

Tritium & Water Dating Laboratory Price List

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| Parameter | Methods used & detection limit | Price (per sample) \$NZD | Sample size | Turnaround |
|---|---|---------------------------|-------------------------|-------------|
| Tritium | Radiometric detection. Electrolytic enrichment + low level scintillation detectors. TR = 0.02-0.03,Bq/kg = 0.004-0.005 | \$850 | 1 Litre | 5 months |
| SF₆ | Gas Chromatography with Electron Capture Detection. Must use GNS supplied bottles. | \$415 | 1 Litre | 2-5 months |
| CFCs | Gas Chromatography with Electron Capture Detection (Ar & N ₂ are also determined). Must use GNS supplied bottles. | \$415 | 150ml | 2-5 months |
| Assessment of groundwater security (Includes tritium, CFCs, SF ₆ and interpretation) | Must use GNS supplied bottles. | \$3,155 (for a report) | | 6 months |
| Radon | Radiometric detection. Low level scintillation detectors. Bq/L = 0.1 | \$105 | 25ml | 1-2 weeks |
| δ¹⁸O | IRMS or Laser | \$85 | 5ml | 4-6 weeks |
| δ²H | IRMS or Laser | \$85 | 5ml | 4-6 weeks |
| δ¹⁸O & δ²H | IRMS or Laser | \$140 | 5ml | 4-6 weeks |
| Radiocarbon | AMS Variable pricing dependent on no. of samples submitted | \$875 | 250ml - 500ml | 10-14 weeks |
| Excess-N₂ via measurement of Ne/Ar/N ₂ | GC-TCD and Plasma Emission Detector mg/L ≈ 1 Must use GNS supplied flasks. | \$575 | 500 ml evacuated flasks | 1-2 months |
| Excess-N₂ via measurement of all noble gases by QMS | Quadrupole Mass Spectrometry mg/L ≈ 0.2 In Development (exp. 2024) | TBC | | |
| Additional fees (per sample) | | | | |
| Extra distillation | Waters which require excessive work for purification | \$85 | | |

Prices can vary depending on the sample size and interpretation required. We would be happy to work with you to build a project plan and pricing structure to suit your requirements. The laboratory analysis prices quoted above will provide you with the concentration of each tracer in the sample. Costs for interpretation and reporting are additional, please contact us. Prices are exclusive of import inspection fees, local taxes, withholding taxes and New Zealand GST that may be applicable. All prices are quoted in NZ dollars and may be reviewed at any time.

Interpretation of groundwater ages

Most groundwaters are mixtures of water with different ages because of the nature of flow in porous media. The age distribution depends on the hydrogeologic attributes of the aquifer concerned, as well as characteristics of the sampling point such as bore depth and screen length. Well-defined flow models, which describe the distribution of ages of water from different flow lines contributing to a groundwater sample, are used to calculate the mean age and mixing parameters.

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