URS

FID# 246004330 GWM

2002 Annual Groundwater Monitoring Report

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48362-004-133
May 16, 2003

Received
5/20/03

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Results of the sampling performed in 2002 indicated that total volatile organic compound (VOC) concentrations of up to 172,874 micrograms per liter (µg/L) are present in the groundwater in the glacial deposits and the shallow dolomite. The total VOC concentrations observed during the 2002 sampling events are consistent with concentrations observed during previous years sampling events. With the exception of results from on-site pumping well W-30, VOC concentrations in the deep dolomite unit, as evidenced by the results from Municipal Wells MW-1, MW-2, MW-3 and MW-4, remain at non-detectable levels. Continuous pumping of W-30 at a rate of approximately 340 gallons per minute (gpm) for use as non-contact cooling water is effectively assisting in containing the plume of impacts on the site. Concentrations of benzene and total xylenes continue to be detected in the samples collected from W-30. The concentrations of benzene and total xylene detected in W-30 during the 2002 sampling events are consistent with the concentrations detected during previous sampling events.

The groundwater extraction system currently operating at the site was designed to minimize the downward migration of impacts from the glacial drift and shallow dolomite units to the deep dolomite unit, and to control the off-site migration of impacts from within the glacial drift, shallow dolomite, and deep dolomite units. Based on the results of the sampling conducted in 2002, it appears that the extraction system is functioning as designed. The low-level concentrations of benzene and total xylene detected in W-30 have decreased significantly in the past several years. However, the concentration of benzene in W-30 may be showing a slight increase since April 2002.

Concentrations of VOCs at the perimeter monitoring wells remain at either non-detectable or very low levels. Impacts from off-site sources continue to be detected in several perimeter monitoring wells. The total VOC concentration in off-site monitoring well W-27 continues to show an increasing trend, attributed mostly to trichloroethene and cis-1,2-dichloroethene. Groundwater surface contours and potentiometric surface plots indicate that there is a convergent groundwater flow on the site towards the active extraction system. A stable or decreasing plume size, as indicated by stable or decreasing concentrations observed in the perimeter monitoring wells indicates that the extraction system is effectively controlling the off-site migration of the impacts. An increase in concentrations observed in the active extraction wells also indicates that the system is effectively containing onsite and reducing the size of the plume of contaminants.

No VOCs were detected in any of the municipal wells sampled during 2002.

A sample from Municipal Well MW-4 was not collected during the April 2002 sampling event due to maintenance activities being performed by the Village of Saukville. Samples were not collected from Ranney Collectors RC-1, RC-2 and RC-3 during the April, July and October 2002 sampling events due to a combination of lack of water caused by an extended dry period and pump malfunctions. Construction at the Saukville POTW prevented sampling of the influent in April and July sampling events and of the sludge during the October sampling event. A sample could not be collected from perimeter well W-08R during the fall sampling event due to a lack of water. Samples from remediation progress monitoring points W-21A and W-28 could not be collected during the summer sampling event due to pump malfunctions. All other required samples were collected during 2002.

Cook Composites and Polymers Co. (CCP) operates a polyester, acrylic, and alkyd resin manufacturing plant in Saukville, Wisconsin (Figure 1). Prior to 1991, the plant was owned and operated by Freeman Chemical Corporation (Freeman). The facility was initially operated as a cannery until 1949 when Freeman installed resin manufacturing equipment. The facility has manufactured alkyd, polyester and urethane synthetic resins since 1949.

From 1952 to 1968, reaction water was disposed in a dry well formerly located on the western edge of the property with approval from the Wisconsin Division of Water Pollution Control. The dry well method of disposal for the reaction water was replaced with an on-site hazardous waste incinerator in 1968. The hazardous waste incinerator was in operation until 2002 when a macro porous polymer extraction (MPPE) system was added to the process to render the hazardous reaction water non-hazardous. CCP continues to operate the incinerator as a non-hazardous incinerator disposing of the post-MPPE, non-hazardous reaction water.

Three (3) areas of concern (AOCs) were identified on the site during the RCRA Facility Investigation (RFI). The 3 AOCs are as follows:

Area 1 – Former Urethane Laboratory/Former Liquids Incinerator Area

The former liquids incinerator was used to dispose reaction water from 1968 to 1989. Area1 is located on the northeast portion of the facility in the vicinity of the current solid waste incinerator and soil vapor extraction (SVE) system.

Area 2 – Former Dry Well

The former dry well was used from approximately 1952 through 1968 to dispose of reaction water as approved by the Wisconsin Division of Water Pollution Control. Area 2 is located on the west-central portion of the property.

Area 3 – Former Tank Farm Storage Area

A tank farm consisting of an earthen berm utilized for the storage of raw materials and finished product formerly occupied this area. Area 3 is located near the center of the property to the east and south of the existing non-hazardous liquid waste incinerator.

In compliance with the 1987 Corrective Action Order on Consent (Docket #V-W-88-R-002), October 19, 1987, 3008h order for RCRA, CCP is required to perform quarterly

groundwater monitoring for specific wells. Additional wells or sampling points are sampled on a semi-annual or annual basis. Quarterly sampling is performed on wells identified as receptor points. Semi-annual sampling is performed on wells identified as perimeter monitoring points. Annual sampling is performed on wells identified as remediation progress wells.

Samples were collected from the Saukville facility in January (Winter), April (Spring), July (Summer), and October (Fall) 2002 by URS Corporation (URS) personnel. The samples collected were analyzed by EnChem Laboratory of Madison, Green Bay, and Kimberly, Wisconsin.

The field data and results of the chemical analyses were compiled by URS, and were submitted on a quarterly basis by CCP to the Wisconsin Department of Natural Resources (WDNR). Results are no longer forwarded to U.S. Environmental Protection Agency Region V personnel. On October 30, 2001, Mr. Robert Egan (USEPA-Region V) notified Mr. Robert Cigale (URS) via e-mail that USEPA no longer needed to receive copies of the quarterly and annual reports from the Saukville facility. Quarterly and annual reports continue to be submitted to WDNR staff. Volatile organic compound (VOC) exceedances of the Wisconsin Administrative Code Chapter NR 140 Preventive Action Limits (PAL) and Enforcement Standard (ES) were reported quarterly by CCP in accordance with Wisconsin Administrative Code Chapter NR 508. This report was prepared to summarize the results of the groundwater monitoring during the 2002 calendar year and to compare the results from the 2002 sampling events with those from previous years.

This document presents a summary of the data collected during the quarterly, semi-annual and annual groundwater sampling events at the CCP Saukville facility in 2002, and provides an evaluation of the groundwater elevation and quality trends at the site. The water quality data has been submitted to the WDNR in the quarterly reports. Copies of the summary tables included in each of the quarterly reports are included in Appendix A.

The contents of this report include the following:

- A summary of the groundwater elevations that were measured in the monitoring wells located both on- and off-site during 2002. Groundwater measurements are depicted on groundwater table maps and potentiometric surface maps for the glacial drift and shallow dolomite units, respectively.
- An evaluation of the groundwater flow directions in the glacial drift and the shallow dolomite hydrogeologic units, and the effects of the groundwater extraction system on the patterns of groundwater flow.
- A summary of the site groundwater monitoring program, and the quarterly total VOC concentrations by wells.
- Isoconcentration maps for total VOCs in groundwater in the glacial drift and shallow dolomite units.
- Time vs. concentration plots of total VOCs in groundwater in selected wells.
- An evaluation of the trends in groundwater quality for each of the monitoring groups.
- An evaluation of the effectiveness of plume containment by the on-site groundwater extraction system, based on groundwater flow and quality data.
- An estimate of the cumulative mass of total VOCs removed from the extraction wells since initiation of the extraction system.

3.1 DESCRIPTION OF HYDROGEOLOGIC UNITS

The geology at the site has been divided into three fairly distinct hydrogeologic units. These units include the unconsolidated glacial drift deposits, the shallow dolomite unit consisting of the Silurian dolomite to approximately 100 feet (ft) below the ground surface, and the deep dolomite unit consisting of Silurian dolomite between approximately 100 ft and 700 ft below the ground surface. A detailed description of the three units is provided below.

3.1.1 Glacial Drift

The glacial drift unit consists of a complex succession of fill and glaciolacustrine deposits that is underlain by a glacial till. The lake deposits and other materials have been extensively used as fill on-site. Both the till and the glaciolacustrine deposits are considered to be part of a partially confining hydrostratigraphic unit.

The total thickness of the glacial drift typically varies between 10 and 30 ft in the vicinity of the site, but the glacial drift is generally on the order of 10 ft thick beneath the CCP facility. Glaciolacustrine deposits are up to 20 ft thick on the western side of the site, and consist of interbedded sands, silts and clays. The clay is soft to medium hard, gray, and plastic to slightly plastic. Between 5 and 25 ft of glacial till is present beneath the eastern side of the site. The till is composed of interbedded silty sands and sandy gravel. The sandy gravel varies from loose to very dense, is brown to gray, and is typically well-graded.

The stratigraphic order of the deposits from the ground surface is generally sand and silt overlying a laterally continuous layer of laminated silt and clay (glaciolacustrine deposits) above dense clay (glacial till). A thin layer of sand and gravel (glacial outwash) lies between this till unit and bedrock.

3.1.2 Shallow Dolomite

The glacial deposits are unconformably underlain by fractured, thin- to massive-bedded Silurian dolomite, with a total thickness of approximately 600 ft in the area, which includes the deep dolomite aquifer.

The uppermost 100 ft of the Silurian dolomite in the Saukville area tends to have a lower permeability than the underlying deep dolomite aquifer. Occasionally,

transmissive zones are encountered in the shallow dolomite, such as at monitoring well W-24A, which extracts groundwater at 40 gpm, and yet shows little drawdown.

3.1.3 Deep Dolomite

The deep dolomite aquifer is defined as the Silurian dolomite from approximately 100 to 700 ft below the ground surface. The dominant lithology in the deep dolomite aquifer in the Saukville area is the Racine Formation. Municipal wells within the study area are typically cased to approximately 100 ft below the ground surface, and are completed in the Silurian dolomite to depths in the range of 450 to 550 ft below the ground surface. Groundwater flow within the Silurian dolomite appears to be fracture controlled beneath the study area.

Several solution features have been identified in the dolomite on-site. An apparent sinkhole, filled with glacial deposits, which extends to a depth of approximately 200 ft below the ground surface was encountered on the eastern edge of the CCP site during the installation of wells W-3A, W-3B, and W-20. The areal extent of the sinkhole was further defined based on the seismic refraction survey performed by Minnesota Geophysical Associates. Further evidence of the karstic features includes solution enlarged joints in the dolomite observed during the borehole video logging of W-30. These observations, coupled with the hydraulic response of the aquifer during pumping tests in Saukville, suggest that groundwater flow in the Silurian dolomite is primarily fracture controlled in the study area.

3.2 GROUNDWATER LEVELS AND FLOW PATTERNS IN 2002

Groundwater levels in the monitoring wells were measured prior to purging and sampling during each of the quarterly sampling events. Table 1 presents a summary of the water level measurements for each quarter, and Figure 2 shows the locations of the monitoring wells. The water level data collected in 2002 was used to develop quarterly water table maps for the glacial drift unit, and quarterly potentiometric surface maps for the shallow dolomite unit. These maps are attached as Figures 3 through 10.

Groundwater elevations on-site are influenced by the groundwater extraction system active on the site. A total of 9 glacial drift wells, 4 shallow dolomite wells, and one deep dolomite well are actively pumped in an effort to contain the plume of impacts. Table 2 provides a summary of the monthly pump running times. A review of the pump running times summarized on Table 2 indicates that the majority of pumping during 2002 occurred in the glacial drift unit. Pumping well W-34 actively pumped a total of 5795.7

hours during 2002, or 66.2-percent of the available time. Ranney Collector RC-3 and pumping well W-33 actively pumped 1,800.1 and 1,763.8 hours, respectively, or approximately 20-percent of the available time. It should be noted that glacial drift pumping wells W-32 and W-35 did not pump at all during 2002.

While pumping at deep dolomite well W-30 continued at an average rate of 340 gallons per minute during 2002 supplying non-contact cooling water to the facility, pumping in the four shallow dolomite extraction wells (W-21A, W-24A, W-28 and W-29) ranged between 0.7 and 218.2 hours in 2002. At most, well W-28 was actively pumping 2.5-percent of the available time in 2002.

In order to evaluate the continued effectiveness of the onsite groundwater extraction system, annual pump run times were plotted from 1992 to 2002. Plots of the annual pump run times versus time are attached in Appendix B. A summary of the trends observed in the annual pump run time versus time plots are as follows.

Glacial Drift Unit

W-31 Pumping peaked at approximately 675 hours in 1993. Pumping has been at or near 0 hours per year for every year from 1994 to 2002.

W-32 Pumping peaked at approximately 3,800 hours in 1993. Pumping has been near 0 hours per year for every year since 1995, with the exception of 1998 when W-32 pumped for approximately 550 hours.

W-33 Pumping remained at nearly 0 hours per year from 1992 to 1996. Pumping peaked in 1996 at approximately 6,800 hours per year and decreased back to nearly 0 hours per year in 2001. Pumping rebounded to 1,764 hours per year in 2002.

W-34 Pumping times have been somewhat sporadic yet significant since 1992. Pumping times have varied from a low of approximately 2,800 hours per year in 1998 to nearly full-time pumping (8,760 hours per year) in 1993, 1994 and 1995.

W-35 From 1992 to 1997, pumping times at W-35 ranged between approximately 20 to 30 hours per year. In 1998, the pumping time peaked at over 200 hours per year. In 2000, 2001 and 2002, W-35 has not pumped.

RC-1, 2 & 3 Pumping times in the Ranney Collectors are highly variable from year to year and typically fluctuate based on the amount of precipitation received.

All three of the Ranney Collectors show a decreased time of pumping in 2002 as compared to 2001, most likely attributed to the general lack of precipitation in Wisconsin in 2002.

Shallow Dolomite Unit

W-21A Pumping at W-21A occurred at 5,700 and 7,100 hours per year in 1992 and 1993, respectively. Annual pumping times decreased to a low of approximately 600 hours per year in 1995. A steady increase in the annual pumping time was observed in 1996, 1997 and 1998 until pumping was maximized at 8,760 hours per year in 1999. A decreasing trend is observed in 2000 and 2001 and W-21A pumped for a total of 0.7 hours (42 minutes) in all of 2002.

W-24A Pumping peaked at approximately 1,400 hours per year in 1992. A significant decrease in annual pump run times was observed in 1993 with a slow steady decrease in annual pump run times since. Slight peaks in the annual pump run times were observed in 1995 and 1998, and a slight increase in the annual pump run time is noted between 2001 and 2002.

W-28 Pumping peaked at nearly fulltime in 1993. A steady decrease in the annual pump run time has been observed since 1993 with a slight peak observed in 2000.

W-29 Two peaks in the annual pump run times are observed in 1993 and 1998/1999 (2,500 to 2,750 hours per year) with a valley in 1996 when W-29 pumped for less than 500 hours. Since 1999, pumping has steadily decreased to 13.7 hours per year in 2002.

The general reduction in annual pump run times in the onsite groundwater extraction wells can most likely be attributed to the following three situations arranged in the order of likelihood.

1. An overall lack of precipitation over the past several years has reduced the amount of recharge to the glacial drift and the shallow dolomite units, thereby lowering the static groundwater level in these two aquifers.
2. Continued pumping of the deep dolomite well W-30 at a rate of 340 gallons per minute in conjunction with the lack of precipitation has further dewatered the glacial drift and the shallow dolomite units.

3. Several of the extraction wells may have reached the end of their useful life due to the fouling of the screen, floats and pump components.

Further evaluation of the effectiveness of the groundwater extraction system will be completed as part of the scheduled revision of the site corrective measures study (CMS) planned for the Summer of 2003.

3.2.1 Glacial Drift Hydrogeologic Unit

The water table occurs in the glacial drift unit, as shown on Figures 3 through 6. The depth to the water table at the site is approximately 10 ft below the ground surface. Well W-20 is constructed as a piezometer within the glacial drift present in the sinkhole identified in the northeast corner of the site, and the hydraulic head within this well is representative of groundwater flow in the shallow dolomite unit. Therefore, water levels from well W-20 were not used to construct the water table maps included as Figures 3 to 6, but have been used to construct the potentiometric surface maps for the shallow dolomite unit as shown on Figures 7 to 10. The water table beneath the CCP facility generally slopes from the southwest to the northeast, towards the Milwaukee River, with a hydraulic gradient of approximately 0.031, based on the Summer 2002 water level data attached in Appendix A. However, on-site shallow groundwater flow is diverted towards the Ranney Collectors and the active on-site remediation network.

A vertically downward hydraulic gradient continues to be present between the glacial drift and the shallow dolomite aquifers. The magnitude of the downward gradient was determined using the Summer 2002 water level data for wells W-18A/W-22, and W-43/W-38. Downward gradients ranged between 0.25 and 0.91. Hydrogeological calculations are included in Appendix C.

3.2.2 Shallow Dolomite Unit

The potentiometric surface in the shallow dolomite unit for the 2002 sampling events is shown on Figures 7 to 10. The piezometers constructed at the site have been completed at varying depths in the dolomite. Therefore, only those piezometers with bottom elevations between 680 and 710 ft above mean sea level (MSL) were used in preparation of Figures 7 to 10. Well W-30 has a bottom elevation of approximately 215 MSL, and is utilized to provide non-contact cooling water extracted from both the shallow and deep dolomite units. W-30 typically pumps at approximately 340 gpm, and has induced a large cone of depression in the shallow dolomite unit. Therefore, W-30 has been included on the potentiometric maps for the shallow dolomite unit.

Groundwater elevation trends from 1995 to 2002, for the water table monitoring wells and the shallow dolomite monitoring wells, are included in Appendix D. The water levels tend to follow a general trend where increases are observed during the Spring and Summer quarters and decreases are observed during the Fall and Winter quarters. The water level measurements continue to indicate that dewatering of the on-site glacial deposits is occurring, there is convergent flow within the shallow dolomite unit towards the extraction wells, and that the on-site extraction system is controlling off-site migration of groundwater in the glacial drift.

3.2.3 Deep Dolomite Unit

Based on the results of the groundwater modeling conducted during the RCRA Facility Investigation (RFI), groundwater flow in the deep dolomite unit in the Saukville area is towards well W-30, and the active Saukville municipal wells. Only one on-site data point (W-30) is available to document flow directions in the deep dolomite unit. Therefore, there is insufficient data to prepare potentiometric surface maps for the deep dolomite unit. However, groundwater on the site exhibits a strong downward flow from the glacial deposits and the shallow dolomite unit to the deep dolomite unit apparently caused by the continuous pumping of well W-30 for use as non-contact cooling water. The Village of Saukville no longer actively pumps Municipal Well MW-2 adjacent to the site. Therefore, the downward migration of groundwater appears to be related to the cone of depression formed by the pumping of well W-30.

4.1 PROGRAM DESCRIPTION

The groundwater monitoring program at the CCP Saukville facility includes 42 monitoring points consisting of 19 glacial drift wells, 11 shallow dolomite wells, 6 deep dolomite wells, 3 Ranney Collectors, and 3 sample points at the Village of Saukville publicly owned treatment works (POTW). The monitoring points are further grouped according to 4 sampling objectives: receptor points, perimeter monitoring points, remediation progress points, and groundwater elevation monitoring points. The organization of the monitoring wells by monitoring objective is summarized in Table 3.

Receptor monitoring points include 4 municipal water supply wells (MW-1, MW-2, MW-3, and MW-4), POTW influent, effluent, and sludge samples, and the Ranney Collectors. The Ranney Collectors are essentially french drains which intercept shallow groundwater, and discharge to the sanitary sewer system. The results of the analyses performed on the samples collected from the Ranney Collectors provide a portion of the data necessary to calculate VOC extraction rates. The receptor monitoring points are sampled four (4) times per year during each quarterly sampling event.

Perimeter monitoring points include monitoring wells which are located both on-site and off-site at or beyond the edge of the VOC plume. These monitoring points provide necessary information to define the extent of the plume. The perimeter monitoring points are sampled semi-annually during the Spring and Fall sampling events.

Remediation progress points are monitoring wells which are located within the VOC plume of impacts. These wells provide an indication regarding the effectiveness of the on-site pumping wells. The remediation progress points are sampled annually during the Summer sampling event.

Each of these sets of monitoring points is further subdivided into glacial drift, shallow dolomite, and deep dolomite hydrogeologic units. This subdivision allows for more effective evaluation of the on-site groundwater flow and quality trends.

4.2 CHANGES IN MONITORING NETWORK

No changes to the monitoring network were made during 2002.

4.3 SAMPLING SCHEDULE

Table 3 presents the sampling schedule that was developed as part of the Consent Order, along with the analytical methods used each quarter. The methods and

associated parameters are listed in Table 4. The Ranney Collectors and the remediation progress wells are analyzed for the volatile organic compounds listed under EPA Method SW846-8021. Samples collected from the monitoring wells, municipal wells, and the POTW sampling points are analyzed for volatile organic compounds under EPA Method SW846-8260A. In addition, selected wells were analyzed during the summer sampling event (annual sampling event) for parameters detected during the Appendix IX monitoring, conducted during the RFI. These additional parameters include semi-volatile organic compounds (EPA Method SW846-8270B), polychlorinated biphenyls (EPA Method SW846-8080), arsenic (EPA Method SW846-7060), and barium (EPA Method SW846-6010).

5.1 TOTAL VOC DATA

The tabulated results of the VOC concentrations in each well and the supporting laboratory data were presented in each of the four quarterly reports (URS, 2002b to 2002e). Copies of the result summary tables included in each of the quarterly reports have been attached in Appendix A. Tables 5, 6, and 7 present a summary of total VOC concentrations in each of the wells for the four quarters. The wells are organized by monitoring objective and hydrogeologic unit as previously described in Section 4 and Table 3. Figure 2 shows the locations of the monitoring wells on and off-site.

The lateral distribution of VOCs in the glacial drift, and the shallow dolomite unit for 2002 is depicted on the isoconcentration maps (Figures 11 and 12). The isoconcentration maps were constructed using VOC concentration data from the annual and semi-annual sampling events in 2002. Results from the semi-annual sampling events were within the same order of magnitude; therefore, an average concentration was utilized to construct the isoconcentration maps. Total VOC concentration versus time plots for selected wells are included in Appendix E.

5.1.1 VOC Patterns in the Glacial Drift Unit

The distribution of VOCs in the glacial drift unit for 2002 is depicted on the isoconcentration map included as Figure 11. As discussed in Section 3, Monitoring Well W-20 is completed in the glacial drift deposit within the sinkhole in the shallow dolomite unit, and therefore, the results obtained from W-20 are more representative of the water quality in the shallow dolomite aquifer. Isoconcentration contours in the glacial drift unit do not include total VOC concentrations in the Ranney Collectors. The Ranney Collector samples are composite groundwater samples that are collected from broad areas of the site through radial collection lines.

The distribution of VOCs in the groundwater in the glacial drift in 2002 is generally similar to the distribution observed in the past. The horizontal extent of the plume remains generally the same as that observed in previous years. In general, the total VOC concentrations observed in 2002 are similar to the total VOC concentrations observed in 1995.

5.1.1.1 Perimeter Monitoring Group

In general, total VOC concentrations in the glacial drift perimeter monitoring wells have not changed significantly since 1995. No detectable concentrations of VOCs were

detected during the 2002 sampling events at W-01A, W-03B, W-04A, W-08R and W-20. The total VOC concentration at monitoring well W-27 averaged 190 µg/L with seasonal variations that increase or decrease the concentrations by approximately 50 µg/L. However, it should be noted that monitoring well W-27 is located upgradient of the site, and the impacts observed are not believed to be associated with the plume of contaminants on the CCP site. Total VOC concentrations observed at W-27 are primarily attributed to trichloroethene and total 1,2-dichloroethene. Neither of these compounds have ever been used by CCP at the Saukville facility.

5.1.1.2 Remediation Progress Group

Overall, total VOC concentration trends observed in the glacial drift remediation progress wells have been stable since 1995. Specific total VOC concentration trends analysis for the glacial drift remediation progress wells are as follows.

W-6A	Slight decrease in total VOC concentration since 2001. General decreasing trend observed since 1995.
W-19A	Total VOC concentration stable at non-detectable levels since 1995.
W-41	Significant decrease in total VOC concentration observed since 2001. Total VOC concentration increasing slightly since 1995.
W-42	Total VOC concentration stable at approximately 10,000 µg/L since 1995.
W-43	Total VOC concentration generally stable at approximately 30,000 µg/L with a very slightly increasing trend since 1995.
W-47	Total VOC concentration sharply decreased in 2002. Total VOC concentration generally stable at 90,000 µg/L since 1995.

5.1.2 VOC Patterns in the Shallow Dolomite Unit

Total VOC concentrations in the groundwater in the shallow dolomite unit for 2002 are shown on Figure 12. The overall horizontal extent of the total VOC concentrations observed in the shallow dolomite wells is generally the same as observed in previous years. More details regarding the results of the sampling and trends observed are presented in the following sections.

5.1.2.1 Perimeter Monitoring Group

Total VOC concentrations detected in the shallow dolomite perimeter monitoring wells remains at levels comparable to previous years. Non-detectable concentrations of VOCs were observed in monitoring wells W-03A and W-07. The total VOC concentration at W-22 and PW-08 was less than 1 µg/L. The average total VOC concentration at monitoring well W-23 was 19.57 µg/L in 2002.

5.1.2.2 Remediation Progress Group

In general, the total VOC concentration detected in the shallow dolomite remediation progress wells indicate a generally stable trend since 1995. Specific total VOC concentration trends observed in the shallow dolomite remediation progress wells since 1995 are as follows.

W-21A No sample was collected in 2002 due to low water levels. General decreasing trends have been observed from 1995 to 2001.

W-24A A sharp decrease in the total VOC concentration was observed in 2002 compared to 2001. However, a slightly increasing trend is observed between 1995 and 2002, skewed somewhat by peaks in 1998 and 2001.

W-28 No sample was collected in 2002 due to low water levels. The total VOC concentration has appeared generally stable between 1995 and 2001.

W-29 A sharp decrease in the total VOC concentration was observed in 2002 compared to 2001. However, a lack of data between 1999 and 2001 makes trend evaluation difficult.

W-30 The total VOC concentration in W-30 has generally been stable since 1995.

W-38 A slight increase in the total VOC concentration has been observed since 2001. However, the total VOC concentration appears somewhat stable since 1995.

5.2 NR 140 PAL AND ES EXCEEDANCES

Wisconsin Administrative Code (WAC) Chapter NR 140 Preventive Action Limits (PALs) and Enforcement Standards (ESs) were exceeded in a total of 11 monitoring wells during 2002. A summary of the PAL and ES exceedances is presented on Table 8. Monitoring Wells W-23 and W-27 had PAL and ES exceedances during the spring and

fall sampling events. The exceedances observed in W-27 were attributed primarily to chlorinated solvents, which are not attributed to processes at the CCP facility currently or historically.

Monitoring Wells W-06A, W-24A, W-29, W-30, W-38, W-41, W-42, W-43, and W-47 had PAL and ES exceedances in samples collected during the annual sampling event in Summer 2002. It should be noted that all of the wells exhibiting exceedances during the annual sampling event are located within the known area of impacts. The concentrations observed in 2002 are similar to those observed in 2001.

5.3 VOC TRENDS BY MONITORING OBJECTIVE

This section describes the trends in VOC concentrations for each of the monitoring objectives. VOC concentrations in groundwater versus time plots for selected wells are included in Appendix F. The discussion that follows is organized by monitoring objective (receptor, perimeter, remediation progress), and for each monitoring objective, by the hydrogeologic unit (glacial drift, shallow dolomite, deep dolomite).

5.3.1 Receptor Monitoring

Receptor monitoring points are sampled on a quarterly basis.

5.3.1.1 Ranney Collectors and POTW

VOCs were monitored in 2002 in the shallow groundwater that was discharged from the Ranney Collectors (RC-1, RC-2, and RC-3), and in the influent, sludge, and effluent samples collected from the Village of Saukville POTW. These analyses were performed to monitor the concentrations and character of the flows discharged via the sanitary sewer system from the CCP facility, associated dilution of these flows prior to treatment at the POTW, and concentration and character of POTW effluents.

The total VOCs detected in 2002 are summarized in Table 5. Due to dry weather conditions and various pump malfunctions, samples were collected from the Ranney Collectors only during the Winter sampling event. Total VOC concentrations in the Ranney Collectors in 2002 ranged between 151 µg/L (RC-1) to 7,820 µg/L (RC-2).

The discharges from the Ranney Collectors are mixed with wastewater from several off-site sources prior to arrival at the POTW. Total VOC concentrations detected in the POTW influent, sludge, and effluent are also summarized in Table 5. Construction at the POTW prevented sample collection from the influent in Spring and Summer and

from the sludge in Fall. Total VOC concentrations in the POTW influent ranged between 37.82 µg/L (Winter) and 390 µg/L (Fall). Based on a review of the 2002 Ranney Collector and POTW data, it is obvious that dilution of the VOCs in the Ranney Collector discharges is occurring prior to reaching the POTW.

Total VOC concentrations observed in the POTW sludge ranged between 45 µg/L (Winter) and 134.8 µg/L (Summer). The total VOC concentrations observed in the POTW sludge were typically attributed to acetone, 2-butanone and toluene.

The total VOC concentrations observed in the POTW effluent ranged between non-detect (Spring, Summer, Fall) and 1.59 µg/L (Winter). Total VOC concentrations in the winter POTW effluent sample consisted exclusively of methylene chloride and trichloroethene.

5.3.1.2 Municipal Wells (Deep Dolomite Wells)

All of the municipal wells were sampled according to the schedule discussed earlier with the exception of MW-04 not being sampled during the spring sampling event due to well maintenance. No VOCs were detected in any of the municipal well samples collected during the 2002 sampling events.

5.3.2 Perimeter Monitoring

Perimeter monitoring points are sampled on a semi-annual basis in Spring and Fall to determine whether the plume of impacts has migrated off the site.

5.3.2.1 Glacial Drift Wells

VOC concentrations in the perimeter monitoring wells screened in the glacial drift in 2002 ranged between non-detectable levels and 224.75 µg/L (W-27, Fall). As in previous years, concentrations of trichloroethene and cis-1,2-dichloroethene in W-27 exceed the NR 140 ES and PAL, respectively. The exceedances observed in W-27 were attributed primarily to chlorinated solvents, which are not attributed to processes at the CCP facility currently or historically.

A plot of the concentrations of trichloroethene, total 1,2-dichloroethene and 1,1,1-trichloroethane versus time since 1992 is included in Appendix F. The concentrations of 1,1,1-trichloroethane and total 1,2-dichloroethene appear stable. The concentration of trichloroethene was non-detect during the Spring 1996 sampling event and has been steadily increasing since 1996 to current levels.

5.3.2.2 Dolomite Wells

VOC concentrations in the perimeter monitoring wells screened in the shallow dolomite in 2002 ranged between non-detectable levels and 19.94 µg/L (W-23, Spring). Exceedance of the ES for benzene was detected in W-23 in the Spring and Fall 2002 sampling events. The ES for vinyl chloride was exceeded in W-23 during the spring 2002 sampling event. Well W-23 has a history of low-level VOC concentrations. A plot of the concentration of benzene versus time since 1992 is included in Appendix F. The concentration of benzene in W-23 has slowly increased since 1992 to a concentration of 17 µg/L observed in W-23 since Spring 2001. Total VOC concentrations in the Perimeter Monitoring Wells are summarized in Table 6.

5.3.3 Remediation Progress Wells

5.3.3.1 Glacial Drift Wells

The remediation progress wells screened in the glacial drift unit are sampled on an annual basis to determine the status of the plume of impacts. In general, the total VOC concentrations observed in 2002 were consistent with the historical ranges. Total VOC concentrations ranged between non-detectable levels (W-19A) and 172,874.6 µg/L (W-06A) in 2002. A summary of the total VOCs detected in 2001 is presented in Table 7.

Several of the remediation progress wells screened in the glacial drift exhibited concentrations of several parameters in exceedance of the PALs and ESs. Specifically,

W-06A Exhibited PAL exceedances for arsenic (33 µg/L) and bis(sthylhexyl)phthalate (4.7 µg/L) and ES exceedances for benzene (260 µg/L), cis-1,2-dichloroethene (230 µg/L), ethylbenzene (21,000 µg/L), toluene (51,000 µg/L) and total xylenes (100,000 µg/L).

W-41 Exhibited a PAL exceedance for benzene (2.7 µg/L).

W-42 Exhibited ES exceedances for benzene (320 µg/L) and ethylbenzene (1,900 µg/L) and a PAL exceedance for total xylenes (8,800 µg/L).

W-43 Exhibited ES exceedances for benzene (7,400 µg/L), bis(2-ethylhexyl)phthalate (7 µg/L), ethylbenzene (8,700 µg/L) and total xylenes (14,200 µg/L) and PAL exceedances for arsenic (17 µg/L), barium (1,800 µg/L) and naphthalene (35 µg/L).

W-47 Exhibited ES exceedances for Arochlor 1242 (1.4 µg/L), benzene (170µg/L), cis-1,2-dichloroethene (200 µg/L), ethylbenzene (4,000 µg/L), toluene (2,200 µg/L), total xylenes (45,000 µg/L) and vinyl chloride (7.5 µg/L) and PAL exceedances for 4-methyl-2-pentanone (90 µg/L), acetone (520 µg/L), arsenic (8.3 µg/L) and naphthalene (34 µg/L).

Table 8 summarizes the NR 140 PAL and ES exceedances noted during the 2002 sampling events.

5.3.3.2 Dolomite Wells

Total VOC concentrations in the remediation progress wells screened in the dolomite were within ranges established in the past. A summary of the total VOCs is presented in Table 7.

All of the remediation progress wells screened in the shallow dolomite had concentrations of various VOCs in exceedance of the PAL or ES. Specifically:

W-24A Exhibited ES exceedances for benzene (16 µg/L) and vinyl chloride (0.57 µg/L) and PAL exceedances for arsenic (6.6 µg/L), bis(2-ethylhexyl)phthalate (5.3 µg/L) and trichloroethene (0.68 µg/L).

W-29 Exhibited an ES exceedance for vinyl chloride (0.57 µg/L) and a PAL exceedance for benzene (2.6 µg/L).

W-38 Exhibited an ES exceedance for benzene (2,800 µg/L) and PAL exceedances for ethylbenzene (390 µg/L) and total xylenes (3,100 µg/L).

W-30 Exhibited ES exceedances for arsenic (69 µg/L) and bis(2-ethylhexyl)phthalate (13 µg/L) and a PAL exceedance for benzene (3.0 µg/L).

Individual concentration versus time plots for wells W-21A, W-24A, W-29, W-38 and W-30 are included in Appendix F. An evaluation of the concentration trends observed since 1992 are as follows.

W-21A The concentrations of toluene and ethylbenzene show a steadily decreasing trend since 1992. The concentrations of benzene and total xylenes appear generally stable since 1992.

W-24A With the exception of spikes in Summer 1998 and Summer 2001, the concentrations of benzene, toluene, vinyl chloride, ethylbenzene and total xylenes appear generally stable since 1992.

W-29 The concentrations of benzene, ethylbenzene and total xylenes have increased since Summer 2001.

W-38 The concentrations of benzene, ethylbenzene and total xylenes have shown a slightly increasing trend since Summer 1994.

W-30 After peaking between 1997 and 2000, the concentrations of benzene and total xylenes appear to be decreasing.

5.4 APPENDIX IX RESULTS

In accordance with the approved sampling plan, seven remedial progress wells are sampled during the annual sampling event in Summer 2002 for the non-VOC Appendix IX parameters detected during the Fall 1994 sampling event and during the January 1995 confirmatory sampling. A listing of the parameters is included on Table 9. Each of the wells sampled for Appendix IX parameters is located near the center of the groundwater plume.

Non-VOC Appendix IX parameters detected during the 2002 annual sampling event included: 1,4-dioxane, 2,4-dimethylphenol, 2-methylphenol, 4-methylphenol, acetophenone, naphthalene, phenol, 2-methylnaphthalene, phenanthrene, bis(2-ethylhexyl)phthalate, arochlor 1242, arsenic and barium. The metals detected may be attributed to naturally occurring elements. The following compounds were detected in exceedance of the respective NR 140 PAL and ESs.

Naphthalene – PAL (W-43, W-47)

Bis(2-ethylhexyl)phthalate – PAL (W-06A, W-24A), ES (W-30, W-43)

Arsenic – PAL (W-06A, W-24A, W-43, W-47), ES (W-30)

Barium – PAL (W-43)

The concentrations of Appendix IX parameters detected during the 2002 sampling events are similar to those detected during previous sampling events.

The discussions in this section combine groundwater flow and quality trends from the receptor, perimeter, and remediation progress wells in the glacial drift and dolomite, to present an evaluation of the effectiveness of the plume containment in the remedial system at the Saukville site.

6.1 GLACIAL DRIFT UNIT

Portions of the glacial unit in the area of the Ranney Collectors appear to be dewatered. This fact, along with the nearly non-detectable concentrations of VOCs in the perimeter wells (Figure 11), indicates that the off-site migration of contaminated groundwater within the glacial drift unit continues to be effectively controlled.

6.2 SHALLOW DOLOMITE UNIT

For the past several years, VOC concentrations in the shallow dolomite unit have remained relatively stable, or decreased in the remediation progress wells. In 2002, total VOC concentrations in the shallow dolomite remediation progress wells ranged between 61.0 and 6,295.3 µg/L. Total VOC concentrations in the shallow dolomite perimeter monitoring wells ranged between non-detect and 19.94 µg/L (W-23, Spring). The remediation system has dewatered an elliptically shaped area in the vicinity of wells W-30 and W-21A, as shown on Figures 7 through 10. The high capacity (340 gpm) pumping from W-30 has resulted in the dewatering of a large area of the glacial till unit and the shallow dolomite unit, thereby reducing the hydraulic connection between these two units in the affected area. The dewatering of the glacial till and shallow dolomite has reduced the quantity of contaminants that can migrate downward from the glacial till to the shallow dolomite. Based on the steep gradients associated with the cone of depression around W-30, the reduction in total VOC concentration observed in the shallow dolomite remediation progress wells, and the continued nearly non-detectable concentrations of VOCs in the shallow dolomite perimeter monitoring wells, indicate that migration of the contaminant plume in the shallow dolomite continues to be effectively contained and controlled.

6.3 DEEP DOLOMITE UNIT

VOC concentrations in the deep dolomite receptor (municipal) wells have remained below detectable levels in 2002. VOC concentrations observed in W-30 in 2002 increased slightly over the concentrations observed in 2001, showing that the continuous pumping is drawing in the contaminants and controlling off-site migration.

The convergent flow observed around W-30, along with the relatively stable total VOC concentrations in the extracted groundwater, and the continued non-detectable concentrations of VOCs in the municipal wells indicate that the migration of the impacted groundwater in the deep dolomite aquifer is being effectively controlled by on-site pumping.

6.4 HYDRAULIC COMMUNICATION BETWEEN AQUIFERS

Groundwater elevation data indicates that downward seepage is occurring between the glacial drift and shallow dolomite units through fractures in the upper portions of the bedrock. However, high capacity pumping has created dewatered zones within the glacial drift and shallow dolomite units, reducing the potential for vertical migration of the contaminants from the glacial drift to the shallow dolomite.

6.5 CONTAMINANT REMOVAL RATES

Utilizing VOC concentration data, pump running times and the manufacturer's specified pump discharge rates, total VOC removal rates were calculated for Ranney Collectors RC-1, RC-2 and RC-3, monitoring wells W-21A, W-24A, W-28 and W-29 and the deep dolomite extraction well W-30. Actual total VOC concentration data collected as part of the ongoing monitoring was utilized to calculate the total VOC mass removed in these wells.

Estimated total VOC masses removed were also calculated for extraction wells W-31, W-32, W-33, W-34 and W-35. However, since these wells are not part of the monitoring network, estimated total VOC concentrations were assumed from the Shallow Dolomite Isoconcentration Maps included in each Annual Monitoring Report.

An estimated total VOC mass removed was also developed for extraction well W-37. Extraction well W-37 was located in the schoolyard east of the CCP facility and was abandoned in 1997 during reconstruction of the schoolyard. It was determined that Ranney Collectors RC-1 and RC-3 were sufficiently dewatering the area and the replacement of extraction well W-37 was not necessary.

The most significant total VOC mass removal is occurring at extraction well W-21A and Ranney Collector RC-2. Total VOC mass removed from W-21A and RC-1 represent approximately 50-percent of the total VOC mass removed by the entire extraction system operating at the site. Since 1992, a total of 297 pounds of total VOC contaminants have been removed from the subsurface of the site by the groundwater

extraction system. A reduction in pump run times due to relatively dry conditions reduced the mass of total VOCs removed in 2002. We estimate that approximately 8 pounds of total VOCs were removed in 2002. Graphs depicting the cumulative total mass removed by each of the extraction wells are attached in Appendix E.

The purpose of the quarterly groundwater sampling program is to document the effectiveness of the remediation system to: 1) control the off-site migration of impacts; and, 2) to reduce the volume of contaminants in the groundwater. The results of the quarterly groundwater sampling performed in 2002, as summarized in this annual report, indicate that the existing remediation system operating at the CCP Saukville facility continues to effectively control off-site migration of the contaminant plume while reducing the mass of contaminants present in the groundwater. Discharges from the site are low in concentration upon arriving at the Saukville POTW and remaining impacts are effectively removed in the treatment process prior to discharge from the POTW.

Based on the data collected in 2002, it is our opinion that no changes to the remediation system operating at the CCP Saukville facility are required to continue to contain the plume. However, improvements to the system may be evaluated to determine whether the effectiveness and efficiency of the system can be improved. Eight pounds of total VOCs were removed in 2002. Improvements to the existing system or additional remedial measures may be reviewed to increase the amount of VOCs removed from the site.

URS Corporation. 2002a. 2001 Annual Groundwater Monitoring Report. March 2002.

URS Corporation. 2002b. Groundwater Monitoring Results - 2002 Winter Quarter. March 2002

URS Corporation. 2002c. Groundwater Monitoring Results - 2002 Spring Quarter. June 2002.

URS Corporation. 2002d. Groundwater Monitoring Results - 2002 Summer Quarter. October 2002.

URS Corporation. 2002e. Groundwater Monitoring Results – 2002 Fall Quarter. December 2002.

Table 1

2002 Summary of Groundwater Level Measurements (ft, msl)
Cook Composites and Polymers
Saukville, Wisconsin

GEOLOGIC UNIT	WELL ID	Jan-02	Apr-02	Jul-02	Oct-02
Glacial	W-1A	758.84	760.21	759.56	757.60
Glacial	W-3B	738.91	737.03	739.61	733.40
Glacial	W-4A	754.71	757.29	754.59	746.42
Glacial	W-6A	765.21	767.40	765.30	765.38
Glacial	W-8R	745.61	748.88	745.69	745.58
Glacial	W-14B	764.73	766.63	764.53	762.64
Glacial	W-16A	755.97	759.08	757.80	752.59
Glacial	W-18A	765.93	769.84	766.80	766.97
Glacial	W-19A	765.27	768.86	765.73	766.02
Glacial	W-20	735.36	732.44	736.11	728.92
Glacial	W-27	766.95	769.03	767.06	767.36
Glacial	W-37		Well abandoned 8/2/96		
Glacial	W-41	760.32	761.52	760.54	758.07
Glacial	W-42	758.18	759.38	759.38	757.34
Glacial	W-43	758.91	760.18	760.14	760.68
Glacial	W-44	NM	NM	NM	NM
Glacial	W-45	Dry	Dry	Dry	Dry
Glacial	W-46	759.99	762.40	760.42	762.28
Glacial	W-47	758.10	NM	764.74	758.12
Glacial	W-48	761.57	763.60	762.17	760.82
Shallow Dolomite	W-3A	738.17	736.08	738.85	732.32
Shallow Dolomite	W-7	744.33	746.23	745.11	742.69
Shallow Dolomite	W-21A*	734.64	727.08	733.76	724.71
Shallow Dolomite	W-22	729.81	731.05	730.14	758.62
Shallow Dolomite	W-23	741.53	739.07	741.85	736.21
Shallow Dolomite	W-24A*	755.57	756.25	755.71	753.44
Shallow Dolomite	W-25		Well abandoned 7/29/97		
Shallow Dolomite	W-28*	700.44	712.87	697.85	699.79
Shallow Dolomite	W-29*	NM	NM	NM	NM
Shallow Dolomite	W-38	752.21	751.25	752.63	749.56
Shallow Dolomite	W-39	758.62	759.48	758.68	756.04
Shallow Dolomite	W-40	745.10	742.27	744.84	740.37
Deep Dolomite	MW-1	684	683	683	682
Deep Dolomite	MW-2	NM	NM	594.03	NM
Deep Dolomite	MW-3	576	556	564	566
Deep Dolomite	MW-4	671	666	671	666
Deep Dolomite	PW-08	739.04	736.02	742.25	731.75
Deep Dolomite	W-30*	644.56	686.14	653.80	663.04

* = Extraction Well
"NM" = not measured

TABLE 2
SUMMARY OF WELL RUNNING TIMES
COOK COMPOSITES AND POLYMERS CO.

Hydrogeologic Unit	Well ID	Monthly Running Times (hours)												Annual Total (hours)	Percent of Total Available	Comments
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.			
Glacial Drift	W-31	0	0	0.3	0.1	0.2	0	0	0	0	0	0	0	0.6	0.0%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	W-32	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	W-33	7	9.3	2.1	5.9	9.5	27.1	218.5	514.4	671.5	295.5	2.4	0.6	1763.8	20.1%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	W-34	0	0	0	142.9	840.4	668.7	816.4	622	671.5	694.3	668	671.5	5795.7	66.2%	Continued pumping assists in controlling off-site migration of contaminants within the glacial drift.
	W-35	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	RC-1	528	300	506.8	113.3	0	0	0	0	0	0	0	0	1448.1	16.5%	Pumping has created some dewatering of the glacial drift.
	RC-2	747	0	0.3	1.5	0	0	0	0	0	0	0.6	0	749.4	8.6%	Pumping has created some dewatering of the glacial drift.
	RC-3	38.9	155.1	334.8	425.1	379.7	229.8	106.1	47.2	65	0	18.4	0	1800.1	20.5%	Pumping has created some dewatering of the glacial drift.
Shallow Dolomite	W-21A	0	0	0	0.7	0	0	0	0	0	0	0	0	0.7	0.0%	Pumping is contributing to the creation of a large dewatered zone within the shallow dolomite.
	W-24A	6.3	5.6	4.9	6.1	7.2	5.7	2.3	0	0	77	8.3	5.7	129.1	1.5%	Continued pumping assists in controlling off-site migration of contaminants within the shallow dolomite.
	W-28	54.5	40.5	31.3	27.9	24.2	15	13.6	3.7	0	0	0	7.5	218.2	2.5%	Continued pumping assists in controlling off-site migration of contaminants within the shallow dolomite.
	W-29	0	0	0	13.7	0	0	0	0	0	0	0	0	13.7	0.2%	Continued pumping assists in controlling off-site migration of contaminants within the shallow dolomite.
Deep Dolomite	W-30	Pump runs continuously to provide approximately 340 gpm of non-contact cooling water.														

TABLE 3

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
COOK COMPOSITES AND POLYMERS CO.

Monitoring Objective/ Well Group	Unit Monitored	Sampling Point	Sampling Frequency and EPA Method Number		
			Quarterly	Semiannually[1]	Annually[2]
Receptor	Glacial Drift	RC-1	8021/8260[3]		
		RC-2	8021/8260[3]		
		RC-3	8021/8260[3]		
	Deep Dolomite	MW-1	8260		
		MW-2			8260
		MW-3	8260		
		MW-4	8260		
	POTW	POTW-I	8260		
		POTW-E	8260		
		POTW-S	8260		
Perimeter	Glacial Drift	W-01A		8260	
		W-03B		8260	
		W-04A		8260	
		W-08R		8260	
		W-20		8260	
		W-27		8260	
	Shallow Dolomite	W-03A		8260	
		W-07		8260	
		W-22		8260	
		W-23		8260	
		W-25[5]			
	Deep Dolomite	PW-08		8260	
Remediation Progress	Glacial Drift	W-06A			APP IX 8260, 8270, 7060, 6010
		W-19A			8021
		W-37[6]			
		W-41			8021

TABLE 3 (CONTINUED)

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
COOK COMPOSITES AND POLYMERS CO.

Monitoring Objective/ Well Group	Unit Monitored	Sampling Point	Sampling Frequency and EPA Method Number		
			Quarterly	Semiannually[1]	Annually[2]
		W-42			8021
		W-43			APP IX 8260, 8270, 7060, 6010
		W-47			APP IX 8260, 8270, 7060, 6010, 8081
	Shallow Dolomite	W-21A			APP IX 8260, 8270, 7060, 6010
		W-24A			APP IX 8260, 8270, 7060, 6010
		W-28			APP IX 8260, 8270, 7060, 6010
		W-29			APP IX 8260, 8270, 7060, 6010
		W-38			8021
	Deep Dolomite	W-30			APP IX 8260, 8270, 7060, 6010
Groundwater elevation monitoring	Glacial Drift	W-14B	Quarterly water level measurements only		
		W-16A	Quarterly water level measurements only		
		W-18A	Quarterly water level measurements only		
		W-44	Quarterly water level measurements only		
		W-45	Quarterly water level measurements only		
		W-46	Quarterly water level measurements only		
		W-48	Quarterly water level measurements only		
	Shallow Dolomite	W-39	Quarterly water level measurements only		
		W-40	Quarterly water level measurements only		

NOTES

1. Semiannual samples are collected in April and October.
2. Annual samples are collected in July.
3. Sampls are analyzed using Method 8260.
4. MW-2 is only monitored on an annual basis.
5. W-25 was abandoned in July 1997.
6. W-37 was abandoned in August 1996.

TABLE 4

SUMMARY OF ANALYTES AND METHODS
COOK COMPOSITES AND POLYMERS CO.

Volatile Organic Compounds by Method 8260		
Chloroethane	1,1,1-Trichloroethane	2-Hexanone
Chloromethane	Carbon Tetrachloride	4-Methyl-2-Pentanone
Bromomethane	Vinyl Acetate	Tetrachloroethene
Vinyl Chloride	Bromodichloromethane	Toluene[1]
Methylene Chloride	1,1,2,2-Tetrachloroethane	Chlrorbenzene[1]
Acetone	1,2-Dichloropropane	Ethylbenzene[1]
Carbon Disulfide	trans-1,2-Dichloropropene	Styrene
1,1-Dichloroethene	Trichloroethene	Xylenes (total)[1]
1,1-Dichloroethane	Dibromochloromethane	1,4-Dichlorobenzene[1]
1,2-Dichloroethene (total)	1,1,2-Trichloroethane	1,3-Dichlorobenzene[1]
Chloroform	Benzene	1,2-Dichlorobenzene[1]
1,2-Dichlroethane	cis-1,3-Dichloropropene	
2-Butanone	Bromoform	

Volatile Aromatic Organics by Method 8021[1]
Benzene
Toluene
Ethylbenzene
Chlorobenzene
Xylenes (total)
1,4-Dichlorobenzene
1,3-Dichlorobenzene
1,2-Dichlorobenzene

Semivolatile Organic Compounds by Method 8270[2]
1,4-Dioxane
2,4-Dimethylphenol
2-Methylnaphthalene
2-Methylphenol
4-Methylphenol
Acetophenone
bis(2-ethylhexyl)phthalate
Naphthalene
Phenanthrene
Phenol

Polychlorinated Biphenyls (PCBs) by Method 8080[3]
Arochlor 1016
Arochlor 1221
Arochlor 1232
Arochlor 1242
Arochlor 1248
Arochlor 1254
Arochlor 1260

Metals by Methods 7060, 6010[2]
Barium
Arsenic

NOTES

1 Volatile aromatic compounds.

2 Analyzed annually at wells W-06A, W-43, W-47, W-21A, W-24A, W-28, W-29, and W-30.

3 Only well W-47 is analyzed for PCBs.

Table 5
Total VOCs Detected 2002
Receptor Monitoring Group
Cook Composites and Polymers
Saukville, Wisconsin

Glacial Unit

Sample ID	Units	Jan-02	Apr-02	Jul-02	Oct-02	Annual Average
RC-1	ug/L	151	NS	NS	NS	151
RC-2	ug/L	7820	NS	NS	NS	7820
RC-3	ug/L	406	NS	NS	NS	406

Deep Dolomite

Sample ID	Units	Jan-02	Apr-02	Jul-02	Oct-02	Annual Average
MW-01	ug/L	0	0	0	0	0
MW-02	ug/L	NS	NS	0	NS	0
MW-03	ug/L	0	0	0	0	0
MW-04	ug/L	0	NS	0	0	0

POTW

Sample ID	Units	Jan-02	Apr-02	Jul-02	Oct-02	Annual Average
POTW-I	ug/L	37.82	NS	NS	390.0	214
POTW-E	ug/L	1.59	0	0	0	0.40
POTW-S	ug/L	45.00	109.7	134.8	NS	97

ND = Not Detected
NS = Not Sampled

Table 6
Total VOCs Detected 2002
Perimeter Monitoring Group
Cook Composites and Polymers
Saukville, Wisconsin

Glacial Unit

Sample ID	Units	Apr-02	Oct-02	Annual Average
W-01A	ug/L	0	0	0
W-03B	ug/L	0	0	0
W-04A	ug/L	0	0	0
W-08R	ug/L	0	NS	0
W-20	ug/L	0	0	0
W-27	ug/L	154.50	224.75	189.63

Shallow Dolomite

Sample ID	Units	Apr-02	Oct-02	Annual Average
PW-08	ug/L	0	0.83	0.42
W-03A	ug/L	0	0	0
W-07	ug/L	0	0	0
W-22	ug/L	0	0.44	0.22
W-23	ug/L	19.94	19.20	20
W-25	ug/L	NS	NS	

NS = Not Sampled
ND = Not Detected

Notes:
1. PW-08 is a deep dolomite well.
2. W-25 was abandoned in 1997.

Table 7
Total VOCs Detected 2002
Remediation Progress Monitoring Group
Cook Composites and Polymers
Saukville, Wisconsin

Glacial Unit

Sample ID	Units	Jul-02
W-06A	ug/L	172,874.6
W-19A	ug/L	0
W-37	ug/L	NS
W-41	ug/L	532.7
W-42	ug/L	11,502
W-43	ug/L	30,750
W-47	ug/L	53,653

Shallow Dolomite

Sample ID	Units	Jul-02
W-21A	ug/L	NS
W-24A	ug/L	342.7
W-28	ug/L	NS
W-29	ug/L	203.2
W-30	ug/L	61.0
W-38	ug/L	6,295.3

NS = Not Sampled
Notes:
1. W-30 is a deep dolomite well.
2. W-37 was abandoned in 1997.

Table 8

NR 140 PAL and ES Exceedances
Cook Composites and Polymers
Saukville, Wisconsin

	4-Methyl-2-pentanone	Acetone	Arochlor 1242	Arsenic	Barium	Benzene	bis(2-ethylhexyl)phthalate	cis-1,2-Dichloroethene	Ethylbenzene	Naphthalene	Toluene	Total Xylenes	Trichloroethene	Vinyl Chloride
NR 140 PAL	50	200	0.03	5	400	0.5	0.6	7	140	8	200	1,000	0.5	0.02
NR 140 ES	500	1,000	0.3	50	2000	5	6	70	700	40	1,000	10,000	5	0.2
Spring 2002														
W-23						17								0.74
W-27								22					130	
Summer 2002														
W-06A				33		260	4.7	230	21,000		51,000	100,000		
W-24A				6.6		16	5.3						0.68	0.57
W-29						2.6								0.57
W-30				69		3.0	13							
W-38						2,800			390			3,100		
W-41						2.7								
W-42						320			1,900			8,800		
W-43				17	1,800	7,400	7		8,700	35		14,200		
W-47	90	520	1.4	8.3		170		200	4,000	34	2,200	45,000		7.5
Fall 2002														
W-23						17								
W-27								22					200	

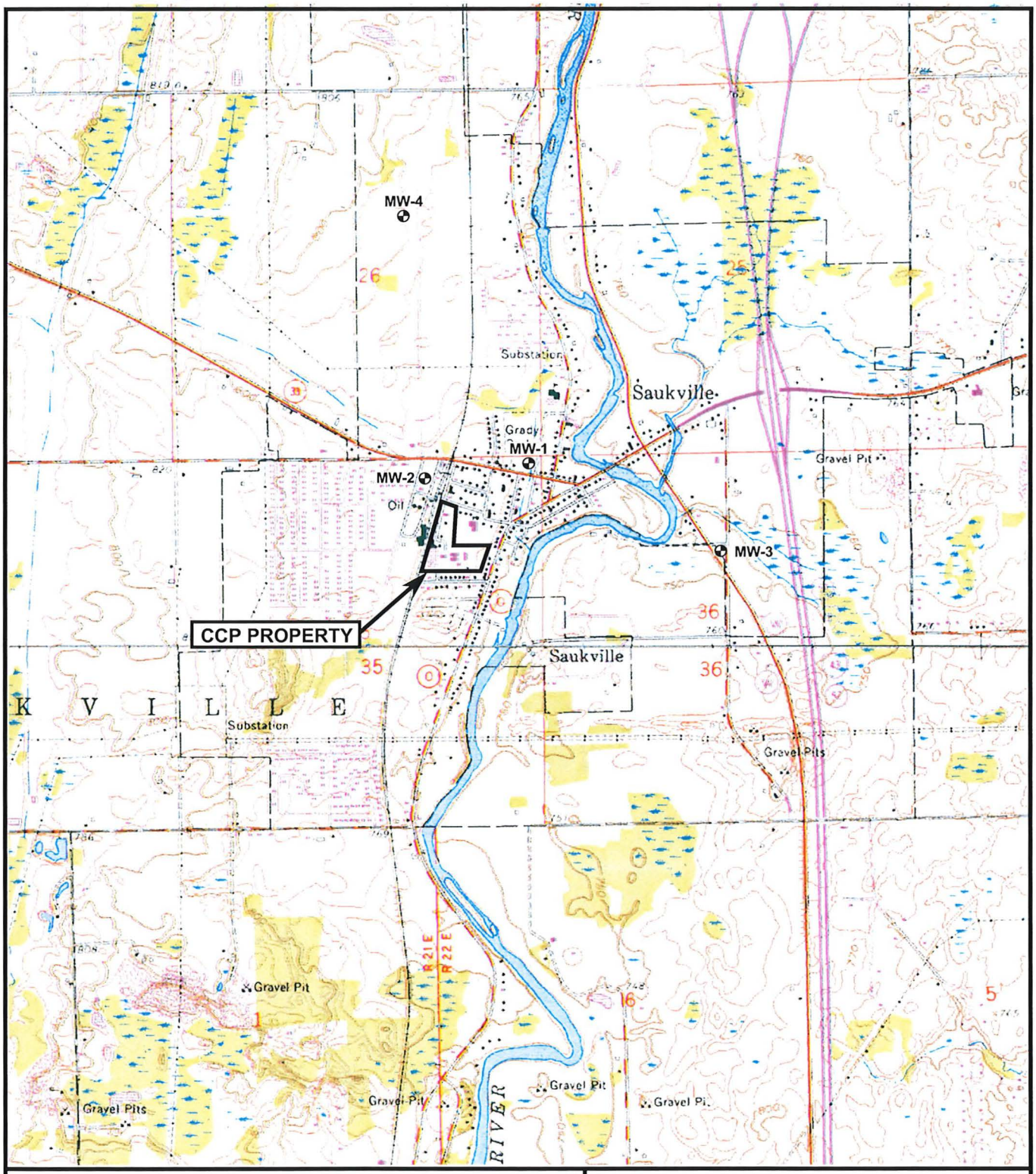
NOTES

1. All concentrations in micrograms per liter (ug/L).
2. PAL exceedance
3. ES exceedance

TABLE 9
SUMMARY OF APPENDIX IX PARAMETERS
COOK COMPOSITES AND POLYMERS CO.

PARAMETERS (ug/L)	DATE	NR 140 PAL	NR 140 ES	WELL W-06A	W-21A	W-24A	W-28	W-29	W-30	W-43	W-47
SVOCs											
1,4-Dioxane	Oct-94	--	--	710E	1200D	210	530D	ND	20	ND	380D
	Jan-95	--	--	620	960	460	610	ND	24	ND	2000E
	Jul-95	--	--	350	1000	260	660	120	15Q	ND	710
	Jul-96	--	--	870Q	1100Q	250D	900D	170	444	ND	4700
	Jul-97	--	--	ND	ND	560	1500	ND	ND	ND	ND
	Jul-98	--	--	230D	830D	670D	NS	20D	35	<3600	290
	Jul-99	--	--	210D	420	230D	480D	NS	29	<35	230
	Jul-00	--	--	470	950	640	560	NS	<36	<720	<36
	Jul-01	--	--	<900	<180	<180	<36	<180	<36	<360	<900
	Jul-02	--	--	92	NS	270	NS	200	17	7.1	230
2,4-Dimethylphenol	Oct-94	--	--	120	10	ND	ND	ND	ND	ND	71
	Jan-95	--	--	210	36Q	ND	ND	ND	ND	ND	210
	Jul-95	--	--	100Q	18Q	ND	ND	5Q	ND	ND	340
	Jul-96	--	--	170Q	90Q	ND	1Q	26	ND	62	230Q
	Jul-97	--	--	210	55	ND	ND	54	ND	93Q	790
	Jul-98	--	--	180D	69	69	NS	4.8	<1.0	<1000	830
	Jul-99	--	--	170D	78	<0.67	<0.67	NS	<0.67	120	1000
	Jul-00	--	--	240D	69	<1.2	<1.2	NS	<1.2	190	970
	Jul-01	--	--	240D	74	150	<1.2	39	<1.2	150	500
	Jul-02	--	--	150	NS	<2.1	NS	<2.1	<2.1	310	640
2-Methylphenol	Oct-94	--	--	32	5Q	ND	ND	ND	ND	ND	14
	Jan-95	--	--	51Q	ND	ND	ND	ND	ND	ND	27Q
	Jul-95	--	--	22Q	ND	ND	ND	ND	ND	ND	45Q
	Jul-97	--	--	29J	ND	ND	ND	ND	ND	ND	190#
	Jul-98	--	--	42	16	14	NS	<1.1	<0.97	<580	120
	Jul-99	--	--	26	<6.9	<1.4	<1.4	NS	<1.4	<14	140
	Jul-00	--	--	45	<8.5	<0.85	<0.85	NS	<0.85	<8.5	190
	Jul-01	--	--	33	1.1Q	1.3Q	<0.83	<0.84	<0.81	<15	83
	Jul-02	--	--	22	NS	<5.0	NS	<5.0	<5.0	<5.0	93
3-Methylphenol	Oct-94	--	--	170	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	Oct-94	--	--	112	10	ND	ND	ND	ND	ND	51
	Jan-95	--	--	180	ND	ND	ND	ND	ND	ND	130
	Jul-95	--	--	89Q	ND	ND	ND	ND	ND	ND	120
	Jul-97	--	--	91#	1.3J#	ND	ND	3.8J#	ND	ND	200
	Jul-98	--	--	120	12	9.9	NS	<1.0	<0.91	<920	190
	Jul-99	--	--	87	6.8	<1.1	<1.1	NS	<1.1	<11	260
	Jul-00	--	--	120	<9.1	<0.91	<0.91	NS	<0.91	<9.1	340
	Jul-01	--	--	120	2.0Q	1.0Q	<0.89	<0.90	<0.87	<16	160
	Jul-02	--	--	71	NS	<4.2	NS	<4.2	22	<4.2	230
Acetophenone	Oct-94	--	--	56	ND	ND	ND	ND	ND	ND	ND
	Jan-95	--	--	78Q	ND	ND	ND	ND	ND	960Q	ND
	Apr-95	--	--	ND	ND	ND	ND	ND	ND	23	ND
	Jul-95	--	--	49Q	ND	ND	ND	2Q	ND	280	120Q
	Jul-96	--	--	130QB	ND	ND	ND	ND	ND	ND	250QB
	Jul-97	--	--	ND	ND	ND	ND	ND	ND	ND	180
	Jul-98	--	--	48	10	11	NS	<0.93	<0.85	<850	240
	Jul-99	--	--	30	<4.1	<0.82	<0.82	NS	<0.82	680	200
	Jul-00	--	--	52	<3.5	<0.35	<0.35	NS	<0.35	<3.5	180
	Jul-01	--	--	48	7.8	5.8	<0.34	3.8	<0.33	240	87
	Jul-02	--	--	<4.5	NS	<4.5	NS	<4.5	<4.5	<4.5	110
Naphthalene	Oct-94	6	40	10	ND	ND	ND	ND	ND	ND	31
	Jan-95	6	40	15Q	ND	ND	ND	ND	ND	1200Q	17Q
	Jul-95	6	40	ND	27Q	ND	ND	2Q	ND	43Q	36Q
	Jul-96	6	40	31	28Q	ND	ND	0.4Q	ND	75Q	90Q
	Jul-97	6	40	17J	4.1J	ND	ND	ND	ND	260	12J
	Jul-98	6	40	15	25	24	NS	<2.3	<2.1	<2100	110
	Jul-99	6	40	12	64	<0.41	<0.41	NS	<0.41	130	27
	Jul-00	6	40	16	28	<0.47	<0.47	NS	<0.47	85	34
	Jul-01	6	40	13A	33A	19A	<0.46A	14A	<0.45A	61A	32A
	Jul-02	6	40	7.9	NS	<2.6	NS	<2.6	<2.6	35	34
Phenol	Oct-94	1200	6000	70	ND	ND	ND	ND	ND	ND	70
	Jan-95	1200	6000	110	ND	ND	ND	ND	ND	ND	190
	Jul-95	1200	6000	61Q	ND	ND	ND	ND	ND	30Q	110
	Jul-96	1200	6000	ND	ND	ND	ND	31	ND	ND	180Q
	Jul-97	1200	6000	57	44	ND	ND	52	ND	ND	130
	Jul-98	1200	6000	61	5.1	6.6	NS	7.2	<0.49	<500	48
	Jul-99	1200	6000	54	<4.0	<0.81	<0.81	NS	<0.81	<8.1	68
	Jul-00	1200	6000	66	<3.7	<0.37	<0.37	NS	<0.37	<3.7	66
	Jul-01	1200	6000	59	5.8	11	<0.36	<0.36	<0.35	<6.4	48
	Jul-02	1200	6000	37	NS	<2.5	NS	<2.5	<2.5	36	74
1,2-Dichlorobenzene	Oct-94	60	600	ND	8Q	ND	ND	ND	ND	ND	ND
	Jul-97	60	600	ND	1.2J	ND	ND	ND	ND	ND	ND
	Jul-98	60	600	<72	<18	<18	NS	<0.36	<0.36	<36	<36
	Jul-99	60	600	NA	NA	NA	NA	NS	NA	NA	NA
	Jul-00	60	600	1.1Q	12Q	<0.53	<0.53	NS	<0.53	<5.3	<5.3
	Jul-01	60	600	1.0Q	10.0	7.0	<0.51	8.6	<0.50	<9.1	<5.1
	Jul-02	60	600	<4.1	NS	<4.1	NS	<4.1	<4.1	<4.1	<20
Butylbenzene	Oct-94	--	--	ND	ND	ND	ND	2Q	ND	ND	ND
2-Methylnaphthalene	Oct-94	--	--	ND	ND	ND	ND	ND	ND	ND	12
	Jan-95	--	--	ND	ND	ND	ND	ND	ND	4500	ND
	Apr-95	--	--	NA	NA	NA	NA	NA	NA	6Q	NA
	Jul-95	--	--	ND	ND	ND	ND	ND	ND	120	ND
	Jul-96	--	--	ND	ND	ND	ND	ND	ND	200Q	ND
	Jul-97	--	--	ND	ND	ND	ND	ND	ND	750	ND
	Jul-98	--	--	<1.8	<1.9	<2.0	NS	<2.0	<1.9	4200	35Q
	Jul-99	--	--	<0.50	<2.5	<0.50	<0.50	NS	<0.50	310	<5.0
	Jul-00	--	--	0.70	<3.2	<0.32	<0.32	NS	<0.32	190	7.6Q
	Jul-01	--	--	<0.32	<0.31	<0.31	<0.31	<0.31	<0.30	110	5.7Q
	Jul-02	--	--	<1.9	NS	<1.9	NS	<1.9	<1.9	37	9.6
Acenaphthene	Jan-95	--	--	ND	ND	ND	ND	ND	ND	2600	ND
Dibenzofuran	Jan-95	--	--	ND	ND	ND	ND	ND	ND	370Q	ND
Fluorene	Jan-95	80	400	ND	ND	ND	ND	ND	ND	590Q	ND
N-Nitrosodiphenylamine	Jan-95	--	--	ND	ND	ND	ND	ND	ND	1100Q	ND
Phenanthrene	Oct-94	--	--	ND	ND	ND	ND	ND	ND	ND	ND
	Jan-95	--	--	ND	ND	ND	ND	ND	ND	1200Q	ND
	Apr-95	--	--	NA	NA	NA	NA	NA	NA	4Q	NA
	Jul-95	--	--	ND	ND	ND	ND	ND	ND	33Q	ND
	Jul-96	--	--	ND	ND	ND	ND	ND	ND	48Q	ND
	Jul-97	--	--	ND	ND	ND	ND	ND	ND	210	ND
	Jul-98	--	--	1.6Q	<0.71	<0.77	NS	<0.78	<0.71	1300	8.9Q
	Jul-99	--	--	<0.39	<1.9	<0.39	<0.39	NS	<0.39	89	<3.9
	Jul-00	--	--	0.64Q	<3.0	<0.30	<0.30	NS	<0.30	65	<3.0
	Jul-01	--	--	<0.30&	<0.29&	<0.25&	<0.29&	<0.29&	<0.29&	32&	<0.29&
	Jul-02	--	--	<2.1	NS	<2.1	NS	<2.1	<2.1	3.9	<11
Bis(2-ethylhexyl)phthalate	Oct-94	0.6	6	ND	ND	ND	ND	ND	ND	ND	25
	Jan-95	0.6	6	ND	ND	ND	ND	ND	ND	ND	54
	Jul-96	0.6	6	ND	ND	ND	ND	3Q	ND	ND	ND
	Jul-97	0.6	6	ND	ND	1.2J	ND	ND	ND	44J	ND
	Jul-98	0.6	6	2.8Q	<1.2	5.1	NS	<1.4	7.0	74000	84
	Jul-99	0.6	6	<2.1	<10	26	<2.1	NS	<2.1	490	<21
	Jul-00	0.6	6	<1.9	37Q	2.9Q	3.3Q	NS	<1.9	16	910
	Jul-01	0.6	6	<1.9	10	<1.8	14	<1.8	<1.8	57Q	<18
	Jul-02	0.6	6	2.7	NS	5.3	NS	<4.1	13	7	<21
PCBs											
Arochlor-1242	Oct-94	0.003	0.03	ND	ND	ND	ND	ND	ND	ND	25
	Jul-96	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	38
	Jul-97	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	ND
	Jul-98	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	ND
	Jul-99	0.003	0.03	NA	NA	NA	NA	NS	NA	NA	<0.33
	Jul-00	0.003	0.03	NA	NA	NA	NA	NS	NA	NA	<0.26
	Jul-01	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	16
	Jul-02	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	1.4
Arochlor-1248	Jan-95	0.003	0.03	ND	ND	ND	ND	ND	ND	ND	27
	Jul-95	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	7
	Jul-97	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	ND
	Jul-98	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	ND
	Jul-99	0.003	0.03	NA	NA	NA	NA	NS	NA	NA	<0.33
	Jul-00	0.003	0.03	NA	NA	NA	NA	NS	NA	NA	<0.26
	Jul-01	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	<0.52
	Jul-02	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	<0.48
Metals											
Arsenic	Oct-94	5	50	17	28	3	5.4	5.4	ND	ND	7.6
	Jan-95	5	50	28	30	ND	ND	16	ND	ND	ND
	Jul-95	5	50	45	23	ND	ND	ND	ND	25	4.8
	Jul-96	5	50	25	25	ND	ND	4.4	ND	36	5
	Jul-97	5	50	38	16	ND	2.5	2.7	3.2	11	5.2
	Jul-98	5	50	43	29	7.1	NS	4.5	2.3	27	6.7
	Jul-99	5	50	45	150	86	140	NS	84	1100	110
	Jul-00	5	50	25	20	2.5Q	<1.1	NS	2.4Q	78	15
	Jul-01	5	50	34	31	3.9Q	<1.4	1.7Q	<1.4	63	9.2
	Jul-02	5	50	32	NS	4.4	NS	1.6	69	17	8.3
Barium	Oct-94	400	2000	66	130	85	130	170	76	ND	150
	Jan-95	400	2000	68	130	74	ND	140	70	480	260
	Jul-95	400	2000	ND	140	83	160	160	73	120	130
	Jul-96	400	2000	ND	170	88	160	200	91	150	110
	Jul-97	400	2000	55	230	73	150	230	87	200	61
	Jul-98	400	2000	53	180	160	NS	320	82	450	79
	Jul-99	400	2000	38	23	2.9	<2.4	NS	<2.4	140	5
	Jul-00	400	2000	50	180	86	130	NS	82	670	96
	Jul-01	400	2000	53	200	180	150	210	86	1600	130
	Jul-02	400	2000	48	NS	76	NS	160	96	1100	130
Zinc	Oct-94	2100	5000	ND	ND	ND	270	ND	ND	ND	ND

NS = Not Sampled
NA = Not Analyzed
ND = Not Detected
PAL Exceedance
ES Exceedance



SOURCE: USGS 7.5 Minute Topographic Map, PORT WASHINGTON WEST & CEDARBURG, WISCONSIN, MAPTECH

NORTH

0 1000 2000

SCALE IN FEET

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

FIGURE 1
SITE LOCATION MAP

DRN. BY:	LMS
PROJ. NO.:	48362.001
DATE:	08MAR02

URS

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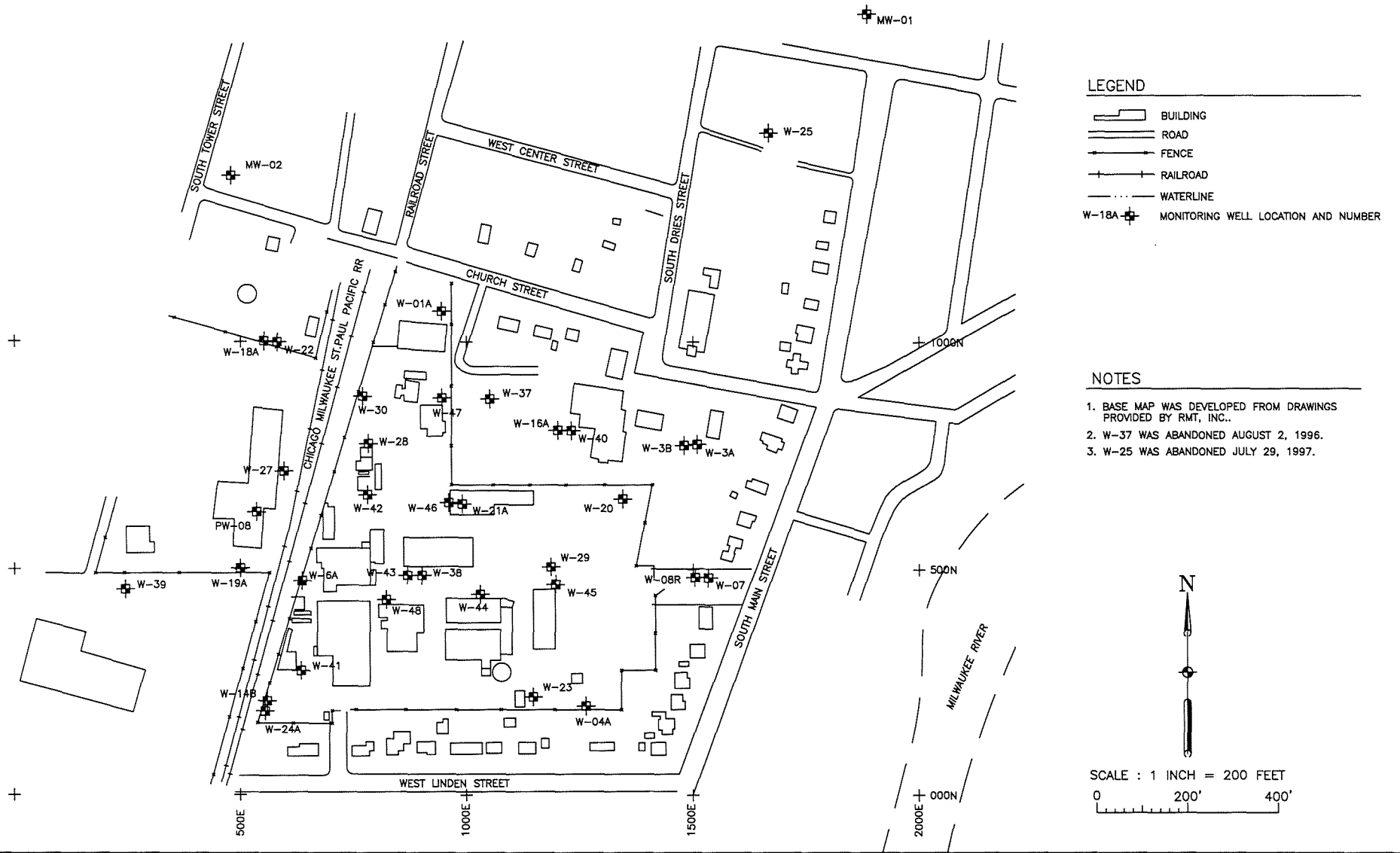


LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	MAS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	10-15-97

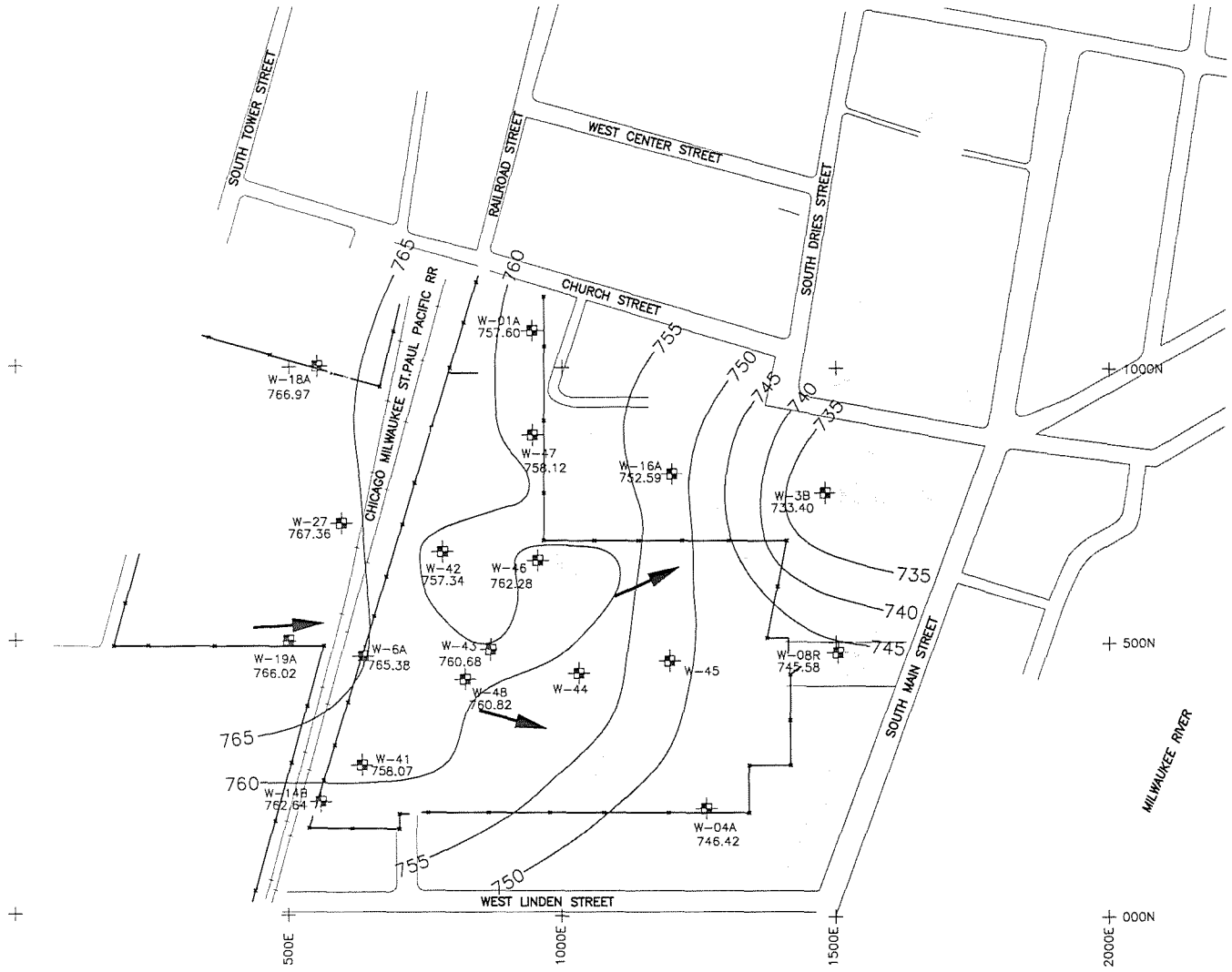
MONITORING WELL LOCATION MAP

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION

PROJECT 48362.001
FIGURE 2
SHEET 2 OF 12

FILE NAME: FIG-2.DWG
SCALE: 1" = 200'
OPER. JMS
DATE 10-15-97
PROJ. # 11035-397
TASK #
LOC.
PROJ.
SEND TO
PHONE



LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 740 — WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW

CONTOUR INTERVAL = 5 FEET

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

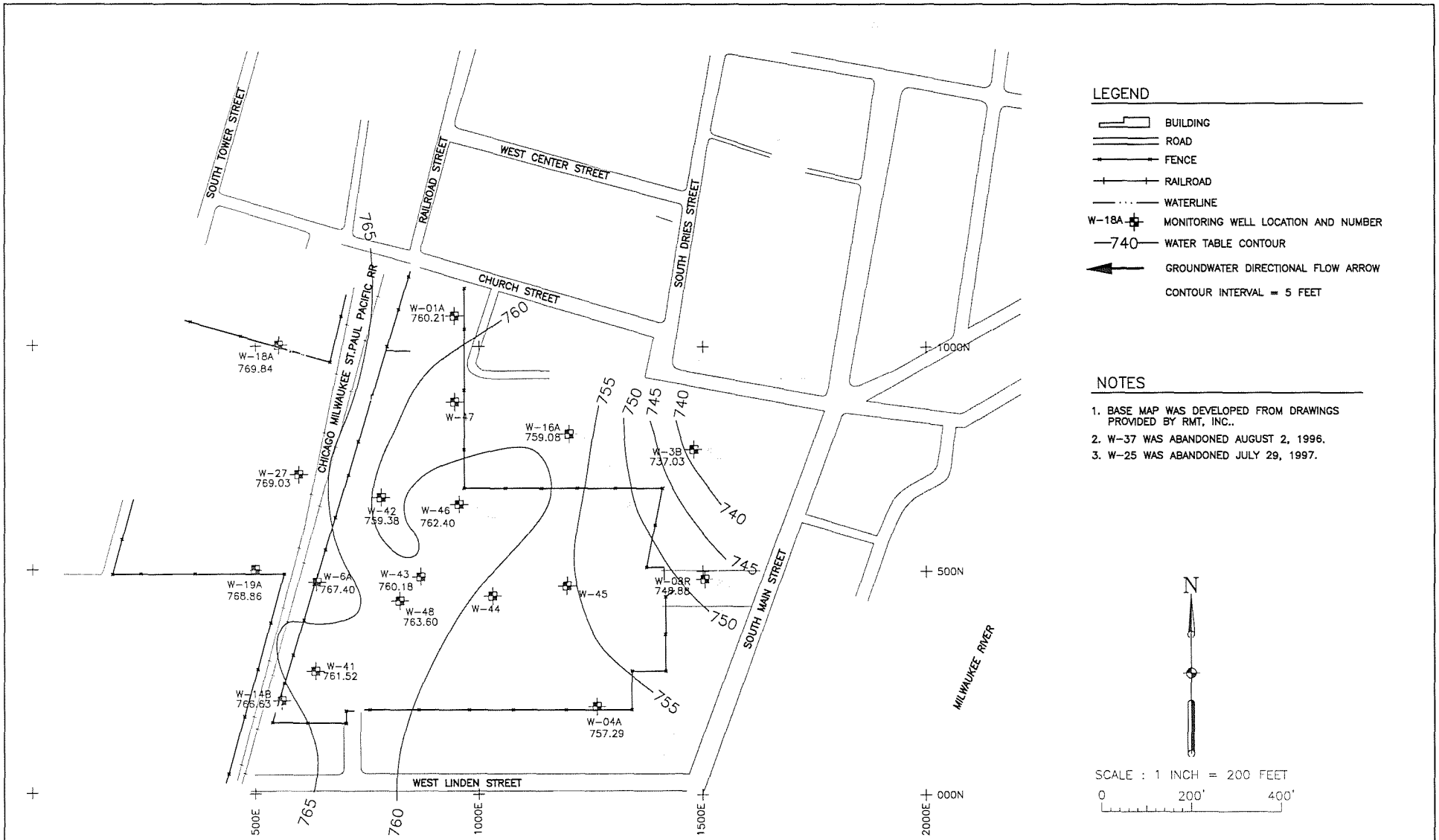
DESIGNED	RAC
DRAWN	MAS/LMS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	30JUL02

WATER TABLE MAP
GLACIAL DRIFT – FALL 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 48362-004
FIGURE 3
SHEET 3 OF 12

P:\URS\48362.004 COP GW 2002\DRAWINGS\FIG-1.DWG



LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 740 — WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW
- CONTOUR INTERVAL = 5 FEET

NOTES

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3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	MAS/LMS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	31MAY02

WATER TABLE MAP
GLACIAL DRIFT – SPRING 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION	
PROJECT	48362-004
FIGURE	4
SHEET	4 OF 12

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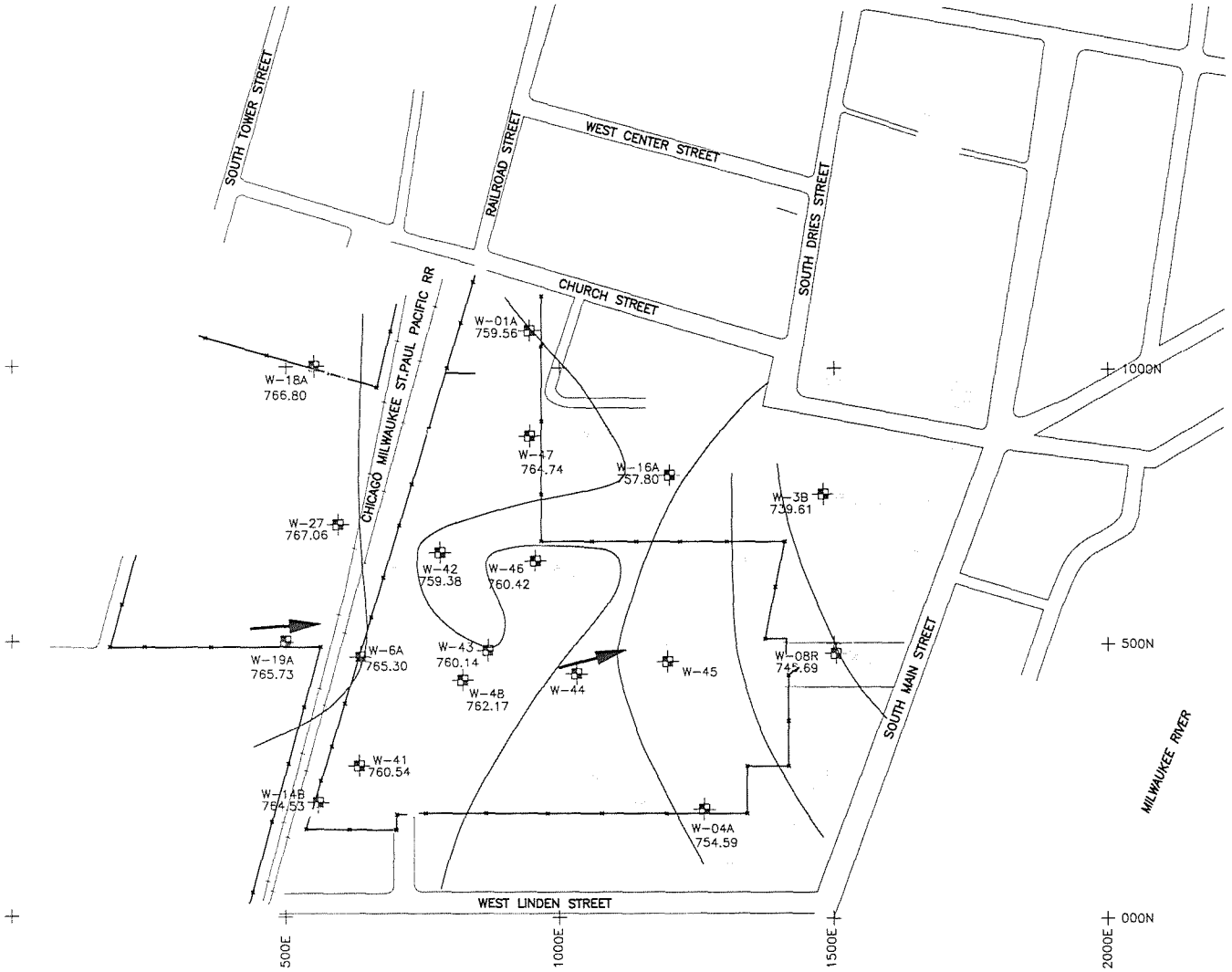

LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 740 — WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW

CONTOUR INTERVAL = 5 FEET

NOTES

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3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	MAS/LMS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	30JUL02

WATER TABLE MAP
GLACIAL DRIFT – SUMMER 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION

PROJECT 48362-004

FIGURE 5

SHEET 5 OF 12

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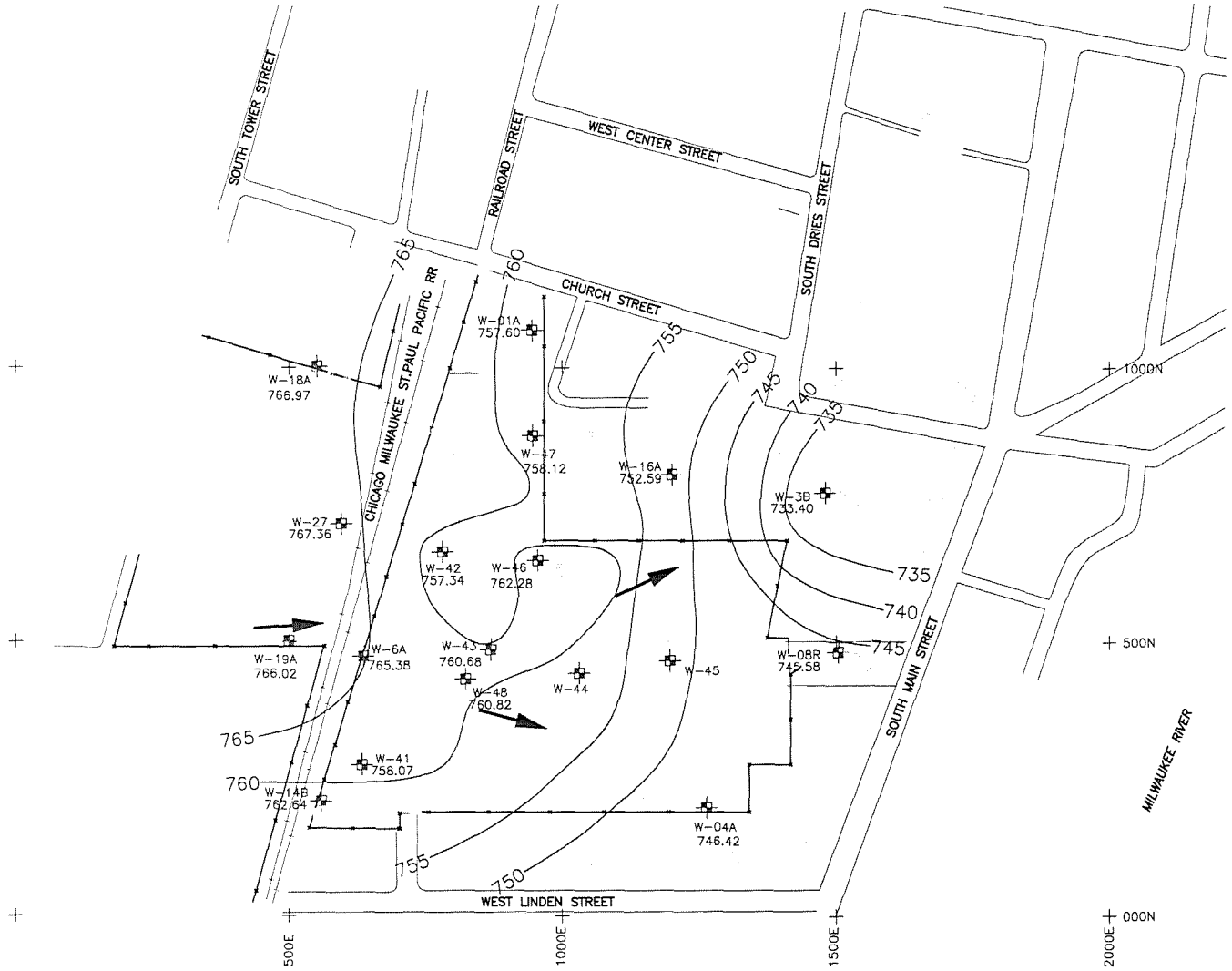

LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 740 — WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW
- CONTOUR INTERVAL = 5 FEET

NOTES

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N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

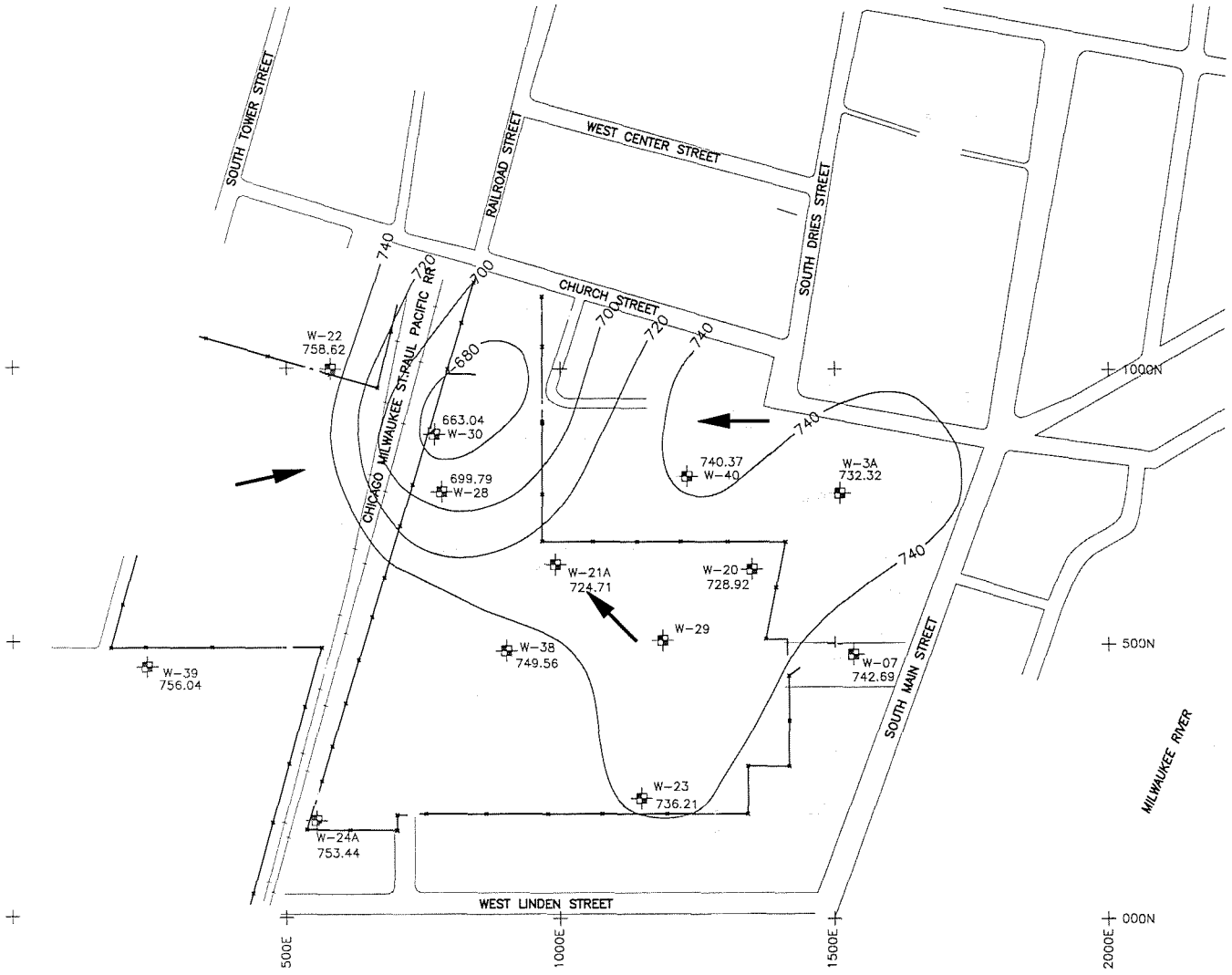
DESIGNED	RAC
DRAWN	MAS/LMS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	30JUL02

WATER TABLE MAP
GLACIAL DRIFT – FALL 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 48362-004
FIGURE 6
SHEET 6 OF 12

P:\URS\48362.004 CCP GW 2002\SUMMER\FIG-1.DWG



LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 740 — WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW

CONTOUR INTERVAL = 10 FEET

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

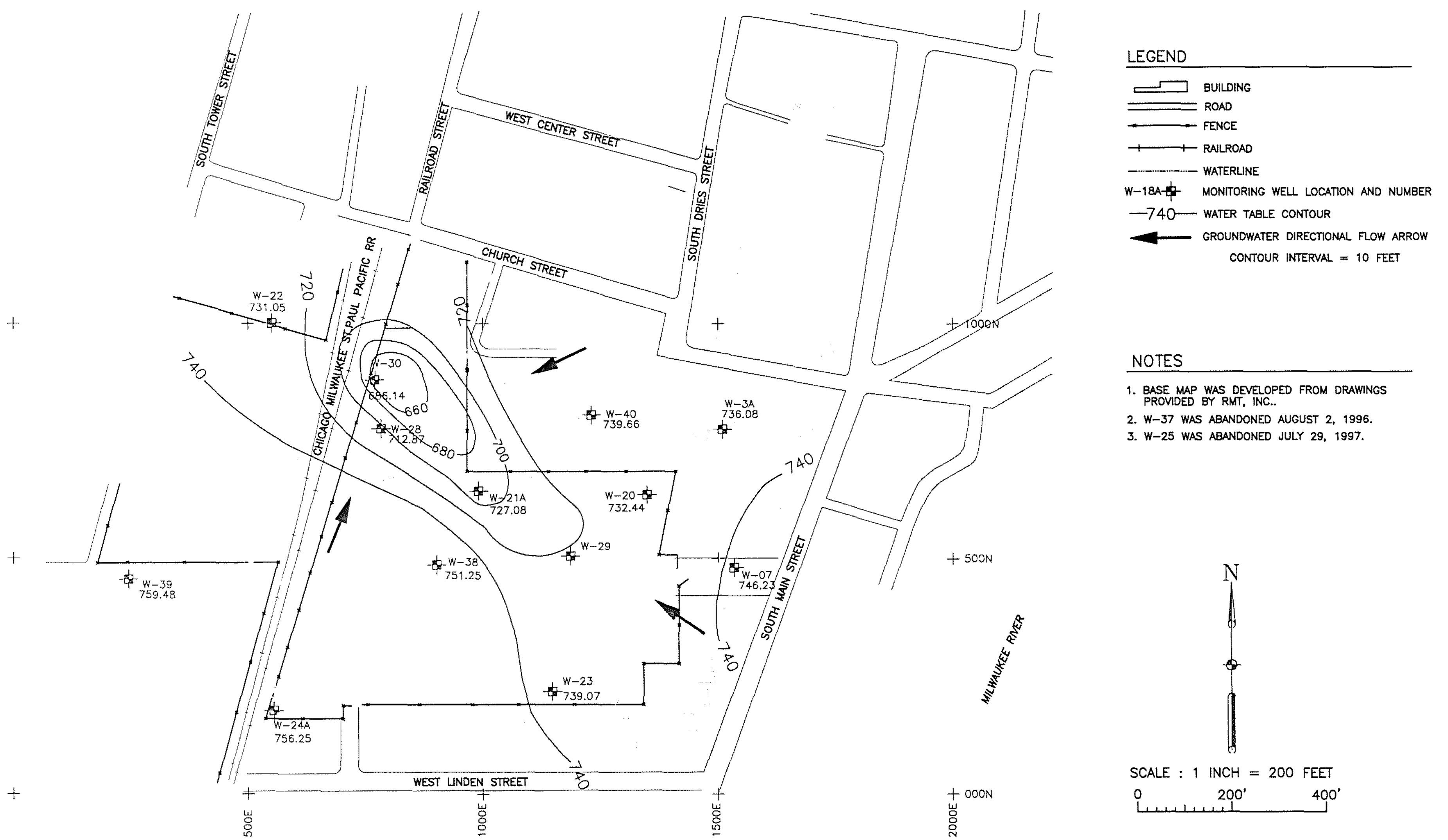
DESIGNED	RAC
DRAWN	MAS/LS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	05AUG02

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – FALL 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION	
PROJECT	48362.004
FIGURE	7
SHEET	7 OF 12

P:\URS\WAS\48362.004 COOK MF 2002\WORK\FIG2.DWG



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REV	DESCRIPTION OF REVISION	BY	DATE

URS

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

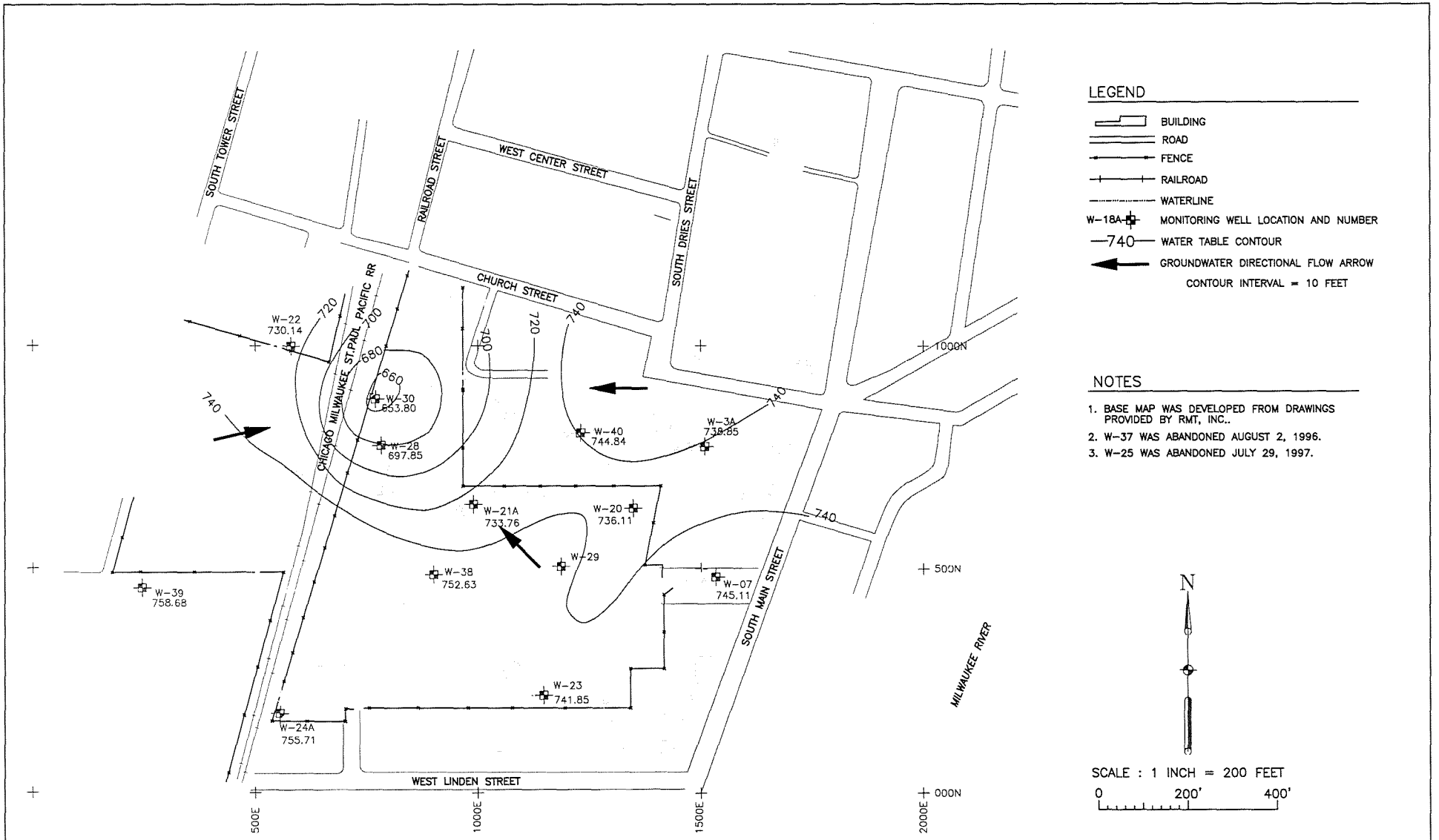
WARNING
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	MAS/LS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	13MAY02

WATER TABLE MAP
SHALLOW DOLOMITE – SPRING 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION	
PROJECT	48362-004
FIGURE	8
SHEET	8 OF 12



LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- —740— WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW

CONTOUR INTERVAL = 10 FEET

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	MAS/LS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	05AUG02

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – SUMMER 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION	
PROJECT	48362.004
FIGURE	9
SHEET	9 OF 12

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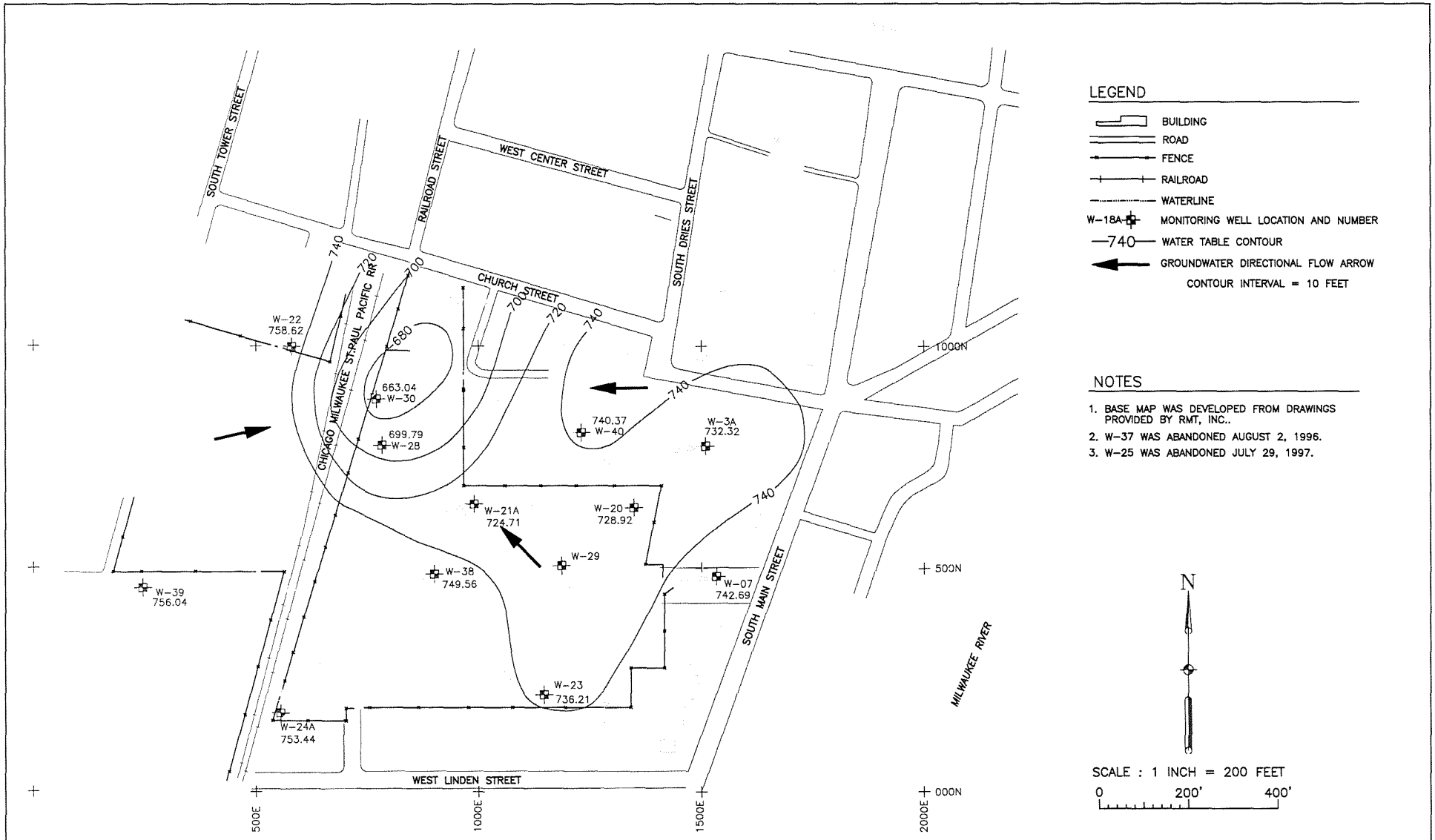


LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- —740— WATER TABLE CONTOUR
- GROUNDWATER DIRECTIONAL FLOW ARROW

CONTOUR INTERVAL = 10 FEET

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

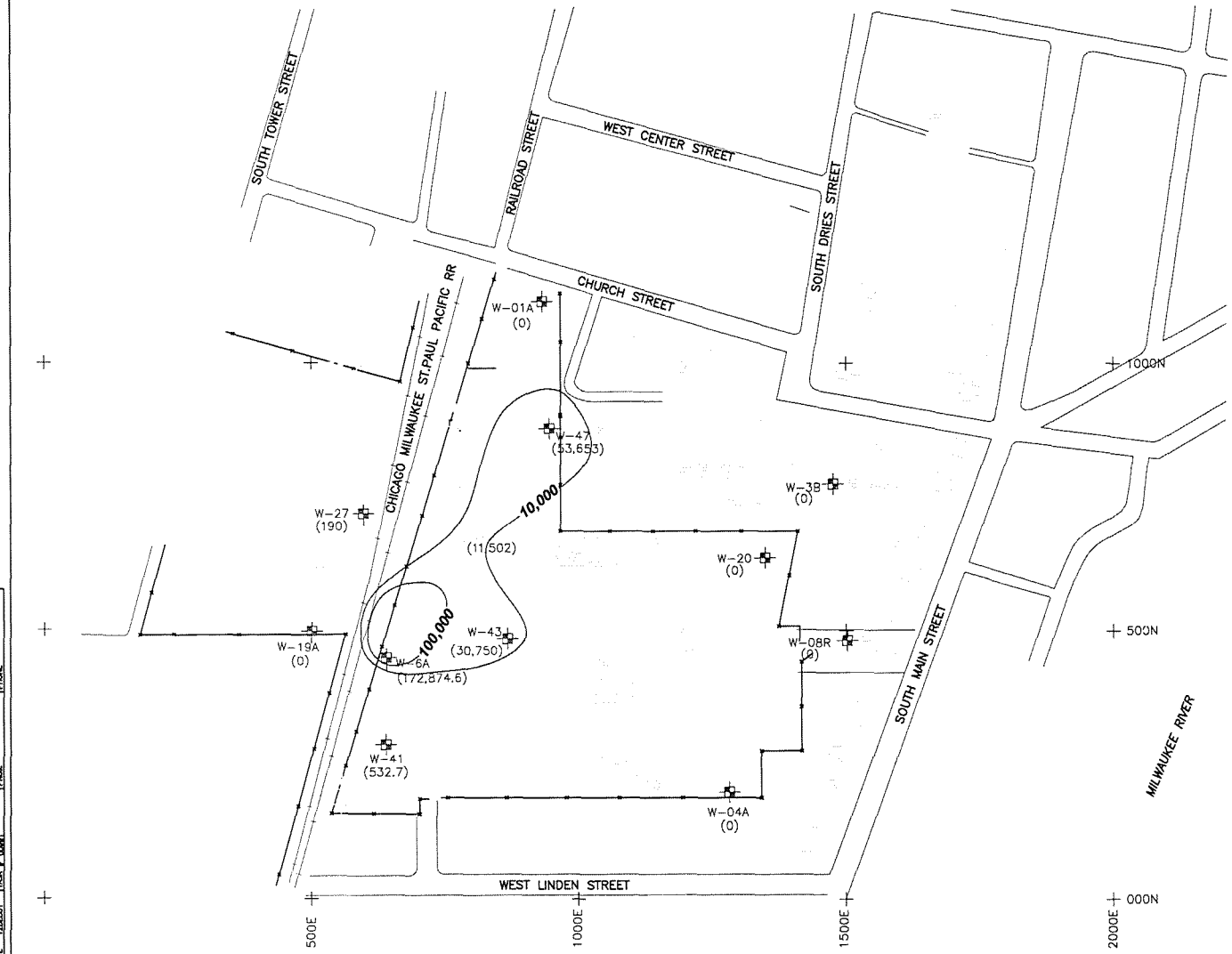
DESIGNED	RAC
DRAWN	MAS/LS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	05AUG02

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – FALL 2002

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 48362.004
FIGURE 10
SHEET 10 OF 12

P:\URS\48362.004 CCP GW 2002\SAUKVILL\FIG2.DWG



LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 100 — TOTAL VOC ISOCONCENTRATION (ug/L)
- (190) — AVERAGE ANNUAL TOTAL VOC CONCENTRATION (ug/L)

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

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FILE NAME:	Fig-2-2.dwg	OPER.	MAS	PROJ. #	43362	LOC.	PROJ.
SCALE:	1" = 200'	DATE	1/23/2003	TASK #	0001		

SEND TO PHONE

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	BJS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	4/4/03

COMPOSITE 2002 – TOTAL VOC CONCENTRATIONS
GLACIAL DRIFT WELLS

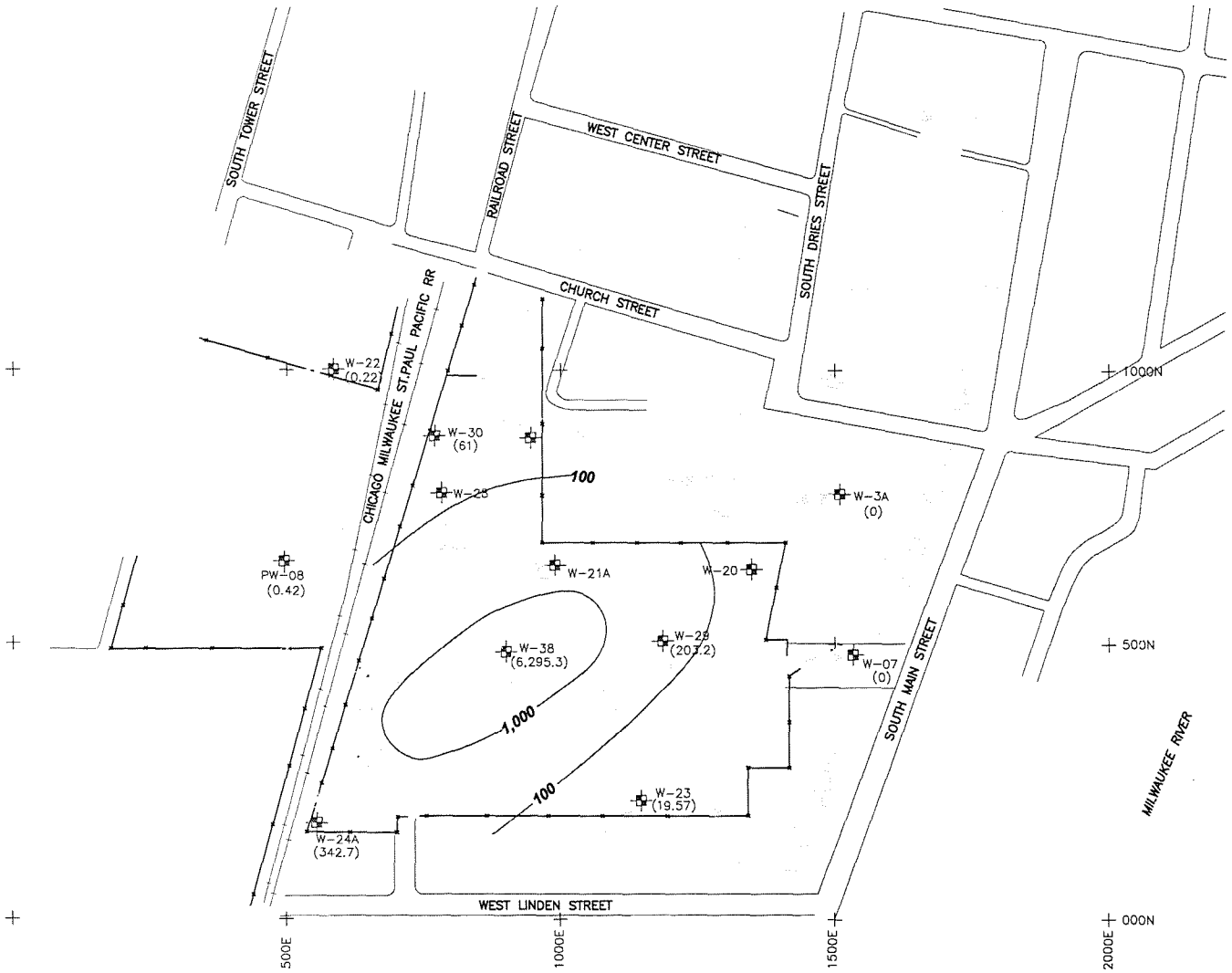
COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION

PROJECT 48362-001

FIGURE 11

SHEET 11 OF 12



LEGEND

- BUILDING
- ROAD
- FENCE
- RAILROAD
- WATERLINE
- W-18A — MONITORING WELL LOCATION AND NUMBER
- 100 — TOTAL VOC ISOCONCENTRATION (ug/L)
- (203.2) — AVERAGE ANNUAL TOTAL VOC CONCENTRATION (ug/L)

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC..
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

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FILE NAME: FIG-2-2.DWG	DESIGN: WAS	PROJ. # 48136003	LOC.
SCALE: 1" = 200'	DATE: 1/28/2003	TASK # 00001	PROJ.
			SEND TO
			PHONE

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation
10200 Innovation Drive, Suite 500
Milwaukee, Wisconsin 53226

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	BJS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	4/4/03

COMPOSITE 2002 – TOTAL VOC CONCENTRATIONS SHALLOW DOLIMITE WELLS

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION	
PROJECT	48362-001
FIGURE	12
SHEET	12 OF 12

Appendix A
Quarterly Result Summary Tables

TABLE 1
MUNICIPAL WELL RESULTS

PROJECT NUMBER: 48362-004
BEGINNING DATE: 9-Jan-02
ENDING DATE: 9-Jan-02

(1) PAL = NR140 Preventative Action Limit
(2) ES = NR140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	MW1-02-1 1/9/2002	MW2-02-1 not sampled	MW3-02-1 1/9/2002	MW4-02-1 1/9/2002	DUP1-02-1 1/9/2002 (MW-4-02-1)	TB1-02-1 1/9/2002
1,1,1-Trichloroethane	40	200	ug/L	<0.53	~	<0.53	<0.53	<0.53	<0.53
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.68	~	<0.68	<0.68	<0.68	<0.68
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	~	<0.47	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	~	<0.61	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	~	<0.47	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	~	<0.54	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	~	<0.34	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	~	<1.2	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	~	<0.61	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	~	<0.61	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	~	<3.1	<3.1	<3.1	<3.1
Benzene	0.5	5	ug/L	<0.44	~	<0.44	<0.44	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	~	<0.41	<0.41	<0.41	<0.41
Bromoform	0.44	4	ug/L	<0.58	~	<0.58	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	~	<0.94	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	~	<0.40	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	~	<0.90	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	~	<0.43	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	~	<0.43	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	~	<0.63	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	~	<0.41	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	~	<0.44	<0.44	<0.44	<0.44
cis-1,2-Dichloroethene	7	70	ug/L	<0.46	~	<0.46	<0.46	<0.46	<0.46
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.54	~	<0.54	<0.54	<0.54	<0.54
Ethylbenzene	140	700	ug/L	<0.50	~	<0.50	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	~	<0.38	<0.38	<0.38	<0.38
Styrene	10	100	ug/L	<0.37	~	<0.37	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	~	<0.41	<0.41	<0.41	<0.41
Toluene	68.6	343	ug/L	<0.40	~	<0.40	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<0.64	~	<0.64	<0.64	<0.64	<0.64
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.26	~	<0.26	<0.26	<0.26	<0.26
Trichloroethene	0.5	5	ug/L	<0.49	~	<0.49	<0.49	<0.49	<0.49
Vinyl acetate			ug/L	<0.70	~	<0.70	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.17	~	<0.17	<0.17	<0.17	<0.17
Xylene, o	124	620	ug/L	<0.54	~	<0.54	<0.54	<0.54	<0.54
Xylene, m, p	124	620	ug/L	<0.77		<0.77	<0.77	<0.77	<0.77
Total VOCs			ug/L	0.0	NS	0.0	0.0	0.0	0.0
October 2001 Total VOCs			ug/L	0.0	NS	0.0	0.0	0.0	0.0

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range.

NS - Not Sampled

TABLE 2
POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 48362-004
BEGINNING DATE: 01/09/02
ENDING DATE: 01/09/02

Parameter	Units	POTW-I-02-1 1/9/2002	POTW-E-02-1 1/9/2002	POTW-S-02-1 1/9/2002	RC-1-01-1 1/9/2002	RC-2-01-1 1/9/2002	RC-3-01-1 1/9/2002
1,1,1-Trichloroethane	ug/L	<0.53	<0.53	<0.53			
1,1,2,2-Tretrachloroethane	ug/L	<0.68	<0.68	<0.68			
1,1,2-Trichloroethane	ug/L	<0.47	<0.47	<0.47			
1,1-Dichloroethane	ug/L	<0.61	<0.61	<0.61			
1,1-Dichloroethene	ug/L	<0.47	<0.47	<0.47			
1,2-Dichloroethane	ug/L	<0.54	<0.54	<0.54			
1,2-Dichloropropane	ug/L	<0.34	<0.34	<0.34			
2-Butanone	ug/L	<1.2	<1.2	6.3			
2-Hexanone	ug/L	<0.61	<0.61	<0.61			
4-Methyl-2-pentanone	ug/L	<0.61	<0.61	<0.61			
Acetone	ug/L	20	<3.1	38			
Benzene	ug/L	<0.44	<0.44	<0.44	29	680 D	30
Bromodichloromethane	ug/L	<0.41	<0.41	<0.41			
Bromoform	ug/L	<0.58	<0.58	<0.58			
Bromomethane	ug/L	<0.94	<0.94	<0.94			
Carbon disulfide	ug/L	<0.40	<0.40	<0.40			
Carbon tetrachloride	ug/L	<0.90	<0.90	<0.90			
Chlorobenzene	ug/L	3.1	<0.43	<0.43	<0.43	<0.86	<0.43
Chlorodibromomethane	ug/L	<0.43	<0.43	<0.43			
Chloroethane	ug/L	<0.63	<0.63	<0.63			
Chloroform	ug/L	0.80 Q	<0.41	<0.41			
Chloromethane	ug/L	0.65 Q	<0.44	<0.44			
cis-1,2-Dichloroethene	ug/L	0.61 Q	<0.46	<0.46			
cis-1,3-Dichloropropene	ug/L	<0.54	<0.54	<0.54			
Ethylbenzene	ug/L	1.3 Q	<0.50	<0.50	74	2600 D	70
Methylene chloride	ug/L	<0.38	0.88 Q	<0.38			
Styrene	ug/L	<0.37	<0.37	<0.37			
Tetrachloroethene	ug/L	<0.41	<0.41	<0.41			
Toluene	ug/L	5.20	<0.40	0.70 Q	0.77 Q	540 D	0.57 Q
trans-1,2-Dichloroethene	ug/L	<0.64	<0.64	<0.64			
trans-1,3-Dichloropropene	ug/L	<0.26	<0.26	<0.26			
Trichloroethene	ug/L	3.1	0.71 Q	<0.49			
Vinyl acetate	ug/L	<0.70	<0.70	<0.70			
Vinyl Chloride	ug/L	0.19 Q	<0.17	<0.17			
Xylene, o	ug/L	0.87 Q	<0.54	<0.54	18	1200 D	15
Xylene, m, p	ug/L	2.0 Q	<0.77	<0.77	29	2800 D	290
1,3-Dichlorobenzene	ug/L	~	~	~	<0.64	<1.3	<0.64
1,2-Dichlorobenzene	ug/L	~	~	~	0.4	<0.72	0.38
1,4-Dichlorobenzene	ug/L	~	~	~	<0.43	<0.86	<0.43
Total VOCs	ug/L	37.82	1.59	45.00	151.2	7820.0	406.0
October 2001 Total VOCs	ug/L	88.19	0.42	17	1984	2278.1	2054.3

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range.

D - Analyte value from diluted analysis.

NS - Not Sampled

TABLE 1
A-4
MUNICIPAL WELL RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 8-Apr-02
ENDING DATE: 9-Apr-02

Parameter	PAL (1)	ES (2)	Units	MW-1-02-2 4/9/2002	MW-2-02-2 not sampled	MW-3-02-2 4/9/2002	MW-4-02-2 4/9/2002	DUP1-02-2 (MW-4-02-2)	Trip Blank 4/9/2002
1,1,1-Trichloroethane	40	200	ug/L	<0.53	~	<0.53	<0.53	<0.53	<0.53
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.68	~	<0.68	<0.68	<0.68	<0.68
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	~	<0.47	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	~	<0.61	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	~	<0.47	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	~	<0.54	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	~	<0.34	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	~	<1.2	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	~	<0.61	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	~	<0.61	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	~	<3.1	<3.1	<3.1	<3.1
Benzene	0.5	5	ug/L	<0.44	~	<0.44	<0.44	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	~	<0.41	<0.41	<0.41	<0.41
Bromoform	0.44	4.4	ug/L	<0.58	~	<0.58	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	~	<0.94	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	~	<0.40	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	~	<0.90	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	~	<0.43	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	~	<0.43	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	~	<0.63	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	~	<0.41	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	~	<0.44	<0.44	<0.44	<0.44
cis-1,2-Dichloroethene	7	70	ug/L	<0.46	~	<0.46	<0.46	<0.46	<0.46
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.54	~	<0.54	<0.54	<0.54	<0.54
Ethylbenzene	140	700	ug/L	<0.50	~	<0.50	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	~	<0.38	<0.38	<0.38	<0.38
Styrene	10	100	ug/L	<0.37	~	<0.37	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	~	<0.41	<0.41	<0.41	<0.41
Toluene	200	1000	ug/L	<0.40	~	<0.40	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<0.64	~	<0.64	<0.64	<0.64	<0.64
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.26	~	<0.26	<0.26	<0.26	<0.26
Trichloroethene	0.5	5	ug/L	<0.49	~	<0.49	<0.49	<0.49	<0.49
Vinyl acetate			ug/L	<0.70	~	<0.70	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.17	~	<0.17	<0.17	<0.17	<0.17
Xylene, o	1000	10000	ug/L	<0.54	~	<0.54	<0.54	<0.54	<0.54
Xylene, m, p			ug/L	<0.77		<0.77	<0.77	<0.77	<0.77
Total VOCs			ug/L	0.0	NS	0.0	0.0	0.0	0.0
January 2002 Total VOCs			ug/L	0.0	NS	0.0	0.0		

NS - Not Sampled
MW-2 is sampled during the annual sampling event in July

TABLE 2
POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 4/8/02
ENDING DATE: 4/9/02

Parameter	Units	POTW-I-02-2 not sampled	POTW-E-02-2 4/8/2002	POTW-S-02-2 4/8/2002	RC-1-02-2 not sampled	RC-2-02-2 not sampled	RC-3-02-2 not sampled
1,1,1-Trichloroethane	ug/L	~	<0.53	<0.53			
1,1,2,2-Tretrachloroethane	ug/L	~	<0.68	<0.68			
1,1,2-Trichloroethane	ug/L	~	<0.47	<0.47			
1,1-Dichloroethane	ug/L	~	<0.61	<0.61			
1,1-Dichloroethene	ug/L	~	<0.47	<0.47			
1,2-Dichloroethane	ug/L	~	<0.54	<0.54			
1,2-Dichloropropane	ug/L	~	<0.34	<0.34			
2-Butanone	ug/L	~	<1.2	2.8 Q			
2-Hexanone	ug/L	~	<0.61	<0.61			
4-Methyl-2-pentanone	ug/L	~	<0.61	<0.61			
Acetone	ug/L	~	<3.1	8.4 Q			
Benzene	ug/L	~	<0.44	<0.44	~	~	~
Bromodichloromethane	ug/L	~	<0.41	<0.41			
Bromoform	ug/L	~	<0.58	<0.58			
Bromomethane	ug/L	~	<0.94	<0.94			
Carbon disulfide	ug/L	~	<0.40	0.58 Q			
Carbon tetrachloride	ug/L	~	<0.90	<0.90			
Chlorobenzene	ug/L	~	<0.43	<0.43	~	~	~
Chlorodibromomethane	ug/L	~	<0.43	<0.43			
Chloroethane	ug/L	~	<0.63	<0.63			
Chloroform	ug/L	~	<0.41	<0.41			
Chloromethane	ug/L	~	<0.44	<0.44			
cis-1,2-Dichloroethene	ug/L	~	<0.46	<0.46			
cis-1,3-Dichloropropene	ug/L	~	<0.54	<0.54			
Ethylbenzene	ug/L	~	<0.50	0.94 Q	~	~	~
Methylene chloride	ug/L	~	<0.38	<0.38			
Styrene	ug/L	~	<0.37	<0.37			
Tetrachloroethene	ug/L	~	<0.41	<0.41			
Toluene	ug/L	~	<0.40	97	~	~	~
trans-1,2-Dichloroethene	ug/L	~	<0.64	<0.64			
trans-1,3-Dichloropropene	ug/L	~	<0.26	<0.26			
Trichloroethene	ug/L	~	<0.49	<0.49			
Vinyl acetate	ug/L	~	<0.70	<0.70			
Vinyl Chloride	ug/L	~	<0.17	<0.17			
Xylene, o	ug/L	~	<0.54	<0.54	~	~	~
Xylene, m, p	ug/L	~	<0.77	<0.77	~	~	~
1,3-Dichlorobenzene	ug/L	~	~	~	~	~	~
1,2-Dichlorobenzene	ug/L	~	~	~	~	~	~
1,4-Dichlorobenzene	ug/L	~	~	~	~	~	~
Total VOCs	ug/L	~	0	109.7	~	~	~
January 2002 Total VOCs	ug/L	37.82	1.59	45.0	151.2	7820.0	406.0

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range.

D - Analyte value from diluted analysis.

POTW-I was not able to be sampled due to construction at the POTW

RC-1, RC-2 and RC-3 were not sampled due to a pump malfunction

TABLE 3

SUMMARY OF MONITORING WELL RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 4/8/02
ENDING DATE: 4/9/02

(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	W-01A-02-2 4/9/2002	W-03A-02-2 4/9/2002	DUP3-02-2 4/9/2002 (W-03A-02-2)	W-03B-02-2 4/9/2002	W-04A-02-2 4/8/2002	W-07-02-2 4/9/2002	W-08R-02-2 4/8/2002
1,1,1-Trichloroethane	40	200	ug/L	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1
Benzene	0.5	5	ug/L	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Bromoform	0.44	4.4	ug/L	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
cis-1,2-Dichloroethene	7	70	ug/L	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Ethylbenzene	140	700	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38
Styrene	10	100	ug/L	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Toluene	200	1000	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Trichloroethene	0.5	5	ug/L	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49
Vinyl acetate			ug/L	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Xylene, o	1000	10000	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Xylene, m, p			ug/L	<0.77	<0.77	<0.77	<0.77	<0.77	<0.77	<0.77
Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0
October 2001 Total VOCs			ug/L	0.0	0.0	0.0	0.0	4.1	0.0	0.0

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range.

TABLE 3 CONTINUED
SUMMARY OF MONITORING WELL RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 4/8/02
ENDING DATE: 4/9/02

(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	W-20-02-2 4/9/2002	W-22-02-2 4/9/2002	W-23-02-2 4/8/2002	DUP-2-02-2 4/8/2002 (W-23-02-2)	W-27-02-2 4/9/2002	PW-08-02-2 4/9/2002
1,1,1-Trichloroethane	40	200	ug/L	<0.53	<0.53	<0.53	<0.53	1.2 Q	<0.53
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1
Benzene	0.5	5	ug/L	<0.44	<0.44	17	17	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Bromoform	0.44	4.4	ug/L	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
cis-1,2-Dichloroethene	7	70	ug/L	<0.46	<0.46	2.2	2.1	22	<0.46
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Ethylbenzene	140	700	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38
Styrene	10	100	ug/L	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Toluene	200	1000	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<0.64	<0.64	<0.64	<0.64	1.30 Q	<0.64
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Trichloroethene	0.5	5	ug/L	<0.49	<0.49	<0.49	<0.49	130	<0.49
Vinyl acetate			ug/L	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.17	<0.17	0.74	0.72	<0.17	<0.17
Xylene, o	1000	10000	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Xylene, m, p			ug/L	<0.77	<0.77	<0.77	<0.77	<0.77	<0.77
Total VOCs			ug/L	0.00	0.00	19.94	19.82	154.50	0.0
October 2001 Total VOCs			ug/L	4.68	1	21.95	0.56	166.08	0.0

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range.

TABLE 1
MUNICIPAL WELL RESULTS

PROJECT NUMBER: 48362.004
BEGINNING DATE: 7/8/2002
ENDING DATE: 7/10/2002

(1) PAL = NR140 Preventative Action Limit
(2) ES = NR140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	MW-1-02-3 7/9/2002	MW-2-02-3 7/9/2002	MW-3-02-2 7/9/2002	MW-4-02-3 7/9/2002	DUP-1-02-3 7/9/2002 (MW-4-02-3)	TB-02-3 7/10/2002
1,1,1-Trichloroethane	40	200	ug/L	<0.53 *	<0.53	<0.53	<0.53	<0.53	<0.53
1,1,2,2-Tetrachloroethane	0.02	0.2	ug/L	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1
Benzene	0.5	5	ug/L	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Bromoform	0.44	4	ug/L	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
cis-1,2-Dichloroethene	7	70	ug/L	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Ethylbenzene	140	700	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38
Styrene	10	100	ug/L	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Toluene	200	1000	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Trichloroethene	0.5	5	ug/L	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49
Vinyl acetate			ug/L	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Xylene, o	1000	10000	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Xylene, m, p	1000	10000	ug/L	<0.77	<0.77	<0.77	<0.77	<0.77	<0.77
Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.00	0.0
April 2002 Total VOCs			ug/L	0.0	NS	0.0	0.0	0.0	0.0

& - Laboratory control spike recovery not within control limits.
Q - The analyte has been detected between the LOD and the LOQ. The results are qualified due to the uncertainty of analyte concentrations within this range.
NS - Not Sampled
* - Duplicate analyses not within control limits.

TABLE 2
POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 48362.001
BEGINNING DATE: 7/08/02
ENDING DATE: 7/10/02

Parameter	Units	POTW-I-02-3 not sampled	POTW-E-02-3 7/8/2002	POTW-S-02-3 7/8/2002	RC-1-02-3 not sampled	RC-2-02-3 not sampled	RC-3-02-3 not sampled
1,1,1-Trichloroethane	ug/L		<0.53	<0.53			
1,1,2,2-Tretrachloroethane	ug/L		<0.68	<0.68			
1,1,2-Trichloroethane	ug/L		<0.47	<0.47			
1,1-Dichloroethane	ug/L		<0.61	<0.61			
1,1-Dichloroethene	ug/L		<0.47	<0.47			
1,2-Dichloroethane	ug/L		<0.54	<0.54			
1,2-Dichloropropane	ug/L		<0.34	<0.34			
2-Butanone	ug/L		<1.2	18.0			
2-Hexanone	ug/L		<0.61	<0.61			
4-Methyl-2-pentanone	ug/L		<0.61	<0.61			
Acetone	ug/L		<3.1	110			
Benzene	ug/L		<0.44	<0.44			
Bromodichloromethane	ug/L		<0.41	<0.41			
Bromoform	ug/L		<0.58	<0.58			
Bromomethane	ug/L		<0.94	<0.94			
Carbon disulfide	ug/L		<0.40	1.30 &			
Carbon tetrachloride	ug/L		<0.90	<0.90			
Chlorobenzene	ug/L		<0.43	<0.43			
Chlorodibromomethane	ug/L		<0.43	<0.43			
Chloroethane	ug/L		<0.63	<0.63			
Chloroform	ug/L		<0.41	<0.41			
Chloromethane	ug/L		<0.44	<0.44			
cis-1,2-Dichloroethene	ug/L		<0.46	<0.46			
cis-1,3-Dichloropropene	ug/L		<0.54	<0.54			
Ethylbenzene	ug/L		<0.50	1.2 Q			
Methylene chloride	ug/L		<0.38	<0.38			
Styrene	ug/L		<0.37	<0.37			
Tetrachloroethene	ug/L		<0.41	<0.41			
Toluene	ug/L		<0.40	0.96 Q			
trans-1,2-Dichloroethene	ug/L		<0.64	<0.64			
trans-1,3-Dichloropropene	ug/L		<0.26	<0.26			
Trichloroethene	ug/L		<0.49	<0.49			
Vinyl acetate	ug/L		<0.70	<0.70			
Vinyl Chloride	ug/L		<0.17	<0.17			
Xylene, o	ug/L		<0.54	<0.54			
Xylene, m, p	ug/L		<0.77	3.3			
1,3-Dichlorobenzene	ug/L		~	~			
1,2-Dichlorobenzene	ug/L		~	~			
1,4-Dichlorobenzene	ug/L		~	~			
Total VOCs	ug/L	NS	0.0	134.8	NS	NS	NS
April 2002 Total VOCs	ug/L	NS	0.0	109.7	NS	NS	NS

& - Laboratory control spike recovery not within control limits.
Q - The analyte has been detected between the LOD and the LOQ. The results are qualified due to the uncertainty of analyte concentrations within this range.
NS - Not Sampled

PROJECT NUMBER: 4R362.004
BEGINNING DATE: 7/08/02
ENDING DATE: 7/10/02

TABLE 3
SUMMARY OF MONITORING WELL RESULTS

(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	W-6A-02-3 7/8/2002	W-19A-02-3 7/9/2002	DUP2-02-3 7/9/2002 (W-19A-02-3)	W-21A-02-3 Not Sampled	W-24A-02-3 7/10/2002	W-28-02-3 Not Sampled	W-29-02-3 7/9/2002	W-30-02-3 7/8/2002	DUP-3-02-3 7/8/2002 (W-30-02-3)	W-38-02-3 7/9/2002	W-41-02-3 7/8/2002	W-42-02-3 7/8/2002	W-43-02-3 7/9/2002	W-47-02-3 7/9/2002	DUP4-02-3 7/9/2002 (W-47-02-3)
Barium	400	2000	ug/L	48				76		160	96	83				1800	130	
Arsenic	5	50	ug/L	33				6.6		1.6 Q	69	25				17	8.3	
Aroclor 1016	0.03	0.3	ug/L														<0.48	<0.48
Aroclor1221	0.03	0.3	ug/L														<0.48	<0.48
Aroclor 1232	0.03	0.3	ug/L														<0.48	<0.48
Aroclor 1242	0.03	0.3	ug/L														1.4	1.2
Aroclor 1248	0.03	0.3	ug/L														<0.48	<0.48
Aroclor 1254	0.03	0.3	ug/L														<0.48	<0.48
Aroclor 1260	0.03	0.3	ug/L														<0.48	<0.48
1,4-Dioxane			ug/L	92				270 D		200 D	17	23				7.1	230	
2,4-Dimethylphenol	-		ug/L	150				<2.1		<2.1	<2.1	<2.1				310 D	640	
2-Methylnaphthalene	-		ug/L	<1.9				<1.9		<1.9	<1.9	<1.9				37	<9.6 Q	
2-Methylphenol	-		ug/L	22				<5.0		<5.0	<5.0	<5.0				<5.0	93	
4-Methylphenol	-		ug/L	71				<4.2		<4.2	22	6.0 Q				<4.2	230	
Acetophenone	-		ug/L	<4.5				<4.5		<4.5	<4.5	<4.5				<4.5	110	
bis(2-ethylhexyl)phthalate	0.6	6	ug/L	4.7 Q				5.3 Q		<4.1	13	8.7 Q				7 Q	<21	
Naphthalene	8	40	ug/L	7.9 Q				<2.6		<2.6	<2.6	<2.6				35	34 Q	
Phenanthrene			ug/L	<2.1 &				<2.1		<2.1	<2.1	<2.1				3.9 Q	<11 &	
Phenol	1200	6000	ug/L	37				<2.5		<2.5	<2.5	<2.5				36	74	
1,2-Dichlorobenzene	60	600	ug/L	<4.1 Q	<0.36	<0.36		<4.1		<4.1	<4.1	<4.1	2.1 Q	<0.36	<3.6	<4.1	<20	
1,3-Dichlorobenzene	125	1250	ug/L	<3.6	<0.64	<0.64		<3.6		<3.6	<3.6	<0.62	<1.3	<0.64	<6.4	<3.6	<18	
1,4-Dichlorobenzene	15	75	ug/L	<4.0	<0.43	<.043		<4.0		<4.0	<4.0	<4.0	<0.86	<0.43	<4.3	<4.0	<20	
1,1,1,2-Tetrachloroethane	7	70	ug/L	<24				<0.49		<0.49	<0.49					<4.9	<9.8	
1,1,1-Trichloroethane	40	200	ug/L	<26				<0.53		<0.53	<0.53					<5.3	<11	
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<34				<0.68		<0.68	<0.68					<6.8	<14	
1,1,2-Trichloroethane	0.5	5	ug/L	<23				<0.47		<0.47	<0.47					<4.7	<9.4	
1,1-Dichloroethane	85	850	ug/L	<30				<0.61		<0.61	<0.61					<6.1	<12	
1,1-Dichloroethene	0.7	7	ug/L	<23				<0.47		<0.47	<0.47					<4.7	<9.4	
1,2,3-Trichloropropane	12	60	ug/L	<36				<0.71		<0.71	<0.71					<7.1	<14	
1,2-Dibromo-3-chloropropane	0.02	0.2	ug/L	<62				<1.2		<1.2	<1.2					<12	<25	
1,2-Dibromoethane	0.005	0.05	ug/L	<24				<0.49		<0.49	<0.49					<4.9	<9.8	
1,2-Dichloroethane	0.5	5	ug/L	<27				<0.54		<0.54	<0.54					<5.4	<11	
1,2-Dichloropropane	0.5	5	ug/L	<17				<0.34		<0.34	<0.34					<3.4	<6.8	
1,4-Dioxane	-		ug/L															
2-Butanone	90	460	ug/L	<62				<1.2		<1.2	<1.2					<12	54 Q	
2-Hexanone			ug/L	<30				<0.61		<0.61	<0.61					<6.1	<12	
4-Methyl-2-pentanone	50	500	ug/L	<30				<0.61		<0.61	<0.61					<6.1	90	
Acetone	200	1000	ug/L	<150				<3.1		<3.1	<3.1					<31	520	
Acetonitrile	-		ug/L	<26				<0.51		<0.51	<0.51					<5.1	<10	
Acrolein	-		ug/L	<290				<5.7 *		<5.7	<5.7					<57	<110	
Acrylonitrile	-		ug/L	<32				<0.65		<0.65	<0.65					<6.5	<13	
Allyl Chloride	-		ug/L	<24				<0.48		<0.48	<0.48					<4.8	<9.6	
Benzene	0.5	5	ug/L	260	<0.44	<0.44		16		2.6	3.0		2800 D	2.7	320	7400 D	170	
Bromodichloromethane	0.06	0.6	ug/L	<20				<0.41		<0.41	<0.41					<4.1	<8.2	
Bromoform	0.44	4	ug/L	<29				<0.58		<0.58	<0.58					<5.8	<12	
Bromomethane	1	10	ug/L	<47				<0.94		<0.94	<0.94					<9.4	<19	
Carbon disulfide	200	1000	ug/L	<20				<0.40		<0.40	<0.40					<4.0	<8.0	
Carbon tetrachloride	0.5	5	ug/L	<45				<0.90		<0.90	<0.90					<9.0	<18	
Chlorobenzene	20	100	ug/L	<22	<0.43	<0.43		<0.43		<0.43	<0.43		<0.86	<0.43	<4.3	<4.3	<8.6	
Chlorodibromomethane	6	60	ug/L	<22				<0.43		<0.43	<0.43					<4.3	<8.6	
Chloroethane	80	400	ug/L	<32				<0.63		<0.63	<0.63					<6.3	<13	
Chloroform	0.6	6	ug/L	<20				<0.41		<0.41	<0.41					<4.1	<8.2	
Chloromethane	0.3	3	ug/L	<22				<0.44		<0.44	<0.44					<4.4	<8.8	
cis-1,2-Dichloroethene	7	70	ug/L	230				1.5		<0.46	<0.46					<4.6	200	
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<27				<0.54		<0.54	<0.54					<5.4	<11	
Dibromomethane	-		ug/L	<30				<0.60		<0.60	<0.60					<6.0	<12	
Dichlorodifluoromethane	200	1000	ug/L	<30				<0.61		<0.61	<0.61					<6.1	<12	
Ethyl methacrylate	-		ug/L	<21				<0.42		<0.42	<0.42					<4.2	<8.4	
Ethylbenzene	140	700	ug/L	21000 D	<0.50	<0.50		1.1 Q		<0.50	<0.50		390	<0.50	1900 D	8700 D	4000 D	
Fluorotrichloromethane	698	3490	ug/L	<23				<0.47		<0.47	<0.47					<4.7	<9.4	
Iodomethane	-		ug/L	<26				<0.53		<0.53	<0.53					<5.3	<11	
Isobutanol	-		ug/L	<720				<14		<14	<14					<140	<290	
Methacrylonitrile	-		ug/L	<26				<0.51		<0.51	<0.51					<5.1	<10	
Methyl methacrylate	-		ug/L	<22				<0.44		<0.44	<0.44					<4.4	<8.8	
Methylene chloride	0.5	5	ug/L	<19				<0.38		<0.38	<0.38					<3.8	<7.6	
Propionitrile	-		ug/L	<62				<1.2		<1.2	<1.2					<12	<25	
Styrene	10	100	ug/L	<18				<0.37		<0.37	<0.37					<3.7	<7.4	
Tetrachloroethene	0.5	5	ug/L	<20				<0.41		<0.41	<0.41					<4.1	<8.2	
Toluene	200	1000	ug/L	51000 D	<0.40	<0.40		<0.40		<0.40	<0.40		3.2	<0.40	42	14	2200 D	
trans-1,2-Dichloroethene	20	100	ug/L	<32				<0.64		<0.64	<0.64					<6.4	<13	
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<13				<0.26		<0.26	<0.26					<2.6	<5.2	
trans-1,4-Dichloro-2-butene	-		ug/L	<12				<0.24		<0.24	<0.24					<2.4	<4.8	
Trichloroethene	0.5	5	ug/L	<24				0.68 Q		<0.49	<0.49					<4.9	<9.8	
Vinyl acetate	-		ug/L	<35				<0.70		<0.70	<0.70					<7.0	<14	
Vinyl Chloride	0.02	0.2	ug/L	<8.5				0.57		0.57	<0.17					<1.7	7.5 Q	
Xylene, o	1000	10000	ug/L	24000 D	<0.54	<0.54		1.5 Q		<0.54	<0.54		<1.1	<0.54	440	1200	12000 D	
Xylene, m, p	1000	10000	ug/L	76000 D	<0.77	<0.77		46		<0.77	6.0		3100 D	530 D	8600 D	13000 D	13000 D	
Total VOCs			ug/L	172874.6	0.0	0.0		342.7		203.2	61.0		6295.3	532.7	11502	30750	53653	
July 2001 Total VOCs			ug/L	177008.7	0.0	0.0		12261.9		18089.2	41.3		3432.6	953.9	11338	31985	190486	

& - Laboratory control spike recovery not within control limits.
Q - The analyte has been detected between the LOD and the LOQ. The results are qualified due to the uncertainty of analyte concentrations within this range.
D - Analyte value from diluted analysis.
* - Duplicate analyses not within control limits.
N - Spiked sample recovery not within control limits.

TABLE 4
NR 140 PAL and ES EXCEEDANCES

PROJECT NUMBER: 48362.004
BEGINNING DATE: 7/08/02
ENDING DATE: 7/10/02

(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	W-06A-02-3	W-21A-02-3 Not Sampled	W-24A-02-3	W-28-02-3 Not Sampled	W-29-02-3	W-30-02-3	W-38-02-3	W-41-02-3	W-42-02-3	W-43-02-3	W-47-02-3
Arsenic	5	50	ug/L	PAL	~	PAL	~	~	ES	~	~	~	PAL	PAL
Arochlor 1242	0.03	0.3	ug/L	~	~	~	~	~	~	~	~	~	~	ES
bis (2-ethylhexyl) pthalate	0.6	6	ug/L	PAL	~	PAL	~	~	ES	~	~	~	ES	~
Naphthalene	8	40	ug/L	~	~	~	~	~	~	~	~	~	PAL	PAL
1,2-Dichloroethane	0.5	5	ug/L	~	~	~	~	~	~	~	~	~	~	~
1,2-Dichloropropane	0.5	5	ug/L	~	~	~	~	~	~	~	~	~	~	~
4-Methyl-2-pentanone	50	500	ug/L	~	~	~	~	~	~	~	~	~	~	PAL
Acetone	200	1000	ug/L	~	~	~	~	~	~	~	~	~	~	PAL
Benzene	0.5	5	ug/L	ES	~	ES	~	PAL	PAL	ES	PAL	ES	ES	ES
cis-1,2-Dichloroethene	7	70	ug/L	ES	~	~	~	~	~	~	~	~	~	ES
Ethylbenzene	140	700	ug/L	ES	~	~	~	~	~	PAL	~	ES	ES	ES
Toluene	200	1000	ug/L	ES	~	~	~	~	~	~	~	~	~	ES
Trichloroethene	0.5	5	ug/L	~	~	PAL	~	~	~	~	~	~	~	~
Vinyl Chloride	0.02	0.2	ug/L	~	~	ES	~	ES	~	~	~	~	~	ES
Xylenes (total)	1000	10000	ug/L	ES	~	~	~	~	~	PAL	~	PAL	ES	ES

TABLE 1
MUNICIPAL WELL RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 8-Oct-02
ENDING DATE: 9-Oct-02

(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	MW-1-02-4 10/9/2002	MW-2-02-4 not sampled	MW-3-02-4 10/9/2002	MW-4-02-4 10/9/2002	DUP1-02-4 10/9/2002 (MW-4-02-4)	Trip Blank 10/9/2002
1,1,1-Trichloroethane	40	200	µg/L	< 0.65	NS	< 0.65	< 0.65	< 0.65	< 0.65
1,1,2,2-Tretrachloroethane	0.02	0.2	µg/L	<0.77	NS	<0.77	<0.77	<0.77	<0.77
1,1,2-Trichloroethane	0.5	5	µg/L	<0.50	NS	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	85	850	µg/L	<0.87	NS	<0.87	<0.87	<0.87	<0.87
1,1-Dichloroethene	0.7	7	µg/L	<0.56	NS	<0.56	<0.56	<0.56	<0.56
1,2-Dichloroethane	0.5	5	µg/L	<0.55	NS	<0.55	<0.55	<0.55	<0.55
1,2-Dichloropropane	0.5	5	µg/L	<0.39	NS	<0.39	<0.39	<0.39	<0.39
2-Butanone	90	460	µg/L	<4.0	NS	<4.0	<4.0	<4.0	<4.0
2-Hexanone			µg/L	<1.2	NS	<1.2	<1.2	<1.2	<1.2
4-Methyl-2-pentanone	50	500	µg/L	<0.91	NS	<0.91	<0.91	<0.91	<0.91
Acetone	200	1000	µg/L	<3.3	NS	<3.3	<3.3	<3.3	<3.3
Benzene	0.5	5	µg/L	<0.25	NS	<0.25	<0.25	<0.25	<0.25
Bromodichloromethane	0.06	0.6	µg/L	<0.23	NS	<0.23	<0.23	<0.23	<0.23
Bromoform	0.44	4.4	µg/L	<0.45	NS	<0.45	<0.45	<0.45	<0.45
Bromomethane	1	10	µg/L	<0.87	NS	<0.87	<0.87	<0.87	<0.87
Carbon disulfide	200	1000	µg/L	<0.50	NS	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	0.5	5	µg/L	<0.47	NS	<0.47	<0.47	<0.47	<0.47
Chlorobenzene	20	100	µg/L	<0.58	NS	<0.58	<0.58	<0.58	<0.58
Chlorodibromomethane	6	60	µg/L	<0.84	NS	<0.84	<0.84	<0.84	<0.84
Chloroethane	80	400	µg/L	<0.84	NS	<0.84	<0.84	<0.84	<0.84
Chloroform	0.6	6	µg/L	<0.45	NS	<0.45	<0.45	<0.45	<0.45
Chloromethane	0.3	3	µg/L	<0.27	NS	<0.27	<0.27	<0.27	<0.27
cis-1,2-Dichloroethene	7	70	µg/L	<0.81	NS	<0.81	<0.81	<0.81	<0.81
cis-1,3-Dichloropropene	0.02	0.2	µg/L	<0.57	NS	<0.57	<0.57	<0.57	<0.57
Ethyl methacrylate			µg/L	<0.72	NS	<0.72	<0.72	<0.72	<0.72
Ethylbenzene	140	700	µg/L	<0.53	NS	<0.53	<0.53	<0.53	<0.53
Methyl methacrylate			µg/L	<1.0	NS	<1.0	<1.0	<1.0	<1.0
Methylene chloride	0.5	5	µg/L	<0.47	NS	<0.47	<0.47	<0.47	<0.47
Styrene	10	100	µg/L	<0.62	NS	<0.62	<0.62	<0.62	<0.62
Tetrachloroethene	0.5	5	µg/L	<0.63	NS	<0.63	<0.63	<0.63	<0.63
Toluene	200	1000	µg/L	<0.84	NS	<0.84	<0.84	<0.84	<0.84
trans-1,2-Dichloroethene	20	100	µg/L	<0.80	NS	<0.80	<0.80	<0.80	<0.80
trans-1,3-Dichloropropene	0.02	0.2	µg/L	<0.64	NS	<0.64	<0.64	<0.64	<0.64
Trichloroethene	0.5	5	µg/L	<0.39	NS	<0.39	<0.39	<0.39	<0.39
Vinyl Acetate			µg/L	<2.7 &	NS	<2.7 &	<2.7 &	<2.7 &	<2.7
Vinyl Chloride	0.02	0.2	µg/L	<0.11	NS	<0.11	<0.11	<0.11	<0.11
Xylene, -o	1000	10000	µg/L	<0.73	NS	<0.73	<0.73	<0.73	<0.73
Xylene, -m, -p			µg/L	<1.1	NS	<1.1	<1.1	<1.1	<1.1
Total VOCs			µg/L	0.0	NS	0.0	0.0	0.0	0.0
July 2002 Total VOCs			µg/L	0.0	0.0	0.0	0.0		

NS - Not Sampled
MW-2 is sampled during the annual sampling event in July
& - Indicates Laboratory Control Spike not within control limits
µg/L - micrograms per liter

TABLE 2
POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 10/8/02
ENDING DATE: 10/9/02

Parameter	Units	POTW-I-02-4 10/8/2002	POTW-E-02-4 10/8/2002	POTW-S-02-4 not sampled	RC-1-02-4 not sampled	RC-2-02-4 not sampled	RC-3-02-4 not sampled
1,1,1-Trichloroethane	µg/L	<2.6	< 0.65	NS			
1,1,2,2-Tretrachloroethane	µg/L	<3.1	<0.77	NS			
1,1,2-Trichloroethane	µg/L	<2.0	<0.50	NS			
1,1-Dichloroethane	µg/L	< 3.5	<0.87	NS			
1,1-Dichloroethene	µg/L	<2.2	<0.56	NS			
1,2-Dichloroethane	µg/L	<2.2	<0.55	NS			
1,2-Dichloropropane	µg/L	<1.6	<0.39	NS			
2-Butanone	µg/L	<16	<4.0	NS			
2-Hexanone	µg/L	<4.8	<1.2	NS			
4-Methyl-2-pentanone	µg/L	<3.6	<0.91	NS			
Acetone	µg/L	390	<3.3	NS			
Benzene	µg/L	<1.0	<0.25	NS	NS	NS	NS
Bromodichloromethane	µg/L	<0.92	<0.23	NS			
Bromoform	µg/L	<1.8	<0.45	NS			
Bromomethane	µg/L	<3.5	<0.87	NS			
Carbon disulfide	µg/L	<2.0	<0.50	NS			
Carbon tetrachloride	µg/L	<1.9	<0.47	NS			
Chlorobenzene	µg/L	<2.3	<0.58	NS	NS	NS	NS
Chlorodibromomethane	µg/L	<3.4	<0.84	NS			
Chloroethane	µg/L	<3.4	<0.84	NS			
Chloroform	µg/L	<1.8	<0.45	NS			
Chloromethane	µg/L	<1.1	<0.27	NS			
cis-1,2-Dichloroethene	µg/L	<3.2	<0.81	NS			
cis-1,3-Dichloropropene	µg/L	<2.3	<0.57	NS			
Ethyl methacrylate	µg/L	<2.9	<0.72	NS	NS	NS	NS
Ethylbenzene	µg/L	<2.1	<0.53	NS	NS	NS	NS
Methyl methacrylate	µg/L	<4.0	<1.0	NS	NS	NS	NS
Methylene chloride	µg/L	<1.9	<0.47	NS			
Styrene	µg/L	<2.5	<0.62	NS			
Tetrachloroethene	µg/L	<2.5	<0.63	NS			
Toluene	µg/L	<3.4	<0.84	NS	NS	NS	NS
trans-1,2-Dichloroethene	µg/L	<3.2	<0.80	NS			
trans-1,3-Dichloropropene	µg/L	<2.6	<0.64	NS			
Trichloroethene	µg/L	<1.6	<0.39	NS			
Vinyl acetate	µg/L	<11 &	<2.7 &	NS			
Vinyl chloride	µg/L	<0.44	<0.11	NS			
Xylene, -o	µg/L	<2.9	<0.73	NS	NS	NS	NS
Xylene, -m, -p	µg/L	<4.4	<1.1	NS	NS	NS	NS
1,3-Dichlorobenzene	µg/L	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	µg/L	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	µg/L	NS	NS	NS	NS	NS	NS
Total VOCs	µg/L	390	0.00	NS	NS	NS	NS
July 2002 Total VOCs	µg/L	NS	0.00	134.8	NS	NS	NS

POTW-S was not able to be sampled due to construction at the POTW
RC-1, RC-2 and RC-3 were not sampled due to no water present
& - Indicates Laboratory Control Spike not within control limits
NS - Not Sampled
µg/L - micrograms per liter

TABLE 3

SUMMARY OF MONITORING WELL RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 10/8/02
ENDING DATE: 10/9/02

(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	W-01A-02-4 10/9/2002	W-03A-02-4 10/9/2002	DUP3-02-4 10/9/2002 (W-03A-02-2)	W-03B-02-4 10/9/2002	W-04A-02-4 10/9/2002	W-07-02-4 10/9/2002	W-08R-04-4 not sampled	W-20-02-4 10/9/2002
1,1,1-Trichloroethane	40	200	ug/L	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	~	< 0.65
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.77	<0.77	<0.77	<0.77	<0.77	<0.77	~	<0.77
1,1,2-Trichloroethane	0.5	5	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	~	<0.50
1,1-Dichloroethane	85	850	ug/L	<0.87	<0.87	<0.87	<0.87	<0.87	<0.87	~	<0.87
1,1-Dichloroethene	0.7	7	ug/L	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	~	<0.56
1,2-Dichloroethane	0.5	5	ug/L	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	~	<0.55
1,2-Dichloropropane	0.5	5	ug/L	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	~	<0.39
2-Butanone	90	460	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	~	<4.0
2-Hexanone			ug/L	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	~	<1.2
4-Methyl-2-pentanone	50	500	ug/L	<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	~	<0.91
Acetone	200	1000	ug/L	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	~	<3.3
Benzene	0.5	5	ug/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	~	<0.25
Bromodichloromethane	0.06	0.6	ug/L	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	~	<0.23
Bromoform	0.44	4.4	ug/L	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	~	<0.45
Bromomethane	1	10	ug/L	<0.87	<0.87	<0.87	<0.87	<0.87	<0.87	~	<0.87
Carbon disulfide	200	1000	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	~	<0.50
Carbon tetrachloride	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	~	<0.47
Chlorobenzene	20	100	ug/L	<0.58	<0.58	<0.58	<0.58	<0.58	<0.58	~	<0.58
Chlorodibromomethane	6	60	ug/L	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	~	<0.84
Chloroethane	80	400	ug/L	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	~	<0.84
Chloroform	0.6	6	ug/L	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	~	<0.45
Chloromethane	0.3	3	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	~	<0.27
cis-1,2-Dichloroethene	7	70	ug/L	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	~	<0.81
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	~	<0.57
Ethyl methacrylate				<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	~	<0.72
Ethylbenzene	140	700	ug/L	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	~	<0.53
Methyl methacrylate				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	~	<1.0
Methylene chloride	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	~	<0.47
Styrene	10	100	ug/L	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	~	<0.62
Tetrachloroethene	0.5	5	ug/L	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	~	<0.63
Toluene	200	1000	ug/L	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	~	<0.84
trans-1,2-Dichloroethene	20	100	ug/L	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	~	<0.80
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	~	<0.64
Trichloroethene	0.5	5	ug/L	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	~	<0.39
Vinyl Acetate			ug/L	<2.7 &	<2.7 &	<2.7 &	<2.7 &	<2.7	<2.7 &	~	<2.7
Vinyl Chloride	0.02	0.2	ug/L	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	~	<0.11
Xylene, -o	1000	10000	ug/L	<0.73	<0.73	<0.73	<0.73	<0.73	<0.73	~	<0.73
Xylene, -m, -p			ug/L	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	~	<1.1
Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.0	0.0	~	0.0
April 2002 Total VOCs			ug/L	0.0	0.0		0.0	0.0	0.0	0.0	0.0

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range
& - Indicates Laboratory Control Spike not within control limits

TABLE 3 CONTINUED
SUMMARY OF MONITORING WELL RESULTS

PROJECT NUMBER: 48362-004-133
BEGINNING DATE: 10/8/02
ENDING DATE: 10/9/02

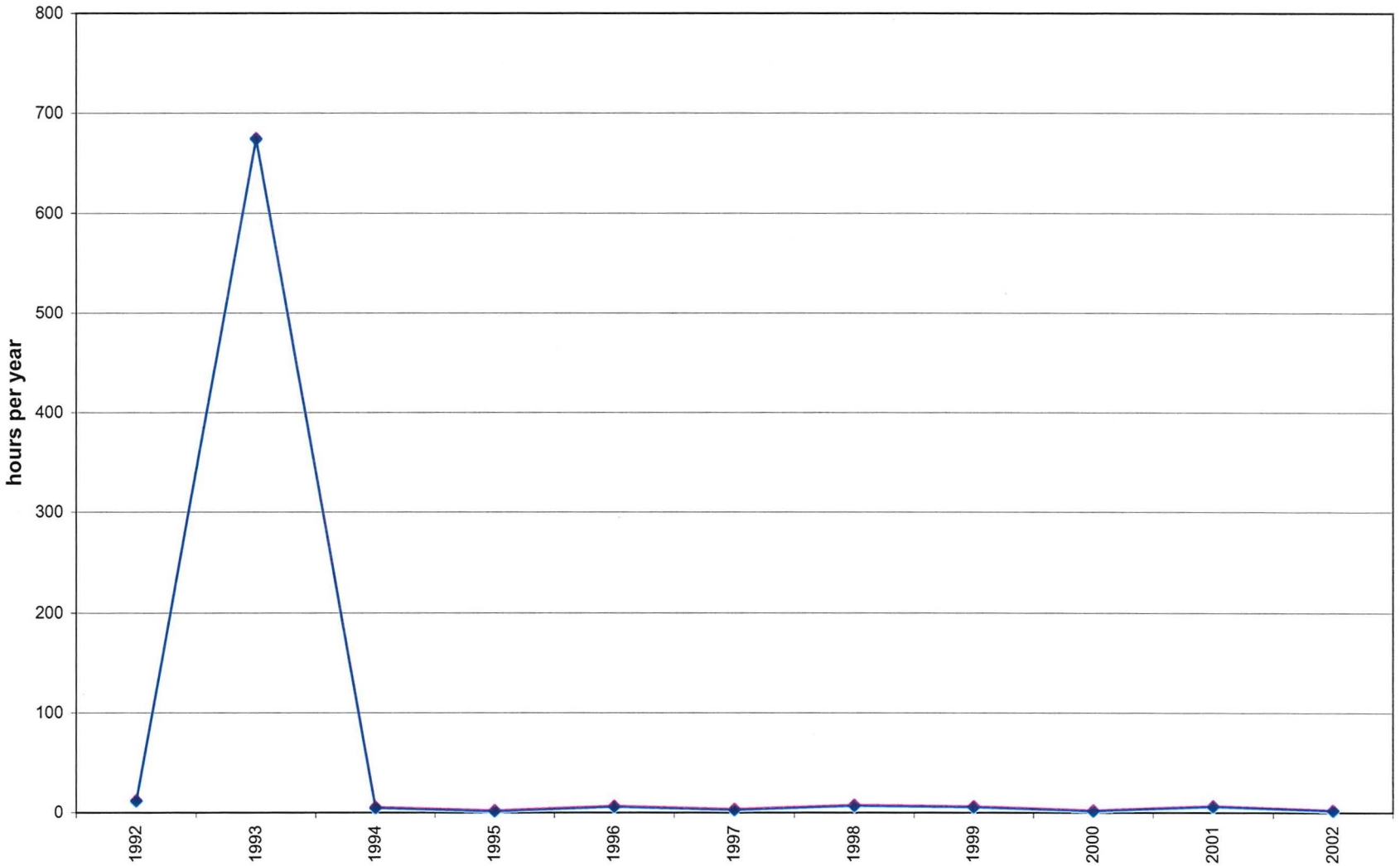
(1) PAL = NR 140 Preventative Action Limit
(2) ES = NR 140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	W-22-02-4 10/9/2002	W-23-02-4 10/9/2002	DUP-2-02-4 10/9/2002 (W-23-02-2)	W-27-02-4 10/9/2002	PW-08-02-4 10/9/2002
1,1,1-Trichloroethane	40	200	ug/L	< 0.65	< 0.65	< 0.65	1.8 Q	< 0.65
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.77	<0.77	<0.77	<0.77	<0.77
1,1,2-Trichloroethane	0.5	5	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	85	850	ug/L	<0.87	<0.87	<0.87	<0.87	<0.87
1,1-Dichloroethene	0.7	7	ug/L	<0.56	<0.56	<0.56	<0.56	<0.56
1,2-Dichloroethane	0.5	5	ug/L	<0.55	<0.55	<0.55	<0.55	<0.55
1,2-Dichloropropane	0.5	5	ug/L	<0.39	<0.39	<0.39	<0.39	<0.39
2-Butanone	90	460	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0
2-Hexanone			ug/L	<1.2	<1.2	<1.2	<1.2	<1.2
4-Methyl-2-pentanone	50	500	ug/L	<0.91	<0.91	<0.91	<0.91	<0.91
Acetone	200	1000	ug/L	<3.3	<3.3	<3.3	<3.3	<3.3
Benzene	0.5	5	ug/L	0.44 Q	17	17	<0.25	<0.25
Bromodichloromethane	0.06	0.6	ug/L	<0.23	<0.23	<0.23	<0.23	<0.23
Bromoform	0.44	4.4	ug/L	<0.45	<0.45	<0.45	<0.45	<0.45
Bromomethane	1	10	ug/L	<0.87	<0.87	<0.87	<0.87	<0.87
Carbon disulfide	200	1000	ug/L	<0.50	<0.50	<0.50	<0.50	0.54 Q
Carbon tetrachloride	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47
Chlorobenzene	20	100	ug/L	<0.58	<0.58	<0.58	<0.58	<0.58
Chlorodibromomethane	6	60	ug/L	<0.84	<0.84	<0.84	<0.84	<0.84
Chloroethane	80	400	ug/L	<0.84	<0.84	<0.84	<0.84	<0.84
Chloroform	0.6	6	ug/L	<0.45	<0.45	<0.45	<0.45	<0.45
Chloromethane	0.3	3	ug/L	<0.27	<0.27	<0.27	<0.27	0.29 Q
cis-1,2-Dichloroethene	7	70	ug/L	<0.81	2.2 Q	2.1 Q	22	<0.81
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<0.57	<0.57	<0.57	<0.57	<0.57
Ethyl methacrylate				<0.72	<0.72	<0.72	<0.72	<0.72
Ethylbenzene	140	700	ug/L	<0.53	<0.53	<0.53	<0.53	<0.53
Methyl methacrylate				<1.0	<1.0	<1.0	<1.0	<1.0
Methylene chloride	0.5	5	ug/L	<0.47	<0.47	<0.47	<0.47	<0.47
Styrene	10	100	ug/L	<0.62	<0.62	<0.62	<0.62	<0.62
Tetrachloroethene	0.5	5	ug/L	<0.63	<0.63	<0.63	<0.63	<0.63
Toluene	200	1000	ug/L	<0.84	<0.84	<0.84	<0.84	<0.84
trans-1,2-Dichloroethene	20	100	ug/L	<0.80	<0.80	<0.80	0.95 Q	<0.80
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<0.64	<0.64	<0.64	<0.64	<0.64
Trichloroethene	0.5	5	ug/L	<0.39	<0.39	<0.39	200	<0.39
Vinyl Acetate			ug/L	<2.7 &	<2.7 &	<2.7 &	<2.7 &	<2.7 &
Vinyl Chloride	0.02	0.2	ug/L	<0.11	<0.11	<0.11	<0.11	<0.11
Xylene, o	1000	10000	ug/L	<0.73	<0.73	<0.73	<0.73	<0.73
Xylene, m, p			ug/L	<1.1	<1.1	<1.1	<1.1	<1.1
Total VOCs			ug/L	0.44	19.20	19.10	224.75	0.83
April 2002 Total VOCs			ug/L	0.00	19.94		154.50	0.0

Q - The analyte has been detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range
& - Indicates Laboratory Control Spike not within control limits

Appendix B
Pump Run Time Trends, 1992 to 2002

W-31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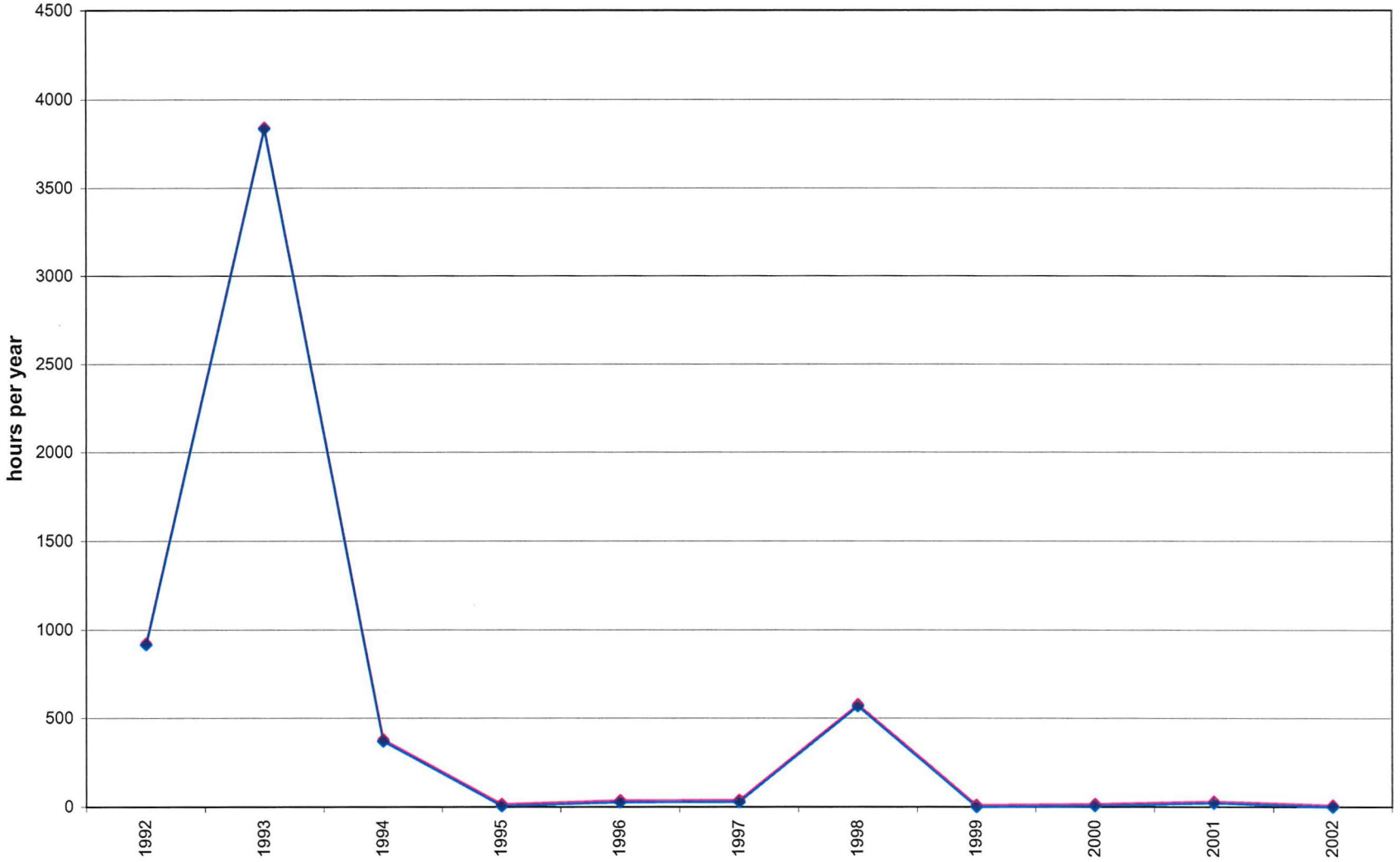
700
600
500
400
300
200
100
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

B-2

W-32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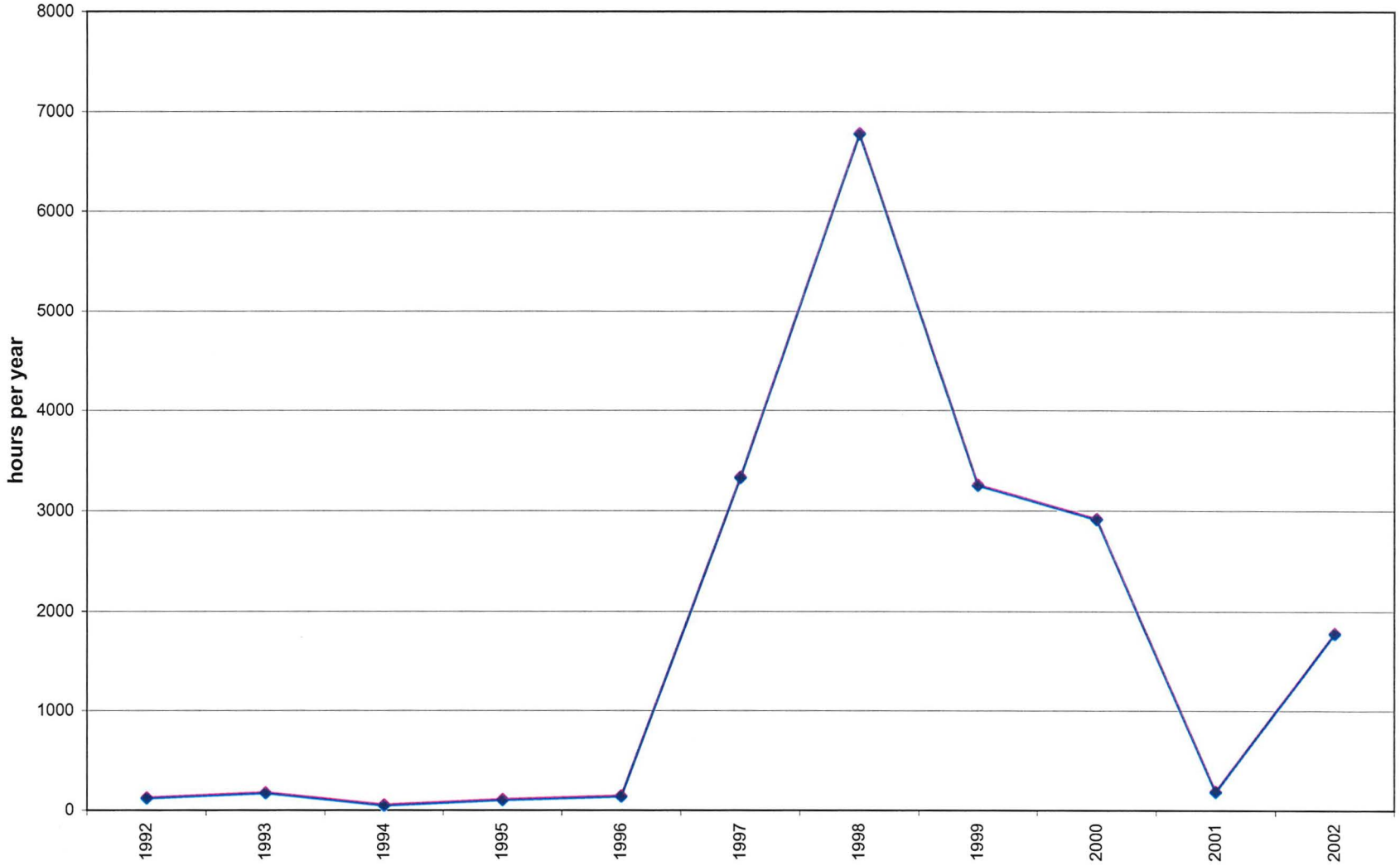
4000
3500
3000
2500
2000
1500
1000
500
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

B-3

W-33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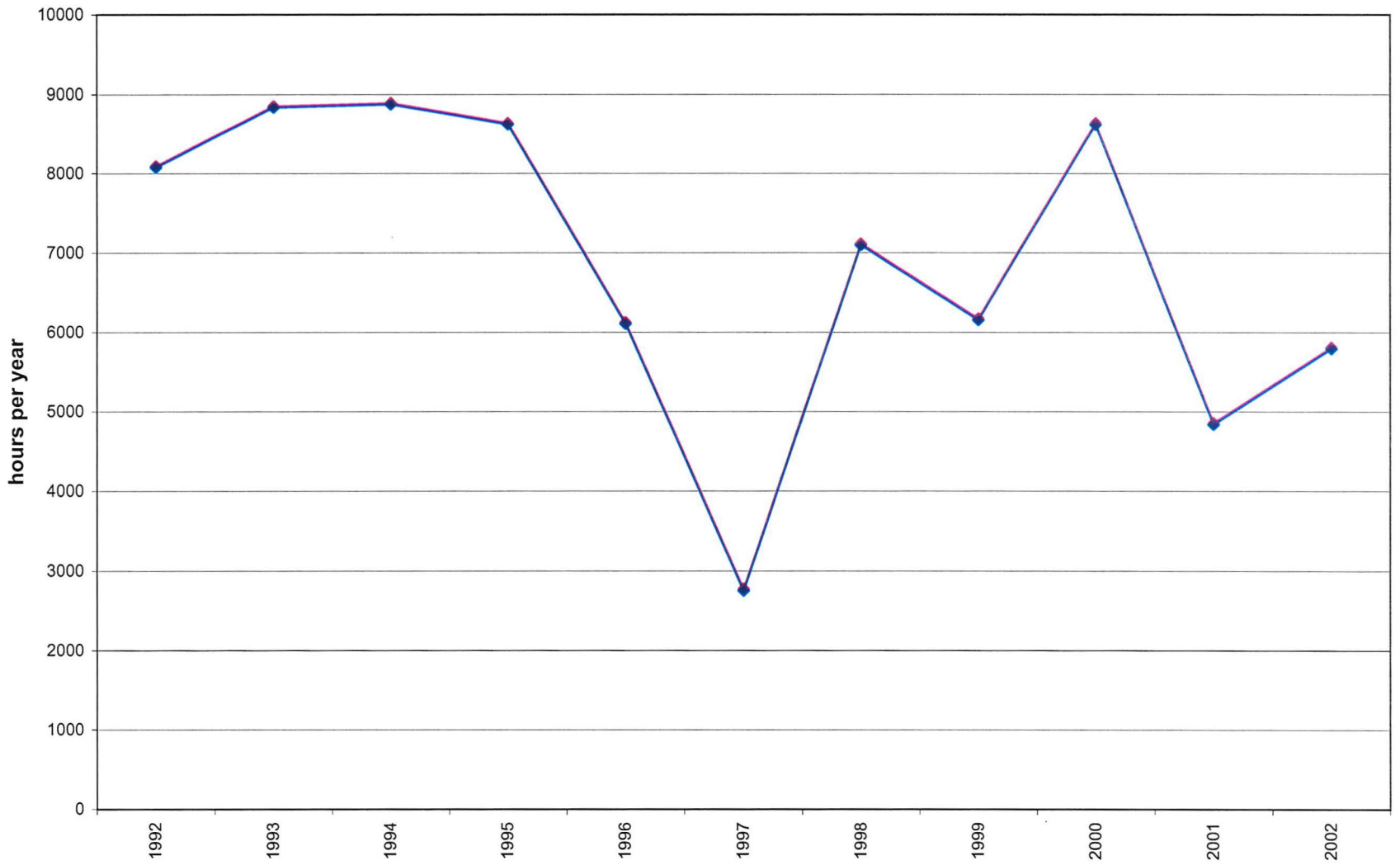
7000
6000
5000
4000
3000
2000
1000
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

W-34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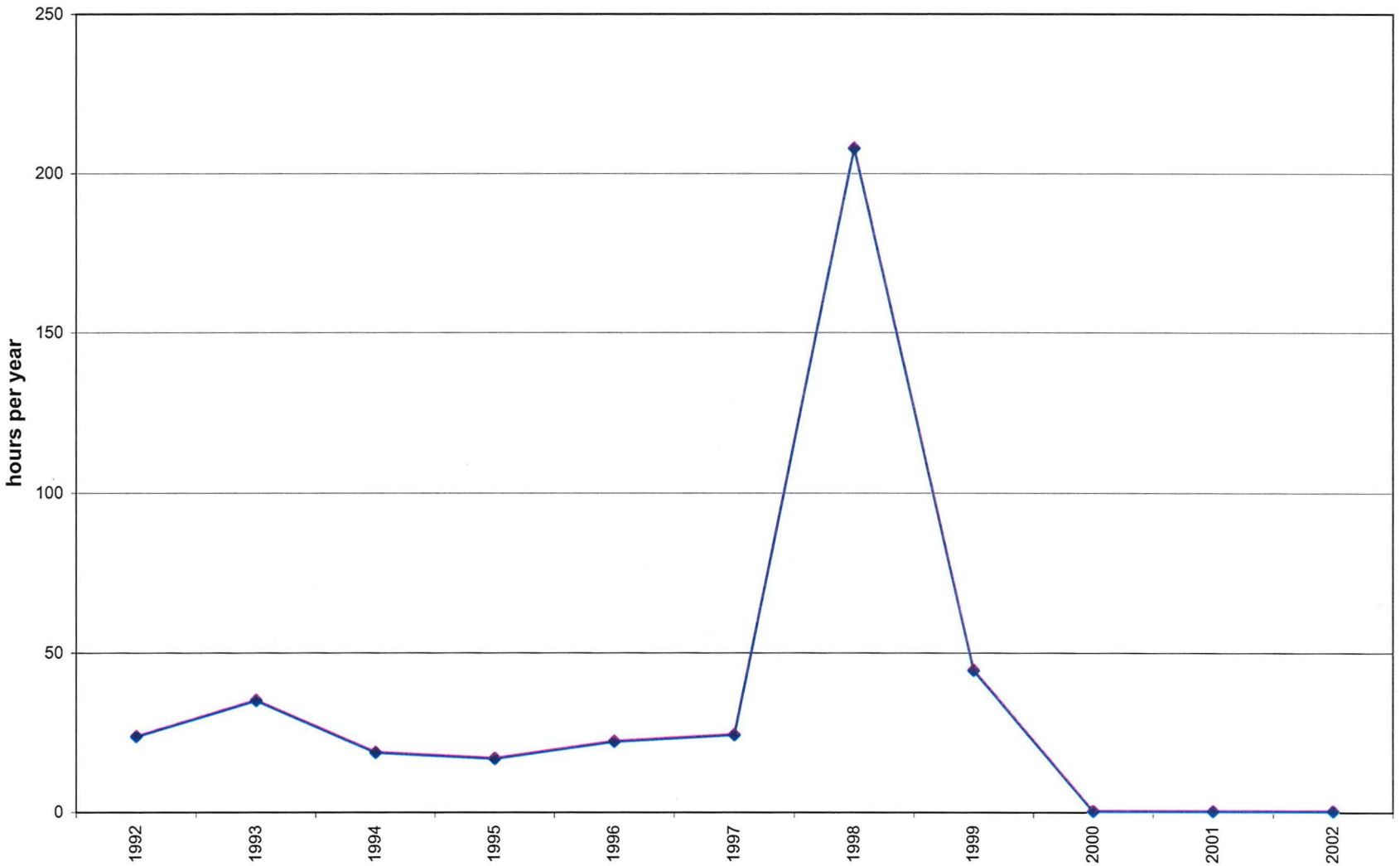
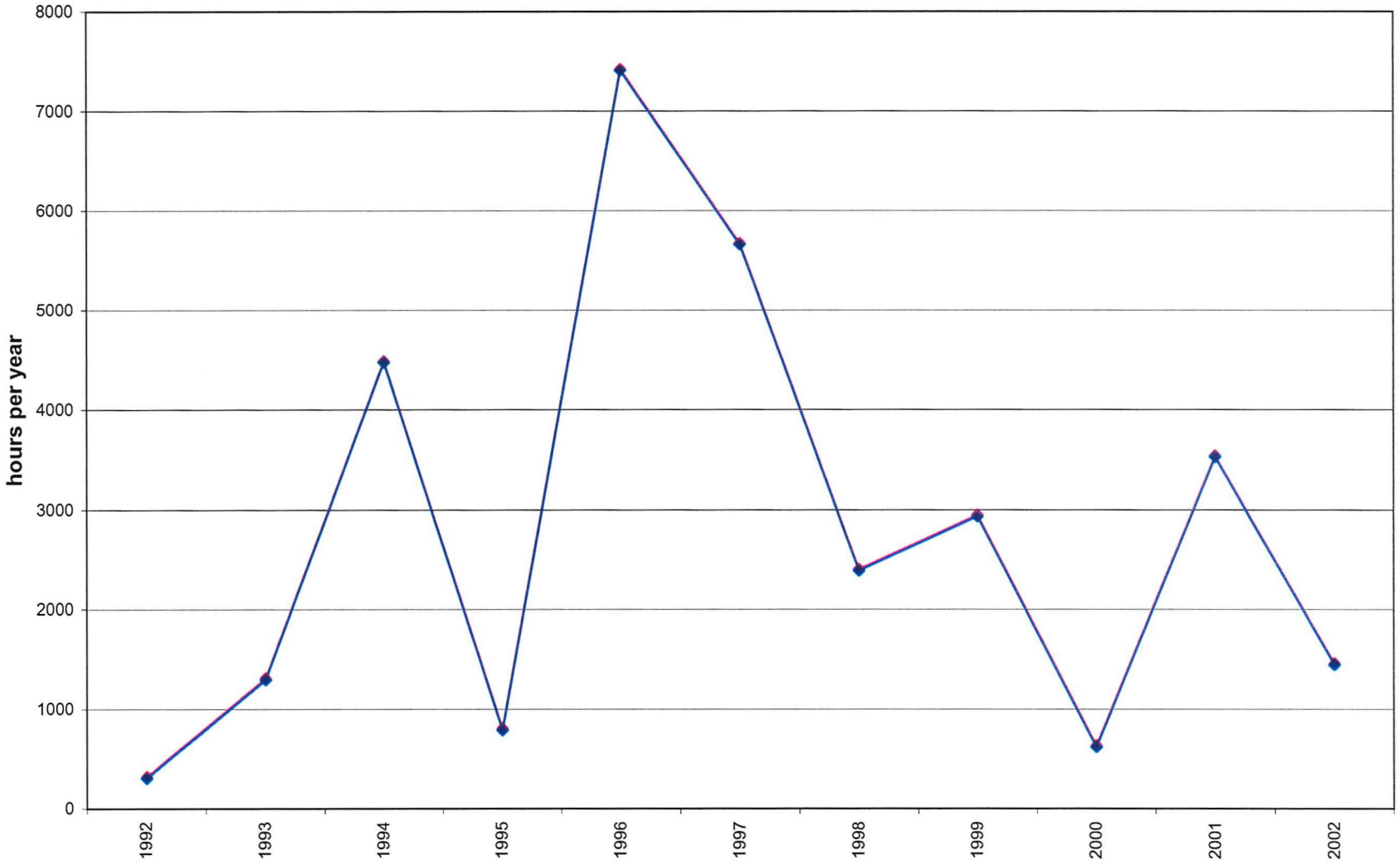
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

W-35


250
200
150
100
50
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

RC-1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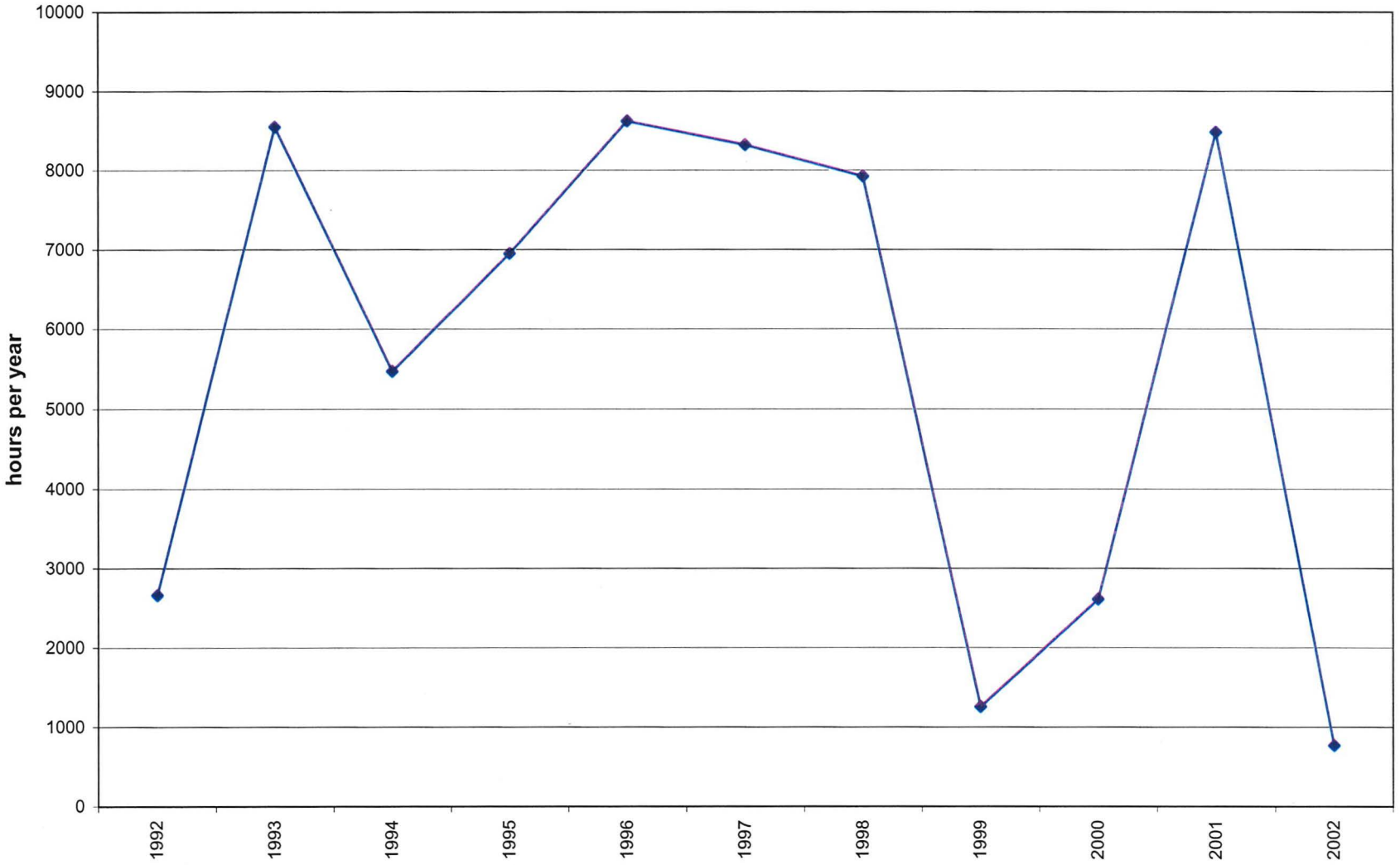
7000
6000
5000
4000
3000
2000
1000
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

RC-2


hours per year
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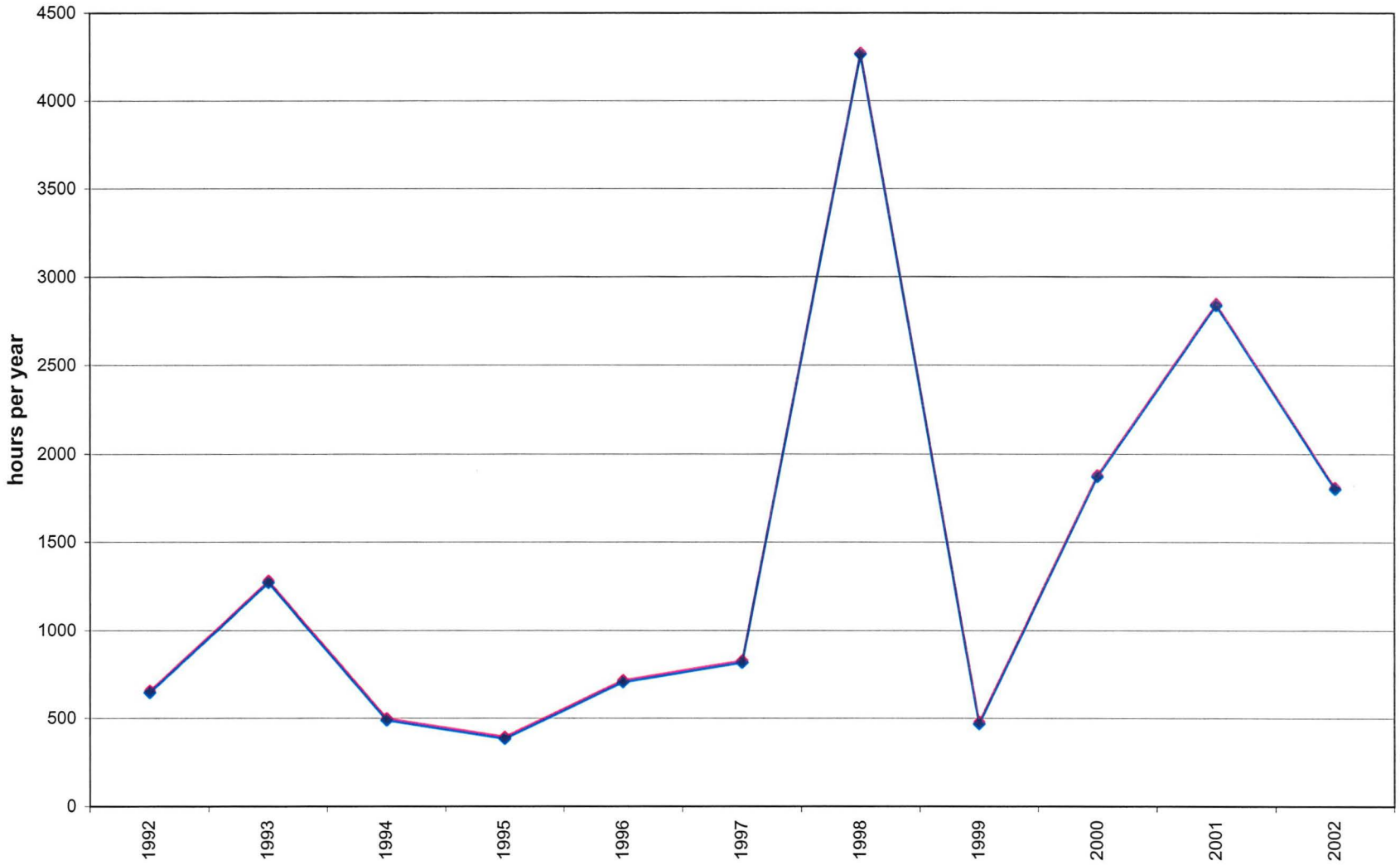
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

RC-3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3500
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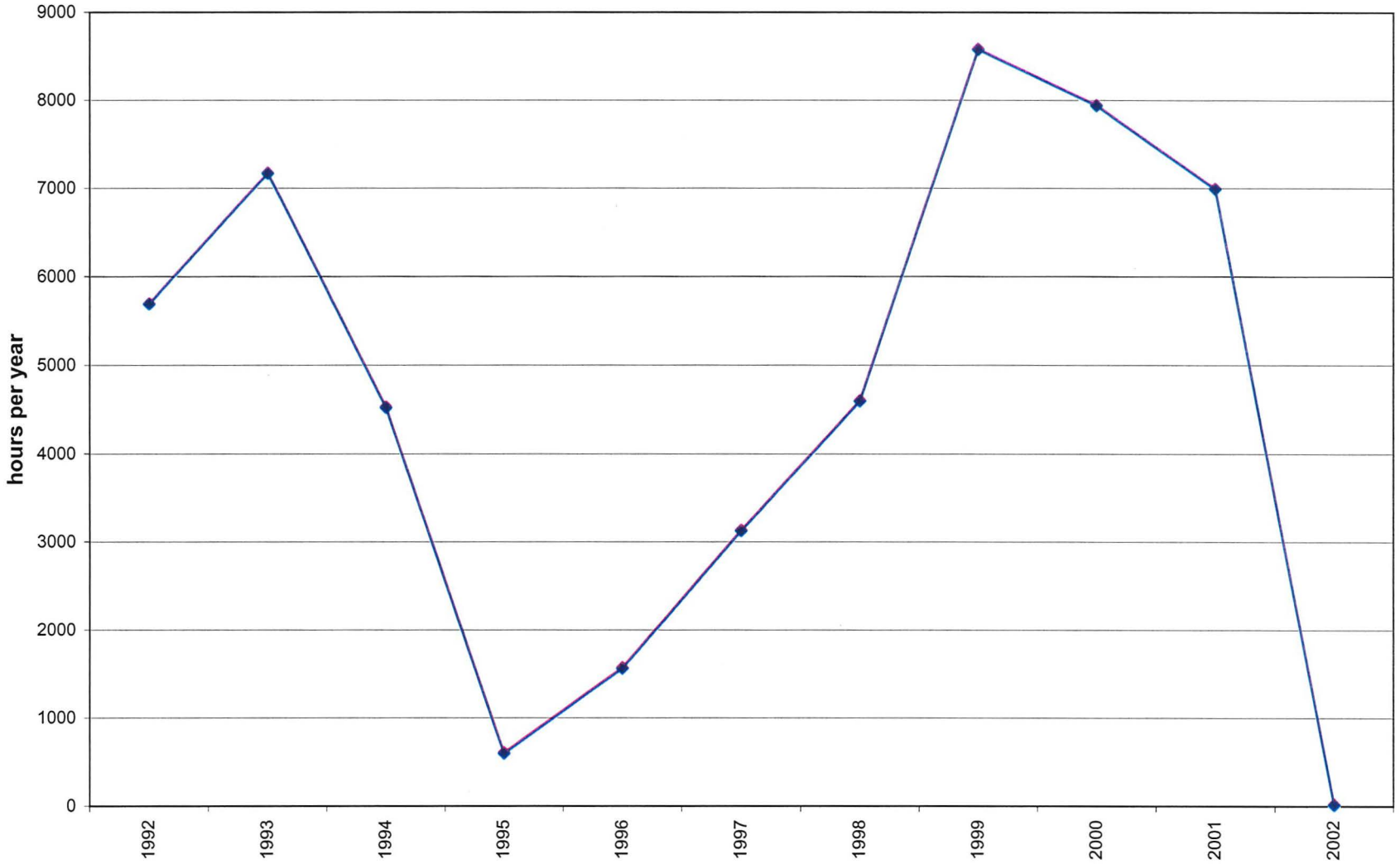
500
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

W-21A


9000
8000
7000
6000
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4000
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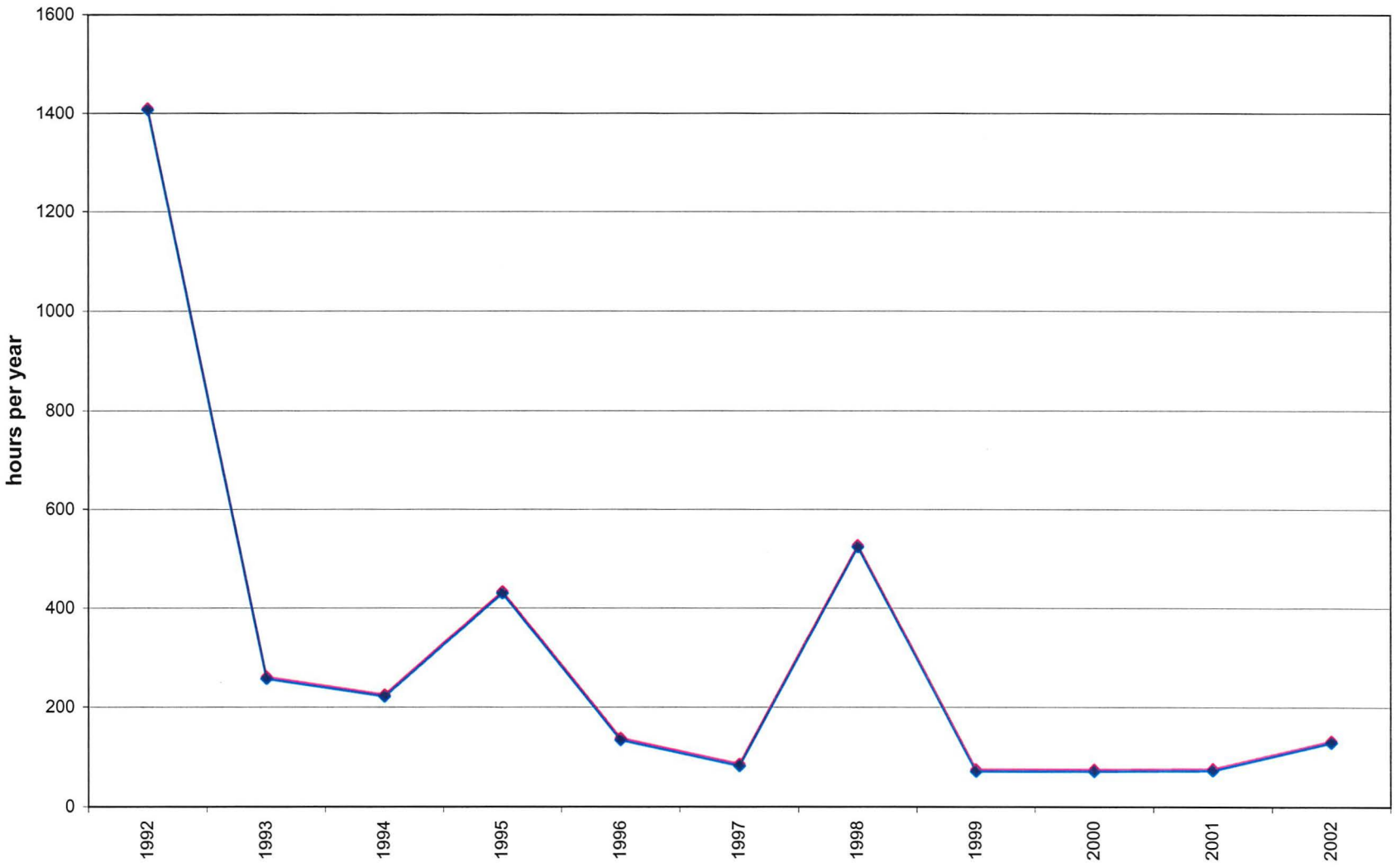
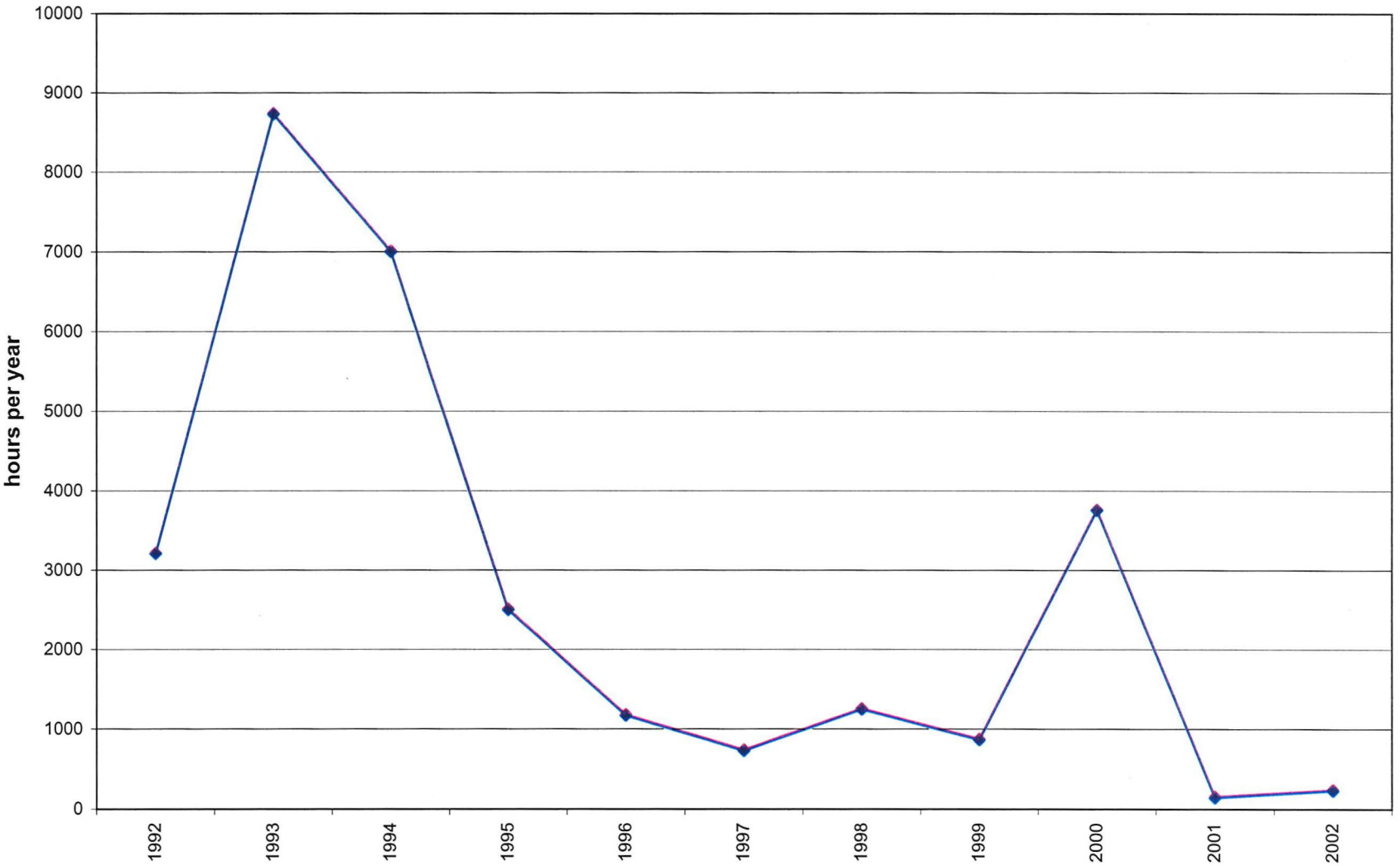
2000
1000
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

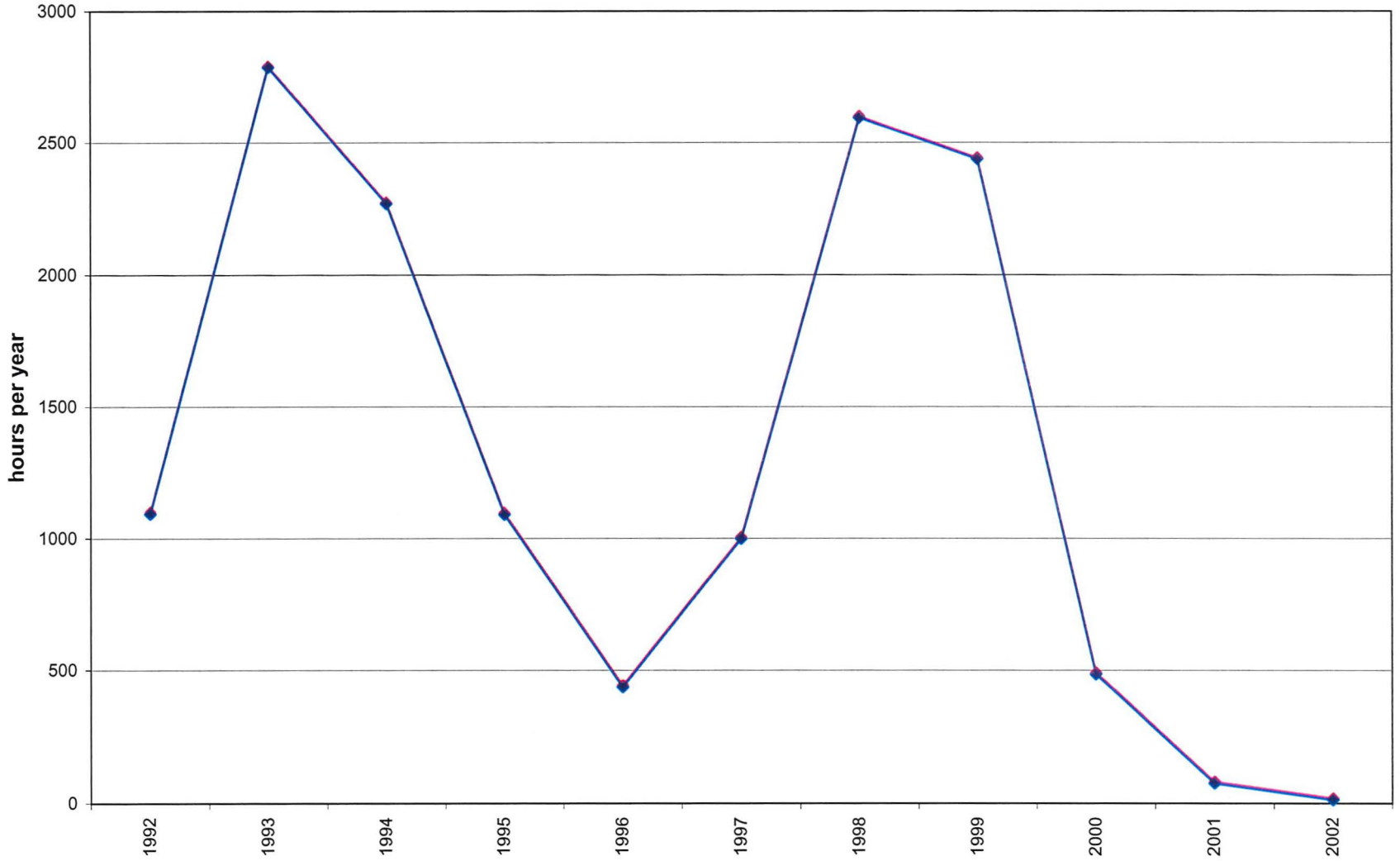
W-24A


1600
1400
1200
1000
800
600
400
200
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

W-28


10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

W-29


3000
2500
2000
1500
1000
500
0
hours per year
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

Appendix C
Hydrogeological Calculations

Hydrogeological Calculations
Summer 2001

Horizontal Gradient

Glacial Drift Unit

$$i = \frac{dH}{dL} = \frac{765\text{-}740}{800} = 0.031 \quad \text{(eastward)}$$

Vertical Gradient

Between glacial drift unit and shallow dolomite unit

W-18A/W-22

Center D = (772.53-66) + 0.5(40) = 726.53

$$Iv = \frac{WLS - WLD}{WLS - Center\ D}$$

WLS =	766.8	W-18A	0.91	(downward)
WLD =	730.14	W-22		

W-43/W-38

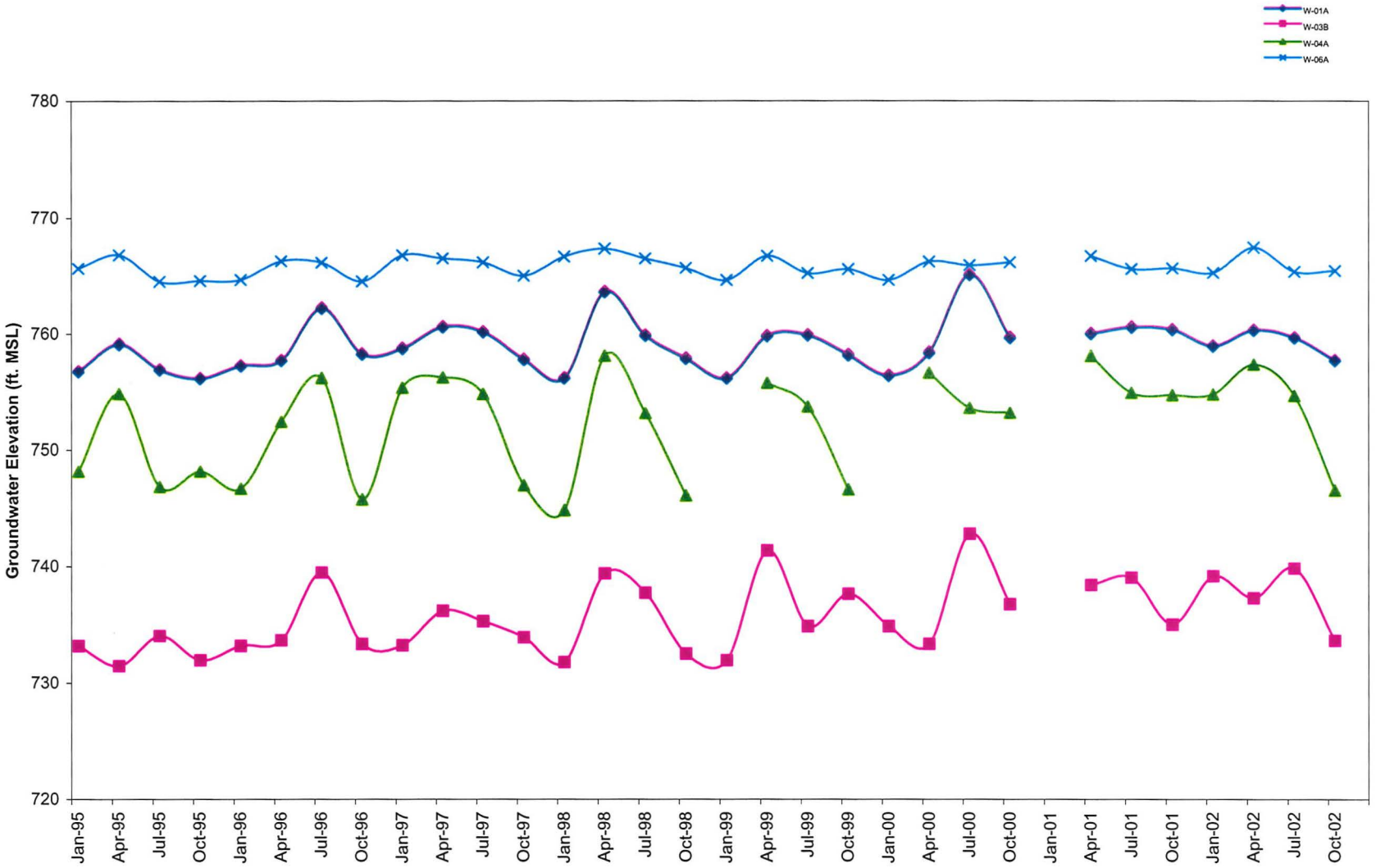
Center D = (770.98-49.00) + 0.5(16.8) = 730.38

$$Iv = \frac{WLS - WLD}{WLS - Center\ D}$$

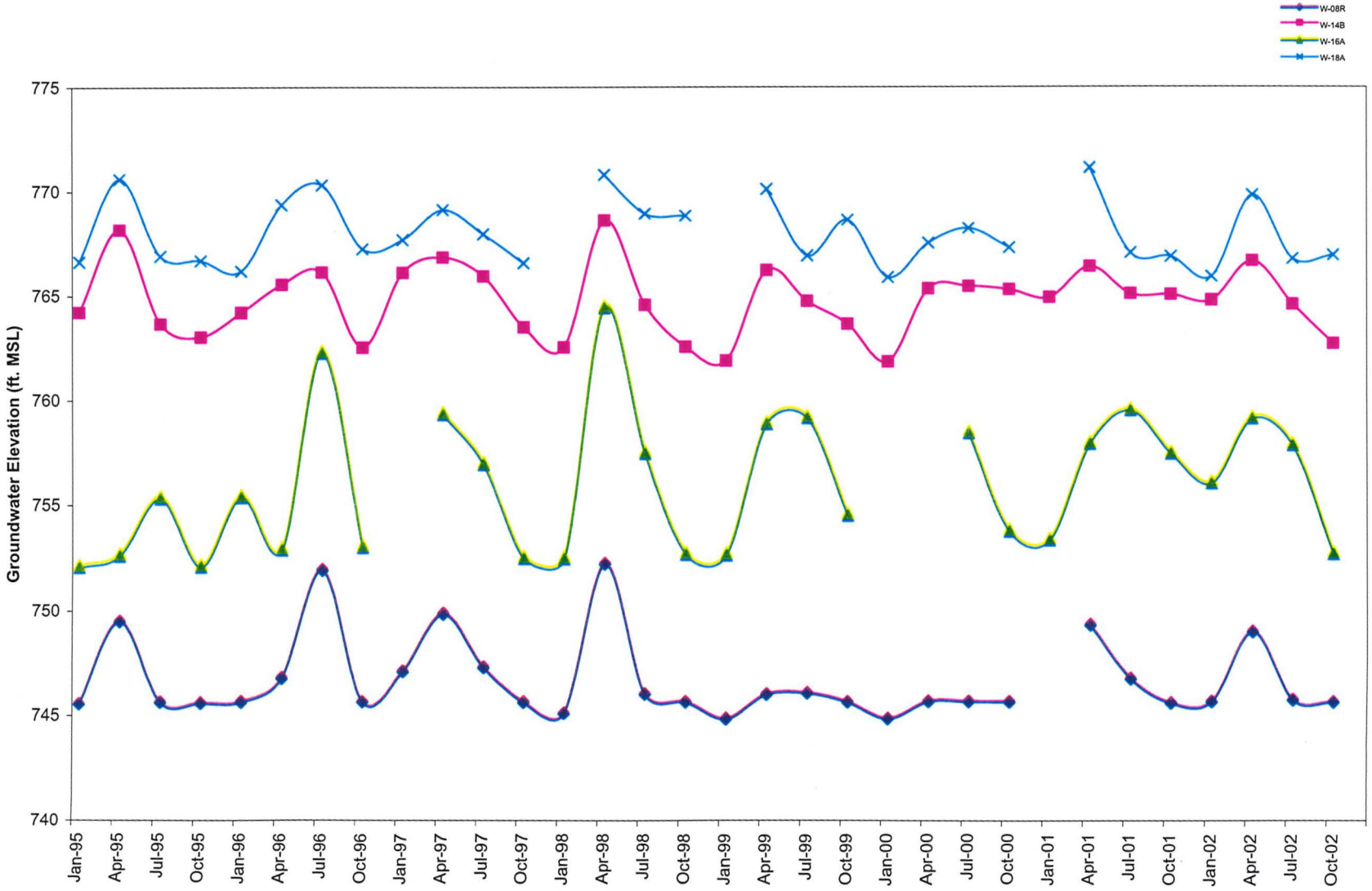
WLS =	760.14	W-43	0.25	(downward)
WLD =	752.63	W-38		

Appendix D
Groundwater Elevation Trends, 1992 to 2002

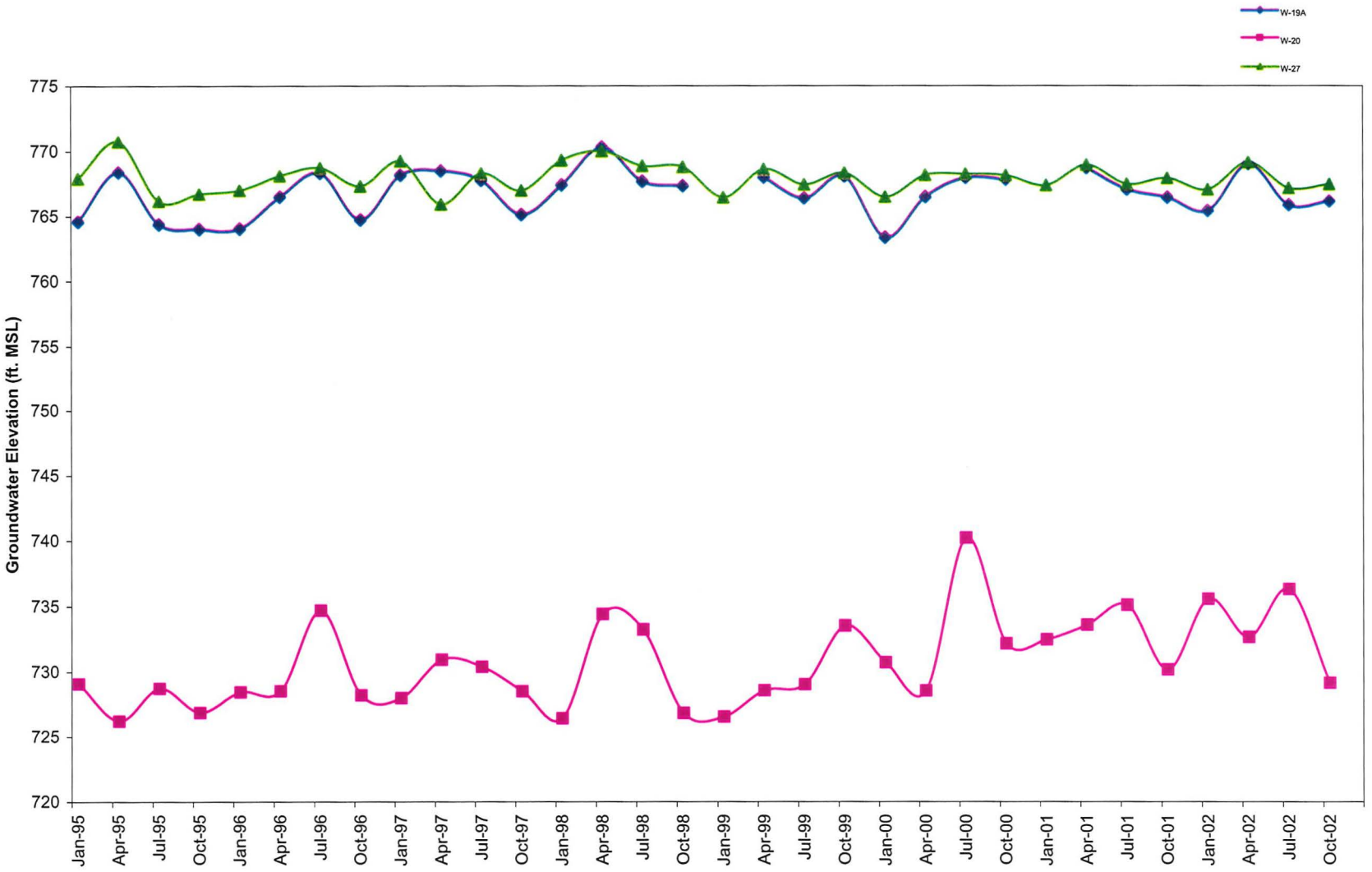
Groundwater Elevation Trends
Glacial Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



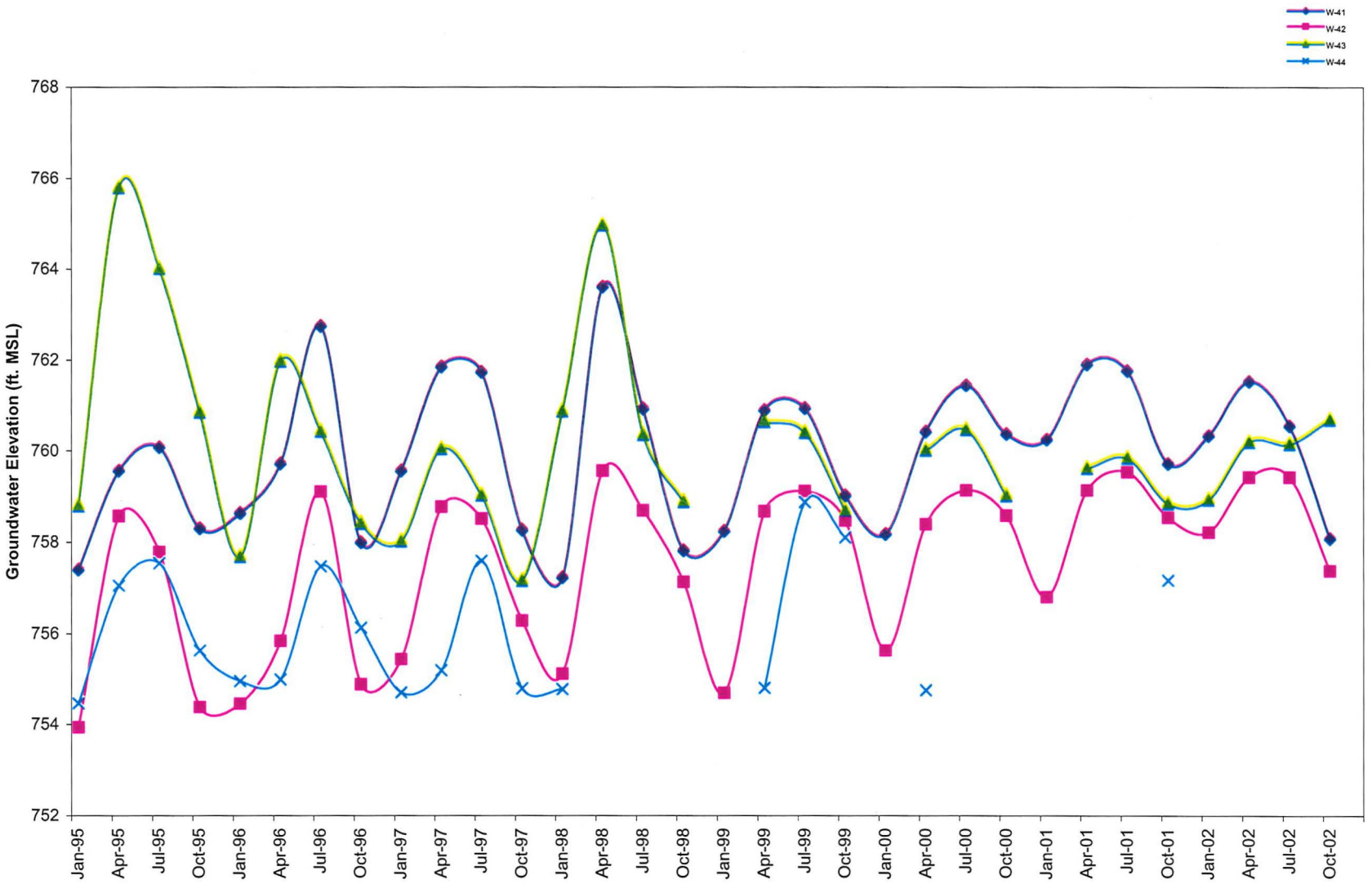
Groundwater Elevation Trends
Glacial Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



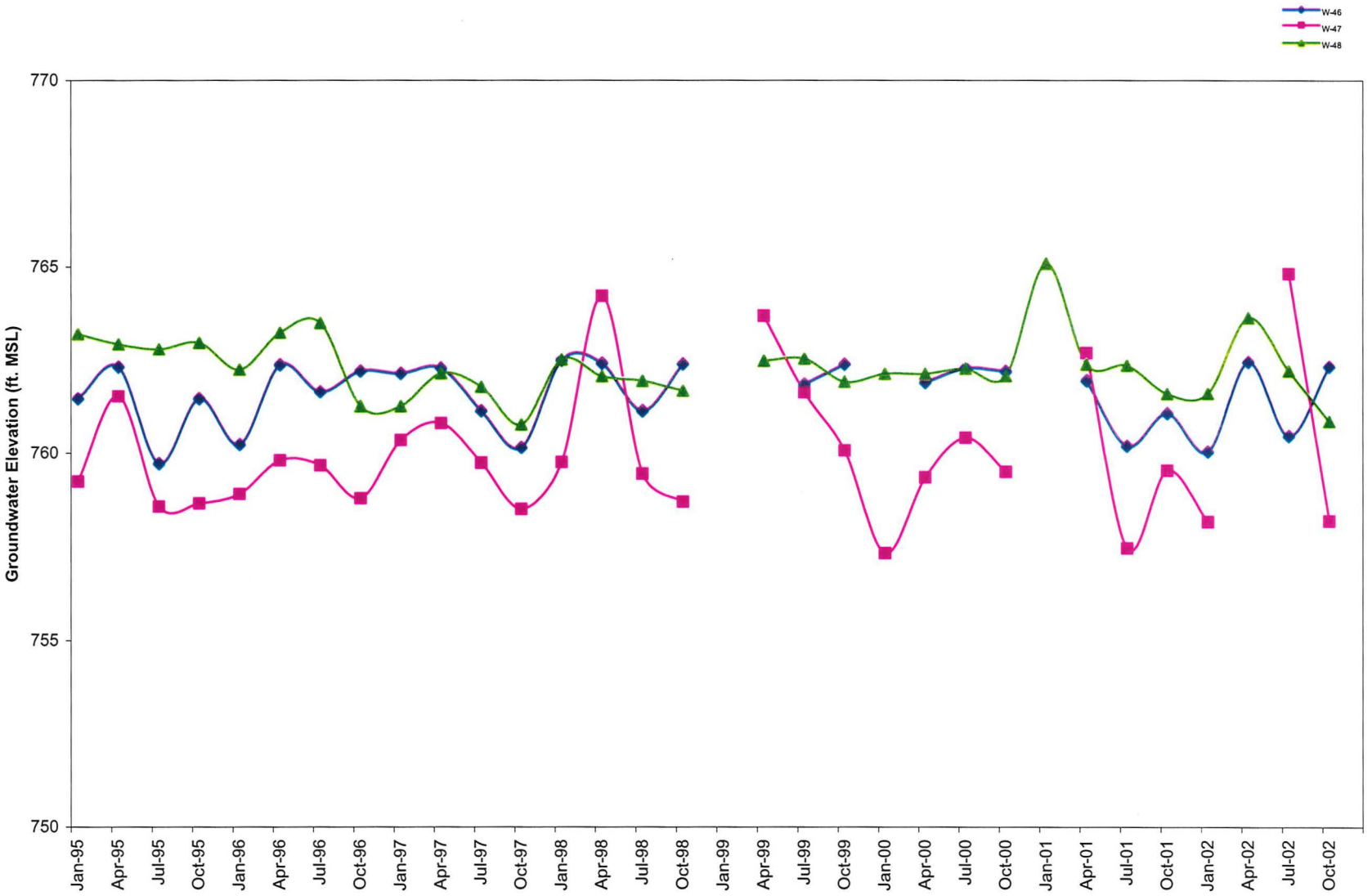
Groundwater Elevation Trends
Glacial Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



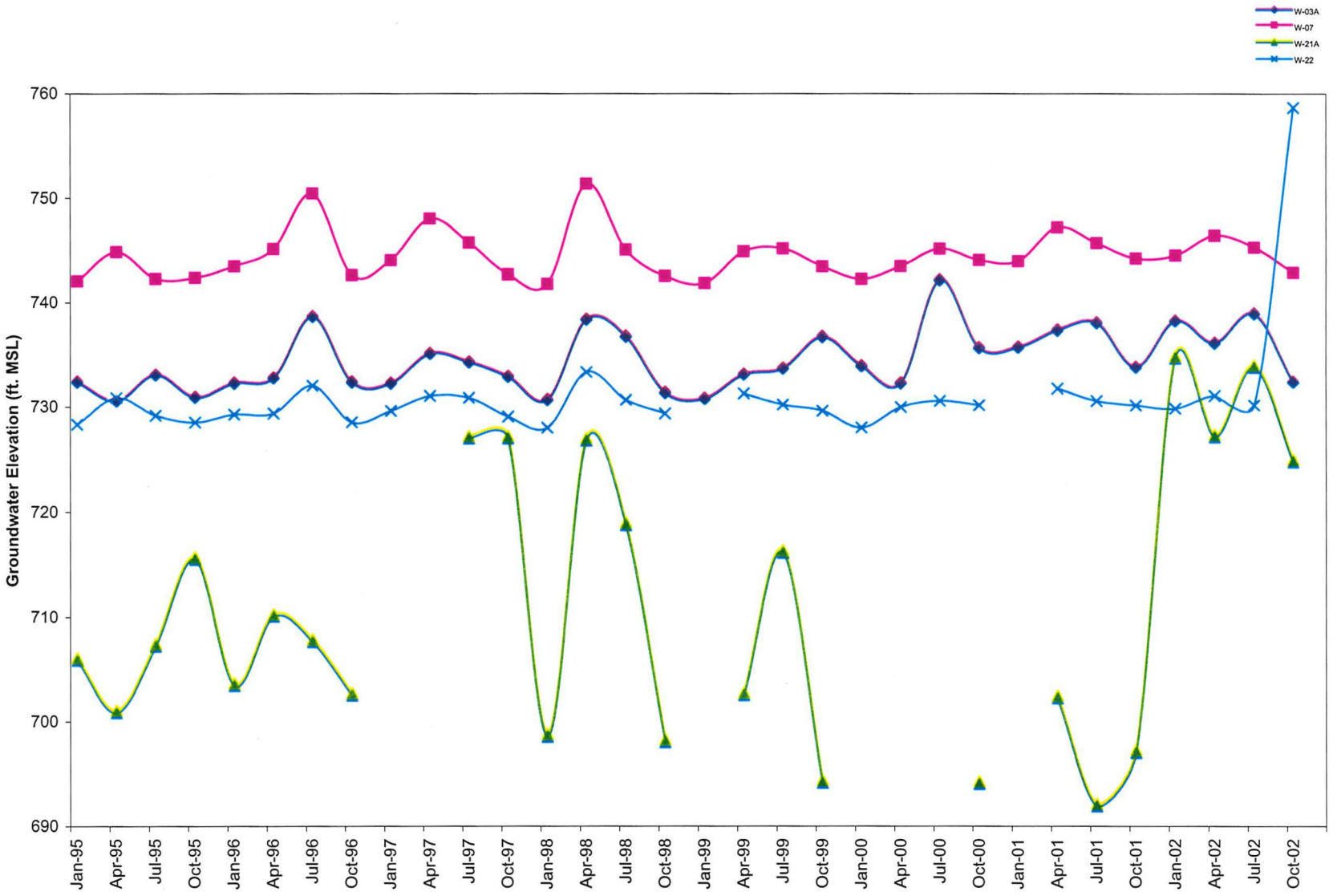
Groundwater Elevation Trends
Glacial Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



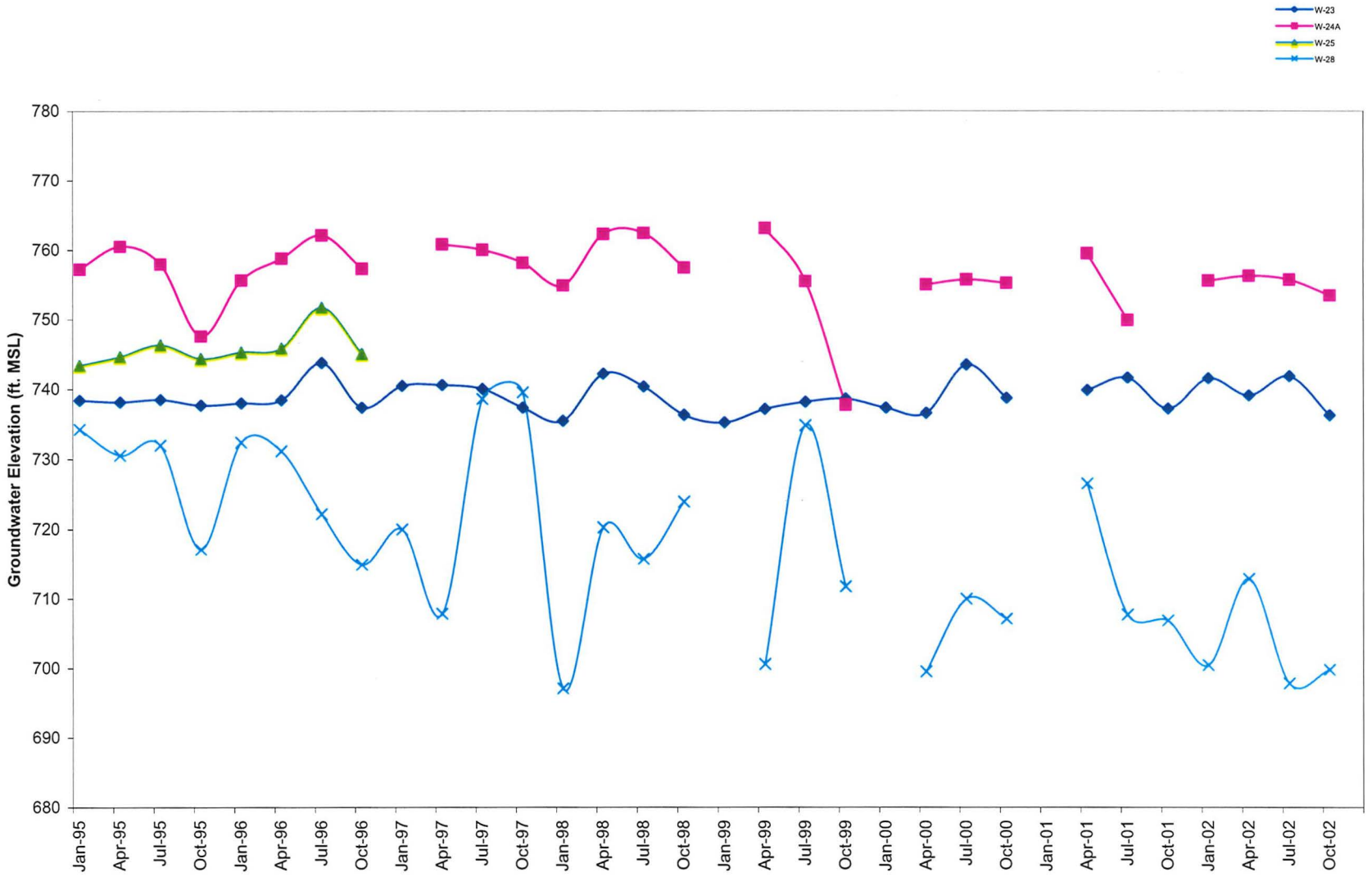
Groundwater Elevation Trends
Glacial Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



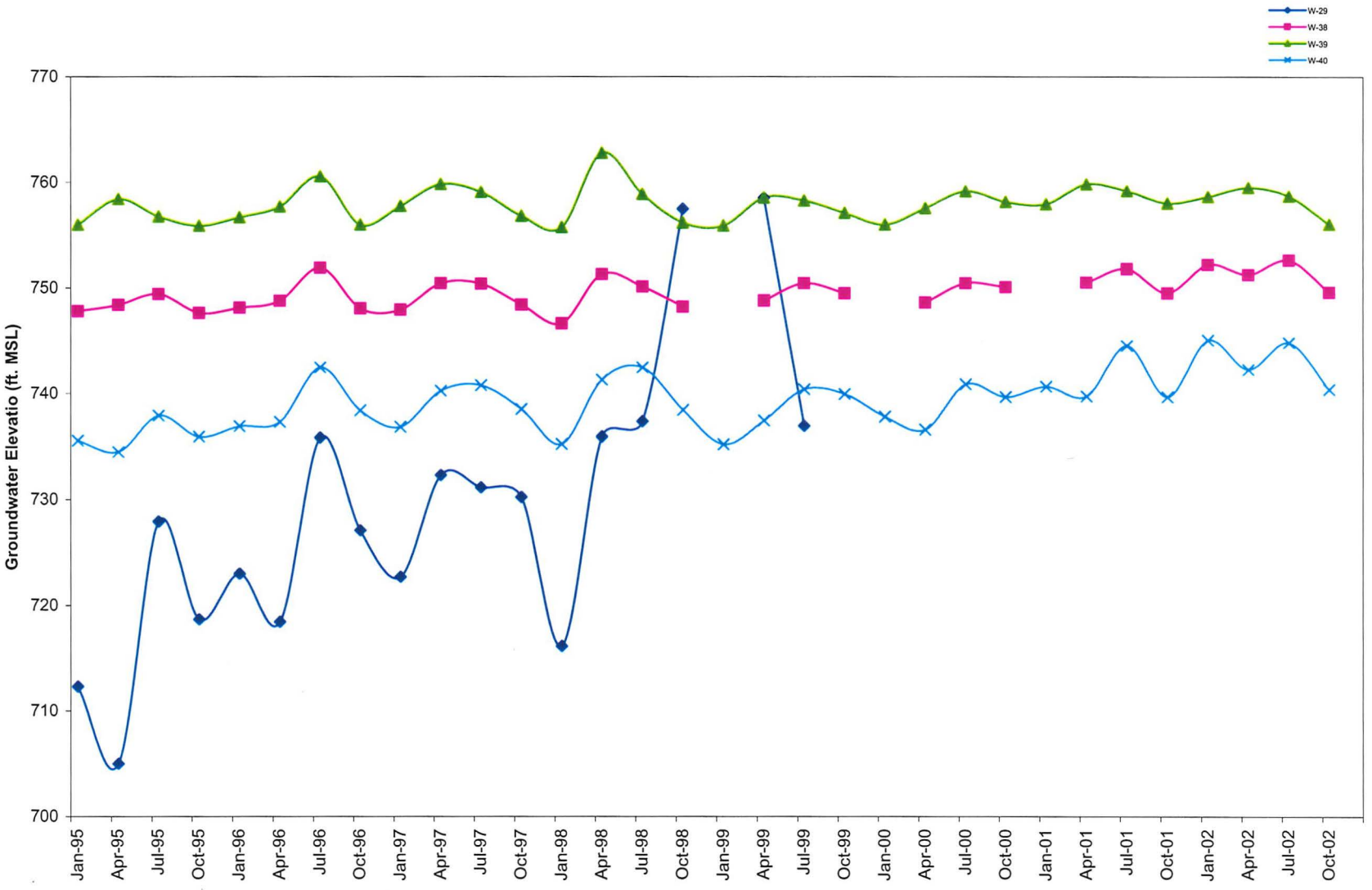
Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



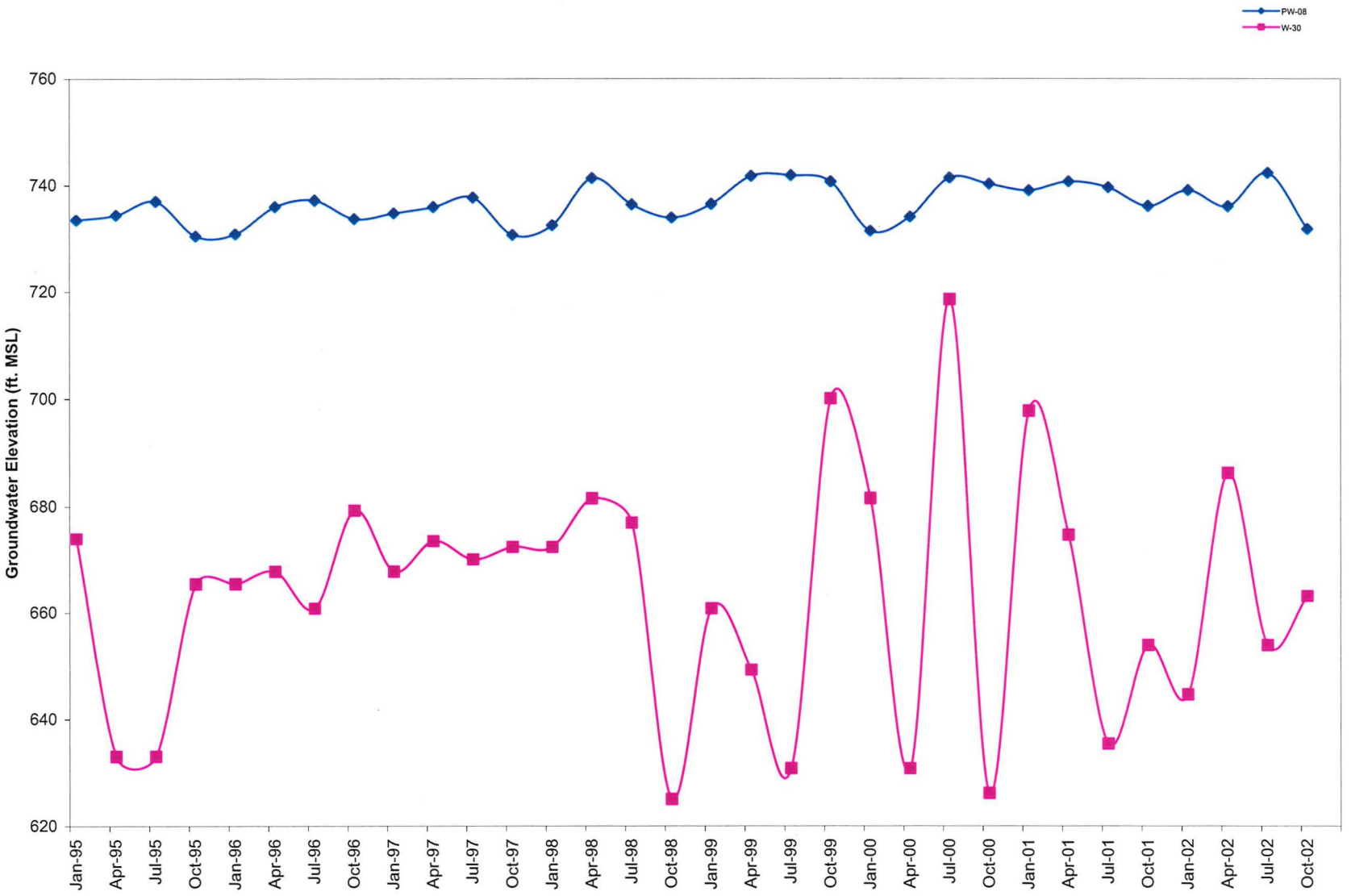
Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 2002
Cook Cmoposites and Polymers
Saukville, Wisconsin



Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin

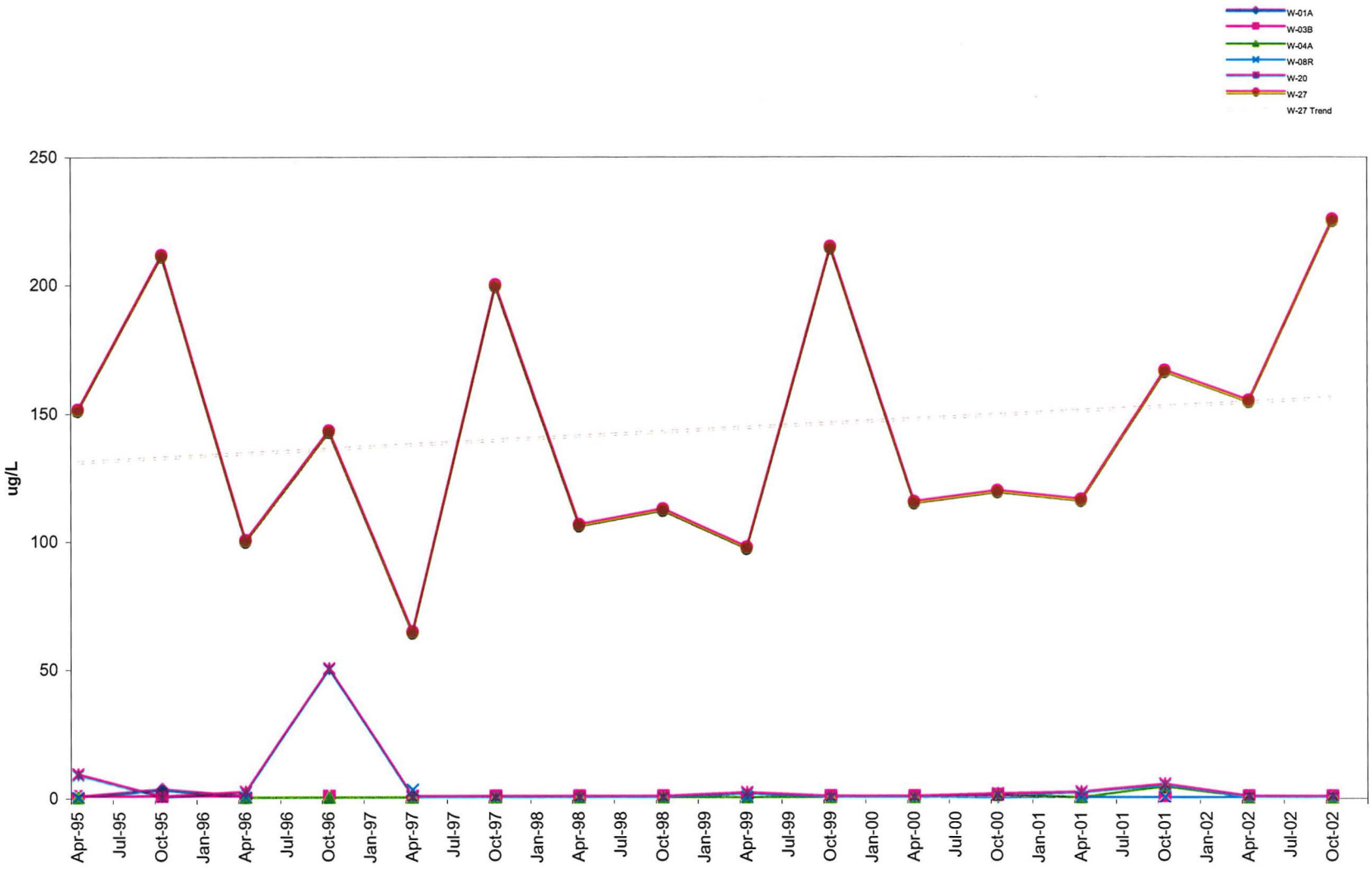


Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin

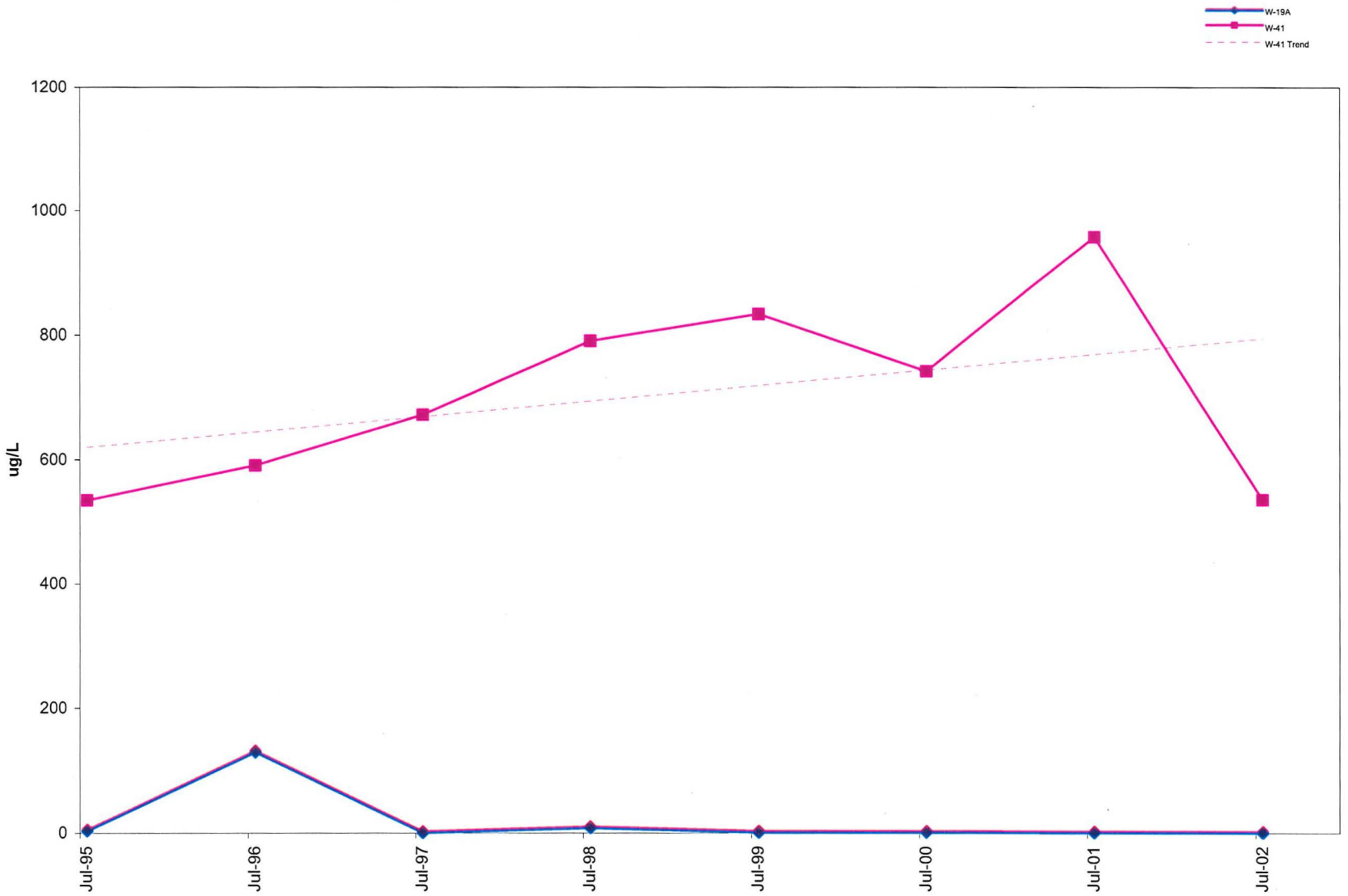


Appendix E
Total VOC Trends, 1995 to 2002

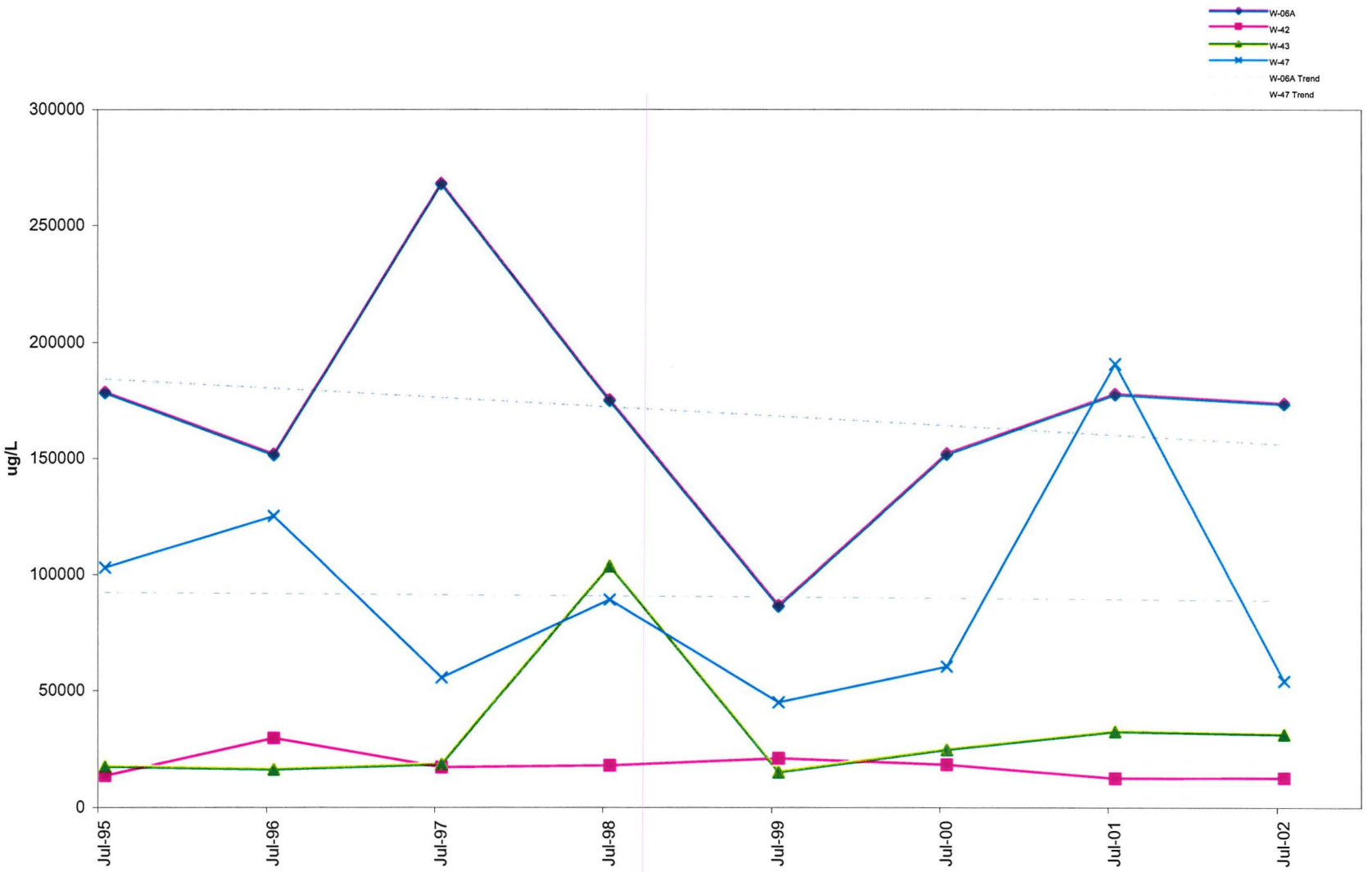
Total VOC Trends
Glacial Drift Perimeter Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



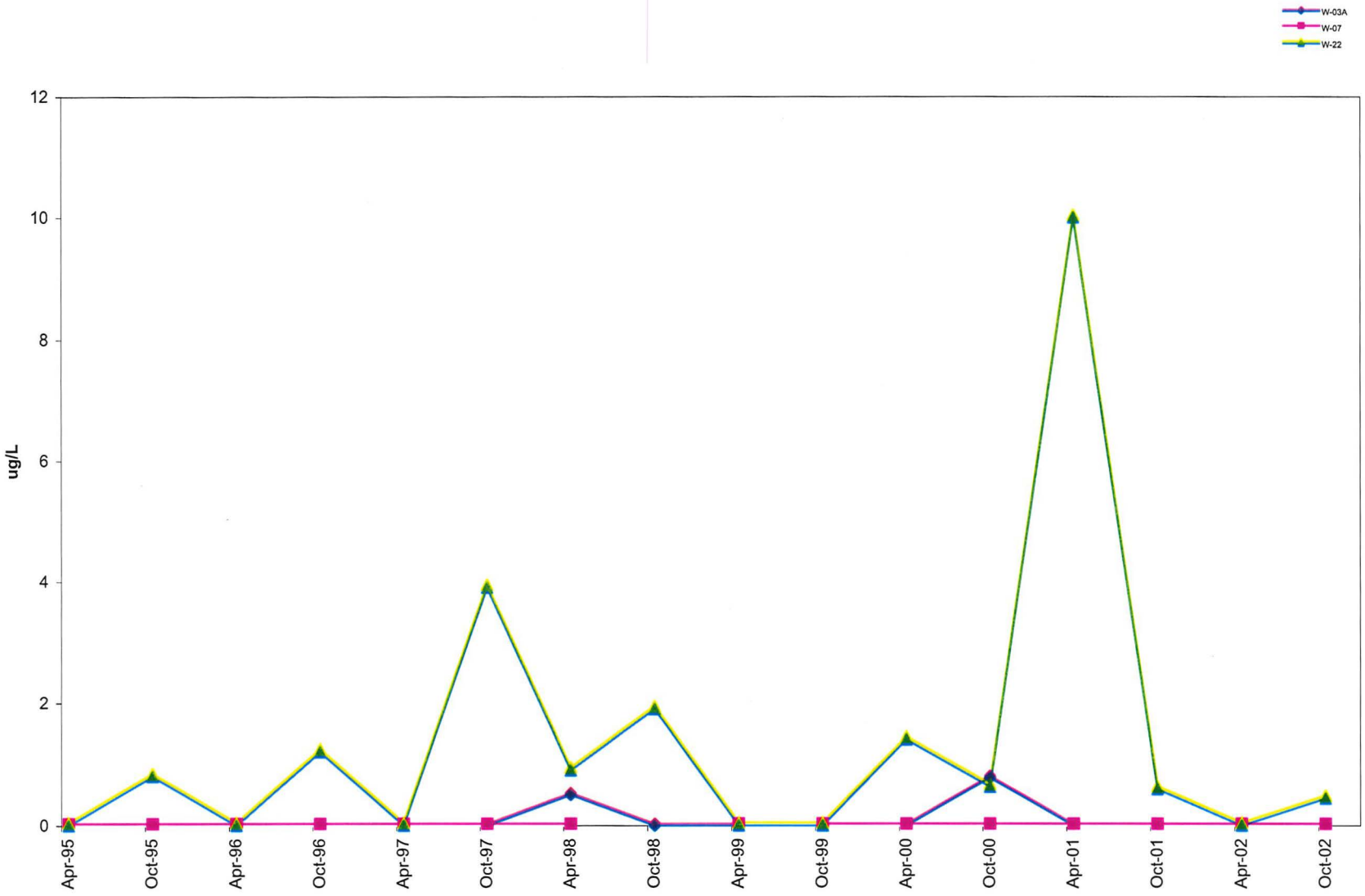
Total VOC Trends
Glacial Drift Progress Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



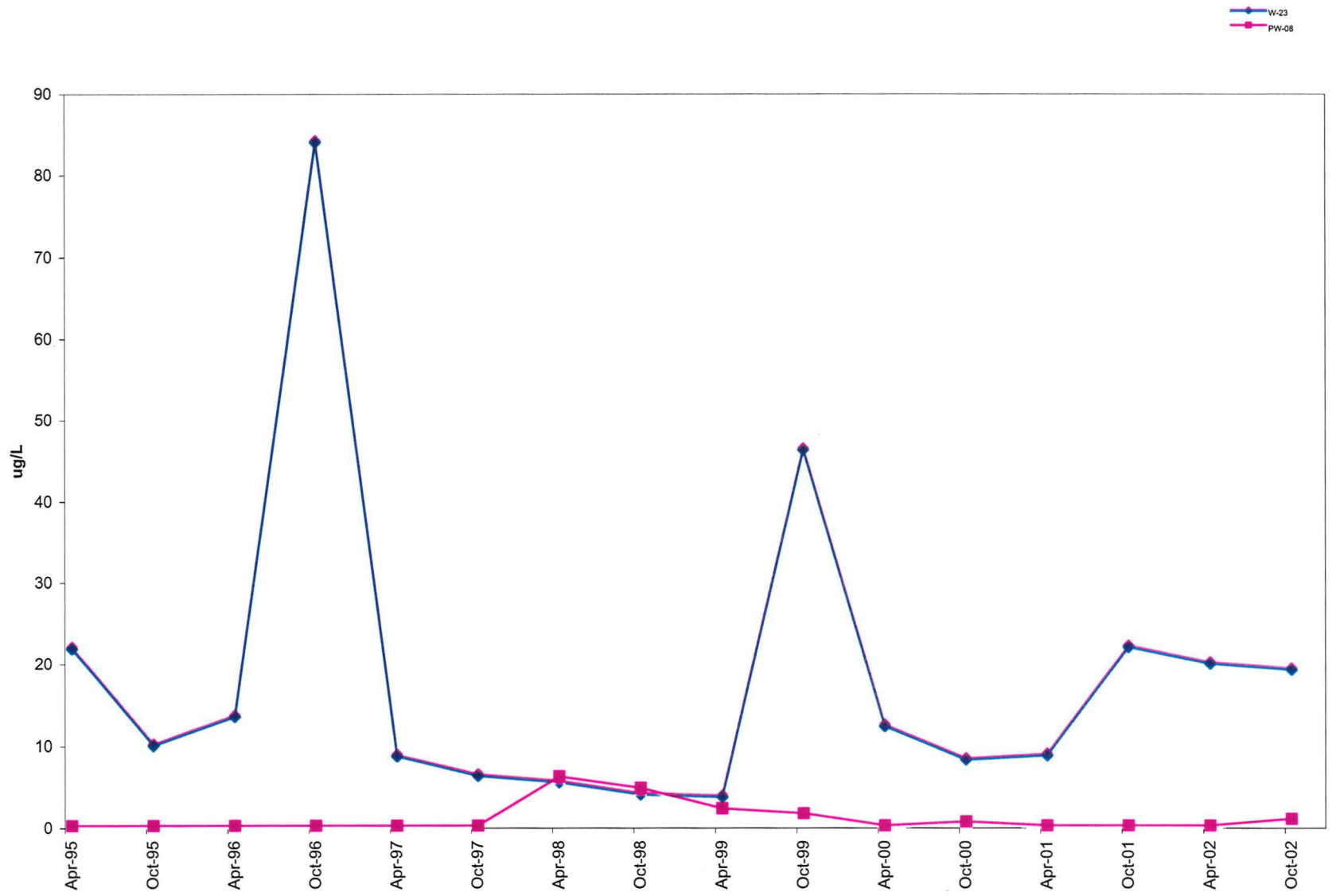
Total VOC Trends
Glacial Drift Progress Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



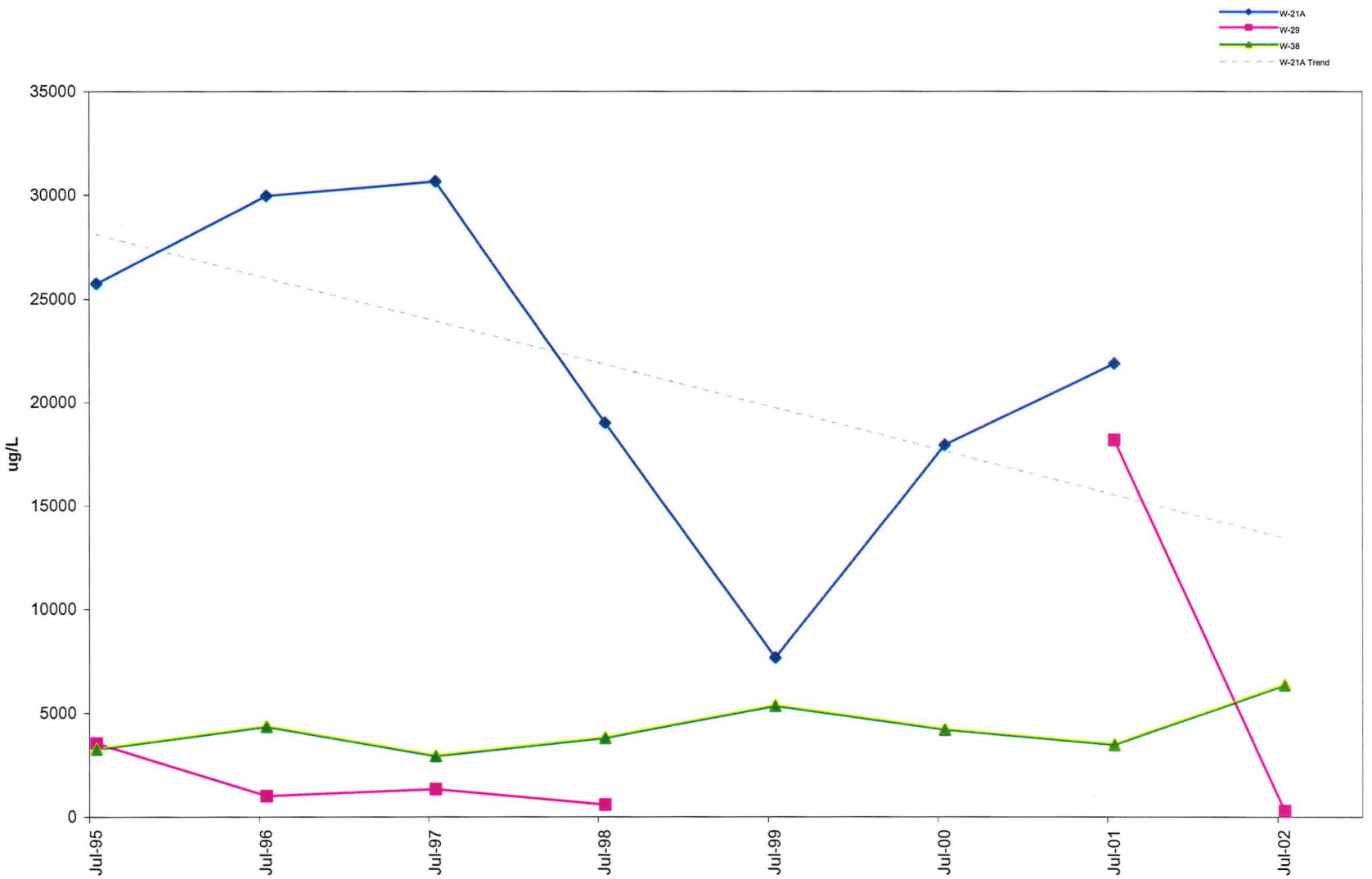
Total VOC Trends
Shallow Dolomite Perimeter Wells, 1995 to 2002
Cook COmposites and Polymers
Saukville, Wisconsin



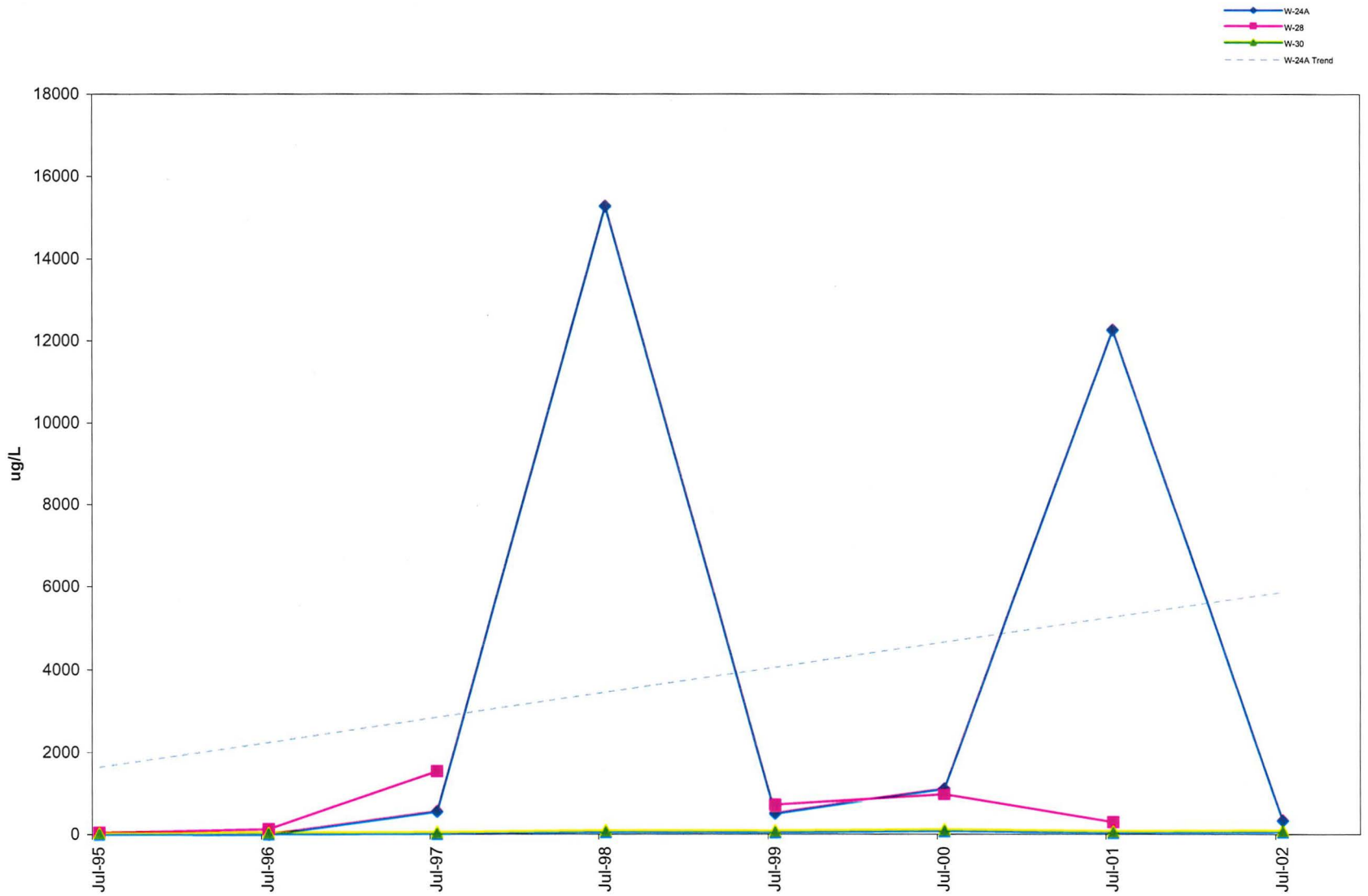
Total VOC Trends
Shallow Dolomite Perimeter Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin



Total VOC Trends
Shallow Dolomite Progress Wells, 1995 to 2002
Cook Compositres and Polymers
Saukville, Wisconsin

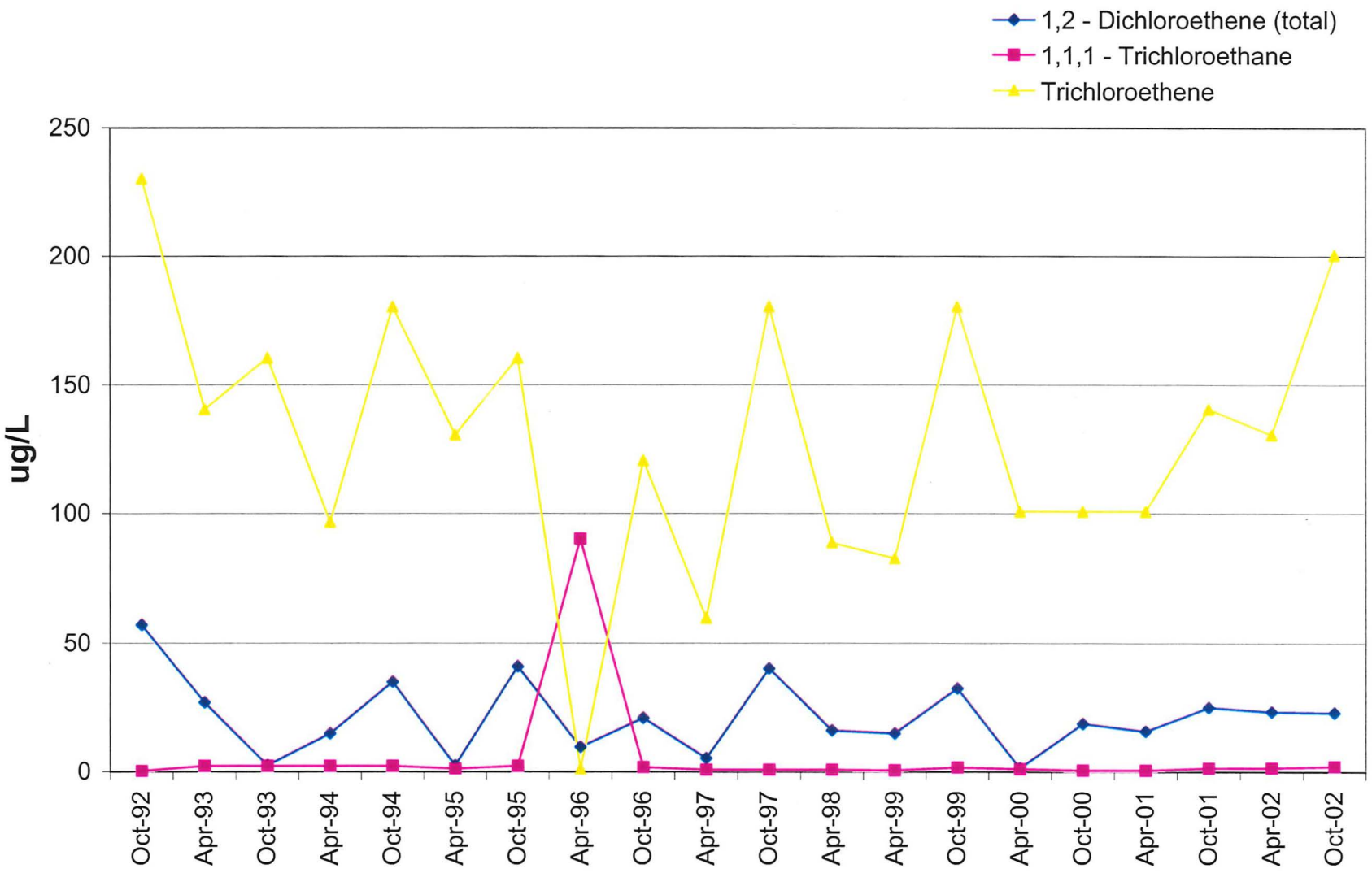


Total VOC Trends
Shallow Dolomite Progress Wells, 1995 to 2002
Cook Composites and Polymers
Saukville, Wisconsin

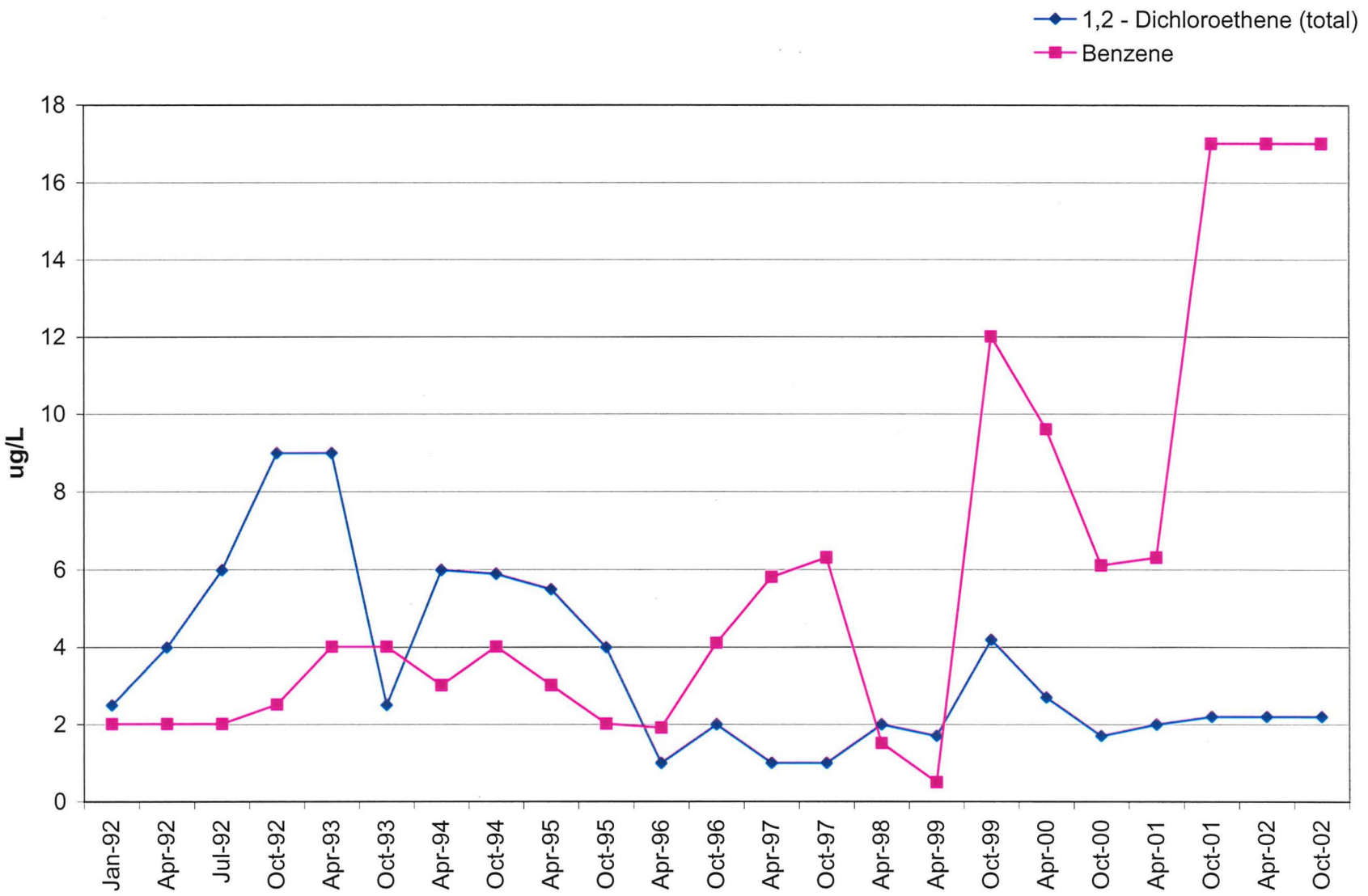


Appendix F
Individual Contaminant Trends, 1992 To 2002

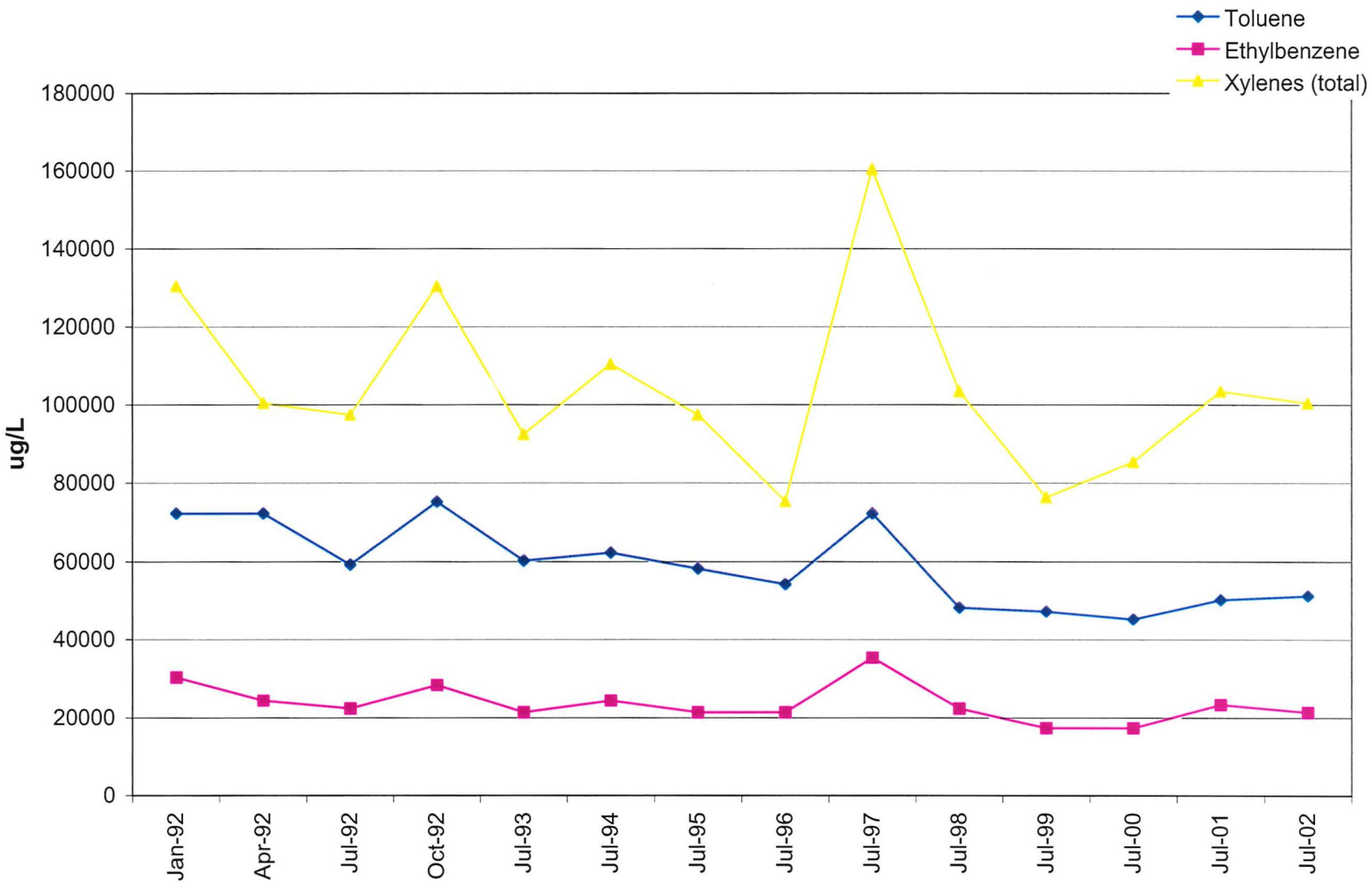
Individual Contaminant Trends
Glacial Drift Perimeter Well W-27
Cook Composites and Polymers
Saukville, Wisconsin



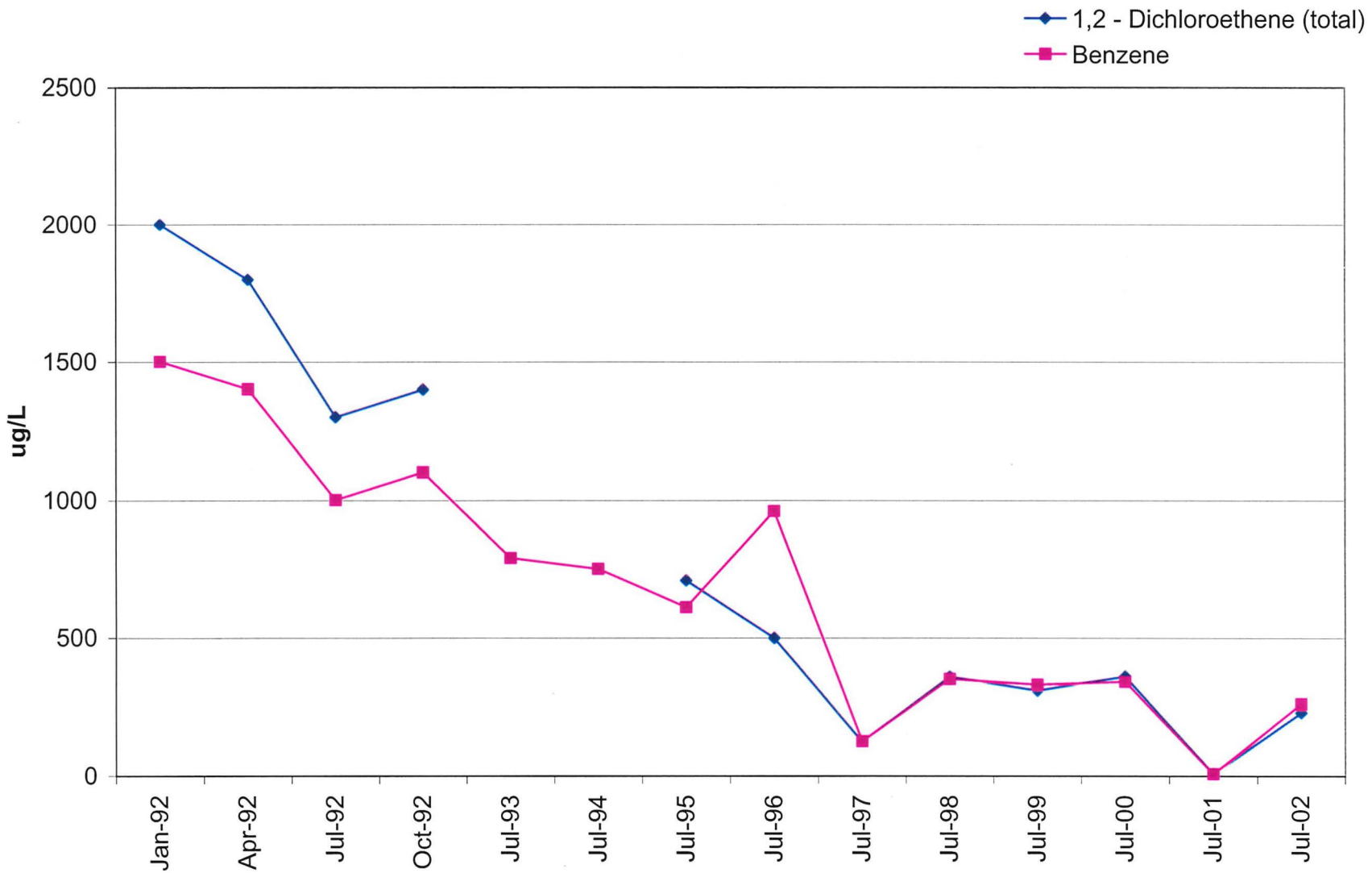
Individual Contaminant Trends
Shallow Dolomite Perimeter Well W-23
Cook Composites and Polymers
Saukvillle, Wisconsin



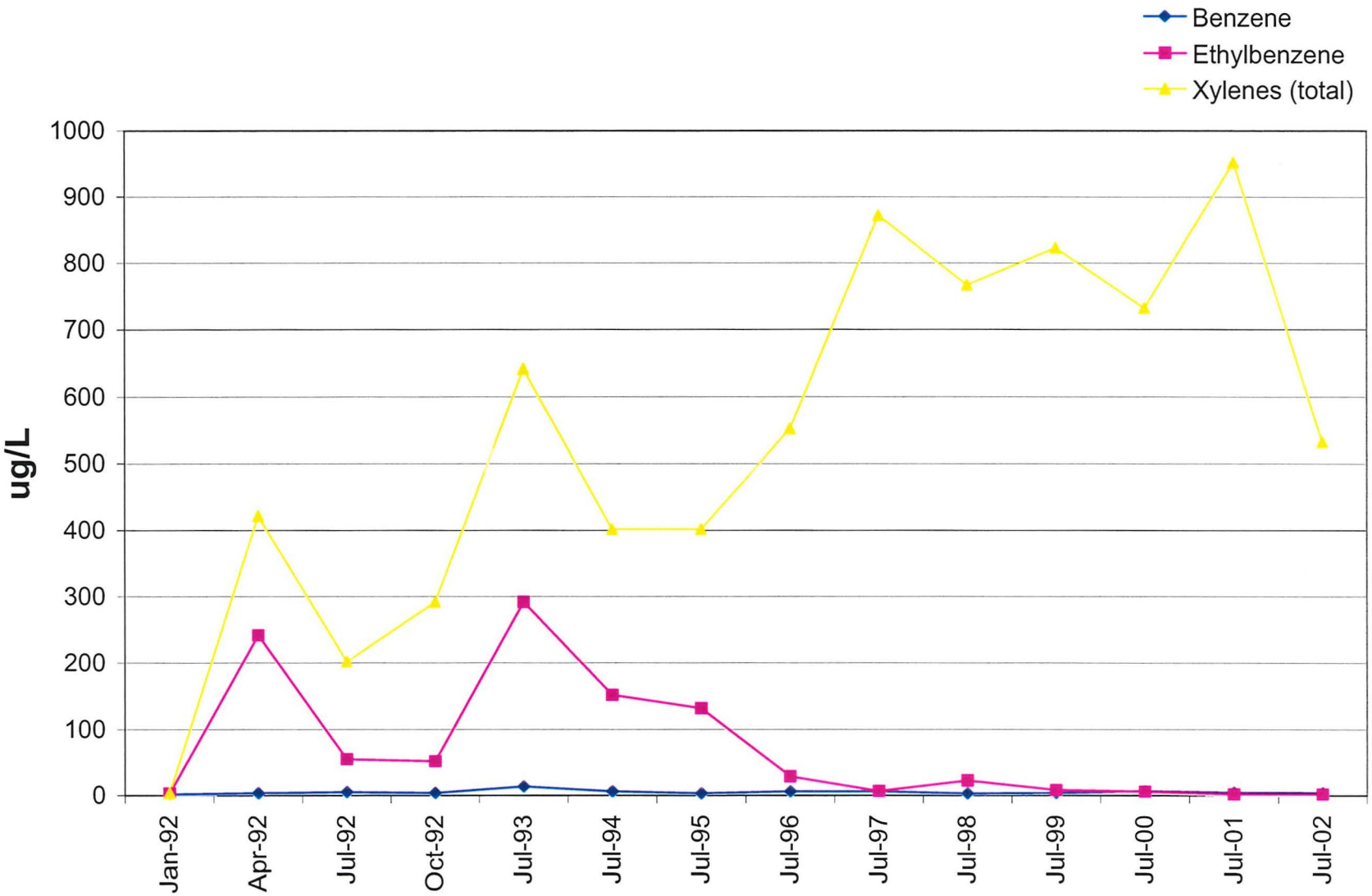
Individual Contaminant Trends
Glacial Drift Progress Well W-06A
Cook Composites and Polymers
Saukville, Wisconsin



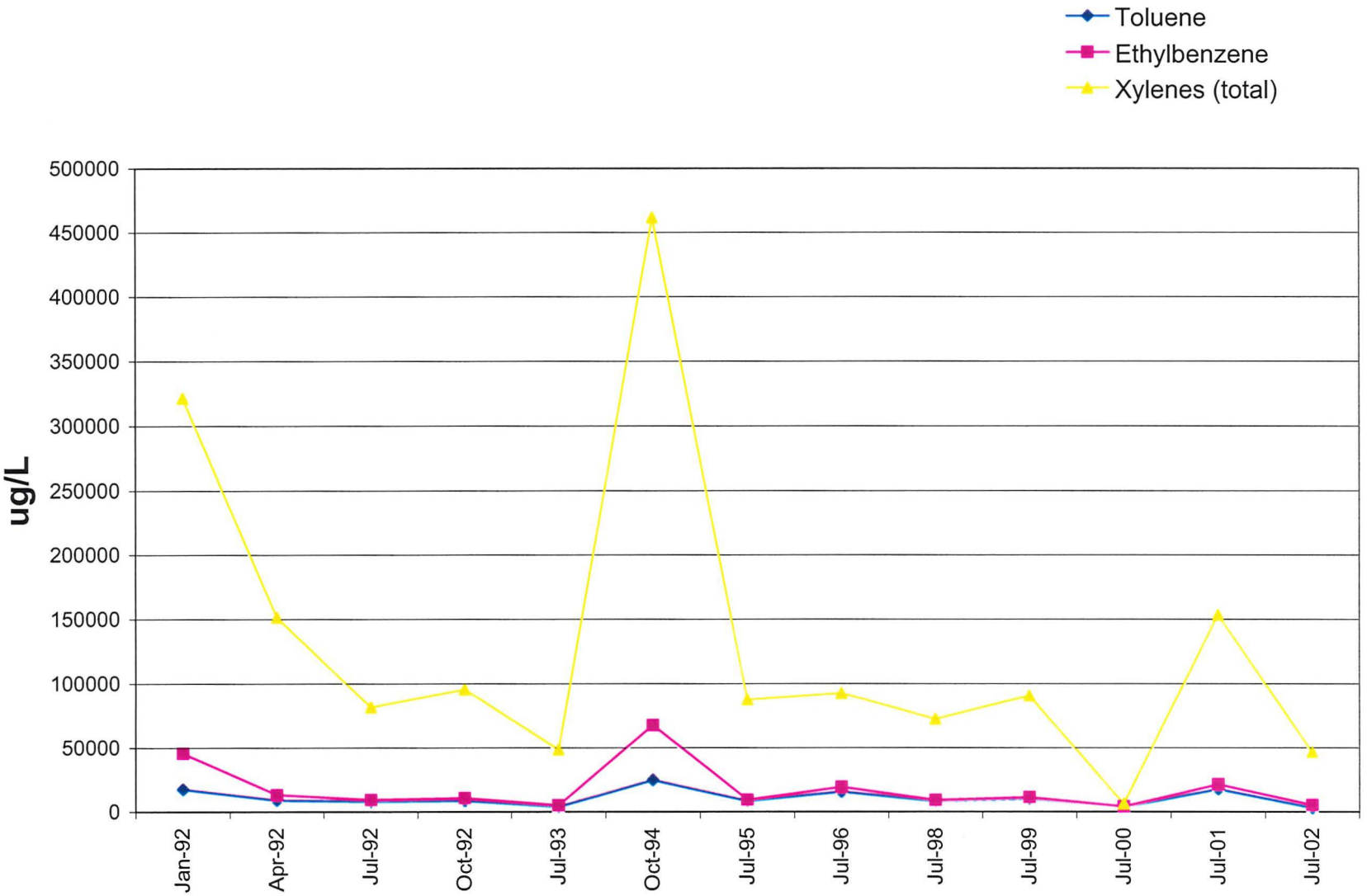
Individual Contaminant Trends
Glacial Drift Progress Well W-06A
Cook Composites and Polymers
Saukville, Wisconsin



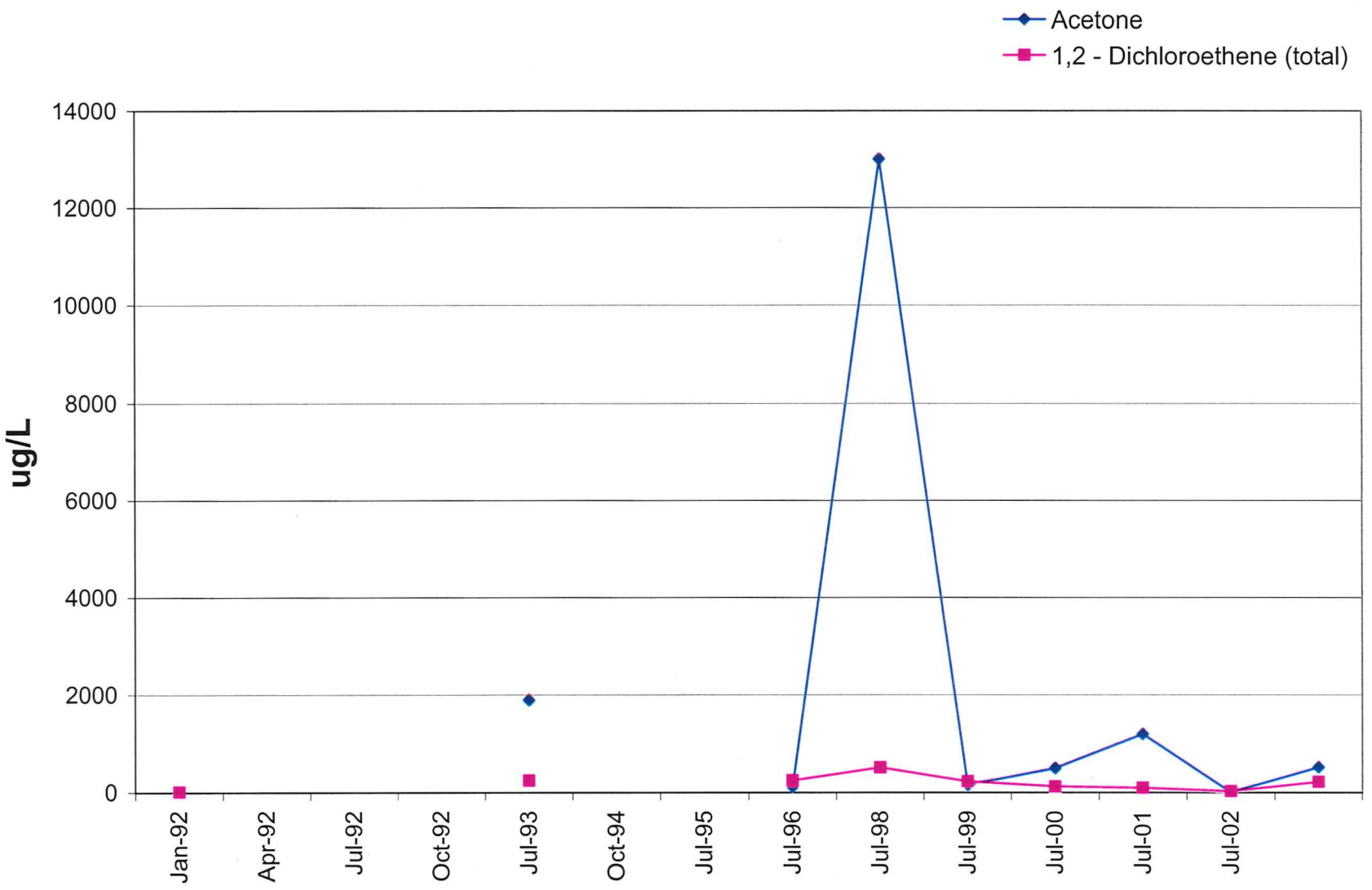
Individual Contaminant Trends
Glacial Drift Progress Well W-41
Cook Composites and Polymers
Saukville, Wisconsin



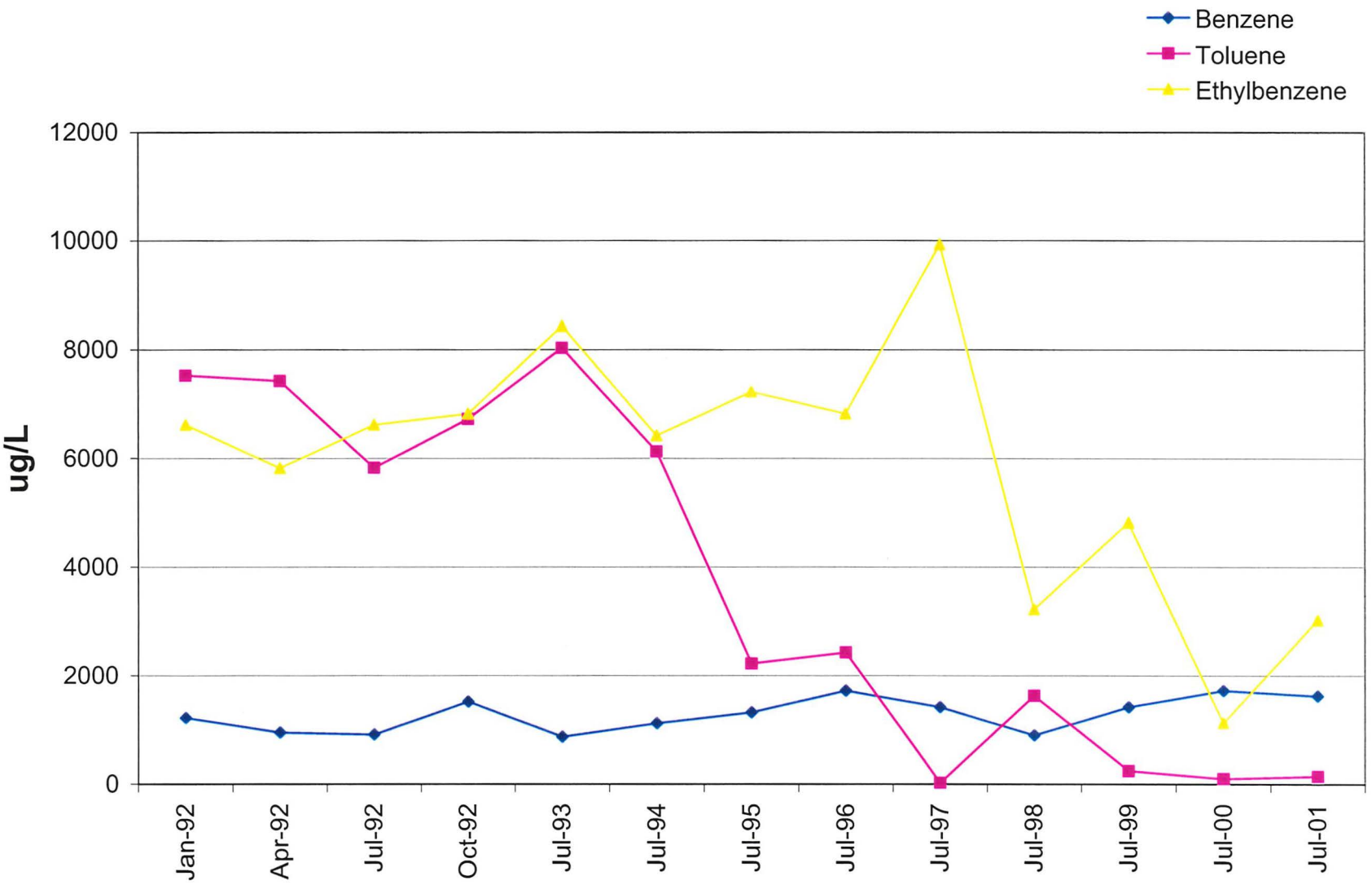
Individual Contaminant Trends
Glacial Drift Progress Well W-47
Cook Composites and Polymers
Saukville, Wisconsin



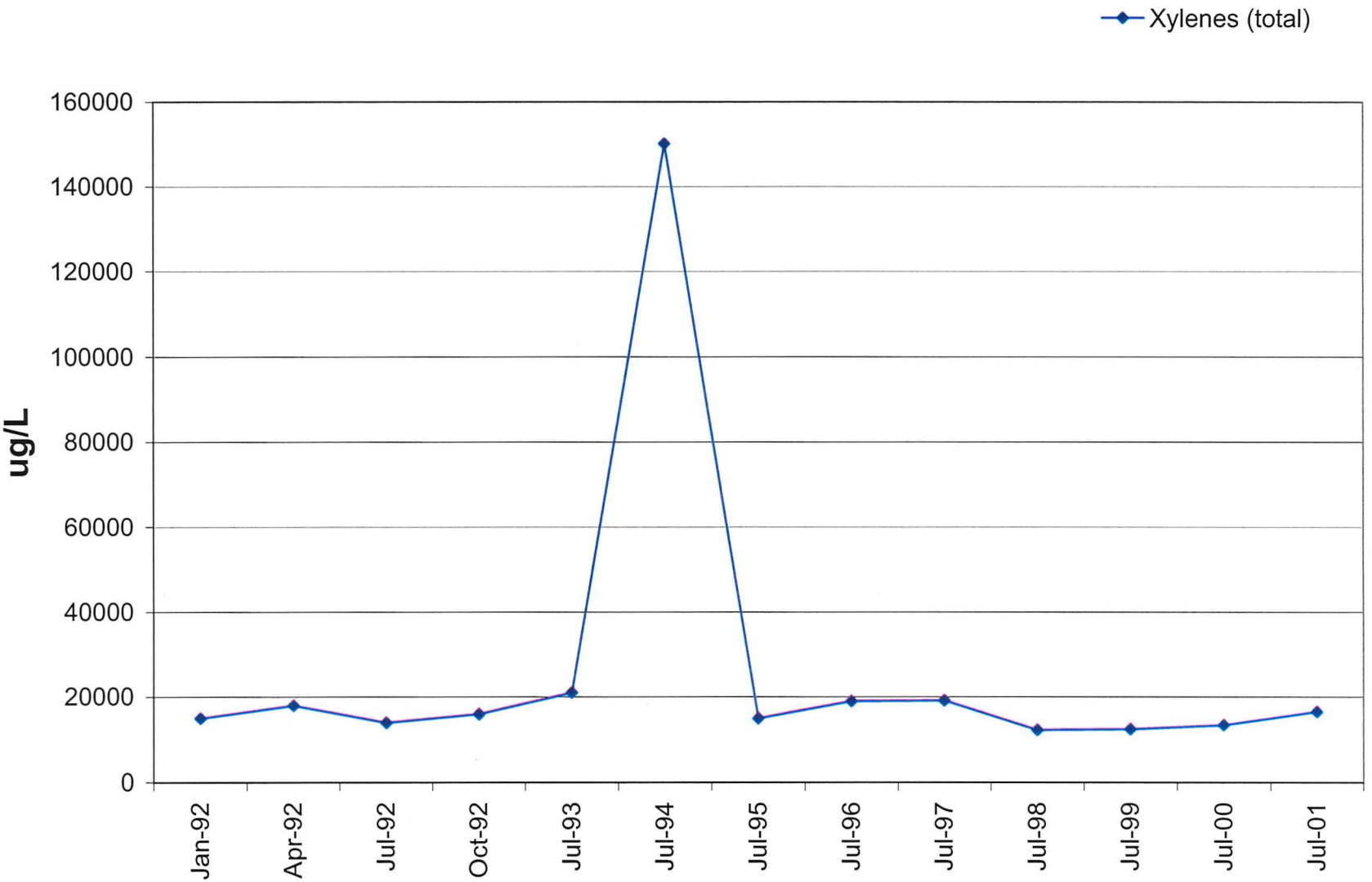
Individual Contaminant Trends
Glacial Drift Progress Well W-47
Cook Composites and Polymers
Saukville, Wisconsin



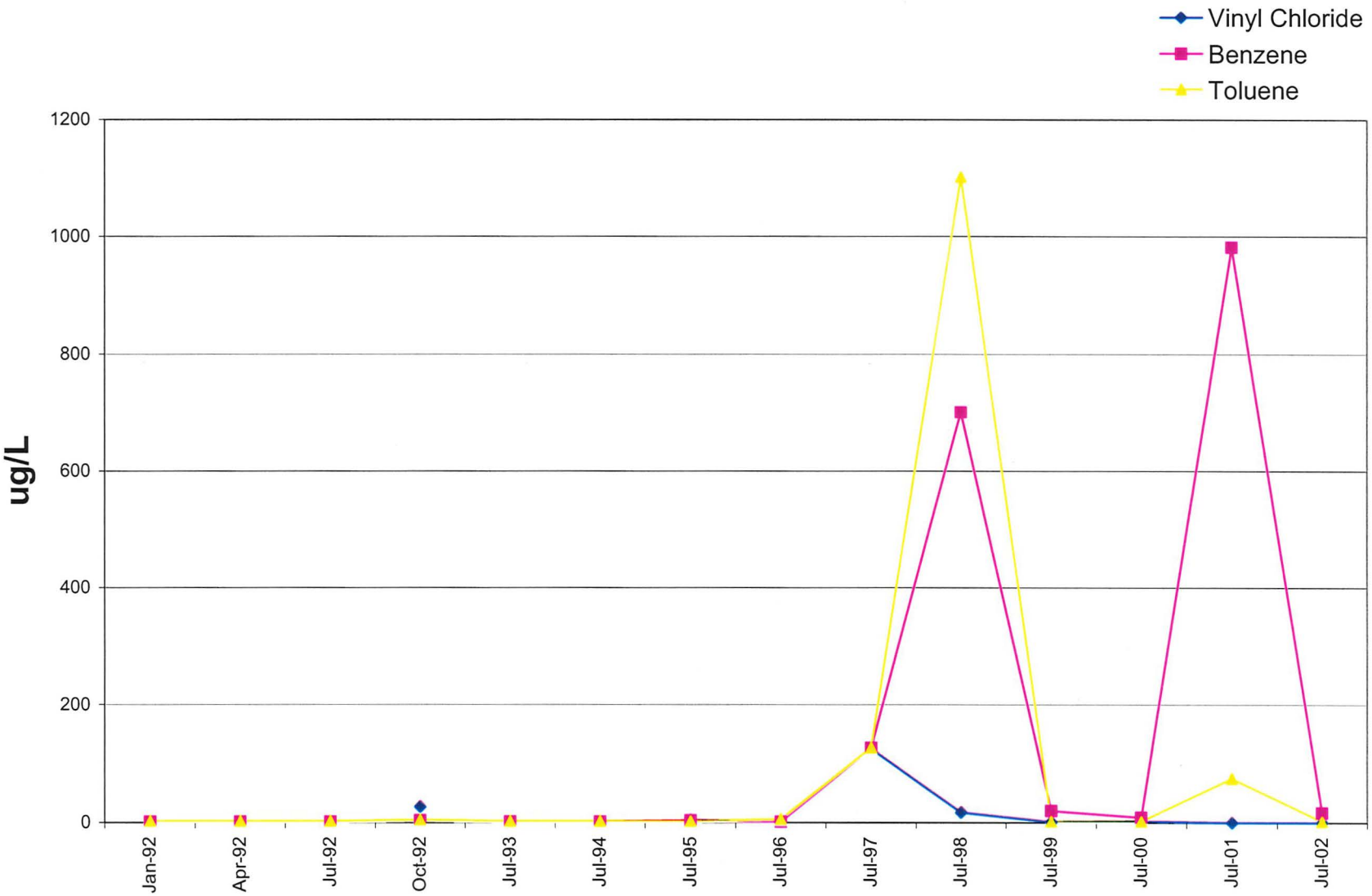
Individual Contaminant Trends
Shallow Dolomite Progress Well W-21A
Cook Composites and Polymers
Saukville, Wisconsin



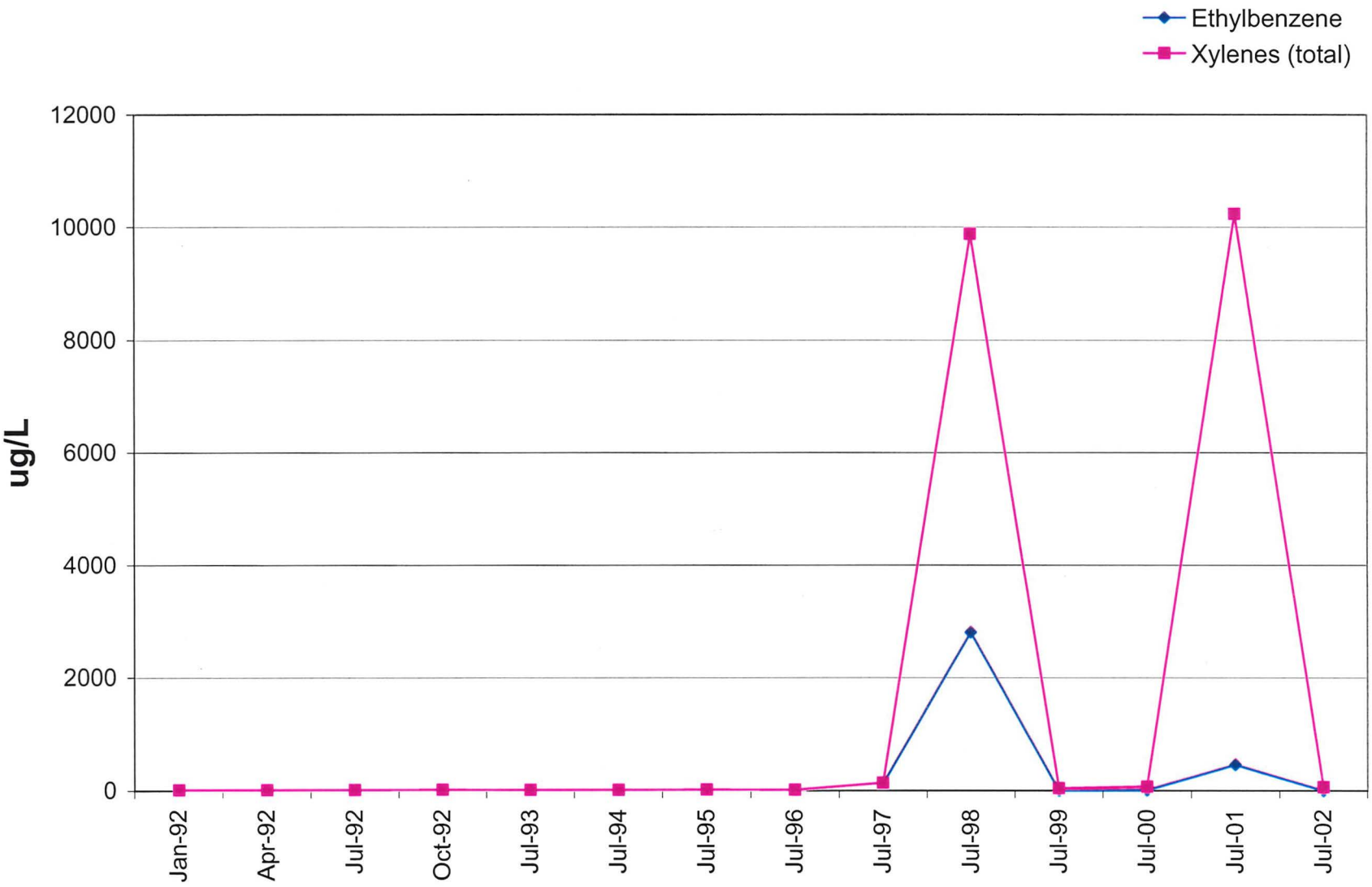
Individual Contaminant Trends
Shallow Dolomite Progress Well W-21A
Cook Composites and Polymers
Saukville, Wisconsin



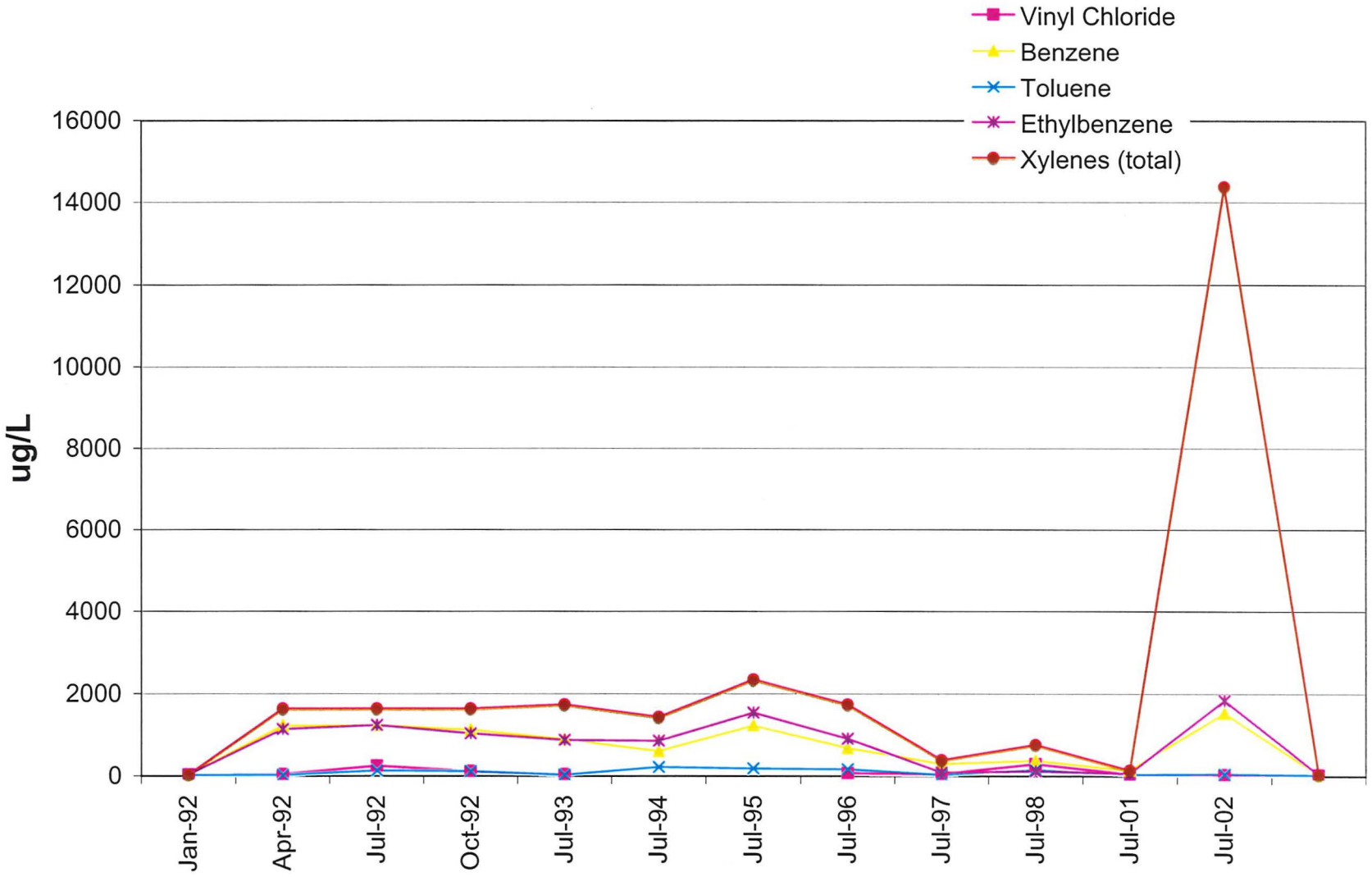
Individual Contaminant Trends
Shallow Dolomite Progress Well W-24A
Cook Composites and Polymers
Saukville, Wisconsin



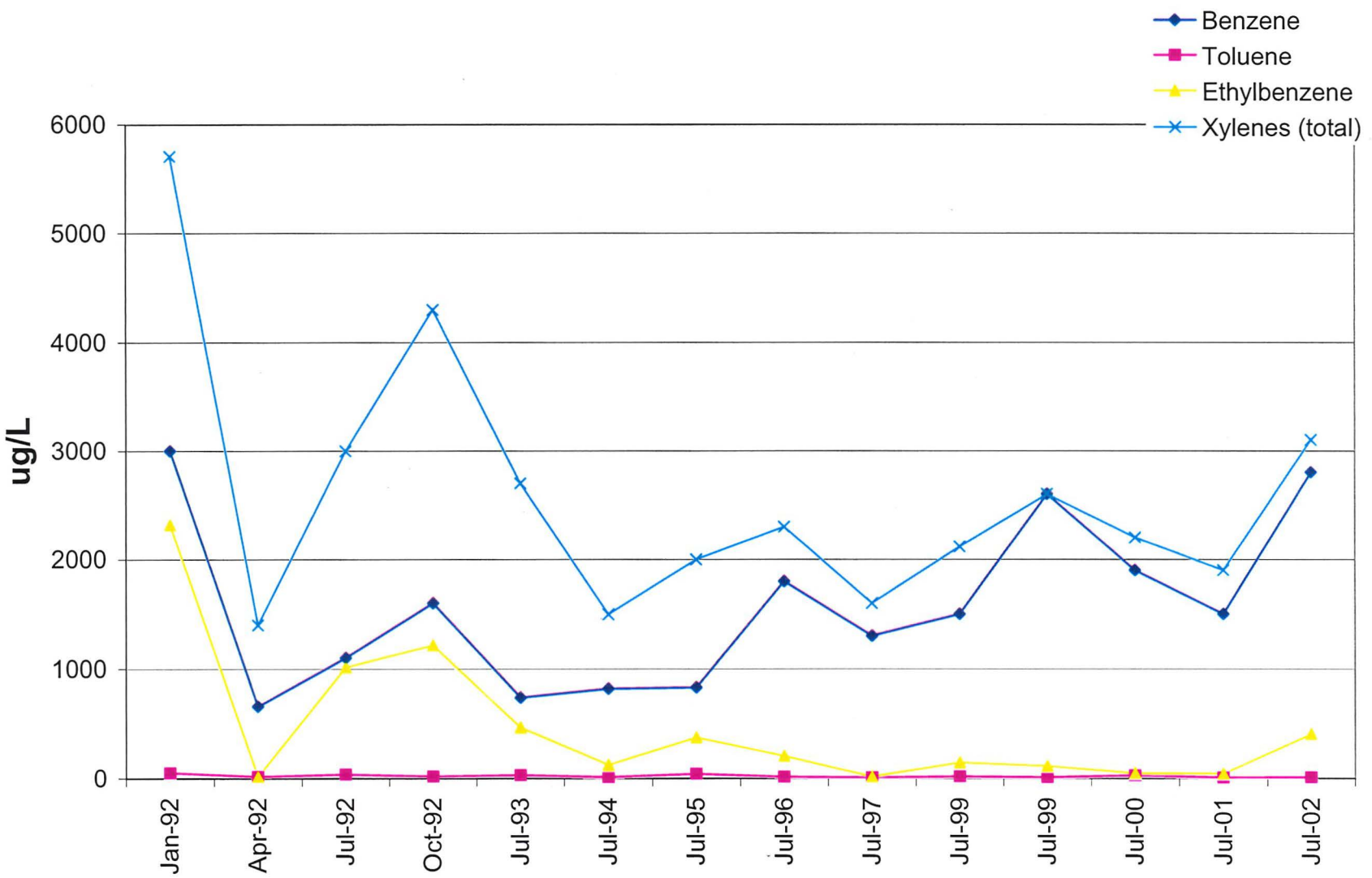
Individual Contaminant Trends
Shallow Dolomite Progress Well W-24A
Cook Composites and Polymers
Saukville, Wisconsin



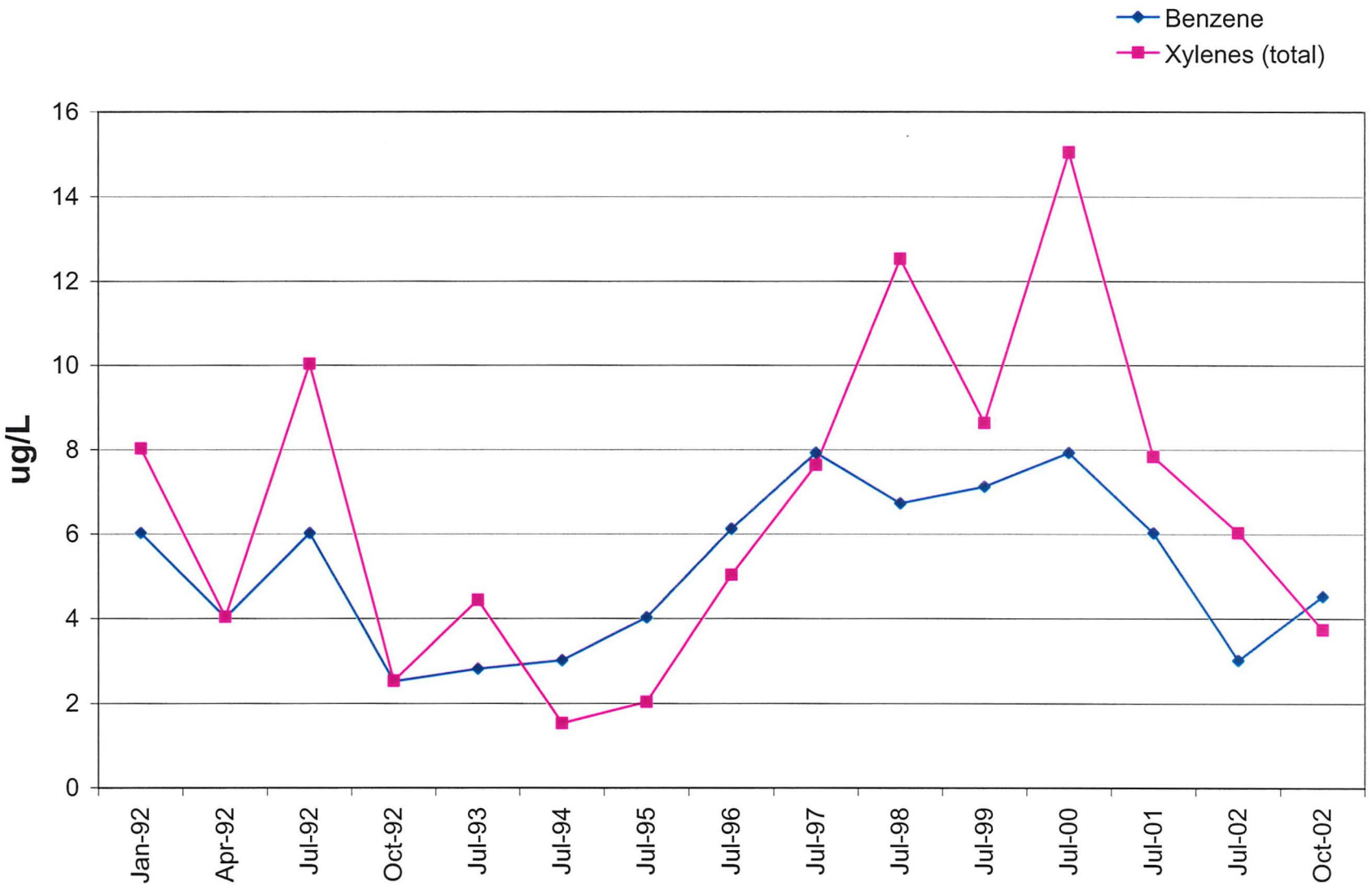
Individual Contaminant Trends
Shallow Dolomite Progress Well W-29
Cook Composites and Polymers
Saukville, Wisconsin



Individual Contaminant Trends
Shallow Dolomite Progress Well W-38
Cook Composites and Polymers
Saukville, Wisconsin

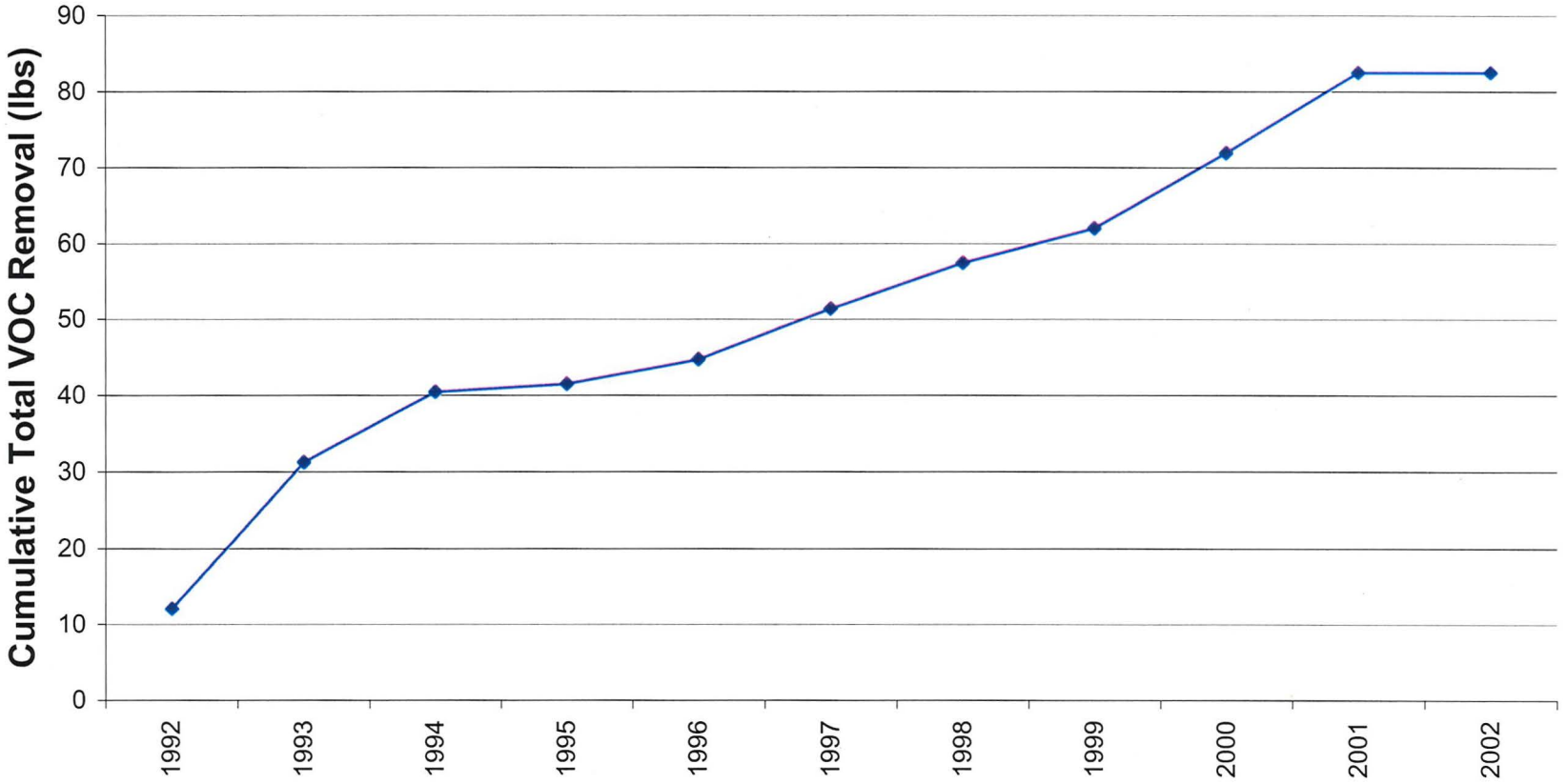


Individual Contaminant Trends
Deep Dolomite Progress Well W-30
Cook Composites and Polymers
Saukville, Wisconsin

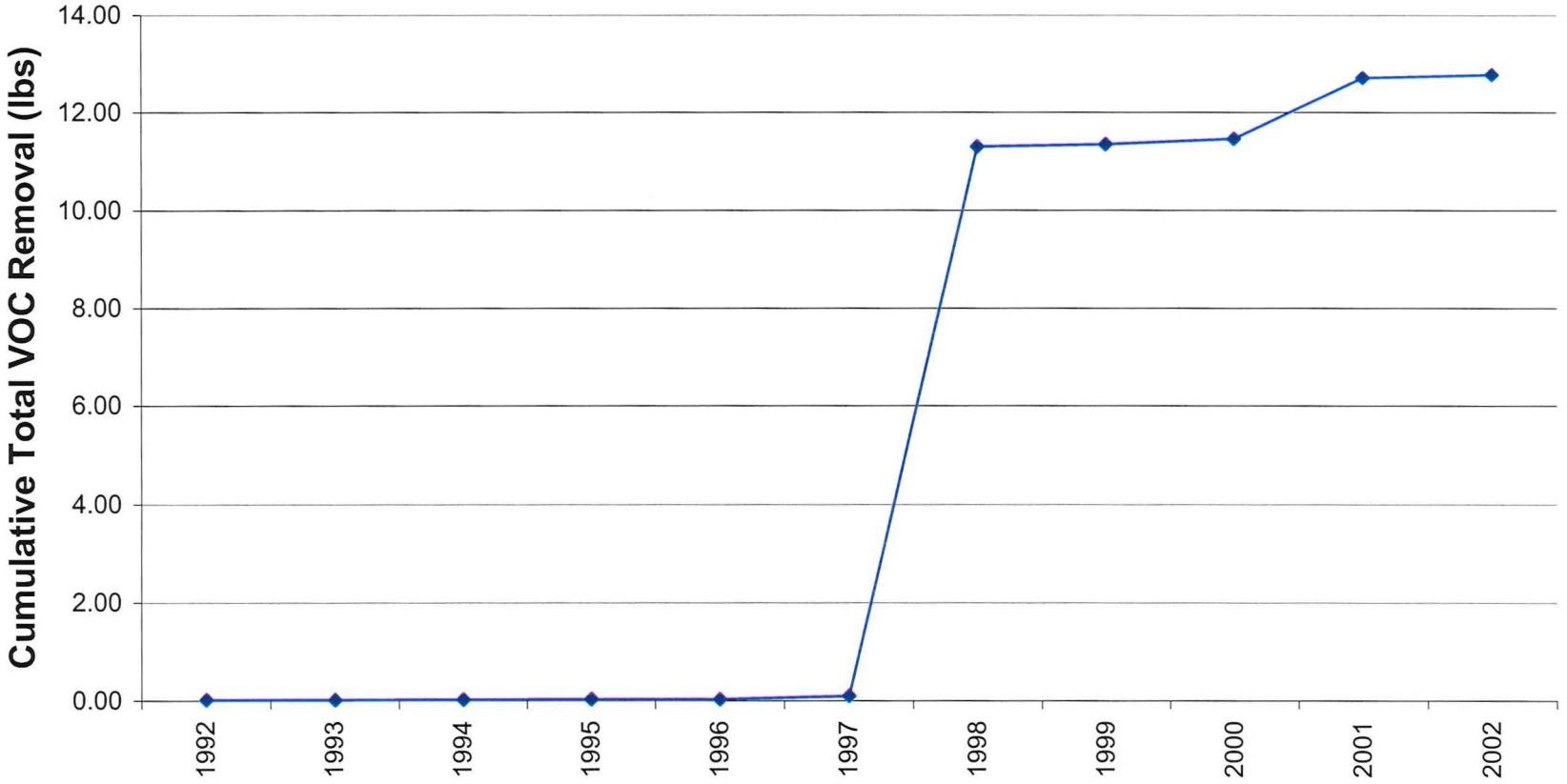


Appendix G
Cumulative Contaminant Removal Graphs

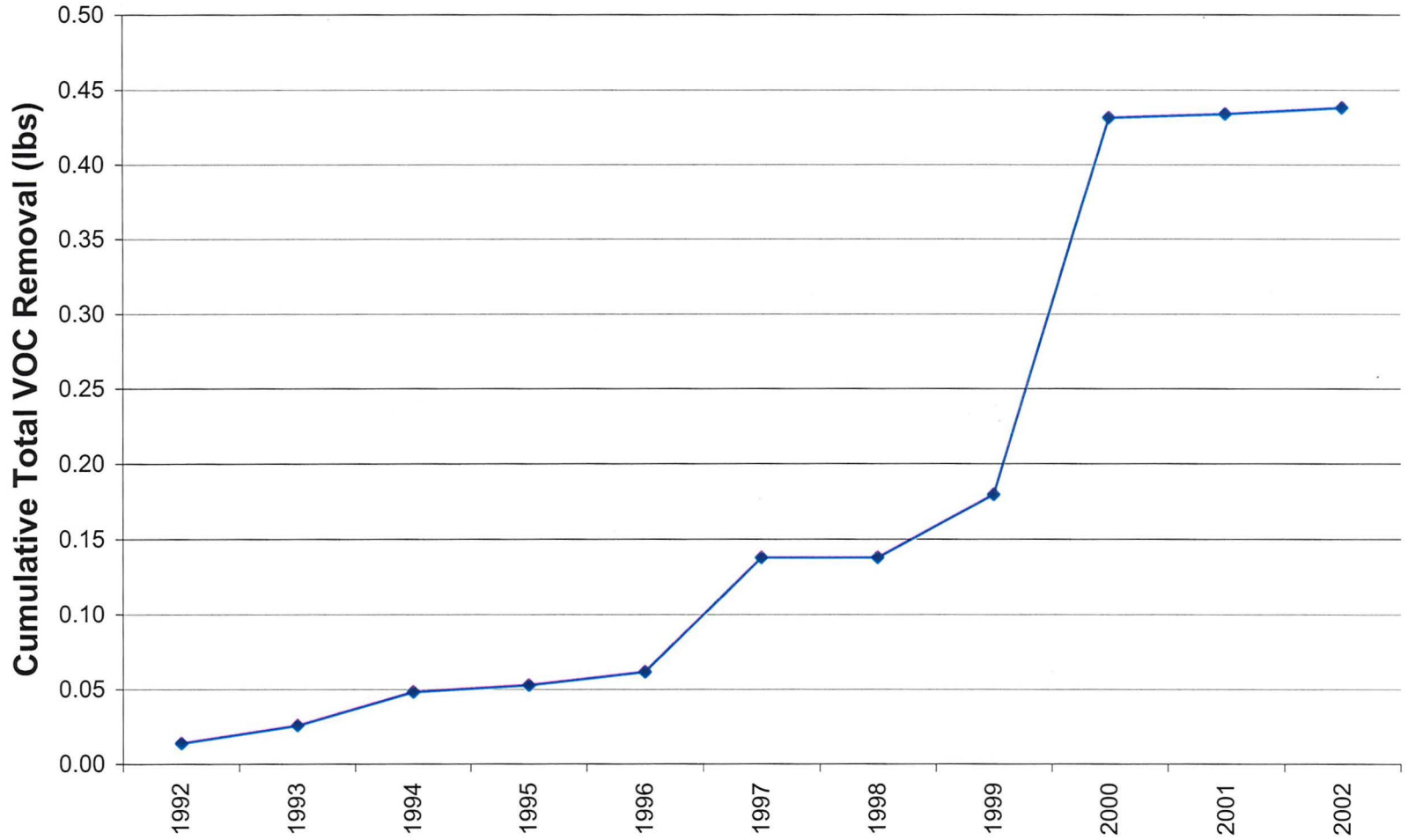
Cumulative Total VOC Removal
Shallow Dolomite Progress Well W-21A
Cook Composites and Polymers
Saukvillle, Wisconsin



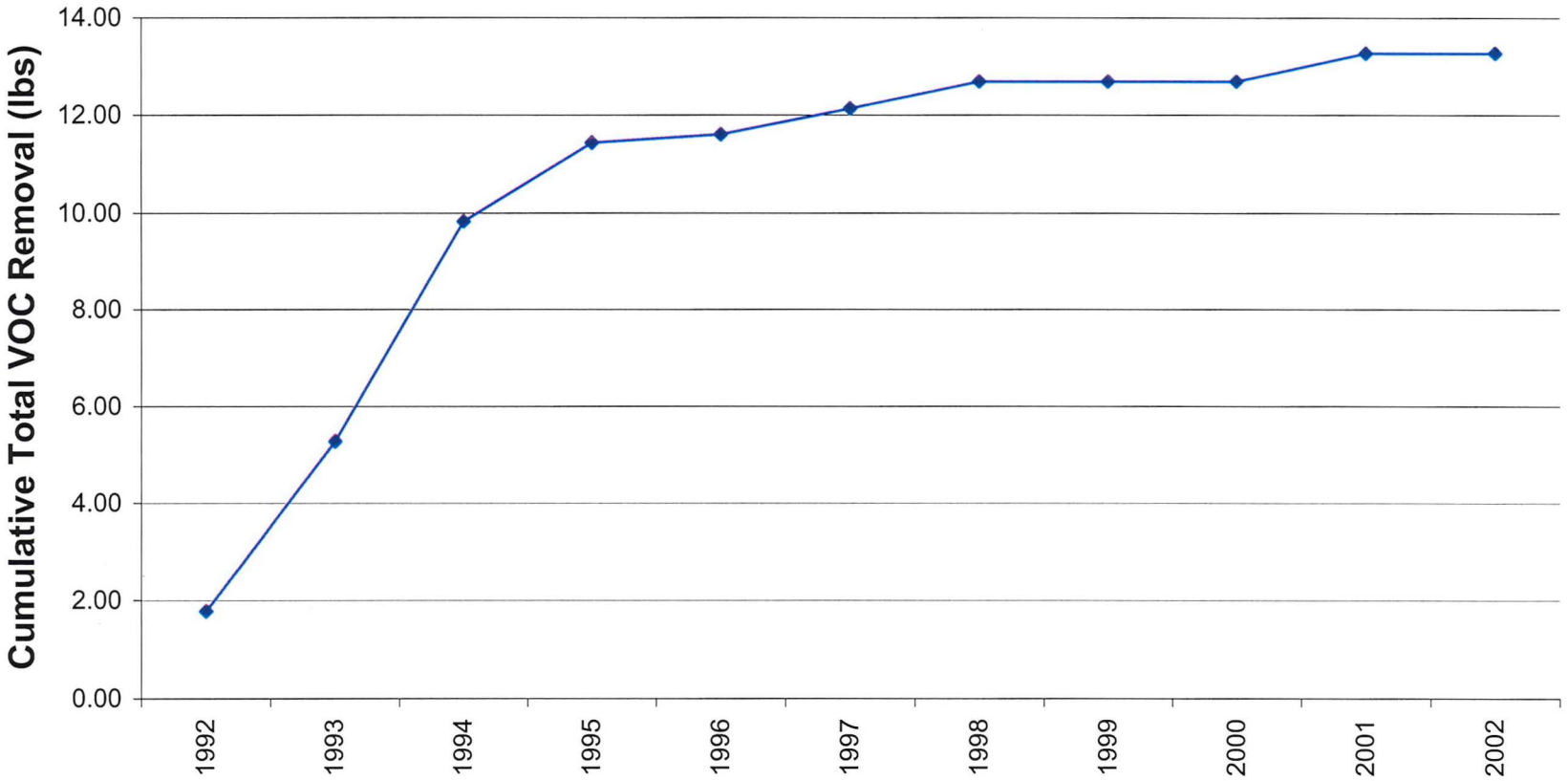
Cumulative Total VOC Removal
Shallow Dolomite Progress Well W-24A
Cook Composites and Polymers
Saukville, Wisconsin



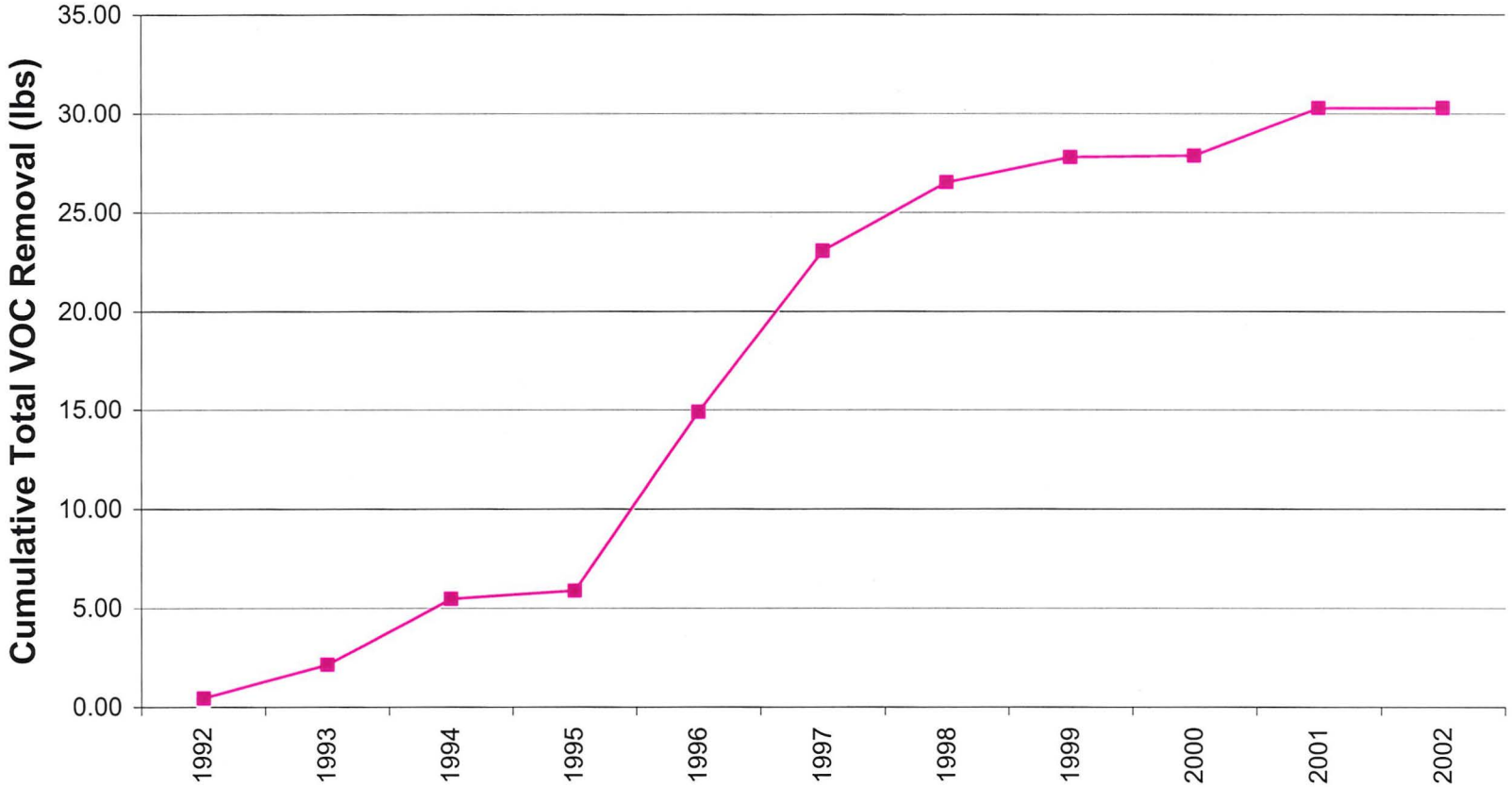
Cumulative Total VOC Removal
Shallow Dolomit Progress Well W-28
Cook Composites and Polymers
Saukville, Wisconsin



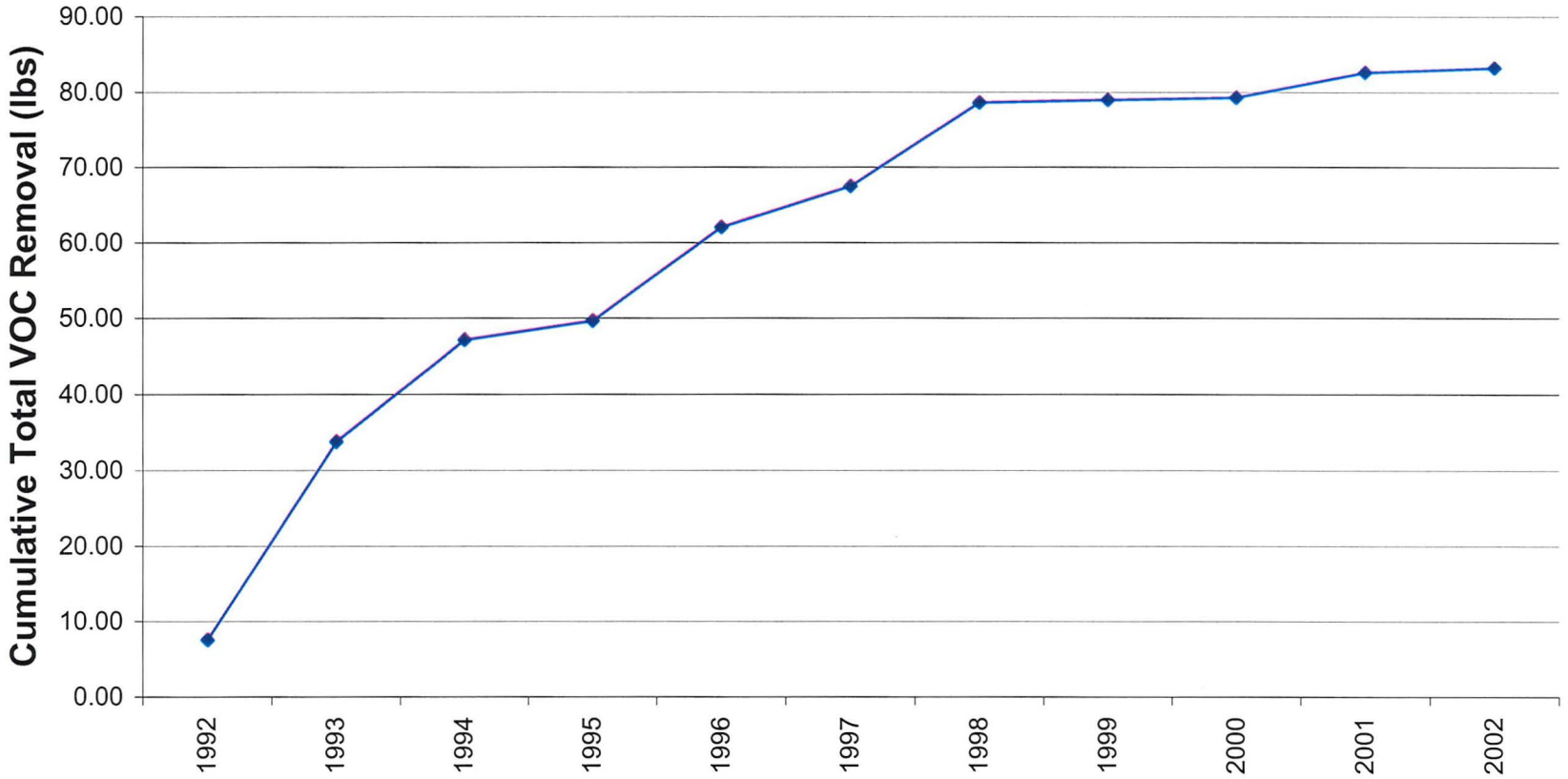
Cumulative Total VOC Removal
Shallow Dolomite Progress Well W-29
Cook Composites and Polymers
Saukville, Wisconsin



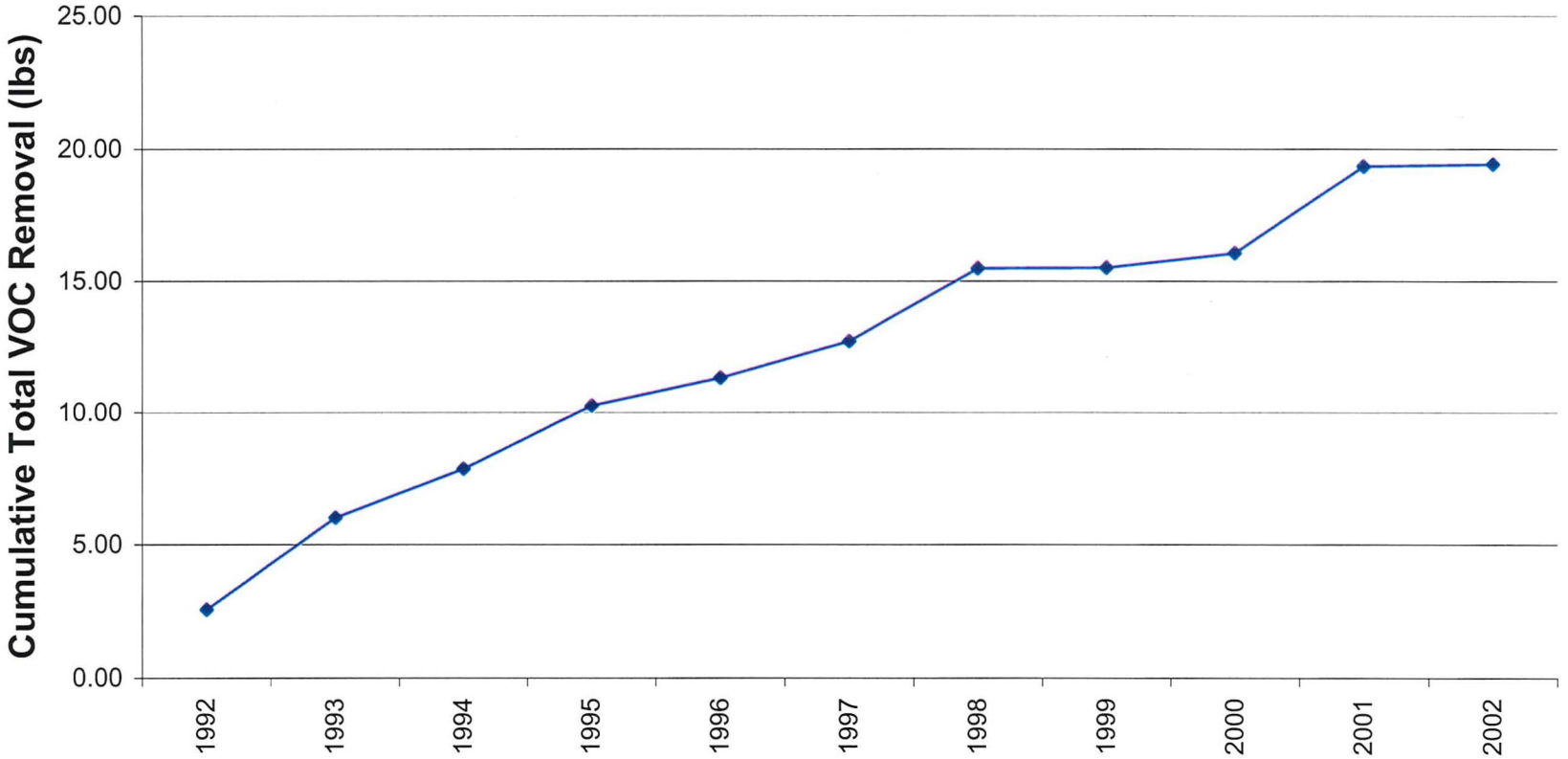
Cumulative Total VOC Removal
Ranney Collector RC-1
Cook Composites and Polymers
Saukville, Wisconsin



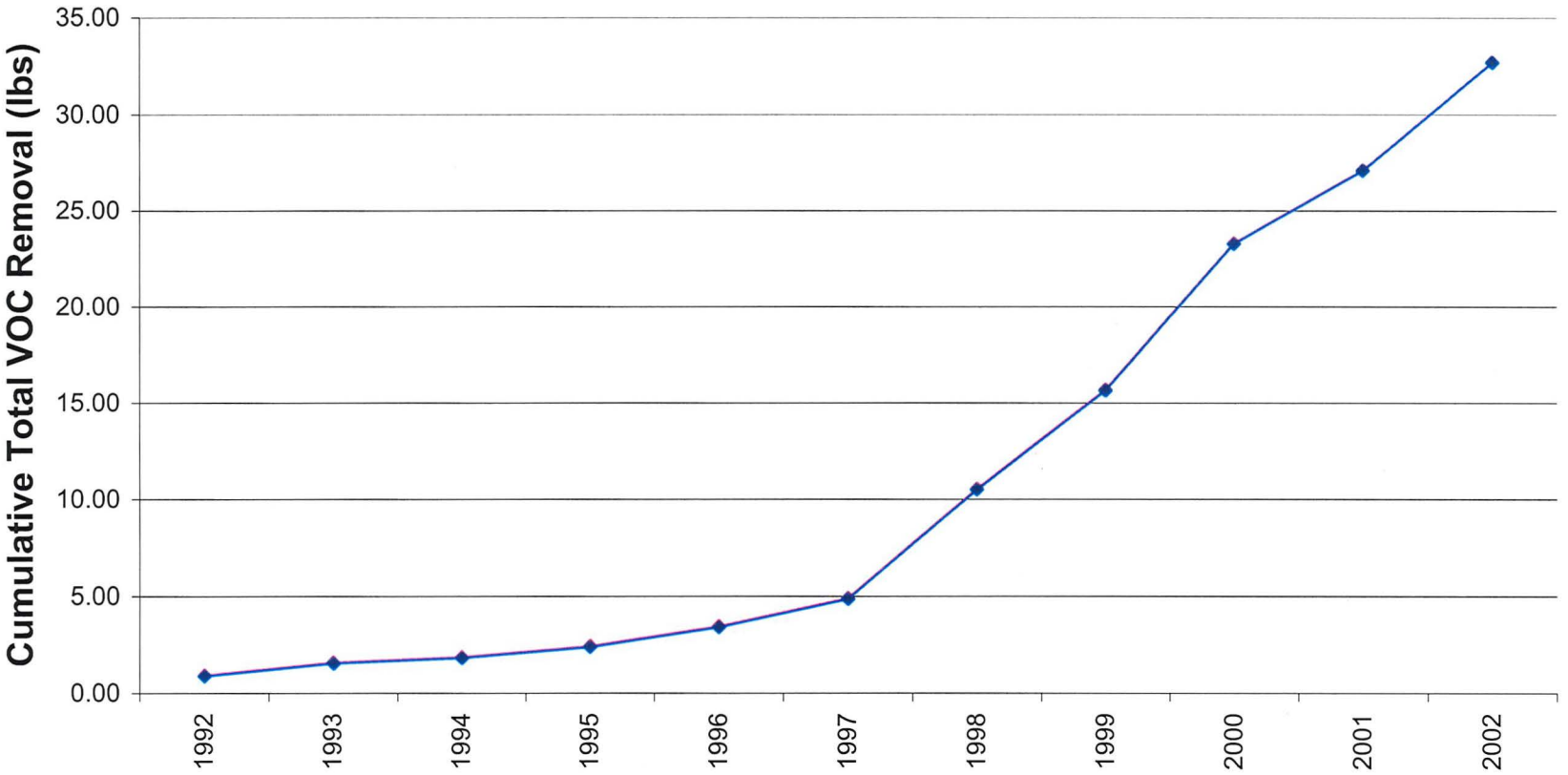
Cumulative Total VOC Removal
Ranney Collector RC-2
Cook Composites and Polymers
Saukville, Wlsconsin



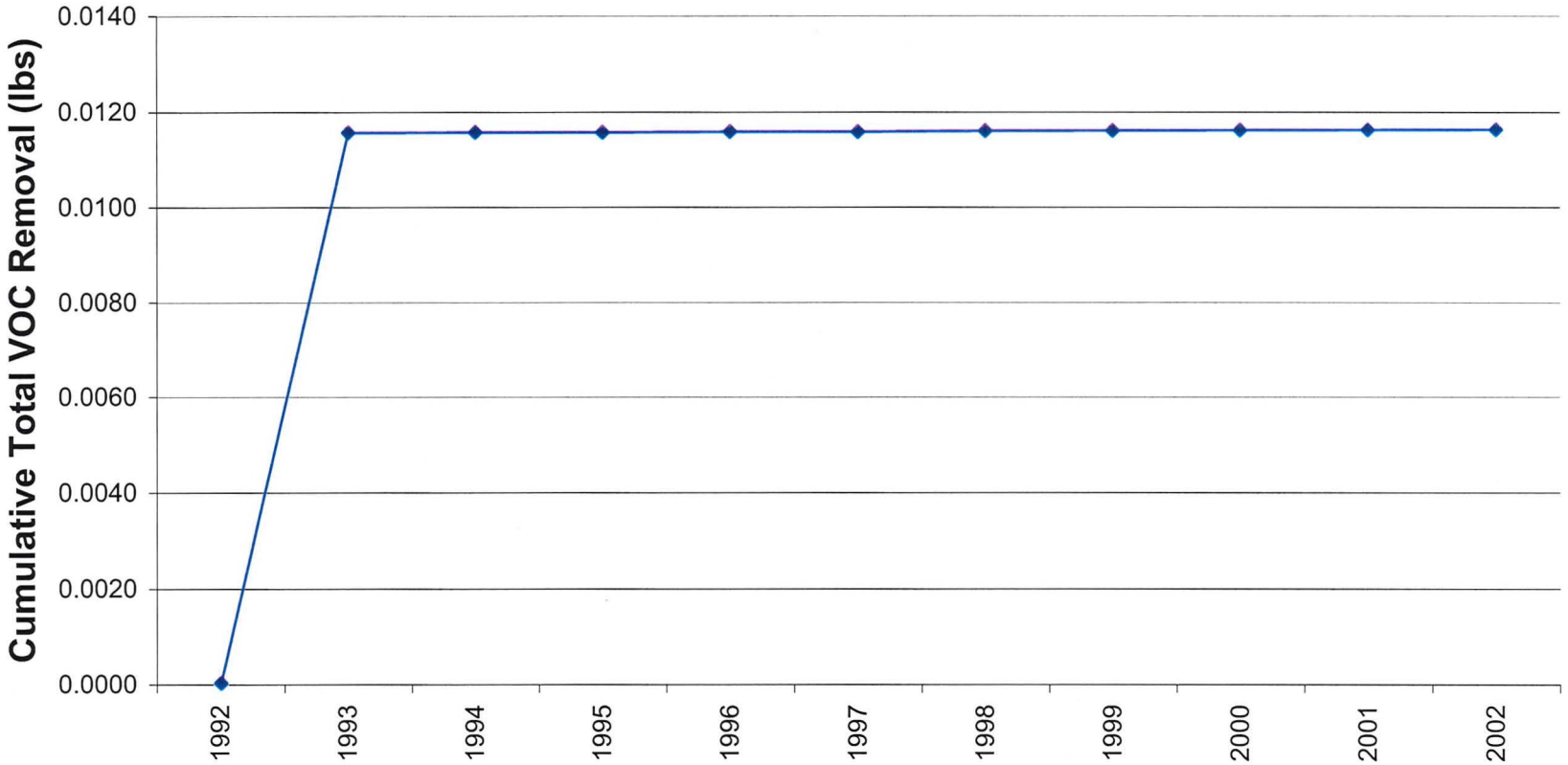
Cumulative Total VOC Removal
Ranney Collector RC-3
Cook Composites and Polymers
Saukville, Wisconsin



Cumulative Total VOC Removal
Deep Dolomite Well W-30
Cook Composites and Polymers
Saukville, Wisconsin

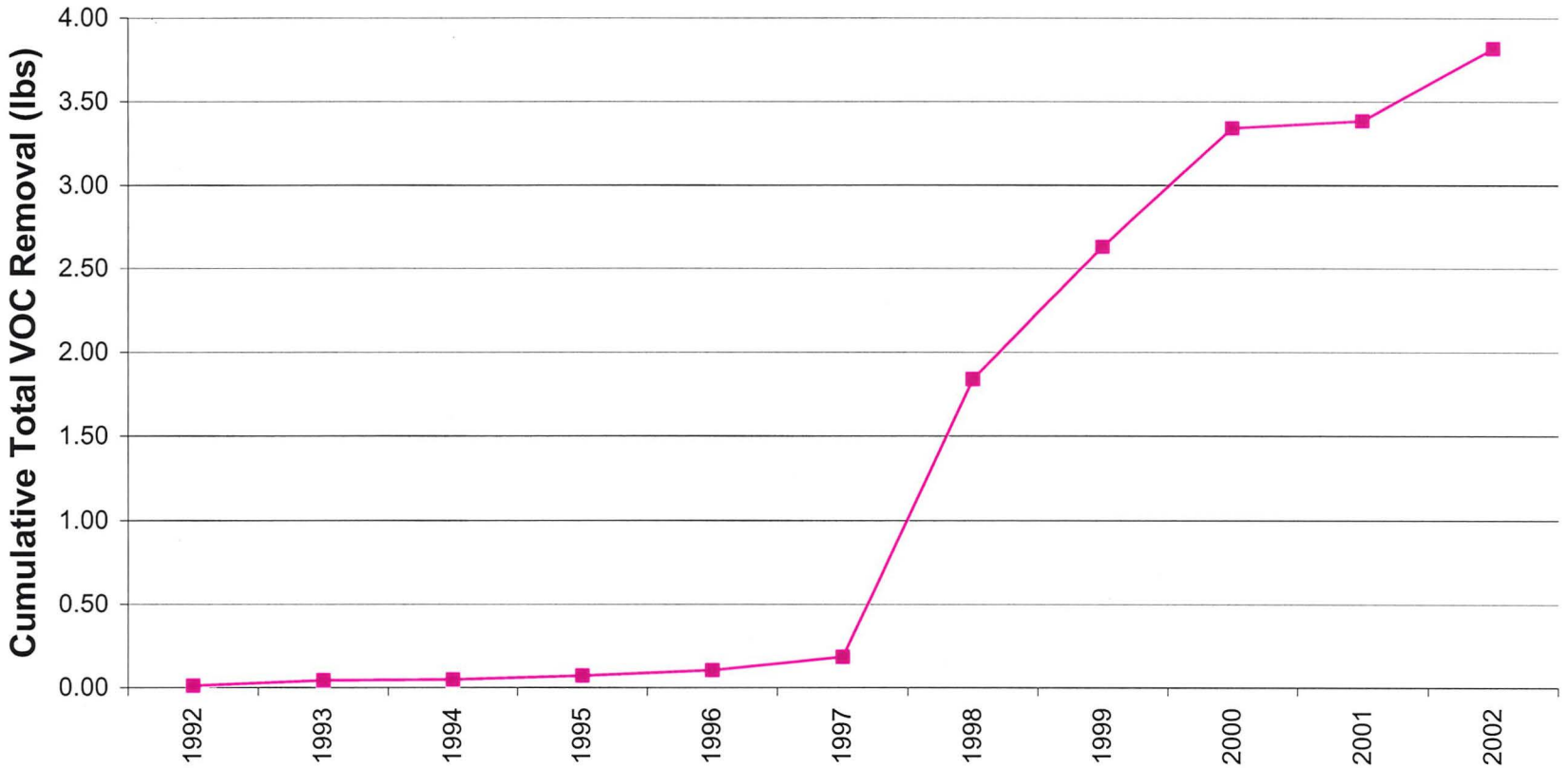


Cumulative Total VOC Removal
Extraction Well W-31
Cook Composites and Polymers
Saukville, Wisconsin

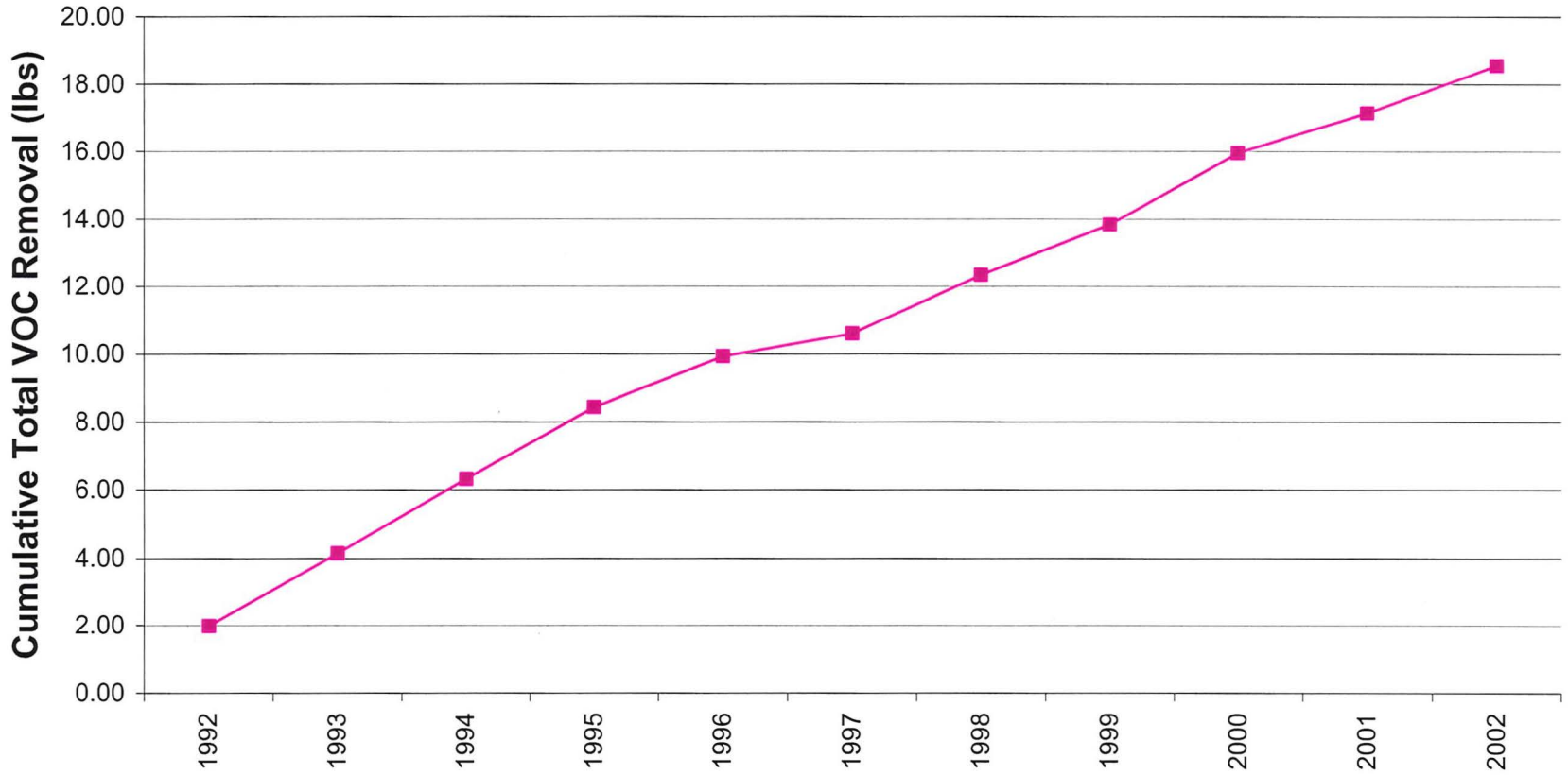


Cumulative Total VOC Removal
Extraction Well W-32
Cook Composites and Polymers
Saukville, Wisconsin

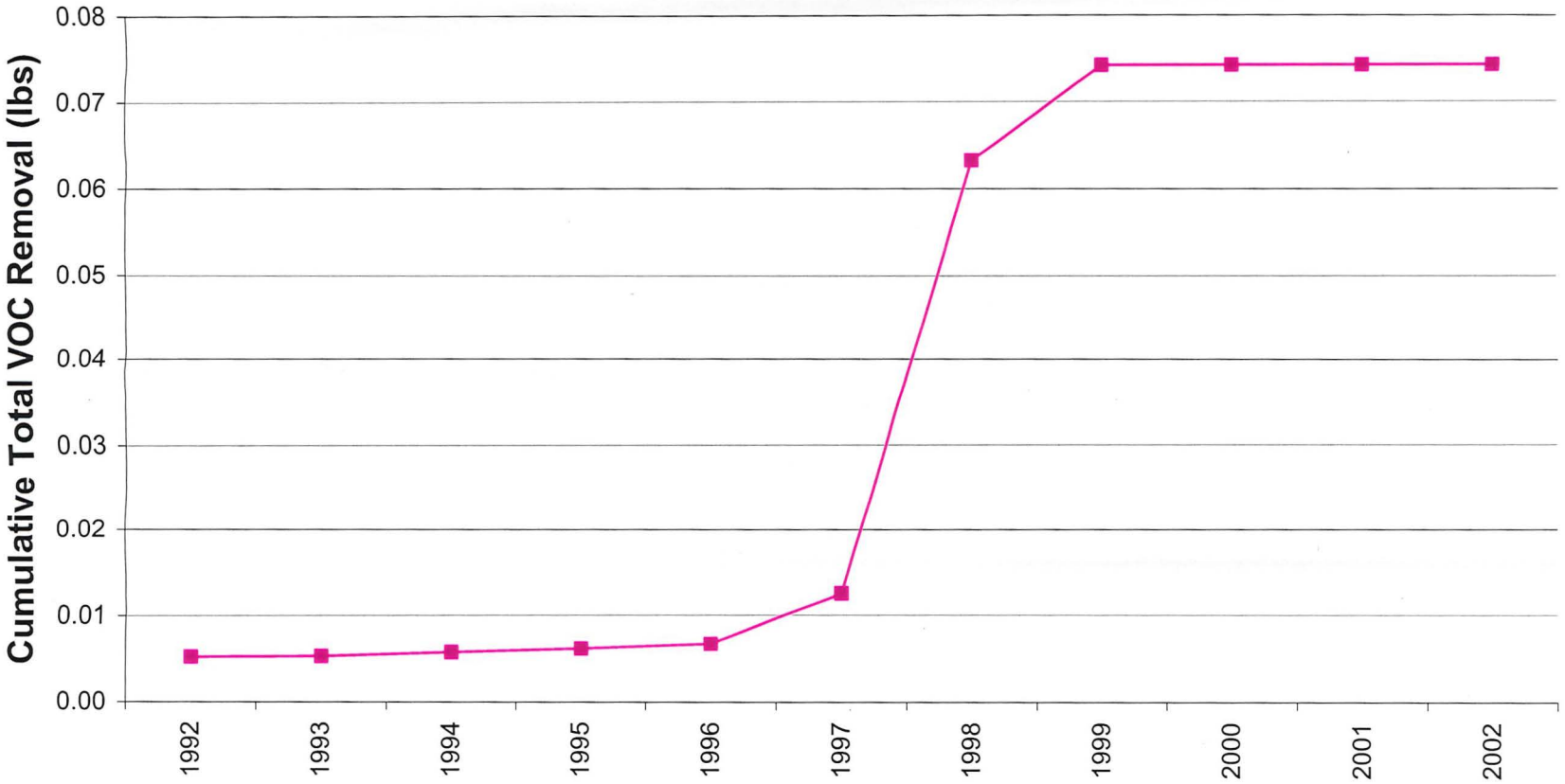
Cumulative Total VOC Removal
Extraction Well W-33
Cook Composites and Polymers
Saukville, Wisconsin



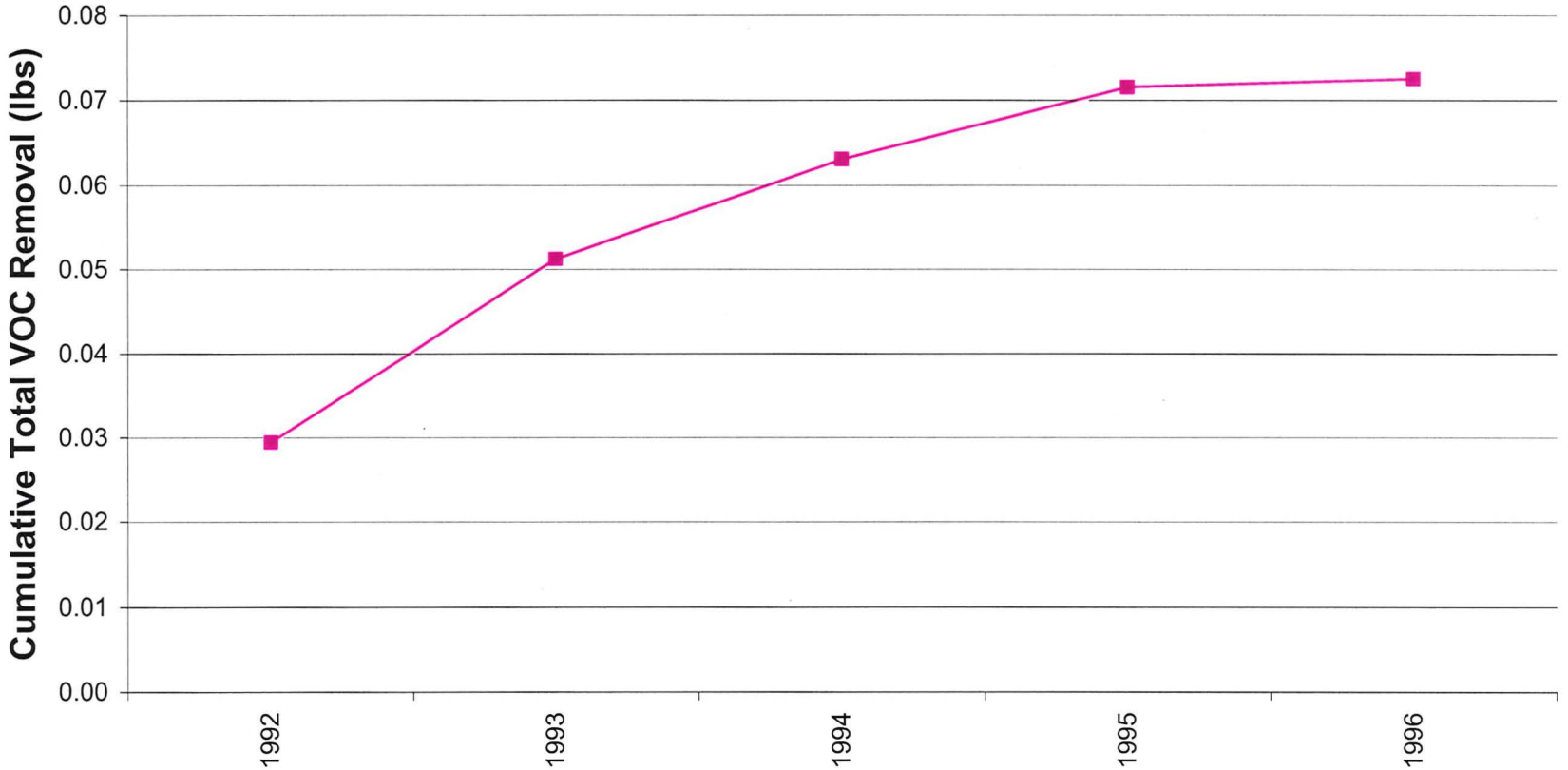
Cumulative Total VOC Removal
Extraction Well W-34
Cook Composites and Polymers
Saukville, Wisconsin



Cumulative Total VOC Removal
Extraction Well W-35
Cook Composites and Polymers
Saukville, Wisconsin



Cumulative Total VOC Removal
Extraction Well W-37
Cook Composites and Polymers
Saukville, Wisconsin



Cumulative Total VOC Removal
Sitewide
Cook Composites and Polymers
Saukville, Wisconsin