

From: CCC:MCCLURE "Andy McClure" 14-MAR-1996 09:18:29.78
To: SAUNDERS,PREVADE
CC: MCCLURE
Subj: pH drop across carbon bed

I took a call from a customer yesterday that is seeing a pH DROP (not a pH rise) across their carbon system. They have a Model 7.5 in series with F-300 carbon and the pH is dropping from about 7.0 to 6.0.

I talked to Rick Farmer and he gave the following explanations:

1) If the system does not operate continuously, the carbon can pick up dissolved oxygen from the water. This oxidizes the carbon surface, which acidifies the carbon. When the system goes back on-line, the effluent can show a drop in pH for a period of time, until the system equilibrates again.

2) Bio growth on the carbon can emit CO2 into the water, which will form carbonic acid. Rick said that the pH would drop to about 6.2 under this sceanario.

3) If the carbon sees a slug of oxidant (chlorine, ozone, peroxide, etc.), the carbon surface can become oxidized (and acidified) again, similar to #1 above. Again, the pH should stabilize back once the slug of oxidant passes.

Obviously, the buffering capacity of the water comes into play and has an effect, no matter what the cause of the pH change.

Just thought you could use the info.
Andy