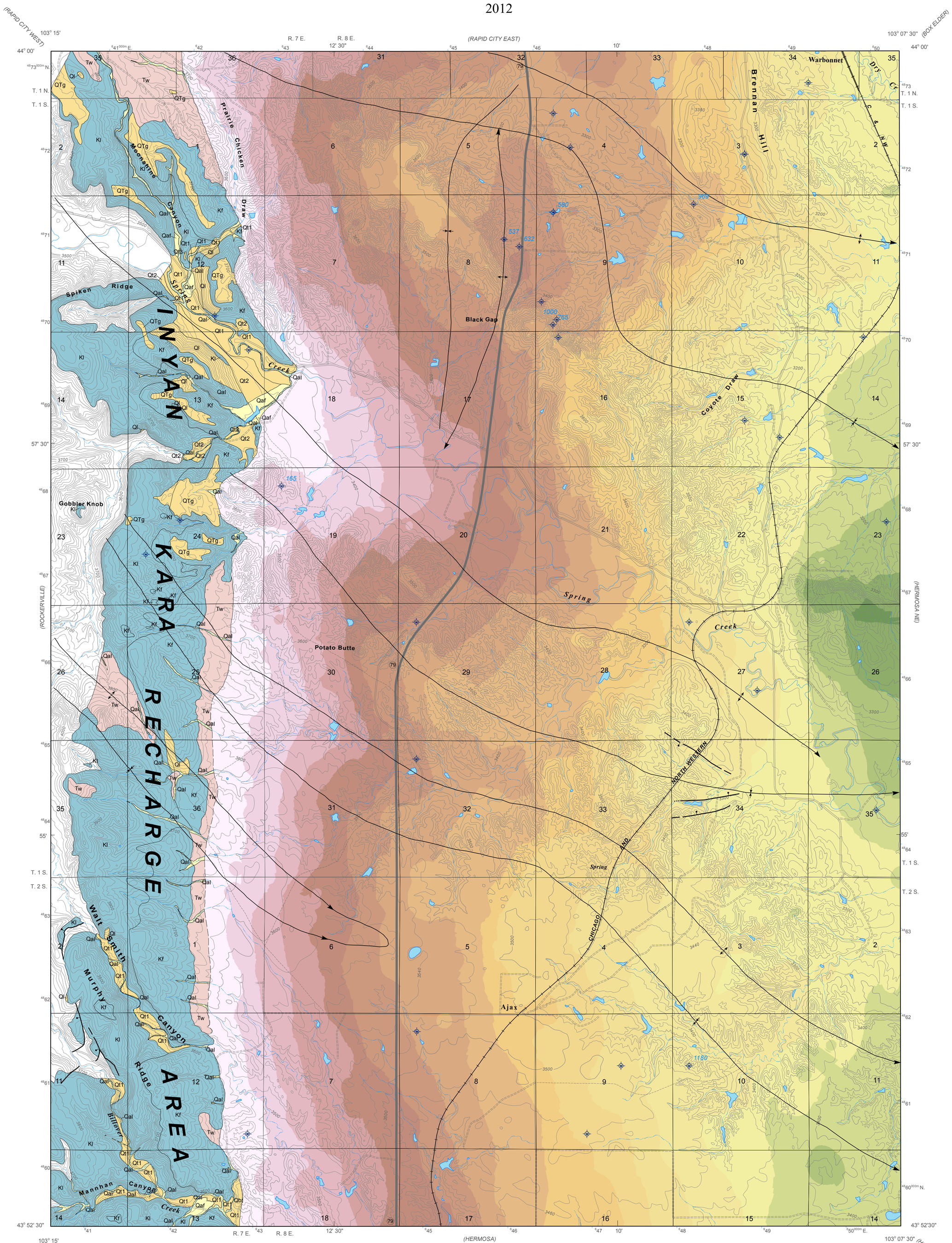
Depth to Top of Inyan Kara Group, Hermosa NW Quadrangle

By
A.L. Lisenbee, A.D. Davis, M.H. Price and H.W. Tiruneh

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Map base modified from U.S.G.S. 1:24,000-scale Hermosa NW digital line graph.
Water well data collected and digitized from SD Dept. of Environment & Natural Resources "Online Oil/Gas/Injection Well Data" database.
Geology layer from A.L. Lisenbee, C.J. Pellowski, and C.M. Hocking 2005 (Unpublished).
Projection is Universal Transverse Mercator, Zone 13, North American Datum 1983.

Digital Cartography: E. M. Francisco and H. W. Tiruneh, 2012
Department of Geology and Geological Engineering,
South Dakota School of Mines and Technology

REFERENCE SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

TOPOGRAPHIC CONTOUR INTERVAL 20 FEET

NORTH

1° 10' 21 MILS — 13° 231 MILS

UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET



Quadrangle location

The preparation of this map was funded by the West Dakota Water Development District in association with the Department of Geology and Geological Engineering South Dakota School of Mines and Technology.

Depth to Inyan Kara Group

In Feet below Land Surface

0 - 100	601 - 700	1,201 - 1,300
101 - 200	701 - 800	1,301 - 1,400
201 - 300	801 - 900	1,401 - 1,500
301 - 400	901 - 1,000	1,501 - 1,600
401 - 500	1,001 - 1,100	1,601 - 1,700
501 - 600	1,101 - 1,200	

Approximate depths derived by subtracting structure(Contour) values from surface elevation.

EXPLANATION

755 Water Wells penetrating Inyan Kara Group.
Number indicates depth to top of Inyan Kara Group, in feet.

Unimproved Road
Trail
Paved Road
Highway
Railroad
Lake
Intermittent Stream
Perennial Stream

Contact
Solid where location certain; dashed where approximately located.

Fault
Solid where location certain.Bar and ball on downthrown side.

Anticline
Showing crestline and direction of plunge. Solid where location.

Syncline
Showing troughline and direction of plunge. Solid where location certain.

Geologic Units

Quaternary

Qal — Floodplain Surficial Deposits
Includes alluvium (Qal) and alluvial fan deposits (Qaf). Increased potential for infiltration of water.

Qt — Other Surficial Deposits
Includes landslide (Ql), terracel deposits (Qt, Qbt), and terrace gravel (QTg). Decreased potential for infiltration of water.

Unconformity

Oligocene Eocene

Tw — White River Group
Mudstone (gray and brown), rose-colored siltstone; minor white, freshwater limestone, ledge-forming sandstone,and pebble and cobble conglomerate.

Lower Cretaceous

Kf / Kl — Inyan Kara Group - Recharge Area
Kf - Fall River Formation Kl - Lakota Formation. Interbedded, locally discontinous, gray to tan mudstone and sandstone. Sandstone percentages are 15% for the Fall River Formation and 66% for the Lakota Formation (Francisco, 2008). Approximate total thickness = 500 ft

Inyan Kara Group Absent