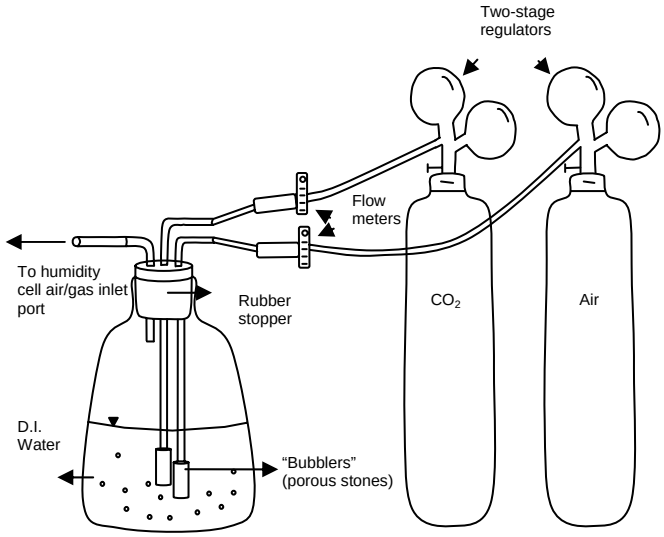

Figure 2.1c. Humidified Gas Mixture Schematic.

gas-mixture scenarios (i.e., air-only, and CO_2-enhanced air). Laboratory 2 (Materials Research Institute at Penn State University) was tasked with implementing the draft leaching column method using single samples exposed to CO_2-enhanced air. For a period of 15 weeks, each laboratory collected weekly samples from all columns and cells, and analyzed the samples for specific conductance and pH. Biweekly samples were filtered and analyzed for dissolved calcium, sulfate, acidity, alkalinity, iron, and manganese using EPA-approved methods. Data results of the analyses are included in Appendix C of this report.

Humidity cells were filled to 2/3 cell height; columns were filled to column height. Approximate weights of each sample added to the humidity cells were 1 kg and approximate weights added to the leaching columns was 13 kg. To provide an assessment of method precision, Laboratory 1 prepared duplicate samples for exposure to identical weathering conditions. Table 2.2 presents the weight of each sample added to each leaching column/humidity cell and exposed to either air only or CO_2-enhanced air.

Table 2.2.Sample Weights

		Column		Cell		
Lab	**Sample**	**Air**	**CO_2-Air**	**Air**	**CO_2-Air**	**Total # Samples**
1	Shale	12,722.6 g	12,825.8 g	1003.6 g	1006.5 g	8
		12,749.7 g	12,650.1 g	1003.2 g	1001.3 g	(4 duplicate pairs)
	Sandstone	12,476.5 g	12,612.6 g	1002.1 g	1005.9 g	8
		12,491.1 g	12,769.9 g	1004.9 g	1007.0 g	(4 duplicate pairs)
2	Shale	NA	13,284.0 g	NA	NA	1
	Sandstone	NA	13,227.5 g	NA	NA	1
	Limestone	NA	14,350.0 g	NA	NA	1