

## Appendix 4 – Ground water Monitoring Program

		Ground Water Monitoring Locations					
Site Reference	GWA (RN031131)	GWE (RN022487)	GWB01	GWB02	GWB03	GWB04	
Latitude	-14.5103°S	-14.5084°S	-14.5057°S	-14.5068°S	-14.5055°S	-14.5084°S	
Longitude	132.241°E	132.238°E	132.239°E	132.240°E	132.242°E	132.244°E	
Parameter	Unit	Frequency					
<b>Field Measurements</b>							
pH	-	Monthly					
Temperature	°C						
Electrical Conductivity (EC)	µs/cm						
Dissolved Oxygen (DO)	% Saturation						
REDOX	MV						
Depth	mAHD						
<b>Major Ions</b>							
Potassium (K)	mg/L	Monthly					
Alkalinity (CaCO <sub>3</sub> )							
Calcium (Ca)							
Chloride (Cl)							
Sodium (Na)							
Sulfate (SO <sub>4</sub> )							
Magnesium (Mg)							
<b>Nutrients</b>							
Total Nitrogen (TN)	µg/L	Quarterly					
Total Phosphorus (TP)							
Nitrate (as N)		Monthly					
Ammonium (NH <sub>4</sub> )							
<b>Metals</b>							
Aluminium (Al)	µg/L	Quarterly					
Cadmium (Cd)							
Chromium (CrIII)							
Chromium (CrVI)							
Copper (Cu)							
Iron (Fe)							
Lead (Pb)							
Manganese (Mn)							
Nickel (Ni)							
Selenium (Se)							
Zinc (Zn)							
<b>Other Leachate Indicators</b>							
Total Organic Carbon (TOC)	mg/L	Monthly					
Total Dissolved Solids (TDS)							
Chemical Oxygen Demand (COD)							

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Biological Oxygen Demand (BOD)		Monthly
Volatile acids as acetic acid (VFA)	mg/L	Quarterly
<b>Other</b>		
Total Recoverable Hydrocarbons (TRH)	µg/L	Quarterly
Polycyclic Aromatic Hydrocarbons (PAH)		
Benzene, toluene, ethylbenzene and xylene and Naphthalene (BTEXN)		
Polychlorinated biphenyls (PCB)		
PFOS/PFAS (in any form)		
<p><b>Key:</b></p> <p><b>Monthly</b> – once per calendar month. If sample cannot be taken at the time of first attempt, further attempts should be made following rectification of issue preventing the previous attempt, within that month, to obtain the sample</p> <p><b>Quarterly</b> - nominally January, April, July and October. If sample cannot be taken at the time of first attempt, further attempts should be made following rectification of issue preventing the previous attempt, within that quarter, to obtain the sample.</p>		