

Environmental Geology

Water-Quality Diagrams

Fall, 2011

The purpose of this lab is to advance our use of water quality data to enhance geologic interpretations. The data posted on the class web page are from Vasey's Springs along the Colorado River at the Marble Platform. We will use these data for the following procedures:

Stacked Bar Charts: Construct a stacked bar chart showing each of the water chemistry analyses.

Construct a Radar Plot: Also sometimes called a spider plot, a radar plot uses polar coordinates to represent data. Construct such a plot for the water chemistry data.

Stiff Diagram: A Stiff Diagram represents major-ion composition of water in a manner that makes it easy to determine the dominant water type. Construct a Stiff diagram for the water chemistry data and place the values at their appropriate location on the map.

Piper Diagram: A Piper diagram is used to represent the relative percentages of major ions. It also indicates the mixing of different water types.

What do you note about the water chemistry of the springs? What geologic factors may be of importance? (Hint: Ground water at depth tends to be more saline than water near the surface.)