

RECOMMENDATIONS FOR CONTINUATION OR TERMINATION OF HCTS

No formal guidance exists on the topic of HCT termination decisions. Below are listed general guidelines developed internally and based on professional expertise and sound judgment:

- HCs should be run for a minimum time period of 20 weeks (ASTM, 2007).
- HCs should continue to run until stable leachate concentrations persist.
- Ideally, cells should run until either all neutralization potential (NP) or sulfide content has been depleted. However, in many instances it is not realistic to continue the test until all NP or sulfide is depleted as it is often estimated to take years to decades for full depletion at laboratory rates. Therefore, depletion calculations are frequently conducted. The time to depletion of sulfide and NP is based on the rate of release of sulfate and alkalinity/acidity, respectively, over the last five weeks of testing. The ratio of the duration required for NP depletion to the duration for sulfide depletion provides a quantitative indication of which will be depleted first, and hence, if the sample is likely to go acid or remain alkaline in the long term.
- If conditions become highly acidic and no significant metals leaching is observed, HCs are recommended for termination once pH has stabilized.
- If conditions become highly acidic and metals leaching is observed HCs are recommended for termination once both the pH and metal concentrations stabilize.
- If the leachate pH is neutral and depletion calculations indicate that the sulfide will be depleted before the NP, HCs are recommended for termination.
- If two or more HCs are lithologically and behaviorally similar, it is recommended to terminate the less reactive HC and continue monitoring the more reactive, where the more reactive HC is considered to be the one with higher metal concentrations and/or lower leachate pH.