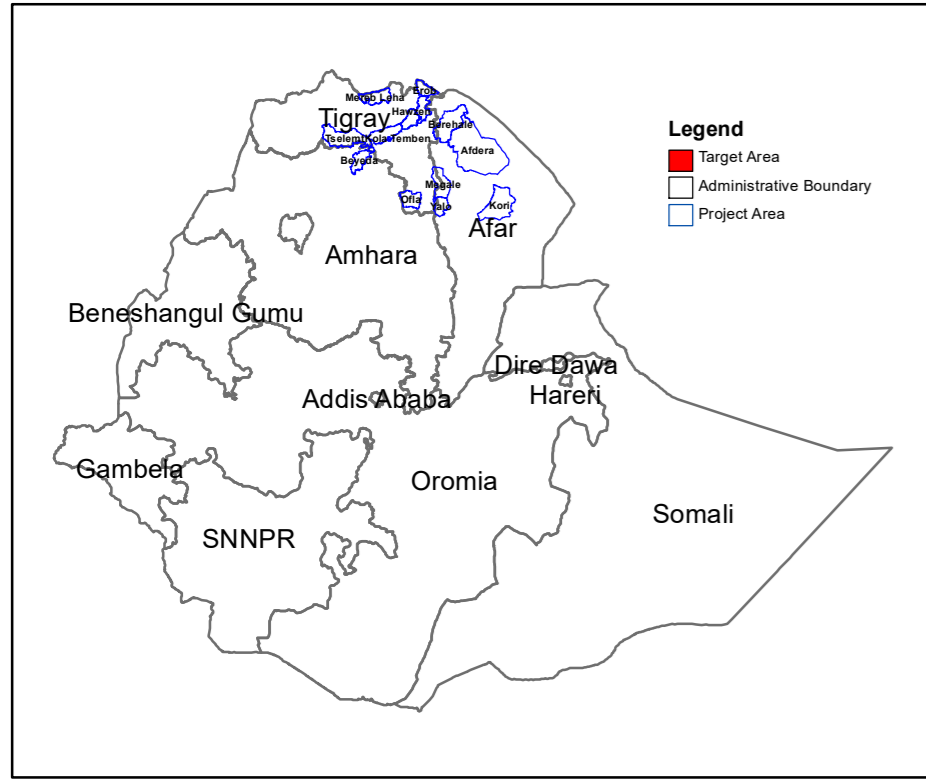


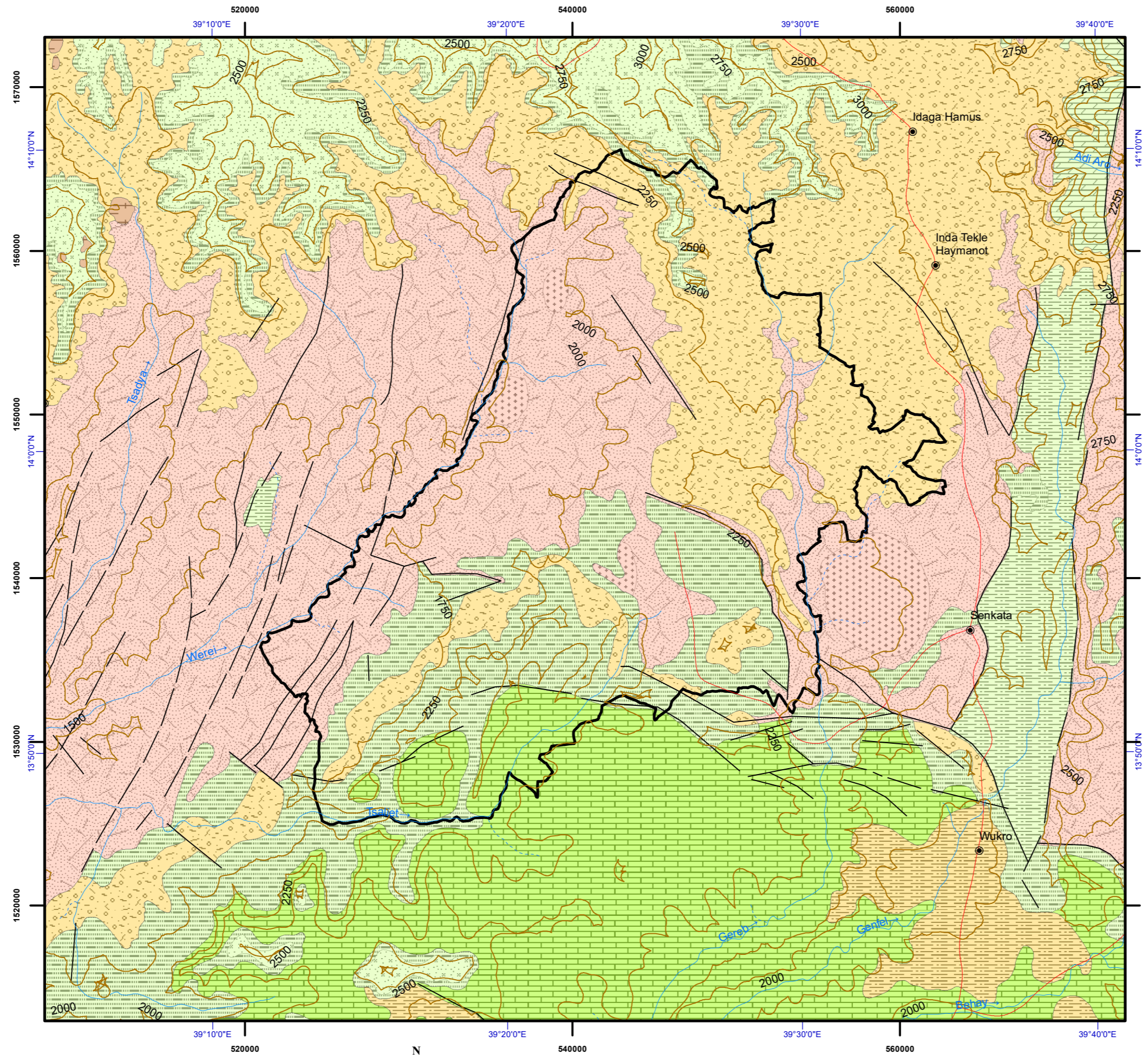
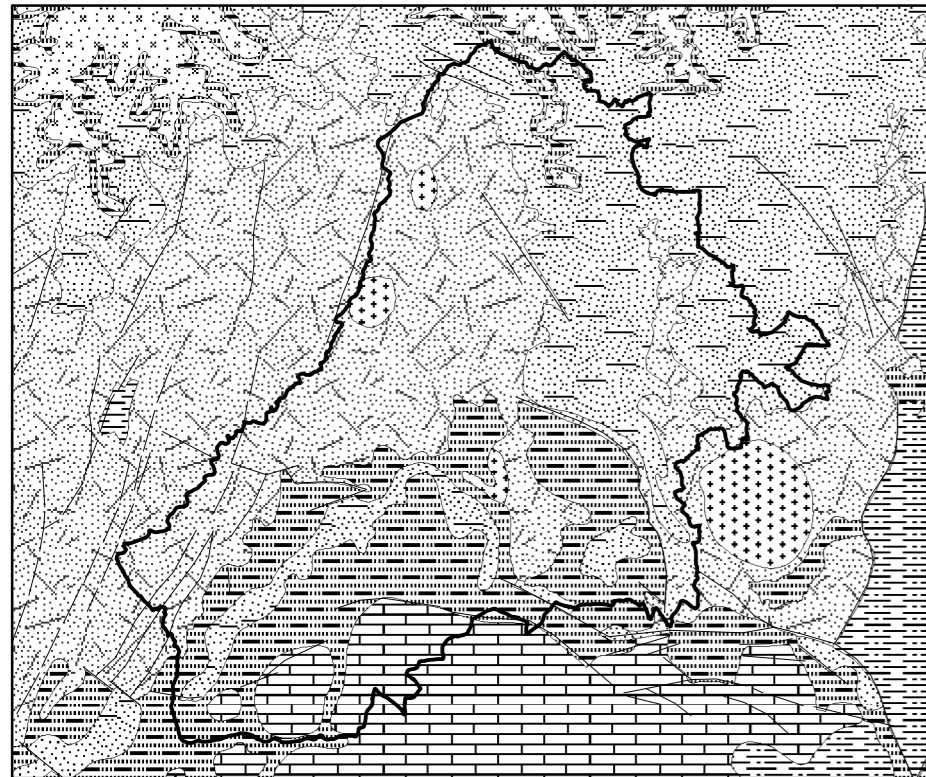
HYDROGEOLOGICAL MAP OF HAWZEN

PROJECT AREA



Legend
 ■ Target Area
 □ Administrative Boundary
 □ Project Area

GEOLOGICAL MAP OF HAWZEN



LEGEND

Aquifer Classification

- Highly productive fissured / karst aquifers ($T = 10 - 100 \text{ m}^2/\text{d}$, $q = 1 - 10 \text{ l/s.m}$, $Q = 5 - 25 \text{ l/s}$ for wells and/or springs) or locally extremely productive aquifers consisting of sedimentary and volcanic rocks
- Moderately productive fissured aquifers ($T = 1 - 10 \text{ m}^2/\text{d}$, $q = 0.01 - 1 \text{ l/s.m}$, $Q = 0.5 - 5 \text{ l/s}$ for wells and/or springs) or local or discontinuous but highly productive aquifers consisting of sedimentary and volcanic rocks
- Low productive fissured aquifers ($T = 0.1 - 1 \text{ m}^2/\text{d}$, $q = 0.001 - 0.01 \text{ l/s.m}$, $Q = 0.05 - 0.5 \text{ l/s}$ for wells and/or springs) in which flow is mainly developed in irregular system of fissures & weathered mantle of a crystalline rock
- Aquitards minor aquifers with local & limited groundwater resources consisting of sedimentary and volcanic rocks

- Perennial river
- Intermittent river
- Contour
- Fault
- Town
- Road
- Woreda Boundary

Lithology

- Basalt with minor trachyte and upper pyroclastic
- Granite / syenite
- Edaga Arbi Glacials/Tillite and Enticho sandstone
- Limestone, undifferentiated slates, calcareous sediments, marble and fossiliferous and sand limestone
- Sandstone – Adigrat, Amba Aradam, Enticho
- Low grade metamorphic rocks – phyllite and slate- metavolcanics rocks - intermediate and basic lavas, tuffaceous slate, agglomerate, rhyolite and metasediments - black slate limestone, sandstone, siltstone and greywacke

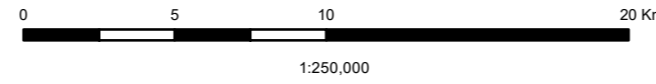
Hydrogeological Mapping for Climate Resilient Wash in Ethiopia - Lot 1



Disclaimer:

This document was produced with the financial assistance of The Department for International Development, UK. The boundaries in this map are not authoritative or political.

Geology compiled by Geological Survey of Ethiopia from 1971 to 2015
 Hydrogeology compiled by: Jiri Sima, 2021
 Digital Cartography: Shiferaw Ayele Mamo, 2021



Horizontal Datum: WGS 1984
 Vertical Datum: Mean sea level
 Projection: Universal Transverse Mercator, Zone 37N