

GEO-TECHNICAL SITE INVESTIGATION

Locating 600m-Deep Groundwater in Kenya



Objective: To find sustainable groundwater resources.

Survey site: Thika, Kenya

Instruments Used: SuperSting™ R8/IP, AGI SwitchBox™ 84, AGI Passive Electrode Cables with 84 electrodes at 20m spacing, using a combined Dipole-Dipole, Schlumberger, and Pole-Dipole array.

Software Used: EarthImager 2D™

BACKGROUND:

The importance of groundwater can't be overstated. It's crucial for life across the globe, and in the developing world, access to groundwater is at a premium.

With resistivity imaging groundwater exploration techniques, even when you're in one of the driest locations on Earth, deep groundwater is possible to locate.

In 2006, our client, the Engineers Brigade of the Ministry of Defense in Thika, Kenya, used AGI tools and software to locate groundwater at 600 meters deep. While the client knew surficial aquifers existed, they also knew the aquifers were contaminated and thus unusable.

PROCESS:

Using our SuperSting™ R8/IP with a SwitchBox 84, an AGI resistivity imaging cable, and electrode stakes with attachment spring, the Engineers Brigade combined Dipole-Dipole, Schlumberger, and Pole-Dipole arrays at 20 meters of spacing for 646 meters exploration depth through the savanna to image below the surface.

(Results on next page)



Image of survey line on the plains of Kenya.

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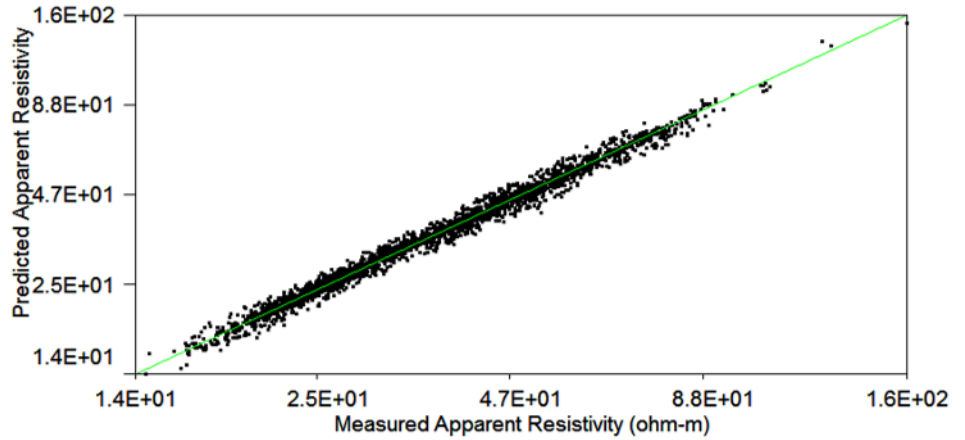
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CASE HISTORY

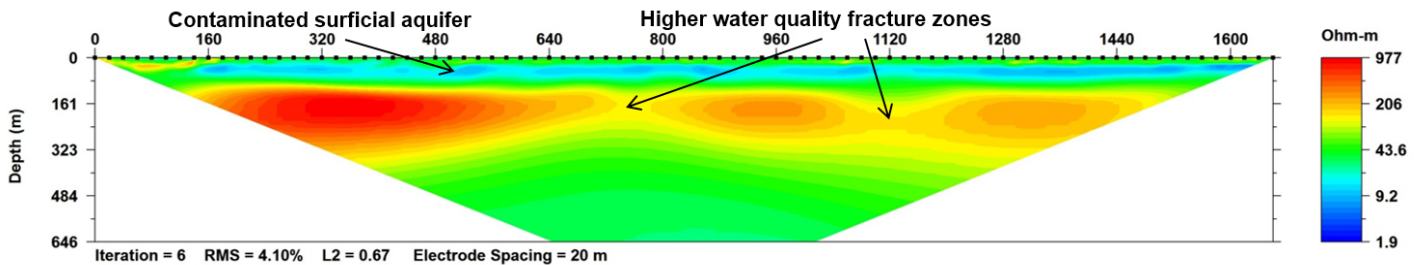
RESULTS:

A huge area was surveyed, and a known contaminated surficial aquifer and two fracture zones were imaged.

The fracture zones were identified as drilling targets, which were likely to contain higher quality water that could be used to provide cleaner water to the people in nearby villages.



Iteration = 6 RMS = 4.10% L2 = 0.67 Electrode Spacing = 20 m



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CONTACT US TO LEARN MORE:

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