**Letter Of Transmittal**

To: Program Assistant
Remediation & Redevelopment Program
Wisconsin Dept. of Natural Resources
2300 N. Dr. Martin Luther King Jr., Dr.
Milwaukee, WI 53212

Please check the type(s) of documents you have enclosed. Submittals will be tracked and filed based on the information you provide. **Include the FID *and* BRRTS numbers which have been assigned to this site, and identify the intent of the document(s) you are submitting in order to speed processing.** Please attach any required fees to this checklist.

From: Company: Milwaukee Plating Co.
Name:
Address: 1434 N. 4th Street
Milwaukee WI. 53212
Phone: 414-272-3433
Date: 2/7/2004
Site Name: Milwaukee Plating Co.
Address: 1434 N. 4th Street
Milwaukee WI 53212
FID# 241036840 BRRTS# 0341000762

02-41-000826

**IS THIS RELEASE PECFA-ELIGIBLE?**
___ YES ___ NO ___ UNKNOWN AT THIS TIME

**Type of Submittal:**
___LUST ___ERP ___VPLE ___other _____

RECEIVED FEB 2 4 2004 By: JS

| √ CHECK | TYPE OF DOCUMENT/REPORT | FEE | DNR CODE (office use only) |
|---|---|---|---|
| | Notification of Release | none | 01 |
| | Tank Closure/Site Assessment *where release(s) have been detected** | none | 33 |
| | Site Investigation Workplan | $500 if review is requested~ | 35, 135~ |
| | Site Investigation Report **Please Provide the Following Information**<br>__ petroleum constituents detected<br>__ non-petroleum constituents detected<br>__ groundwater impacts ____ above PAL _____ above ES<br>__ free product<br>__ contamination in fractured bedrock or within 1 meter of fractured bedrock<br>__ pal exceedance in potable well<br>__ groundwater impacts>ES, within ____ 100' of private Well or ____ 1000' of public well | $750 if review is requested~<br>GIS Cmplt mw 3/8/04 | 37, 137~<br>96~<br>(if SI is incomplete) |
| | Request to Transfer Case to Department of Commerce | none | 76 |
| | Off-Site Determination Request | $500 mandatory | 638~ |
| | Remedial Action Options Plan | $750 if review is requested | 39, 143~ |
| | NR 720.19 Site Specific Clean-Up Goal Proposed | $750 if review is requested | 67, 68~ |
| | NR 718 Landspreading Request | $500 mandatory | 61~ |
| | Copy of Notification to Treat or Dispose of Contaminated Soil or Water | none | 99 |
| | Injection/Infiltration Request | $500 mandatory | 63~ |
| | Quarterly Report or Update | $500 if review is requested | 43~ |
| | O & M Form 4400-194 | $300 if review is requested | 92, 192~ |
| | Remedial Action Options Report | $750 if review is requested | 41, 41~ |
| ✓ | Closure Review Request | $750 mandatory | 79~ |
| ✓ | Closure Form ( Mandatory For Review) | | |
| ✓ | GIS Registry groundwater greater >ES soil~ $200 | $250 mandatory | 700 |
| | Request for No Further Action Letter, under ch. NR 708 | $250 mandatory | 68, 67~ |
| | Copy of Draft Deed Affidavit, Well Abandonment Form Restriction | none | 99 |
| | Simple Site Process Submittal Under NR700.11 | none | 90~ |
| | Remedial Design Report | $750 if review is requested | 147, 148~ |
| | Construction Documentation Reports | $250 if review is requested | 151, 152~ |
| | Long Term Monitoring Plan | $300 if review is requested | 24, 25~ |
| | Voluntary Party Liability Exemption (VPLE) Application | $250 mandatory | 662~ |
| | VPLE Phase I /II Assessments or Additional Reports | Computed hourly | 99 |
| | Tax Cancellation Agreement | $500 mandatory | 654~ |
| | Negotiated Agreement | $1000 mandatory | 630~ |
| | Lender Assessment | $500 mandatory | 686~ |
| | Negotiation and Cost Recovery (municipalities only) Fee for each service -mandatory | | 90~ |
| | General Liability Clarification Request | $500 mandatory | 684 |
| | Lease Letter Request - Single Property | $500 mandatory | 646 |
| | Lease Letter Request -Multiple Properties | $1000 mandatory | 646 |
| | Request for Other Technical Assistance | $500 mandatory | 97~ |
| | Other (please describe) | | |

- Closure reports for sites where no releases have been detected should be sent directly to "Clean Closures" c/o DNR Remediation & Redevelopment Program, P.O. Box 7921, Madison WI 53707

Remarks: _____

WDNR BRRTS CASE # 03 - 41 - 000762 WDNR SITE NAME : Milwaukee Plating Company

# WISCONSIN DEPARTMENT OF NATURAL RESOURCES
## Case Summary and Close Out Form

The Case Summary and Close Out Form is designed to provide responsible parties, environmental consultants, Department staff, and other interested persons with instructions and a list of information that must be submitted for evaluation for case closure. The closure of a case means that the Department has determined that no further response is required at that time based on the information that has been submitted to the Department. Responsible parties and their consultants should specify which option for closure has been selected for the soil and groundwater at the site. Groundwater quality standards found in ch. NR 140 and soil standards found in ch. NR 720 must generally be met. However, NR 726 has an option for case closure where standards are not met, if an institutional control is applied, such as placing the site on the GIS Registry of Closed Remediation Sites or requiring the recording of a deed restriction. Where natural attenuation is the final remedy for Voluntary Party Liability Exemption (VPLE) sites, pollution liability insurance is required to be purchased as a condition of receiving the liability exemption certificate of completion at the time that a case is closed. See RR Publication RR-606 "Guidance on Case Close Out and the Requirements for Institutional Controls and VPLE Environmental Insurance".

In order to expedite the closure process, you should provide a complete and accurate closure package according to the following instructions. Submit the Case Summary and Close Out Form and the required attachments as a stand-alone package. **Please do not submit the close out request or attachments in a bound report. All maps should be no larger than 8.5 x 14 inches except maps that are submitted in electronic form in portable document format (pdf) readable by the adobe acrobat reader. For electronic document submittal requirements, see** http://www.dnr.state.wi.us/org/aw/rr/archives/pubs/RR690.pdf. **Please do not use shading or highlights on any of the analytical tables and maps** as the shading obscures the information that is scanned for inclusion in the GIS Registry. Instead, you **may use a bold font** on information of importance. If more than one table is submitted for contaminated media data (eg. pre- and post-remedial data) please put them in chronological order. Include the level of detection for results which are below the detection level (i.e. do not just list as ND). Tabulate all data in the format specified in ss. NR 716.15(2)(g)3 and 716.15(2)(h)3. (Do not submit lab data sheets unless these have not been submitted in a previous report.) If applicable, document free product recovery estimates as required in s. NR 708.15. All GIS Registry information (in section B) is to be included with this package at the time it is submitted to the department in order for the application to be considered complete. If a deed restriction or deed notice is required as a condition of closure of the selected remedy, include a draft of the document with the close out application.

**NOTE: Completion of this form is mandatory** for applications for case closure pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code, including cases closed under ch. NR 746 and ch. NR 726. The Department will not consider, or act upon your application, unless all applicable sections are completed on this form and the closure fee and any other applicable fees, required under ch. NR 749, Wis. Adm. Code, Table 1 are included. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing close out requests and determining the need for additional response action.

WDNR BRRTS CASE # 03 - 41 - 000762 WDNR SITE NAME : Milwaukee Plating Company

I certify that, to the best of my knowledge, the information presented on and attached to this form is true and accurate. This recommendation for case closure is based upon all available data as of 1/30/2004 (date). I have read the Case Summary and Close Out Form instructions and all required information has been included.

**Form Completed By:** Kevin F. Lincicum 1/30/2004
**(Signature)** **(Date)**

X **$750.00 Closeout Review Fee Attached**
X **$250.00 GIS Registry Maintenance fee GW sites Fee Attached**
X **$200.00 GIS Registry Maintenance fee for Soil sites Fee Attached**

Printed Name: Kevin Lincicum Company Name: GeoTrans Inc.

Email address: klincicum@geotransinc.com

If not site owner, relationship to site owner: consultant

Address: 175 N. Corporate Dr, #100, Brookfield WI 53045

Telephone Number: (262) 792-1282 FAX Number: (262) 792-1310

Environmental Consultant (if different then above):

Address:

Telephone Number: (____) FAX Number: (___)

The following items should be included in the order shown (if any item is not included, please attach an explanation as part of **attachment A**):

**A. A Brief Written Case History** should be attached as **Attachment A** that includes the Executive Summary from the Site Investigation Report, a succinct summary of any investigative activities conducted subsequent to the Site Investigation Report, and a summary of the interim and remedial actions taken at the site and the justification for case closure. The summary should also specify the pathway to closure requested for both the soil and groundwater as specified in section H of the form and include a description of any residual contamination in soils or groundwater and their locations on the property(s) within the contamination site boundaries. Submission of tabulated analytical results from previous reports is acceptable (i.e., it is not necessary to create new tables). Do not attach previously submitted reports, but please make sure you correctly reference these reports in the case summary as applicable.

1. Site Name Milwaukee Plating Company
   StreetAddress: 1434 N. 4th Street
   City: Milwaukee WI
2. BRRTS #: 03-41-000762
3. DNR FID #: 241036840 PECFA Claim#: 53212-3888-34
4. Responsible Party Name & Complete milwaukee Plating Company
   Address: 1434 N. 4th Street
   Milwaukee WI 53212
5. Date of Incident/Discovery: 1989 Contaminant Type(s): petroleum/chlorinated solvents
6. Quantity Released: unknown
7. Post Remedial Zoning Classification : Industrial, IL2 **(do not abbreviate zoning terms)**
8. Method Used to Obtain GPS Coordinates: ____On-site using GPS Locator converted or projected onto WTM83/91 X Using RR GIS Registry web site to get WTM83/91 coordinates ____ Other (specify):
9. On X Y ___N **or** Off X Y ___N Source Property Groundwater Contamination Remaining (>ES)
10. On X Y ___N **or** Off __Y X N Source Property Residual Soil Contamination > Generic or Site-Specific RCL?

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11. Contamination in Right of Way: X Y ___ N

**B. Required Site Information and GIS Registry Information** to be included as **attachment B** to this form in the following order (allows for efficient data entry by DNR staff):

1. **Copy(s) of most recent deed,** including legal description(s), for all affected properties within or partially within contaminated site boundary. (NOTE: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.)
2. **A copy of certified survey map(s),** as required by s. NR 716.15(2)(j)(2), or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map (lots on subdivided or platted property (*e.g.*, lot 2 of xyz subdivision).
3. **The parcel identification number** (if county uses them) for each property within the contaminated site boundaries. Include the address of each property within the contaminated site boundary (regardless of whether parcel id # exists). **Geographic position** data for each property (meters in WTM83/91 projection) in compliance with the requirements of s. NR 716.15 (2)(k), unless this information was previously submitted to the agency with administrative authority for the site as part of the site investigation report, or unless the agency with administrative authority has directed that the responsible party does not need to provide geographic position data for a specific site.
4. **A site location map** which outlines all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit the easy location of all parcels. If groundwater standards are exceeded, the map must also include the location of all municipal and potable wells within 1200 feet of the site. (If only one property, combine with map required in next item #5.)
5. **A map of contaminated properties within the site boundary** showing buildings, roads, property boundaries, contaminant sources, utility lines, monitoring wells and potable wells. This map shall also show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding ch. NR 140 enforcement standards, and/or in relation to the boundaries of soil contamination exceeding generic or site-specific residual contaminant levels as determined under s. NR 720.09, 720.11 and 720.19.
6. **A table of the most recent analytical results,** with sample collection dates from all monitoring wells, and any potable wells for which samples have been collected for groundwater, and/or showing results for all contaminants found in pre-remedial sampling and in the most recent soil sampling event, for soils (without shading or crosshatching). (Note occurrence of free product.)
7. **An isoconcentration map,** if required as part of the site investigation (SI), of the contaminated properties within the site boundaries. The map must include the areal extent of groundwater contamination exceeding PALS and the areal extent of groundwater contamination exceeding ESs, groundwater flow direction(s) based on the most recent data, and sample collection dates. **If an isoconcentration map was not required** as part of the SI, substitute a map showing the horizontal extent of contamination, based on the most recent data. Note free product location(s).
8. **A table of the previous 4 water level elevation measurements from all monitoring wells,** at a minimum, with the date measurements were made, is to be included. (If present, free product elevation and thickness is to be noted on the table.)
9. **A groundwater flow direction map** representative of groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, 2 groundwater flow maps showing the maximum variation in flow direction are to be submitted. (Maps should be prepared according to the applicable portions of ss. NR 716.15(2)(g)5-8 and 716.15(2)(h)1-2.)
10. For sites closing with residual soil contamination, **include a map showing the location of all soil samples** and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds generic or site specific residual contaminant levels.
11. **A geologic cross section,** if required as part of the SI, showing vertical extent and location of residual soil contamination exceeding generic or site specific RCLs and residual groundwater contamination, source extent and location, isoconcentrations for all groundwater contaminants that exceed PALs that remain when closure is

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requested; water table and peizometric elevations, and the location and elevation of geologic units, bedrock, and confining units, if any.

12. **A statement signed by the responsible party,** which states that he or she believes that the legal description has been attached for each property that is within, or partially within, the contaminated site boundary. (The point here is that a legal description for each of the contaminated properties has been submitted. The RP is not required to attest to the accuracy of the attached legal descriptions.)
13. **A copy of the letters sent by the RP to all owners of properties with groundwater exceeding ESs** (including the current source- property owner, if the RP is not the current source-property owner) as required by s. NR 726.05(3)(a)(4)(g). (Off source properties are listed separately on the GIS Registry with a link to the source property.) Letters must contain standard provisions of Appendix A of ch. NR 726.
14. **A copy of all written notifications** provided to the City/village/municipal/state agency or other entity responsible for maintenance of a public street or highway or railroad right-of-way, within or partially within the boundaries of the contaminated site, for contamination exceeding groundwater ESs and/or soil exceeding generic or site specific RCLs.

## C. RECEPTORS

1. Identify **all** pre-remedial actual receptors, the assessed risk and their locations (e.g., both on- and off-site utility corridors, basements or sumps of nearby buildings, direct contact threat from soil, water supplies, surface waters, sediments, etc.) (For definitions, refer to s. NR 700.03 (47), Wis. Adm. Code): see attachment C
2. Have the remedial actions addressed the potential or actual impacts to these receptors? X Y ___N
   If no, provide details in case history summary.
   If yes, please identify the nature of the remaining risk and the receptor at risk, if any none

## D. SOIL INVESTIGATION INFORMATION

1. Extent Defined? X Y ___N If not, explain why? ___
2. Soil Type(s): fill (gravel, sand, silt, clay) Depth of Contamination: <20 ft
3. Type of Bedrock: Niagra Dolomite Depth to Bedrock: 200 ft
4. Is Any Contaminated Soil (Unsaturated or Saturated) in Contact With the Bedrock? ___Y X N
5. List **All** Contaminants Found in Soil (Regardless of ch. NR 720 standards/attach table as part of **attachment D** if necessary see table in Attachment D
6. Measurable Free Product? X Y ___N Depth/Location: MW-1, 2 to 6 inches
7. **Attach the Following Maps** to this Form as **Attachment D:**
   a. Pre-Remedial Soil Sample Location Map(s) that depict all soil sample locations relative to site facilities. Note in bold font those sample locations that exceed ch. NR 720 (including free product location) and identify the extent of contamination. Maps should be prepared according to the applicable portions of s. NR 716.15(2) (h)1. You may submit more than one map, for example various contaminant isoconcentration maps.
   b. Pre-Remedial Geologic Cross Section(s) including source location(s), extent of soil and groundwater contamination, free product location/depth, soil sample locations, water table elevation, and bedrock elevation, if encountered. Maps should be prepared according to the requirements in ss. NR 716.15(2)(g)5-8 and 716.15(2)(h)1-2.

## E. SOIL REMEDIATION INFORMATION

1. Remedial Action Completed? X Y ___N s. NR 720.19 Analysis? ___Y X N If yes, Attach supporting documentation as **Attachment E.**
2. Were Immediate or Interim Actions Conducted? ___Y X N If yes, what action was taken? ___
3. Brief Description of Remedial Action Taken: monitored natural attenuation of groundwater has reduced soil contamination

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4. Were Soils Excavated? X Y ___N Quantity: ~160 CY Disposal Method: Parkview Landfill
5. Final Confirmation Sample Collection Methods: grab samples from sidewalls, soils were excavated during tank removal
6. Final Soil/Drill Cuttings Disposal Location: Parkview Landfill, Menomonee Falls, WI
7. Estimated Volume and Depth of In Situ Soils Exceeding ch. NR 720 Table RCLs or Site Specific RCLs: ranges in depth from 5 to 19 feet, see soil analytical tables
8. Estimated Volume and Depth of In Situ Soils Exceeding ch. NR 746 Table 1 or Table 2 or Site Specific RCLs: 750 CY

## F. GROUNDWATER INFORMATION

1. Extent of Contamination Defined? X Y ____N ____N/A
2. Remedial Action Completed? X Y ___N ___N/A Brief Description of Remedial Action Taken: monitored natural attenuation
3. # of Sample Rounds: 7 Depth(s) to Groundwater 10-15 ft Flow Direction(s): SE
4. Field Analyses? X Y ____N Lab Analyses? X Y ____N
5. # of Sampling points: 8 # NR 141 Monitoring Wells Sampled: 8
   # Temporary Groundwater Sampling Points Sampled: 0 # Recovery Sumps Sampled: 0
   # Municipal Wells Sampled: 0 # Private Wells Sampled: 0
6. List **All** Contaminants Found in Groundwater (Regardless of ch. NR 140 Standards/**Attach Table as F** if Necessary) see Table in Attachment F
7. Has DNR Been Notified of Substances in Groundwater Without Standards? ____Y X N
   If Yes, How Many?_____ What Substances? _____
8. Preventive Action Limit Currently Exceeded? X Y ____N If yes, Identify Location(s) MW-9
9. Enforcement Standard Currently Exceeded? X Y ____N If yes, Identify Location(s) MW-1, MW-2, MW-3, MW-7, MW-8
10. Measurable Free Product Detected? X Y ____N ____ Pre-remediation? X Post-remediation?
11. Was Free Product remediated? X Y ___N Explain: bailed from MW-1
12. Potable Wells Within 1200 Feet of Site? ____Y X N Have They Been Sampled? ____Y___N
    [NOTE: Wells Included **on Map** Described in Item B. 4]
13. Have Well Owners/Occupants Been Notified of Results? ____Y ____N Are Notification Letters Attached as part of section B requirements? ___Y ___N
14. Include a **Groundwater Sample Location Map(s)** as **attachment F** of this form, which shows the site facilities and all monitoring wells, sumps, extraction wells, and potable wells. Use bold font to indicate those wells that have PAL or ES exceedances in the most recent round of sampling (differentiate between PAL and ES). Maps should be prepared according to the applicable portions of ss. NR 716.15(2)(h)1 and 726.05(3)(a)(4)d.
15. Include a **table** of all historic groundwater analytical data for the site as part of **attachment F.**

## G. OTHER CONTAMINATED MEDIA INFORMATION

1. Have Other Media Been Impacted (Either On-site or Off-site eg. Sediment, Utilities)? ____Y X N Briefly Describe Type and Extent of **All** Contamination Found in Media Other Than Soil or Groundwater: _____
2. Remedial Action Completed? ____Y ____N X N/A Brief Description of Remedial Action Taken:
3. # of Post Remedial Sample Rounds: _____ Field Analyses? ____Y ____N
   Lab Analyses? ____Y ____N # of Sampling Points:_____
4. Tables of Analytical Results for all contaminants should be **attached as G.**

## H. PATHWAY TO CLOSURE PROPOSED AND ASSOCIATED SITE INFORMATION:

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**Soil**

___< s. NR 720.09/720.11 Generic RCLs
X s. NR 720.19(2) Soil Performance Standards(SPS)
___s. NR 720.19(3) Site Specific Standards(SSRCLs)
___s. NR 720.19(5)(c)**1.b.** Industrial Site Specific RCLs
___s. NR 720.19(5)(c)**2.b.** Industrial Site Specific RCLs

**Groundwater**

___< s. NR 140.10 Table 1 & Table 2 Values
___s. NR 140.28(2) PAL Exemption
X s. NR 726.05(2)(b), ≥ ES Natural Attenuation

**Petroleum Storage Tank Soil Options for Closure:**

___s. NR 746.07 Requirements Met-Post Investigation
___s. NR 746.08 Requirements Met-Post Remediation

**Petroleum Storage Tank GW Options for Closure:**

___s. NR 746.07 ≥PAL <ES Low Permeability Site- Post Investigation
___s. NR746.07 ≥ES, Permeable Site- Post Investigation
___s. NR 746.08 ≥ES, Low Permeability Site- Post Remediation
___s. NR 746.08 ≥ES, Permeable Site- Post Remediation

1. Enforcement Actions Closed Out? ___Y ___N X N/A Permits Closed Out? ____Y _____N X N/A
2. Proposed Post Remediation Land Use: ____ Residential ____ Commercial X Industrial ____ Other
   Specify: _____
3. Does Remedy Include Soil Performance Standard (SPS)? X Y ____N
   Type: ____Cap ____ Soil ____Building X Natural Attenuation of Groundwater ___Other
   Specify: _____
4. Will the Maintenance of the SPS be Consistent With the Proposed Post Remediation Land Use? X Y ___N
   Why?_____
5. Maps and Photos **Attached as part of H** Documenting the Cap Area, Construction, and/or the Integrity of the Cap? ____Y ____N X N/A
6. Is a Maintenance Plan Attached to a Draft Deed Restriction (included with **attachment I)** for the Performance Standard per ss. NR 720.19(2) and 724.13(2), Wis. Adm. Code? ___Y X N
7. Is Zoning Change Required and if so, Has it Been Completed for Post Remedial Land Use? _____Y X N
   If yes, Have you Attached Verification of the Zoning for Affected Properties? ____Y ___N
8. Complete Assumptions and Calculations for SSRCLs as **attachment H** with Justification.
9. Are EPA Soil Screening Level Model Used as Justification for Closure of Sites with Residual Contaminated Soils? ___Y X N. Are the Numbers Used: _____ Site Specific Inputs or _____ Defaults? Include Calculations and Results as Part of **attachment H.**
10. Describe How the Following Pathways are Protected:
    a) Direct Contact Pathway: contamination is below 5 feet and groundwater is naturally attenuated
    b) Groundwater: no public/private drinking water wells are located near the site.
    c) Include as part of **attachment H, graphs and statistical analyses** (Mann–Kendall/Mann-Whitney U Results) which demonstrate the dynamics of the groundwater plume, for sites requesting closure using Natural Attenuation that meet the criteria of s. NR 746 (permeable sites) or s. NR 726.05(2)(b). Refer to WDNR Publication RR-614 for guidance.

**I. PROPOSED INSTITUTIONAL CONTROLS** (See PUB. RR-606)

1. Is copy of draft deed document(s) included as **attachment I**? ___Y ___N Refer to RR- 606 for information at: http://www.dnr.state.wi.us/org/aw/rr/index.html. If so, what type?

X RR GIS Registry of Closed Sites
__ Deed Restriction
__ Deed Notice
__ Other

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**FOR DEPARTMENT USE ONLY**

**PROJECT MANAGER:** _____ **Date Reviewed:** _____

**FIRST REVIEW DATE:** _____ **[ ] Approved [ ] Denied**

| _____ | _____ | _____ | _____ |
|---|---|---|---|
| (Signature) | (Signature) | (Signature) | (Signature) |

**SECOND REVIEW DATE:** _____ **[ ] Approved [ ] Denied**

| _____ | _____ | _____ | _____ |
|---|---|---|---|
| (Signature) | (Signature) | (Signature) | (Signature) |

**COMMITTEE RECOMMENDATION:**

_____ **Closure Approved With:**

- _____ No Restrictions
- _____ Listing on GIS Registry
- _____ Zoning Verification
- _____ Deed Restriction
- _____ Deed Notice
- _____ Site Specific Close Out Letter
- _____ Well Abandonment Documentation
- _____ Soil Disposal Documentation
- _____ NR 140 Exemption For: _____
- _____ Other Conditions/Comments: _____

_____

_____

_____

_____ **Closure Denied, Needs More:**

- _____ Investigation
- _____ Groundwater Monitoring
- _____ Soil Remediation
- _____ Groundwater Remediation
- _____ Documentation of Soil Landspreading or Biopile Destiny
- _____Specific Comments: _____

_____

_____

_____

HYDRO-SEARCH, INC.
A Tetra Tech Company

# SITE INVESTIGATION
# MILWAUKEE PLATING COMPANY
# MILWAUKEE, WISCONSIN

June 19, 1996

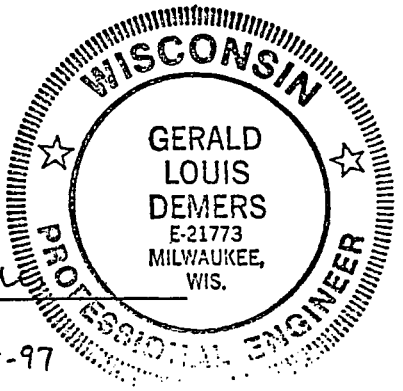
Prepared For:

Milwaukee Plating Company
1434 N. 4th Street
Milwaukee, Wisconsin 53212

Prepared By:

Hydro-Search, Inc.
175 N. Corporate Drive, Suite 100
Brookfield, Wisconsin 53045

Project No.: 303663278




Michael R. Noel, Sr. Vice-President
Manager, Milwaukee Operations

Gerald DeMers, P.E.
Senior Engineer 2-25-97

Judy L. Fassbender, P.G.
Senior Hydrogeologist

# 1.0 EXECUTIVE SUMMARY

This report summarizes previous environmental assessments and includes the results of a soil and ground-water investigation conducted during June and July of 1995 by Hydro-Search, Inc. (HSI) for Milwaukee Plating Company, which is located at 1434 North 4th Street in Milwaukee, Wisconsin. The purpose of the 1995 investigation was to identify the horizontal extent of soil and ground-water hydrocarbon impacts from former leaking underground storage tanks (USTs) at Milwaukee Plating Company.

This investigation included the following activities:

- Drilling and sampling of three boreholes adjacent to the 880-gallon gasoline UST abandoned in place below the basement floor of the facility, and used by Everbrite Company, a former owner of the property.
- Drilling and sampling of four boreholes in the buffing room, in the southwest corner of the basement of the facility.
- Drilling and sampling of one borehole located downgradient of the former solvent storage area used by Kepec Chemical Company, a former owner of the property.
- Three new monitor wells (MW-7, MW-8 and MW-9) were installed to help define the northern, southern, and southeastern extent of ground-water impacts.

The following summarizes the various contaminant sources at and near the site:

- The former 6,400-gallon fuel oil tank is an apparent source of petroleum impacts to soil and ground water. It is a likely source of the fuel oil free product in MW-1 and naphthalene impacts to ground water. Increasing quantities of free product in MW-1 and its freshness indicate another source likely exists, but one has not been identified.
- The 3,000-gallon fuel oil tank is apparently a source of petroleum impacts to soil directly beneath its former location. No exceedance of ground-water enforcement standards (ESs) appears to be attributable to this tank.
- The former 880-gallon gasoline tank is an apparent source of petroleum impacts to soil near it. The last use of the tank was prior to the purchase of this portion of the building by Milwaukee Plating from Everbrite Electric in 1964. Motor vehicles were stored on site by Everbrite. The tank is also an apparent source of impacts above ESs to ground water for ethylbenzene, xylenes, and possibly benzene and naphthalene. However, the source of fresh unleaded gasoline, according to hydrocarbon fingerprint analysis, has not been determined.

- The two 250-gallon USTs located east of the boiler room are the apparent source of petroleum hydrocarbon impacts to soils in boreholes B-1 and B-2. One of these tanks may have been the source of benzene impacts to ground water.

- Historic undocumented activities in or near the buffing room in the southeast corner of the basement, are the apparent source of gasoline compounds in soil and ground water in this area.

- A suspected source of petroleum impacts to soil and ground water is the 10,000-gallon gasoline tank or activities related to it at the Central Control Alarm facility east of Milwaukee Plating.

- An undefined source (or sources) may exist east of Milwaukee Plating Company, contributing to petroleum impacts to soil and ground water. These impacts include unleaded gasoline, according to hydrocarbon fingerprint analysis, from an unknown source.

- Past undocumented activities (not necessarily by Milwaukee Plating Company) in the buffing room at the southeast corner of the basement are a source of chlorinated solvent impacts to soil and ground water. High concentrations of PCE and TCE in soils are likely a continuing source of ground-water contamination at this location. Ground-water impacts are apparently limited to within 50 horizontal feet of the source area of soils impacted with PCE and TCE. Neither the existing degreaser nor existing activities are a source of these impacts. Milwaukee Plating has never used PCE, and its source is unknown. Everbrite Electric manufactured custom made signs at this site from 1930 until 1964, and PCE was possibly used in the manufacture of these electric signs.

- An unknown source of chlorinated solvents has impacted ground water at MW-9. Historical spills by others at this location may be a source of impacts in this area. There have been no known spills at the existing loading docks since they were built by Milwaukee Plating. There were also no known spills in this area prior to construction of the loading dock.

- The Kepec former solvent storage area appears to be the likely source of chlorinated solvent impacts to ground water at B-19, MW-3, and possibly MW-7.

- The dry cleaning facility or former silk screening or lithographic printing activities south of Milwaukee Plating Company are the apparent source of PCE in ground water in MW-7.

Soil and ground-water remediation options were evaluated. The recommended remedial option is a dual (soil vapor and ground water) extraction system along the southeast perimeter of the Milwaukee Plating facility, with free product removal.

## SITE SUMMARY SINCE 1996 SITE INVESTIGATION

The dual extraction system recommended in the Site Investigation was not implemented. Monitored natural attenuation was implemented at the site along with free product removal (product bailing) from MW-1. Groundwater monitoring has occurred at the Milwaukee Plating site on an annual basis since 1995. Groundwater samples have been obtained from seven wells including MW-1, MW-2, MW-3, MW-5, MW-7, MW-8, and MW-9. A map of the site is located in Attachment B showing the monitoring well locations.

Since monitoring began in 1995, contaminant concentrations have declined steadily. Total VOC concentrations in the December 2002 sampling declined 93% in MW-1, 60% in MW-2, 91% in MW-3, and 50% in MW-9 since monitoring began in 1995. Groundwater data can be found in Attachment F. Concentrations are expected to decline and fall below enforcement standards by 2007 using the contaminant concentration graphs in Attachment H. Mann-Kendall statistical tests, found in Attachment H, also indicate that contaminant levels are decreasing.

## JUSTIFICATION FOR CASE CLOSURE

Per NR 726.05(2)(b) and NR 720.19(2), a responsible party may request case closure for a hazardous substance discharge site with soil and groundwater exceedances if certain criteria are satisfied. The criteria and appropriate justifications are detailed below. Based on the information provided, case closure for the Milwaukee Plating site is requested.

**NR 726.05(2)(b)**

**1) Adequate source control measures have been taken as follows:**

a) A 3000 gallon heating oil UST was removed in December, 1989; a 6400 gallon heating oil UST was abandoned in place in January, 1990; two 250 gallon UST's were removed in April, 1990; and a 880 gallon UST was abandoned in place in November, 1991.

b) No new tanks have been constructed.

c) All known tanks and piping have been removed.

d) All known tanks have been removed, therefore protecting public health, safety, and welfare and the environment.

e) Free product has been removed from MW-1 on a continual basis since 1991. In December 2003, MW-1 was abandoned and removed due to road construction that occurred in the right-of-way. The well abandonment form is included in Attachment A. Free product removal has occurred for approximately seven years and due to the abandonment of MW-1, continued removal would not be practicable or feasible for the Milwaukee Plating Company. The total amount of free product removed since 1996 is about 8 gallons.

f) The concentration of groundwater contaminants have been readily decreasing since monitoring began at the site. Graphs in Attachment H show that contaminants are decreasing by natural processes thereby protecting public health and the environment.

**2). Natural attenuation will bring the groundwater into compliance with NR 140 groundwater quality standards within a reasonable period of time.**

Graphs in Attachment H illustrate the decline of contaminant concentrations. Using trends in the data, it is predicted that groundwater in all wells will meet NR 140 enforcement standards by the year 2007.

**3). The groundwater plume margin is stable or receding, and after case closure, groundwater contamination exceeding ch. NR 140 preventive action limits will not migrate beyond the boundaries of any property that has been**

**identified as having existing groundwater contamination that exceeds ch. NR 140 enforcement standards and that will be included on the department's geographic information system registry of closed remediation sites.**

The groundwater plume margin is receding as evidenced by decreasing concentrations depicted in graphs and Mann-Kendell statistical tests located in Attachment H.

**4.) If there are ch. NR 140 enforcement standard exceedances on any property within or partially within the contamination site boundaries, the owner of each property with ch. NR 140 enforcement standard exceedances, other than the owners of public street or highway rights–of–way, railroad rights–of–way or properties owned by the responsible party, shall be sent a letter that contains the standard provisions in Appendix A, at a minimum.**

Letters containing the standard provisions in Appendix A were sent to the property owners along with the Department's natural attenuation handout. Copies of sent letters are located in Attachment B.

**5.) There is no existing or anticipated threat to public health, safety or welfare, or the environment.**

As stated above, contaminants are decreasing by natural processes thereby protecting public health and the environment.

**6.) Except for ch. NR 140, all applicable public health and environmental laws, including chs. NR 700 to 724 and 749, have been complied with.**

All applicable public health and environmental laws have been complied with.

**(2) PERFORMANCE STANDARD. If selected, a performance standard shall be established for a remedial action so that the remedial action is operated and maintained, in compliance with chs. NR 722 and 724 when those chapters are applicable to the site or facility, until the lowest concentration that is practicable is achieved or a permanent engineering control is maintained, or both, so that the residual contaminants left in the soil do not pose a threat to public health, safety and welfare or the environment.**

Natural attenuation of the contaminants in groundwater has been demonstrated by declining contaminant concentrations and a receding groundwater plume. Therefore, natural attenuation of groundwater contaminants will serve as the soil performance standard.

State of Wisconsin
Department of Natural Resources

**WELL/DRILLHOLE/BOREHOLE ABANDONMENT**
Form 3300-5 2/2000 Page 1 of 2

**Notice:** Please complete Form 3300-5 and return it to the appropiate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forteiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management ☒ Remediation/Redevelopment ☐ Other _____

## (1) GENERAL INFORMATION

WI Unique Well No. _____ | DNR Well ID No. | County: Milwaukee

Common Well Name: MW-1 | Gov't Lot (If applicable): ☒ E ☐ W

NW 1/4 of SE 1/4 of Sec. 20 ; T. 7 N; R. 22

Grid Location: _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. ° ' " Long ° ' " or

St. Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: See "Comments" | WI Unique Well No. of Replacement Well: _____

## (2) FACILITY/ OWNER INFORMATION

Facility Name: Milwaukee Plating Company

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 1434 N. 4th Street

City, Village, or Town: Milwaukee

Present Well Owner: Same | Original Owner: Same

Street Address or Route of Owner: 1434 N. 4th Street

City, State, Zip Code: Milwaukee, Wisconsin 53202

## (3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 1/3/91

☒ Monitoring Well
☐ Water Well
☐ Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 19' (From groundsurface)

Casing Diameter (in.) 2

Casing Depth (ft.) 9'

Lower Drillhole Diameter (in.) 8

Was Well Annular Space Grouted? ☒ Yes ☐ No ☐ Unknown

If Yes, To What Depth? 3.5 Feet

Depth to Water (Feet) 13

## (4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

| | | | |
|---|---|---|---|
| Pump & Piping Removed? | ☐ Yes | ☐ No | ☒ Not Applicable |
| Liner(s) Removed? | ☐ Yes | ☐ No | ☒ Not Applicable |
| Screen Removed? | ☐ Yes | ☐ No | ☐ Not Applicable |
| Casing Left in Place? | ☐ Yes | ☐ No | |

| | | |
|---|---|---|
| Was Casing Cut Off Below Surface? | ☐ Yes | ☐ No |
| Did Sealing Material Rise to Surface? | ☒ Yes | ☐ No |
| Did Material Settle After 24 Hours? | ☐ Yes | ☐ No |
| If Yes, Was Hole Retopped? | ☐ Yes | ☐ No |

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain)

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
☒ Bentonite Chips

For monitoring wells and monitoring well boreholes only
☒ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

| (5) Material Used To Fill Well/Drillhole | From (Ft.) | To (Ft.) | No. Yards, Sacks, Sealant or Volume (Circle One) | Mix Ratio or Mud Weight |
|---|---|---|---|---|
| Medium bentonite chips | Surface | 14 | ½ | |
| | | | | |
| | | | | |

(6) Comments: Well was located in area to be excavated for sewer construction. Top 11+ feet of casing will be removed during constructio

(7) Name of Person or Firm Doing Sealing Work: Gerald DeMers | Date of Abandonment: 12/12/03

Signature of Person Doing Work: Gerald DeMers | Date Signed: 12/12/03

Street or Route: 175 N. Corporate | Telephone Number: (262) 792-1282

City, State, Zip Code: Brookfield, WI 53045

**FOR DNR OR COUNTY USE ONLY**

Date Received | Noted By

Comments

#20

## MILWAUKEE PLATING COMPANY

### PRODUCT BAILING RECORD
### FOR WELL MW- #1

| DATE | TIME | PRODUCT THICKNESS BEFORE BAILING (INCHES) | BAILED PRODUCT VOLUME (m1) | QUANTITY OF LIQUID BAILED (gallons) * | INITIALS OF SAMPLER | COMMENTS |
|---|---|---|---|---|---|---|
| 11-17-02 | 1400 | 3" | — | 2gal | DW | Water level @ 12'9" |
| 8-19-02 | 1530 | 4½" | — | 2gal | DW | water level @ 12'8" |
| 10-21-02 | 1540 | 6½" | — | 2gal | DW | water level @ 13'10" |
| 10-30-02 | 1530 | 6" | — | 2gal | DW | water level @ 13'10" |
| 11-5-02 | 1530 | 4" | — | 2gal | DW | water level @ 13'9" |
| 11-11-02 | 1615 | 4" | — | 2gal | DW | water level @ 13'9" |
| 11-19-02 | 1515 | 2" | — | 2gal | DW | water level @ 14'0" |
| 1-20-03 | 1515 | 3½" | — | 2gal | DW | water level @ 14'4" |
| 2-28-03 | 1500 | 3½" | — | 2pts | DW | water level @ 14'6" |
| 4-11-03 | 1140 | 5" | — | 2gal | DW | water level @ 14'4" |
| 5-23-03 | 1420 | 5" | — | 2gal | DW | water level @ 13'8" |
| 7-3-03 | 1515 | 6" | — | 2gal | DW | water level @ 13'9" |
| 7-18-03 | 1300 | 1½" | — | 2gal | DW | water level @ 13' |
| 8-28-03 | 1500 | 1" | — | 2gal | DW | water level @ 13'3½" |
| 9-30-03 | 1300 | 6" | — | 2gal | DW | water level @ 14'0" |
| 10-30-03 | 1450 | 5" | — | 2gal | DW | water level @ 14'0" |
| | | | | | | |
| | | | | | | |
| | | | | | | |

* Total quantity of baled liquid, including groundwater.

**Attachment B**

documentation that offsite parties received notification

7003 1680 0004 5323 0415

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MILWAUKEE WI 532

OFFICIAL USE

| | |
|---|---|
| Postage | $ $0.60 |
| Certified Fee | $2.30 |
| Return Reciept Fee (Endorsement Required) | $0.00 |
| Restricted Delivery Fee (Endorsement Required) | $0.00 |
| Total Postage & Fees | $ $2.90 |

BROOKFIELD WI 53045
JAN 30 2004
Postmark Here
01/30/2004

Sent To: R.C. Schmidt JR
Street, Apt. No.; or PO Box No.: 1422 N. 4th St.
City, State, ZIP+4: Milwaukee WI 53212

PS Form 3800, June 2002 — See Reverse for Instructions

7003 1680 0004 5323 0408

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DELAFIELD WI 530

OFFICIAL USE

| | |
|---|---|
| Postage | $ $0.60 |
| Certified Fee | $2.30 |
| Return Reciept Fee (Endorsement Required) | $0.00 |
| Restricted Delivery Fee (Endorsement Required) | $0.00 |
| Total Postage & Fees | $ $2.90 |

BROOKFIELD WI 53045
JAN 30 2004
Postmark Here
01/30/2004
USPS

Sent To: Brian Tallakson Grohmann Industries
Street, Apt. No.; or PO Box No.: P.O. Box 180377
City, State, ZIP+4: Delafield WI 53018

PS Form 3800, June 2002 — See Reverse for Instructions

UNITED STATES POSTAL SERVICE®

# Track & Confirm

## Shipment Details

You entered 7003 1680 0004 5323 0415

Your item was delivered at 9:47 am on February 02, 2004 in MILWAUKEE, WI 53212.

Here is what happened earlier:

- ACCEPTANCE, January 30, 2004, 11:40 am, BROOKFIELD, WI 53045

**Track & Confirm**

Enter label number:

**Track & Confirm FAQs**

## Notification Options

**Track & Confirm by email** What is this? Go>

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UNITED STATES POSTAL SERVICE

# Track & Confirm

## Shipment Details

You entered 7003 1680 0004 5323 0408

Your item was delivered at 2:31 pm on February 02, 2004 in DELAFIELD, WI 53018.

Here is what happened earlier:

- ACCEPTANCE, January 30, 2004, 11:41 am, BROOKFIELD, WI 53045

**Track & Confirm**

Enter label number:

**Track & Confirm FAQs**

## Notification Options

**Track & Confirm by email** What is this? Go>

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## C. RECEPTORS

1. Potential receptors have been addressed including:
   a: direct contact – soil contamination is below five feet
   b: water supplies – there are no water supply wells within this area, area is served by City of Milwaukee water supply
   c: utility corridors – water table is below utility corridors
   d: basements – water table is below basements of nearby buildings
   e: surface waters – there are no nearby surface water bodies

Table 4-1. Analytical Summary for Soil Chemistry / Milwaukee Plating Company, July 1995

| Chemical Compound | NR 720 Standard | Soil Sample Indentification and Depth Interval | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B-12 7-9 feet | B-13 3-5 feet | B-14 5-7 feet | B-15 5-7 feet | B-16 | | B-17 5-7 feet | B-18 | | B-19 | | B20 (MW-7) 8-10 feet | B21 (MW-8) 6-8 feet | B22 (MW-9) 8-10 feet |
| | | | | | | 5-7 feet | 7-9 feet | | 7-9 feet | 9-11 feet | 3-5 feet | 7-9 feet | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 5.5 | 4,800 | 35 | | 5,200 | 230 | 710 | 95 | 150 | 20 | | | 25 | | |
| n-Butylbenzene | None | 250 | 4,300 | | | 1,100 | 1,900 | | 27 | 740 | | | | | |
| sec-Butylbenzene | None | 52 | 1,100 | | | 550 | 1,100 | | 9.9 | 430 | | | | | |
| tert-Butylbenzene | None | 6.6 | 150 | | | 360 | 1,100 | | | 270 | | | | | |
| cis-1,2-Dichloroethene | None | | | | 1,900 | 13,000 | 46,000 | | | | | 890 | | | |
| trans-1,2-Dichloroethene | None | | | | 57 | 1,400 | 30,000 | | | | | 7.8 | | | |
| Ethylbenzene | 2,900 | 640 | 310 | | 240 | | 350 | | 340 | 520 | | | | | |
| Isopropylbenzene | None | 90 | 430 | | | 490 | 1,300 | | 39 | 140 | | | 9.1 | | |
| p-Isopropylbenzene | None | 26 | 310 | | | 270 | 560 | | | 270 | | | | | |
| Naphthalene | None | 130 | 9,200 | | | 230 | 300 | | 8.8 | 270 | | | | | |
| n-Propylbenzene | None | 650 | 1,600 | | | 120 | 370 | | 260 | | | | | | |
| Tetrachloroethene | None | | | 75 | | 2,800,000 | 230,000 | | | | | | | | |
| Toluene | 1,500 | 5,000 | | | 1,100 | | 360 | | 34 | 120 | 6.1 | | | | |
| Trichloroethene | None | | | 85 | 2,900 | 7,600,000 | 140,000 | | 16 | | 10 | 360 | | | |

Notes:

- All concentrations in parts per billion except gasoline range organics, diesel range organics, and total lead which are reported in parts per million.
- * = Industiral site standard
- Blank entries mean no detection above laboratory quantification limits.
- Shaded values denote a NR720 standard exceedance.
- Samples collected June 19, 20, and 29, 1995.
- Methanol Trip Blank contained 5.6 ppb trans-1,2-dichloroethene.

Table 4-1. Analytical Summary for Soil Chemistry / Milwaukee Plating Company, July 1995

| Chemical Compound | NR 720 Standard | Soil Sample Indentification and Depth Interval | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B-12 7-9 feet | B-13 3-5 feet | B-14 5-7 feet | B-15 5-7 feet | B-16 | | B-17 5-7 feet | B-18 | | B-19 | | B20 (MW-7) 8-10 feet | B21 (MW-8) 6-8 feet | B22 (MW-9) 8-10 feet |
| | | | | | | 5-7 feet | 7-9 feet | | 7-9 feet | 9-11 feet | 3-5 feet | 7-9 feet | | | |
| 1,2,4-Trimethylbenzene | None | 880 | 4,100 | | | 4,800 | 8,100 | | 260 | 1,000 | | | 45 | | |
| 1,3,5-Trimethylbenzene | None | 260 | 1,200 | | | 2,100 | 4,600 | | 80 | 550 | | | 31 | | |
| Vinyl Chloride | None | | | | 130 | | 830 | | | 7.3 | | | | | |
| Xylenes, Total | 4,100 | 8,930 | 760 | | 630 | 1,080 | 2,500 | | 7,750 | 953 | | | | | 18 |
| Total VOCs | | 21,715 | 23,495 | 160 | 12,157 | 10,425,730 | 470,080 | 95 | 8,975 | 5,290 | 16 | 1,258 | 110 | 0 | 18 |

Notes:

- All concentrations in parts per billion except gasoline range organics, diesel range organics, and total lead which are reported in parts per million.
- * = Industiral site standard
- Blank entries mean no detection above laboratory quantification limits.
- Shaded values denote a NR720 standard exceedance.
- Samples collected June 19, 20, and 29, 1995.
- Methanol Trip Blank contained 5.6 ppb trans-1,2-dichloroethene.

Table 4-1. Analytical Summary for Soil Chemistry / Milwaukee Plating Company, July 1995

| Chemical Compound | NR 720 Standard | Soil Sample Indentification and Depth Interval | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B-12 7-9 feet | B-13 3-5 feet | B-14 5-7 feet | B-15 5-7 feet | B-16 5-7 feet | B-16 7-9 feet | B-17 5-7 feet | B-18 7-9 feet | B-18 9-11 feet | B-19 3-5 feet | B-19 7-9 feet | B20 (MW-7) 8-10 feet | B21 (MW-8) 6-8 feet | B22 (MW-9) 8-10 feet |
| **Polynuclear Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Napthalene | None | | 530 | | 1,500 | | | | | 540 | | | | | |
| 1-Methyl Naphthalene | None | | 1,300 | | 460 | | | | | | | | | | |
| 2-Methyl Naphthalene | None | | 2,800 | | 1,600 | | | | | 880 | | | | | |
| Phenanthrene | None | | 490 | | | 360 | 420 | | | | | | | | 710 |
| Fluoranthene | None | | | | | | 330 | | | | | | | | 1,400 |
| Pyrene | None | | | | | | | | | | | | | | 950 |
| Benzo (a) Anthracene | None | | | | | | | | | | | | | | 600 |
| Chrysene | None | | | | | | | | | | | | | | 600 |
| Benzo (b) Fluoranthene | None | | | | | | | | | | | | | | 670 |
| Benzo (a) Pyrene | None | | | | | | | | | | | | | | 570 |
| Gasoline Range Organics | 100 | 49 | 200 | | 150 | 550 | 350 | 15 | 89 | 200 | | | | | |
| Diesel Range Organics | 100 | | 3,900 | | | 120 | 48 | | | | | | | | |
| Total Lead | 500* | 14 | 1.9 | 1.4 | 0.58 | 23 | 6.7 | 4.4 | 4.3 | | 41 | 12 | 16 | 18 | 16 |

Notes:

- All concentrations in parts per billion except gasoline range organics, diesel range organics, and total lead which are reported in parts per million.
- * = Industiral site standard
- Blank entries mean no detection above laboratory quantification limits.
- Shaded values denote a NR720 standard exceedance.
- Samples collected June 19, 20, and 29, 1995.
- Methanol Trip Blank contained 5.6 ppb trans-1,2-dichloroethene.

-- means Not Analyzed

Shaded values denote a NR720 standard exceedance (benzene, ethylbenzene, toluene, and xylenes only).

** Composite sample

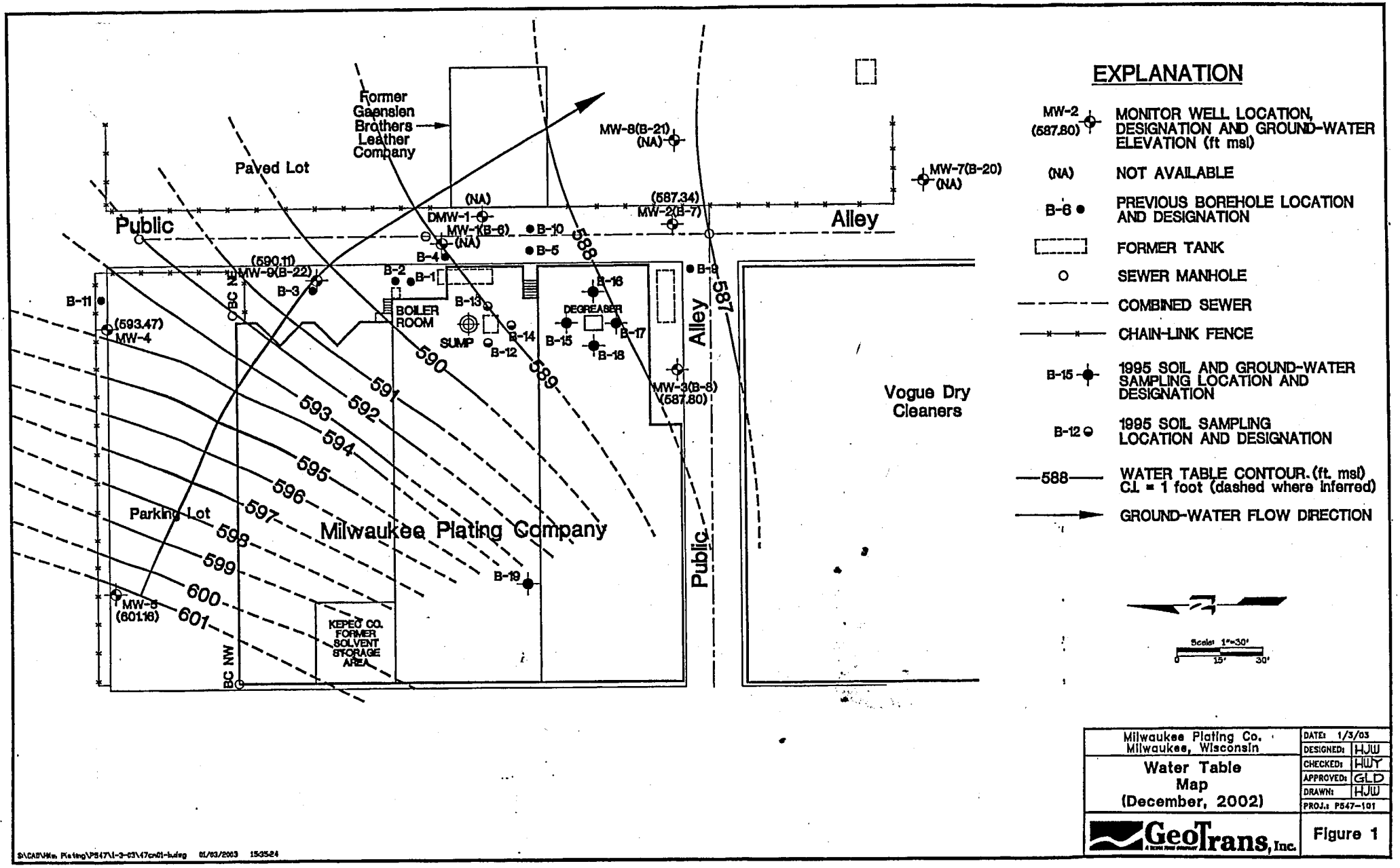
## Table 2-1 Previous Soil Sampling Results

| HYDRO-SEARCH RESULTS | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | B-1 12/89 | SB-1 3000-Gal. UST 12/89 | B-2 2/90 | B-3 2/90 | B-4 2/90 | B-5 2/90 | B-6 (MW-1) 1/91 | B-7 (MW-2) 1/91 | B-8 (MW-3) 1/91 | B-9 1/91 | B-10 1/91 | B-11 3/91 | B-12 (MW-4) 7/92 | B-13 (MW-5) 7/92 |
| Sample Depth (feet) | 14.5-16 | | ** | ** | 13-14.5 | 13-14.5 | 15-17 | 17-19 | 15-17 | 11-13 | 13-15 | 15-17 | | |
| Benzene | 5.73 | 0.19 | 1.8 | <.05 | 11.02 | 6.45 | 0.29 | .07 | <.05 | <.05 | 0.43 | <0.5 | -- | -- |
| Ethylbenzene | 24.64 | 3.40 | 48.75 | <.05 | 11.05 | 0.36 | 0.26 | <.05 | <.05 | <.05 | 0.21 | <0.5 | -- | -- |
| Toluene | 6.46 | 1.59 | 0.47 | <.05 | 3.38 | 0.66 | 0.05 | <.05 | <.05 | <.05 | 0.27 | <0.5 | -- | -- |
| Xylenes | 76.42 | 15.16 | 167 | <.05 | 50 | 1.80 | 0.56 | <.05 | <.05 | <.05 | 1.0 | <0.5 | -- | -- |
| TPH | 477 | 2,926 | 731 | <5 | 517 | 43 | 46 | 35 | <5 | <5 | 110 | <5 | -- | -- |
| GRO | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| DRO | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 6 |

| CENTRAL CONTROLS RESULTS | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | G-1 9/91 | G-4 9/91 | G-5 9/91 | GB-1 10/91 | GB-2 10/91 | DM-1* 4/93 |
| Sample Depth (feet) | 14.5-16 | 17 | 18 | 6' below basement | 6' below basement | 3-4.5 |
| TPH | <4 | 170 | 120 | <10 | 3842 | -- |
| DRO | -- | -- | -- | -- | -- | 14.6 |
| GRO | -- | -- | -- | -- | -- | <10.0 |

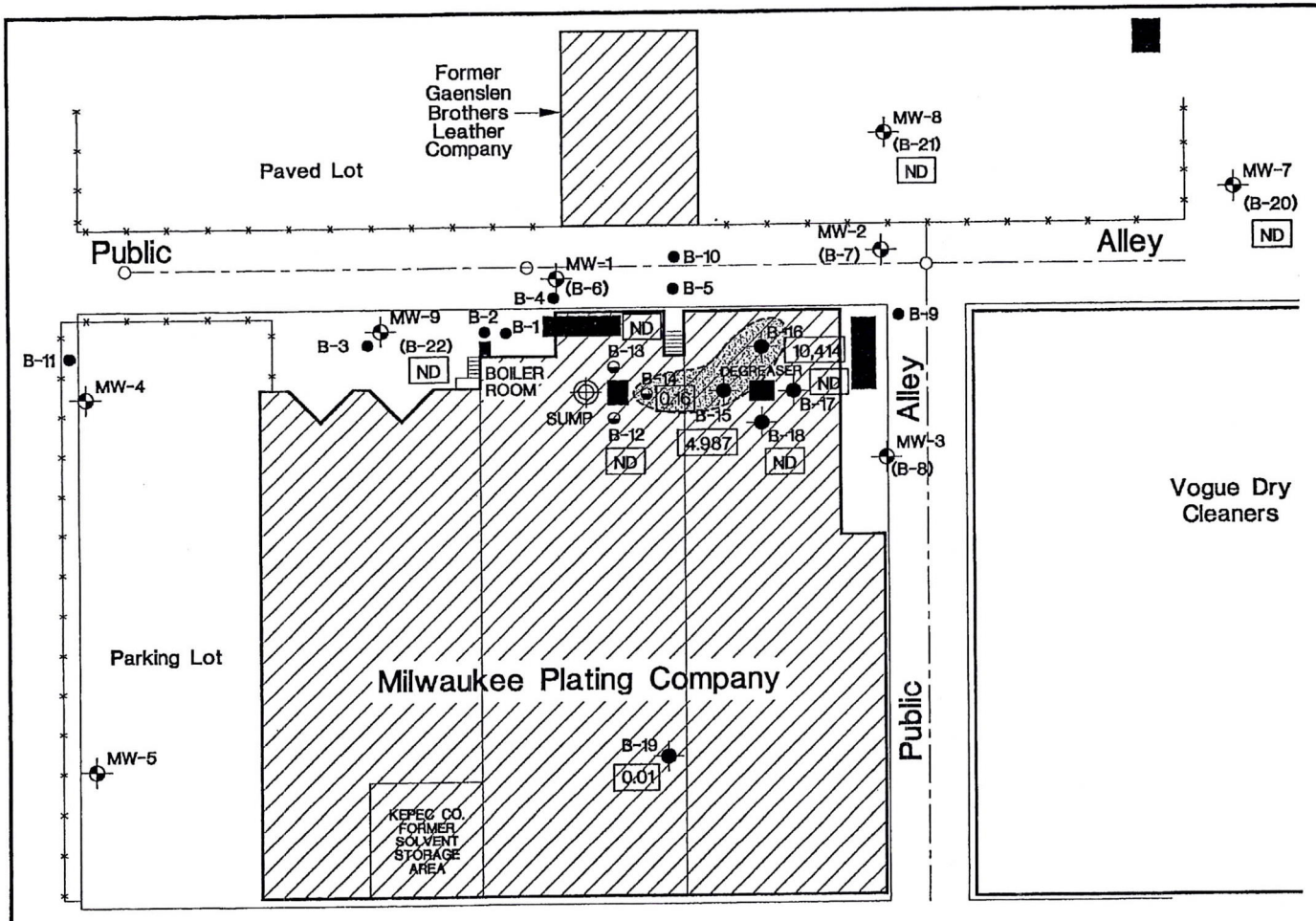
All results in parts per million

*Petroleum VOCs were also analyzed for sample DM-1; none were detected




| | |
|---|---|
| Milwaukee Plating Co. Milwaukee, Wisconsin | DATE: 1/3/03 |
| | DESIGNED: HJW |
| | CHECKED: HJW |
| | APPROVED: GLD |
| | DRAWN: HJW |
| | PROJ.: P547-101 |
| Water Table Map (December, 2002) | GeoTrans, Inc. |
| | Figure 1 |

S:\CAD\Mke. Plating\P547\1-3-03\47cn01-h.dwg 01/03/2003 153524




## EXPLANATION

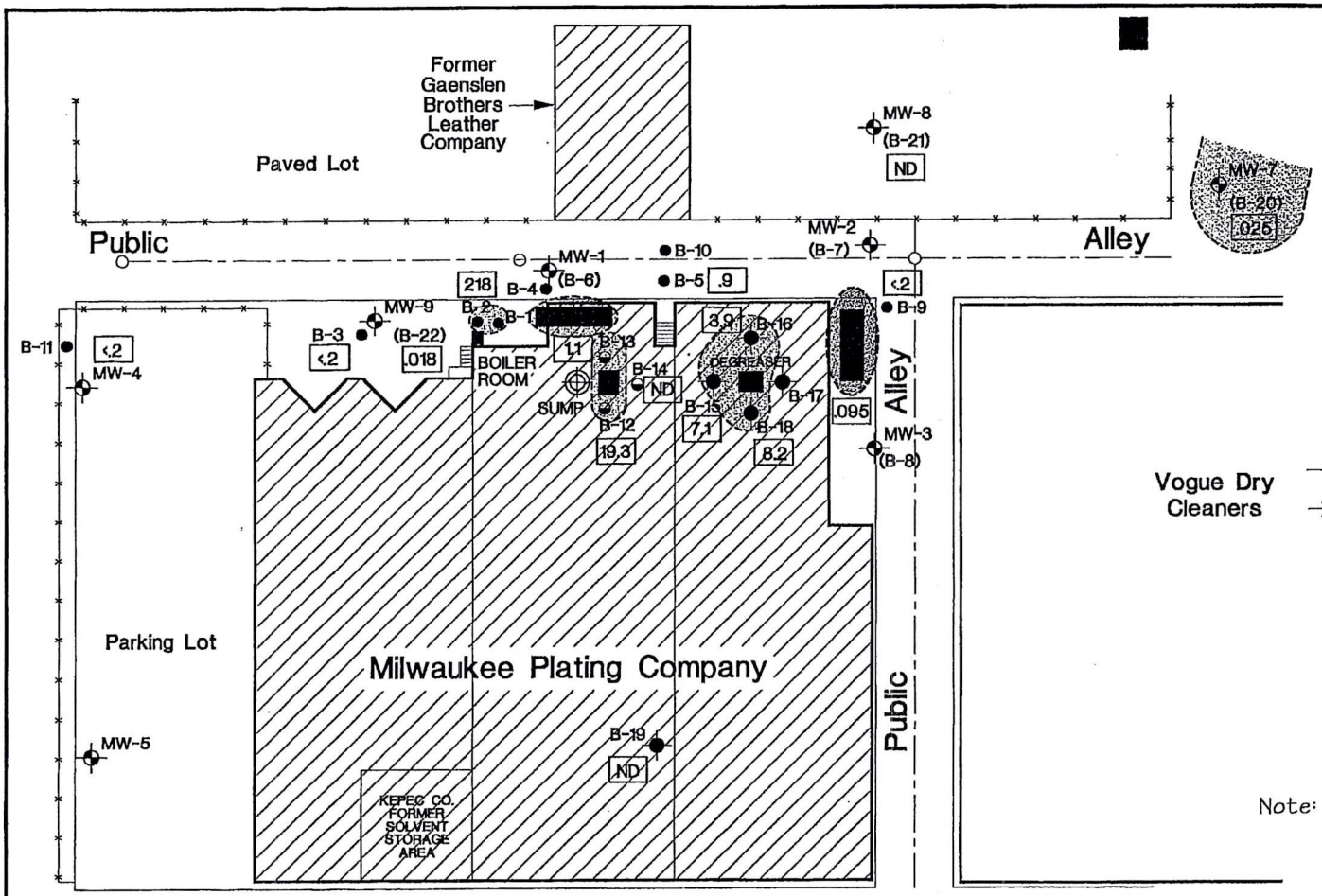
- MW-2 (B-20) — MONITOR WELL LOCATION AND DESIGNATION
- B-6 — PREVIOUS BOREHOLE LOCATION AND DESIGNATION
- 0.01 — TOTAL CLORINATED SOLVENTS AND BREAKDOWN PRODUCTS, ppm (TETRACHLOROETHENE, TRICHLOROETHENE, DICHLOROETHENES AND VINYL CHLORIDE)
- ND — NOT DETECTED, DETECTION LIMIT 0.001 ppm
- FORMER TANK
- SEWER MANHOLE
- COMBINED SEWER
- CHAIN-LINK FENCE
- B-15 — 1995 SOIL AND GROUND-WATER SAMPLING LOCATION AND DESIGNATION
- B-12 — 1995 SOIL SAMPLING LOCATION AND DESIGNATION
- ESTIMATED EXTENT OF CHLORINATED SOLVENT IMPACTS TO SOILS

N

SCALE
0 90
FEET

| | |
|---|---|
| MILWAUKEE PLATING CO. MILWAUKEE, WISCONSIN | DATE: 02/14/96 |
| | DESIGNED: MCL |
| ESTIMATED EXTENT OF CHLORINATED SOLVENT IMPACTS IN SOIL | CHECKED: MAM |
| | APPROVED: GLD |
| | DRAWN: MCL |
| | PROJ.: 303663278 |
| HYDRO-SEARCH INC A Tetra Tech Company | Figure 4-3 |

/hsi/366/3278/3278-b3




## EXPLANATION

- MW-2 (B-20) — MONITOR WELL LOCATION AND DESIGNATION
- B-6 — PREVIOUS BOREHOLE LOCATION AND DESIGNATION
- 7.1 — TOTAL BENZENE, ETHYLBENZENE, TOLUENE, AND XYLENE CONCENTRATION (in parts per million.) NR720 STANDARD FOR BENZENE IS 0.0055 ppm.
- ND — ND MEANS NO DETECT.
- FORMER TANK
- SEWER MANHOLE
- COMBINED SEWER
- CHAIN-LINK FENCE
- B-15 — 1995 SOIL AND GROUND-WATER SAMPLING LOCATION AND DESIGNATION
- B-12 — 1995 SOIL SAMPLING LOCATION AND DESIGNATION
- ESTIMATED EXTENT OF UNSATURATED SOILS EXCEEDING NR720 RCLS FOR BENZENE TOLUENE, XYLENES, GRO OR DRO.

Note: Anayltical results from soil samples from below the water table surface are not included on figure.

N

SCALE

0 90

FEET

MILWAUKEE PLATING CO.
MILWAUKEE, WISCONSIN

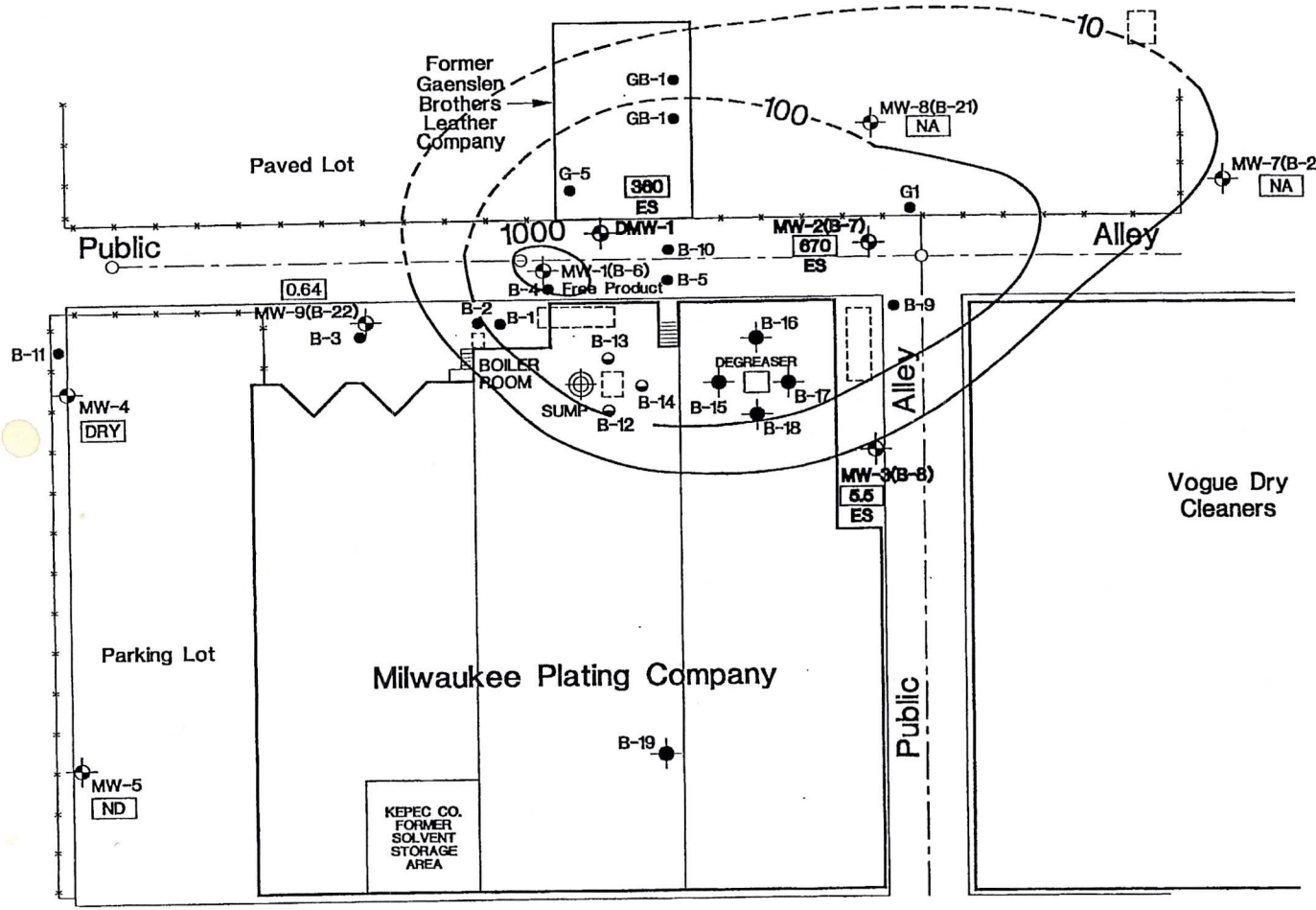
ESTIMATED EXTENT OF NR720 EXCEEDANCES FOR SOILS

| | |
|---|---|
| DATE: | 02/14/96 |
| DESIGNED: | MCL |
| CHECKED: | MAM |
| APPROVED: | GLD |
| DRAWN: | MCL |
| PROJ.: | 303663278 |

HYDRO-SEARCH INC
A Tetra Tech Company

Figure 4-2

/hsl/366/3278/3278-b5




## EXPLANATION

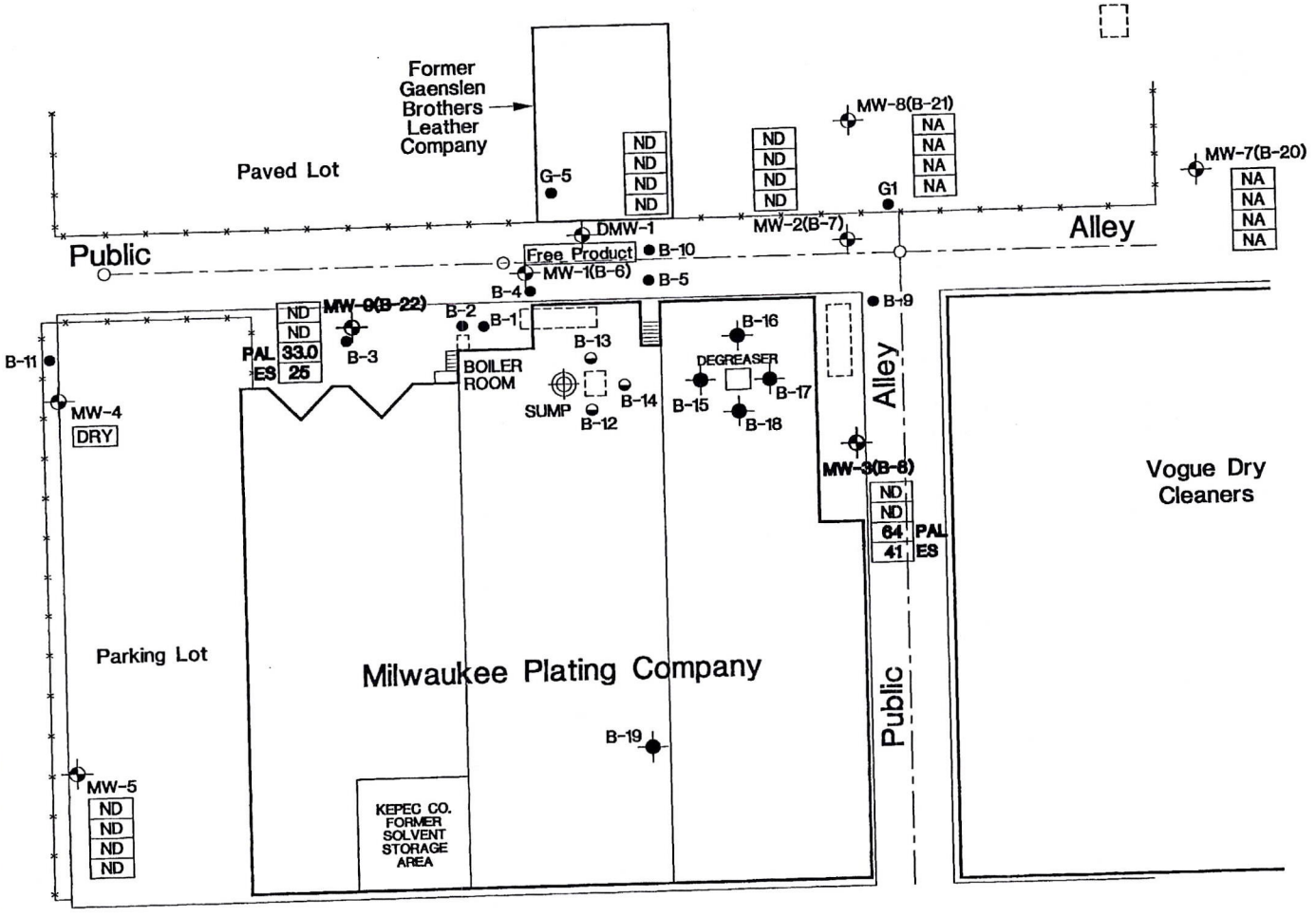
- MW-2 (B-20) — MONITOR WELL LOCATION AND DESIGNATION
- B-6 — PREVIOUS BOREHOLE LOCATION AND DESIGNATION
- FORMER TANK
- SEWER MANHOLE
- COMBINED SEWER
- CHAIN-LINK FENCE
- B-15 — 1995 SOIL AND GROUND-WATER SAMPLING LOCATION AND DESIGNATION
- B-12 — 1995 SOIL SAMPLING LOCATION AND DESIGNATION
- ESTIMATED CONCENTRATION OF BENZENE IMPACTS TO GROUNDWATER, DASHED WHERE INFERRED
- 130 — BENZENE CONCENTRATION (ppb) IN GROUNDWATER
- ES — ENFORCEMENT STANDARD EXCEEDANCE
- PAL — PREVENTATIVE ACTION LIMIT EXCEEDANCE
- NA — NOT AVAILABLE
- ND — NOT DETECTED

Scale: 1"=30'
0 15' 30'

| | |
|---|---|
| Milwaukee Plating Co. Milwaukee, Wisconsin | DATE: 10/29/03 |
| Estimated Extent of Benzene Impacts in Groundwater 2002 | DESIGNED: HJW |
| | CHECKED: HWT |
| | APPROVED: GLD |
| | DRAWN: HJW |
| | PROJ.: P547-101 |

GeoTrans, Inc.

S:\CAD\Mke. Plating\P547\10-29-03\47cm02-b.dwg 10/29/2003 14:39:30




## EXPLANATION

- MW-2 (B-20) — MONITOR WELL LOCATION AND DESIGNATION
- B-6 — PREVIOUS BOREHOLE LOCATION AND DESIGNATION
- FORMER TANK
- SEWER MANHOLE
- COMBINED SEWER
- CHAIN-LINK FENCE
- B-15 — 1995 SOIL AND GROUND-WATER SAMPLING LOCATION AND DESIGNATION
- B-12 — 1995 SOIL SAMPLING LOCATION AND DESIGNATION

| | |
|---|---|
| ND | TETRACHLOROETHENE |
| ND | TRICHLOROETHENE |
| 69.1 | CIS-1,2-DICHLOROETHENE |
| 41 | VINYL CHLORIDE |

(in parts per billion.)

- NA — NOT AVAILABLE
- ND — NOT DETECTED
- ES — ENFORCEMENT STANDARD EXCEEDANCE
- PAL — PREVENTATIVE ACTION LIMIT EXCEEDANCE

Scale: 1"=30'
0 15' 30'

Milwaukee Plating Co.
Milwaukee, Wisconsin

**Chlorinated Solvent Impacts to Groundwater 2002**

| | |
|---|---|
| DATE: | 10/29/03 |
| DESIGNED: | HJW |
| CHECKED: | HWY |
| APPROVED: | GLD |
| DRAWN: | HJW |
| PROJ.: | P547-101 |

GeoTrans, Inc.

S:\CAD\Mkw. Plating\P547\10-29-03\47cm03-b.dwg 10/29/2003 145522

**Table 1: Groundwater Sampling Data**
**Milwaukee Plating Company**

| Well ID | | Benzene | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Chloroethane | Chloromethane | cis-1,2-Dichloroethene | trans-1,2-Dichloroethene | Ethylbenzene | Isopropylbenzene | p-Isopropyl toluene | Methyl-tert-butyl-ether | Methylene Chloride | Naphthalene | n-Propylbenzene | Tetrachloroethene | Toluene | Trichloroethene | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | Vinyl Chloride | Xylenes, Total | Total VOCs | % Change Since Last Sampling Period | % Change Since 7/95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PAL | 0.5 | | | | 80 | 0.3 | 7 | 20 | 140 | | | 12 | 0.5 | 8 | | 0.5 | 200 | 0.5 | 96 total | | 0.02 | 1000 | | | |
| | ES | 5 | | | | 400 | 3 | 70 | 100 | 700 | | | 60 | 5 | 40 | | 5 | 1000 | 5 | 480 total | | 0.2 | 10000 | | | |
| DMW-1 | 4/93 | 3970 | | | | | | | | *154* | | | 9.68 | | | | | 71.3 | | *57.5* | *194* | | 552 | 5008.48 | n/a | n/a |
| | 12/01 | 130 | | | | | | | | 1 | 0.48 | | | *1.2 L* | | 0.36 | | 0.94 | | 0.5 | | | 8.3 | 141.58 | -97% | -97% |
| | 12/02 | 360 | | | | | | | | | | | | | | | | | | | | | 5.1 | 365.1 | 158% | -93% |
| MW-2 | 7/95 | 1600 | 1.2 | 4.2 | | | | | | 17 | 12 | 1.5 | | | | 6.3 | | 5.6 | | 27 | 1.6 | 1.5 | 18.3 | 1696.2 | n/a | n/a |
| | 9/96 | 920 | | | | | | | | | 8.3 | | | | | 6 | | 8 | | | | | 17 | 959.3 | -43% | -43% |
| | 10/97 | 770 | 0.95 | 1.8 | | | | | | 1.2 | 5.2 | 0.36 | | | 0.7 | 3.7 | | 2.5 | | 3.6 | | | 10 | 800.0 | -17% | -53% |
| | 10/97 D | 720 | 1.1 | 2 | | | | | | 1.6 | 6.2 | 0.45 | | | 1 | 4.7 | | 2.8 | | 4.8 | | | 13 | 757.7 | -- | -- |
| | 12/98 | 440 | | | | | | | | | | | | | | | | | | | | | 50 | 490.0 | -39% | -71% |
| | 12/98 D | 720 | 1.5 | | | | | | | 1.1 | 4.8 | | | | 0.7 | 3.3 | | 2.1 | | 3.2 | 0.1 | | 8.8 | 745.6 | -- | -- |
| | 10/99 | 260 | | | | | | | | | | | | | | | | | | | | | 4.3 | 264.3 | -46% | -84% |
| | 12/00 | 350 | | 2.8 | | | | | | | 4.9 | | | 6 L | 2.5 | 3.4 | | 1.4 | | 3.9 | | | 7.9 | 376.8 | 43% | -78% |
| | 12/00 D | 570 | | 2.7 | | | | | | 3.3 | 6.2 | | | 5.2 L | 6.2 | 5.9 | | 2.4 | | 8.4 | 2.2 | | 21 | 628.3 | -- | -- |
| | 12/01 | 300 | | 1.3 | | | | | | 0.52 | 3.5 | | | *2.2 L* | | 2.4 | | 1.2 | *0.5* | 1.7 | | | 4.6 | 315.7 | -16% | -81% |
| | 12/02 | 670 | | | | | | | | | 4.3 | | | | | | | | | | | | 7.9 | 682.2 | 116% | -60% |
| MW-3 | 7/95 | 93 | | | | | | 440 | 14 | | | | | | | | | | 7.3 | | | 700 | | 1254.3 | n/a | n/a |
| | 9/96 | 50 | | | | | | 180 | 14 | | | | | | | | | | | | | 140 | | 384.0 | -69% | -69% |
| | 10/97 | 20 | | | | | | 190 | 12 | | | | | | | | | | | | | 160 | | 382.0 | -1% | -70% |
| | 12/98 | 13 | | | | | | 110 | 7.4 | | 0.51 | | | | | | | | | | | 90 | | 220.9 | -42% | -82% |
| | 10/99 | 12 | | | | | | *62* | 3.6 | | 0.35 | | | | | | | | *1.1* | | | 78 | | 157.1 | -29% | -87% |
| | 12/00 | *1.6* | | | | | | *9.6* | 0.54 | | | | | | | | | | | | | 12 | | 23.74 | -85% | -98% |
| | 12/01 | *0.82* | | | | | | *11* | 1.2 | | | | | *0.79 L* | | | | | | | | 6.6 | | 19.62 | -17% | -98% |
| | 12/02 | 5.5 | | | | | | *64* | 5.1 | | | | | | | | | | | | | 41 | | 115.60 | 489% | -91% |

**Table 1: Groundwater Sampling Data**
**Milwaukee Plating Company**

| Well ID | | Benzene | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Chloroethane | Chloromethane | cis-1,2-Dichloroethene | trans-1,2-Dichloroethene | Ethylbenzene | Isopropylbenzene | p-Isopropyl toluene | Methyl-tert-butyl-ether | Methylene Chloride | Naphthalene | n-Propylbenzene | Tetrachloroethene | Toluene | Trichloroethene | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | Vinyl Chloride | Xylenes, Total | Total VOCs | % Change Since Last Sampling Period | % Change Since 7/95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | 96 total | | 0.02 | 1000 | | | |
| | PAL | 0.5 | | | | 80 | 0.3 | 7 | 20 | 140 | | | 12 | 0.5 | 8 | | 0.5 | 200 | 0.5 | 480 total | | 0.2 | 10000 | | | |
| | ES | 5 | | | | 400 | 3 | 70 | 100 | 700 | | | 60 | 5 | 40 | | 5 | 1000 | | | | | | 0.0 | n/a | n/a |
| MW-5 | 7/95 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 9/96 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 10/97 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 12/98 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 10/99 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 12/00 | | | | | | | | | | | | | *1.1 L* | | | | | | | | | | 0.0 | -- | -- |
| | 12/01 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 12/02 | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| | 12/02 Dup | | | | | | | | | | | | | | | | | | | | | | | 0.0 | -- | -- |
| MW-7 | 7/95 | 43 | 140 | 130 | 26 | | | *7.6* | | 6.4 | 55 | 35 | | | *10* | 60 | 120 | | | 350 | 240 | 72 | 44.6 | 1339.6 | n/a | n/a |
| | 9/96 | 48 | 1 | 3.7 | | 7.9 | | 5.2 | | | 2.2 | | | | | 1.4 | *1.8* | | | 1.1 | | 110 | | 182.3 | -86% | -86% |
| | 10/97 | 35 | 1.2 | 3.8 | 1.3 | | | 1 | | | 1.8 | | | | | 1.9 | | | | 2.2 | 0.84 | 51 | | 100.0 | -45% | -93% |
| | 12/98 | 45 | | 2.1 | | | | | | | 1.1 | 0.27 | | | | 0.82 | | | | 4.5 | 0.21 | 79 | 0.76 | 133.8 | 34% | -90% |
| | 10/99 | 41 | | 2.1 | | | | 0.82 | | | 1.1 | | | | | 0.78 | | | | 1.2 | | 68 | | 115.0 | -14% | -91% |
| | 10/99 D | 35 | | 2.4 | | | | 0.55 | | | 1.2 | | | | | 0.96 | | | | 1.8 | | 44 | | 85.9 | -- | -- |
| | 12/00 | 7.4 | | 2.4 | | | | | | | 1.1 | | | | | 0.55 | | | | 0.74 | | 3.9 | | 16.1 | -86% | -99% |
| | 12/01 | 6.2 | | 1.3 | | | | 0.52 | | | 0.92 | | | | | 0.74 | | 0.13 | | 2.8 | | 1.7 | 0.41 | 14.7 | -7% | -99% |
| MW-8 | 7/95 | 140 | | 5.1 | | | | | | 1.7 | 14 | | | | | 8.2 | | 6.7 | | 5.5 | 1.7 | | 32 | 214.9 | n/a | n/a |
| | 9/96 | 60 | | 1.4 | | | | | | | 2.3 | | | | | | | | | | | | | 63.7 | -70% | -70% |
| | 10/97 | 15 | | 1.2 | | | | | | | 1.5 | | | | | | | | | | | | | 17.7 | -72% | -92% |
| | 12/98 | 9.1 | | | | | | | | | | | | | | | | | | | | | | 9.1 | -49% | -96% |
| | 10/99 | 32 | | 2.2 | | | | | | | 4.1 | | | | | 2.1 | | 1.4 | | 3.6 | 0.2 | | 6 | 51.6 | 467% | -76% |
| | 12/00 | 70 | | | | | | | | 1.8 | 5.8 | | | *2.5 L* | | 4.1 | | 0.96 | | 18 | 3 | | 13 | 116.7 | 126% | -46% |
| | 12/01 | 52 | | 2.4 | | | *0.62* | | | 1.7 | 7.1 | 1.8 | | *1.3 L* | 1 | 6.1 | | 1.5 | | 21 | 2.1 | | 18 | 115.3 | -1% | -46% |
| | 12/01 D | 66 | | 2.4 | | | | | | 1.8 | 7.2 | 1.5 | | *2.2 L* | 0.88 | 5.9 | | 1.6 | | 19 | 2.5 | | 18 | 126.8 | -- | -- |

**Table 1: Groundwater Sampling Data**
**Milwaukee Plating Company**

| Well ID | | Benzene | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Chloroethane | Chloromethane | cis-1,2-Dichloroethene | trans-1,2-Dichloroethene | Ethylbenzene | Isopropylbenzene | p-Isopropyl toluene | Methyl-tert-butyl-ether | Methylene Chloride | Naphthalene | n-Propylbenzene | Tetrachloroethene | Toluene | Trichloroethene | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | Vinyl Chloride | Xylenes, Total | Total VOCs | % Change Since Last Sampling Period | % Change Since 7/95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PAL | 0.5 | | | | 80 | 0.3 | 7 | 20 | 140 | | | 12 | 0.5 | 8 | | 0.5 | 200 | 0.5 | 96 total | | 0.02 | 1000 | | | |
| | ES | 5 | | | | 400 | 3 | 70 | 100 | 700 | | | 60 | 5 | 40 | | 5 | 1000 | 5 | 480 total | | 0.2 | 10000 | | | |
| MW-9 | 7/95 | *1.5* | | | | | | 91 | 7.7 | | | | | | | | *2.5* | | *1.2* | | | 19 | | 122.9 | n/a | n/a |
| | 9/96 | *1.4* | | | | | | 100 | 6.7 | | | | | | | | | | | | | 41 | | 149.1 | 21% | 21% |
| | 10/97 | *0.84* | | | | | | 85 | 4.2 | | | | | | | | | | *0.6* | | | 43 | | 133.6 | -10% | 9% |
| | 12/98 | *0.94* | | | | | | *45* | 2.6 | | | | | | | | | | | | | 27 | | 75.5 | -43% | -39% |
| | 10/99 | *0.52* | | | | | | *35* | 2 | | | | | | | | | | 0.45 | | | 34 | | 72.0 | -5% | -41% |
| | 12/00 | | | | | | | *15* | 0.9 | | | | | | | | | | | | | 20 | | 35.9 | -50% | -71% |
| | 12/01 | *0.65* | | | | | | *12* | 0.84 | | | | | *0.73 L* | | | 0.4 | 0.19 | 0.46 | 0.14 | | 9 | | 23.7 | -34% | -81% |
| | 12/02 | *0.64* | | | | | | *33* | 2.4 | | | | | | | | | | | | | 25 | | 61.0 | 157% | -50% |

All values in ug/L
Blank indicates non-detect
Bold = exceeds Enforcement Standard.
Italic = exceeds Preventive Action Limit

## Table 2 - Previous Ground-water Sampling Results
## Milwaukee Plating Company

| Parameter | Hydro-Search | | | | | | | | | | Dames & Moore | Giles | | | | Gas Tank Sump |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW-1 | | MW-2 | | | MW-3 | | | MW-5 | | DM-1 | G-1 | G-5 | GB1 | GB2 | 1/94 |
| | 1/91 | 1/94 | 1/91 | 3/91 | 1/94 | 1/91 | 7/92 | 1/94 | 7/92 | 1/94 | 4/93 | 9/91 | 9/91 | 10/91 | 10/91 | |
| Benzene | 4800 | 5500 | 450 | 3 | 900 | 570 | 250 | 60 | <1 | <1 | 3970 | 320 | 2600 | 13 | 250 | 2,600 |
| Ethylbenzene | 840 | <1000 | 12 | <1 | 25 | 3.5 | <1 | <5 | <1 | <1 | 154 | 16 | 430 | <5 | <10 | 96 |
| Methyl-t-butyl-ether | -- | <1000 | -- | -- | <50 | -- | -- | <5 | -- | <1 | 9.68 | <1 | <50 | -- | -- | <5 |
| Toluene | 360 | <1000 | 19 | 8 | <50 | 10 | 1 | <5 | <1 | <1 | 71.3 | 6.2 | 110 | <5 | <10 | 320 |
| 1,2,4 Trimethylbenzene | -- | <840 | -- | -- | 42 | -- | -- | <5 | -- | <1 | 57.5 | 36 | 400 | -- | -- | 89 |
| 1,3,5 Trimethylbenzene | -- | <1000 | -- | -- | <50 | -- | -- | <5 | -- | <1 | 194 | 11 | 50 | -- | -- | 52 |
| Xylenes | 2800 | <3000 | 10 | 12 | <150 | 4.8 | <1 | <15 | <1 | <1 | 552 | 51.4 | 980 | <5 | <10 | 400 |
| Chloroform | -- | <1000 | -- | <1 | <50 | -- | <1 | <5 | <1 | <1 | -- | 2.7 | 170 | -- | -- | <5 |
| Vinyl Chloride | -- | <1000 | -- | <10 | <150 | -- | 140 | 130 | <1 | <3 | -- | 22 | <250 | -- | -- | <15 |
| cis-1,2 Dichloroethene | -- | <1000 | -- | -- | <50 | -- | 540 | 150 | <1 | <1 | -- | 5.6 | <50 | -- | -- | 19 |
| trans 1,2 Dichloroethene | -- | <1000 | -- | <1 | <50 | -- | 19 | 12 | <1 | <1 | -- | -- | -- | -- | -- | <5 |
| Methylene Chloride | -- | <5000 | -- | <1 | <250 | -- | <1 | <25 | <1 | <5 | -- | 8.8 | 360 | -- | -- | <25 |
| Isopropylbenzene | -- | <1000 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 7.2 | <50 | -- | -- | <5 |
| N-propylbenzene | -- | <1000 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 6.7 | 160 | -- | -- | 10 |
| 2,2 Dichlorpropane | -- | <1000 | -- | -- | <50 | -- | 260 | <5 | <1 | <1 | -- | <1 | <50 | -- | -- | <5 |
| Trichloroethene | -- | <1000 | -- | <1 | <50 | -- | 14 | <5 | <1 | <1 | -- | <1 | <50 | -- | -- | <5 |
| Butylbenzenes | -- | 1300 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 2.7 | 120 | -- | -- | 51 |
| Naphthalene | -- | 1900 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 2.9 | <50 | -- | -- | 25 |
| DRO | -- | -- | -- | -- | -- | -- | <.1 | -- | <.1 | -- | .609 | -- | -- | -- | -- | -- |
| GRO | -- | -- | -- | -- | -- | -- | 0.6 | -- | <.1 | -- | 10.6 | -- | -- | -- | -- | -- |
| TPH | 110 | -- | 8 | 14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Note: Floating product was observed in MW-1 on 3/91 and 7/92 and a product sheen was observed on MW-2 on 7/92
All detects are µg/ℓ except for DRO, GRO, and TPH which are mg/ℓ.
-- Not analyzed
Shaded values denote a NR140 Enforcement Standard Exceedance
Underlined values denote a Preventive Action Limit Exceedance

**State of Wisconsin**
**Department of Natural Resources**
**Remediation and Redevelopment Program**

**Mann-Kendall Statistical Test**
**Form 4400-215 (2/2001)**

**Notice:** This form is the DNR supplied spreadsheet referenced in Appendices A of Comm 46 and NR 746, Wis. Adm. Code. It is provided to consultants as an optional tool for groundwater contaminant trend analysis to support site closure requests under s. Comm 46.07, Comm 46.08, NR 746.07, NR 746.08, Wis. Adm. Code. Use this form or a manual method when seeking case closure under those rules. Earlier versions of this form should not be used.

**Instructions:** Do not change formulas or other information in cells with a blue background, only cells with a yellow background are used for data entry. To use the spreadsheet, provide at least four rounds and not more than ten rounds of data that is not seasonally affected. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" or "DATE ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at both 80 percent and 90 percent confidence levels. If a declining trend is present at 80 percent but not at 90 percent, a site is still eligible for closure under Comm 46 and NR 746 provided that other conditions in those rules are met. If an increasing or decreasing trend is not present, an additional coefficient of variation test is used to test for stability, as proposed by Wiedemeier et al, 1999. For additional information, refer to the Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name : Milwaukee Plating Co. | BRRTS No. = 03-41-000762 | Well Number = MW-2

| Event Number | Sampling Date (most recent last) | Compound -> Benzene Concentration (leave blank if no data) | Concentration (leave blank if no data) | Concentration (leave blank if no data) | Concentration (leave blank if no data) | Concentration (leave blank if no data) | Concentration (leave blank if no data) |
|---|---|---|---|---|---|---|---|
| 1 | Jul-95 | 1600 | | | | | |
| 2 | Sep-96 | 920 | | | | | |
| 3 | Oct-97 | 770 | | | | | |
| 4 | Dec-98 | 440 | | | | | |
| 5 | Oct-99 | 260 | | | | | |
| 6 | Dec-00 | 350 | | | | | |
| 7 | 1-Dec - 02 | 300 | | | | | |
| 8 | 2-Dec - 02 | 670 | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| | Mann Kendall Statistic (S) = | -16.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Number of Rounds (n) = | 8 | 0 | 0 | 0 | 0 | 0 |
| | Average = | 663.75 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Standard Deviation = | 446.796 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Coefficient of Variation(CV)= | 0.673 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Error Check, Blank if No Errors Detected | | n<4 | n<4 | n<4 | n<4 | n<4 |
| | Trend ≥ 80% Confidence Level | DECREASING | n<4 | n<4 | n<4 | n<4 | n<4 |
| | Trend ≥ 90% Confidence Level | DECREASING | n<4 | n<4 | n<4 | n<4 | n<4 |
| | Stability Test, If No Trend Exists at 80% Confidence Level | NA | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 |

Data Entry By = KFL | Date = 29-Oct-03 | Checked By =

**State of Wisconsin**
**Department of Natural Resources**
**Remediation and Redevelopment Program**

**Mann-Kendall Statistical Test**
**Form 4400-215 (2/2001)**

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Site Name : Milwaukee Plating Co. | BRRTS No. = 03-41-000762 | Well Number = MW-3

| Event Number | Sampling Date (most recent last) | Benzene Concentration (leave blank if no data) | Concentration (leave blank if no data) | Vinyl Chloride Concentration (leave blank if no data) | Concentration (leave blank if no data) | cis-1,2-Dichloroethene Concentration (leave blank if no data) | Concentration (leave blank if no data) |
|---|---|---|---|---|---|---|---|
| Compound -> | | | | | | | |
| 1 | Jul-95 | 93 | | 700 | | 440 | |
| 2 | Sep-96 | 50 | | 140 | | 180 | |
| 3 | Oct-97 | 20 | | 160 | | 190 | |
| 4 | Dec-98 | 13 | | 90 | | 110 | |
| 5 | Oct-99 | 12 | | 78 | | *62* | |
| 6 | Dec-00 | *1.6* | | 12 | | *9.6* | |
| 7 | 1-Dec 01 | *0.82* | | 6.6 | | *11* | |
| 8 | 2-Dec 01 | 5.5 | | 41 | | *64* | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| | Mann Kendall Statistic (S) = | -24.0 | 0.0 | -22.0 | 0.0 | -18.0 | 0.0 |
| | Number of Rounds (n) = | 8 | 0 | 8 | 0 | 8 | 0 |
| | Average = | 24.49 | #DIV/0! | 153.45 | #DIV/0! | 133.33 | #DIV/0! |
| | Standard Deviation = | 31.842 | #DIV/0! | 227.683 | #DIV/0! | 141.496 | #DIV/0! |
| | Coefficient of Variation(CV)= | 1.300 | #DIV/0! | 1.484 | #DIV/0! | 1.061 | #DIV/0! |
| Error Check, Blank if No Errors Detected | | | n<4 | | n<4 | | n<4 |
| Trend ≥ 80% Confidence Level | | DECREASING | n<4 | DECREASING | n<4 | DECREASING | n<4 |
| Trend ≥ 90% Confidence Level | | DECREASING | n<4 | DECREASING | n<4 | DECREASING | n<4 |
| Stability Test, If No Trend Exists at 80% Confidence Level | | NA | n<4<br>n<4 | NA | n<4<br>n<4 | NA | n<4<br>n<4 |

Data Entry By = KFL | Date = 29-Oct-03 | Checked By =

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Site Name : Milwaukee Plating Co. | BRRTS No. = 03-41-000762 | Well Number = MW-7

| Event Number | Sampling Date (most recent last) | Benzene Concentration (leave blank if no data) | Concentration (leave blank if no data) | Vinyl Chloride Concentration (leave blank if no data) | cis-1,2-Dichloroethene Concentration (leave blank if no data) | Concentration (leave blank if no data) | Concentration (leave blank if no data) |
|---|---|---|---|---|---|---|---|
| | Compound -> | | | | | | |
| 1 | Jul-95 | 43 | | 72 | | | |
| 2 | Sep-96 | 48 | | 110 | | | |
| 3 | Oct-97 | 35 | | 51 | | | |
| 4 | Dec-98 | 45 | | 79 | | | |
| 5 | Oct-99 | 41 | | 68 | | | |
| 6 | Dec-00 02 | 7.4 | | 3.9 | | | |
| 7 | 1-Dec 02 | 6.2 | | 1.7 | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| | Mann Kendall Statistic (S) = | -13.0 | 0.0 | -13.0 | 0.0 | 0.0 | 0.0 |
| | Number of Rounds (n) = | 7 | 0 | 7 | 0 | 0 | 0 |
| | Average = | 32.23 | #DIV/0! | 55.09 | #DIV/0! | #DIV/0! | #DIV/0! |
| | Standard Deviation = | 17.825 | #DIV/0! | 39.848 | #DIV/0! | #DIV/0! | #DIV/0! |
| | Coefficient of Variation(CV)= | 0.553 | #DIV/0! | 0.723 | #DIV/0! | #DIV/0! | #DIV/0! |
| Error Check, Blank if No Errors Detected | | | n<4 | | n<4 | n<4 | n<4 |
| Trend ≥ 80% Confidence Level | | DECREASING | n<4 | DECREASING | n<4 | n<4 | n<4 |
| Trend ≥ 90% Confidence Level | | DECREASING | n<4 | DECREASING | n<4 | n<4 | n<4 |
| Stability Test, If No Trend Exists at 80% Confidence Level | | NA | n<4<br>n<4 | NA | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 |

Data Entry By = KFL | Date = 29-Oct-03 | Checked By =

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Site Name : Milwaukee Plating Co. | BRRTS No. = 03-41-000762 | Well Number = MW-8

| Event Number | Sampling Date (most recent last) | Benzene Concentration (leave blank if no data) | Concentration (leave blank if no data) | Vinyl Chloride Concentration (leave blank if no data) | cis-1,2-Dichloroethene Concentration (leave blank if no data) | Concentration (leave blank if no data) | Concentration (leave blank if no data) |
|---|---|---|---|---|---|---|---|
| Compound -> | | | | | | | |
| 1 | Jul-95 | 140 | | | | | |
| 2 | Sep-96 | 60 | | | | | |
| 3 | Oct-97 | 15 | | | | | |
| 4 | Dec-98 | 9.1 | | | | | |
| 5 | Oct-99 | 32 | | | | | |
| 6 | Dec-00 | 70 | | | | | |
| 7 | 1-Dec | 52 | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| | Mann Kendall Statistic (S) = | -3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Number of Rounds (n) = | 7 | 0 | 0 | 0 | 0 | 0 |
| | Average = | 54.01 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Standard Deviation = | 44.183 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Coefficient of Variation(CV)= | 0.818 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| Error Check, Blank if No Errors Detected | | | n<4 | n<4 | n<4 | n<4 | n<4 |
| Trend ≥ 80% Confidence Level | | No Trend | n<4 | n<4 | n<4 | n<4 | n<4 |
| Trend ≥ 90% Confidence Level | | No Trend | n<4 | n<4 | n<4 | n<4 | n<4 |
| Stability Test, If No Trend Exists at 80% Confidence Level | | CV <= 1 STABLE | n<4 n<4 | n<4 n<4 | n<4 n<4 | n<4 n<4 | n<4 n<4 |

Data Entry By = KFL | Date = 29-Oct-03 | Checked By =

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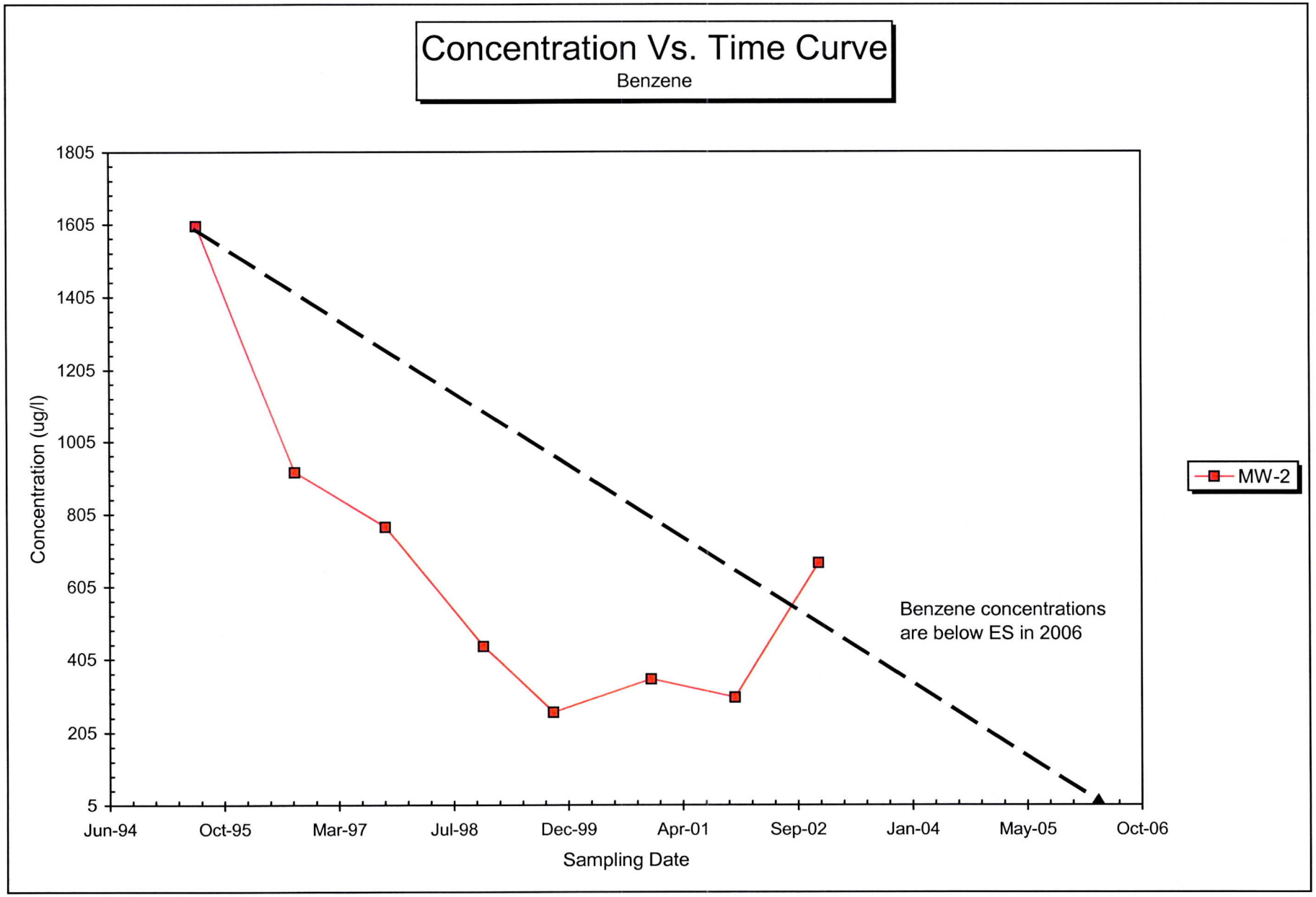
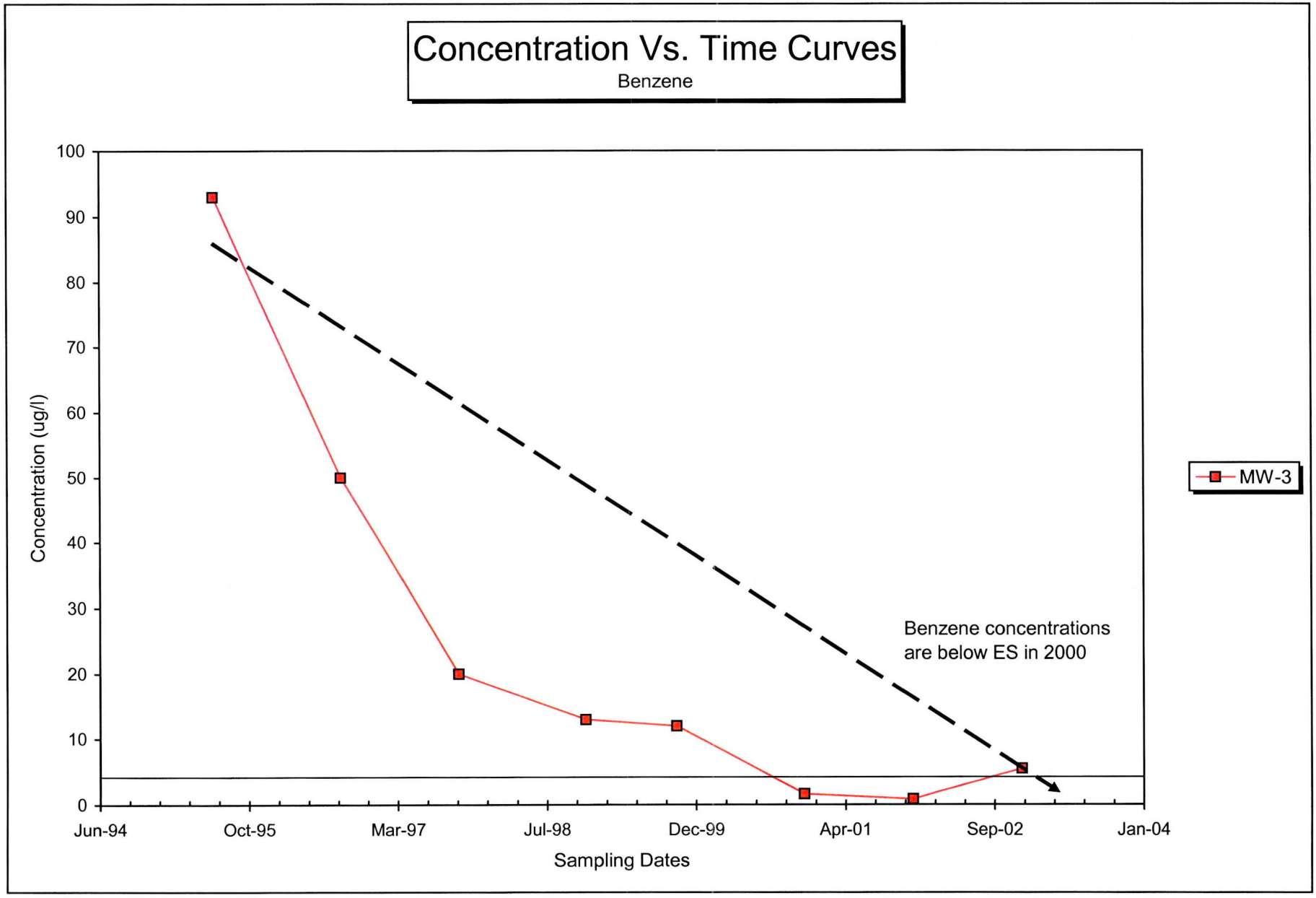
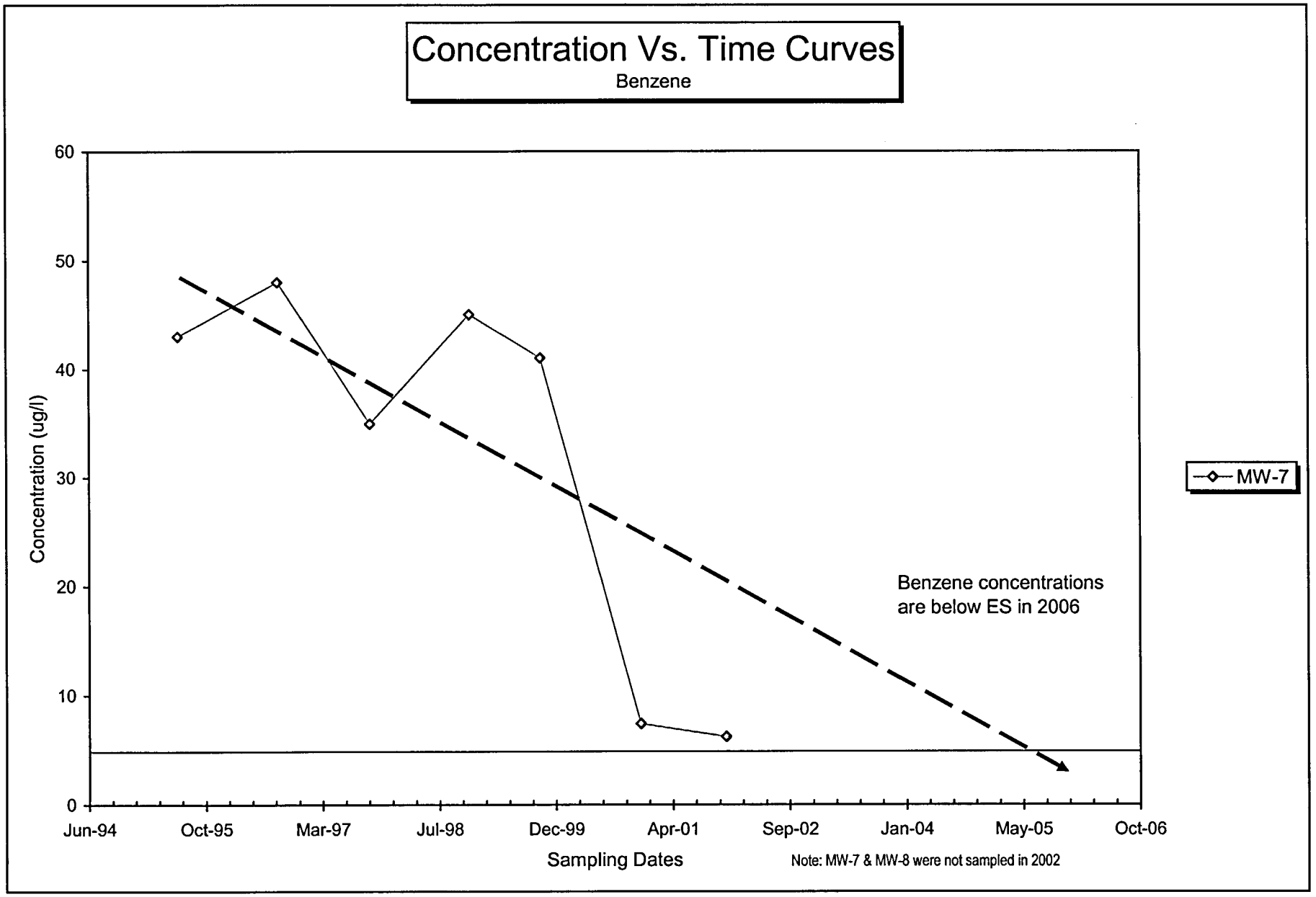
Site Name : Milwaukee Plating Co. | BRRTS No. = 03-41-000762 | Well Number = MW-9

| | Compound -> | Benzene Concentration | Concentration | Vinyl Chloride Concentration | cis-1,2-Dichloroethene Concentration | Concentration | Concentration |
|---|---|---|---|---|---|---|---|
| Event Number | Sampling Date (most recent last) | (leave blank if no data) | (leave blank if no data) | (leave blank if no data) | (leave blank if no data) | (leave blank if no data) | (leave blank if no data) |
| 1 | Jul-95 | *1.5* | | | | | |
| 2 | Sep-96 | *1.4* | | | | | |
| 3 | Oct-97 | *0.84* | | | | | |
| 4 | Dec-98 | *0.94* | | | | | |
| 5 | Oct-99 | *0.52* | | | | | |
| 6 | Dec-00 | | | | | | |
| 7 | 1-Dec | *0.65* | | | | | |
| 8 | 2-Dec | *0.64* | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| | Mann Kendall Statistic (S) = | -15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Number of Rounds (n) = | 7 | 0 | 0 | 0 | 0 | 0 |
| | Average = | 0.93 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Standard Deviation = | 0.384 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | Coefficient of Variation(CV)= | 0.414 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| Error Check, Blank if No Errors Detected | | | n<4 | n<4 | n<4 | n<4 | n<4 |
| Trend ≥ 80% Confidence Level | | **DECREASING** | n<4 | n<4 | n<4 | n<4 | n<4 |
| Trend ≥ 90% Confidence Level | | **DECREASING** | n<4 | n<4 | n<4 | n<4 | n<4 |
| Stability Test, If No Trend Exists at 80% Confidence Level | | NA | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 | n<4<br>n<4 |

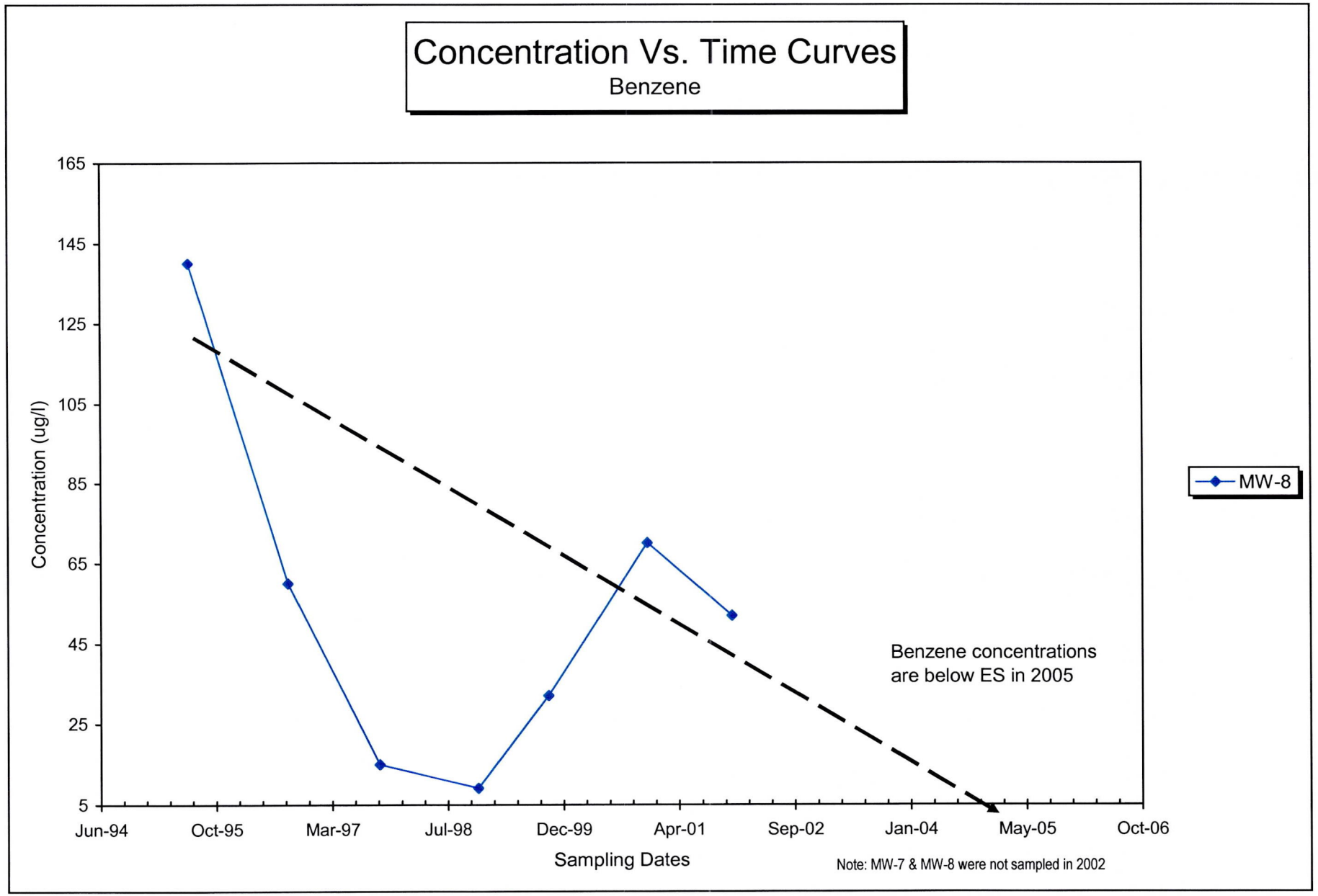
Data Entry By = KFL | Date = 29-Oct-03 | Checked By =

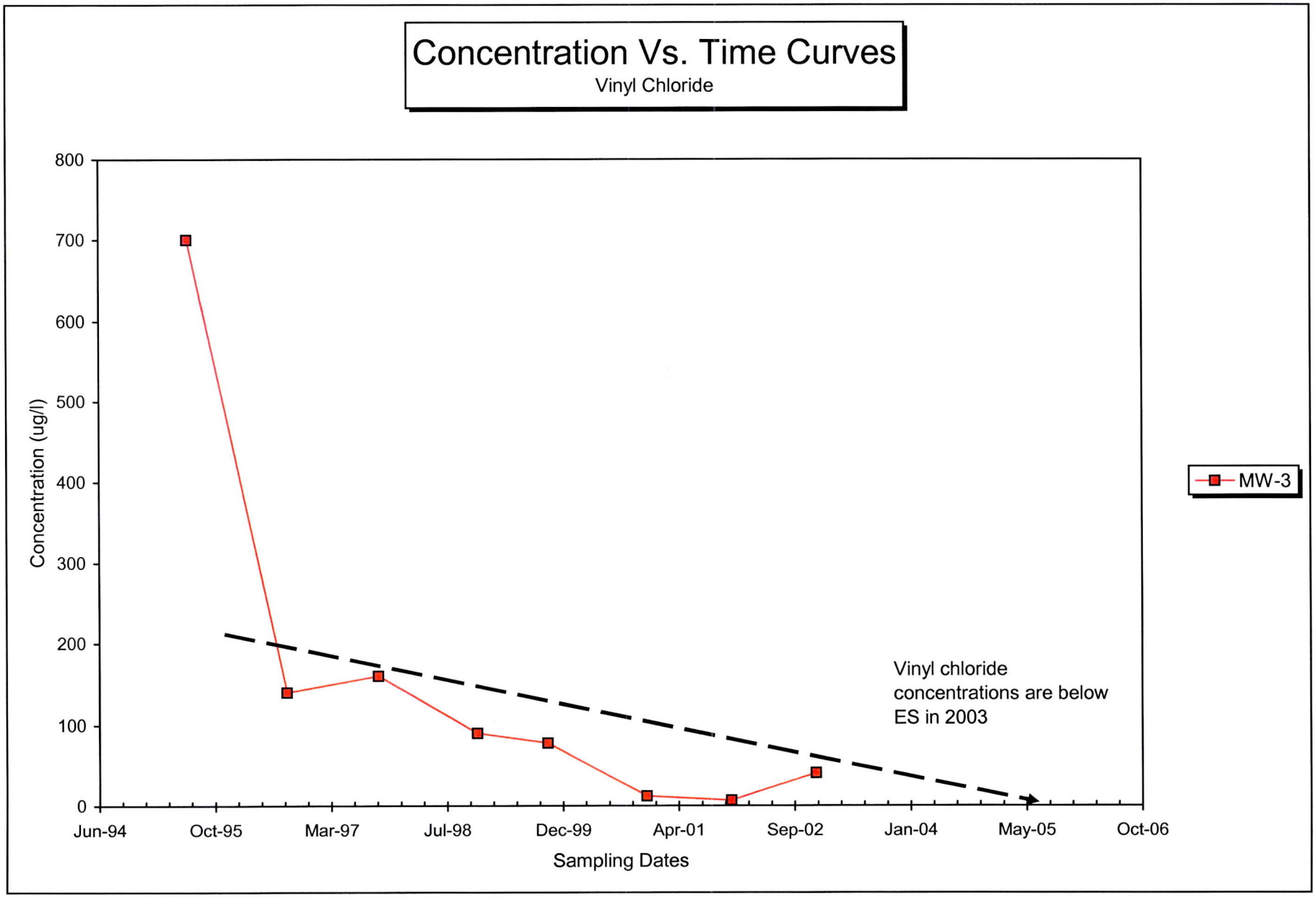

Concentration Vs. Time Curve
Benzene
1805
1605
1405
1205
1005
805
605
405
205
5
Concentration (ug/l)
Jun-94
Oct-95
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Oct-06
Sampling Date
Benzene concentrations
are below ES in 2006
MW-2

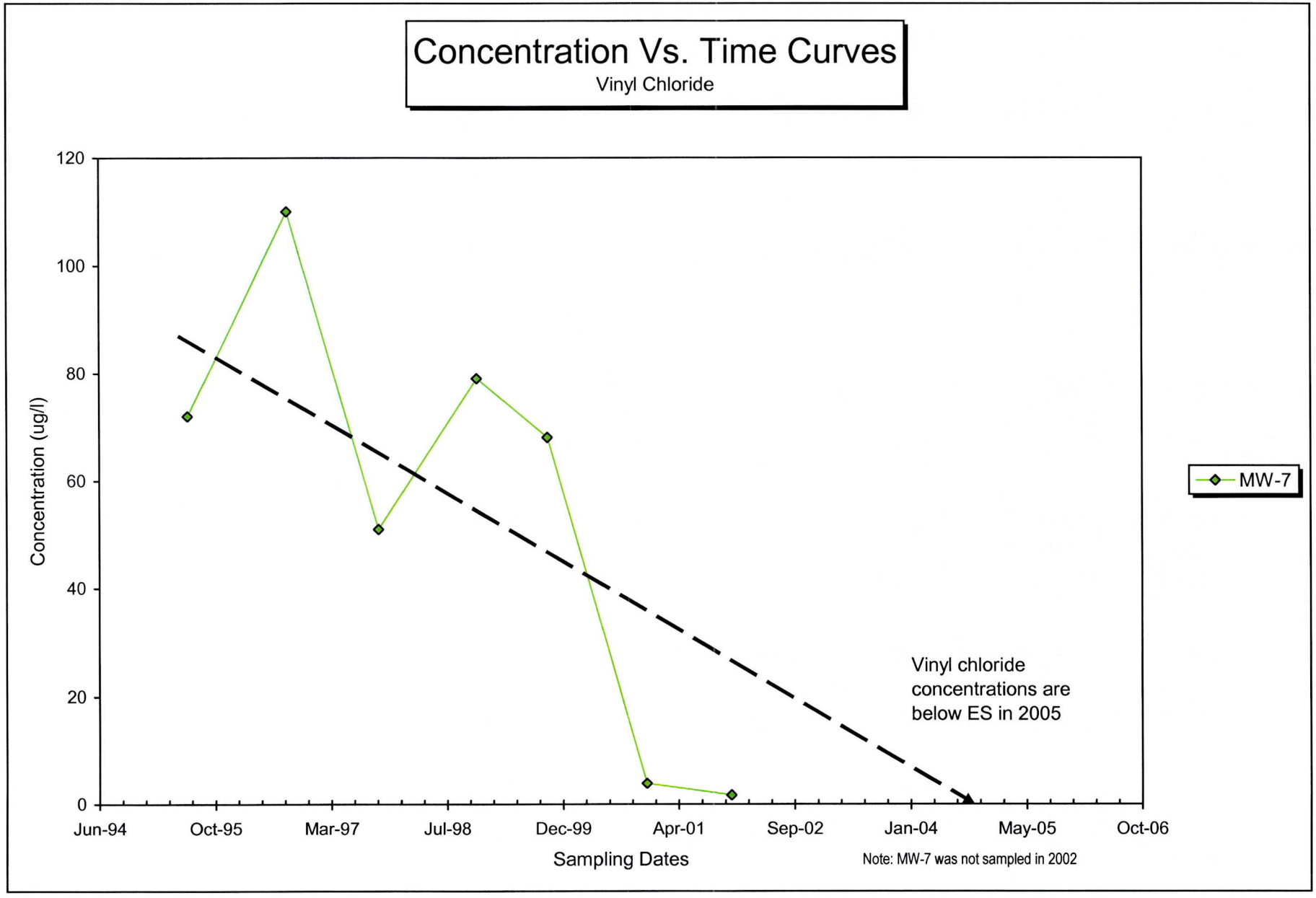

Concentration Vs. Time Curves
Benzene
100
90
80
70
60
50
40
30
20
10
0
Concentration (ug/l)
Jun-94
Oct-95
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
Sampling Dates
Benzene concentrations
are below ES in 2000
MW-3

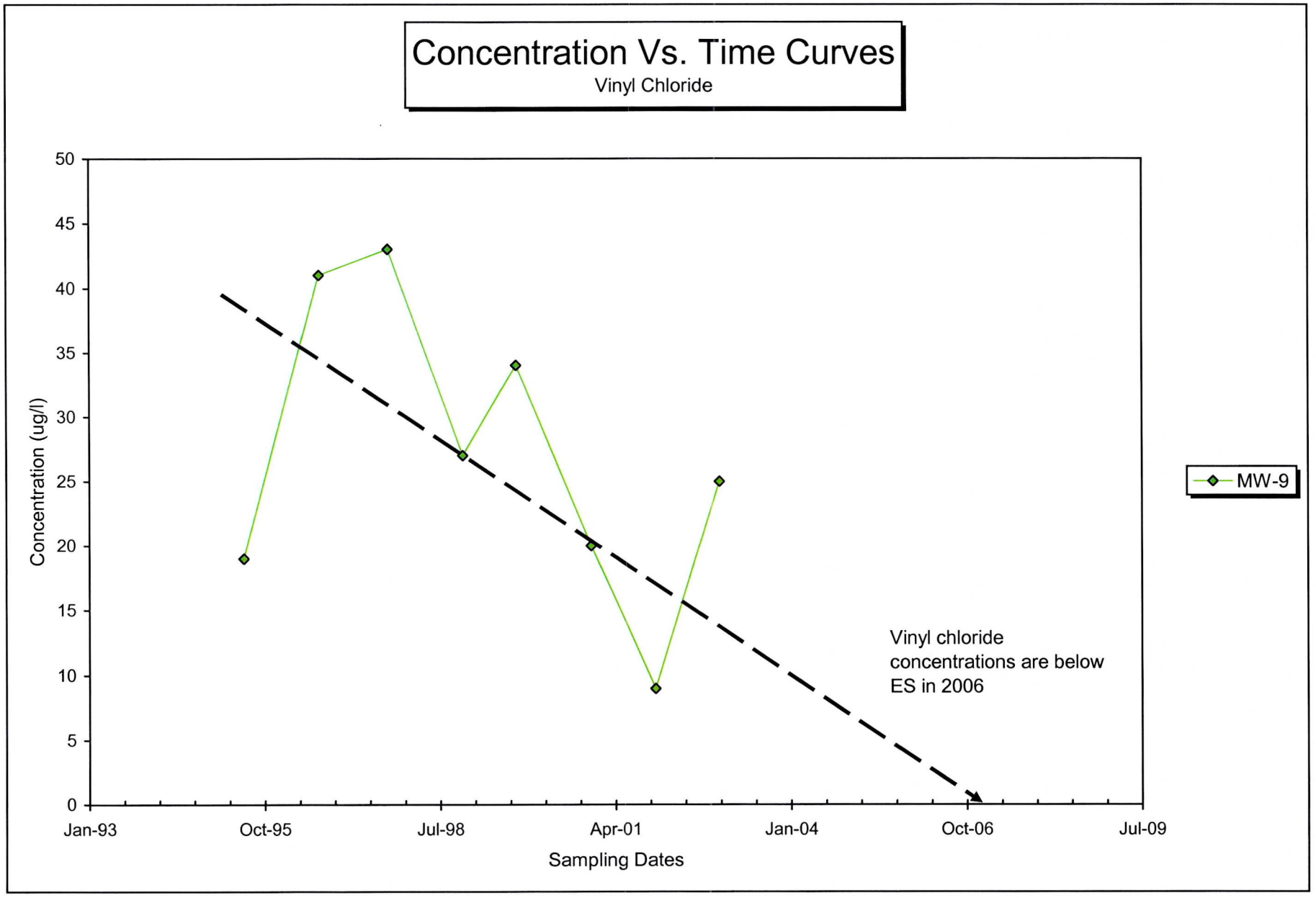



p:\milwplat\graphs2002.xls


Concentration Vs. Time Curves
Benzene
165
145
125
105
85
65
45
25
5
Concentration (ug/l)
Jun-94
Oct-95
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Oct-06
Sampling Dates
MW-8
Benzene concentrations
are below ES in 2005
Note: MW-7 & MW-8 were not sampled in 2002

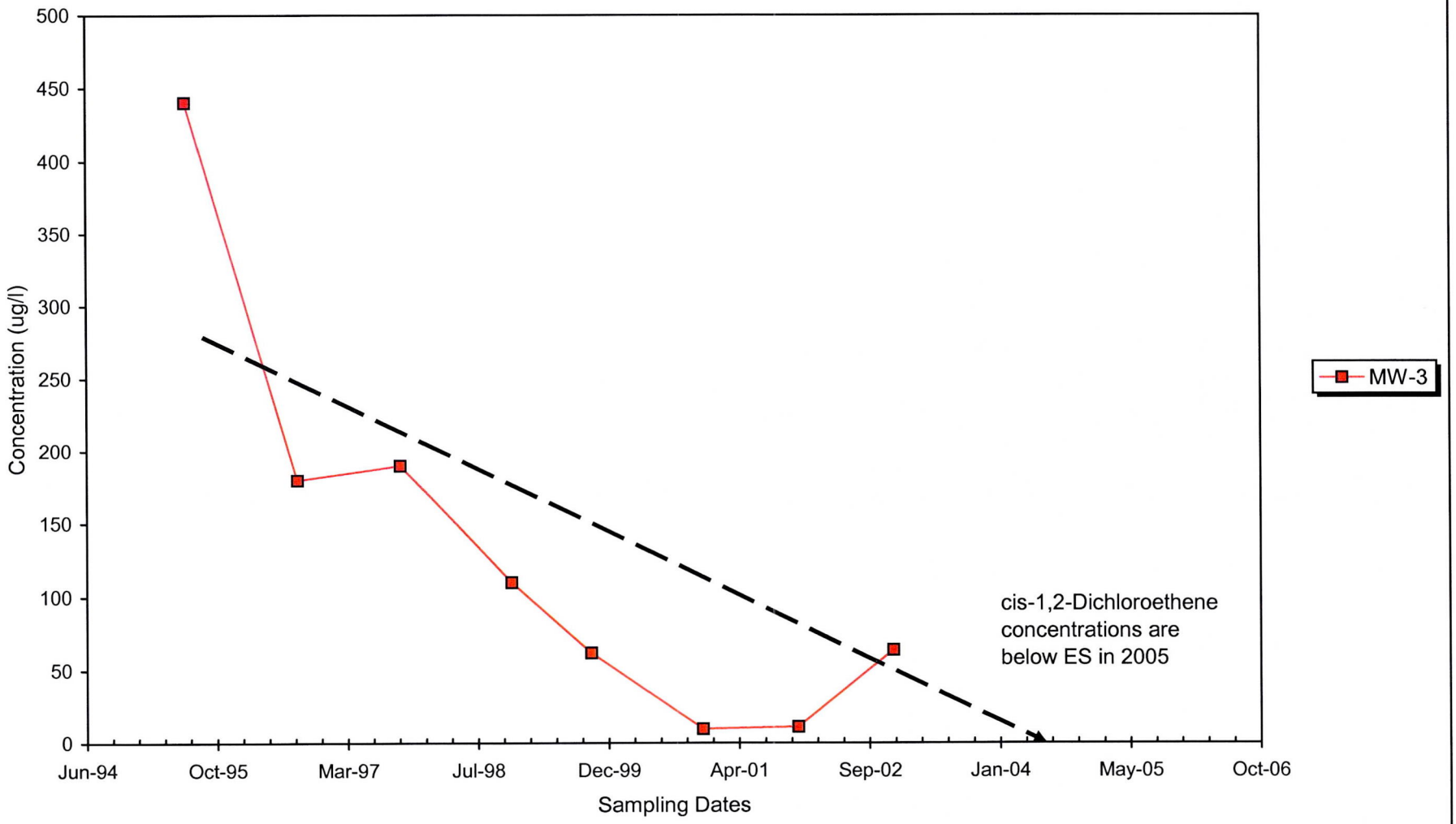

Concentration Vs. Time Curves
Vinyl Chloride
800
700
600
500
400
300
200
100
0
Concentration (ug/l)
Jun-94
Oct-95
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Oct-06
Sampling Dates
MW-3
Vinyl chloride
concentrations are below
ES in 2003


Concentration Vs. Time Curves
Vinyl Chloride
120
100
80
60
40
20
0
Concentration (ug/l)
Jun-94
Oct-95
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Oct-06
Sampling Dates
MW-7
Vinyl chloride concentrations are below ES in 2005
Note: MW-7 was not sampled in 2002


Concentration Vs. Time Curves
Vinyl Chloride
Concentration (ug/l)
50
45
40
35
30
25
20
15
10
5
0
Jan-93
Oct-95
Jul-98
Apr-01
Jan-04
Oct-06
Jul-09
Sampling Dates
MW-9
Vinyl chloride concentrations are below ES in 2006

# Concentration Vs. Time Curves

cis-1,2-Dichloroethene



# Table 2 - Previous Ground-water Sampling Results
## Milwaukee Plating Company

| Parameter | Hydro-Search | | | | | | | | | | Dames & Moore | Giles | | | | Gas Tank Sump |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW-1 | | MW-2 | | | MW-3 | | | MW-5 | | DM-1 | G-1 | G-5 | GB1 | GB2 | |
| | 1/91 | 1/94 | 1/91 | 3/91 | 1/94 | 1/91 | 7/92 | 1/94 | 7/92 | 1/94 | 4/93 | 9/91 | 9/91 | 10/91 | 10/91 | 1/94 |
| Benzene | 4800 | 5500 | 450 | 3 | 900 | 570 | 250 | 60 | <1 | <1 | 3970 | 320 | 2600 | 13 | 250 | 2,600 |
| Ethylbenzene | 840 | <1000 | 12 | <1 | 25 | 3.5 | <1 | <5 | <1 | <1 | 154 | 16 | 430 | <5 | <10 | 96 |
| Methyl-t-butyl-ether | -- | <1000 | -- | -- | <50 | -- | -- | <5 | -- | <1 | 9.68 | <1 | <50 | -- | -- | <5 |
| Toluene | 360 | <1000 | 19 | 8 | <50 | 10 | 1 | <5 | <1 | <1 | 71.3 | 6.2 | 110 | <5 | <10 | 320 |
| 1,2,4 Trimethylbenzene | -- | <840 | -- | -- | 42 | -- | -- | <5 | -- | <1 | 57.5 | 36 | 400 | -- | -- | 89 |
| 1,3,5 Trimethylbenzene | -- | <1000 | -- | -- | <50 | -- | -- | <5 | -- | <1 | 194 | 11 | 50 | -- | -- | 52 |
| Xylenes | 2800 | <3000 | 10 | 12 | <150 | 4.8 | <1 | <15 | <1 | <1 | 552 | 51.4 | 980 | <5 | <10 | 400 |
| Chloroform | -- | <1000 | -- | <1 | <50 | -- | <1 | <5 | <1 | <1 | -- | 2.7 | 170 | -- | -- | <5 |
| Vinyl Chloride | -- | <1000 | -- | <10 | <150 | -- | 140 | 130 | <1 | <3 | -- | 22 | <250 | -- | -- | <15 |
| cis-1,2 Dichloroethene | -- | <1000 | -- | -- | <50 | -- | 540 | 150 | <1 | <1 | -- | 5.6 | <50 | -- | -- | 19 |
| trans 1,2 Dichloroethene | -- | <1000 | -- | <1 | <50 | -- | 19 | 12 | <1 | <1 | -- | -- | -- | -- | -- | <5 |
| Methylene Chloride | -- | <5000 | -- | <1 | <250 | -- | <1 | <25 | <1 | <5 | -- | 8.8 | 360 | -- | -- | <25 |
| Isopropylbenzene | -- | <1000 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 7.2 | <50 | -- | -- | <5 |
| N-propylbenzene | -- | <1000 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 6.7 | 160 | -- | -- | 10 |
| 2,2 Dichlorpropane | -- | <1000 | -- | -- | <50 | -- | 260 | <5 | <1 | <1 | -- | <1 | <50 | -- | -- | <5 |
| Trichloroethene | -- | <1000 | -- | <1 | <50 | -- | 14 | <5 | <1 | <1 | -- | <1 | <50 | -- | -- | <5 |
| Butylbenzenes | -- | 1300 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 2.7 | 120 | -- | -- | 51 |
| Naphthalene | -- | 1900 | -- | -- | <50 | -- | <1 | <5 | <1 | <1 | -- | 2.9 | <50 | -- | -- | 25 |
| DRO | -- | -- | -- | -- | -- | -- | <.1 | -- | <.1 | -- | .609 | -- | -- | -- | -- | -- |
| GRO | -- | -- | -- | -- | -- | -- | 0.6 | -- | <.1 | -- | 10.6 | -- | -- | -- | -- | -- |
| TPH | 110 | -- | 8 | 14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Note: Floating product was observed in MW-1 on 3/91 and 7/92 and a product sheen was observed on MW-2 on 7/92
All detects are µg/ℓ except for DRO, GRO, and TPH which are mg/ℓ.
-- Not analyzed
Shaded values denote a NR140 Enforcement Standard Exceedance
Underlined values denote a Preventive Action Limit Exceedance

## Table 2-1 Previous Soil Sampling Results

| HYDRO-SEARCH RESULTS | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | B-1<br>12/89 | SB-1<br>3000-Gal. UST<br>12/89 | B-2<br>2/90 | B-3<br>2/90 | B-4<br>2/90 | B-5<br>2/90 | B-6 (MW-1)<br>1/91 | B-7 (MW-2)<br>1/91 | B-8 (MW-3)<br>1/91 | B-9<br>1/91 | B-10<br>1/91 | B-11<br>3/91 | B-12 (MW-4)<br>7/92 | B-13 (MW-5)<br>7/92 |
| Sample Depth (feet) | 14.5-16 | | ** | ** | 13-14.5 | 13-14.5 | 15-17 | 17-19 | 15-17 | 11-13 | 13-15 | 15-17 | | |
| Benzene | 5.73 | 0.19 | 1.8 | <.05 | 11.02 | 6.45 | 0.29 | .07 | <.05 | <.05 | 0.43 | <0.5 | -- | -- |
| Ethylbenzene | 24.64 | 3.40 | 48.75 | <.05 | 11.05 | 0.36 | 0.26 | <.05 | <.05 | <.05 | 0.21 | <0.5 | -- | -- |
| Toluene | 6.46 | 1.59 | 0.47 | <.05 | 3.38 | 0.66 | 0.05 | <.05 | <.05 | <.05 | 0.27 | <0.5 | -- | -- |
| Xylenes | 76.42 | 15.16 | 167 | <.05 | 50 | 1.80 | 0.56 | <.05 | <.05 | <.05 | 1.0 | <0.5 | -- | -- |
| TPH | 477 | 2,926 | 731 | <5 | 517 | 43 | 46 | 35 | <5 | <5 | 110 | <5 | -- | -- |
| GRO | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| DRO | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 6 |

| CENTRAL CONTROLS RESULTS | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | G-1<br>9/91 | G-4<br>9/91 | G-5<br>9/91 | GB-1<br>10/91 | GB-2<br>10/91 | DM-1*<br>4/93 |
| Sample Depth (feet) | 14.5-16 | 17 | 18 | 6' below basement | 6' below basement | 3-4.5 |
| TPH | <4 | 170 | 120 | <10 | 3842 | -- |
| DRO | -- | -- | -- | -- | -- | 14.6 |
| GRO | -- | -- | -- | -- | -- | <10.0 |

All results in parts per million

*Petroleum VOCs were also analyzed for sample DM-1; none were detected

-- means Not Analyzed

Shaded values denote a NR720 standard exceedance (benzene, ethylbenzene, toluene, and xylenes only).

** Composite sample

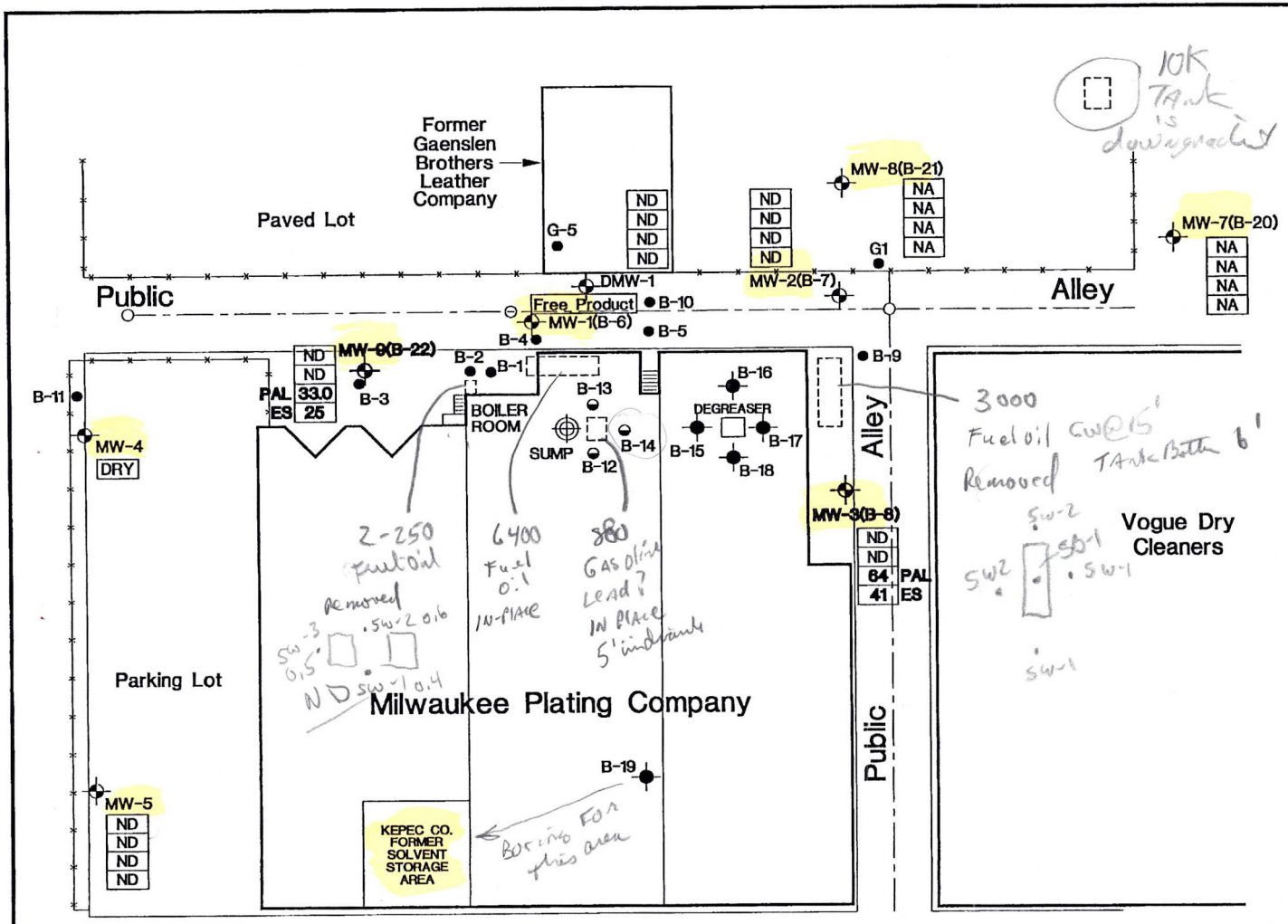
Table 4-1. Analytical Summary for Soil Chemistry / Milwaukee Plating Company, July 1995

| Chemical Compound | NR 720 Standard | Soil Sample Indentification and Depth Interval | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B-12 7-9 feet | B-13 3-5 feet | B-14 5-7 feet | B-15 5-7 feet | B-16 | | B-17 5-7 feet | B-18 | | B-19 | | B20 (MW-7) 8-10 feet | B21 (MW-8) 6-8 feet | B22 (MW-9) 8-10 feet |
| | | | | | | 5-7 feet | 7-9 feet | | 7-9 feet | 9-11 feet | 3-5 feet | 7-9 feet | | | |
| Volatile Organic Compounds | | | | | | | | | | | | | | | |
| Benzene | 5.5 | 4,800 | 35 | | 5,200 | 230 | 710 | 95 | 150 | 20 | | | 25 | | |
| n-Butylbenzene | None | 250 | 4,300 | | | 1,100 | 1,900 | | 27 | 740 | | | | | |
| sec-Butylbenzene | None | 52 | 1,100 | | | 550 | 1,100 | | 9.9 | 430 | | | | | |
| tert-Butylbenzene | None | 6.6 | 150 | | | 360 | 1,100 | | | 270 | | | | | |
| cis-1,2-Dichloroethene | None | | | | 1,900 | 13,000 | 46,000 | | | | | 890 | | | |
| trans-1,2-Dichloroethene | None | | | | 57 | 1,400 | 30,000 | | | | | 7.8 | | | |
| Ethylbenzene | 2,900 | 640 | 310 | | 240 | | 350 | | 340 | 520 | | | | | |
| Isopropylbenzene | None | 90 | 430 | | | 490 | 1,300 | | 39 | 140 | | | 9.1 | | |
| p-Isopropylbenzene | None | 26 | 310 | | | 270 | 560 | | | 270 | | | | | |
| Naphthalene | None | 130 | 9,200 | | | 230 | 300 | | 8.8 | 270 | | | | | |
| n-Propylbenzene | None | 650 | 1,600 | | | 120 | 370 | | 260 | | | | | | |
| Tetrachloroethene | None | | | 75 | | 2,800,000 | 230,000 | | | | | | | | |
| Toluene | 1,500 | 5,000 | | | 1,100 | | 360 | | 34 | 120 | 6.1 | | | | |
| Trichloroethene | None | | | 85 | 2,900 | 7,600,000 | 140,000 | | 16 | | 10 | 360 | | | |

Notes:

- All concentrations in parts per billion except gasoline range organics, diesel range organics, and total lead which are reported in parts per million.
- * = Industiral site standard
- Blank entries mean no detection above laboratory quantification limits.
- Shaded values denote a NR720 standard exceedance.
- Samples collected June 19, 20, and 29, 1995.
- Methanol Trip Blank contained 5.6 ppb trans-1,2-dichloroethene.

1973 - 1986




## EXPLANATION

- MW-2 (B-20) — MONITOR WELL LOCATION AND DESIGNATION
- B-6 — PREVIOUS BOREHOLE LOCATION AND DESIGNATION
- FORMER TANK
- SEWER MANHOLE
- COMBINED SEWER
- CHAIN-LINK FENCE
- B-15 — 1995 SOIL AND GROUND-WATER SAMPLING LOCATION AND DESIGNATION
- B-12 — 1995 SOIL SAMPLING LOCATION AND DESIGNATION

| | |
|---|---|
| ND | TETRACHLOROETHENE |
| ND | TRICHLOROETHENE |
| 69.1 | CIS-1,2-DICHLOROETHENE |
| 41 | VINYL CHLORIDE |

(in parts per billion.)

- NA — NOT AVAILABLE
- ND — NOT DETECTED
- ES — ENFORCEMENT STANDARD EXCEEDANCE
- PAL — PREVENTATIVE ACTION LIMIT EXCEEDANCE

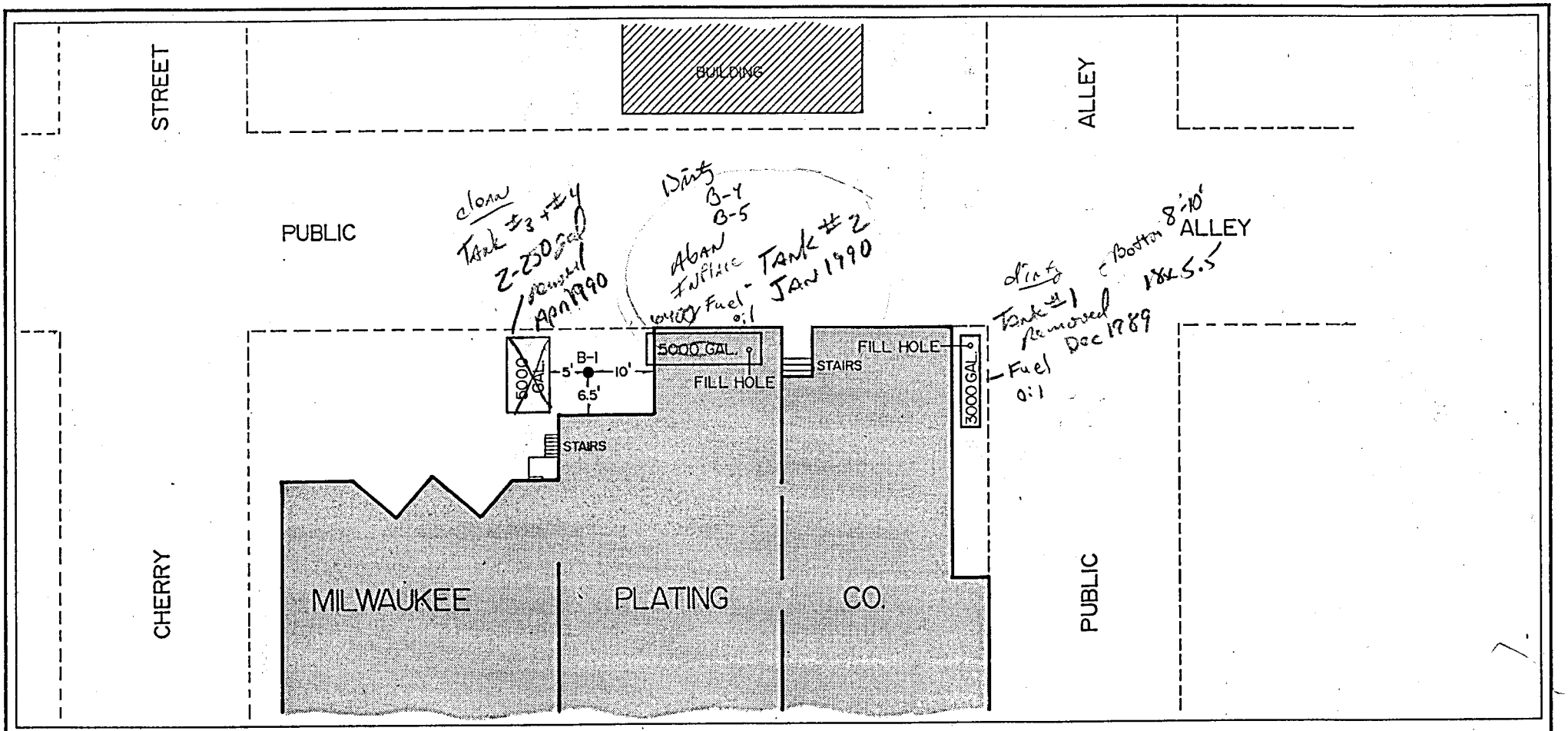
Milwaukee Plating Co.
Milwaukee, Wisconsin

**Chlorinated Solvent Impacts to Groundwater 2002**

| | |
|---|---|
| DATE: | 10/29/03 |
| DESIGNED: | HJW |
| CHECKED: | HWY |
| APPROVED: | GLD |
| DRAWN: | HJW |
| PROJ.: | P547--101 |

GeoTrans, Inc.

S:\CAD\Milw. Plating\P547\10-29-03\47cm03-b.dwg 10/29/2003 14:55:22




## EXPLANATION

| | |
|---|---|
| ● B-1 | BOREHOLE LOCATION AND DESIGNATION |
| 5000 | DIM. 17'8"x7' UST |
| 3000 | DIM. 18'x5'4" UST |
| 5000 | DIM. 13'x9' UST |

NO SCALE

N

Hydro-Search, Inc.
HYDROLOGISTS
GEOLOGISTS
ENGINEERS
Reno Denver Milwaukee Irvine

MILWAUKEE PLATING CO.
MILWAUKEE, WISC.

SITE LAYOUT

| PROJECT: 366E12433 | DATE: 12/14/89 | REVISION DATE: | FIGURE |
|---|---|---|---|

Shallow GW