

# 2nd dye flow study to be conducted along Root River *Cal*

By JOHN WEISS  
Post-Bulletin Staff Writer

SPRING VALLEY — A second study to trace the direction of water flow from the Root River immediately below the now-closed Ironwood Sanitary Landfill south of here will be conducted later this month or in early August.

Dr. Calvin Alexander, a University of Minnesota geologist and an expert in the geology of this region, said the Freshwater Biological Institute of Minnetonka has given a \$5,000 grant to pay most of the study's cost. He said he hopes people living near the landfill will volunteer to help, as they did last year, to cut down expenses of the study.

The study will consist of dumping non-toxic dye into the river and observing where it comes out. Researchers don't have permission to dump dye in the landfill itself, he said.

The study last summer showed the dye infiltrated into many wells downriver as well as some north of the dumping site. The river flows generally eastward but the area has underlying layers of porous stone. Water from the river seeps into the layers of soft stone to form aquifers that are tapped for drinking water and other uses.

Alexander said the northward flow of the dye was an unexpected result and "as a scientist, when you get an unexpected result, you like to duplicate" it.

Another reason for the second dye trace is to expand on the previ-

ous study, he said.

The study last year was done to determine where pollution from the landfill may have gone, he said. More than 1,400 barrels, some containing hazardous wastes, were dumped in the landfill a few years ago and according to state Pollution Control Agency tests, pollution from them has reached the river itself, Alexander said.

"We are trying to document where it (pollution) is going," he said.

The barrels have been excavated, but not before some of the liquid leaked out, according to tests. Who was responsible for the dumping is being contested in court at present.

Many people believe some of the liquid has leaked out of the landfill and into the Root River. Also, Alexander said a large pond containing liquid pumped out from below the dumping site may be slowly released into the river and he and others would like to know where that liquid will go.

Alexander said a meeting will be held here in a few weeks to explain the dye trace. Anyone interested in helping with the study is asked to contact Alexander at the Department of Geology and Geophysics, University of Minnesota, Minneapolis 55455.

# State hearing examiner recommends amended permit for Ironwood landfill

by David Phillips

A state hearing examiner has recommended that the Minnesota Pollution Control Agency issue an amended permit for Ironwood Sanitary Landfill because the owners violated MPCA solid waste, water quality and hazardous waste regulations.

Kent Roberts, the hearing examiner who presided over an April hearing in Spring Valley, recommended in his report that the MPCA should issue its proposed amended permit, which would require an expanded groundwater monitoring program and geological studies of the landfill site. Roberts also recommended one addition, which was proposed by the Fillmore County board of Commissioners. The county requested that the landfill owners submit bi-monthly reports to the MPCA.

The MPCA citizens board will act on his recommendations at a July 27 meeting. The board could amend, suspend or revoke the landfill permit. Although Ironwood has halted operations, it is still considered an operating landfill by the MPCA because it has not met state requirements for closure.

Although Roberts had heard of the landfill closing through media reports, he said in a separate interview last week that he did not take that into account when writing his report. The hearing record was closed on May 28.

In his report, Roberts said that the landfill owners had failed to comply with the terms of their operating permit and that they improperly used the trench fill method of waste disposal.

But Duane Grafe, one of the landfill owners, disputed the findings in the report.

"If all those things were wrong, why didn't they (MPCA) tell us that in their monthly reports," said Grafe. "They always told us we were doing a fine job."

The landfill ceased operations July 3 because the costs of the proposed monitoring made it economically unfeasible to continue business at Ironwood, according to Grafe.

After some prehearing counsel and an opening statement by attorney Timothy Thornton, the Ironwood owners did not participate at all in the hearing.

"The staff of the agency, Fillmore County and Citizens Concerned About Hazardous Waste have met their burden to show that Ironwood has violated its permits and rules of the MPCA," stated Roberts. "Ironwood has not rebutted the showing by submission of any evidence to the contrary."

The violations noted in the hearing examiner's report include the following:

- The trench fill method was improperly used at the Ironwood landfill. Tailing sediments and underlying soil

deposits which normally diminish or retard migration of contaminants were removed during operations, thus creating pathways for the movement of pollutants. This was the case for the trench where the Advance Transformer barrels were buried and at an unfilled trench just north of this area.

- Ironwood failed to provide daily cover. The landfill was cited 27 times for failure to compact and cover properly the solid waste which it received daily at the site. Covering controls litter and restricts the amount of precipitation which can filter through the refuse and generate leachate.

- Ironwood failed to submit operating reports in a timely manner.

- Ironwood failed to operate a water monitoring program adequate to detect pollution or the extent of pollution if it was present.

- The Ironwood owners did receive authorization to dispose of a limited amount of milk process waste, but it accepted a volume in excess of that authorization and it did not dispose of the waste in conformance with the authorization, thereby creating offensive odors and nuisance conditions.

- Ironwood conducted open burning at the landfill site.

- The MPCA authorized Ironwood to dispose of barrels of solidified nonhazardous waste from Advance Transformer Company, but Ironwood accepted barrels that contained liquids and tests showed that the liquids contained hazardous waste. Laboratory tests showed that the wastes contained in the barrels had leaked into the surrounding soils, thus contaminating the soils.

- Groundwater monitoring wells determined that the water underneath the landfill contained the same contaminants as those found in the Advance barrels. The underground water was determined to flow south and southwest as well as in a separate path to the north.

- Samples of the Root River established the presence of the same toxic pollutants as those found in the Advance barrels. Toxic pollutants have migrated to the south branch of the Root River.

- Samples collected from private residential wells in the vicinity of Ironwood have also established the presence of the same toxic pollutants. Numerous carcinogenic compounds were found in concentrations in excess of the human health criteria established by the United States Environmental Protection Agency. The quality of the water is such that the underground water as a potable water supply has been limited or potentially precluded.

These conditions outlined above violated four provisions of the landfill operating permit, seven MPCA solid waste rules, three MPCA water quality

rules and three MPCA hazardous waste regulations, according to the report.

Much of the reason for concern at Ironwood is because of the unusual geology of this area. A number of karst features, such as sinkholes and caves, are located within a half-mile of Ironwood. The limestone bedrock is subject to continuous erosion because of the soluble nature of the rock.

"Thus, in this area, even if the bedrock under the Ironwood landfill does not contain a sinkhole, or if holes have filled up with material from the earlier mining process, the erosion continues from underneath, in an unpredictable fashion," said Roberts in the report.

The report also mentioned that the MPCA is reviewing and upgrading solid waste permits for landfills within the competitive area served by Iron-

wood. Those revisions seek similar requirements as the ones outlined in the amended permit proposed by the MPCA staff.

The April hearing was called by the MPCA citizens board in December after two busloads of local residents attended a meeting to voice their concerns. The hearing was held to decide whether to amend, suspend or revoke Ironwood's operating permit.

Ironwood has been an issue since 1980 when 1,390 barrels of waste, some of them hazardous, were discovered at the landfill. The waste originated from Advance Transformer Company in Wisconsin.

Grafe said that the landfill owners did no wrong and that the MPCA authorized the disposal of the waste. he said that the MPCA told them how many barrels to accept and how to bury them.

## Alexander to conduct another dye trace

Dr. Calvin Alexander, a University of Minnesota geologist, will be conducting another dye trace study in the Root River near Ironwood Sanitary Landfill.

The dye trace study won't be conducted at the landfill, said Alexander; rather, it will take place further downstream. The purpose of the study will be to "confirm and extend the results obtained last summer" when a dye trace was conducted, said Alexander.

Last year's dye trace was conducted by Alexander as part of an already-existing grant from the Legislative Commission of Minnesota Resources provided for the study of groundwater pollution in southeastern Minnesota. The study showed that several residential water wells were connected to the Root River.

In a dye trace, a non-harmful

fluorescent dye is dumped into a river. Water samples from various points then determine where the water is flowing. Samples taken from residential wells can show if surface water eventually flows into the wells.

The new study will be done in late July or early August. The study is being made possible by a grant from the Freshwater Biology Foundation. But Alexander said that the grant only covers the cost of the dye and other materials, so volunteers will be needed.

A public meeting will be scheduled in the next few weeks so residents can learn the details of the study. Last year, Alexander received a lot of community support and volunteer help to complete the dye trace.

"We wouldn't be able to do it without an enormous amount of support from the local people," said Alexander.

## Interstate rate increase reduced

Interstate Power Company has been granted 87.4 percent of the electric rate increase it requested from the Minnesota Public Utilities Commission.

In a June 24 order, the commission directed the utility to file revised rate schedules and a refund plan in 30 days. The amount and date of refunds to customers will be determined after that time.

Interstate Power Company had filed the request for \$5.6 million in additional revenue in July 1981 and the full amount of the increase was placed in effect Oct. 1, 1981 subject to refund with interest pending the commission's decision. The requested rates

represented a 19.4 percent increase and the commission's decision reduced that to an increase of approximately 17 percent.

The commission also directed Interstate Power toward as flat per kilowatt hour charge regardless of the quantity of electricity used in several rate classifications. Interstate will also inform large power and lighting customers of changes in time-of-day rates and the availability of an interruptible rate.

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