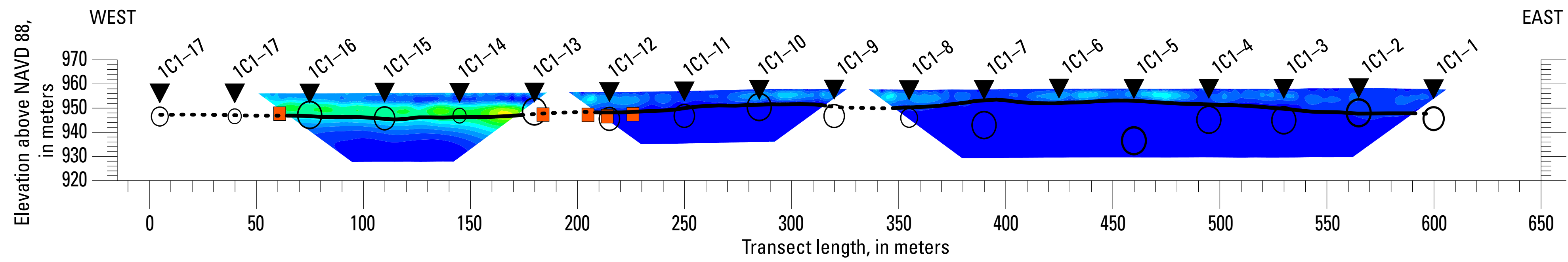
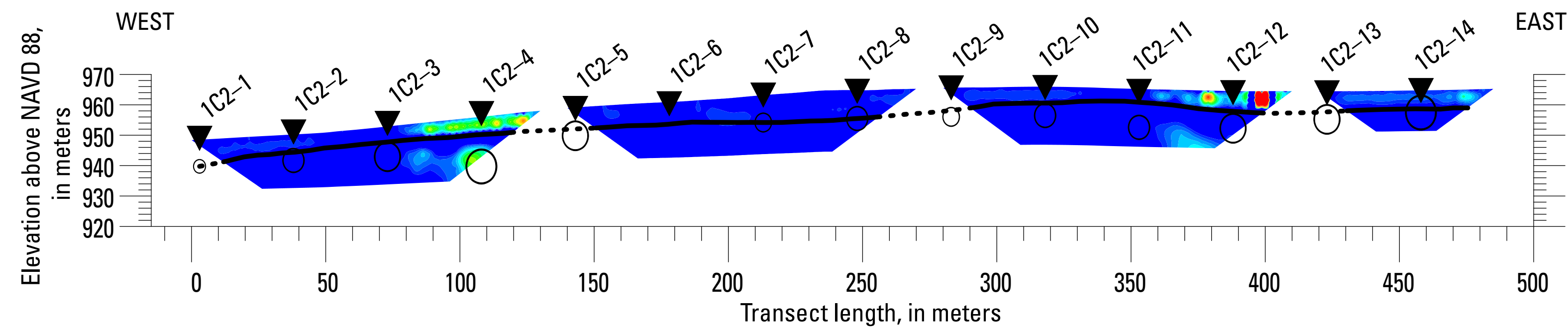


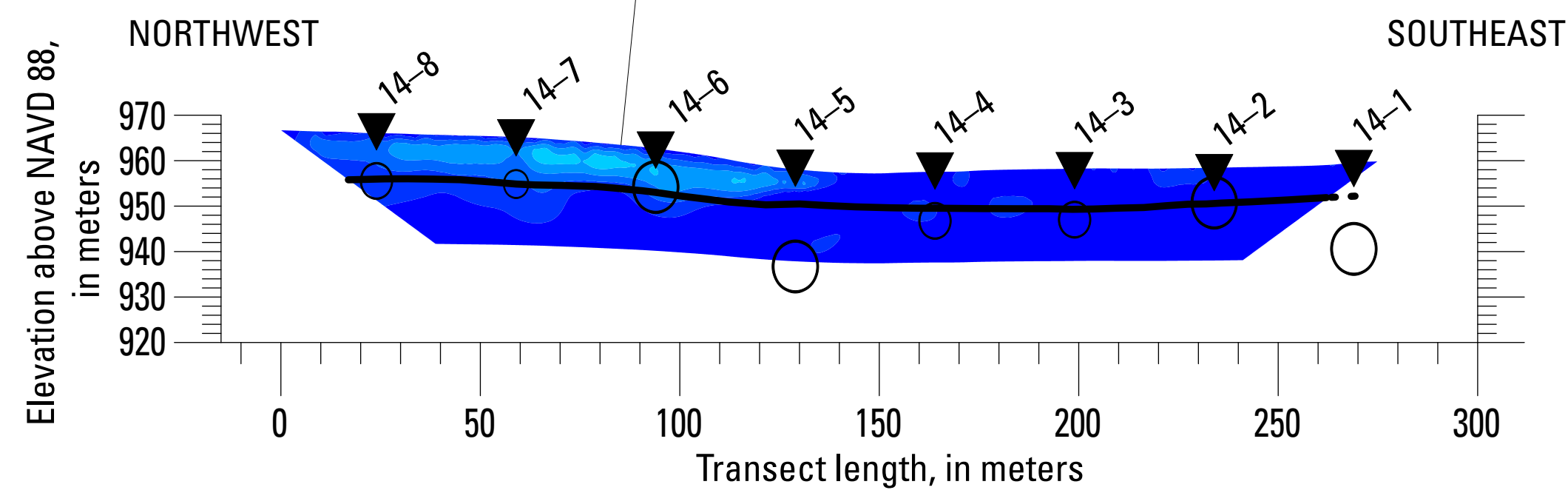
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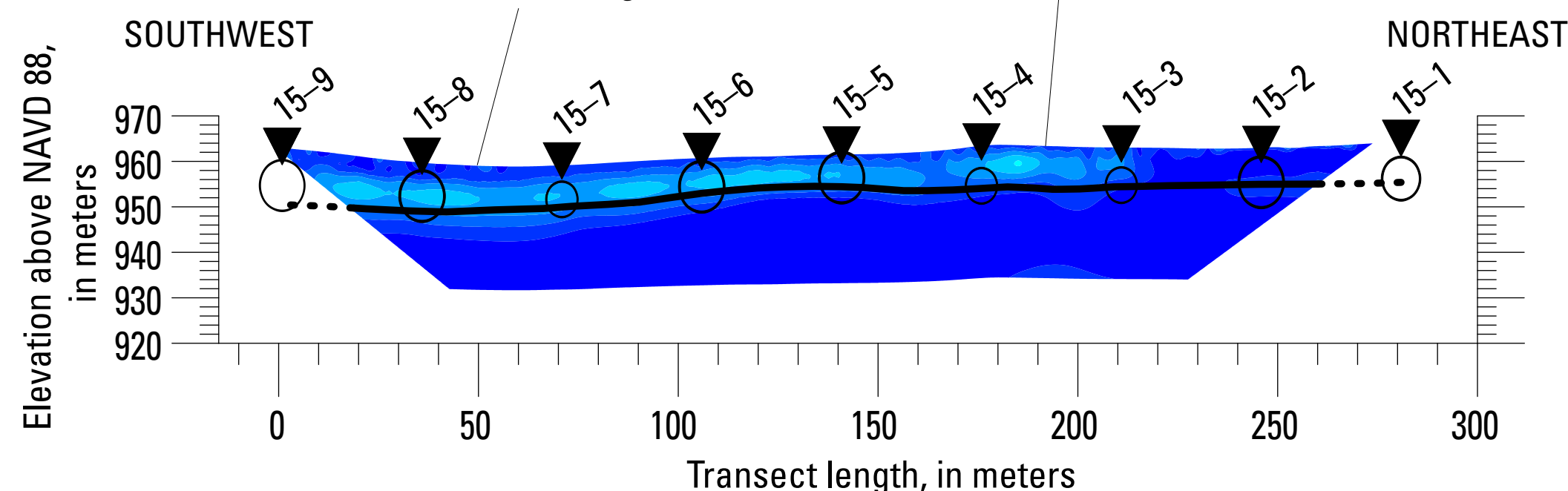
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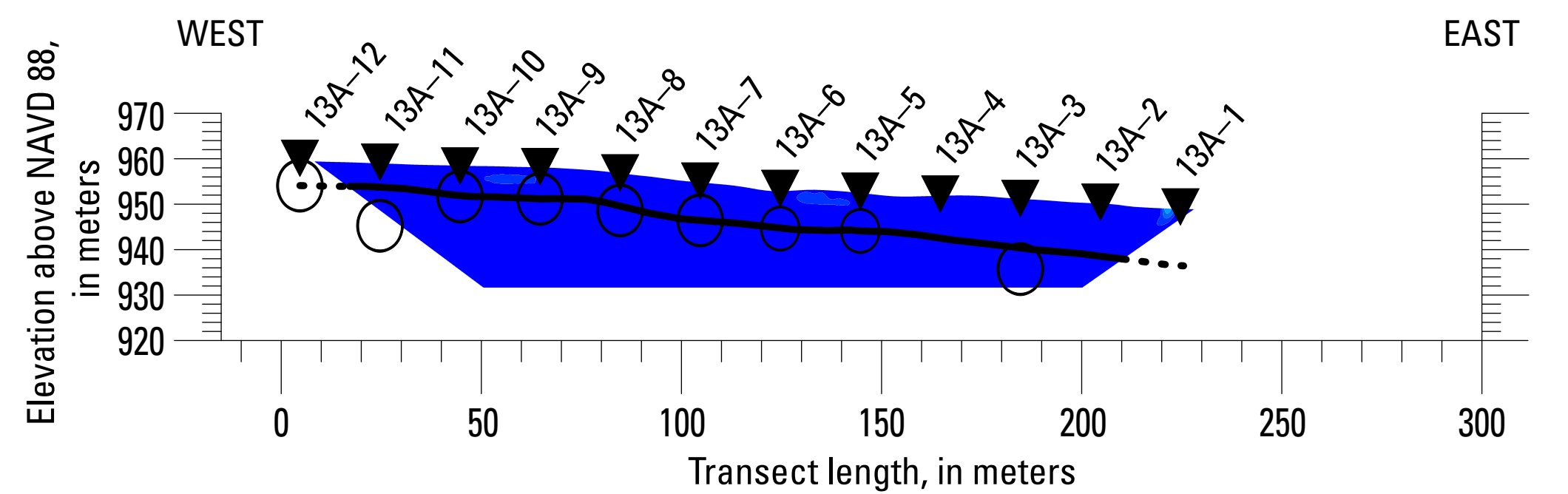
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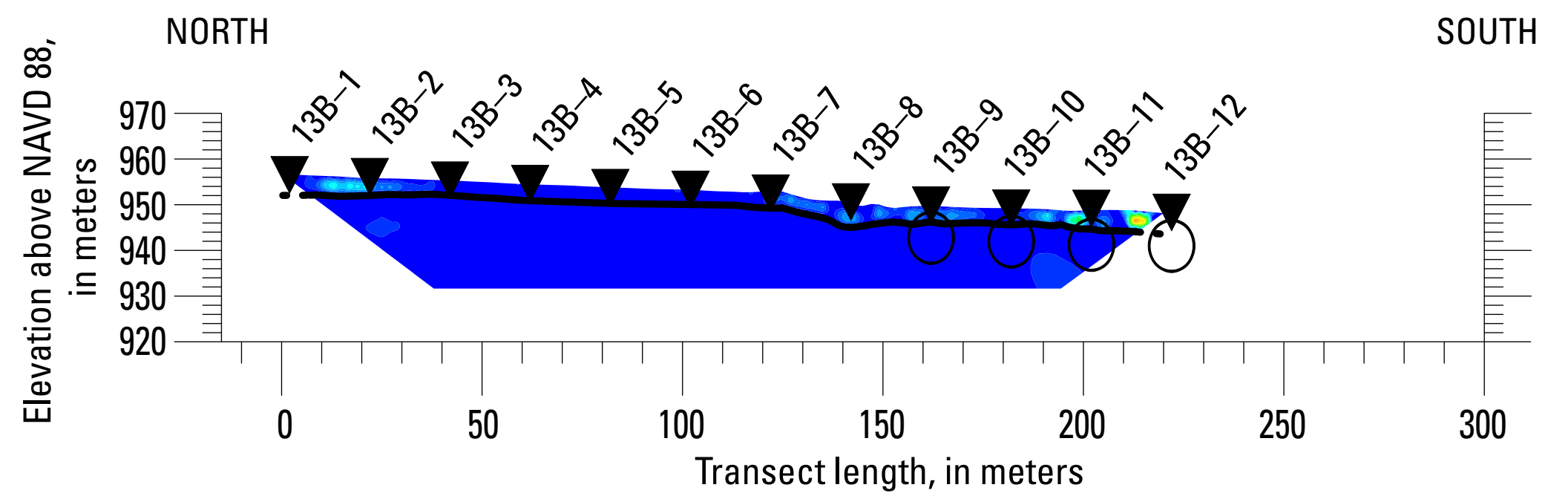
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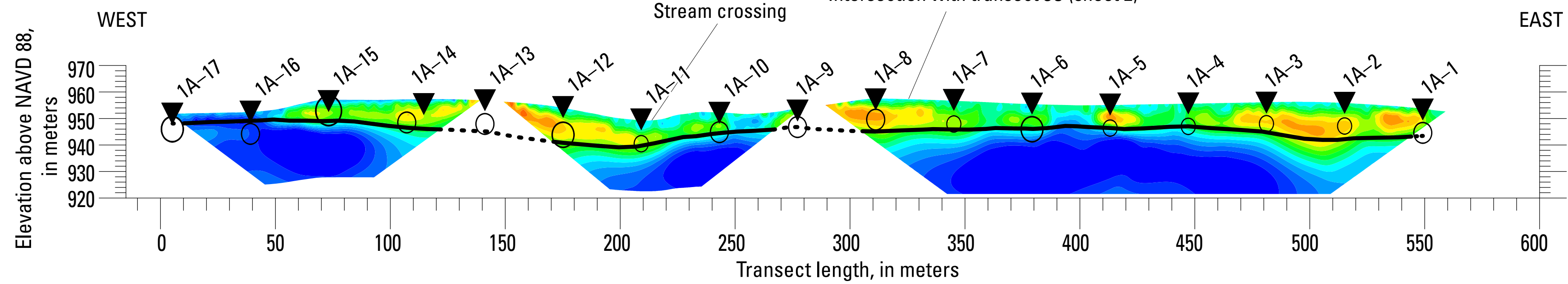
Transect 13A



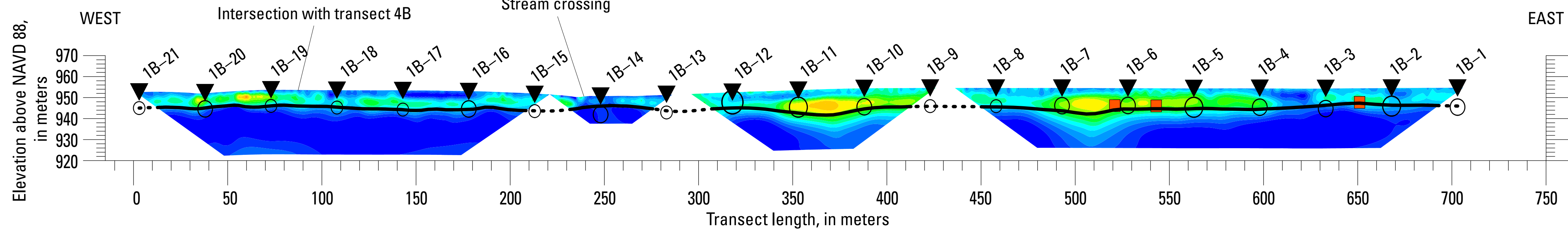
Transect 13B



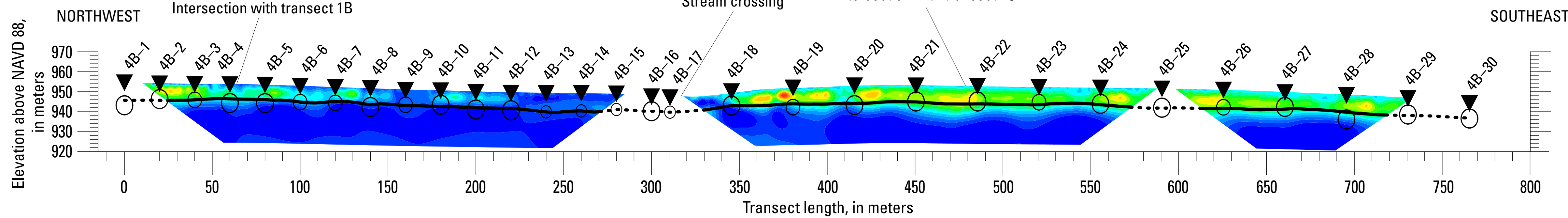
Transect 1A



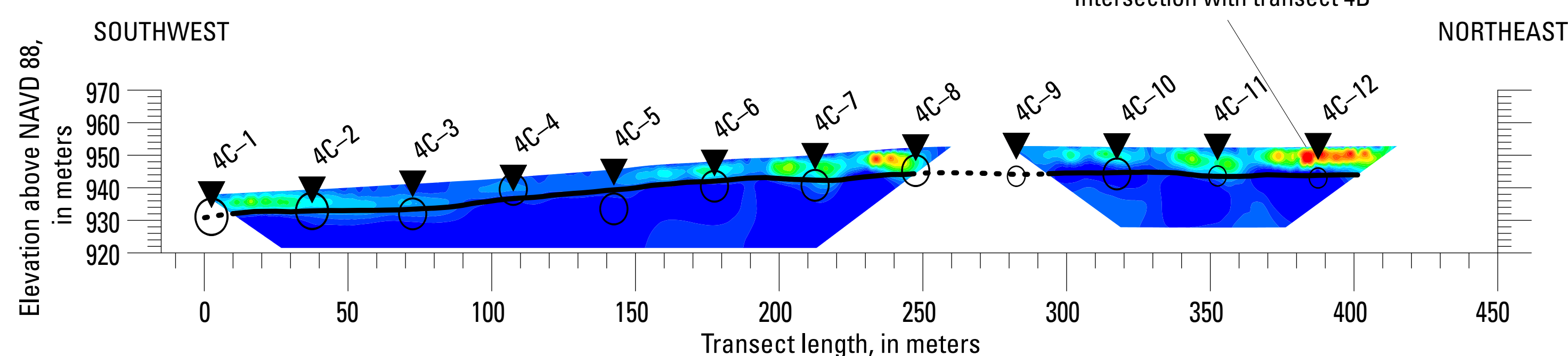
Transect 1B



Transect 4B



Transect 4C



Transect scales

Horizontal scale

0 50 100 FEET

0 50 100 METERS

Vertical scale

0 50 100 FEET

0 50 100 METERS

VERTICAL EXAGGERATION x1.14

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Medler, C.J., Tague, W.S., and Bende, D.A., 2021, Electrical Resistivity Tomography (ERT) and Horizontal-to-Vertical Spectral Ratio (HVSr) data collected within and near Ellsworth Air Force Base, South Dakota, from 2014 to 2019, U.S. Geological Survey data release, <https://doi.org/10.5060/77550JN>.U.S. Geological Survey, 2021, USGS water data for the Nation: U.S. Geological Survey National Water Information System database, <https://doi.org/10.5060/77550JN>.

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(505N 222N 1025N 1025N)

## EXPLANATION

## Geologic units from Redden and DeWitt (2009)

- Qa Quaternary alluvial deposits
- Qt Quaternary terrace gravel and alluvial-fan deposits
- Kp Cretaceous Pierre Shale

## Electrical resistivity tomography (ERT) transect

----- Delineated Pierre Shale contact from horizontal-to-vertical spectral ratio (HVSr) and ERT results. Dashed where contact is approximated using only one technique

## Unnamed ephemeral streams from National Hydrography Dataset (2021)

○ Pierre Shale depth from HVSr data. The circle size is based on a quality score (table 1)—Largest circle=1 (worst); smallest circle=5 (best); no circle indicates data were not able to be scored using categorical rating system

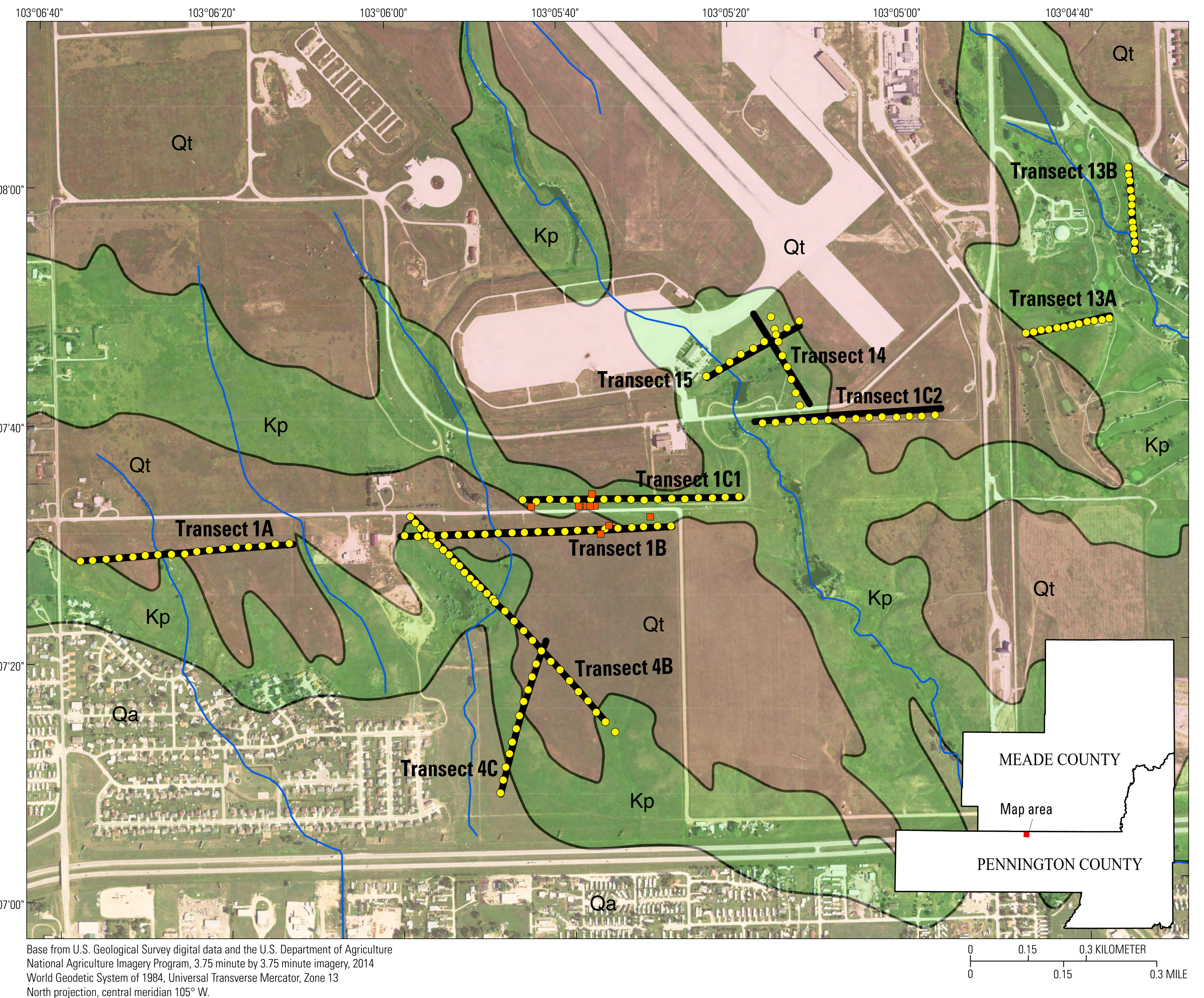
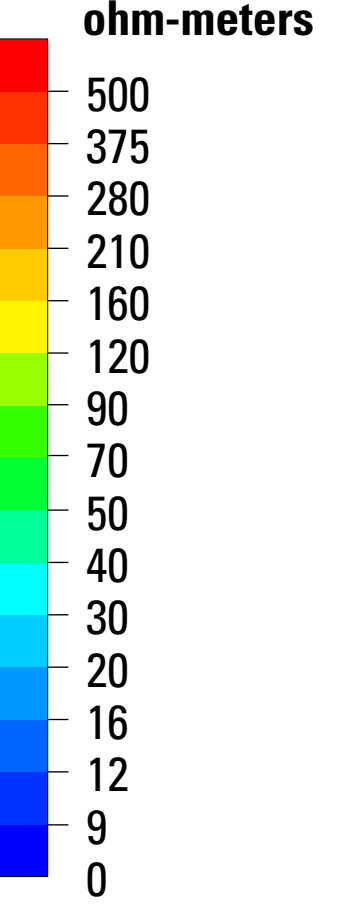
## South Dakota Department of Environment and Natural Resources (2020) well

■ Depth to Pierre Shale from drillers logs at wells nearby transect (South Dakota Department of Environment and Natural Resources, 2020)

## HVSr site

▼ HVSr surface location. The first part of the label is the transect number, followed by the station number

## Resistivity, in ohm-meters



## Electrical resistivity tomography inversion results with depth to Pierre Shale from horizontal-to-vertical spectral ratio results for transects 1C1, 1C2, 14, 15, 13A, 13B, 1A, 1B, 4B, and 4C, Ellsworth Air Force Base, South Dakota

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2021