

**Title:** Flambeau Paper Sulfite Lagoon Site Contamination Study (Study No. 30)

**Investigators:** Principal Investigator

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**Period of Contract:** July 8, 1986 through August 15, 1986

**Objectives:** To compile data and assess water quality at the Flambeau Paper storage lagoon site, which received spent sulfite liquor from paper processing.

**Background/Need:** The Flambeau Paper Company operated unlined lagoons for the storage and disposal of spent sulfite liquor between 1956 and 1980, when the lagoons were abandoned and leveled. The lagoons were located along the north fork of the Flambeau River on a 200-acre site which also contains abandoned and active sludge landfills. Past monitoring results have shown chemical oxygen demand (COD) and possible heavy metal contamination. Seepage of this groundwater out of the bank of the river has resulted in areas of visible vegetation loss. This study will help determine the extent of contamination and need for remedial action.

**Methods:** 60 groundwater monitoring wells were sampled at varying dates between 1977 and 1985. Sampling parameters include conductivity, pH, temperature, and COD.

**Results:** Data confirms groundwater contamination at the site, indicated by high values for COD and conductivity at most of the wells sampled. Deeper wells and those located near or directly under lagoon sites or groundwater flow were contaminated to the greatest extent.

**Conclusions:** Long-term use of the Flambeau Paper lagoon site for liquor disposal has resulted in groundwater contamination. Natural degradation processes of the pollutants will take considerable time.

**Recommendations/  
Implications:** Investigators recommend further study to define areas which require remedial action. Remedial action techniques need to be defined to provide a time-efficient, comprehensive cleanup.

**Availability of Report:** This report is available for viewing and loan at:

The Water Resources Center  
1975 Willow Drive  
Madison, WI 53706  
(608) 262-3069  
Publication 050862

**Key Words:** Storage lagoon, sulfite liquor, wastewater

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