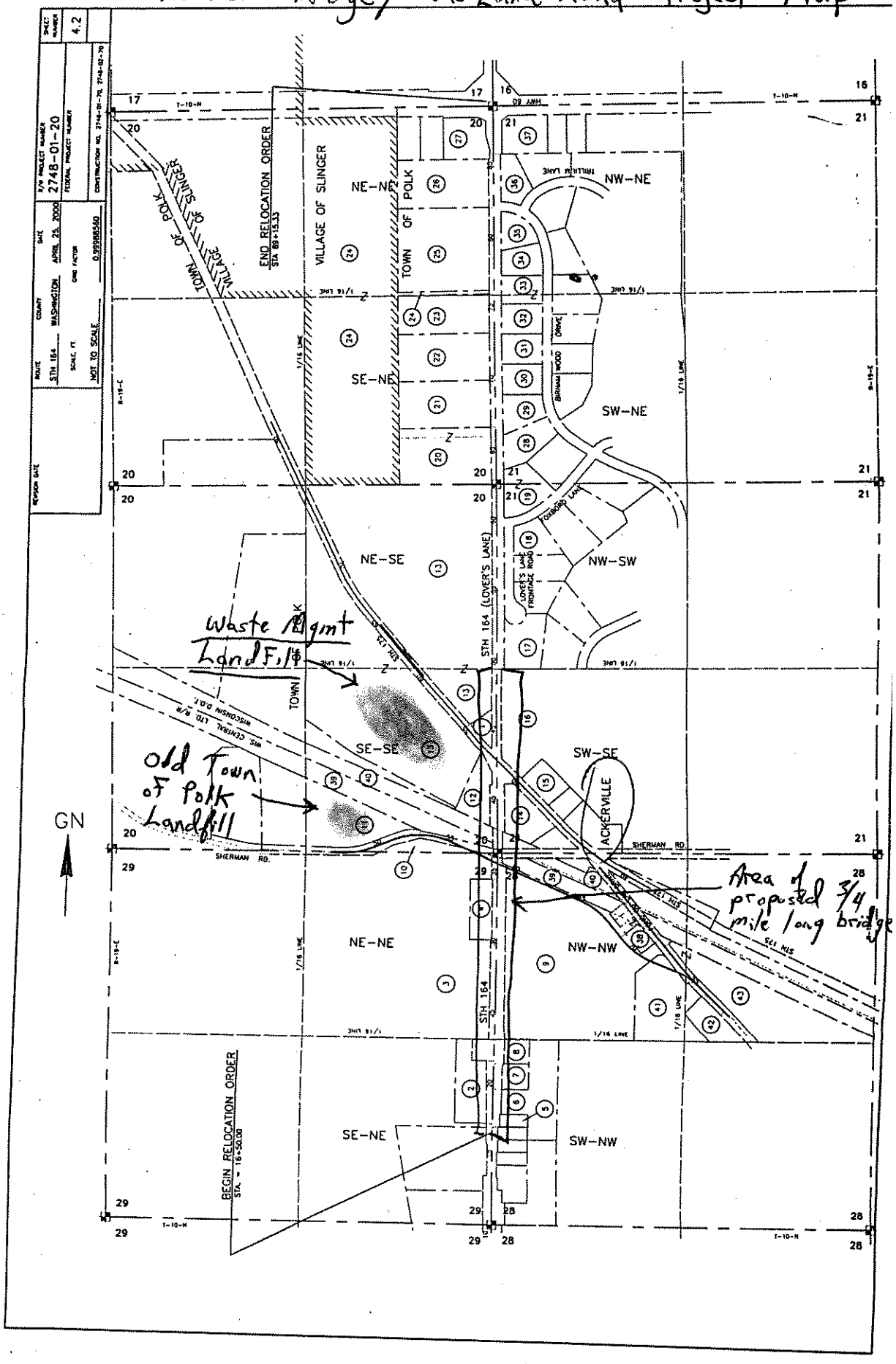
436

Ackerville Bridge / Lovers Lane Road Project Map



S:\5158812\plat\layout42.dwg Wed Apr 26 14:02:28 2000 Plotted by: trg

Exhibit "E"
(4 pages)

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March 01, 2001

Darrell Bazzell, Secretary
Wisconsin Department of Natural Resources
PO Box 7982
Madison, WI 53707

William E. Muno, Division Director
Superfund Division
US Environmental Protection Agency
77. W. Jackson Blvd
Chicago, IL 60604

Dear Mr. Bazzell and Mr. Muno,

This office represents a group of citizens who live or work in and around the community of Ackerville, located in the Town of Polk, Washington County. These citizens live near a leaking landfill.

On their behalf, we are requesting that the Department and US EPA immediately initiate an Environmental Assessment of a landfill owned by Waste Management of Wisconsin, Inc. and located in the Town of Polk.

This office retained a private consultant to conduct an analysis of groundwater monitoring data from this landfill. This analysis was of data and information that is currently in the files of the Department. A copy of this analysis, prepared by Thresher and Son, Inc. and dated January 22, 2001, has been provided to Mr. Phillip Fauble in the Bureau of Waste Management at the Department and to Ms. Jan Pels at US EPA.

This analysis raises serious concerns about the manner in which both WDNR and US EPA have responded to contamination from this landfill,. Those concerns are based solely on data and reports that we found were already in the files of the Department of Natural Resources. The Department has had this information and has inexplicably not taken appropriate actions. We now request that action be taken forthwith.

Based on the DNR data and reports that were examined, our consultant has concluded that:

I. Groundwater to the west of Ackerville is contaminated with trichlorethylene (TCE), arsenic, tetrahydrofuran (THF) and other substances.

This is not news. The Department knows and acknowledges that this landfill has leaked for at least 29 years. What is important is that:

A. Data and reports contained in WDNR files show that the contaminated groundwater is migrating towards the community of Ackerville.
B. The data and reports contained in WDNR files show that TCE and arsenic contamination has been known since 1986, and that the THF contamination has been known since 1993.
C. The primary sources of this data has been the analysis of samples collected from the groundwater monitoring wells associated with the abandoned Waste Management of Wisconsin Inc. (WMWI) Polk Landfill.

I. The data and reports contained in the WDNR files show that arsenic contamination in exceedance of the WDNR groundwater standards has been historically detected in four monitoring wells near the WMWI-Polk Landfill and adjacent to the nearby railroad right of way.

I. The data and reports contained in the WDNR files show that the arsenic contamination is migrating downgradient toward Ackerville and that the contamination is increasing in depth.

I. The data and reports contained in the WDNR files show that monitoring wells with high concentrations of contaminants were not monitored after 1986.

I. The data and reports contained in the WDNR files show that in 1993 many of the groundwater monitoring wells used to define and monitor the contaminant plume were abandoned by WMWI, with the permission of WDNR. As a result, the degree and extent of the contaminant plume has never been fully defined nor has the potential impact of the contamination upon the groundwater in Ackerville been determined.

The materials contained in the WDNR files indicate that:

I. Contamination from this landfill has been known for many years;
II. Monitoring wells have been installed;
III. Data from those wells shows that for some contaminants the values or parameters have exceeded the Department's Preventative Action Limits (PALS);
IV. Some monitoring wells have been abandoned even though they indicated contamination at the time of abandonment;
V. The downgradient contaminant plume extends for at least 800-1000 feet toward the community of Ackerville;
VI. Data showing contamination in water samples from monitoring wells has been overlooked or ignored;
VII. Communications regarding this landfill have inaccurately reported the data and reports contained in the WDNR files;

VIII. Owners of private wells in the community of Ackerville have not been fully or clearly advised or informed of contamination and of levels of lead, iron and manganese in their water exceeding WDNR standards.

IX. No actions have been taken to protect the water supplies for those who live and work in Ackerville and draw their water from wells.

While we commend the initiation by the Department of a site investigation of the nearby Town of Polk Dump site in response to citizen complaints to EPA, we are concerned that investigation is moving too slowly to fully protect human health. We are concerned that the contamination from the WMWI landfill represents a direct and immediate health threat. It would be irresponsible to wait until the results of the investigation of a long abandoned open dump are complete before opening an environmental assessment of a landfill which is known to have been leaking contaminated leachate since 1973 and which is already subject to departmental jurisdiction and regulation.

Accordingly, we urgently request that a full and complete Environmental Assessment be conducted beginning immediately, under the supervision of EPA, at the WMWI Polk Landfill and the area between the landfill and the dump and extending into the community of Ackerville.

This Environmental Assessment should address, but should not be limited to:

I. The status of the groundwater and soil contamination, especially the THF, TCE, 1,2 transdichloroethylene, and vinyl chloride contamination in the ground water immediately adjacent to the landfill and extending to bedrock.

II. The status of the arsenic soil and groundwater contamination encountered along the railroad right of way to such depths that arsenic contamination is no longer encountered, and extending into Ackerville;

III. The status of shallow groundwater contamination, especially TCE, between the wells with historical TCE detects and extending into Ackerville; and

IV. The potential TCE contaminated groundwater between the Town of Polk landfill and monitoring wells TW-30/TW-30P.

Please advise us within ten days whether the Environmental Assessment requested herein will be initiated immediately.

GARVEY & STODDARD, SC.
By

Peter McKeever
Attorney

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

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Monday, March 19, 2001

Mr. Peter McKeever
Garvey & Stoddard, S.C.
634 W. Main Street, Suite 101
Madison, WI 53703

File Ref: 4400
B 72

Peter

Dear Mr. McKeever:

Thank you for your letter of March 1, 2001, regarding the two closed landfills in the Town of Polk, Washington County – the Waste Management of Wisconsin, Inc. landfill and the Town of Polk landfill. I understand that my staff will be meeting with your firm on Tuesday, March 20, to review your concerns. At that meeting, my staff will discuss with you the Department's plan for sampling soils and groundwater in the area. I understand that the sampling activities to address the potential sources of groundwater contamination in the vicinity of the Waste Management of Wisconsin, Inc. landfill and the Town of Polk landfill will be initiated this spring.

In your letter, you requested that the Department and the U.S. Environmental Protection Agency initiate an environmental assessment at the Waste Management of Wisconsin, Inc. facility, based on the findings prepared by your consultants and submitted to the Department on January 25, 2001. As noted above, as part of a Cooperative Agreement with the U.S. Environmental Protection Agency Superfund program, we are conducting a Superfund Preliminary Assessment/Site Inspection to investigate potential sources of groundwater contamination in the area of both the Town of Polk landfill and the Waste Management of Wisconsin, Inc. landfill. Please note that the Department does not plan to conduct a separate Environmental Assessment under our solid waste authority for the Waste Management of Wisconsin, Inc. landfill. As you may know, s. 283.93, Stats., exempts environmental remedial actions from the Environmental Assessment provisions of the Wisconsin Environmental Protection Act, s. 1.11, Stats.

I appreciate hearing from you on this matter. Jim Delwiche, Southeast Region Hydrogeologist is assigned to the project and is responsible for the site assessment under the Superfund Site Assessment Program. Jim can be reached at (414) 229-0846.

Sincerely,

Darrell Bazzell

Darrell Bazzell
Secretary

cc: Gloria McCutcheon, SER
Walt Ebersohl, SER
Mark F. Giesfeldt, RR/3
Phil Fauble, WA/3
Lakshmi Sridharan, SER
Frank Schultz, SER
Jim Delwiche, SER
Darci Foss, RR/3

Exhibit "F"
(20 pages)

Thresher & Son, Inc.
2828 Regent St.
Madison, WI 53705
Voice: 608-233-0297
FAX: 608-233-2129

22 January 2001

Mr. Philip Fauble
Wisconsin Department of Natural Resources
Waste Management Section, Southeast District
Madison, WI 53

re: An Analysis of the Groundwater Contamination at the WMWI-Polk Landfill and environs, Town of Polk, Washington County, WI (License No. 307, FID No. 267062400) and, a Request for the Performance of an Environmental Assessment of this Contamination

Dear Mr. Fauble:

Thank you for the opportunity to present this report concerning groundwater contamination in the vicinity of the closed Waste Management of Wisconsin, Inc. (WMWI) Polk Landfill in Washington County, Wisconsin. This landfill is approximately 1,700 feet from, and upgradient of, Ackerville in the Town of Polk. I have been retained by Garvey & Stoddard, S.C. of Madison, Wisconsin, to review the documents listed in the attached reference section, and to prepare the following report.

1.0 INTRODUCTION

The investigation conducted to prepare this report consisted primarily of assembling, collating and analyzing the readily accessible groundwater and leachate analytical data contained in the WDNR Milwaukee Annex and Madison files. There was little duplication of data between the two sets of files. Readily accessible data refers to that data which was either available in print form, primarily from WMWI reports, or contained on 3½ inch floppy disks. I was unable to access the data contained on the 5¼ inch floppy disks or on most of the old TAD forms, which have faded.

The investigation was sufficiently intensive to form an assessment of the long-term groundwater quality, and changes therein, in the area between the Landfill and the community of Ackerville, especially within the contaminant plume downgradient of the landfill. Emphasis was placed upon parameters whose concentrations or values exceeded the Preventative Action Limits (PALs) either contained within, or calculated from, Wis. Admin. Code NR 140. Therefore this investigation was selective regarding both monitoring wells and parameters. Parameters emphasized in this report include: 1) inorganic indicator parameters; 2) tetrahydrofuran (THF); 3) trichloroethylene (TCE); and, 4) arsenic. Data collected from selected monitoring wells located both within, and outside of, the Design Management Zone (DMZ) were used for assessment. The outline of the irregularly shaped DMZ can be seen in Figure 1.

1.1 Monitoring Well Terminology

Five types of wells have been monitored at various times during the groundwater investigations conducted at the site. These include three types of groundwater monitoring wells: 1) water table wells; 2) shallow piezometers; and, 3) deep piezometers; and, 4) private (potable) wells, all of which are piezometers; and 5) leachate head wells (all of which are screened in the leachate perched above the landfill liner). Water table wells are groundwater monitoring wells in which the water table intersects the well screen. Some of the monitoring wells referred to as water table wells actually are screened slightly below the average water table elevation. Piezometers are groundwater monitoring wells in which the entire screened interval is significantly below the water table. Those wells referred to in this report as "shallow piezometers" have their screened intervals 12-20 feet below the water table, and those referred to in this report as "deep piezometers" have their screened intervals more than 30 feet below the water table. Table 1 contains a categorization of the monitoring wells as referred to in this text and accompanying appendices. A piezometer nest consists of a water table monitoring well and at least one piezometer at the same approximate location.

Table 1.

Monitoring well categories and monitoring wells within each category

Monitoring Well Category	Monitoring Wells within Category
Water Table Wells	TW-01, TW-01R, TW-03, TW-03R, TW-09, TW-09R, TW-14, TW-15, TW-17, TW-18, TW-19A, TW-20, TW-21, TW-23, TW-23R, TW-25, TW-26R, TW-28, TW-29, TW-30
Shallow Piezometers	TW-01P, TW-09A, TW-14P, TW-15P, TW-19B, TW-24, TW-25P, TW-26, TW-29P, TW-30P
Deep Piezometers	TW-26P1
Private (Potable)	PW-01, PW-01R, PW-02, PW-03, PW-03R, PW-04, PW-05
Leachate Head Wells[a]:	Cell 1: LR-01E, LR-11, LR-01W
	Cell 2: LR-02E, LR-12, LR-02W
	Cell 3: LR-03E, LR-13, LR-03W

[a] the "L" has often not been used in past reports in which case, for example, LR-03E would have been referred to as R-03E

1.2 Landfill History and Major Groundwater Investigations

The landfill began receiving solid wastes from the City of Milwaukee in 1971 on a daily basis. Problems with exfiltrating leachate ensued shortly thereafter and by 1973 it was documented that: 1) leachate was found to be seeping through the western walls of two of the three landfill cells; 2) there was no liner or barrier along the eastern side of the refuse fill area; 3) "groundwater" in the vicinity of the landfill had risen such that a pond was created to the west of the landfill in a depression; and, 4) groundwater in the monitoring wells south of the site showed signs of degradation (WMWI, November, 1977).

Following complaints by local residents, the landfill ceased accepting wastes from Milwaukee and accepted only local wastes, and that on only three days per week. The landfill was eventually closed by court order in 1984. The court order also contained a stipulation for implementing a Phase II Groundwater Investigation (WDOJ, June 29, 1982 and May 9, 1985).

Donohue & Associates, Inc. (D&A) conducted the stipulated Phase II Groundwater Investigation during the spring of 1986. During this investigation the existing groundwater monitoring, leachate head wells and five private (potable) wells were sampled monthly for a period of three consecutive months. This investigation represented the first "modern" evaluation of the groundwater conditions at the site and the characteristics of the leachate (D&A, February 3, 1987). WMWI issued a corrected set of analytical data for the Phase II Groundwater Investigation on September 3, 1986.

The results of the analyses of these samples showed considerable variation in concentrations/values on a monthly basis. The results of the analyses of the monitored wells are included in Appendix Table 1, along with a calculated average value for the three-month period. The average values have been used in this report to represent the first quarter analytical data for 1986 (1Q/1986).

Three leachate head wells existed in each landfill cell. Leachate was collected from each head well, with the exception of LR-02E which was dry, and was analyzed. This was apparently the only time that leachate was sampled and analyzed from all of the operable head wells. The results of the leachate analyses demonstrate the extreme chemical heterogeneity often encountered in landfill leachate and a high degree of chemical variability on a monthly basis. For instance, one of the leachate head wells in Cell No. 3 (R-03E) contained high and variable concentrations of 1,2-trans-dichloroethylene (67.5-491 ug/L) and vinyl chloride (74.8-265 ug/L), both public health parameters of considerable concern (Wis. Admin. Code NR 140.10). Following the investigation, one leachate head well from each cell was chosen for long term monitoring and, inexplicably, LR-03E was not one of them, nor was LR-03W which had by far the highest toluene (another public health parameter) concentrations.

Site horizontal and vertical hydraulic gradients were determined from the groundwater monitoring well data and testing. The gradients and the results of the hydraulic conductivity tests were used to calculate hydraulic flow rates across the site (D&A, July, 1986).

A Two-Year Ground Water Monitoring Report was prepared by Hydro-Search, Inc. (HSI) following the conclusion of the investigation which was conducted from October, 1987 through October, 1989. The location of the monitoring and private (potable) wells, and the three leachate head wells, sampled and analyzed during this investigation are shown in Figure 1. Figure 1 also shows the interpreted water table elevations (standing water levels measured in the water table wells) for 1Q/1989.

Based upon the results of their groundwater analyses, HSI calculated PALs for several indicator parameters (Wis. Admin. Code NR 140.20) including conductivity, total alkalinity, total hardness, and, pH. HSI used the distribution of total alkalinity, total hardness and conductivity to define the relatively conservative, inorganic portion of the contaminant plume, which extended about 800-1,000 feet downgradient towards Ackerville at that time. In addition to proposing changes to the quarterly monitoring program, and adding some new and replacement monitoring wells, HSI designated TW-23R, TW-29 and TW-30 as "sentry" wells. The role of the sentry wells, all of which are located 900-1,400 feet downgradient from the landfill, was to provide an early warning of advancement of the contaminant plume towards the private water supply (potable) wells downgradient in the Ackerville area.

HSI was unable to determine a source for the TCE (a public health parameter) that was regularly detected in TW-23R, TW-29, TW-30, PW-01, and, PW-03. They noted that none of the leachate

monitoring points (head wells) had historical detections of TCE, while neglecting or overlooking the consistent detection of TCE degradation products (1,2-trans-dichloroethylene and vinyl chloride) in leachate head wells LR-03E and LR-12 (D&A, July, 1986). HSI concluded that neither a single nor a multiple point sources of TCE upgradient of this spread of monitoring wells with detects is unlikely. TCE contamination of the site groundwater is considered separately, and in detail, in Section 2.2.1, below.

HSI proposed the elimination of testing for barium and arsenic (both public health parameters) which did not appear to be related to the landfill. Analyses conducted since HSI's investigation strongly suggest that the barium detected in the monitoring wells, all of which is below the PAL level, is related to the landfill. Arsenic contamination of the site groundwater is considered separately, and in detail, in Section 2.3, below.

2.0 GROUNDWATER QUALITY AND CONTAMINATION

The collated leachate compositional data for selected parameters detected in the leachate head wells were used to prepare the leachate head well histories, and leachate storage tank history, contained in Appendix Table 2. The assembled leachate head well and storage tank histories were used to assess the leachate composition and changes, or trends, in the composition over time. Similarly, the collated groundwater quality data for selected parameters and monitoring wells was used to prepare the monitoring well histories contained in Appendix Table 3. The assembled monitoring well histories were also used to assess the groundwater quality (composition) and changes in the composition over time.

While collating these Appendix Tables it was observed that parameter values/concentrations measured within a given leachate cell, and measured within a given head well within a cell, varied widely from one sampling event to another, which is common for the highly heterogenous environment encountered in most landfills. It was also observed that the parameter values/concentrations measured in the monitoring wells nearest the landfill varied the most from one sampling event to another, and that the measurements generally varied less the further a monitoring well was located from the landfill. This suggests that: 1) the monitoring wells nearest the landfill are most effected by the leachate exfiltrating from the landfill, as would be expected; and that, 2) the leachate exfiltrating from the landfill does not become homogenized rapidly within the underlying soil and groundwater, probably due to the high hydraulic conductivity of the most of the site soils and geologic deposits. These observations indicate that long-term parameter concentrations/values, and changes in concentrations/values, will provide a more accurate assessment of groundwater quality at the site than short-term, or single event data could provide.

2.1 Groundwater Contamination Associated with the WMWI-Polk Landfill

Several investigators (including Donohue & Associates, and Hydro-Search) of the site have noted the strong relationship between the indicator parameters conductivity and total alkalinity, total hardness and/or total dissolved solids. The average 1Q/1986 values for these parameters, calculated from the Phase II Groundwater Investigation and included in Appendix Table 1, have been plotted and are shown in Figure 2. As seen in the Figure, a strong linear relationship exists between conductivity and each of the other parameters. Therefore assessing conductivity values at the site forms a reasonable assessment for all four indicator parameters. These inorganic indicator parameters are generally conservative in behavior since the substances that usually have the greatest influence on these parameters (sodium, calcium, magnesium, potassium, chloride, carbonate, and sulfate) are only slightly retained when percolating through soil or groundwater, especially coarse-grained soil similar to that encountered at the site (D&A, July 31, 1986, Young and Batten, February, 1980).

Conductivity values measured in the piezometer nests TW-15/TW-15P and TW-26R/TW-26, and the water table monitoring wells TW-28 and TW-23R over time have been plotted and are shown in Figure 3 (the TW-15/TW-15P and TW-26R/TW-26 plots are shown in page 1 of 2 of Figure 3, and the plots of TW-28 and TW-23R are shown in page 2 of 2 of Figure 3; data contained in Appendix Table 3; also see Figure 1 for well locations). As seen in Figure 3, conductivity values decrease downgradient away from the landfill as would be expected, and in addition, the fluctuation in conductivity values decreases downgradient. The overall conductivity values measured in these monitoring wells appear to be increasing over time, more so for the monitoring wells closer to the landfill than for those further from the landfill. Also shown in Figure 1 is the conductivity PAL calculated for the site by HSI (HSI, March 30, 1990).

Unfortunately most of the monitoring wells used to depict the contaminant plume shown in past reports (eg. HSI, March 30, 1990) were abandoned in March, 1993 (Rust Environment & Infrastructure, May 11, 1993). It is therefore not possible to depict the current configuration of the contaminant plume and compare the present plume configuration with that reported in the past. However, the increases in conductivity values over time observed in Figure 3 suggest that the contaminant plume is slowly intensifying and inexorably migrating downgradient from the moraine towards the Village of Ackerville, despite efforts by WMWI to control leachate exfiltration.

Also inhibiting an accurate assessment of the degree and extent of the contamination associated with the WMWI-Polk Landfill is the lack information concerning the depth of contamination. Reviewing the plots presented in Figure 3 (page 1 of 2), it is apparent that groundwater contamination extends to an undetermined depth beneath the shallow piezometer TW-15P, which is immediately adjacent to, and "downgradient" from, the landfill. Additionally it is uncertain what happens to the contamination at depth between the TW-15/TW-15P and TW-26R/TW-26 piezometer nests, especially in light of the fact that the vertical groundwater gradients exhibited at the three piezometer nests immediately adjacent to, and "downgradient" of, the landfill exhibit both upward gradients (TW-14/TW-14P and TW-15/TW-15P) and downward gradients (TW-09R/TW-09A).

In addition to the arsenic and TCE contamination discussed separately in the following sections, tetrahydrofuran (THF) has become a contaminant of concern. THF was analyzed for, but not detected, until 1993, and has thereafter been detected in TW-15 and TW-15P in concentrations exceeding the THF PAL (10 ug/L), and in lesser amounts in TW-14. At about the same time THF has become detected in leachate head wells LR-02W and LR-11R in amounts greater (> 50 ug/L) than those detected in the monitoring wells. It appears that either the past analyses were inaccurate and/or a source of THF has recently occurred within Landfill Cells Nos. 1 and 2, such as corroding drums containing THF.

2.2 Contamination in the Private (Potable) Wells

The following public health (TCE and lead, Wis. Admin. Code NR 140.10) and public welfare (iron and manganese, Wis. Admin. Code NR 140.12) contaminants (constituents with concentrations exceeding the PAL for that constituent) have been consistently identified (see Appendix Tables 1 and 3 for data; well locations are shown in Figure 1) in private (potable) wells PW-01 through PW-05:

PW-01: TCE and lead,
PW-02: lead, iron and manganese,
PW-03: TCE, lead, iron, and manganese,
PW-04: lead, iron and manganese,
PW-05: lead (and occasionally iron).

New wells were constructed to replace the TCE-contaminated wells PW-01 and PW-03 (PW-01R and PW-03R, respectively). These replacement wells were screened in the underlying bedrock. The following contaminants have been consistently identified (see Appendix Table 3 for data) in the replacement wells:

PW-01R: iron and manganese,
PW-03R: iron and manganese.

The changes in agency appreciation of TCE toxicity has been reflected by the changes in Health Advisory Levels and PALs. For example, in a letter dated September 24, 1984, WDNR advised Mr. Schilling, owner of PW-01, that the TCE concentration in his well on July 31, 1984 was 12 ppb (parts per billion. Similar to, but not identical with, ug/L) and that this concentration was below the then Health Advisory Level of 45 ppb (WDNR, September 24, 1984).

WMWI sent analytical results of the 1986 Phase II Groundwater Investigation to each of the private well owners on October 31, 1986. The analytical results included PAL and ES (Enforcement Standards) levels for each reported parameter but without comment. It was up to the well owners to deduce that their well water contained exceedances of TCE, lead, iron, and/or manganese. TCE was not openly identified in these letters and the residents would have had to know that "VOC 29V" was, in fact, TCE (WMWI, October 31, 1986a-f). At the time these letters were written a PAL of 0.18 ug/L had been established for TCE (the current TCE PAL is 0.5 ug/L, Wis. Admin. Code NR 140.10, March, 2000).

No evidence was found in the WDNR records that any of the owners of the private wells have been specifically notified by WDNR and/or WMWI in writing (rather than data) of the lead, iron and/or manganese exceedances in their well water.

2.3 Source of the Trichloroethylene (TCE) Contamination

Trichloroethylene (TCE) has been detected in some downgradient water table wells, shallow piezometers, private (potable) wells, and leachate head wells. In addition, the TCE degradation products 1,2-trans-dichloroethylene and vinyl chloride have also been detected in some of the water table monitoring wells and in some of the leachate head wells.

TCE has been consistently detected in five downgradient wells: the water table wells TW-23R, TW-29 and TW-30; and the private (potable) wells PW-01 and PW-03 over the period that they were monitored. TCE has been less frequently detected in the shallow piezometers TW-24 and TW-29P. TCE was not detected in the related shallow piezometer TW-30P, nor in the nearby private (potable) wells PW-02, PW-04 and PW-05 (see Appendix Tables 1 and 3 for data).

The TCE concentrations detected in TW-23R, TW-24, TW-29, and, TW-29P exceeded the TCE PAL concentrations (0.5 ug/L). The TCE concentrations detected in TW-30, PW-01 and PW-03 exceeded the TCE enforcement standards (5.0 ug/L). As you have pointed out (WDNR, March 16, 2000) the TCE concentrations in TW-23R and TW-29 appear to be decreasing over time, and the TCE concentration in TW-30 appears to be increasing over time.

These wells are located about 900 feet (TW-30 and TW-24) to about 1,400 feet (TW-23R) downgradient from the WMWI-Polk Landfill (see Figure 1 for well locations). It should be noted that TW-30/TW-30P, PW-03/PW-03R and PW-04 are also downgradient of, and much nearer to, the Town of Polk Landfill.

TCE degrades (breaks down) via dehalogenation processes, especially under anaerobic conditions, such as those encountered in a closed and covered landfill. TCE degradation progressively forms 1,2-trans-dichloroethylene and vinyl chloride (aka monochlorethylene)(Howard, et. al. 1991). TCE and 1,2-trans-dichloroethylene were detected in TW-15, and 1,2-trans-dichloroethylene was detected in TW-09, during 1986 and 1987 and not detected thereafter. These compounds have not been detected in TW-14. These three monitoring wells are water table wells immediately adjacent to, and "downgradient" from, the landfill. The locations of the monitoring wells are shown in Figure 1, which shows the proximity of TW-09 and TW-15 to landfill cell nos. 3 and 2, respectively (approximated by the locations of leachate head wells LR-13, which is in cell no. 3, and LR-12, which is in cell no. 2). During the same time period (1986-1987) that TCE and/or 1,2-trans-dichloroethylene were detected in TW-15 and TW-09, 1,2-trans-dichloroethylene was detected in LR-12 at concentrations greater than those detected in the water table monitoring wells. Also during this time period significantly greater concentrations of 1,2-trans-dichloroethylene, and high concentrations of vinyl chloride, were detected in leachate head well LR-03E which is in the eastern part of landfill cell no. 3, and therefore near TW-09 and TW-15. High concentrations of 1,2-trans-dichloroethylene and vinyl chloride, higher than those detected in LR-03E, were detected once in the leachate storage tank LST-01 (see Appendix Tables 1-3 for data).

This data is in strong disagreement with some of the statements contained in your letter to Jan Pels (USEPA). In this letter (WDNR, August 28, 2000) you stated that "...no significant amounts of TCE or PCE (tetrachloroethylene, my edit) dechlorination products have been detected in either the landfill leachate or the downgradient TCE plume..." (page 5, first paragraph). The compound detects mentioned in the preceding paragraph, and I might add that 60-1,100 ug/L of vinyl chloride and 67-490 ug/L of 1,2-trans-dichloroethylene **are** significant, can be found in the WDNR-Madison files in the following documents: WMWI, September 3, 1986; and HSI, March 30, 1990.

You also stated in your letter to Jan Pels that "...piezometers nested with the impacted wells but screened deeper within the aquifer, have never shown any TCE detects." (page 5, fifth paragraph). WMWI has reported a greater than PAL concentration detect of TCE for TW-29P (WMWI, September 3, 1986, and two lower than PAL concentration detects (both between MDL and PQL values) of TCE for TW-29P (WMWI, December 2, 1996, and December 2, 1997). TW-29P is a shallow piezometer nested with the water table monitoring well TW-29.

Therefore both TCE and its break down, or daughter, products were detected in both the landfill leachate and in some of the water table monitoring wells immediately adjacent to the landfill during the mid to late 1980s. Unfortunately, VOC analyses were not conducted at the landfill prior to 1986, thereby precluding the opportunity to monitor TCE, 1,2-trans-dichloroethylene and vinyl chloride in these wells for a longer time period.

If TCE-bearing wastes were disposed of in the WMWI-Polk Landfill during the early 1970s there is a strong likelihood that some of the TCE would have rapidly exfiltrated from the landfill through the documented leakages along both the eastern and western sides of the landfill (see Section 1.2, paragraph 1, above), and some of the TCE would probably have remained within the landfill. At least a portion of the early exfiltrating TCE would have become a dissolved phase within the upper part of the groundwater. Using the previously calculated flow rates for the site of 0.1-0.2 ft/day (D&A, July, 1986) dissolved phase TCE entering the groundwater in 1971 could have migrated about 550-1,100 feet by the time VOC analyses were first performed in 1986. These flow rates and time period would place TCE in the vicinity of the downgradient monitoring and private wells where TCE has been traditionally detected. The fact that TCE has persisted in these wells may be related to: 1) additional undetected TCE within the contaminant plume; and, 2) to the fact that the horizontal groundwater gradient significantly decreases, and consequently the flow rate significantly decreases, past the point at which TCE has been traditionally detected (Young and Batten, 1980, Plate II).

As seen in Figure 1, no water table monitoring wells exist downgradient of those that have had traditional TCE detects (TW-23R, TW-29 and TW-30). Regardless of the origin of the TCE, TCE may have migrated to the groundwater beneath Ackerville during the 15 year period after it was first detected in these monitoring wells. To date no water table monitoring wells have been installed in or near the community. Water table monitoring wells TW-23R, TW-29 and TW-30, designated as "sentry" wells by HSI, signalled 15 years ago that TCE concentrations in excess of the TCE PAL concentrations existed in groundwater that likely would migrate to the Ackerville.

Apparently by 1986 all, or nearly all, of the TCE remaining within the landfill had degraded to 1,2-trans-dichloroethylene and/or vinyl chloride as evidenced by the leachate composition at that time. Some TCE (along with 1,2-trans-dichloroethylene) remained in the shallow groundwater next to the landfill in 1986 and 1987. Considering: 1) the concentrations of the TCE degradation products in the landfill in 1986, especially cell no. 3; 2) the fact that TCE was not detected in the leachate in 1986; and, 3) the published TCE and byproduct degradation rates (Howard, et. al., 1991); it is estimated that the initial TCE concentration within cell no. 3 was possibly within the thousands to tens of thousands of ug/L TCE. The possibility therefore exists that most of the initially exfiltrating TCE may have formed a DNAPL (dense non-aqueous phase liquid) plume which could be located along the sediment/bedrock interface about 200 feet below the land surface. No monitoring wells at the site extend to bedrock.

2.4 Arsenic Contamination Near Piezometer Nests TW-01R/TW-01P and TW-25/TW-25P

Conductivity values measured in the TW-01R/TW-01P and TW-25/TW-25P piezometer nests over time have been plotted and are shown in Figure 4 (data contained in Appendix Table 3; well locations shown in Figure 1). The conductivity values measured in TW-01R, TW-01P and TW-25 have usually been greater than the calculated conductivity PAL for the site (HSI, March 30, 1990). The conductivity values measured in these wells appear to be increasing slightly with time. These values demonstrate the contamination of groundwater near the landfill, similar to that discussed for other monitoring wells in Section 2.1, above.

Arsenic concentrations measured in the TW-01R/TW-01P and TW-25/TW-25P piezometer nests over time have also been plotted and are shown in Figure 5. As seen in Figure 5, the arsenic concentrations detected, in contrast to the conductivity values, in TW-01R and TW-25 have significantly decreased over time, while those detected in TW-01P appear to have.slightly decreased over time. Simultaneously the arsenic concentrations detected in TW-25P have significantly increased over time.

Arsenic concentrations detected in the monitoring wells immediately adjacent to, and "downgradient" from, the landfill have usually not been as great as those detected in the TW-01R/TW-01P and TW-25/TW-25P piezometer nests (see Appendix Table 3). This is also true for the leachate head wells (see Appendix Tables 1 and 2). Two of the leachate storage tank (LST) analyses performed since 1997 have reported arsenic concentrations significantly exceeding those detected in the two piezometer nests. The detectable concentrations of arsenic at piezometer nest TW-26R/TW-26, about equidistant and downgradient from the landfill as the TW-01R/TW-01P nest, have been very low (see Appendix Table 3).

The standing water elevations (SWLs) measured in TW-01R and TW-01P over time have been plotted and are shown in Figure 6. The vertical hydraulic gradient delineated by the differences in SWLs in the two wells is significant in magnitude and downward in direction, and is the greatest vertical hydraulic gradient measured at the site. The water table elevations plotted in Figure 1 show that groundwater migrates horizontally from the TW-01R/TW-01P nest towards the TW-25/TW-25P nest (HSI, March 30, 1990).

It appears that the high arsenic concentrations detected in these nests (TW-01R/TW-01P and TW-25/TW-25P) may have resulted from an unreported spill of arsenic-bearing material possibly along the railroad right-of-way in the vicinity of these nests, thereby contaminating the soil above the nested monitoring wells. Leaching of arsenic-contaminated soil, coupled with the vertical and horizontal hydraulic gradients at and between the nests, could account for the distribution of arsenic detected in the monitoring well samples and for the trends in arsenic concentrations in the nests. The degree and extent of the arsenic contamination is not known due to: 1) the absence of soil data, especially chemical data; 2) an insufficient network of water table monitoring wells in the area, especially downgradient of TW-25; and, 3) the absence of deeper piezometers in the contaminated area and downgradient from it.

2.5 Other Potential Sources of Groundwater Contamination

Prior to 1971 a small landfill (dump) existed about 500 feet west and upgradient of monitoring well TW-30, and about 700 feet west and upgradient of private (potable) wells PW-03/PW-03R (see Figure 1 for general location). This landfill (license no. 951), operated by the Town of Polk, was an "open burning dump", and was also referred to at one time as "the Polk Landfill".

This landfill could be contributing to the TCE contamination detected in TW-30 and PW-03. However, given the available groundwater elevations near this landfill (HSI, March 30, 1990 and, Young and Batten, February, 1980) it is difficult to imagine that this landfill could be the source of the TCE detected in the other wells.

No evidence was found in the WDNR files of investigations and/or monitoring wells specifically related to this landfill.

3.0 CONCLUSIONS AND REQUEST FOR PERFORMANCE OF AN ENVIRONMENTAL ASSESSMENT

Several conclusions have been reached as a result of the analysis of the long-term groundwater data for samples collected from the site monitoring wells. These include:

1. Groundwater southeast (downgradient) of the WMWI-Polk Landfill is contaminated by inorganic substances exfiltrating from the landfill. These substances define the inorganic portion of the contaminant plume, the three dimensional volume where the values or concentrations of these parameters exceeds the WDNR Preventative Action Limits (PALs), which extends for about 800-1,000 feet from the landfill towards the community of Ackerville. The presence and general character of the plume was identified during a three-month groundwater study conducted in 1986. The presence of the plume was verified, and the information on it expanded upon, during an additional two-year groundwater study conducted from 1987-1988. The results of the present analysis of the long-term groundwater monitoring data suggests that contaminant plume has been slowly intensifying and migrating towards Ackerville.

   In 1991 and 1993 three shallow piezometers (TW-09A, TW-14P and TW-15P) were installed immediately adjacent to, and downgradient from, the WMWI-Polk Landfill. Analyses of water samples collected from these monitoring wells showed that the inorganic contamination extends to at least the depth of the piezometer well screens. It is very likely that contamination extends to a greater depth. Unfortunately, also in 1993 many of the groundwater monitoring wells used to define and monitor the contaminant plume were abandoned. The degree and extent of the contaminant plume at the site has never been fully defined.

2. In 1993 detection of the previously undetected volatile organic compound tetrahydrofuran (THF) began in some of the groundwater monitoring wells (TW-14, TW-15 and TW-15P) immediately adjacent to, and downgradient of, the landfill. At about the same time previously undetected THF was detected in the landfill leachate. The THF concentrations found in TW-15 and TW-15P exceed the preventative action limit (PAL) for THF. The degree and extent of THF-contaminated groundwater is not well defined.

3. Compounding the understanding of the contamination associated with the WMWI-Polk Landfill is the arsenic contamination in the vicinity of the TW-01R/TW-01P and TW-25/TW-25P piezometer nests, both of which are located along the railroad right-of-way. Arsenic concentrations in the water samples collected from these monitoring wells have traditionally been greater than those detected in other monitoring and leachate head wells at the site. The analysis of the long-term arsenic concentrations of water samples collected from these monitoring wells contained in the present report shows that arsenic contamination in this local area of strong downward hydraulic gradients is greater at depth than at the surface of the groundwater. In addition, the arsenic contamination is decreasing in the two water table monitoring wells (TW-01R and TW-25), probably decreasing in the upgradient piezometer (TW-01P), and definitely increasing in the downgradient piezometer (TW-25P).

   The degree and extent of the arsenic contamination is not known due to: 1) the absence of soil data, especially chemical data; 2) an insufficient network of water table monitoring wells in the area of contamination, and especially downgradient from the area of known contamination; and, 3) the absence of deeper piezometers in the contaminated area and downgradient from it. The arsenic contamination is migrating towards Ackerville.

   Currently the arsenic concentrations in the two shallow piezometers exceed the WDNR PAL concentration of 50 ug/L, and until 1994-1995 the arsenic concentrations in TW-25 also exceeded the WDNR arsenic PAL. The WDNR arsenic PAL is identical with the current USEPA Maximum Contaminant Level (MCL) for drinking water, a level established in the 1940s. USEPA has recently proposed to lower the MCL to 5.0 ug/L due to the now documented extreme carcinogenicity of this substance (USEPA, June 22, 2000). As shown in Figure 5 all but one of the arsenic detects in the groundwater collected from these monitoring wells exceed the proposed USEPA MCL.

4. Trichloroethylene (TCE) has been historically detected in three water table monitoring wells (TW-23R, TW-29 and TW-30) and two private (potable) wells (PW-01 and PW-03) which are located about 900-1,400 feet downgradient from the WMWI-Polk Landfill. TCE has been detected in these wells since 1986, the first time that waters from those wells were analyzed for TCE. As seen in Figure 1, these wells are roughly spread out along a NNE-SSW axis which is approximately perpendicular to the contaminant plume associated with the landfill. A few TCE detects occurred in water collected from one of the shallow piezometers (TW-29P) associated with these wells, but none occurred in another shallow piezometer (TW-30P) associated with these wells. These wells are about 400-800 feet upgradient from Ackerville.

   TCE, and to a greater extent the TCE degradation products 1,2-trans dichloroethylene and vinyl chloride, have been detected in water collected from some of the water table monitoring wells (TW-09 and TW-15) immediately adjacent, and downgradient of, the landfill, and in the landfill leachate. The are no water table monitoring wells between the impacted wells and Ackerville.

   The source of the TCE is uncertain but a reasonable case can be made both for the WMWI-Polk Landfill as the main source for the TCE found in the downgradient wells, and for the possibility that extensive TCE contamination may exist at depth in the vicinity of the landfill. A reasonable case

can certainly be made for the WMWI-Polk Landfill as **the** source of the TCE, 1,2-trans-dichloroethylene and vinyl chloride found in some of the monitoring wells immediately adjacent to, and downgradient from, the landfill, and as the source for the 1,2-trans-dichloroethylene and vinyl chloride found in the landfill leachate.

It should be noted that two of the wells with historical TCE detects (TW-30 and PW-03) are located much nearer to the older, and also abandoned, Town of Polk Landfill. The Town of Polk Landfill might be a source for some of the TCE detected in the wells.

5. The emphasis on water quality in the five historically monitored private (potable) wells (PW-01 through PW-05) has been limited to the presence of TCE in the samples collected from these wells. Whereas only two of the private wells (PW-01 and PW-03) have had exceedances of TCE, all five of the wells had exceedances of lead, a public health substance, as is TCE. In addition, three of the wells (PW-02, PW-03 and PW-04) have had exceedances of the public welfare substances iron and manganese.

   In response to the TCE contamination, wells PW-01 and PW-03 were replaced with new wells (PW-01R and PW-03R, respectively) screened in the underlying bedrock. Both of the replacement also have exceedances of the public welfare substances iron and manganese.

   No record has been found that the owners of these wells have been informed in text, and not in unexplained data, of the lead, iron and manganese exceedances in their wells.

The residents of Ackerville have private potable wells, screened at various depths, for their water supply. None of the residents are known to currently drink the water due to the color, taste and/or odor of the water, which is obviously contaminated.

On behalf of the residents of Ackerville, I request in the strongest possible terms that a thorough Environmental Assessment (EA) be conducted at the WMWI-Polk Landfill and the area between the landfill and extending into the Village.

The Environmental Assessment should address, but not be limited to:

1) the status of the groundwater and soil contamination, especially THF, TCE, 1,2-trans dichloroethylene, and vinyl chloride contamination, in the groundwater immediately adjacent to the landfill and extending to bedrock;

2) the status of the arsenic soil and groundwater contamination encountered along the railroad right-of-way, to such depths that arsenic contamination is no longer encountered, and extending into Ackerville;

3) the status of shallow groundwater contamination, especially TCE, between the wells with historical TCE detects and extending into Ackerville; and,

4) the potential TCE contaminated groundwater between the Town of Polk Landfill and monitoring wells TW-30/TW-30P.

The cost of the groundwater portion of the requested EA could be limited by initially installing multiported or multiscreened groundwater monitoring wells extended from the water table to bedrock in the vicinity of TW-15/TW-15P, TW-25/TW-25P and TW-24, and the installation of several water table monitoring wells in the area between the wells with historical TCE detects and the Village. Data

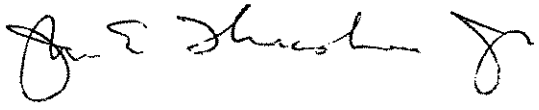
gathered from the soil and groundwater analyses performed on collected samples could then be used to design a thorough assessment if warranted.

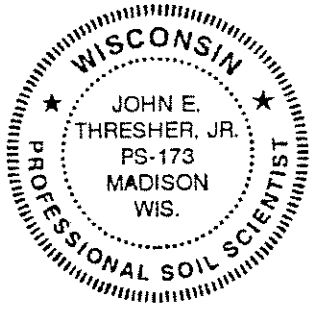
In addition, I urgently request that the owners of the private wells (PW-01 through PW-03), and all other wells in the Ackerville area, whether or not tested by the Department, be informed in writing (text, data and interpretation) of **any** parameter exceedances that have been detected in the area wells.

The potentially responsible parties (PRPs) for the groundwater, and likely soil, contamination in the area between the WMWI-Polk Landfill and Ackerville, and possible extending into the waters beneath Ackerville, are readily identifiable. The PRPs include, but may not be limited to, Waste Management of Wisconsin, Inc. (WMWI) for the WMWI-Polk Landfill; the Chicago Milwaukee St. Paul and Pacific, the Soo Line and the Wisconsin & Southern Railroads for the potential arsenic contamination along the railroad right-of-way; and, the Town of Polk for the old Polk Landfill.

Thank you for your consideration.

Sincerely,





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cc: Jan Pels, USEPA, Region V (Chicago, IL)

References Reviewed/Consulted during the Preparation of this Report

Baudhuin & Associates, Inc (B&A). 1973 (?). Sketches for proposed corrective work to be performed on the west wall of the three landfill cells. Menomonee Falls, Wisconsin.

Baudhuin & Associates, Inc. 1973. Portions of a letter from Sylvan J. Baudhuin (B&A) to Phil Rooney (Acme Disposal Corporation) regarding *Test Results for Well at Acme Landfill.* Pages contained in WDNR-Madison files. Menomonee Falls, Wisconsin.

Donohue & Associates, Inc (D&A). August 23, 1985. *Polk Sanitary Landfill Site Groundwater Investigation 30-Day Report.* Sheboygan, Wisconsin.

Donohue & Associates, Inc. July 31, 1986. *Interim Report: Polk Sanitary Landfill Site Groundwater Investigation.* Sheboygan, Wisconsin.

Donohue & Associates, Inc. February 3, 1987. *Polk Sanitary Landfill Site Phase II Groundwater Investigation, Final Report Transmittal.* Sheboygan, Wisconsin.

EMCON Associates. February 11, 1974. *Geotechnical Investigation, Polk Sanitary Landfill, Slinger, Wisconsin.* San Jose, California.

EMCON Associates. May 8, 1974. Supplementary data for the February 11, 1974 *Geotechnical Investigation, Polk Sanitary Landfill.* San Jose, California.

EMCON Associates. March 11, 1975. Letter from John G. Pacey (EMCON) to John J. Reinhardt (WDNR) regarding: EMCON's response to WDNR's September 16, 1974 response to EMCON's February 11, 1974 geotechnical investigation. San Jose, California.

EMCS Design Group. April 13, 2000. *Design Study Report, Lovers Lane Road (STH 164), STH 175 to STH 60.* Milwaukee, Wisconsin.

Howard, P. H., et. at. 1991. *Handbook of Environmental Degradation Rates.* Lewis Publishers. Boca Raton, Florida.

Hydro-Search, Inc (HSI). March 30, 1990. *Two-Year Ground Water Monitoring Report: Polk Sanitary Landfill, Washington County, Wisconsin.* Brookfield, Wisconsin.

Omega Hills Landfill. January 15, 1988. *Polk Sanitary Landfill Third Quarter, 1987 Environmental Monitoring.* Germantown, Wisconsin.

Omega Hills Landfill. March 10, 1988. *Polk Sanitary Landfill Fourth Quarter, 1987 Environmental Monitoring.* Germantown, Wisconsin.

Omega Hills Landfill. May 25, 1988. *Polk Sanitary Landfill First Quarter, 1988 Environmental Monitoring Data.* Germantown, Wisconsin.

Omega Hills Landfill. February 28, 1989. *Polk Sanitary Landfill Fourth Quarter, 1988 Environmental Monitoring Data.* Germantown, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 5, 1989. *Polk Sanitary Landfill First Quarter, 1989 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. August 23, 1989. *Polk Sanitary Landfill Second Quarter, 1989 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. December 11, 1989. *Polk Sanitary Landfill Third Quarter, 1989 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 1, 1990. *Polk Sanitary Landfill Fourth Quarter, 1989 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 11, 1990. *Polk Sanitary Landfill First Quarter, 1990 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. September 14, 1990. *Polk Sanitary Landfill Second Quarter, 1990 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. December 4, 1990. *Polk Sanitary Landfill Third Quarter, 1990 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 14, 1991. *Polk Sanitary Landfill Fourth Quarter, 1990 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 10, 1991. *Polk Sanitary Landfill First Quarter, 1991 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center (A Waste Management Company). June 18, 1991. *Groundwater Monitoring Well TW-9, Polk Sanitary Landfill.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. September 9, 1991. *Polk Sanitary Landfill Second Quarter, 1991 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. October 29, 1991. *Polk Sanitary Landfill Groundwater Monitoring Well Abandonment/Replacement.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. January 27, 1992. *Polk Sanitary Landfill Third Quarter, 1991 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 16, 1992. *Polk Sanitary Landfill Fourth Quarter, 1991 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 22, 1992. *Polk Sanitary Landfill First Quarter, 1992 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. September 10, 1992. *Response to Draft Plan Modification, Polk Landfill.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. December 14, 1992. *Polk Sanitary Landfill Third Quarter, 1992 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 8, 1993. *Polk Sanitary Landfill Fourth Quarter, 1992 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. September 20, 1993. *Polk Sanitary Landfill Second Quarter, 1993 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 21, 1993. *Polk Sanitary Landfill First Quarter, 993 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. December 6, 1993. *Polk Sanitary Landfill Third Quarter, 1993 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 7, 1994. *Polk Sanitary Landfill Fourth Quarter, 1993 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 6, 1994. *Polk Sanitary Landfill First Quarter, 1994 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. September 19, 1994. *Polk Sanitary Landfill Second Quarter, 1994 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. December 12, 1994. *Polk Sanitary Landfill Third Quarter, 1994 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 24, 1995. *Polk Sanitary Landfill Fourth Quarter, 1994 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 6, 1995. *Polk Sanitary Landfill First Quarter, 1995 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. September 11, 1995. *Polk Sanitary Landfill Second Quarter, 1995 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. December 21, 1995. *Polk Sanitary Landfill Third Quarter, 1995 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. March 4, 1996. *Polk Sanitary Landfill Fourth Quarter, 1995 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Omega Hills/Parkview-Landfill Management Center. June 10, 1996. *Polk Sanitary Landfill First Quarter, 1996 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Ridgeview Recycling and Disposal Facility (a Waste Management Company) December 20, 1991. *Polk Sanitary Landfill Third Quarter, 1991 Environmental Monitoring Data.* Whitelaw, Wisconsin.

Rust Environment & Infrastructure (formerly Donohue & Associates). May 11, 1993. *Groundwater Monitoring Well Abandonment and Gas Probe/Monitoring Well Installation Program, Polk Landfill.* Sheboygan, Wisconsin.

Soil Testing Services of Wisconsin, Inc. April 15, 1969. *Subsurface Investigation for Proposed Sanitary Landfill Project near Slinger, Wisconsin.* Green Bay, Wisconsin.

Soil Testing Services, Inc. January 26, 1971. *Subsurface Investigation of the Clay Liner Placement Operations and Compaction at the Acme Disposal Company Sanitary Landfill near Slinger, Wisconsin.* Northbrook, Illinois.

Soil Testing Services, Inc. February 8, 1971. *Subsurface Investigation of the Clay Liner Placement Operations and Compaction at the Acme Disposal Company Sanitary Landfill near Slinger, Wisconsin.* Northbrook, Illinois.

Soil Testing Services of Wisconsin, Inc. December 4, 1973. *Installation of Observation Wells at the Polk Sanitary Landfill Site near Slinger, Wisconsin.* Milwaukee, Wisconsin.

Soil Testing Services of Wisconsin, Inc. November 7, 1974. *Inspection and Testing of Fill Material on the West slope of the Existing Landfill at the Polk Sanitary Landfill Site Located South of Slinger, Wisconsin.* Milwaukee, Wisconsin.

United States Department of Transportation (USDOT). April 25, 2000. *Finding of No Significant Impact for STH 164 (Lover's Lane Road), STH 175 to STH 60, Washington County.* Madison, Wisconsin.

United States Environmental Protection Agency (USEPA). June 22, 2000. *National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring; Proposed Rule.* Federal Register Volume 65, Number 121, pages 38,888-38,983. Washington, DC.

Warzyn Engineering, Inc. June 18, 1981. *Groundwater Evaluation, Polk Sanitary Landfill.* Madison, Wisconsin.

Warzyn Engineering, Inc. November 29, 1983. *Polk Sanitary Landfill Phase II Groundwater Assessment.* Madison, Wisconsin.

Waste Management of North America, Inc. October 31, 1986a. Letter from Russell T. Janeshek (WMWI) to Mr. & Mrs. Earl Schilling (Slinger, WI) regarding: March, April and May 1986 test results of their potable supply well PW-01). Menomonee Falls, Wisconsin.

Waste Management of North America, Inc. October 31, 1986b. Letter from Russell T. Janeshek (WMWI) to Mr. & Mrs. Denis Ceshker (Slinger, WI) regarding: March, April and May 1986 test results of their potable supply well (PW-02). Menomonee Falls, Wisconsin.

Waste Management of North America, Inc. October 31, 1986c. Letter from Russell T. Janeshek (WMWI) to Mr. & Mrs. Gordon Kealiher (Slinger, WI) regarding: March, April and May 1986 test results of their potable supply well (PW-03). Menomonee Falls, Wisconsin.

Waste Management of North America, Inc. October 31, 1986d. Letter from Russell T. Janeshek (WMWI) to Mr. & Mrs. Erlin Garbisch (Slinger, WI) regarding: March, April and May 1986 test results of their potable supply well (PW-04). Menomonee Falls, Wisconsin.

Waste Management of North America, Inc. October 31, 1986e. Letter from Russell T. Janeshek (WMWI) to Mr. & Mrs. Mike Johnson (Slinger, WI) regarding: March, April and May 1986 test results of their potable supply well (PW-05). Menomonee Falls, Wisconsin.

Waste Management of North America, Inc. October 31, 1986f. Letter from Russell T. Janeshek (WMWI) to Mr. & Mrs. Ralph Fausek (Slinger, WI) regarding: March, April and May 1986 test results of their potable supply well (PW-06). Menomonee Falls, Wisconsin.

Waste Management of Wisconsin, Inc. (WMWI). November, 1977. *Feasibility Study, Polk Sanitary Landfill Continued Use.* Milwaukee (?), Wisconsin.

Waste Management of Wisconsin, Inc. June 1, 1983. *Documentation of Site Closure: Polk Sanitary Landfill, Town of Polk.* Milwaukee, Wisconsin.

Waste Management of Wisconsin, Inc. June 3, 1983. *Polk- First Quarter 1983 TADs.* Milwaukee, Wisconsin.

Waste Management of Wisconsin, Inc. May 31, 1984. *Polk Landfill First Quarter, 1984 Groundwater Monitoring Data.* Milwaukee, Wisconsin.

Waste Management of Wisconsin Inc. December 17, 1984. *Well Logs and Well Construction Details.* Milwaukee, Wisconsin.

Waste Management of Wisconsin, Inc. December 1984. Summary of leachate elevations from 10/80 through 12/84. Milwaukee, Wisconsin.

Waste Management of Wisconsin, Inc. May 22, 1985. *Polk Landfill First Quarter, 1985 Groundwater Monitoring Data.* Menomonee Falls, Wisconsin.

Waste Management of Wisconsin, Inc. September 3, 1986. *Polk Sanitary Landfill Analytical Data: March, April and May, 1986.* Menomonee Falls, Wisconsin.

Waste Management of Wisconsin, Inc. August 13, 1996. *Status Report Waste Management of Wisconsin, Inc. (WMWI) Polk Landfill.* Menomonee Falls, Wisconsin.

Waste Management of Wisconsin, Inc. September 13, 1996. *Polk Sanitary Landfill Second Quarter, 1996 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. December 2, 1996. *Polk Sanitary Landfill Third Quarter, 1996 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. March 10, 1997. *Polk Sanitary Landfill Fourth Quarter, 1996 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. June 2, 1997. *Polk Sanitary Landfill First Quarter, 1997 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. September 8, 1997. *Polk Sanitary Landfill Second Quarter Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. December 2, 1997. *Polk Sanitary Landfill Third Quarter, 1997 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. March 23, 1998. *Polk Sanitary Landfill Fourth Quarter, 1997 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. June 5, 1998. *Polk Sanitary Landfill First Quarter, 1998 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. September 14, 1998. *Polk Sanitary Landfill Second Quarter, 1998 Environmental Monitoring Data.* Germantown, Wisconsin.

Waste Management of Wisconsin, Inc. February 19, 1999. *Polk Sanitary Landfill Third Quarter, 1998 Environmental Monitoring Data.* Menomonee Falls, Wisconsin.

Waste Management of Wisconsin, Inc. June 30, 1999. *Polk Sanitary Landfill First Quarter, 1999 Environmental Monitoring Data.* Germantown, Wisconsin.

Wisconsin Department of Justice (WDOJ). June 25, 1982. State of Wisconsin, Plaintiff, vs. United Waste Systems, Inc., Defendant, Case No. 13280. *Order Vacating Findings.* Circuit Court Branch I, Washington County, Wisconsin.

Wisconsin Department of Justice. June 29, 1982. State of Wisconsin, Plaintiff, vs. United Waste Systems, Inc., Defendant, Case No. 13280. *Findings of Fact and Partial Conclusions.* Circuit Court Branch I, Washington County, Wisconsin.

Wisconsin Department of Justice. May 9, 1985. State of Wisconsin, Plaintiff, vs. United Waste Systems, Inc., Defendant, Case No. 13280. *Stipulation and Order for Dismissal upon Terms.* Circuit Court Branch I, Washington County, Wisconsin.

Wisconsin Department of Natural Resources (WDNR). September 24, 1971. Letter from David L. Antoine (WDNR) to Sam Lagow (WDNR) regarding: Town of Polk Landfill. Milwaukee, Wisconsin.

Wisconsin Department of Natural Resources. May 13, 1974. Letter from David Nichols (WDNR) to files containing: Notes from a meeting with John Pacey (ENCOM) to discuss Waste Management Sites. Madison, Wisconsin.

Wisconsin Department of Natural Resources. September 23, 1974. Memorandum from Earl Updike (WDNR) to John Reinhardt (WDNR) titled: *Summary of Well Level Data from United Waste Systems (UWS) -Polk Site.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. April 26, 1983. Inspection report of the closed Polk Sanitary Landfill by R. Klett (WDNR). Milwaukee, Wisconsin.

Wisconsin Department of Natural Resources. September 24, 1984. Letter from Saron L. Schaver (WDNR) to Earl Schilling (Slinger) regarding: July 10, 1984 test results of is potable supply well. Milwaukee, Wisconsin.

Wisconsin Department of Natural Resources. August 16, 1985. Groundwater Monitoring Well Information Forms (WIF). Prepared by Irv van Zummeren (WDNR) for WMWI-Polk Sanitary Landfill. Madison, Wisconsin.

Wisconsin Department of Natural Resources. September 25, 1985. Letter from Richard G. Schuff (WDNR) to James E. O'Connor (WMWI) regarding: *Polk Sanitary Landfill Site/Groundwater Investigation/30-Day Report.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. August 29, 1986. Memorandum from Terry Evanson (WDNR) to Polk Landfill File (Madison, WI) regarding: *August 26, 1986 Meeting on the Polk Landfill Groundwater Study.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. 1987. Undated letter from Richard G. Schuff (WDNR) to Kevin O'Toole (WMWI) regarding: *Notification of Intent to Modify a Plan Approval.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. 1987. Draft letter from Richard G. Schuff (WDNR) to Kevin O'Toole (WMWI) titled: *Waste Management of Wisconsin, Inc. - Polk Sanitary Landfill, Review of Phase II Groundwater Investigation.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. July 24, 1987. Letter from Paul P. Didier (WDNR) to evin O'Toole (WMWI) regarding: *Waste Management of Wisconsin, Inc. - Polk Sanitary Landfill Site, Review of Phase II Groundwater Investigation.*

Wisconsin Department of Natural Resources. November 6, 1990. *Facility Groundwater Report, Polk Sanitary Landfill.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. August 13, 1991. Letter from James R. Bauer (WDNR) to James Leedom (WMWI) regarding: *Groundwater Monitoring Well TW-9, Polk Sanitary Landfill.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. September 21, 1992. Letter from Lakshmi Sridharan (WDNR) to Gerard Hamblin (WMWI) titled: *Response to the March 30, 1990 Hydro-Search (HSI) Two-*

Year Groundwater Monitoring Report, Waste management of Wisconsin, Inc. (WMWI) Polk Landfill. Madison, Wisconsin.

Wisconsin Department of Natural Resources. August 4, 1994. Letter from William T. Rock (WDNR) to Gordon and LeVerne Kealiher (Slinger, WI) regarding: WDNR variance granted to the Kealihers to construct a potable well within 1,200 feet of the nearest edge of the Polk Sanitary Landfill. Madison, Wisconsin.

Wisconsin Department of Natural Resources. October 24, 1994. Summary of well data, Polk Sanitary Landfill, July 1994 data. Madison, Wisconsin.

Wisconsin Department of Natural Resources. August 9, 1996. Letter from William T. Rock (WDNR) to Andrew and Sandra Rothenhoefer (Slinger, WI) regarding: WDNR variance granted to the Rothenhoefers to construct a potable well within 1,200 feet of the nearest edge of the Polk Sanitary Landfill. Madison, Wisconsin.

Wisconsin Department of Natural Resources. July 30, 1998. Letter from William T. Rock (WDNR) to Andrew and Sandra Rothenhoefer (Slinger, WI) regarding: WDNR variance granted to the Rothenhoefers to construct a potable well within 1,200 feet of the nearest edge of the Polk Sanitary Landfill. Madison, Wisconsin.

Wisconsin Department of Natural Resources. March, 2000. *Groundwater Quality.* Wisconsin Administrative Code, Chapter NR 140. Madison, Wisconsin.

Wisconsin Department of Natural Resources. March 16, 2000. Memorandum from Philip Fauble (WDNR) to Chad Czarkowski (WDNR) titled: *Recent Ground Water Quality Data, WMWI-Polk Sanitary Landfill, Washington County, WI.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. August 22, 2000. Memorandum from Chad Czarkowski and Philip Fauble (WDNR) to Jay Waldschmidt (WDOT) regarding: *Ackerville Area Road Project/Groundwater Concerns.* Madison, Wisconsin.

Wisconsin Department of Natural Resources. August 28, 2000. Letter from Philip Fauble and Darsi Foss (WDNR) to Jan Pels (USEPA) regarding: *Citizen's Petitions Concerning the WMWI-Polk Landfill, Town of Polk, Washington County, WI.* Madison, Wisconsin.

Wisconsin Division of Environmental Protection. March 25, 1970. Letter from Douglas W.Evans (WDEP) to Stanley Ruminski (Acme Disposal) regarding: approval of proposed plans and specifications for construction and operation of a landfill. Madison, Wisconsin.

Young, H. L. and W. G. Batten. February, 1980. *Ground-Water Resources and Geology of Washington and Ozaukee Counties, Wisconsin.* Wisconsin Geological and Natural History Survey Information Circular Number 38. Madison, Wisconsin.

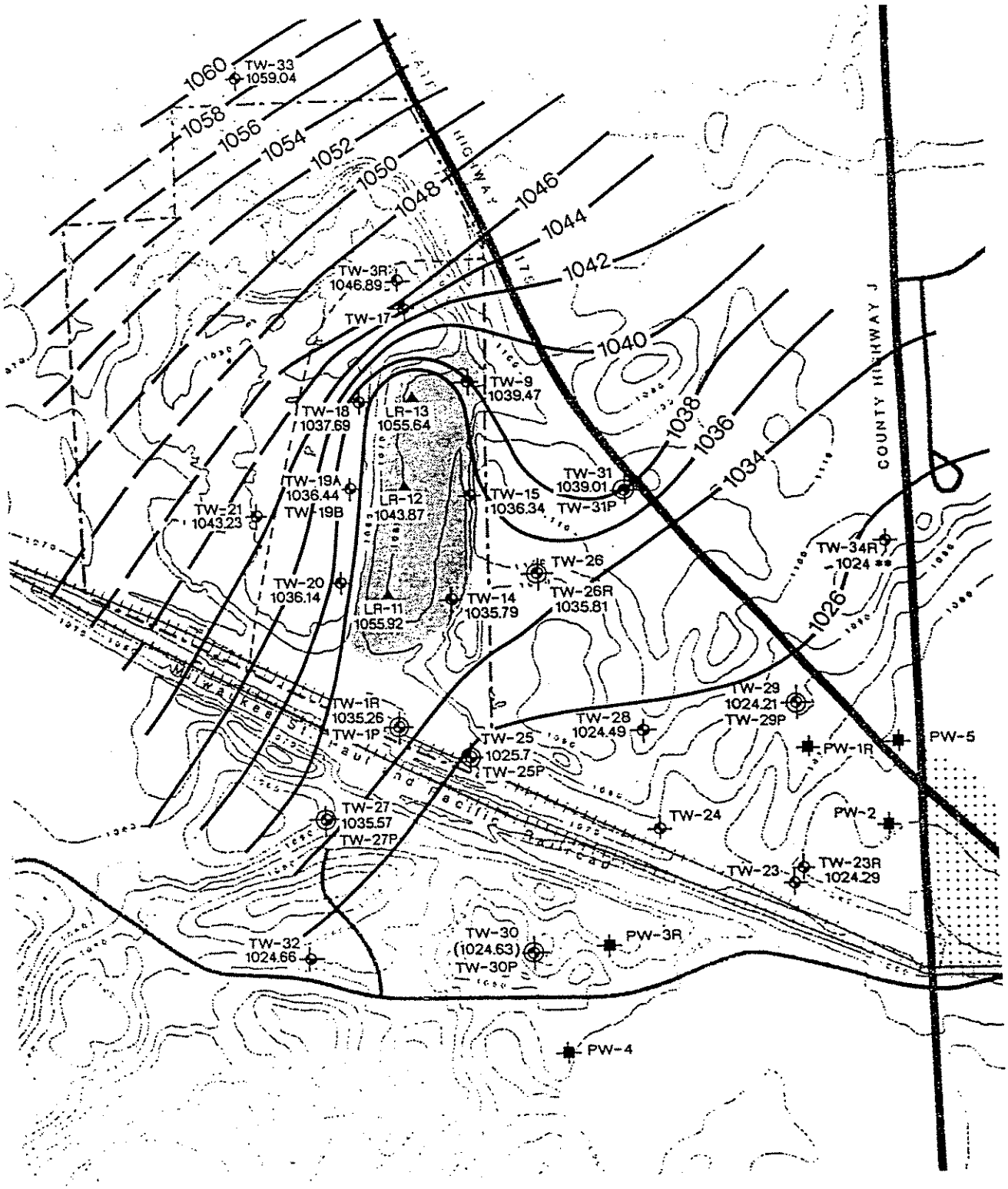

Figure 1. Monitoring well locations and water table elevations for October, 1989. The community of Ackerville is located in the stippled area southeast of the intersection of Co. Hwy. J (164), and State Hwy. 175, and north of the railroad tracks. Figure from Hydro-Search, Inc., March 30, 1990 (page 11). Scale is approximately 1" = 500 feet.

Exhibit "6"

(10 pages)

GARVEY & STODDARD. S.C.
Attorneys at Law

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Edward R. Garvey
Glenn M. Stoddard
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Jason T. Beier
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Of Counsel: Peter McKeever

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Fax: 608-256-0933
Email: Garveylaw@aol.com

February 22, 2001

MEMORANDUM

TO: Jeff Gonyo

FROM: Peter McKeever

RE: Second Thresher report

I enclose for you a copy of a second analysis completed by John Thresher and provided to DNR and EPA today.

Thresher & Son, Inc.
2828 Regent St.
Madison, WI 53705
Voice: 608-233-0297
FAX: 608-233-2129

21 February 2001

Mr. Philip Fauble
Wisconsin Department of Natural Resources
Waste Management Section, Southeast District
Madison, WI 53

re: Additional Arsenic Related Data for An Analysis of the Groundwater Contamination at the WMWI-Polk Landfill and environs, Town of Polk, Washington County, WI (License No. 307, FID No. 267062400).

Dear Mr. Fauble:

Thank you for meeting with me last month to accept our report concerning the groundwater contamination in the vicinity of the closed Waste Management of Wisconsin, Inc. (WMWI) Polk Landfill in Washington County, Wisconsin (Thresher, 2001). This landfill is approximately 1,700 feet from, and upgradient of, Ackerville in the Town of Polk.

During this meeting we had the opportunity to briefly discuss the information contained in the report. One of the issues you raised during that meeting was the possibility that the arsenic contamination (as noted by both of us) in the vicinity of the TW-01R/TW-01P and TW-25/TW-25P piezometer nests might be the result of oxidation of sulfide minerals, especially arsenopyrite, which could be present within the glacial materials in that area. The purpose of this letter report is to briefly address this issue based upon the readily available data contained in the WDNR Milwaukee Annex and Madison files.

I have been retained by Garvey & Stoddard, S.C. of Madison, Wisconsin to prepare the following letter report.

Arsenic Contamination Near Piezometer Nests TW-01R/TW-01P and TW-25/TW-25P.

As stated in our January 22, 2001 report (Thresher, 2001), arsenic concentrations measured in the TW-01R/TW-01P and TW-25/TW-25P piezometer nests over time have been plotted and were shown in Figure 5 of that report (a copy of this Figure is attached to this letter report for your convenience). As seen this Figure, the arsenic concentrations detected in TW-01R and TW-25 have significantly decreased over time, while those detected in TW-01P appear to have slightly decreased over time. Simultaneously the arsenic concentrations detected in TW-25P have significantly increased over time.

In order for oxidation of arsenopyrite (FeAsS) to play a significant role in the release of arsenic to the groundwater intercepted by these piezometer nests either: 1) sufficient oxygen would have to reach the sediments to cause the oxidation to occur; and/or, 2) the requisite specific microbial population would have to be present to cause microbial oxidation to occur. Oxygen sufficient to promote mineral oxidation in localized subsurface sediments can be transferred to the sediments via groundwater

monitoring wells, especially if a monitoring well can be purged (bailed) dry prior to sampling. No information was found in the WDNR files that would suggest that any of these four monitoring wells could be purged dry, an event considered unlikely due to the coarse-grained nature of the sediments and the fact that a previous investigation determined that a reasonable hydraulic conductivity for the site sediments would be $1x10^{-3}$ cm/sec (Donohue, 1986).

Oxidation by either of the above mentioned mechanisms would result in the release of arsenic, sulfate, iron, and, acid radicals to the groundwater in contact with the oxidizing minerals. Arsenic concentrations, and changes therein, are discussed above. The sulfate content of the groundwater intercepted by these monitoring wells was only measured during the Phase II Groundwater Investigation conducted at the site during the spring of 1986 (WMWI, 1986, and Donohue, 1987). However, iron, pH and total alkalinity, in addition to arsenic, have been measured in the samples collected from these monitoring wells from 1986-present.

1. Groundwater samples were collected from the monitoring wells in the two piezometer nests at monthly intervals,over a three-month period, in the spring of 1986 during the Phase II Groundwater Investigation conducted at the site. The results of the arsenic, sulfate, iron analyses, and the pH and total alkalinity determinations, are presented in Table 1 (WMWI, 1986, Donohue, 1987, and Thresher, 2001). As seen in the Table, the pH values measured in each well were relatively stable over the three-month sampling period and were approximately the same value from well to well. In addition, groundwater samples collected from TW-25P consistently contained the lowest arsenic, iron and total alkalinity values, while containing the highest sulfate values.

2. Iron concentrations measured in the TW-01R/TW-01P and TW-25/TW-25P piezometer nests over time have been plotted and are shown in Figure 1 of this letter report. As seen in Figure 1, the iron concentrations detected in TW-01R were high and extremely variable, while those in TW-01P were high and increased over time. The iron concentrations detected in TW-25 were high and appear to be slightly decreasing over time, in contrast to those detected in TW-25P which were low and may have increased slightly over time. The detected iron concentrations, and changes in iron concentrations over time, do not mirror the detected arsenic concentrations, and changes in arsenic concentrations over time.

3. pH values measured in the TW-01R/TW-01P and TW-25/TW-25P piezometer nests over time have been plotted and are shown in Figure 2 of this letter report. As seen in Figure 2, the pH values measured in all four monitoring wells was near, or slightly above, neutral (pH = 7.0). The measured pH values have been rather steady and, if anything, have been slightly increasing over time.

   Total alkalinity values measured in the TW-01R/TW-01P piezometer nests over time have also been plotted and are shown in Figure 3 of this letter report. As seen in Figure 3, The groundwater intercepted by these monitoring wells has a moderate, and relatively stable, alkalinity, or acid buffering potential. In addition, the total alkalinity values appear to have slightly increased over time.

   The release of acid radicals during arsenopyrite oxidation would result in decreasing pH values in a groundwater system with a low acid buffering potential (total alkalinity). The same oxidation processes associated with groundwaters having a moderate acid buffering potential would result in either: 1) a decrease in pH values; 2) a decrease in total alkalinity; or, 3) a decrease in both pH and total alkalinity. As mentioned in the preceding two paragraphs no decreases in either pH or total alkalinity values were measured in the groundwater samples collected from these monitoring wells.

Conclusions.

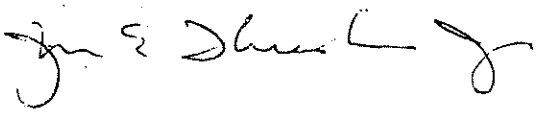
1. Groundwater analytical data for samples collected from the TW-01R/TW-01P and TW-25/TW-25P piezometer nests is incompatible with that which would be expected to have resulted from the localized oxidation of arsenopyrite within the sediments intersected by these monitoring wells.

   As concluded in our January 22, 2001 report (Thresher, 2001), it appears that the high arsenic concentrations detected in these nests (TW-01R/TW-01P and TW-25/TW-25P) may have resulted from an unreported spill of arsenic-bearing material possibly along the railroad right-of-way in the vicinity of these nests, thereby contaminating the soil above the nested monitoring wells. Leaching of arsenic-contaminated soil, coupled with the vertical and horizontal hydraulic gradients at and between the nests, could account for the distribution of arsenic detected in the monitoring well samples and for the trends in arsenic concentrations in the nests. The degree and extent of the arsenic contamination is not known due to: 1) the absence of soil data, especially chemical data; 2) an insufficient network of water table monitoring wells in the area, especially downgradient of TW-25; and, 3) the absence of deeper piezometers in the contaminated area and downgradient from it.

2. Regardless of the source of the arsenic, or the mechanism of its release, the need exists to determine the degree and extent of the arsenic contamination in the area of the TW-01R/TW-01P piezometer nests and its potential for impacting groundwater quality in Ackerville.

Thank you again for your consideration.

Sincerely,



John E. Thresher, Jr.
Professional Soil Scientist (WI)
022101

cc: Jan Pels, USEPA, Region V (Chicago, IL)

Reference Cited

Donohue & Associates, Inc. July 31, 1986. *Interim Report: Polk Sanitary Landfill Site Groundwater Investigation.* Sheboygan, Wisconsin.

Donohue & Associates, Inc. February 3, 1987. *Polk Sanitary Landfill Site Phase II Groundwater Investigation.* Sheboygan, Wisconsin.

Thresher & Son, Inc. January 22, 2001. *An Analysis of the Groundwater Contamination at the WMWI-Polk Landfill and Environs, Town of Polk, Washington County, WI.* Madison, Wisconsin.

Waste Management of Wisconsin, Inc. (WMWI). September 3, 1986. *Polk Sanitary Landfill Analytical Data.* Menomonee Falls, Wisconsin.

Groundwater Quality Data for the Monitoring Wells Comprising the TW-01R/TW-01P and TW-25/TW-25P Piezometer Nests at the WMWI-Polk Landfill, Washington County, Wisconsin. Data was Collected During the 1986 Phase II Groundwater Investigation.

Sampling Month	Monitoring Well	Arsenic (ug/L)	Sulfate (mg/L)	Iron (ug/L)	pH* (su)	Alkalinity, Total (mg/L)
March/April	TW-01R	39	10.0	6,700	7.0	554
	TW-01P	51	14.6	5,000	7.5	434
	TW-25	44	6.16	5,400	6.7	646
	TW-25P	<10	28.4	1,000	7.0	312
April/May	TW-01R	41	8.25	4,500	7.3	461
	TW-01P	58	11.7	4,900	7.1	42(?)
	TW-25	<10	9.18	4,500	6.9	549
	TW-25P	<10	24.9	990	7.5	331
May/June	TW-01R	17	2.18	3,000	7.1	423
	TW-01P	29	9.80	3,800	7.2	405
	TW-25	38	6.62	4,500	7.1	525
	TW-25P	<10	28.0	280	7.6	310

* = average of four values

Data sources: WMWI, 1986, and Thresher, 2001 (Appendix Table 1)

Appendix Figure

Arsenic Concentrations Measured Over Time in the TW-01R/TW-01P and TW-25/TW-25P Piezometer Nests at the Polk Sanitary Landfill Ackerville, Washington County, Wisconsin

Originally presented as Figure 5 in Thresher, 2001.

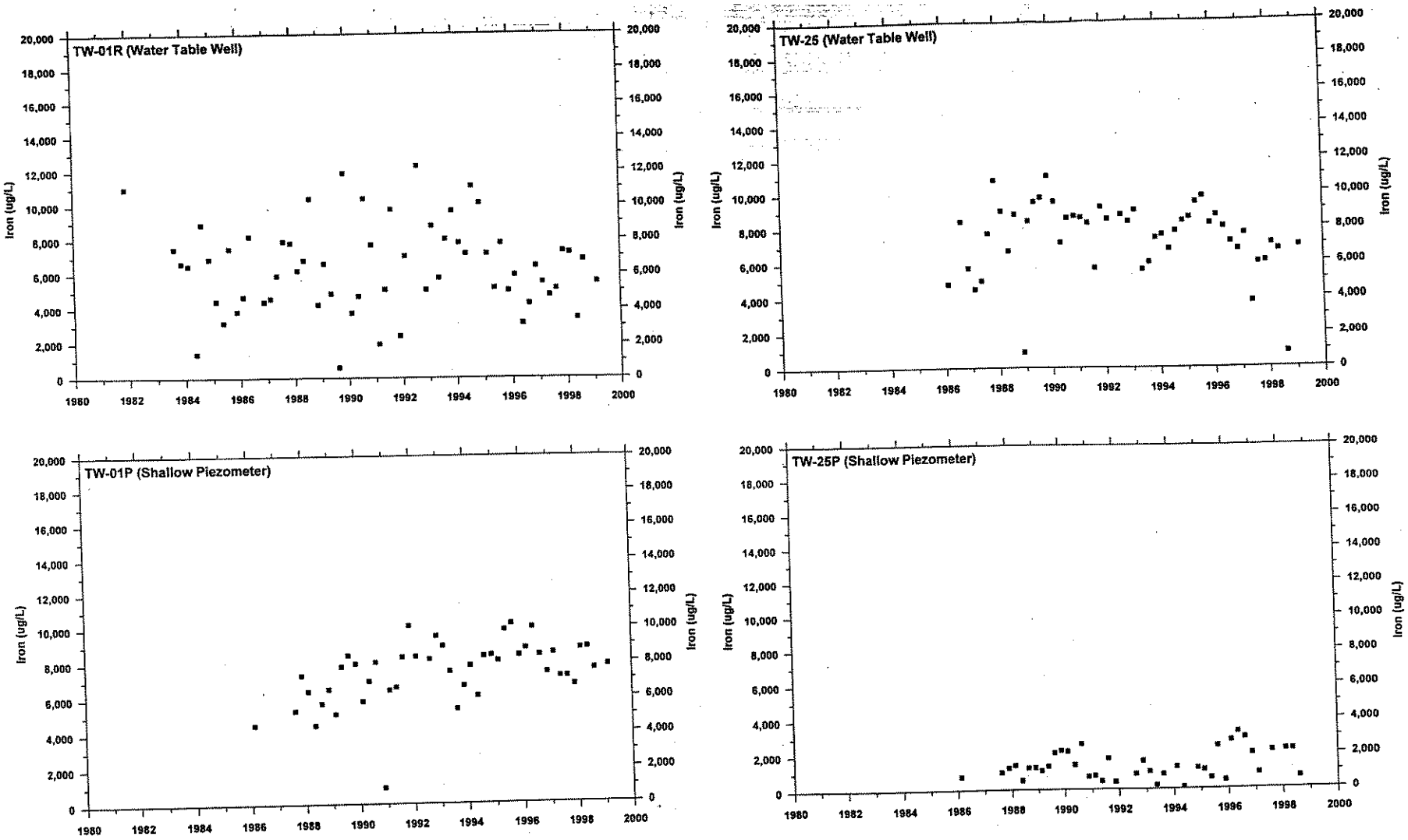


Figure 1. Iron concentrations (ug/L) meaured over time in the water samples collected from the TW-01R/TW-01P and TW-25/TW-25P piezometer nests at the WMWI-Polk Landfill. Note the high and variable iron concentrations detected in samples collected from TW-01R, as compared with the iron detected in TW-01P and TW-25 which were less variable. Also note the much lower iron concentrations detected in samples collected from TW-25P.

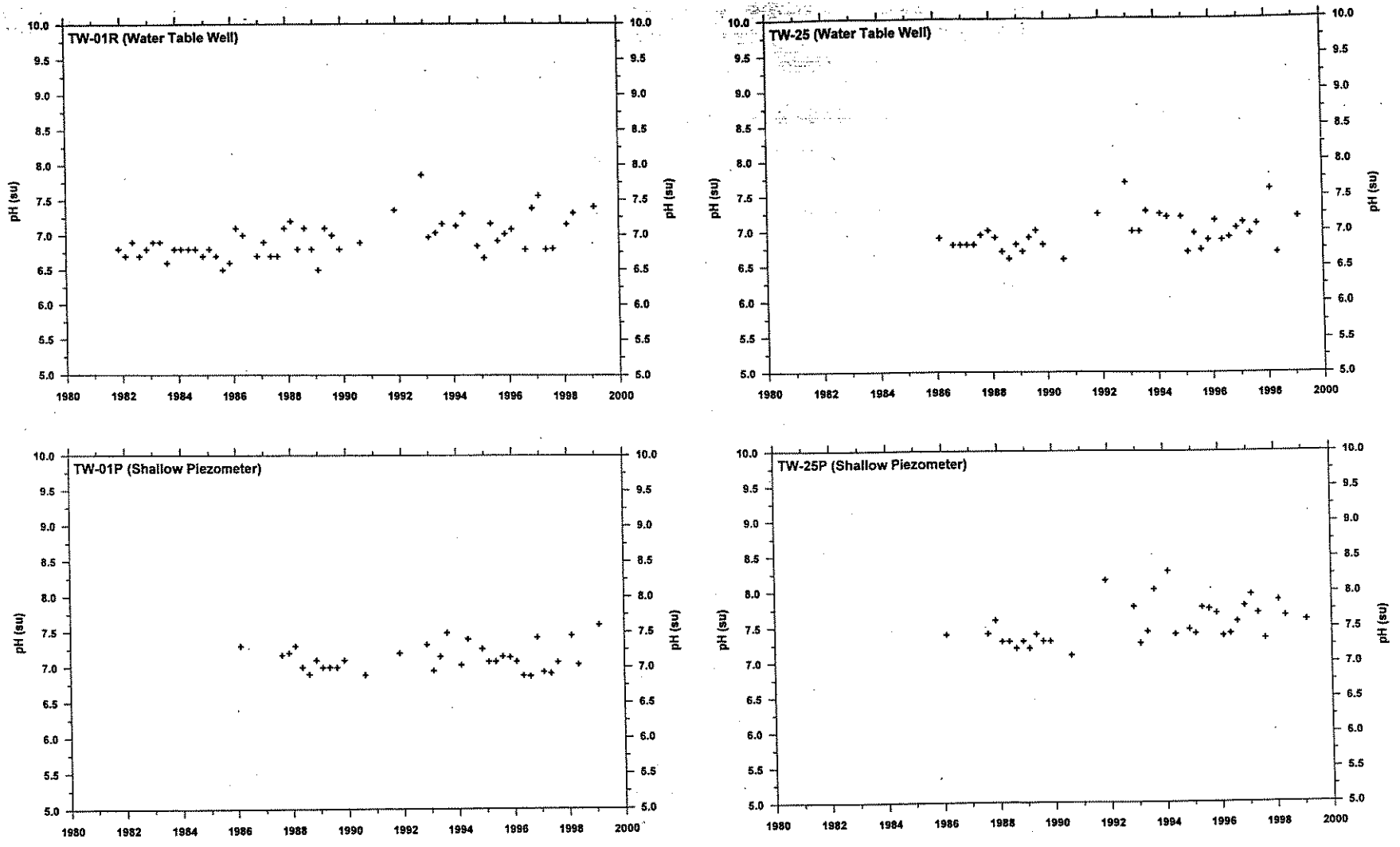


Figure 2. pH values (su) measured over time in the water samples collected from the TW-01R/TW-01P and TW-25/TW-25P piezometer nests at the WMWI-Polk Landfill. Note the steady to slightly increasing values and the neutral to near-neutral pH values measured in the monitoring wells.

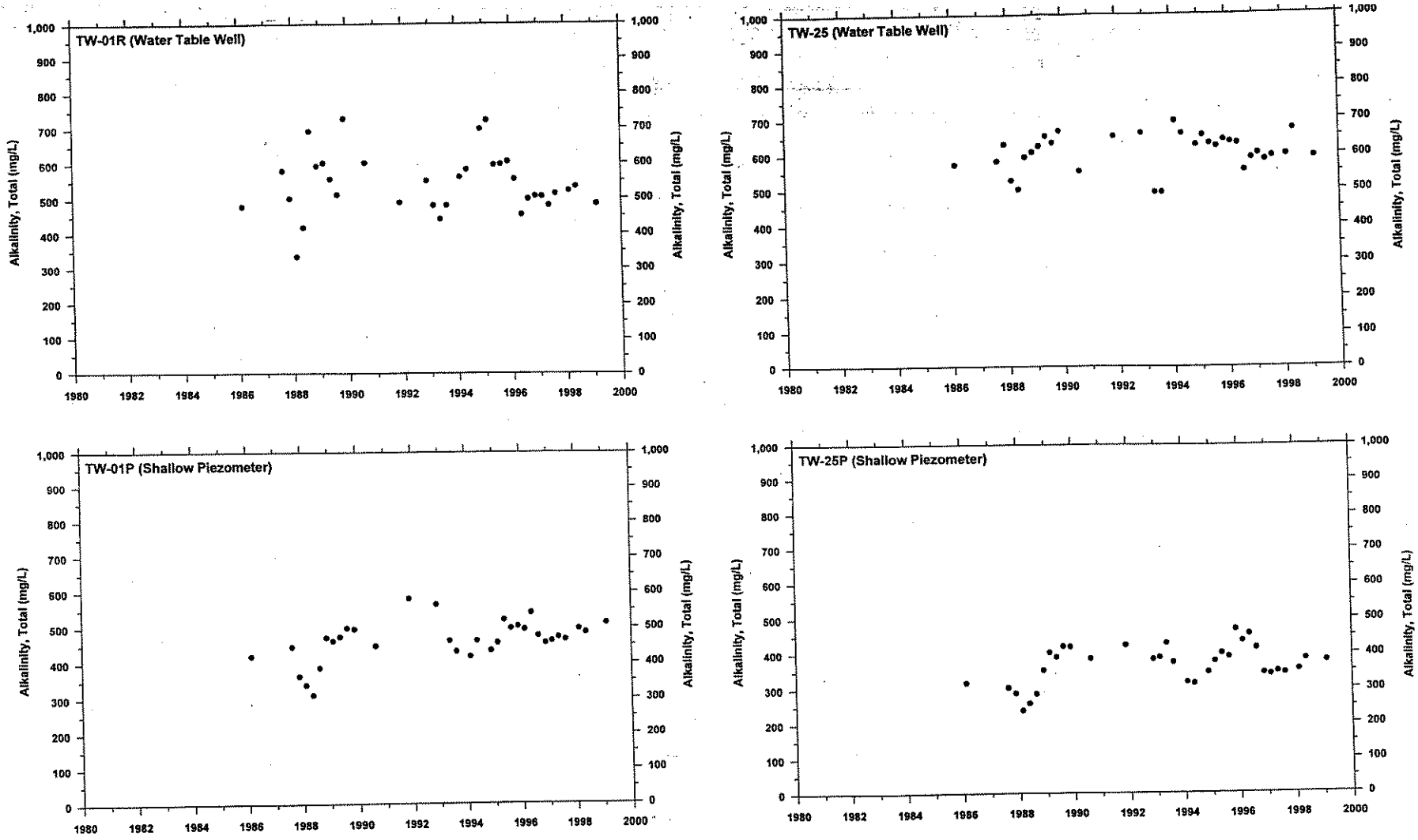


Figure 3. Total alkalinity values (su) meaured over time in the water samples collected from the TW-01R/TW-01P and TW-25/TW-25P piezometer nests at the WMWI-Polk Landfill. Note the steady to slightly increasing values measured in the monitoring wells.

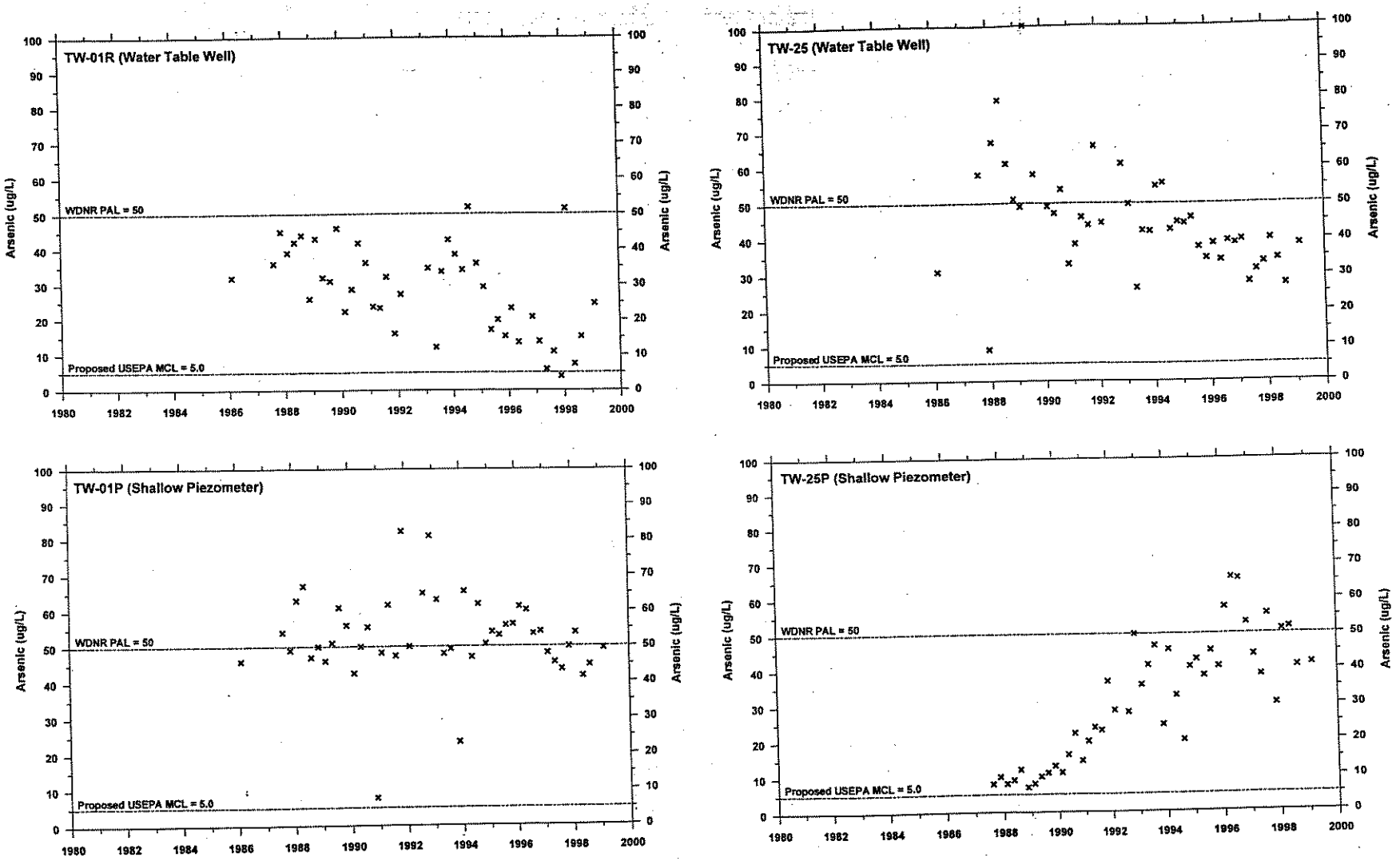


Figure 5. Arsenic concentrations (ug/L) measured over time in water samples collected from a sidegradient piezometer nest (TW-01R/TW-01P) located about 200 feet from the landfill consisting of a water table well (TW-01R) and a shallow piezometer (TW-01P) in relation to those measured in a piezometer nest (TW-25/TW-25P) which is both about 220 feet downgradient from the TW-01R/TW-01P nest and about 400 feet downgradient from the landfill. The TW-25/TW-25P nest also consists of a water table well (TW-25) and a shallow piezometer (TW-25P). Note that: 1) the arsenic concentrations in TW-01R were lower and decreased more than those in TW-01P; 2) the arsenic concentrations in TW-25 were higher, but decreasing over time, compared with the lower, but increasing, arsenic concentrations in TW-25P (one of the measured arsenic concentrations in TW-25 = 100 ug/L and one > 100 ug/L). The WDNR arsenic PAL of 50 ug/L (equal to the current USEPA MCL) and the proposed USEPA MCL of 5 ug/L are shown for reference. See Figure 1 for monitoring well locations and Appendix Table 3 for data.

Exhibit "H"

(6 pages)

2668 Hwy. 164
Slinger, WI 53086
March 22, 2001

State Senator Alberta Darling,
Wisconsin State Senate
State Capitol, P.O. Box 7882
Madison, WI 53707-7882

RE: The Wisconsin Department of Transportation's (WisDOT) proposed four-lane expansion of Highway J/164 (including the Ackerville Bridge Project) -- Major issues of concern to your constituents.

Dear Senator Darling:

Thank you for meeting with Don Weiland, Andy Cmeyla, Don Eilbes, Dana Weber and me (all members of the ***S.U.R.E.*** citizens group) at the Menomonee Falls Community Center on Saturday, March 17, 2001. We really appreciate you taking the time to listen to our many concerns about the Wisconsin Department of Transportation's (WisDOT) proposed four-lane expansion of Highway J/164 (including the Ackerville Bridge Project).

As we discussed at Saturday's meeting, over 1600 Waukesha and Washington County residents have signed our petitions to oppose these economically and environmentally devastating WisDOT road and bridge projects. Second, both the Richfield and Erin Town Boards have passed resolutions strongly opposing the four-lane expansion of Highway J/164 and supporting a 45 mph maximum speed limit for this roadway. Third, the Washington County Board recently passed a resolution asking the WisDOT to reduce the maximum speed limit to 45 mph for a significant portion of Highway 164 in the Town of Richfield. Finally, many other governmental, educational, religious and environmental organizations in Waukesha and Washington Counties are now considering resolutions to oppose the WisDOT's plans to convert our two-lane road into a divided, four-lane superhighway.

To reiterate, our three areas of major concern right now are: **1)** Stopping the Ackerville Bridge Project which is an unnecessary waste of taxpayer dollars, **2)** Making sure that the WisDOT honors the Washington County request for a 45 mph maximum speed limit on Highway 164 (as specified in their recently-approved resolution), and **3)** Requiring the WisDOT to hold a "true public hearing" on the Draft Environmental Impact Statement (DEIS) and not a "Georgia-style" public hearing (which is what the WisDOT now has planned for June, 2001).

To assist you in addressing these three areas of major concern, I have enclosed several documents for your review (labeled Exhibits A, B, C, D, E, F, and G). These exhibits are put together as follows:

1. **Exhibit A:** This exhibit includes materials which show that the WisDOT is an incompetent, out-of-control, government agency which needs closer scrutiny. The two Mark Belling opinion articles validly reflect this position. Also, I have included the following items in this package:

a. Two of my recently-published articles which demonstrate that the Ackerville Bridge Project (called "the Bridge to Nowhere" by area residents) is neither needed nor wanted and that there are more fiscally-responsible, less-intrusive solutions to the safety concerns in the Ackerville area. These alternative solutions are discussed in detail in these articles.

b. A detailed map of the area which will be negatively impacted by the WisDOT's proposed, 3/4 mile long Ackerville Bridge (yellow highlighted area). This map also includes the two nearby leaking landfills (green highlighted areas) and arrows which show how the contamination from these landfills is flowing directly toward the Highway 164/Lovers Lane roadway where the WisDOT plans to construct its enormous bridge project.

c. Photographs of the proposed Ackerville Bridge Project site with captions which explain how other more reasonable alternatives are available to address the safety concerns of this area.

d. A copy of my January 10, 2001 letter to Rodney Kreunen, Wisconsin Commissioner of Railroads, asking him for an official public hearing on the WisDOT's Ackerville Bridge Project where the citizen concerns and proposed alternatives could be fully and properly considered. As his office's January 22, 2001 response indicates, my request for a public hearing was denied because "private citizens are not authorized to petition for a hearing."

2. **Exhibit B:** A copy of my June 13, 2000 letter to the State Historical Society of Wisconsin, asking that they step-in to protect two historic, Ackerville area homes (dating back to the 1850's) which would be totally destroyed if the WisDOT is allowed to build its bridge project. Also included in this exhibit are three letters from the Ho-Chunk, Menominee, and Potawatomi Native-American Tribes stating that they were opposed to the WisDOT's Ackerville Bridge Project because of the "ground disturbing activity" which would result from its construction.

3. **Exhibit C:** This exhibit includes several documents concerning the current environmental contamination problems in the Ackerville area which, as of this date, the WisDOT refuses to acknowledge. To protect the health and safety of your constituents who live and work near Ackerville, we must insist that the WisDOT be required to

prepare a comprehensive and thorough Environmental Impact Statement (EIS) for its proposed bridge project. This EIS must fully assess the chemical pollutants now leaching out of the two nearby landfills and thoroughly consider the health, safety and environmental impacts of all reasonable road and rail reconstruction alternatives in great depth, as required by the National Environmental Policy Act (NEPA) and WisDOT's own Facility Development Manual.

The WisDOT has already agreed to prepare an EIS for 20.7 miles of the Highway J/164 roadway. Why is this roadbuilding agency adamantly refusing to prepare an EIS for the last 1.3 miles of this project? What is WisDOT trying to hide from the people?

To make this point, I have included the following documents as part of this exhibit:

a. A November 16, 2000 **Capital Times** article asking why former Governor Tommy Thompson has ignored the Ackerville area residents' many pleas for an EIS on the WisDOT's proposed bridge project. Former Governor Thompson's lack of concern in this matter was demonstrated in his August 11, 2000 letter to me (also part of this exhibit).

b. A recent joint letter from four Ackerville area residents who state that they are very concerned about the pollution coming from the two nearby landfills and construction of the WisDOT's proposed bridge project will exacerbate this already serious problem.

c. An August 4, 2000 **West Bend Daily News** article jointly written by Washington County Supervisors David Radermacher and Robert Kratz where they voiced their many concerns about the Ackerville Bridge/Lovers Lane Road project. In this very well-written article, both Supervisors Radermacher and Kratz are asking for an EIS on the Ackerville Bridge Project to protect the health and safety of the area residents.

d. A July 9, 2000 letter from Dr. Jeanne Hryciuk, M.D., a pathologist at Community Memorial Hospital in Menomonee Falls where, for the health and well-being of the Ackerville community, she is also calling for an EIS with the ultimate goal of a full-scale clean-up of the two nearby landfill sites.

e. Letters from our attorney, Ed Garvey, the U.S. Environmental Protection Agency (EPA) and the Wisconsin Department of Natural Resources (DNR), all of which indicate that serious soil and water contamination problems now exist in the Ackerville Bridge Project area. Currently the EPA and DNR are conducting two Superfund investigations in Ackerville, and all land acquisition and road/bridge construction activity by the WisDOT should cease until these investigations and resulting clean-up actions are finished.

f. Two letters (dated June 26, 2000 and October 6, 2000) to State Senator Mary Panzer where I asked for her assistance in encouraging the WisDOT to prepare an EIS for the Ackerville Bridge Project and also to require that this state roadbuilding agency seriously consider other more neighborhood-friendly, fiscally-prudent options to solve the safety concerns in this environmentally-sensitive area. As of this date, I have received no response from Senator Panzer on this matter. (Both Washington County Supervisors David Radermacher and Robert Kratz also have repeatedly contacted Senator Panzer on this very serious matter with the same results -- no response.)

4. **Exhibit D**: A detailed analysis of the groundwater contamination problems near the Waste Management landfill in Ackerville prepared on January 22, 2001 by our citizens group's state certified, professional soil scientist, John E. Thresher, Jr. This report concluded that the groundwater flowing southeast from the Waste Management landfill toward Ackerville is contaminated with several dangerous pollutants such as trichloroethylene, tetrahydrofuran, arsenic, dichloroethylene, vinyl chloride, lead, iron and manganese. Also, this report stated that none of the Ackerville area residents drink the water which is obviously contaminated due to the bad color, taste and/or odor.

5. **Exhibit E**: State certified, professional soil scientist, John E. Thresher's second detailed analysis which specifically focuses on the arsenic contamination problems in the Ackerville area groundwater. All of these arsenic contamination results exceed the federal and state exposure limits. Also, attached to this analysis is a copy of a December, 2000 **Wisconsin Natural Resources** magazine article on arsenic contamination problems in Wisconsin.

6. **Exhibit F**: Copies of items concerning the Washington County Board's recently-approved resolution requesting that the WisDOT reduce the maximum speed limit to 45 mph on a significant portion of Highway 164 in the Town of Richfield. These items include:

a. A February 15, 2001 **Hartford Times Press** news article on this subject.

b. A copy of the actual Washington County Board resolution (2000 Resolution 65) requesting this speed limit reduction on Highway 164 as soon as possible, and

c. A March 13, 2001 Federal Highway Administration response which states their reasons why the WisDOT probably will not honor the county's request for a 45 mph speed limit on the resolution's specified section of Highway 164.

During our meeting on Saturday, you told us that when counties recommend lower speed limits on state highways running through their jurisdictions, the WisDOT usually responds favorably to those recommendations. Why is the WisDOT refusing to

take immediate action here to lower our Highway 164's speed limit to 45 mph which, if done, could save lives and prevent many accidents?

7. **Exhibit G:** Items demonstrating how the WisDOT conducts its "Georgia Style" public hearings which keep individual citizen comments on proposed road and bridge projects "out of earshot" of fellow citizens. For details on how this type of hearing works, please refer to Ed Garvey's August 8, 2000 **Capital Times** Op-Ed article on this subject.

On March 23, 2000, the WisDOT held such a "Georgia Style" public hearing for its Ackerville Bridge Project. Concerned citizens were each herded into a separate area away from the general public to testify privately to a court reporter. The other attending citizens could not hear this testimony being taken. Now the WisDOT wants to conduct the same type of bogus public hearing for its Highway J/164 Draft EIS in June, 2001. For proof of this, please see the attached pages on the proposed public hearing which were downloaded from WisDOT's own web site (www.dot.state.wi.us).

We believe that a true public hearing is one where citizens one-by-one testify into a public microphone in front of their fellow citizens. If WisDOT is going to have a public hearing, let's make sure that the public can hear it! That's not too much to ask of this government agency which is funded by our hard-earned tax dollars.

During our meeting last Saturday, you assured us that:

1. Working together with State Senator Mary Panzer, you would fully address our many concerns about the Ackerville Bridge Project such as requiring the WisDOT to prepare an EIS for this project and also to have this agency seriously consider other more fiscally responsible, less intrusive alternatives for solving the road and rail safety problems in the Ackerville area.

2. You would put pressure on the WisDOT to honor Washington County's resolution (approved with an impressive 25-5 vote) which requests a 45 mph maximum speed limit for the specified 2.5 mile section of Highway 164 in the Town of Richfield.

3. You would insist that the WisDOT's public hearing on the Highway J/164 draft Environmental Impact Statement (EIS) be a real public hearing where everyone can hear the citizen testimony being presented and not a farcical "Georgia Style" public hearing like this agency held last year for its Ackerville Bridge Project.

In last year's newsletter (copy enclosed and labeled as Exhibit H), your legislative slogan was "Working for You and Getting Results!" Please work for your many constituents who live along Highway 164 on the serious matters specified above and help us achieve the results we are looking for here.

Thank you again for an excellent meeting at the Menomonee Falls Community Center on Saturday, March 17, 2001. We look forward to hearing from you very soon on these very important matters.

Sincerely,

Jeffrey M. Gonyo,
Town of Polk Central Committee member
for ***S.U.R.E.*** (Stop Unnecessary Road Expansion) -- over 1600 members strong!!
Phone: (262)-644-8334
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Enclosures

Exhibit I (5 pages)

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AMERICAN LUNG ASSOCIATION.
of Metropolitan Chicago

DIRTY DIESEL CLEAN-UP CAMPAIGN

A SUMMARY OF RECENT STUDIES ON THE HEALTH EFFECTS OF DIESEL TRUCK EXHAUST

Asthma symptoms linked to truck exhaust.

A study was conducted in Munster, Germany to determine the relationship between truck traffic and asthma symptoms. In total, 3,703 German students, between the ages of 12-15 years, completed a written and video questionnaire in 1994-1995. Positive associations between both wheezing and allergic rhinitis and truck traffic were found during a 12 month period. Potentially confounding variables, including indicators of socio-economic status, smoking, etc., did not alter the associations substantially.

Duhme, H., S. K. Weiland, et al. (1996). "The association between self-reported symptoms of asthma and allergic rhinitis and self-reported traffic density on street of residence in adolescents." Epidemiology 7(6): 578-82.

Proximity of a child's residence to major roads is linked to hospital admissions for asthma.

A study in Birmingham, United Kingdom, determined that living near major roads was associated with the risk of hospital admission for asthma in children younger than 5 yrs of age. The area of residence and traffic flow patterns were compared for children admitted to the hospital for asthma, children admitted for nonrespiratory reasons, and a random sample of children from the community. Children admitted with an asthma diagnosis were significantly more likely to live in an area with high traffic flow (> 24,000 vehicles/ 24 hrs) located along the nearest segment of main road than were children admitted for nonrespiratory reasons or children form the community.

Edwards, J., S. Walters, et al. (1994). "Hospital admissions for asthma in preschool children: relationship to major roads in Birmingham, United Kingdom." Archives of Environmental Health 49(4): 223-7.

When You Can't Breathe, Nothing Else Matters

Founded in 1906, the American Lung Association of Metropolitan Chicago serves Chicago and Cook County with education, research and

A school's proximity to freeways is linked to asthma prevalence.

A study of 1498 children in 13 schools in the Province of South Holland found a positive relationship between school proximity to freeways and asthma occurrence. Truck traffic intensity and the concentration of emissions measured in schools were found to be significantly associated with chronic respiratory symptoms.

Speizer, F. E. and B. G. Ferris, Jr. (1973). "Exposure to automobile exhaust. I. Prevalence of respiratory symptoms and disease." Archives of Environmental Health 26(6): 313-8.
van Vliet, P., M. Knape, et al. (1997). "Motor vehicle exhaust and chronic respiratory symptoms in children living near freeways." Environmental Research 74(2): 122-32.

Lung function reduction among children associated with living near truck traffic

A European study determined that exposure to traffic-related air pollution, 'in particular diesel exhaust particles,' may lead to reduced lung function in children living near major motorways.

Brunekreef B; Janssen NA; de Hartog J; Harssema H; Knape M; van Vliet P. (1997). "Air pollution from truck traffic and lung function in children living near motorways." Epidemiology, 8(3):298-303.

Air polluted by diesel exhaust can trap pollen in the air, thus triggering asthma attacks.

This study found that grass pollen allergens can become more concentrated in air polluted by fine particles, like those present in diesel exhaust, by binding to the particles. The study concludes that this may be one reason why air pollution exacerbate allergies and asthma.

Knox RB, Suphioglu C, Taylor P, Desai R, Watson HC,Peng JL, Bursill LA. (1997) Clinical & Experimental Allergy 27(3):246-51, 1997 Mar.

Exposure to diesel exhaust greatest near roads, particularly urban streets

Studies indicate that diesel emissions exposure is greatest near busy streets, bus and truck terminals, parking areas, and highways. In areas were there is less opportunity for particulate dispersion, such as urban streets, exposure can be even greater.

Volkswagon AG. 1989. Unregulated Motor Vehicle Exhaust Gas Components [a corporate document]. Volkswagen AG, Auburn Hills, MI.

Diesel fumes could carry cancer risk.

In preliminary findings, the EPA found that exposure to diesel exhaust, even at low levels, is likely to pose a risk of lung cancer and other respiratory risk. The EPA stated that the risk of cancer from diesel exhaust, even at concentrations too low to cause other respiratory problems, could be 1 in 100, or even greater.

"Diesel Fumes Could Carry Cancer Risk, EPA Reports Low-Level Exposure Linked to Ailments." *Washington Post*, April 10, 1998: A11.

Freeway pollution is linked to increased asthma

A study of 1,068 Dutch children found that asthma, wheeze, cough, and runny nose were significantly more common in children living within 100 meters of freeways. Increasing density of truck traffic was also associated with significantly higher asthma levels – particularly in girls.

Patricia van Vliet, et al. Motor exhaust and chronic respiratory symptoms in children living near freeways. Environmental Research 1997:74:12-132.

FOR IMMEDIATE RELEASE: 29 FEBRUARY 2000 (29 FEBRUARY 2000 GMT)

Contact: Howard Wachtel
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University of Colorado at Boulder

New study links high-traffic streets to childhood leukemia, other cancers

The results of a new study conducted in the rapidly expanding Denver metropolitan area indicates children living near heavily traveled streets or highways are at significantly greater risk of developing cancer, including childhood leukemia.

The researchers found a correlation between high volumes of traffic on streets or highways near homes where incidences of childhood cancer previously had been documented. The study was authored by Robert Pearson of Denver's Radian International, University of Colorado at Boulder electrical engineering Professor Howard Wachtel and Kristie Ebi of the Electric Power Research Institute in Palo Alto.

The study was published in the February 2000 issue of the *Journal of the Air and Waste Management Association*. The research was funded by EPRI.

"What we are seeing is that children who live near high-traffic streets have an increased risk for childhood cancer," said Pearson, also an adjunct professor of urban planning at CU-Denver. "What we have not yet been able to pin down is the specific cause-and-effect relationship."

The new study showed that homes adjacent to street corridors carrying 20,000 or more vehicles per day had roughly a six-fold increase in risk for children contracting cancer, including childhood leukemia, said Wachtel.

Motor vehicles are a significant source of air-pollution emissions, including benzene and other organic compounds, said Pearson. Occupational exposure to elevated concentrations of benzene is a known cause of leukemia in adults.

A 1989 Study by University of North Carolina researchers David Savitz and Lisa Feingold linked heavily trafficked Denver streets to confirmed cases of childhood cancers on the specific streets, said Wachtel. But the effect of heavy traffic on nearby thoroughfares was not taken into account, leaving the study open to criticism.

But the new study takes into account the neighboring traffic in several ways, including adjustments for the distance between the highest-traffic streets and homes up to 1,500 feet away. This allowed the researchers to consider the typical pattern of dispersion and decay of drifting vehicle emissions as they migrated from the traffic corridors outward to homes under study.

For example, a house used as a control in the study or a house with a confirmed case of childhood cancer might be located in a quiet cul-de-sac. But if it also is only a few hundred feet from an interstate highway, the volume of highway traffic weighed heavily in assessing the traffic-exhaust exposure for that dwelling, Wachtel said.

The authors also speculated that children living near heavily trafficked streets could be exposed to benzene and other carcinogens via inhalation or exposure to soil where vehicle-emission chemicals may be deposited.

A study in Stockholm several years ago in which researchers looked at nitrogen dioxide pollution from vehicles and cancer rates of nearby residents found a correlation, although not as strong as the one in the new Denver study, said Pearson.

Another study in Great Britain showed a correlation between childhood cancer and the proximity of children's homes to steel mills, factories and high-traffic streets, he said.

Savitz, a former professor at the CU Health Sciences Center, had previously worked with Wachtel, CU-Boulder Professor Frank Barnes and several other researchers on a 1988 study that linked Denver childhood cancers to high current-capacity power lines common along high-density traffic corridors. But that research and subsequent studies around the world failed to pinpoint a specific cause-and-effect relationship between the electromagnetic fields generated by the power lines and cancer.

For their study, Pearson, Wachtel and Ebi obtained street-traffic densities for 1979 and 1990 from the Colorado Department of Transportation and the Denver Regional Council of Governments. The years 1979 and 1990 were closest to the period of exposure addressed in the 1988 power line-cancer study from which the specific cases and locations of childhood cancer were drawn for the new study.

Interestingly, children living in homes close to both high-traffic corridors and high current-capacity power lines show more elevated risks for cancer than children living only in high-density traffic areas, Wachtel said.

"It's possible that benzene and other organic compounds from vehicle exhaust may initiate cancer in children while EMF's may act to promote such cancers," he said. "We need to design some well thought-out follow-up studies, since there is still a lot we don't understand about the associations involving cancer, high-density traffic and EMFs."

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Back to EurekAlert!

Exhibit "J"

(4 pages)

The Daily News, Thursday, December 28, 2000

DOT needs closer scrutiny

MARK BELLING

My deadline for this column is around midday on Tuesdays (actually it's noon, but since I never get it in until about 1 p.m., I've convinced myself "midday" is the actual due time). That makes it impossible to write about the goings, comings, and possible future goings of Tommy Thompson, since the story may be straightened out by the time you read this. I could also write about a full-page ad in Tuesday's Milwaukee paper by John Norquist in which he tries to "spin" his way out of his sexual harassment problems, but that will be old news Wednesday, even though it's very new news Tuesday. I could also write about why they keep delaying the "bombing" of the Hoan Bridge, but maybe it won't be delayed in 24 hours. So the only alternative left is to write a column that is never outdated because the problem never goes away.

This column is about the Wisconsin Department of Transportation, or as it is lovingly known, DOT. I've had suspicions about DOT as long as I've been doing a talk show. It seems like sweetheart deals are always being made, projects are always getting screwed up, secrets are always being kept and that nobody but me seems to pay any attention to any of it.

As an example, there is an amazing thing about the road contracts DOT awards around the state for highway paving or repaving. It seems that just about every major contract in the eastern half of the state gets done by a Waukesha outfit called Payne & Dolan. Most of the big jobs in the western half of the state are awarded to a company called Mathe Construction. The two companies almost never seem to bid against each other. And, even more "amazingly," hardly anybody ever seriously bids against them. You'd think this cozy little arrangement would attract the attention of some investigative reporter-type for one of the papers or TV stations, but so far no one has looked into it.

Then there was the time that Payne & Dolan was hired to re-pave the Interstate 94 "high-rise bridge" in Milwaukee. The day after the paving was put down it started to fly all over the place. Guess who DOT hired to re-repave the repaving? Yup. Good old Payne & Dolan.

Does DOT seem to have a close relationship with Payne & Dolan? Put it this way. Bill and Monica were never so tight.

All of this makes me wonder about how a 23-year-old lightly used bridge like the Hoan could be falling down. It makes me suspicious about whether top materials were used in the construction. It makes me wonder about what 23-year-old "deals" were made when the contract was awarded. I'd follow up on some of those questions, but DOT doesn't return my calls. They don't seem to like to talk about the stuff I'm interested in.

The other thing about DOT is its love for paperwork. It has all sorts of requirements for contractors that make it tough for any little guy to ever be able to land a major contract. As an example, DOT has pretty strict minority subcontracting requirements. A big outfit like Payne & Dolan is able to "farm out" a lot of its work to smaller outfits. But guess what? Those smaller outfits always seem to end up using Payne & Dolan equipment. One of them is headed by a former executive of – you guessed it – Payne & Dolan. Funny how all those DOT bureaucrats never seem to look into things like that.

The DOT is part of the Thompson administration, so you'd think that the Democrats would raise a stink about these things or at least ask some of the questions I'm asking. My best theory about why they don't comes from their campaign finance statements. You see, Payne & Dolan is an equal opportunity giver. The company's boss, Ned Bechtold, and his top executives have their names all over fund-raising reports from members of both parties.

It's probably occurred to them to give me some money, too. It seems to shut everybody else up.

Like I said, I have this thing about DOT. Something seems wrong over there. It's why I'm never shocked when bridges fall down, repaved roads fall apart and simple projects take six months. I'd spend more time looking into it but governors keep resigning, mayors keep getting caught with their pants down, blizzards keep occurring and elections keep going to court. Today? For once the timing was right.

BELLING'S BULLETS

■ For what it's worth, I believe every single one of the news organizations that reported that Gov. Thompson "accepted" President-elect Bush's offer to be health and human services secretary got the story wrong. I don't believe Tommy gave "W" a specific "yes." He may well still end up in the HHS job – but I wouldn't bet on it – but I don't believe our governor would tell the president-elect one thing and sandbag him 90 minutes later. I think the media was rolled by a bunch of bad "sources."

■ I think all six AFC teams in the football playoffs are better than the best team in the NFC and I can't even figure out who that team is. In fact, the Packers may have been the best team in the NFC when the regular season ended.

■ I'm betting the media will call the inevitable 2001 recession "The Bush Recession." The correct name should be "The Greenspan Recession."

■ Prediction: Clinton uses his executive order power to try to normalize relations with Cuba and uses his pardon power to wipe out loyal gal pal Susie McDougal's conviction.

Mark Belling is the host of a daily WISN radio talk show and a Sunday television show.

VIEWPOINTS Your Hometown Newspaper Network 253-9950

Bridge collapse is yet another sign of incompetence

Mark Belling

The most amazing thing about the Hoan Bridge disaster is how unsurprising it seems to be. Normally a bridge collapse would be shocking but this is, after all, Milwaukee. We've been through, in the last 10 years alone, the poisoning of the city's water system, the failure of a $4 billion sewer system upgrade and the collapse of a stadium roof. With all of those other disasters, a freeway bridge caving in is almost expected.

Why is that? Why have we come to not only accept but expect utter incompetence from Milwaukee officials? Answer: because we never hold them accountable for anything. How many people were fired after the cryptosporidium outbreak? How many officials have been called to task for the Deep Tunnel not working?

Let's start with a basic premise — 23-year-old bridges aren't supposed to fall down. They're supposed to be built to withstand hurricanes, tornadoes and earthquakes. There is no excuse —none — for what's happened to the Hoan Bridge. Somebody somewhere has screwed up big time and, unlike the other incidents where nobody got in trouble, this time some heads need to roll.

The state Department of Transportation (DOT) is in charge of building and maintaining the state interstate highway system. But the department's head, Terry Mulcahy, is acting as though the Hoan Bridge problems couldn't have been avoided. He offers the crazy claim that the problems developed in the two weeks after the last bridge inspection. He throws out ridiculously low dollar estimates about the cost of the bridge repair. He offers no answer to concerns that other sections of the bridge are similarly threatened.

If Mulcahy is correct that it was impossible for the bridge inspector to find the problem at the Hoan Bridge, then the inspector is either incompetent or the bridge inspection program is flawed. It defies logic that a bridge could be perfectly fine at Thanksgiving but laying on the ground before Christmas. The bridge inspection division of DOT is the first place where we need to think about firing people.

If the problem with the bridge deals with the type of welds and connections between the bridge and its support beams (as has been suggested), it would then seem likely that all of the welds on the bridge are suspect. That calls into question whether the entire bridge will ever be safe. Mulcahy and his bumbling bureaucrats haven't responded to that concern.

As for the construction of the bridge itself, if the design or construction is faulty, the companies involved should be named and sued. The city of Milwaukee is suing paint companies for lead that was put in paint 50 years ago. Surely the builders of a bridge less than half that age can be held accountable if they are responsible for the bridge mess. That's unlikely to happen either. DOT is notoriously cozy with its contractors.

Strangely silent about all of this are Milwaukee Mayor John Norquist and members of the Common Council. I wonder if they're concerned that the bridge accident may have been caused by the sewer system line that runs underneath the bridge. The sewerage district is already paying millions to downtown business owners because building foundations above the Deep Tunnel are sinking. It's not implausible the same thing is happening under the Hoan Bridge foundation.

A lot of things could have caused the bridge collapse. None of them should be treated as unavoidable. But given how tainted all of the agencies involved already are, I don't think we can trust whatever explanations are offered up. Everyone involved has an interest in sweeping the Hoan rubble under the, uh, bridge. An independent firm needs to be hired to give us answers we can trust. When we get them, it's time — for once — to hold individuals accountable.

Mark Belling is the host of Radio 1130 WISN's "Mark Belling Late Afternoon Show" heard daily 3-6 p.m. His column can also be found online at www.discoverhometown.com.

Original URL: http://www.jsonline.com/news/state/jul99/rail10070999a.asp

Message Board

State will audit rail crossing aid

$13 million in federal money, enough for 130 sites, going to few big projects

By Larry Sandler
of the Journal Sentinel staff

Last Updated: July 9, 1999

State auditors have launched an inquiry into what happened to $13 million in federal railroad crossing money - dollars that could have been used to install gates and lights at as many as 130 unsafe crossings.

The state Department of Transportation appears to have earmarked much of the money for building just three big highway bridges over railroad tracks, a revelation that surprised the state rail crossing safety chief and legislators.

"Games are being played" with this money, state Sen. Robert Cowles (R-Green Bay) said. "I think they (Department of Transportation officials) have got to do some quick talking."

Cowles said the Legislative Audit Bureau has opened a review of the issue at his request.

The funding was accumulated over four federal fiscal years, from Oct. 1, 1995, to the present.

Car-train crashes at Wisconsin railroad crossings claimed 26 lives from 1995 to 1998.

For years, fatal crashes at railroad crossings have been followed by complaints that tight funding has created a large backlog of crossings where safety upgrades have been ordered but not installed. It costs about $100,000 to install gates and flashing lights at each crossing.

The federal funding came to light after the House Appropriations Committee held up Wisconsin as an example of a state that hadn't spent the railroad crossing safety dollars that the federal government set aside for it. As of Sept. 30, Wisconsin had the biggest unspent amount of any state, the panel reported last month.

Railroad Commissioner Rodney Kreunen, who until recently was operating on a $1 million-a-year budget, said he was "really amazed" to learn of the existence of the $13 million.

"We have mayors and village presidents around the state begging for needed crossing improvements, and suddenly we find this huge chunk of money that could have been used to solve (problems at) dozens of these needed crossings," Kreunen said. "Needed railroad crossing protection has gone begging because we have not had the money to do this."

Kreunen said he was told that the Department of Transportation will use the federal rail crossing dollars to help pay for such projects as the $8.5 million Main St. Bridge over a railroad yard in Neenah, a $2.2 million bridge carrying Brilowski Road over several railroad tracks in Portage County, and a $4 million bridge on Johnson St. in Fond du Lac.

Deputy Transportation Secretary Terry Mulcahy defended the use of the money and said the department is committed to crossing safety.

"Whether you put a wig-wag (warning device) up or you separate a track from the road . . . these things are all eligible" for railroad safety funding, Mulcahy said. The question of which solution is best for each crossing should be worked out among the department, Kreunen's office and the railroads, he said.

Over—

The department let the money build up because "there were certain projects in the pipeline that needed more money than we had available," Mulcahy said. All the money should be spent by the end of next year, he added.

In a letter to Tom Dwyer, Wisconsin director of the United Transportation Union, Mulcahy also said the money was being spent "with the full knowledge and cooperation of the Office of the Commissioner of Railroads."

Kreunen said he knew about the bridge projects and agreed that they were needed, but he thought they were being funded with highway money. Neither he nor legislators knew of the backlogged crossing funds.

Sen. Carol Roessler (R-Oshkosh) said she didn't object to the money being spent on bridges over railroad tracks, yet was concerned that lawmakers and Kreunen didn't know about it. She and Cowles have worked successfully to boost state funding for crossing safety.

The congressional report led Dwyer to fire off a letter to U.S. Sen. Herb Kohl (D-Wis.), charging that the state Department of Transportation "has been willing to neglect railroad crossing safety for far too long." Cowles and Roessler echoed those comments.

Mulcahy said his department was interested in crossing safety and wanted to do more.

But statements such as that didn't comfort Steven Friday, whose wife, Joan, was killed last month after a train rammed into the van he was driving in rural Washington County. Friday said it was a "real shame" that the state would not spend money on a railroad crossing that badly needed warning signals.

Kreunen said last month that more than 1,000 crossings around the state rank ahead of the one on Commercial Lane, where Joan Friday died.

"It doesn't make any difference how many cars cross the railroad," Friday said. "There's still lives at stake."

Dwyer, whose union represents many railroad workers, and Waukesha Mayor Carol Lombardi said federal crossing safety dollars should flow directly to Kreunen's office, not through the Department of Transportation. She said that her city "has great concern" about upgrading unsafe crossings.

Kohl did not take a stand on which state agency should get the money, but released a statement saying he hoped the state would use the money on "needed safety improvements as quickly as possible."

Mulcahy said "confusion" over the source of the money "is losing sight of the fact that it's all our money," and that the state has not forgone any money to which it was entitled.

The funding issue arises at the same time as a clash over control of railroad crossing dollars.

Currently, Kreunen has sole authority to decide which crossings should be upgraded. But Gov. Tommy G. Thompson's 1999-2001 state budget recommended creating a joint crossing committee that effectively would give the Department of Transportation a veto over spending on anything but emergency crossing upgrades.

The Joint Finance Committee unanimously rejected the change. Assembly Republicans revived the provision in their version of the budget, however.

Cowles and Roessler said they were urging legislative budget negotiators to remove that change from the final spending plan. They said Kreunen has done an excellent job and should remain independent.

Mulcahy said the crossing committee proposal reflected the desire of his department to work with Kreunen's office to play a bigger role in crossing safety. He said his department didn't want to interfere with Kreunen's regulatory authority, but wanted to promote "a more holistic approach" to safety on highways and railroads.

Brennan Nardi of the Journal Sentinel staff contributed to this report.

Appeared in the Milwaukee Journal Sentinel on July 10, 1999.