

Wairakei analytical laboratory precision assured

Geothermal and groundwater sample analysis – for insight and assurance



The Wairakei Analytical Laboratory at GNS Science is a world leader in geothermal and groundwater analysis and interpretation.

We offer you expert analysis, interpretation, trend assessment and reporting. We can also help or advise on sampling, exploration and monitoring. Our expertise is available for both new and existing geothermal and groundwater projects, as well as for a wide range of non-routine analyses and interpretation needs.

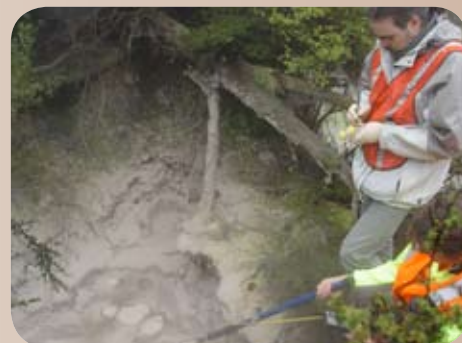
Whatever your needs, be sure of excellence. We have extensive national and international experience, and multidisciplinary research skills. We also house New Zealand's most extensive set of geothermal and groundwater databases.

We support projects for government, local authorities, industrial and agricultural clients, consultancies, iwi, and other organisations. We look forward to solving your analytical problems with difficult or unusual samples, and are happy to customise our services to meet your specific needs.

at a glance →

- **World-leading** GNS Science facilities for geothermal and groundwater analysis rank amongst the very best in the world. Our Wairakei laboratory undertakes water and gas analysis for many international organisations.
- **Geothermal water and gas analysis expertise** The Wairakei team has extensive experience with sampling and analysis of water and gas samples from geothermal and volcanic sources. We have developed special treatment methods to deal with these types of samples.
- **Proven** Our laboratory has accreditation for analysis of groundwaters and geothermal waters; and of geothermal/volcanic gases. This IANZ accreditation covers staff training, quality control, methodology and management, and is compliant with NZS/ISO/IEC 17025:2005.
- **Robust** Our analytical work is undertaken by highly qualified technical staff. You can be certain of optimum precision and quality control.
- **Sampling support** We can arrange field sampling for both surface features and subsurface (downhole) collection. Our team can design and undertake tracer studies.
- **Fast** The turnaround time for routine analytical work is typically less than 15 business days from receipt of the samples.
- **Tailored** If needed, we can tailor analysis reporting to your own special requirements. Just ask us.
- **National Isotope Centre** GNS Science offers a wide range of isotopic measurements for varied applications and research programmes around the globe. Services include D/H, ^{13}C , ^{18}O , ^{34}S , ^{15}N , ^{14}C , tritium (^3H) and water dating (CFCs and SF_6).

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specialist analysis →

The Wairakei Analytical Laboratory offers extensive experience with the analysis of water and gas samples from geothermal and volcanic sources. We have developed special treatment methods to deal with these samples - which tend to have difficult or unusual composition. We also regularly handle groundwater and other aqueous samples with simpler composition.

We regularly analyse:

- Geothermal waters from hot springs, geysers, mud pools, and seeps
- Volcanic crater lake samples (up to 20% TDS)
- Volcanic and hot spring gas samples (He, H₂, O₂, N₂, CO, Ar, H₂S, CO₂, NH₃, C₁ – C₅)
- Seawater

- Power plant fluids including condensed steam
- Non-condensable and condensable gases in power plant steam lines
- Water and condensed steam samples for tracer studies (benzoate, isopropanol, SF₆, radioactive iodine)
- Power plant and borehole scale samples
- Caustic and saline brine samples.

about us →

The Wairakei Analytical Laboratory is located in the Taupo Volcanic Zone; New Zealand's geothermal heartland. The laboratory has performed specialist analysis services for over 25 years.

Our team of five is headed by Dr. Bruce Mountain, who has over 15 years of

experience in geothermal and mineral chemistry, and a background in geological engineering. He has authored over 25 publications in geothermal and hydrothermal chemistry, economic mineralisation, and geomicrobiology.

The laboratory is an integral part of GNS Science's geothermal and volcanic research centre.

contact us →

Please contact us for no-obligation technical advice on your analytical and sampling requirements.

To help ensure best results and turnaround we request that all potential customers contact us and discuss their analytical needs.

We can supply suitable containers and instructions on how to take your samples.

For international customers – appropriate documentation and shipping requirements

are essential - so please discuss your needs with us before sending samples.

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