

Hydrogeochemical Sampling

Non-ground disturbing technique

Groundwater exists across most of Australia. Most groundwater originates as rainfall, hitting the ground and then traveling through soil and rock as it makes its way to an aquifer.

As it makes this journey, the groundwater picks up traces of chemicals from the rocks it travels through.

Hydrogeochemical sampling involves collecting samples of groundwater and analysing them to determine which chemical elements are present.

Hydrogeochemical sampling is a passive sampling technique that has the potential to see through overlying soil to the rocks below and help target areas of interest and / or prospectivity.

Agricultural land contains infrastructure, such as windmills, wells and water bores, from which groundwater samples can easily be collected (provided landowners permit IGO Ltd to enter their land and access this infrastructure).

If access is approved, the equipment required to collect and prepare groundwater samples in the field includes:

- Bucket, bailer or pump (depending on infrastructure) to collect sample
- Equipment to measure water level, acidity (pH), oxidation (eH), temperature and electrical conductivity
- Filtration equipment
- Storage bottles (for water samples)
- Activated carbon sachets (for insertion into gold / platinum group element storage bottles)

The process of collecting and preparing hydrogeochemical samples is relatively quick (minutes, although this depends on water flow rates) and has little to no impact on the surrounding environment or land use.

Once collected and prepared, hydrogeochemical samples are sent to a laboratory for analysis.



Figure 1: Collecting water sample from an operating windmill



Figure 2: Using a hand bailer to collect water from a bore