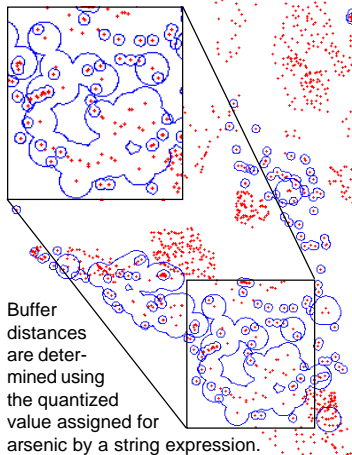
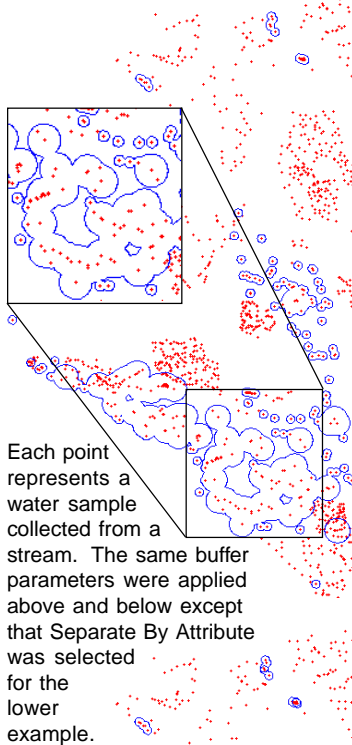


# Separating Buffer Zones by Attribute

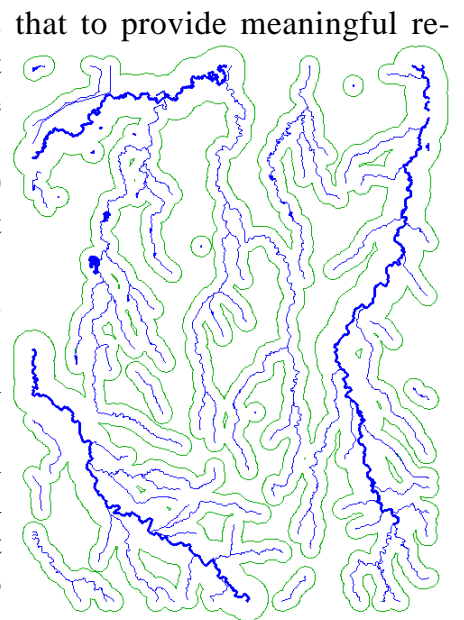
Turning on the Separate By Attribute feature creates complete buffer polygons for each attribute value buffered, such as arsenic levels (left) or hydrology descriptions (right). Without this feature turned on, buffer zone boundaries are dissolved in areas of overlap. If you create the buffer zones in CAD format, the buffer polygons for each attribute value are color coded. It is generally easy to visually identify the different sets of buffers if you have specified different buffer distances for different attributes, but if your buffer distance is uniform for all attributes, this CAD color coding is quite useful.



Numeric fields often have so many values that to provide meaningful results when separating by attribute you first need to quantize the data. For example, the arsenic levels in the water samples illustrated at the left range from 0.00 to 230 parts per million with hundreds of distinct values for the field. If the Separate By Attribute feature was used directly on this field, nearly every element would be buffered separately. Instead, a computed field was added that divides the arsenic levels into low, medium, and high where low is less than one third of the MCL (maximum contaminant level), medium is from the low value up to the MCL and high is above the MCL. This quality was also used to assign the buffer distances with low values not buffered and high values having three times the buffer distance as medium values.

```
Query Editor
File Edit Insert Syntax Help
if (merged.AS_ppm_str == "Medium") {
  return 1;
}
if (merged.AS_ppm_str == "High") {
  return 3;
}
```

Your buffer distance expression and separating buffer zones by attribute are completely independent of one another. You can use attributes to designate different buffer distances by script without using the separate by attribute feature and you can choose to separate buffer polygons by attribute when the same buffer distance is assigned to all elements. You can also, of course, select the attributes you use to assign buffer distance to separate the buffered polygons. You can use multiple fields from any number of tables when specifying buffer distances—separate by attribute uses the values of one field to decide how to separate buffer polygons.



These buffer zones were generated using the same parameters except Separate By Attribute was on and the result is in CAD format for the buffers shown below.

