

Table 2.3.1 Summary of Baseline (Pre Operational) Mill Site Soils – Sub Program

Sub Program	Objective	Period	Frequency	Location(s)	Methodology	Parameters	Interpretation & reporting	Other details
Baseline Soil Monitoring	To determine & or provide a record of existing soil conditions and contaminant levels prior to construction and operations on the site in order to provide a baseline against which to determine contamination from non stack fugitive emissions	2.5 Years. Commencing no later than June 2007	Phased periodic sampling at 3,6 and 12 month intervals, or as approved by the Director	Ten sampling locations across the mill site (not in construction footprint) and close to the proposed land fill, or as approved by the Director. Refer Figure 2.3.1	At each sampling event 20 soil cores 100mm deep x 25mm diameter are to be taken with a stainless steel corer from within a secure 100m <sup>2</sup> sampling grid.  The sample cores are to be bulked, and sub sampled by processing through a sample splitter. Duplicate samples, controls, and blanks to be completed in accordance with AS4482.1&.2-2005.  The option of storage and preservation of samples in a secure location, pending analysis in the future is allowed subject to specific approval, or as approved by the Director	Soil physico-chemical properties Major cations and anions (Na, Ca, K, Mg, sulphate, chlorate, chloride, fluoride) Metals (Al, As, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn, Ba, B, Hg, Mo, Sb, Se, Sn, V) Organics (TPH, BTEX, organochlorine and organophosphate pesticides, PCB, PAH, semi-volatile-chlorinated (HC), and dioxins/furans, or as approved by the Director	Statistical analysis and interpretation by a suitably qualified expert.  Annual return with comparison between Locations and to historic data when collated, or as approved by the Director	Formal approval of a suitably qualified expert. is required by The Director of Environmental Management before commencement.  Sample storage pending subsequent analysis is subject to approval of a Soil Sample Archive Management Plan by The Director of Environmental Management being granted.

Table 2.3.2 Summary of Operational Phase Mill Site Soils – Sub Program

Sub Program	Objective	Period	Frequency	Location(s)	Methodology	Parameters	Interpretation & reporting	Other details
Operational Soil Monitoring	To assess any temporal change in the soil environment which may be a result of construction and operations on the site in order to determine contamination from non stack fugitive emissions	2 Years. Commencing one year after start of mill operations, or as approved by the Director	Phased periodic sampling at 3,6 and 12 month intervals, or as approved by the Director	Ten sampling locations across the mill site and close to the land fill.  Refer Figure 2.3.1	At each sampling event 20 soil cores 100mm deep x 25mm diameter are to be taken with a stainless steel corer from within a secure 100m <sup>2</sup> sampling grid.  The sample cores are to be bulked, and sub sampled by processing through a sample splitter. Duplicate samples, controls, and blanks to be completed in accordance with AS4482.1&.2-2005.  The option of storage and preservation of samples in a secure location, pending analysis in the future is allowed subject to specific approval, or as approved by the Director	Soil physico-chemical properties Major cations and anions (Na, Ca, K, Mg, sulphate, chlorate, chloride, fluoride) Metals (Al, As, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn, Ba, B, Hg, Mo, Sb, Se, Sn, V) Organics (TPH, BTEX, organochlorine and organophosphate pesticides, PCB, PAH, semi-volatile-chlorinated (HC), and dioxins/furans, or as approved by the Director	Statistical analysis and interpretation by a <i>suitably qualified expert</i> .  Annual return with comparison between Locations and to historic data, or as approved by the Director	Formal approval of a <i>suitably qualified expert</i> . is required by The Director of Environmental Management before commencement.  Sample storage pending subsequent analysis is subject to approval of a Soil Sample Archive Management Plan by The Director of Environmental Management being granted.