Natural
Resource
Technology, Inc.
N R T

August 10, 1998
(1105)

Mr. Mike Zillmer
Solid Waste Section
WDNR - Southeast District
4041 N. Richards Street, P.O. Box 12436
Milwaukee, Wisconsin 53212

RE: **Operation, Maintenance and Monitoring Status Report No. 10 and Request for Review of VOC System 001**
Reporting Period - January 1, 1998 to June 30, 1998
Praefke Brake and Supply, 133 Oak Street, West Bend, Wisconsin
FID #267083740, 267004430

Dear Mr. Zillmer:

On behalf on Praefke Brake and Supply (Praefke), Natural Resource Technology, Inc. (NRT) has prepared this Operation, Maintenance and Monitoring (OM&M) Status Report for the two groundwater remediation systems at the above-referenced site. Two copies of the report are enclosed for your review. This report was prepared using appropriate pages from Form 4400-194 and summarizes OM&M activities for the period January 1, 1998 to June 30, 1998. The related attachments to the form are listed below. As a reminder, this site has two groundwater pump and treat systems. System 001 is the VOC remediation system on the north side of the property. System 002 is the PCP remediation system on the south side of the property. **In our previous report, we requested approval to shutdown the VOC groundwater extraction system. Since no formal response was received, we again are requesting this approval which is based on having only one enforcement standard exceedence for TCE. In addition, the concentrations are stable and are not substantially different when the system is not operating. Refer to the explanation page following the Form 4400-194 for System 001.** Please contact us if you have any questions or comments regarding the status report for the Praefke Brake site. We look forward to your review of the VOC system operational needs.

Sincerely,

NATURAL RESOURCE TECHNOLOGY, INC.

Julie A. Zimdars, P.E.
Environmental Engineer

Laurie J. Parsons, P.E.
Senior Engineer

Attachments: Completed Form 4400-194 (System 001 and System 002)
Explanations
Figure 1 - Site Location Map
Figure 2 - Site Plan with Groundwater Contour Map
Figure 3 - Groundwater Contaminant Distribution Map
Table 1 - Groundwater Analytical Summary - VOCs
Table 2 - Groundwater Analytical Summary - SVOCs
Table 3 - Groundwater Elevation Data
Sampling Schedule
Cumulative Contaminant Removal Graphs (System 001 and 002)
Contaminant Concentration vs. Time Graphs - System 001
Contaminant Concentration vs. Time Graphs - System 002
WDNR Discharge Monitoring Report Forms - second quarter 1998

cc: Mr. Dan Kudek/Mr. Mike Butz, Praefke Brake and Supply
Ms. Jennifer Buzecky, Whyte, Hirschboeck, Dudek S.C.
Mr. Craig Caliendo, Whyte, Hirschboeck, Dudek S.C.
Mr. Frank Volage, EIS Brake Parts, Div. of Standard Motor Products
Ms. Lisa Wadge, EnviroCheck Ltd.

[1105\1105zillmer 98.8.7.ltr]

COMPLETED FORM 4400-194 (SYSTEM 001 AND SYSTEM 002) AND EXPLANATIONS

State of Wisconsin
Department of
Natural Resources

OPERATION, MAINTENANCE, MONITORING AND OPTIMIZATION REPORTING OF SOIL AND GROUNDWATER REMEDIATION SYSTEMS

Status Report No. 10

PURPOSE AND APPLICABILITY OF THIS FORM: Completion of this form is required under s. NR 724.13(e), Wis. Adm. Code. Use of this form is mandatory. Failure to submit this form as require is a violation of s. NR 724.13, Wis. Adm. Code, and is subject to the penalties in s. 144.99, Wis. Stats. This form must be submitted every six months for active soil and groundwater remediation projects and every twelve months for passive (natural attenuation) remediation projects that are regulated under the NR 700 series of Wis. Adm. Code. Specifically, for sites meeting any of the following criteria:

- Soil or groundwater remediation projects that report progress in accordance with s. NR 700.11(1), Wis. Adm. Code.
- Soil or groundwater remediation projects that report progress in accordance with s. NR 724.13(3), Wis. Adm. Code. (Note: s. NR 724.13(3) requires progress reports for operation and maintenance of active systems to be submitted every three months however the Department considers submittal of this form every six months to satisfy the requirements of the rules, unless otherwise directed by the Department on a site specific basis.)
- Soil or groundwater remediation projects that report progress in accordance with s. NR 724.17(3), Wis. Adm. Code. (Note: s. NR 724.17(3) requires progress reports every time that samples are collected however the Department considers submittal of this form every twelve months to satisfy the requirements of the rules for monitoring natural attenuation, unless otherwise directed by the Department on a site specific basis.)

Submittal of this form is not a substitute for reporting required by Department programs such as Wastewater or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Please refer to the instructions that are attached to the back of these forms starting on page INS-1. In all cases, when asked to "explain," those explanations are to be included on separate sheets of paper. Explanations must include a title that refers to the page and item number, for example: Page GI-2, C.1.a.

A. GENERAL INFORMATION:

1. Site name: Praefke Brake and Supply Corporation (System 001-VOC)
2. Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181
3. Regulatory agency (enter DNR, DCOM, DATCP and/or other): WDNR
4. DNR issued site number: Case # 02-67-152445 FID# 267083740, 267004430
5. State reimbursement fund claim number and fund name (if not applicable, enter NA): NA
6. Site location:
   a. DNR region and county: Southeast Region, Washington County
   b. Street address and municipality: 133 Oak Street, West Bend
   c. Township, range, section and quarter quarter section: T11NR19E, S13 SW ¼ of SW ¼
7. Responsible party:
   a. Name: Praefke Brake & Supply Corporation
   b. Mailing address: 133 Oak Street
      West Bend, WI 53095
   c. Phone number: (414) 334-2355, Mr. Dan Kudek
8. Consultant:
   a. Company name: Natural Resource Technology, Inc.
   b. Mailing address: 23713 West Paul Road
      Pewaukee, WI 53702
   c. Phone number: (414) 523-9000, Ms. Laurie J. Parsons, Ms. Julie A. Zimdars
9. Contaminants: Chlorinated volatile organic compounds (Trichloroethene, 1,1,1 - Trichloroethane, etc.)
10. Soil types (USCS or USDA): SM/SP, interbedded CL, some GP (to 35'), CL (to 50')
11. Hydraulic conductivity (cm/sec): 3.90 x 10^{-4} geom. mean slug tests (Range 1.95 x 10^{-4} to 4.60 x 10^{-4} cm/s)
12. Average linear velocity of groundwater (ft/yr): 21.5

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: Praefke Brake and Supply Corporation (System 001-VOC)

Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181

A. GENERAL INFORMATION (CONTINUED):

13. If soil is treated ex situ, is the treatment location off site? (Y/N) If yes, give location:

    a. DNR region and county: _____

    b. Township, range, section and quarter quarter section: _____

B. REMEDIATION METHOD: Only submit pages that apply to an individual site. Check all that apply:

- [X] Groundwater extraction (submit a completed page GW-1).
- [ ] Free product recovery (submit a completed page GW-1).
- [ ] In situ air sparging (submit a completed page GW-2).
- [ ] Groundwater natural attenuation (submit a completed page GW-3).
- [ ] Other groundwater remediation method (submit a completed page GW-4).
- [ ] Soil venting (including soil vapor extraction and bioventing, submit a completed page IS-1).
- [ ] Soil natural attenuation (submit a completed page IS-2).
- [ ] Other in situ soil remediation method (submit a completed page IS-3).
- [ ] Biopiles (submit a completed page ES-1).
- [ ] Landspreading/thinspreading of petroleum contaminated soil (submit a completed page ES-2).
- [ ] Other ex situ soil remediation method (submit a completed page ES-3).

C. GENERAL EFFECTIVENESS EVALUATION FOR ALL ACTIVE SYSTEMS: If the remediation is active (not natural attenuation), complete this subsection.

1. Is the system operating at design rates and specifications? (Y/N): Yes
   If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design.
2. Are modifications to the system warranted to improve effectiveness? (Y/N) If yes, explain: No
3. Is natural attenuation an effective low cost option at this time? (Y/N): Yes, see attached
4. Is closure sampling warranted at this time? (Y/N): Yes, see attached
5. Are there any modifications that can be made to the remediation to improve cost effectiveness? (Y/N) If yes, explain: No

D. ECONOMIC AND COST DATA TO DATE:

1. Total investigation costs ($): Not Available, performed by previous owner
2. Implementation costs (design, capital and installation costs, excluding investigation costs) ($): Not available, see above
3. Total costs during the previous reporting period ($): Praefke Brake is performing Operation and Maintenance
4. Total costs during this reporting period ($): Praefke Brake is performing Operation and Maintenance
5. Total anticipated costs for the next reporting period ($): See closeout / natural attenuation sampling
6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above? (Y/N) If yes explain: No
7. If close out is anticipated within 12 months, estimated costs for project closeout ($): $20,000 - $30,000

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: Praefke Brake (System 001-VOC)

Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181

E. NAME(S), SIGNATURE(S) AND DATE OF PERSON(S) SUBMITTING FORM: Legibly print name, date and sign. Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form.

Registered Professional Engineers:

I (print name) Julie A. Zimdars, Laurie J. Parsons, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title, P.E. number and date:

Hydrogeologists:

I (print name) _____, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title and date:

Scientists:

I (print name) _____, hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title and date:

Professional Seal(s), if applicable:

State of Wisconsin
Department of
Natural Resources

OPERATION, MAINTENANCE, MONITORING AND OPTIMIZATION REPORTING OF SOIL AND GROUNDWATER REMEDIATION SYSTEMS

Form 4400-194
7-96
Page GW-1

GROUNDWATER PUMP AND TREAT SYSTEMS AND FREE PRODUCT RECOVERY SYSTEMS

SITE NAME AND REPORTING PERIOD:

Site name: Praefke Brake (System 001-VOC)

Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181

Date that the system was first started up: 12/6/95

A. GROUNDWATER EXTRACTION SYSTEM OPERATION:

1. Total number of groundwater extraction wells or trenches available and the number in use during period: 3/ 2 (RW1C shut down on 9/8/97)
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): 106
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain: 59% see att.
4. Quantity of groundwater extracted during this time period (gallons): 490,350 gal
5. Average groundwater extraction rate (gpm): 1.9 gpm
6. Quantity of dissolved phase contaminants removed during this time period in pounds: 0.05 lbs Total VOCs

B. FREE PRODUCT RECOVERY SYSTEM OPERATION:

1. Is free product (nonaqueous phase liquid) being recovered at this site? (Y/N) If yes, list method: No
2. Quantity of free product extracted during this time period (gallons, enter none if none): –
3. Average free product extraction rate (gpd): –

C. SYSTEM EFFECTIVENESS EVALUATION:

1. Is a contaminated groundwater plume fully contained in the capture zone? (Y/N) If no, explain: Substantially. PAL exceedance at MW-A outside capture zone
2. If free product is present, is the free product fully contained in capture zone? (Y/N) If no, explain: –
3. If free product is present in any wells at the site, but free product was not recovered during reporting period, explain.
4. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in C.4.a.
   a. Contaminant: Trichloroethene (TCE)
   b. Percent reduction necessary to reach ch. NR 140 ES and PAL: ES: 61.5% PAL: 96.2%
   c. Maximum contaminant concentration level in any monitoring well of that contaminant (µg/L): 2.8 ug/l
   d. Maximum contaminant concentration level in any extraction well of that contaminant (µg/L): 13 ug/l
   e. If the maximum concentration in a monitoring well is more that one order of magnitude above the concentration measured in an extraction well, explain why the extracted groundwater contamination levels are significantly less than the levels at other locations within the aquifer.

D. ADDITIONAL ATTACHMENTS: Attach the following to this form:

- Most recent report to the DNR Wastewater Program, if applicable.
- Groundwater contour map with capture zone indicated.
- Groundwater contaminant distribution map (may be combined with contour map).
- Graph of cumulative contaminant removal, if both free product recovery and ground water extraction are used, provide separate graphs.
- Time versus groundwater contaminant concentration graphs for the contaminant listed in C.4.a. (above), as follows:
  - — Graph of contaminant concentrations versus time for each extraction well in use during the period.
  - — Graph of contaminant concentrations versus time for the monitoring well with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- System operational data table.

[1105: O&M form VOC system]

Praefke Brake and Supply
Reporting period: 1/1/98 - 6/30/98
Status Report No. 10

SYSTEM 001 - VOC

Explanation for Page GI-2, C. 3&4 General Effectiveness Evaluation for All Active Systems:

In our previous report, we requested approval to shutdown the VOC groundwater extraction system. Since no formal response was received, we again are requesting this approval. This request is based on having only one enforcement standard exceedence for TCE at RW-1A (13 ug/L) and only PAL exceedances for all other compounds at the remainder of the monitoring wells and extraction wells. The concentrations have been stable for the last four sampling rounds. Also, concentrations remained stable in May 1998, during an extended period of system shutdown to repair the discharge line (March to June 1998). This suggests the system has reached the limits of its effectiveness and can not be expected to improve groundwater quality beyond what will occur due to natural attenuation.

Based on the revisions to NR 726, natural attenuation/closure sampling is recommended through 1998 and assuming favorable results, closure will be recommended at that time. From the time vs. concentration graphs for the monitoring wells (MW-6A, MW-A), it is apparent that natural attenuation is occurring due to the reduced concentrations of contaminants prior to system start-up on December 6, 1995. Indicator parameters for natural attenuation will likely be included in the next sampling rounds, if system shutdown and natural attenuation monitoring is approved by the WDNR.

Explanation for Page GW-1, A3. Groundwater Extraction System Operation

The system was shut down for an extended period of time to replace the discharge line to the storm sewer because of complete scaling. This caused a lower than expected system utilization. We obtained approval from WDNR wastewater section to discontinue operation of the air stripper blower and use cascade air stripping, which should reduce the scaling problem.

Explanation for Page GW-1, D. Additional Attachments

System Operational Data (We are submitting a written explanation in lieu of a table)

The pump at RW-1C was shut down on September 8, 1997 due to non-detectable concentrations at this well. Only two pumps (RW-1A and RW-1B) were operated during this period. Flow rates during this time were approximately 6,000 to 8,000 gallons per day (4.2 to 5.6 gpm) in January 1998 decreasing to less than 1,000 gallons per day (0.7 gpm) in March 1998, due to the constriction of flow from the scaled discharge line. Praefke attempted to clean the discharge line in late March; however, it had little effect and required complete replacement. The system was restarted on June 11, 1998 with flow rates of approximately 9,000 gallons per day (6.3 gpm). The two wells were throttled and pumped continuously with approximately equal flow from each well.

State of Wisconsin
Department of
Natural Resources

OPERATION, MAINTENANCE, MONITORING AND OPTIMIZATION REPORTING OF SOIL AND GROUNDWATER REMEDIATION SYSTEMS

Form 4400-194
7-96

Status Report No. 10

PURPOSE AND APPLICABILITY OF THIS FORM: Completion of this form is required under s. NR 724.13(e), Wis. Adm. Code. Use of this form is mandatory. Failure to submit this form as require is a violation of s. NR 724.13, Wis. Adm. Code, and is subject to the penalties in s. 144.99, Wis. Stats. This form must be submitted every six months for active soil and groundwater remediation projects and every twelve months for passive (natural attenuation) remediation projects that are regulated under the NR 700 series of Wis. Adm. Code. Specifically, for sites meeting any of the following criteria:

- Soil or groundwater remediation projects that report progress in accordance with s. NR 700.11(1), Wis. Adm. Code.
- Soil or groundwater remediation projects that report progress in accordance with s. NR 724.13(3), Wis. Adm. Code. (Note: s. NR 724.13(3) requires progress reports for operation and maintenance of active systems to be submitted every three months however the Department considers submittal of this form every six months to satisfy the requirements of the rules, unless otherwise directed by the Department on a site specific basis.)
- Soil or groundwater remediation projects that report progress in accordance with s. NR 724.17(3), Wis. Adm. Code. (Note: s. NR 724.17(3) requires progress reports every time that samples are collected however the Department considers submittal of this form every twelve months to satisfy the requirements of the rules for monitoring natural attenuation, unless otherwise directed by the Department on a site specific basis.)

Submittal of this form is not a substitute for reporting required by Department programs such as Wastewater or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Please refer to the instructions that are attached to the back of these forms starting on page INS-1. In all cases, when asked to "explain," those explanations are to be included on separate sheets of paper. Explanations must include a title that refers to the page and item number, for example: Page GI-2, C.1.a.

A. GENERAL INFORMATION:

1. Site name: Praefke Brake and Supply Corporation (System 002-PCP)
2. Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181
3. Regulatory agency (enter DNR, DCOM, DATCP and/or other): WDNR
4. DNR issued site number: Case #02-67-152445 FID#267083740 267004430
5. State reimbursement fund claim number and fund name (if not applicable, enter NA): NA
6. Site location:
   a. DNR region and county: Southeast Region, Washington County
   b. Street address and municipality: 133 Oak Street, West Bend
   c. Township, range, section and quarter quarter section: T11N, R19E, S13, SW¼ of SW¼
7. Responsible party:
   a. Name: Praefke Brake & Supply Corporation
   b. Mailing address: 133 Oak Street
      West Bend, WI 53095
   c. Phone number: (414) 334-2355 Mr. Dan Kudek
8. Consultant:
   a. Company name: Natural Resource Technology, Inc.
   b. Mailing address: 23713 West Paul Road
      Pewaukee, WI 53072
   c. Phone number: (414) 523-9000, Ms. Laurie Parsons, Ms. Julie Zimdars
9. Contaminants: Pentachlorophenol, PAHs
10. Soil types (USCS or USDA): SM/SP, interbedded CL, some GP (to 35'); CL (to 50')
11. Hydraulic conductivity (cm/sec): 3.90 x 10^{-4} Geom. Mean slug tests (Range 1.95 x 10^{-4} to 4.60 x 10^{-4} cm/s)
12. Average linear velocity of groundwater (ft/yr): 21.5

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: Praefke Brake (System 002-PCP)

Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181

A. GENERAL INFORMATION (CONTINUED):

13. If soil is treated ex situ, is the treatment location off site? (Y/N) If yes, give location:

    a. DNR region and county: _____

    b. Township, range, section and quarter quarter section: _____

B. REMEDIATION METHOD: Only submit pages that apply to an individual site. Check all that apply:

- [X] Groundwater extraction (submit a completed page GW-1).
- [ ] Free product recovery (submit a completed page GW-1).
- [ ] In situ air sparging (submit a completed page GW-2).
- [ ] Groundwater natural attenuation (submit a completed page GW-3).
- [ ] Other groundwater remediation method (submit a completed page GW-4).
- [ ] Soil venting (including soil vapor extraction and bioventing, submit a completed page IS-1).
- [ ] Soil natural attenuation (submit a completed page IS-2).
- [ ] Other in situ soil remediation method (submit a completed page IS-3).
- [ ] Biopiles (submit a completed page ES-1).
- [ ] Landspreading/thinspreading of petroleum contaminated soil (submit a completed page ES-2).
- [ ] Other ex situ soil remediation method (submit a completed page ES-3).

C. GENERAL EFFECTIVENESS EVALUATION FOR ALL ACTIVE SYSTEMS: If the remediation is active (not natural attenuation), complete this subsection.

1. Is the system operating at design rates and specifications? (Y/N): No, see attached
   If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design.
2. Are modifications to the system warranted to improve effectiveness? (Y/N) If yes, explain: Yes, see attached
3. Is natural attenuation an effective low cost option at this time? (Y/N): No
4. Is closure sampling warranted at this time? (Y/N): No
5. Are there any modifications that can be made to the remediation to improve cost effectiveness? (Y/N) If yes, explain: Yes

D. ECONOMIC AND COST DATA TO DATE:

1. Total investigation costs ($): Not available, performed by previous owner
2. Implementation costs (design, capital and installation costs, excluding investigation costs) ($): Not available, see above
3. Total costs during the previous reporting period ($): Praefke Brake is performing operation and maintenance
4. Total costs during this reporting period ($): Praefke Brake is performing operation and maintenance
5. Total anticipated costs for the next reporting period ($): Praefke Brake is performing operation and maintenance
6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above? (Y/N) If yes explain: No
7. If close out is anticipated within 12 months, estimated costs for project closeout ($): –

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: Praefke Brake (System 002-PCP)

Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181

E. NAME(S), SIGNATURE(S) AND DATE OF PERSON(S) SUBMITTING FORM: Legibly print name, date and sign. Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form.

Registered Professional Engineers:

I (print name) Julie A. Zimdars, Laurie J. Parsons, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title, P.E. number and date:

Hydrogeologists:

I (print name) _____, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title and date:

Scientists:

I (print name) _____, hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title and date:

Professional Seal(s), if applicable:

State of Wisconsin
Department of
Natural Resources

OPERATION, MAINTENANCE, MONITORING AND OPTIMIZATION REPORTING OF SOIL AND GROUNDWATER REMEDIATION SYSTEMS

GROUNDWATER PUMP AND TREAT SYSTEMS AND FREE PRODUCT RECOVERY SYSTEMS

SITE NAME AND REPORTING PERIOD:

Site name: Praefke Brake (System 002-PCP)

Reporting period from: 1/1/98 To: 6/30/98 Days in period: 181

Date that the system was first started up: 12/6/95

A. GROUNDWATER EXTRACTION SYSTEM OPERATION:

1. Total number of groundwater extraction wells or trenches available and the number in use during period: 3/ 2 (RW-2C shut down 11/18/97)
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): 167
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain: 92%
4. Quantity of groundwater extracted during this time period (gallons): 385,150 gal
5. Average groundwater extraction rate (gpm): 1.5 gpm
6. Quantity of dissolved phase contaminants removed during this time period in pounds: 0.07 lb PCP

B. FREE PRODUCT RECOVERY SYSTEM OPERATION:

1. Is free product (nonaqueous phase liquid) being recovered at this site? (Y/N) If yes, list method: No
2. Quantity of free product extracted during this time period (gallons, enter none if none): –
3. Average free product extraction rate (gpd): –

C. SYSTEM EFFECTIVENESS EVALUATION:

1. Is a contaminated groundwater plume fully contained in the capture zone? (Y/N) If no, explain: No
2. If free product is present, is the free product fully contained in capture zone? (Y/N) If no, explain: –
3. If free product is present in any wells at the site, but free product was not recovered during reporting period, explain.
4. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in C.4.a.
   a. Contaminant: Pentachlorophenol
   b. Percent reduction necessary to reach ch. NR 140 ES and PAL: ES: 99.66% ; PAL = 99.96%
   c. Maximum contaminant concentration level in any monitoring well of that contaminant (µg/L): 300 ug/L
   d. Maximum contaminant concentration level in any extraction well of that contaminant (µg/L): 11 ug/L
   e. If the maximum concentration in a monitoring well is more that one order of magnitude above the concentration measured in an extraction well, explain why the extracted groundwater contamination levels are significantly less than the levels at other locations within the aquifer.

D. ADDITIONAL ATTACHMENTS: Attach the following to this form:

- Most recent report to the DNR Wastewater Program, if applicable.
- Groundwater contour map with capture zone indicated.
- Groundwater contaminant distribution map (may be combined with contour map).
- Graph of cumulative contaminant removal, if both free product recovery and ground water extraction are used, provide separate graphs.
- Time versus groundwater contaminant concentration graphs for the contaminant listed in C.4.a. (above), as follows:
  - — Graph of contaminant concentrations versus time for each extraction well in use during the period.
  - — Graph of contaminant concentrations versus time for the monitoring well with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- System operational data table.

[1105: O&M form PCP system]

Praefke Brake and Supply
Reporting period: 1/1/98 - 6/30/98
Status Report No. 10

SYSTEM 002 - PCP

Explanation for Page GI-2, C. 1,2, and 5. General Effectiveness Evaluation for All Active Systems

The design flow rate for each well was 2 gpm. Actual flow rates for wells RW-2A and RW-2C (prior to shutdown) are close to 2 gpm (see discussion of system operational data below). However, RW-2B produces far less than the design flow rate. In general, the permeability of the soil and well flow rates are lower in the area of the PCP system than the VOC system.

In addition, the drawdown influence from the PCP extraction system is not performing as the modeling efforts predicted. The Remedial Action Plan details the previous modeling procedure and results performed by GZA GeoEnvironmental in coordination with EnviroAudit. The modeling results indicated that with wells spaced 100 ft apart, the combined drawdown influence at the midpoint between the wells would be approximately 2 feet and would be sufficient to overcome the regional gradient to the north. Monitoring well MW-3, located 20 feet north of RW-2A (between RW-2A and RW-2B), previously had a static water level elevation of 901.3 ft in December 1989. The water level elevation measure at this well under pumping conditions was 901.1 ft in September 1997, which indicates minimal to no drawdown. Therefore, based on the these measurements, the actual radius of influence of each recovery well is likely less than 20 ft.

The PCP groundwater concentrations at monitoring wells MW-3 (on-site) and MW-H (off-site) have decreased considerably in the last two sampling rounds (Table 2). Based on review of the attached graphical results for MW-3, the occasional increase in concentration may be a result of seasonal variation. PCP contaminated soil remains on-site and occurs below the water table as shown in the *Soil Remedial Action Plan*, Figures 8 and 9 (EnviroAudit, September 1995). The contaminated soil exists at approximately 6 to 12 ft below ground surface (bgs) and the water table in this area is located at approximately 11 to 12 ft bgs. Therefore, because of the lack of significant dewatering in this area, the PCP contaminated soil continues to contact the groundwater directly and may be a continuing source.

In order to improve effectiveness of the system, the source of PCP requires removal or in-situ treatment in order for groundwater concentrations to decrease toward clean-up objectives. Following the source removal/treatment and evaluation of its effectiveness, additional extraction wells may be appropriate to increase the capture zone of the system.

Praefke Brake and Supply
Reporting period: 1/1/98 - 6/30/98
Status Report No. 10

SYSTEM 002 - PCP

Explanation for Page GW-1, C. 1. System Effectiveness Evaluation

PCP concentrations continue to be variable at MW-H, which is out of the capture zone of the system (across the railroad tracks). Of note, the "design" capture zone of the system did not include well MW-H. Sampling from MW-D1 and MW-D2 was performed in May 1998 as a check on groundwater quality down-gradient of the plume area. During the May 1998 sampling round, no PCP or PAH concentrations were detected at MW-D1 or MW-D2. See above explanation for planned remedies to improve system effectiveness.

Explanation for Page GW-1, C. 4. E System Effectiveness Evaluation

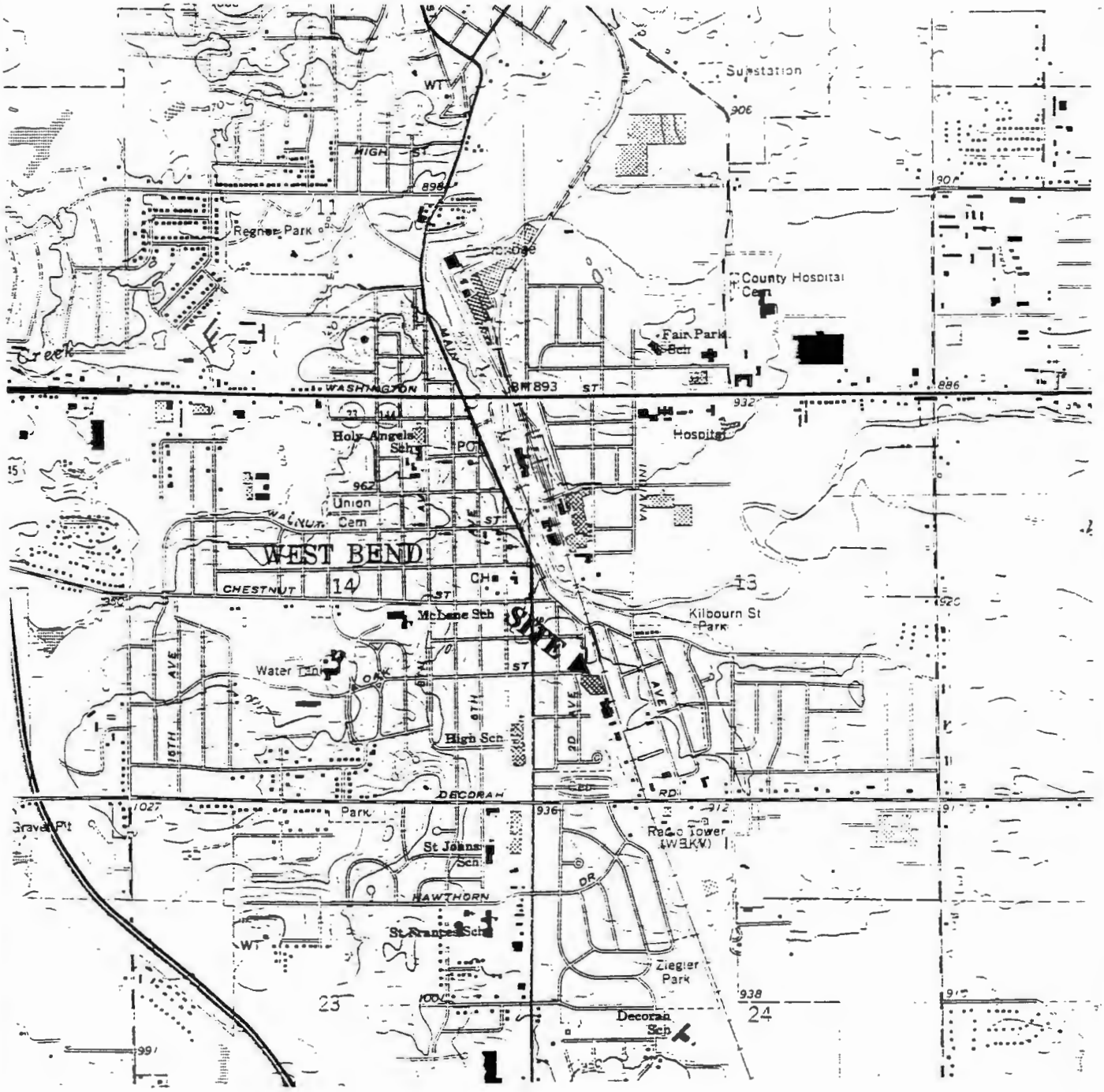
Because of the longer and deeper well screen at RW-2A vs. MW-3, more dilution is occurring at RW-2A. In addition, active pumping at RW-2A increases dilution and decreases desorption of contaminants into groundwater.

Explanation for Page GW-1, D. Additional Attachments

System Operational Data (We are submitting a written explanation in lieu of a table)

System 002 down-time was necessary to replace the discharge line for System 001 as they are combined prior to entry into the storm sewer.

The pump at RW-2C was shut down on November 18, 1997 due to non-detectable concentrations at this well. Also, the float settings at RW-2A and RW-2B were raised to try to increase the capture zone of the wells (floats set in more permeable sand layer). No appreciable increase in capture zone was noted as a result, and therefore, the float settings at RW-2A and RW-2B may be lowered to their original depth. Only these two pumps (RW-2A and RW-2B) were operating during this time period. Flow rates during this time averaged 2,400 gallons per day (1.7 gpm). The pumps operated at the highest flow rate possible (no throttling) in a discontinuous mode controlled by the float switches at each well. Well RW-2A produced approximately 90-95 % of the total flow, with RW-2B producing minimal flow. In the future, RW-2B may also be shutdown due to its non-detectable concentrations and low productivity.



SOURCE: USGS 7.5 MINUTE QUADRANGLE, WEST BEND. DATED 1959. REVISED 1994.

QUADRANGLE LOCATION

N

0 2000 4000

SCALE IN FEET

CONTOUR INTERVAL 10 FEET

Natural Resource Technology

N R T

SITE LOCATION MAP

PRAEFKE BRAKE AND SUPPLY CORPORATION
133 OAK STREET
WEST BEND, WISCONSIN

DRAWN BY: TAS APPROVED BY: DATE:

PROJECT NO. 1105

DRAWING NO. 1105-A01

FIGURE NO. 1

BENCHMARK TABLE

	ELEV.
BM 1 - PARKER KALON MASONRY NAIL SE CORNER PARKING LOT	914.95
BM 2 - PARKER KALON MASONRY NAIL WEST SIDE OF BUILDING	908.97
BM 3 - PARKER KALON MASONRY NAIL NEAR SOUTHWEST BUILDING CORNER	897.82
BM 4 - PARKER KALON MASONRY NAIL NEAR SOUTH END OF ASPHALT WEST STORAGE BUILDING	911.84
BM 5 - PARKER KALON MASONRY NAIL BETWEEN SHED AND BUILDING SOUTH OF LOADING DOCKS	905.91
BM 6 - PARKER-KALON MASONRY NAIL EAST OF MONITORING WELL 'A'	902.82

PARKING AREA

SECOND AVENUE

RW-1C
886.24
(pumpoff)

Capture Zone

884.27
RW-1B

MW-A
885.14

885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901

MW-6B
887.59
MW-6A
RW-1A
885.74

1 STORY FACTORY BUILDING

LOADING DOCKS

PAVED AREA

MW-G
892.53

MW-D1
892.10

MW-D2

896.43
MW-2

LOCUST STREET

COVERED STORAGE AREA

MW-4
901.63

RW-2C
901.15
(pumpoff)

PAVED AREA

RW-2B
894.56

MW-3
901.86

RW-2A
892.16

MW-1
898.62

WISCONSIN CENTRAL LIMITED RAILROAD COMPANY

STORAGE

STORAGE

LEGEND

- MW-D1 — MONITORING WELL
- RW-1C — RECOVERY WELL
- HOGWIRE FENCE
- CHAINLINK FENCE
- BENCHMARK
- POWER POLE
- INDICATES APPARENT UTILITY EASEMENT

1) Elevations ref. to National Geodetic Vertical Datum (NGVD)
2) Elevations measured on June 23, 1998.

N

BEARING BASIS:
ALL BEARINGS REFER TO THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 13 WHICH HAS A WISCONSIN STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) BEARING OF S89°53'39"W

0 50 100 200

SCALE IN FEET

SOURCE NOTE:
THIS DRAWING WAS DEVELOPED FROM A MAP BY R.A. PAGELS & CO. BEARING REFERRENCES PER NORTH ARROW NOTE.

SITE PLAN WITH GROUNDWATER CONTOUR MAP

PRAEFKE BRAKE AND SUPPLY CORP.
133 OAK STREET
WEST BEND, WISCONSIN

Natural Resource Technology

DRAWN BY:	TAS/SLM
CHECKED BY:	JAZ
APPROVED BY:	JAZ
AUTOCAD FILE:	1105.DWG
DATE:	10/2?/?? 6/26/98
DATE:	7/21/98
DATE:	7/21/98

PROJECT NO. 1105/2.1

DRAWING NO. 1105

FIGURE NO. 2

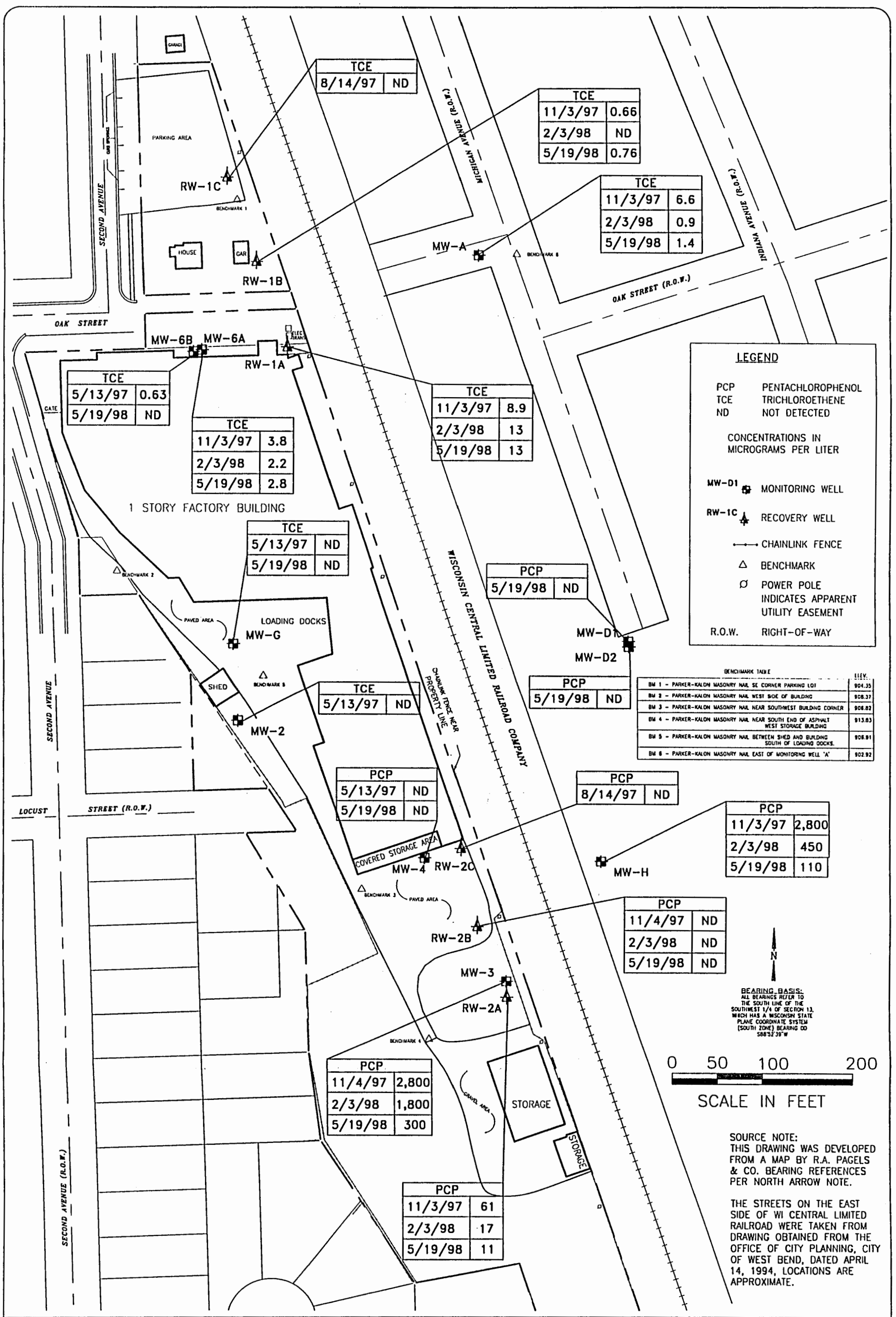


FIGURE NO. 3

DRAWING NO. 1105-B04

PROJECT NO. 1105/2.1

Natural Resource Technology

GROUNDWATER CONTAMINANT DISTRIBUTION MAP

PRAEFKE BRAKE AND SUPPLY CORP.
133 OAK STREET
WEST BEND, WISCONSIN

DRAWN BY: TAS	DATE: 6/23/98
CHECKED BY: JAG	DATE: 6/23/98
APPROVED BY: JAZ	DATE: 7/29/98
AUTOCAD FILE: 1105-B04.DWG	

Table 1 - Groundwater Analytical Summary
Volatile Organic Compounds (VOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

VOCs (µg/L)

Sample Location	Sample Date	Acetone	Benzene	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloropropane	Ethylbenzene	Methylene Chloride	MEK	MIBK	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Xylenes
SYSTEM #1																						
MW-2	9/25/87	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.3	--	--	nd	nd	nd	0.6	nd	nd
	3/88	--	1.4	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	5/88	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	2/89	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	1/94	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	12/6/95	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/27/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/14/96	5.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8/13/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	11/14/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/3/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/13/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MW-G	2/89	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	3.0	20	nd	nd
	1990	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	9.1	nd	nd
	1/94	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	2.2	nd	nd
	12/6/95	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/14/96	8.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8/13/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.0	nd	nd
	11/14/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/3/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.31	nd	nd
	5/13/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.35	nd	nd
	5/19/98	nd	nd	1.8 (B)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MW-6/6A	9/25/87	--	nd	--	nd	nd	nd	1.2	1.1	nd	2.7	nd	nd	1.1	--	--	nd	nd	nd	180	230	nd
	3/88	--	3.7	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	18	--	--	nd	nd	nd	140	78	nd
	5/88	--	nd	--	nd	nd	nd	nd	nd	nd	11	nd	nd	nd	--	--	nd	nd	nd	210	180	nd
	2/89	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	260	120	nd
Wisconsin Groundwater Quality Standards																						
NR 140 PAL		**200**	**0.5**	**200***	**0.5**	**ns**	**80**	**0.6**	**85**	**0.5**	**0.7**	**0.5**	**140**	**0.5**	**90**	**50**	**8**	**0.5**	**68.6**	**40**	**0.5**	**124**
NR 140 ES		**1000**	**5**	**1000***	**5**	**ns**	**400**	**6**	**850**	**5**	**7**	**5**	**700**	**5**	**460**	**500**	**40**	**5**	**343**	**200**	**5**	**620**

Table 1, continued - Groundwater Analytical Summary
Volatile Organic Compounds (VOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

VOCs (µg/L)

Sample Location	Sample Date	Acetone	Benzene	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloropropane	Ethylbenzene	Methylene Chloride	MEK	MIBK	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Xylenes
SYSTEM #1 (cont.)																						
MW-6/6A	1/94**	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	920	73	nd
(cont.)	3/94**	--	nd	--	nd	nd	nd	nd	nd	nd	75	nd	nd	nd	--	--	nd	nd	nd	950	83	nd
	12/6/95	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	28	2.4	nd
	2/27/96	nd	nd	nd	nd	nd	nd	nd	2.2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	110	11	nd
	5/14/96	6.8	nd	nd	nd	nd	nd	nd	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	64	13	nd
	8/13/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	19	8.9	nd
	11/14/96	nd	0.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	17	6.1	nd
	2/3/97	nd	nd	nd	nd	nd	nd	0.47	0.51	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	60	23	nd
	5/13/97	nd	nd	nd	nd	nd	nd	0.69	0.53	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	63	15	nd
	8/14/97	4.1 (L)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	9.8	7.1	nd
	11/3/97	3.6 (L)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.8	3.8	nd
	2/3/98	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.6	2.2	nd
	5/19/98	nd	nd	1.9 (B)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.4	2.8	nd
MW-6B	3/88	--	1.4	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	9.2	4.5	nd
	5/88	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	6.5	2.0	nd
	2/89	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	3.6	0.6	nd
	1/94	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	8.9	nd	nd
	12/6/95	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/27/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	12	1.1	nd
	5/14/96	7.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.3	nd	nd
	8/13/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.1	nd	nd
	11/14/96	nd	0.58	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.6	nd	nd
	2/3/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.0	nd	nd
	5/13/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.2	0.63	nd
	5/19/98	nd	nd	1.9 (B)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.3	nd	nd
Wisconsin Groundwater Quality Standards																						
NR 140 PAL		**200**	**0.5**	**200***	**0.5**	**ns**	**80**	**0.6**	**85**	**0.5**	**0.7**	**0.5**	**140**	**0.5**	**90**	**50**	**8**	**0.5**	**68.6**	**40**	**0.5**	**124**
NR 140 ES		**1000**	**5**	**1000***	**5**	**ns**	**400**	**6**	**850**	**5**	**7**	**5**	**700**	**5**	**460**	**500**	**40**	**5**	**343**	**200**	**5**	**620**

Table 1, continued - Groundwater Analytical Summary
Volatile Organic Compounds (VOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

VOCs (µg/L)

Sample Location	Sample Date	Acetone	Benzene	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloropropane	Ethylbenzene	Methylene Chloride	MEK	MIBK	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Xylenes
SYSTEM #1 (cont.)																						
MW-A	3/88	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	24	300	nd
	5/88	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	7.8	180	nd
	2/89	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	6.3	110	nd
	1/94	--	nd	--	nd	nd	nd	nd	nd	nd	3.2	nd	nd	nd	--	--	nd	nd	nd	67	9.5	nd
	12/6/95	nd	nd	nd	nd	nd	nd	nd	1.7	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	120	18	nd
	2/27/96	nd	nd	nd	nd	nd	nd	1.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	33	7.9	nd
	5/14/96	6.4	nd	nd	nd	nd	nd	nd	1.4	nd	2.7	nd	nd	nd	nd	nd	nd	nd	nd	60	12	nd
	8/13/96	nd	nd	nd	nd	nd	nd	nd	3.8	nd	3.3	nd	nd	nd	nd	nd	nd	nd	nd	120	44	nd
	11/14/96	nd	nd	nd	nd	nd	nd	nd	1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	32	13	nd
	2/3/97	nd	0.85	nd	nd	nd	nd	0.84	0.39	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	23	9.4	1.5
	5/13/97	nd	0.43	nd	nd	nd	nd	0.84	0.53	nd	1.1	nd	nd	nd	nd	nd	0.37	nd	nd	29	5.5	nd
	8/14/97	nd	1.4	nd	nd	nd	nd	0.80	0.67	nd	1.8	nd	nd	nd	nd	nd	4.4	nd	nd	17	4.8	1.8
	11/3/97	5.4 (L)	1.9	nd	nd	nd	nd	0.84	nd	nd	nd	nd	nd	1.3 (L)	nd	nd	64	nd	0.97	13	6.6	29
	2/3/98	4.7 (L)	nd	nd	nd	nd	nd	0.62	nd	nd	nd	nd	nd	nd	3.7	nd	4.4	nd	nd	0.82	0.9	nd
	5/19/98	4.0 (B)	2.2	2.0 (B)	nd	nd	nd	0.56	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.1	1.4	nd
001 Influent	12/6/95	nd	nd	3.8	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.1	nd
	2/27/96	16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.7	1.7	nd
	5/14/96	9.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.7	nd	nd	nd	15	4.1	nd
	8/13/96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	6.4	3.0	nd
	11/13/96	6.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.3	3.6	nd
	2/3/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.86	nd	4.2	3.6	nd
	5/13/97	4.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	12	7.3	nd
	8/14/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.5	3.2	nd
	11/3/97	3.2 (L)	nd	nd	nd	nd	nd	nd	0.27	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.4	5.9	nd
	2/3/98	4.2 (L)	nd	nd	nd	nd	nd	nd	0.29	nd	nd	nd	nd	nd	3.1	nd	nd	0.71	nd	5.2	4.9	nd
	5/19/98	5.7 (B)	nd	2.3 (B)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.8	nd	6.7	3.2	nd
Wisconsin Groundwater Quality Standards																						
NR 140 PAL		**200**	**0.5**	**200***	**0.5**	**ns**	**80**	**0.6**	**85**	**0.5**	**0.7**	**0.5**	**140**	**0.5**	**90**	**50**	**8**	**0.5**	**68.6**	**40**	**0.5**	**124**
NR 140 ES		**1000**	**5**	**1000***	**5**	**ns**	**400**	**6**	**850**	**5**	**7**	**5**	**700**	**5**	**460**	**500**	**40**	**5**	**343**	**200**	**5**	**620**

Table 1, continued - Groundwater Analytical Summary
Volatile Organic Compounds (VOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

VOCs (µg/L)

Sample Location	Sample Date	Acetone	Benzene	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloropropane	Ethylbenzene	Methylene Chloride	MEK	MIBK	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Xylenes
SYSTEM #1 (cont.)																						
RW-1A	8/14/97	nd	nd	nd	nd	nd	nd	nd	0.26	nd	nd	nd	nd	nd	nd	nd	nd	1.0	nd	13	14	nd
	11/3/97	nd	nd	nd	nd	nd	nd	nd	0.32	nd	nd	nd	nd	nd	nd	nd	nd	0.92	nd	9.1	8.9	nd
	2/3/98	3.3 (L)	nd	nd	nd	nd	nd	nd	0.4	nd	nd	nd	nd	nd	3.4	nd	nd	0.94	nd	11	13	nd
	5/19/98	10 (B)	nd	2.5 (B)	nd	nd	nd	0.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.96	nd	12	13	nd
RW-1B	8/14/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.5	1.9	nd
	11/3/97	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.0	0.66	nd
	2/3/98	4.7 (L)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.9	nd	nd
	5/19/98	8.8 (B)	nd	4.2 (B)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.2	0.76	nd
RW-1C	8/14/97	4.5 (L)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SYSTEM #2																						
MW-3	9/25/87	--	nd	--	33	nd	1.2	30	66	nd	5.7	0.3	2.4	2.5	--	--	nd	nd	4.9	180	2.8	nd
	3/88	--	nd	--	35	6.0	nd	24	43	nd	nd	nd	nd	17	--	--	nd	nd	4.7	65	2.4	nd
	5/88	--	nd	--	14	nd	nd	11	43	nd	nd	nd	7.4	9.2	--	--	nd	nd	nd	50	nd	nd
	2/89	--	nd	--	nd	nd	nd	1.9	35	0.4	1.3	nd	3.0	5.2	--	--	nd	nd	1.5	27	nd	nd
	1990	--	nd	--	nd	nd	nd	1.1	2.3	0.5	0.5	nd	2.1	3.5	--	--	nd	nd	2.2	15	nd	nd
	1/94	--	nd	--	1.2	nd	nd	1.4	6.7	nd	nd	nd	1.9	nd	--	--	nd	nd	13	6.0	nd	24
MW-4	9/25/87	--	nd	--	nd	nd	nd	0.6	nd	nd	nd	nd	nd	1.3	--	--	nd	nd	nd	nd	nd	nd
	3/88	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	5/88	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	6/26/95	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	31	3.2	nd
Wisconsin Groundwater Quality Standards																						
NR 140 PAL		**200**	**0.5**	**200***	**0.5**	**ns**	**80**	**0.6**	**85**	**0.5**	**0.7**	**0.5**	**140**	**0.5**	**90**	**50**	**8**	**0.5**	**68.6**	**40**	**0.5**	**124**
NR 140 ES		**1000**	**5**	**1000***	**5**	**ns**	**400**	**6**	**850**	**5**	**7**	**5**	**700**	**5**	**460**	**500**	**40**	**5**	**343**	**200**	**5**	**620**

Table 1, continued - Groundwater Analytical Summary
Volatile Organic Compounds (VOCs)
Praefke Brake and Supply Corporation - West Bend, WI

VOCs (µg/L)

Sample Location	Sample Date	Acetone	Benzene	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloropropane	Ethylbenzene	Methylene Chloride	MEK	MIBK	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Xylenes
SYSTEM #2 (cont.)																						
MW-H	2/89	--	nd	--	nd	nd	nd	nd	2.9	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	1990	--	nd	--	nd	nd	nd	1.6	2.7	0.2	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
	1/94	--	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	--	--	nd	nd	nd	nd	nd	nd
Wisconsin Groundwater Quality Standards																						
NR 140 PAL		**200**	**0.5**	**200***	**0.5**	**ns**	**80**	**0.6**	**85**	**0.5**	**0.7**	**0.5**	**140**	**0.5**	**90**	**50**	**8**	**0.5**	**68.6**	**40**	**0.5**	**124**
NR 140 ES		**1000**	**5**	**1000***	**5**	**ns**	**400**	**6**	**850**	**5**	**7**	**5**	**700**	**5**	**460**	**500**	**40**	**5**	**343**	**200**	**5**	**620**

Notes:
1) nd = not detected
2) -- = not analyzed
3) ns -- no NR 140 standard currently exists.
4) * = DHSS Recommended Groundwater Standards, Cycle 7
5) ** = Elevated detection limit
6) L = compound is a common lab solvent and contaminant.
7) Bold and underline is a NR 140 Preventive Action Limit (PAL) exceedance
8) Bold and shaded is a NR 140 Enforcement Standard (ES) exceedance
9) Only compounds that were detected are shown.
10) B = Blank is Contaminated
11) MW-A, 5/13/97, contained detections of bromodichloromethane (0.33 µg/L) and chlorodibromomethane (0.18 µg/L) below the laboratory LOQ.
12) MW-A, 8/14/97, contained detections of bromodichloromethane (0.38 µg/L) and chlorodibromomethane (0.25 µg/L) below the laboratory LOQ.
13) MW-A, 11/3/97, contained detections of bromodichloromethane (0.3 µg/L), and chlorodibromomethane (0.25 µg/L) below the laboratory LOQ.
14) MW-A, 2/3/98, contained detections of bromodichloromethane (0.42 ug/L), and chlorodibromomethane (0.19 ug/L) below the laboratory LOQ.
15) Recovery well RW-1C was shutdown due to non-detectable concentrations.
16) MW-A, 5/19/98, contained detections of bromodichloromethane (0.22 µg/L) below the laboratory LOQ.

rev. 6/22/98
By: dvp/jag/slm
Chkd By: jag/tln

General Note : This summmary table was developed from available information; some minor inaccuracies may exist in the 1987 through 1994 data. The table will be updated if more accurate information is found.

Table 2 - Groundwater Analytical Summary
Semi-Volatile Organic Compounds (SVOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

SVOCs (µg/L)

		ACID COMPOUNDS									BASE/NEUTRALS													
Sample Location	Sample Date	2-Methyl-4,6-dinitrophenol	Cresols, Total	2,4-Dichlorophenol	2,4-Dimethylphenol	4-Methylphenol (p-Cresol)	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene	Anthracene	Bis(2-ethylhexyl)phthalate	Dibenzofuran	Di-n-butyl phthalate	Fluoranthene	Fluorene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	2-Nitroaniline	N-nitrosodiphenylamine	Phenanthrene
SYSTEM #1																								
MW-2	9/25/87	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	3/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/89	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-G	2/89	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6/6A	9/25/87	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	3/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/89	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6B	3/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/89	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-A	3/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/89	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wisconsin Groundwater Quality Standards																								
NR 140 PAL		**ns**	**ns**	**ns**	**ns**	**ns**	**0.1**	**1,200**	**ns**	**ns**	**ns**	**ns**	**600***	**0.6**	**ns**	**20***	**80***	**80**	**ns**	**ns**	**8**	**ns**	**0.7***	**ns**
NR 140 ES		**ns**	**ns**	**ns**	**ns**	**ns**	**1**	**6,000**	**ns**	**ns**	**ns**	**ns**	**3,000***	**6**	**ns**	**100***	**400***	**400**	**ns**	**ns**	**40**	**ns**	**7***	**ns**

Table 2, continued - Groundwater Analytical Summary
Semi-Volatile Organic Compounds (SVOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

SVOCs (µg/L)

		ACID COMPOUNDS									BASE/NEUTRALS													
Sample Location	Sample Date	2-Methyl-4,6-dinitrophenol	Cresols, Total	2,4-Dichlorophenol	2,4-Dimethylphenol	4-Methylphenol (p-Cresol)	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene	Anthracene	Bis(2-ethylhexyl)phthalate	Dibenzofuran	Di-n-butyl phthalate	Fluoranthene	Fluorene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	2-Nitroaniline	N-nitrosodiphenylamine	Phenanthrene
SYSTEM #2																								
MW-3	9/25/87	nd	--	13	nd	nd	**590**	nd	nd	nd	nd	nd	nd	nd	nd	1.7	nd	nd	nd	nd	nd	nd	nd	nd
	3/88	nd	--	nd	nd	nd	**16,000**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/88	nd	--	nd	nd	nd	**590**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/89	nd	--	nd	nd	nd	**5,000**	nd	nd	39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1990	nd	--	nd	nd	nd	**4,000**	nd	nd	nd	nd	140	nd	nd	nd	nd	nd	5.6	nd	nd	**160**	nd	nd	nd
	1/94	nd	--	nd	1.0	6	**3,700(E)**	nd	4.0	nd	nd	30	0.15	nd	2.0	nd	nd	4.8	nd	78	**91**	nd	nd	2.2
	10/18/95	nd	nd	nd	nd	--	**1,100**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/6/95	nd	nd	nd	nd	--	**590**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	120	**76**	nd	nd	nd
	2/27/96	nd	nd	nd	nd	--	**300**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	100	**110**	nd	nd	nd
	5/14/96	nd	17	nd	nd	--	**450**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	130	**110**	nd	nd	nd
	8/13/96**	nd	nd(M)	nd(M)	nd(M)	--	**2,000**	nd	nd(M)	nd(M)	nd	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)
	11/14/96	nd	11	nd	nd	--	**680**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	200	**160**	nd	nd	nd
	2/3/97	nd	6.2	nd	2.8	--	**170**	2.5	6.5	nd	nd	nd	4.3	nd	4.7	nd	nd	4.6	nd	140	**120**	3.4	nd	4.3
	5/13/97	nd	4.1	nd	nd	--	**650**	nd	nd	nd	nd	nd	0.13	--	--	--	0.35	1.7	50	66	**43**	--	--	1.3
	8/14/97	nd	9.6	nd	nd	--	**2,600**	3.2	8.6	nd	nd (M)	nd(M)	nd(M)	--	--	--	nd(M)	10	260	280	**370**	--	--	4.4
	11/4/97	nd	8.0	nd	nd	--	**2,800**	nd	11	nd	2.5	nd	0.59	--	--	--	nd	12	190	270	**420**	--	--	8.3
	2/3/98	nd	nd	nd	nd	--	**1,800**	nd	8.6	nd	nd	nd	nd	--	--	--	nd	4.2	15	16	**16**	--	--	nd
	5/19/98	nd	nd	nd	nd	--	**300**	nd	nd	nd	32	nd	nd	--	--	--	nd	0.56	22	38	nd	--	--	0.62
MW-4	9/25/87	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	3/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/88	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/27/96	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/14/96	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8/13/96	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	11/14/96	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/3/97	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**2.2**	nd
	5/13/97	nd	nd	nd	nd	--	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/19/98	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	nd	nd	nd	nd	nd	--	--	nd
Wisconsin Groundwater Quality Standards																								
NR 140 PAL		**ns**	**ns**	**ns**	**ns**	**ns**	**0.1**	**1,200**	**ns**	**ns**	**ns**	**ns**	**600***	**0.6**	**ns**	**20***	**80***	**80**	**ns**	**ns**	**8**	**ns**	**0.7***	**ns**
NR 140 ES		**ns**	**ns**	**ns**	**ns**	**ns**	**1**	**6,000**	**ns**	**ns**	**ns**	**ns**	**3,000***	**6**	**ns**	**100***	**400***	**400**	**ns**	**ns**	**40**	**ns**	**7***	**ns**

Table 2, continued - Groundwater Analytical Summary
Semi-Volatile Organic Compounds (SVOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

SVOCs (µg/L)

		ACID COMPOUNDS									BASE/NEUTRALS													
Sample Location	Sample Date	2-Methyl-4,6-dinitrophenol	Cresols, Total	2,4-Dichlorophenol	2,4-Dimethylphenol	4-Methylphenol (p-Cresol)	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene	Anthracene	Bis(2-ethylhexyl)phthalate	Dibenzofuran	Di-n-butyl phthalate	Fluoranthene	Fluorene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	2-Nitroaniline	N-nitrosodiphenylamine	Phenanthrene
SYSTEM #2 (cont.)																								
MW-H	2/89	nd	--	nd	nd	nd	**570**	nd	nd	33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1990	nd	--	nd	nd	nd	**70**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	1/94	nd	--	nd	nd	nd	**82(E)**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	10/18/95	nd	nd	nd	nd	--	**860**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/6/95	nd	nd	nd	nd	--	**210**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/27/96	nd	nd	nd	nd	--	**450**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/14/96	nd	nd	nd	nd	--	**460**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8/13/96	nd(M)	nd(M)	nd(M)	nd(M)	--	nd (M)	nd (M)	nd(M)	nd(M)	nd (M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)	nd(M)
	11/14/96	nd	nd	nd	nd	--	**310**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/3/97	7.6	nd	nd	nd	--	**240**	nd	nd	nd	nd	nd	nd	**3.4**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/13/97	nd	nd	nd	nd	--	**400**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/97	nd	nd	nd	nd	--	**2,200**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/3/97	nd	nd	nd	nd	--	**2,800**	nd	8.6	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/3/98	nd	nd	nd	nd	--	**450**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/19/98	nd	nd	nd	nd	--	**110**	nd	nd	nd	0.72	nd	nd	--	--	--	nd	nd	nd	nd	nd	--	--	nd
MW-D1	5/19/98	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	nd	nd	nd	nd	nd	--	--	nd
MW-D2	5/19/98	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	--	--	--	nd	nd	nd	nd	nd	--	--	nd
002 Influent	12/6/95	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	23	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/27/96	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	5/14/96	nd	nd	nd	nd	--	**38**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8/13/96	nd	nd	nd	nd	--	**28**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	11/13/96	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2/3/97	nd	nd	nd	nd	--	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	**2.6**	nd
	5/13/97	nd	nd	nd	nd	--	**24**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/97	nd	nd	nd	nd	--	**31**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/3/97	nd	nd	nd	nd	--	**34**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/3/98	nd	nd	nd	nd	--	**32**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/19/98	nd	nd	nd	nd	--	**11**	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wisconsin Groundwater Quality Standards																								
NR 140 PAL		**ns**	**ns**	**ns**	**ns**	**ns**	**0.1**	**1,200**	**ns**	**ns**	**ns**	**ns**	**600***	**0.6**	**ns**	**20***	**80***	**80**	**ns**	**ns**	**8**	**ns**	**0.7***	**ns**
NR 140 ES		**ns**	**ns**	**ns**	**ns**	**ns**	**1**	**6,000**	**ns**	**ns**	**ns**	**ns**	**3,000***	**6**	**ns**	**100***	**400***	**400**	**ns**	**ns**	**40**	**ns**	**7***	**ns**

Table 2, continued - Groundwater Analytical Summary
Semi-Volatile Organic Compounds (SVOCs)
Praefke Brake and Supply Corporation - West Bend, WI

Natural Resource Technology

SVOCs (µg/L)

		ACID COMPOUNDS									BASE/NEUTRALS													
Sample Location	Sample Date	2-Methyl-4,6-dinitrophenol	Cresols, Total	2,4-Dichlorophenol	2,4-Dimethylphenol	4-Methylphenol (p-Cresol)	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene	Anthracene	Bis(2-ethylhexyl)phthalate	Dibenzofuran	Di-n-butyl phthalate	Fluoranthene	Fluorene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	2-Nitroaniline	N-nitrosodiphenylamine	Phenanthrene
SYSTEM #2 (cont.)																								
RW-2A	8/14/97	nd	nd	nd	nd	--	64	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/3/97	nd	nd	nd	nd	--	61	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/3/98	nd	nd	nd	nd	--	17	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/19/98	nd	nd	nd	nd	--	11	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RW-2B	8/14/97	nd	nd	nd	nd	--	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/4/97	nd	nd	nd	nd	--	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/3/98	nd	nd	nd	nd	--	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/19/98	nd	nd	nd	nd	--	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RW-2C	8/14/97	nd	nd	nd	nd	--	nd	nd	nd	nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wisconsin Groundwater Quality Standards																								
NR 140 PAL		**ns**	**ns**	**ns**	**ns**	**ns**	**0.1**	**1,200**	**ns**	**ns**	**ns**	**ns**	**600***	**0.6**	**ns**	**20***	**80***	**80**	**ns**	**ns**	**8**	**ns**	**0.7***	**ns**
NR 140 ES		**ns**	**ns**	**ns**	**ns**	**ns**	**1**	**6,000**	**ns**	**ns**	**ns**	**ns**	**3,000***	**6**	**ns**	**100***	**400***	**400**	**ns**	**ns**	**40**	**ns**	**7***	**ns**

Notes:

1) nd = not detected
2) -- = not analyzed
3) ns = no NR 140 standard currently exists.
4) * = DHSS Recommended Groundwater Standards, Cycle 7
5) ** = Elevated detection limit
6) E = Compound concentration exceeds the calibration range of the intrument.
7) M = Matrix interference
8) Bold and underlined = NR 140 Preventive Action Limit (PAL) exceedance.
9) Bold and shaded = NR 140 Enforcement Standard (ES) exceedance.
10) Only compounds that were detected are shown

rev. 6/22/98
By: dvp/jag/slm
Chkd By: jag/tln

General Note : This summmary table was developed from available information; some minor inaccuracies may exist in the 1987 through 1994 data. The table will be updated if more accurate information is found.

Table 3 - Groundwater Elevation Data
Praefke Brake and Supply - West Bend, WI

Monitoring Well	MW-A	MW-D1	MW-D2	MW-G	MW-H	MW-2	MW-3	MW-4	MW-6A	MW-6B	RW-1A	RW-1B	RW-1C	RW-2A	RW-2B	RW-2C
Ground Surface Elevation (ft)	903.72	911.28	911.54	906.89	908.99	908.08	912.62	906.65	907.30	907.29	905.17	908.26	903.11	913.81	906.86	906.37
TOC Elevation (ft)	905.55	913.24	913.43	906.57	911.56	909.92	914.53	906.22	906.97	906.81	901.25	904.53	898.99	910.21	902.83	902.64
Well Depth (ft)	27.9	26.1	34.0	23.5	20.7	15.0	20.2	12.0	25.0	34.7	28.40	31.44	32.24	34.00	25.83	12.36
Base of Well Elevation (ft)	877.7	887.1	879.4	883.1	890.9	894.9	894.4	894.2	882.0	872.1	872.9	873.1	866.8	876.2	877.0	890.3
Groundwater Elevation (ft)																
2/21/89	884.75	891.38	892.26	891.95	898.16	895.46	901.62	900.84	887.35	887.42	nm	nm	nm	nm	nm	nm
12/6/89	884.40	891.12	891.99	891.57	897.95	895.13	901.33	nm	887.01	887.09	nm	nm	nm	nm	nm	nm
2/27/96	885.30	nm	nm	nm	898.36	896.28	901.13	900.74	888.24	888.33	nm	nm	nm	nm	nm	nm
5/14/96	885.13	nm	nm	892.46	898.47	896.28	900.83	901.62	887.55	887.61	nm	nm	nm	nm	nm	nm
8/13/96	886.14	nm	nm	893.91	898.36	896.90	901.19	901.07	888.89	888.98	nm	nm	nm	nm	nm	nm
11/14/96	884.99	nm	nm	892.60	898.26	896.03	901.09	900.74	887.52	882.16	nm	nm	nm	nm	nm	nm
2/3/97	884.44	nm	nm	891.68	898.21	895.36	901.76	900.82	886.77	886.84	nm	nm	nm	nm	nm	nm
5/13/97	884.99	nm	nm	892.02	898.93	896.62	901.75	901.47	887.19	887.25	nm	nm	nm	nm	nm	nm
8/14/97	884.65	nm	nm	nm	898.26	nm	901.18	nm	887.01	nm	nm	nm	nm	nm	nm	nm
9/17/97	884.42	891.32	892.17	891.79	898.07	895.51	901.08	900.82	886.74	886.84	884.24	884.73	885.42	878.55	883.06	883.63
11/3/97	883.98	nm	nm	nm	896.84	nm	901.05	nm	886.30	nm	nm	nm	nm	nm	nm	nm
2/3/98	883.51	nm	nm	nm	898.04	nm	901.03	nm	885.67	nm	nm	nm	nm	nm	nm	nm
5/19/98	885.55	893.19	893.58	892.27	898.96	896.76	902.08	901.86	887.92	887.96	887.38	887.06	886.73	892.11	891.59	901.41
6/23/98	885.14	892.10	892.92	892.53	898.62	896.43	901.86	901.63	887.59	887.67	885.74	884.27	886.24	892.16	891.56	901.13

Notes:
Elevations obtained from survey performed by R.A. Pagels, September 15, 1997. Elevations are referenced to National Geodetic Vertical Datum (NGVD).
Well depth measurements made relative to top of well casing.
nm = not measured.
Pumping at RW-1C was shutdown on 9/8/97 and pumping at RW-2C was shutdown on 11/18/97.
The float settings at RW-2A and RW-2B were raised approx. 13 ft. on 11/18/97.
System 001 was not operating (RW-1A and RW-1B not pumping) during collection of the May 19, 1998 water level measurements due to replacement of discharge line.

updated by JAG 6/17/98 & SLM 6/23/98

SAMPLING SCHEDULE

Sampling Schedule - Revised February 26, 1998
Praefke Brake and Supply
West Bend, WI
FID #: 267083740

Sample Location	Parameter	Method	Frequency	Months	Comments
SYSTEM 001 -VOC Plume					
Influent	VOCs	8260A	Qtrly	Feb, May, Aug, Nov	
Effluent	Total Susp. Solids	160.2	**Qtrly**	Feb, May, Aug, Nov	
	VOCs (1)	8260A	**Qtrly**	Feb, May, Aug, Nov	
	Flow	metered	--		**Limit Increased to 12 gpm**
Monitoring Wells (MW-G,6A,6B,A)	VOCs - MW-6A, MW-A	8260A	Qtrly	Feb, May, Aug, Nov	
	VOCs - MW-G,6B	8260A	**Annually**	**May**	****NEW**Eliminated MW-2**
Recovery Wells (RW-1A, 1B)	VOCs	8260A	**Qtrly**	**Feb, May, Aug, Nov**	****NEW****
SYSTEM 002 - PCP Plume					
Influent	ACID Compounds	8270	Qtrly	Feb, May, Aug, Nov	
Between GAC Units	ACID Compounds	8270	Monthly		
Effluent	ACID Compounds(2)	8270	**Qtrly**	Feb, May, Aug, Nov	
	PAHs (3)	8310	**Qtrly**	Feb, May, Aug, Nov	
	Flow	metered	--		**Limit Increased to 12 gpm**
Monitoring Wells (MW-3,4,H, D1,D2)	ACID Compounds- MW-3,H	8270	Qtrly	Feb, May, Aug, Nov	
	ACID Compounds- MW-4, D1, D2	8270	**Annually**	**May**	****NEW**Added MW-D1, D2**
	PAHs - MW-3,H	8310	Qtrly	Feb, May, Aug, Nov	****NEW** Added MW-H**
	PAHs -MW-4, D1, D2	8310	**Annually**	**May**	****NEW****
Recovery Wells (RW-2A,2B)	ACID Compounds	8270	**Qtrly**	**Feb, May, Aug, Nov**	****NEW****

Notes:
(1) VOC compounds listed on the Discharge Monitoring Reports (DMRs) include 1,1 Dichloroethene, **Trichloroethene**, and 1,1,1 Trichloroethane. **Eliminated Carbon Tetrachloride**.
(2) Acid compounds listed on the Discharge Monitoring Reports (DMRs) include Pentachlorophenol and Phenol. **Eliminated 2,4 Dichlorophenol and 2,4,6 Trichlorophenol**.
(3) PAH compounds listed on the Discharge Monitoring Reports (DMRs) include **Acenaphthylene and Naphthalene**.

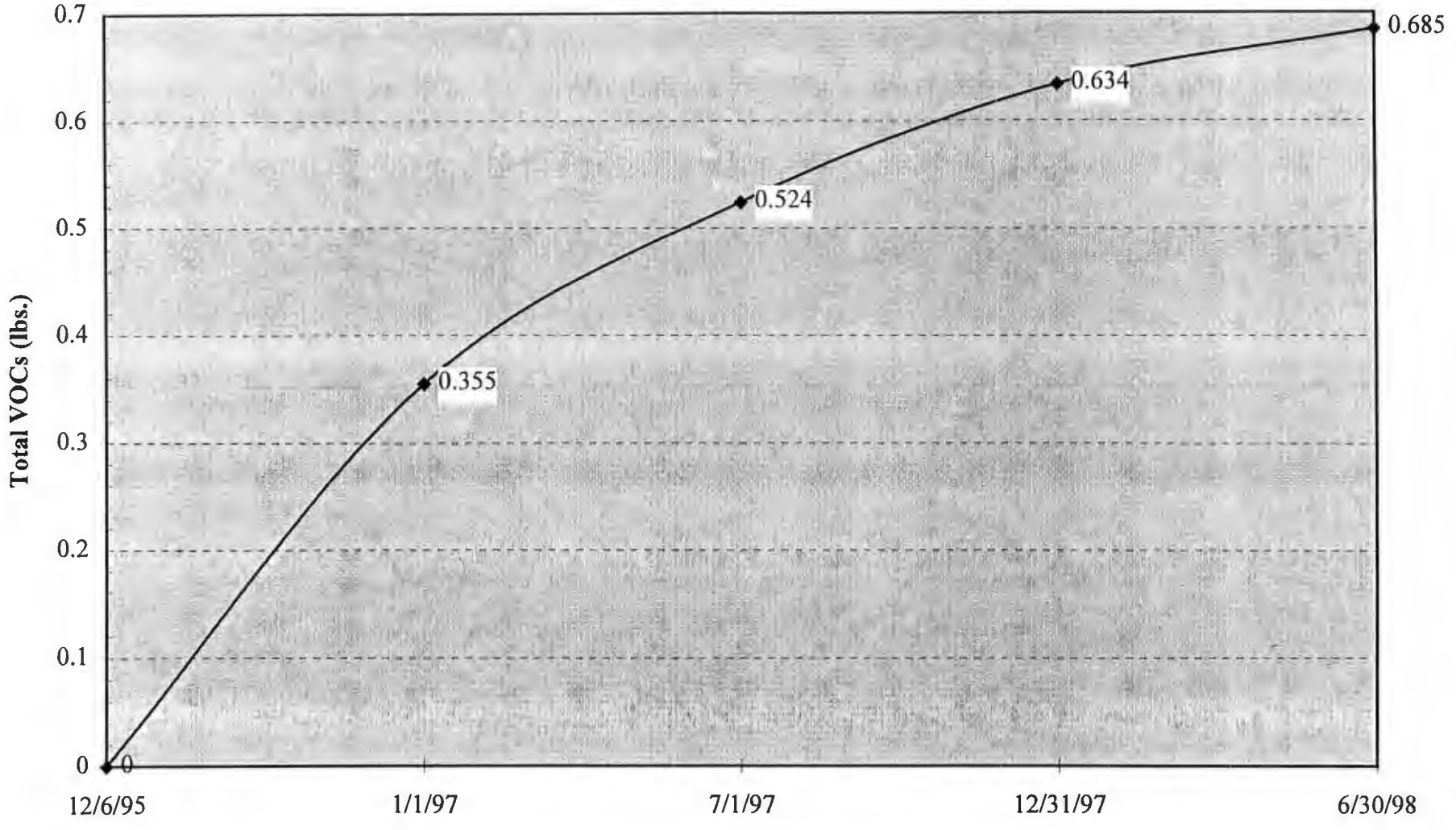
Note - Recovery wells to be sampled by Praefke Brake personnel.

Bold indicates changes to the sampling schedule based on the March 4, 1997 letter from Mr. Theodore Bosch of the WDNR Wastewater Section and NRT recommendations as of August 1997 and February 1998.

CUMULATIVE CONTAMINANT RÈMOVAL GRAPHS
(SYSTEM 001 AND 002)

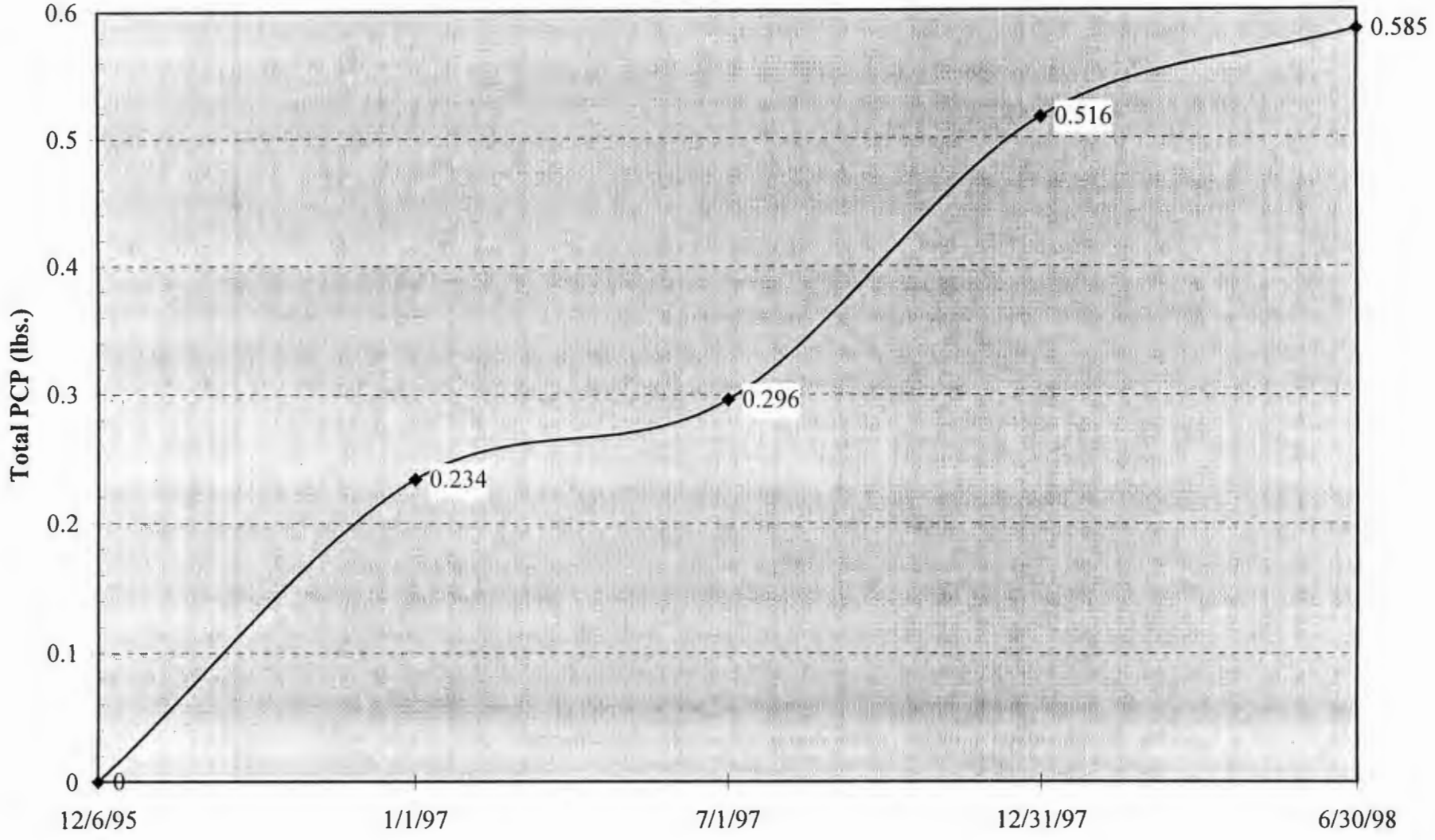
Cumulative Contaminant Removal - System 001

Praefke Brake - West Bend, WI

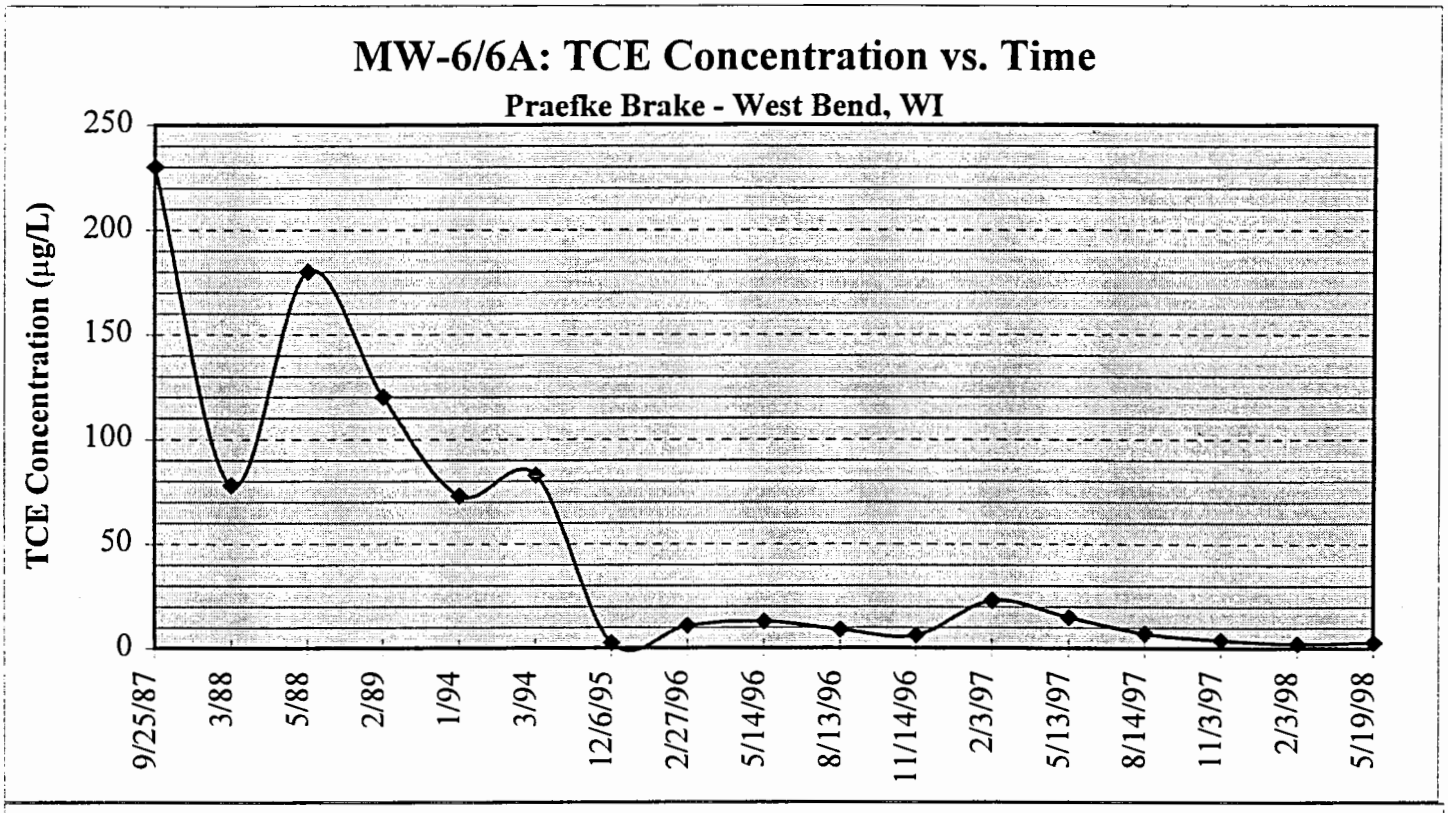


Cumulative Contaminant Removal - System 002

Praefke Brake - West Bend, WI



CONTAMINANT CONCENTRATION VS. TIME GRAPHS - SYSTEM 001


MW-6/6A: TCE Concentration vs. Time
Praefke Brake - West Bend, WI
TCE Concentration (µg/L)
250
200
150
100
50
0
9/25/87
3/88
5/88
2/89
1/94
3/94
12/6/95
2/27/96
5/14/96
8/13/96
11/14/96
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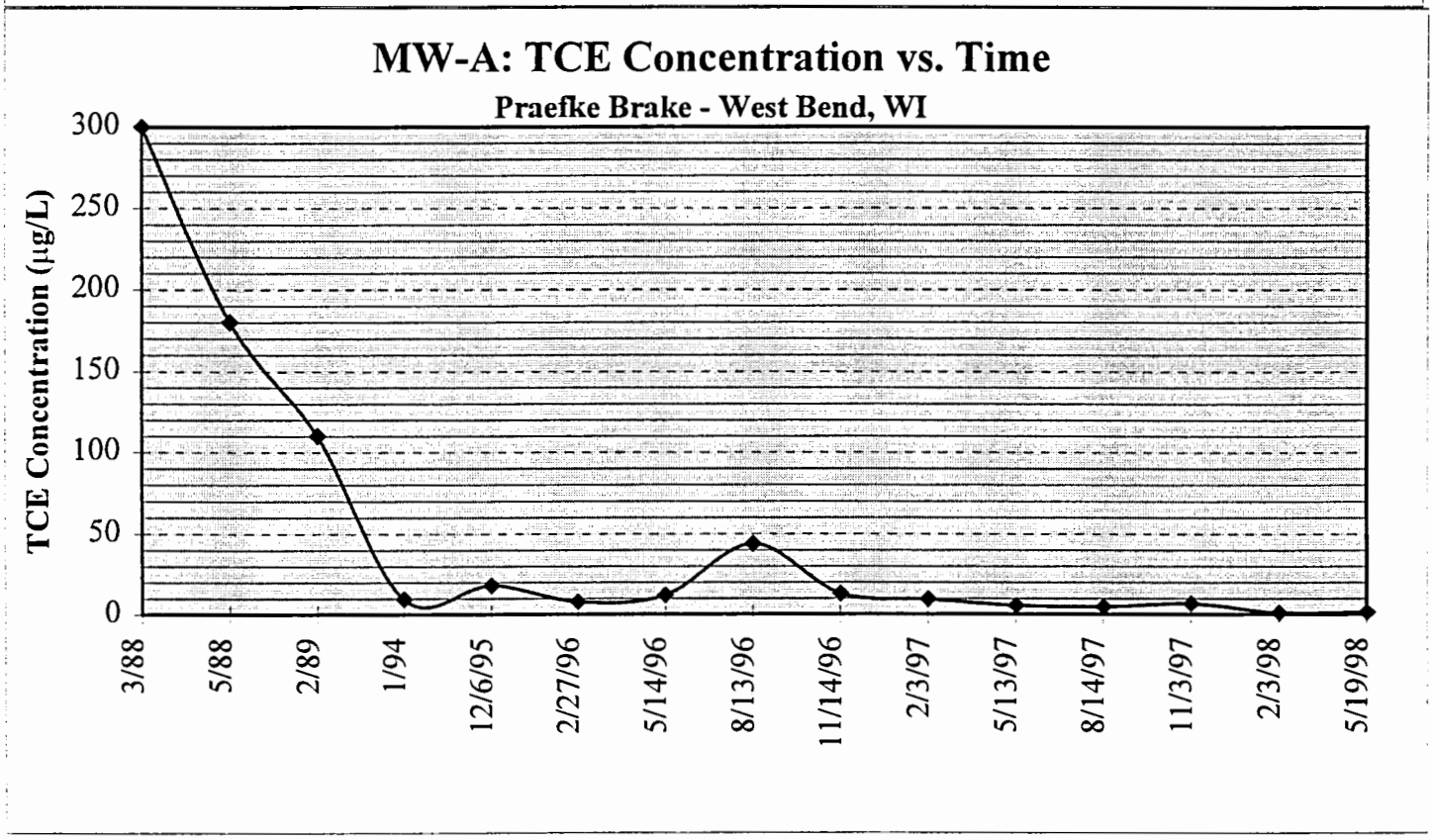
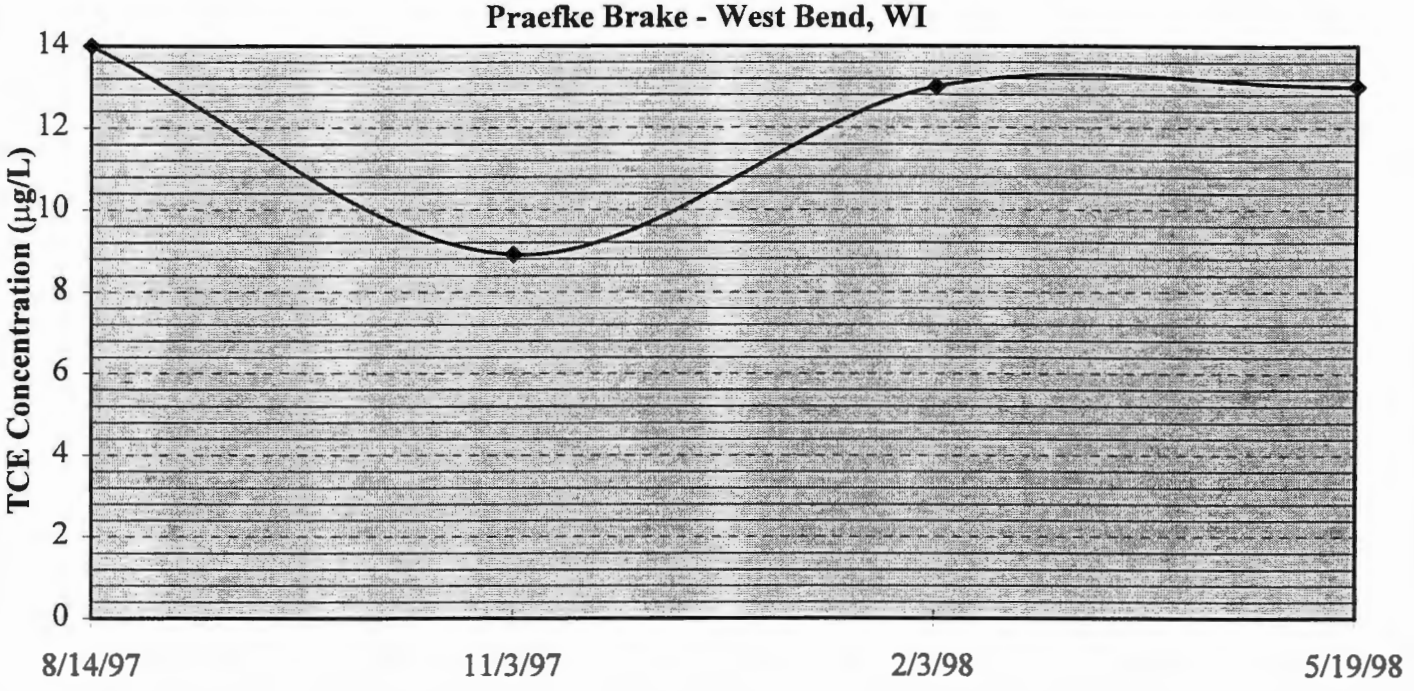
8/14/97
11/3/97
2/3/98
5/19/98


MW-A: TCE Concentration vs. Time
Praefke Brake - West Bend, WI
TCE Concentration (µg/L)
300
250
200
150
100
50
0
3/88
5/88
2/89
1/94
12/6/95
2/27/96
5/14/96
8/13/96
11/14/96
2/3/97
5/13/97
8/14/97
11/3/97
2/3/98
5/19/98

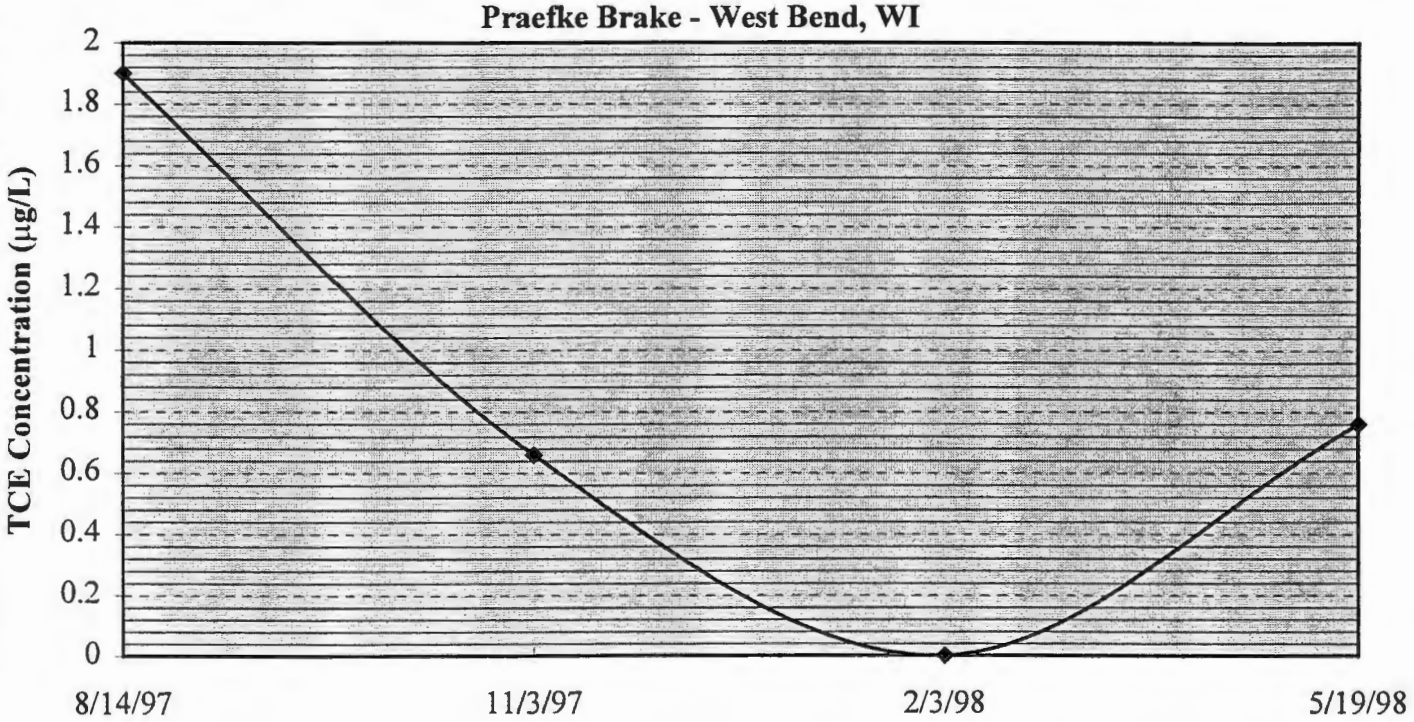
RW-1A: TCE Concentration vs. Time

Praefke Brake - West Bend, WI



RW-1B: TCE Concentration vs. Time

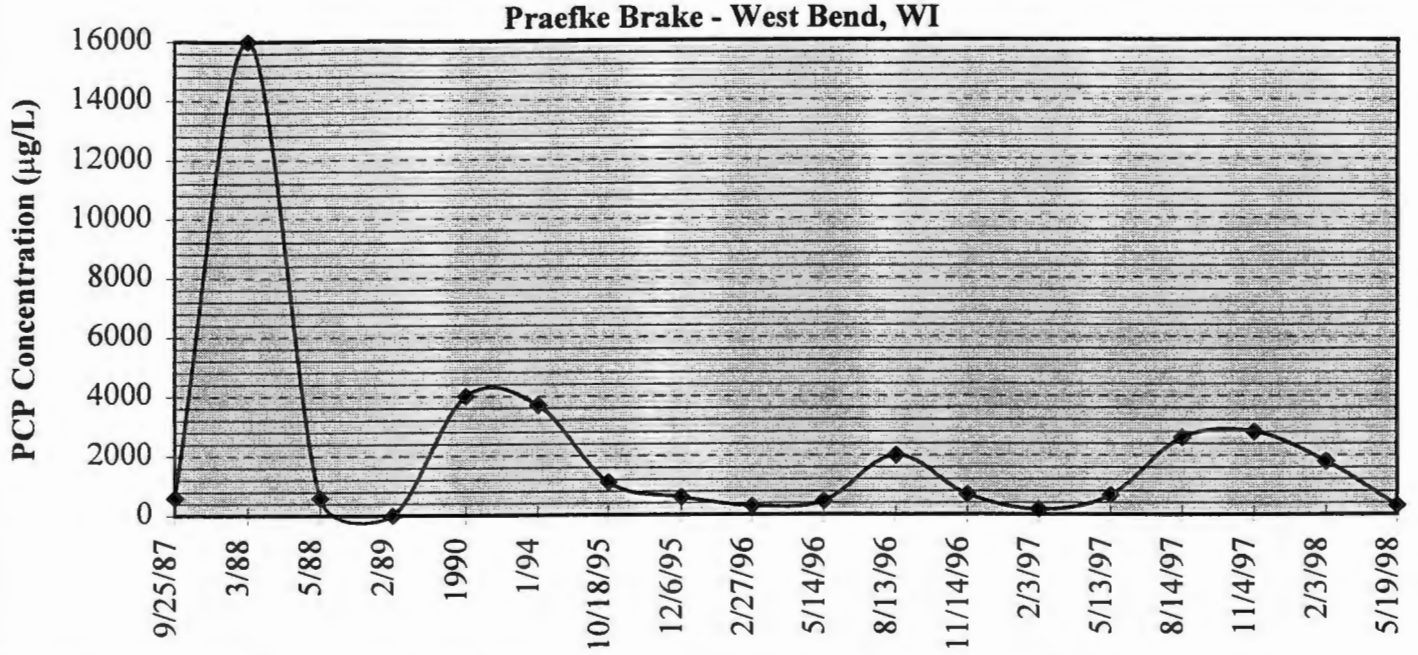
Praefke Brake - West Bend, WI



CONTAMINANT CONCENTRATION VS. TIME GRAPHS - SYSTEM 002

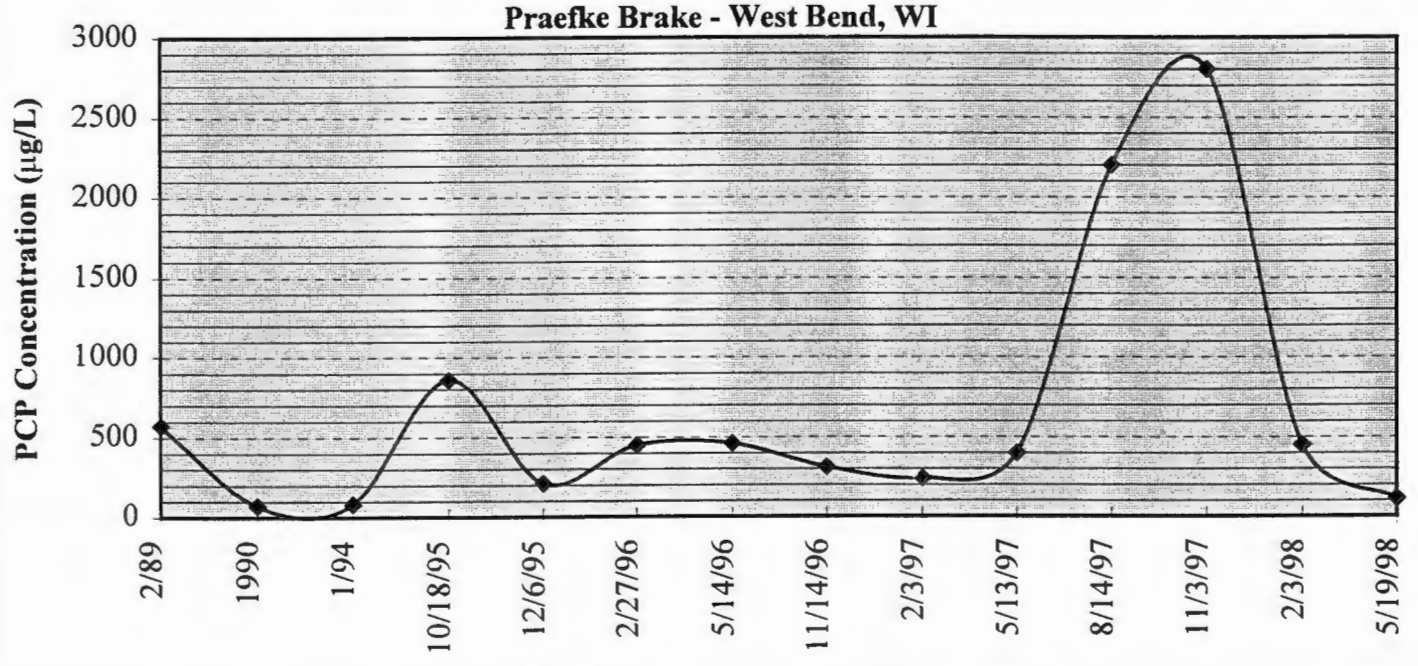
MW-3: PCP Concentration vs. Time

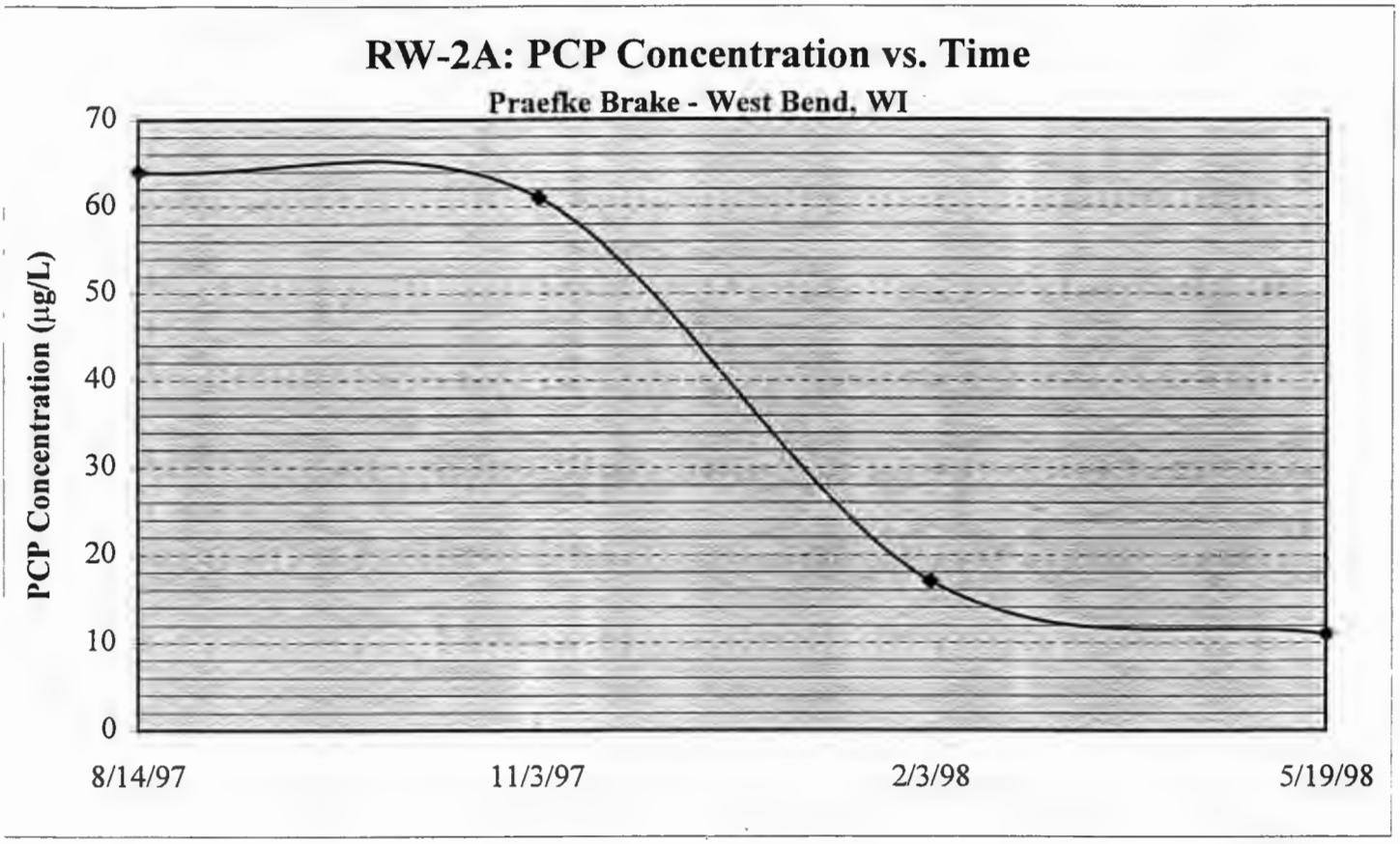
Praefke Brake - West Bend, WI



MW-H: PCP Concentration vs. Time

Praefke Brake - West Bend, WI




RW-2A: PCP Concentration vs. Time
Praefke Brake - West Bend, WI
PCP Concentration (µg/L)
70
60
50
40
30
20
10
0
8/14/97
11/3/97
2/3/98
5/19/98

WDNR DISCHARGE MONITORING REPORT FORMS - SECOND QUARTER 1998

PRAEFKE BRAKE & SUPPLY CORP.

133 Oak Street
West Bend, Wisconsin 53095

(414) 334-2355
Fax No: (414) 334-2358

July 14, 1998

Wastewater Section
Department of Natural Resources
P.O. Box 12346
Milwaukee, WI 53212

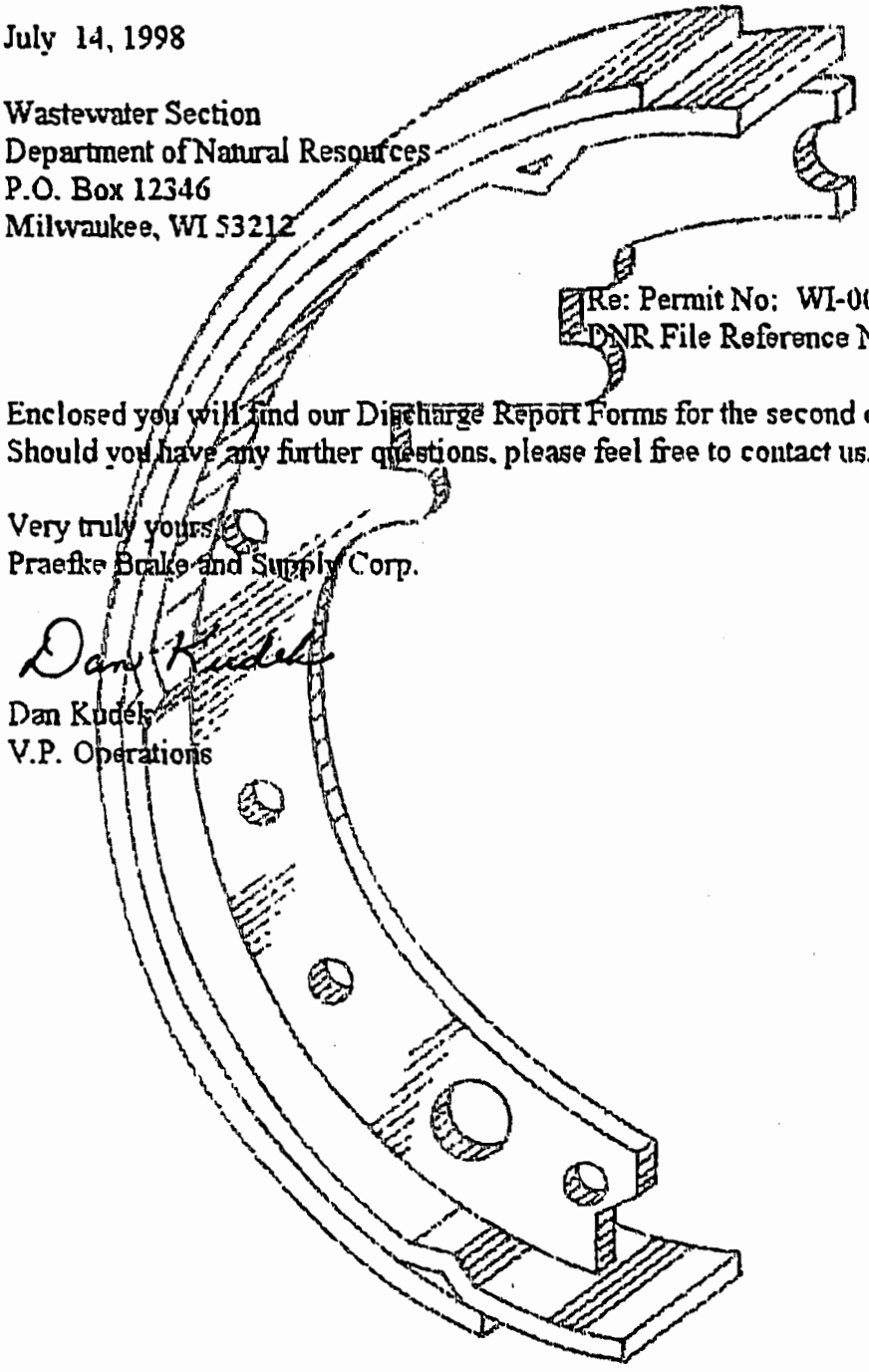
Re: Permit No: WI-0046566-2
DNR File Reference No: 267004430

Enclosed you will find our Discharge Report Forms for the second quarter of 1998. Should you have any further questions, please feel free to contact us.

Very truly yours,
Praefke Brake and Supply Corp.

Dan Kudels

Dan Kudels
V.P. Operations



Discharge Monitoring Report Form (Contaminated Groundwater) Permit No. - WI-0046566-3 Permittee Dan Kudek
Praefke Brake
133 Oak Street
West Bend WI 53095

Lab Name: NET
Lab Cert#: 128053530
DMR Sent to: Praefke

DNR File Reference Number: 267004430
Page 1 of 2

Outfall Number	001	001	001	001	001	001
Parameter Name	VOCs	1,1 Dichloroethylene	Trichloroethene	1,1,1Trichloroethane	TSS	flow
Parameter Units	ug/l	ug/l	ug/l	ug/l	ug/l	gal./day
Lab Method Used	8260A	8260A	8260A	8260A	160.2	METER&D
Date(s) Sampled						
2-3-98	4.2	<0.73	<0.49	<0.28	17	5052
5-19-98	18.7	<0.73	3.2	6.7	14	1147 *
						* SYSTEM
						DOWN FOR REPAIRS
Daily Max Limit					40	FROM 5/4 - 6/11
Monthly Avg. Limit		0.7	40	50		
Sample Type	Grab	Grab	Grab	Grab	Grab	Estimate
Sample Frequency	See Permit	See Permit	See Permit	See Permit	See Permit	continuous

Unless noted under parameter name, each daily value entered must be the highest value of all sample types analyzed for that day

Send Report To: Wastewater Section
Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

Return Report no later Than: July 15 1998

Please attach notes and/or address-name corrections on a seperate sheet

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediatly responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitted false information, including the possibility of fines and imprisonment, (40 CFR 122.5). I also certify that the values being submitted are the actual values found in the samples; no values have been modified or changed in any manner. Where ever I believe a value being reported is inaccurate, I have added an explaination indicating the reasons why the value is inaccurate.

Signature of Person Completing Form	
Dan Kudek	
Signature of Principal Exec. Officer or Authorized Agent	Title
Dan Kudek	V.P. Operations

Discharge Monitoring Report Form (Contaminated Groundwater) Permit No. - WI-0046566-3 Permittee Dan Kudek
Praefke Brake
133 Oak Street
West Bend WI 53095

Lab Name: NET
Lab Cert#: 128053530
DMR Sent to: Praefke

DNR File Reference Number: 267004430
Page 2 of 2

Outfall Number	002	002	002	002	002	
Parameter Name	Pentachlorophenol	Phenol	Acenaphtylene	Naphthalene	Flow	
Parameter Units	ug/l	ug/l	ug/l	ug/l	gal/day	
Lab Method Used	8270	8270	8310	8310	METRED	
Date(s) Sampled						
2-3-98	<30	<1.6	<.97	<.34	2585	
5-19-98	11	<1.6	<.59	<.24	1529	
Daily Max Limit						
Monthly Avg. Limit	no detect	no detect	no detect	no detect		
Sample Type	Grab	Grab	Grab	Grab	estimate	
Sample Frequency	See Permit	See Permit	See Permit	See Permit	continuous	

Unless noted under parameter name, each daily value entered must be the highest value of all sample types analyzed for that day

Send Report To: Wastewater Section
Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

Return Report no later Than: July 15 1998

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Signature of Person Completing Form
Dan Kudek

Signature of Principal Exec. Officer or Authorized Agent | Title
Dan Kudek | V.P. Operations