

Tritium and Water Dating Laboratory

Price List

Version: 1st July 2025 | Valid until 30th June 2026

Parameter	Methods used & detection limit		Price (per sample) \$NZD	Sample size	Turnaround time
Tritium	Radiometric detection. Electrolytic enrichment + low level scintillation detectors. TR = 0.02-0.03, Bq/kg = 0.004-0.005		\$920	1 Litre	5 months
SF6 (Includes Halon-1301 analysis)	Gas Chromatography with Electron Capture Detection. Must use bottles supplied by the lab.		\$450	1 Litre	2-5 months
CFCs (Includes duplicate measurement of CFC-11, CFC-12 and CFC-113)	Gas Chromatography with Electron Capture Detection (Ar & N2 are also determined). Must use bottles supplied by the lab.		\$450	150ml	2-5 months
Assessment of groundwater security (Includes Tritium, CFCs, SF6 and interpretation)	Must use bottles supplied by the lab.		\$3,400		6 months
Radon	Radiometric detection. Low level scintillation detectors. Bq/L = 0.1		\$115	25ml	1-2 weeks
δ ¹⁸ O	IRMS	Submission of 1-10 samples	\$95	10ml	4-6 weeks
		Submission of 11-35 samples	\$94		
		Submission of 36+ samples	\$92		
δ ² H	IRMS	Submission of 1-10 samples	\$95	10ml	4-6 weeks
		Submission of 11-35 samples	\$94		
		Submission of 36+ samples	\$92		
δ ¹⁸ O & δ ² H	IRMS	Submission of 1-10 samples	\$159	10ml	4-6 weeks
		Submission of 11-35 samples	\$156		
		Submission of 36+ samples	\$154		
δ ¹⁵ N & δ ¹⁸ O in Nitrate (NO ₃ ⁻) dissolved in water (N concentration required)	IRMS	Submission of 1-10 samples	\$313	100ml	6-8 weeks
		Submission of 11-35 samples	\$307		
		Submission of 36+ samples	\$302		
δ ¹⁵ N in Ammonia (N concentration required)	IRMS	Submission of 1-10 samples	\$313	100ml	6-8 weeks
		Submission of 11-35 samples	\$307		
		Submission of 36+ samples	\$302		
Radiocarbon (14C)	AMS	Submission of 1-5 samples	\$950	500ml	8-12 weeks
		Submission of 6-10 samples	\$900		
		Submission of 11+ samples	\$810		
Excess-N2 via measurement of Ne/Ar/N2	GC-TCD and Plasma Emission Detector mg/L ≈1 Must use bottles supplied by the lab.		\$625	500 ml evacuated flasks	1-2 months
Excess-N2 via measurement of all noble gases by QMS	Quadrupole Mass Spectrometry mg/L ≈0.2 <i>In Development (exp. late 2025)</i>		TBC		
Additional fees (per sample)					
Extra distillation of samples for Tritium analysis. Waters which require excessive work for purification			\$95		
Hydrogen sulphide removal (per sample) for Radiocarbon analysis			\$250		
Multiple extractions needed (per additional extraction) for Radiocarbon analysis			\$250		

Prices can vary depending on the sample size/number 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 parameter.

TRITIUM AND WATER DATING LABORATORY

waterdating@gns.cri.nz
Earth Sciences NZ (former GNS)
www.earthsciences.nz
Avalon Campus
1 Fairway Drive, Avalon
Lower Hutt 5011 | New Zealand
T +64 4 570 1444