

In Cooperation with the Edwards Aquifer Authority

Helicopter Electromagnetic and Magnetic Survey Data and Maps, Seco Creek Area, Medina and Uvalde Counties, Texas

By
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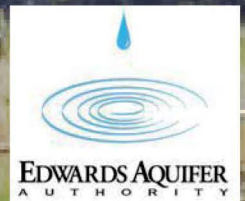
PLATE

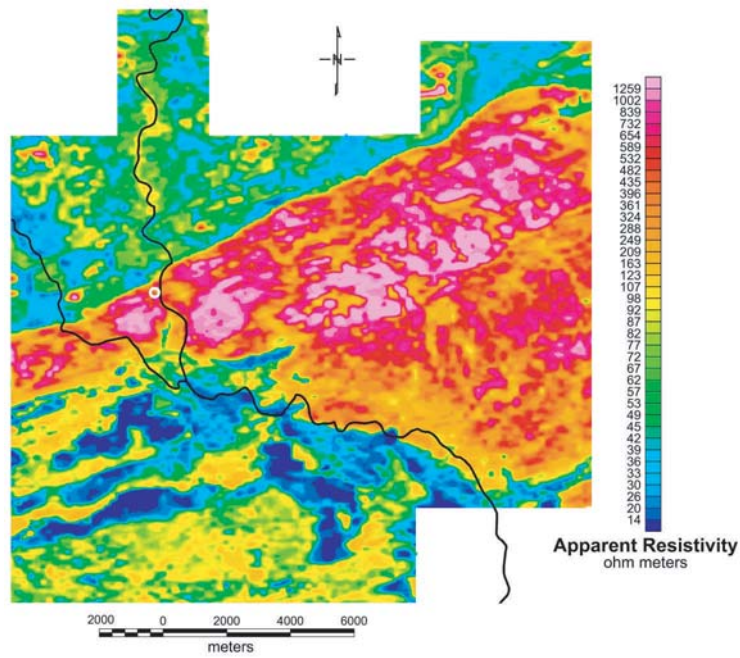
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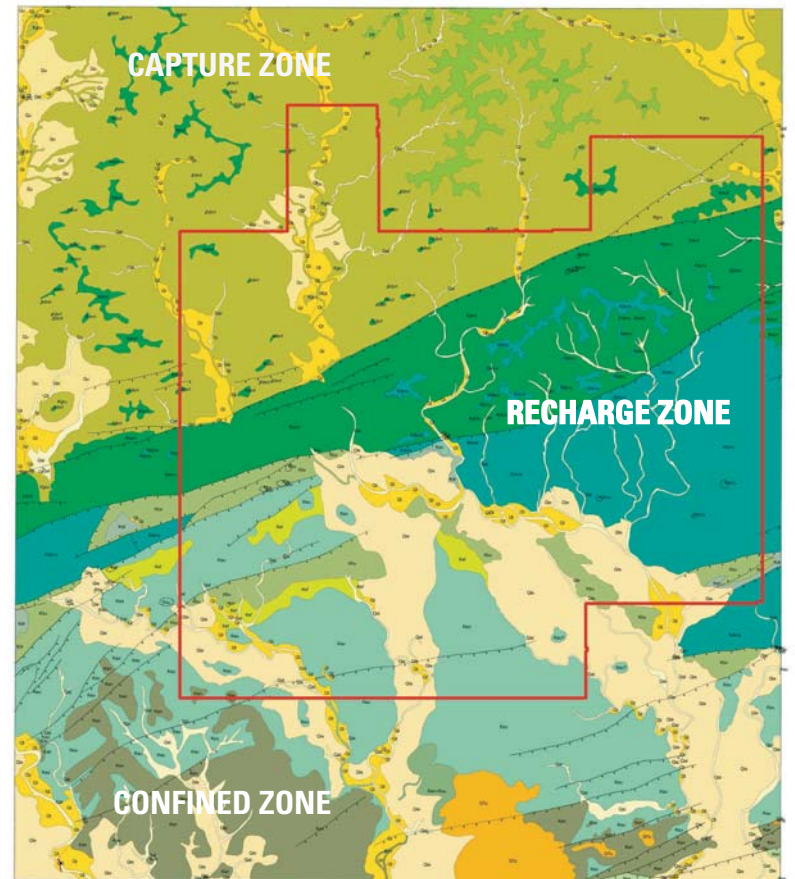
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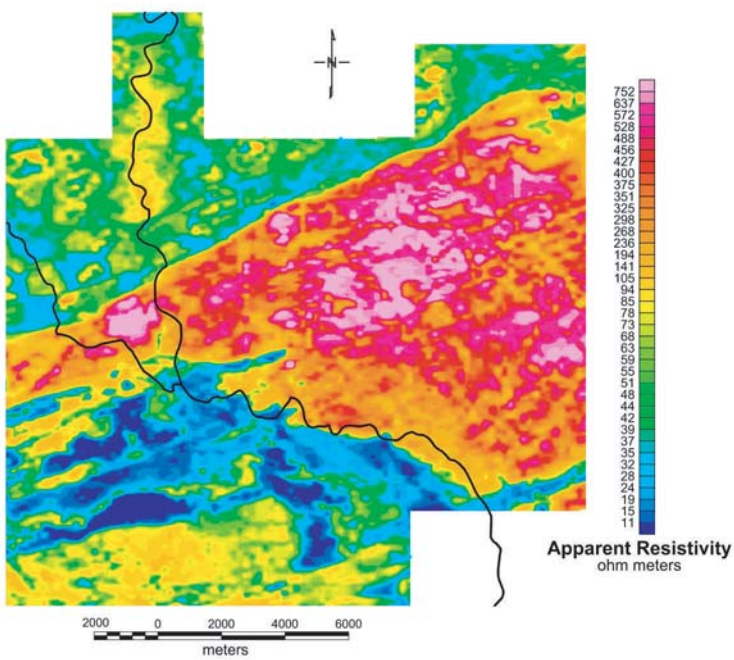




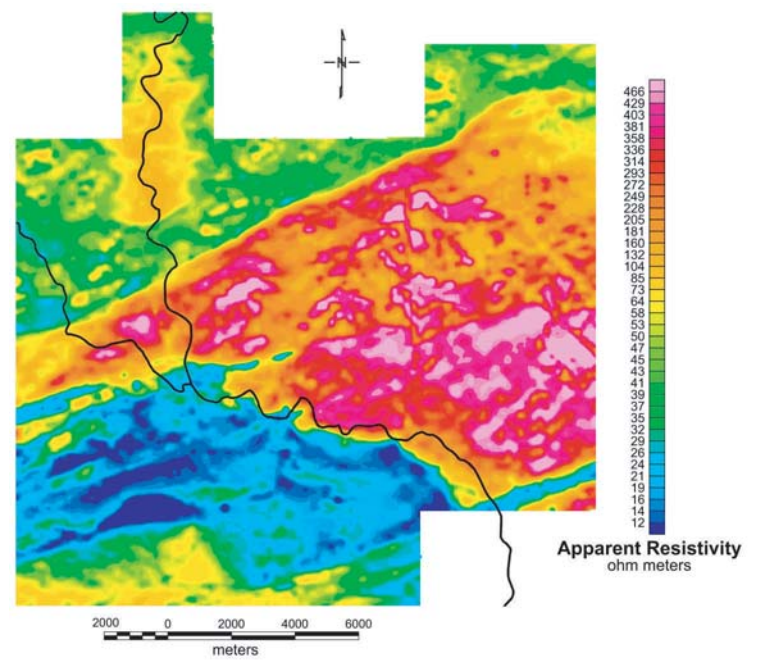
a. 100 KHz



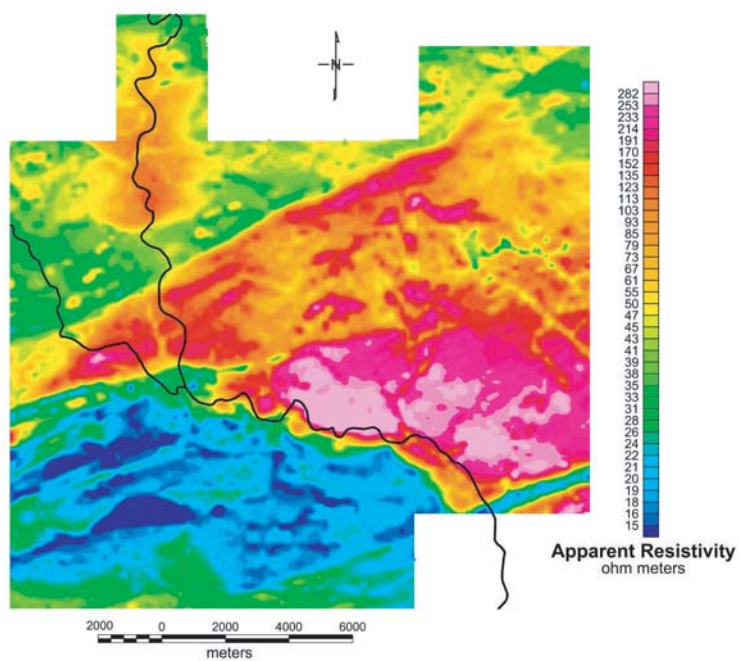
i. Geologic map (Kyle and Collins, 2003) of four 7.5' quadrangles (see text for lithologic units) that cover the study area shown by red box.



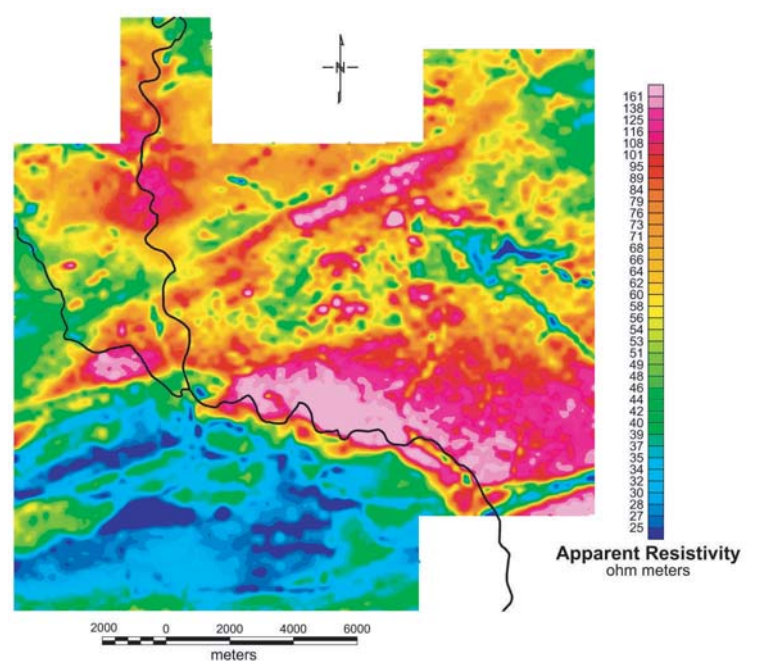
b. 25 KHz



c. 6200 Hz



d. 1500 Hz



e. 400 Hz

The red box in (i) shows the Seco Creek airborne geophysical survey area. The capture zone consists mostly of the Trinity Group with hills tops of Edwards Group. The recharge zone consists of the Upper and Lower Devils River formations of the Edwards Group. Exposures in the confined zone are formations younger than the Edwards. The Del Rio Clay caps the Edwards Group and accounts for the low apparent resistivity shown in the geophysical maps. Apparent resistivity maps have color scales that reflect maximum and minimum values for the indicated frequency. Thus particular color scales are unique to each map. Heavy wavy lines are the major drainages of Seco Creek and Little Seco Creek that occupy yellow Quaternary areas in (i). The circle shown in (a) is the approximate location of the Valdina Farms sinkhole. Decreasing frequency probes deeper with specific depth of investigation depending also on the resistivity of the subsurface. At the highest frequency (a), the exploration depth is only a few meters at most. The maximum exploration depth at the lowest frequency (e) in areas of higher resistivity (reds) is on the order of 100 meters.

GEOLOGIC AND APPARENT RESISTIVITY MAPS FOR THE SECO CREEK STUDY AREA

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