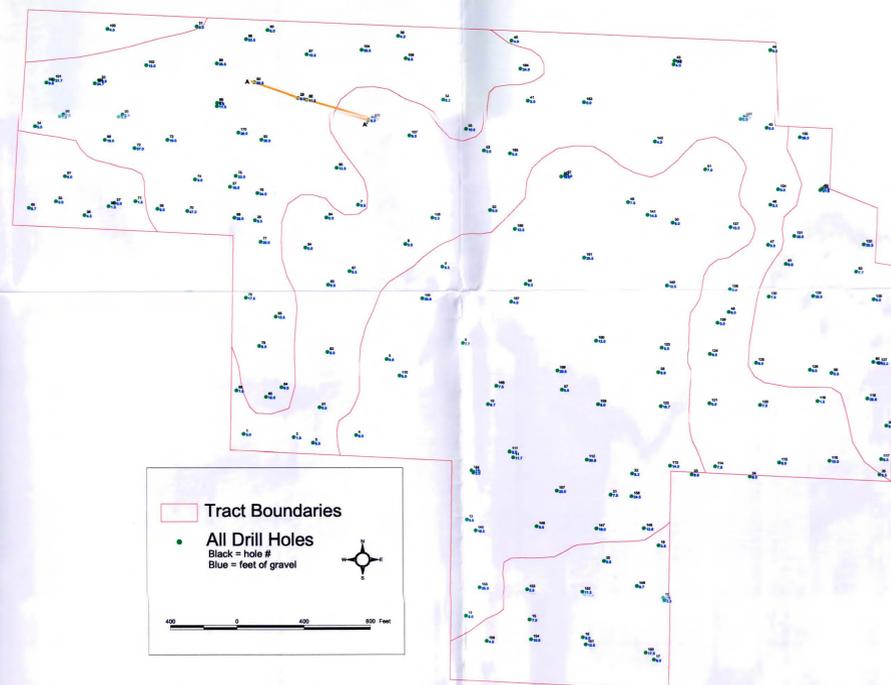
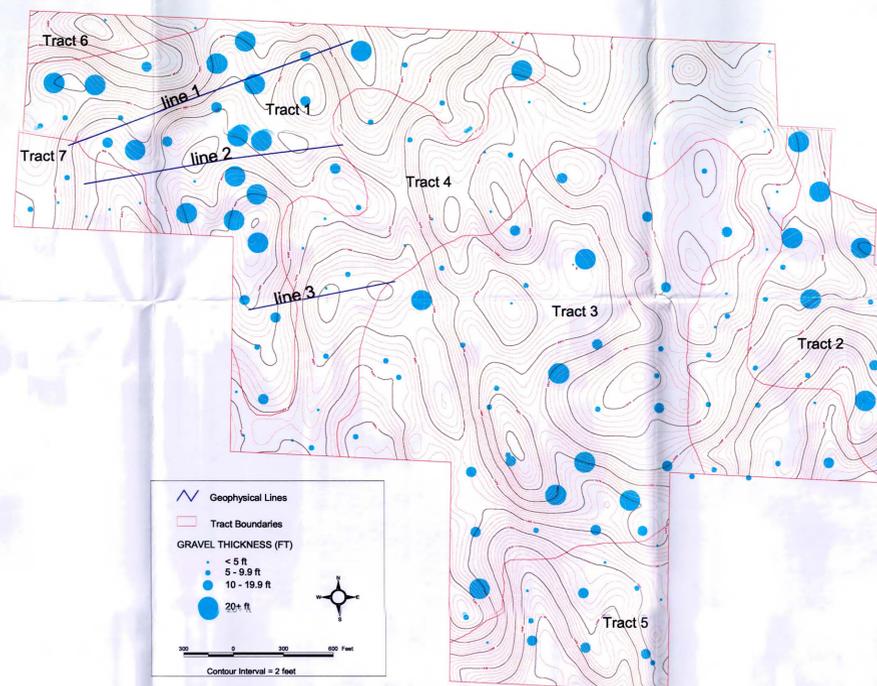


AGGREGATE RESOURCE EVALUATION OF THE PROPOSED TANSEM SNA, CLAY COUNTY, MINNESOTA

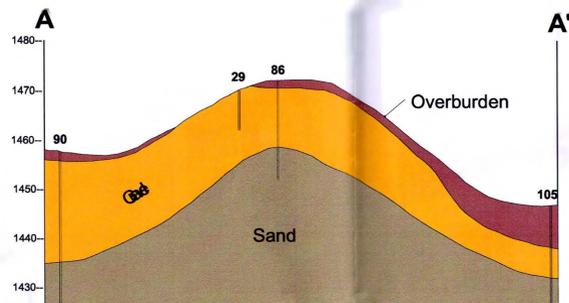


This map shows all the auger holes along with the feet of gravel encountered in each hole. Holes 1 through 68 were shallow holes drilled with the Giddings Probe. Holes 69 through 170 are deeper holes drilled with the MnDOT rig. The orange line indicates the line represented by the cross section below.

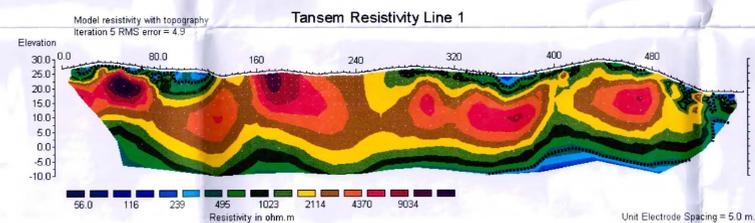


Only the auger holes used for modeling to calculate gravel volumes are shown on this map as blue dots. The size of the dot is proportional to the thickness of gravel in that hole.

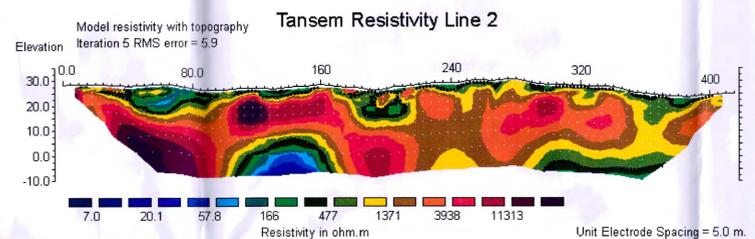
GEOLOGIC CROSS SECTION



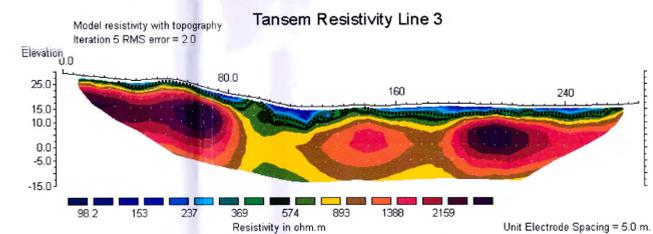
This cross section shows how the gravel is thinner and buried under more overburden on the east end as compared to the west end. The vertical columns represent drill holes. Hole #29 was a shallow hole drilled with the Giddings Probe. This hole did not penetrate through the gravel layer and therefore was not used in the modeling calculations because it would have underestimated the volume.



Horizontal scale is 8.50 pixels per unit spacing
Vertical exaggeration in model section display = 2.40
First electrode is located at 0.0 m.
Last electrode is located at 555.0 m.



Horizontal scale is 8.80 pixels per unit spacing
Vertical exaggeration in model section display = 1.57
First electrode is located at 0.0 m.
Last electrode is located at 415.0 m.



Horizontal scale is 13.27 pixels per unit spacing
Vertical exaggeration in model section display = 1.23
First electrode is located at 0.0 m.
Last electrode is located at 275.0 m.

The heavy black dotted line roughly divides the silts and clays at the surface from the thick layer of less silty granular sands and gravels. A resistivity value of around 400 ohm meters was used to draw the line. Roughly 3 feet of silts at the surface overlay the sands and gravels. An occasional thick pocket of silts occurs above the sands and gravels. Lines 1 and 2 indicate that glacial till (clay) lies beneath the sand and gravel layer at a depth of 75 to 100 feet. The vertical and horizontal scales are in meters.