

Calcium flux data displayed a linear trend for four rocks (BCS3-PA, HCS-IN, KBF-WV, and MKSS-PA) that produced leachates saturated for calcite or gypsum. Only LKFC-PA, which was under-saturated for both calcite and gypsum, produced a log fit plot. Figure 8-14a and b shows the two types of cumulative plots. The linear plots exemplified by Figure 8-14a show that these rocks dissolve minerals containing the constituent element and leach at a constant rate. Elemental flux is constrained by mineral solubility. The curvilinear log or power function plots are typical of “shrinking core” models of rock weathering, where diffusion is an important leaching control. Plots of cumulative flux can provide insight into leaching mechanisms and constraints.

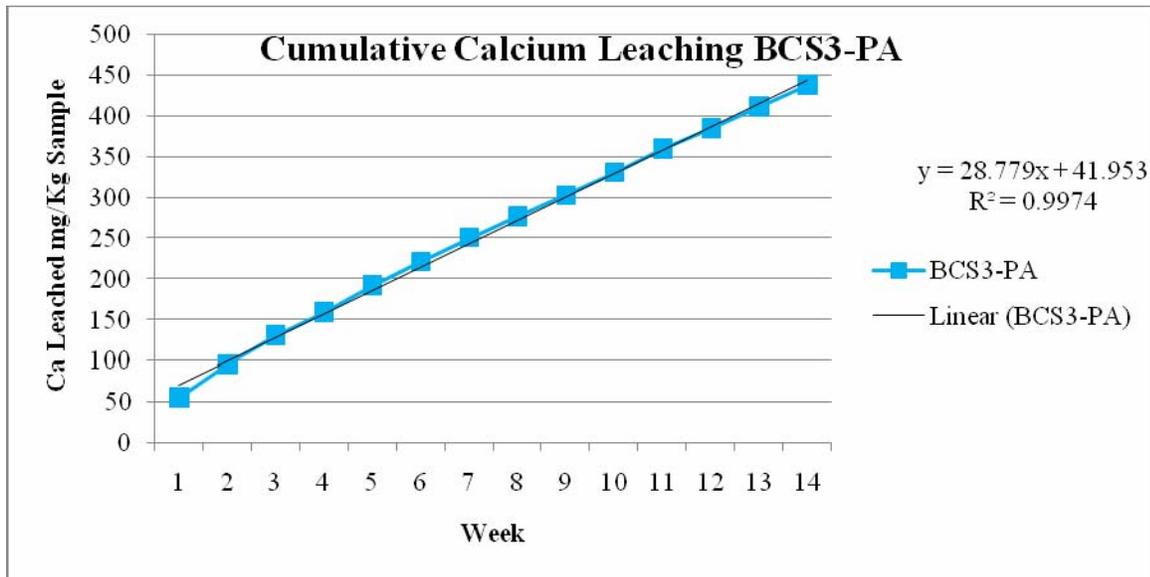


Figure 8-14a. Calcium Flux(mg/Kg sample), BCS3-PA with linear trend. Leachate is Calcite Saturated.

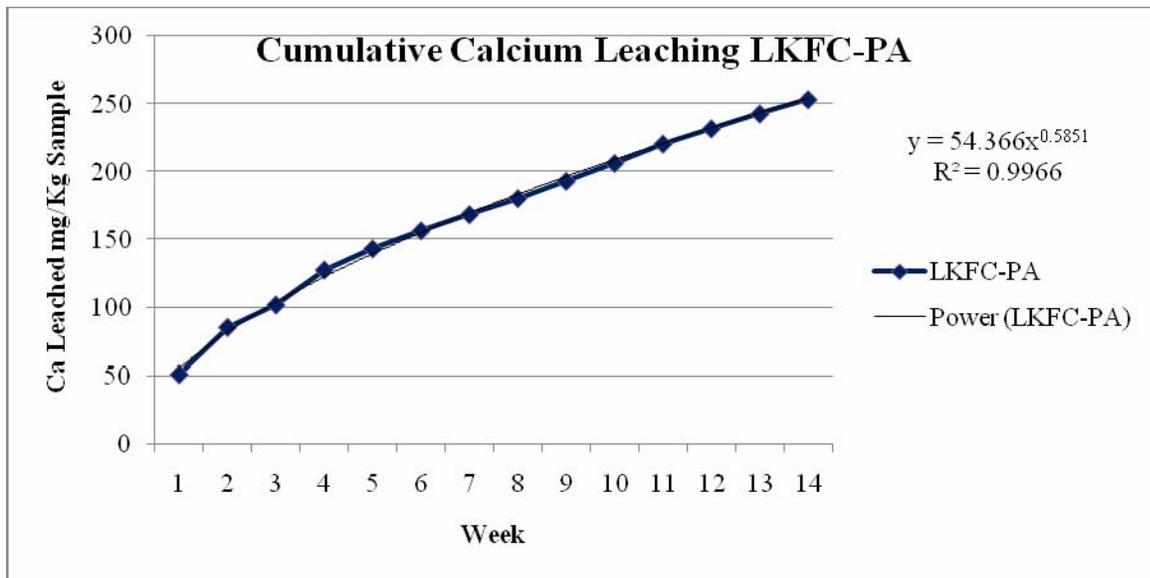


Figure 8-14b. Calcium Flux(mg/Kg sample), LKFC-PA. Leachate is Under-Saturated for Calcite.