

This laboratory was responsible for measuring conductivity, pH, alkalinity, net acidity, metals, and sulfate in all weekly leachate samples generated in that laboratory. All eight participating laboratories also recorded daily measurements of room temperature, gas flow into each column, and %CO₂ discharge from each column.

The analytes to be measured by laboratories and the analytical methods used are listed in Table 4.2. Data results of the analyses are included in Appendix E.

Table 4.2: Analytes Measured and Analytical Methods Used

Frequency	Analyte	Analytical Method
Daily	Room temperature	EPA Method 150.1; Standard Methods 4500-H; ASTM D1293; USGS I-1586
	Gas inlet flow rate	Rotameter attached between humidified gas source and column
	%Carbon dioxide (CO ₂) discharge	Portable meter capable of measuring 10% CO ₂ with a tolerance of +/- 2%
Weekly	pH	EPA 150.1; Standard Methods 4500-H; ASTM D1293; USGS I-1586
	Conductivity	EPA 120.1; Standard Methods 2510B; ASTM D1125; USGS I-1780
	Net acidity	EPA 305.1; Standard Methods 2310; ASTM D1067
	Alkalinity	EPA 310.1, 310.2; Standard Methods 2320B; ASTM D1067; USGS I-1030, I-2030
	Dissolved metals (Al, Ca, Fe, K, Mg, Mn, Se, Zn)	EPA Method 200.7
	Dissolved sulfate (SO ₄)	EPA Method 300.0

Method Preparation

column construction: Column assemblies for all but two of the participating laboratories were constructed in a single laboratory familiar with implementation of method procedures from participation in the 2003 evaluation study. This laboratory constructed setups for Laboratories 2, 3, 4, 5, 6, 7 and 8, each setup consisting of nine columns, nine flow meters (one flow meter attached to each of nine columns) a carboy (for introduction of the humidified gas mixture), and all necessary tubing, clamps, and seals. An example of these assemblies is provided in Figure 4.1. Because Laboratory 1 initiated weathering procedures approximately 3 months prior to Laboratories 2 through 8, this laboratory was responsible for construction of their column assemblies.