Brief discussion regarding the soils of NACTA site 2, practice pits 3, 4, 5, and 6 4/8/16

The soils of site 2 appeared straightforward, according to the soil survey of Polk County. The western-most pits, mapped Hecla and Maddock, should have been sandy throughout and deep to the water table. The eastern pit, Roliss, should be formed entirely in calcareous loamy till, although the pit was flooded and was not described. And west of Roliss at a slightly higher elevation was the area mapped Grimstad, sandy deposits over loamy till. Seems like a textbook succession of soils on this landscape. However, as Dr. Tom DeSutter of NDSU Soil Science often says, when asked for clarification about something seen in a soil pit, "it's complicated." The same applies to these soils found at the margins of Lake Agassiz.

On the attached image, the yellow, north-south trending linear delineations represent beach deposits. These are formed during periods when the level of Lake Agassiz was static. And the succession of these deposits represent different water levels throughout the history of the lake. Adjacent to the deeper lake deposits (blue) is an olive color. We refer to these olive colored soils as the "till-floored lake plain", or "interbeach" as that color also can be seen between the yellow strandlines. So one can imagine till deposits adjacent to the lake succumbing to rising waters, and being reworked by wave action resulting in sometimes unpredictable soil profiles. And perhaps other textures were added to the mix by water flowing into the landscape from other sources.

Notice these beach deposit delineations seem to pass through site 2, even though I have colored the Hecla and Maddock delineations red. This helps explain the complexity of the profiles of this site – various textures of sandy and loamy deposits. And the area is underlain by till, apparently perching water even in the Hecla and Maddock pits that we expected to be dry.

Feel free to use "it's complicated" when discussing this site with the contest participants.

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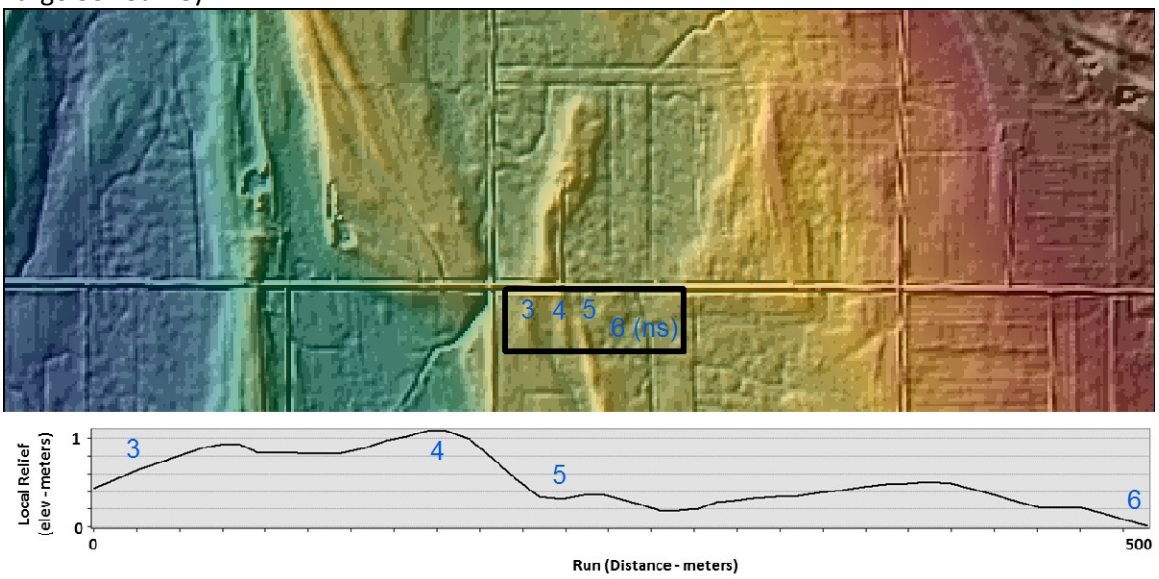

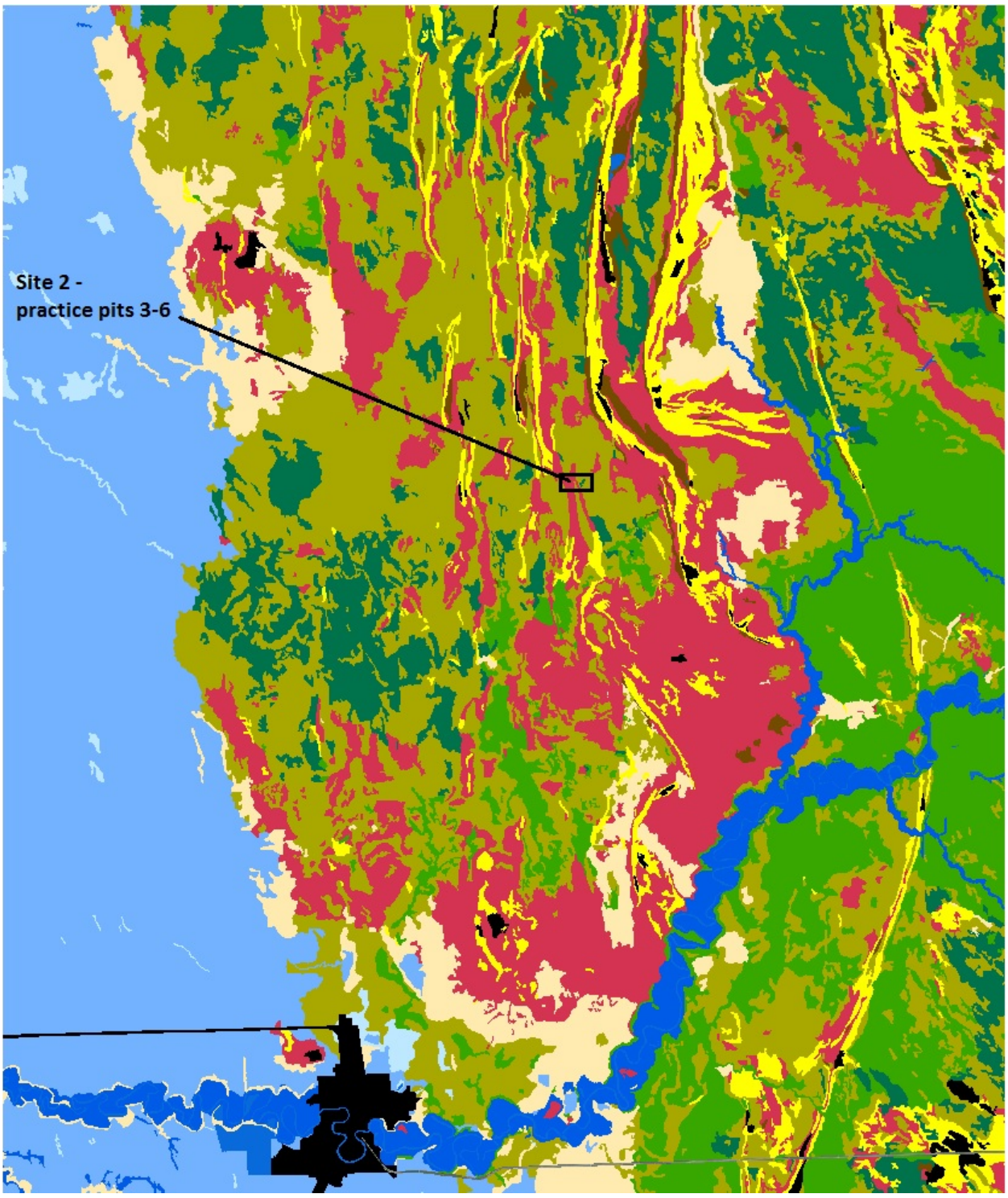

Site 2 is noted as the rectangle near the center of the image. Notice how the linear delineations flow through the site. The city of Crookston is the black polygon near the bottom.