

REGOLITH IN THE CENTRAL GAWLER, THROUGH AND THROUGH

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Cooperative Research Centre
for Landscape Environment and Mineral Exploration

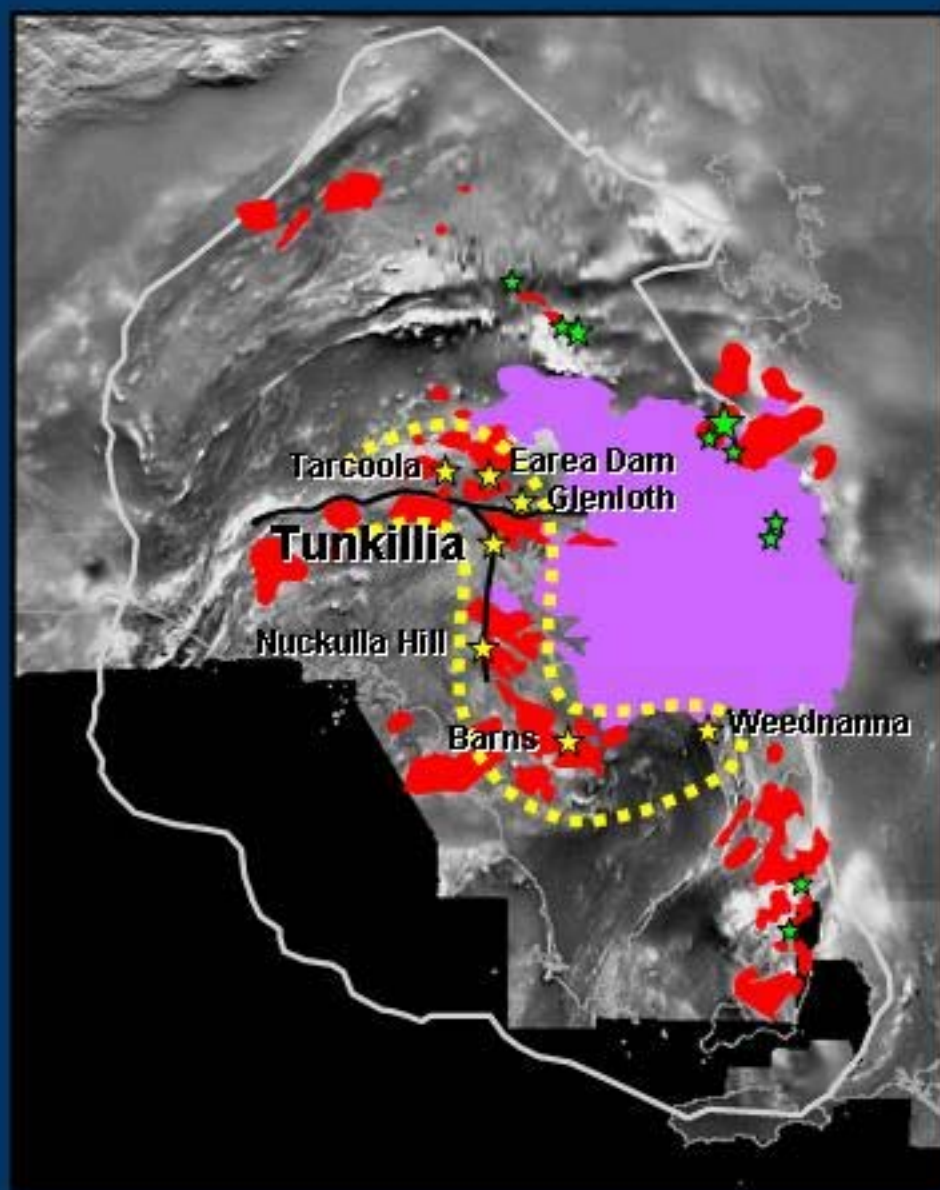
Gawler Craton 2004 State of Play

Outcrop cover map of the Gawler Craton



-  Outcrop
-  Cover
-  Gawler Craton Boundary
-  Central Gawler Au Province
-  Au Prospect

The Central Gawler Gold Province: key prospects & features



★ Au Prospect

★ Cu-Au Prospect

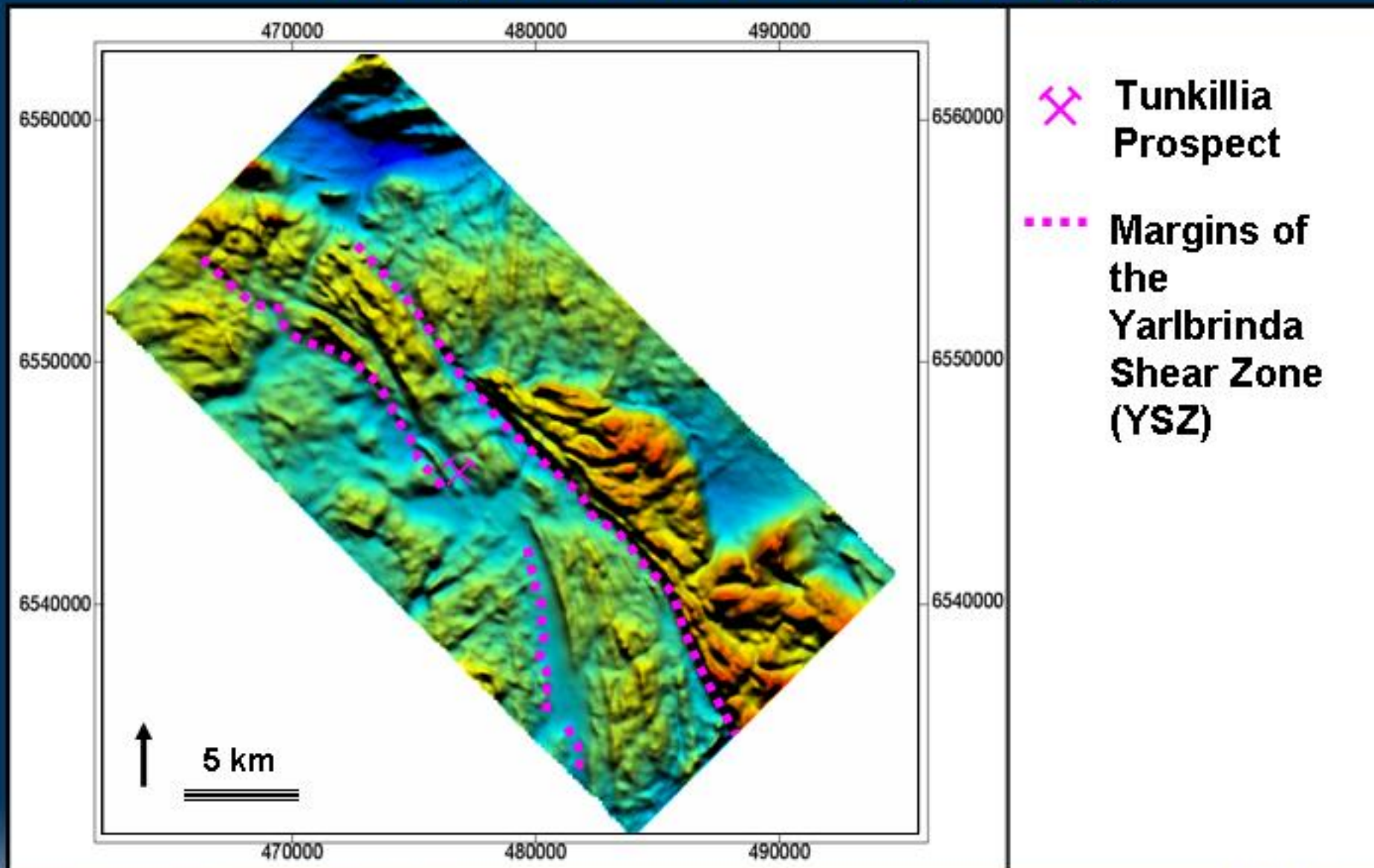
■ Gawler Range
Volcanics (~1590 Ma)

■ Hiltaba Suite granitoids
and mafic intrusions
(~1590-1580 Ma)

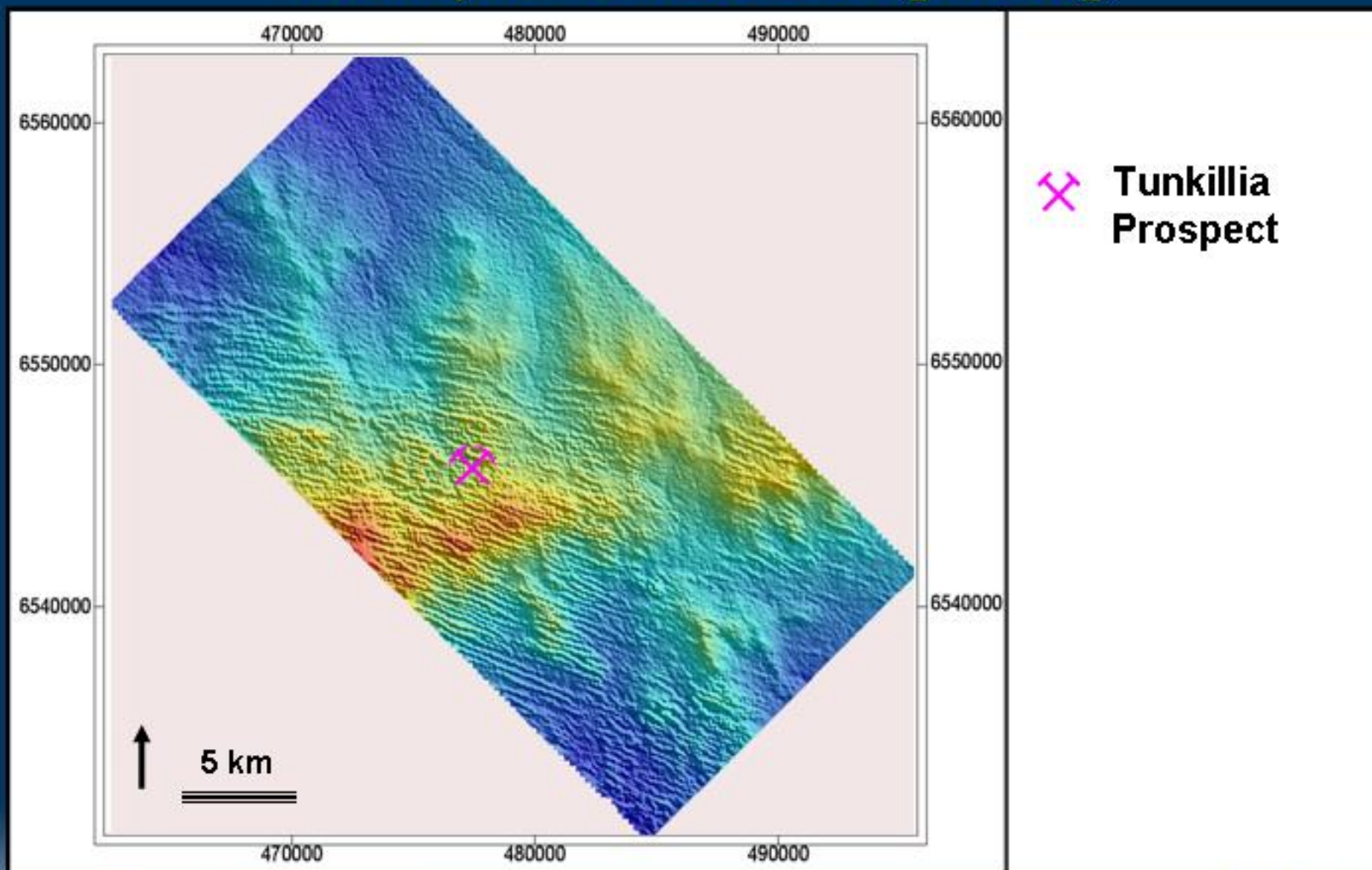
— Shear Zone

- - - Central Gawler Au
Province (?1590 -1580)

Tunkillia: TMI RTP derived from the AEM survey at 150m line spacing



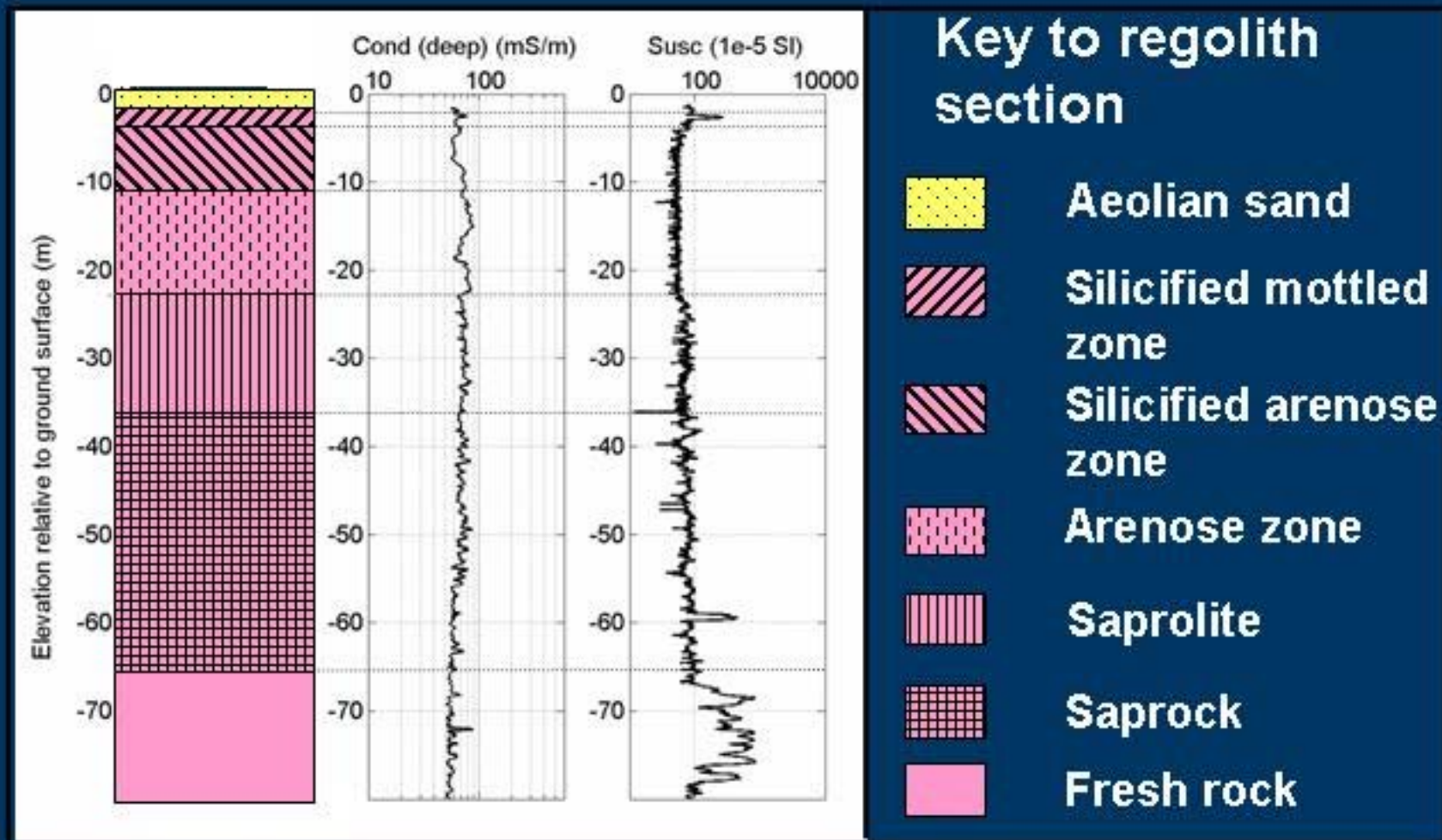
Tunkillia: DEM derived from the AEM survey at 150m line spacing



Tunkillia : alteration mapping – preliminary result (*R Skirrow*)

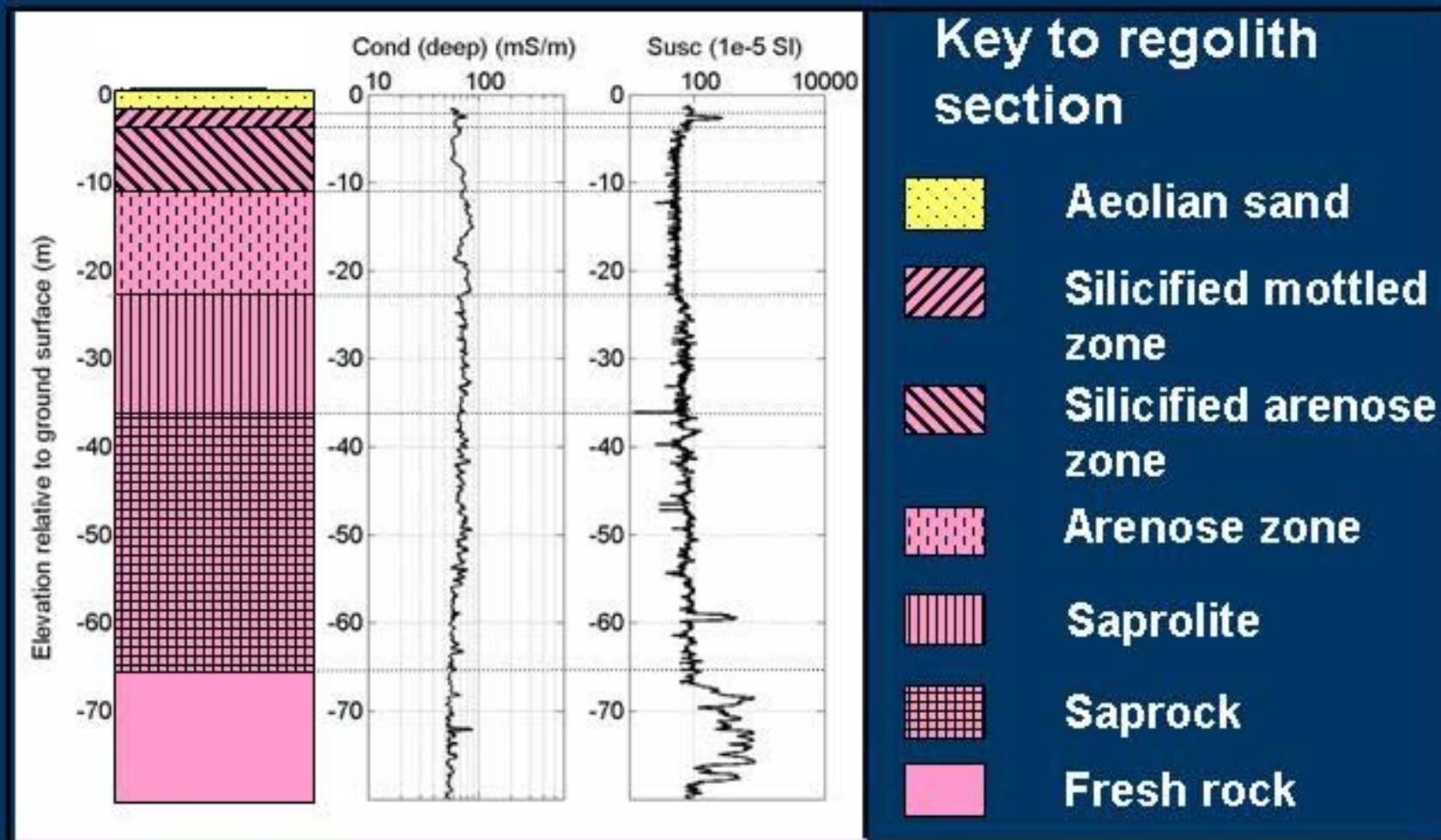
Most altered			Least altered
Quartz, sericite, pyrite	Sericite – chlorite +/- haematite, +/- pyrite	Chlorite – haematite, +/- pyrite, +/- sericite	Quartz, k feldspar, plagioclase, biotite, magnetite

Tunkillia down hole geophysics



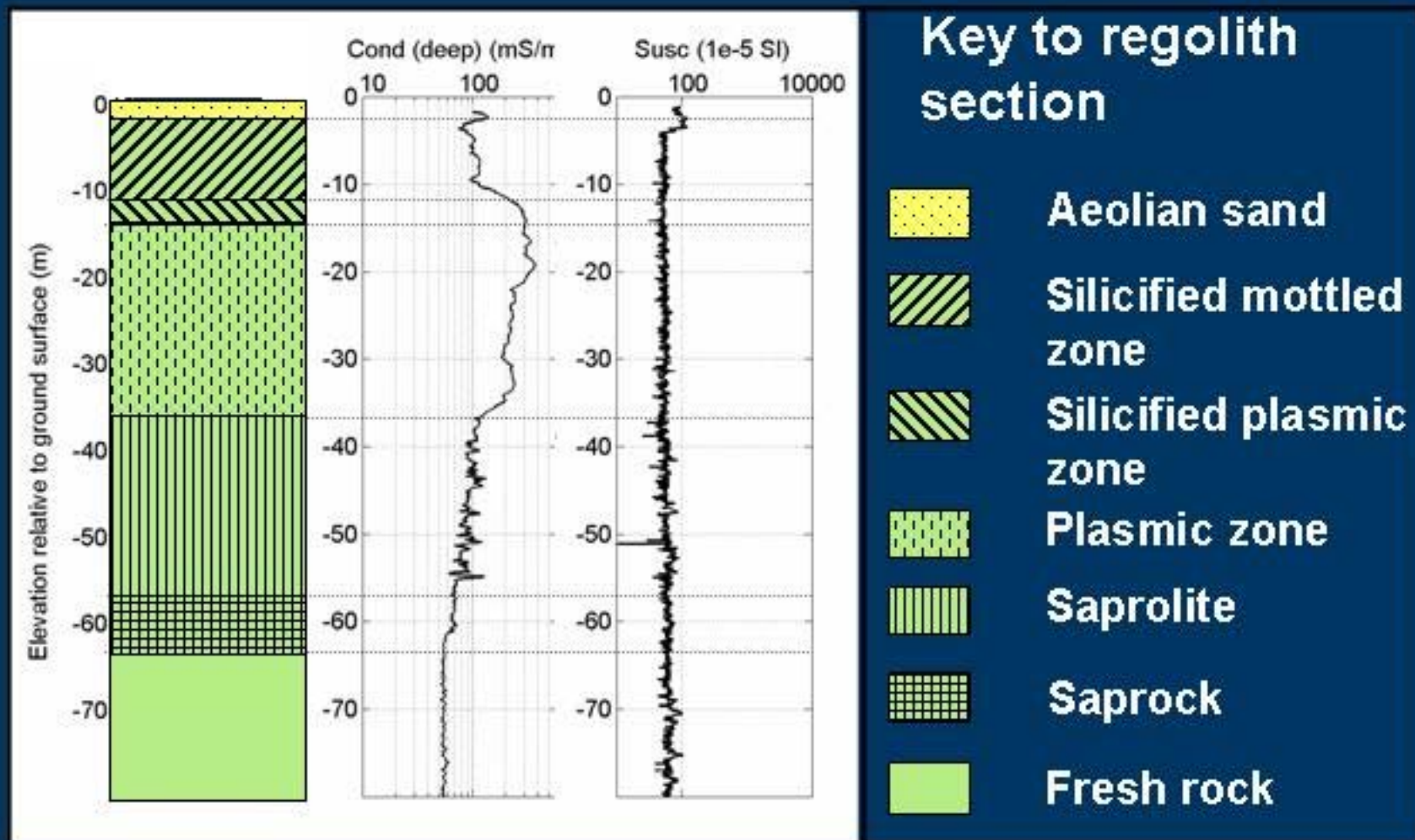
LRC 050: weakly altered granitoid

Tunkillia down hole geophysics

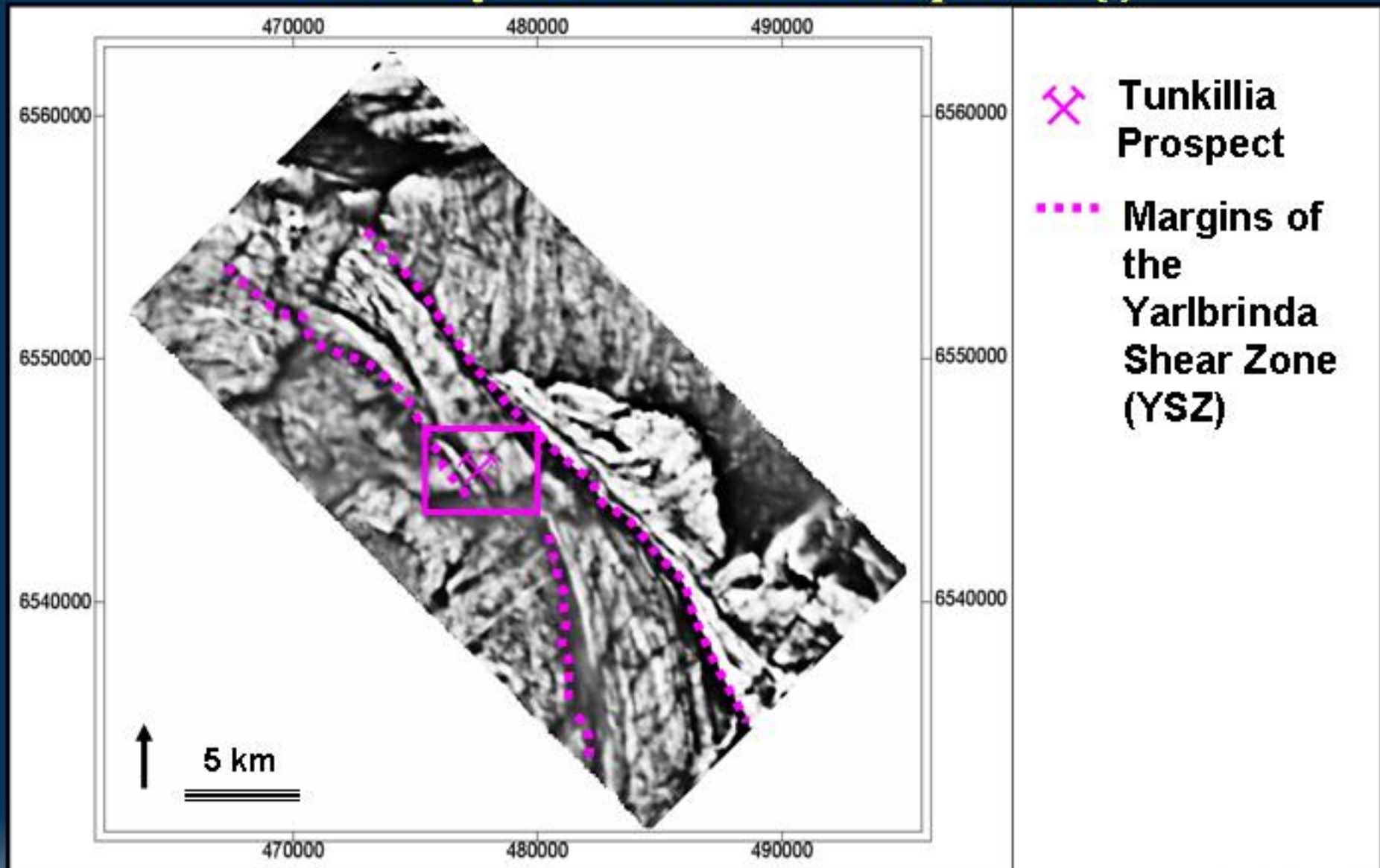


LRC 050: weakly altered granitoid

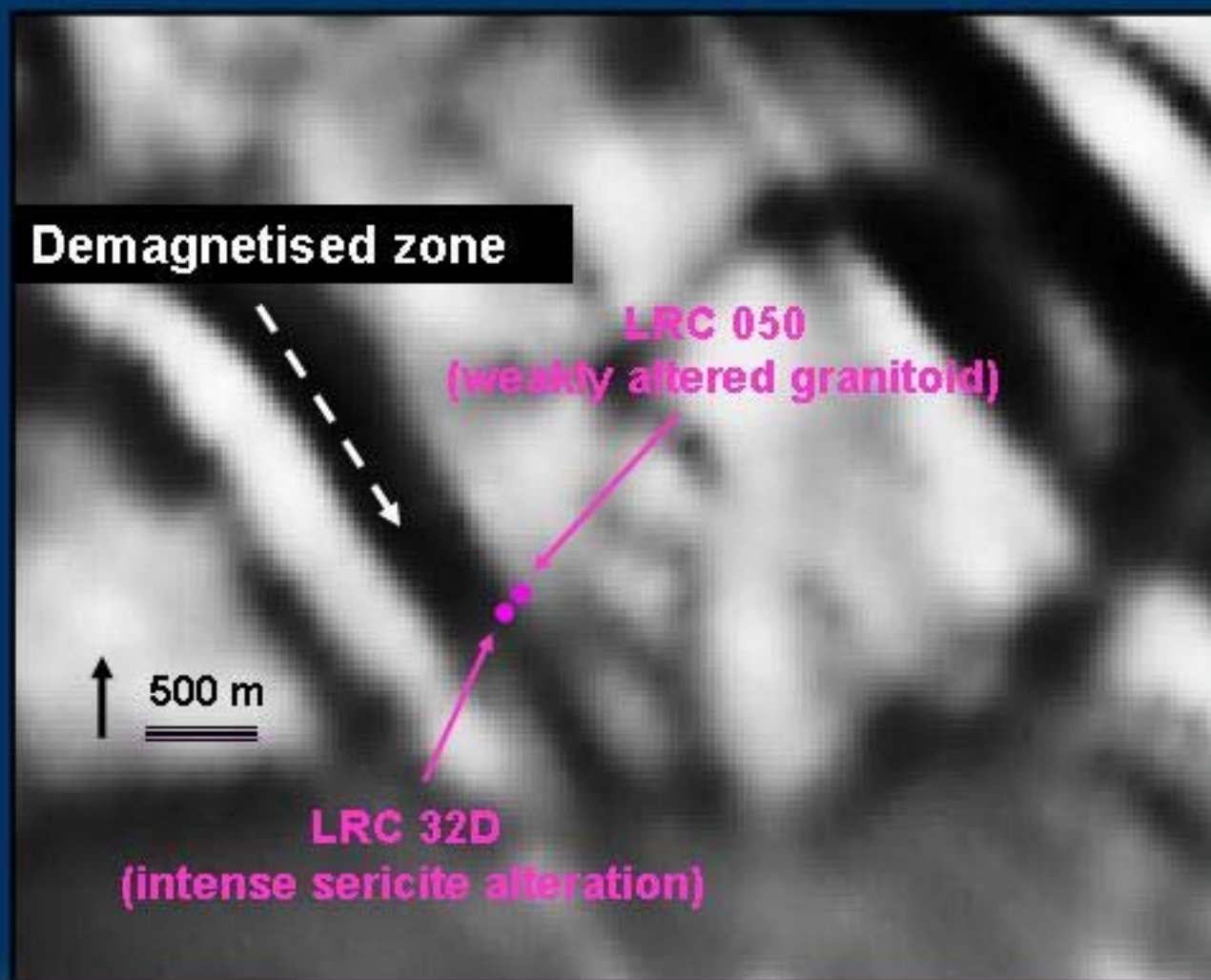
Tunkillia down hole geophysics



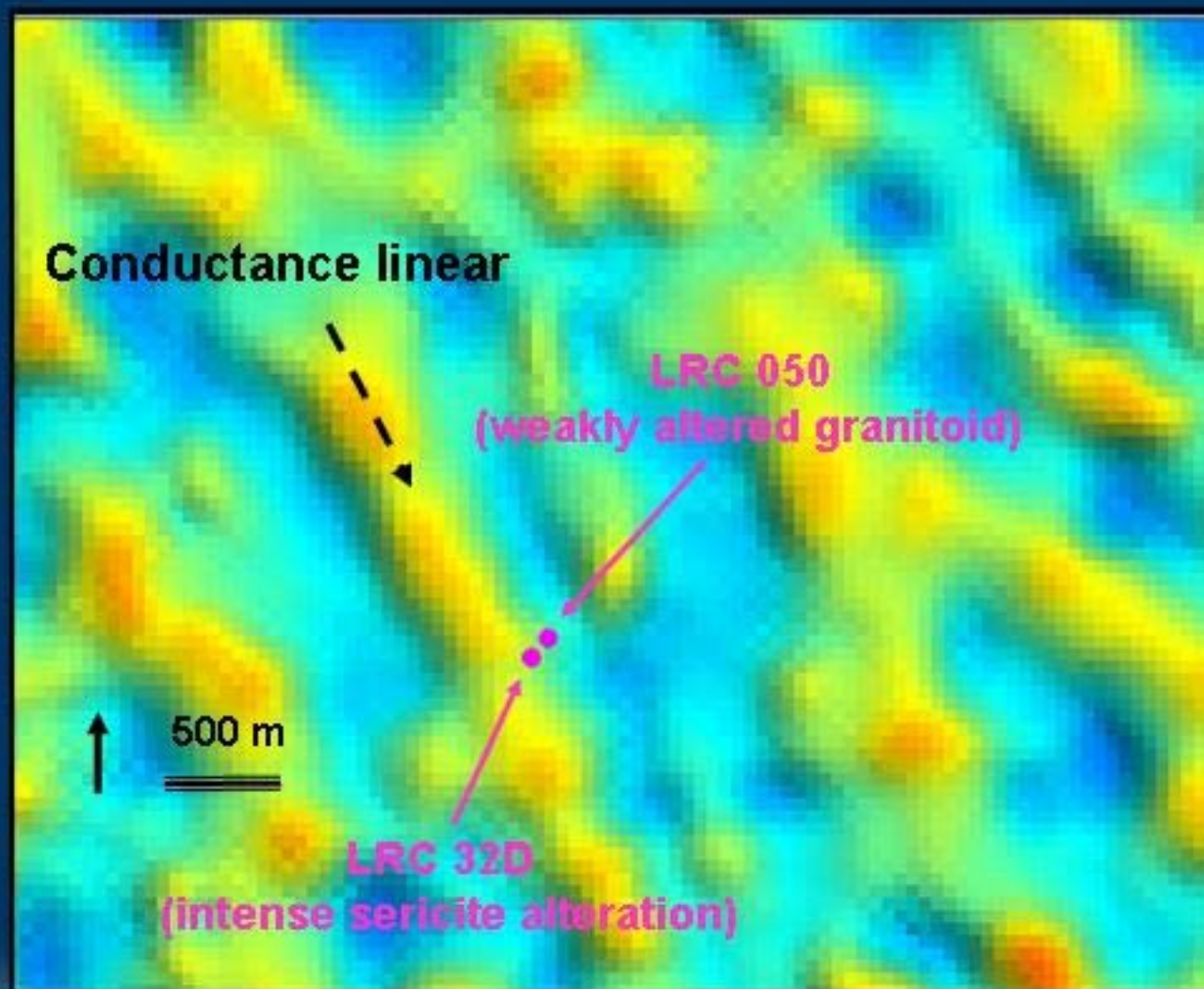
Tunkillia: 1 VD derived from the AEM survey at 150m line spacing



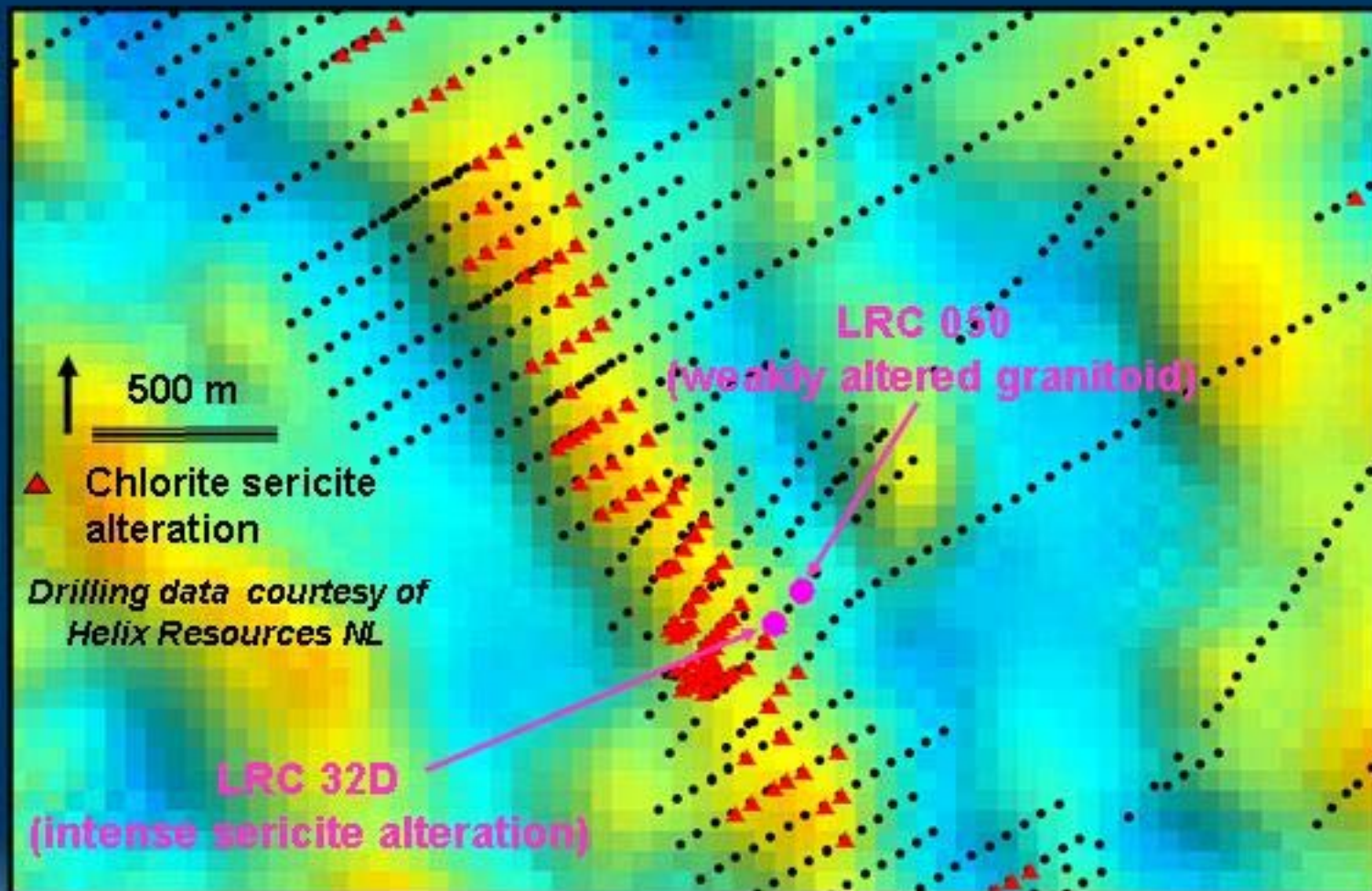
1VD magnetics derived from the AEM survey at 150m line spacing



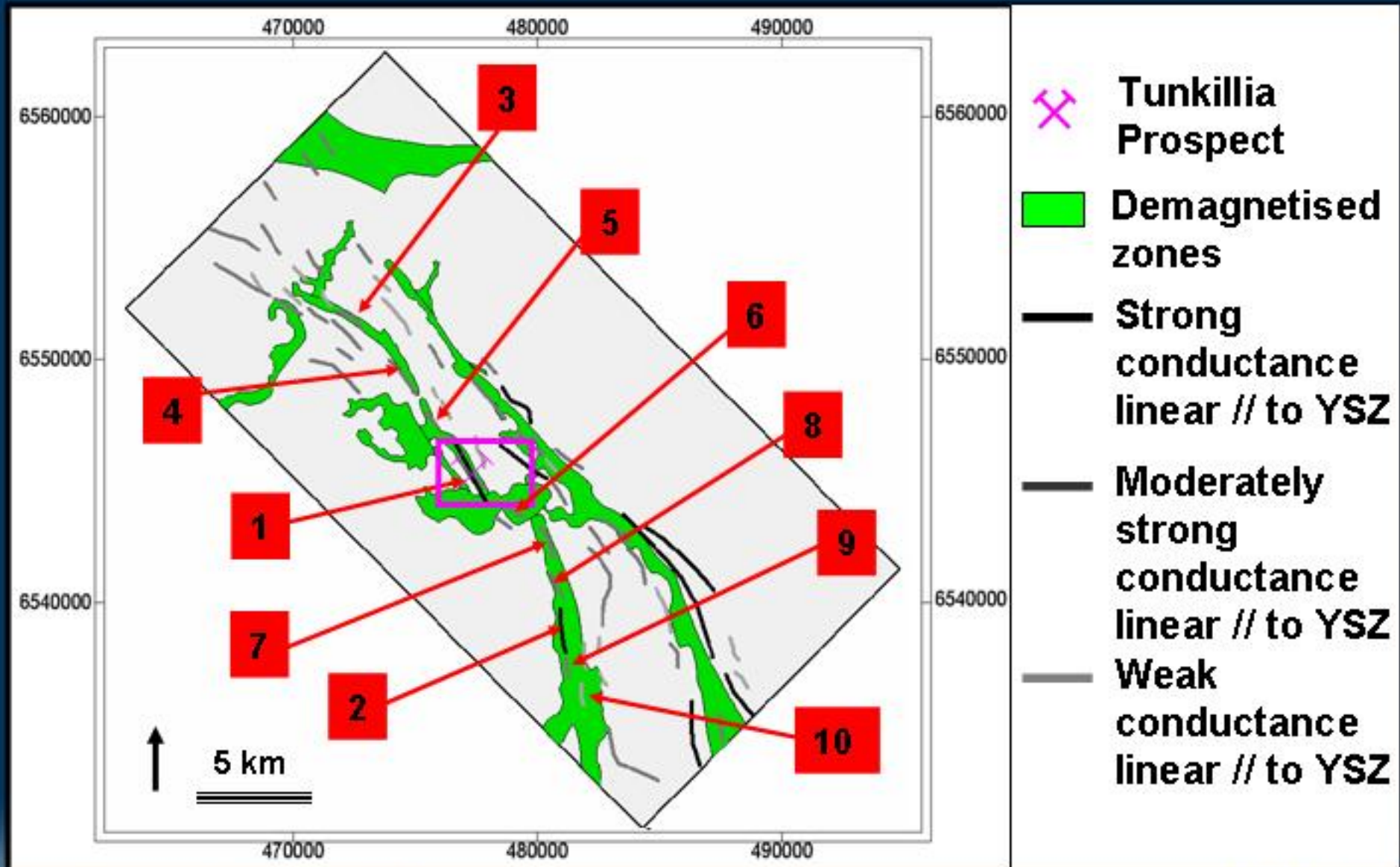
Residual component of the AEM conductance data



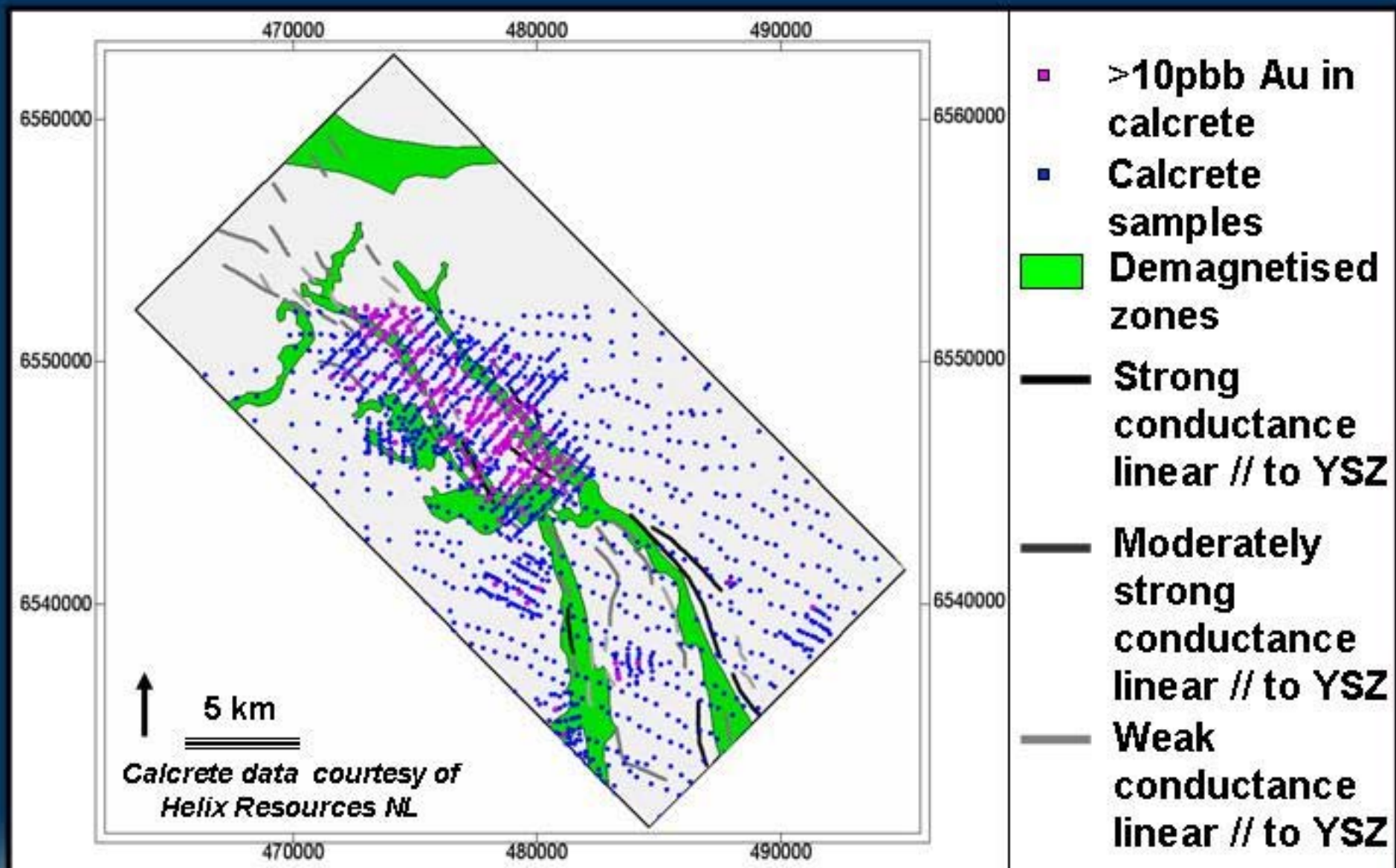
Residual component of the AEM conductance data and company drilling



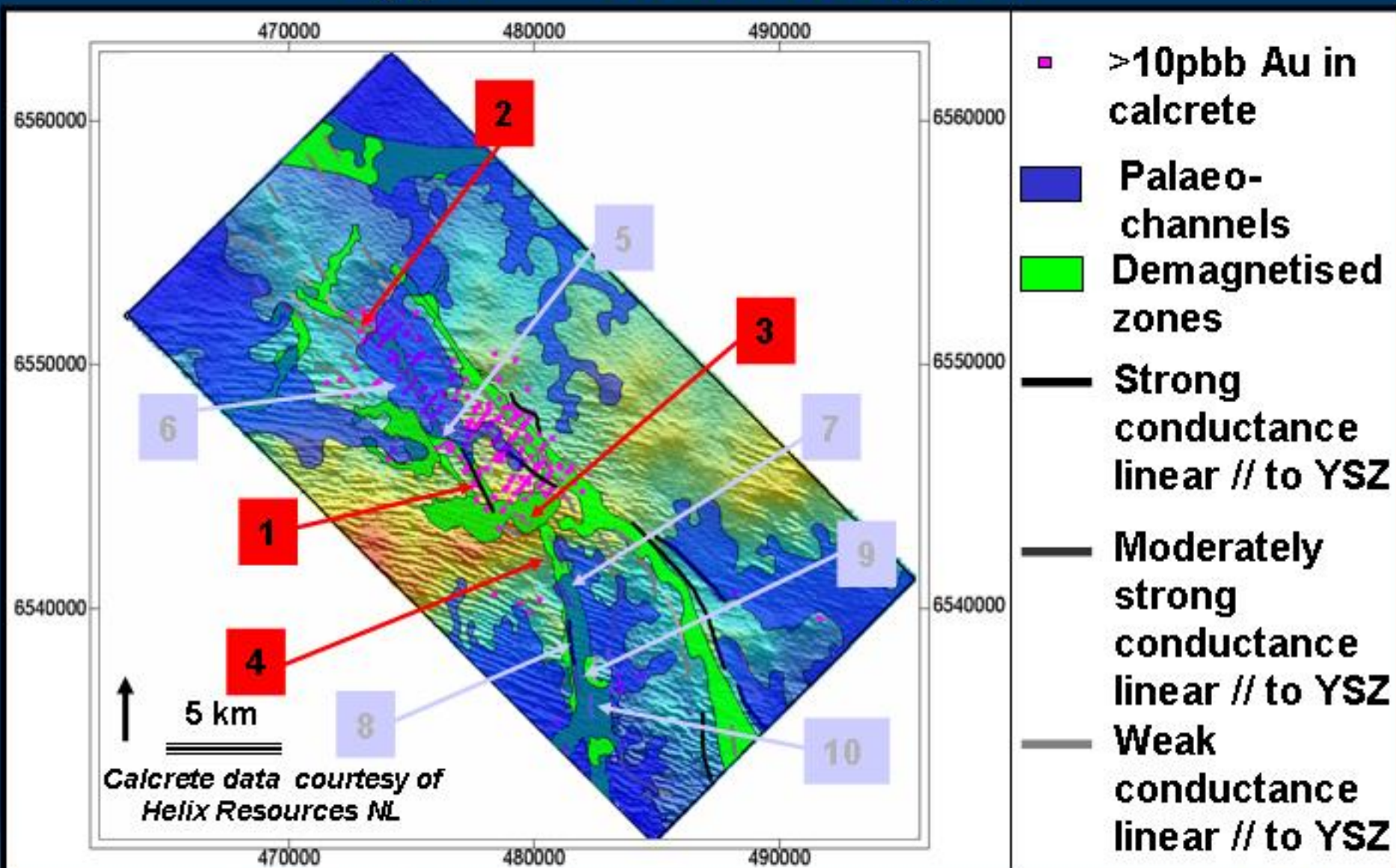
Conductance linears parallel to YSZ & elongate demagnetised zones → targets



Au in calcrete anomalies > 10ppb



Calcrete anomalies classified by regolith type → ranked targets



Preliminary exploration strategy for Central Gawler Au Province

Regional

Low density
calcrete
sampling



District

AEM
Mag

Map
alteration
zones and
identify
targets



High density
calcrete
sampling



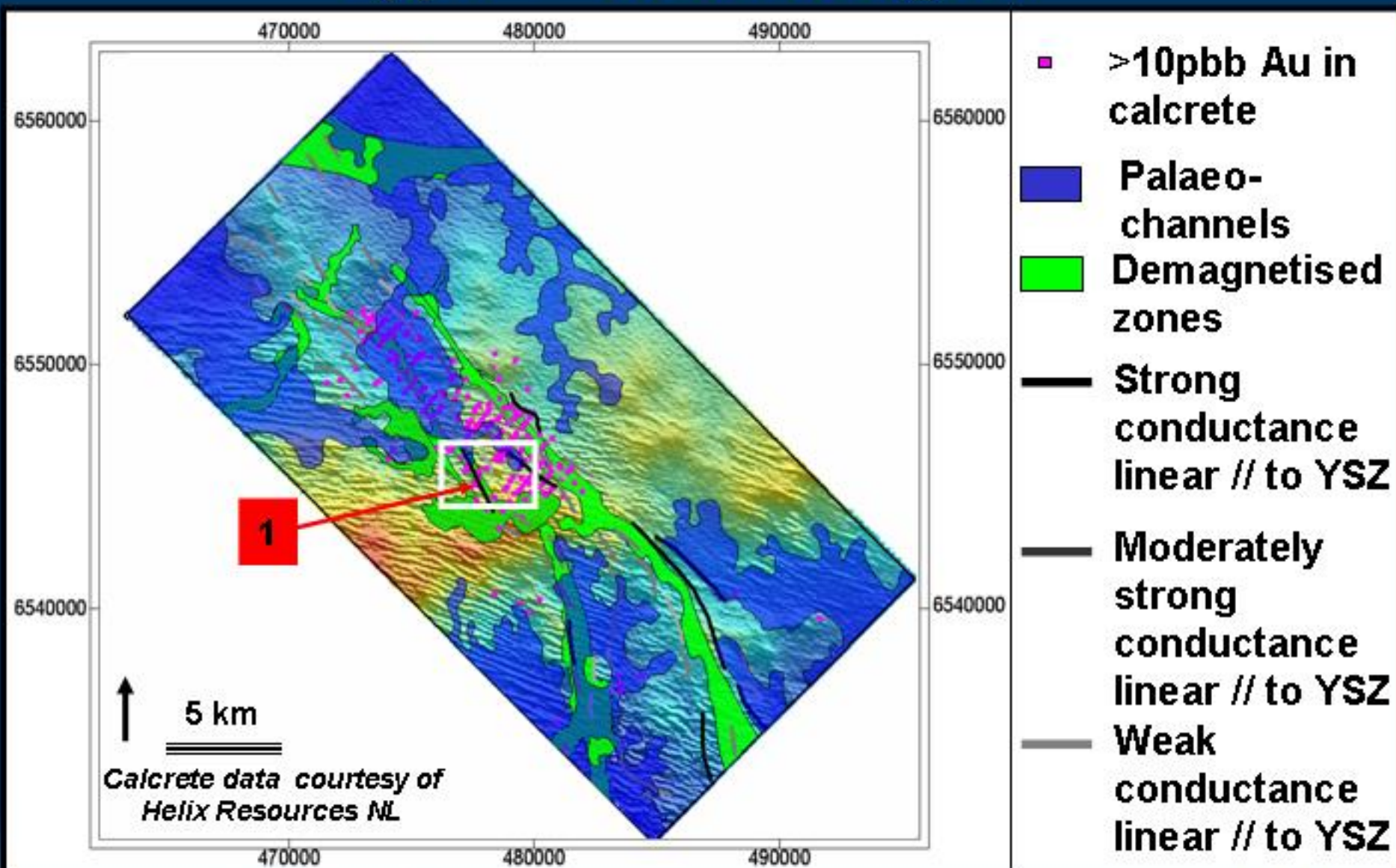
Classify
anomalies
and rank
targets



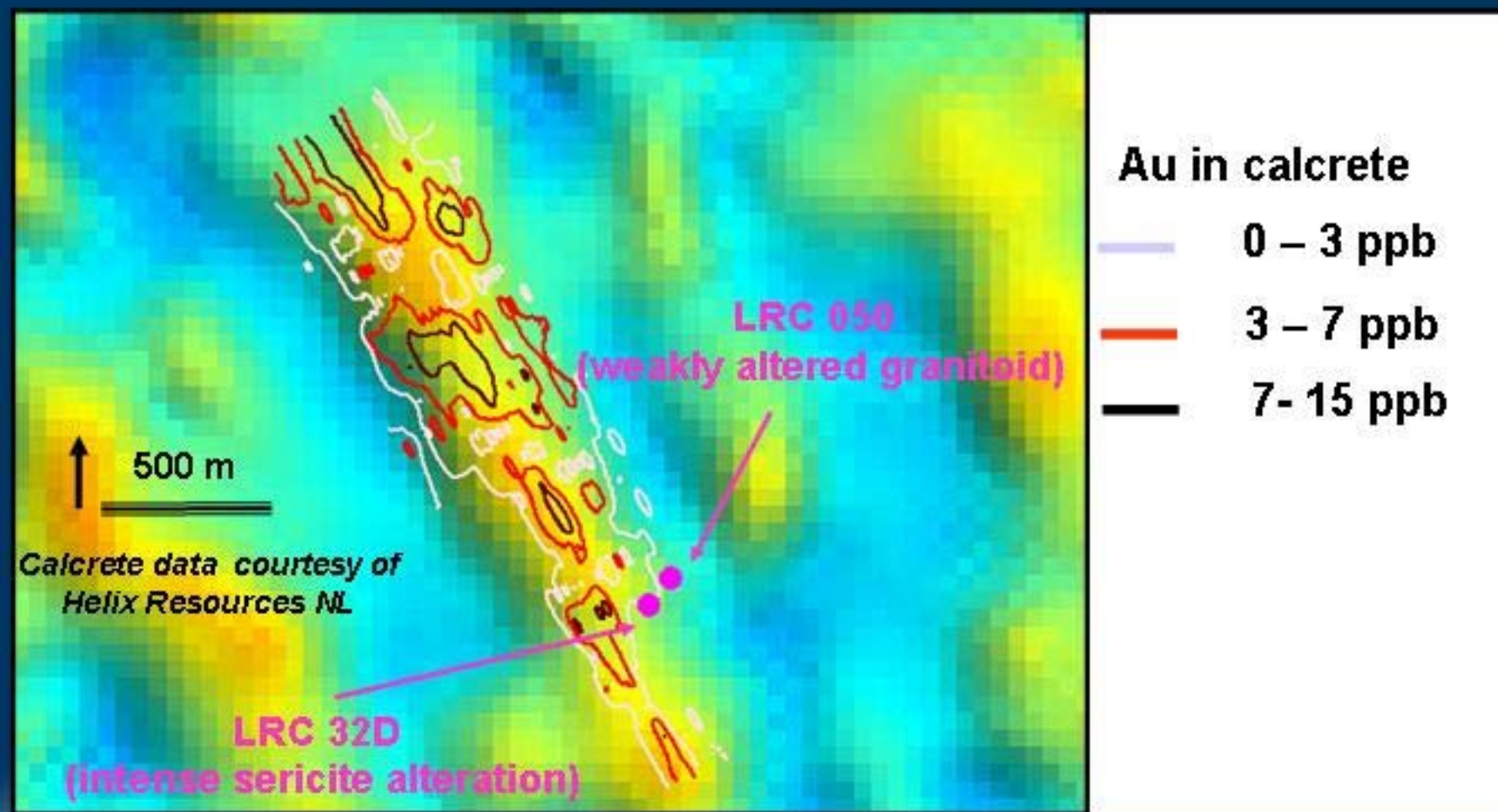
Data acquisition

Interpretative analysis

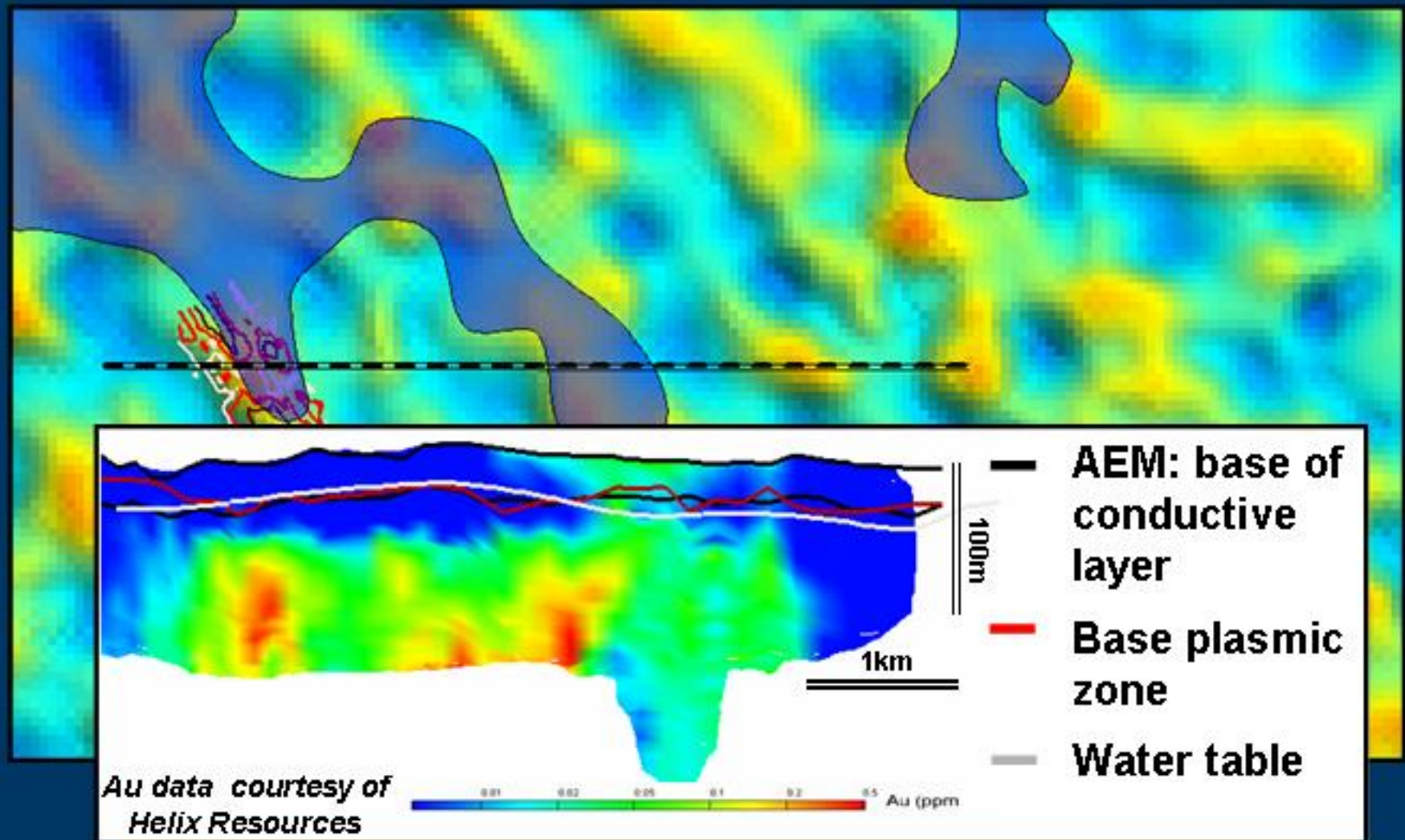
Calcrete anomalies classified by regolith type → ranked targets



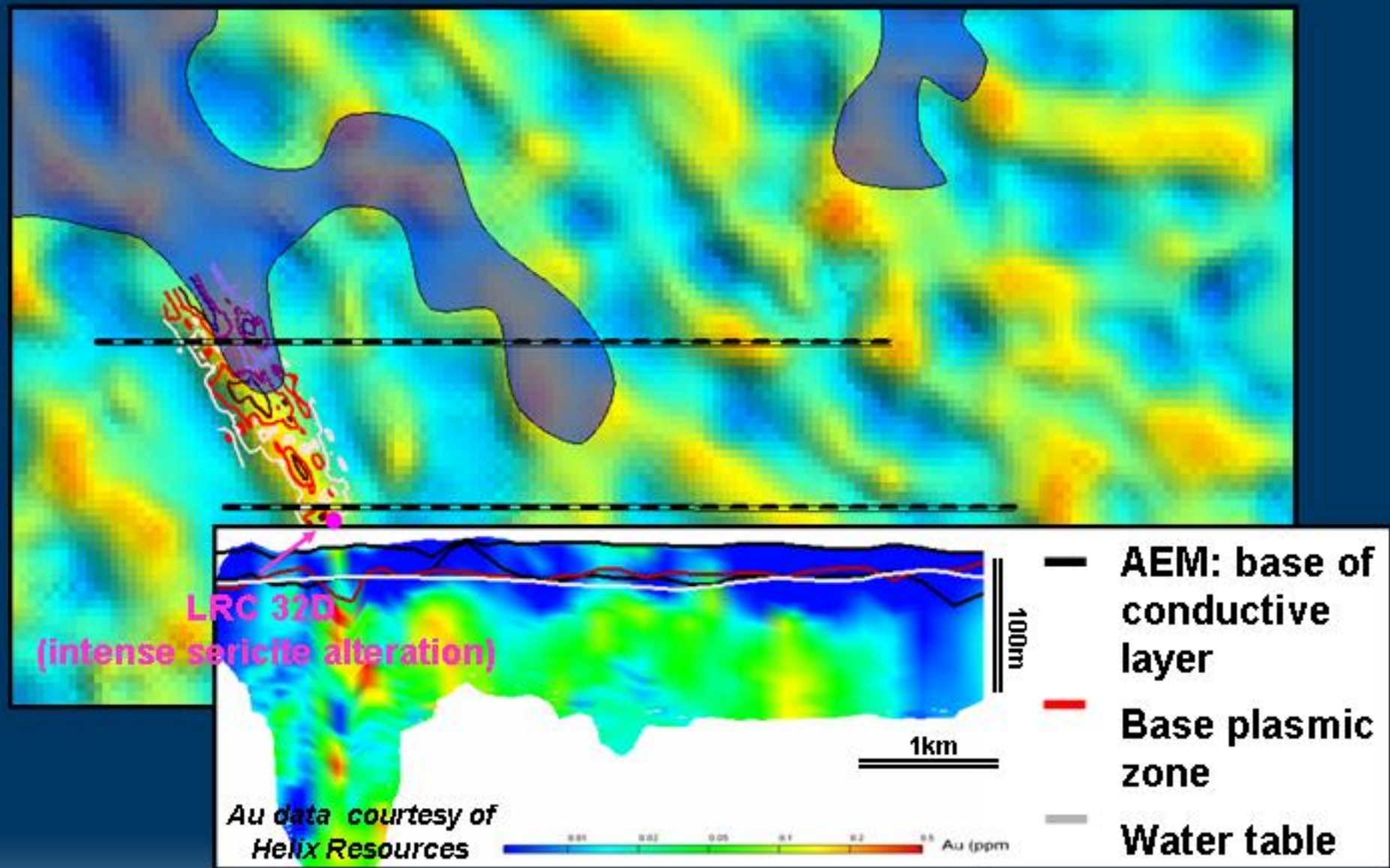
Residual component of the AEM conductance data & contoured infill calcrete data



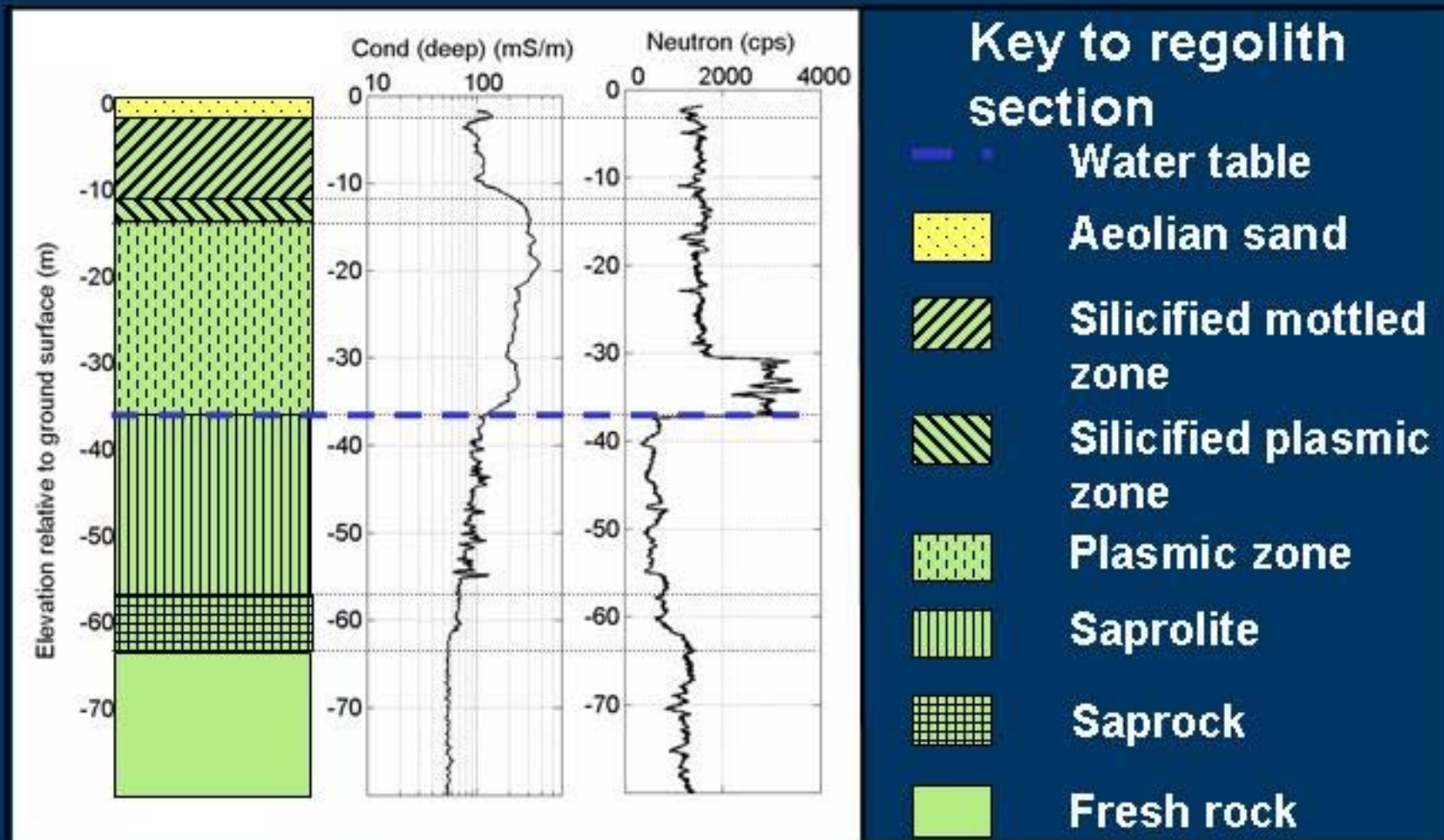
Sections from block model of Au distribution



Sections from block model of Au distribution

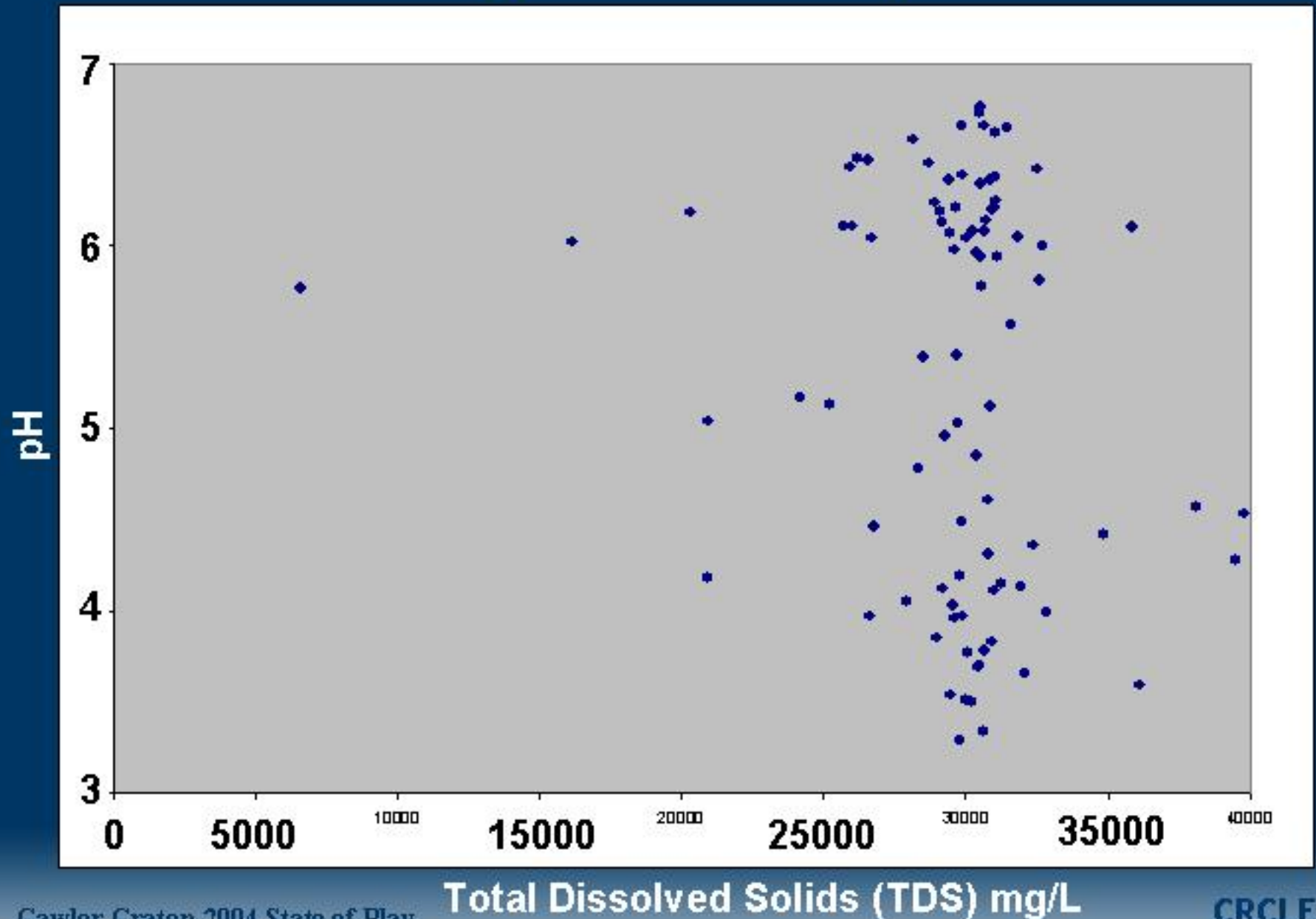


Tunkillia down hole geophysics

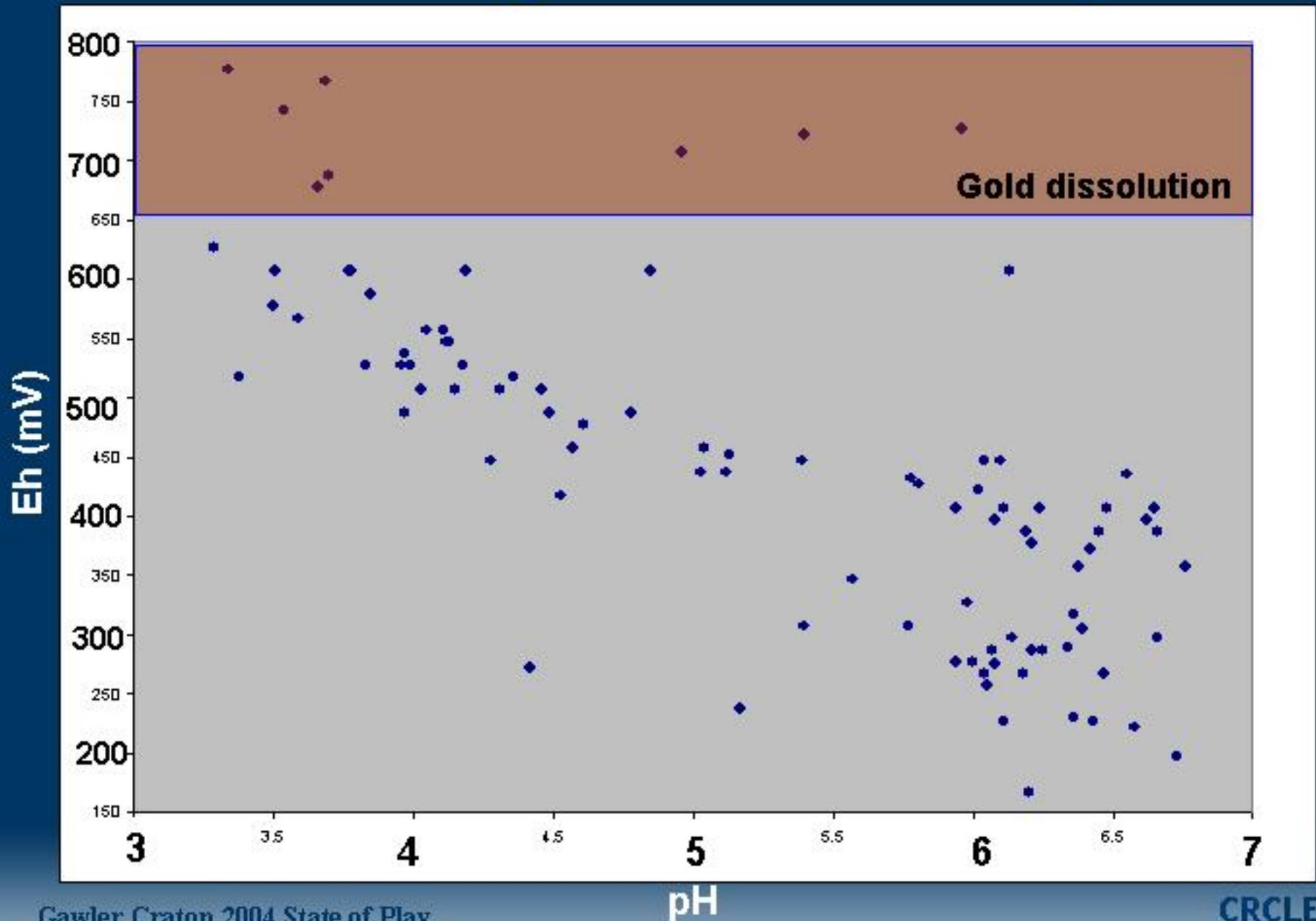


LRC 32D: intense sericite alteration

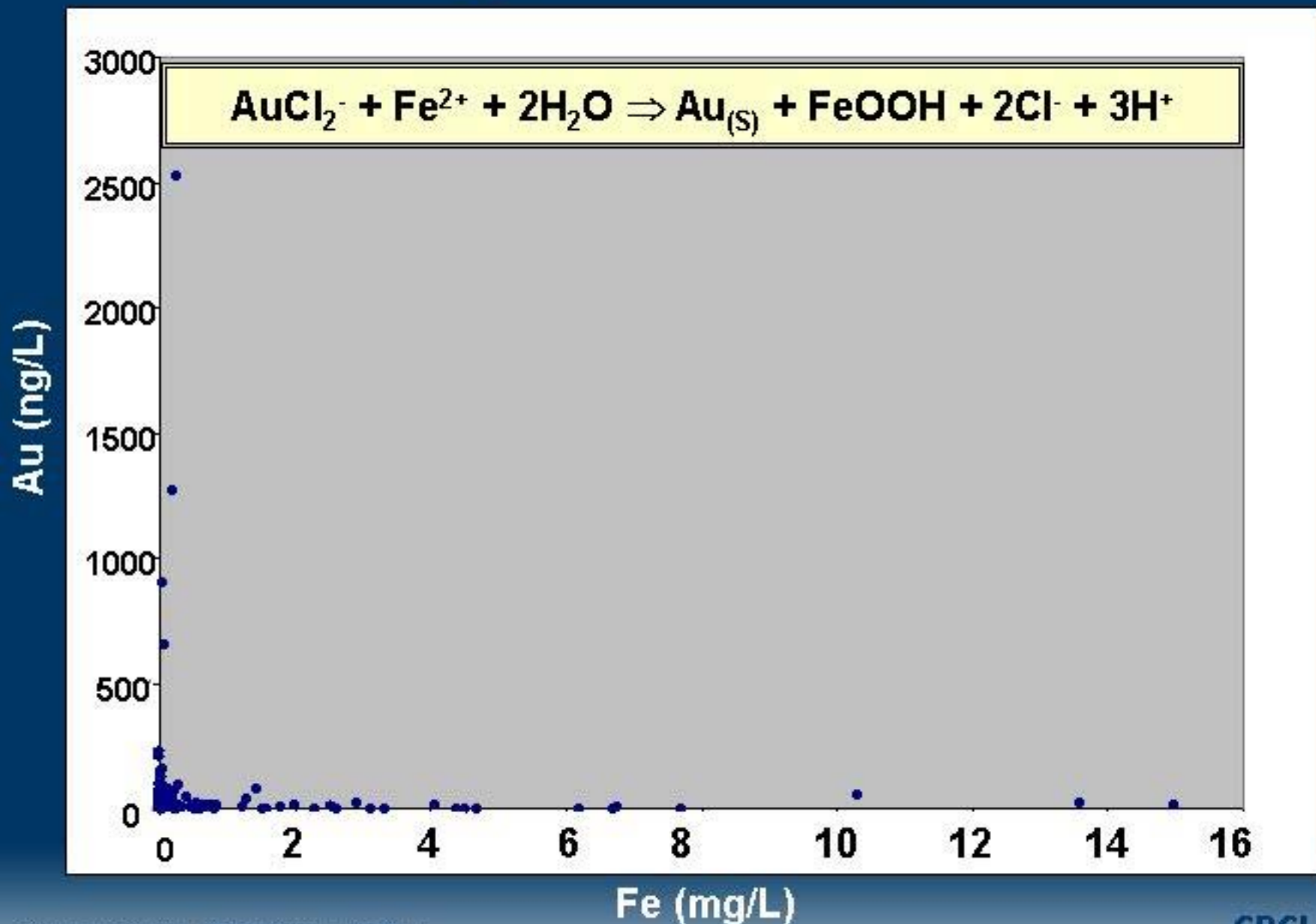
Tunkillia groundwater: pH v TDS



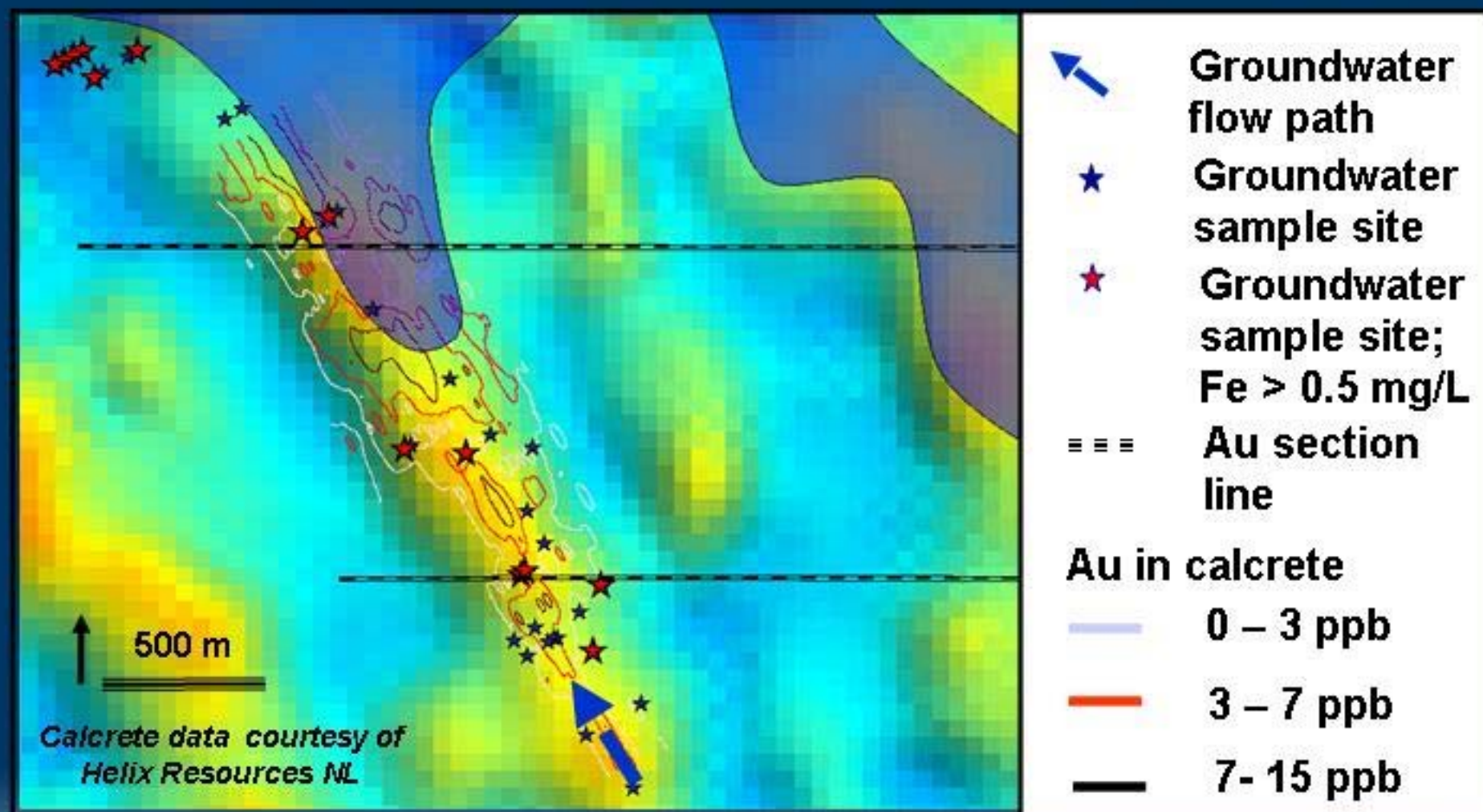
Tunkillia groundwater: Eh v pH



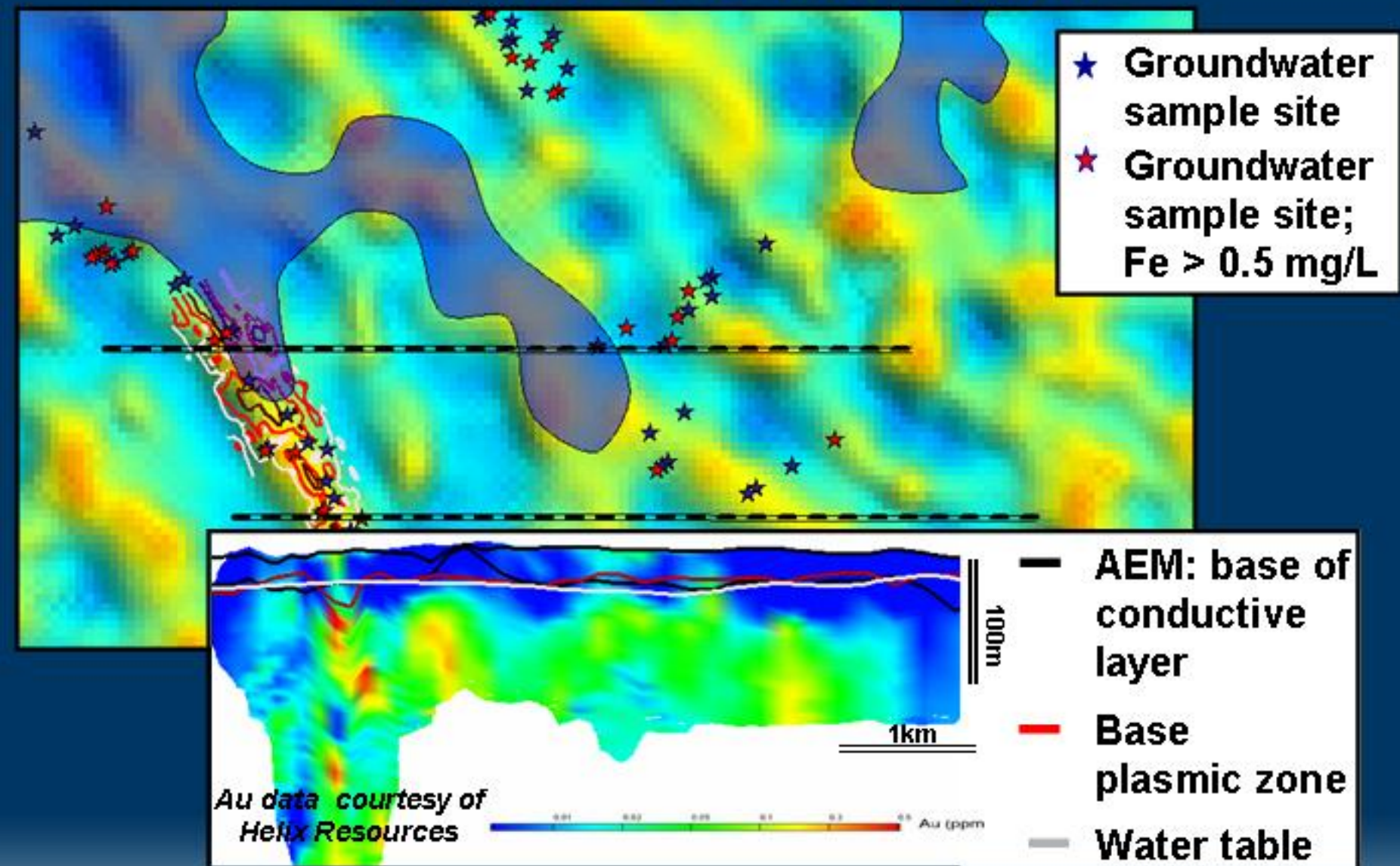
Tunkillia groundwater: Au v Fe



Groundwater sample sites, highlighting sites at which Fe content exceeded 0.5 mg/L



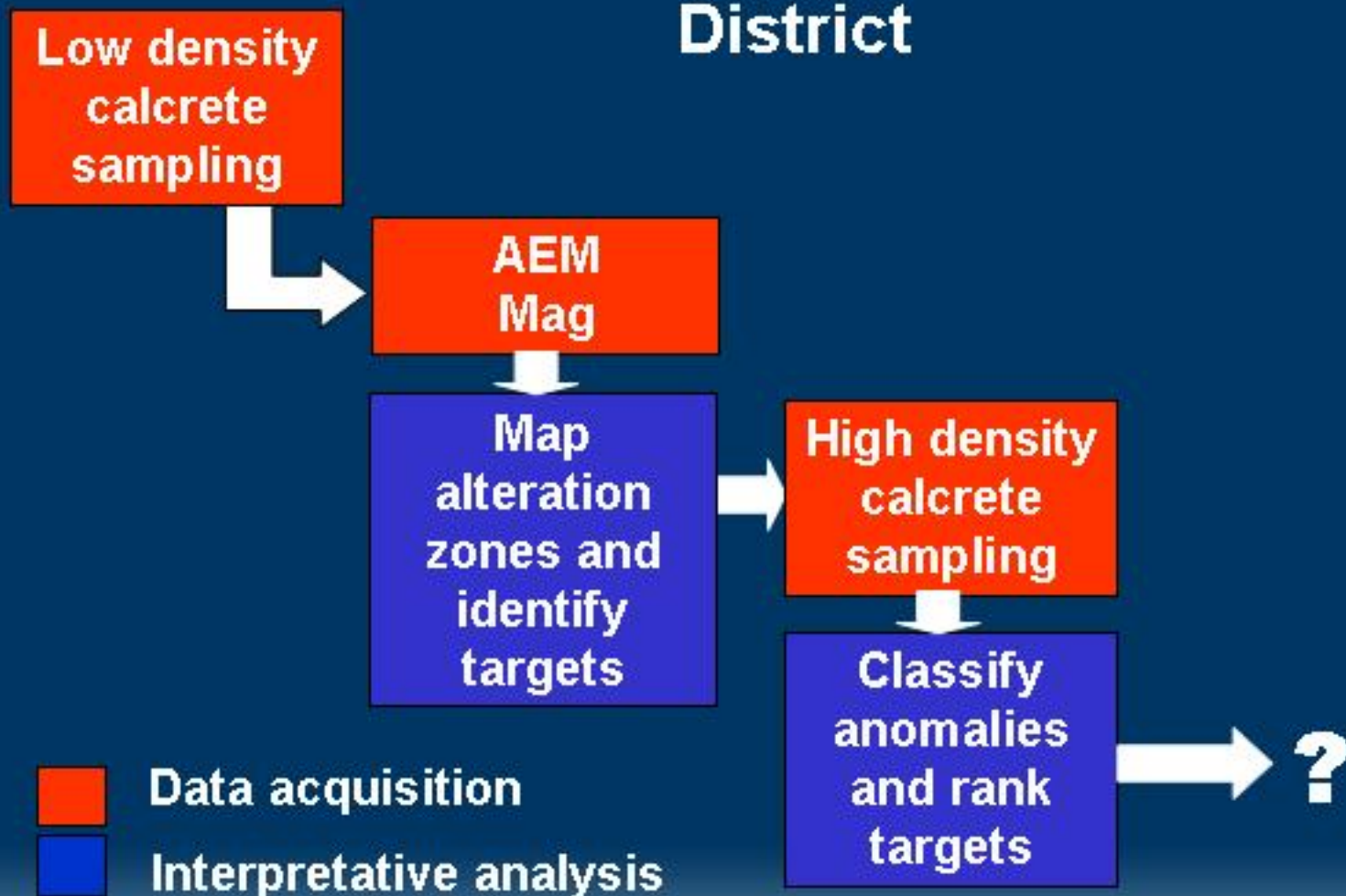
Groundwater data and section from block model of Au distribution



Preliminary exploration strategy for Central Gawler Au Province

Regional

District



Preliminary exploration strategy for Central Gawler Au Province

Regional

Low density
calcrete
sampling

AEM
Mag

Map
alteration
zones and
identify
targets

District

High density
calcrete
sampling

Classify
anomalies
and rank
targets

Prospect

Drill

Sample regolith

Sample
groundwater

Model groundwater
flow paths &
interaction with
regolith host

Vector to
mineralisation

 Data acquisition
 Interpretative analysis

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