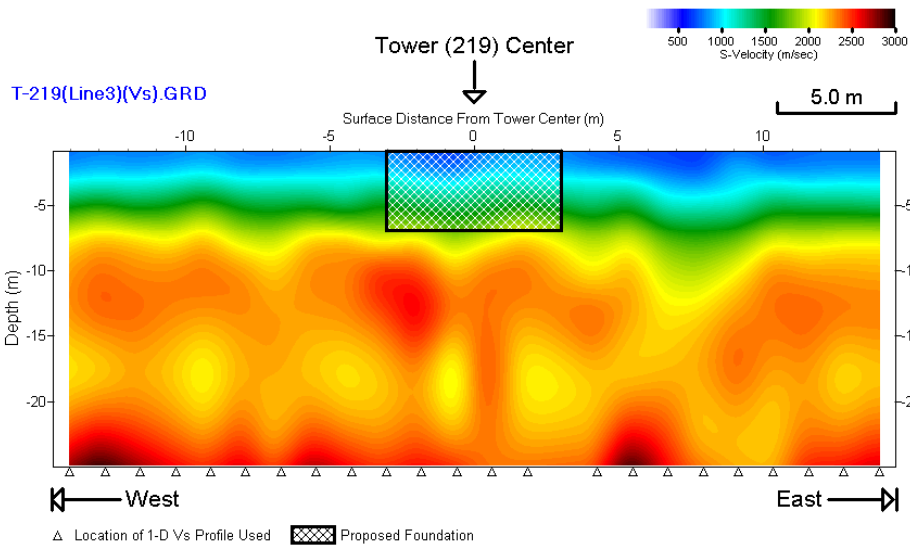
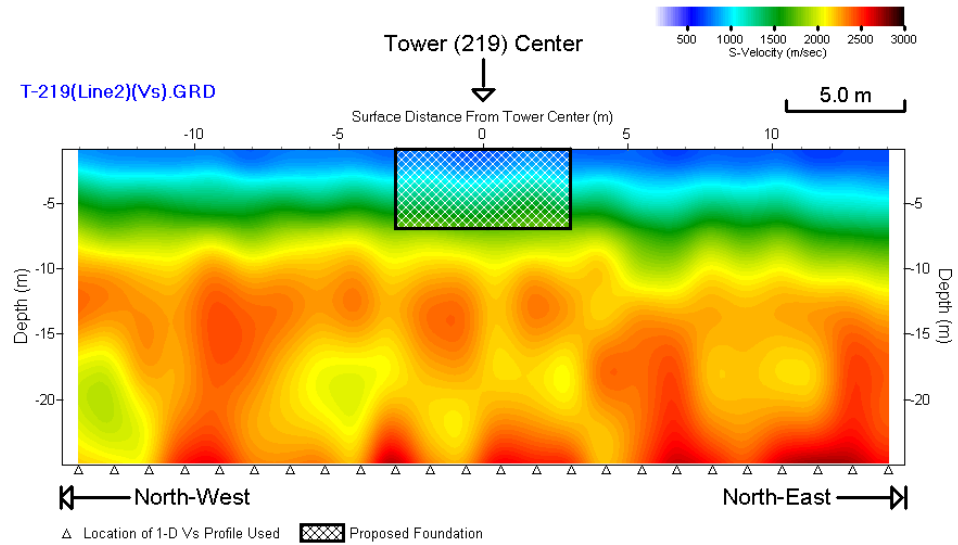
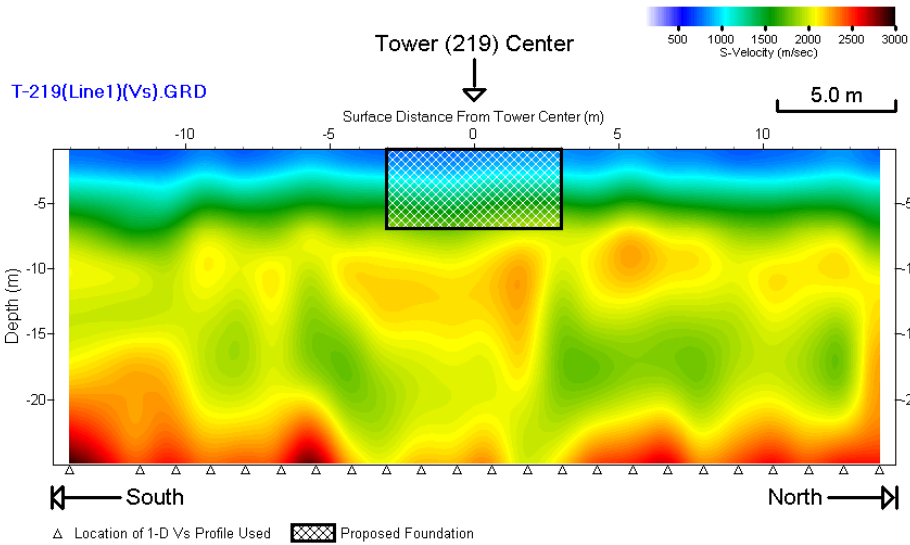


T-218

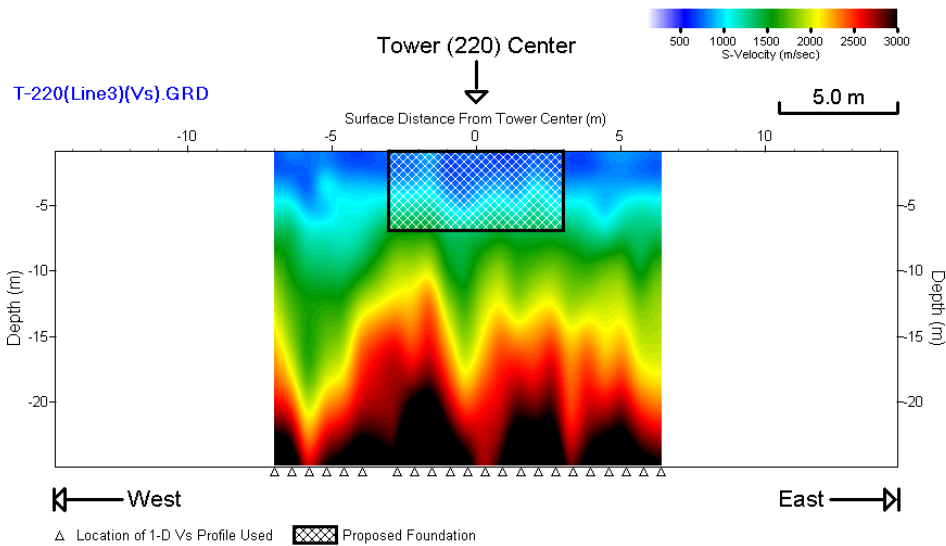
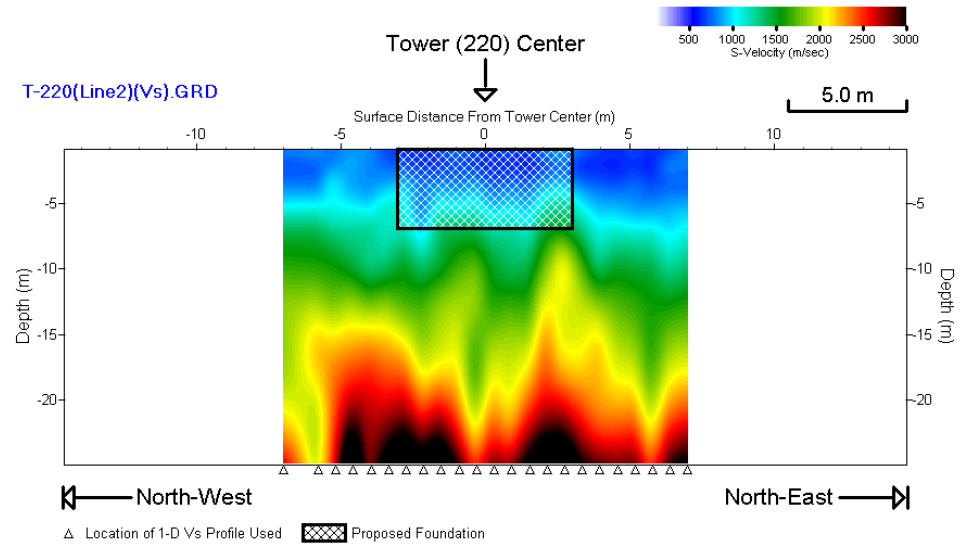
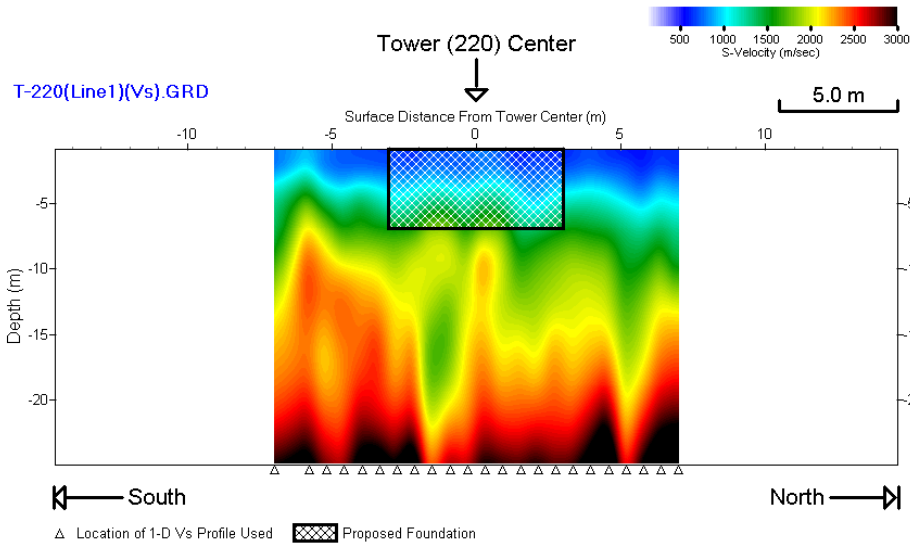


*Potential void (see separate text file for coordinates)

T-219

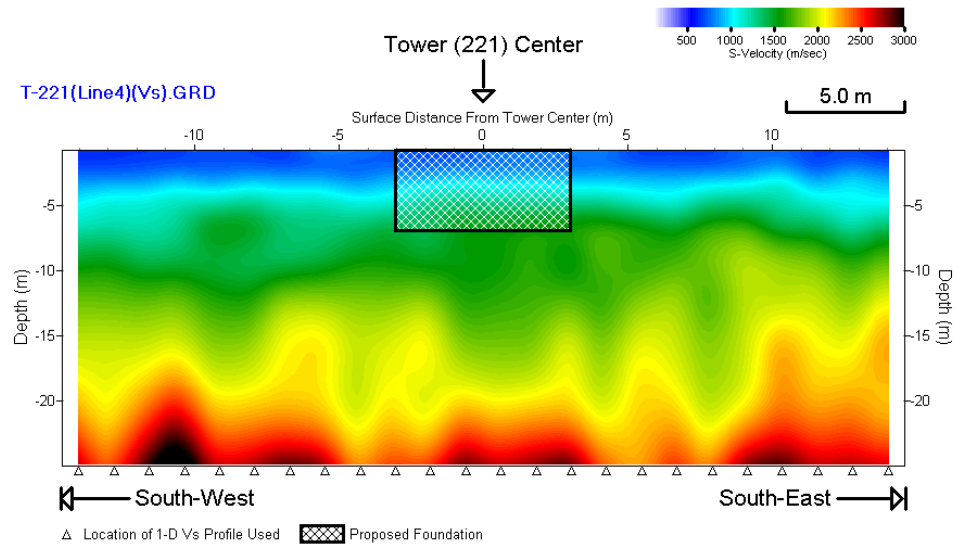
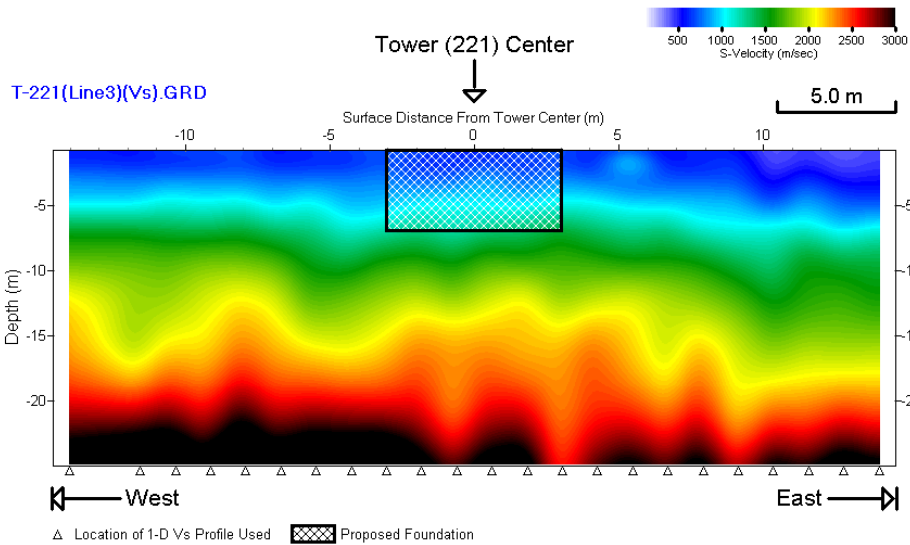
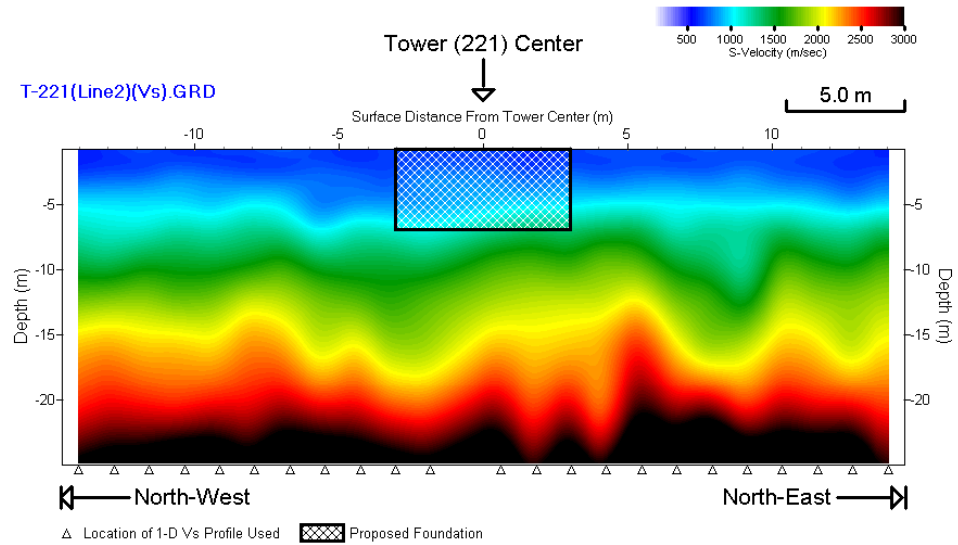
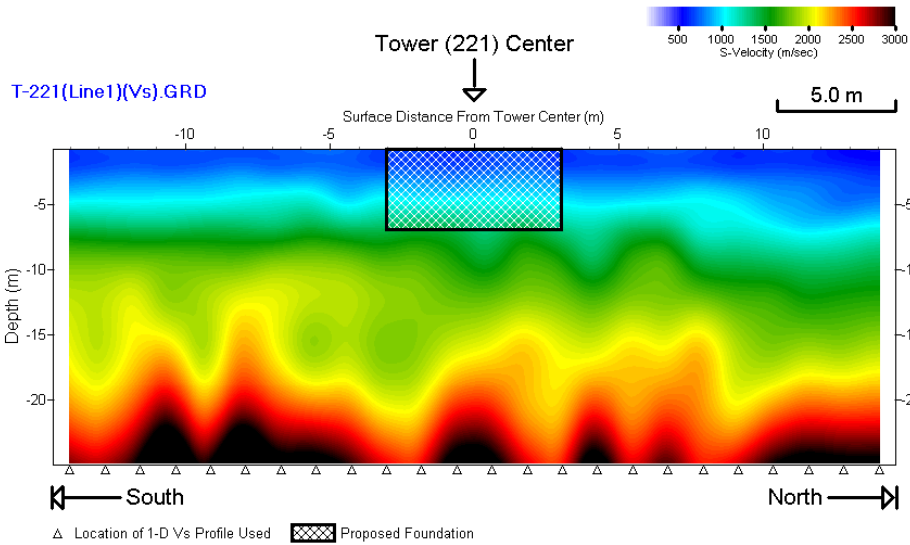


T-220**

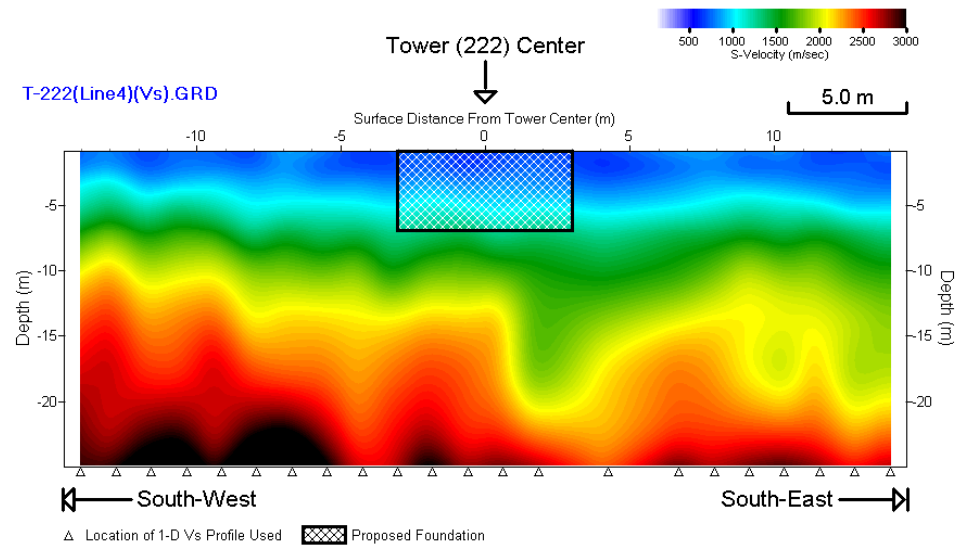
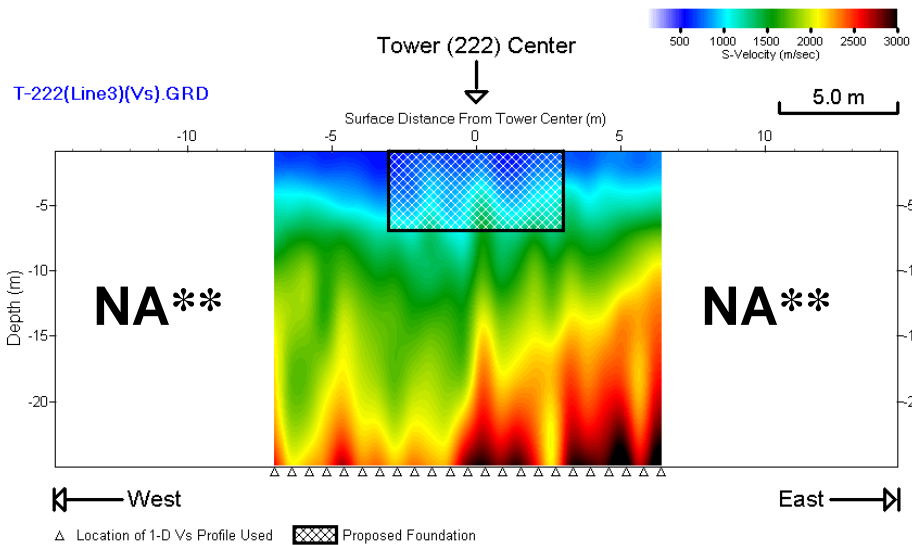
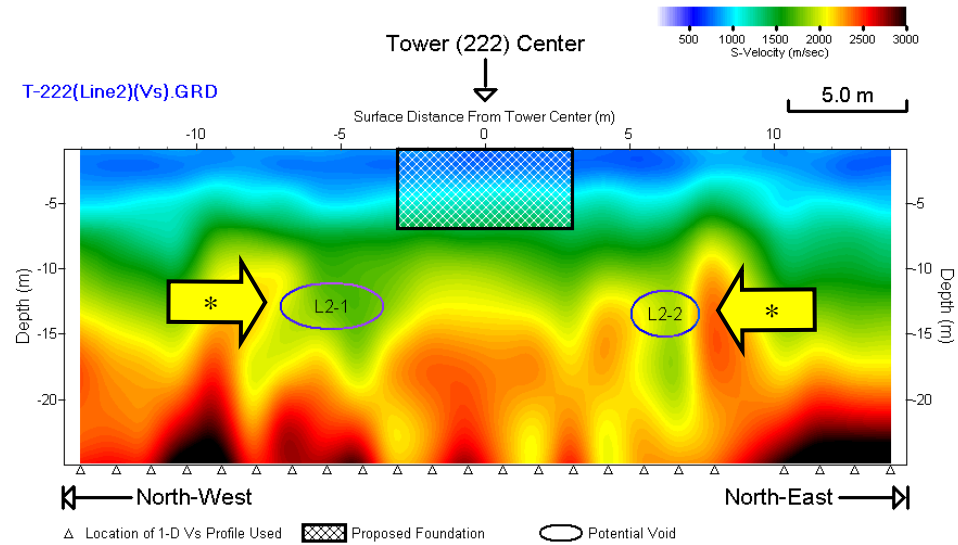
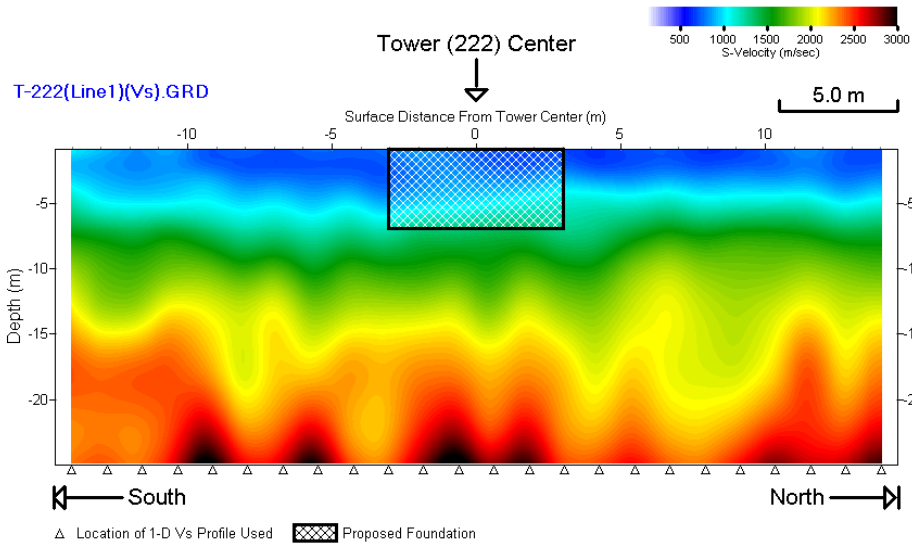


**A shorter receiver spacing of 2 ft was used and Line 4 was not acquired due to terrain condition (steep drop off).

T-221

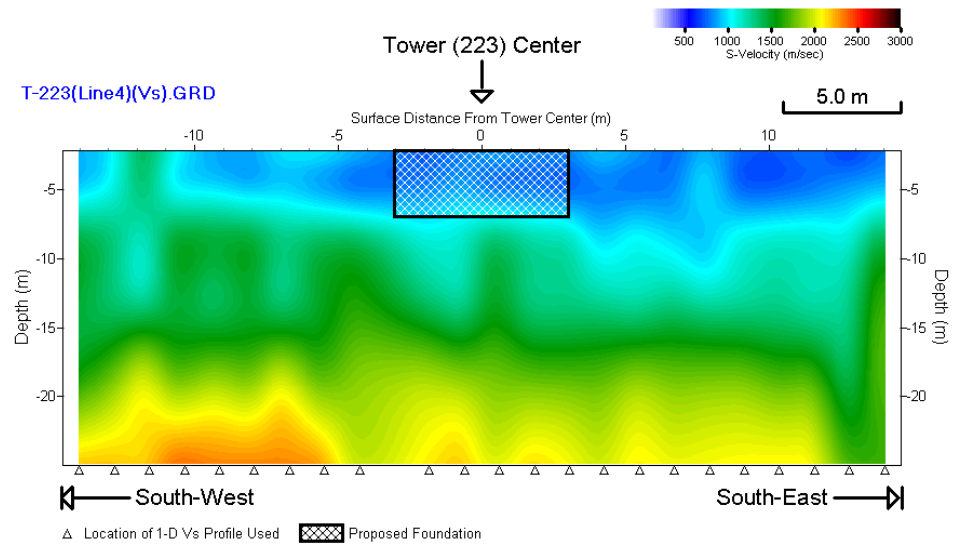
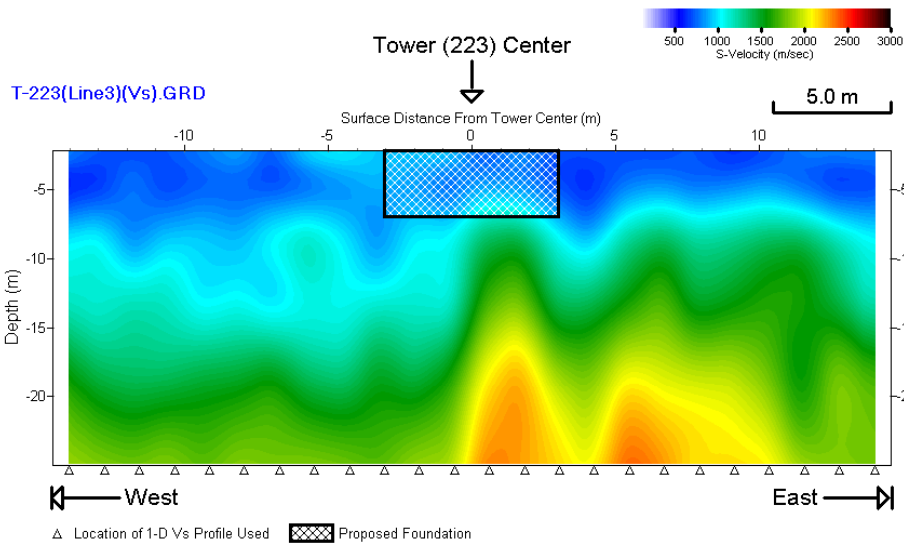
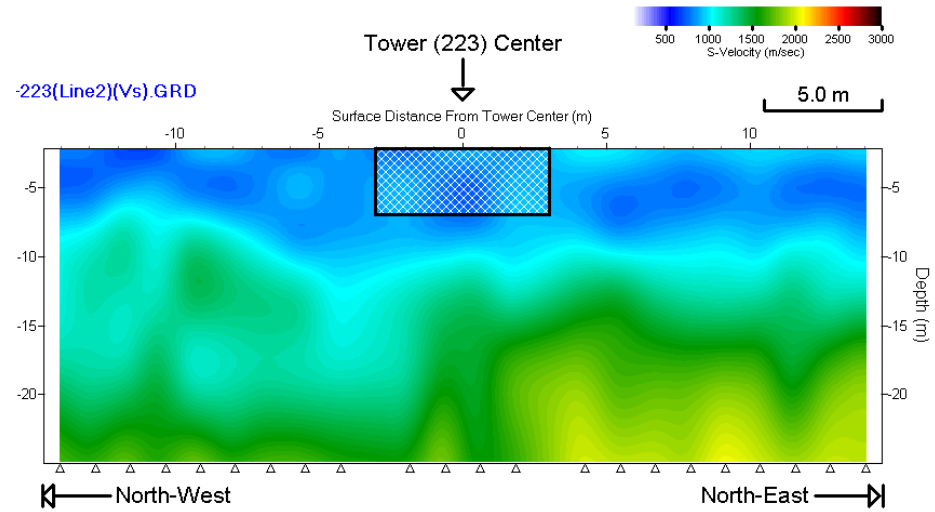
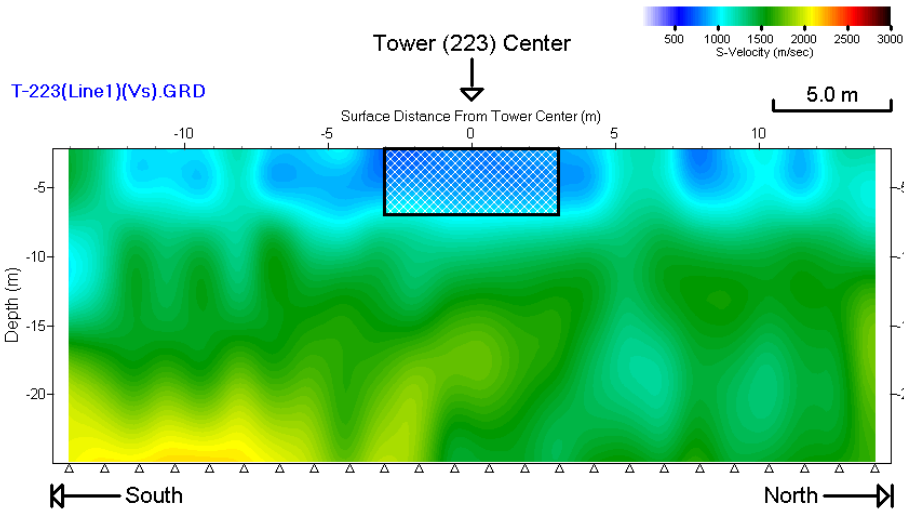


T-222

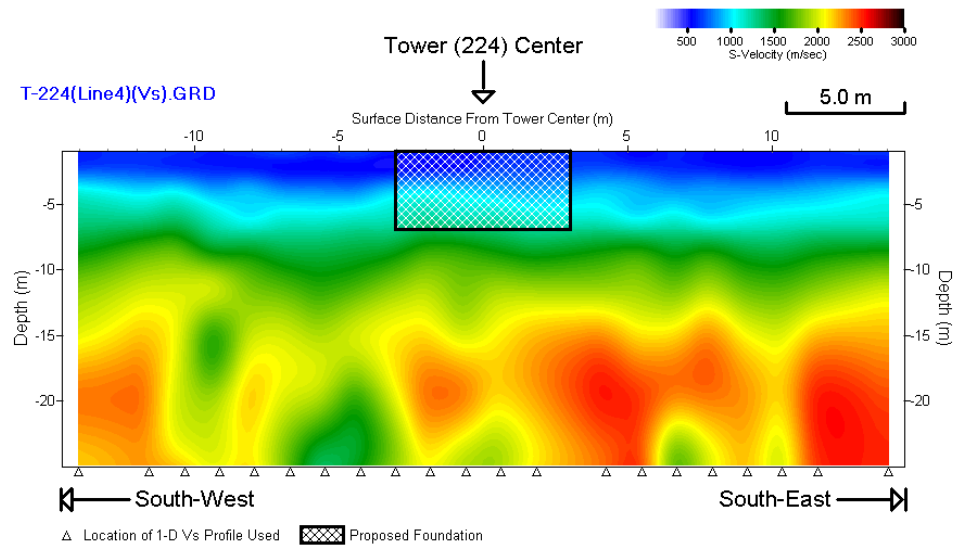
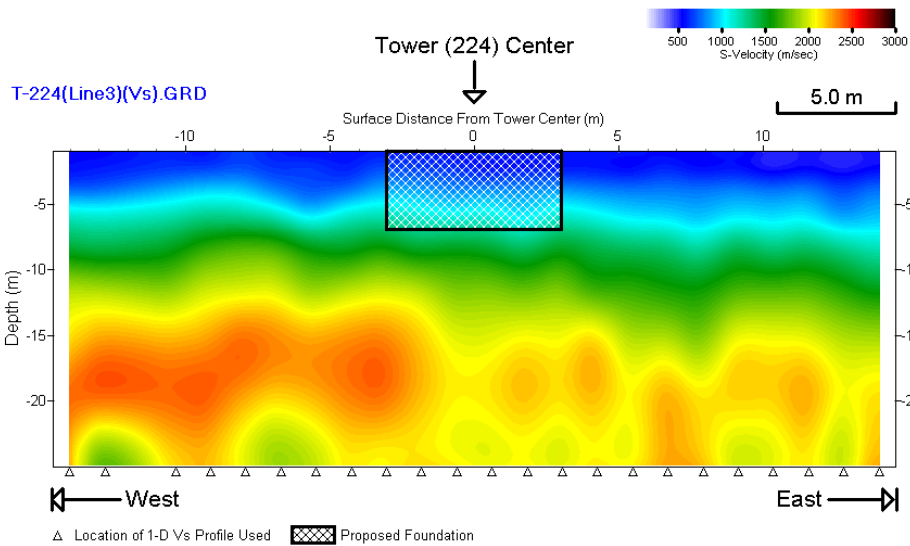
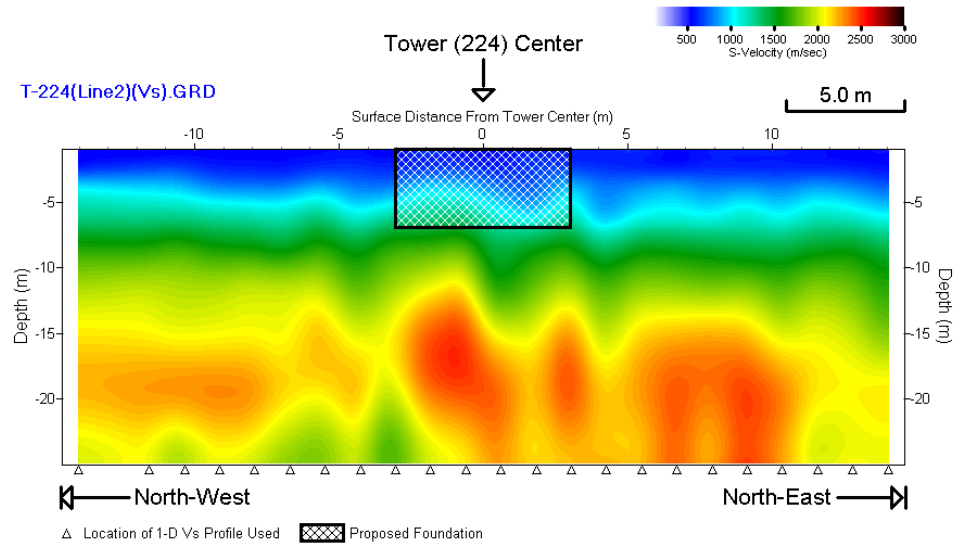
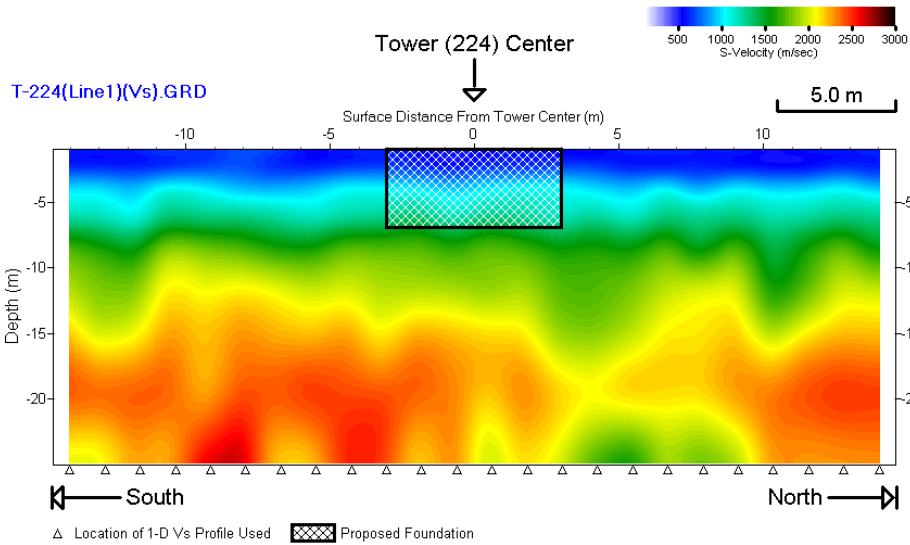


*Potential void (see separate text file for coordinates), **A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

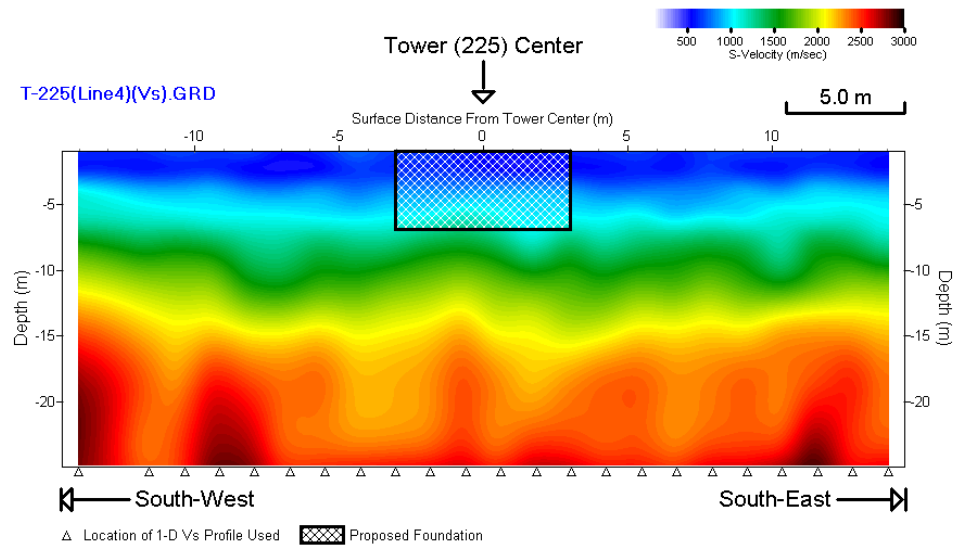
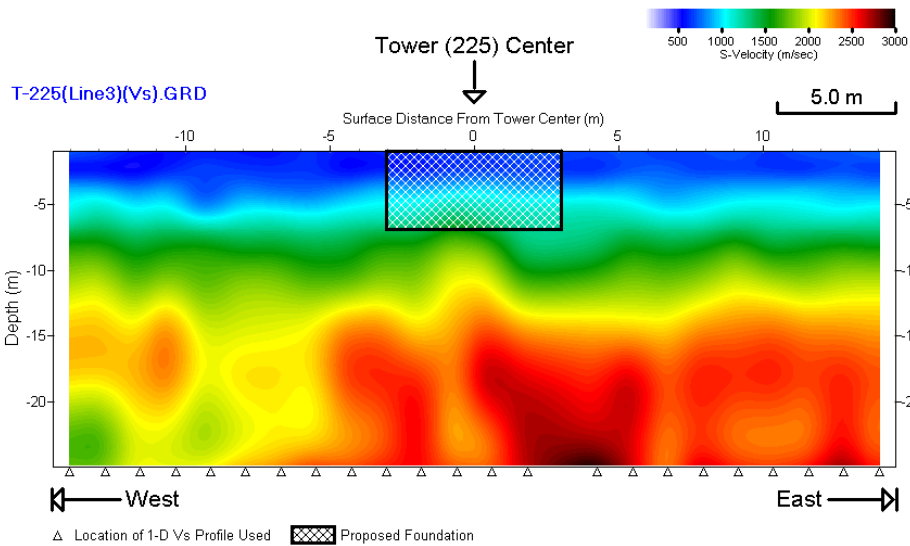
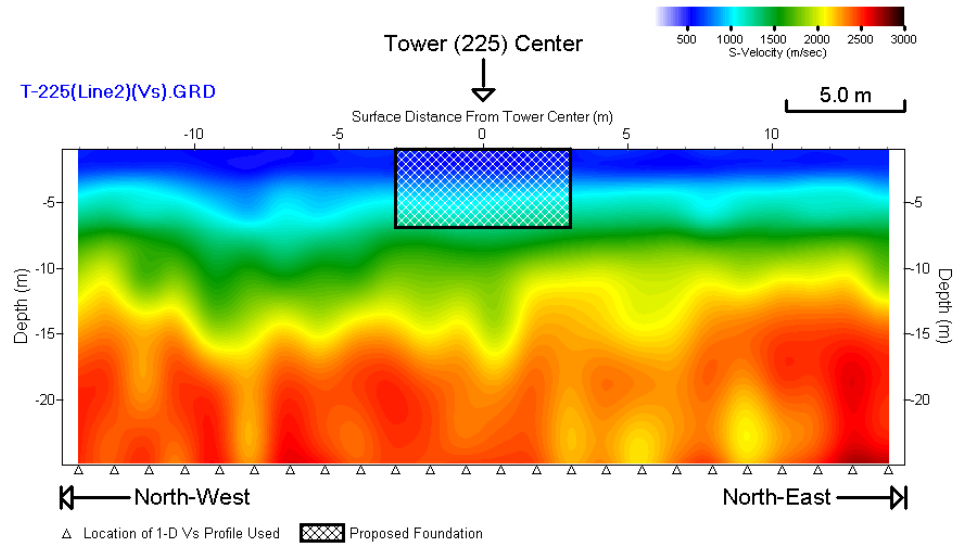
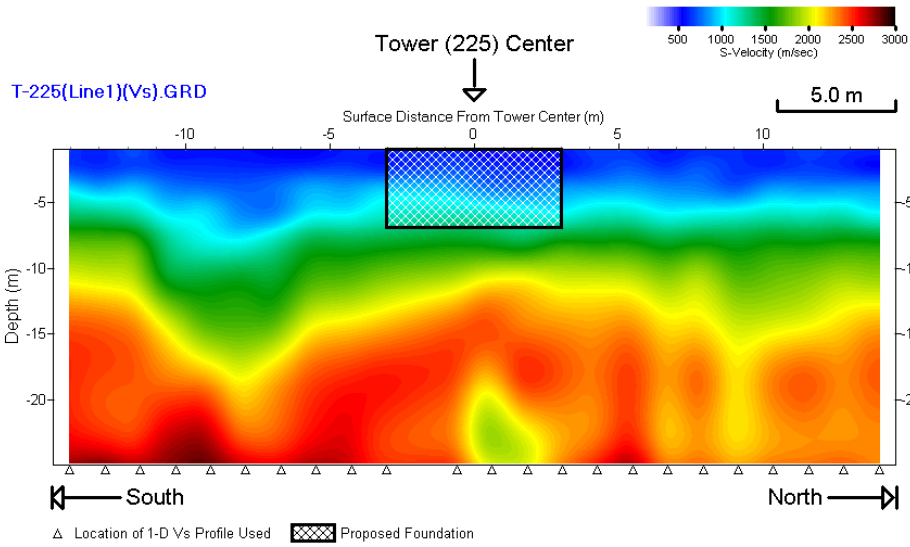
T-223



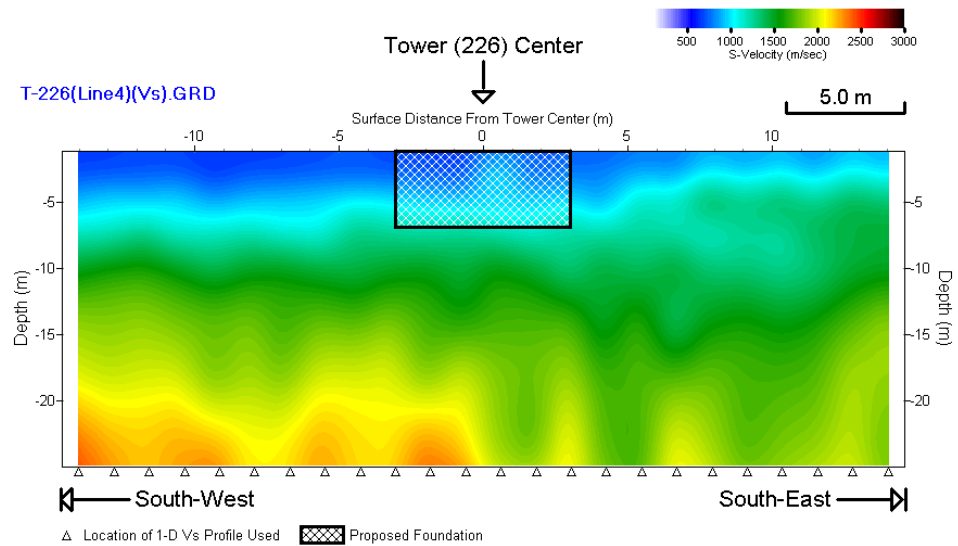
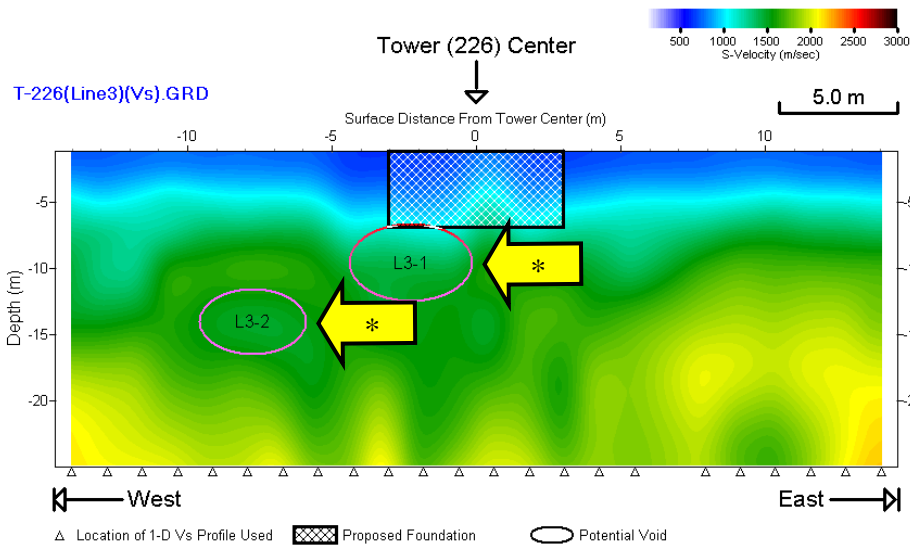
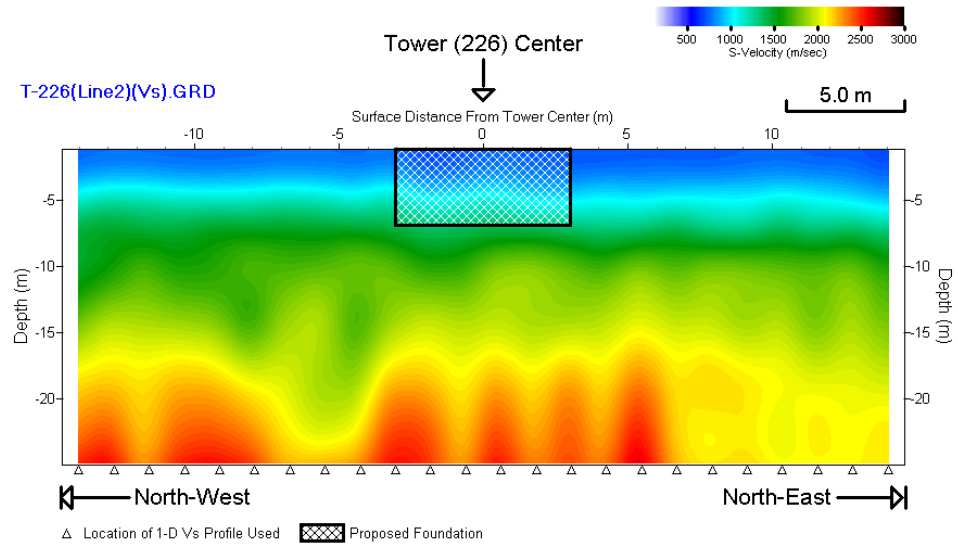
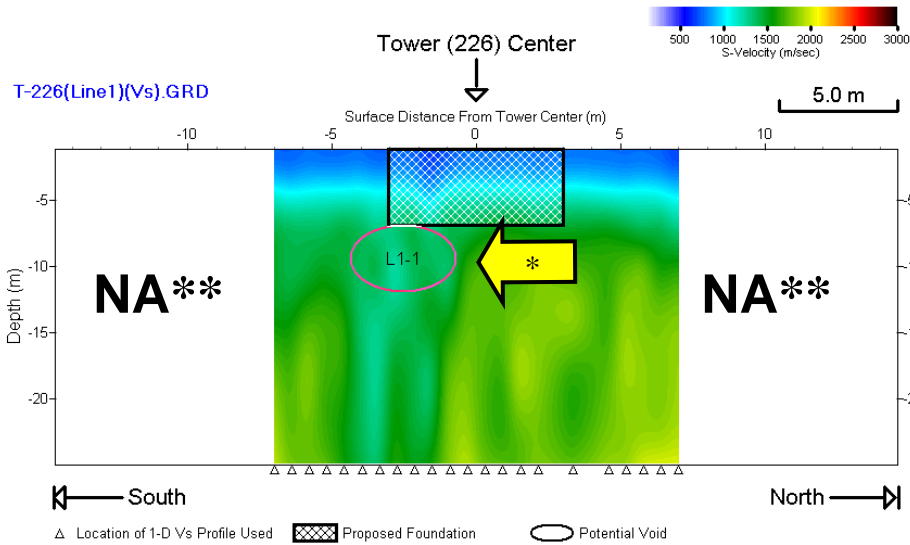
T-224



T-225

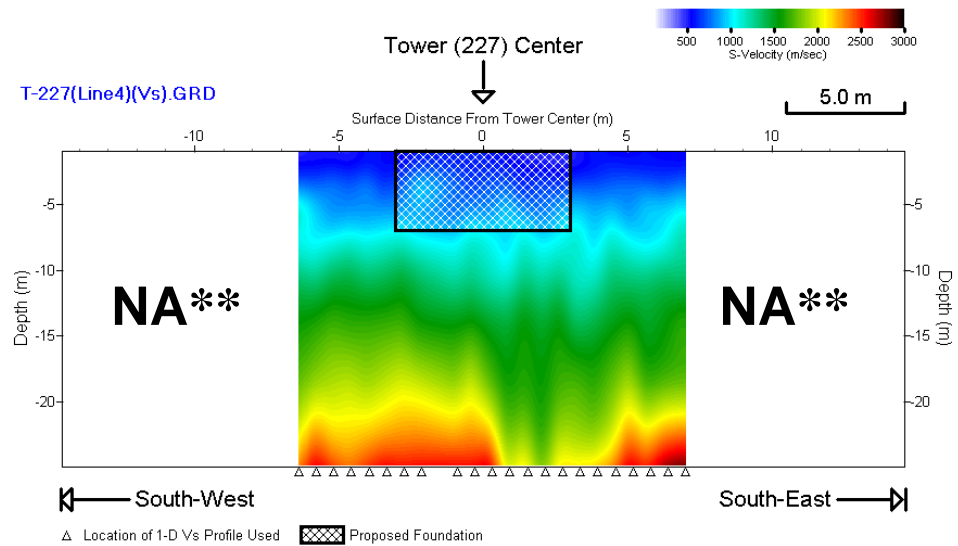
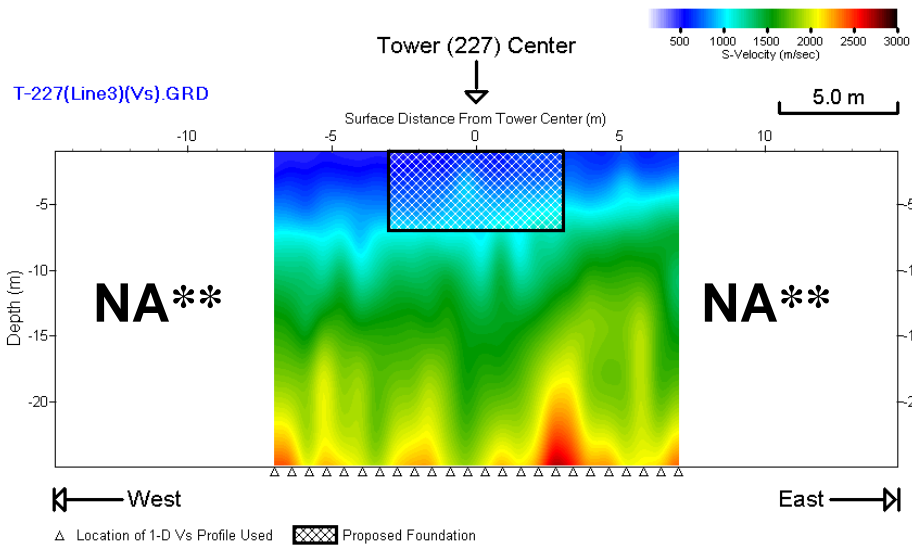
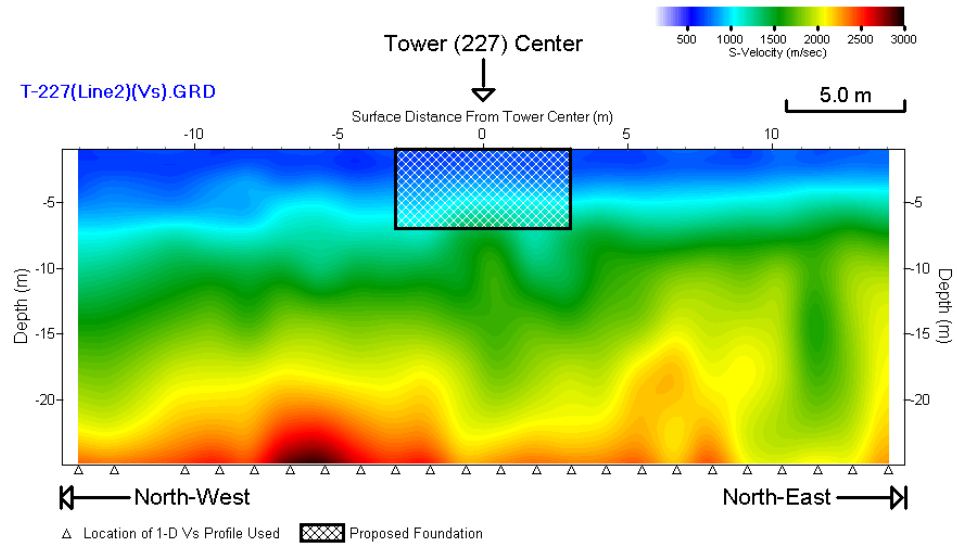
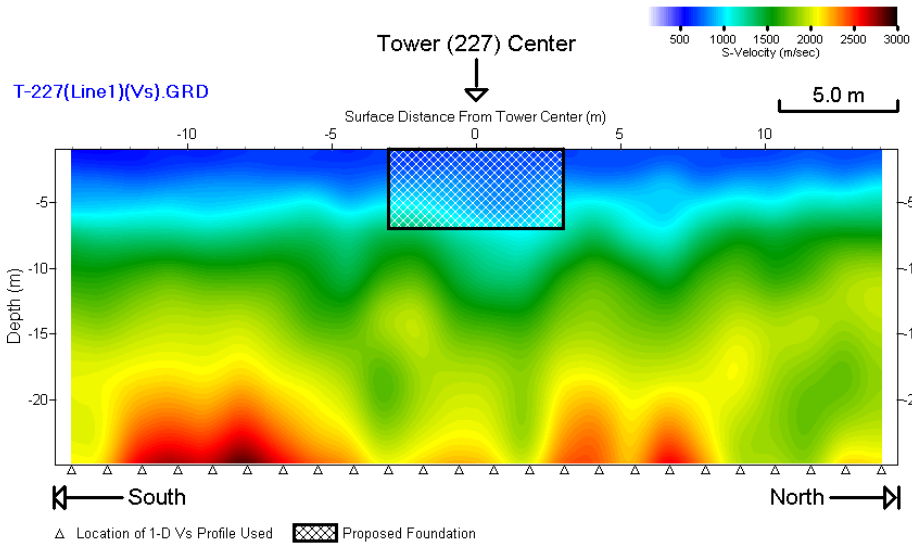


T-226



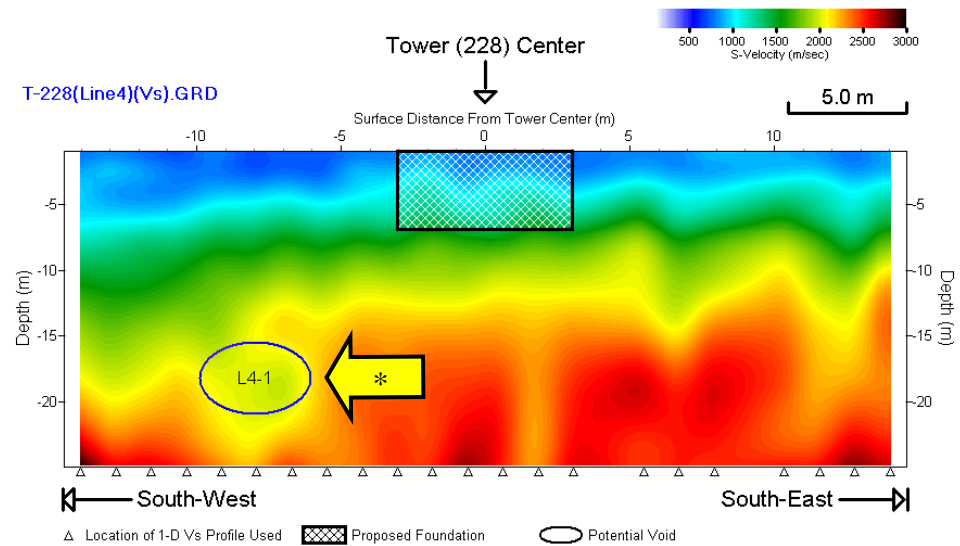
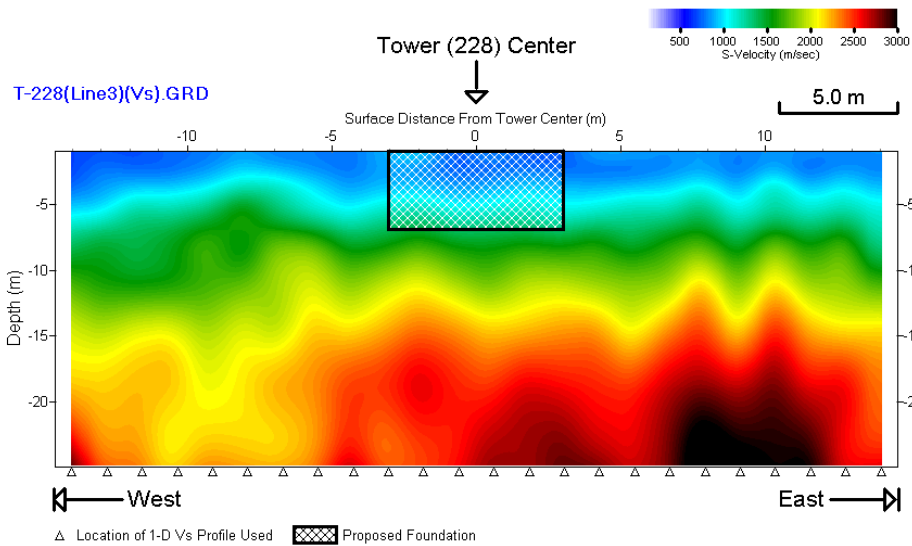
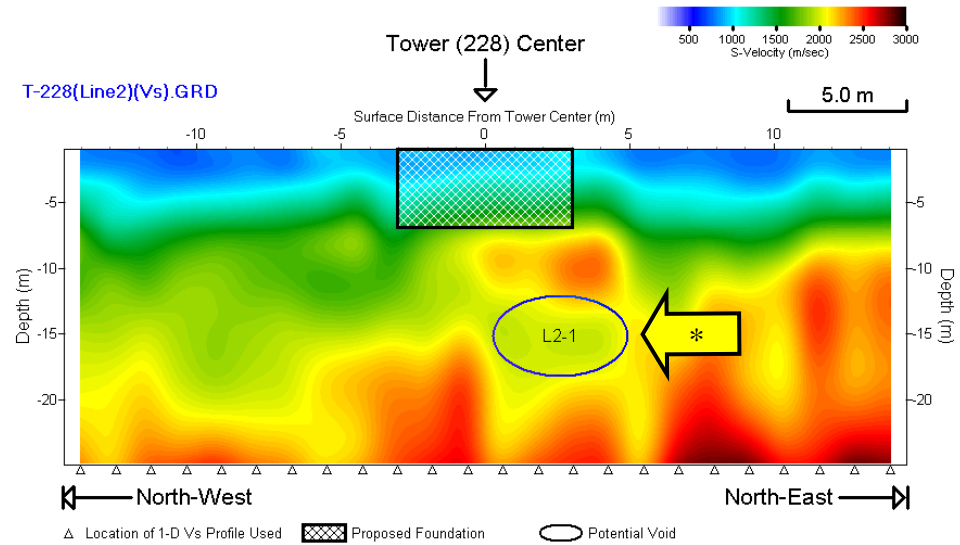
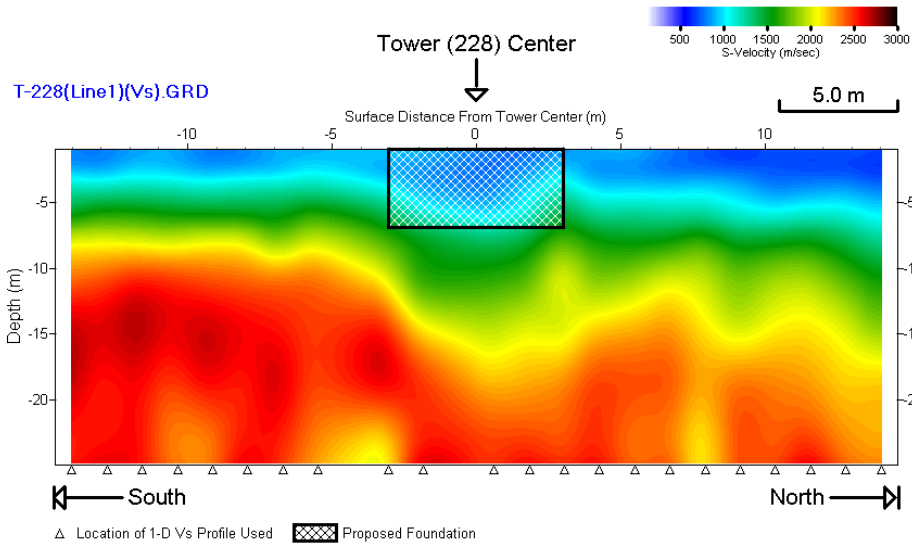
*Potential void (see separate text file for coordinates), **A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

T-227



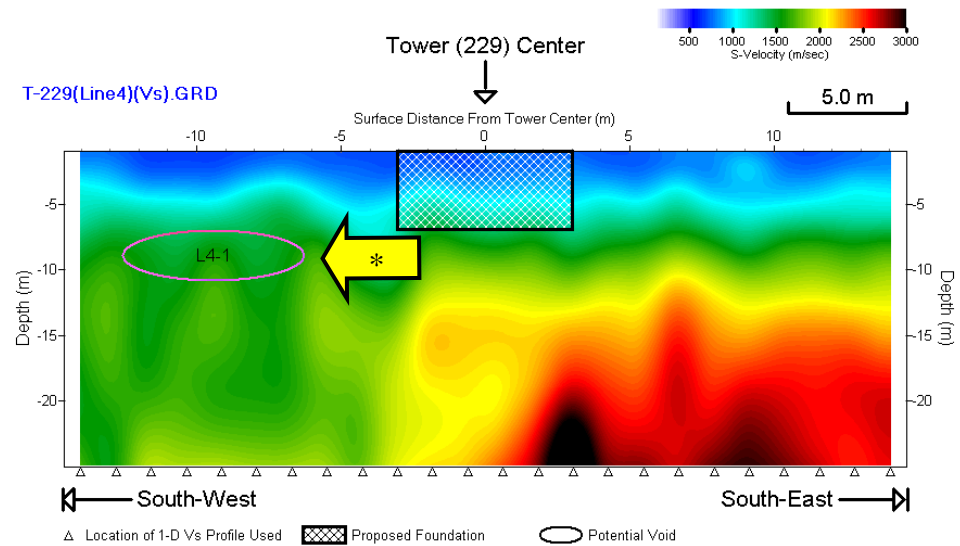
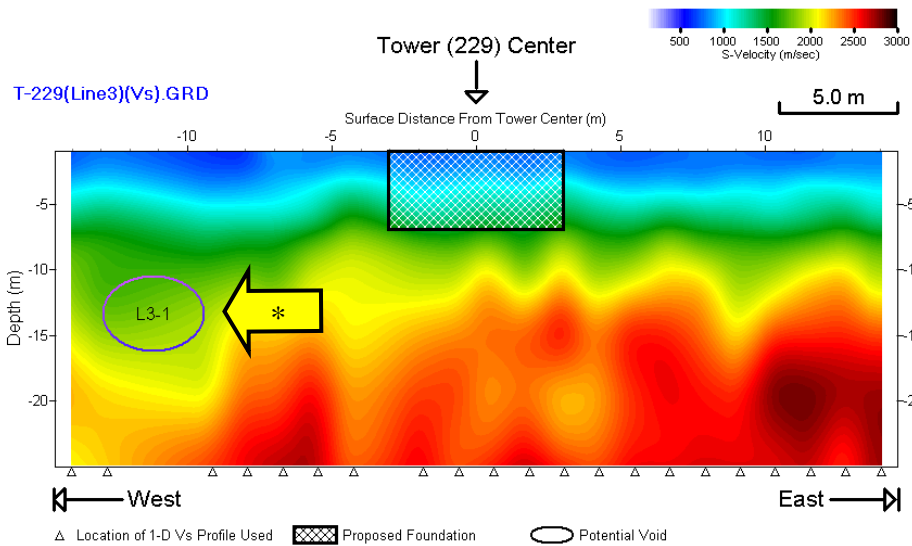
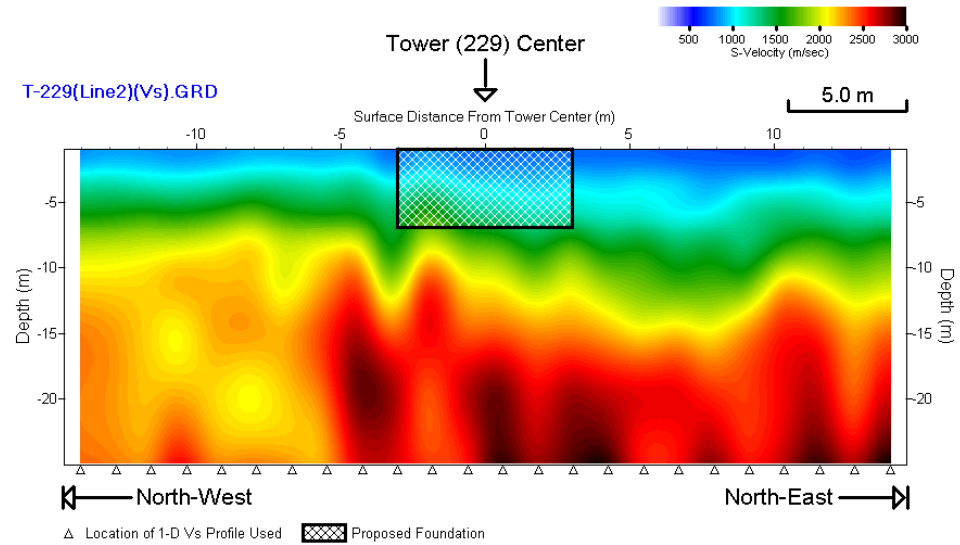
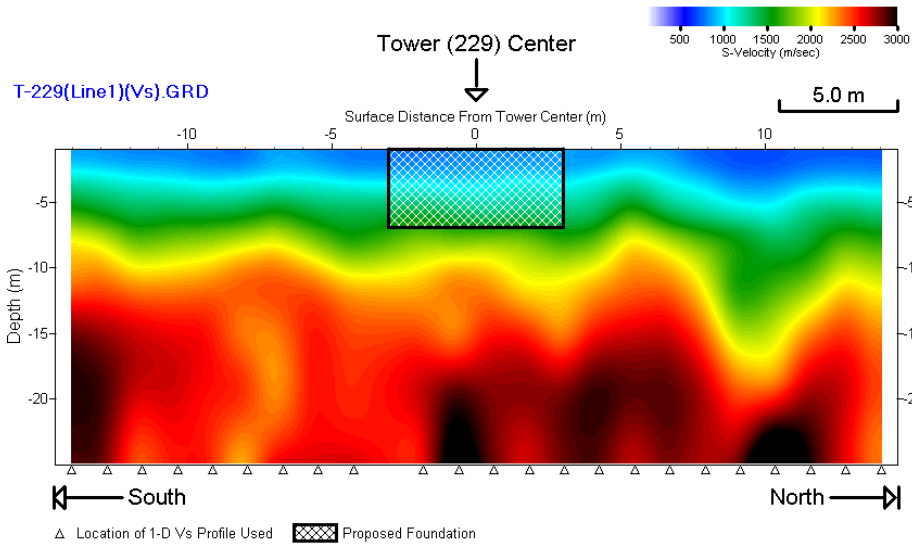
**A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

T-228



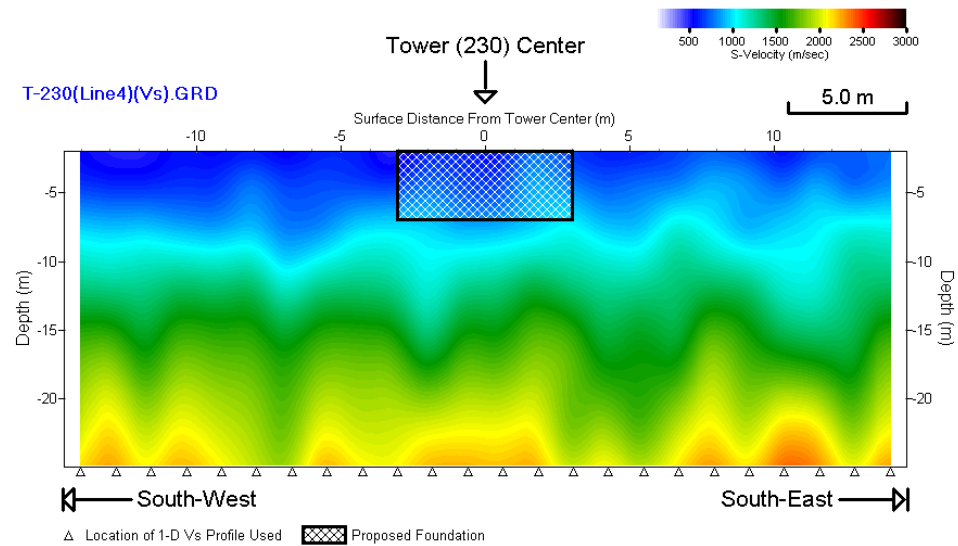
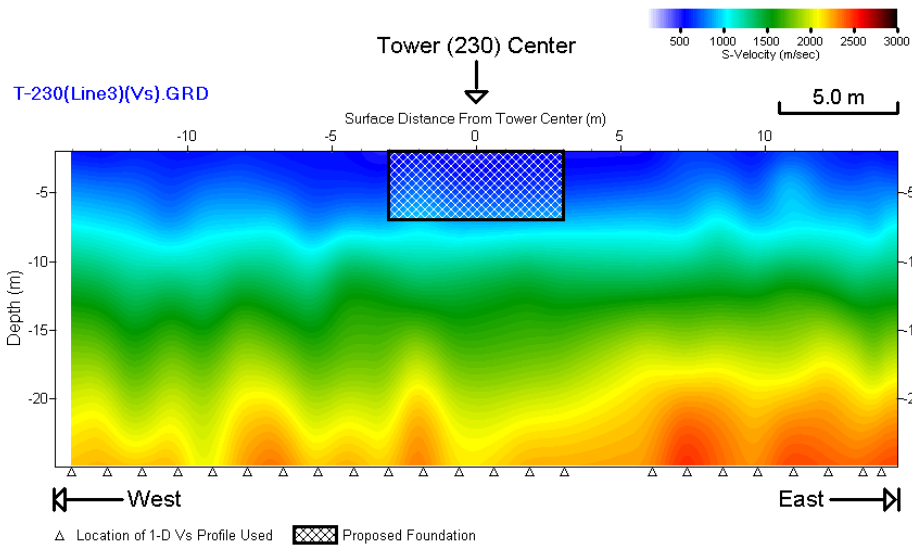
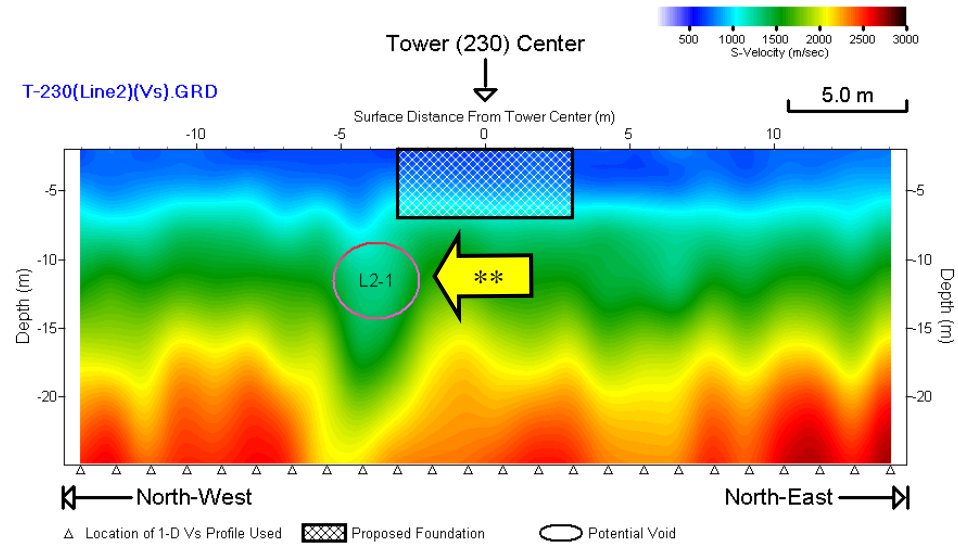
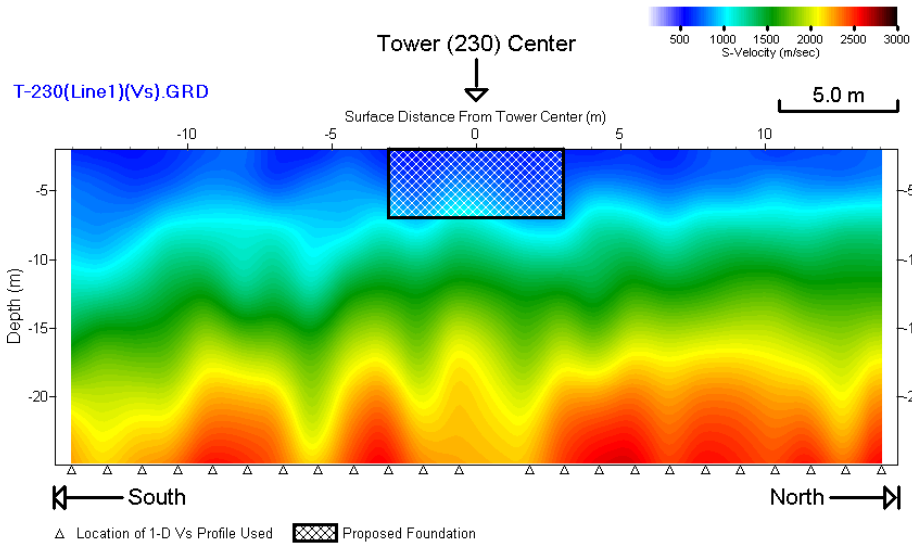
*Potential void (see separate text file for coordinates)

T-229



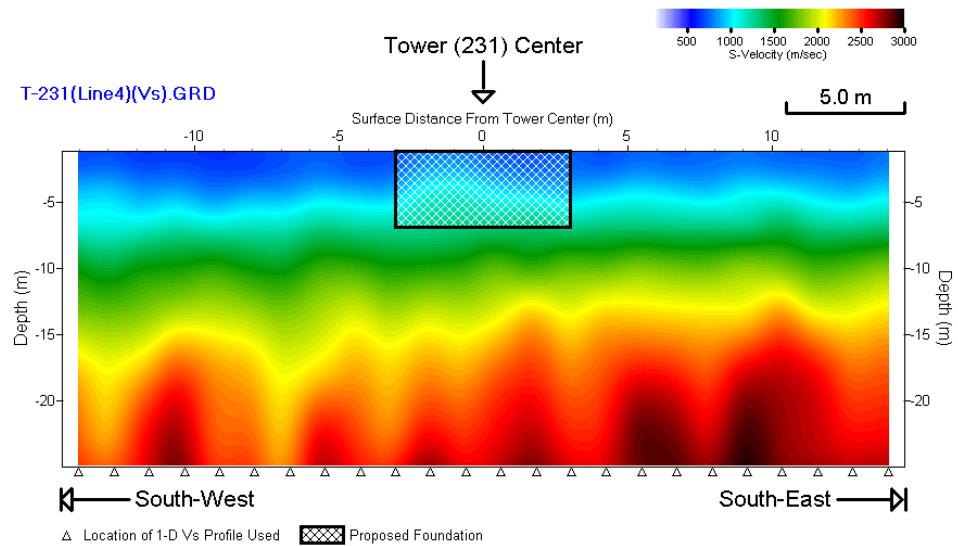
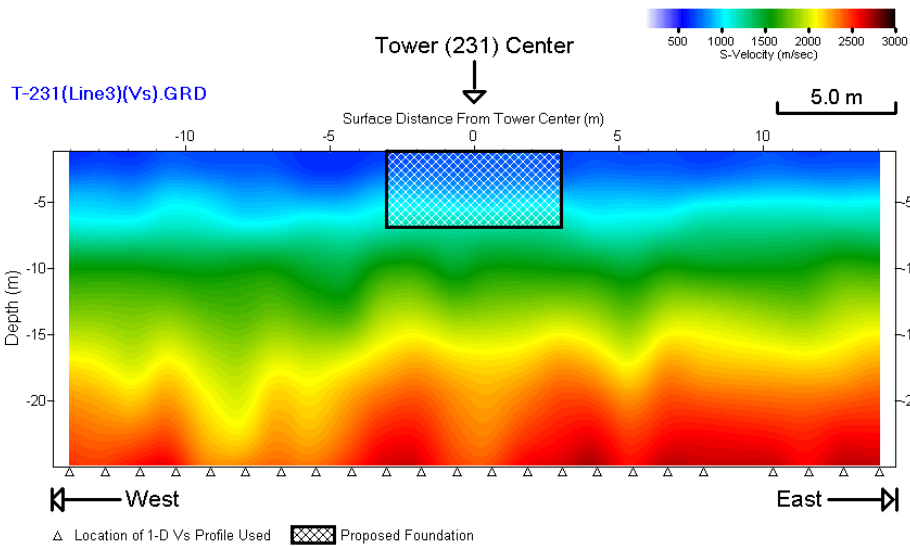
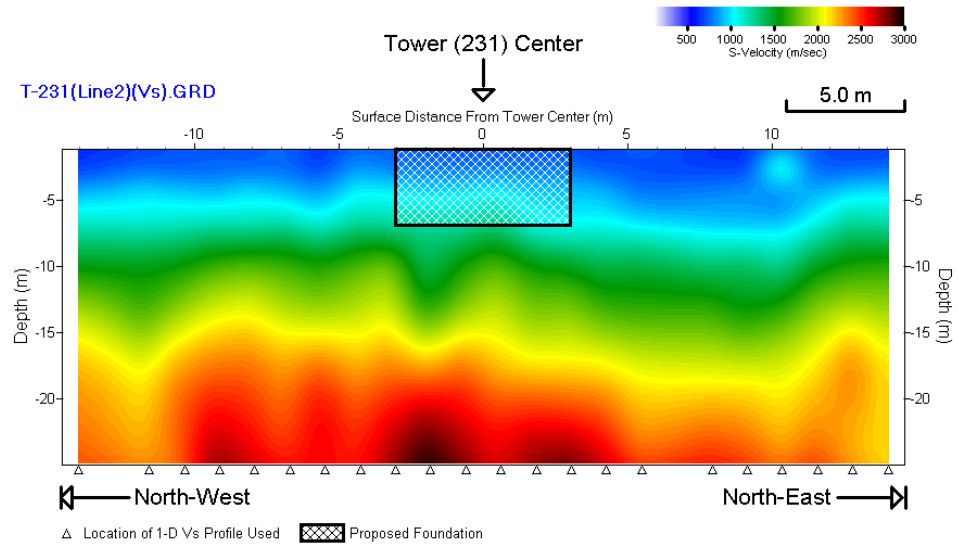
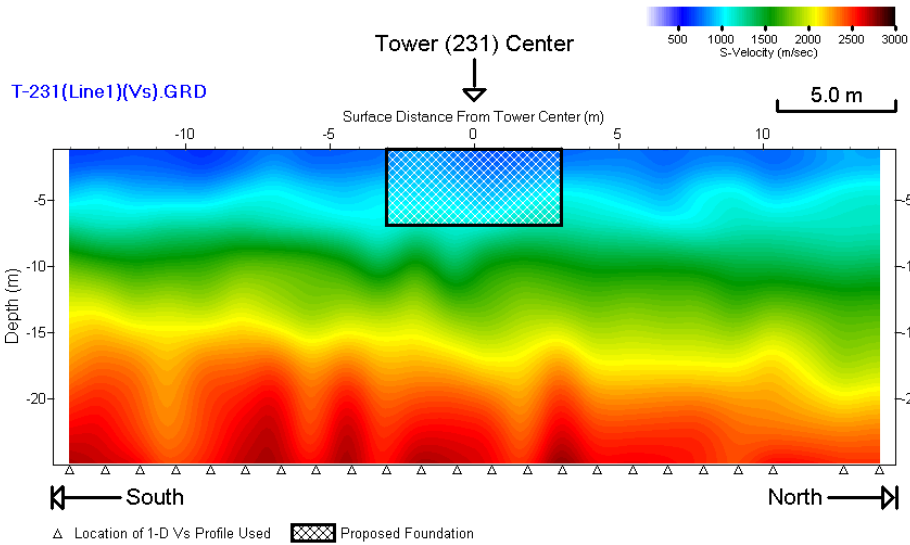
*Potential void (see separate text file for coordinates)

T-230

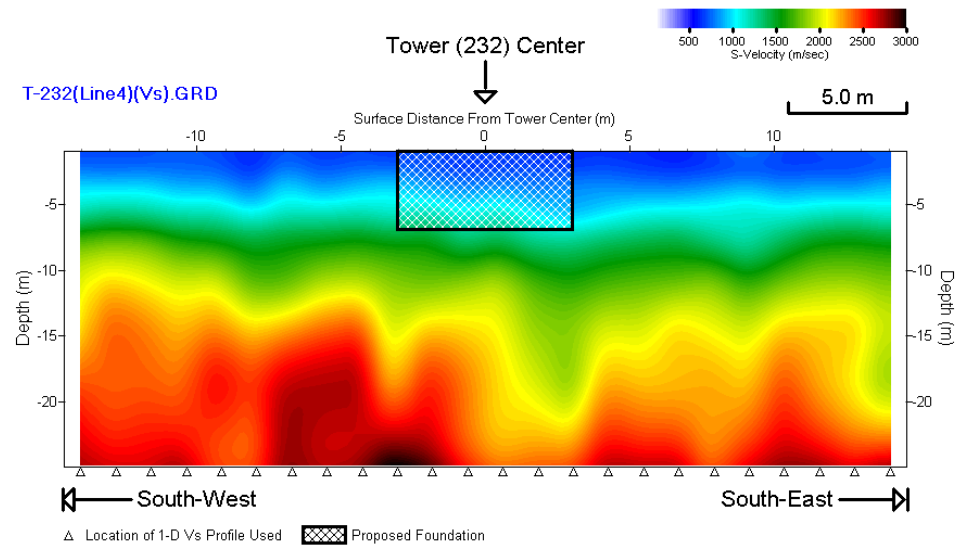
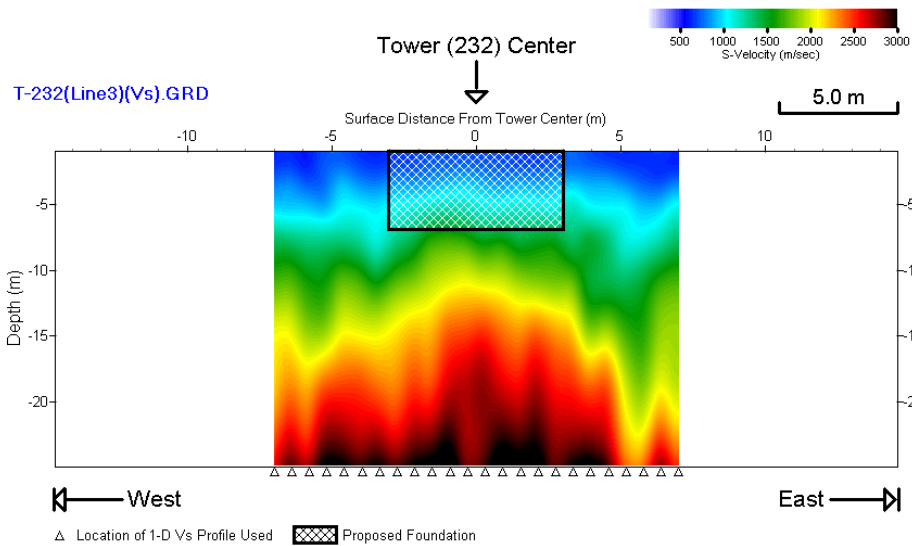
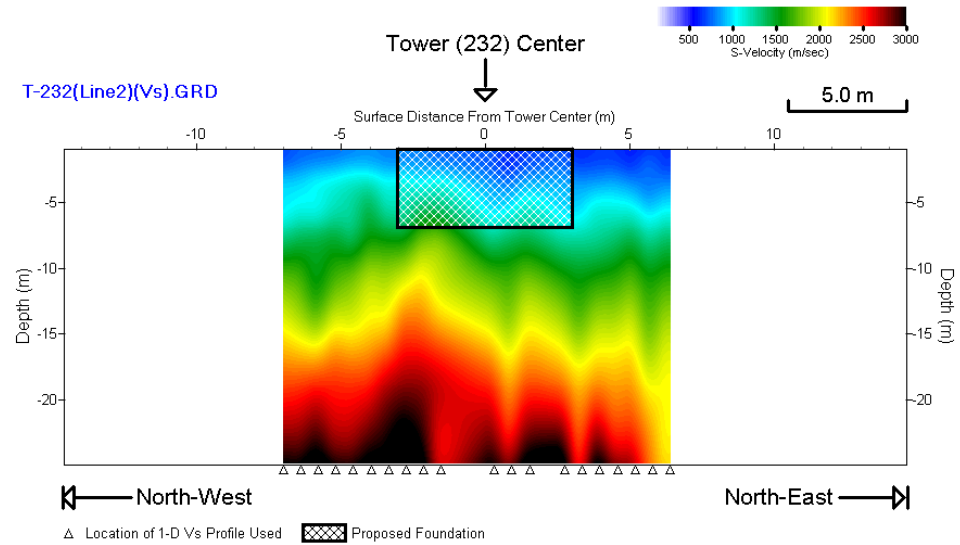
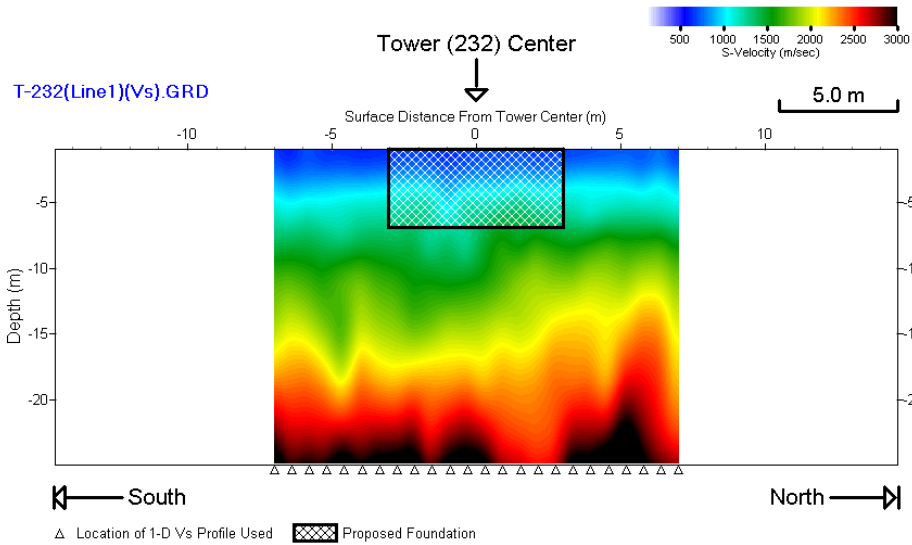


**Potential void (see separate text file for coordinates)

T-231

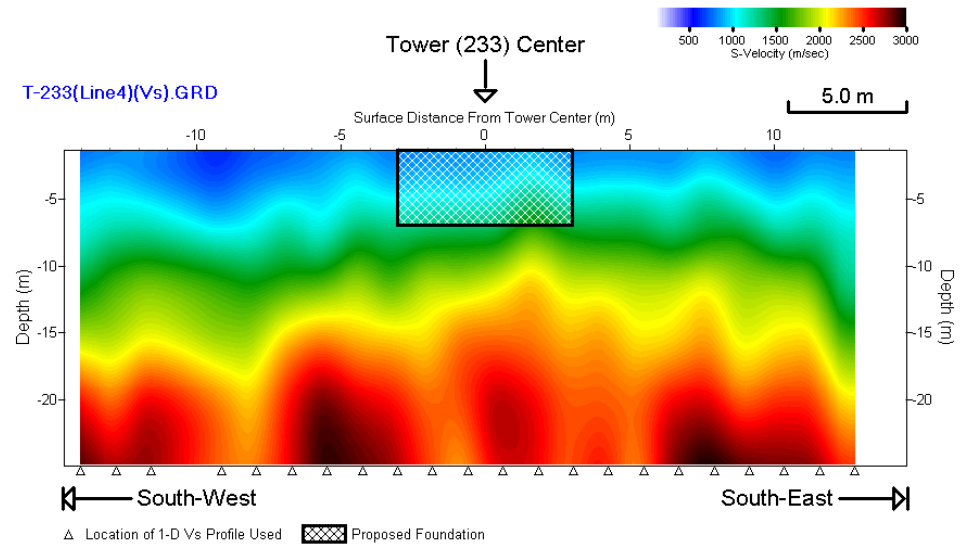
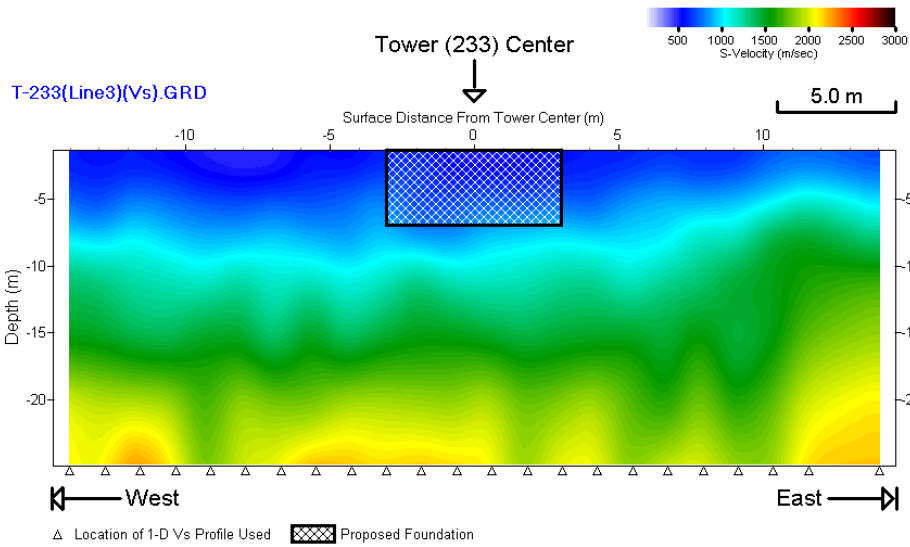
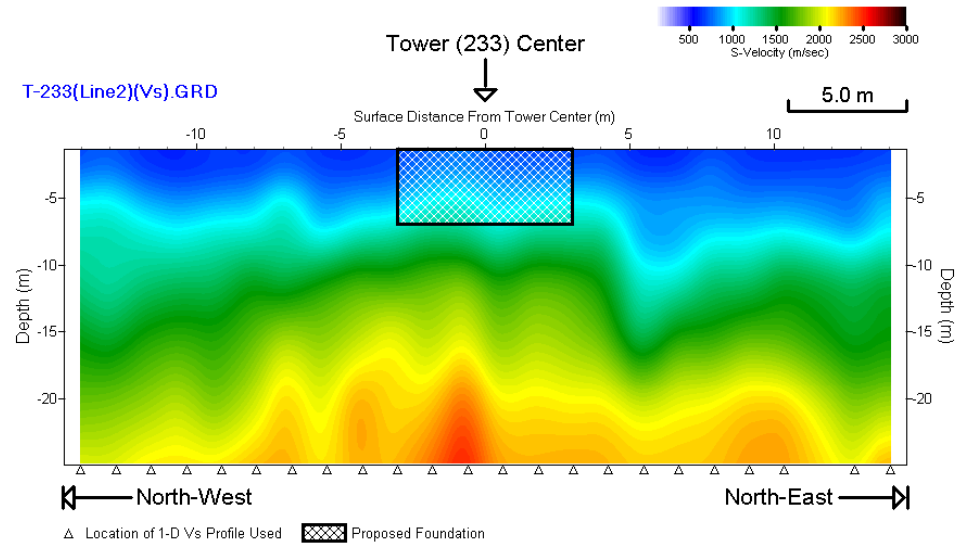
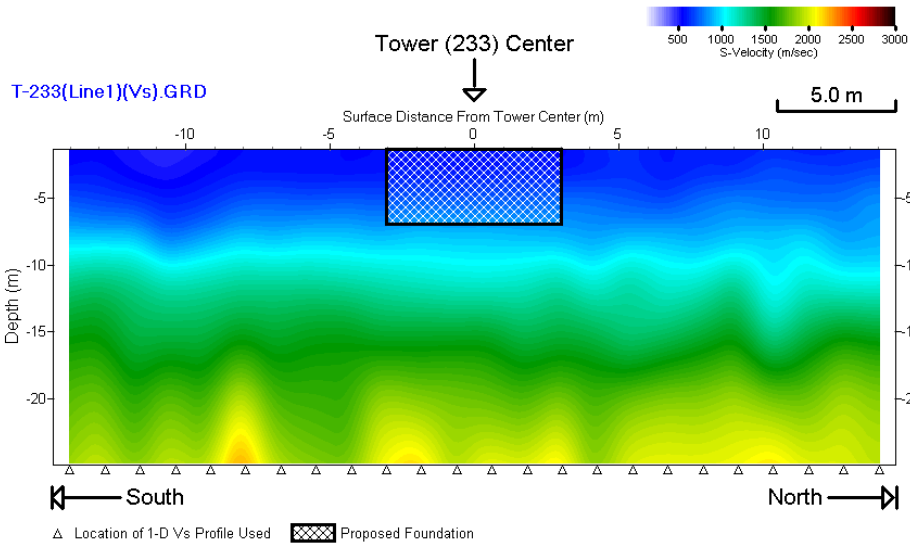


T-232**

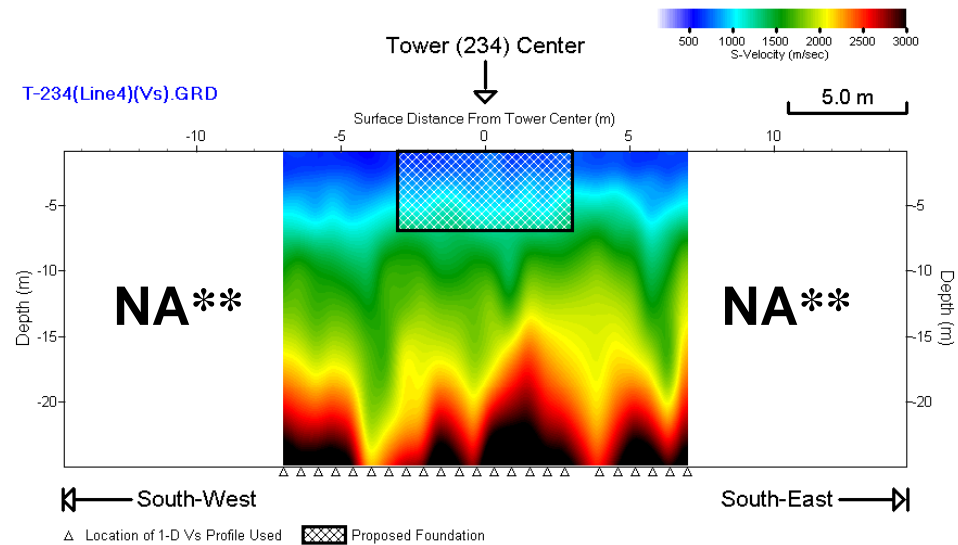
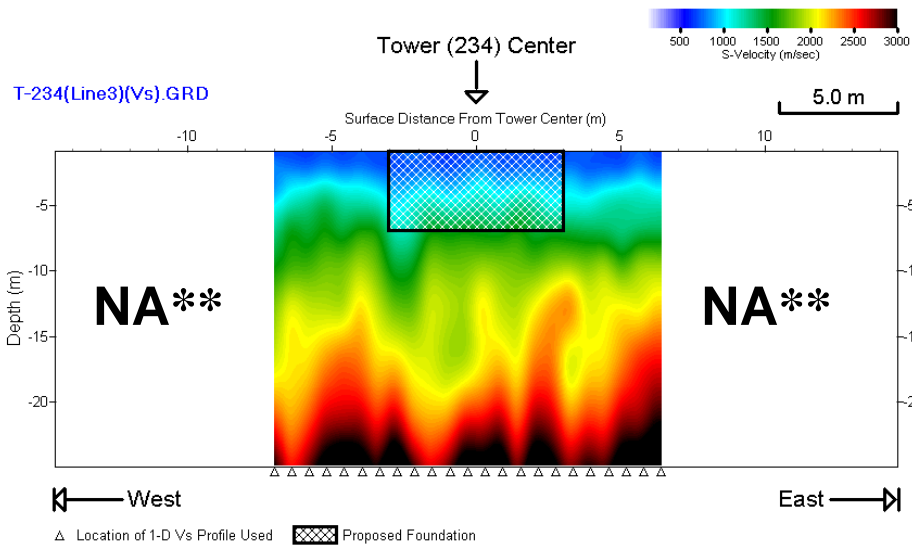
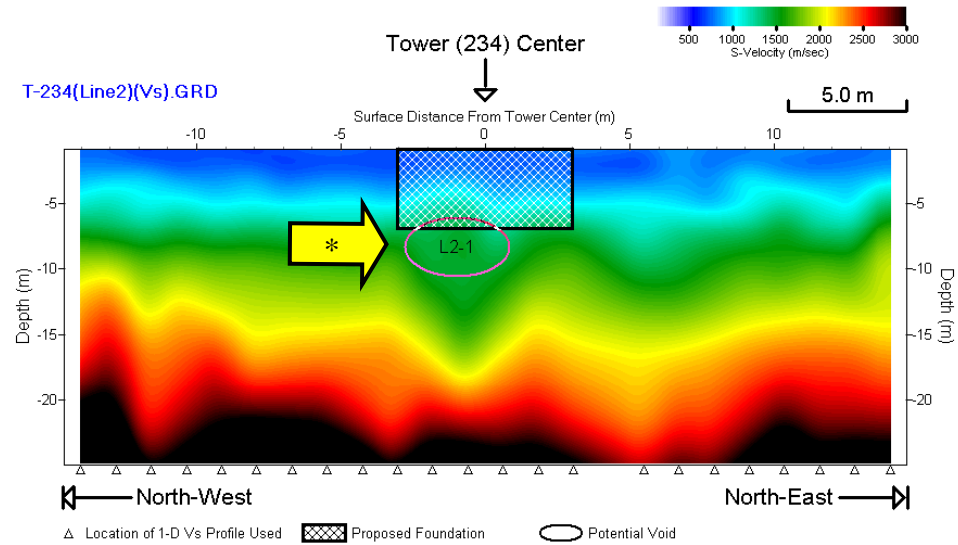
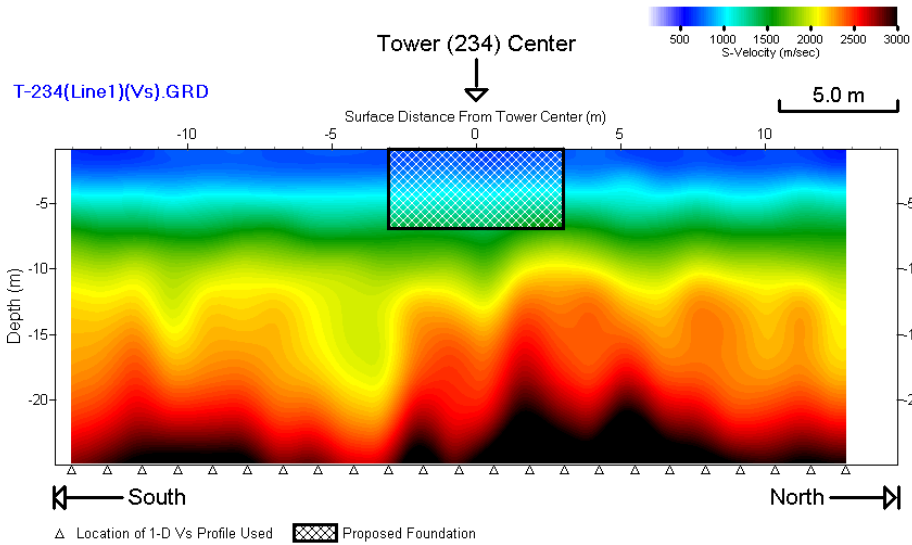


**A shorter receiver spacing of 2 ft was used for lines 1-3 due to terrain condition (steep drop off).

T-233

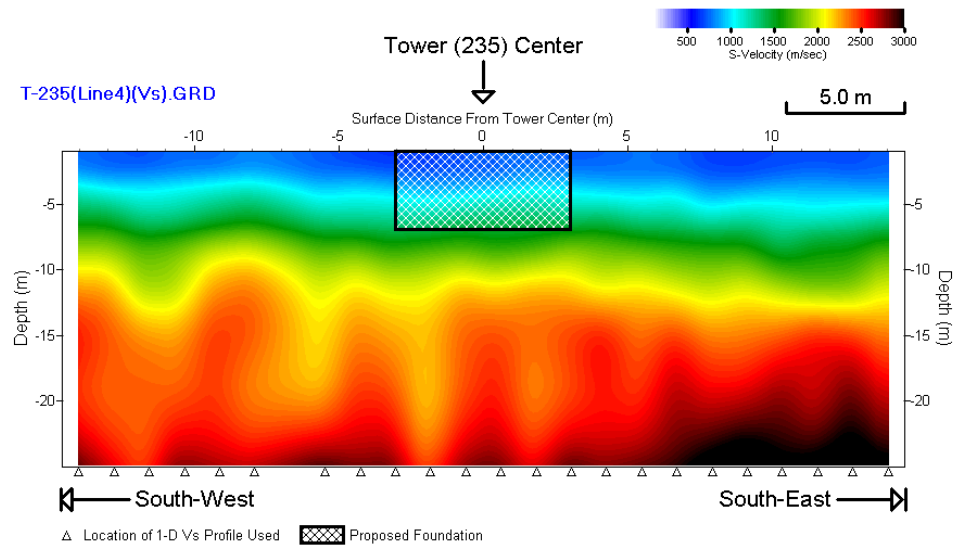
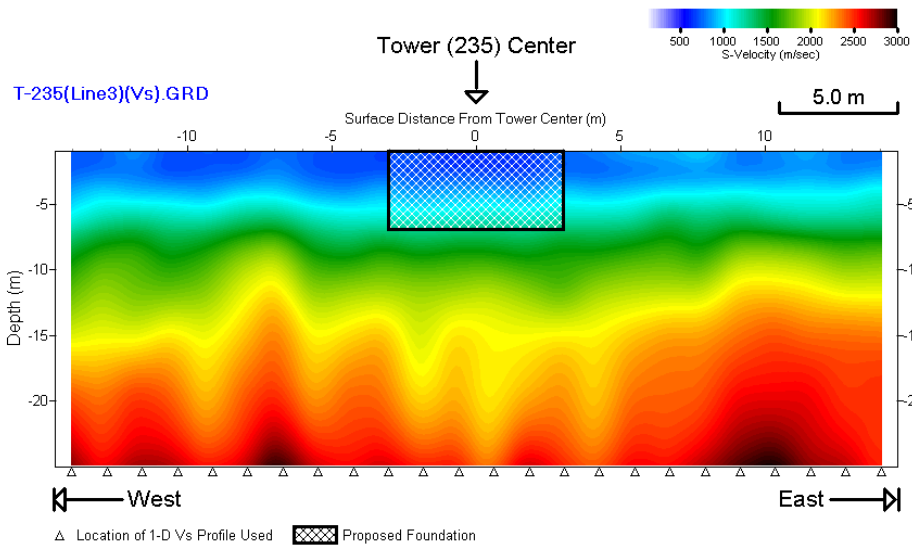
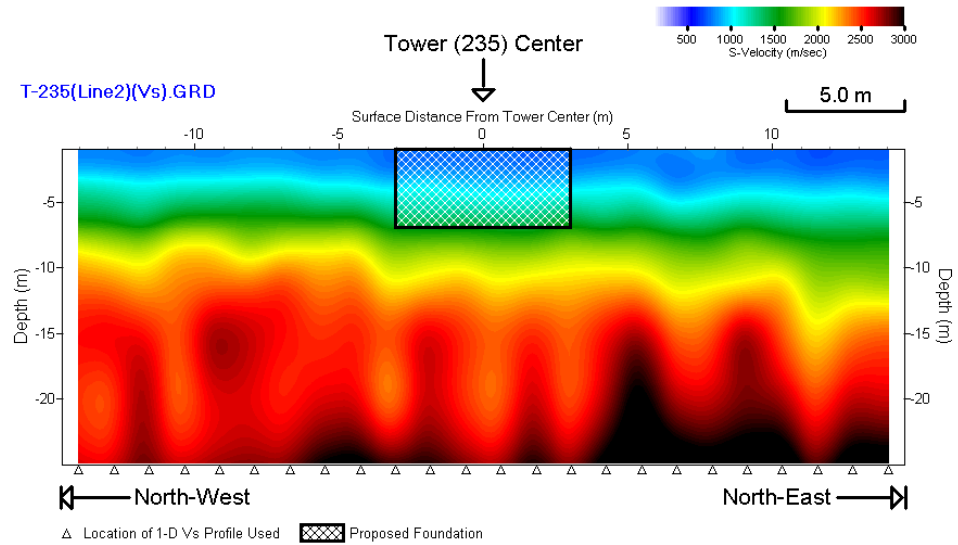
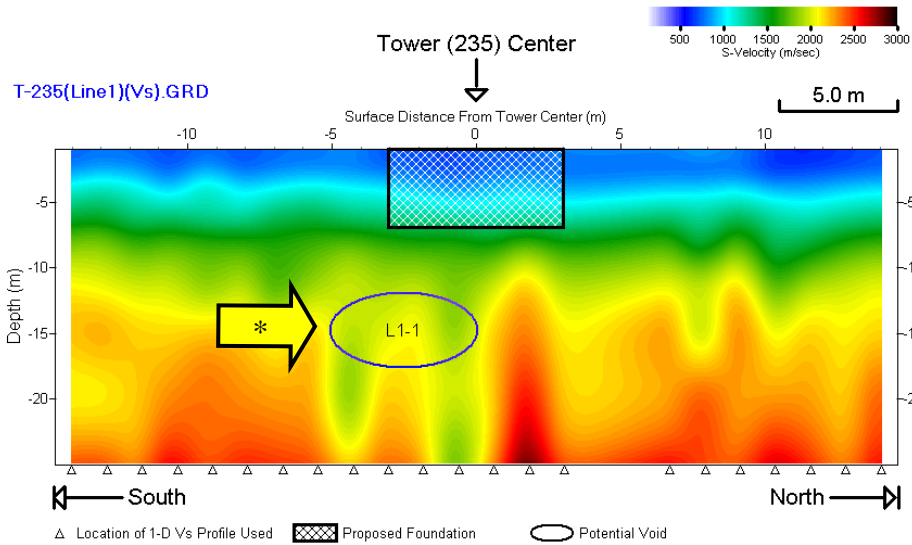


T-234



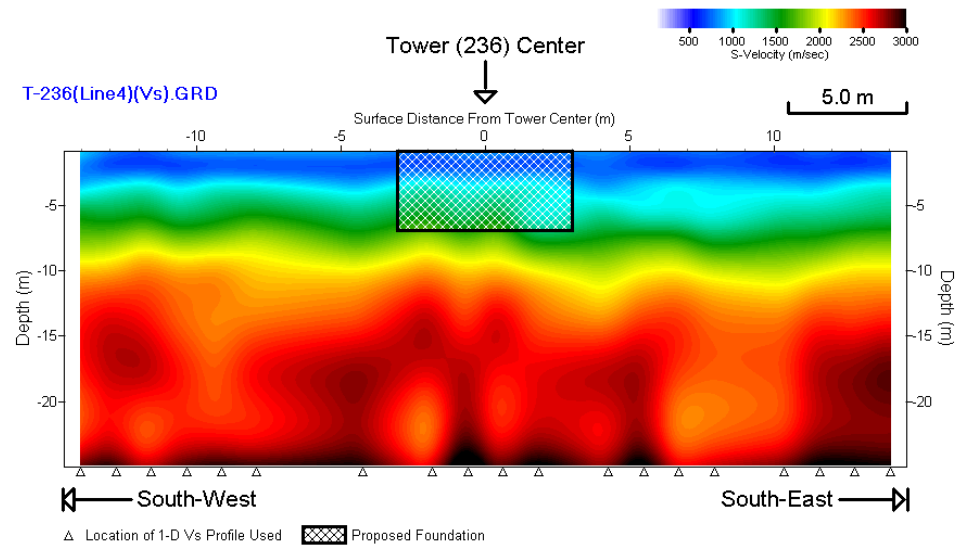
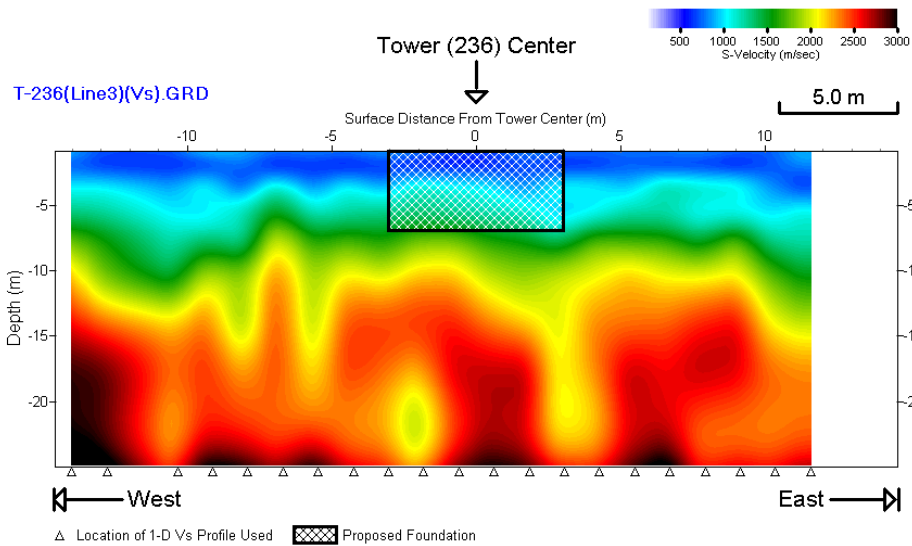
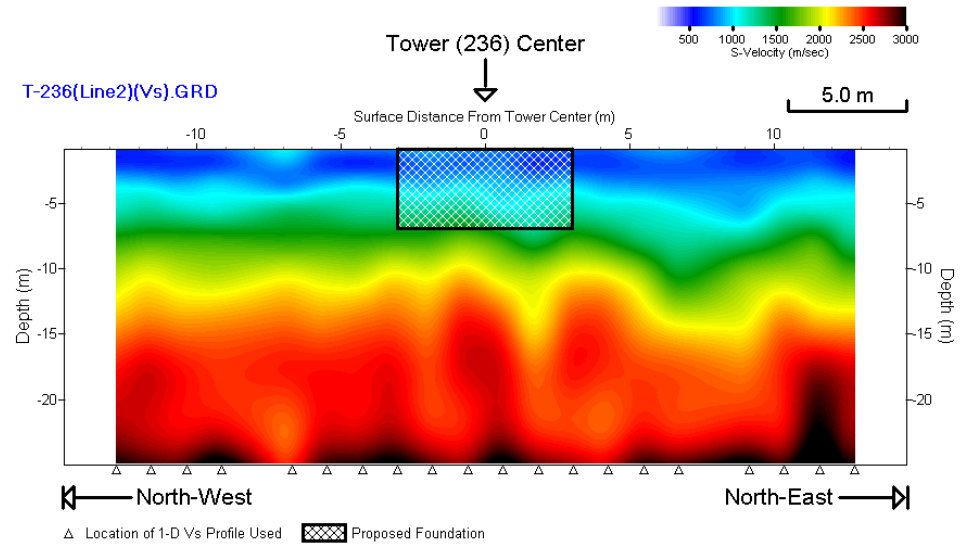
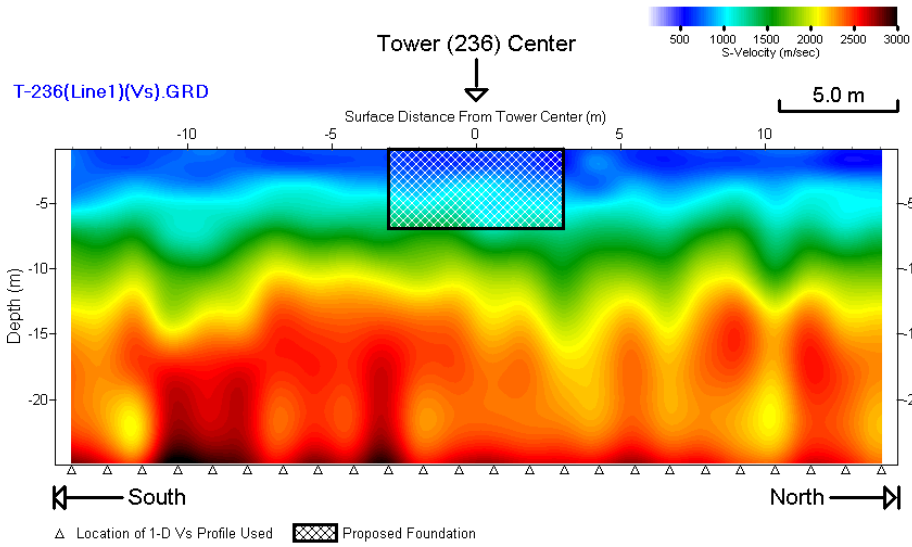
*Potential void (see separate text file for coordinates), **A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

T-235

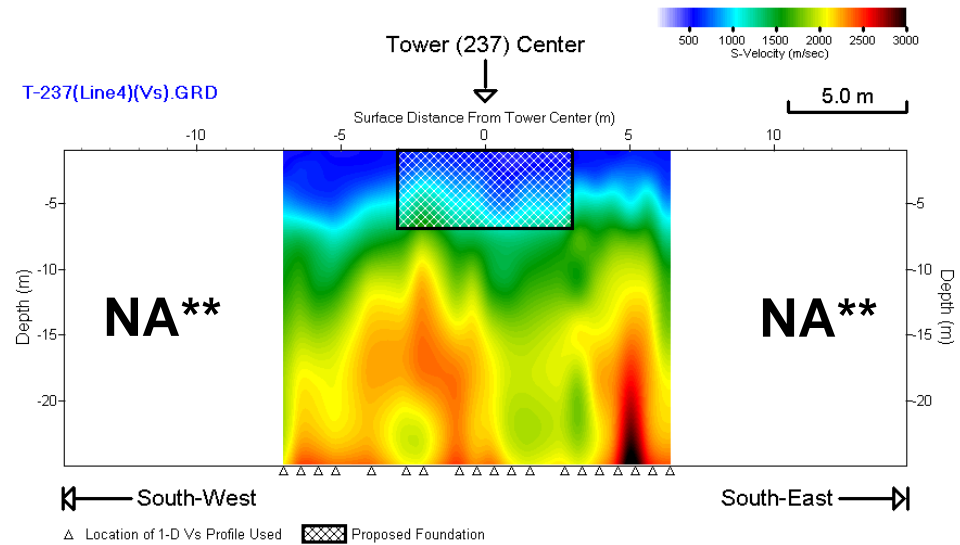
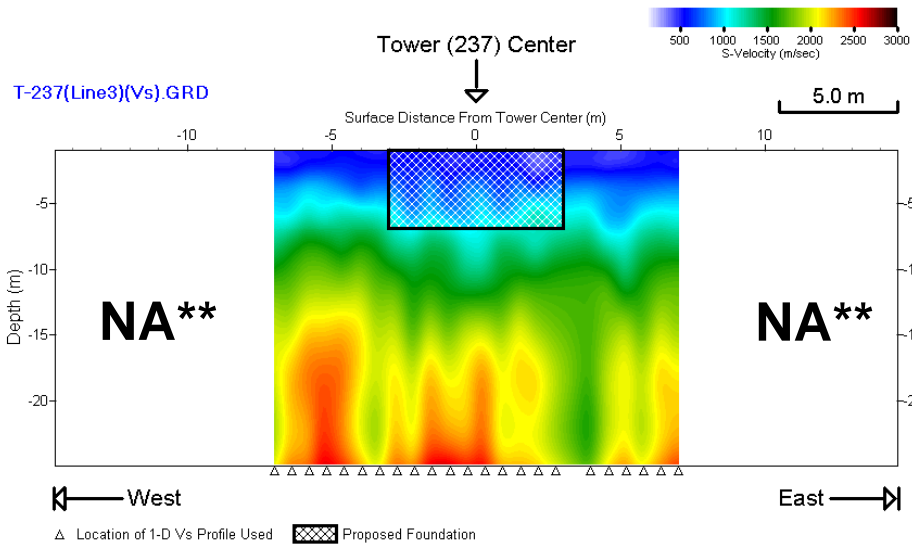
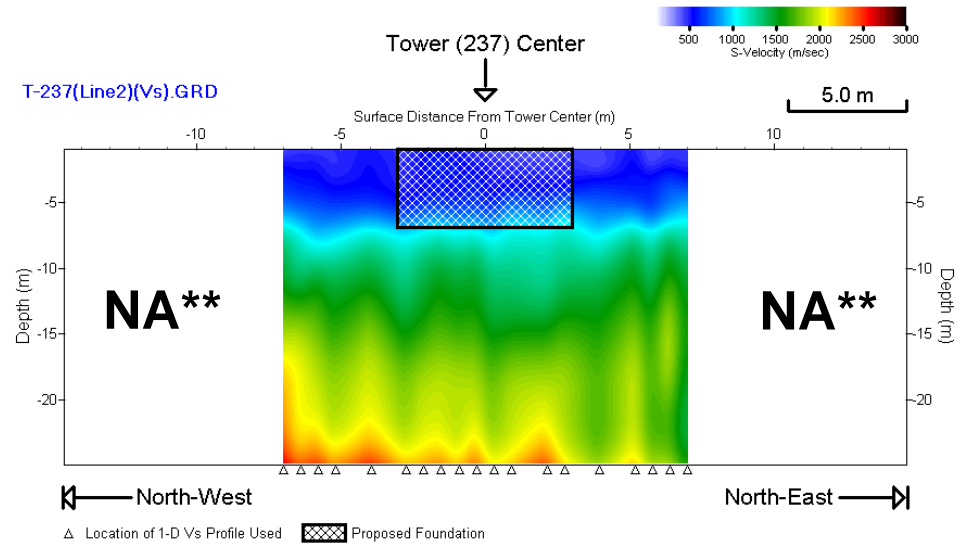
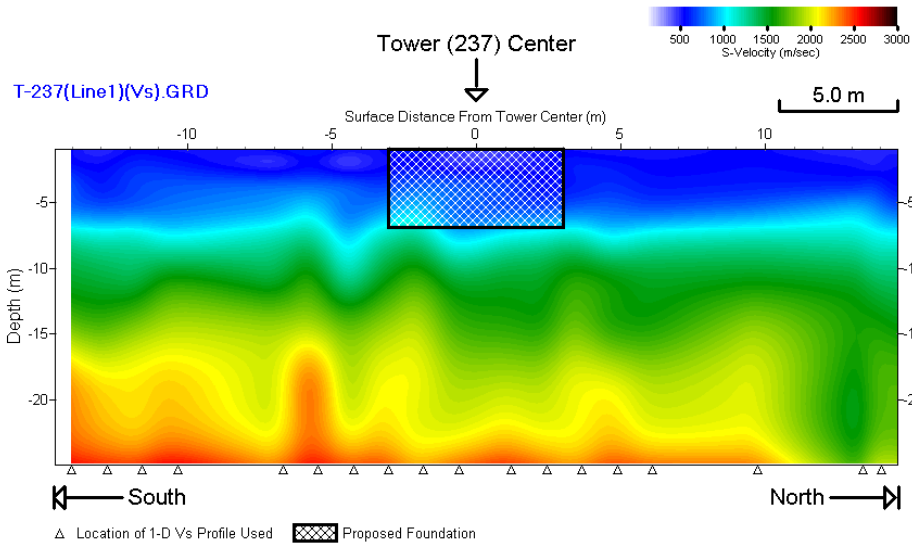


*Potential void (see separate text file for coordinates)

T-236

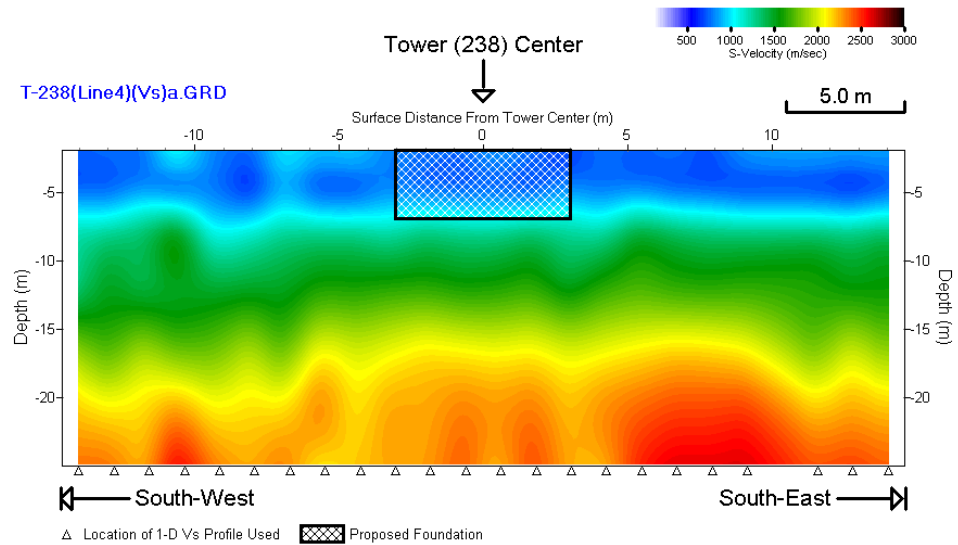
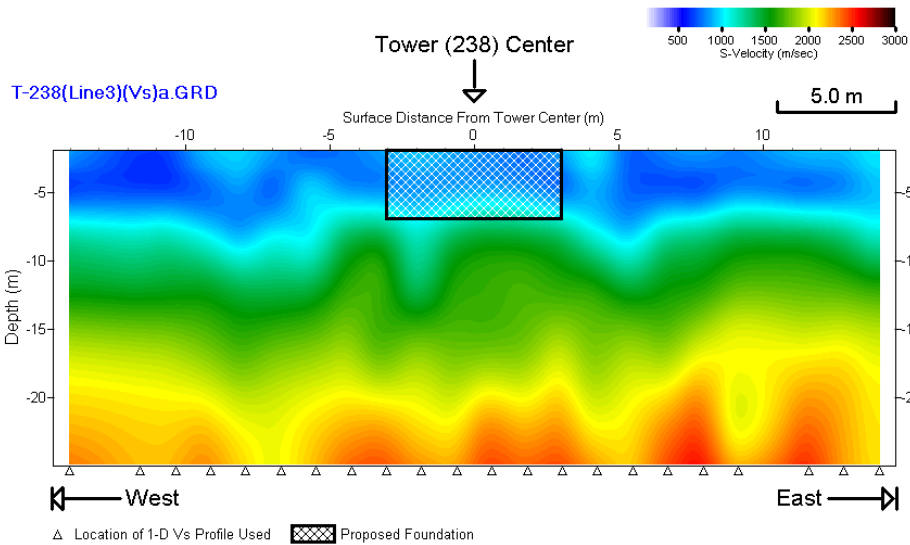
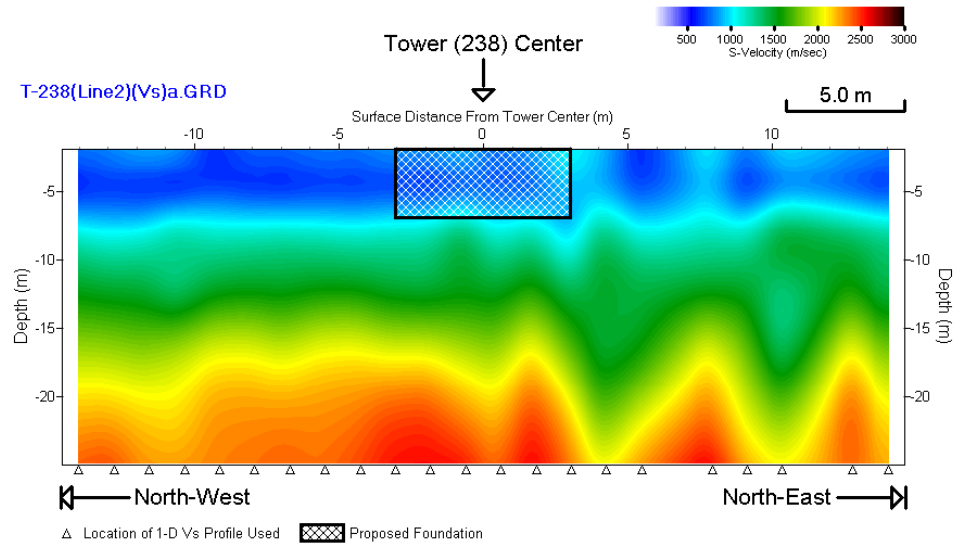
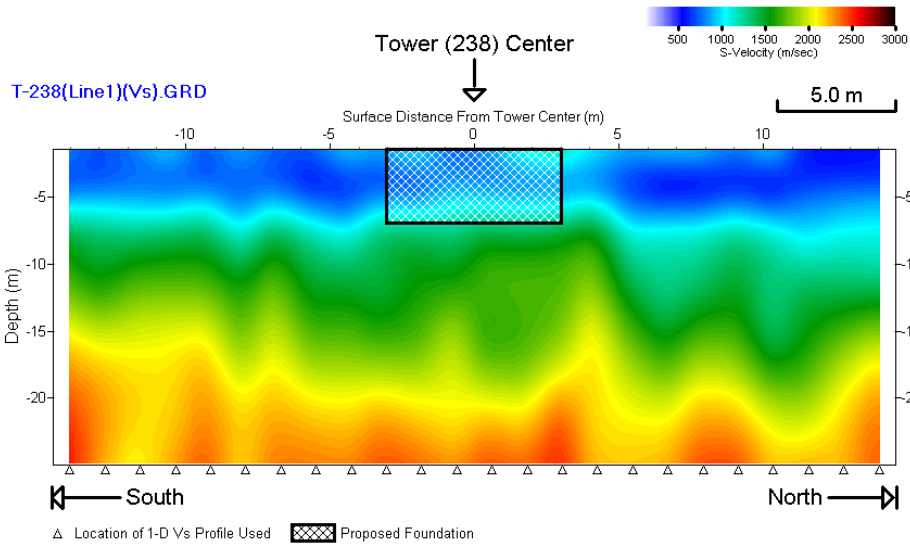


T-237

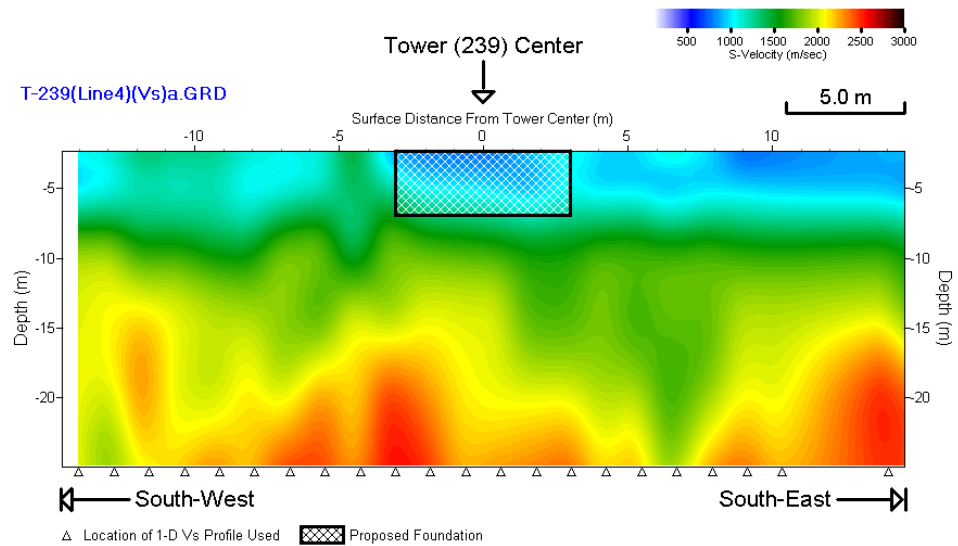
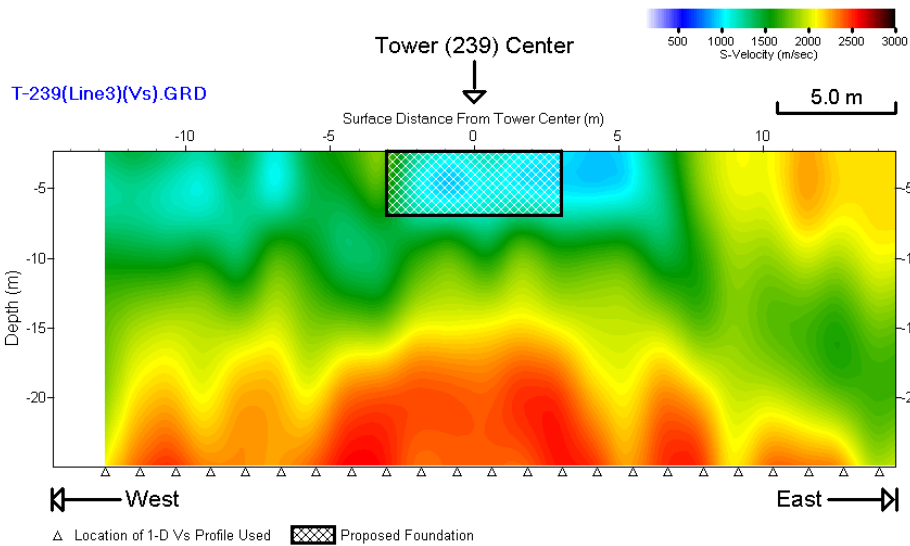
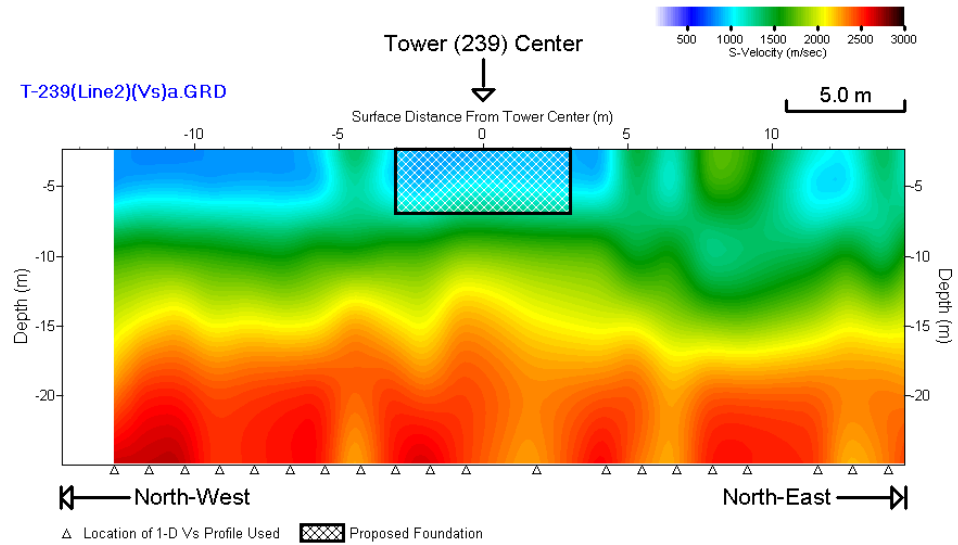
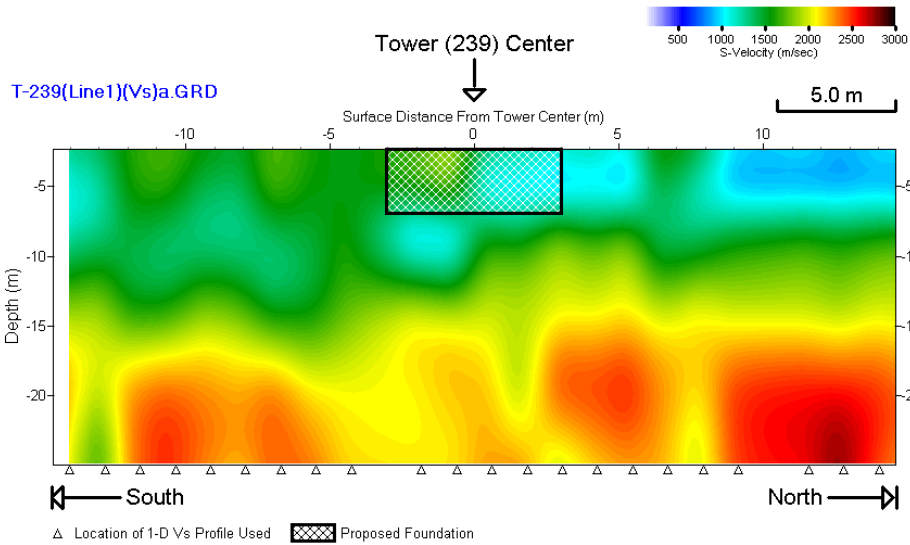


**Data not acquired due to terrain condition (shorter receiver spacing of 2 ft used)

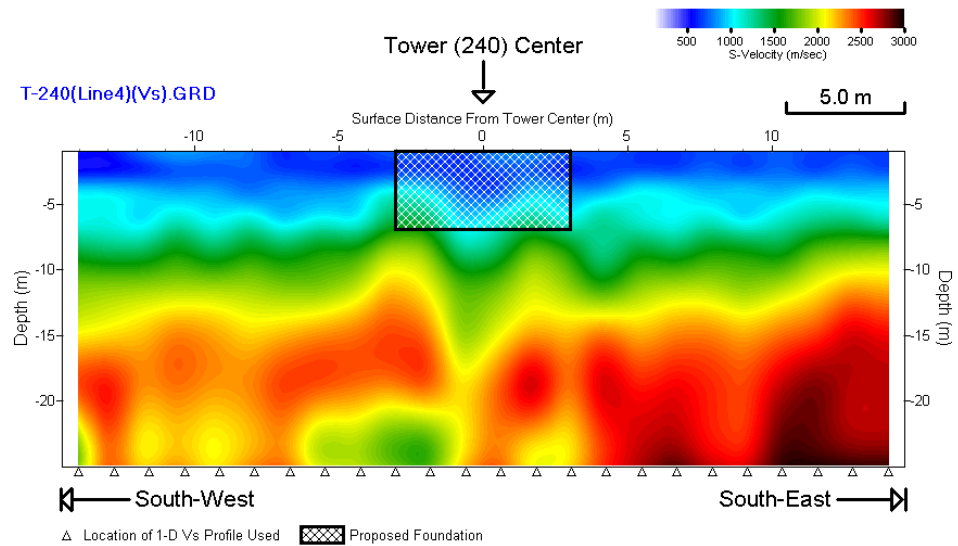
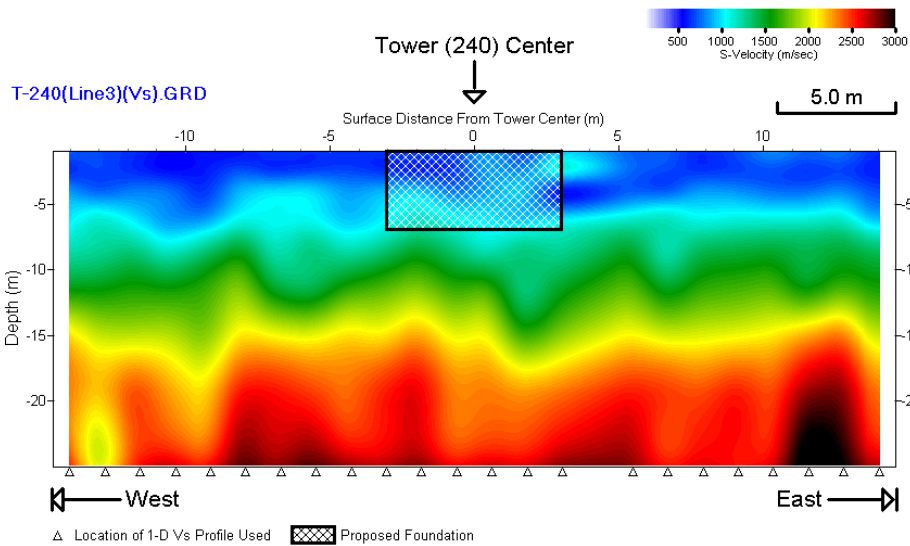
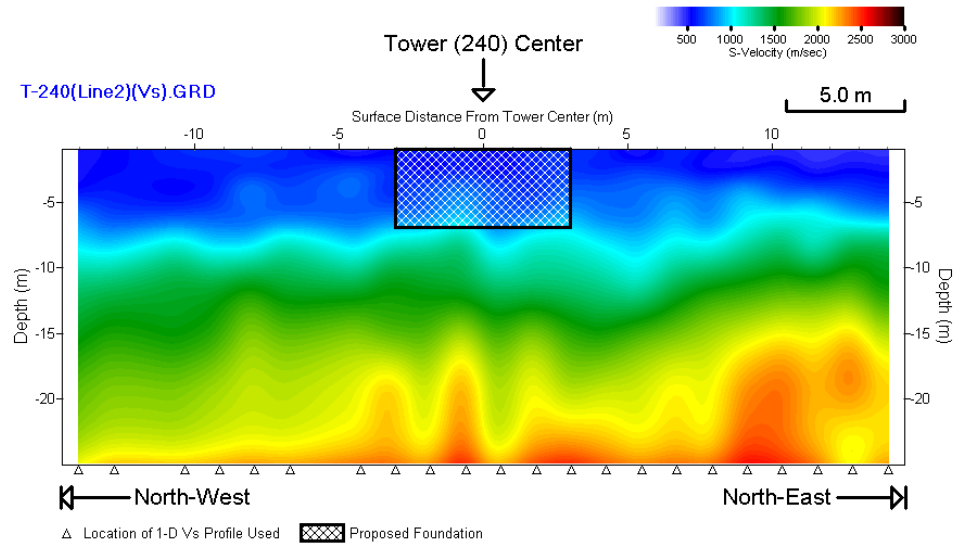
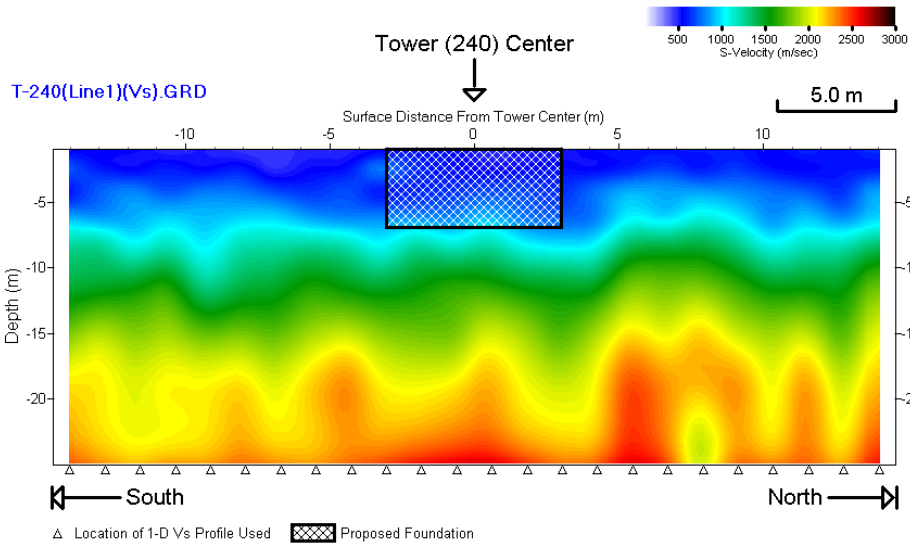
T-238



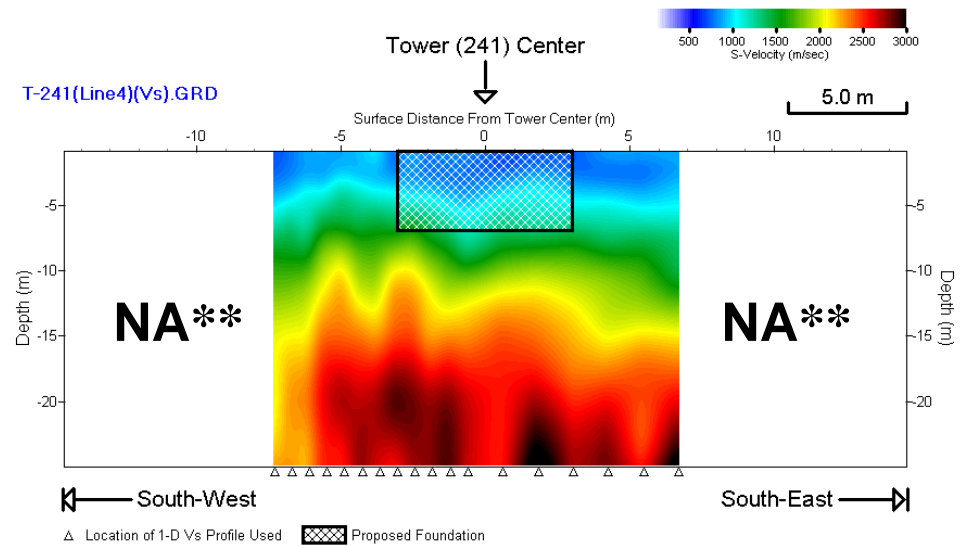
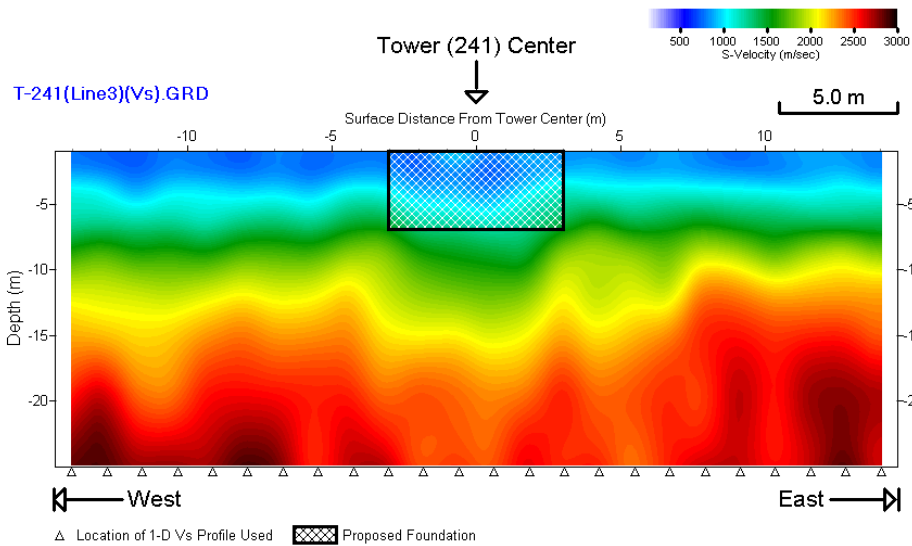
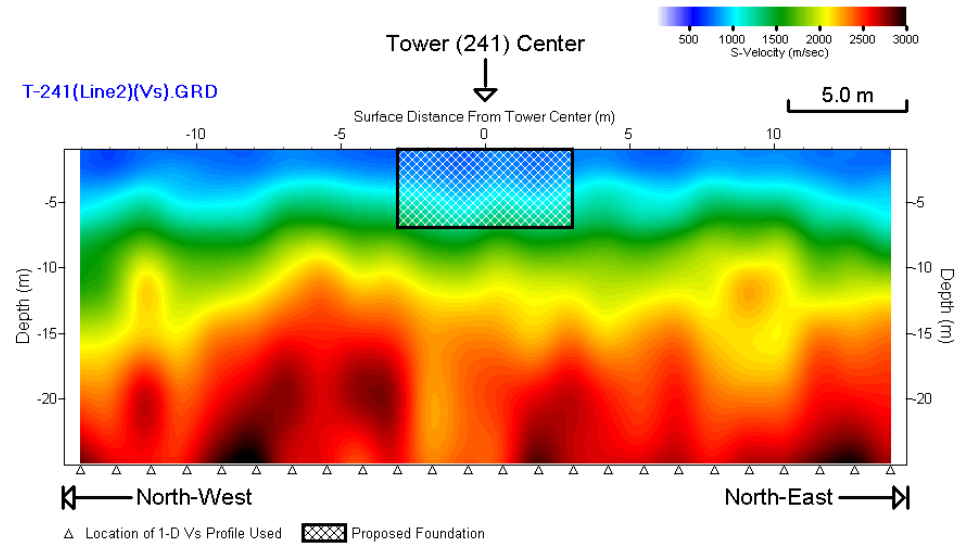
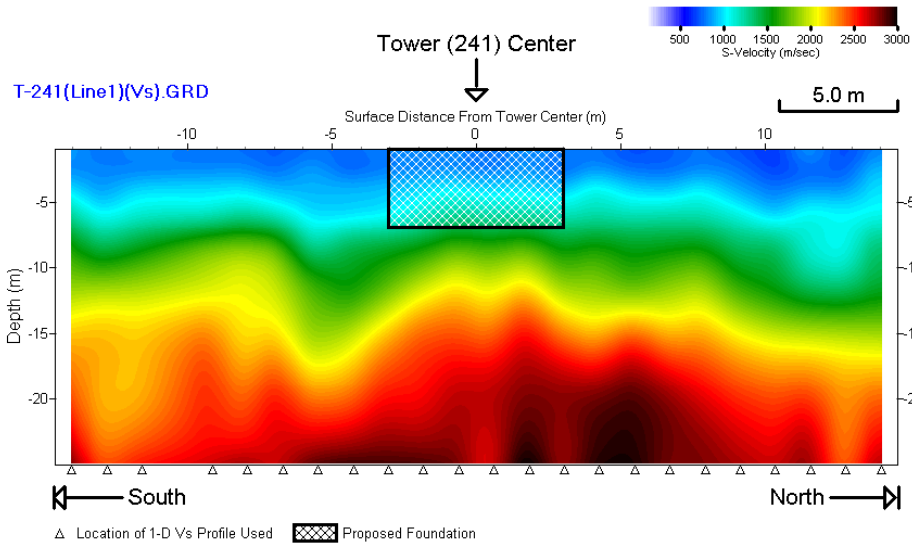
T-239



T-240

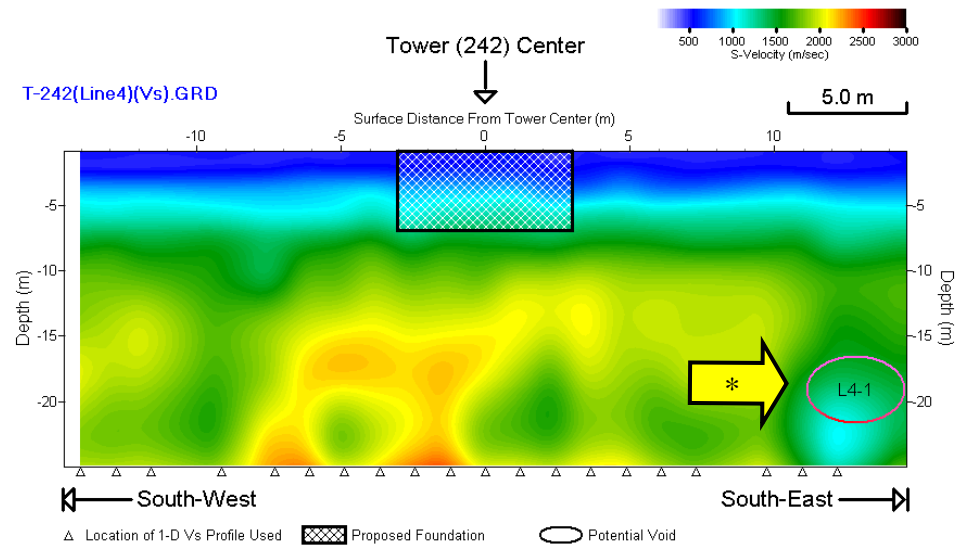
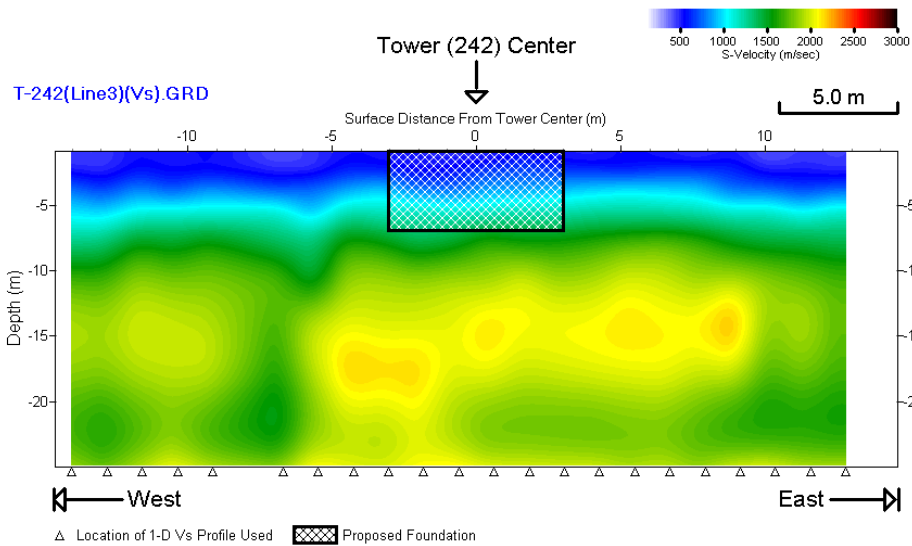
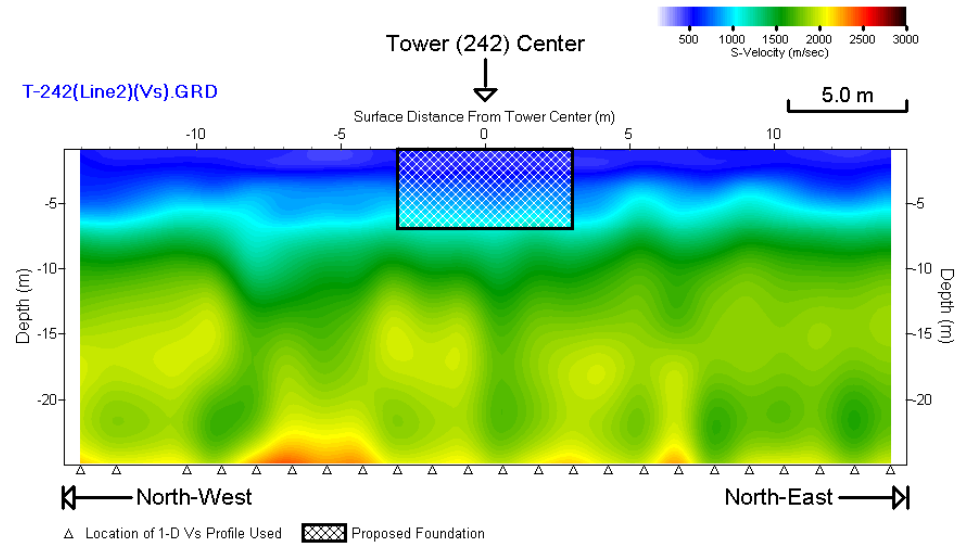
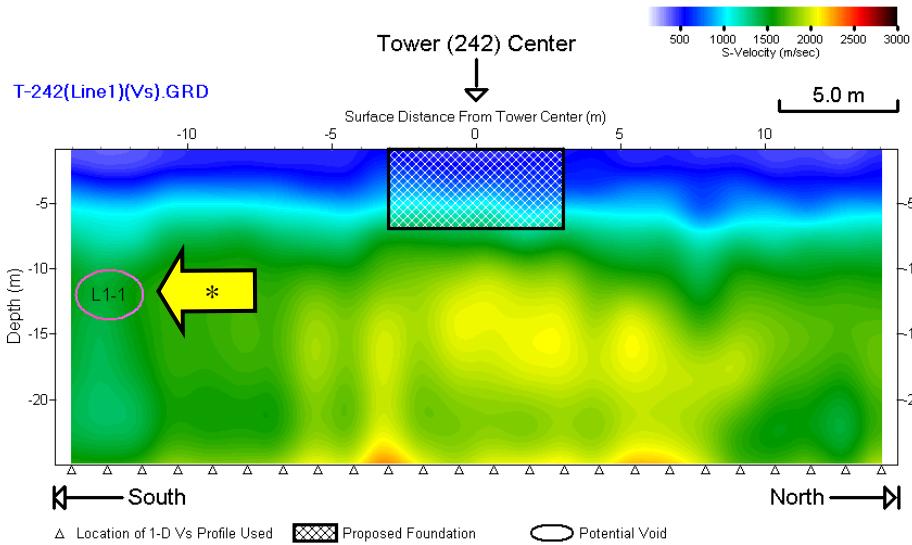


T-241



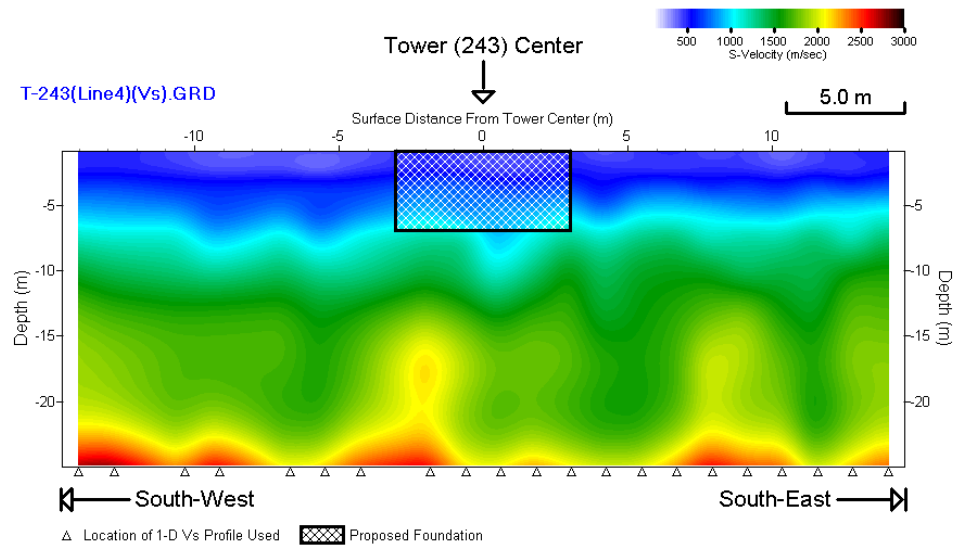
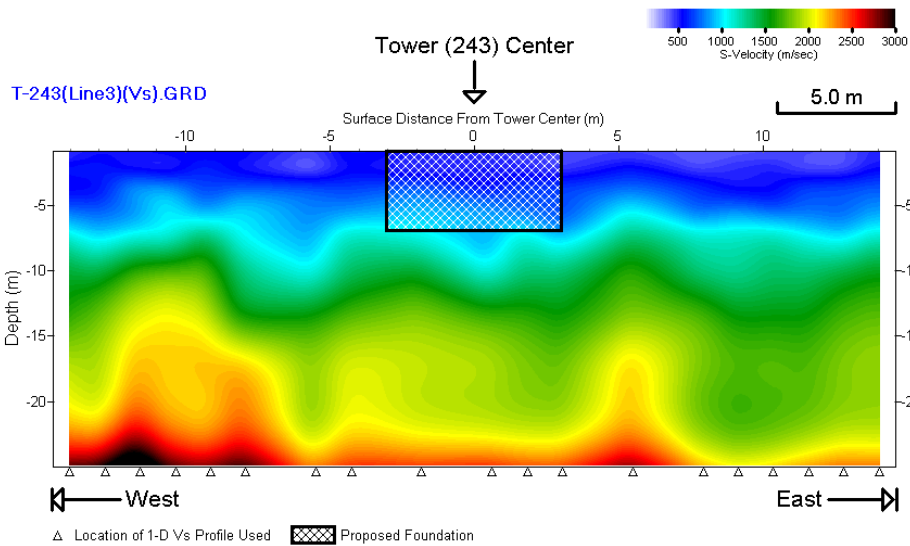
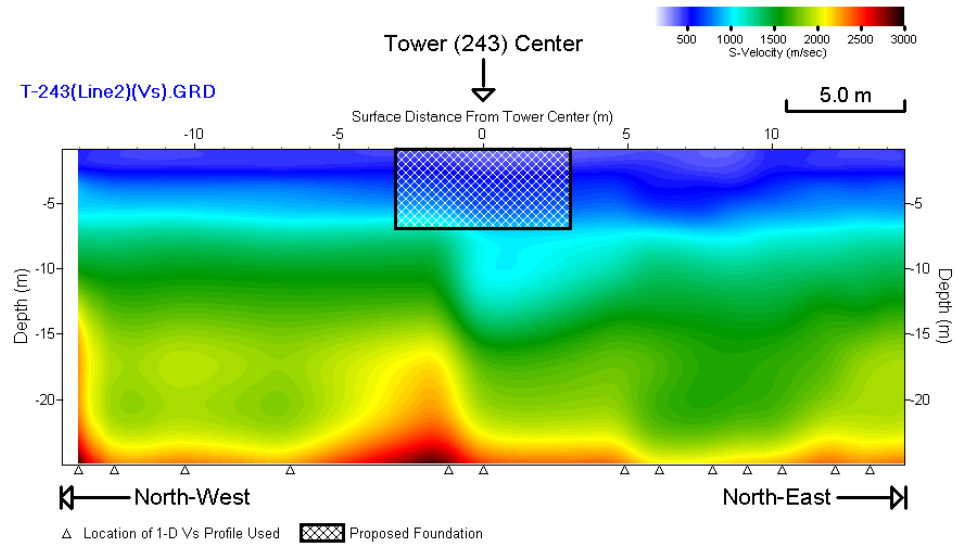
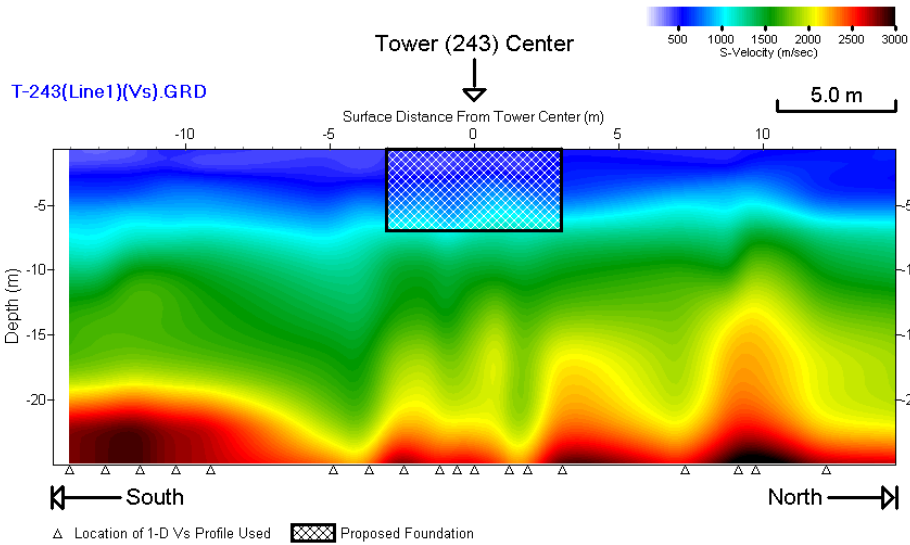
**A shorter receiver spacing of 2 ft was used due to terrain condition (steep drop off).

T-242

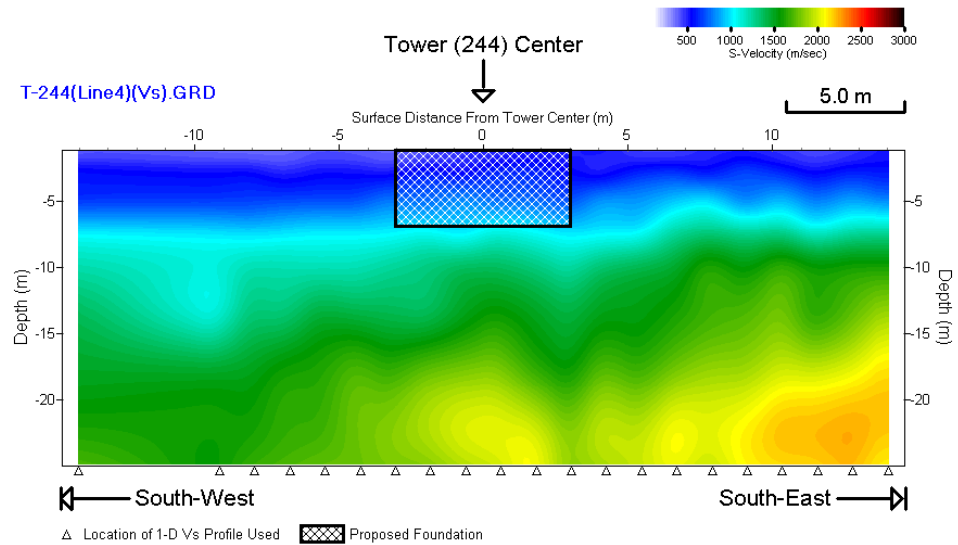
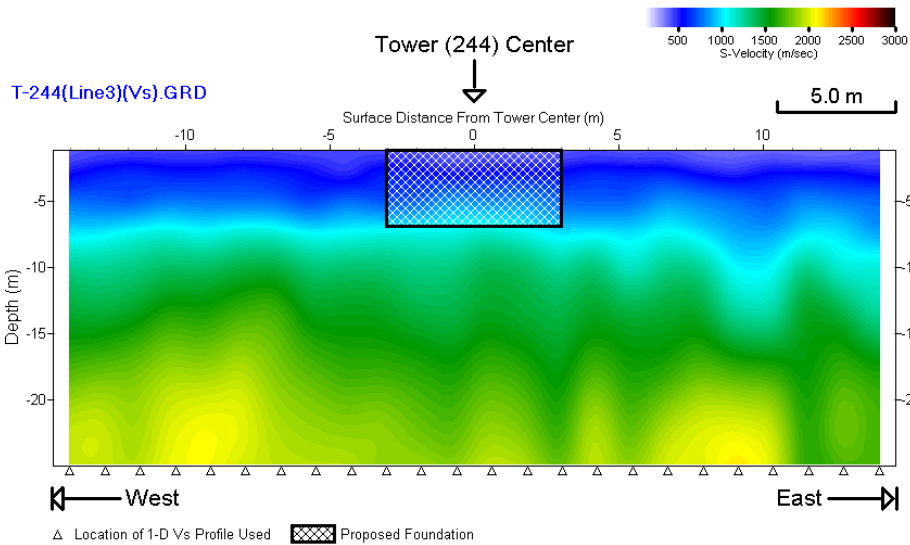
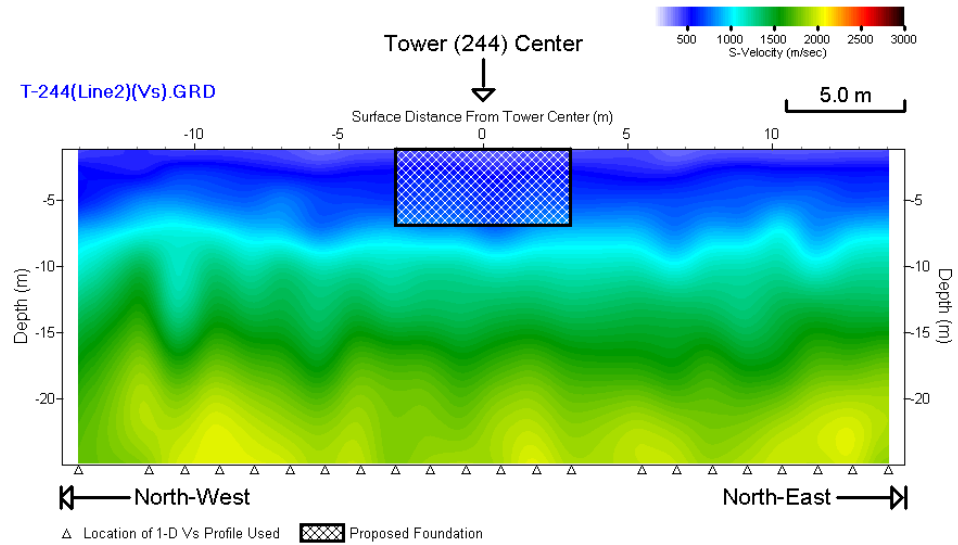
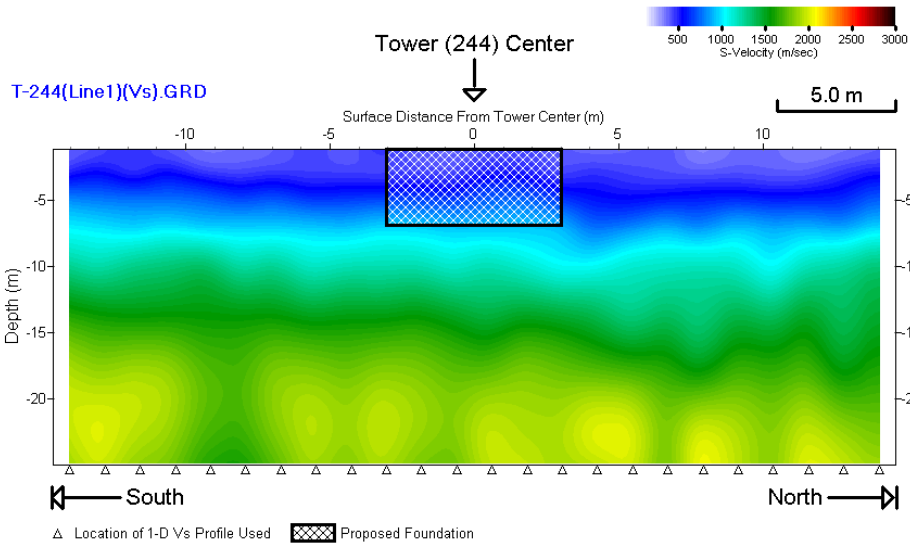


*Potential void (see separate text file for coordinates)

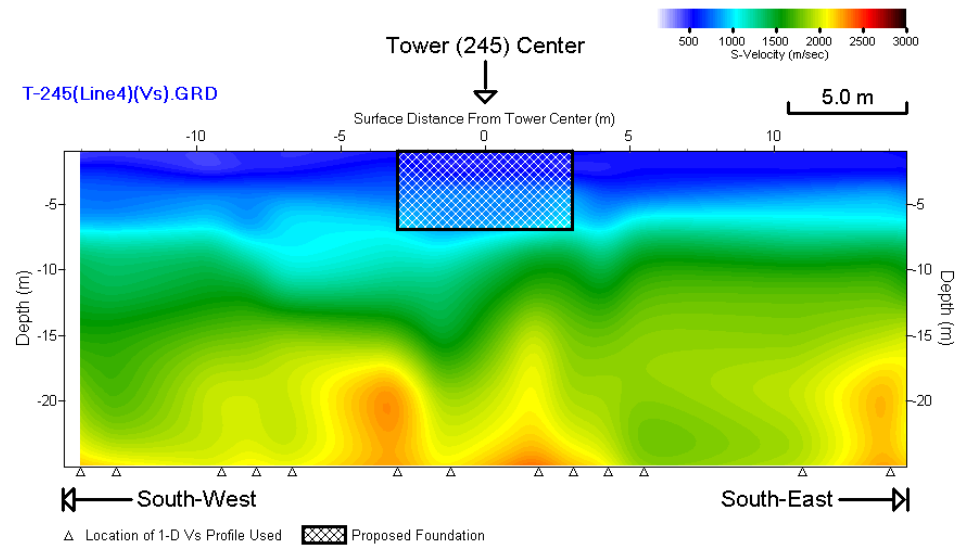
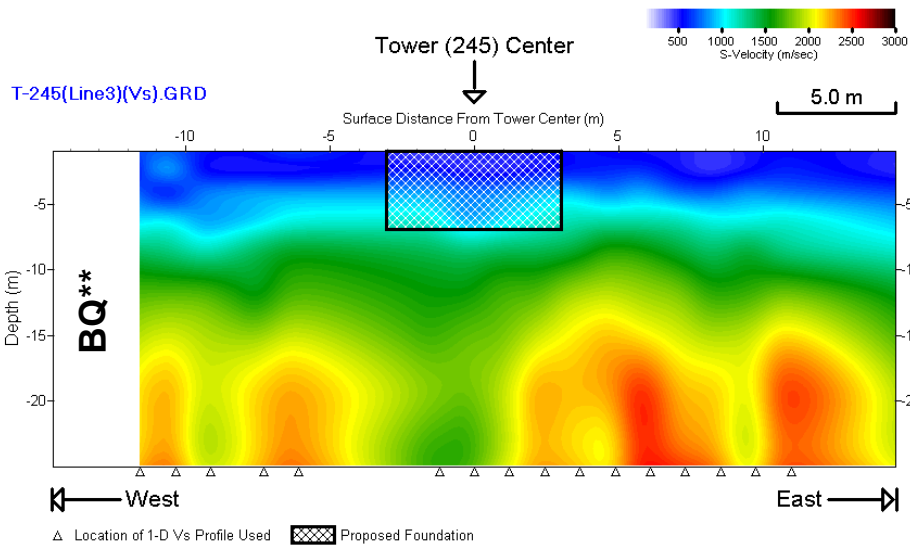
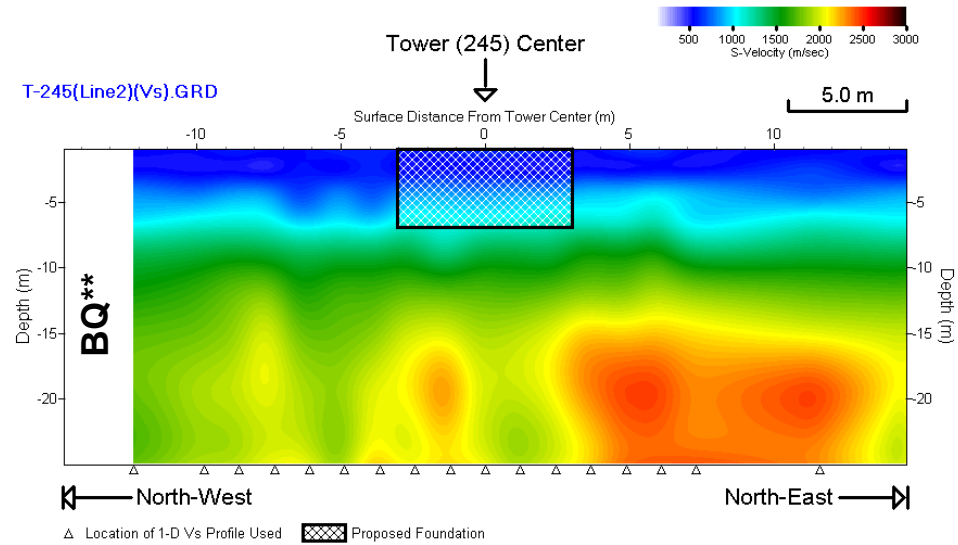
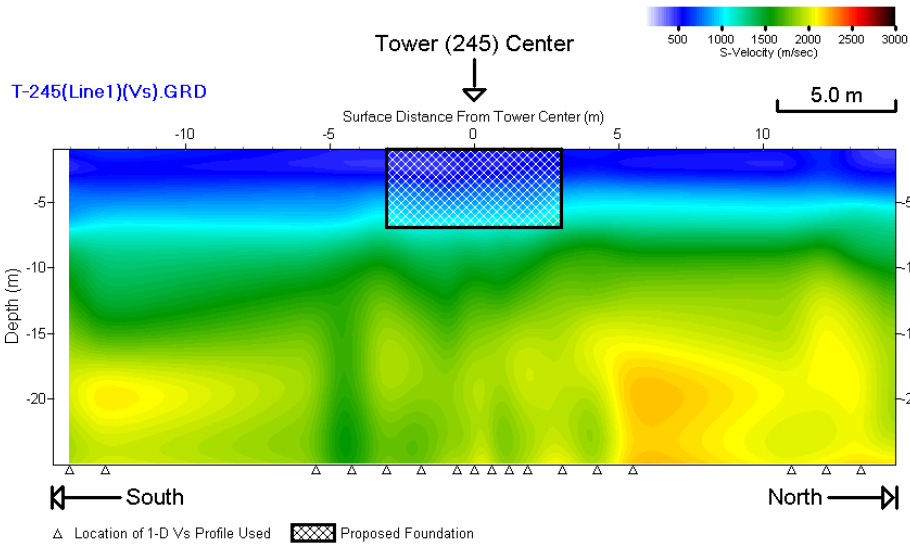
T-243



T-244

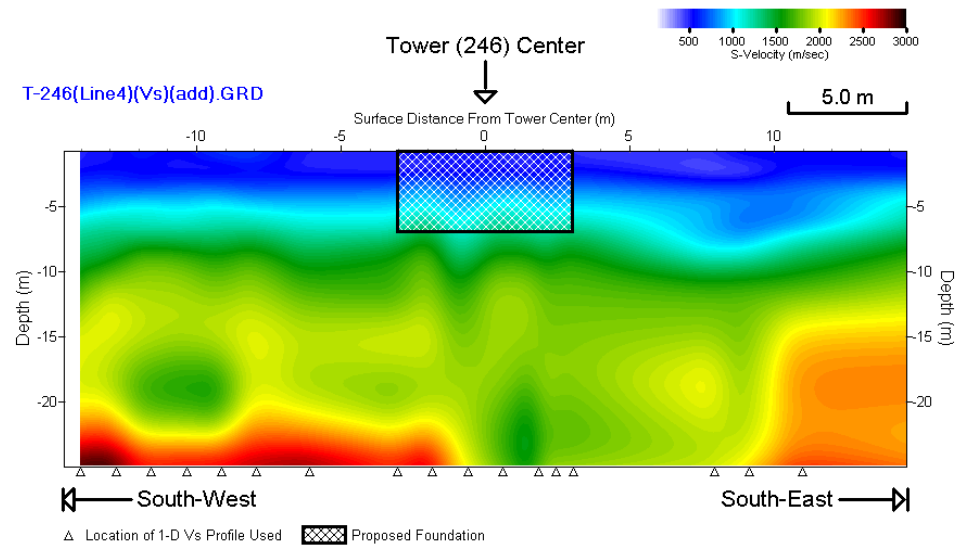
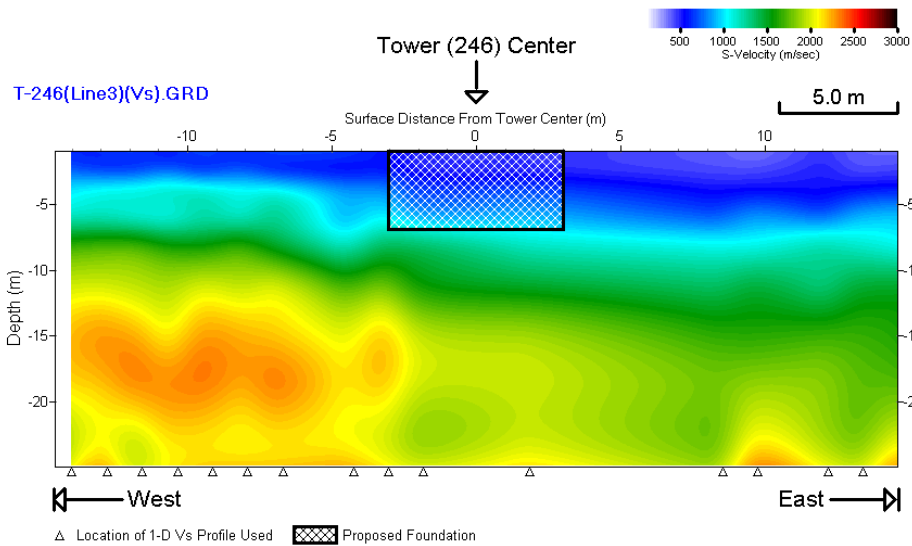
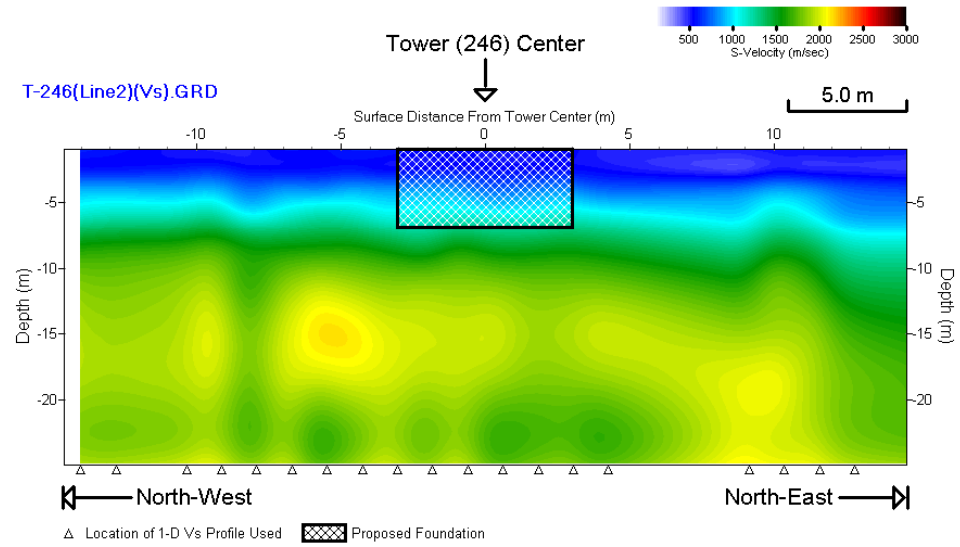
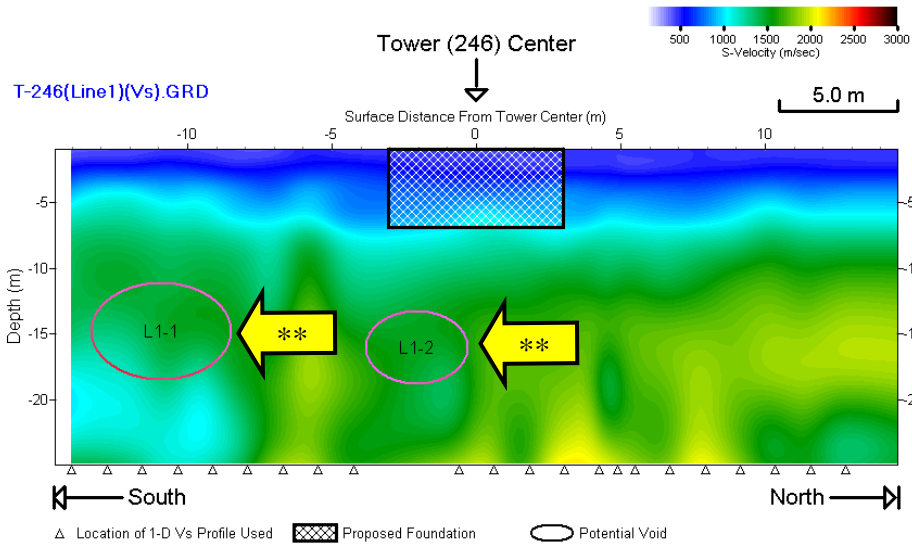


T-245



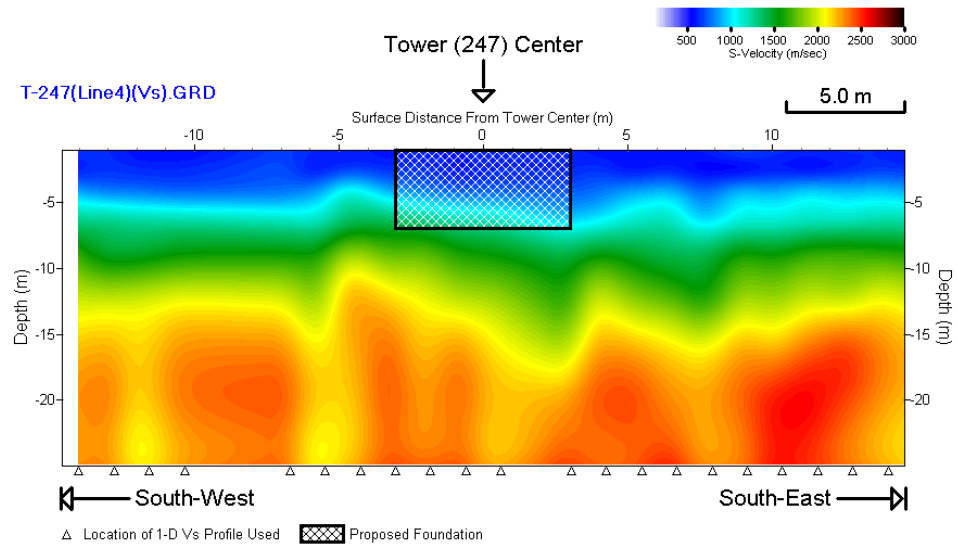
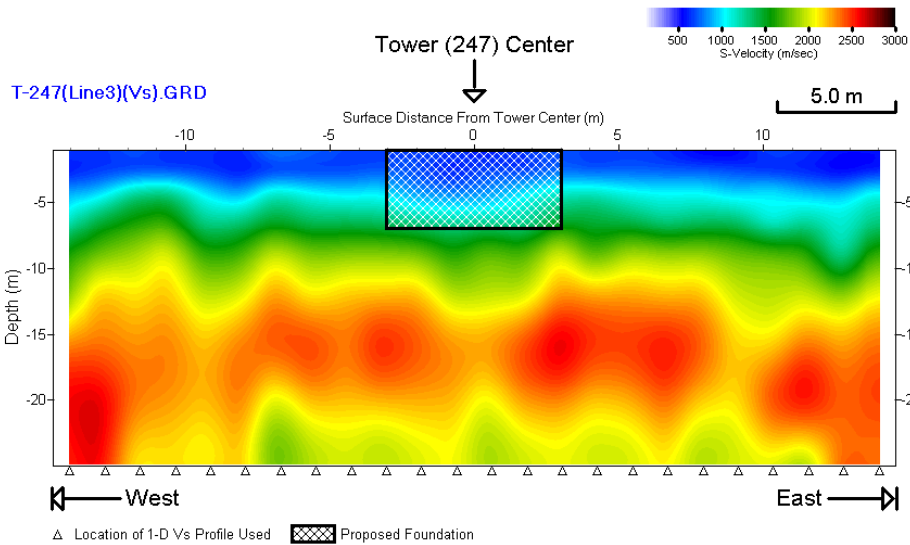
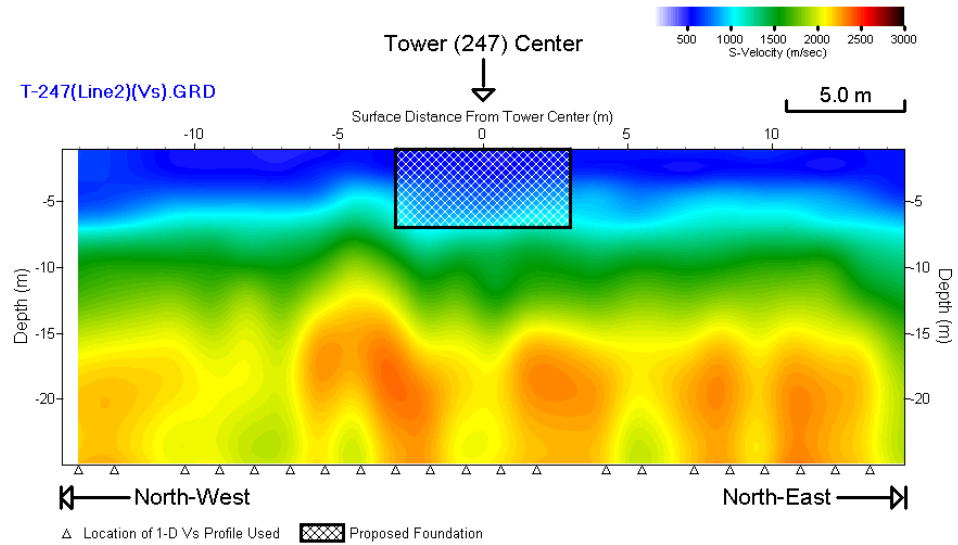
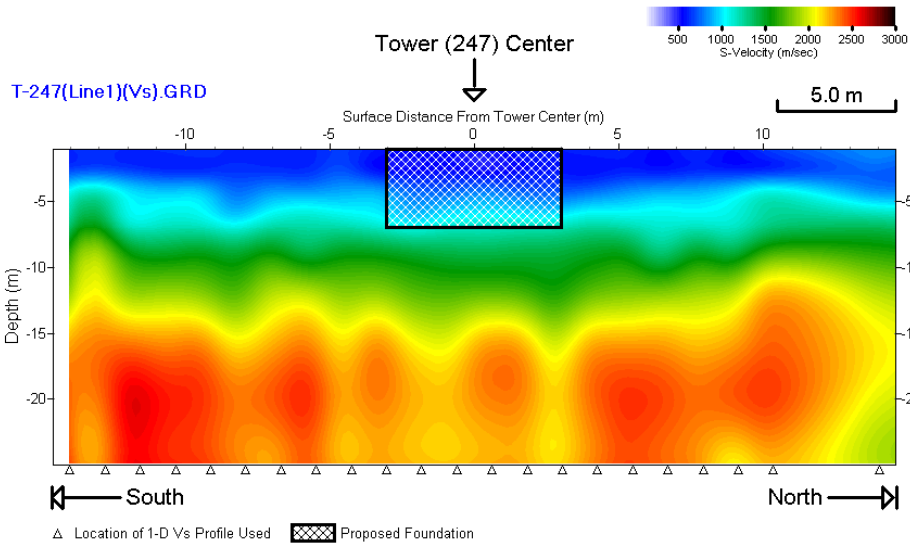
**Data not analyzed due to bad quality

T-246

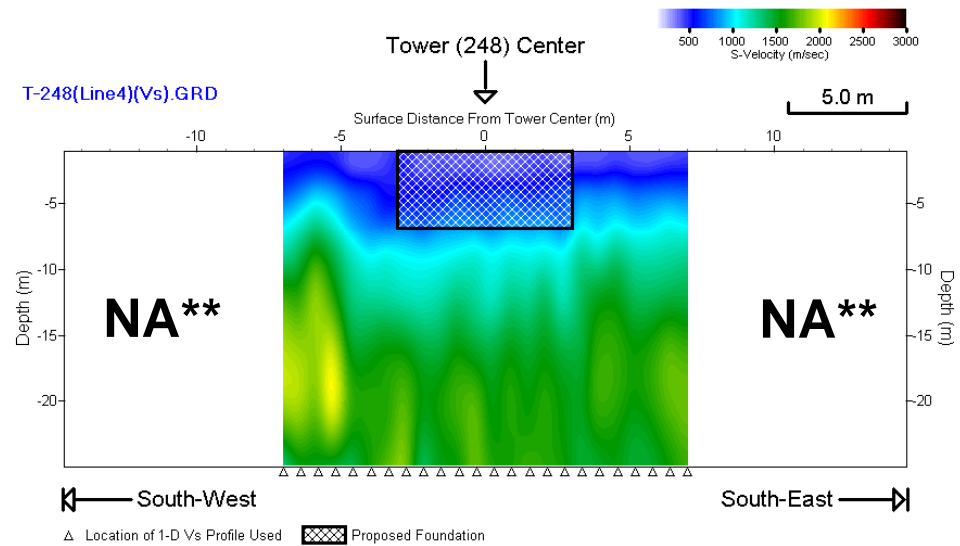
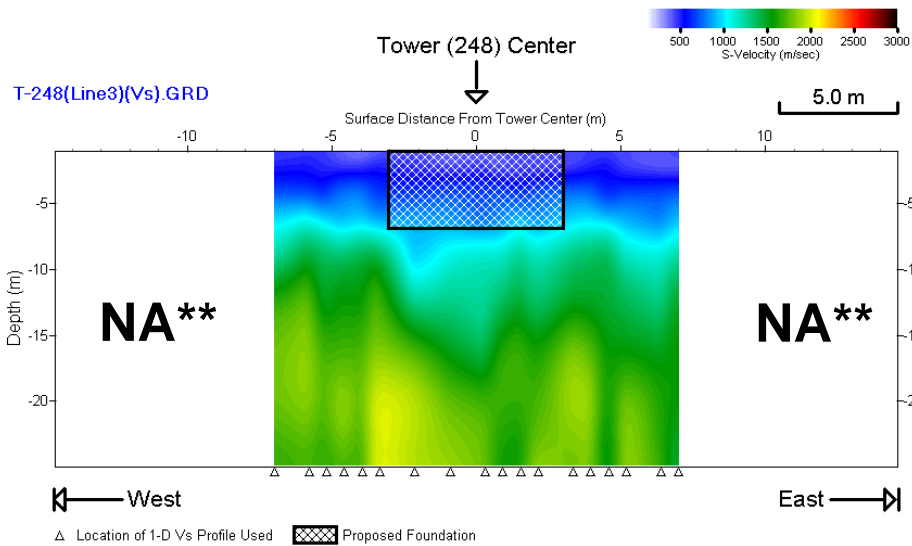
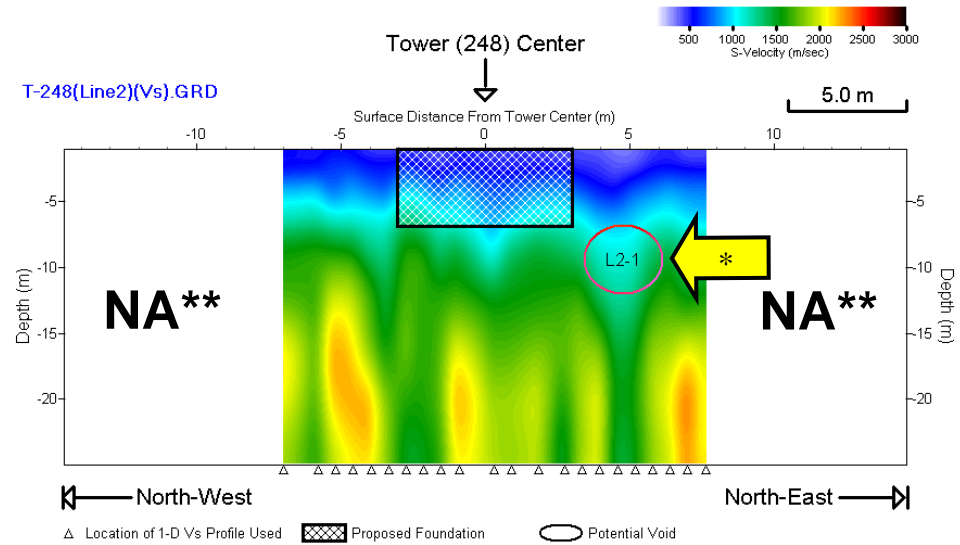
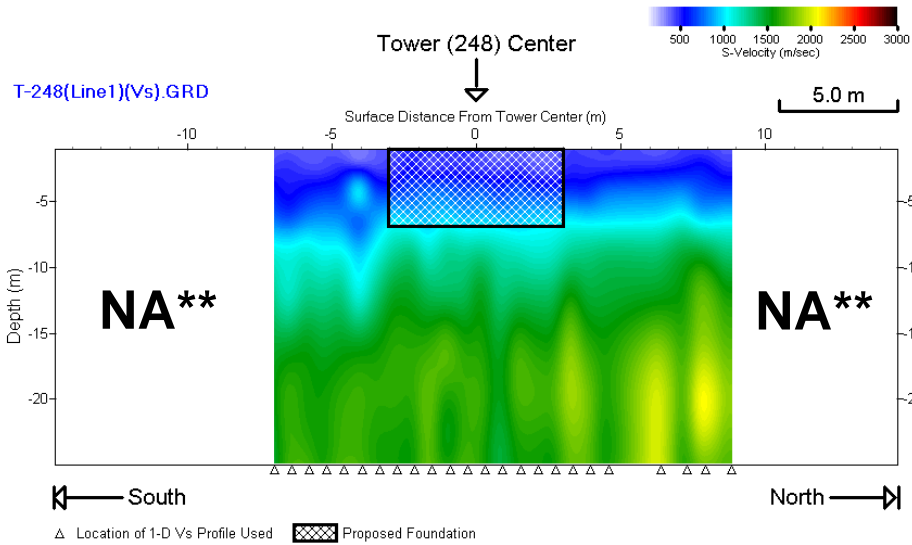


**Potential void (see separate text file for coordinates)

T-247

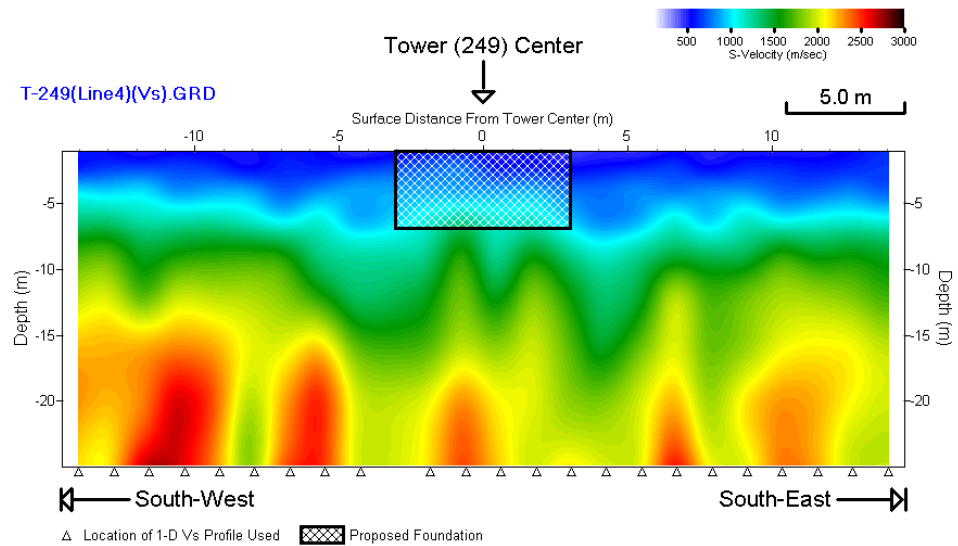
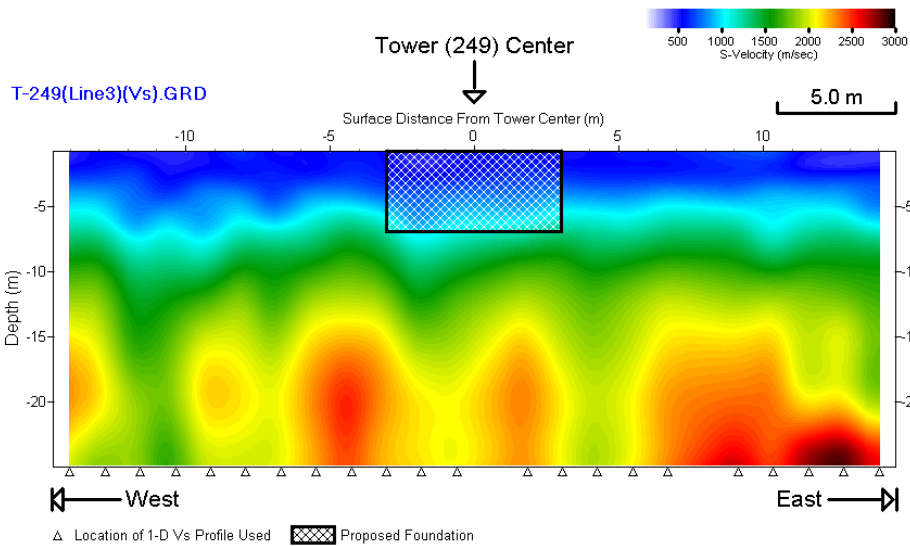
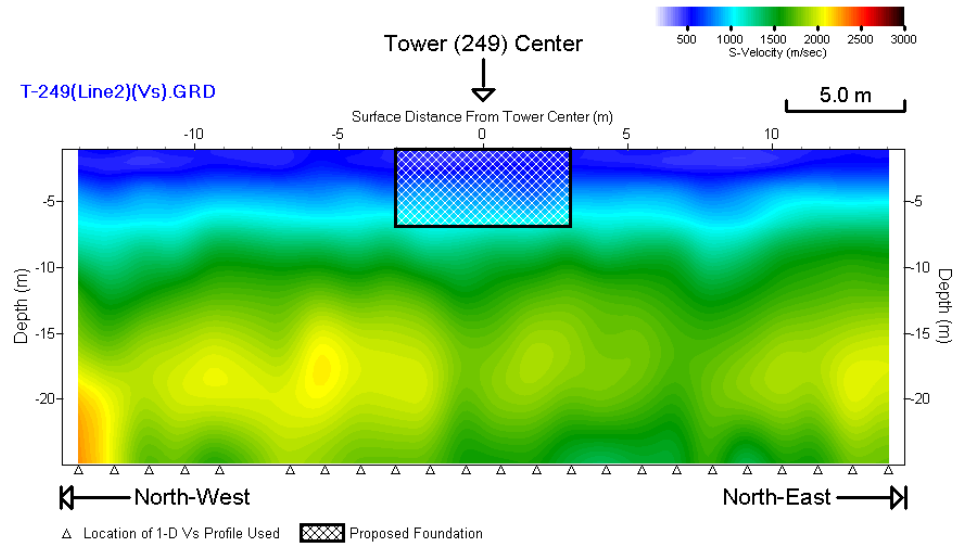
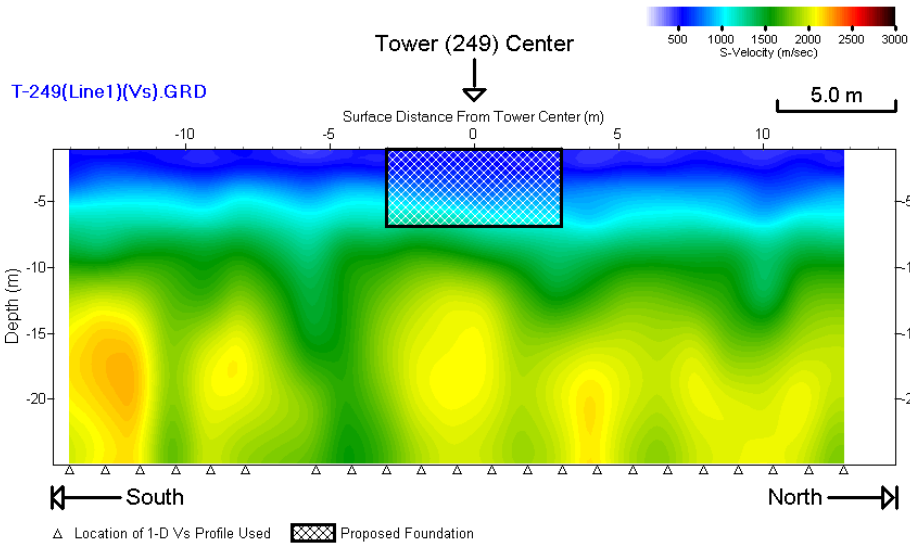


T-248

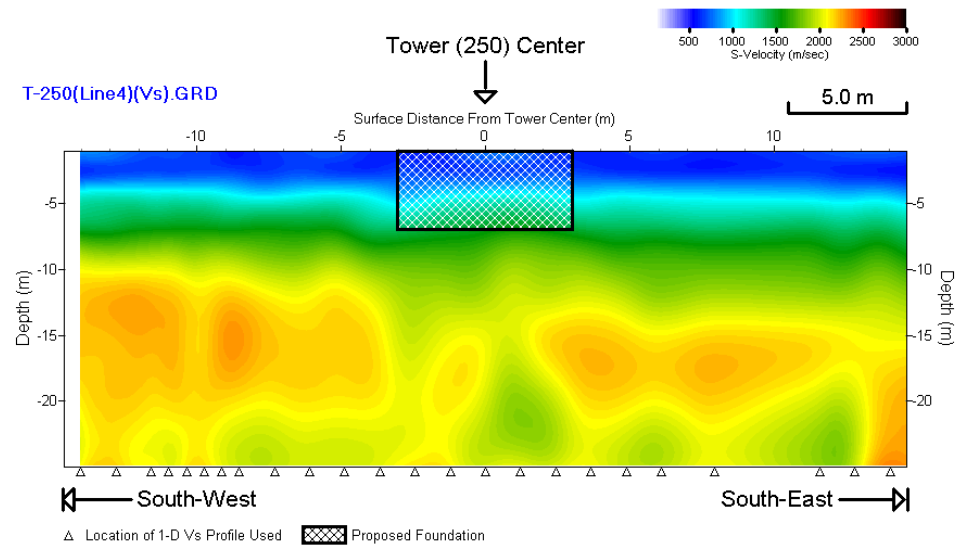
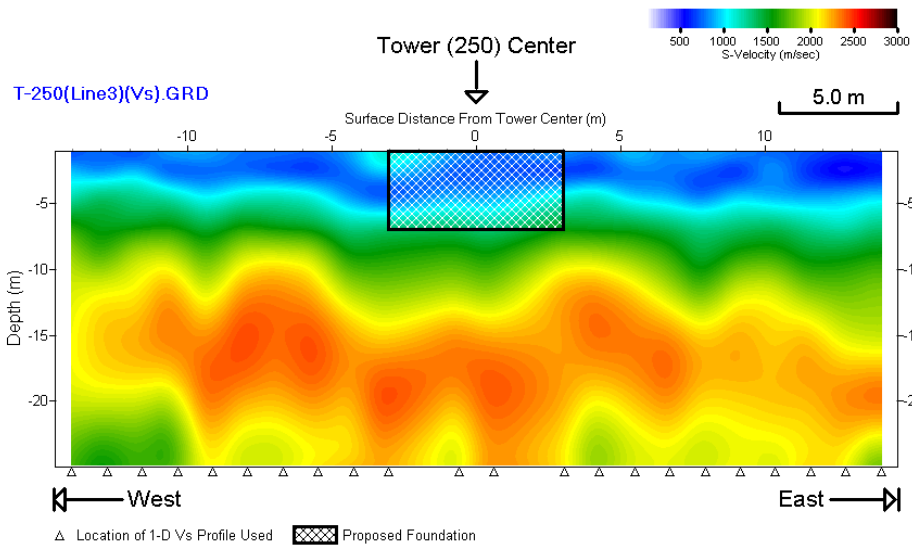
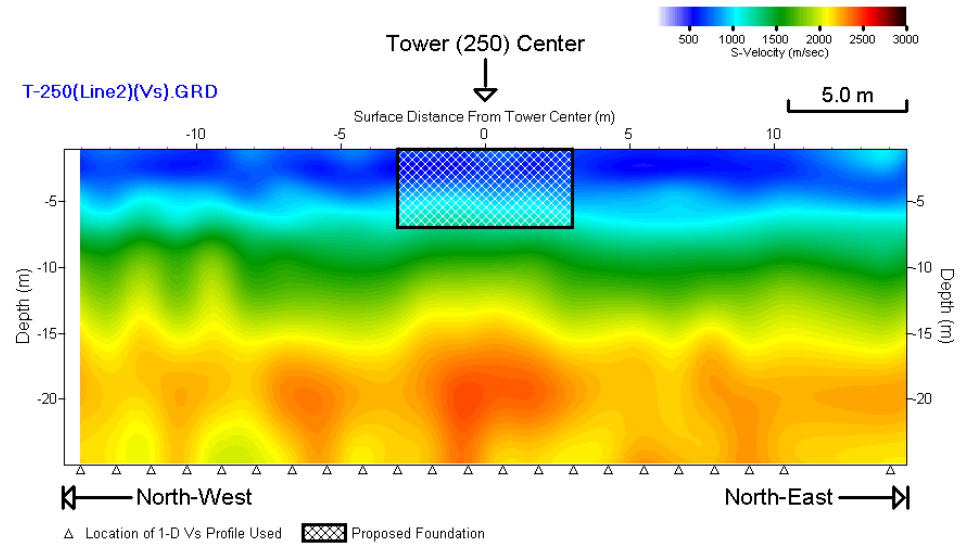
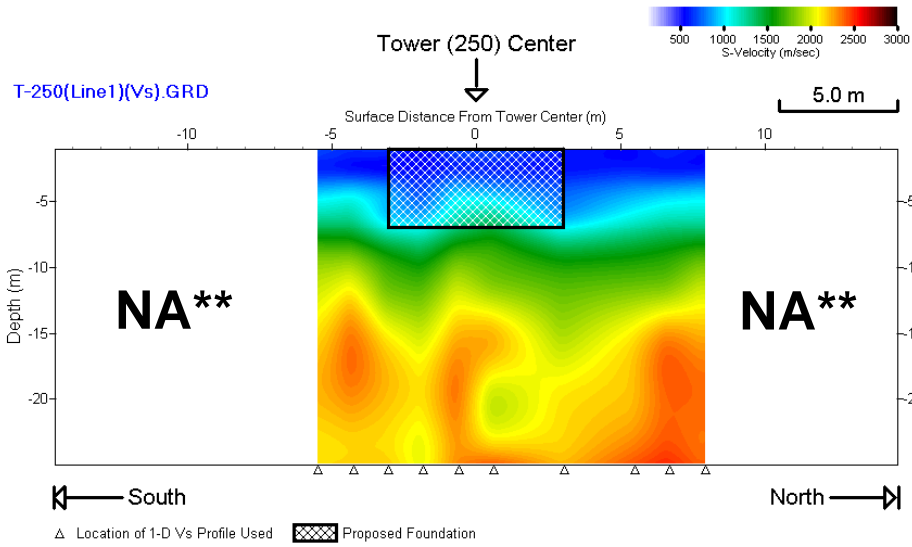


**Data not acquired due to terrain condition (shorter receiver spacing of 2 ft used), *Potential void (see separate text file for coordinates)

T-249

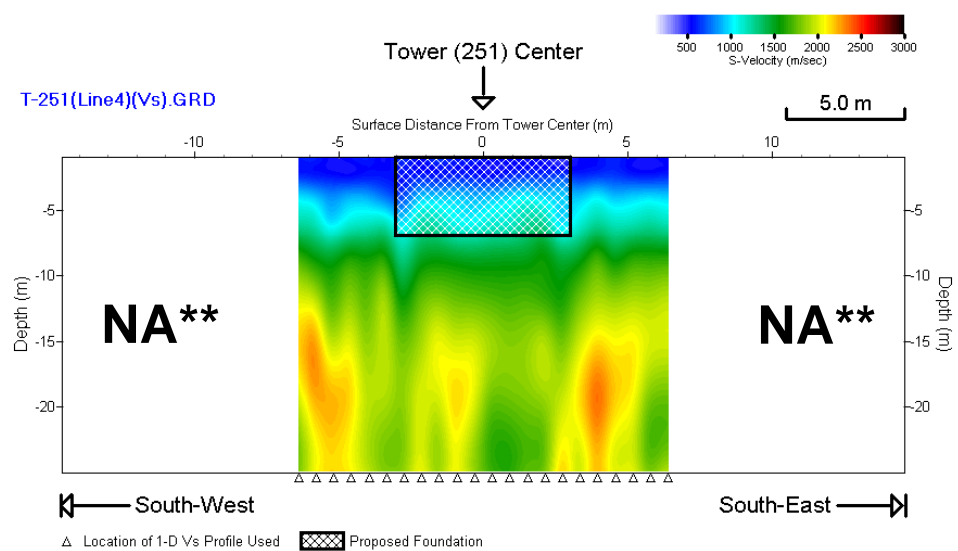
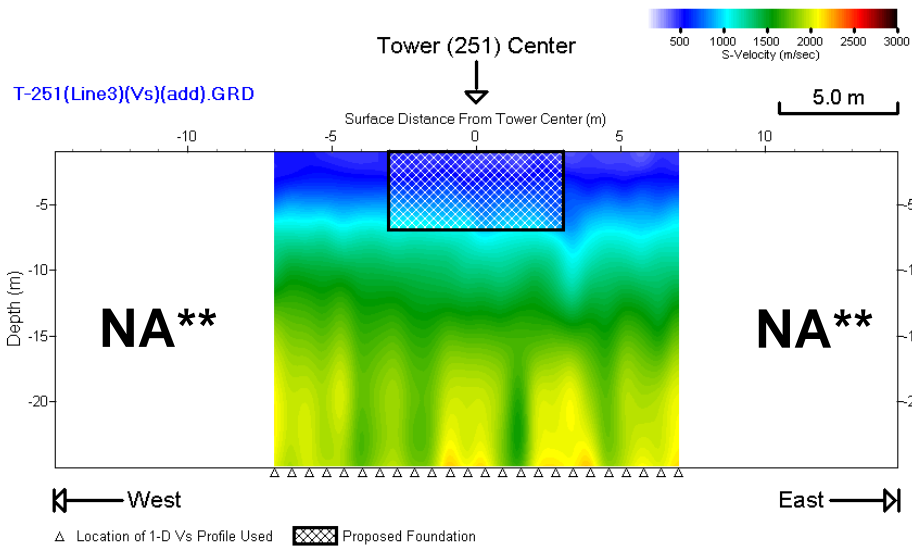
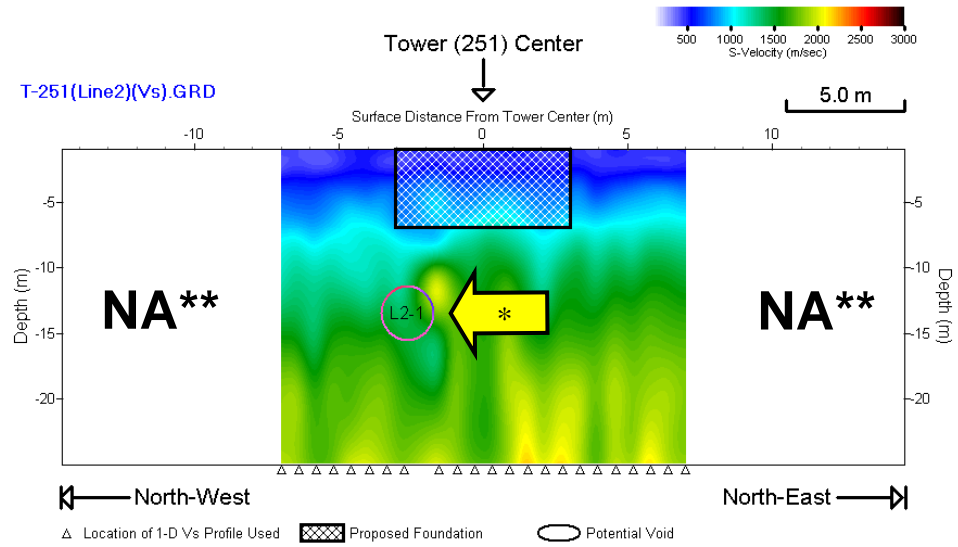
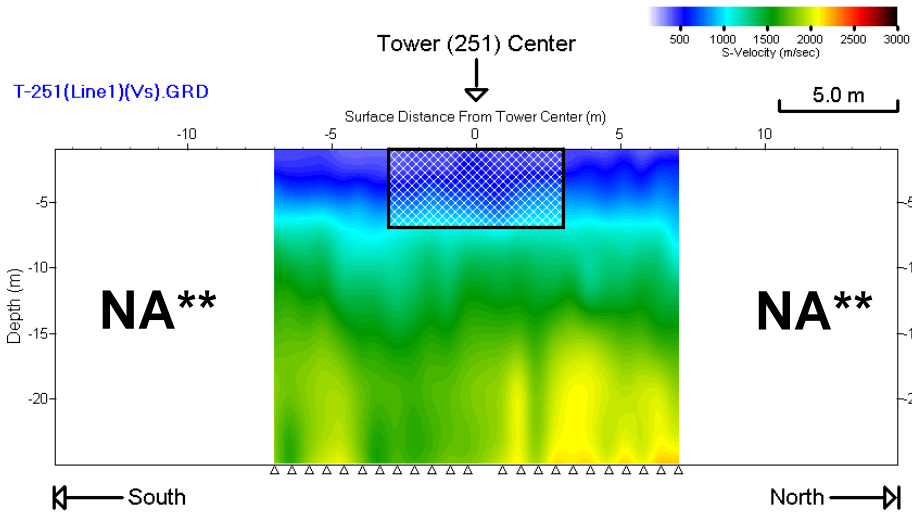


T-250



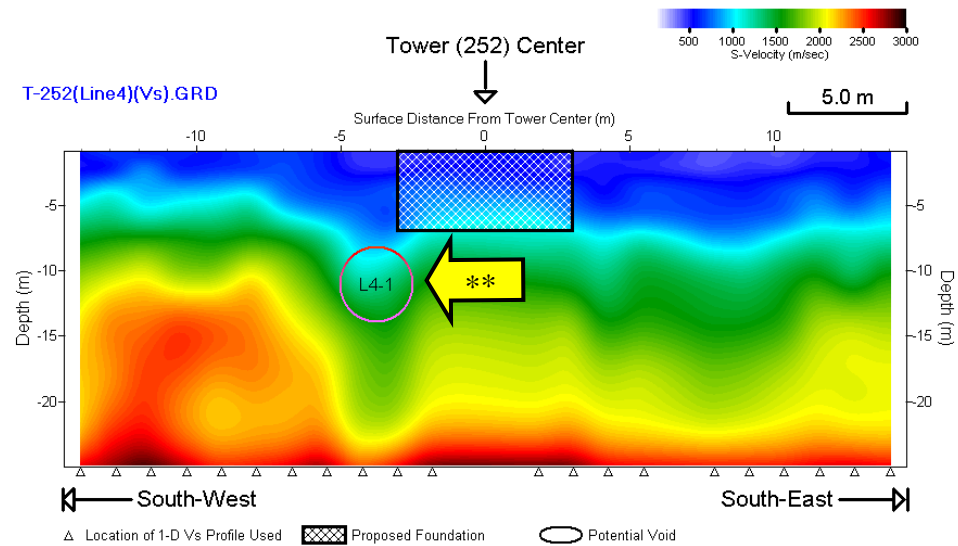
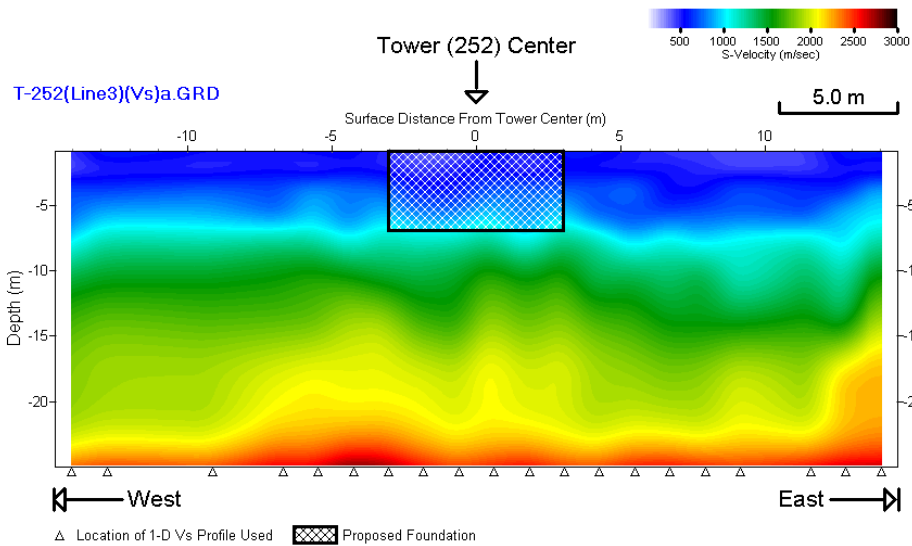
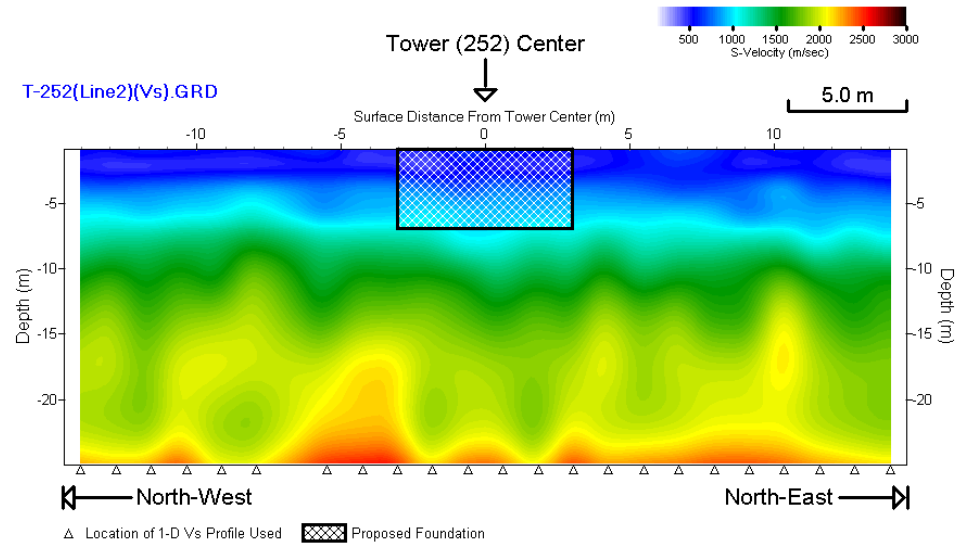
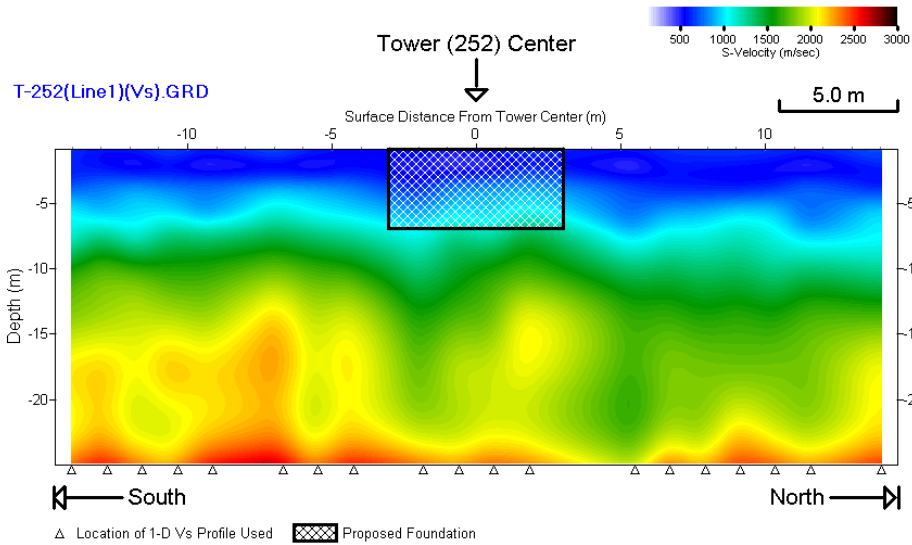
**Data not acquired due to terrain condition

T-251



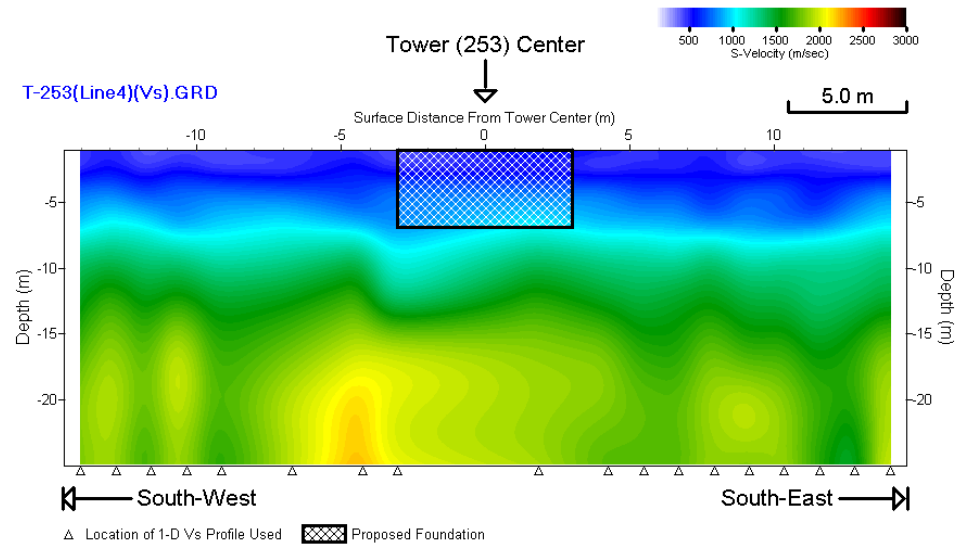
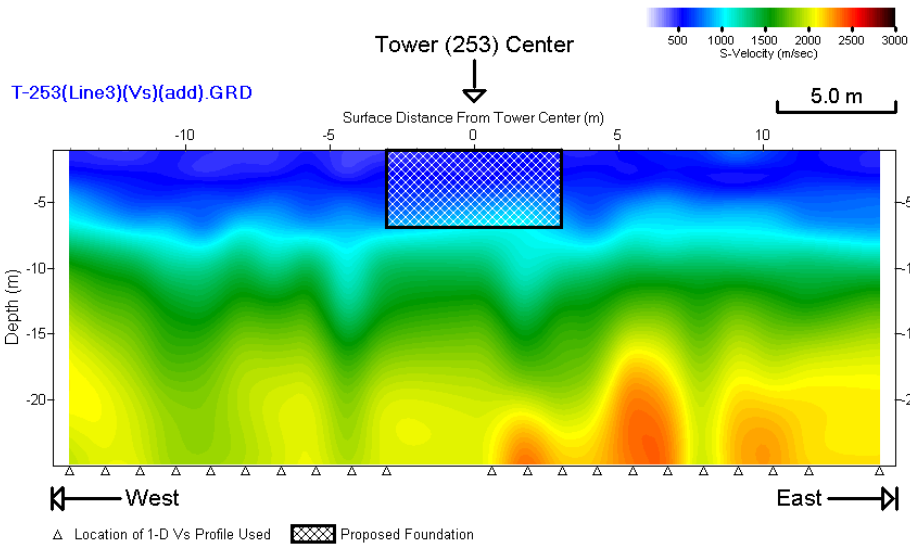
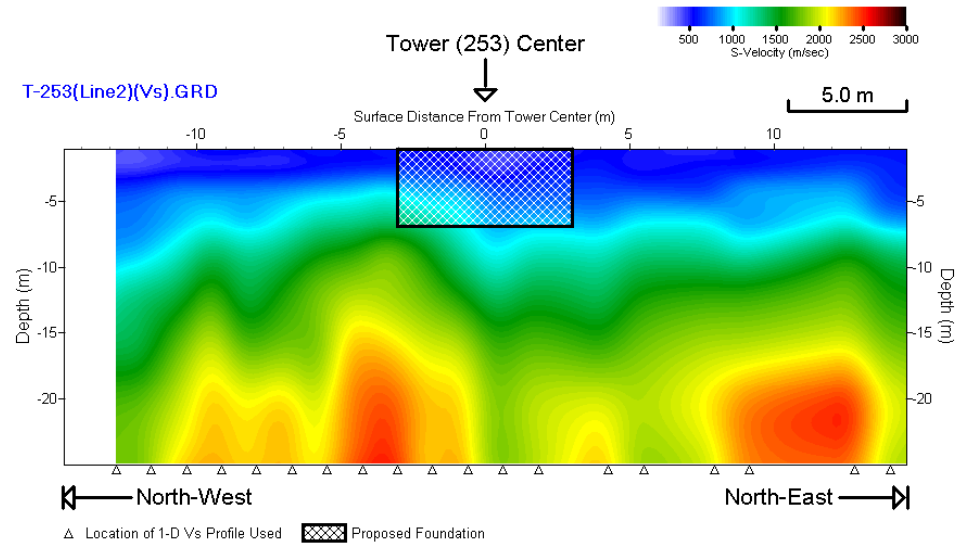
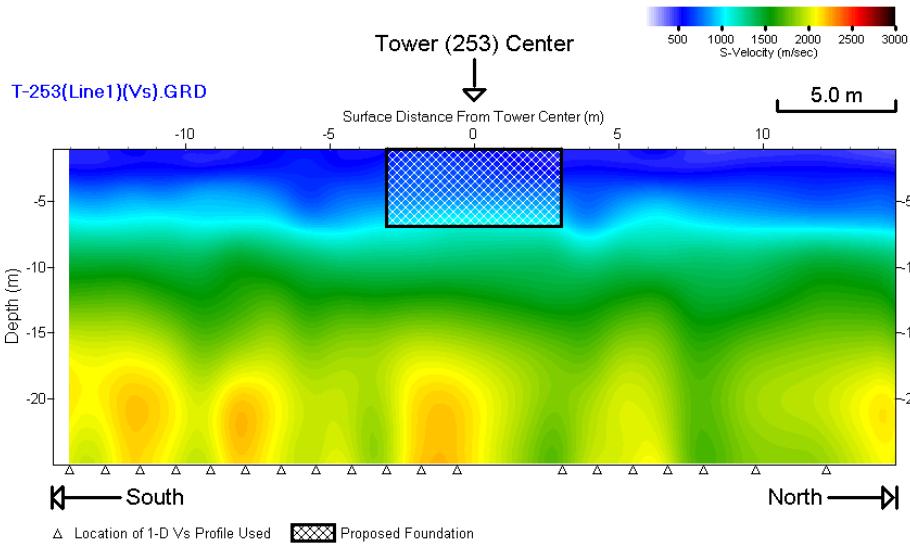
**Data not acquired due to terrain condition (shorter receiver spacing of 2 ft used), *Potential void (see separate text file for coordinates)

T-252

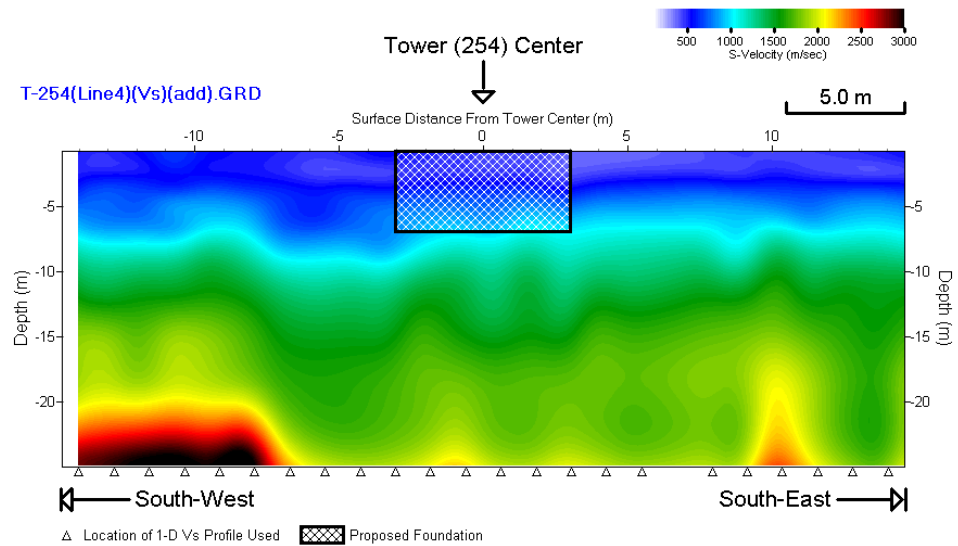
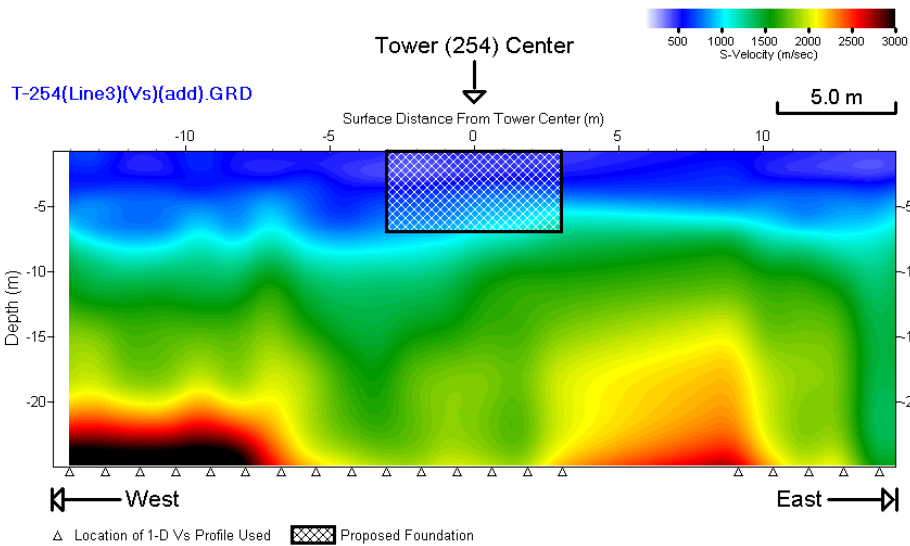
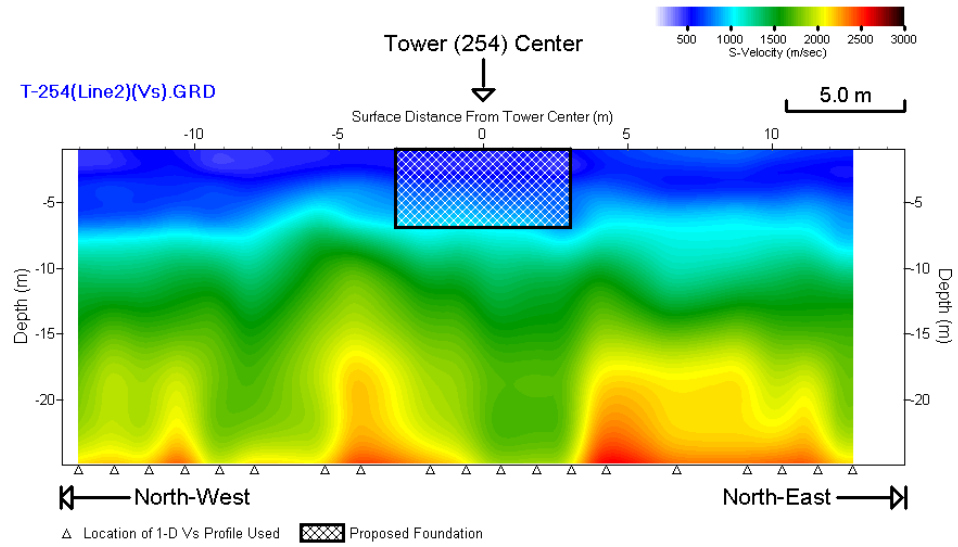
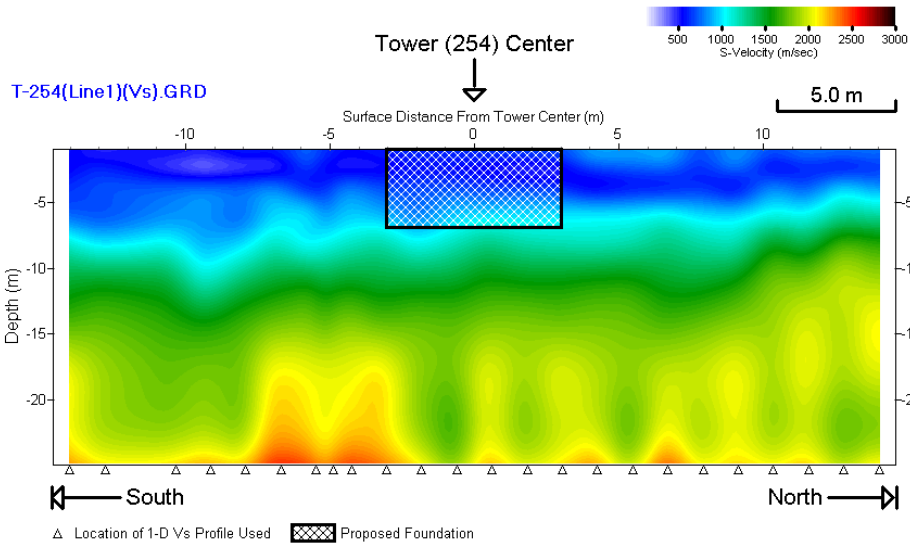


**Potential void (see separate text file for coordinates)

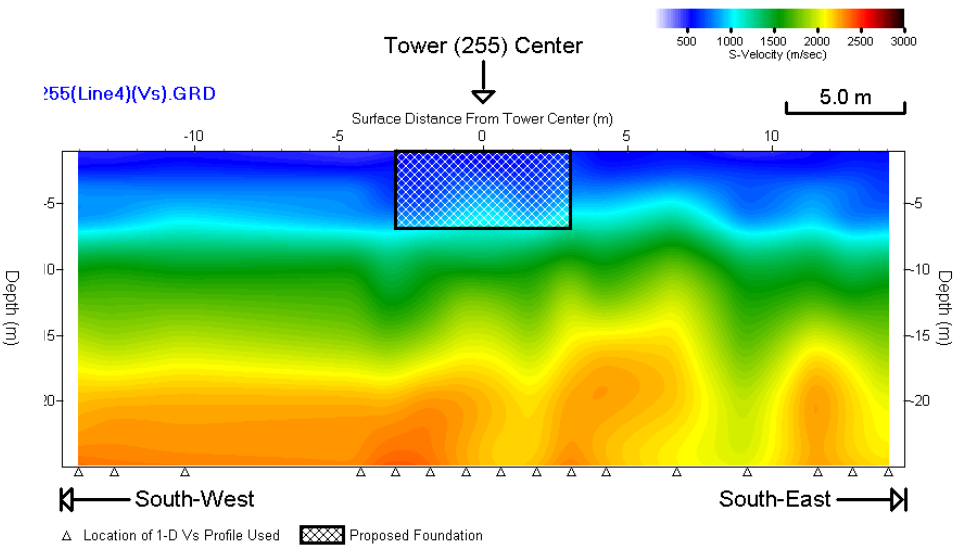
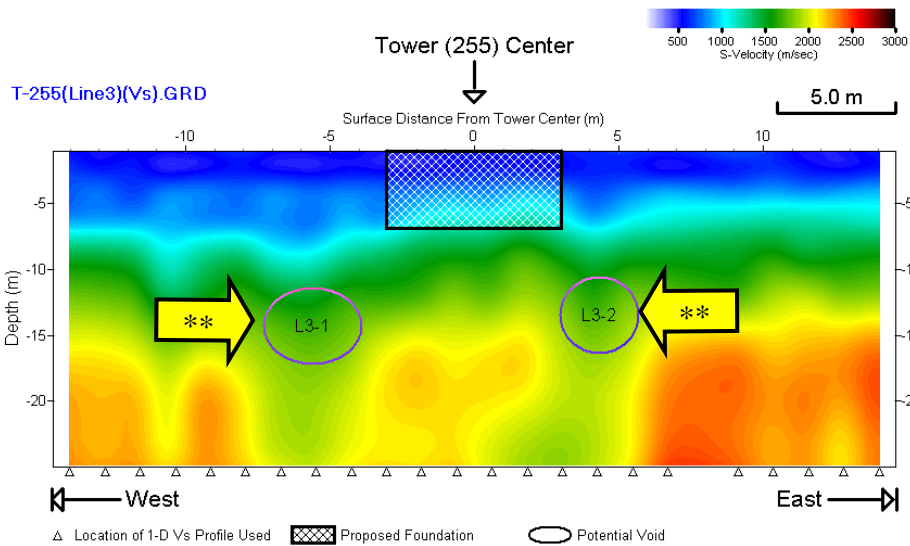
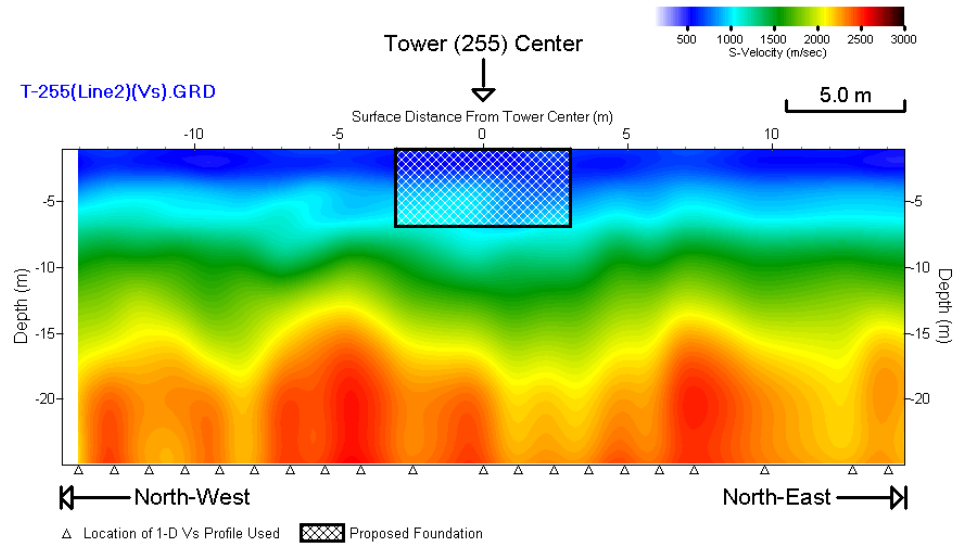
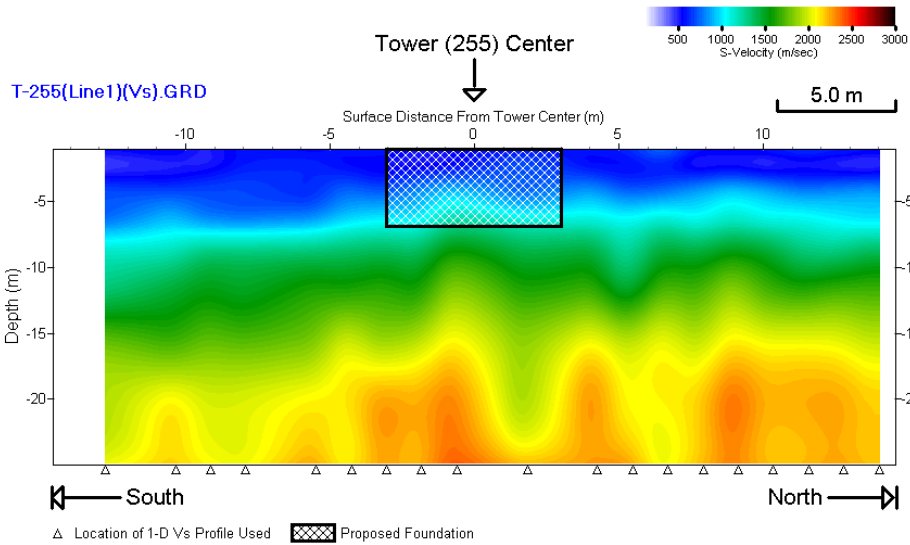
T-253



T-254

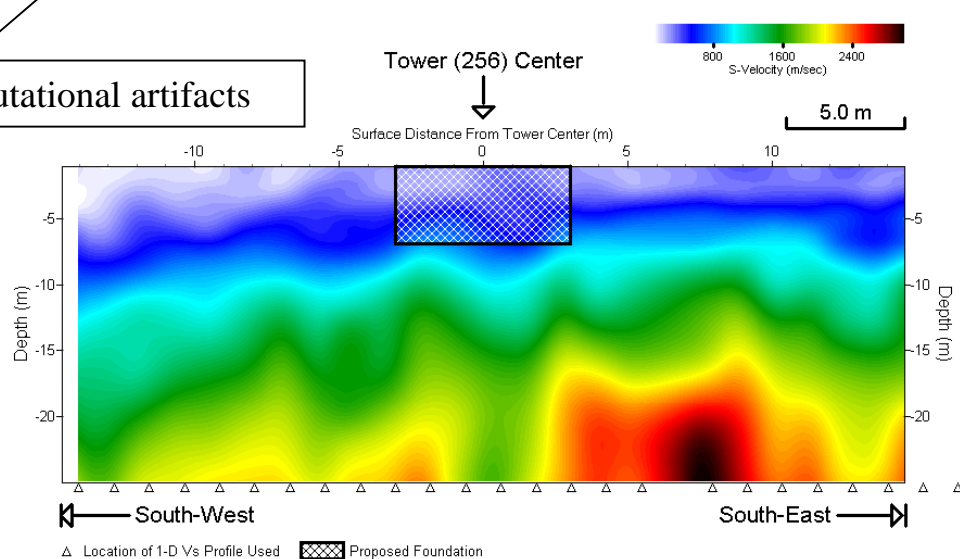
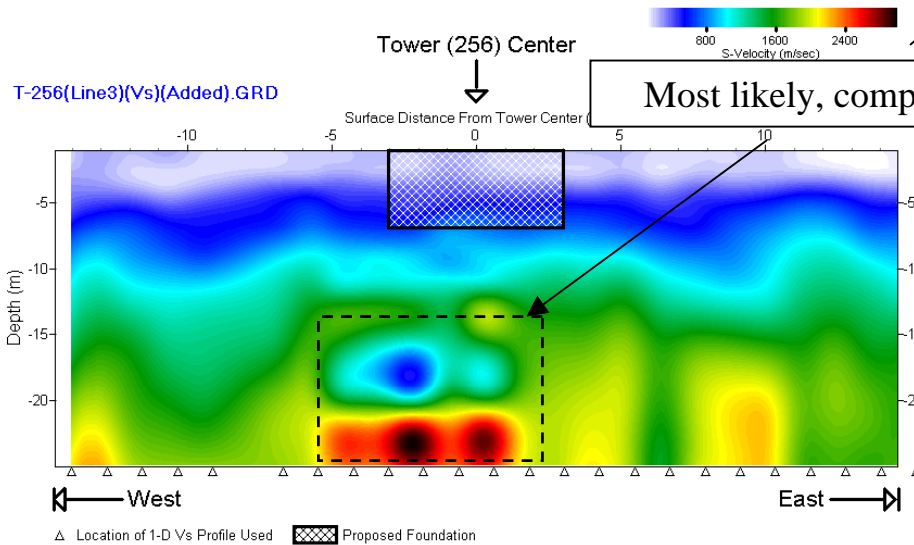
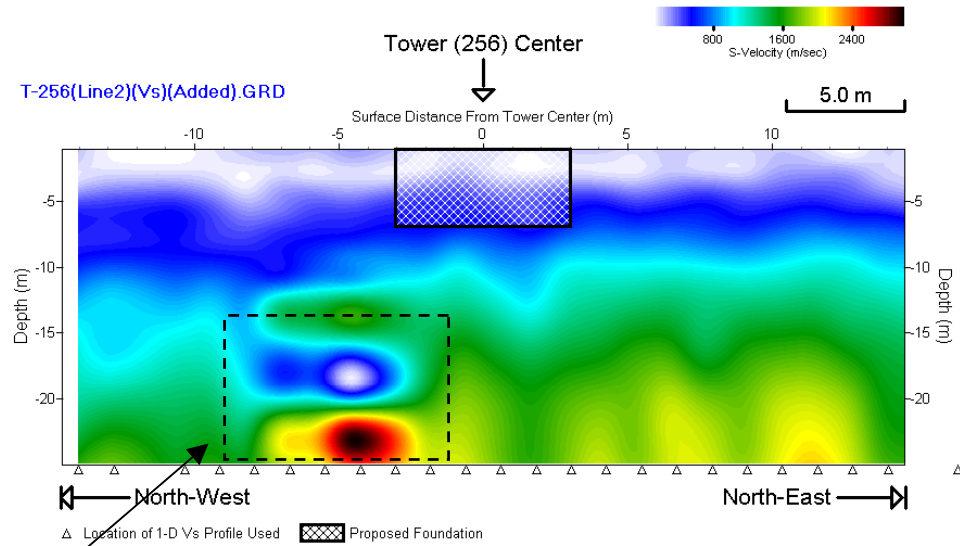
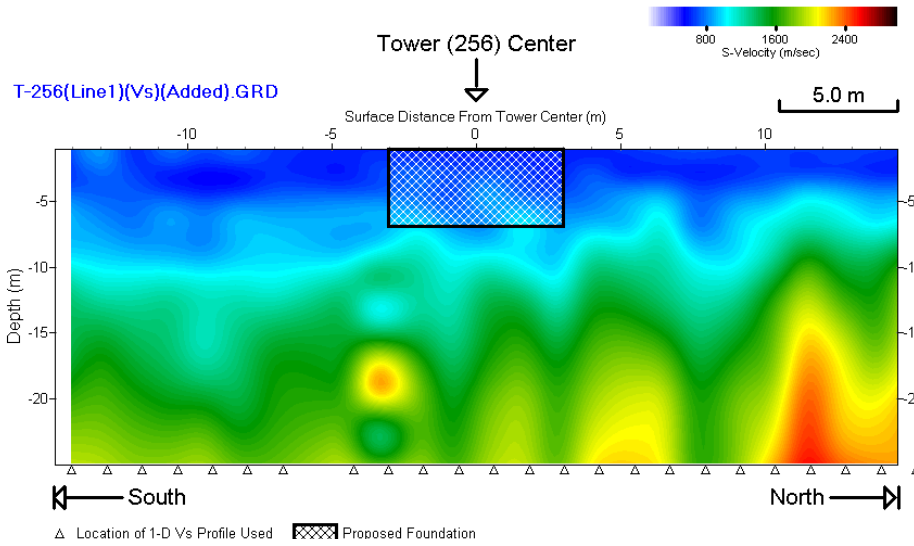


T-255



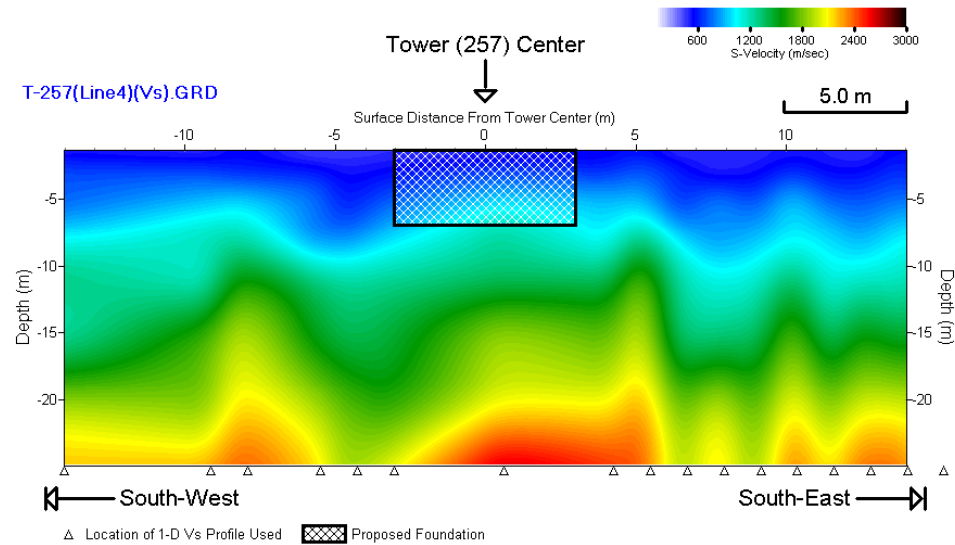
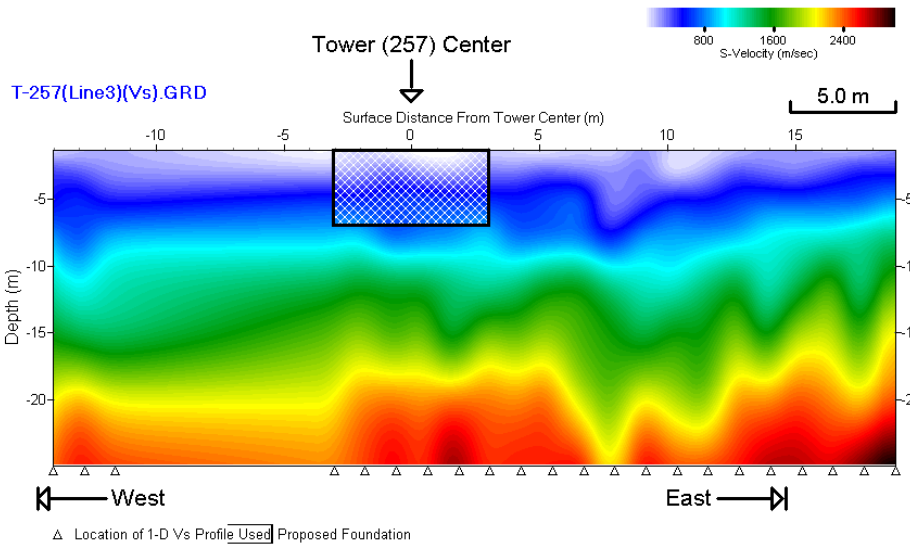
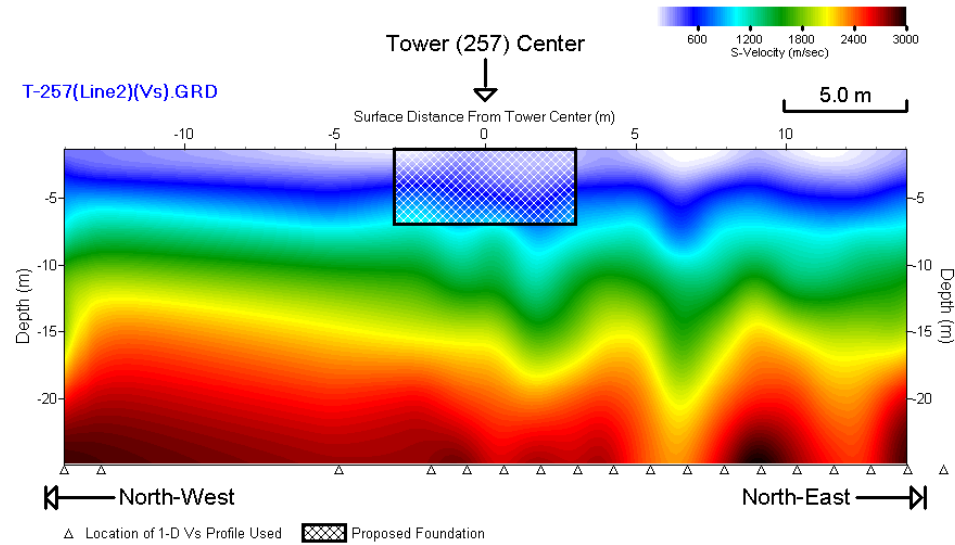
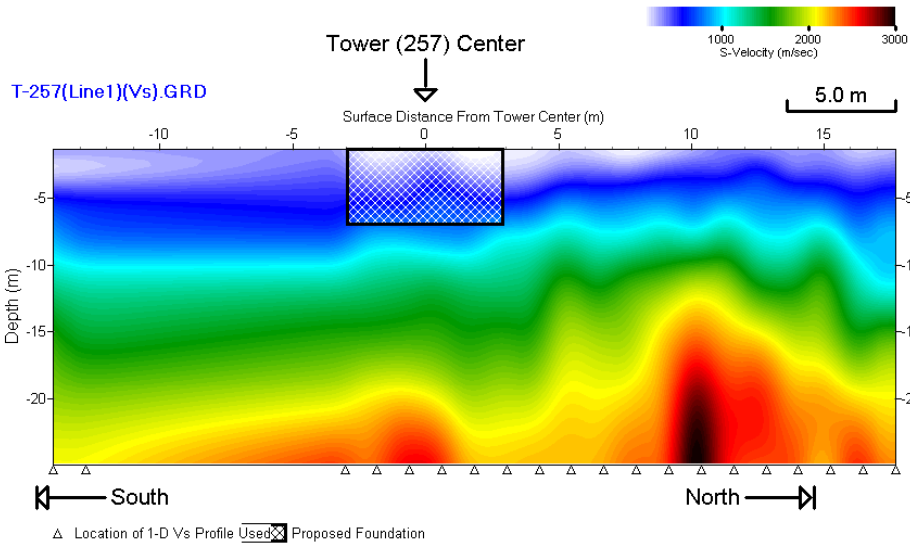
**Potential void (see separate text file for coordinates)

T-256

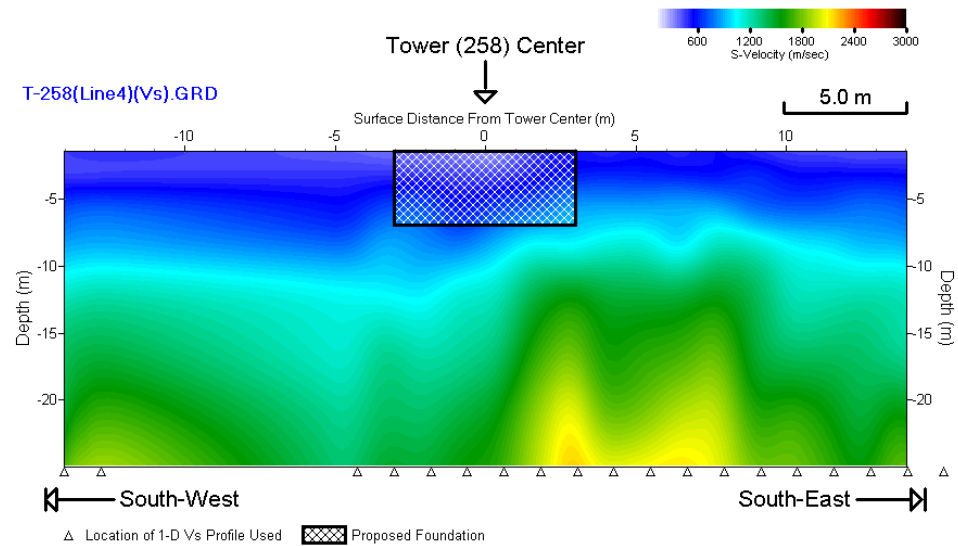
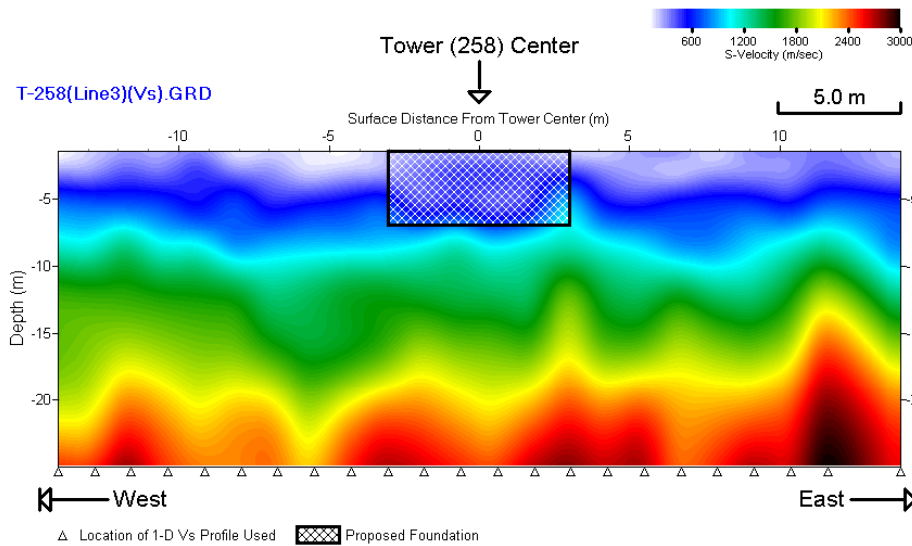
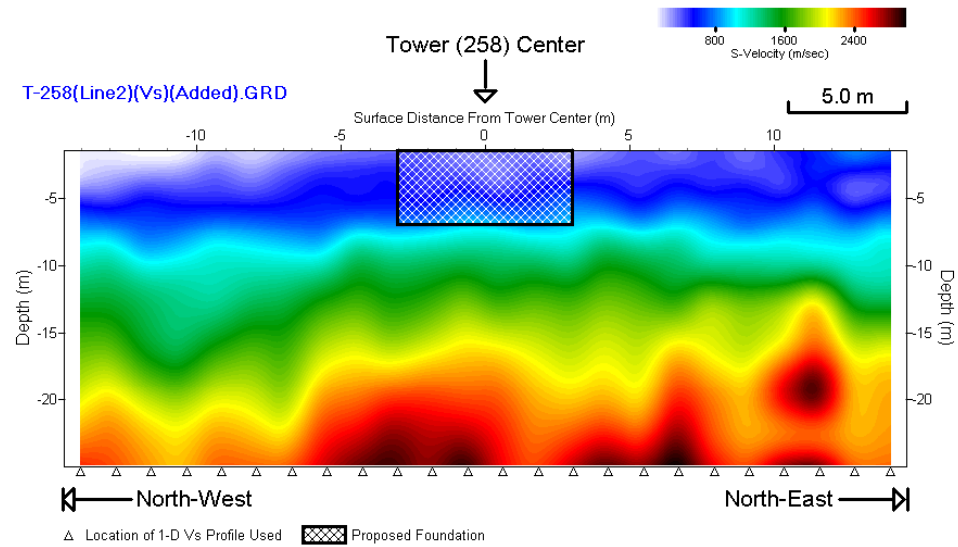
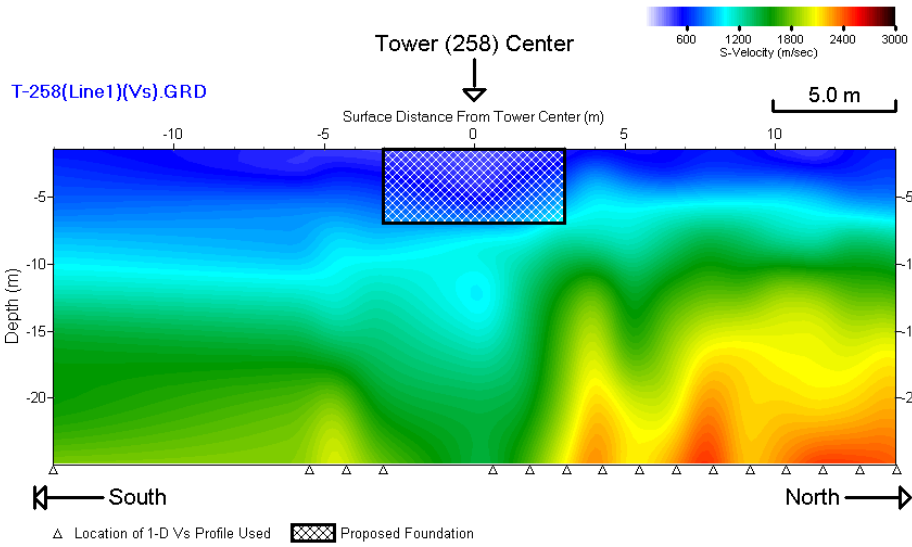


Most likely, computational artifacts

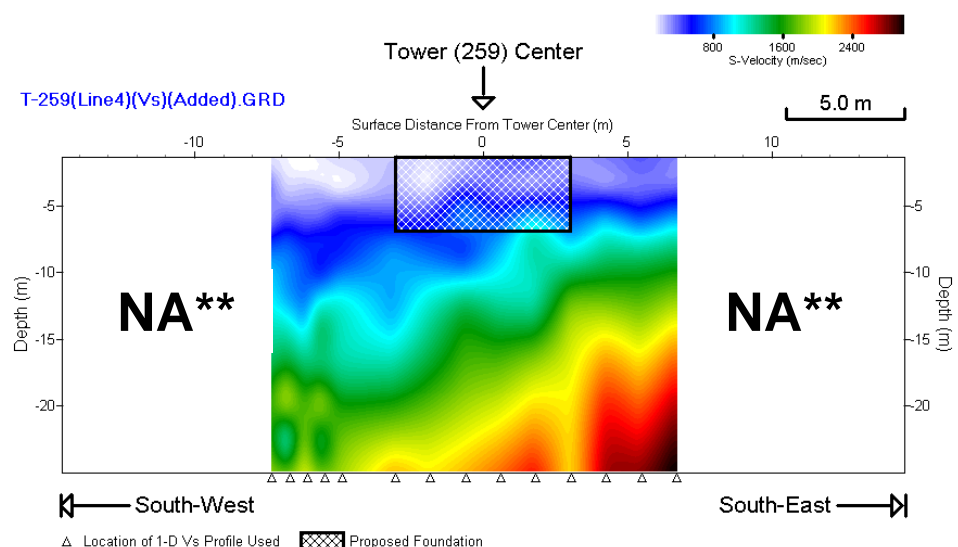
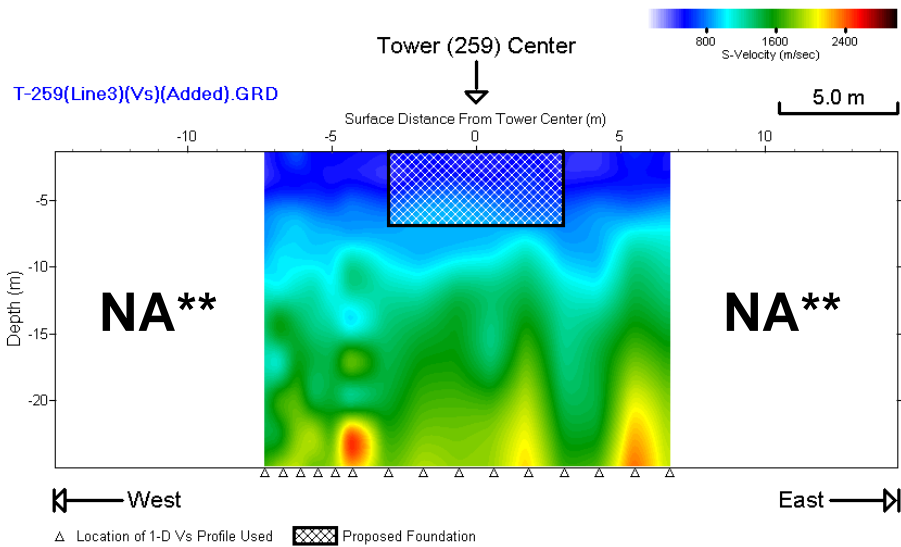
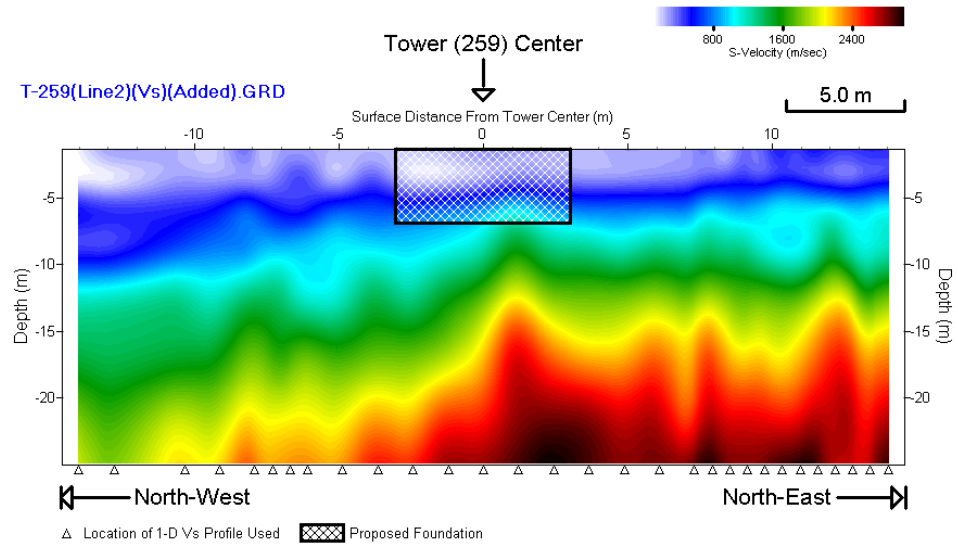
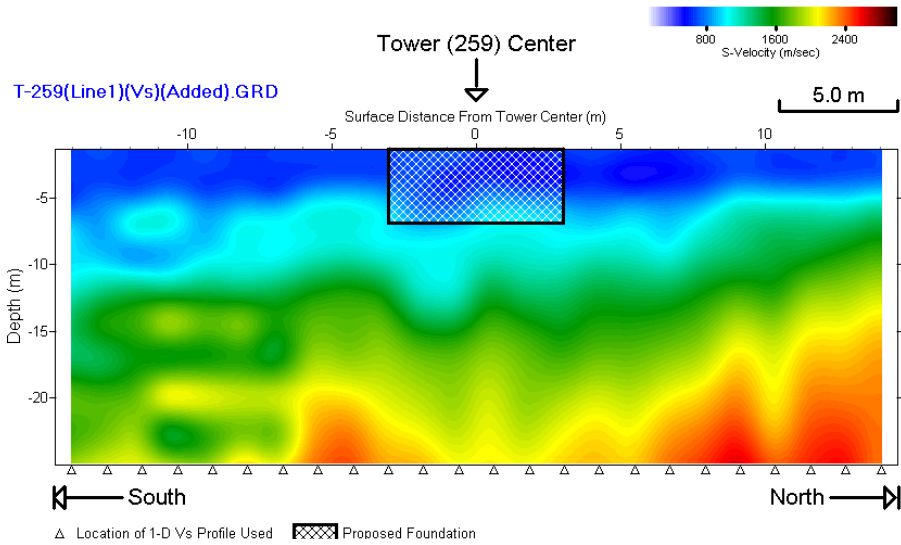
T-257



T-258

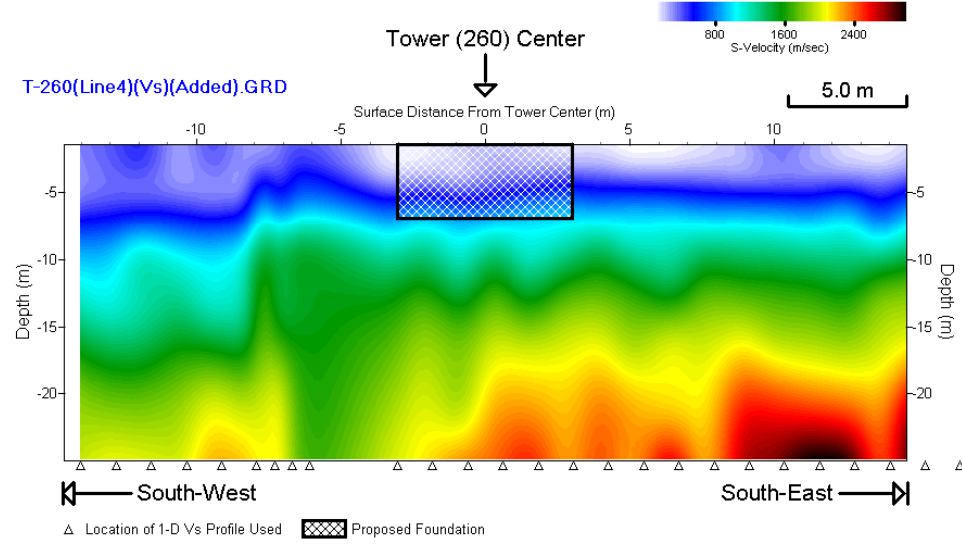
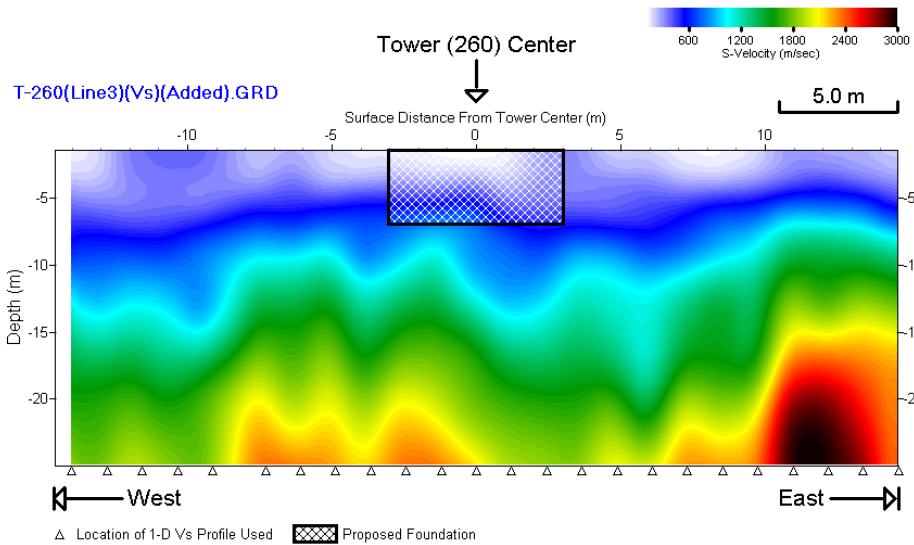
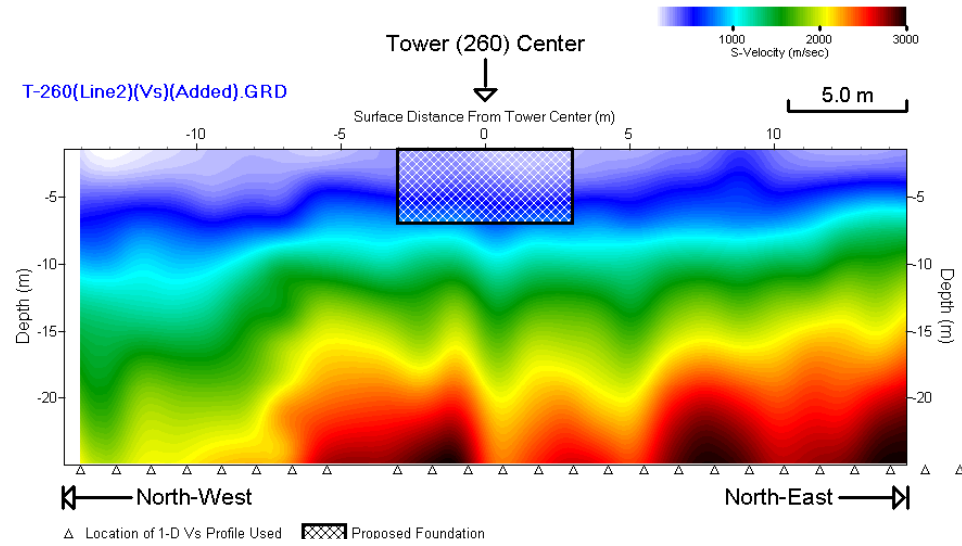
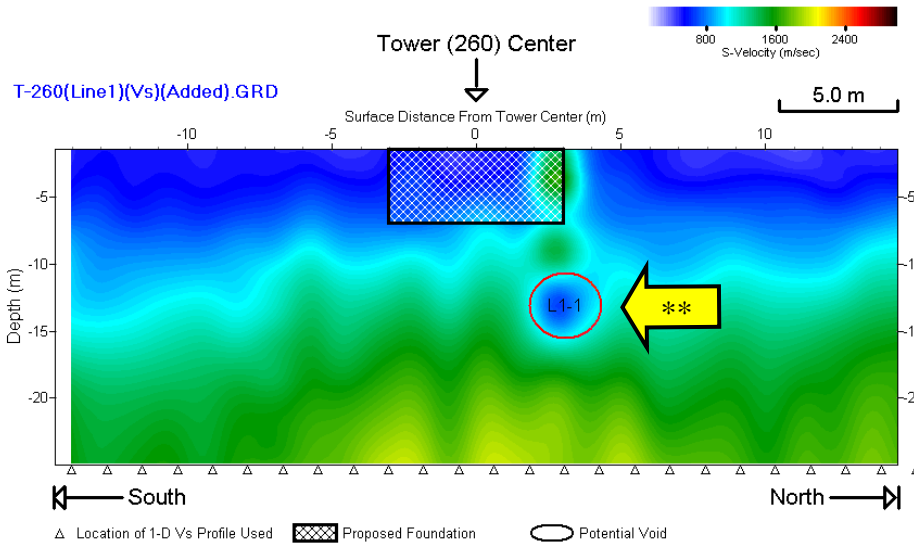


T-259



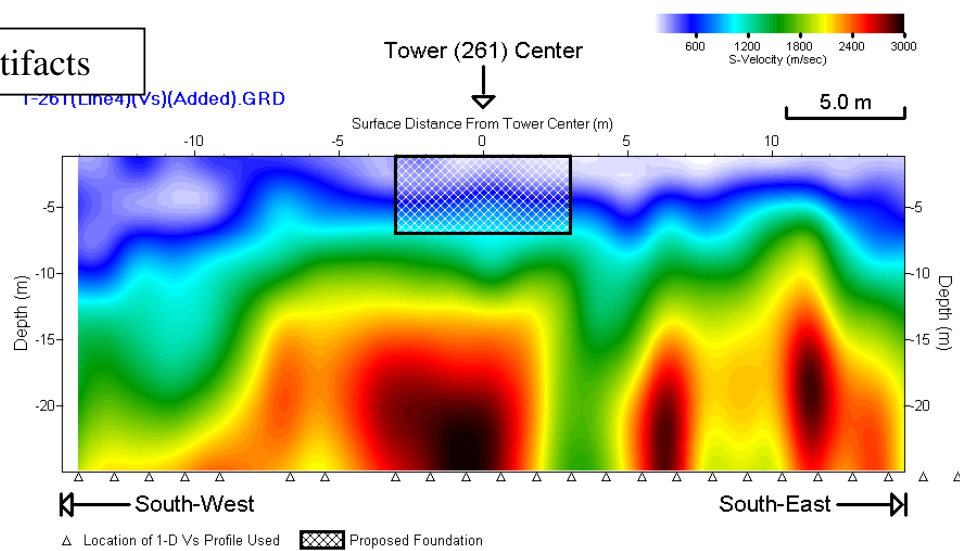
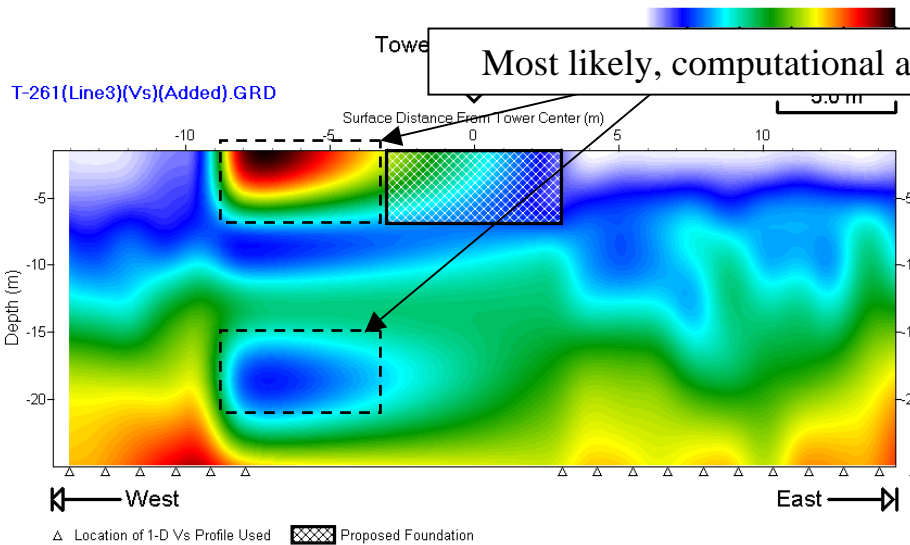
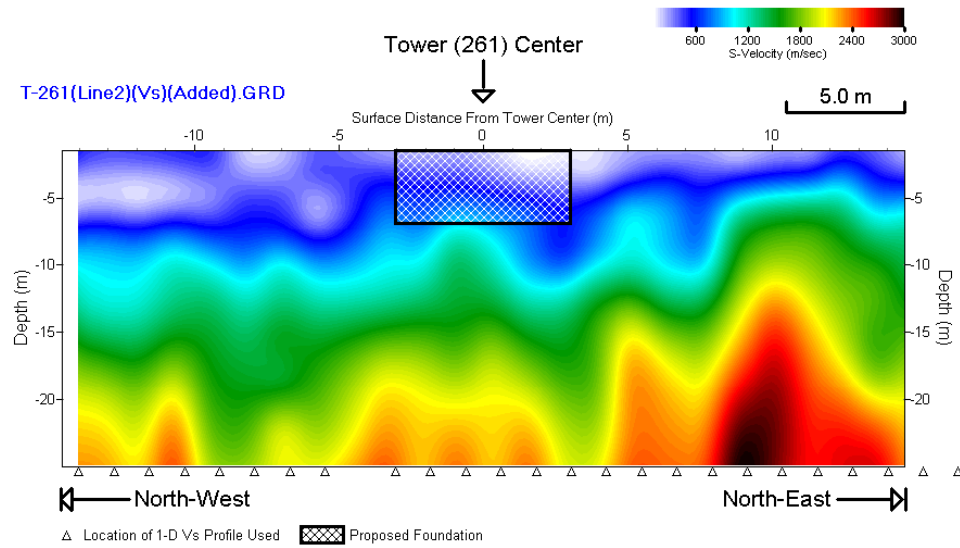
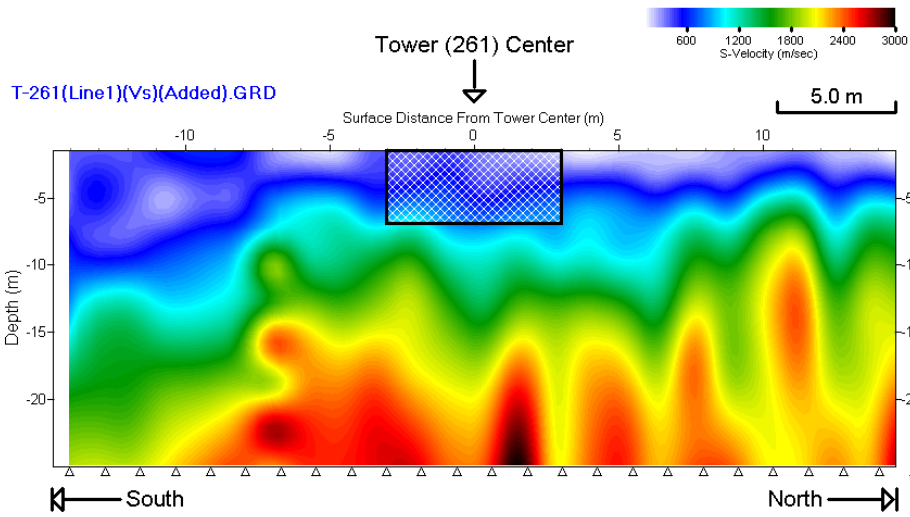
**Data not acquired due to terrain condition

T-260

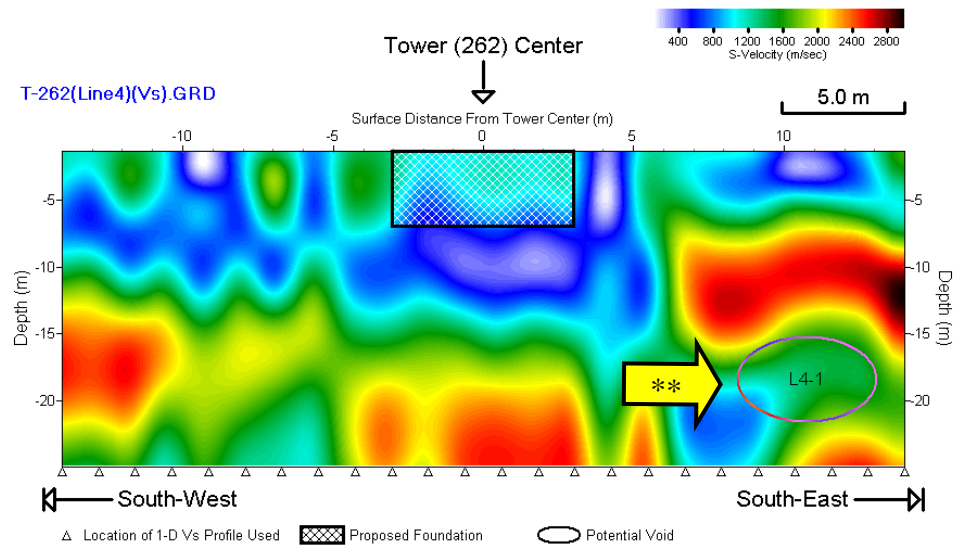
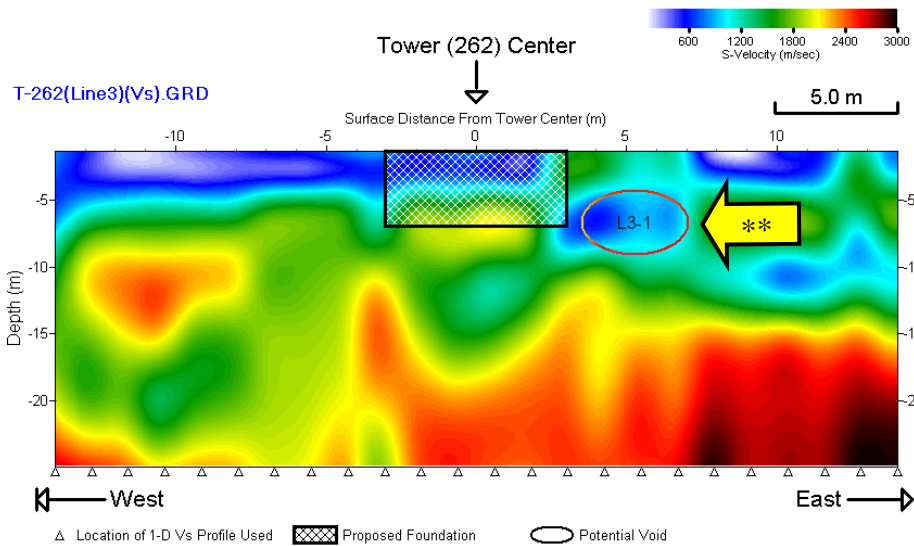
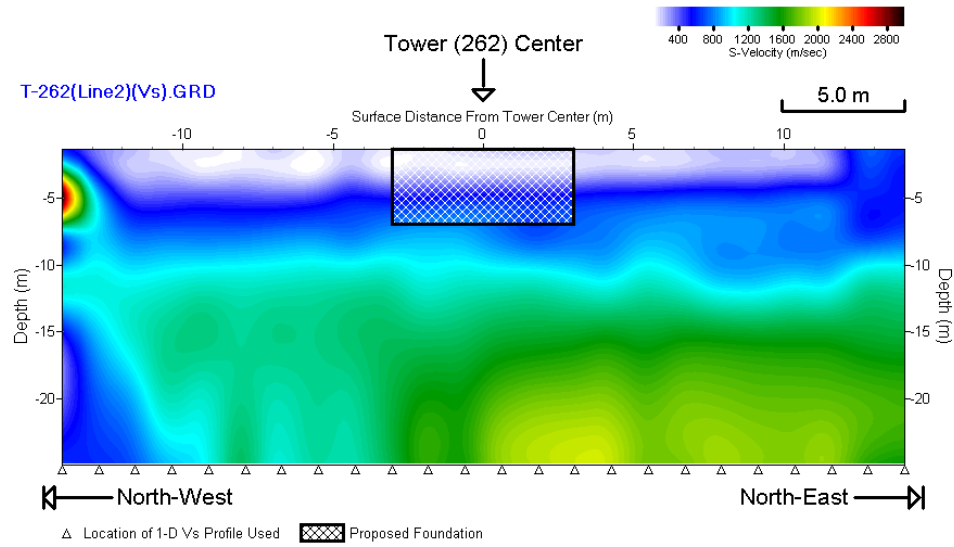
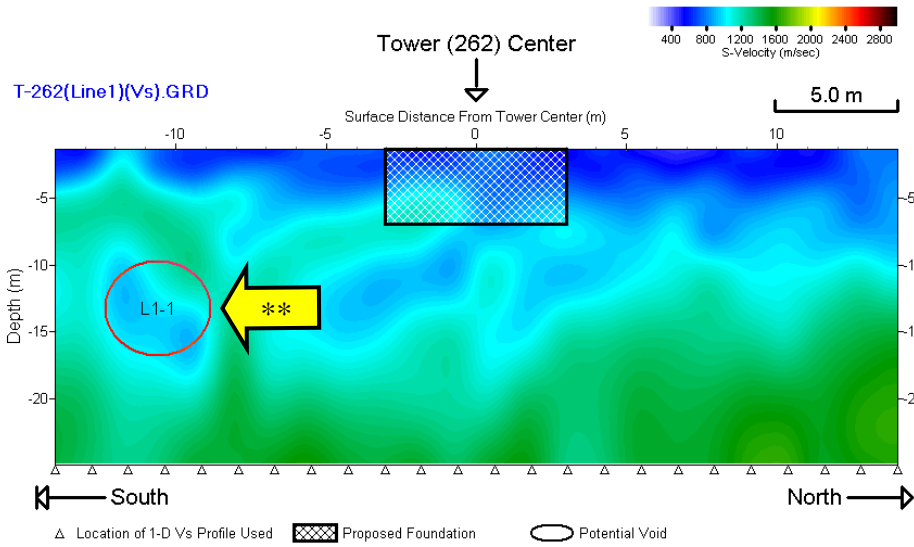


**Potential void (see separate text file for coordinates)

T-261

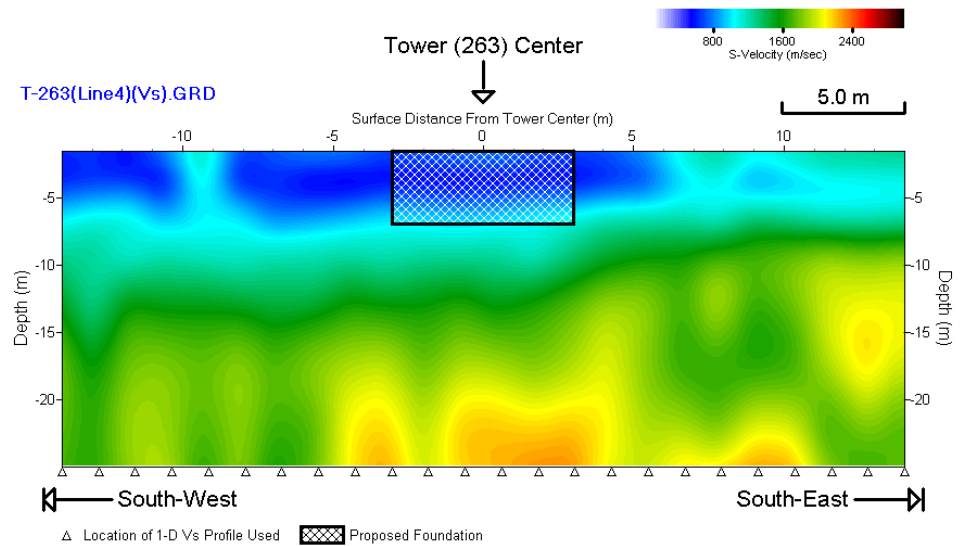
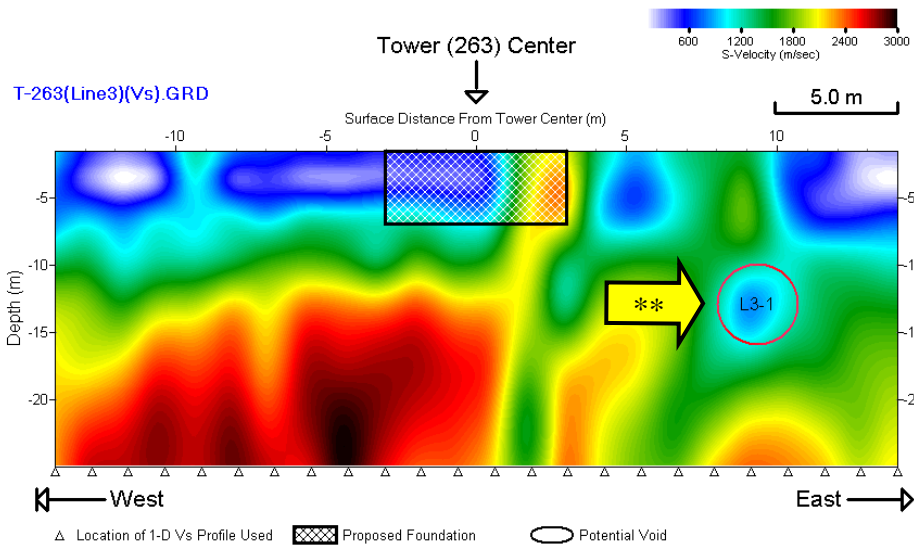
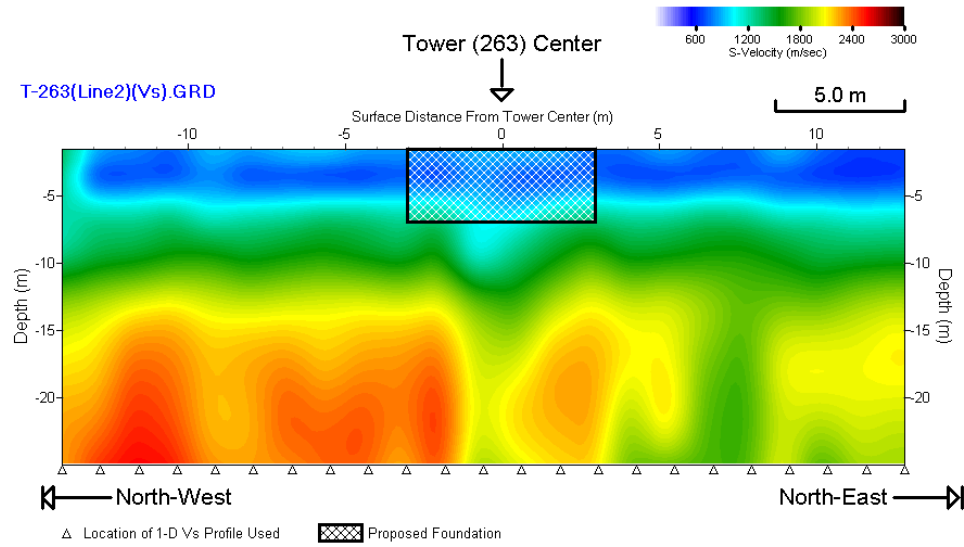
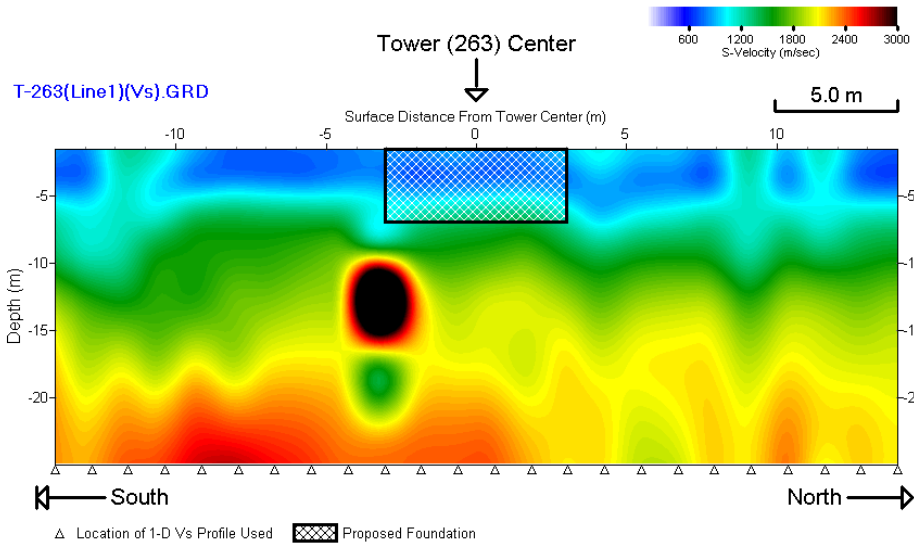


T-262



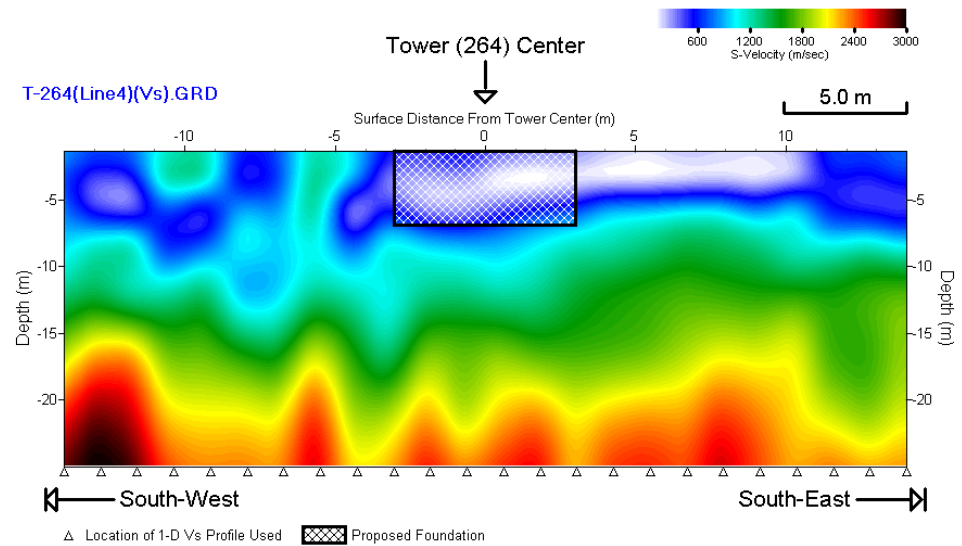
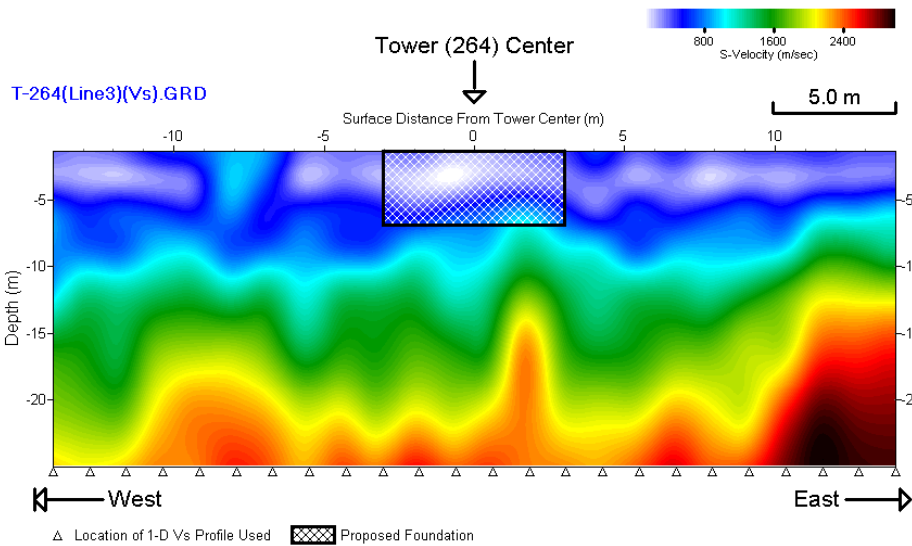
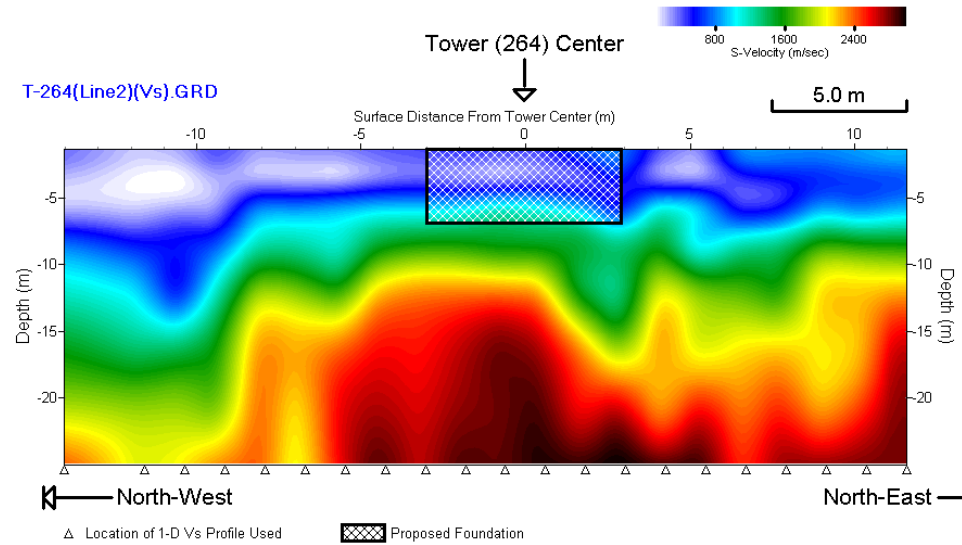
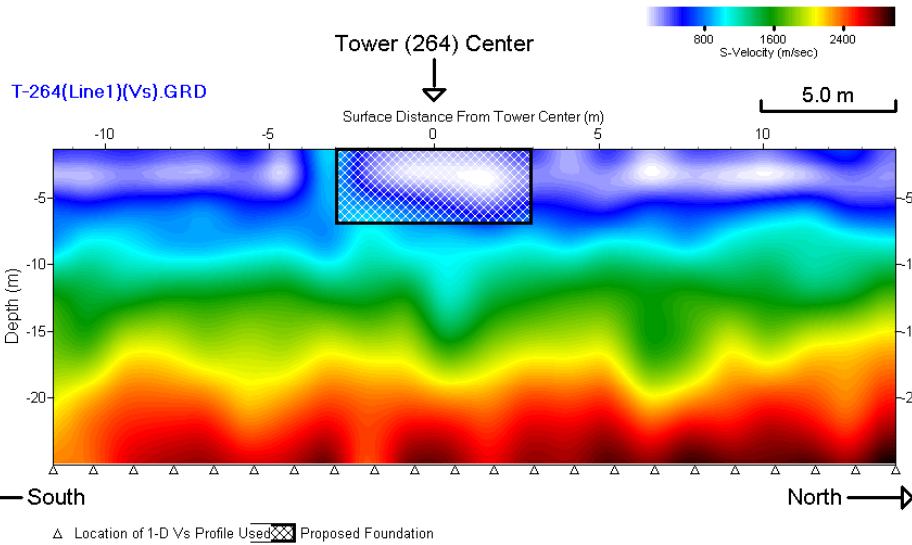
**Potential void (see separate text file for coordinates)

T-263

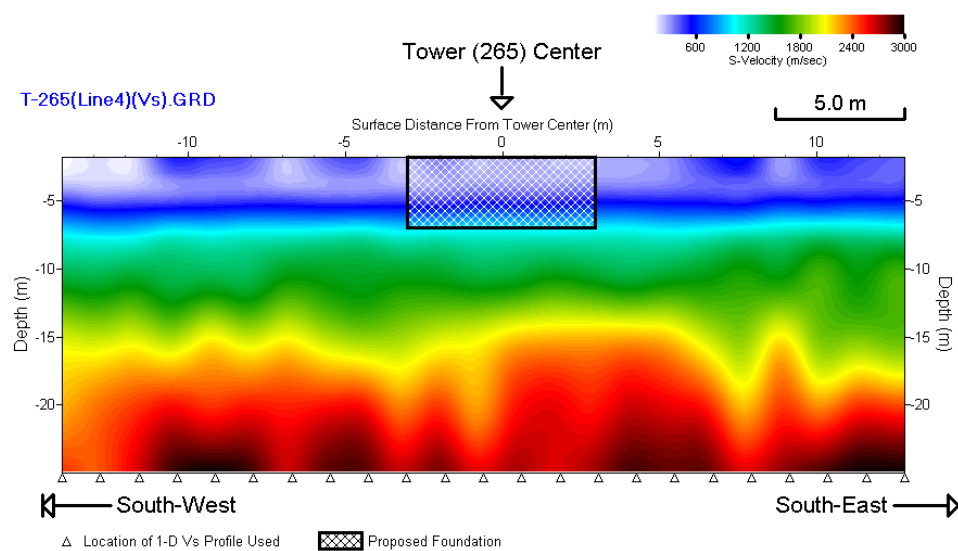
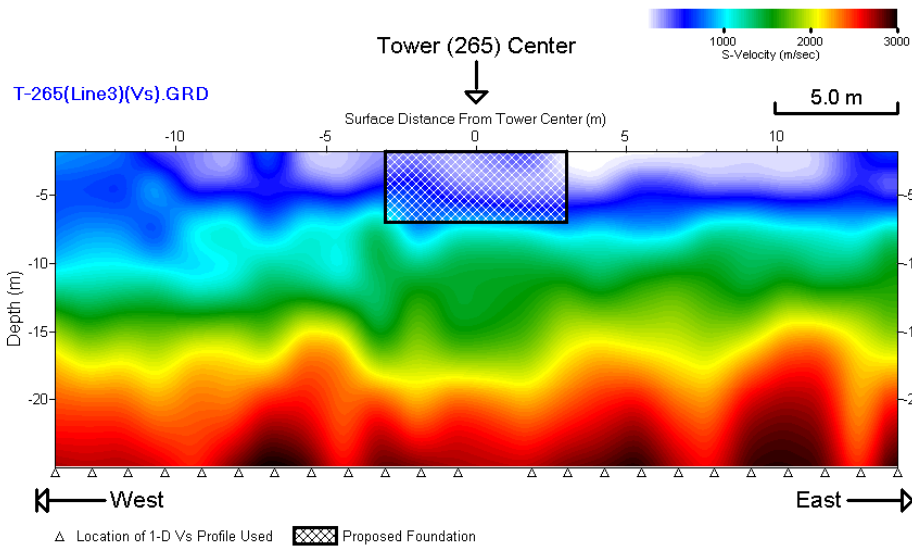
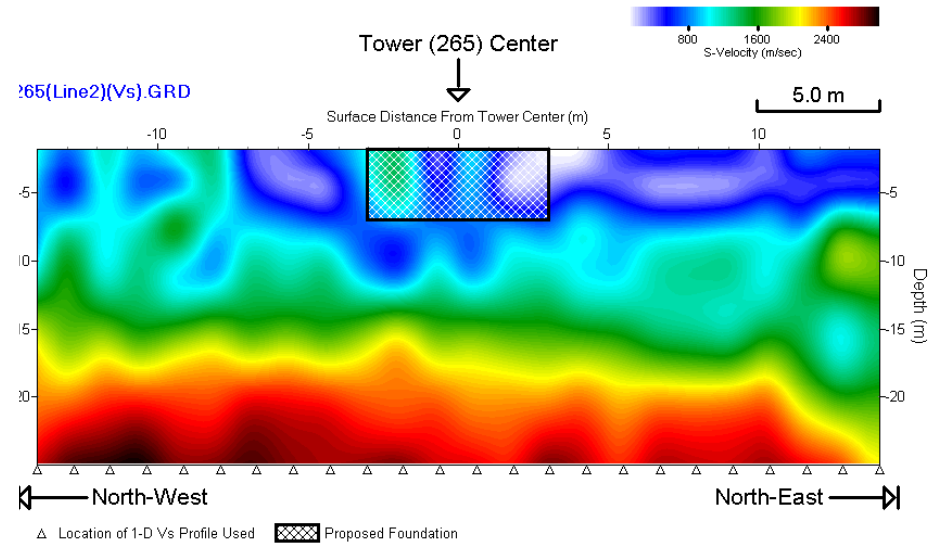
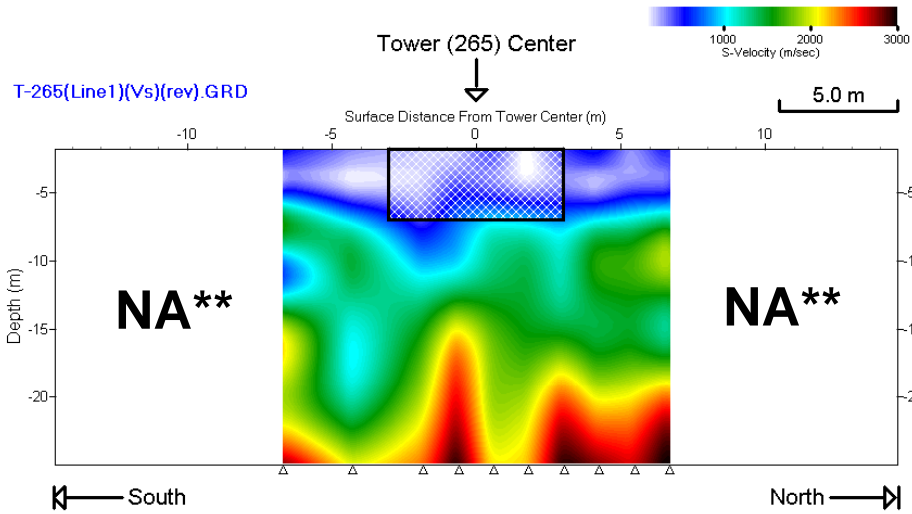


**Potential void (see separate text file for coordinates)

T-264

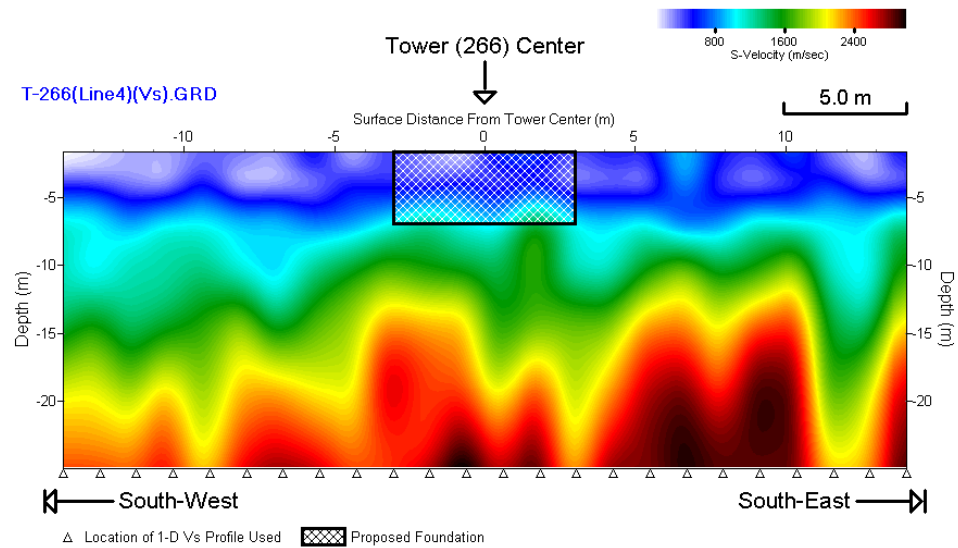
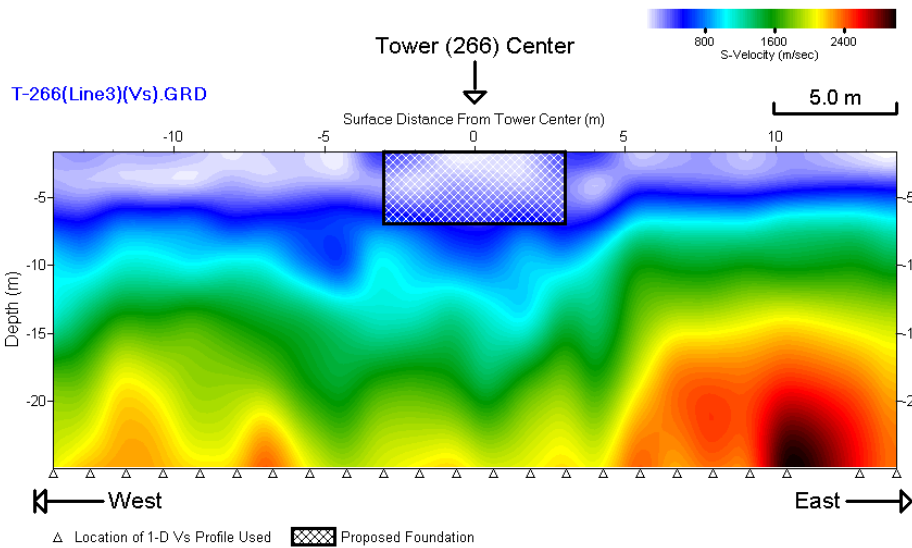
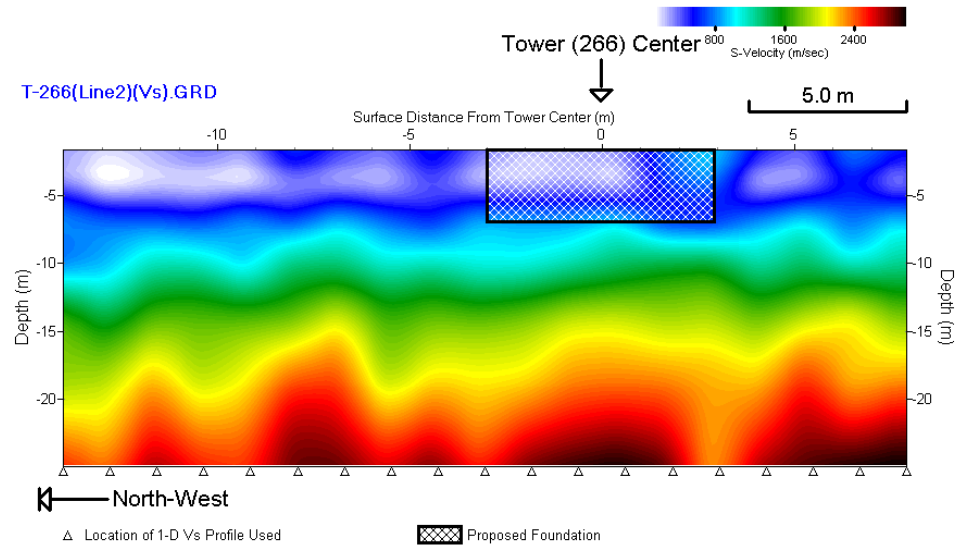
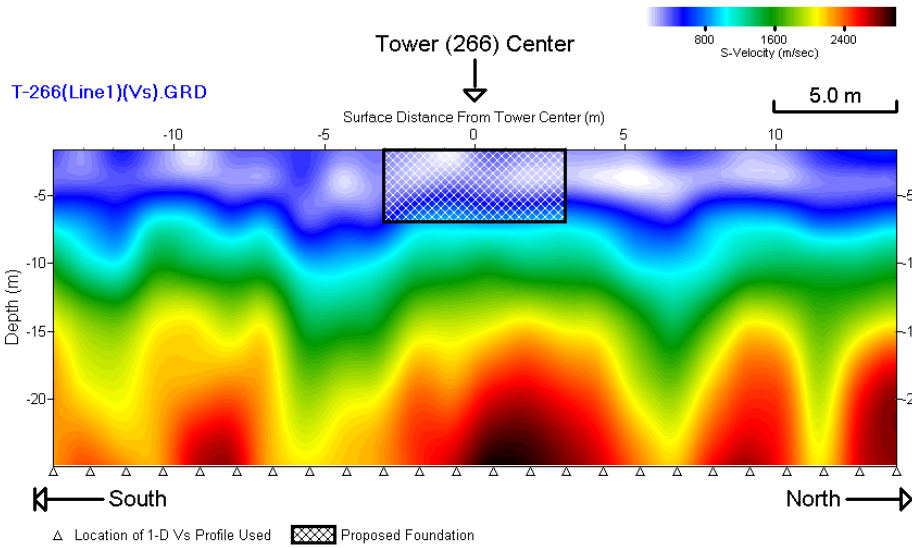


T-265

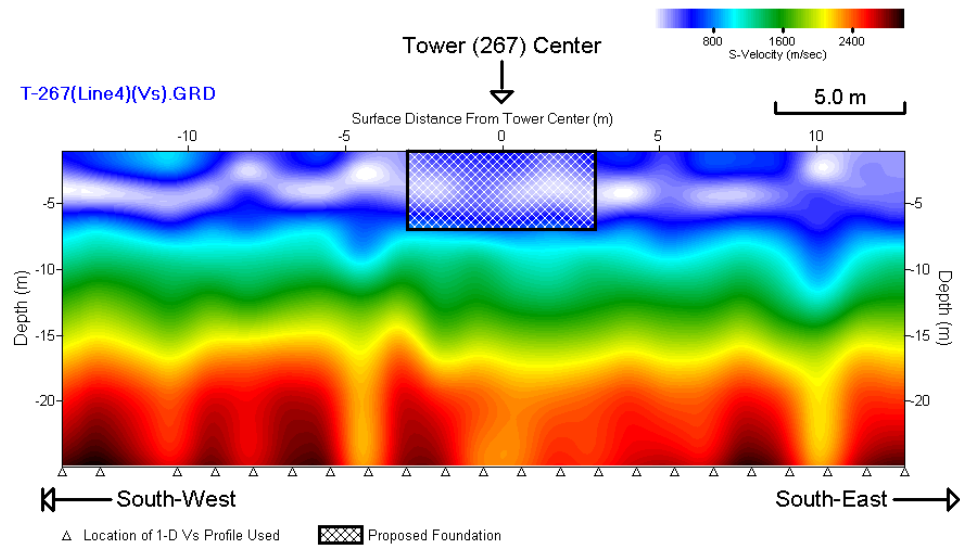
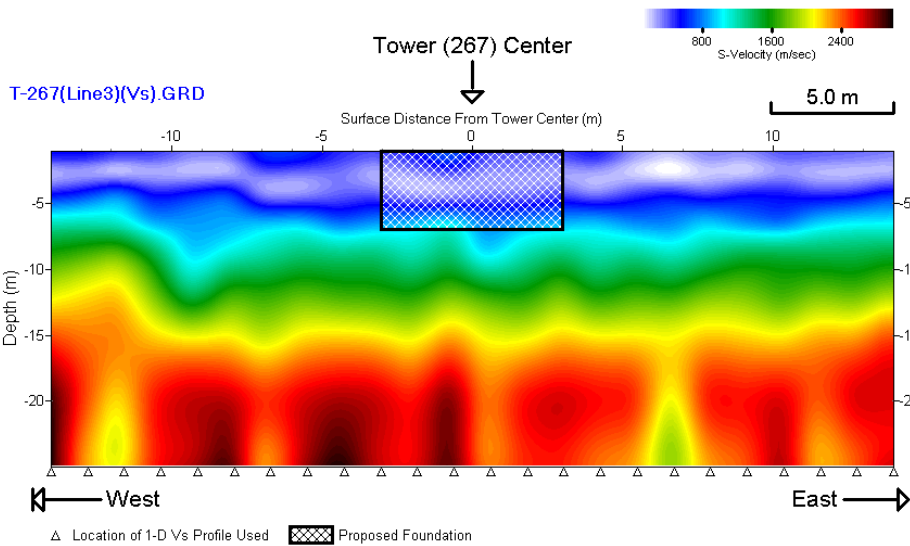
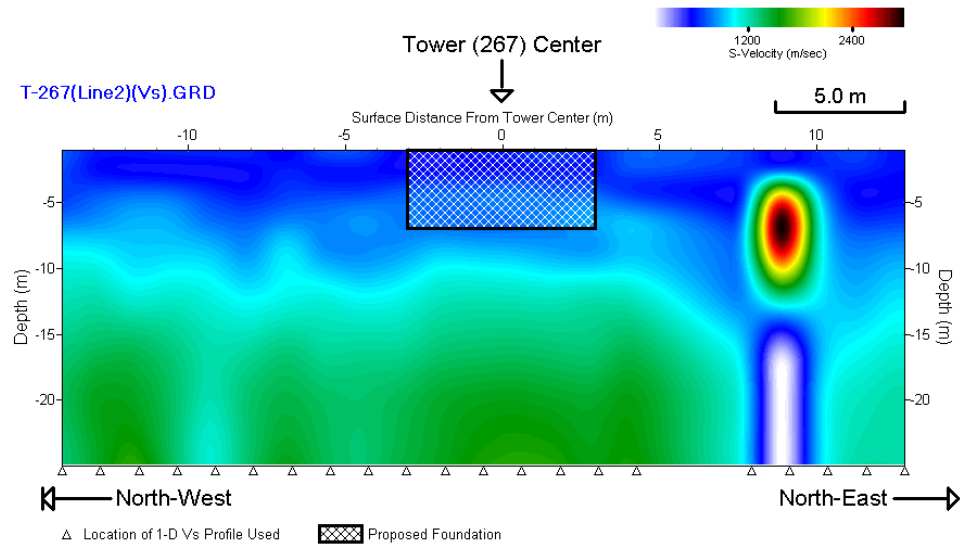
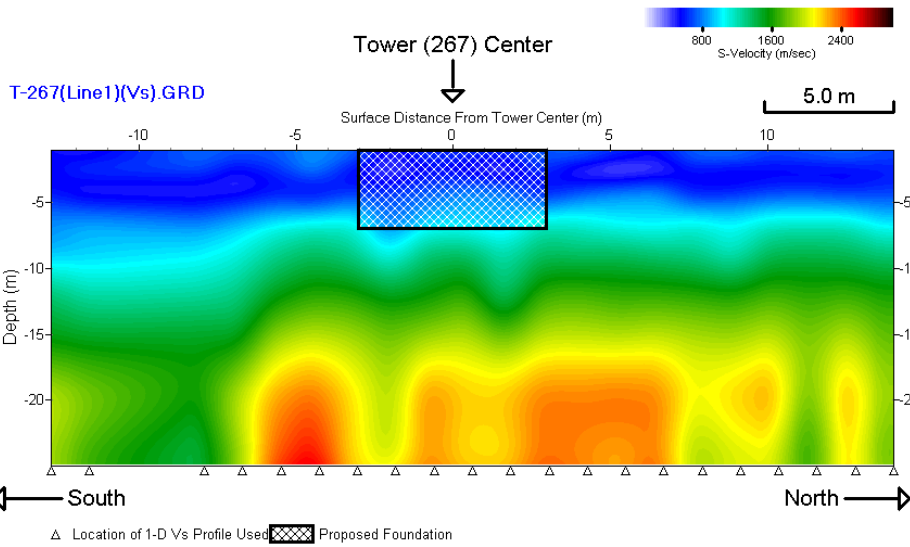


**Data not acquired due to terrain condition

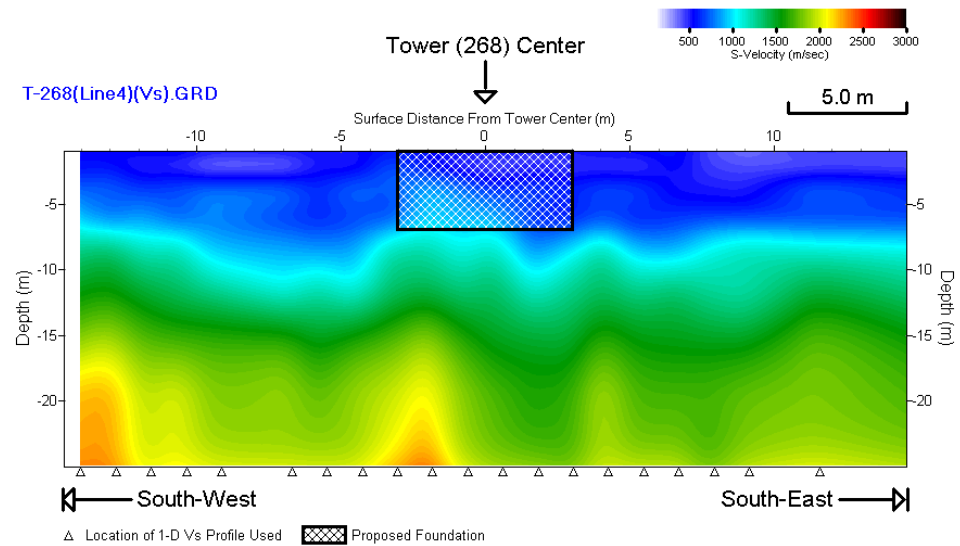
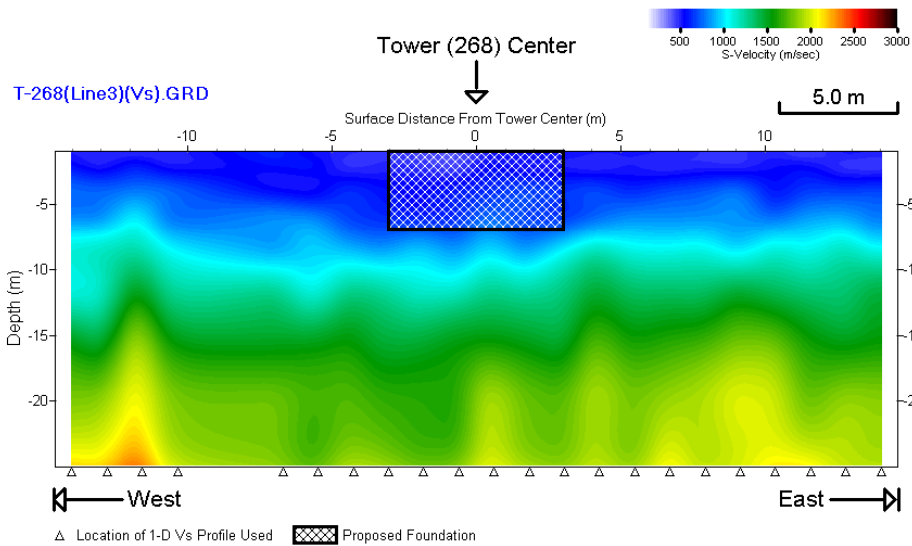
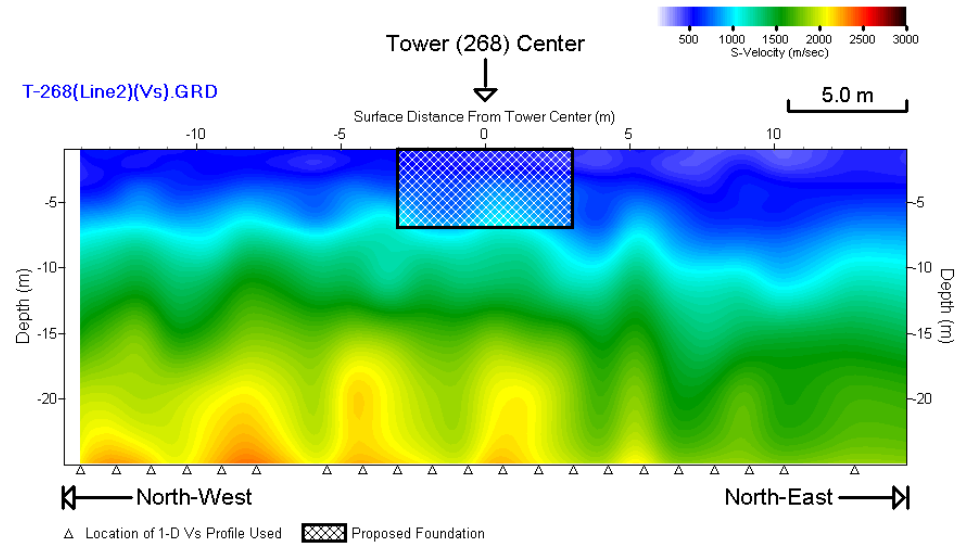
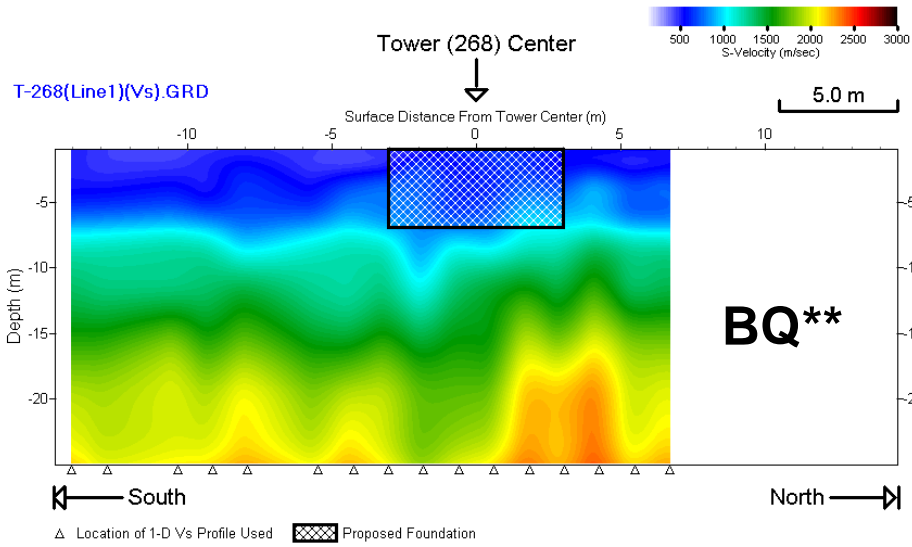
T-266



T-267

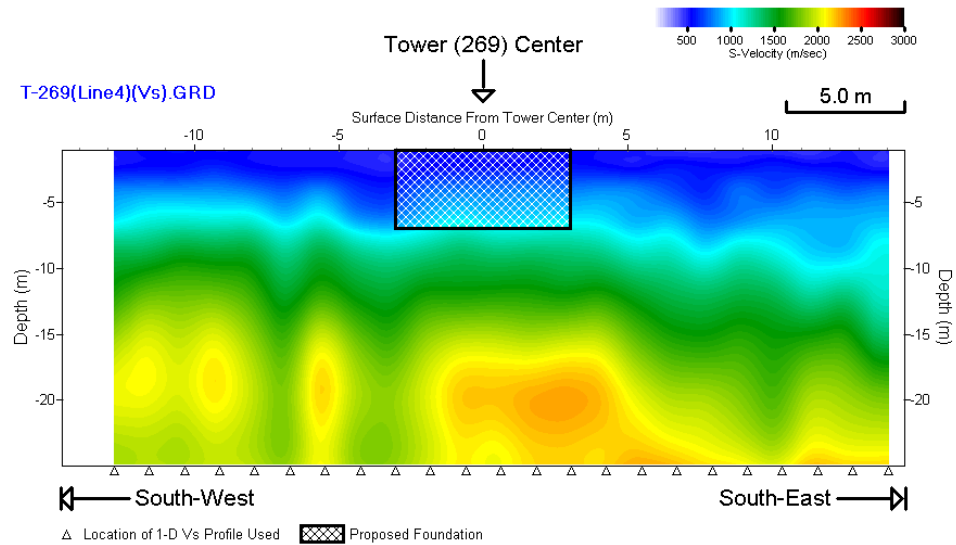
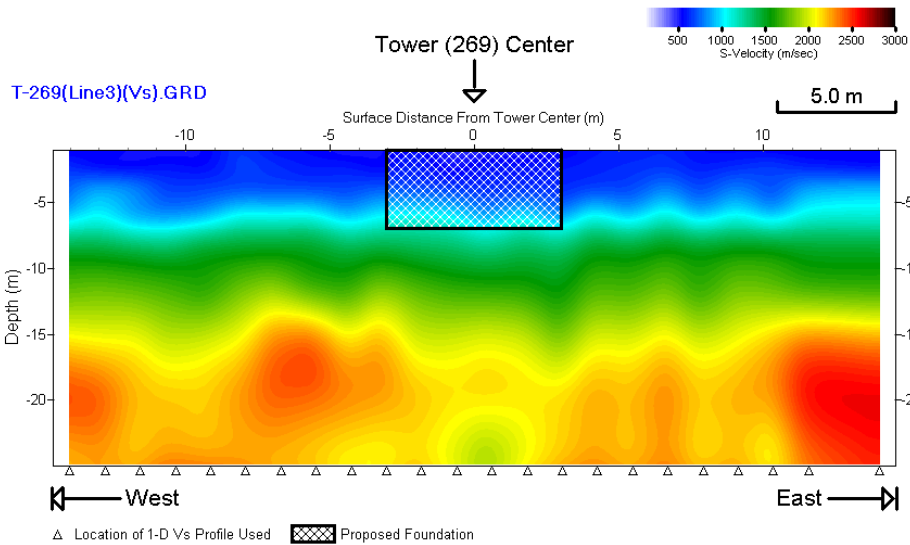
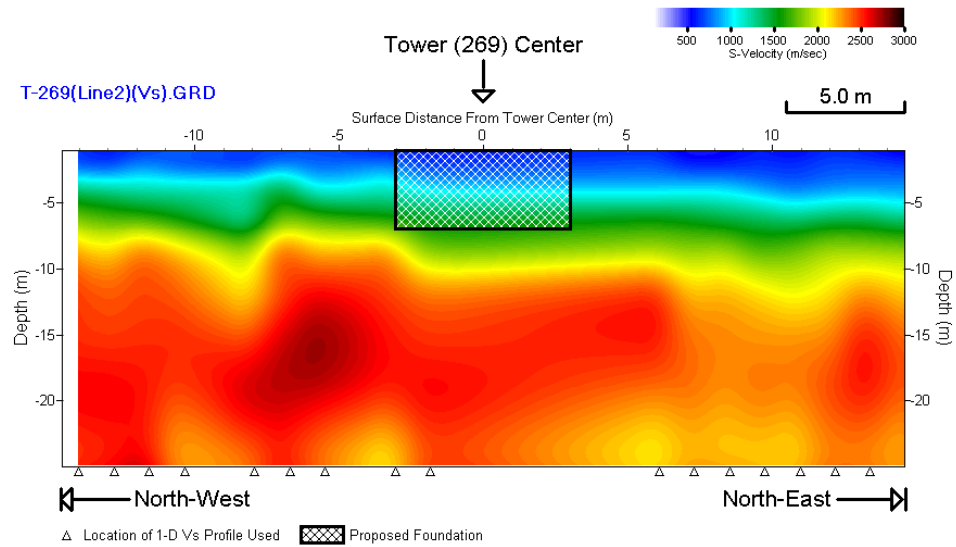
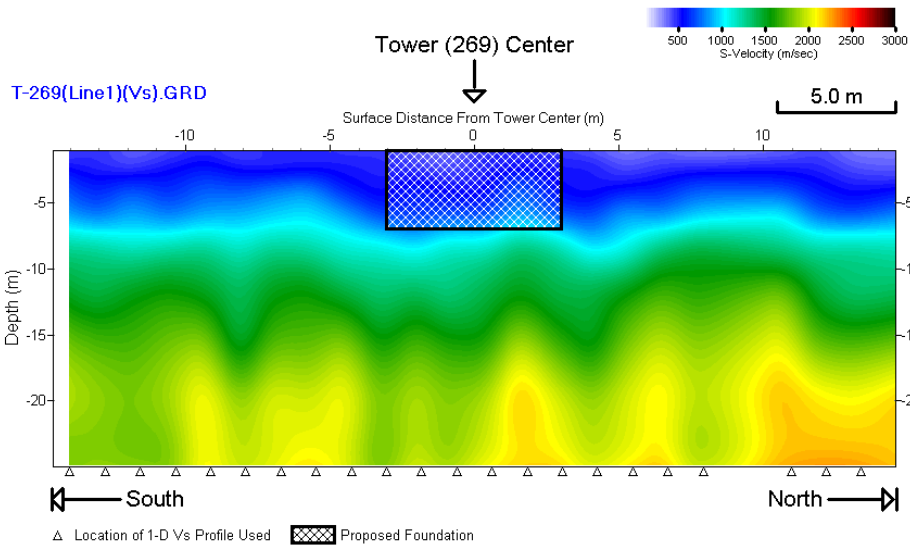


T-268

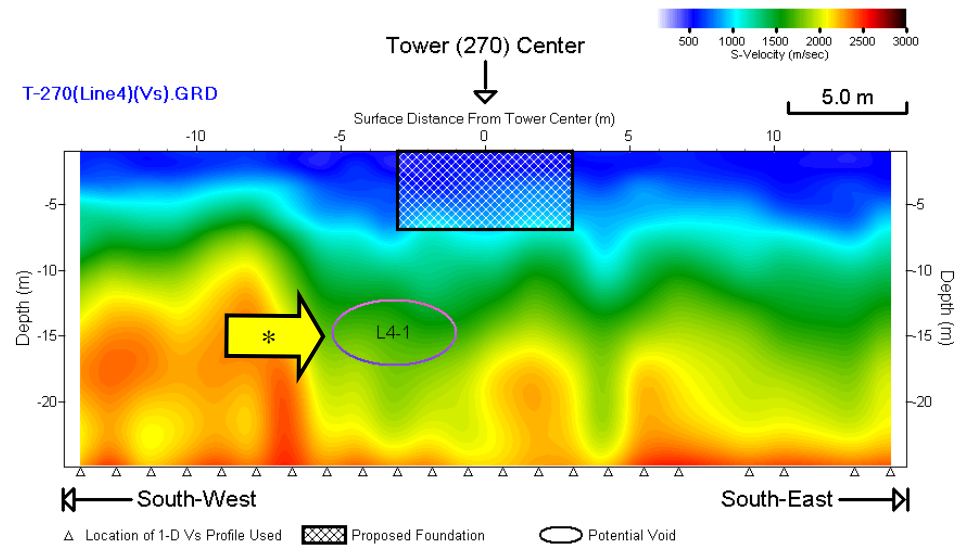
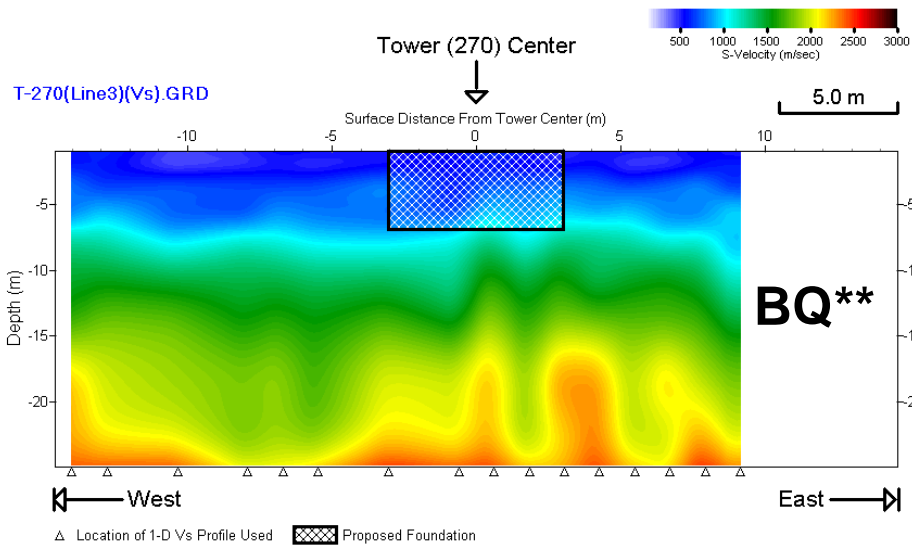
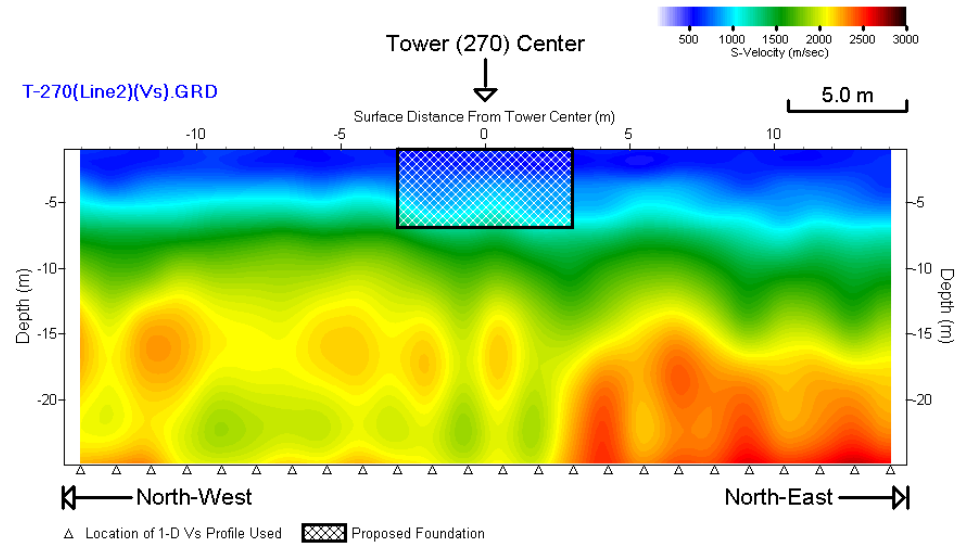
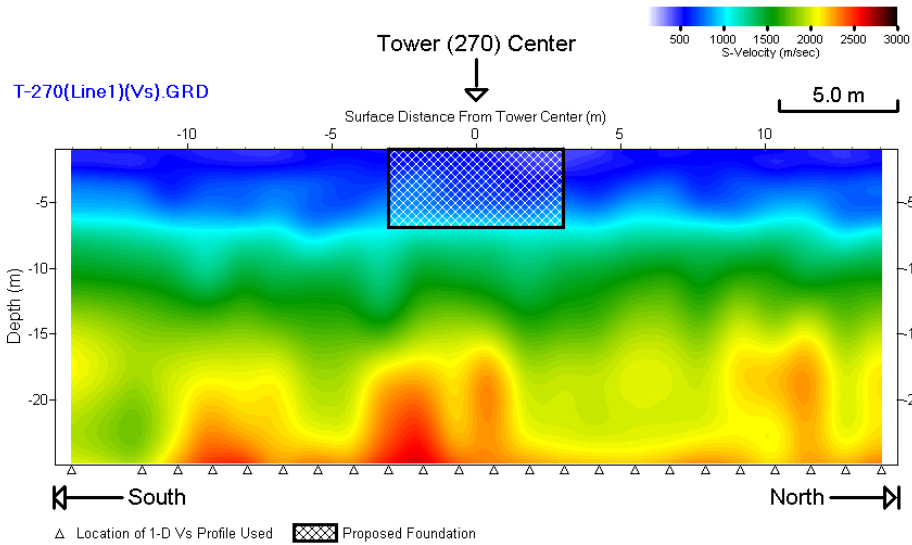


**Data not analyzed due to bad quality

T-269

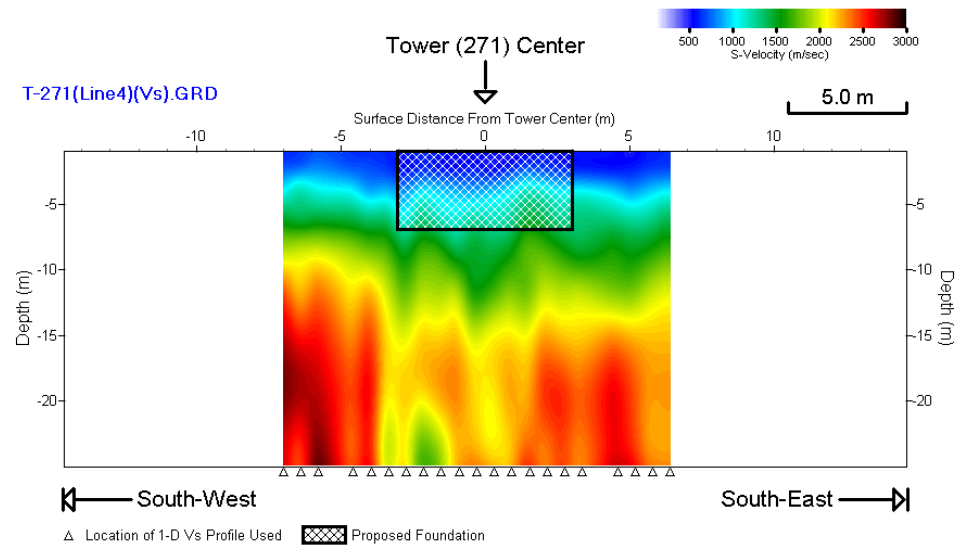
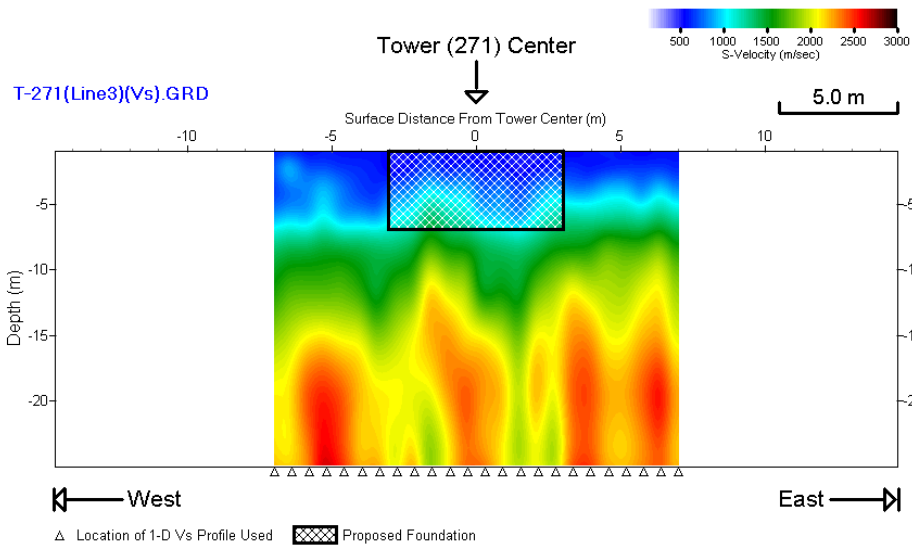
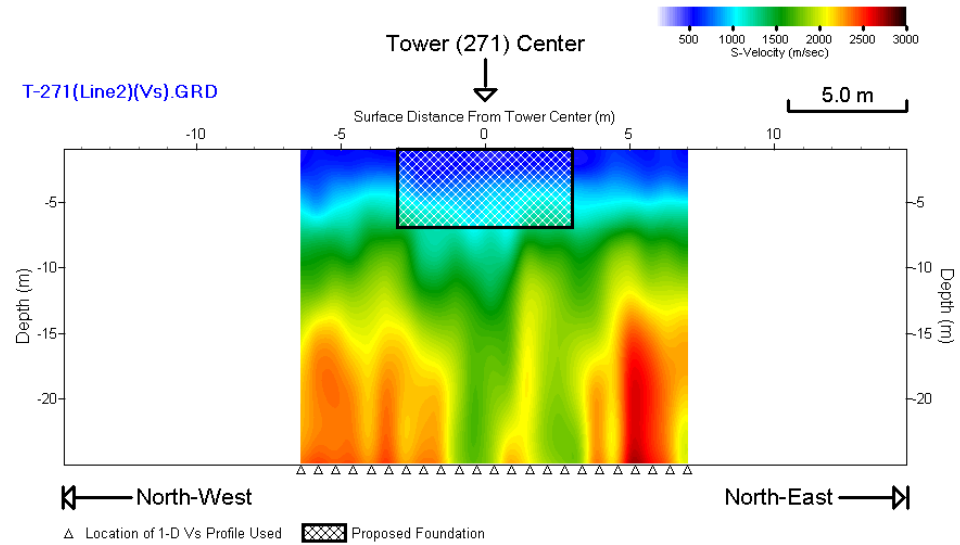
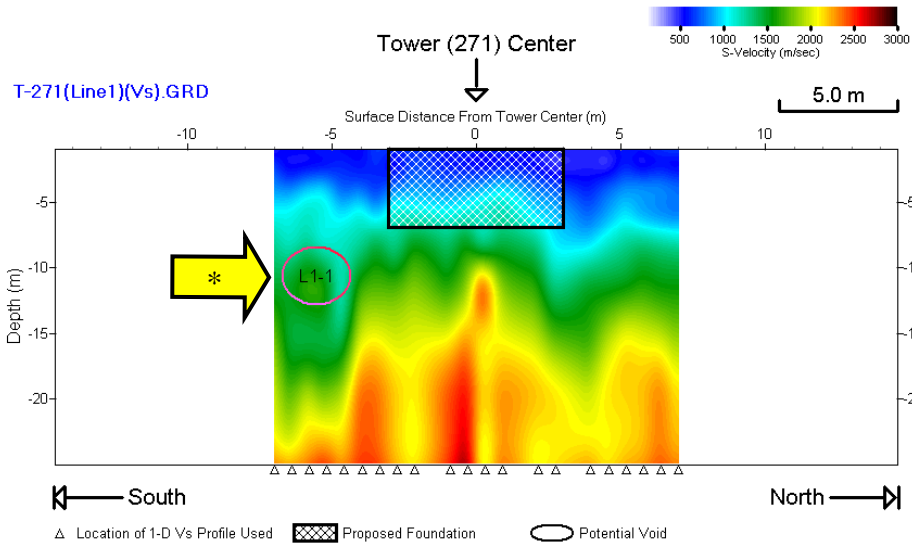


T-270



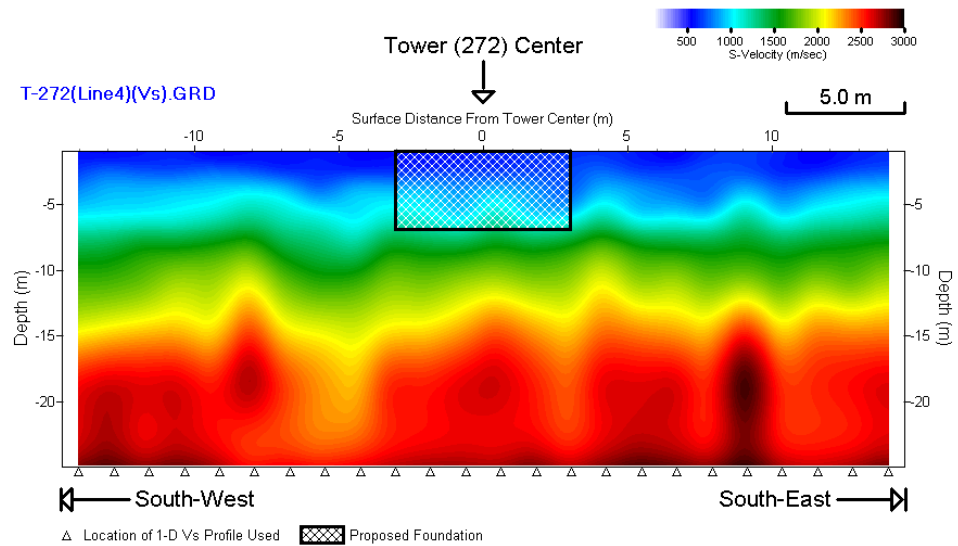
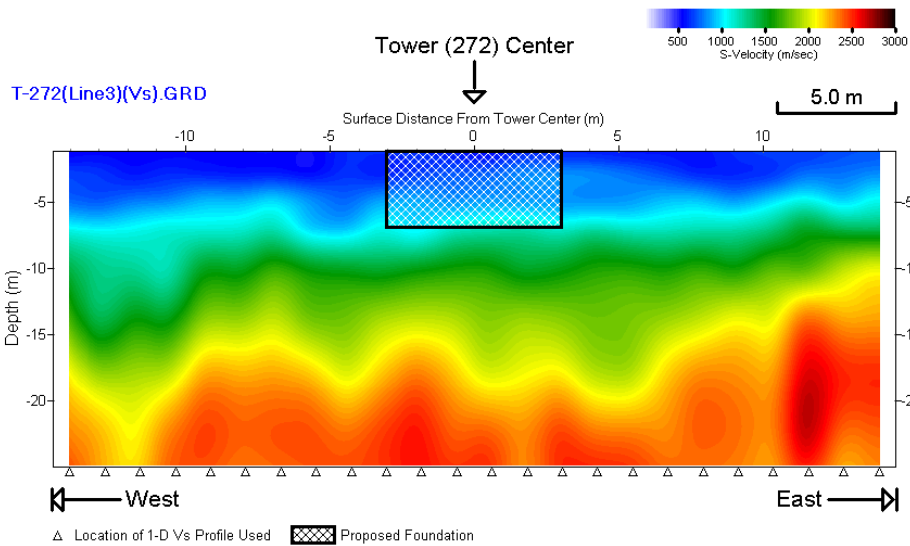
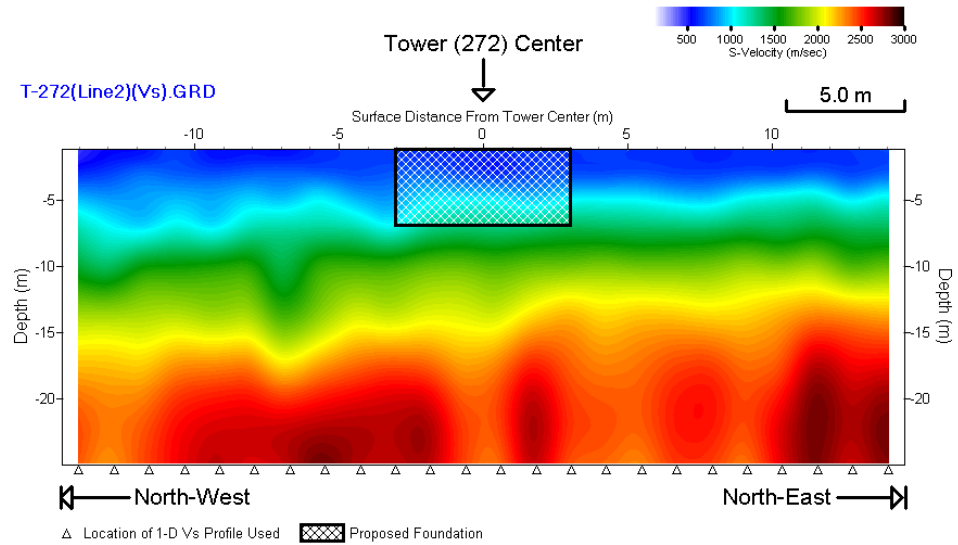
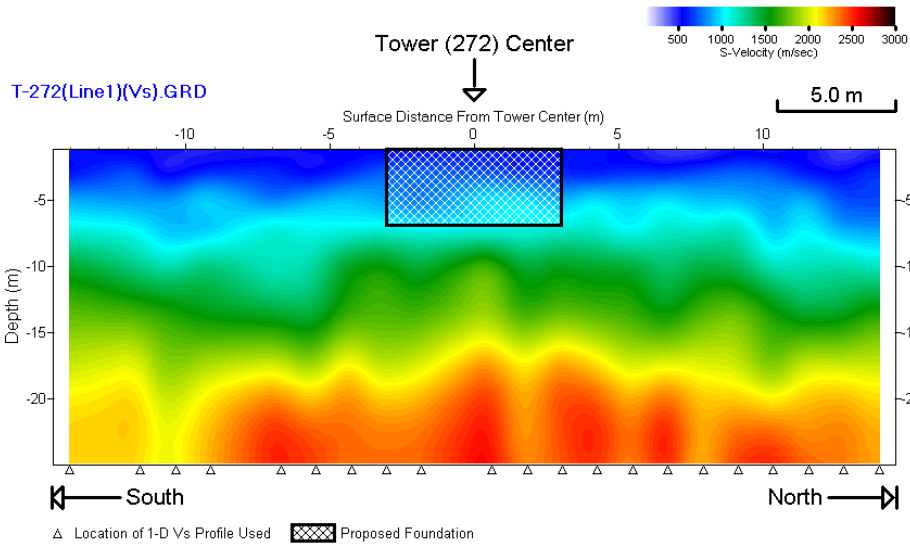
*Potential void (see separate text file for coordinates) , **Data not analyzed due to bad quality

T-271**

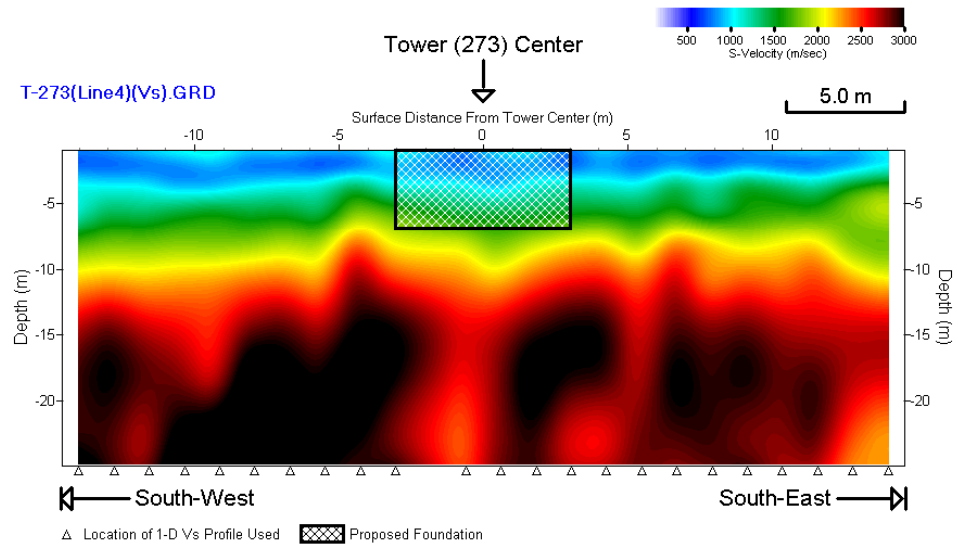
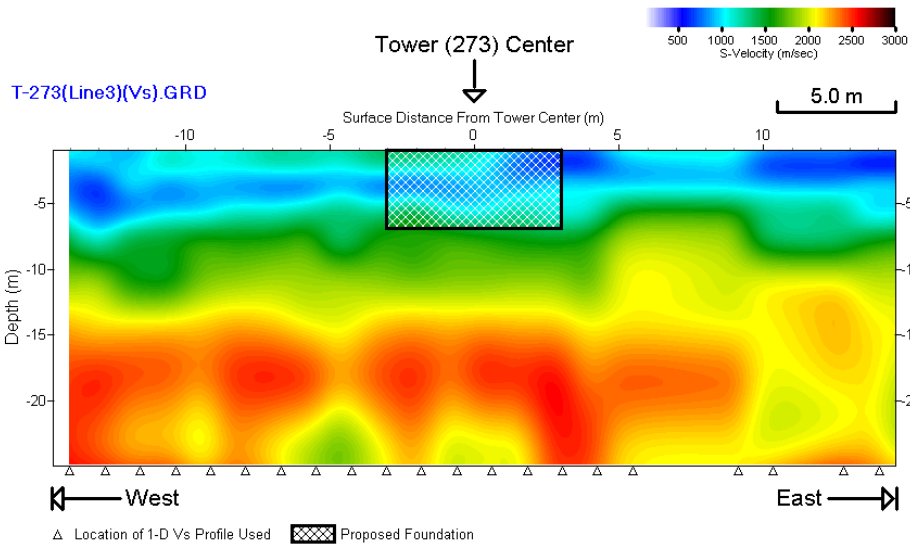
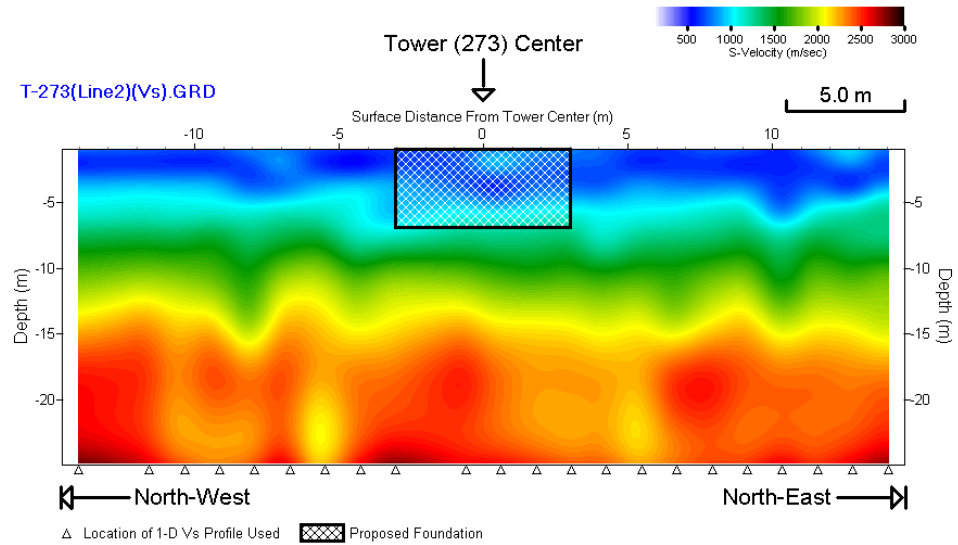
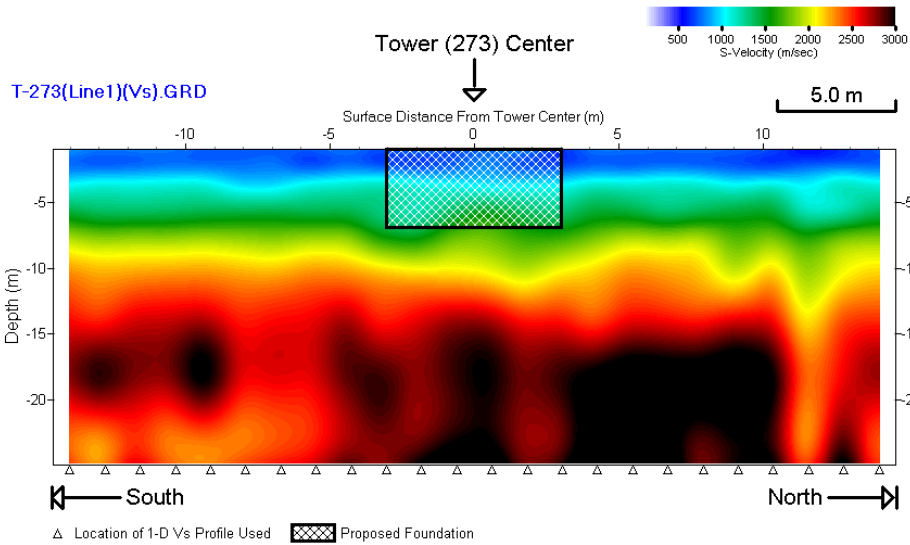


**A shorter receiver spacing (2 ft) was used for all four (4) lines due to terrain condition. * Potential void (see separate text file for coordinates)

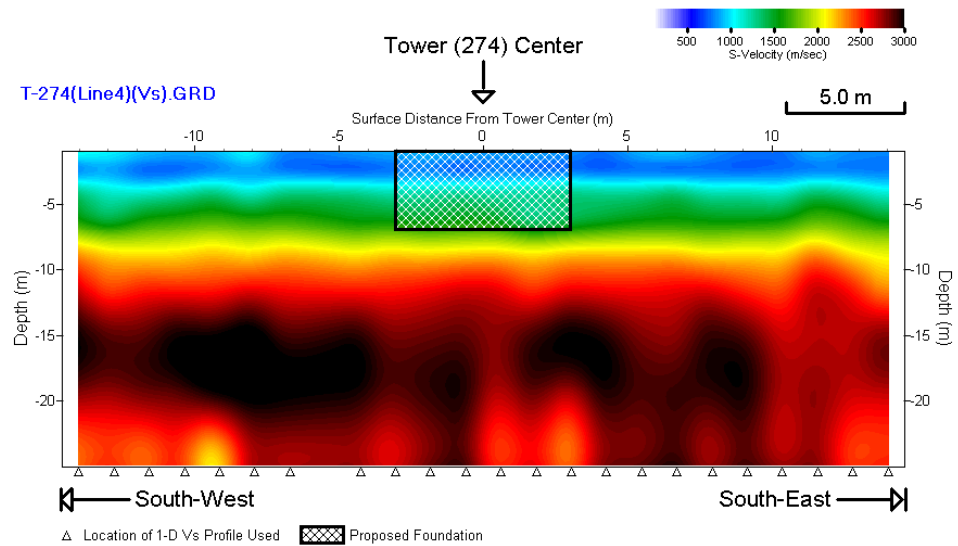
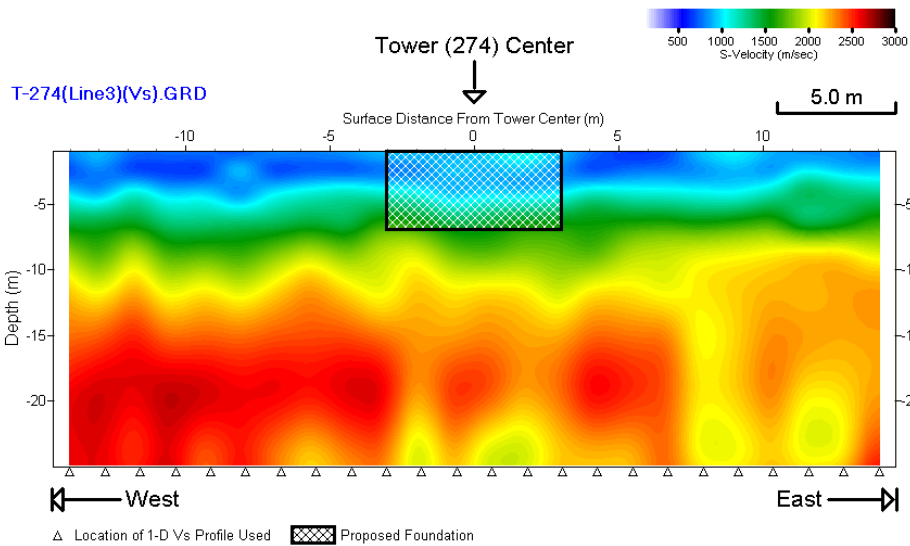
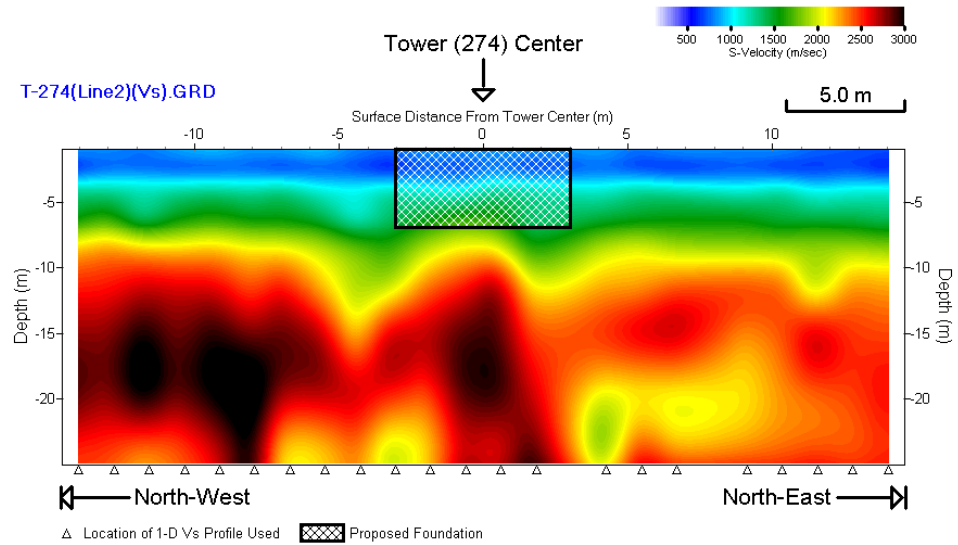
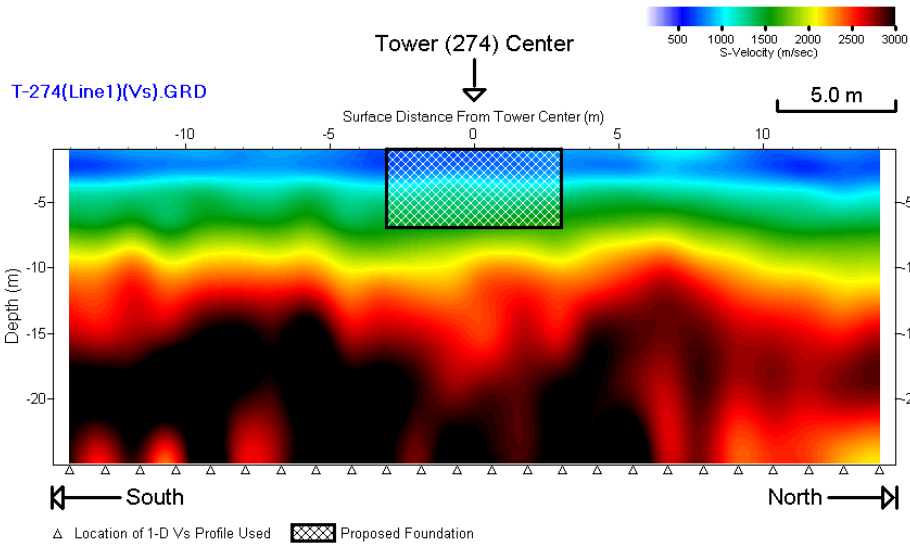
T-272



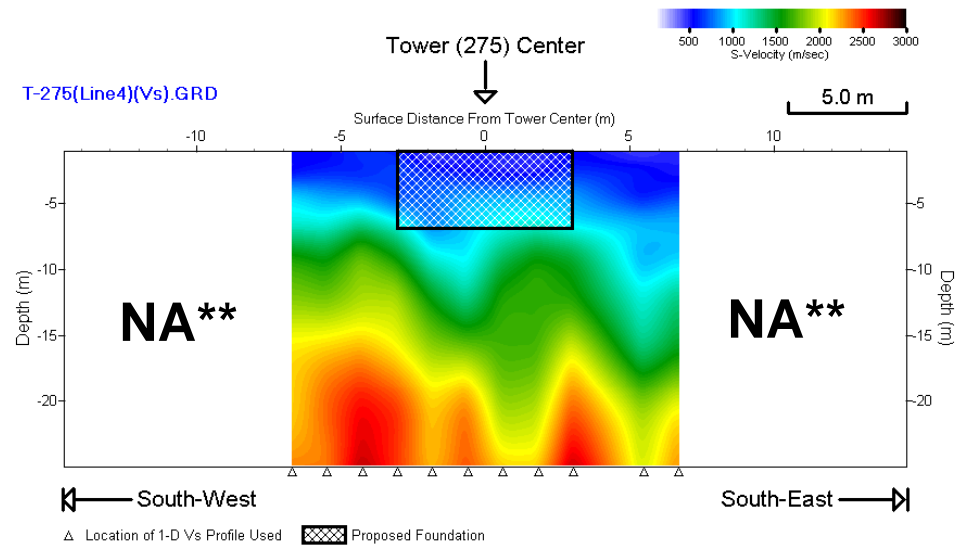
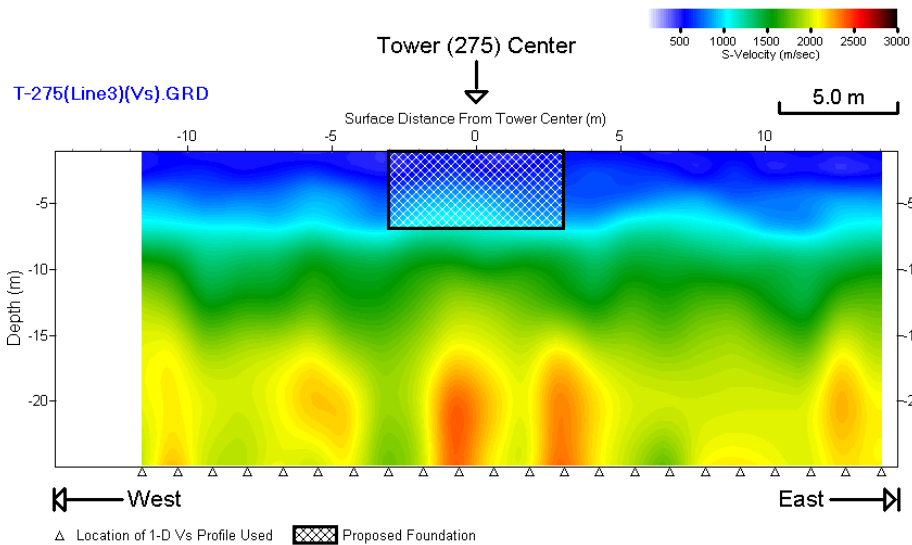
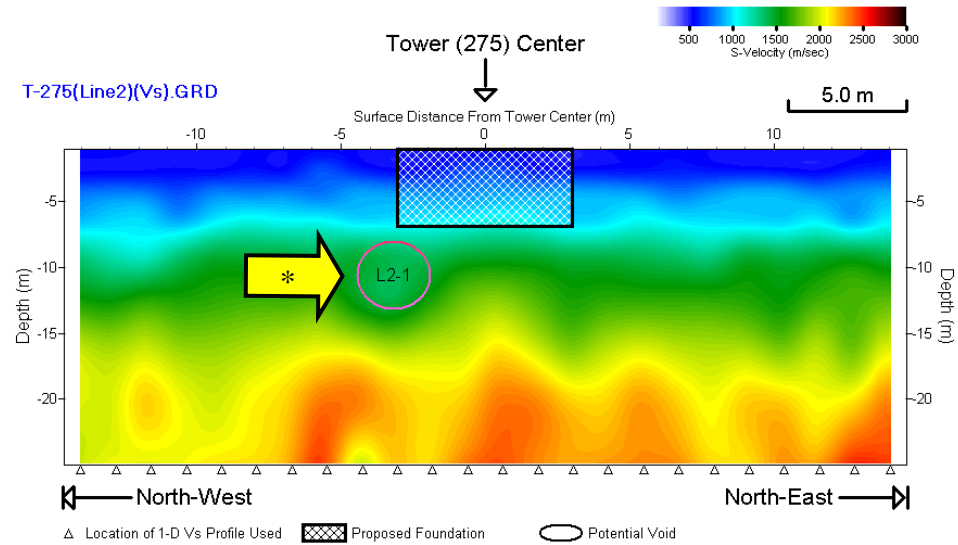
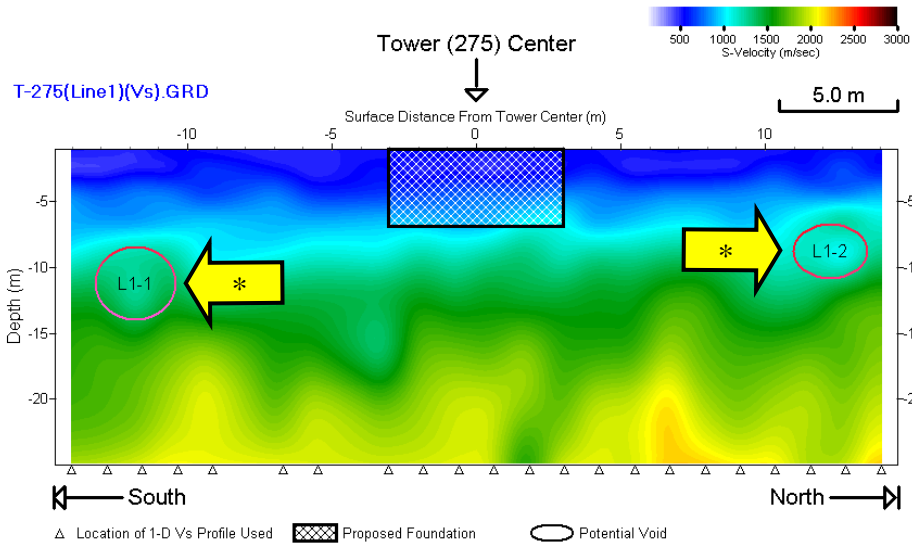
T-273



T-274

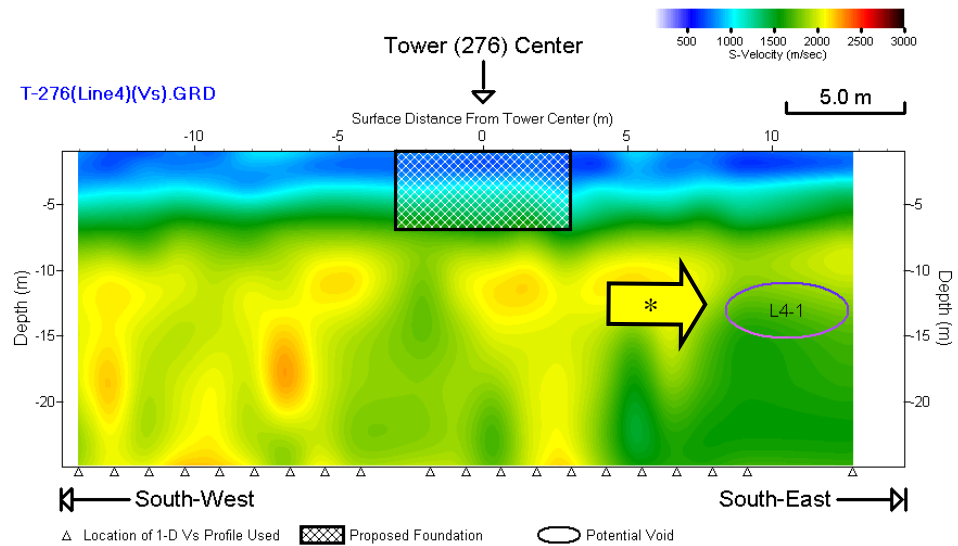
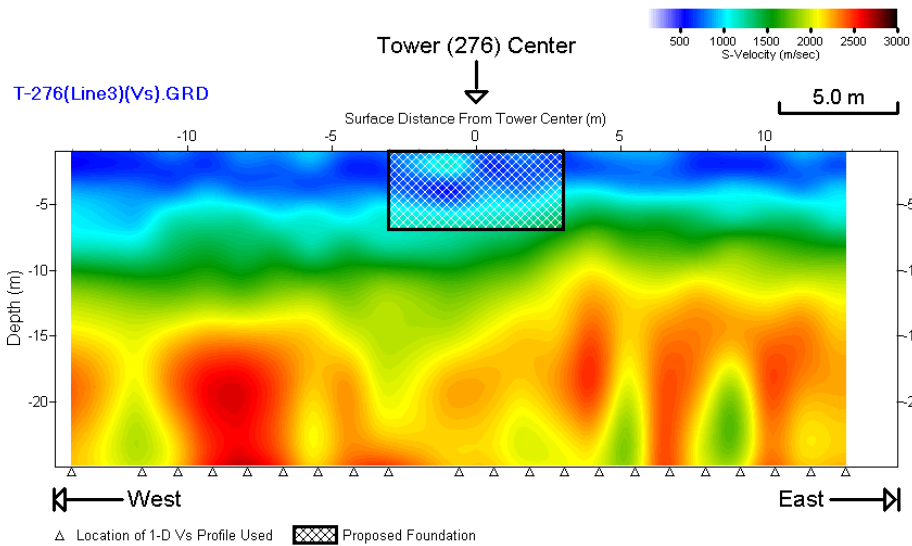
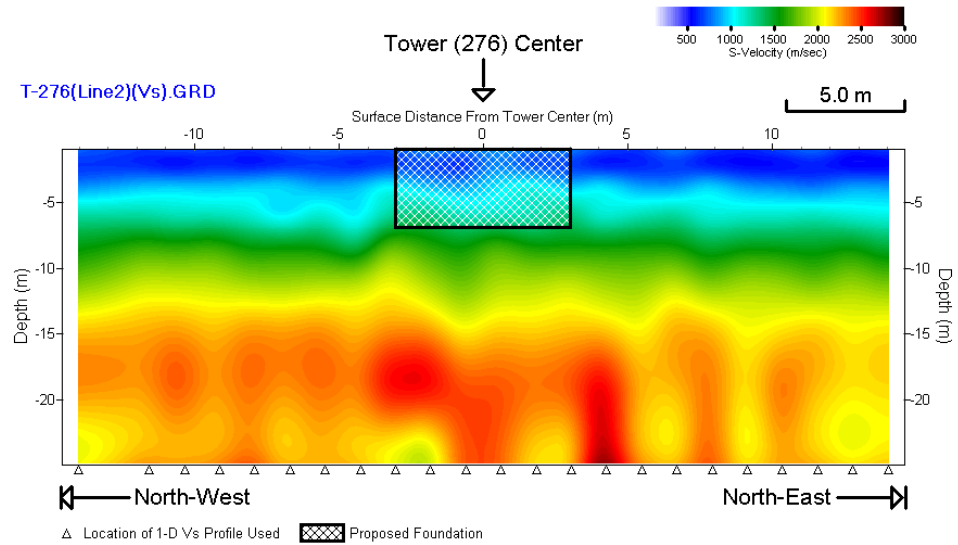
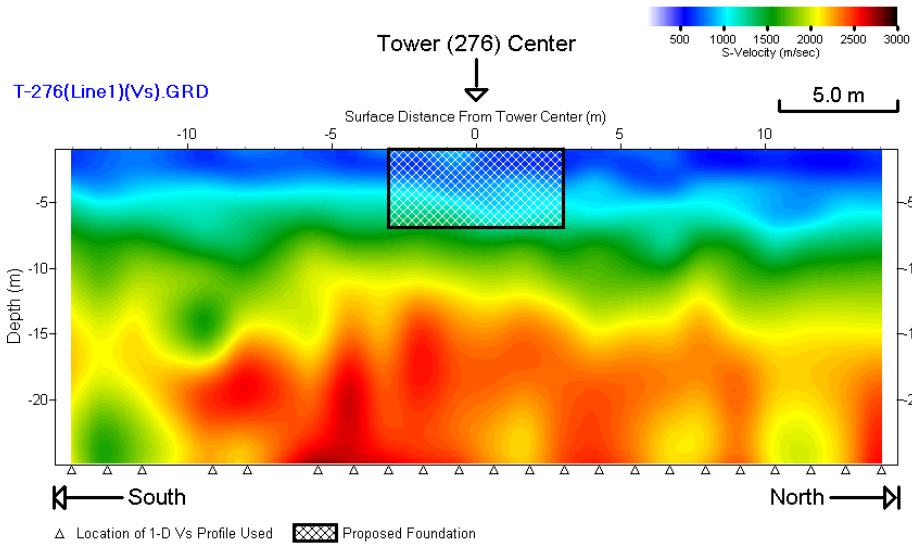


T-275



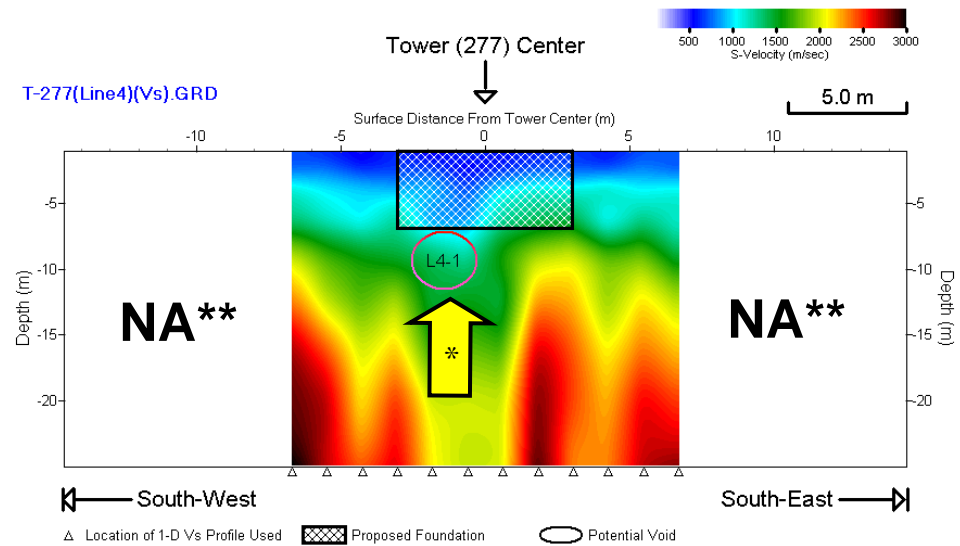
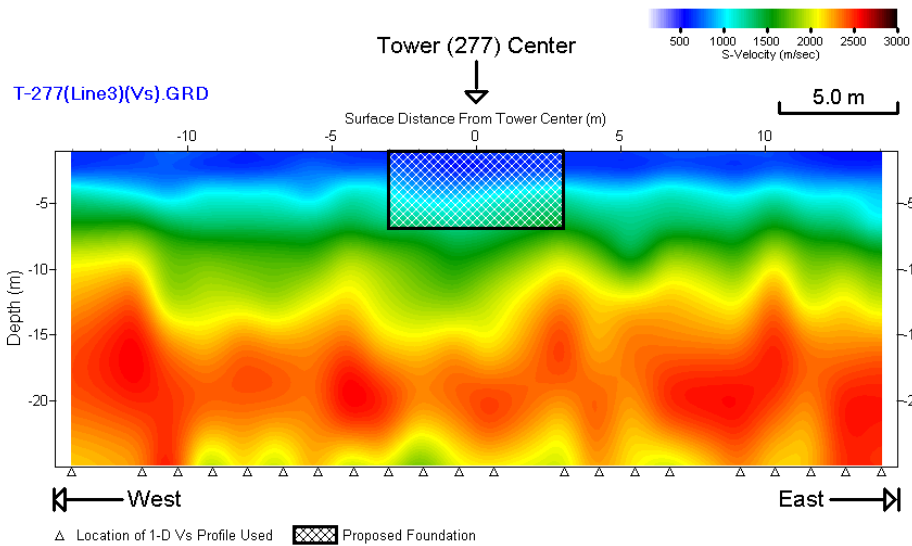
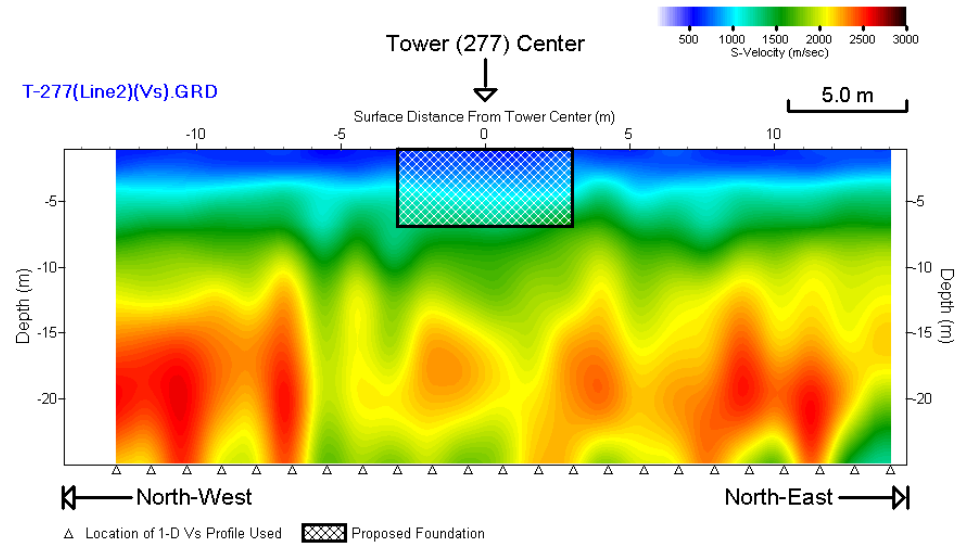
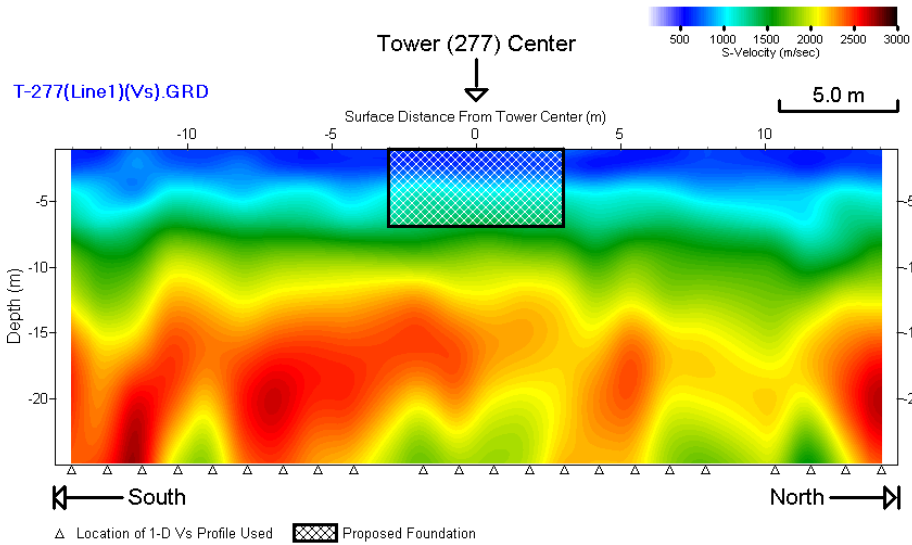
*Potential void (see separate text file for coordinates), **Data not acquired due to terrain condition

T-276



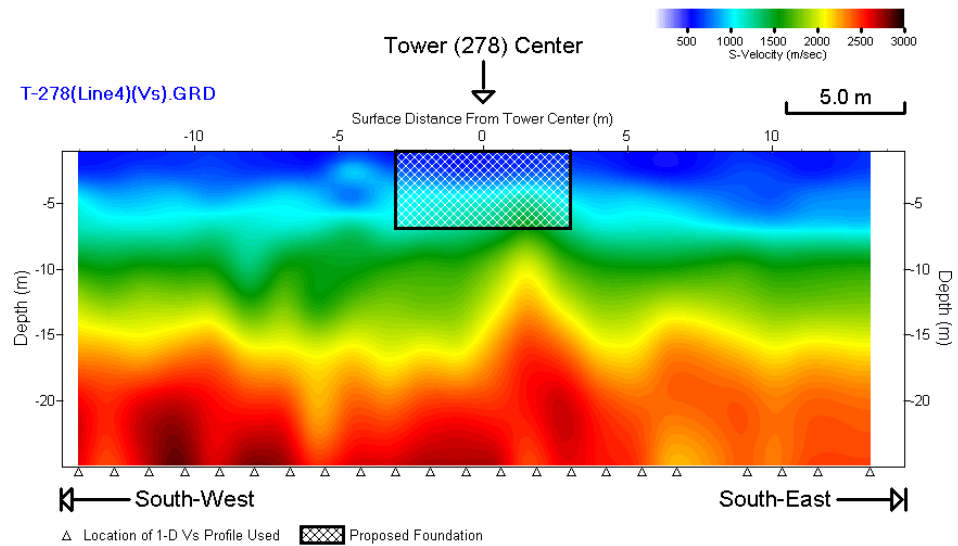
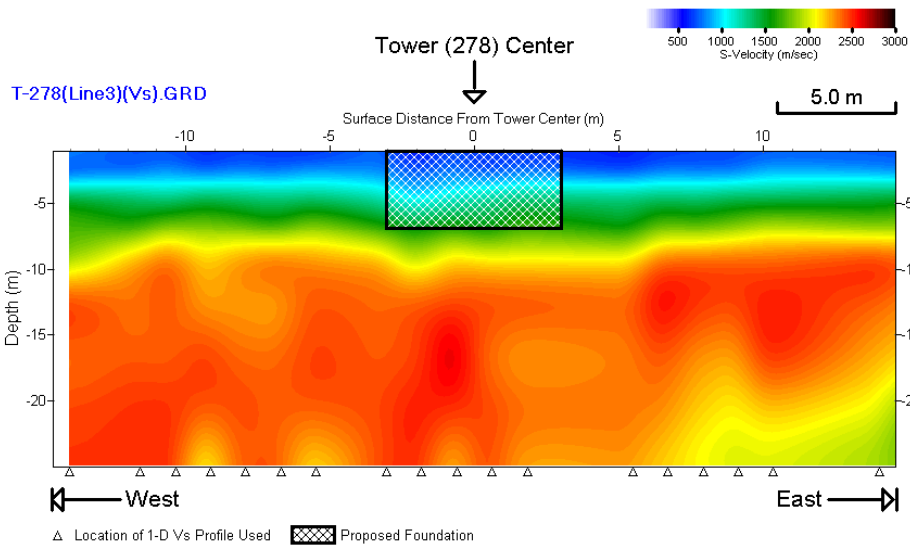
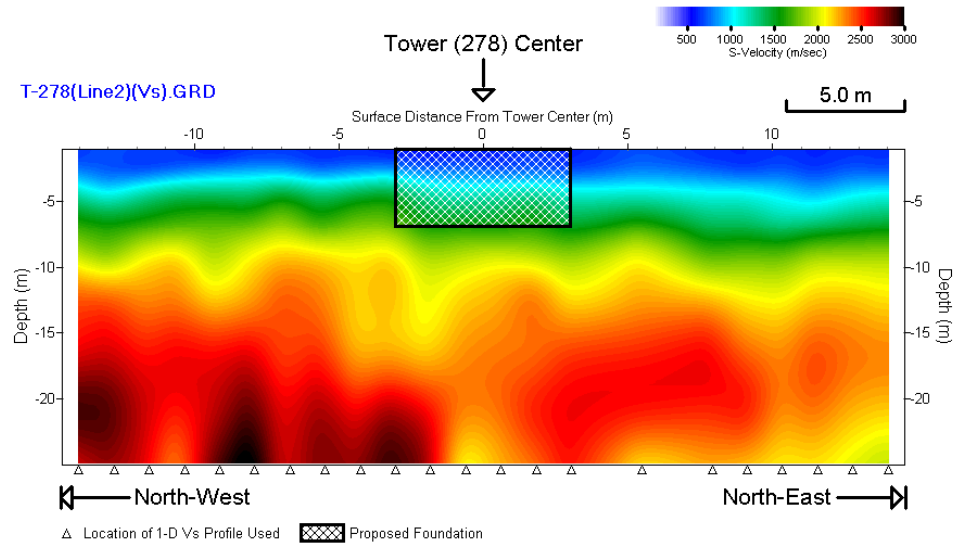
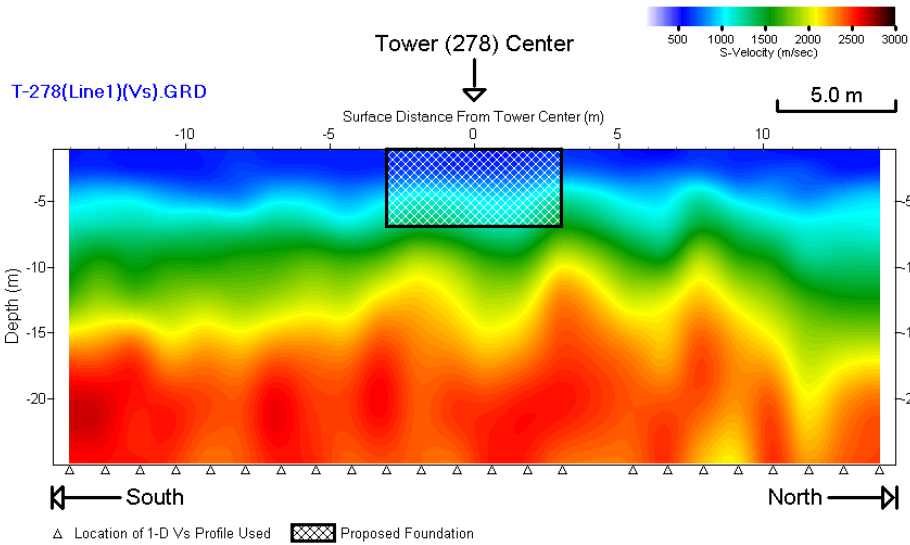
*Potential void (see separate text file for coordinates)

T-277

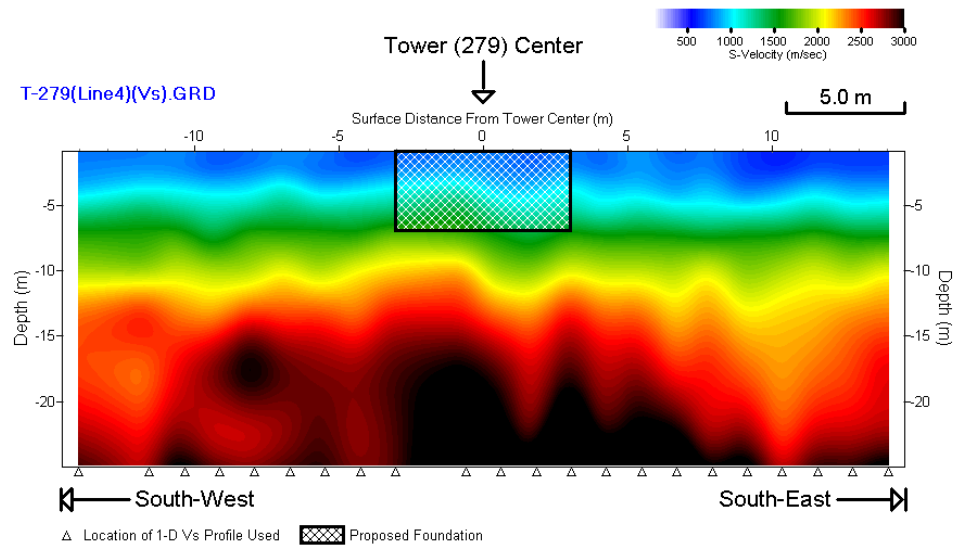
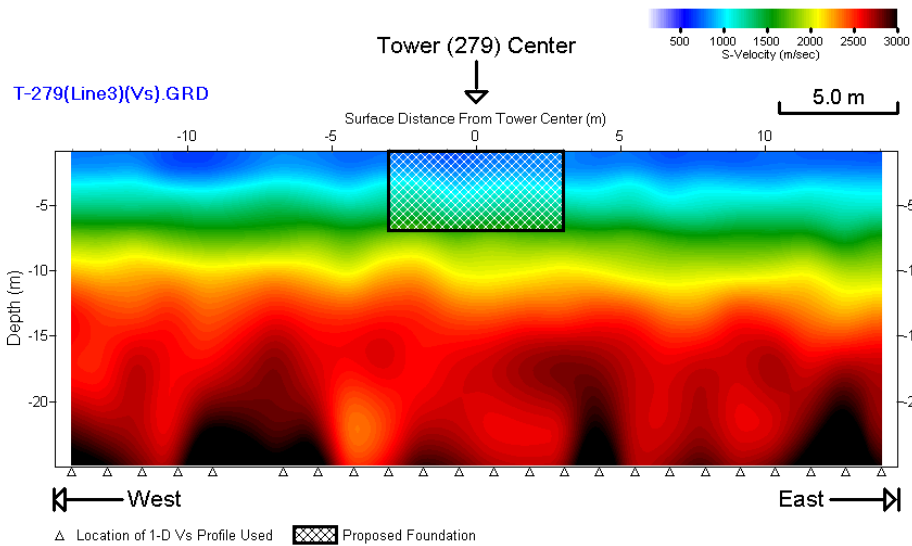
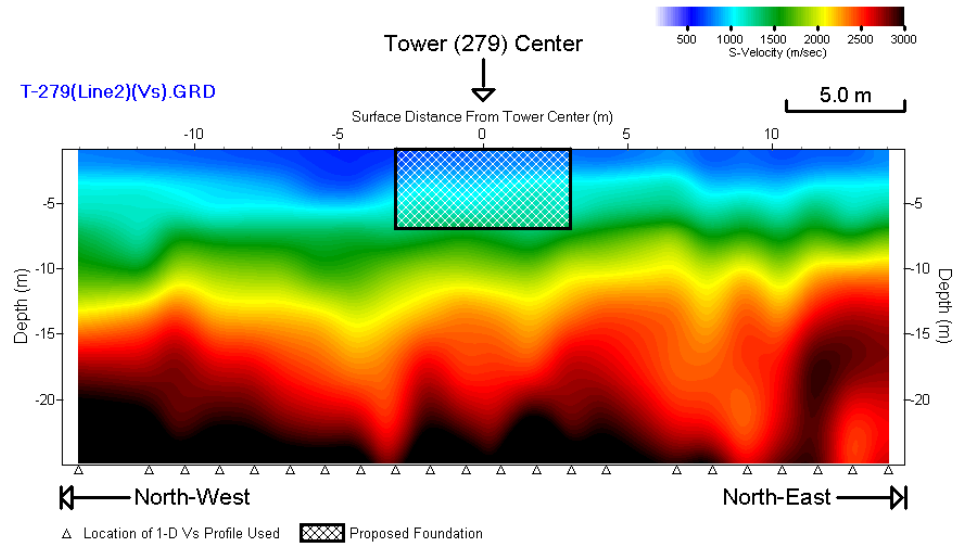
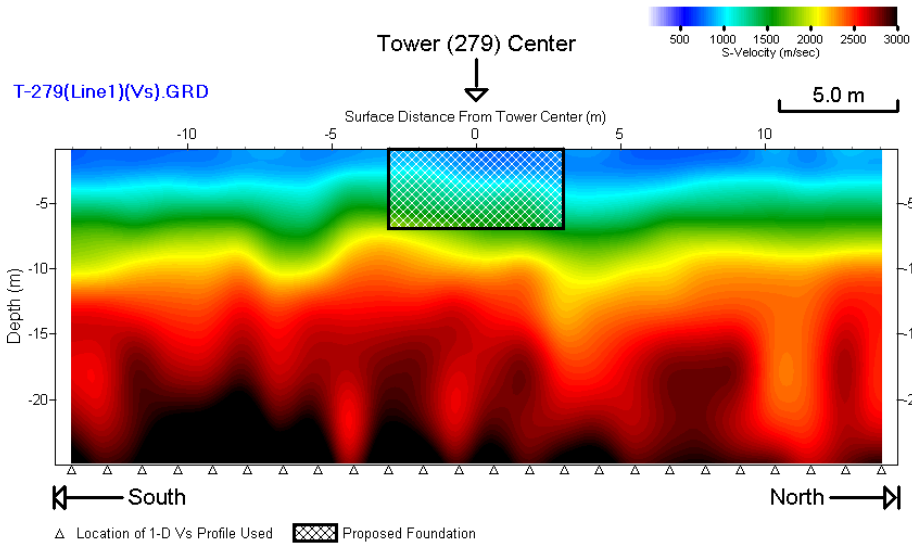


*Potential void (see separate text file for coordinates), **Data not acquired due to terrain condition (steep drop off)

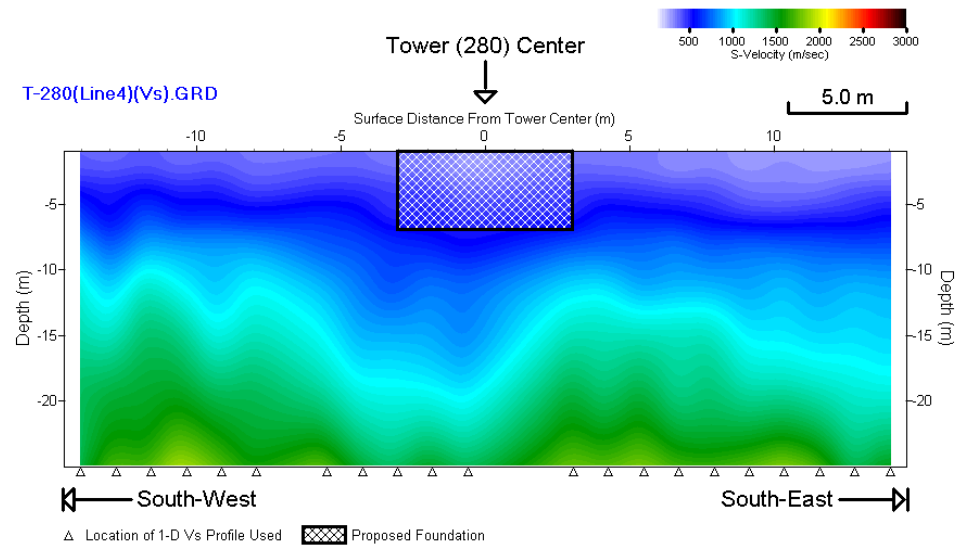
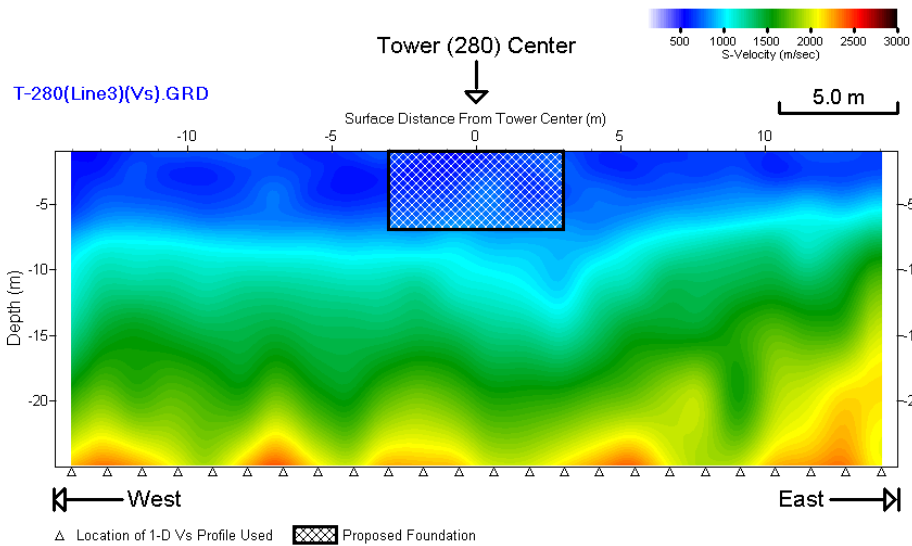
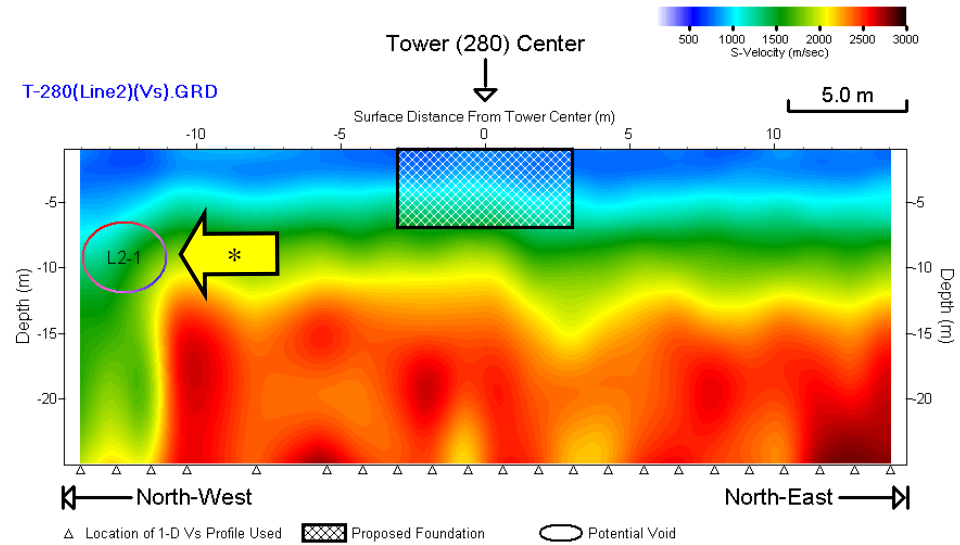
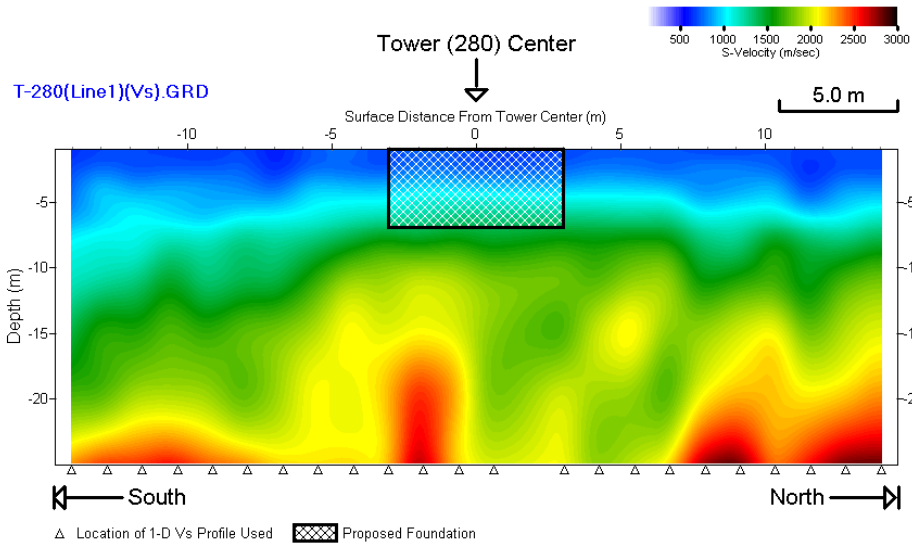
T-278



T-279

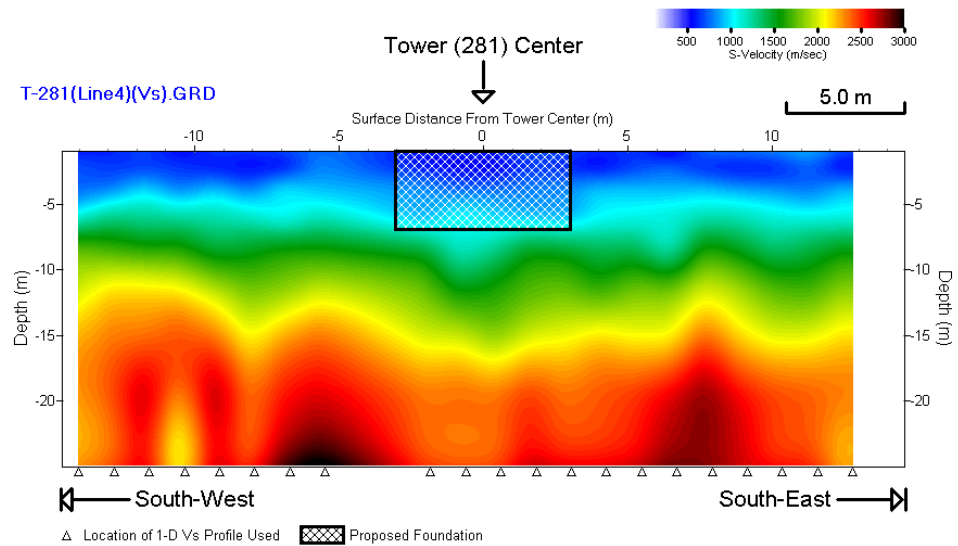
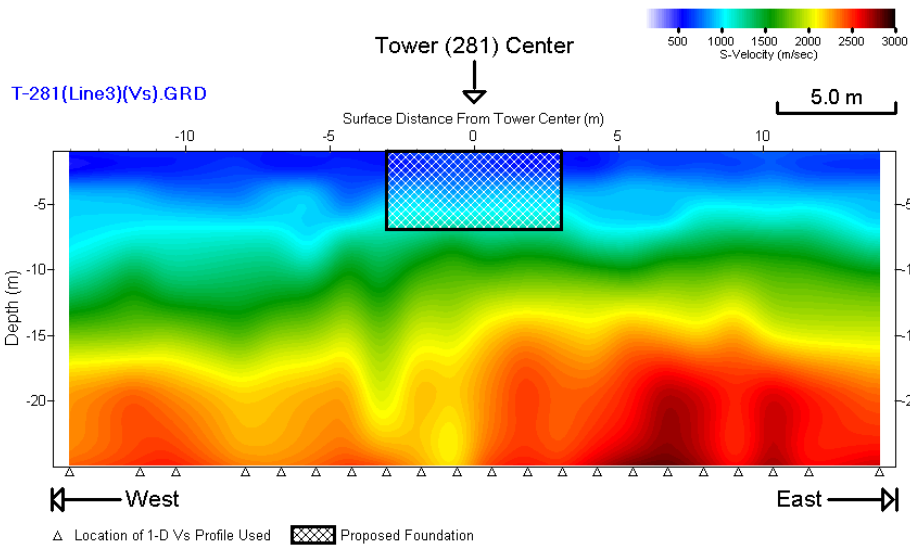
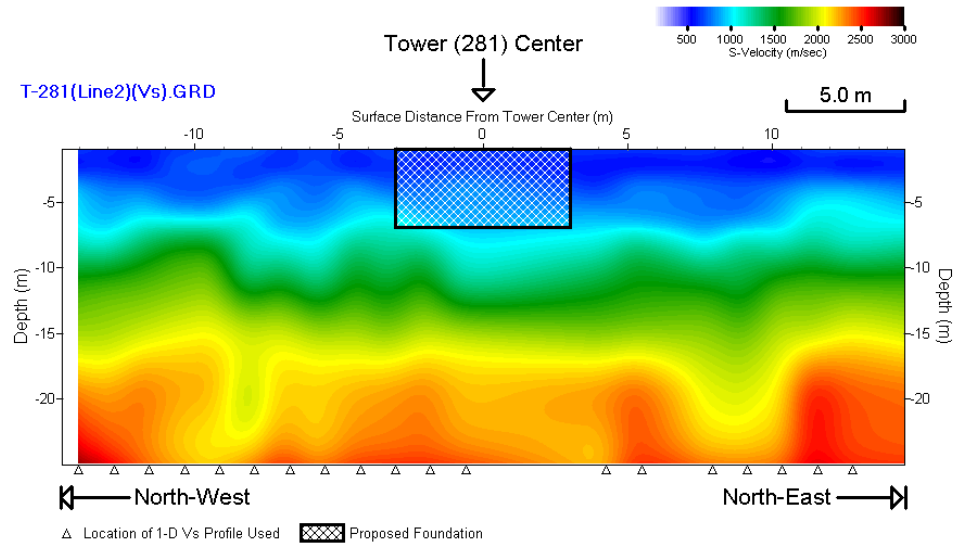
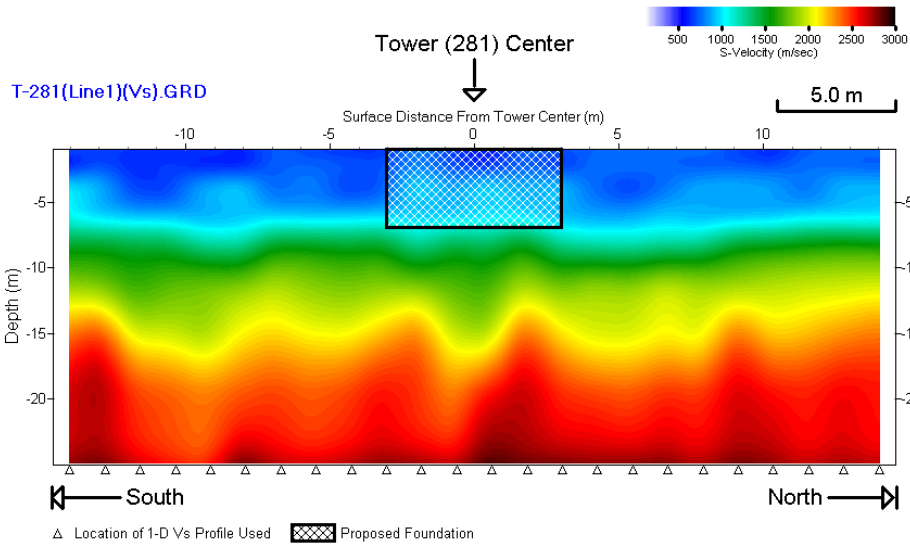


T-280

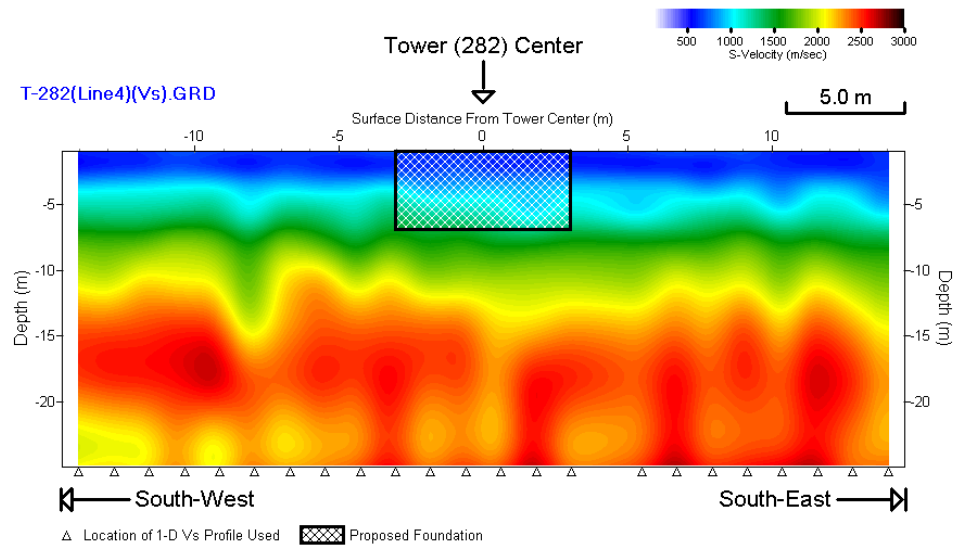
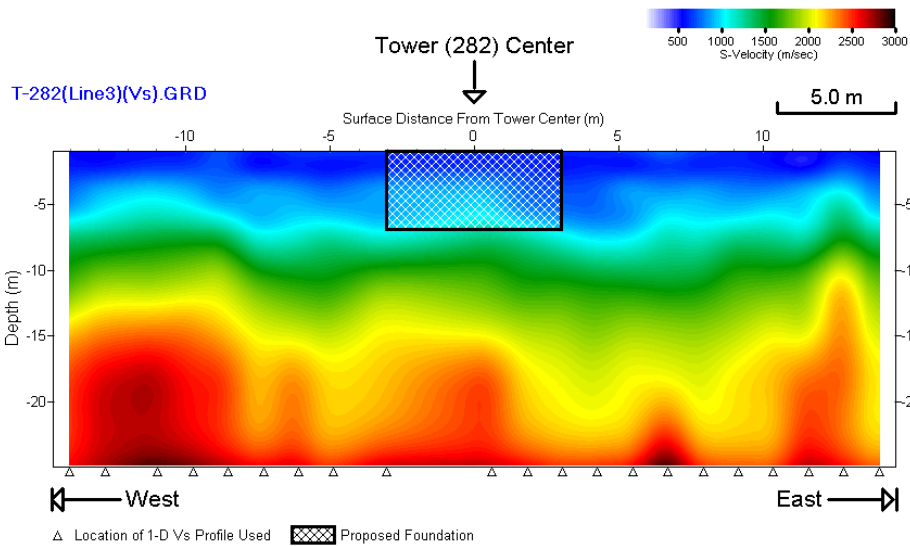
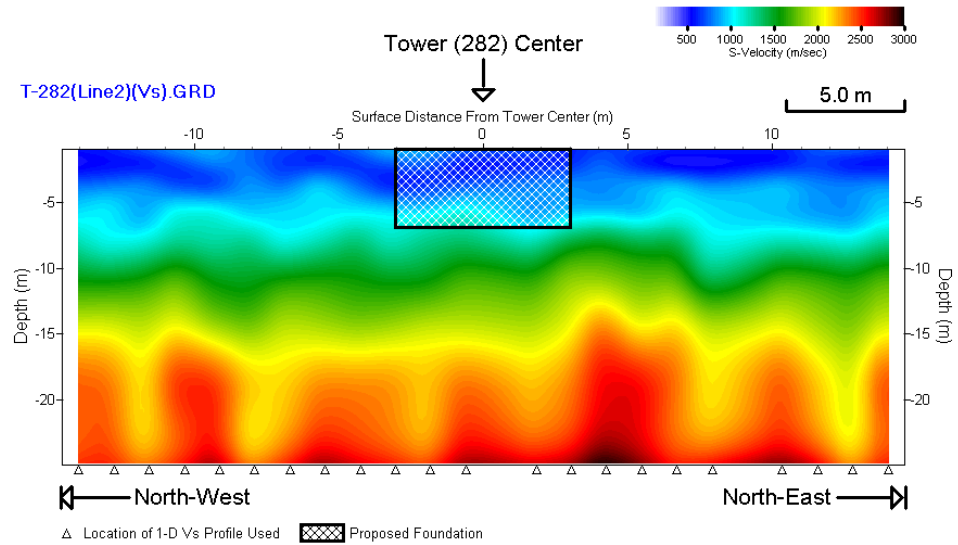
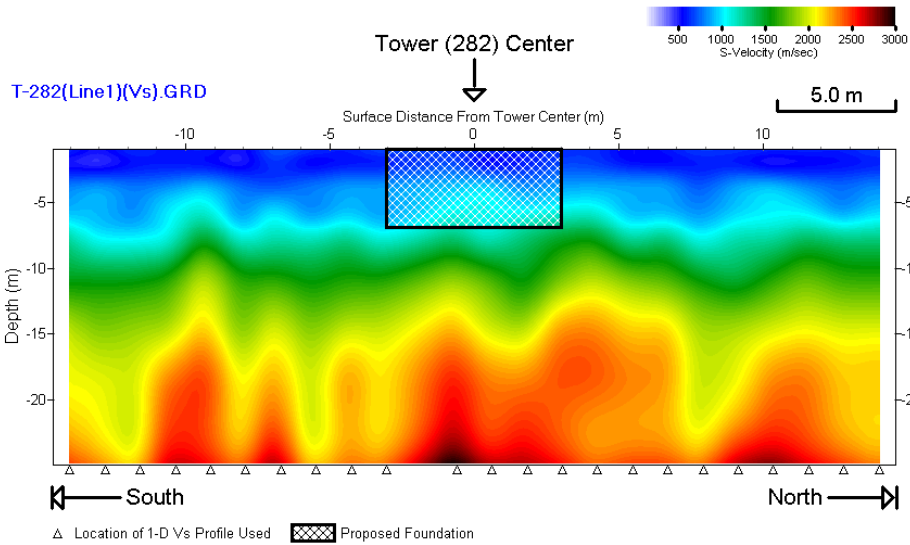


*Potential void (see separate text file for coordinates)

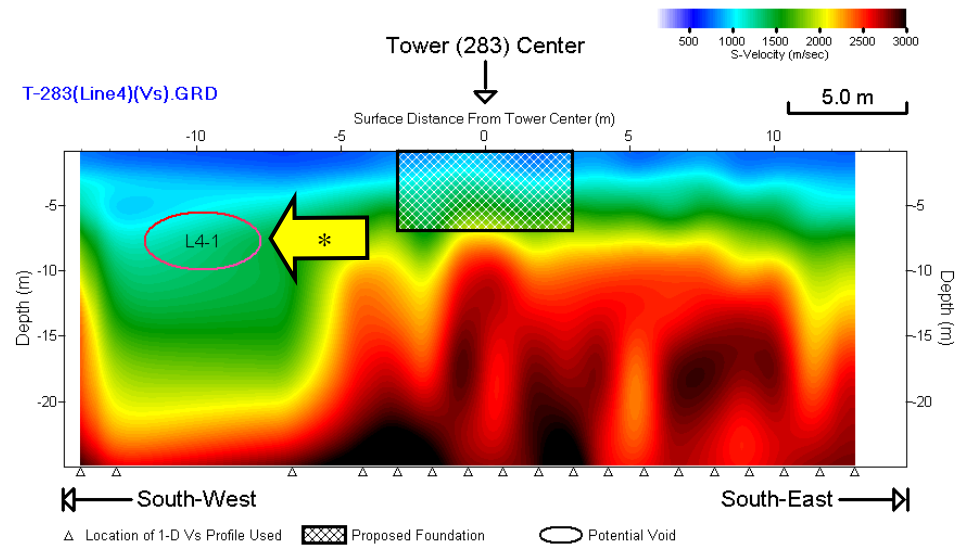
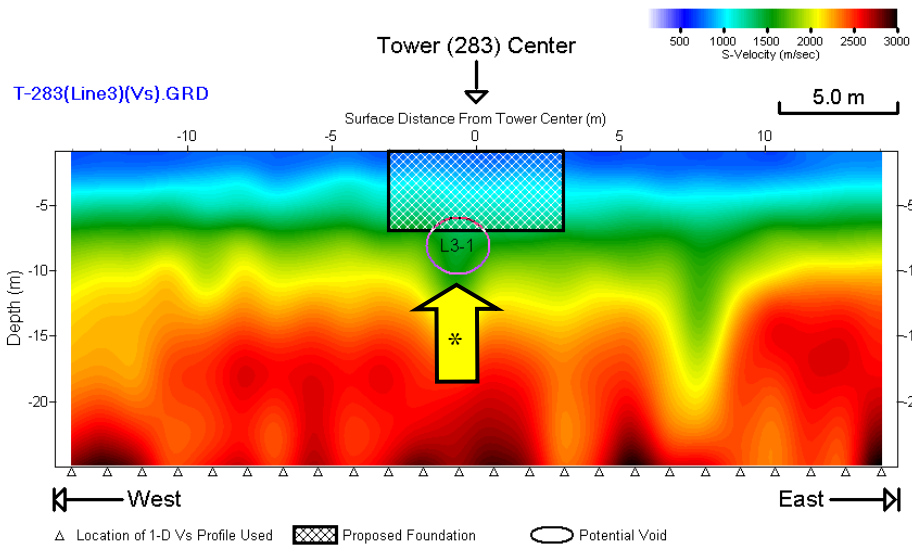
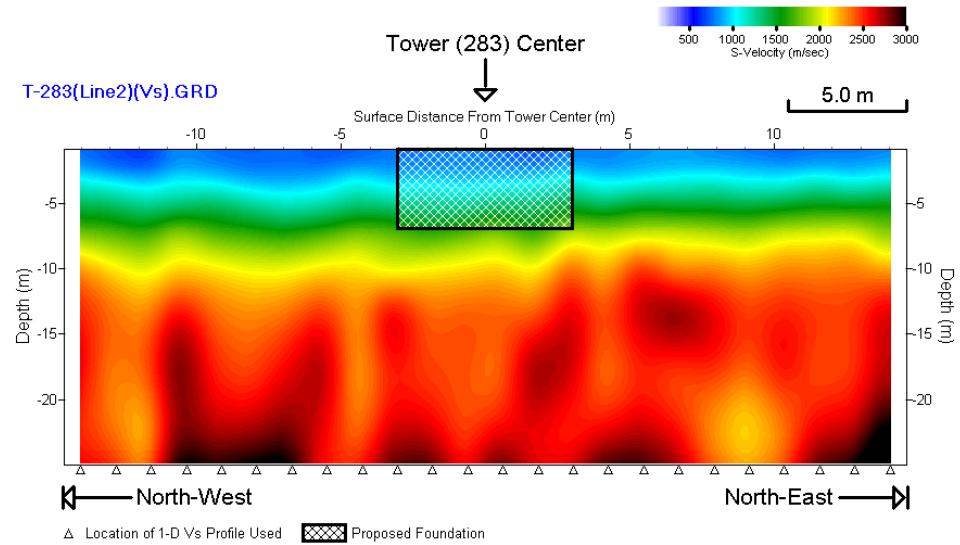
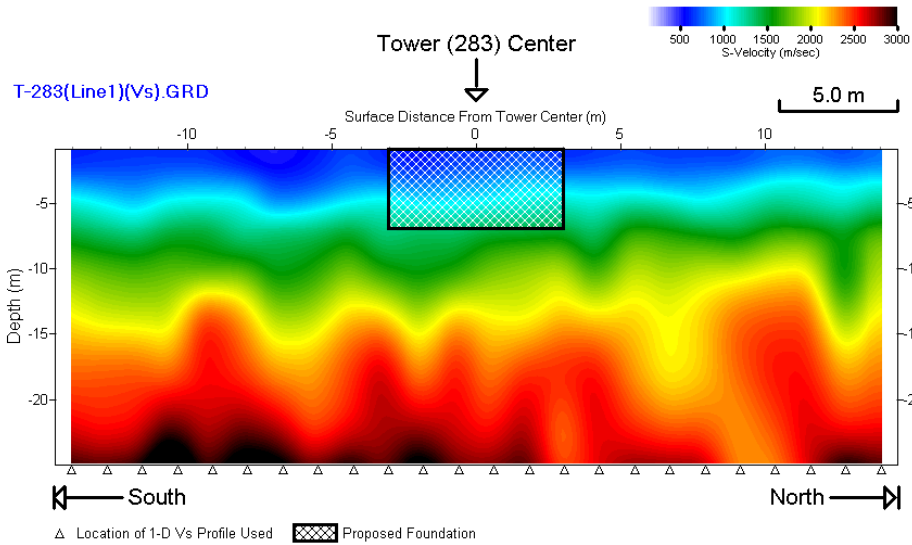
T-281



T-282



T-283



*Potential void (see separate text file for coordinates)

T-284

