



Hydrogeology Baseline Report

Jay Project

Appendix F, Diavik Groundwater Quality Versus Depth Plots

September 2014

## **ANNEX IX: APPENDIX F**

# **DIAVIK GROUNDWATER QUALITY VERSUS DEPTH PLOTS**

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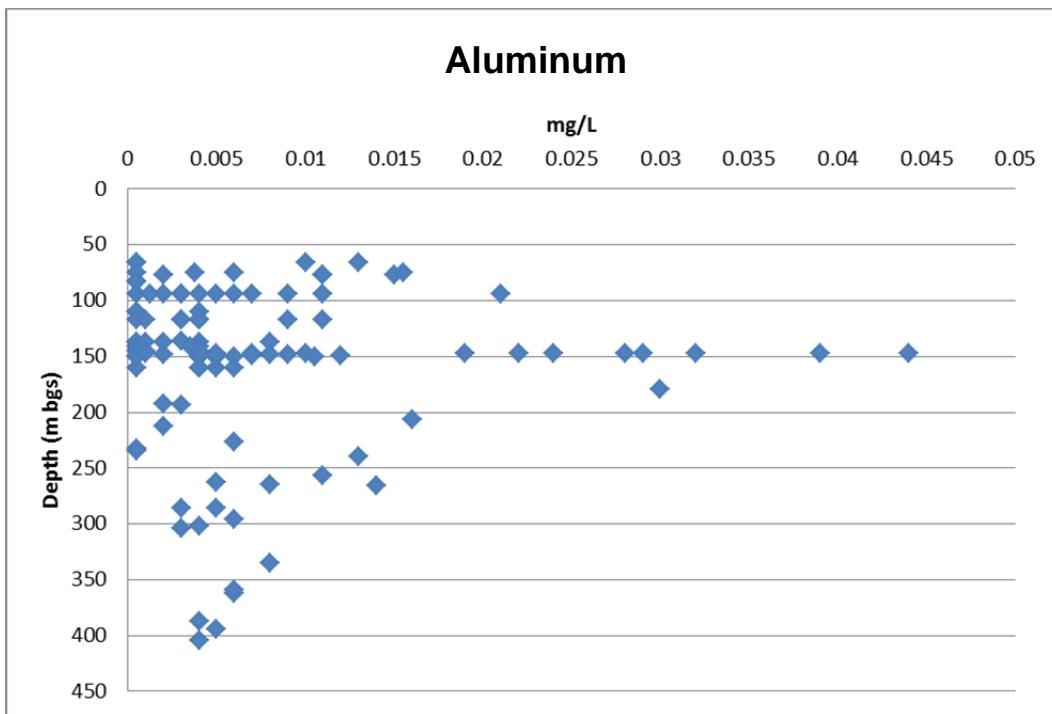
## F1 METALS

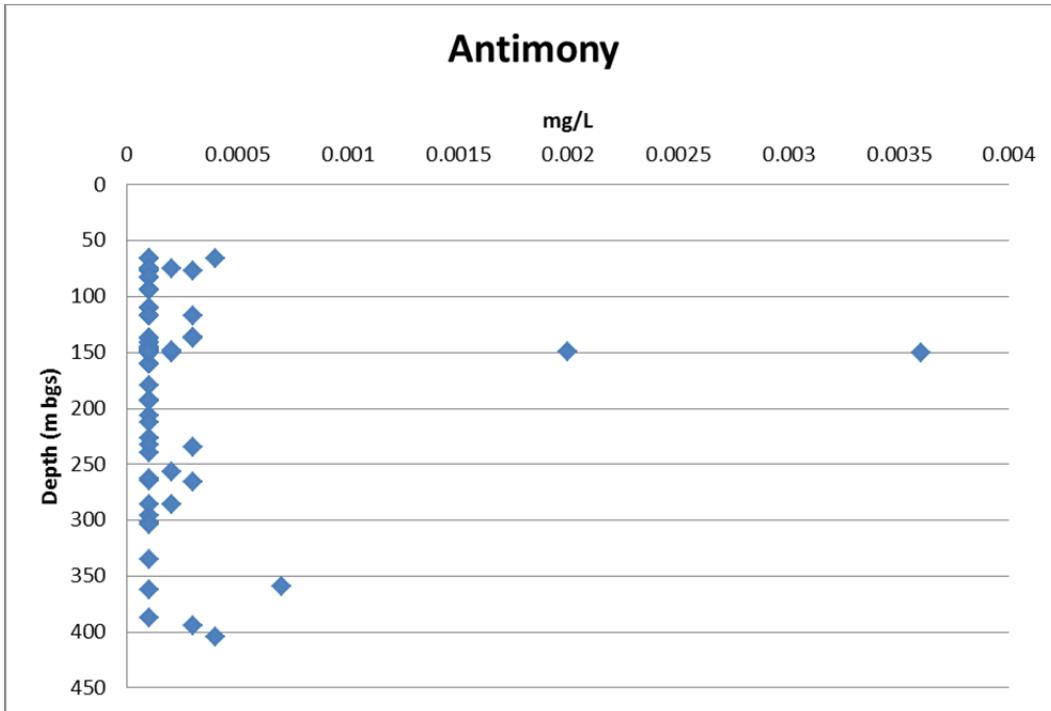
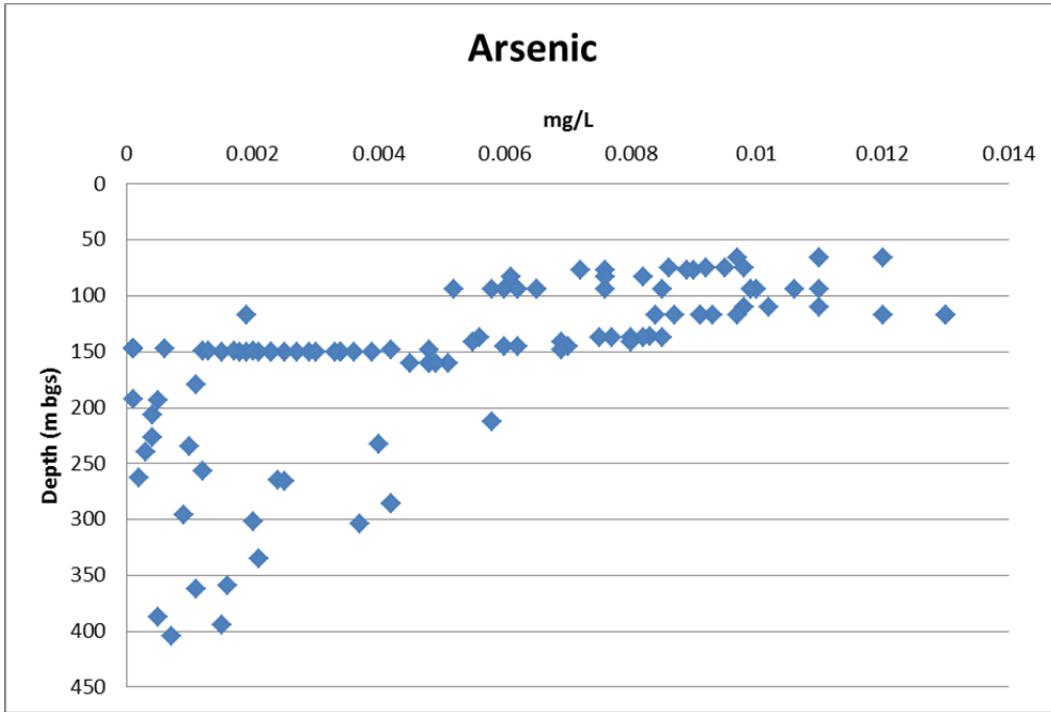
Source: Data reproduced from Blowes DW, Logsdon MJ. 1998. Diavik Geochemistry Baseline Report. Prepared for Diavik Diamond Mines Inc.

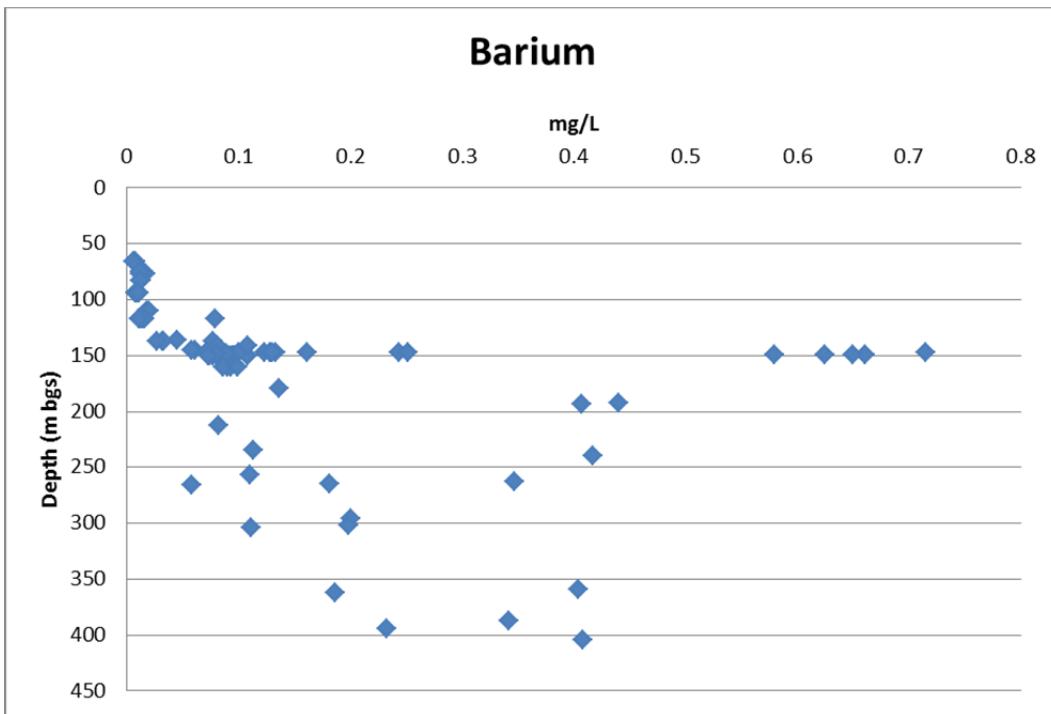
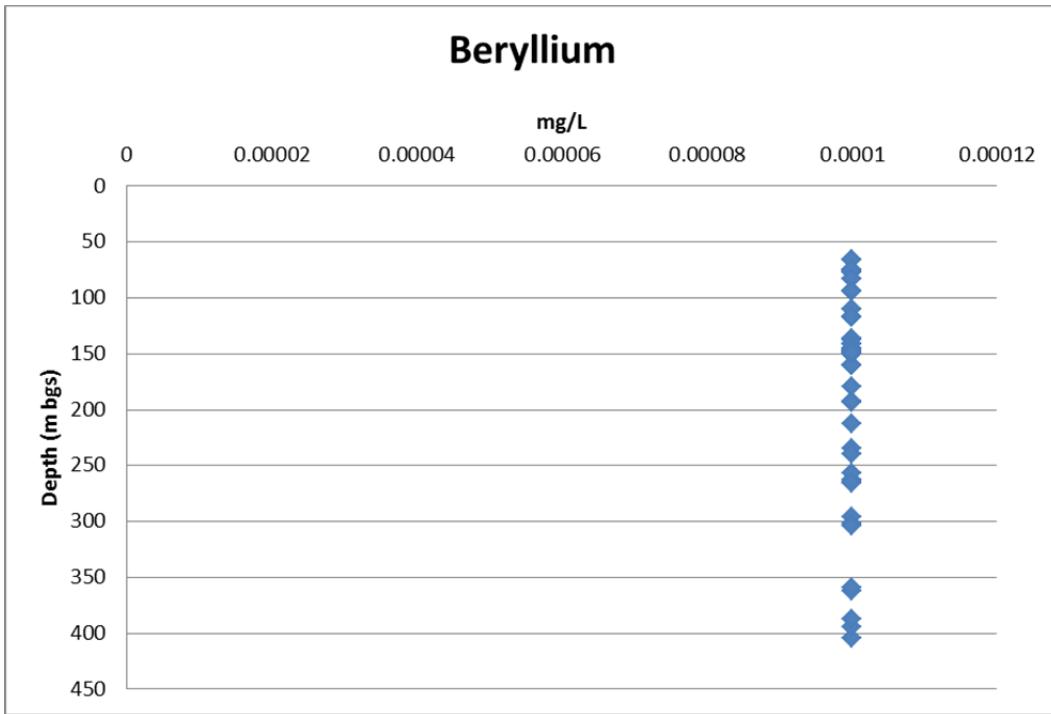
Note: Results below the detection limit are presented as half the detection limit.

mbgs = metres below ground surface; mg/L = milligrams per litre; µg/L = micrograms per litre.

**Figure F1-1 Dissolved Aluminum Concentrations With Depth**

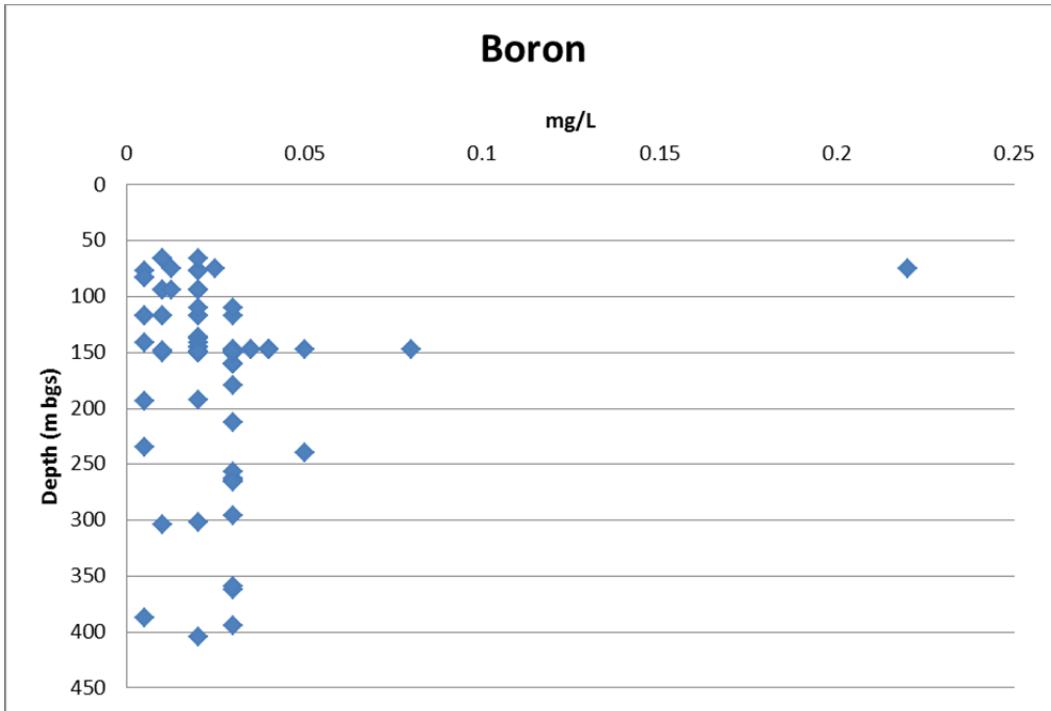


**Figure F1-2 Dissolved Antimony Concentrations With Depth**

**Figure F1-3 Dissolved Arsenic Concentrations With Depth**


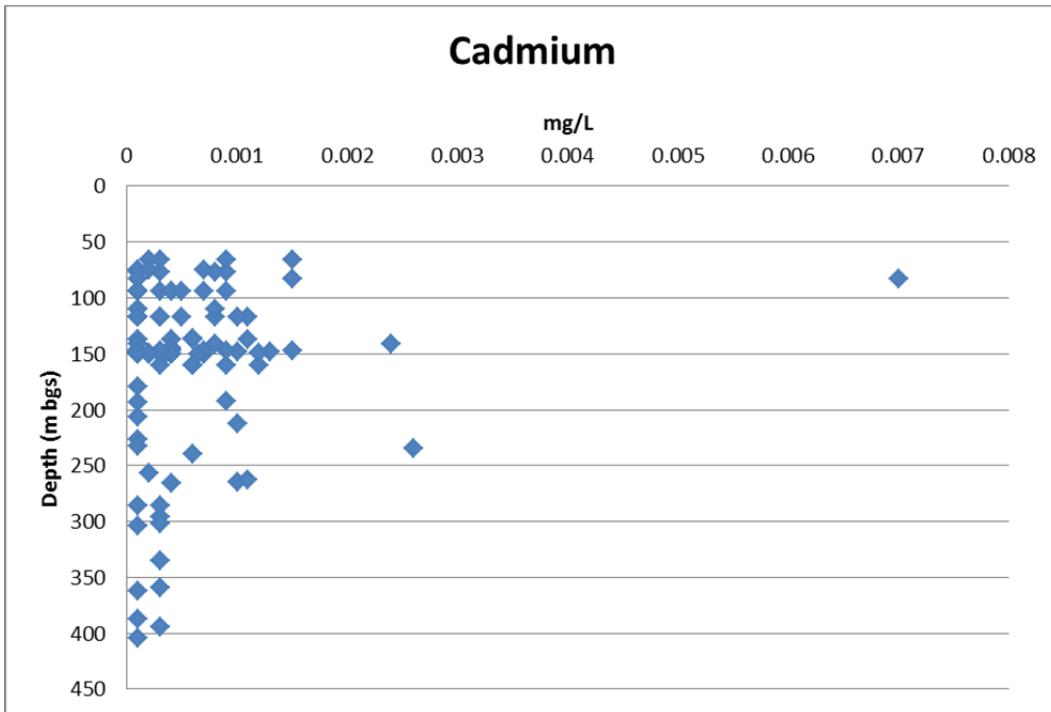
**Figure F1-4 Dissolved Barium Concentrations With Depth**

**Figure F1-5 Dissolved Beryllium Concentrations With Depth**


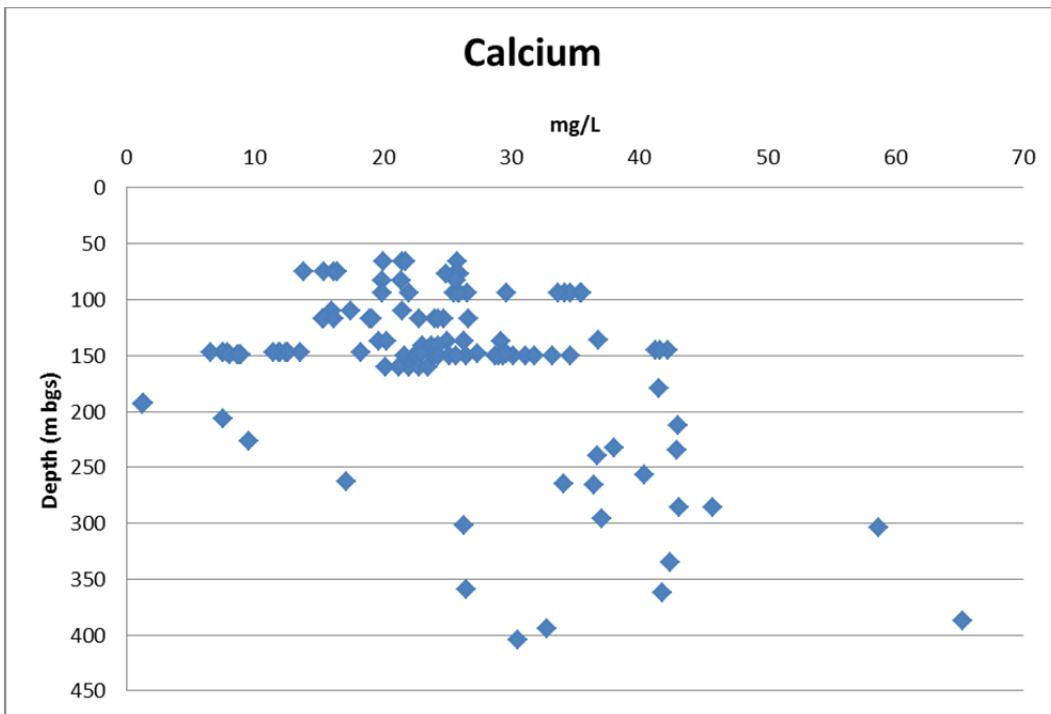
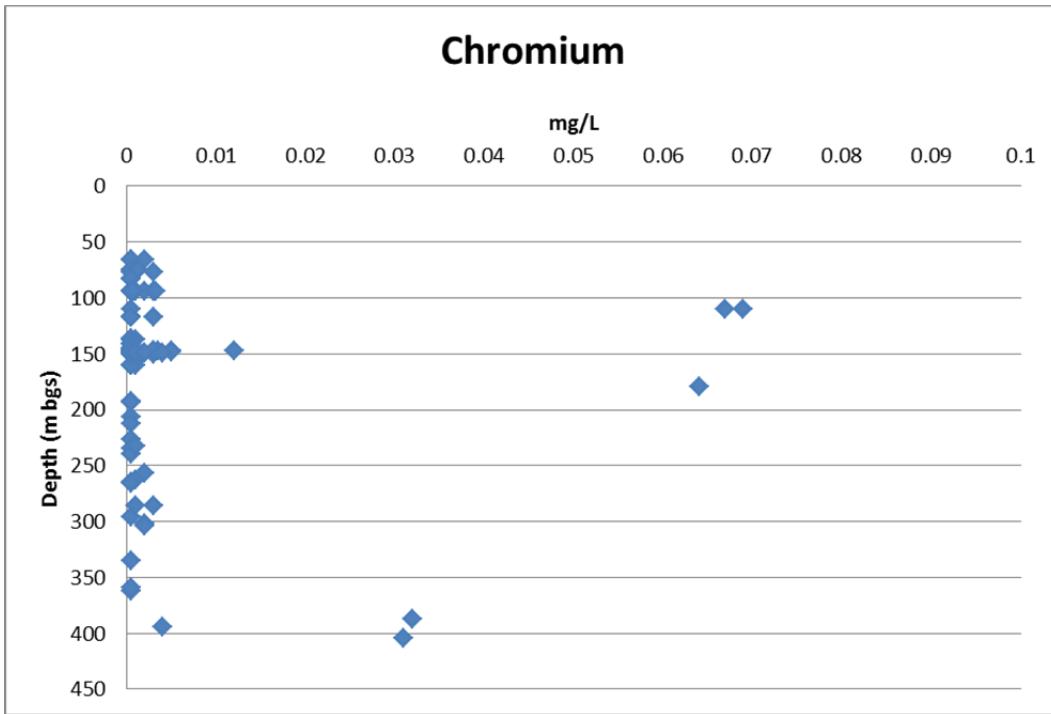


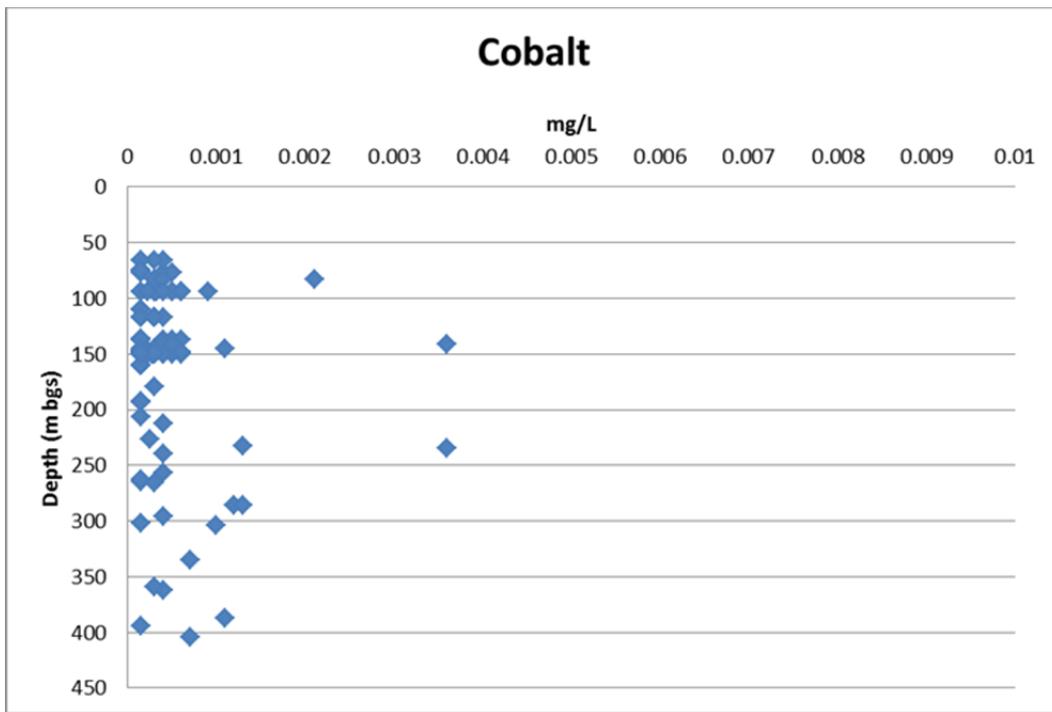
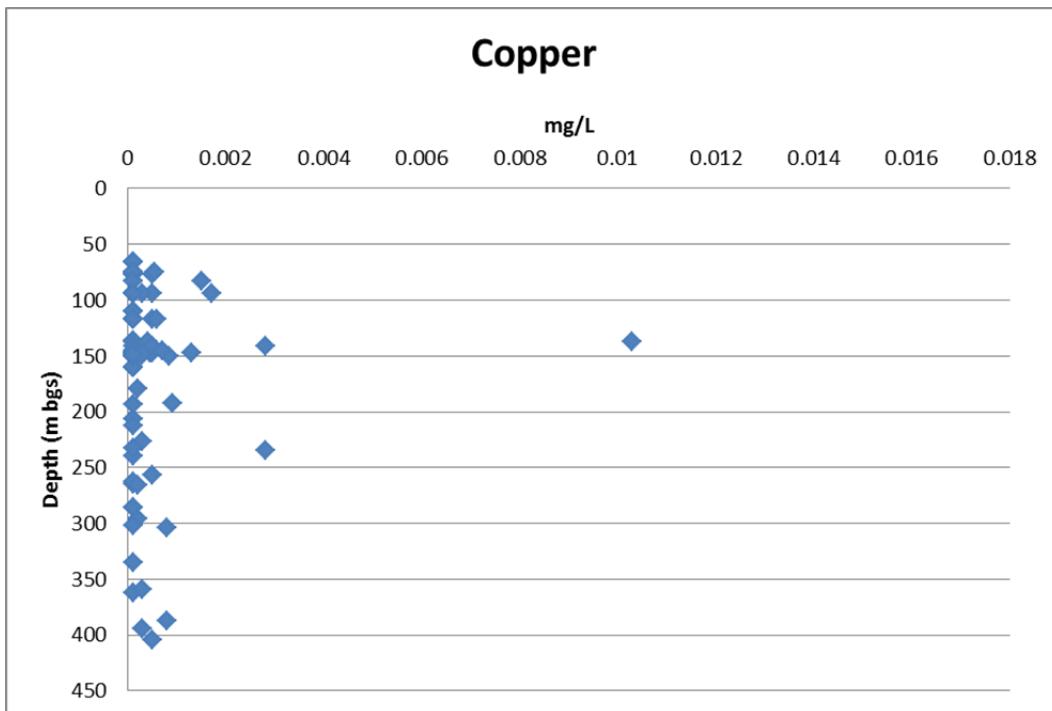
**Figure F1-6 Dissolved Boron Concentrations With Depth**

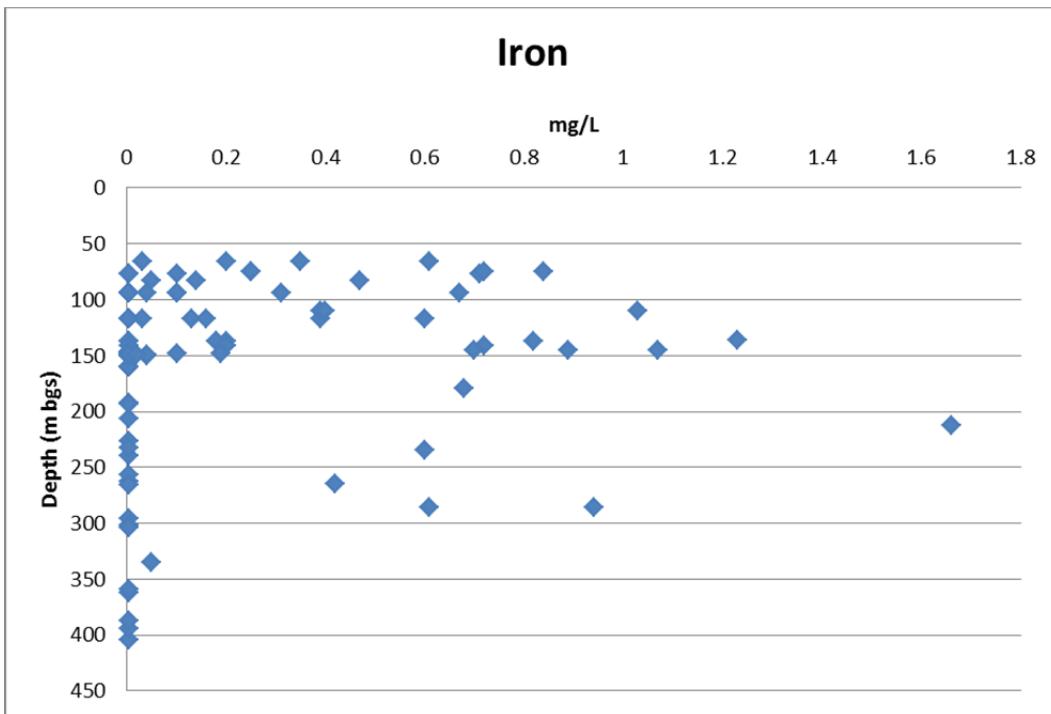
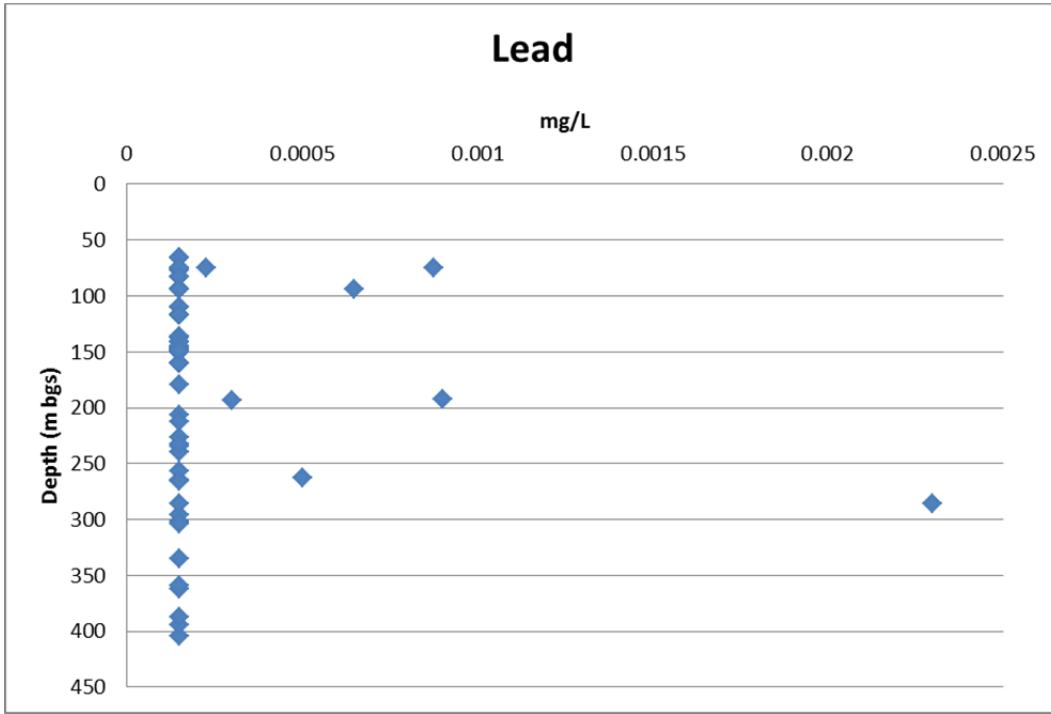


**Figure F1-7 Dissolved Cadmium Concentrations With Depth**



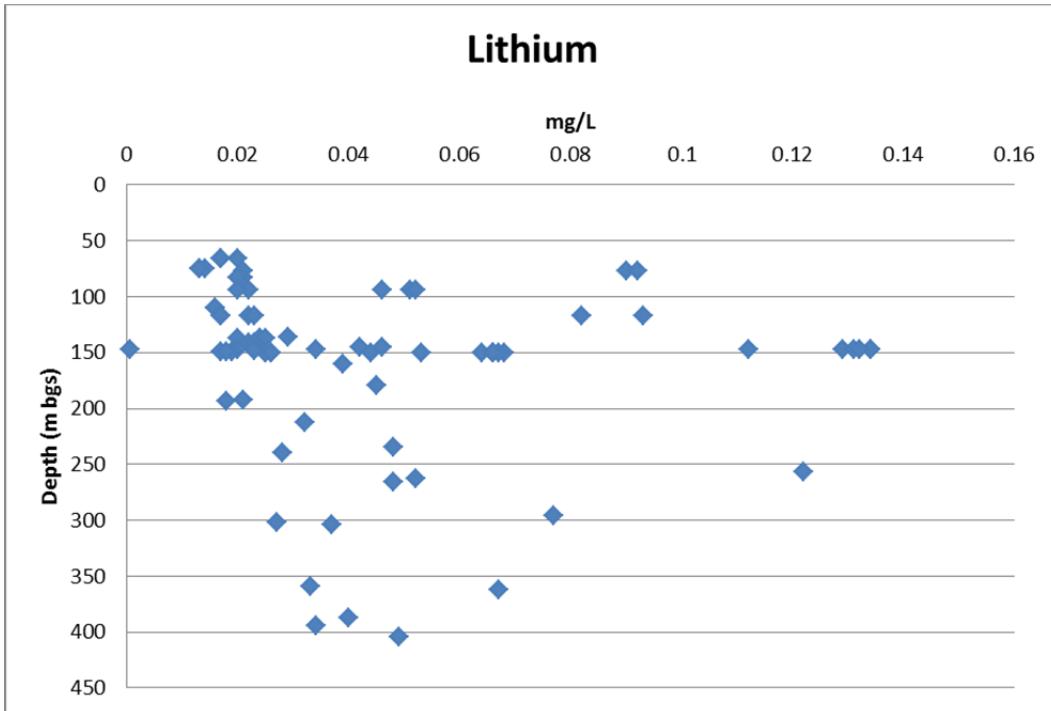
**Figure F1-8 Dissolved Calcium Concentrations With Depth**

**Figure F1-9 Dissolved Chromium Concentrations With Depth**


**Figure F1-10 Dissolved Cobalt Concentrations With Depth**

**Figure F1-11 Dissolved Copper Concentrations With Depth**


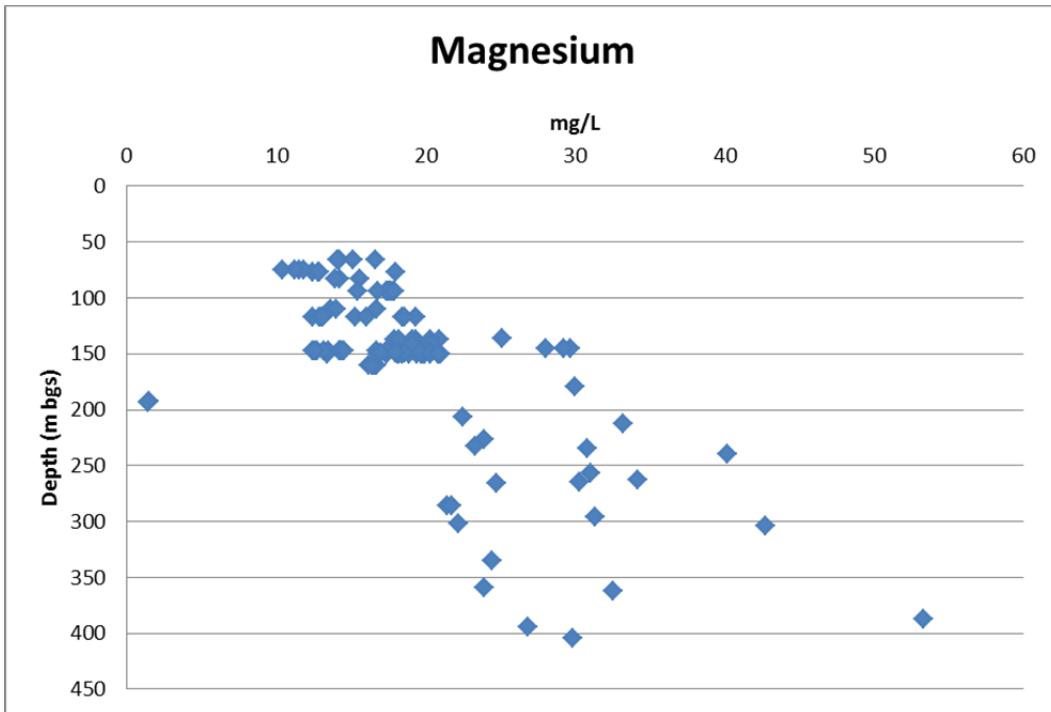
**Figure F1-12 Dissolved Iron Concentrations With Depth**

**Figure F1-13 Dissolved Lead Concentrations With Depth**


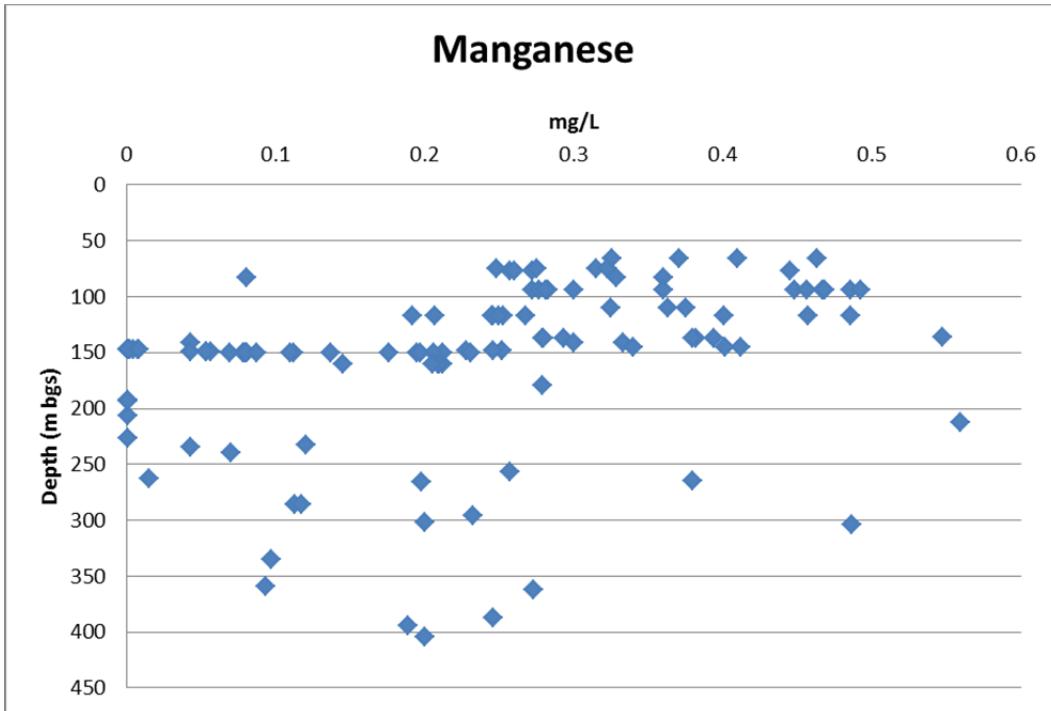
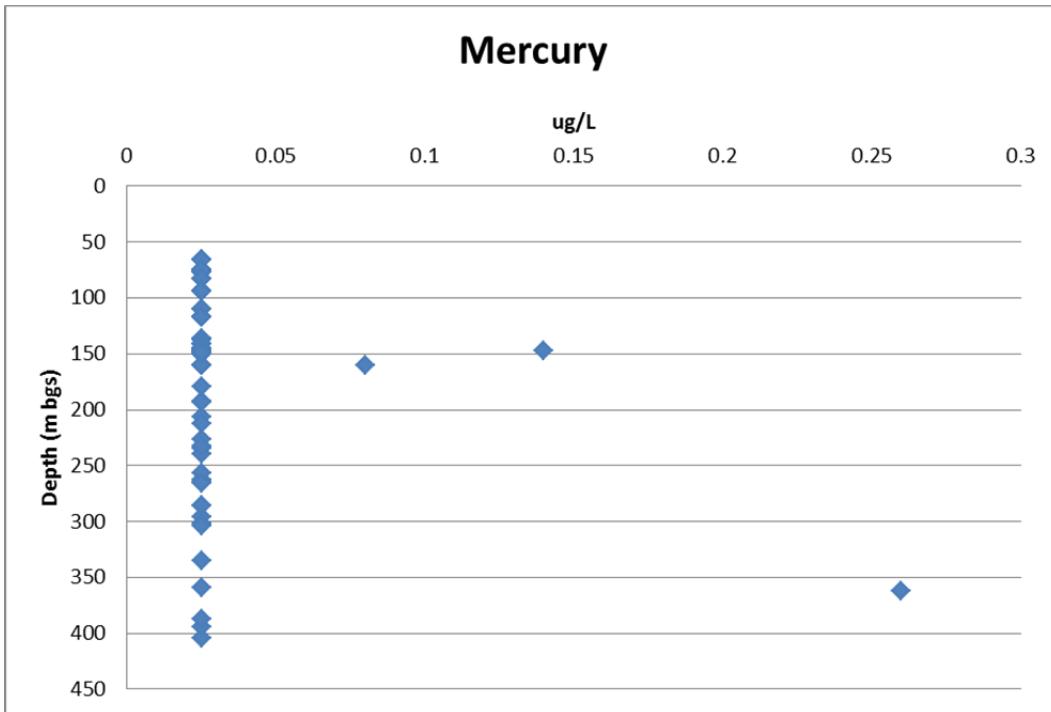


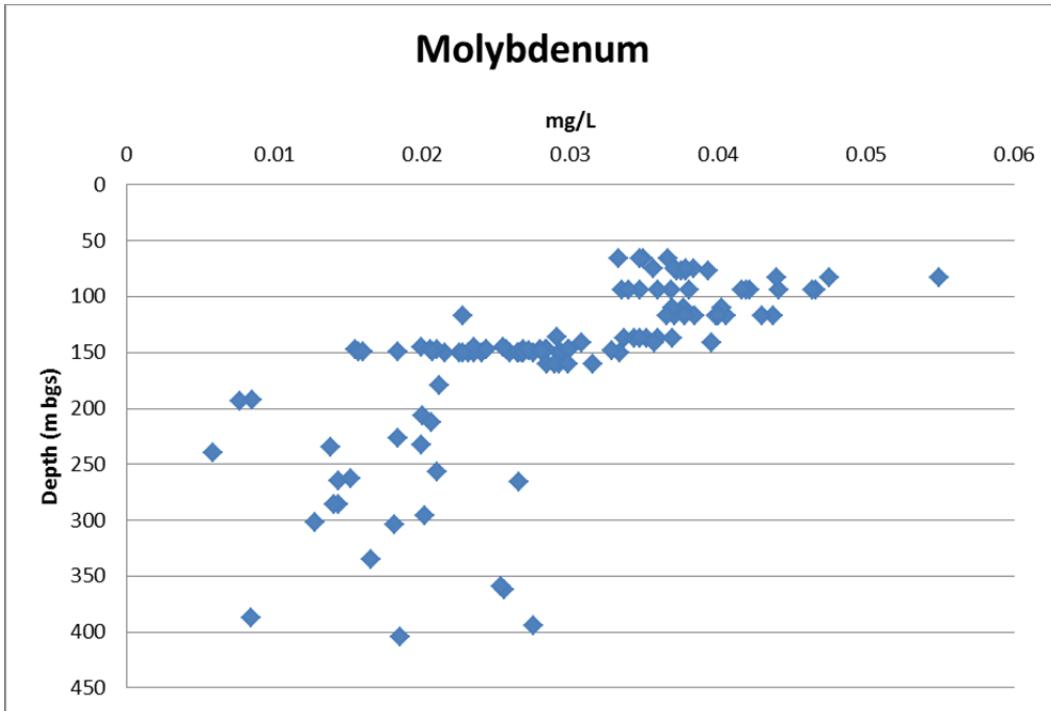
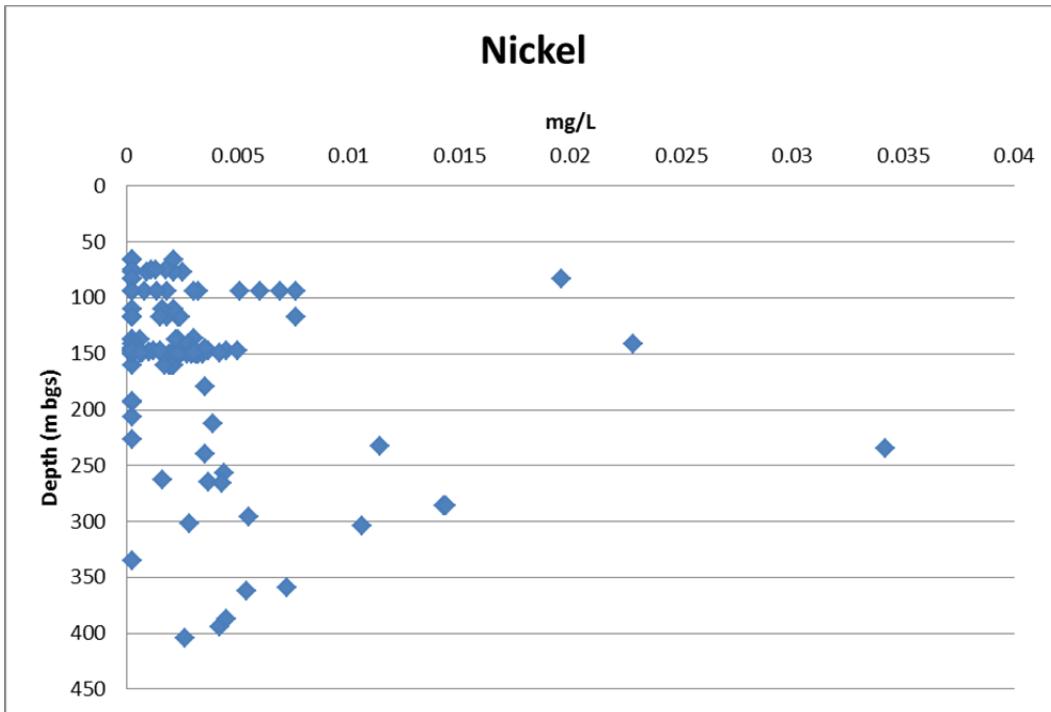
**Figure F1-14** Dissolved Lithium Concentrations With Depth

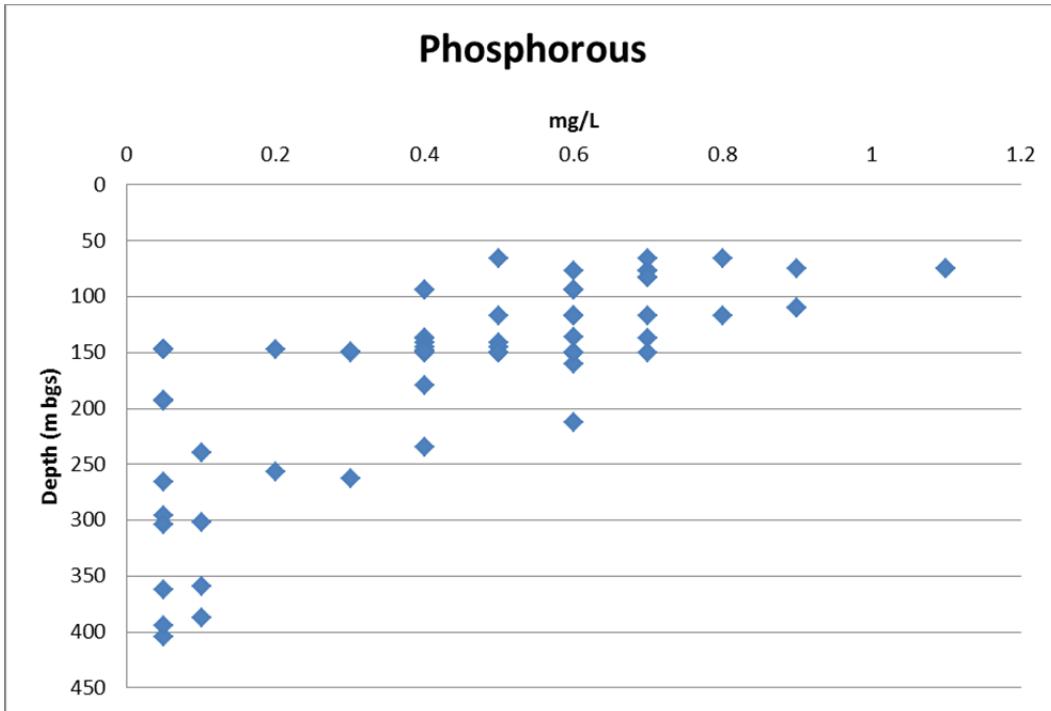
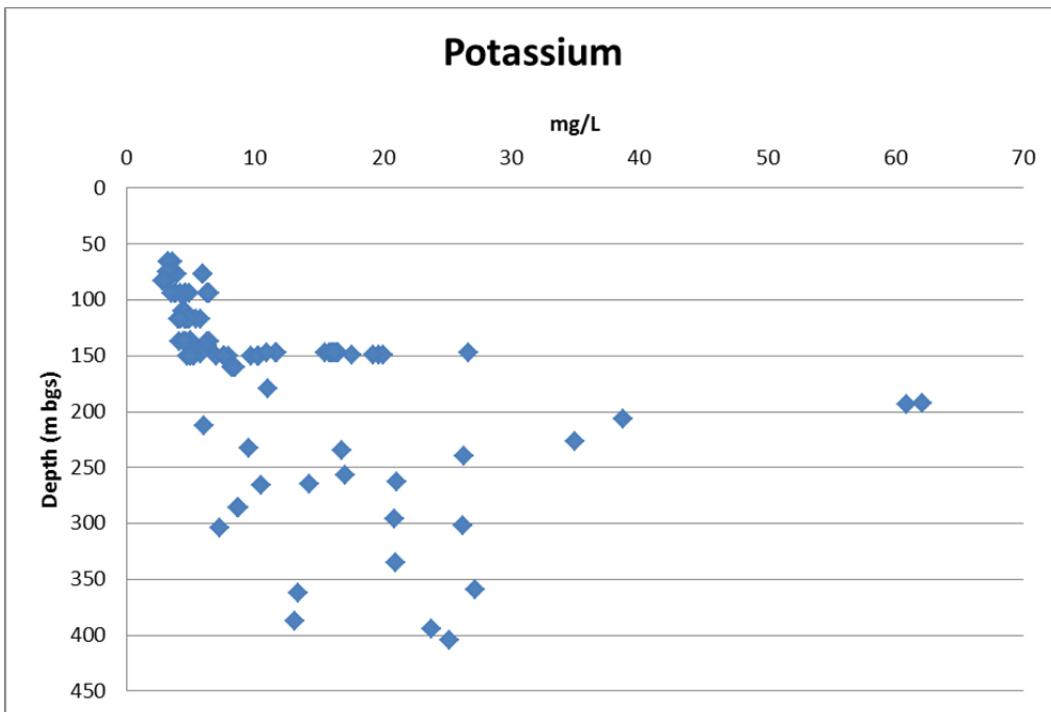


**Figure F1-15** Dissolved Magnesium Concentrations With Depth



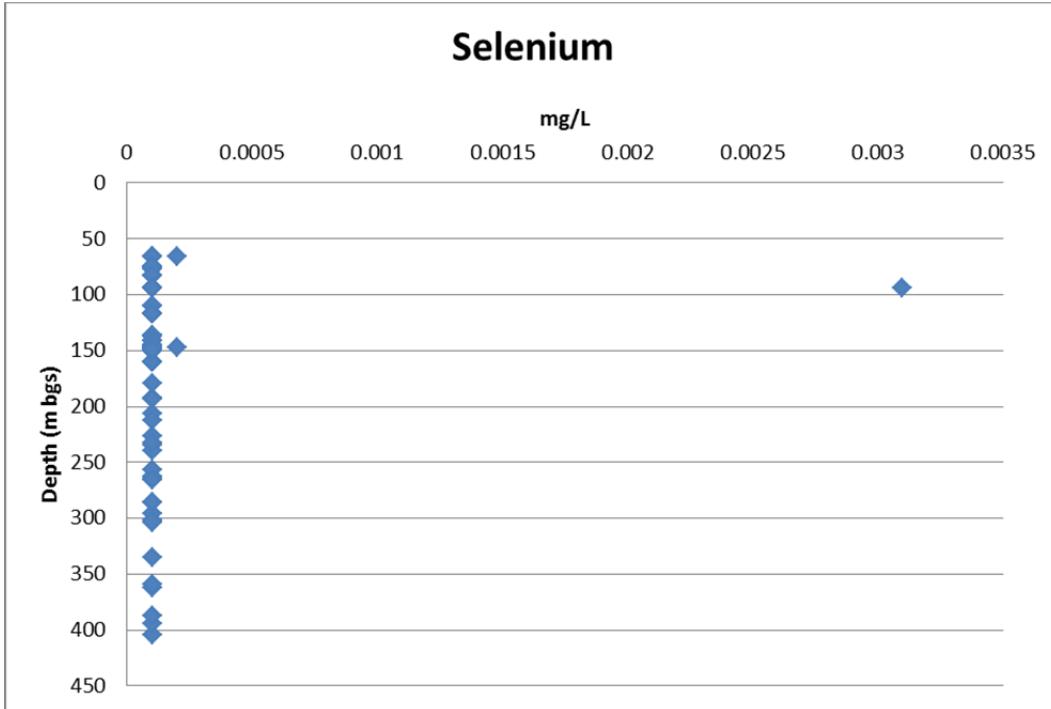
**Figure F1-16 Dissolved Manganese Concentrations With Depth**

**Figure F1-17 Dissolved Mercury Concentrations With Depth**


**Figure F1-18 Dissolved Molybdenum Concentrations With Depth**

**Figure F1-19 Dissolved Nickel Concentrations With Depth**


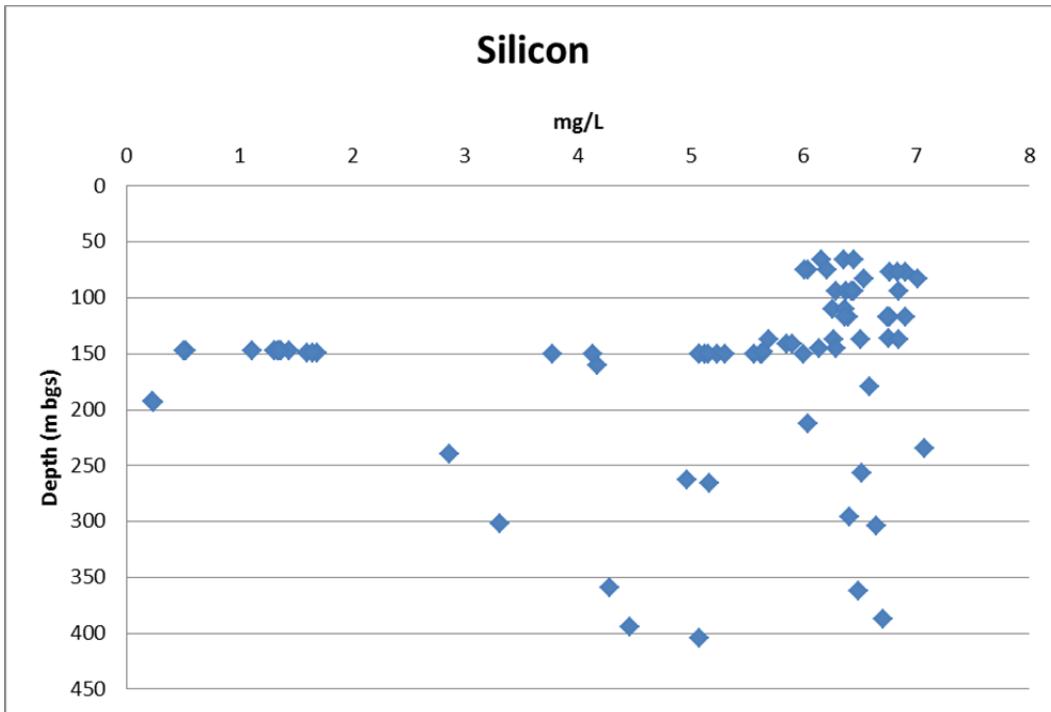
**Figure F1-20 Dissolved Phosphorus Concentrations With Depth**

**Figure F1-21 Dissolved Potassium Concentrations With Depth**


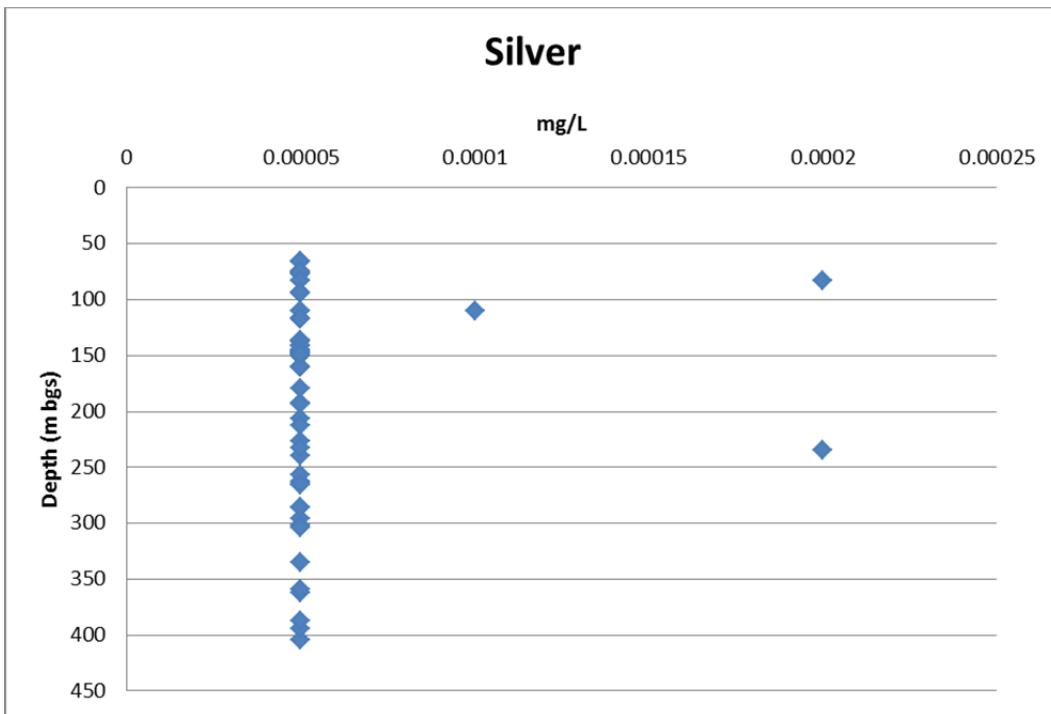
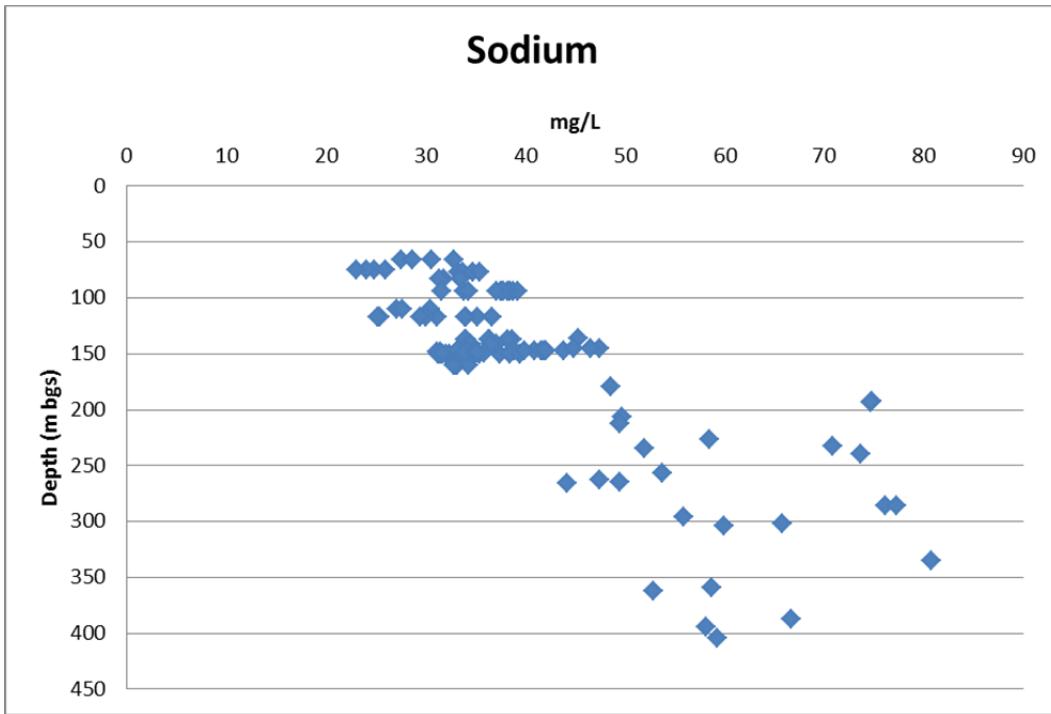


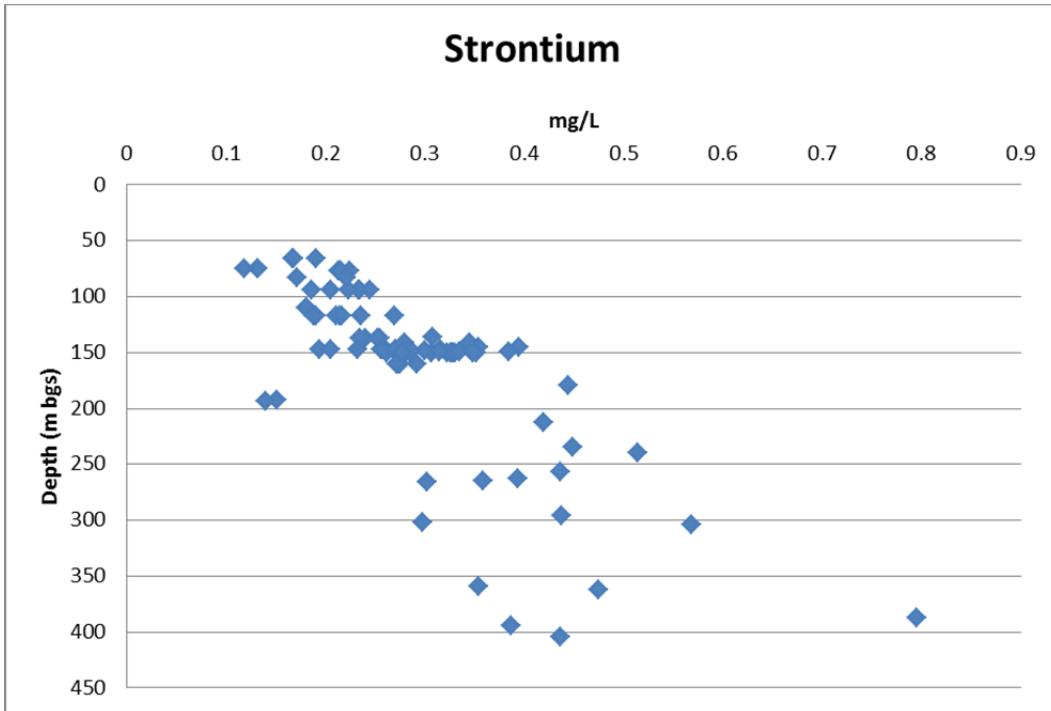
**Figure F1-22** Dissolved Selenium Concentrations With Depth

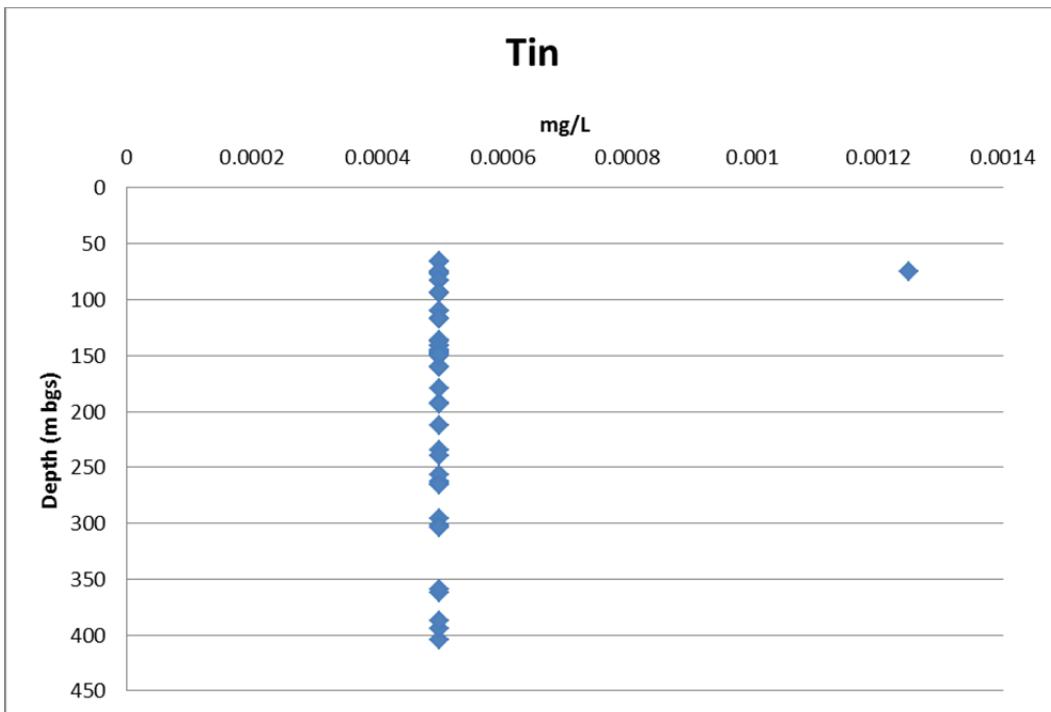
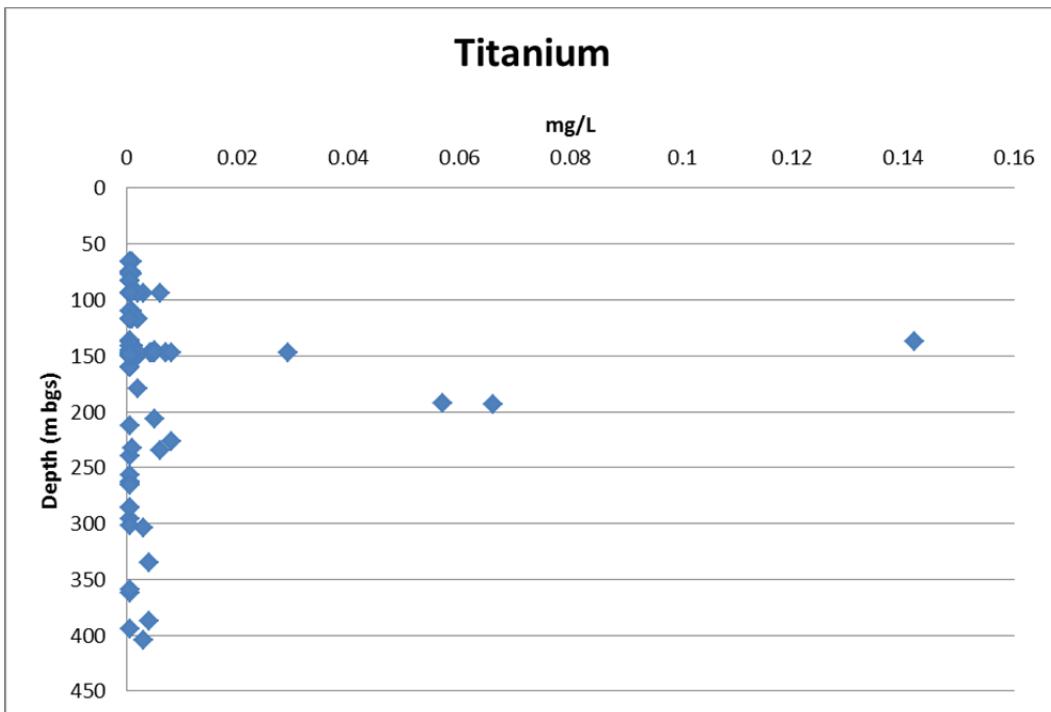


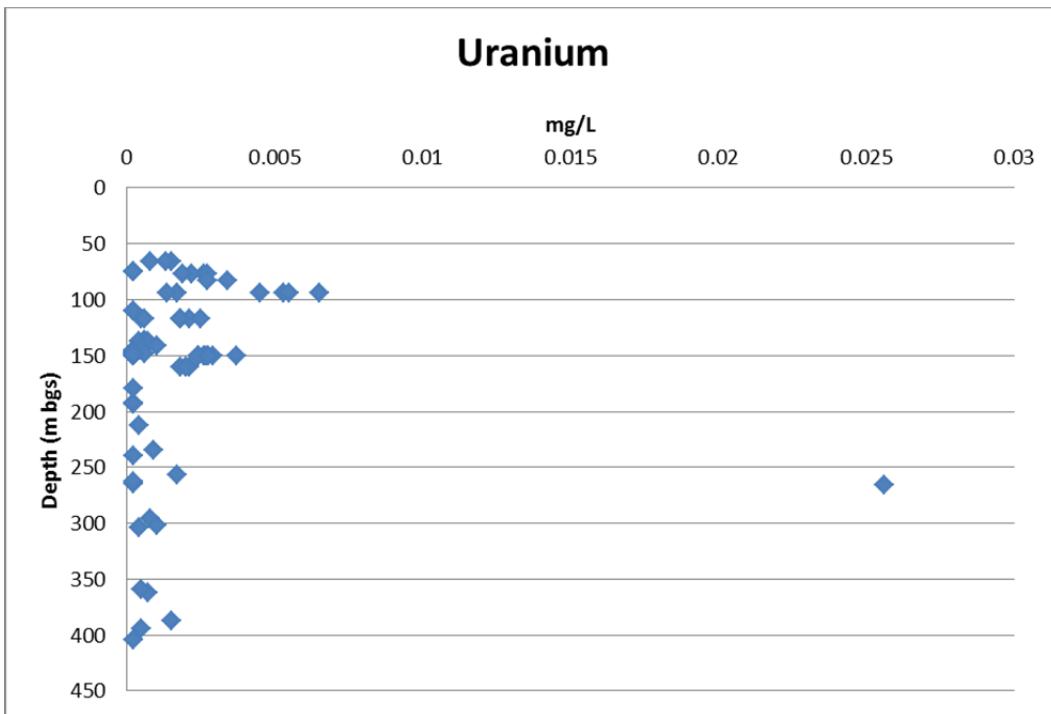
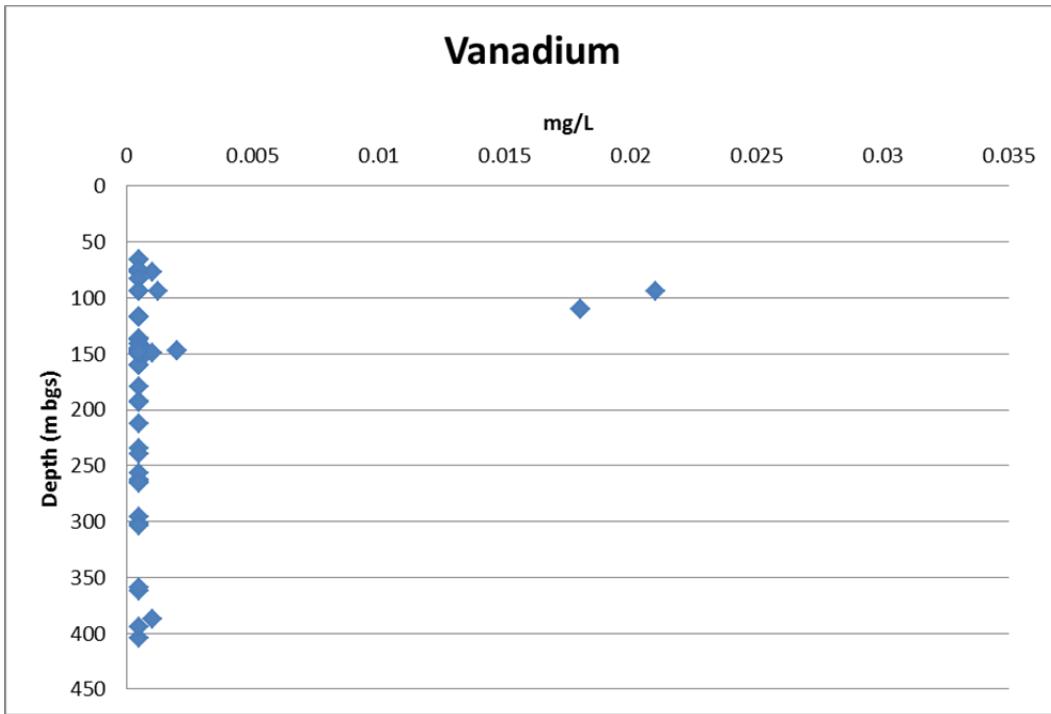
**Figure F1-23** Dissolved Silicon Concentrations With Depth

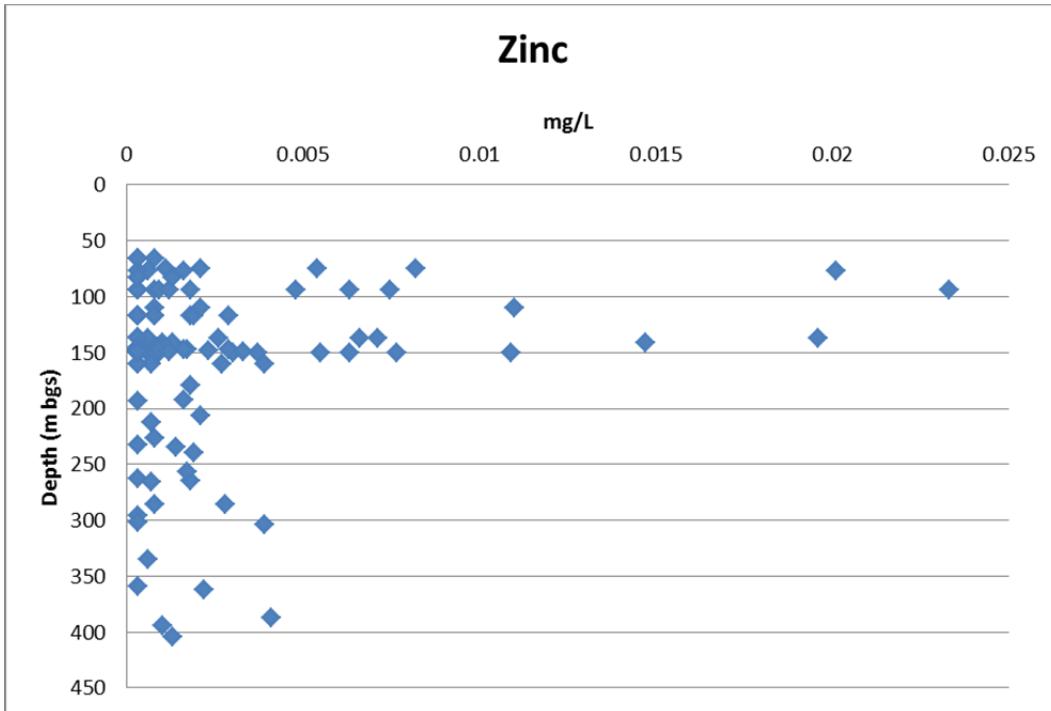


**Figure F1-24 Dissolved Silver Concentrations With Depth**

**Figure F1-25 Dissolved Sodium Concentrations With Depth**


**Figure F1-26 Dissolved Strontium Concentrations With Depth**


**Figure F1-28 Dissolved Tin Concentrations With Depth****Figure F1-29 Dissolved Titanium Concentrations With Depth**

**Figure F1-30 Dissolved Uranium Concentrations With Depth****Figure F1-31 Dissolved Vanadium Concentrations With Depth**

**Figure F1-32 Dissolved Zinc Concentrations With Depth**

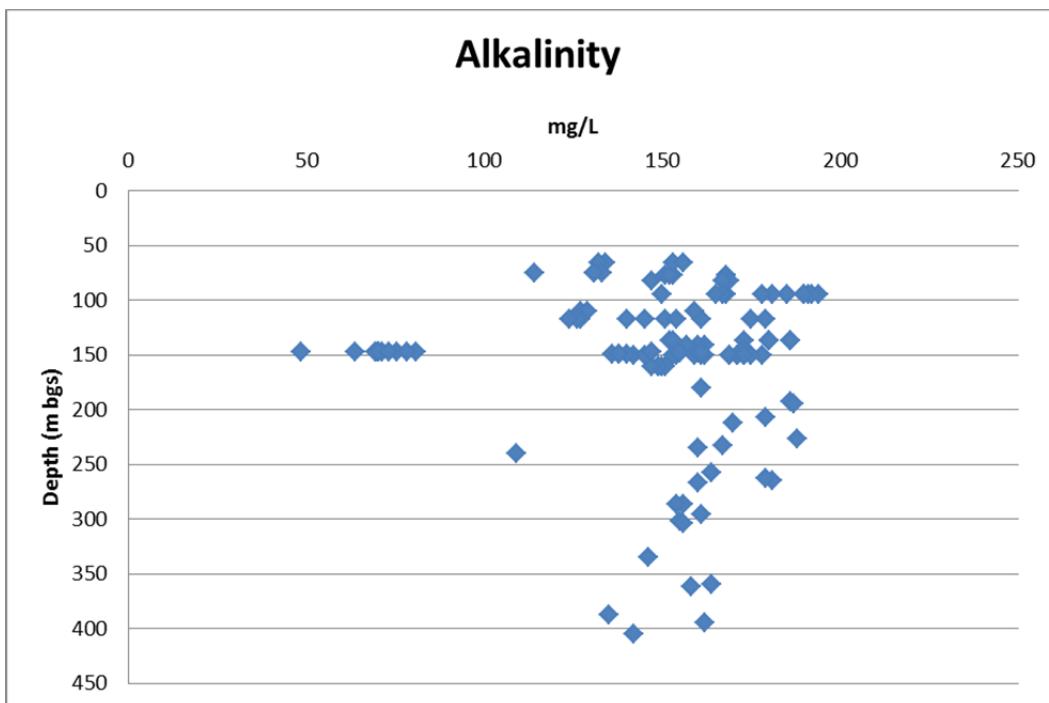
## F2 PHYSICAL TESTS, AND ANION AND NUTRIENT CONCENTRATIONS

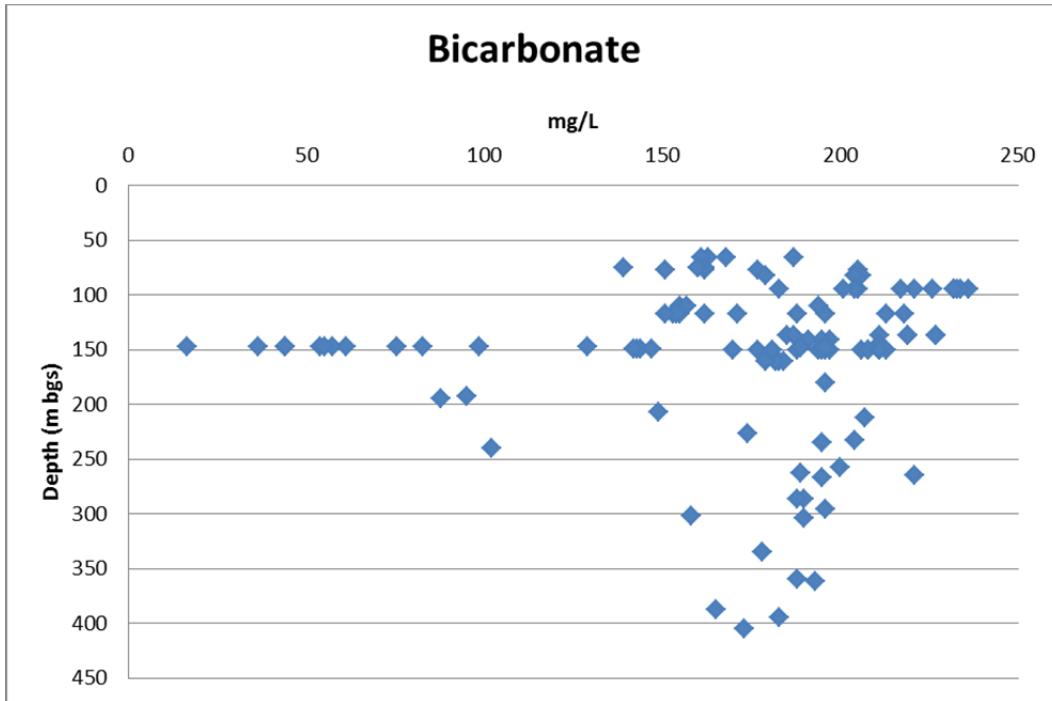
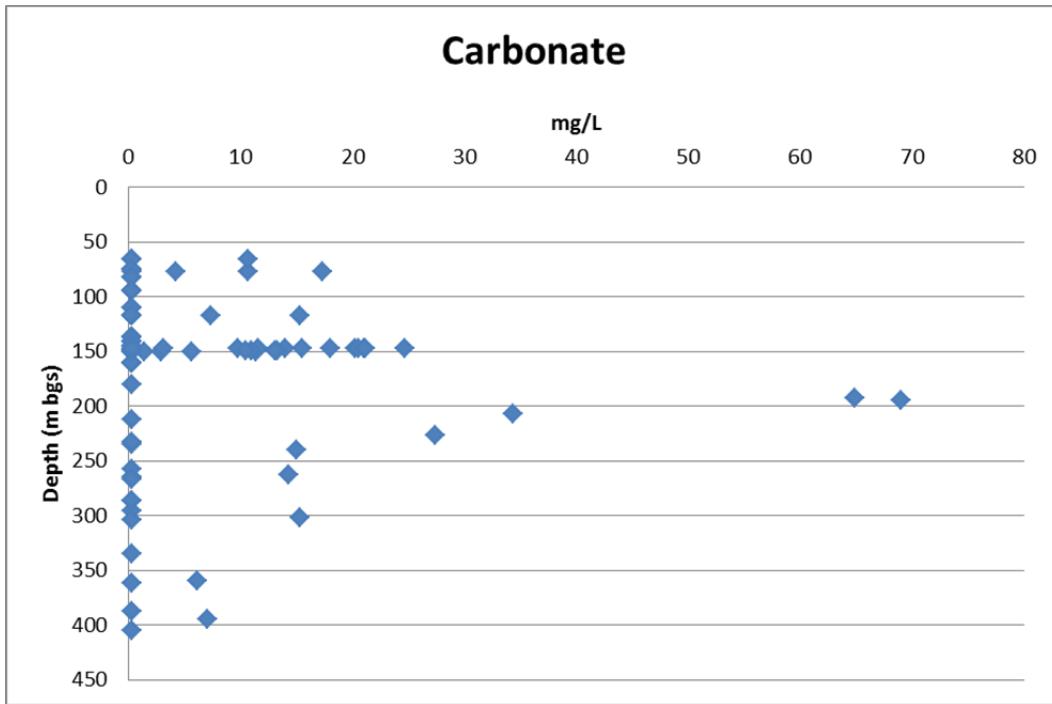
Source: Data reproduced from Blowes DW, Logsdon MJ. 1998. Diavik Geochemistry Baseline Report. Prepared for Diavik Diamond Mines Inc.

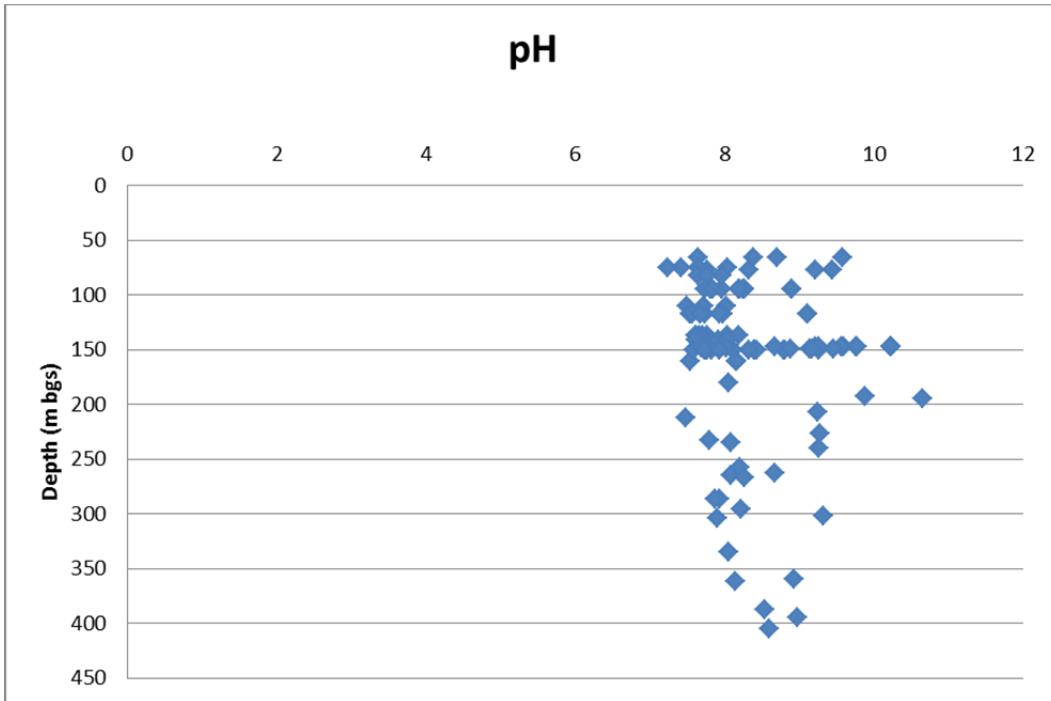
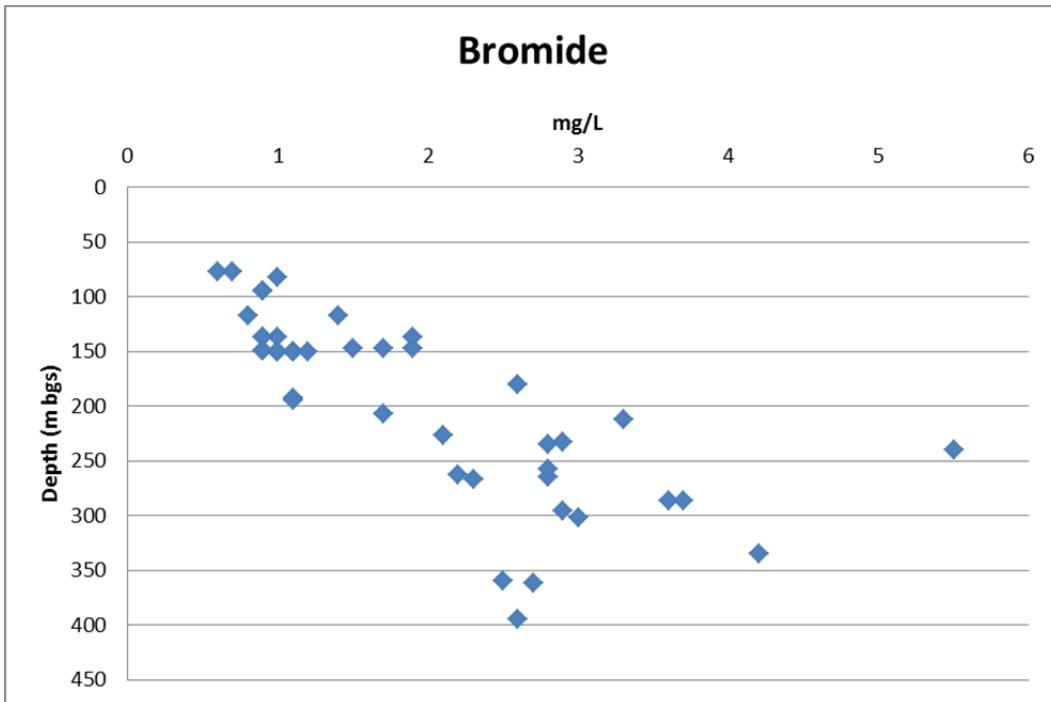
Note: Results below the detection limit are presented as half the detection limit.

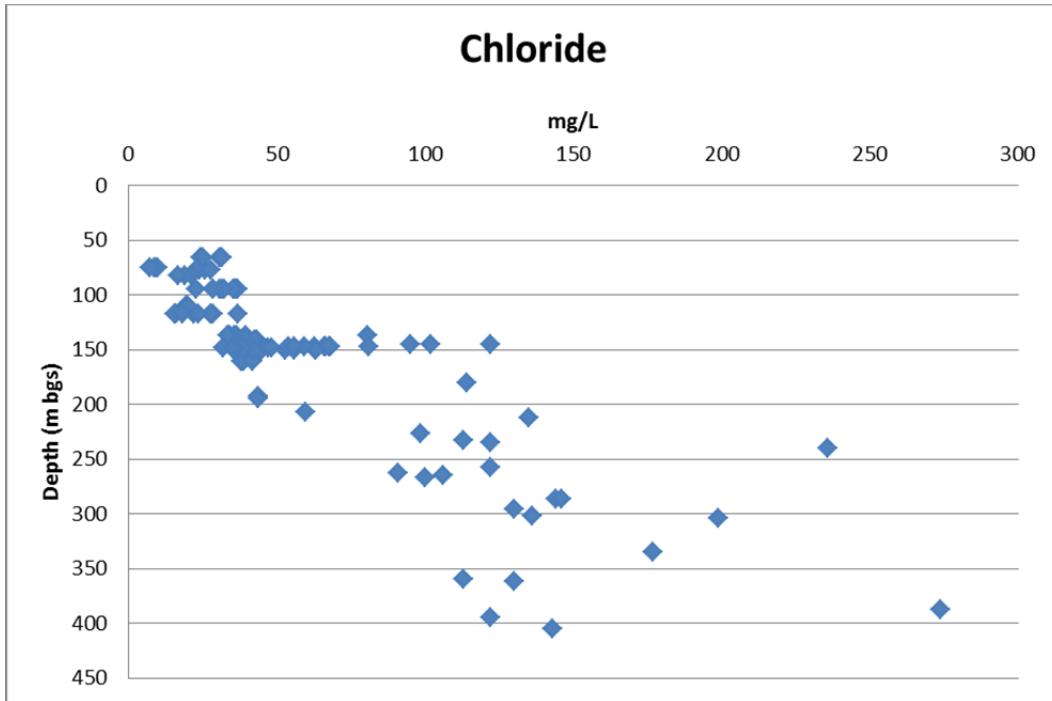
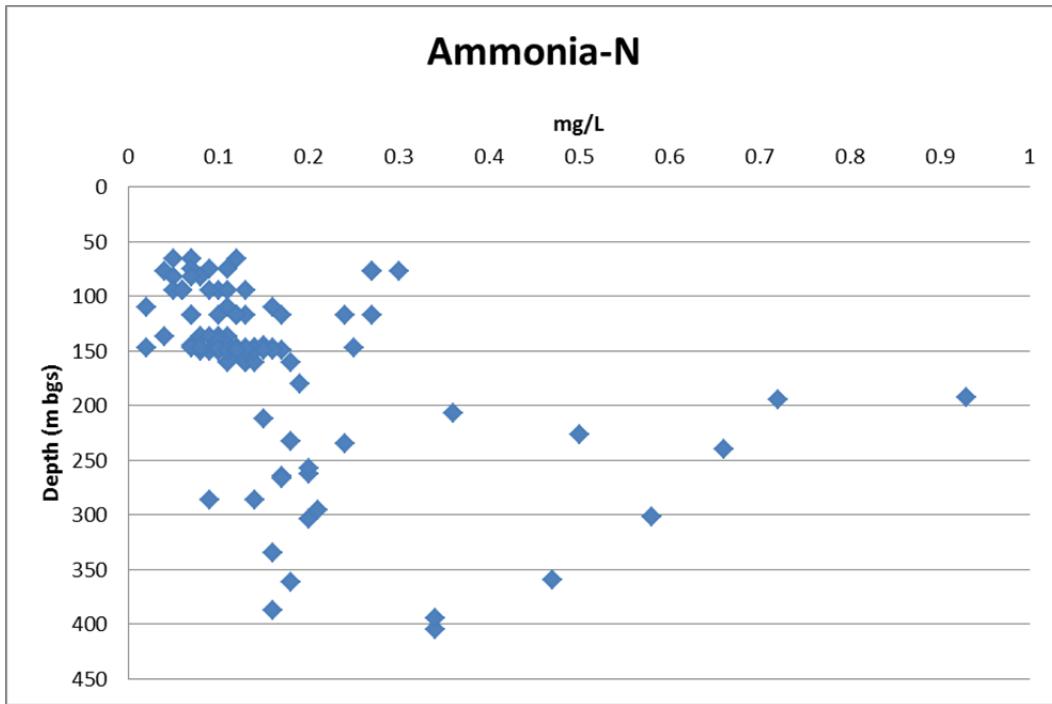
mbgs = metres below ground surface; mg/L = milligrams per litre; pH = potential of hydrogen, provides measure of the acidity or alkalinity of a solution on a scale of 0 to 14; TDS = total dissolved solids.

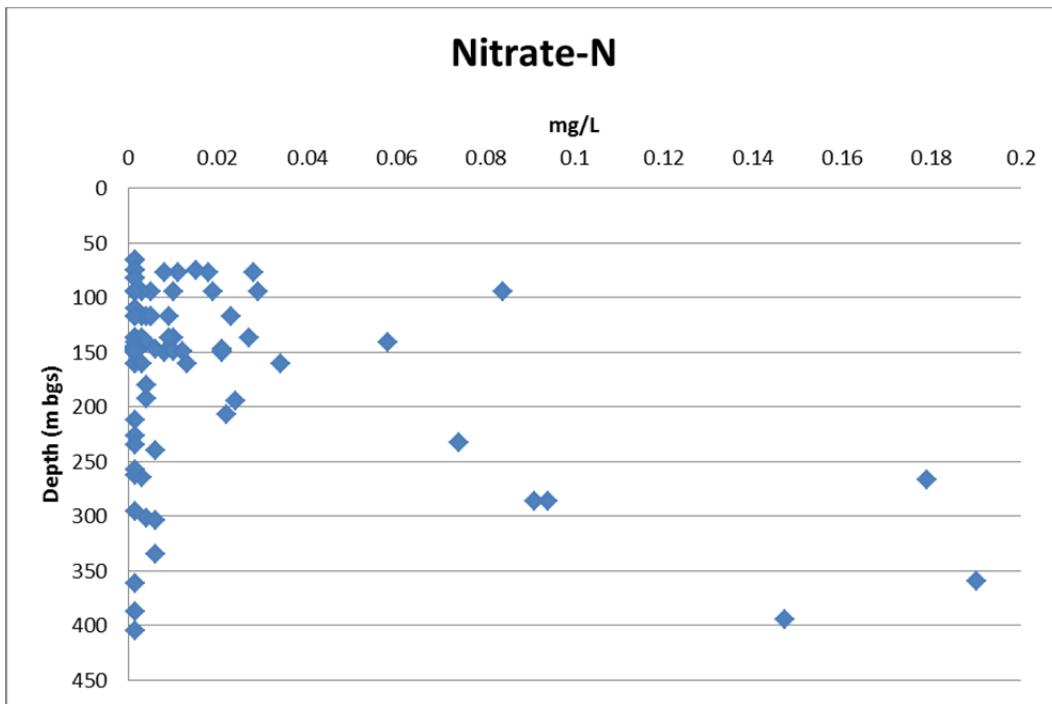
**Figure F2-1 Alkalinity With Depth**

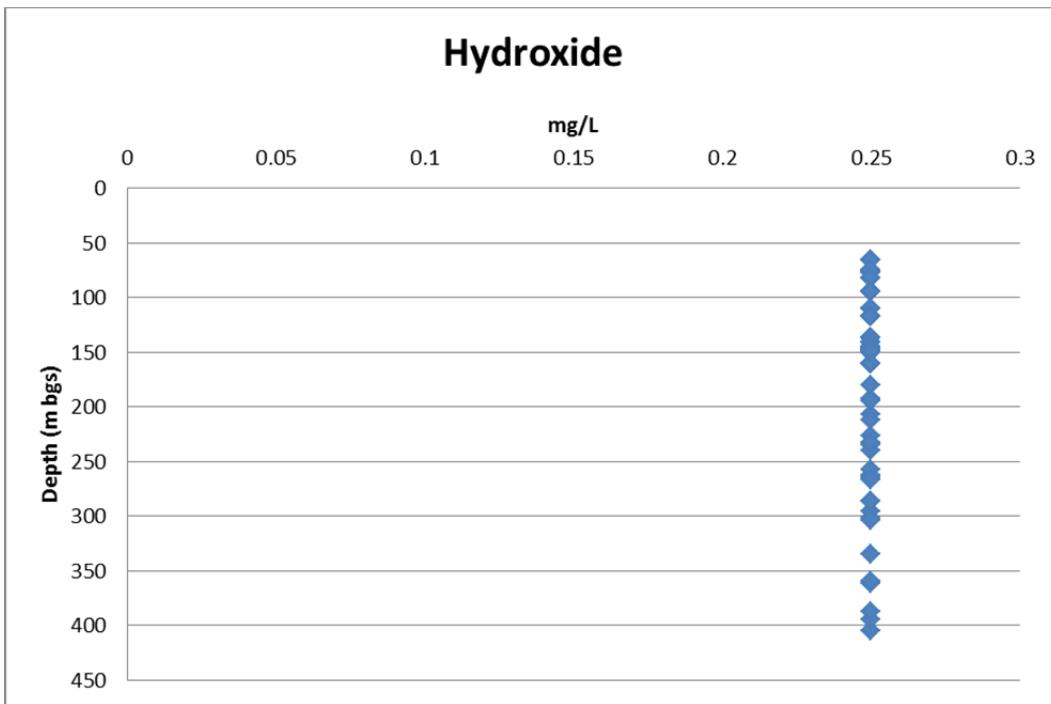
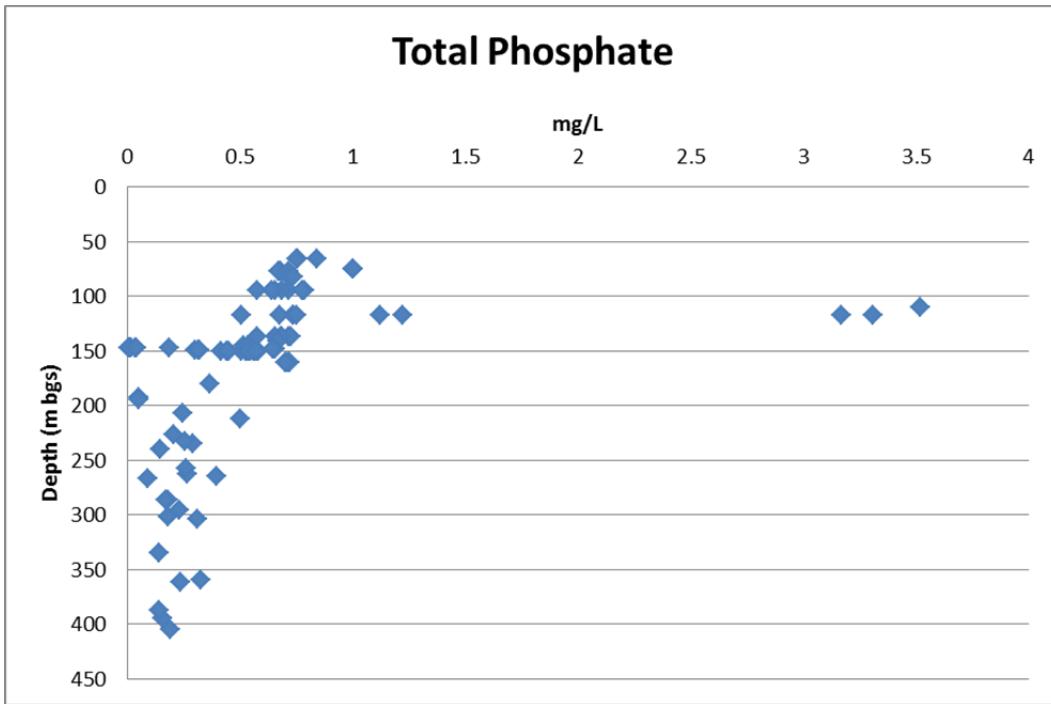


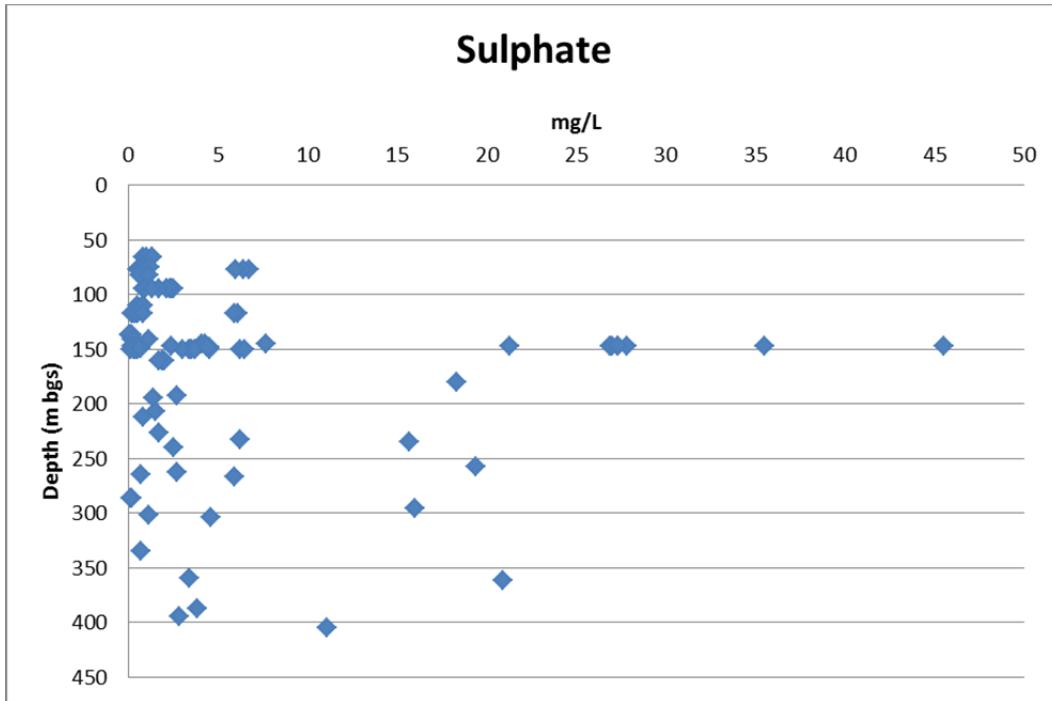
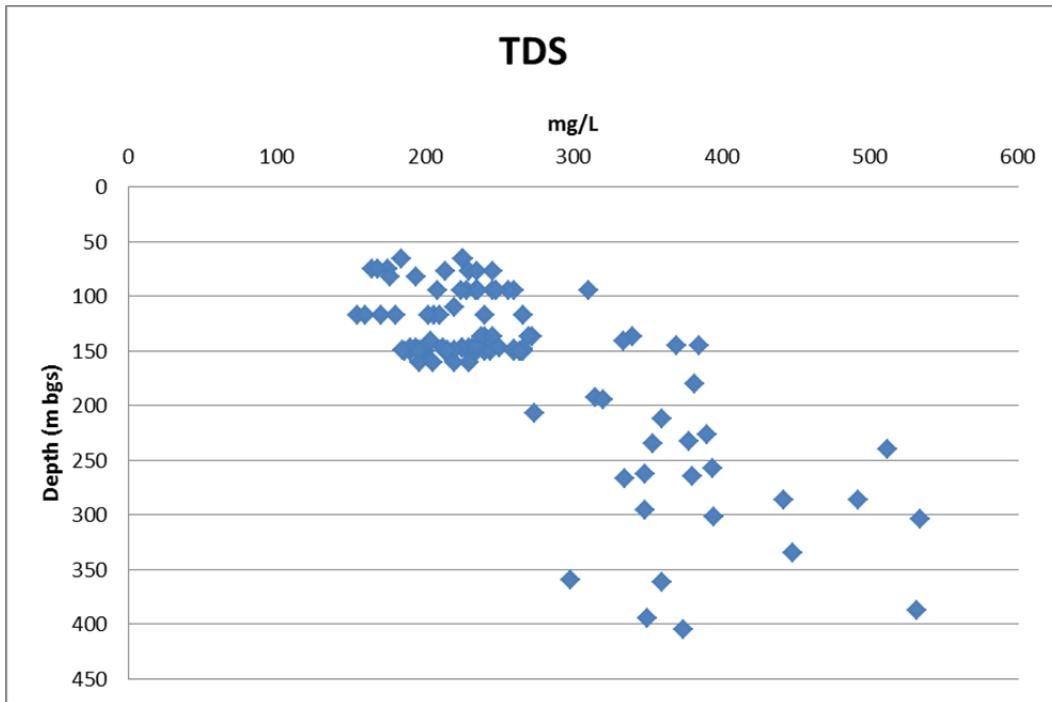
**Figure F2-2 Bicarbonate Concentrations With Depth**

**Figure F2-3 Carbonate Concentrations With Depth**


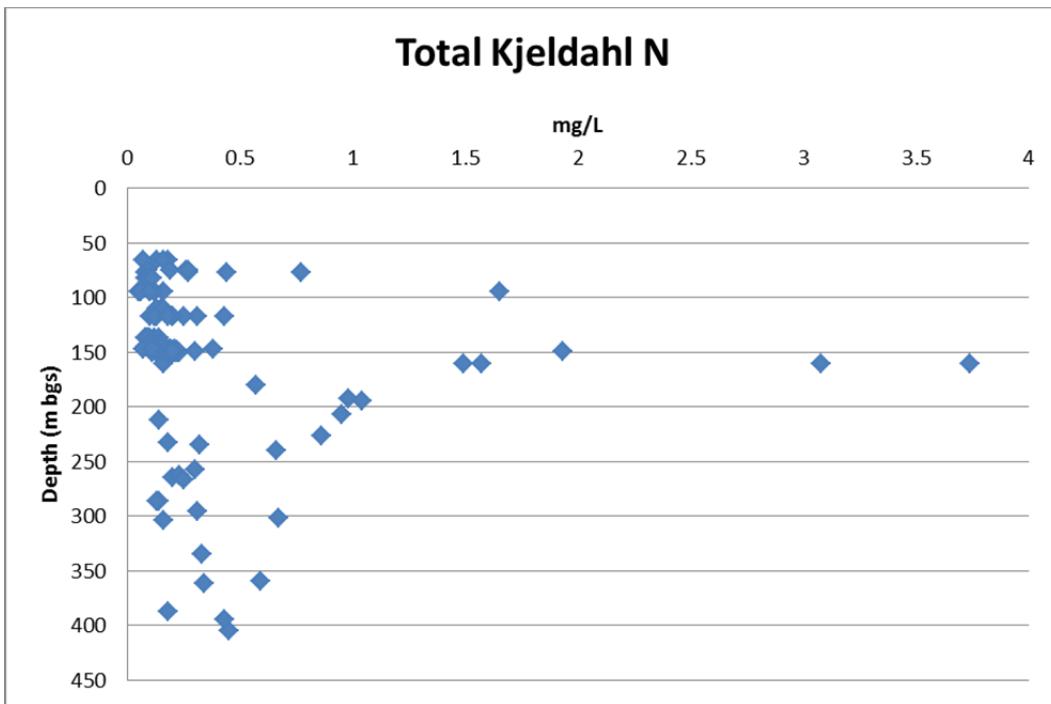
**Figure F2-4 pH With Depth****Figure F2-5 Bromide Concentrations With Depth**

**Figure F2-6 Chloride Concentrations With Depth**

**Figure F2-7 Ammonia-N Concentrations With Depth**


**Figure F2-8 Nitrate-N Concentrations With Depth**


**Figure F2-10 Hydroxide Concentrations With Depth****Figure F2-11 Total Phosphate Concentrations With Depth**

**Figure F2-12 Sulphate Concentrations With Depth**

**Figure F2-13 Total Dissolved Solids Concentrations With Depth**


**Figure F2-14 Total Kjeldahl Nitrogen Concentrations With Depth**

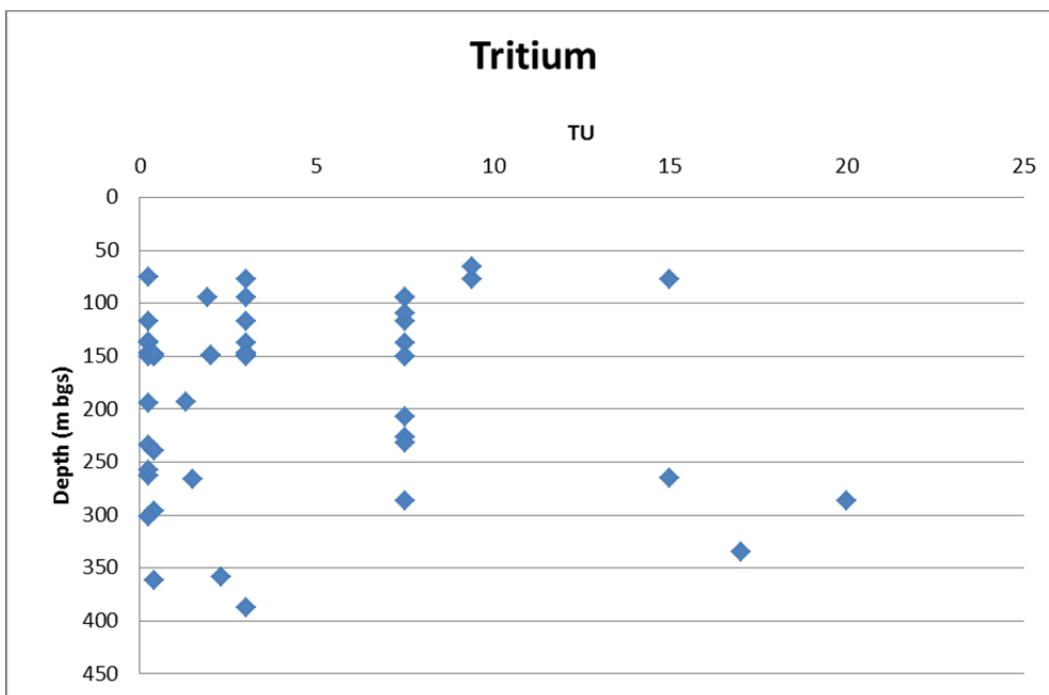
## F3 RADIONUCLIDES

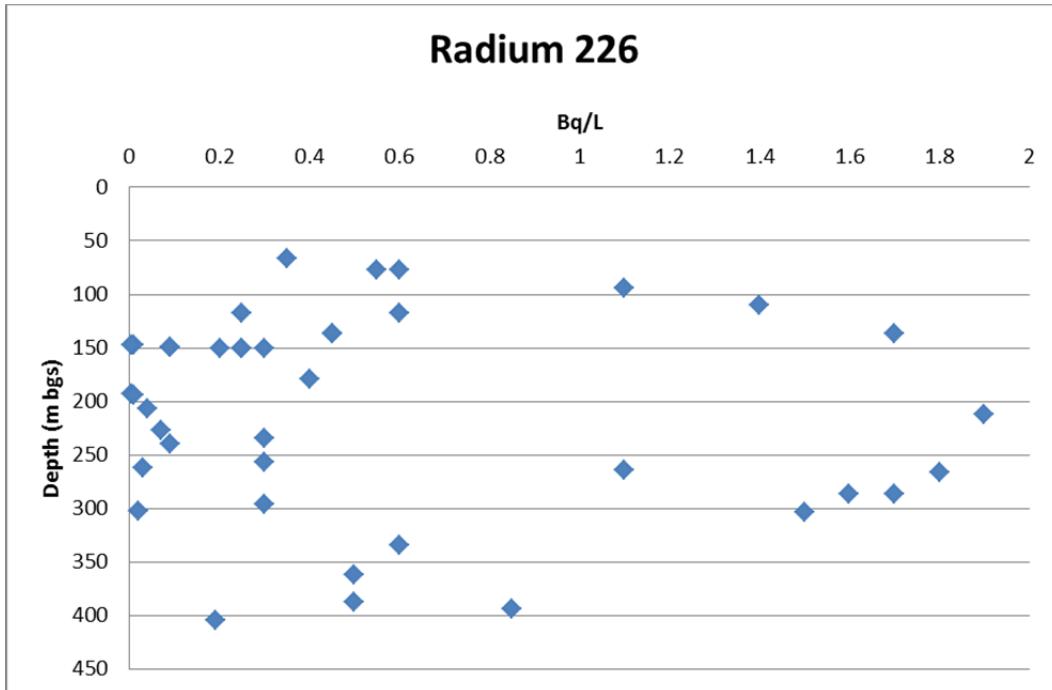
Source: Data reproduced from Blowes DW, Logsdon MJ. 1998. Diavik Geochemistry Baseline Report. Prepared for Diavik Diamond Mines Inc.

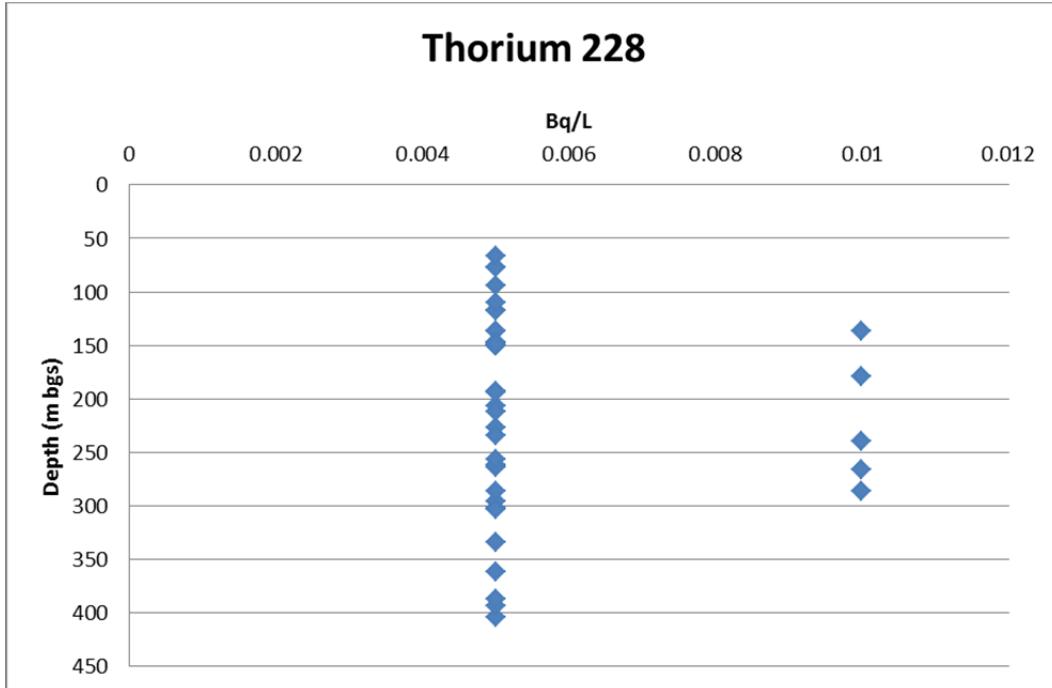
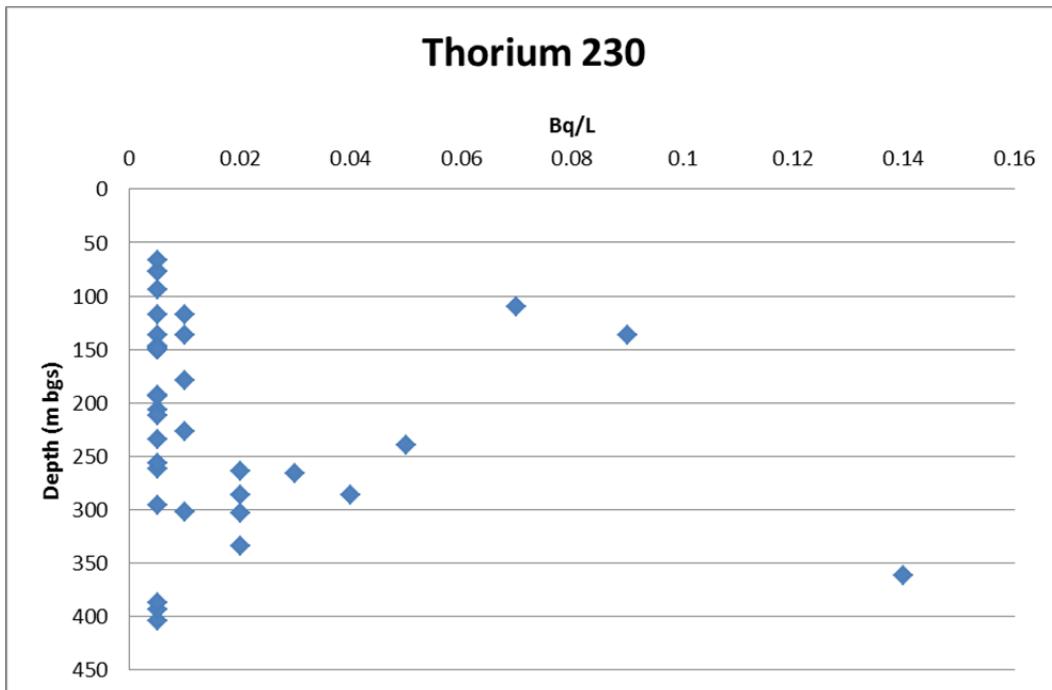
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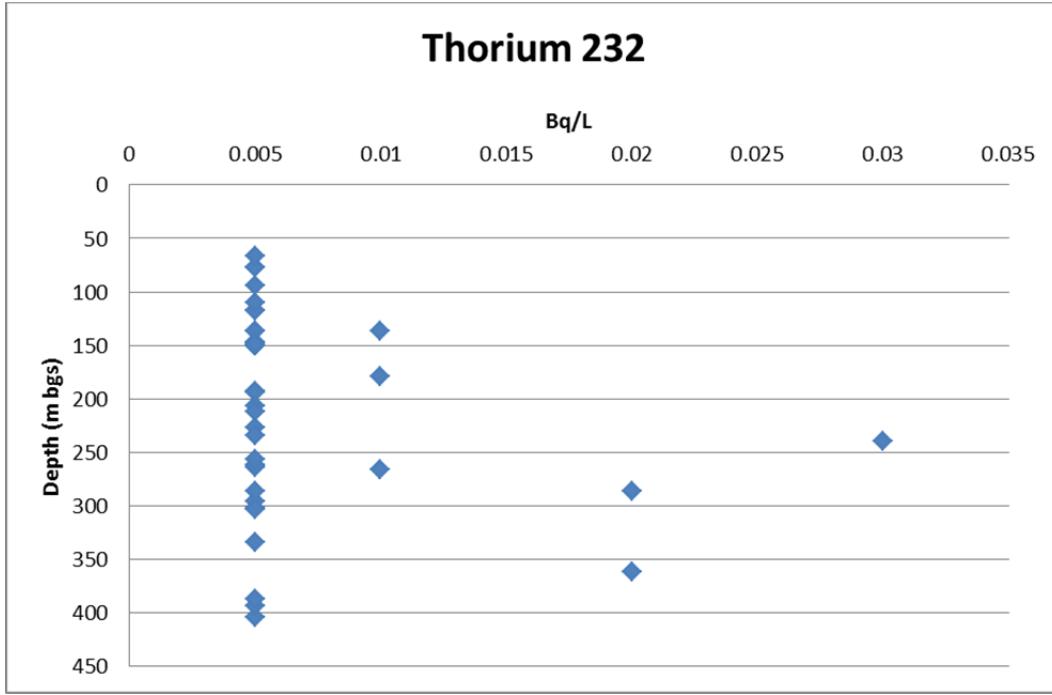
mbgs = metres below ground surface; TU = tritium unit; Bq/L = Becquerels per litre;  $\mu\text{g}/\text{L}$  = micrograms per litre.

**Figure F3-1 Tritium Concentrations With Depth**



**Figure F3-2 Radium 226 Concentrations With Depth**


**Figure F3-4 Thorium 228 Concentrations With Depth**

**Figure F3-5 Thorium 230 Concentrations With Depth**


**Figure F3-6 Thorium 232 Concentrations With Depth**

**Figure F3-7 Uranium Concentrations With Depth**
