



Carroll D. Besadny  
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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May 19, 1992

File Ref: 4400  
Waukesha  
ERP/Proj.

Mr. Dan Mueller, Hydrogeologist  
Singh & Associates, Inc.  
1135 Legion Dr.  
Elm Grove, WI 53122

SUBJECT: Sanitary Transfer and Landfill - Delafield Project,  
Historical Groundwater Data.

Dear Mr. Mueller:

I've enclosed a couple of items from 1978, 1979 and 1980 which contain some background information on water quality at the Delafield landfill. Included are: a Bureau of Solid Waste Management "Report on Water Quality Around Sanitary Transfer & Landfill's Delafield Landfill", dated September 29, 1978; a statistical analysis of background water quality of private wells around the site from sampling data collected in February, 1978 and 1979, and two 1980 DNR memos from Ken Quinn/Pete Kmet on water quality at and around the site. Barb Gear thought these might be useful, however, there are numerous files compiled for this site. We would recommend that, as part of the contract "Evaluation of Existing Groundwater Quality Data", you spend at least a day reviewing our files in Madison. This will be the best way for you to get a handle on the available information. We can arrange to have items copied for you if you need copies.

Please let me know ahead of time when you would like to come in so that I can get the files for you and a space to sit in to review them. Thanks. My number is 608-267-2465.

Sincerely,

Marie Stewart, Program Coordinator  
Emergency and Remedial Response Section  
Bureau of Solid and Hazardous Waste

MS:ms

CC: Roger Klett - SED  
Barb Gear - SW/3

Lafayette Background Water Quality  
 Using Private Wells 26-42, 52 and 53  
 On Sampling Dates 2/20/78 and 2/13/79

Total Alkalinity (mg/L)  
 Mean 320  
 Standard Deviation 22

Sodium (mg/L)  
 Mean 28  
 Standard Deviation 23

Chlorides (mg/L)  
 Mean 38  
 Standard Deviation 45

Sulfate (mg/L)  
 Mean 34  
 Standard Deviation 14

Specific Conductivity (umhos/cm)  
 Mean 702  
 Standard Deviation 171

COD (mg/L)  
 Mean 8  
 Standard Deviation 6

Total Hardness (mg/L)  
 Mean 361  
 Standard Deviation 69

NO<sub>3</sub>+NO<sub>2</sub>-N (mg/L)  
 Mean 2.7  
 Standard Deviation 2.4

Iron (mg/L)  
 Mean .15  
 Standard Deviation .17

Manganese (ug/L)  
 Mean Less Than 40  
 Standard Deviation 0

pH (S.U.)  
 Mean 7.33  
 Standard Deviation .14

Notes

For samples recorded as less than, 1/2 the Detection limit was used:

$$\text{Standard Deviation} = \sqrt{\frac{N}{N-1} \left( \frac{\sum x^2}{N} - \bar{x}^2 \right)}$$

# CORRESPONDENCE MEMORANDUM

STATE OF WISCONSIN

Date: March 26, 1980

File Ref: 4400

To: Chuck Leveque-LEG/5

From: Ken Quinn *K. Quinn*  
Pete Kmet

Subject: Delafield Landfill Water Quality

Wells that are on the fringe or outside the plume exceeding the mean plus one standard deviation of:

## 1 Parameter

Fringe	Outside Plume
12 alkalinity	23 Alk
55 pH	42 Hard
101 Hardness	61 Cond
102 Alkalinity	65 Hard
103 Alkalinity	71 Alk
106 Chlorides	78 Alk
	80 Alk

## 2 Parameters

Fringe	Outside Plume
* * 96 Cond, Alk	22 Alk, Hard
	34 Cond, Cl
	45 Cond, Hard
	73 Alk, Hard
	75 Alk, Mn
	79 Alk, Mn
	88 Alk, Hard

## 3 Parameters

Fringe	Outside Plume
* * 91 Cond, Cl, Hard	46 Cond, Cl, Hard
* * 94 Cond, Alk, Cl	47 Cond, Cl, Hard
95 Cond, Alk, Hard	62 Cond, Cl, Hard
100 Cond, Cl, Hard	76 Alk, pH, Mn
	77 Alk, Mn, Hard

## 4 Parameters

Fringe	Outside Plume
98 Cond, Alk, Cl, Hard	26 Cond, Alk, Cl, Hard
99 Cond, Alk, Cl, Hard	
(94) Cond, Alk, Cl, Hard*	

\*expected to be exceeded but sample was apparently softened

\* \* wells being discussed in this memo

TO: C. Leveque-March 26, 19

2.

NOTE: The above analysis is an extension, with modifications of the DNR, September 29, 1979 Groundwater Quality Report. Background water quality is defined by the attached memo (Delafield Background Water Quality Using Private Wells 26-42, 52 and 53 on sampling dates 2/20/78 and 2/13/79). The water quality in this analysis is taken from the 2/13/79 sampling date.

KQ:jb

Date: March 26, 1980

File Ref: 4400

To: Chuck Leveque-LEG/5

From: Pete Kmet  
Ken Quinn

*P. Kmet*  
*K. Quinn*

Subject: Wells Adversely Affected by the Delafield Landfill

Well      Factors for Inclusion

- 1      Significantly different from background in 5 parameters (conductivity, alkalinity, manganese, hardness and pH) and is within the plume from the landfill.
- 2      Significantly different from background in 4 parameters (conductivity, alkalinity, hardness and pH) and is within the plume from the landfill.
- 3      Significantly different from background in 4 parameters (alkalinity, manganese, hardness and pH) and is within the plume from the landfill.
- 6      Significantly different from background in 4 parameters (conductivity, alkalinity, hardness and pH) and is within the plume from the landfill.
- 7      Significantly different from background in 4 parameters (conductivity, alkalinity, hardness and pH) and is within the plume from the landfill.
- 8      Significantly different from background in 5 parameters (conductivity, alkalinity, manganese, hardness and pH) and is within the plume from the landfill.
- 9      Significantly different from background in 5 parameters (conductivity, alkalinity, manganese, hardness and pH) and is within the plume from the landfill.

KQ:jb