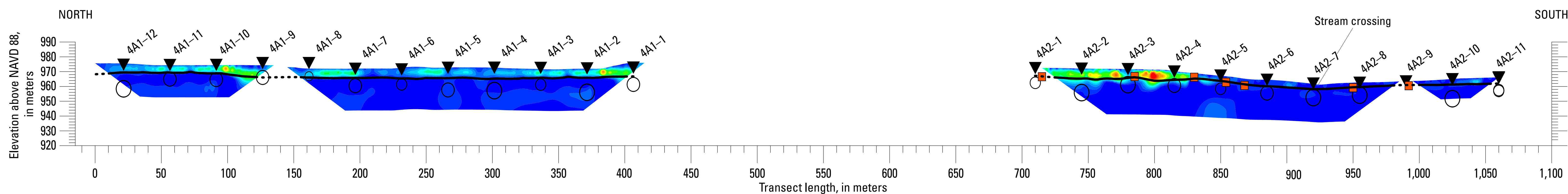
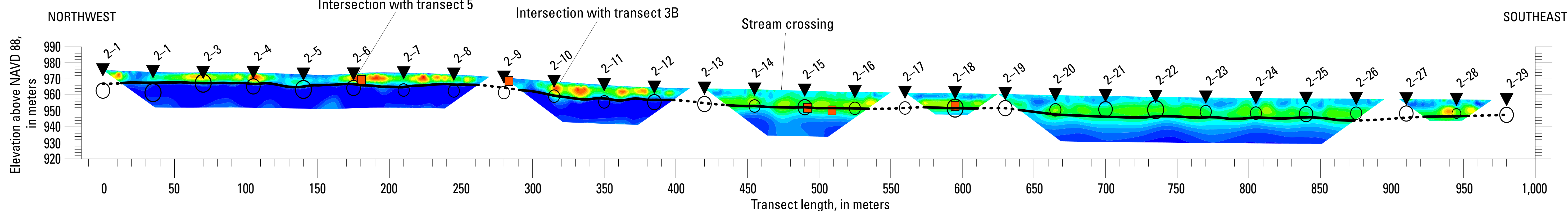


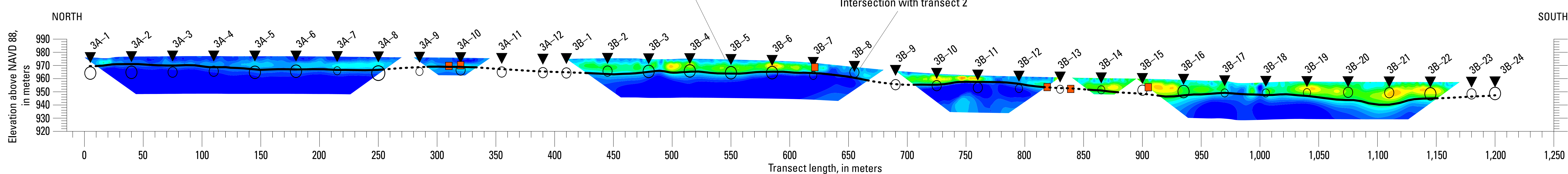
Transect 4A1 and 4A2



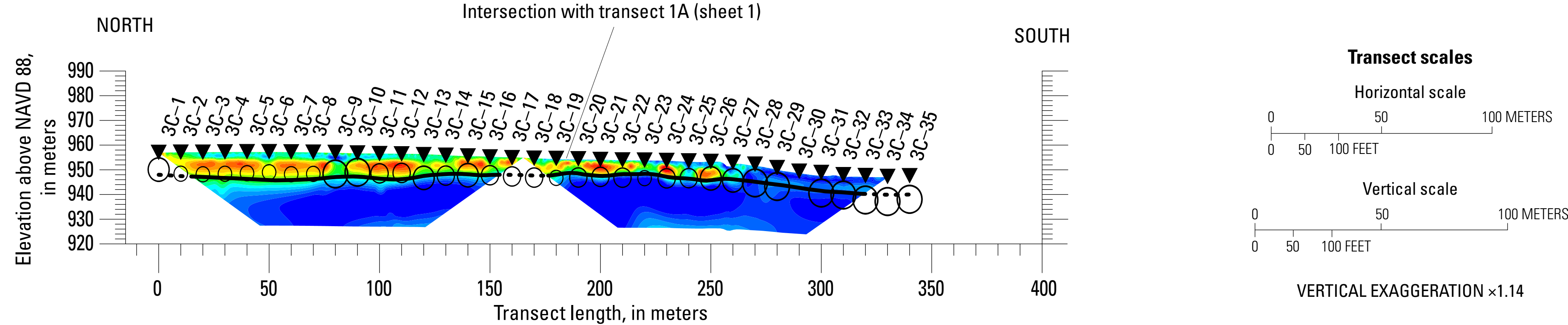
Transect 2



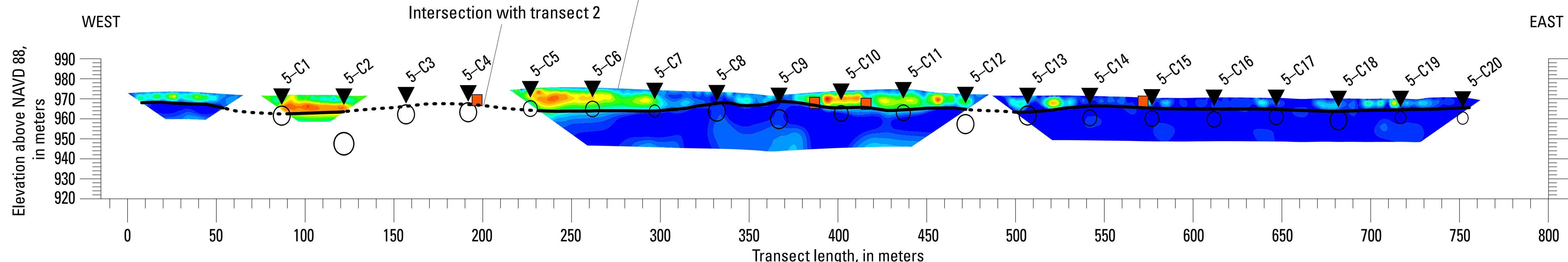
Transects 3A and 3B



Transect 3C



Transect 5



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—
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

500
375
280
210
160
120
90
70
50
40
30
20
16
12
9
0

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U.S. Geological Survey, 2021. USGS water data for the Nation: U.S. Geological Survey National Water Information System databases, <https://doi.org/10.5066/9556P9S3JH17>.

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Base from U.S. Geological Survey digital data and the U.S. Department of Agriculture National Agriculture Imagery Program, 3.75 minute by 3.75 minute imagery, 2014 World Geodetic System of 1984, Universal Transverse Mercator, Zone 13 North projection, central meridian 105° W.



Electrical resistivity tomography inversion results with depth to Pierre Shale from horizontal-to-vertical spectral ratio results for transects 4A1, 4A2, 2, 3A, 3B, 3C, and 5, Ellsworth Air Force Base, South Dakota

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