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All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

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19 DEC 2012

File Ref:	Report number:	2012-1285
	Report date:	18/12/2012
	WOA number:	N/A

## TEST REPORT

Client name:	Ashburton District Council	Order number:	PO 07070
Client's address:	P.O.Box 94, Ashburton		
Samples submitted by:	Chris Stanley	Date received:	14/12/2012
Samples analysed by:	Mary Jane Okey	Analyses completed:	18/12/2012
Customer supplied description:	Tinwald Bore water sample		
Sample received as:	Water		
Analyses requested:	Radon-222, Total alpha and total beta concentrations		
Analytical methods:	Liquid Scintillation Counting		

**Concentration:** If the measured value is above background at a level of confidence of 95%, then the concentration of the radionuclide is reported. The reported uncertainty is based on the combined standard uncertainty ( $u_c$ ) multiplied by a coverage factor ( $k$ ) = 2 (providing a level of confidence of 95%) as described by International Organization for Standardization, Guide to the expression of uncertainty in measurement, ISO, Geneva (1995).

**Minimal Detectable Concentration:** Reporting of a 'less than' result means that the measured value was consistent with a background measurement. The minimal detectable concentration with a level of confidence of 95% for both errors of the first and second kind is calculated as described by Currie in: L A Currie, Limits for qualitative detection and quantitative determination: Application to radiochemistry, Anal. Chem. 40(3) (1968) 586-593.

**Traceability:** Traceability to appropriate national or international standards is maintained. Details are available on request.

**Kenepuru Science Centre**  
34 Kenepuru Drive  
Porirua 5028  
PO Box 50-348  
Porirua 5240  
New Zealand  
tel: +64 4 914 0770  
fax: +64 4 914 0770

**ESR NCBID - Wallaceville**  
66 Ward Street, Wallaceville  
Upper Hutt 5018  
PO Box 40-158  
Upper Hutt 5140  
New Zealand  
tel: +64 4 259 0800  
fax: +64 4 529 0601

**Mt Albert Science Centre**  
120 Mt Albert Road, Sandringham  
Auckland 1025  
Private Bag 92-021  
Auckland 1142  
New Zealand  
tel: +64 9 815 3670  
fax: +64 9 849 6046

**Christchurch Science Centre**  
27 Creyke Road, Ilam  
Christchurch 8041  
PO Box 29-181  
Christchurch 8540  
New Zealand  
tel: +64 3 351 6019  
fax: +64 3 351 0010

**National Radiation Laboratory**  
108 Victoria Street  
Christchurch 8013  
PO Box 25-099  
Christchurch 8144  
New Zealand  
tel: +64 3 366 5059  
fax: +64 3 366 1156


## ***Results***

<b>NRL number</b>	<b>Client Code</b>	<b>Radon-222 (Bq/L)</b>	<b>Total alpha concentration (Bq/L)</b>	<b>Total beta concentration (Bq/L)</b>
2012-2309	Tinwald bore	25.2 ± 2.8	< 0.035	< 0.15

## ***Additional Information***

Results relate only to the samples as received.

***This report, or any copy of it, is only valid if it is complete.***



O. Golovko, Environmental Radiochemist

Date: 18/12/2012