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April 11, 2003

WATER QUALITY CRITERIA AND SECONDARY VALUES FOR METALS DETECTED
IN THE WISCONSIN RIVER NEAR THE LINCOLN WOODS SITE

Aluminum (CAS No. 7429905)

The U.S. EPA published water quality criteria for aluminum in 1988; however, the Agency later withdrew these numbers for several reasons. First, there was some question as to whether at low pH, the aluminum or the low pH was responsible for any toxicity observed. Second, the toxicity-pH relationship was complicated by the fact that aluminum toxicity increases at both low and high pH. And finally, it was unknown whether aluminum toxicity is also related to water hardness. WI DNR has been waiting for EPA to establish new criteria that take these relationships into account, but as of yet, no new criteria have been published. Calculation of a secondary value would require using the lowest toxicity value in the database and would not allow for the relationship between that toxicity value and pH to be taken into account. The lowest toxicity values in the database are the results of toxicity tests conducted at very low pH. Therefore, at this time, it is the judgement of the Water Quality Standards section that water quality criteria or secondary values should not be calculated for aluminum until more is known regarding the relationships of aluminum toxicity with both pH and water hardness.