ANNUAL
OPERATION & MAINTENANCE REPORT
October 2001 Through September 2002

N.W. MAUTHE
GROUNDWATER TREATMENT SYSTEM
Appleton, Wisconsin

Prepared For The
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

MCO
Midwest Contract Operations, Inc.

February 17, 2003
MCO. No. M0050-920764.16
JMS:smd

MCO
Midwest Contract Operations, Inc.
P.O. BOX 418 MENASHA, WI 54952-0418
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February 17, 2003

Ms. Jennifer Tobias
Wisconsin Department Of Natural Resources
625 East County Road "Y", Suite #700
Oshkosh, WI 54901-9731

Re: N.W. Mauthe Groundwater Treatment System
Appleton, Wisconsin
Annual Operation & Maintenance Report
MCO. No. M0050-920764.16

Dear Ms. Tobias:

Enclosed, please find Midwest Contract Operations, Inc.'s "Annual Operation & Maintenance Report" for the N.W. Mauthe Groundwater Treatment System, 725 South Outagamie Street, Appleton, Wisconsin.

This report includes a site history, a summary of treatment system performance and monitoring, a summary of compliance sampling and reporting, operation and maintenance activities over the last year, and conclusions and recommendations for the site.

If you have any questions or require additional information, feel free to contact me.

Very truly yours,

MIDWEST CONTRACT OPERATIONS, INC.

John M. Stoeger
Project Manager

JMS:smd

Enclosure: "Annual Operation & Maintenance Report"

PROFESSIONAL QUALIFICATIONS STATEMENT

I, Thomas J. Kispert, hereby certify I am a Registered Professional Engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E-4, Wisconsin Administrative Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wisconsin Administrative Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements of chs. NR 700 to 726, Wisconsin Administrative Code."

Thomas J. Kispert, P.E., C.C.S. / P.E. No. E-26225
Senior Project Engineer

2-25-03
Date

WISCONSIN
THOMAS J.
KISPERT
E-26225
NEENAH
WIS.
PROFESSIONAL ENGINEER
[Stamp]

2-25-03

"I, Stuart A. Boerst, hereby certify that I am a Hydrogeologist, as the term is defined in s.NR 712.03(1), Wisconsin Administrative Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements of chs. NR 700 to 726, Wisconsin Administrative Code."

Stuart A. Boerst, P.S., P.H.
Hydrogeologist

02/25/03
Date

WISCONSIN
STUART A.
BOERST
PS-9
NEENAH
WI
PROFESSIONAL SOIL SCIENTIST

2/25/03

WISCONSIN
STUART A.
BOERST
PH-28
NEENAH
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PROFESSIONAL HYDROLOGIST

02/25/03

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I. SITE BACKGROUND

The N.W. Mauthe site is a former electroplating facility, located at 725 South Outagamie Street, Appleton, Wisconsin (Refer to Figure #1, Site Location Map). The property was used for a chrome plating company, from 1960 until 1976. Electroplating of zinc, cadmium and, possibly, copper and silver was conducted from 1978 to 1987 in an adjacent building on the same property. After 1987, all plating operations ceased on the property.

Concerns over sub-surface discharges to the surrounding environment led the Wisconsin Department of Natural Resources (DNR) and United States Environmental Protection Agency (USEPA) to conduct a remedial investigation and clean up of the N.W. Mauthe site and surrounding properties.

The investigation determined the N.W. Mauthe site was contaminated with zinc, cadmium, chromium and cyanide. Additionally, several volatile organic compounds (VOC's) were also present.

Based upon the findings of the remedial investigation, the following actions were taken to remediate the N.W. Mauthe site and adjacent properties of the sub-surface contamination.

A. Demolition and removal of the buildings on the N.W. Mauthe property.

B. Excavation and off-site treatment of soils with a total chromium concentration of greater than 500 mg/kg.

C. Backfilling of the excavation with clean soils, capping the site with 2-feet of clay and topsoil, and the establishment of vegetative cover.

D. Installation of groundwater collection trenches and construction and operation of a groundwater treatment facility to contain and/or control groundwater contamination with ultimate compliance with groundwater Applicable or Relevant and Appropriate Requirements (ARAR's).

E. Improvement or installation of foundation drain systems and cleaning, painting or sealing of basement walls and floors, as needed, for homes or businesses in the area of the site, to prevent seepage of contaminated water into the buildings.

The groundwater collection trench system, the location of sump pump and drain connections, and the groundwater monitoring wells and piezometers associated with the site are shown in Figure #2.

Midwest Contract Operations, Inc. (MCO) began operating the groundwater treatment system in February 1997. CH_2M Hill, the site engineer and project manager for the U.S. EPA, retained responsibility for the overall site operations and the groundwater monitoring wells associated with the treatment system.

The objectives of the collection and treatment system are to reduce the contaminant concentrations in the groundwater to achieve federal drinking water standards and/or state groundwater quality standards, whichever are more stringent.

In October 1998, after the first year of operation and maintenance of the remediation system, the Wisconsin DNR assumed the responsibility from the U.S. EPA for all operation and maintenance of the site. MCO was retained by the Wisconsin DNR for the operation and maintenance of the entire groundwater treatment system, including the groundwater monitoring wells. As of September 2002, MCO has completed 16 rounds of groundwater sampling and is operating the batch treatment process, which is designed to remove chromium from the groundwater. A description of the batch process will be discussed later in this report.

II. BATCH TREATMENT PROCESS

A. Groundwater Treatment System

As part of the remediation phase at the N.W. Mauthe site, a groundwater collection system was installed on and adjacent to the N.W. Mauthe property. Approximately 1,000 lineal feet of coarse sand filled trenching was installed to draw groundwater from the contaminated areas to two collection sumps. From the collection sumps, groundwater is pumped to a 9,000 gallon holding tank, located within the treatment building.

Each batch of groundwater to be treated is pumped from the storage tank to the reaction tank. The batch process treatment system utilizes ferrous sulfate and caustic additions to treat the contaminated groundwater. Through chemical addition, mixing, aeration and settling, the chromium is removed from the groundwater. The fully automated process treats approximately 2,600 gallons per batch (based on physical tank measurements) and is capable of treating four batches per day.

Treated groundwater decants from the reaction tank to the City of Appleton sanitary sewer system. The chromium containing sludge settles to the bottom of the reaction tank. Excess sludge is pumped to a sludge storage tank, also located within the treatment building.

During each discharge, the effluent is tested for hexavalent chromium using a Hach Test kit. The pH is recorded off two meters, located in the reaction tank. The pH values from the two meters are recorded during discharge as the high and low pH values on a daily log sheet. The average of the two pH values is calculated. The effluent wastewater is tested quarterly for total chromium at a DNR approved environmental laboratory.

B. Permit Monitoring & Reporting

The discharge from the groundwater treatment system is tested for hexavalent chromium during each batch discharge using a Hach Hexavalent Chromium test kit. The effluent discharge is also tested quarterly at a DNR certified laboratory and annually for the parameters listed in Table #1. The effluent limits established by the City of Appleton Wastewater Treatment Plant are outlined in the City of Appleton Industrial User Permit, No. 00-21, and are included in Table #1. The permit was reissued by the City of Appleton on June 9, 2000. The only significant change to the permit requirements was the elimination of the annual flow meter calibration requirements and addition of the confirmation of the proper

operation of the flow meter signal converter. The reporting requirements for compliance with the City of Appleton Industrial User Permit and the Wisconsin DNR are summarized below.

1. Monthly Reporting

Monthly reports are submitted to the City of Appleton Wastewater Treatment plant. The reports include total flows for the month, individual batch flows, high, low and average pH of each batch and Hexavalent Chromium concentrations (as measured with a Hach test kit) of each batch. A summary of the batch discharges for this period are contained in Table #2. For the time period covered by this report, there were no exceedances of the effluent discharge limits.

Additionally, the Wisconsin DNR is provided with a monthly report summarizing operations at the site. The monthly reports include MCO's operating invoice for the month, a copy of the City of Appleton monthly report, a list of invoices paid during the month, and a copy of the facility log. Also included in this report is a narrative of any alarm call-outs or non-routine occurrences at the site.

2. Quarterly & Semi-Annual Reporting

Quarterly reports are submitted to the Wisconsin DNR and the City of Appleton covering the time periods of October through December, January through March, April through June, and July through September.

Semi-annual reporting consists of submittal of Wisconsin DNR Form 4400-194 with the March Quarterly Report and completion of a Semi-Annual Operation & Maintenance Report for the year ending September 30, 2000. The September report includes a summary of routine operation and maintenance activities at the site, the analytical results and reporting for the groundwater monitoring and treatment system effluent, the collection and treatment performance and effectiveness, an operation and maintenance cost summary, and recommendations.

The quarterly reports include site background, a description of the treatment process and analytical results, groundwater sampling procedures and results, a discussion of public contacts, applicable operation and maintenance activities, and MCO's conclusions and recommendations. A summary of the reported quarterly and annual discharge concentrations

are shown in Table #3. The discharges for this period have consistently met the discharge limitations.

C. Compliance Sampling

Compliance sampling of the treatment system effluent is conducted twice per year by the City of Appleton. The samples were collected on May 2, 2002 and November 14, 2002. The effluent is analyzed for all the parameters listed in Table #1, except for Hexavalent Chromium.

MCO collects one compliance sample from the outfall during the first quarter of each year. The sample was collected on March 19, 2002. The MCO collected sample is analyzed for all of the parameters in Table #1.

A summary of the compliance sampling results from Outfall 001 are contained in Table #3. The laboratory analytical data was previously submitted in the quarterly DNR reports. During the period from October 1, 2001 through September 30, 2002, there were no exceedances of the City of Appleton Industrial User Discharge Permit.

D. Routine Operation & Maintenance Activities

Completed operations log sheets are kept on file at the groundwater treatment facility for all of the operation and maintenance activities listed below.

1. Daily Site Inspections

A daily inspection of the facility is required to check the nitrogen cylinder, which provides a blanket of nitrogen gas in the ferrous sulfate drum. The pressure at the nitrogen tank and the total flow from the flow totalizer are recorded daily and/or after each batch discharge. Additionally, a walk through of the building is conducted to check for any obvious equipment problems. The site activities are documented on daily log sheets and a daily checklist.

2. Weekly Operation & Maintenance Activities

The following activities are conducted on a weekly basis, normally on Wednesday of each week.

a. Test influent chromium concentration in storage tank, utilizing a Hach test kit. The Chromium concentration is entered into the

programmable logic controller (PLC), which uses the figure to calculate the required ferrous sulfate additions per batch.

b. Record water levels in the two collection sumps.

c. Record pump operating pressure levels.

d. Record liquid levels in the storage tank and sludge storage tank. Record the sludge depth in the reaction tank and adjust if not within the minimum or maximum levels needed for desired coprecipitation.

e. Record weights of ferrous sulfate and caustic drums.

f. Calibrate or clean pH meters in the reaction tank. Meters are calibrated approximately once per month, depending upon the drift between the two probes. The system Operation & Maintenance Manual had required weekly calibration of the pH probes. Over the first year of system operation, MCO found that the pH meters remained in calibration and did not require re-calibration on a weekly basis. MCO consulted with the equipment manufacturer's Operation & Maintenance Manual, and determined a weekly probe cleaning and monthly calibration was recommended. Since October 1998, MCO has followed the manufacturer's recommended probe maintenance schedule.

The weekly checks are documented on log sheets, which are kept on file at the treatment facility.

3. Monthly Operation & Maintenance Activities

The following activities are performed each month, generally near the first of the month.

a. Top Mounted Mixers

The oil level in the mixers is checked and the seals are observed for obvious leaks. The motor bearings are greased monthly. Top mounted mixers are located in the storage tank, reaction tank and sludge storage tank.

b. Chemical Feed Pumps

The ferrous sulfate and caustic feed pumps are checked for proper operation. The feed lines and valves are checked for signs of leakage. Upon installation of each new chemical drum, hot water is pumped through the chemical feed system to clean out the supply piping. This is performed approximately four times per year on each feed system. Due to the nature of groundwater flows, the lines are cleaned more during the spring and fall wet weather periods and not on a quarterly schedule, as specified in the Operation & Maintenance Manual. The spill containment sump below the drums is topped off with water to the level of the stand pipe.

c. Double Diaphragm Pumps

The most used double diaphragm pump is used for pumping water from the storage tank to the reaction tank. Additional pumps are used to pump sludge from the reaction tank to the sludge storage tank and from the sludge storage tank to the truck loading station. Each pump is operated as part of the monthly maintenance and checked for unusual noise and proper lubrication. The lubrication oil is filled and the water trap is drained, as needed.

d. Air Compressor

The compressor oil level is checked. The air filter is checked and changed, as needed. The compressor is run under full load and the on panel gauges are checked for proper operation. The oil filter is changed, as needed.

e. Unit Heaters

The unit heaters are checked during cold weather for proper operation, excessive noise and vibration. The heaters are shut-off in spring and turned on in the fall.

f. Air Conditioner

The facility heater / air conditioner is checked for proper operation and the air filter is cleaned, as-needed.

g. Water Heater

The water heater is checked for any visible leaks. The relief valve is tested for proper operation. Between 1 and 2-quarts of water are drained from the tank monthly.

h. Ceiling Fans

The ceiling fans are checked for excessive vibration or dirt build-up.

i. Safety Shower

The safety shower is tested monthly for proper operation.

4. Annual Operation & Maintenance Activities

The following activities are performed on an annual basis.

a. The unit heaters are cleaned and test fired. This will normally occur in September of the year. The Operation & Maintenance Plan for the facility calls for lubrication of the heater motors. The actual maintenance of the heaters deviates from the Operation & Maintenance Plan because the moving parts on the heaters have sealed bearings and do not require lubrication.

b. The submersible pumps in the two collection sumps and building sump are removed and the lubricating oil changed. The Operation & Maintenance Plan for the facility calls for replacement of the mechanical seal, oil filter, plug gasket and o-rings be replaced annually. A visual observation of the condition of the oil is done to verify the integrity of the pump seals. If no water is noted in the removed pump oil, the seals and o-rings are not changed. The pump maintenance activities have been scheduled for November 2002.

c. The air compressor oil and filter are changed.

d. The ceiling fan blades are cleaned during the September operation and maintenance activities.

e. The Operation & Maintenance Manual requires the top mounted mixer gear oil be changed annually. MCO deviated from the plan by performing a monthly visual inspection of the oil for any obvious breakdown. The Wisconsin DNR case manager has required the oil be changed annually. This will be performed when the sump pump maintenance is performed each fall.

5. **Periodic Operation & Maintenance Activities**

The following activities are performed on an as-needed basis throughout the year.

a. Lawn mowing and snow removal is conducted as required.

b. The ferrous sulfate chemical feed pump calibration is verified prior to installation of a new 55-gallon drum. The sodium hydroxide pumping system is not calibrated because the pump is controlled by the reaction tank pH and not by volume.

c. The ferrous sulfate and caustic chemical feed lines are cleaned prior to installation of new 55-gallon drums. The cartridge valves are changed, as needed.

d. The water traps are emptied and oil reservoirs checked for the air pumps prior to each use.

e. Level sensing meters in the storage tank, reaction tank and sludge storage tank are compared with actual tank levels by visual observations.

f. The effluent flow meter operation is checked during each discharge. According to the factory representative, there are no operator performed calibration functions for the flow meter, unless a hardware failure occurs.

E. Significant Operation & Maintenance Activities

The following significant operation and maintenance activities were performed between October 1, 2001 and September 30, 2002.

1. On October 3, 2001, the following building maintenance work was completed:

a. Replaced gutter hangers and ice diverters that had been damaged during previous winters.

b. Re-piped nitrogen feed piping to eliminate extra fittings and stop the nitrogen leaks at the joints.

2. On October 31, 2001, the backflow preventer for the City water line was tested.

3. On December 5, 2001, the diaphragms in the transfer pump were replaced. The diaphragms had been leaking.

4. On April 15, 2001, a vibration was noted in the reaction tank mixer. The motor was pulled apart and re-aligned.

5. On May 29, 2002, the storage tank mixer coil failed. The coil from the sludge mixer was used until a new coil was received.

6. On June 9, 2002, the reaction tank mixer VFD failed. The VFD was replaced with a spare unit.

F. Emergency Operation Shut Downs

There was no emergency shut-downs during the reporting period.

III. GROUNDWATER SAMPLING

A. Groundwater Sampling Procedures

A total of 11 groundwater monitoring wells are associated with the groundwater treatment system and are sampled quarterly to determine the groundwater quality conditions at the site. Additionally, four piezometers were installed to measure the effectiveness of the groundwater collection trench system.

Groundwater levels are measured in the monitoring wells and the piezometers, relative to the north side of the top of the well casing. The latest round of groundwater monitoring well and piezometer groundwater readings and contours are shown in Figures #3 and #4. The groundwater elevation versus time graph is contained in Appendix C.

The 11 groundwater monitoring wells are sampled in March, June, September and December of each year. A dedicated 12-volt submersible pump is installed

in each well. Water level measurements are collected from each monitoring well prior to sampling. Each well is slowly pumped dry and allowed to recharge for approximately 3-hours. The wells are then pumped dry again, allowed to recharge and then sampled. Two duplicate samples are also collected as a quality control measure. Purge water from the wells is collected and dumped into the collection sumps.

The sampling process utilizes a flow through cell to read the pH, temperature, conductivity, redox potential and dissolved oxygen in each well. The flow through cell consists of a 1-liter laboratory beaker placed over a 5-gallon bucket. Flow through the cell is maintained at approximately 250 ml/min. utilizing a resister to control pump flow. The same approximate flow rate is maintained for purging and sampling. Groundwater samples are collected upon stabilization of the conductivity in each monitoring well or after each well has been pumped dry twice. The pH, conductivity, redox potential and dissolved oxygen readings for each monitoring well are recorded upon stabilization of the conductivity. The groundwater samples are then collected in the order of VOC vials first and metal samples second. The metal samples are filtered. The laboratory containers supplied for metals analysis included NA0H and HN03 as preservatives. The collected samples are submitted to Northern Lake Service, Inc., Crandon, Wisconsin. The collected samples are analyzed for cyanide, selected metals and Volatile Organic Compounds (VOC's), as specified by the Wisconsin DNR. As of the December 15, 1999 sampling event, copper, cyanide, mercury and zinc analysis was discontinued for all eleven (11) monitoring wells. Alkalinity and ferrous iron testing was conducted using field Hach test kits. VOC analysis has been reduced to annually for all wells, except MW-107. VOC testing at MW-107 will remain quarterly.

B. Groundwater Sampling Results

The collected groundwater samples are analyzed for cadmium, chromium, manganese and VOC's (when required). Additionally, field analysis is conducted at each well for pH, temperature, conductivity, dissolved oxygen, Redox potential, alkalinity and ferrous iron. The field analysis sampling results will track the ability of the VOC groundwater contamination to naturally bio-remediate at the site.

The laboratory analytical results indicate that levels of total chromium exceed the DNR NR 140.10 Groundwater Enforcement Standards in monitoring wells MW-104 and MW-107. MW-107 is the closest down-gradient well to the remediation building. Additionally, VOC compounds in MW-107 have been detected in excess of either the NR 149.21(9) maximum contaminant levels (MCL's) or the

NR 140.10 Groundwater Enforcement Standards (ES). Exceedances of the MCL and ES for manganese have been found in all of the groundwater wells since sampling began in February 1997. These exceedances also appear in the background wells (W-2 & MW-108) which would indicate that the high levels of manganese in the groundwater occurs naturally.

A review of the laboratory analytical and groundwater flow data does not indicate any significant seasonal changes in the analytical results or groundwater flow direction. Overall, concentrations of organic and inorganic compounds appear to be decreasing.

The laboratory analytical results are contained in Tables #4 and #5. As of December 15, 1999, copper, cyanide, mercury and zinc analysis was discontinued on the monitoring well samples. Graphs of the contaminant concentrations over time for the analyzed inorganic compounds are contained in Appendix A. For graphing purposes, analytical results below the laboratory LOD were listed at half the analytical laboratory's method detection limit. A graph of the detected VOC compounds at MW-107 over time is contained in Appendix B. An Isoconcentration map for total chromium is shown in Figure #5.

The effectiveness of the existing groundwater treatment system towards meeting the clean-up goals in the groundwater will require analysis of data over an extended period of time to evaluate trends in metals and VOC reductions. Based upon the current analytical results, concentrations are generally stable, except in the source areas.

IV. GROUNDWATER COLLECTION SYSTEM

A. Collection Trenches

The groundwater collection system utilizes approximately 1,000 linear feet of coarse sand filled trenching, which was installed to draw groundwater from the contaminated areas to two collection sumps. Collection Sump #1, designated Manhole #1 on the site map and located at the southwest corner of the property, collects flows from below the Miller Electric parking lot and the south end of the Mauthe property.

Collection Sump #2, designated Manhole #2, on the site map and located along Outagamie Street south of the railroad tracks, collects flows from the triangular area bounded by the railroad tracks, Outagamie Street and Second Street.

Piezometric groundwater levels in the area of the trenching indicate that the trenches are creating a capture zone, which directs groundwater to the collection

trench system. Based upon the groundwater elevation data, the capture zone acts as containment for the existing contaminant plume.

Groundwater flows from the Mauthe site tend to flow southwest toward the collection trenches. Groundwater flow from the properties south of the railroad tracks flow in a northerly direction during periods of lower groundwater elevations and northeasterly in periods of higher groundwater elevations. In both cases, the flows are captured by the collection trench system. A summary of the historical groundwater elevations is shown in Table #6.

Foundation drains at 1410 and 1414 West Second Street and 801 South Outagamie Street are connected to the collection trench system. Additionally, the sump pump at 1428 West Second Street is connected to the system. In May 2002, a break in the sump line at 1428 West Second Street was found. Upon excavation of the line, it was discovered that the discharge line had never been connected to the groundwater collection trench system. A contractor was retained to relay the sump line to the collection trench in Second Street.

V. CONCLUSIONS & RECOMMENDATIONS

The latest round (September 18, 2002) of groundwater samples collected from the 11 monitoring wells, indicates residual chromium contamination above the DNR NR 140.10 ES exists in monitoring wells MW-104 and MW-107. Additionally, VOC compounds in excess of the NR 140.10 ES or the NR 149.21(9) maximum contaminant levels (MCL's) were detected in MW-107. High levels of manganese, noted historically in all wells, appears to occur naturally and may not be related to the past site uses.

A review of the groundwater flow patterns over the last year indicates the groundwater collection trench system is creating a capture zone that prevents the contamination plume from expanding and directs the groundwater to the trenching and, ultimately, the remediation system.

There have been no exceedances of the City of Appleton Industrial Discharge Permit for the treated effluent. The influent and effluent from the facility are sampled and analyzed to monitor the treatment process and confirm compliance with the discharge permit. The plant is operated and maintained to consistently meet the standards set by the City of Appleton POTW.

Data collected to date shows stable concentrations in the groundwater monitoring wells, with the exception of wells MW-103, MW-104 and MW-107. The effectiveness of the treatment system, in meeting the groundwater clean-up goals, will required additional data over time to evaluate the trends in organic and inorganic compound reductions.

Based upon the results of the September 18, 2002 groundwater sampling results and the batch treatment process analytical results, MCO recommends continued operation of the groundwater treatment system at the N.W. Mauthe groundwater remediation site.

MCO has included an operation and maintenance cost summary for the site in Appendix D. The Wisconsin DNR Operation & Maintenance Report Form 4400-194 is contained in Appendix E. A summary of the influent hexavalent chromium concentrations, as measured with a Hach Kit, are included in Appendix F.

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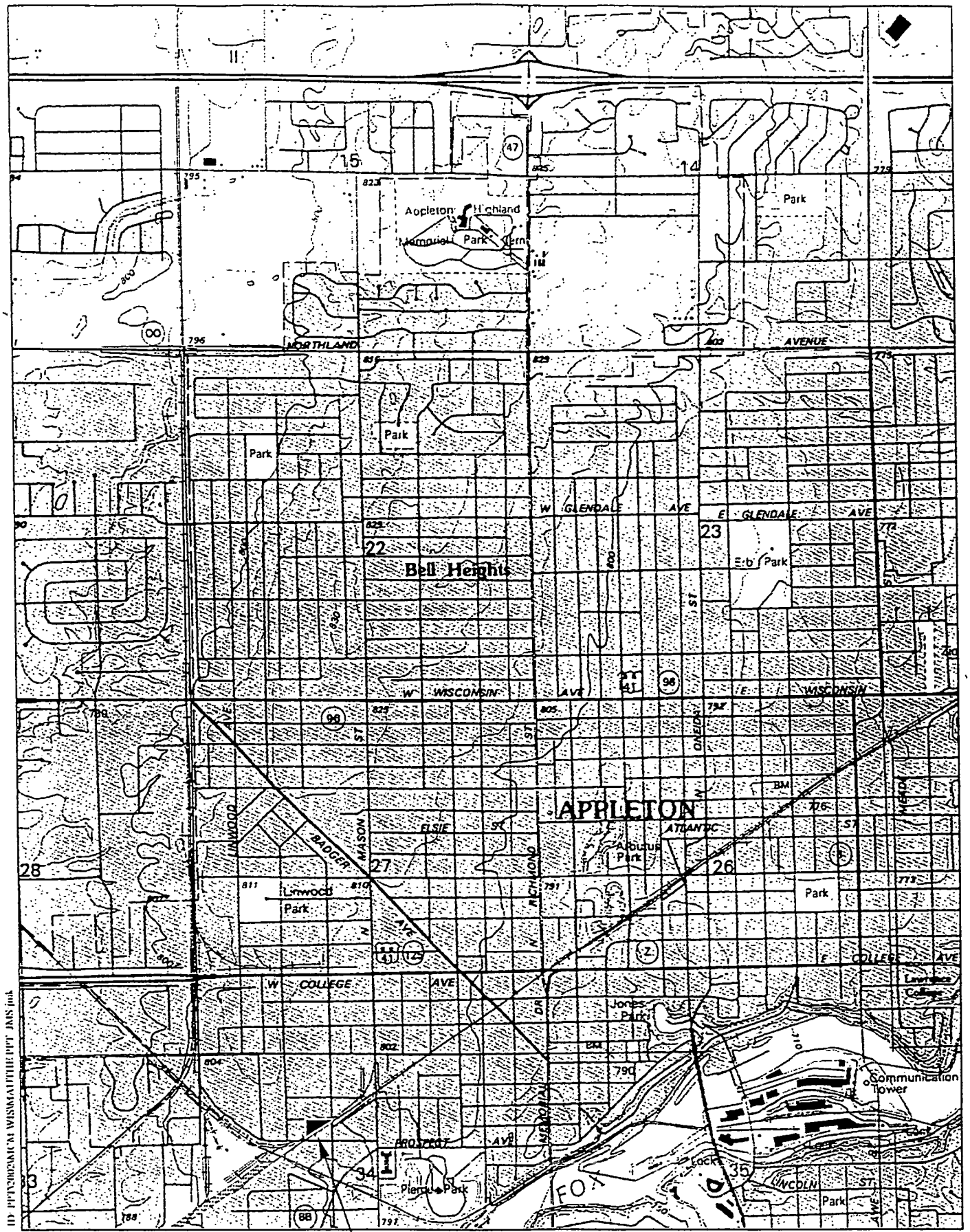

NORTH
SCALE: 1" = 2000'

SITE LOCATION

McMAHON ASSOCIATES, INC.
ENGINEERS ■ ARCHITECTS
PROJ. MGRS. ■ SURVEYORS

Figure 1
SITE LOCATION MAP
N.W. MAUTHE SUPERFUND SITE - APPLETON, WI
McM #M050-91692.14 2/1/02

ID P:\2002\M\A WISMAUTHE.PPT JMS jmk

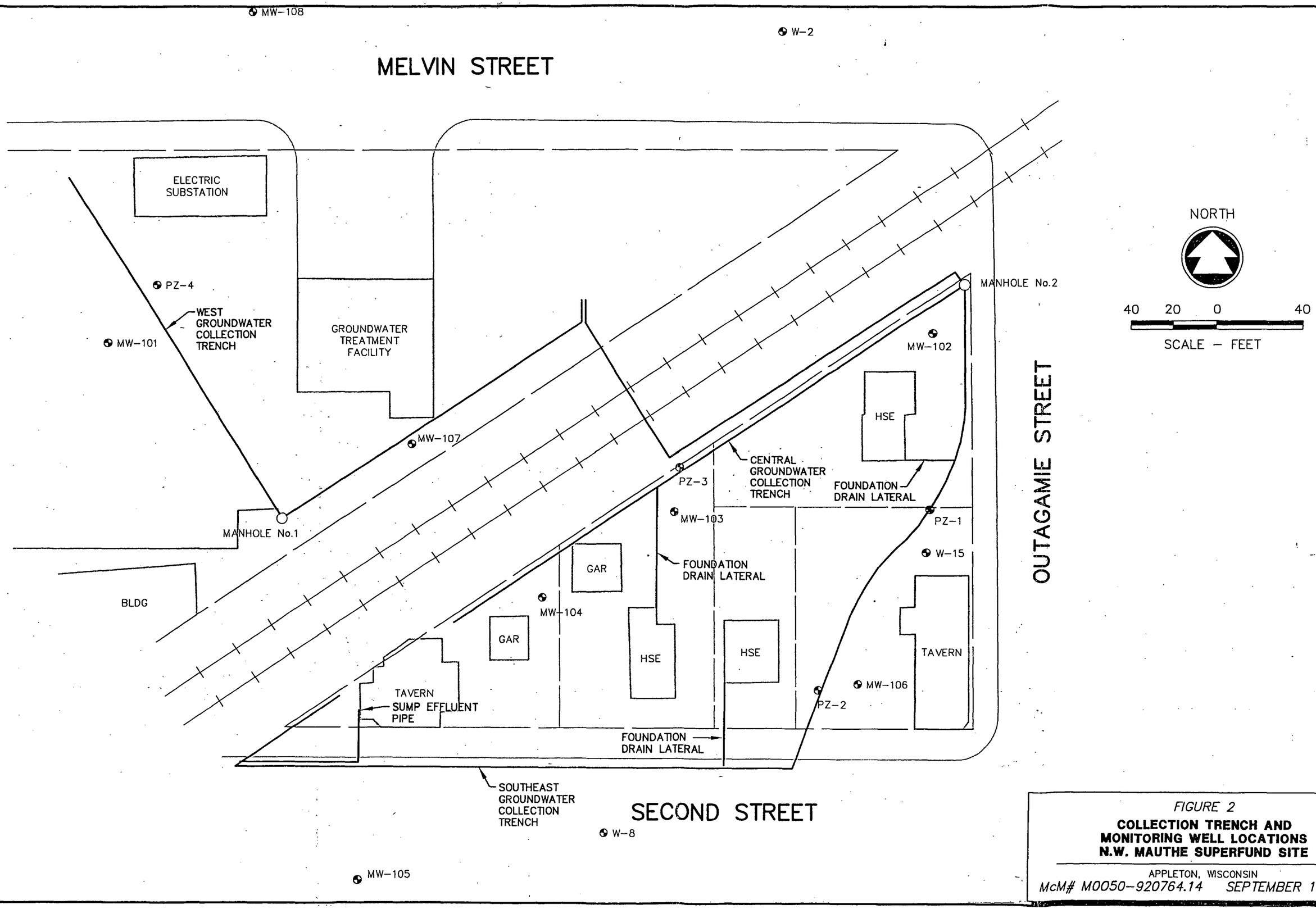

FIGURE 2

COLLECTION TRENCH AND MONITORING WELL LOCATIONS
N.W. MAUTHE SUPERFUND SITE

APPLETON, WISCONSIN

McM# M0050–920764.14 SEPTEMBER 18, 2002

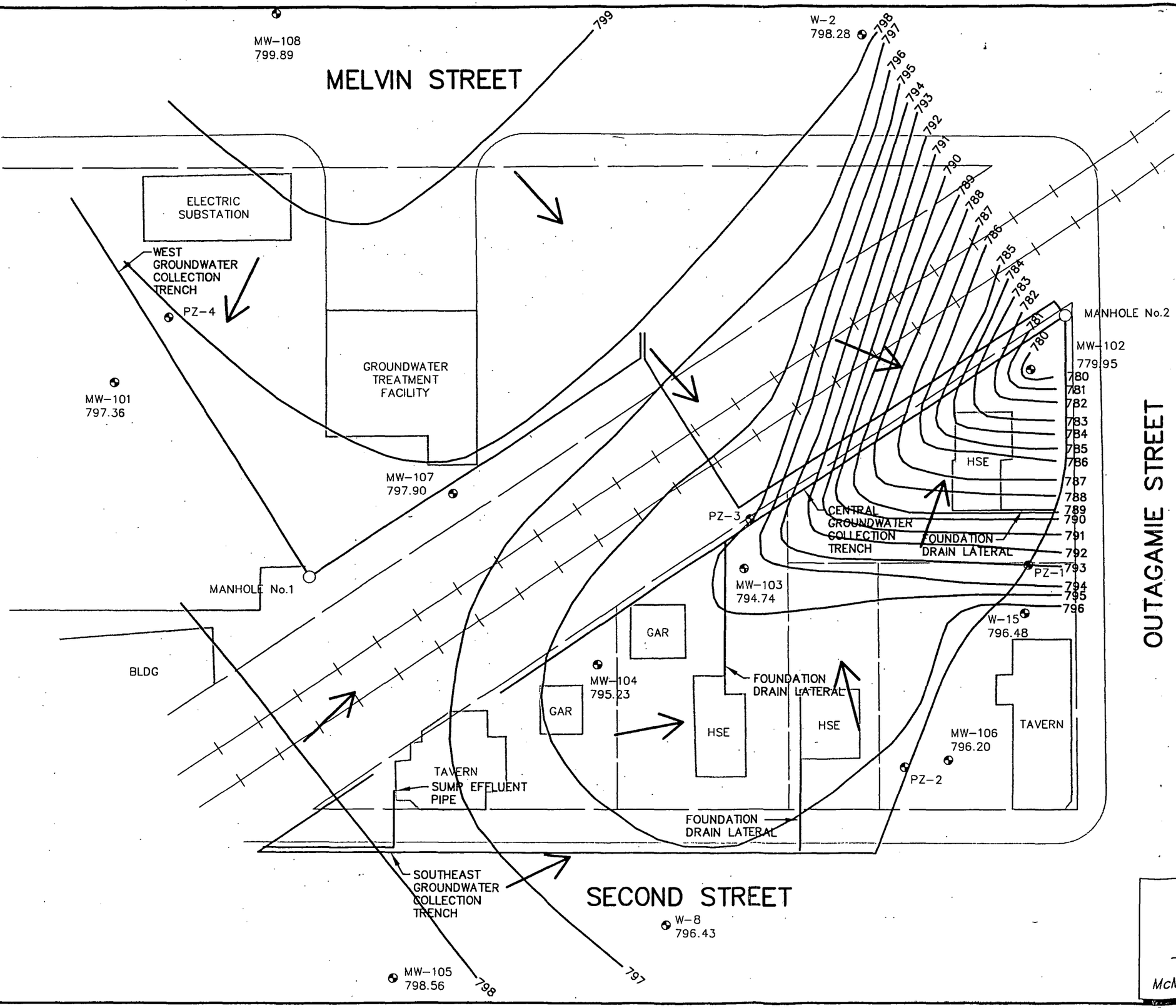

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FIGURE 3

GROUNDWATER MONITORING WELL LOCATIONS & GROUNDWATER CONTOURS
N.W. MAUTHE SUPERFUND SITE

APPLETON, WISCONSIN
McM# M0050-920764.14 SEPTEMBER 18, 2002

MW-108

W-2

MELVIN STREET

ELECTRIC SUBSTATION

WEST GROUNDWATER COLLECTION TRENCH

PZ-4
783.86

MW-101

GROUNDWATER TREATMENT FACILITY

783

782

781

MW-107

MANHOLE No.1

CENTRAL GROUNDWATER COLLECTION TRENCH

MANHOLE No.2

MW-102

HSE FOUNDATION DRAIN LATERAL

PZ-3
780.47

MW-103

781
782
783
784
785
786

PZ-1
785.92

W-15

GAR

BLDG

MW-104

FOUNDATION DRAIN LATERAL

GAR

HSE

HSE

TAVERN

TAVERN SUMP EFFLUENT PIPE

MW-106

PZ-2
787.26

FOUNDATION DRAIN LATERAL

SOUTHEAST GROUNDWATER COLLECTION TRENCH

OUTAGAMIE STREET

SECOND STREET

W-8

MW-105

NORTH

40 20 0 40

SCALE - FEET

LEGEND

PZ-1
785.96 — PIEZOMETER & POTENTIOMETRIC SURFACE ELEVATION

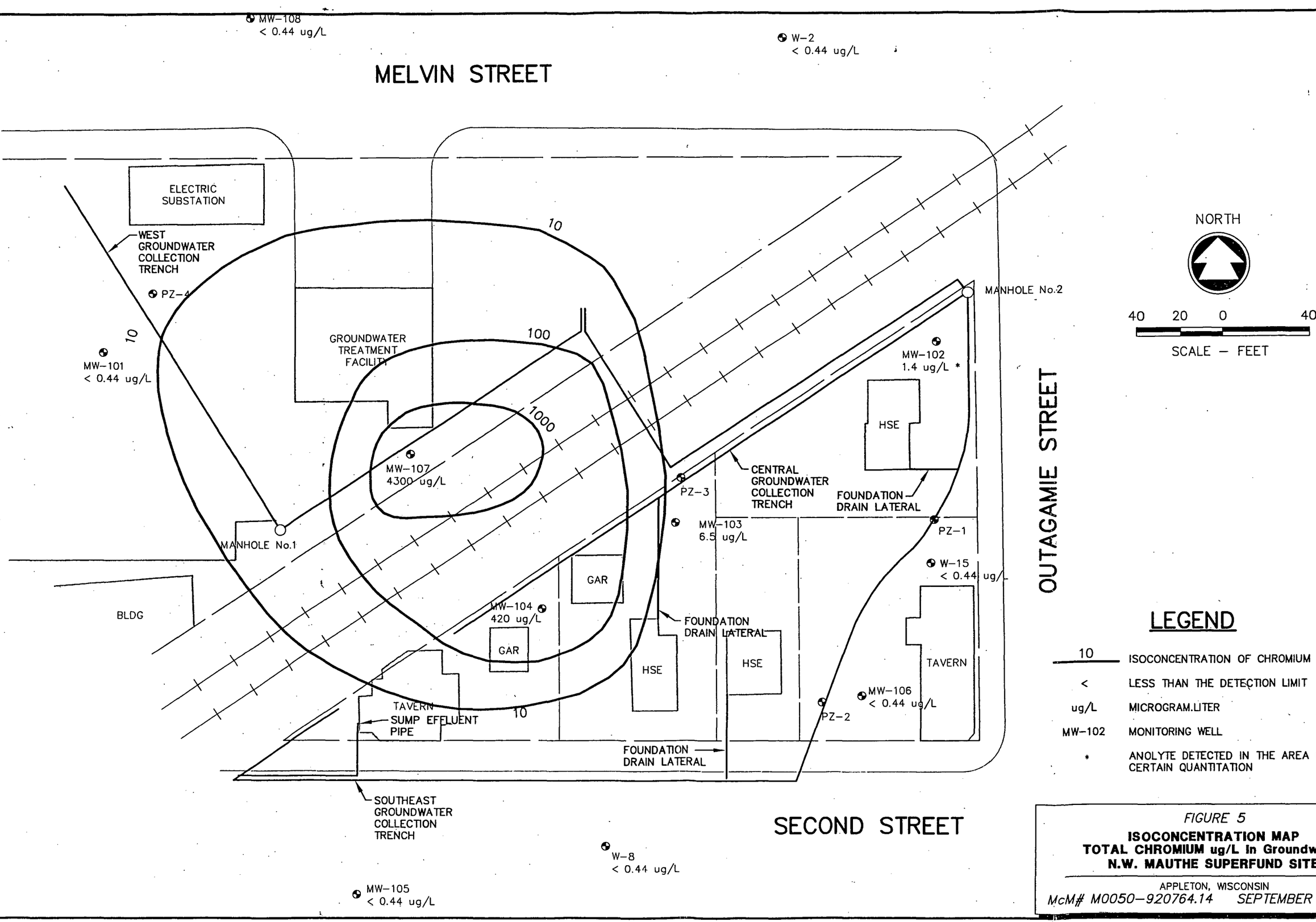
POTENTIOMETRIC GRADIENT

FIGURE 4

PIEZOMETER LOCATIONS AND POTENTIOMETRIC CONTOURS N.W. MAUTHE SUPERFUND SITE

APPLETON, WISCONSIN

McM# M0050-920764.14 SEPTEMBER 18, 2002



LEGEND

10	ISOCONCENTRATION OF CHROMIUM (ESTIMATED)
<	LESS THAN THE DETECTION LIMIT
ug/L	MICROGRAM.LITER
MW-102	MONITORING WELL
*	ANOLYTE DETECTED IN THE AREA OF LESS CERTAIN QUANTITATION

FIGURE 5

ISOCONCENTRATION MAP
TOTAL CHROMIUM ug/L In Groundwater
N.W. MAUTHE SUPERFUND SITE

APPLETON, WISCONSIN
McM# M0050-920764.14 SEPTEMBER 18, 2002

Table #1

CITY OF APPLETON EFFLUENT COMPLIANCE LIMITS
Effluent Point 001
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

	Aluminum (mg/l)	Arsenic (mg/l)	Cadmium (mg/l)	Chromium Total (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Lead (mg/l)	Mercury (mg/l)	Nickel (mg/l)	Zinc (mg/l)	Hexavalent Chromium (mg/L)
Effluent Limits Permit #00-21	70	1.0	0.3	7.0	3.5	1.0	2.0	0.002	2.0	10.0	4.5

mg/l = milligram / liter
ug/l = microgram / liter

Table #2

BATCH DISCHARGES
October 1, 2001 Through September 30, 2002
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Month	Monthly (gallons)	Quarterly Flow (gallons)
October 2001	29,206	
November 2001	34,453	130,080
December 2001	66,421	
January 2002	24,495	
February 2002	54,310	187,362
March 2002	108,557	
April 2002	119,422	
May 2002	144,361	417,089
June 2002	153,306	
July 2002	52,595	
August 2002	46,865	145,965
September 2002	46,505	
TOTAL	**880,496**	

Table #3

LABORATORY ANALYTICAL RESULTS
Effluent Point 001
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Sample Name	Sample Date	Aluminum (mg/l)	Arsenic (mg/l)	Cadmium (mg/l)	Chromium Total (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Lead (mg/l)	Mercury (mg/l)	Nickel (mg/l)	Zinc (mg/l)	Hexavalent Chromium (mg/L)
Outfall 001*	02/20/97	<.02	<.003	<.00050	0.0400	<.01	<.00001	<.005	<.0002	<.005	0.0051	<.01
Outfall 001*	05/27/97	NA	NA	NA	0.2600	NA	NA	NA	NA	NA	NA	NA
Outfall 001*	09/11/97	NA	NA	NA	0.5570	NA	NA	NA	NA	NA	NA	NA
Outfall 001*	12/12/97	NA	NA	NA	0.2790	NA	NA	NA	NA	NA	NA	NA
Outfall 001*	03/24/98	0.0152	<.002	<.00004	0.0637	<.0095	<.0017	<.0006	<.000015	<.0095	0.0046	0.1000
Outfall 001**	04/29/98	<.011	<.002	<.005	0.2200	<.05	0.0020	<.1	<.0002	<.04	<.005	NA
Outfall 001*	06/10/98	NA	NA	NA	0.0784	NA	NA	NA	NA	NA	NA	NA
Outfall 001**	10/07/98	<.011	<.002	0.0050	0.1700	<.05	<.001	<.1	<.0002	<.04	0.0250	NA
Outfall 001***	10/27/98	NA	NA	NA	0.0940	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	02/09/99	NA	NA	NA	0.1600	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	03/18/99	<.009	<.003	<.00031	NA	.00068****	<.000032	<.0024	<.00005	.00351****	<.012	<.0036
Outfall 001**	03/18/99	<.011	<.002	<.005	<0.05	<.05	0.0010	0.1000	<.00005	0.0400	0.0180	NA
Outfall 001***	06/08/99	NA	NA	NA	0.1900	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	09/13/99	NA	NA	NA	0.1700	NA	NA	NA	NA	NA	NA	NA
Outfall 001**	09/21/99	<.011	<.002	<.005	<.05	<.05	0.0030	<.1	<.00015	<.04	0.0080	NA
Outfall 001***	12/15/99	NA	NA	NA	0.0870	NA	NA	NA	NA	NA	NA	NA
Outfall 001**	02/15/00	<.015	<.0020	<.005	0.0900	<.05	<.001	<.1	<.00013	<.04	0.0280	NA
Outfall 001***	03/13/00	<.009	<.003	<.00031	0.1400	<.0006	<.0044	<.0024	<.00005	0.0012	<.012	NA
Outfall 001***	06/22/00	NA	NA	NA	0.2400	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	09/27/00	NA	NA	NA	0.5100	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	12/19/00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Outfall 001**	02/21/01	<0.15	<.002	<.005	0.11	<.05	0.001	<.1	<.00013	<.04	0.042	NA
Outfall 001***	03/01/01	<.034	<.0027	.012 ****	0.25	.0088 ****	<.0033	<.17	<.00005	.036 ****	0.015	<.0036
Outfall 001***	06/19/01	NA	NA	NA	0.11	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	09/24/01	NA	NA	NA	0.16	NA	NA	NA	NA	NA	NA	NA
Outfall 001**	10/02/01	0.016	<.002	<.005	0.14	<.05	<.001	<.1	<.00013	<.04	0.065	NA
Outfall 001***	12/05/01	NA	NA	NA	0.042	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	03/19/02	<.034	<.0027	<.0075	0.36	<.0077	<.0027	<.17	<.00005	<.017	<.012	<.0036
Outfall 001**	05/02/02	<.049	<.012	<.014	0.362	<.015	<.0014	<.060	<.00011	<.011	<.009	NA
Outfall 001***	06/20/02	NA	NA	NA	0.67	NA	NA	NA	NA	NA	NA	NA
Outfall 001***	09/19/02	NA	NA	NA	0.11	NA	NA	NA	NA	NA	NA	NA
Effluent Limits Permit #00-21		70.0000	1.0000	0.3000	7.0000	3.5000	1.0000	2.0000	0.0020	2.0000	10.0000	4.5000

mg/l = milligram / liter
ug/l = microgram / liter
NA = not analyzed
* = Sampled by CH2M Hill
** = Sampled by the City of Appleton
*** = Sampled by MCO
**** = Detected of compound in area of less certain quantitation.

Table #4

LABORATORY ANALYTICAL RESULTS / Selected Metals
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
W-2	02/20/97	NA	15	26	NA	460.0	NA	49
	05/27/97	0.43	8.5	<10	NA	170.0	<.2	30
	09/18/97	0.27	4.5**	9.5**	3**	116.0	<.03	16.9
	12/12/97	.13*	6.2	<9.7	<.8	133.0	.06*	20.4
	03/25/98	0.08	<3.9	<9.5	<1.7	83.8	.007*	18.6
	06/10/98	.31*	16.4	18.6**	<1.7	466.0	.027*	40.8
	10/27/98	.51*	3.60	4.7*	<.0032	69.0	<.05	170
	02/09/99	.46*	<.62	4.0	<.0032	240.0	<0.05	23
	06/08/99	<.31	<.62	1.8*	<.0032	290.0	<0.05	<12
	09/13/99	<.31	2.00	3.2	<.0032	240.0	<.05	<12
	12/15/99	<.31	.72 *	NA	NA	2.8	NA	NA
	03/13/00	<.31	.79 *	NA	NA	7.8	NA	NA
	06/22/00	<.31	<.62	NA	NA	<.42	NA	NA
	09/27/00	2.70	1.1*	NA	NA	17.0	NA	NA
	12/19/00	.24*	.91*	NA	NA	8.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	<2.0	NA	NA
	06/19/01	<.17	.55 *	NA	NA	48.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	52	NA	NA
	12/05/01	<.23	<.57	NA	NA	<2.0	NA	NA
	03/19/02	.27*	<.57	NA	NA	<2.0	NA	NA
	06/20/02	<.23	<.44	NA	NA	61.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	110.0	NA	NA
W-8	02/20/97	NA	17	22	NA	320.0	NA	34
	05/27/97	1.6	37	27	NA	670.0	<.2	54
	09/18/97	0.45	14.4	14.6**	1**	338.0	.11**	31.8
	12/12/97	0.5*	5.7	<9.7	<.8	147.0	.07*	17.1
	03/25/98	0.43	10.1	15**	<1.7	205.0	.007*	21
	06/10/98	0.54	9.9	12.6**	<1.7	264.0	.016*	21.6
	10/27/98	0.80	3.90	4.8*	<.0032	64.0	<.05	85
	02/09/99	<.31	<.62	<60	<.0032	850.0	<.05	12
	06/08/99	<.31	<.62	2.6	<.0032	50.0	<.05	<12
	09/13/99	<.31	1.90	2.7	<.0032	98.0	<.05	29
	12/15/99	<.31	2.80	NA	NA	180.0	NA	NA
	03/13/00	<.31	1.4 *	NA	NA	65.0	NA	NA
	06/22/00	<.31	3.10	NA	NA	74.0	NA	NA
	09/27/00	.27*	.75*	NA	NA	26.0	NA	NA
	12/19/00	<.23	.66*	NA	NA	40.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	23.0	NA	NA
	06/19/01	<.17	1*	NA	NA	100.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	380.0	NA	NA
	12/25/01	<.23	<.57	NA	NA	<2.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	21.0	NA	NA
	06/20/02	<.23	.47*	NA	NA	1400.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	620.0	NA	NA
W-15	02/20/97	NA	32	52	NA	430.0	NA	88
	05/27/97	0.27	5.9	15	NA	97.0	<.2	39
	09/18/97	0.31	13.9	18.8**	<.78	325.0	<.03	35.5
	12/12/97	.12*	5.7	9.7**	<.8	80.9	.03*	18.5
	03/25/98	.04*	<3.9	<9.5	<1.7	85.7	.038*	13.7
	06/10/98	.11*	10	13.2**	<1.7	147.0	.016*	18.8
	10/27/98	.41*	6.80	7.40	<.0032	110.0	<.05	100
	02/09/99	<.31	<.62	<.60	<.0032	320.0	<.05	<12
	06/08/99	<.31	2.40	14.00	<.0032	130.0	<.05	66
	09/13/99	<.31	5.30	6.40	<.0032	130.0	<.05	16
	12/15/99	<.31	5.00	NA	NA	90.0	NA	NA
	03/13/00	<.31	7.00	NA	NA	130.0	NA	NA
	06/22/00	<.31	1.80	NA	NA	11.0	NA	NA
	09/27/00	<.23	4.20	NA	NA	24.0	NA	NA
	12/19/00	<.23	1.4*	NA	NA	930.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	<2.0	NA	NA
	06/19/01	<.17	<.34	NA	NA	<2	NA	NA
	09/24/01	<.17	<.34	NA	NA	290.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	2.5	NA	NA
	03/19/02	<.23	<.57	NA	NA	22.0	NA	NA
	06/20/02	.36*	.47*	NA	NA	3.1	NA	NA
	09/18/02	<.23	<.44	NA	NA	110.0	NA	NA

Table #4

LABORATORY ANALYTICAL RESULTS / Selected Metals
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
MW-101	02/20/97	NA	36	41	NA	820.0	NA	49
	05/27/97	<.2	10	11	NA	170.0	<.03	18
	09/18/97	.06**	11.9	10.7**	1**	145.0	<.05	18.2
	12/12/97	.06*	12.8	<9.7	<.8	176.0	.05*	20.7
	03/25/98	.04*	20.9	21.6**	<1.7	239.0	.007*	32.7
	06/10/98	.27*	48.2	46.8	<1.7	604.0	.044*	75.9
	10/27/98	<.16	3.20	4.2*	<.0032	24.0	<.05	54
	02/09/99	<.31	<.62	<.60	<.0032	1900.0	<.05	14
	06/08/99	<.31	1.80	8.2	<.0032	380.0	<.05	39
	09/13/99	<.31	2.90	5.1	<.0032	31.0	<.05	<12
	12/15/99	<.31	2.50	NA	NA	9.1	NA	NA
	03/13/00	<.31	2.30	NA	NA	100.0	NA	NA
	06/22/00	<.31	1.4 *	NA	NA	<4.2	NA	NA
	09/27/00	<.23	19.00	NA	NA	37.0	NA	NA
	12/19/00	<.23	7.20	NA	NA	18.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	13.0	NA	NA
	06/19/01	<.17	8.50	NA	NA	9.1	NA	NA
	09/24/01	<.17	.55 *	NA	NA	<2.0	NA	NA
	12/05/01	<.23	.90*	NA	NA	<2.0	NA	NA
	03/19/02	<.23	.66*	NA	NA	<2.0	NA	NA
	06/20/02	<.23	.58*	NA	NA	2.2	NA	NA
	09/18/02	<.23	<.44	NA	NA	13.0	NA	NA
MW-102	02/20/97	NA	26	38	NA	570.0	NA	34
	05/27/97	0.21	48	77	NA	920.0	<.2	73
	09/18/97	.08**	<3.92	6.9**	2**	302.0	<.03	8.7
	12/12/97	.04*	<3.9	<9.7	<.8	387.0	.04*	10.9
	03/25/98	.11*	<3.9	9.5**	<1.7	302.0	.007*	7.4*
	06/10/98	.04*	<3.9	<9.8	<1.7	318.0	.018*	9.5
	10/27/98	.27*	.98*	3.2*	<.0032	340.0	<.05	24
	02/09/99	<.31	.73*	<.60	<.0032	670.0	<.05	20
	06/08/99	<.31	1.2*	5.8	<.0032	140.0	<.05	36
	09/13/99	<.31	4.00	15.0	<.0032	160.0	<.05	73
	12/15/99	<.31	1.2 *	NA	NA	550.0	NA	NA
	03/13/00	<.31	1.70	NA	NA	580.0	NA	NA
	06/22/00	<.31	<.62	NA	NA	310.0	NA	NA
	09/27/00	<.23	2.10	NA	NA	130.0	NA	NA
	12/19/00	.33*	2.90	NA	NA	110.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	<2.0	NA	NA
	06/19/01	<.17	<.34	NA	NA	<2	NA	NA
	09/24/01	.48 *	1.40	NA	NA	46.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	100.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	87.0	NA	NA
	06/20/02	<.17	1.80	NA	NA	44.0	NA	NA
	09/18/02	<.23	1.4*	NA	NA	<2.0	NA	NA
MW-103	02/20/97	NA	1,300	47	NA	800.0	NA	27
	05/27/97	<.2	160.0	31	NA	900.0	<.2	29
	09/18/97	.06**	35.2	13.5**	3**	287.0	<.03	13.7
	12/12/97	.04*	16.3	<9.7	<.8	84.3	.09*	21.4
	03/25/98	.04*	15.5	<9.5	<1.7	83.0	.007*	7.5*
	06/10/98	.15*	57.6	27.5	<1.7	417.0	.02*	33.7
	10/27/98	<.16	6.30	2.3*	<.0032	27.0	<.05	30.0
	06/08/99	<.31	87.00	3.5	<.0032	810.0	<.05	30
	09/13/99	<.31	720.0	5.9	<.0032	83.0	<.05	15
	12/15/99	<.31	260.0	NA	NA	160.0	NA	NA
	03/13/00	<.31	600.0	NA	NA	79.0	NA	NA
	06/22/00	<.31	130.0	NA	NA	180.0	NA	NA
	09/27/00	<.23	280.0	NA	NA	230.0	NA	NA
	12/19/00	<.23	180.0	NA	NA	170.0	NA	NA
	03/01/01	<.23	49.0	NA	NA	240.0	NA	NA
	06/19/01	<.17	11.0	NA	NA	350.0	NA	NA
	09/24/01	<.17	12.0	NA	NA	280.0	NA	NA
	12/05/01	<.23	2.9	NA	NA	230.0	NA	NA
	03/19/02	<.23	73.0	NA	NA	7.9	NA	NA
	06/20/02	<.23	14.0	NA	NA	630.0	NA	NA
	09/18/02	<.23	6.5	NA	NA	560.0	NA	NA

Table #4

LABORATORY ANALYTICAL RESULTS / Selected Metals
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
MW-104	02/20/97	NA	5.9	15	NA	550.0	NA	6.9
	05/27/97	<.02	6.9	11	NA	470.0	<.2	5.2
	09/18/97	<.04	35.6	5**	3**	235.0	<.03	4.74
	12/12/97	.04*	61.8	9.8**	<.8	279.0	.05*	14
	03/25/98	.04*	66.8	<9.5	<1.7	73.6	.008*	7.4*
	06/10/98	.04*	219.0	<9.8	<1.7	107.0	.016*	12.8
	10/27/98	.29*	150.0	2.3*	<.0032	25.0	<.05	30
	02/09/99	<.31	94.0	1.4*	<.0032	1000.0	<.05	<12
	06/08/99	1*	62.0	12.0	<.0032	620.0	<.05	17
	09/13/99	<.31	80.0	3.2	<.0032	9.2	<.05	<12
	12/15/99	<.31	170.0	NA	NA	1.6	NA	NA
	03/13/00	<.31	300.0	NA	NA	13.0	NA	NA
	06/22/00	<.31	210.0	NA	NA	41.0	NA	NA
	09/27/00	<.23	510.0	NA	NA	3.9	NA	NA
	12/19/00	<.23	790.0	NA	NA	<2	NA	NA
	03/01/01	<.23	840.0	NA	NA	<2	NA	NA
	06/19/01	<.17	680.0	NA	NA	2.3	NA	NA
	09/24/01	<.17	310.0	NA	NA	17.0	NA	NA
	12/05/02	<.23	390.0	NA	NA	2.2	NA	NA
	03/19/02	<.23	430.0	NA	NA	<2.0	NA	NA
	06/20/02	<.23	490.0	NA	NA	14.0	NA	NA
	09/18/02	<.23	410.0	NA	NA	27.0	NA	NA
MW-105	02/20/97	NA	21	22	NA	1100.0	NA	23
	05/27/97	<.2	5	<10	NA	120.0	<.2	12
	09/18/97	.14**	29.5	28.3	1**	532.0	<.03	46
	12/12/97	.36*	15.8	12.5**	<.8	297.0	.03*	27.1
	03/25/98	.04*	30.8	27.6	<1.7	518.0	.064*	44
	06/10/98	.048*	13.7	15.3**	<1.7	217.0	.016*	22.1
	10/27/98	.29*	8.80	8.20	<.0032	150.0	<.05	70
	02/09/99	<.31	1.3*	4.30	<.0032	2000.0	<.05	19
	06/08/99	<.31	1*	18.00	<.0032	1300.0	<.05	66
	09/13/99	<.31	.64*	24.00	<.0032	1700.0	<.05	30
	12/15/99	<.31	<.62	NA	NA	860.0	NA	NA
	03/13/00	<.31	4.80	NA	NA	660.0	NA	NA
	06/22/00	<.31	1.0 *	NA	NA	600.0	NA	NA
	09/27/00	<.23	1.2*	NA	NA	700.0	NA	NA
	12/19/00	<.23	<.4	NA	NA	230.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	43.0	NA	NA
	06/19/01	<.17	.75*	NA	NA	230.0	NA	NA
	09/24/01	<.17	.73*	NA	NA	530.0	NA	NA
	12/25/01	<.23	<.57	NA	NA	<2.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	22.0	NA	NA
	06/20/02	<.23	.60*	NA	NA	1400.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	600.0	NA	NA
MW-106	02/20/97	NA	21	24	NA	320.0	NA	26
	05/27/97	<.02	40	35	NA	590.0	<.2	68
	09/18/97	.05**	5.5	6.2**	1**	56.9	<.03	35.6
	12/12/97	.04*	9.2	9.7**	<.08	155.0	.03*	18.4
	03/25/98	NA	13.40	14.4**	<1.7	150.0	.007*	18.5
	06/10/98	.04*	<3.9	10.2**	<1.7	10.0	.016*	10.9
	10/27/98	.27*	3.20	4.3*	<.0032	38.0	<.05	88
	02/09/99	<.31	<.62	1.1*	<.0032	760.0	<.05	22
	06/08/99	<.31	.79*	2.3	<.0032	900.0	<.05	<12
	09/13/99	<.31	1.80	4.7	<.0032	1100.0	<.05	30
	12/15/99	<.31	1.3 *	NA	NA	130.0	NA	NA
	03/31/00	<.31	2.30	NA	NA	270.0	NA	NA
	06/22/00	<.31	.73 *	NA	NA	<4.2	NA	NA
	09/27/00	<.23	.88*	NA	NA	50.0	NA	NA
	12/19/00	<.23	.77*	NA	NA	22.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	45.0	NA	NA
	06/19/01	.21*	.39*	NA	NA	57.0	NA	NA
	09/24/01	<.17	<.34	NA	NA	950.0	NA	NA
	12/05/01	<.23	<.57	NA	NA	310.0	NA	NA
	03/19/02	<.23	<.57	NA	NA	92.0	NA	NA
	06/20/02	<.23	<.44	NA	NA	270.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	420.0	NA	NA

Table #4

LABORATORY ANALYTICAL RESULTS / Selected Metals
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Cadmium (ug/l)	Chromium (ug/l)	Copper (ug/l)	Cyanide (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Zinc (ug/l)
MW-107	02/20/97	NA	2,000	13	NA	190.0	NA	6.9
	05/27/97	<.2	3,600	<10	NA	91.0	<.2	10
	09/18/97	<.04	2,670	<8.1	1**	59.3	<.03	33.5
	12/12/97	.04*	2,310	<9.7	<.8	48.4	.1*	6.7
	03/25/98	.04*	11,200*	12.1**	<1.7	68.2	.041*	9.3*
	06/10/98	.11*	6,240	13.8**	<1.7	161.0	.027*	17.3*
	10/27/98	<.16	7,100	1.2*	<.0032	28.0	<.05	94
	02/09/99	<.31	3,200	1.9*	<.0032	49.0	<.05	<12
	06/08/99	<.31	5,800	3.0	<.0032	25.0	<.05	<12
	09/13/99	<.31	4,000	1.9*	<.0032	18.0	<.05	<12
	12/15/99	<.31	14,000	NA	NA	.83 *	NA	NA
	03/13/00	<.31	8,100	NA	NA	22.0	NA	NA
	06/22/00	<.31	14,000	NA	NA	<42	NA	NA
	09/27/00	<.23	11,000	NA	NA	4.9	NA	NA
	12/19/00	<.23	10,000	NA	NA	2.4	NA	NA
	03/01/01	<.23	5,000	NA	NA	2.2	NA	NA
	06/19/01	<.17	8,200	NA	NA	<2	NA	NA
	09/24/01	<17	5,300	NA	NA	270.0	NA	NA
	12/05/01	<.23	6,200	NA	NA	10.0	NA	NA
	03/19/02	<.23	7,000	NA	NA	<20	NA	NA
	06/20/02	<2.3	7,000	NA	NA	<20	NA	NA
	09/18/02	<.17	4,300	NA	NA	24.0	NA	NA
MW-108	02/20/97	NA	25	23	NA	490.0	NA	31
	05/27/97	<.2	11	13	NA	210.0	<.2	15
	09/18/97	.14**	27.4	22.4**	1**	462.0	<.03	36.6
	12/12/97	.04*	5.6	<9.7	<.8	74.8	.03*	27.9
	03/25/98	.04*	9.4	10.4**	<1.7	142.0	.007*	13.8
	06/10/98	.14*	28.4	25.5	<1.7	478.0	.021*	40.5
	10/27/98	.26*	8.90	7.40	<.0032	88.0	<0.5	44
	02/09/99	<.31	1.70	3.90	<.0032	560.0	<.05	30
	06/08/99	<.31	3.10	1.4*	<.0032	450.0	<.05	54
	09/13/99	<.31	4.50	5.30	<.0032	100.0	<.05	<12
	12/15/99	<.31	6.10	NA	NA	79.0	NA	NA
	03/13/00	<.31	3.6	NA	NA	41.0	NA	NA
	06/22/00	<.31	6.5	NA	NA	<4.2	NA	NA
	09/27/00	<.23	2.9	NA	NA	29.0	NA	NA
	12/19/00	<.23	3.0	NA	NA	22.0	NA	NA
	03/01/01	<.23	<.57	NA	NA	<2.0	NA	NA
	06/19/01	<.17	2.40	NA	NA	110.00	NA	NA
	09/24/01	<.17	<.34	NA	NA	40	NA	NA
	12/05/01	<.23	<.57	NA	NA	7.4	NA	NA
	03/19/02	<.23	<.57	NA	NA	3.4	NA	NA
	06/20/02	<.23	.85*	NA	NA	39.0	NA	NA
	09/18/02	<.23	<.44	NA	NA	150.00	NA	NA
Maximum Contaminant Level (MCL)		5	100	100	200	50.0	2	5,000
Enforcement Standard Chapter NR 140.10		5	100	1,300	200	50.0	2	5,000
Preventive Action Limit Chapter NR 140.10		0.5	10	130	40	25.0	0.2	2,500

EXPLANATION:

Samples collected prior to 10/27/98 were collected by CH2M Hill.
* = Detection of compound in area of less certain quantification.
** = Compound was found in sample and blank.
ND = Not detected above the analytical laboratories method detection limit
NA = Not Analyzed
MW-104 = Was tested for Aluminum, Nickel, Arsenic & Lead. No quantifiable detections were noted for any of the analytes.
ug/L = Microgram/Liter
mg/L = Milligram / Liter
Indicates an exceedance of the NR 140 Preventive Action Limit (PAL) and Groundwater Quality Enforcement Standard
Indicates Exceedance of the NR 140 Groundwater Preventive Action Limit (PAL)

Table #5

LABORATORY ANALYTICAL RESULTS
Volatile Organic Compounds (VOC's)
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Benzene (ug/l)	Chloroform (ug/l)	1,1-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	cis-1,2,-Dichloroethene (ug/l)	Trans-1,2,-chloroethe (ug/l)	Ortho-Xylene (ug/l)	Toluene (ug/l)	1,1,1-Trichloroethane (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Meta, para Xylene (ug/l)	Total Xylenes (ug/l)
W-2	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<.4	<68	<40	<.5	<.5	.4**	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	.15*	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	.13*	<.14	<.15	<.14	***	<37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
W-8	02/20/97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<40	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<40	<7	<7	<.4	<68	<40	<.5	<.5	.4**	-
	03/25/98	<.5	<.6	<85	<40	<7	<7	<.3	<68	<40	<.5	<.5	.3**	-
	06/10/98	<.5	<.6	<85	<40	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	.19*	<.15	<.15	<.15	<.16	<.17	***	.15*	<.14	<.15	<.15	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	0.13	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
W-15	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	0.22	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<.4	<68	<40	<.5	<.5	.4**	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	06/08/99	.16*	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56

Table #5

LABORATORY ANALYTICAL RESULTS
Volatile Organic Compounds (VOC's)
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Benzene (ug/l)	Chloroform (ug/l)	1,1-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	cis-1,2,-Dichloroethene (ug/l)	Trans-1,2,-chloroethe (ug/l)	Ortho-Xylene (ug/l)	Toluene (ug/l)	1,1,1-Trichloroethane (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Meta, para Xylene (ug/l)	Total Xylenes (ug/l)
MW-101	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	.491*	.353*	<7	<7	<124	<68	3.03	<.5	3.31	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	<.13	<.15	<.14	<.15	<.16	<.17	***	0.91	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
MW-102	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<.85	<85	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<85	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<85	<7	<7	<.4	<68	<40	<.5	<.5	.4*	-
	06/10/98	<.5	<.6	<85	<85	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	<.13	<.15	<.14	<.15	<.16	<.17	***	0.65	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	.21*	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
MW-103	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	<.13	<.15	<.14	<.15	<.16	<.17	***	.15*	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	.23*	***	<.56

Table #5

LABORATORY ANALYTICAL RESULTS
Volatile Organic Compounds (VOC's)
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Benzene (ug/l)	Chloroform (ug/l)	1,1-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	cis-1,2,-Dichloroethene (ug/l)	Trans-1,2,-chloroethe (ug/l)	Ortho-Xylene (ug/l)	Toluene (ug/l)	1,1,1-Trichloroethane (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Meta, para Xylene (ug/l)	Total Xylenes (ug/l)
MW-104	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	.324*	<.5	<.5	<124	-
	12/12/97	<.5	<.6	0.4	<.7	<7	<7	<120	<68	1*	<.5	0.9	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	.8*	<.5	<.5	<120	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	2*	<.5	<.5	<120	-
	10/27/98	<.24	<.23	.35*	<.28	<.27	<.26	<.17	<.21	1.8	<.23	<.29	<.36	-
	02/09/99	<.13	<.15	.38*	<.15	<.16	<.17	***	.17*	1.5	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	.34*	<.15	<.16	<.17	***	.14*	1.4	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	.38*	<.15	<.16	<.17	***	.27*	1.6	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	.38 *	<.35	<.15	<.39	***	<.37	1.6	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	2.8	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	2.4	<.25	<.23 *	***	<.56
MW-105	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<.4	<68	<40	<.5	<.5	.4*	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	.16*	<.15	<.14	<.15	<.16	<.17	***	.3*	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13*	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	****	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
MW-106	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	2.73*	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.27	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	.18*	<.15	<.14	<.15	<.16	<.17	***	<.17	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	<.13	<.14	<.15	<.14	***	<.37
	03/13/00	<.32	<.28	<.36	<.35	<.15	0.39	***	<.37	<.33	<.11	<.34	***	<.71
	03/01/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56

Table #5

LABORATORY ANALYTICAL RESULTS
Volatile Organic Compounds (VOC's)
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Benzene (ug/l)	Chloroform (ug/l)	1,1-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	cis-1,2,-Dichloroethene (ug/l)	Trans-1,2,-ichloroether (ug/l)	Ortho-Xylene (ug/l)	Toluene (ug/l)	1,1,1-Trichloroethane (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Meta, para Xylene (ug/l)	Total Xylenes (ug/l)
MW-107	02/20/97	<.5	0.3	11	8.4	0.7	<.7	<.5	<.5	81	0.6	50	<.5	-
	05/27/97	0.09	1.10	36	40	3.1	<3.1	<.5	0.34	390	3.5	420	<.5	-
	09/18/97	<10	<12	47.6*	22.1	2.61*	<2.61	<2480	<68	265*	2.83	295	<2480	-
	12/12/97	<10	<12	56*	23	3*	<3	<2500	<68	280	3	290	<2500	-
	03/25/98	<25	<30	61*	69	5*	<5	<17	<68	720	5	620	17*	-
	06/10/98	<12	<15	59*	58	<3	<3	<3100	63*	340*	4*	390	<3100	-
	10/27/98	<.24	1.4	62	46*	3.6	.51*	<.17	<.21	550	4.9	640	<.36	-
	02/09/99	<3.2	<3.8	48	24	<4.0	<4.2	***	<3.2	220	<.38	250	***	<9.2
	06/08/99	<2.6	<3.0	42	20	<3.2	<3.4	***	<2.6	200	<3.0	310	***	<7.4
	09/13/99	<.26	<3.0	34	19	<.32	<3.4	***	<2.6	180	<.3.0	320	***	<.7.4
	12/15/99	<3.2	<3.8	37	56	4.6 *	<4.2	***	<3.2	570	4.5 *	880	***	<9.2
	03/13/00	<26	<23	50 *	32 *	<12	<31	***	<30	340	<.90	630	***	<57
	06/22/00	<26	<23	<29	50 *	<12	<31	***	<30	540	<9	850	***	<57
	09/27/00	<26	<23	35*	54*	<12	<31	***	<30	560	<9	870	***	<57
	12/19/00	<6.4	<5.6	36	53	4.5*	<7.8	***	<7.5	480	4.1*	790	***	<20
	03/01/01	<6.0	<7.4	<32	<6.7	<14	<6.5	***	<8.7	420	<13	760	***	<28
	06/25/01	<6.5	<15	26	35	<9	<6.1	***	<6.2	360	<6.5	620	***	<32
	09/24/01	<6.5	<15	36	50	<9	<6.1	***	<6.2	480	<6.5	760	***	<32
	12/05/01	<6.5	<15	40	50	<9	<6.1	***	<6.2	500	<6.5	810	***	<32
	03/19/02	<6.0	<7.5	37*	43	<14	<6.5	***	<8.7	440	<13	740	***	<28
	06/20/02	<7.9	<11	31	39	<7.2	<8.9	***	<7.6	410	<6.8	690	***	<14
	09/18/02	<7.9	<11	34	39	<7.2	<8.9	***	<7.6	430	<6.8	710	***	<14
MW-108	02/20/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	05/27/97	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	-
	09/18/97	<.5	<.6	<85	<.7	<7	<7	<124	<68	<40	<.5	<.5	<124	-
	12/12/97	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	03/25/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<40	<.5	<.5	<120	-
	06/10/98	<.5	<.6	<85	<.7	<7	<7	<120	<68	<44	<.5	<.5	<120	-
	10/27/98	<.24	<.23	<.22	<.28	<.27	<.26	<.17	<.21	<.26	<.23	<.29	<.36	-
	02/09/99	<.13	<.15	<.14	<.15	<.16	<.17	***	0.83	<.14	<.15	<.14	***	<.37
	06/08/99	<.13	<.15	<.14	<.15	<.16	<.17	***	.15*	<.14	<.15	<.14	***	<.37
	09/13/99	<.13	<.15	<.14	<.15	<.16	<.17	***	0.84	<.14	<.15	<.14	***	<.32
	03/13/00	<.32	<.28	<.36	<.35	<.15	<.39	***	<.37	<.33	<.11	<.36	***	<.71
	03/31/01	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<56
	03/19/02	<.12	<.15	<.64	<.13	<.28	<.13	***	<.17	<.17	<.25	<.13	***	<.56

Table #5

LABORATORY ANALYTICAL RESULTS
Volatile Organic Compounds (VOC's)
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Sample Date	Benzene (ug/l)	Chloroform (ug/l)	1,1-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	cis-1,2,-Dichloroethene (ug/l)	Trans-1,2,-ichloroether (ug/l)	Ortho-Xylene (ug/l)	Toluene (ug/l)	1,1,1-Trichloroethane (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Meta, para Xylene (ug/l)	Total Xylenes (ug/l)
MCL NR 149.21 (9)		5.0	-	-	7.0	70	100	-	1,000	200	5.0	5.0	—	-
Enforcement Standards (E		5	6	850	7	70	100	620**	343	200	5	5	620**	620
Preventive Action Plan (PA		0.5	0.6	85	0.7	7	20	124**	686	40	0.5	0.5	124**	124

EXPLANATION:

Results prior to 10/27/98 for cis-1,2,-Dichloroethene and Trans-1,2 Dichloroethene were listed as Total Diohloroethene and were placed in this table under the heading cis-1,2,-Dichloroethene.
Results prior to 10/27/98 for Ortho Xylene and Meta, para Xylene were listed as Total Xylenes and were placed in this table under the heading Meta, para Xylene.

* = Detection of compound in area of less certain quantification
** = Standard includes Ortho-, Meta, para-Xylenes
*** = As of 02/09/99 Xylene results are listed as "Total Xylenes".
ND = Not Detected
NA = Not Analyzed
MCL = Maximum Contaminant Levels
ug/l = Microgram/Liter
= Indicates an exceedance of the MCL 149.21(9), Preventive Action Limit (PAL) 140.10 or ES 140.10
= Indicates an exceedance of the PAL (140.10).E179

Table #6

GROUNDWATER ELEVATIONS
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Date Measured	Depth To Water (feet)	Reference Elevation (To Top PVC) (feet)	Groundwater Elevation (feet)
W-2	02/01/97	-		798.66
	05/01/97	-		801.01
	09/01/97	-		800.28
	12/01/97	-	804.66	797.69
	03/01/98	-		802.08
	06/01/98	-		799.38
	10/27/98	5.85		798.81
	02/08/99	4.50		800.16
	06/08/99	3.31		801.35
	09/13/99	5.78		798.88
	12/15/1999	6.63		798.03
	03/13/00	1.60		803.06
	06/22/00	2.63		802.03
	09/27/00	3.28		801.38
	12/19/00	4.78		799.88
	03/01/01	5.93		798.73
	06/19/01	1.83		802.83
	09/24/01	5.94		798.72
	12/05/01	4.93		799.73
	03/19/02	1.08		803.58
	06/20/02	2.78		801.88
	09/18/02	6.38		798.28
W-8	02/01/97	-		797.22
	05/01/97	-		797.66
	09/01/97	-		798.01
	12/01/97	-	803.36	796.52
	03/01/98	-		798.16
	06/01/98	-		797.31
	10/27/98	6.41		796.95
	02/08/99	5.49		797.87
	06/08/99	4.38		798.98
	09/13/99	6.71		796.65
	12/15/1999	6.91		796.45
	03/13/00	6.25		797.11
	06/22/00	6.42		797.34
	09/27/00	5.66		797.70
	12/19/00	6.80		796.56
	03/01/01	5.41		797.95
	06/19/01	5.02		798.34
	09/24/01	3.38		799.98
	12/05/01	7.02		796.34
	03/19/02	3.63		799.73
	06/20/02	5.66		797.70
	09/18/02	6.93		796.43
W-15	02/01/97	-		793.97
	05/01/97	-		796.92
	09/01/97	-		797.23
	12/01/97	-	803.76	795.52
	03/01/98	-		796.78
	06/01/98	-		796.32
	10/27/98	7.95		795.81
	02/08/99	9.19		794.57
	06/08/99	6.89		796.87
	09/13/99	7.85		795.91
	12/15/99	8.97		794.79
	03/13/00	7.80		795.96
	06/22/00	6.42		797.34
	09/27/00	6.30		797.46
	12/19/00	7.99		795.77
	03/01/01	9.52		794.24
	06/19/01	6.91		796.82
	09/24/01	6.65		797.11
	12/05/01	8.15		795.61
	03/19/02	7.22		796.54
	06/20/02	6.84		796.92
	09/18/02	7.28		796.48

Table #6

GROUNDWATER ELEVATIONS
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Date Measured	Depth To Water (feet)	Reference Elevation (To Top PVC) (feet)	Groundwater Elevation (feet)
MW-101	02/01/97	-		797.16
	05/01/97	-		799.99
	09/01/97	-		798.67
	12/01/97	-	807.59	798.21
	03/01/98	-		803.43
	06/01/98	-		800.48
	10/27/98	10.26		797.33
	02/08/99	11.91		795.68
	06/08/99	9.79		797.80
	09/13/99	10.35		797.24
	12/15/99	9.01		798.58
	03/13/00	12.67		794.92
	06/22/00	6.28		801.31
	09/27/00	10.41		797.18
	12/19/00	10.73		796.86
	03/01/01	12.61		794.98
	06/19/01	8.43		799.16
	09/24/01	10.50		797.09
	12/05/01	10.98		796.61
	03/19/02	8.10		799.49
	06/20/02	7.08		800.51
	09/18/02	10.23		797.36
MW-102	02/01/97	-		780.72
	05/01/97	-		780.89
	09/01/97	-		780.79
	12/01/97	-	804.45	780.95
	03/01/98	-		780.47
	06/01/98	-		780.72
	10/27/98	24.11		780.34
	02/08/99	23.84		780.61
	06/08/99	23.59		780.86
	09/13/99	23.70		780.75
	12/15/99	24.27		780.18
	03/13/00	24.00		780.45
	06/22/00	23.69		780.76
	09/27/00	23.85		780.80
	12/19/00	24.06		780.39
	03/01/01	26.01		778.44
	06/19/01	23.35		781.10
	09/24/01	23.88		780.57
	12/05/01	24.08		780.37
	03/19/02	23.75		780.70
	06/20/02	23.05		781.40
	09/18/02	24.50		779.95
MW-103	02/01/97	-		795.29
	05/01/97	-		791.83
	09/01/97	-		789.60
	12/01/97	-	803.74	787.78
	03/01/98	-		791.03
	06/01/98	-		789.13
	10/27/98	11.96		791.78
	02/08/99	10.24		793.50
	06/08/99	8.69		795.05
	09/13/99	9.79		793.95
	12/15/99	12.68		791.06
	03/13/00	9.63		794.07
	06/22/00	8.22		795.52
	09/27/00	7.76		795.98
	12/19/00	10.78		792.96
	03/01/01	9.15		794.59
	06/19/01	5.52		798.22
	09/24/01	9.80		793.94
	12/05/01	11.13		792.61
	03/19/02	4.96		798.78
	06/20/02	7.42		796.32
	09/18/02	9.00		794.74

Table #6

GROUNDWATER ELEVATIONS
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Date Measured	Depth To Water (feet)	Reference Elevation (To Top PVC) (feet)	Groundwater Elevation (feet)
MW-104	02/01/97	-		792.94
	05/01/97	-		789.91
	09/01/97	-		798.59
	12/01/97	-	807.28	795.70
	03/01/98	-		799.46
	06/01/98	-		796.60
	10/27/98	10.51		796.77
	02/08/99	9.04		798.24
	06/08/99	7.49		799.79
	09/13/99	10.28		797.00
	12/15/99	10.78		796.50
	03/13/00	9.51		797.77
	06/22/00	8.41		798.88
	09/27/00	8.61		798.67
	12/19/00	10.49		796.79
	03/01/01	8.44		798.84
	06/19/01	7.51		799.71
	09/24/01	10.39		796.89
	12/05/01	10.81		796.47
	03/19/02	7.82		799.46
	06/20/02	8.60		798.68
	09/18/02	12.05		795.23
MW-105	02/01/97	-		793.74
	05/01/97	-		800.60
	09/01/97	-		800.37
	12/01/97	-	803.96	799.03
	03/01/98	-		800.08
	06/01/98	-		800.50
	10/27/98	5.41		798.55
	02/08/99	6.46		797.50
	06/08/99	3.04		800.92
	09/13/99	4.60		799.36
	12/15/99	5.28		798.68
	03/13/00	4.97		798.99
	06/22/00	3.06		800.90
	09/27/00	3.38		800.58
	12/19/00	5.28		798.68
	03/01/01	7.24		796.72
	06/19/01	2.43		801.53
	09/24/01	3.87		800.09
	12/05/01	5.55		798.41
	03/19/02	3.94		800.02
	06/20/02	4.08		799.88
	09/18/02	5.40		798.56
MW-106	02/01/97	-		794.75
	05/01/97	-		797.23
	09/01/97	-		796.91
	12/01/97	-	804.08	795.48
	03/01/98	-		797.37
	06/01/98	-		796.76
	10/27/98	8.12		795.96
	02/08/99	9.75		794.33
	06/08/99	6.72		797.36
	09/13/99	7.88		796.20
	12/15/99	8.71		795.37
	03/13/00	8.72		795.36
	06/22/00	6.87		797.21
	09/27/00	7.41		796.67
	12/19/00	8.55		795.53
	03/01/01	9.54		794.54
	06/19/01	6.30		797.78
	09/24/01	7.57		796.51
	12/05/01	8.72		795.36
	03/19/02	7.64		796.44
	06/20/02	7.21		796.87
	09/18/02	7.88		796.20

Table #6

GROUNDWATER ELEVATIONS
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

Well Name	Date Measured	Depth To Water (feet)	Reference Elevation (To Top PVC) (feet)	Groundwater Elevation (feet)
MW-107	02/01/97	-		788.23
	05/01/97	-		796.60
	09/01/97	-		797.64
	12/01/97	-	809.01	796.49
	03/01/98	-		796.68
	06/01/98	-		796.31
	10/27/98	10.71		798.30
	02/08/99	11.11		797.90
	06/08/99	11.04		797.97
	09/13/99	11.55		797.46
	12/15/99	11.66		797.35
	03/13/00	11.13		797.88
	06/22/00	10.69		798.32
	09/27/00	12.36		796.65
	12/19/00	7.32		799.29
	03/01/01 *	-		-
	06/19/01	10.10	809.06 **	798.96
	09/24/01	11.23		797.88
	12/05/01	11.59		797.47
	03/19/02	9.79		799.27
	06/20/02	10.18		798.88
	09/18/02	11.16		797.90
MW-108	02/01/97	-		798.36
	05/01/97	-		793.32
	09/01/97	-		790.53
	12/01/97	-	806.61	788.65
	03/01/98	-		795.59
	06/01/98	-		789.30
	10/27/98	6.98		799.63
	02/08/99	6.72		799.89
	06/08/99	5.80		800.81
	09/13/99	6.68		799.93
	12/15/99	6.87		799.74
	03/13/00	6.84		799.77
	06/22/00	6.28		800.33
	09/27/00	6.31		800.30
	12/19/00	11.42		797.59
	03/01/01	7.04		799.57
	06/19/01	5.87		800.74
	09/24/01	6.52		800.09
	12/05/01	7.70		798.91
	03/19/02	6.25		800.36
	06/20/02	6.43		800.18
	09/18/02	6.72		799.89
PZ-01	10/27/98	17.43	804.17	786.74
	02/08/99	18.24		785.93
	06/08/99	18.22		785.95
	09/13/99	18.25		785.92
	12/15/99	18.25		785.92
	03/13/00	18.25		785.92
	06/22/00	18.21		785.96
	09/27/00	18.21		785.96
	12/19/00	18.43		785.74
	03/01/01	19.51		784.66
	06/19/01	18.93		785.24
	09/24/01	18.23		785.94
	12/05/01	18.51		785.66
	03/19/02	18.23		785.94
	06/20/02	19.44		784.73
	09/18/02	18.25		785.92

Table #6

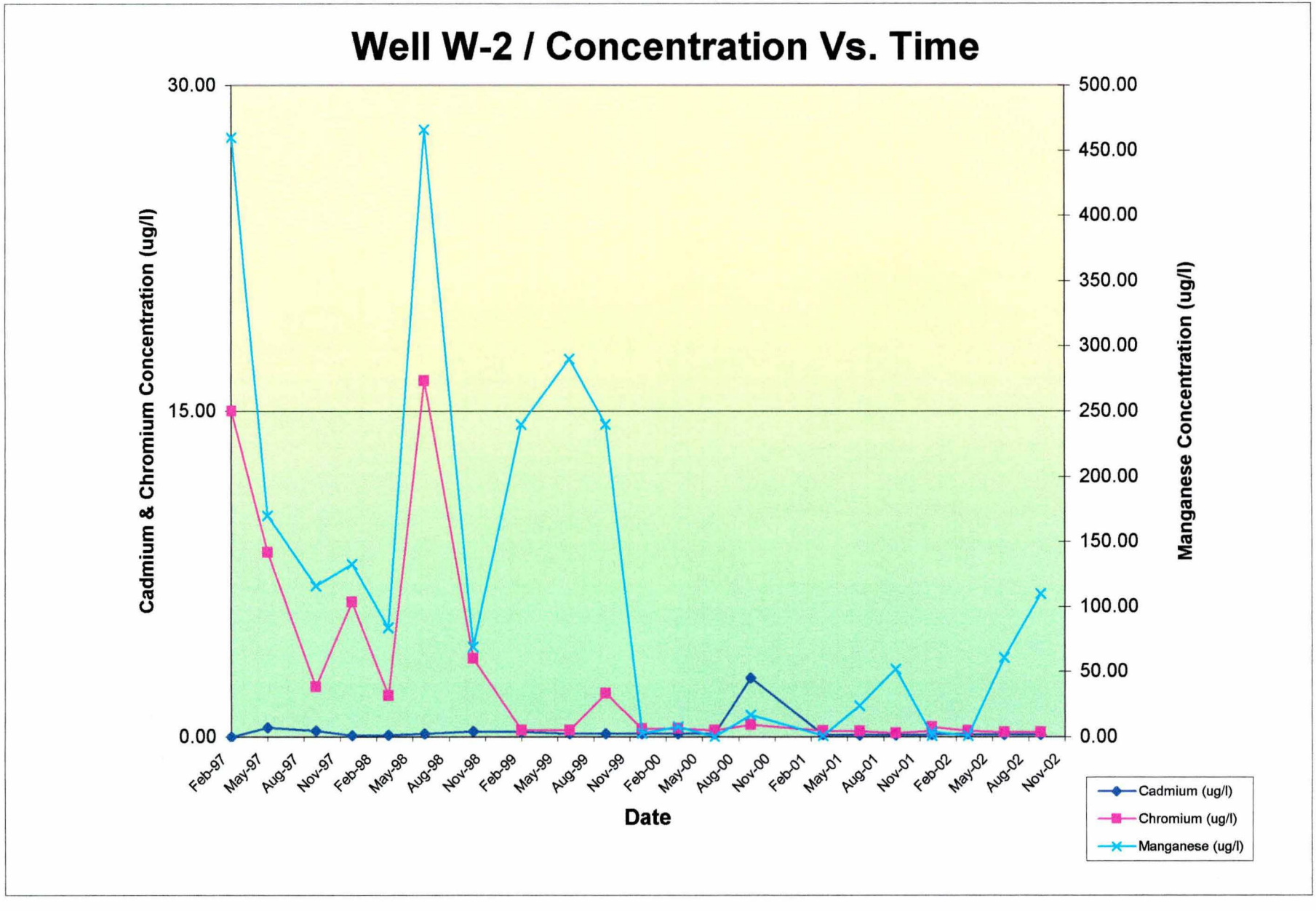
GROUNDWATER ELEVATIONS
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO No. M0050-920764.16

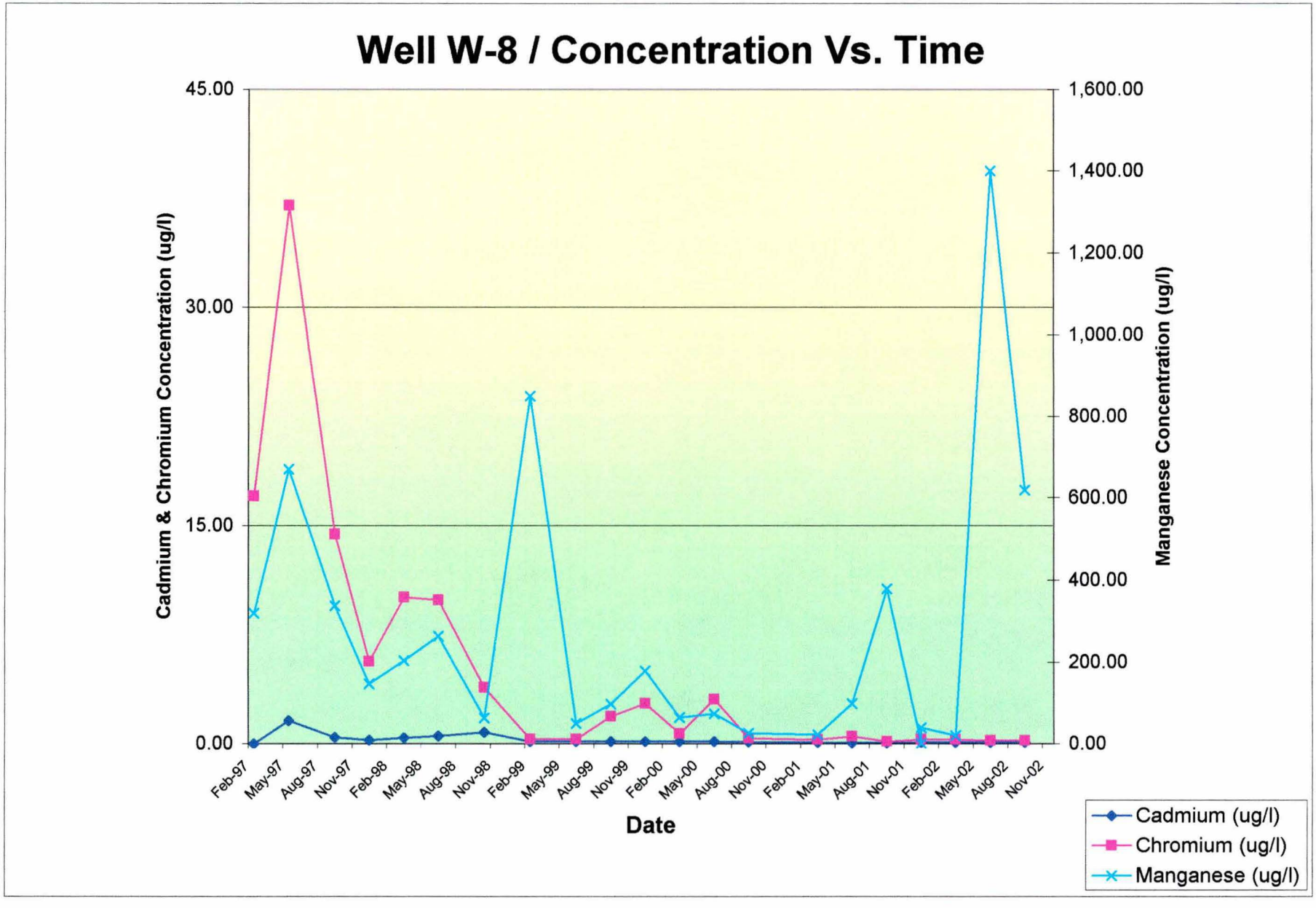
Well Name	Date Measured	Depth To Water (feet)	Reference Elevation (To Top PVC) (feet)	Groundwater Elevation (feet)
PZ-02	10/27/98	14.66	803.64	788.98
	02/08/99	14.70		788.94
	06/08/99	14.70		788.94
	09/13/99	14.74		788.90
	12/15/99	14.72		788.92
	03/13/00	14.76		788.88
	06/22/00	14.41		789.23
	09/27/00	14.43		789.21
	12/19/00	14.60		789.04
	03/01/01	16.00		787.64
	06/19/01	16.60		787.04
	09/24/01	16.81		786.83
	12/05/01	15.02		788.62
	03/19/02	15.04		788.60
	06/20/02	18.36		789.28
	09/18/02	16.38		787.26
PZ-03	10/27/98	22.71	803.62	780.91
	02/08/99	23.74		779.88
	06/08/99	23.74		779.88
	09/13/99	23.55		780.07
	12/15/99	23.52		780.10
	03/13/00	23.30		780.24
	06/22/00	23.40		780.22
	09/27/00	20.21		783.41
	12/19/00	20.24		783.38
	03/01/01	21.92		781.70
	06/19/01	23.05		780.57
	09/24/01	21.30		782.32
	12/05/01	20.66		782.96
	03/19/02	23.12		780.50
	06/20/02	23.18		780.44
	09/18/02	23.15		780.47
PZ-04	10/27/98	15.18	807.30	792.12
	02/08/99	23.61		783.69
	06/08/99	21.69		785.61
	09/13/99	23.87		783.43
	12/15/99	23.80		783.50
	03/13/00	25.77		781.53
	06/22/00	22.51		784.79
	09/27/00	19.60		787.70
	12/19/00	19.91		787.39
	03/01/01	20.98		786.32
	06/19/01	19.93		787.37
	09/24/01	19.83		787.47
	12/05/01	20.35		786.95
	03/19/02	19.84		787.46
	06/20/02	23.01		784.29
	09/18/02	23.44		783.86

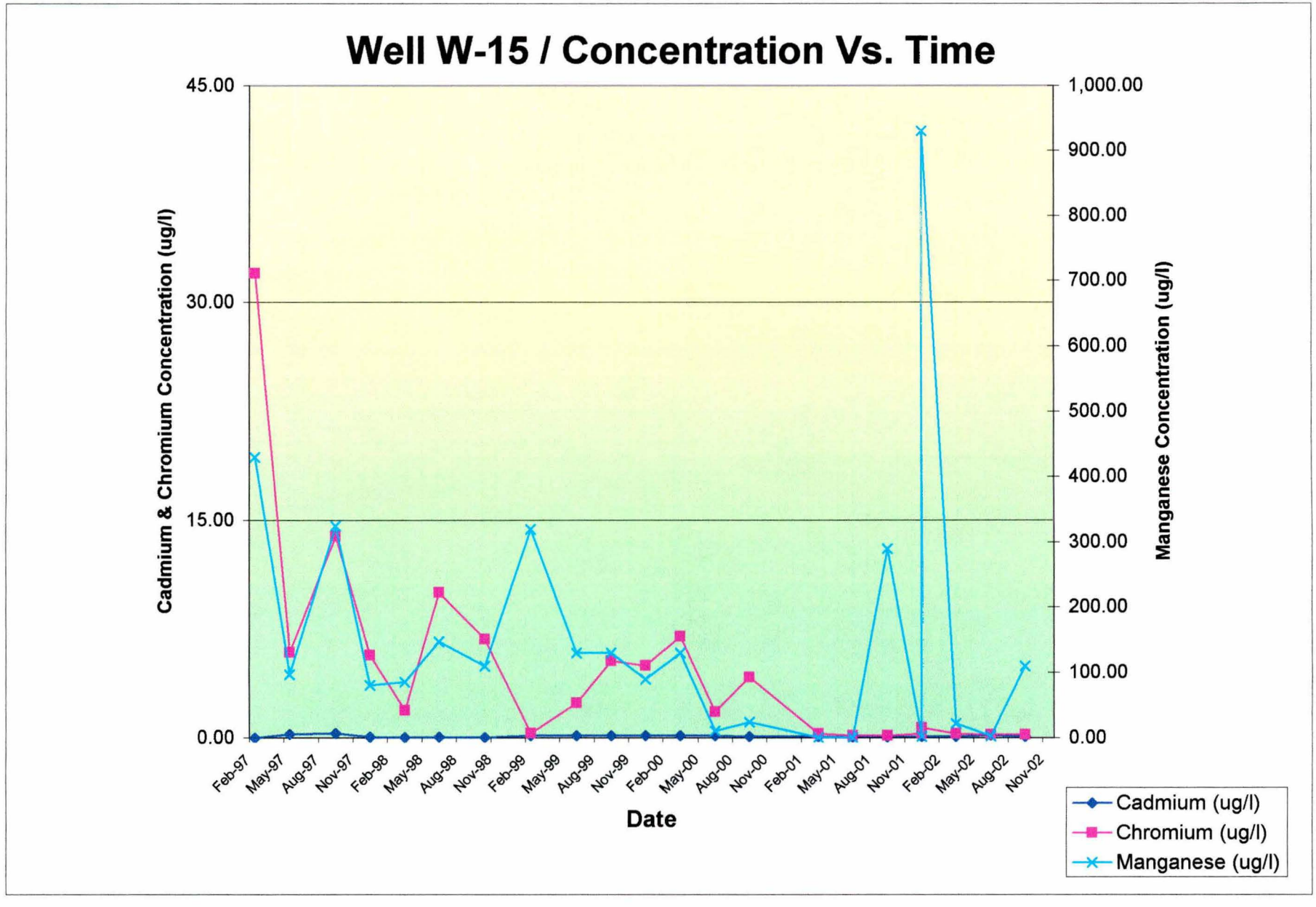
* Casing for MW-107 was damaged. Groundwater elevation could not be determined.
** Reflects new elevation of MW-107 after repair to well casing.

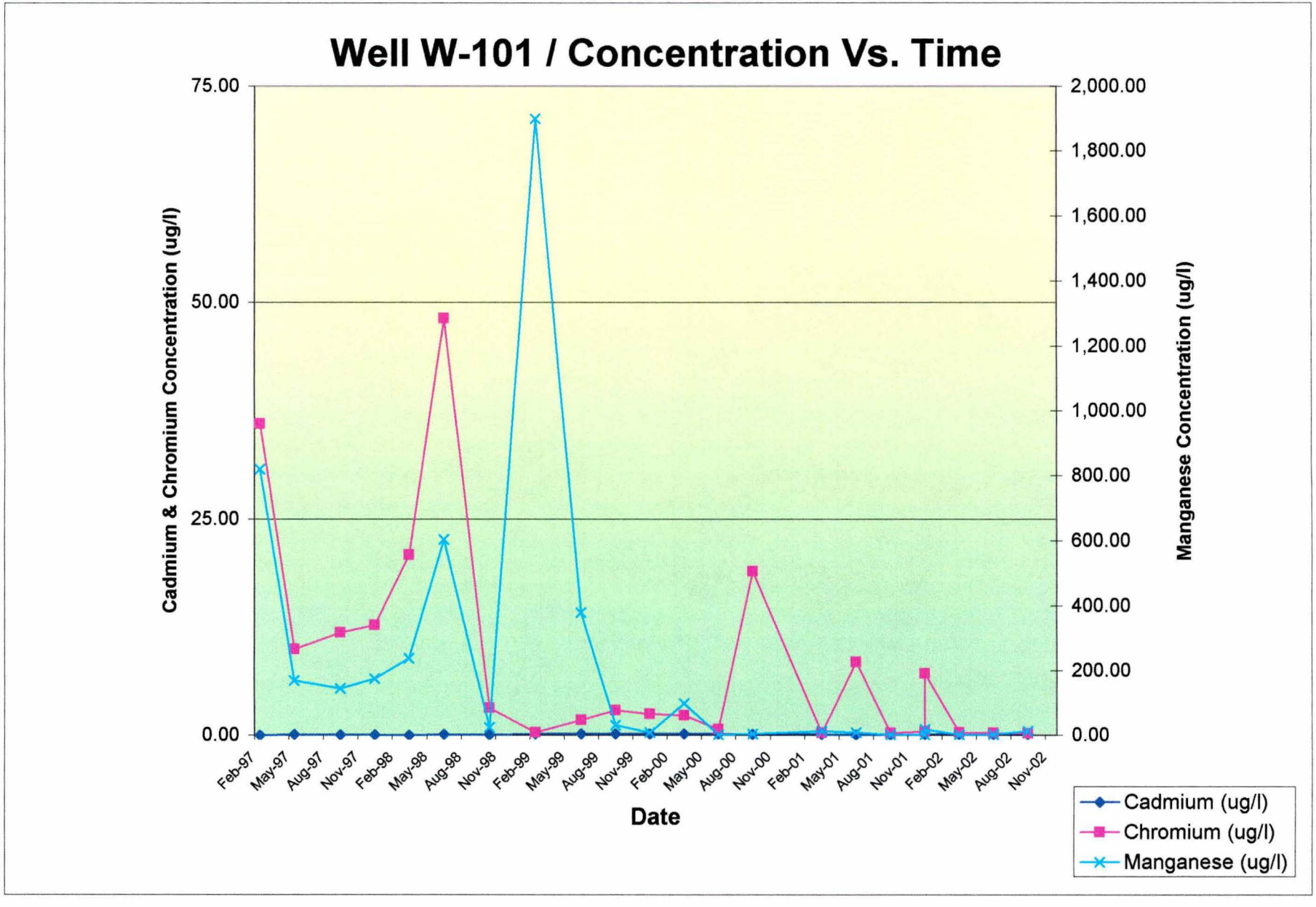
APPENDIX A

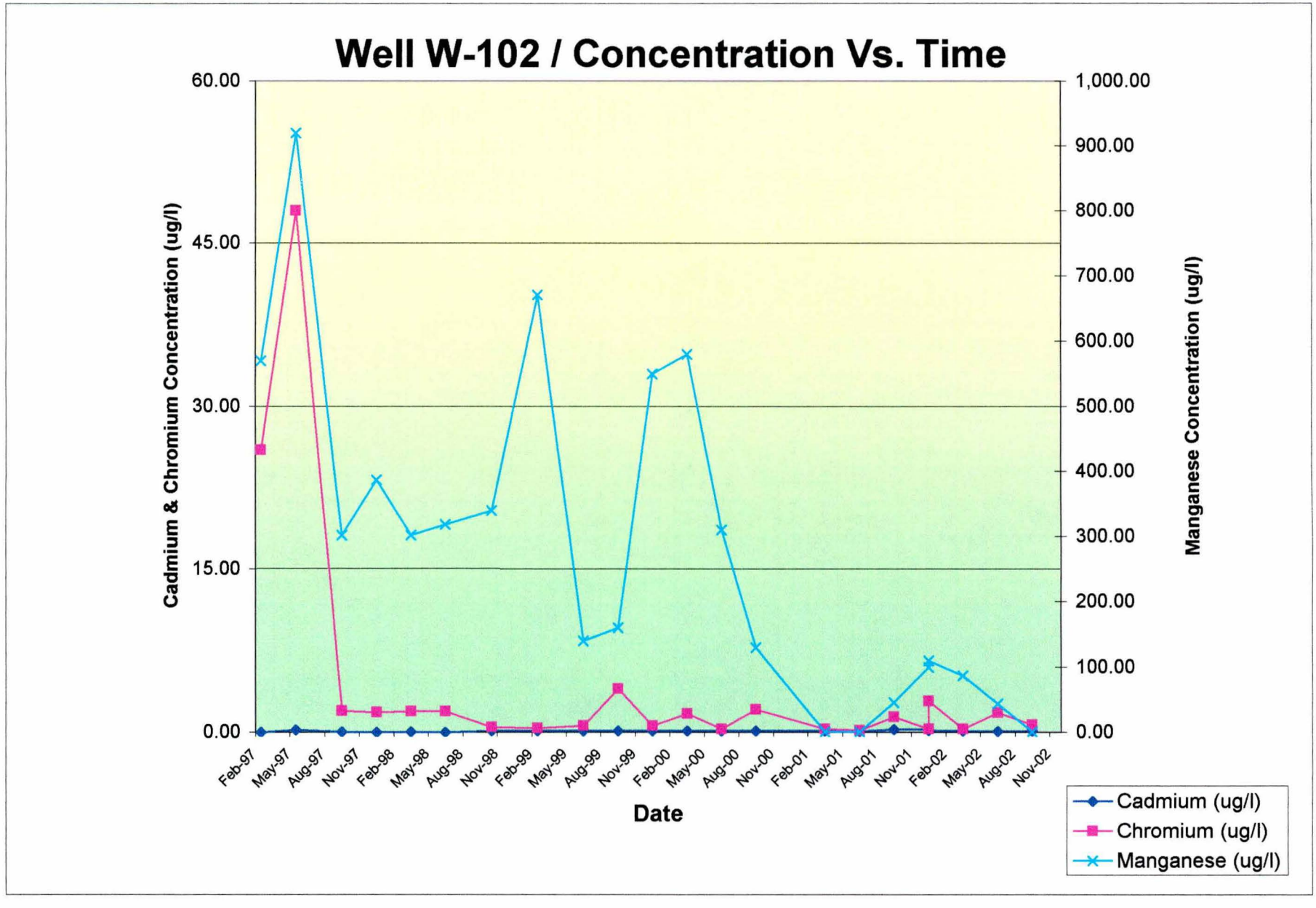
Concentration Versus Time Graphs
Inorganic Compounds / All Wells

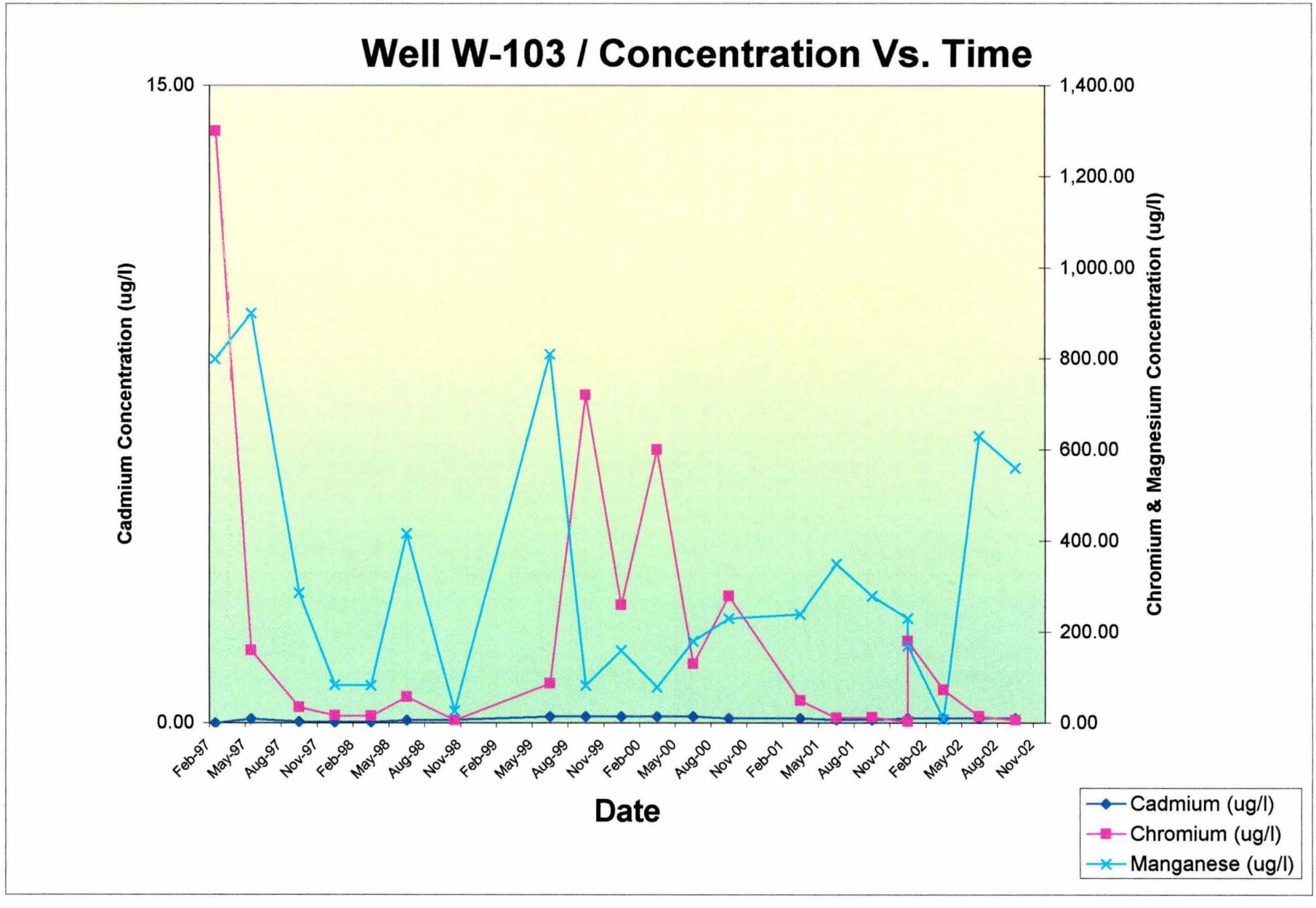

Well W-2 / Concentration Vs. Time
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
30.00
15.00
0.00
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)

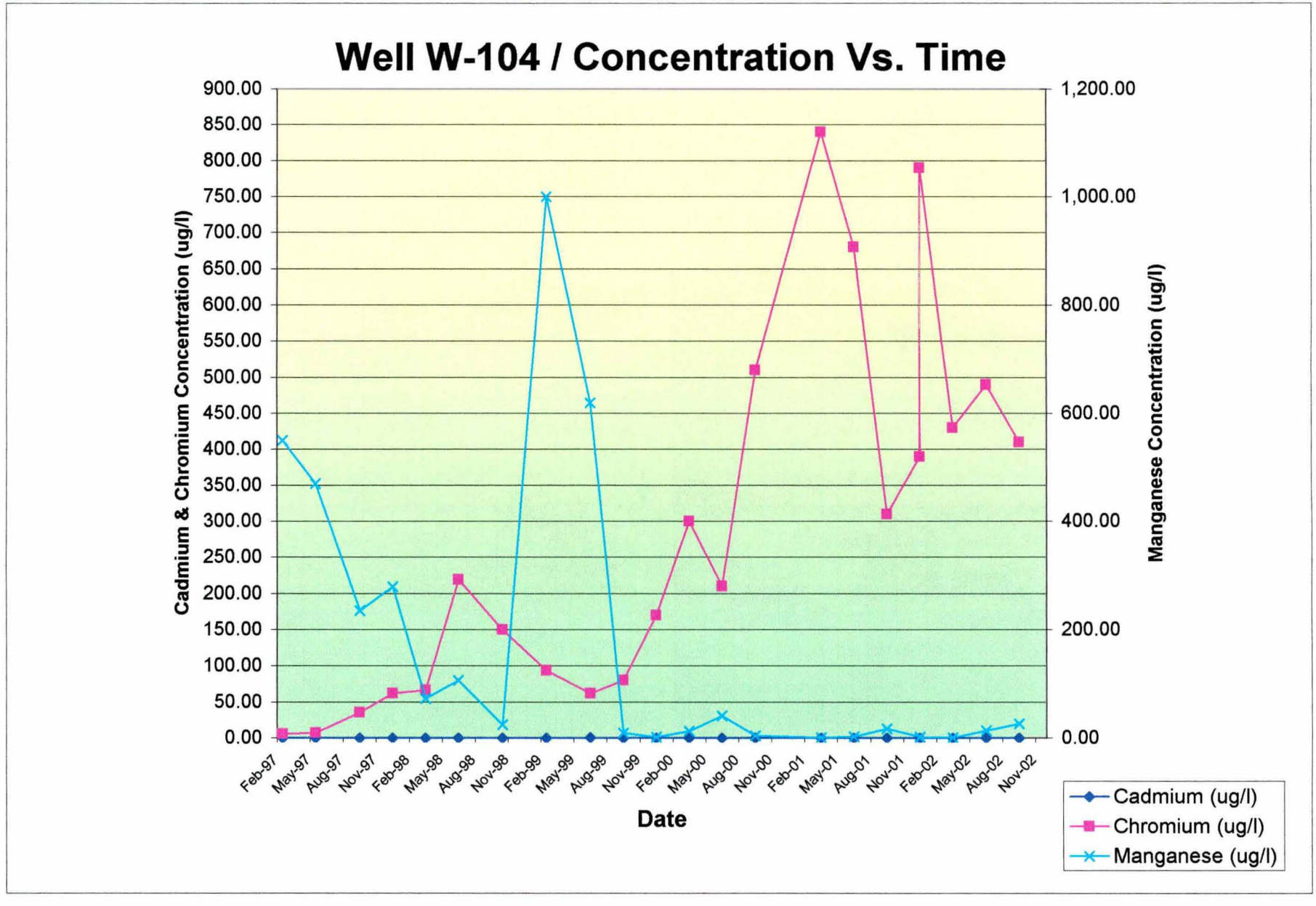

Well W-8 / Concentration Vs. Time
45.00
30.00
15.00
0.00
1,600.00
1,400.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
0.00
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)

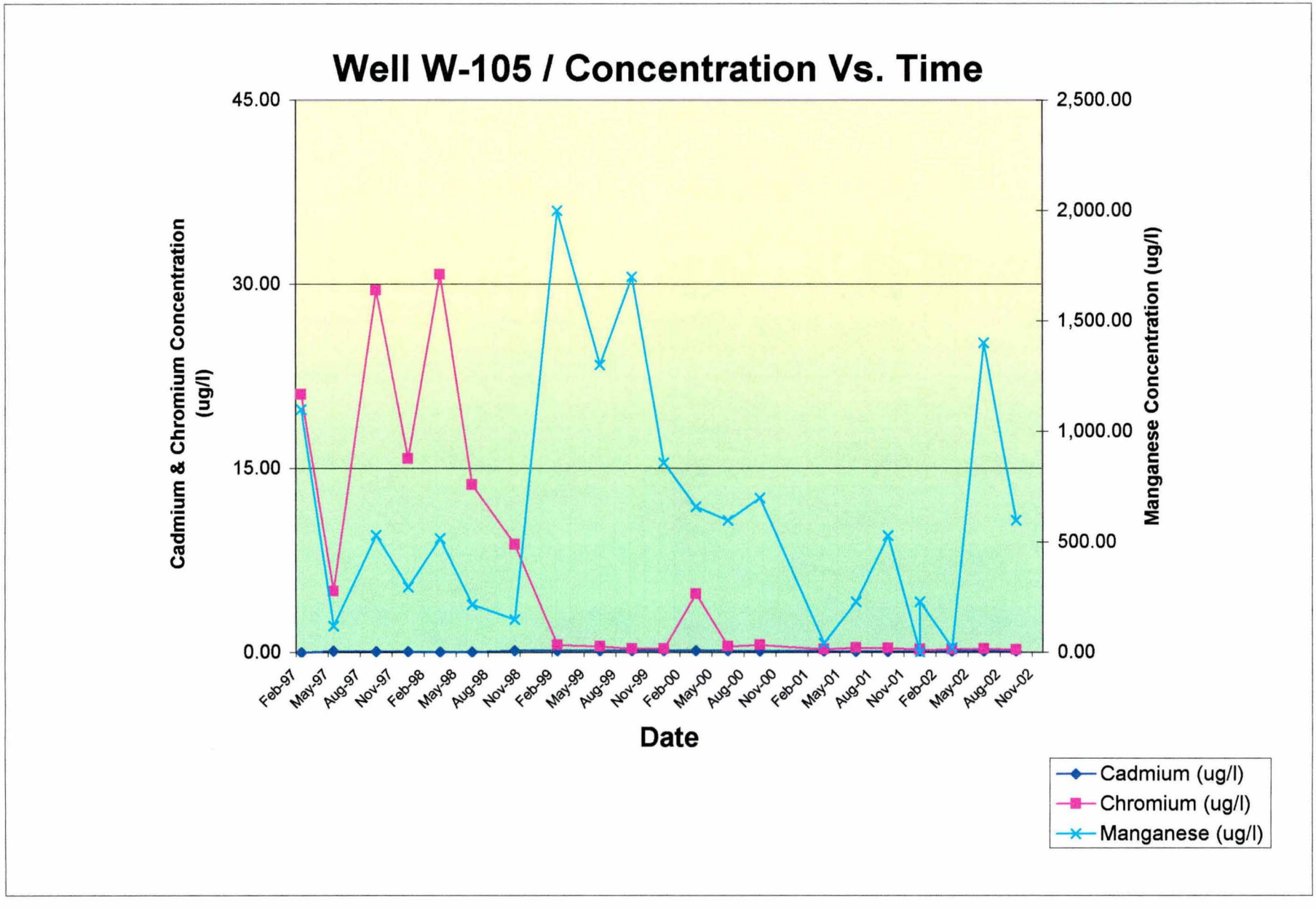

Well W-15 / Concentration Vs. Time
45.00
30.00
15.00
0.00
Cadmium & Chromium Concentration (ug/l)
1,000.00
900.00
800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Manganese Concentration (ug/l)
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)

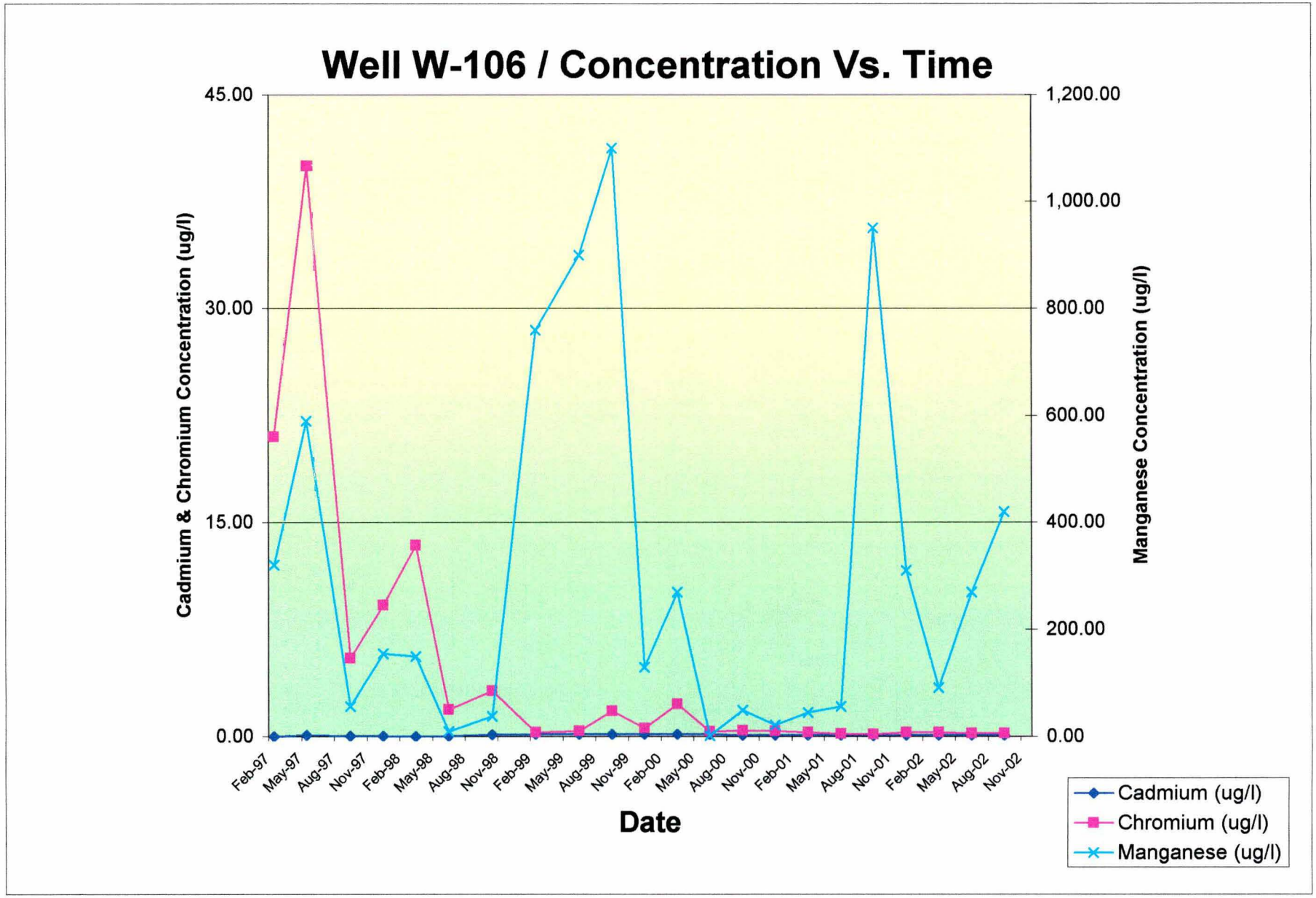

Well W-101 / Concentration Vs. Time
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
75.00
50.00
25.00
0.00
2,000.00
1,800.00
1,600.00
1,400.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)

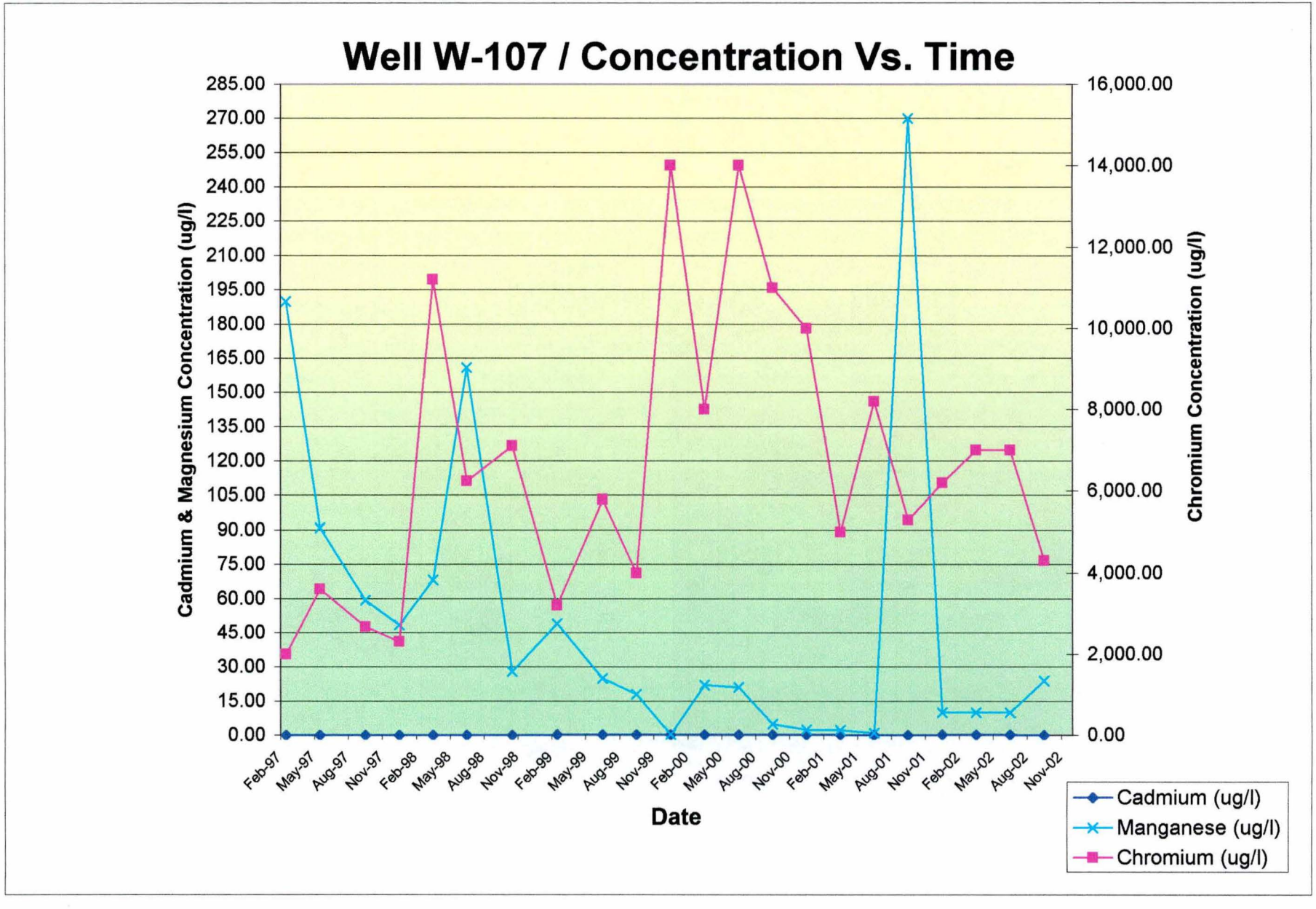

Well W-102 / Concentration Vs. Time
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
60.00
45.00
30.00
15.00
0.00
1,000.00
900.00
800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)


Well W-103 / Concentration Vs. Time
15.00
0.00
1,400.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
0.00
Cadmium Concentration (ug/l)
Chromium & Magnesium Concentration (ug/l)
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)


Well W-104 / Concentration Vs. Time
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
900.00
850.00
800.00
750.00
700.00
650.00
600.00
550.00
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)

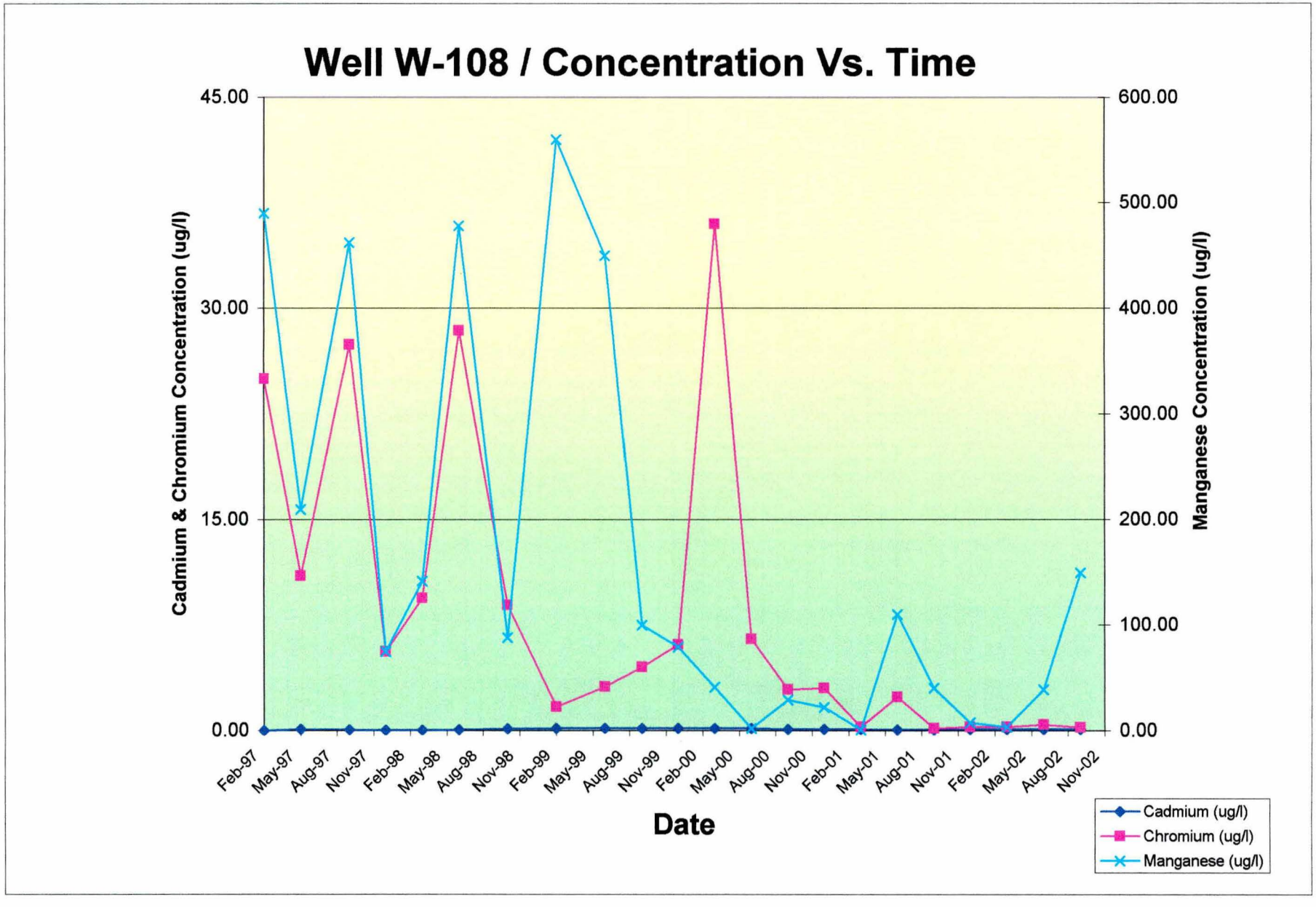

Well W-105 / Concentration Vs. Time
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
45.00
30.00
15.00
0.00
2,500.00
2,000.00
1,500.00
1,000.00
500.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)

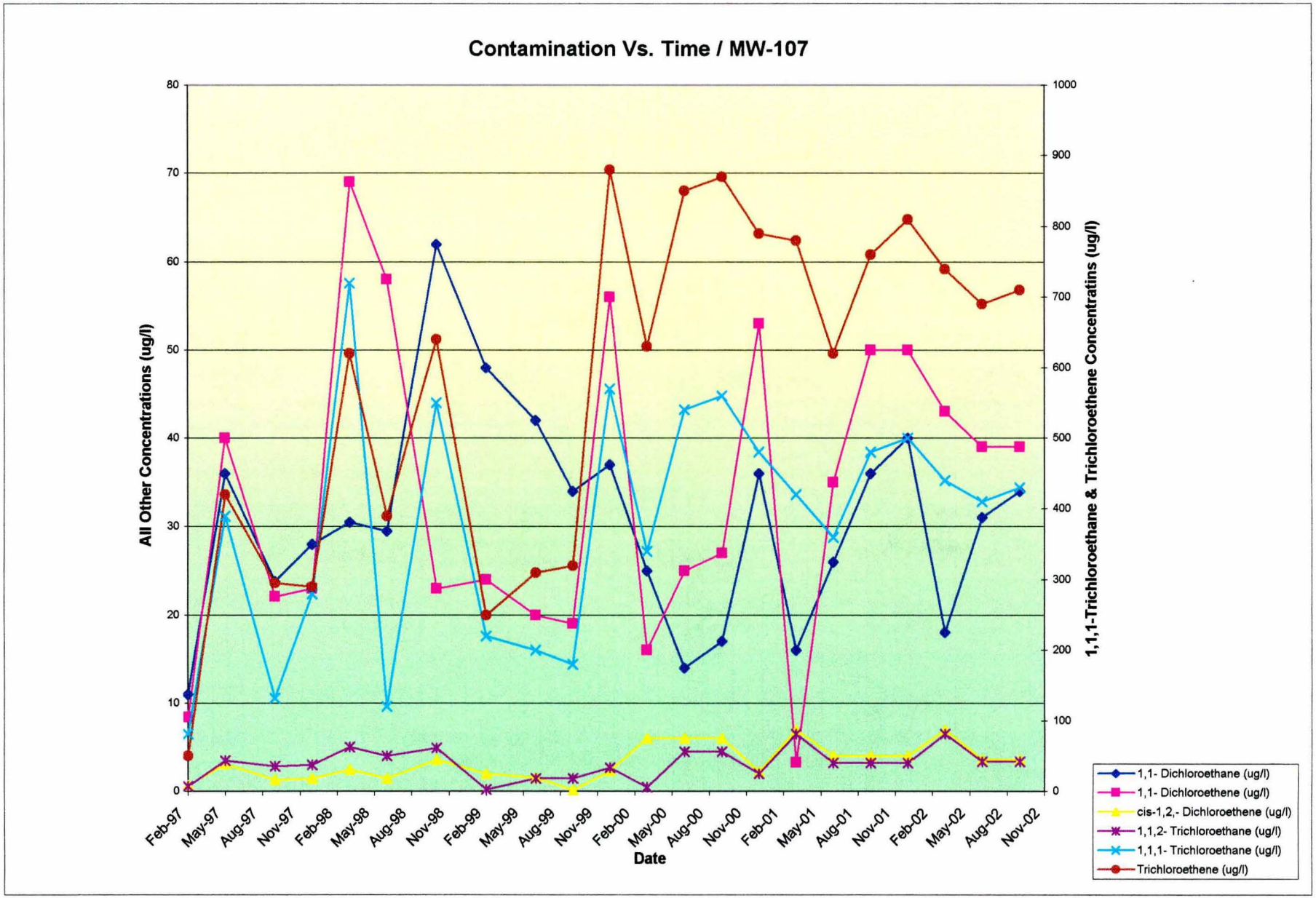

Well W-106 / Concentration Vs. Time
45.00
30.00
15.00
0.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
0.00
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)


Well W-107 / Concentration Vs. Time
Cadmium & Magnesium Concentration (ug/l)
Chromium Concentration (ug/l)
285.00
270.00
255.00
240.00
225.00
210.00
195.00
180.00
165.00
150.00
135.00
120.00
105.00
90.00
75.00
60.00
45.00
30.00
15.00
0.00
16,000.00
14,000.00
12,000.00
10,000.00
8,000.00
6,000.00
4,000.00
2,000.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Manganese (ug/l)
Chromium (ug/l)

APPENDIX B

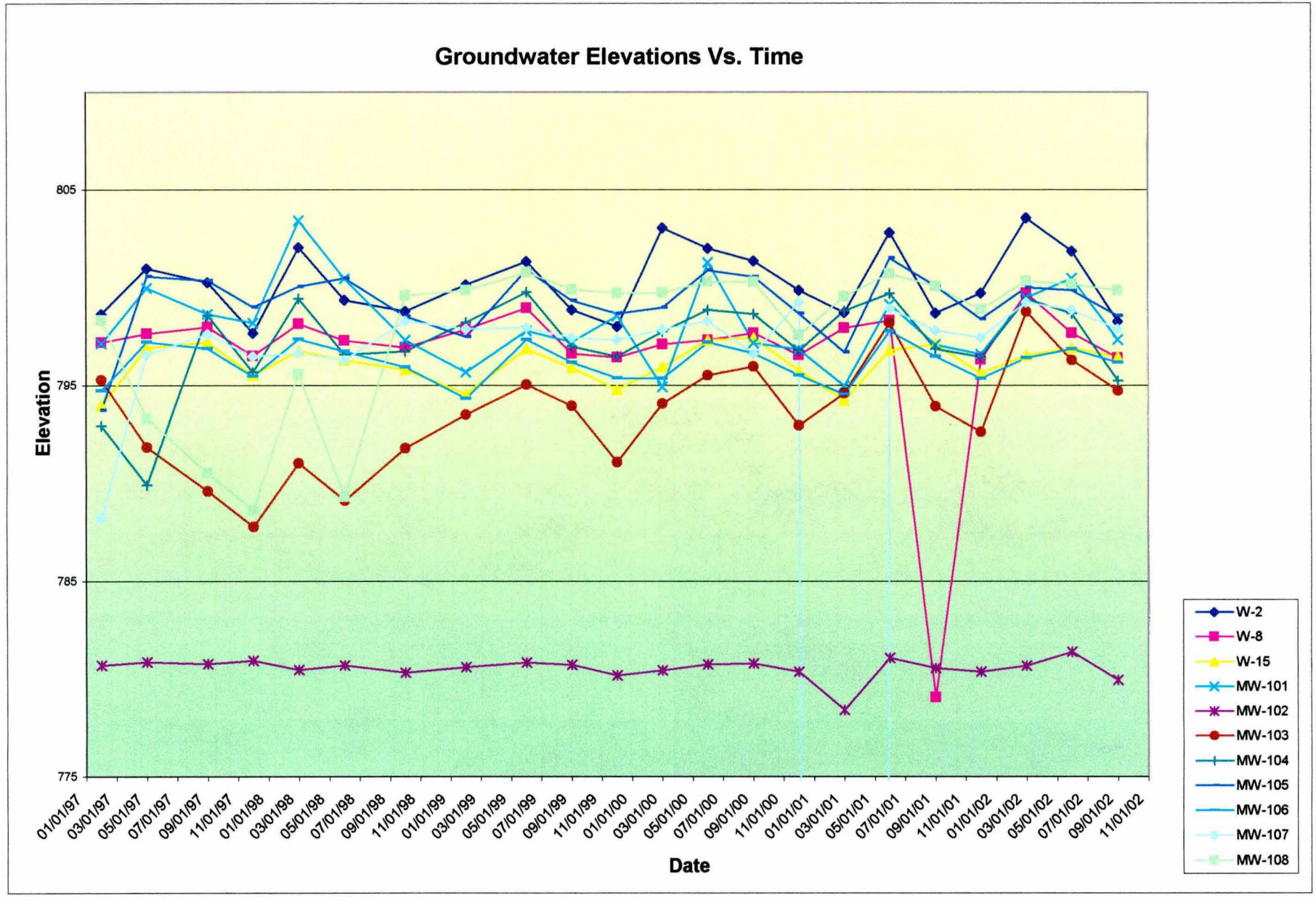
Contaminant Versus Time Graph
Detected VOC Compounds At MW-107 Graphs


Well W-108 / Concentration Vs. Time
Cadmium & Chromium Concentration (ug/l)
Manganese Concentration (ug/l)
45.00
30.00
15.00
0.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
Date
Cadmium (ug/l)
Chromium (ug/l)
Manganese (ug/l)


Contamination Vs. Time / MW-107
All Other Concentrations (ug/l)
1,1,1-Trichloroethane & Trichloroethene Concentratins (ug/l)
Date
0
10
20
30
40
50
60
70
80
0
100
200
300
400
500
600
700
800
900
1000
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Nov-01
Feb-02
May-02
Aug-02
Nov-02
1,1- Dichloroethane (ug/l)
1,1- Dichloroethene (ug/l)
cis-1,2,- Dichloroethene (ug/l)
1,1,2- Trichloroethane (ug/l)
1,1,1- Trichloroethane (ug/l)
Trichloroethene (ug/l)

APPENDIX C

Groundwater Elevations Versus Time
All Wells


Groundwater Elevations Vs. Time
Elevation
805
795
785
775
01/01/97
03/01/97
05/01/97
07/01/97
09/01/97
11/01/97
01/01/98
03/01/98
05/01/98
07/01/98
09/01/98
11/01/98
01/01/99
03/01/99
05/01/99
07/01/99
09/01/99
11/01/99
01/01/00
03/01/00
05/01/00
07/01/00
09/01/00
11/01/00
01/01/01
03/01/01
05/01/01
07/01/01
09/01/01
11/01/01
01/01/02
03/01/02
05/01/02
07/01/02
09/01/02
11/01/02
Date
W-2
W-8
W-15
MW-101
MW-102
MW-103
MW-104
MW-105
MW-106
MW-107
MW-108

APPENDIX D

Operation & Maintenance Cost Summary

APPENDIX D

ANNUAL OPERATION & MAINTENANCE REPORT
(October 2001 Through September 2002)
Summary Of Operation & Maintenance Costs
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO. No. M0050-920764.16

O&M Cost Category	Oct. 2001	Nov. 2001	Dec. 2001	Jan. 2002	Feb. 2002	Mar. 2002	Apr. 2002	May 2002	June 2002	July 2002	Aug. 2002	Sept. 2002	Totals
LABOR COSTS													
Routine Labor (Including Alarms, Groundwater Sampling)	$1,471.55	$2,131.87	$1,540.20	$1,631.23	$1,524.04	$2,089.54	$2,180.92	$1,773.64	$2,161.24	$2,176.52	$2,370.43	$2,001.98	$23,053.16
Building & Equipment Maintenance	$29.00	$203.00	$29.00	$14.50	$58.00	$0.00	$58.00	$0.00	$29.00	$319.00	$29.00	$0.00	$768.50
Labor - Subtotal	$1,500.55	$2,334.87	$1,569.20	$1,645.73	$1,582.04	$2,089.54	$2,238.92	$1,773.64	$2,190.24	$2,495.52	$2,399.43	$2,001.98	$23,821.66
ANALYTICAL SERVICES													
City Monitoring (Semi-Annual) - System Outfall			$330.75						$330.75				$661.50
Quarterly Monitoring - System Outfall & Groundwater Wells	$618.00			$618.00			$2,593.40				$628.00		$4,457 40
Analytical - Subtotal	$618.00	$0.00	$330.75	$618.00	$0.00	$0.00	$2,593.40	$0.00	$330.75	$0.00	$628.00	$0.00	$5,118.90
CHEMICALS													
Nitrogen Cylinder Rental & Gas			$40.95										$40.95
Sodium Hydroxide (55-Gal. Drums)					$170.65					$199.38			$370.03
Ferrous Sulfate (55-Gal. Drums)				$282.77		$328.79		$328.79	$246.44	$246.44		$246.44	$1,679.67
Chemicals - Subtotal	$0.00	$0.00	$40.95	$282.77	$170.65	$328.79	$0.00	$328.79	$246.44	$445.82	$0.00	$246.44	$2,090.65
UTILITY SERVICES													
Electrical & Natural Gas	$233.00	$233.00	$233.00	$233.00	$233.00	$233.00	$308.00	$308.00	$308.00	$308.00	$308.00	$308.00	$3,246.00
Telephone	$38.75	$39.87	$38.27	$39.06	$39.27	$41.90	$41.63	$41.81	$41.79	$42.18	$41.72	$41.42	$487.67
Utilities - Subtotal	$271.75	$272.87	$271.27	$272.06	$272.27	$274.90	$349.63	$349.81	$349.79	$350.18	$349.72	$349.42	$3,733.67
CITY WATER & SEWER FEES													
Water Charge, Sewer Charge, Storm Water Charge		$74.65				$79.82		$78.10			$79.82		$312.39
Sewer Volume Charge		$389.94				$385.90		$737.36			$887.33		$2,400.53
Subtotal - City Fees	$0.00	$464.59	$0.00	$0.00	$0.00	$465.72	$0.00	$815.46	$0.00	$0.00	$967.15	$0.00	$2,712.92
TOTAL O&M COSTS	**$2,390.30**	**$3,072.33**	**$2,212.17**	**$2,818.56**	**$2,024.96**	**$3,158.95**	**$5,181.95**	**$3,267.70**	**$3,117.22**	**$3,291.52**	**$4,344.30**	**$2,597.84**	**$37,477.80**
ADMINISTRATIVE COSTS ALLOWANCE													
(Monthly & Semi-Annual Reporting, Data Management & Recordkeeping)	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$850.00	$10,200.00
TOTAL O&M INCLUDING ADMINISTRATION	**$3,240.30**	**$3,922.33**	**$3,062.17**	**$3,668.56**	**$2,874.96**	**$4,008.95**	**$6,031.95**	**$4,117.70**	**$3,967.22**	**$4,141.52**	**$5,194.30**	**$3,447.84**	**$47,677.80**

NOTES: 1) Nitrogen costs include cylinder rented and estimated gas costs. December 2001 costs represent year lease of cylinder.
2) Administrative costs are based upon the total budgeted costs divided by 12-months.

APPENDIX E

Operation & Maintenance Report / Form 4400-194

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

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

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

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

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

A. GENERAL INFORMATION:

1. Site name: N.W Mauthe Superfund Site
2. Reporting period from: October 1, 2001 To: September 30, 2002 Days in period: 365
3. Regulatory agency (enter DNR, DCOM, DATCP and/or other): WDNR / U.S. EPA
4. DNR issued site number: BRRTS ID # 02-45-000127
5. State reimbursement fund claim number and fund name (if not applicable, enter NA): NA
6. Site location:
   a. DNR region and county: Northeast Region Outagamie County
   b. Street address and municipality: 725 South Outagamie Street, Appleton, WI
   c. Township, range, section and quarter quarter section: NE 1/4 of NW 1/4 of Section 34 Township 21 North, Range 17 East
7. Responsible party:
   a. Name: Carol Mauthe (WDNR Contact Jennifer Tobias)
   b. Mailing address: WDNR 625 East County Road "Y", Suite #700 Oshkosh, WI 54901-9731
   c. Phone number: 920-424-7887
8. Consultant:
   a. Company name: McMahon Associates Inc
   b. Mailing address: P.O. Box 1025, 1445 McMahon Drive Neenah, WI 54957-1025
   c. Phone number: 920-751-4200
9. Contaminants: Chromium / VOC's
10. Soil types (USCS or USDA): Clay / Silty Clay
11. Hydraulic conductivity (cm/sec): 1×10^{-7} 12. Average linear velocity of groundwater (ft/yr): 0.007

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: N.W. Mauthe Superfund Site

Reporting period from: October 1, 2001 To: September 30, 2002 Days in period: 365

A. GENERAL INFORMATION (CONTINUED):

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

    a. DNR region and county: _____

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

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

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

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

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

D. ECONOMIC AND COST DATA TO DATE:

1. Total investigation costs ($): NA
2. Implementation costs (design, capital and installation costs, excluding investigation costs) ($): NA
3. Total costs during the previous reporting period ($): $76,048
4. Total costs during this reporting period ($): $78,330
5. Total anticipated costs for the next reporting period ($): $80,369
6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above? (Y(N)) If yes explain: _____
7. If close out is anticipated within 12 months, estimated costs for project closeout ($): NO

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: N.W. Mauthe Superfund Site

Reporting period from: October 1, 2001 To: September 30, 2002 Days in period: 365

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

Registered Professional Engineers:

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

Signature, title, P.E. number and date: [signature], SR. PROJ. ENGR., E-26225, 2-25-03

Hydrogeologists:

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

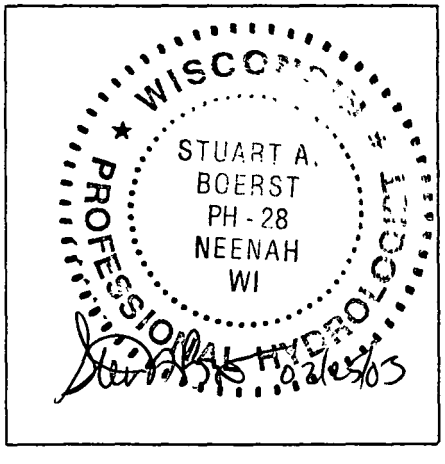
Signature, title and date: _____

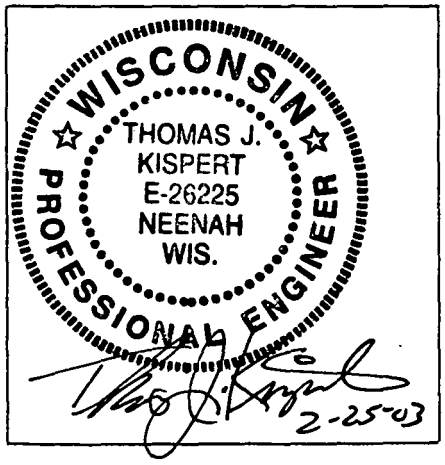
Scientists:

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

Signature, title and date: [signature], Senior Hydrogeologist, 02/25/03

Professional Seal(s), if applicable:





State of Wisconsin
Department of
Natural Resources

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

Form 4400-194
7-96
Page GW-1

GROUNDWATER PUMP AND TREAT SYSTEMS AND FREE PRODUCT RECOVERY SYSTEMS

SITE NAME AND REPORTING PERIOD:

Site name: N. W. Mauthe Spectron Site

Reporting period from: October 1, 2001 To: September 30, 2002 Days in period: 365

Date that the system was first started up: January 14, 1997

A. GROUNDWATER EXTRACTION SYSTEM OPERATION:

1. Total number of groundwater extraction wells or trenches available and the number in use during period: 2/2
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): 365
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain: 100%
4. Quantity of groundwater extracted during this time period (gallons): 880,996
5. Average groundwater extraction rate (gpm): 1.7 gpm
6. Quantity of dissolved phase contaminants removed during this time period in pounds: 12.78

B. FREE PRODUCT RECOVERY SYSTEM OPERATION:

1. Is free product (nonaqueous phase liquid) being recovered at this site? (Y/(N)) If yes, list method:
2. Quantity of free product extracted during this time period (gallons, enter none if none): None
3. Average free product extraction rate (gpd): NA

C. SYSTEM EFFECTIVENESS EVALUATION:

1. Is a contaminated groundwater plume fully contained in the capture zone? ((Y)/N) If no, explain:
2. If free product is present, is the free product fully contained in capture zone? (Y/N) If no, explain: NA
3. If free product is present in any wells at the site, but free product was not recovered during reporting period, explain.
4. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in C.4.a.
   a. Contaminant: Chromium 7000 ug/L
   b. Percent reduction necessary to reach ch. NR 140 ES and PAL: ES 98.6% PAL 99.9%
   c. Maximum contaminant concentration level in any monitoring well of that contaminant (µg/L): 7000 ug/L MW-107
   d. Maximum contaminant concentration level in any extraction well of that contaminant (µg/L): NA
   e. If the maximum concentration in a monitoring well is more that one order of magnitude above the concentration measured in an extraction well, explain why the extracted groundwater contamination levels are significantly less than the levels at other locations within the aquifer.

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

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

OTHER GROUNDWATER REMEDIATION METHODS

SITE NAME AND REPORTING PERIOD:

Site name: N.W. Manitowoc Superfund Site

Reporting period from: October 1, 2001 To: September 30, 2001 Days in period: 365

Date that the system was first started up: January 14, 1997

A. EFFECTIVENESS EVALUATION:

1. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in A.1.a.

   a. Contaminant: Chromium

   b. Percent reduction necessary: ES 98.6% PAL 99.9%

   c. Maximum contaminant concentration level in any monitoring well (µg/L): 7000 ug/L MW-107

2. Is the size of the plume increasing, stabilized, or decreasing: Stabilized

3. Describe the method used to remediate groundwater at the site.

   See Section II of Enclosed Report

4. List any additional information required by the DNR for this method for this site:

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

- Groundwater contour map.
- Groundwater contaminant distribution map (may be combined with contour map).
- When contaminants are aerobically biodegradable, attach a dissolved oxygen in groundwater map (dissolved oxygen may be combined with the contaminant data on a single map).
- Graph of contaminant concentrations versus time for the contaminant listed in A.1.a. (above) for the monitoring point with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- Any other attachments required by the DNR for this remediation method.

SOIL VENTING (INCLUDING BOTH SOIL VAPOR EXTRACTION AND BIOVENTING)

SITE NAME AND REPORTING PERIOD:

Site name: _____

Reporting period from: _____ To: _____ Days in period: _____

Date that the system was first started up: _____

A. SOIL VENTING SYSTEM OPERATION:

1. Number of air extraction wells available and number of wells actually in use during the period: _____
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): _____
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If less than 80%, explain: _____
4. Average depth to groundwater: _____

B. EFFECTIVENESS EVALUATION:

1. Average contaminant removal rate for the entire system (pounds per day): _____
2. Average contaminant removal rate per well (pounds per day): _____
3. If the average contaminant removal rate is less than one pound per day for the entire system, or if the average contaminant removal rate per well is less than one tenth of a pound per day, evaluate the following:

   a. If contaminants are aerobically biodegradable and confirmation borings have not been drilled in the past year:

      i. Oxygen levels in extracted air (percent): _____

      ii. Methane levels in extracted air (ppm_v) If over 10 ppm_v, explain: _____

      iii. If methane is not present above 10 ppm_v and if oxygen is greater than 20 percent in extracted air, you should either:
      - Drill confirmation borings during the next reporting period, if the entire site should be considered for closure.
      - Or, perform an in situ respirometry test in a zone of high contamination. Do not perform the test in an air extraction well, use a gas probe or water table well. If a zero order rate of decay based on oxygen depletion is less than 2 mg/kg per day, then you should drill confirmation borings, if the entire site should be considered for closure. If the rate of decay is between 2 and 10 mg/kg, operate for one more reporting period before evaluating further. If the zero order rate of decay is greater than 10 mg/kg total hydrocarbons, continue operating the system in a manner than maximizes aerobic biodegradation.

   b. If contaminants are not aerobically biodegradable and confirmation borings have not been recently drilled during the past year, you should drill confirmation borings during the next reporting period if the entire site should be considered for closure.

   c. If soil borings were drilled during the past year and soil contamination remains above acceptable levels, explain if the system effectiveness can be increased and/or if other options need to be considered to achieve cleanup criteria.

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

- Well and soil sample location map indicating all air extraction wells. If forced air injection wells are also in use, identify those wells.
- If water table monitoring wells are present at the site, a map of well locations.
- Time versus vapor phase contaminant concentration graph.
- Time versus cumulative contaminant removal graph.
- Groundwater elevations table, if water table wells are present at the site; also list screen lengths and elevations.
- Table of soil contaminant chemistry data.
- Soil gas data, if gas probes are used to monitor subsurface conditions in locations other than where air is extracted.
- System operational data table.

APPENDIX F

Weekly Hexavalent Chromium Concentrations

APPENDIX F

ANNUAL OPERATION & MAINTENANCE REPORT
(October 2001 Through September 2002)
WEEKLY INFLUENT HEXAVALENT CHROMIUM RESULTS
N.W. Mauthe Superfund Site - Appleton, Wisconsin
MCO. No. M0050-920764.14

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
02/26/97	1.0
03/03/97	.8
03/06/97	1.0
03/10/97	1.5
03/23/97	.9
03/29/97	1.2
04/06/97	1.1
04/09/97	1.2
04/16/97	1.0
04/25/97	1.0
04/27/97	1.1
05/02/97	1.1
05/08/97	1.1
05/13/97	1.2
05/21/97	1.1
05/29/97	1.1
06/06/97	1.2
06/13/97	1.2
06/17/97	1.3
06/23/97	1.2
07/02/97	1.2
07/08/97	1.2
07/14/97	1.2
07/21/97	1.2
07/28/97	1.4
08/04/97	1.4
08/13/97	1.3
08/18/97	1.3
08/25/97	1.3
09/04/97	1.3
09/08/97	1.5
09/15/97	1.4
09/24/97	1.3
10/01/97	1.3
10/08/97	1.4
10/15/97	1.3
10/22/97	1.4
10/29/97	1.4
11/05/97	1.3
11/11/97	1.2
11/22/97	1.0
11/24/97	1.0
12/03/97	1.0
12/10/97	1.0
12/17/97	1.1
01/07/98	1.0
01/14/98	1.0
01/21/98	1.0

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
01/28/98	1.0
02/04/98	1.4
02/11/98	1.4
02/18/98	1.4
02/25/98	0.8
03/04/98	1.3
03/11/98	1.3
03/18/98	1.3
03/26/98	1.3
04/01/98	0.8
04/08/98	1.0
04/15/98	1.3
04/23/98	1.3
04/29/98	1.3
05/06/98	1.3
05/13/98	1.3
05/20/98	1.3
05/27/98	1.4
06/03/98	1.3
06/10/98	1.4
06/17/98	1.2
06/24/98	1.2
07/01/98	1.1
07/08/98	1.1
07/15/98	1.1
07/23/98	1.3
07/29/98	1.3
08/06/98	1.2
08/12/98	1.2
08/19/98	1.2
08/26/98	1.2
09/02/98	1.2
09/09/98	1.2
09/16/98	1.2
09/23/98	1.2
09/30/98	1.2
10/07/98	1.0
10/15/98	1.1
10/21/98	1.3
10/28/98	1.3
11/04/98	1.1
11/11/98	1.1
11/18/98	1.2
11/25/98	1.2
12/02/98	1.2
12/09/98	1.5
12/16/98	1.3
12/23/98	1.3

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
12/30/98	1.3
01/06/99	1.3
01/12/99	1.1
01/20/99	1.2
01/28/99	1.3
02/03/99	1.3
02/10/99	1.4
02/17/99	1.4
02/24/99	1.4
03/03/99	1.3
03/10/99	1.3
03/17/99	1.3
03/24/99	1.3
03/31/99	1.3
04/07/99	1.2
04/14/99	1.2
04/21/99	1.1
04/28/99	1.2
05/05/99	1.2
05/12/99	1.2
05/19/99	1.1
05/26/99	1.2
06/02/99	1.1
06/10/99	1.4
06/16/99	1.5
06/23/99	2.2
06/30/99	2.2
07/07/99	2.4
07/14/99	2.0
07/21/99	1.8
07/28/99	1.2
08/04/99	1.5
08/11/99	1.4
08/18/99	1.3
08/25/99	1.3
09/01/99	1.3
09/08/99	1.4
09/15/99	1.5
09/21/99	1.3
09/29/99	1.2
10/06/99	1.4
10/13/99	1.5
10/20/99	1.4
10/27/99	1.4
11/04/99	1.3
11/10/99	1.2
11/18/99	1.3
11/24/99	1.2

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
11/30/99	1.3
12/08/99	1.3
12/15/99	1.2
12/22/99	1.3
12/29/99	1.2
01/06/00	1.3
01/12/00	1.3
01/19/00	1.2
01/26/00	1.2
02/02/00	1.1
02/09/00	1.1
02/16/00	1.2
02/23/00	1.3
03/01/00	1.2
03/08/00	1.3
03/14/00	1.2
03/22/00	1.2
03/29/00	1.1
04/05/00	1.4
04/11/00	1.1
04/19/00	1.1
04/26/00	1.1
05/03/00	1.3
05/10/00	1.1
05/17/00	1.2
05/24/00	1.1
05/31/00	1.1
06/07/00	1.4
06/14/00	0.5
06/21/00	1.0
06/28/00	1.1
07/05/00	1.3
07/12/00	1.2
07/19/00	1.3
07/26/00	1.3
08/02/00	1.3
08/09/00	1.4
08/16/00	1.2
08/23/00	1.4
08/30/00	1.3
09/06/00	1.4
09/13/00	1.2
09/20/00	1.2
09/27/00	1.4
10/03/00	1.3
10/11/00	1.3
10/18/00	2.5
10/25/00	2.2

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
11/01/00	1.8
11/08/00	1.4
11/15/00	1.8
11/22/00	1.8
11/29/00	1.4
12/06/00	1.6
12/13/00	1.4
12/20/00	1.2
12/27/00	1.3
01/03/01	1.2
01/10/01	1.4
01/17/01	1.8
01/24/01	1.4
01/31/01	1.3
02/07/01	1.2
02/13/01	2.0
02/21/01	1.5
02/28/01	1.4
03/17/01	1.3
03/14/01	1.2
03/21/01	1.3
03/28/01	1.2
04/04/01	1.4
04/11/01	1.2
04/18/01	1.2
04/25/01	1.4
05/02/01	1.3
05/09/01	1.3
05/16/01	1.2
05/23/01	1.3
05/30/01	1.1
06/06/01	1.2
06/13/01	1.4
06/20/01	1.2
06/27/01	1.3
07/04/01	1.3
07/11/01	1.2
07/18/01	1.4
07/25/01	1.3
08/01/01	1.6
08/08/01	1.3
08/15/01	1.2
08/22/01	1.1
08/29/01	1.3
09/05/01	1.4
09/12/01	1.4
09/19/01	3.0
09/25/01	2.4

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
10/01/01	1.5
10/09/01	2.5
10/18/01	2.0
10/24/01	2.3
10/31/01	2.5
11/09/01	1.4
11/17/01	1.2
11/21/01	1.3
11/29/01	1.4
12/06/01	1.5
12/14/01	2.0
12/20/01	2.0
12/27/01	2.5
01/03/02	2.5
01/10/02	2.0
01/17/02	2.5
01/24/02	2.0
01/31/02	1.5
02/07/02	2.5
02/13/02	2.5
02/21/02	3.0
02/28/02	2.5
03/07/02	2.0
03/14/02	1.5
03/21/02	2.5
03/26/02	1.5
04/04/02	1.5
04/11/02	1.5
04/18/02	2.0
04/25/02	2.5
05/02/02	3.0
05/09/02	1.5
05/16/02	1.5
05/23/02	1.5
05/30/02	2.0
06/06/02	1.5
06/13/02	2.0
06/20/02	3.0
06/27/02	2.0
07/03/02	2.0
07/11/02	1.5
07/18/02	1.0
07/25/02	0.1
08/01/02	0.0
08/08/02	0.0
08/15/02	0.0
08/22/02	0.0
08/29/02	0.0

DATE	INFLUENT HEXAVALENT CHROMIUM* (ppm)
09/09/02	0.0
09/12/02	0.4
09/19/02	0.1
09/26/02	0.0

*Hexavalent Chromium is Measured Utilizing a Hach Test Kit.