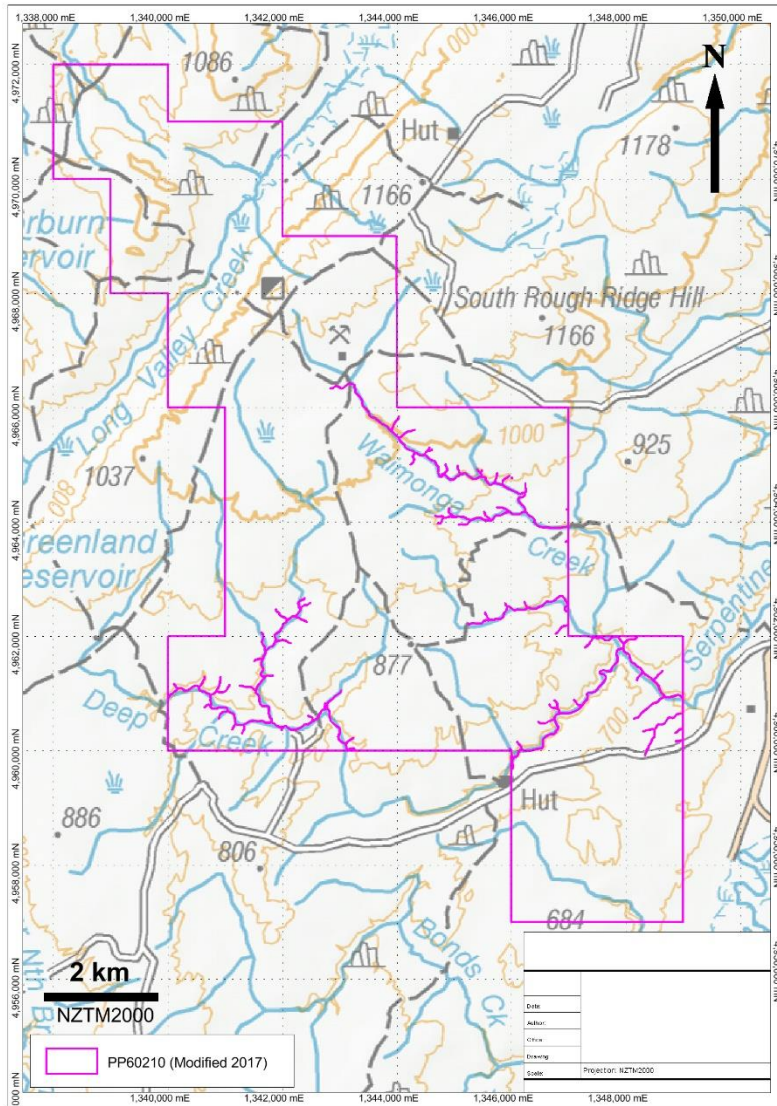
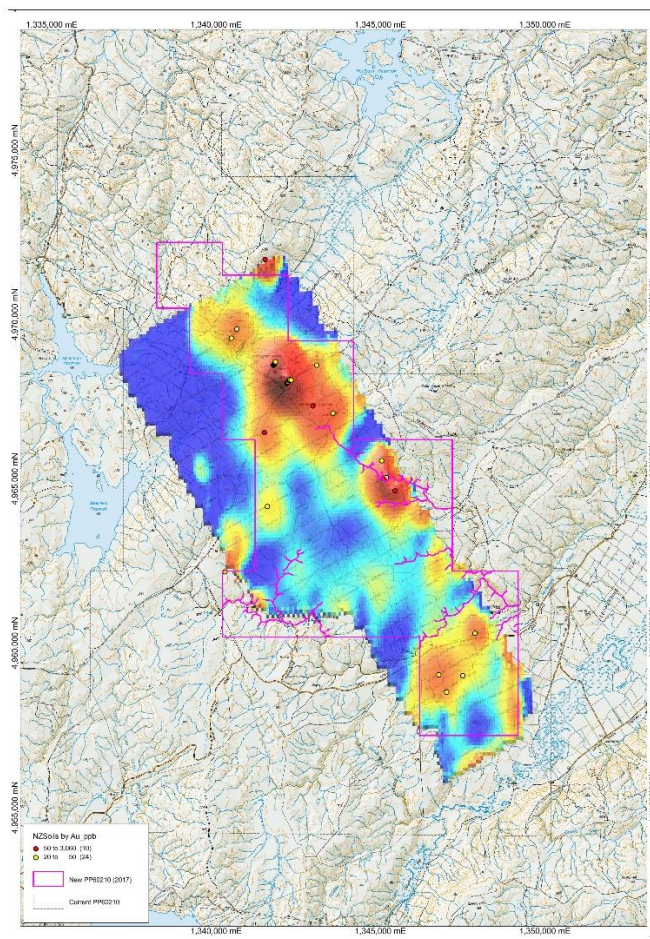


SERPENTINE PROSPECTING PERMIT



- **The Serpentine Prospecting permit (PP60210) covers mined vein and widespread placer deposits where gold mining has taken place.** It extends over 72 sqkm. Excluded stream areas in red cover previous gold dredging permits. The permit operator is Mineral Rangahau Ltd.
- Shear zones potentially hosting gold deposits similar to the Macraes mine could exist in any of three situations on the permit,
 - 1) at the Caples-Torlesse terrane boundary which passes through from NNW to SSE
 - 2) near the possibly coincident schist textural zone III and IV boundary as is the case at the Macraes Mine,
 - 3) and along lines of higher conductivity as delineated by a recent airborne EM survey.
- If any of these three boundaries are marked by shear zones dipping at shallow angle to the SW they could define the southern margin of a metamorphic core complex where the Hyde-Macraes shear zone dipping at shallow angle to the NE forms the northern boundary.

- Poor schist exposure partly due to deep loess renders the exact line locations for the first two boundaries uncertain using geologic mapping.
- The lines of higher conductivity may reveal conductive water-laden metapelite bands or gold bearing shear zones enriched in conductive graphite and arsenopyrite. Both of these will be easily eroded and now hidden under soil or loess.
- A recent regional magnetic survey shows a well-defined line of magnetic contrast running for over 20km through the permit. This appears to confirm the boundary between the Caples (red and more basic/magnetic) and the Torlesse terranes as lying within the permit, close to the line mapped by geochemical sampling.
- Vein gold and placer gold have both been mined on or near the line of magnetic contrast.
- A previous operator has conducted a close-spaced soil survey over much of the permit, but analysed only for gold and not arsenic. Analysis for arsenic is critical in distinguishing dispersed detrital (placer) gold in soil, from gold derived from underling rock. It is further believed that the same operator analysed only the soil immediately under the organic surface layer and not the C horizon. The material thus analysed is likely contaminated by loess, if not wholly composed of it.
- The operator proposes careful soil sampling where only C horizon soil samples minimising loess contamination will be taken and analysed for Au, As and perhaps Sb. At least 500 samples will be needed, for an initial survey designed to see if arsenic and gold anomalies coincide.



Map showing previous soil survey for gold only. Highest grades appear over known mined quartz veining.