→ SER Casefile (ANNEX)

REPORT

1999 ANNUAL GROUNDWATER MONITORING REPORT

COOK COMPOSITES AND POLYMERS SAUKVILLE, WISCONSIN

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HW/GWM

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TABLE OF CONTENTS

Tables

Figures

Appendices

Results of the sampling performed in 1999 indicated that volatile organic compounds (VOCs) are present in the groundwater in the glacial deposits and the shallow dolomite at concentrations of up to 85,740 µg/L, a 51 percent reduction over the maximum total VOC concentration observed in 1998. The residual sources of impacts present on the site continue to impact the groundwater within the glacial deposits and the shallow dolomite unit. However, VOC concentrations in the deep dolomite unit remain at non-detectable levels.

The groundwater extraction system currently operating on 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 the impacts within the glacial drift, shallow dolomite, and deep dolomite units.

Concentrations of VOCs at the perimeter monitoring wells remain at non-detectable to low levels. Groundwater surface contours and potentiometric surface plots indicate that there is a convergent groundwater flow on the site towards the active extraction system. Stable or decreasing plume size, as indicated by stable or decreasing concentrations observed in the perimeter monitoring wells, along with an increase in concentrations observed in the active extraction wells indicate that the extraction system is effectively controlling the off-site migration of the impacts, and is reducing the plume of impacts observed. Municipal wells in Saukville continue to exhibit no detection of the impacts present on the CCP site.

Maintenance performed on all of the Ranney Collectors and many of the extraction wells decreased the number of samples collected. However, the maintenance was necessary to ensure a relaible groundwater extraction system.

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.

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. Other wells or sampling points are sampled on a semi-annual or annual basis.

Samples were collected from the Saukville facility in January, April, July, and October 1999 by URS Greiner Woodward Clyde (URSGWC) personnel. The samples collected were analyzed by EnChem Laboratory of Madison, Wisconsin.

The field data and results of the chemical analyses were compiled by URSGWC, and were submitted on a quarterly basis by CCP to the USEPA Region V, and the WDNR. Volatile organic compounds (VOC) exceedances of the Wisconsin Administrative Code Chapter NR 140 Preventative Action Limits (PAL) or Enforcement Standard (ES) were reported quarterly by CCP in accordance with NR 508. This report was prepared to summarize the results of the groundwater monitoring over the past year.

This document presents a summary of the data collected during the four quarterly groundwater sampling events at the CCP Saukville facility in 1999, and provides an evaluation of the groundwater elevation and quality trends at the site. The water quality data have been submitted to the USEPA and 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 1999. Groundwater measurements are depicted on groundwater table 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 VOC s 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 for 1999.
- An evaluation of the effectiveness of plume containment by the on-site groundwater extraction system, based on groundwater flow and quality data.

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 units consisting of the Silurian dolomite to approximately 100 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. Detailed description of the three units are 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, thinly 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 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. A 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 fracture controlled in the study area.

3.2 GROUNDWATER LEVELS AND FLOW PATTERNS IN 1999

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 1999 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 at the end of this report.

Groundwater elevations on-site appear to be 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.

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. Water table elevations appear to be higher in the spring, possibly due to increased recharge resulting from melting snow and increased rainfall. 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 0.06 ft/ft, based on the Summer 1999 water level data attached in Appendix B. However, on-site shallow groundwater flow is diverted towards the Ranney Collectors and the active on-site remediation network.

Groundwater elevation trends from 1995 to 1999, for the water table monitoring wells, are included in Appendix B. The water levels tend to follow a general trend where increases are observed during the Spring quarters and decreases are observed during the Fall and Winter quarters. The water levels measurements continue to indicate that dewatering of the on-site glacial deposits is occurring, and that the on-site extraction system is controlling off-site migration of groundwater in the glacial drift.

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 July 1999 water level data for wells W-18A/W-22, and W-43/W-38. Downward gradients ranged between 0.3 and 1.2 ft/ft.

3.2.2 Shallow Dolomite Unit

The potentiometric surface in the shallow dolomite unit for the 1999 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 1999, for the shallow dolomite monitoring wells, are included in Appendix B. The water levels tend to follow a general trend where increases are observed during the Spring quarters and decreases are observed during the Fall and Winter quarters. The water levels measurements continue to indicate that 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.

4.1 PROGRAM DESCRIPTION

The groundwater monitoring program at the CCP Saukville facility includes 42 monitoring points composed of 19 glacial drift wells, 11 shallow dolomite wells, 6 deep dolomite wells, 3 Ranney Collectors, and 3 sample points at the 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.

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.

Remediation progress points are monitoring wells which are located within the VOC plume. These wells provide an indication regarding the effectiveness of the on-site pumping wells.

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 in 1999. Pumps in all of the Ranney Collectors and many of the on-site extraction wells were serviced during 1999. This maintenance prohibited sampling from several monitoring points during the year.

4.3 SAMPLING SCHEDULE

Table 3 presents the sampling schedule that was developed for the 1999 groundwater monitoring, 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 were only 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 were 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 (URSGWC, 1999b to 1999e). 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 1999 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 1999. Results on the semi-annual sampling events were within the same order of magnitude. Therefore, an average concentration was utilized to construct the isoconcentration maps.

5.1.1 VOC Patterns in the Glacial Drift Unit

The distribution of VOCs in the glacial drift unit for 1999 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 1999 (Figure 11) is generally similar to the distribution observed in the past. The horizontal extent of the plume remains generally the same as that observed in 1998. However, the highest concentrations have fallen and there is no contour for the 100,000 ug/L level. Total VOC concentrations have decreased at W-6A, W-43 and W-47, while the total VOC concentration at W-42 has increased slightly. These concentration variances could be due to seasonal fluctuations in combination with the on-site remediation system drawing the impacts in the glacial drift towards the extraction wells.

5.1.2 VOC Patterns in the Shallow Dolomite Unit

Total VOC concentrations in the groundwater in the shallow dolomite unit for 1999 are shown on Figure 12. The concentration and distribution of VOCs in the groundwater are similar to those observed in 1998 with the exception of the results from W-24A and W-21A. Total VOC concentrations in W-24A have decreased from 15,270 ug/L in 1998 to 508 ug/L in 1999. W-24A is an extraction well for the on site remediation system, and is located within the influence of Ranney Collector RC-2.

The total VOC concentration at W-21A has decreased from 18,947 ug/L in 1998 to 7,615 ug/L in 1999. W-21A is also an extraction well for the on site remediation system. The decreasing total VOC concentration trends observed in W-21A and W-24A are due to the effectiveness of the on site groundwater remediation system.

5.2 NR 140 PAL AND ES EXCEEDANCES

Wisconsin Administrative Code (WAC) Chapter NR 140 Preventative Action Limits (PALs) and Enforcement Standards (ESs) were exceeded in a total of 12 monitoring wells during 1999. Monitoring Wells W-23 and W-27 had PAL and ES exceedances during the spring and fall sampling events. The exceedances observed in W-23 and W-27 were attributed to chlorinated solvents which have never been used at the CCP facility.

Monitoring Wells W-06A, W-21A, W-24A, W-28, 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 July 1999. It should be noted that all of the wells exhibiting exceedances during the annual sampling event are located within the plume of impacts. The concentrations observed in 1999 are similar to those observed in 1998.

5.3 VOC TRENDS BY MONITORING OBJECTIVE

This section describes the trends in total VOC concentrations for each of the monitoring objectives. Total VOC concentrations in groundwater versus time plots for selected wells are included in Appendix B. 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

Total VOCs were monitored in 1999 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 impacts leaving the CCP facility, associated dilution of these impacts prior to treatment at the POTW, and concentration and character of POTW effluents.

The total VOCs detected in 1999 are summarized in Table 5. The total VOC concentrations detected in the samples collected from the Ranney Collectors are somewhat variable. The variation in total VOC concentrations observed is most likely due to seasonal precipitation and infiltration variations. Total VOC concentrations in 1999 remained below 10,000 ug/L.

The discharges from the Ranney Collectors are mixed with wastewater from several sources prior to arrival at the POTW. Total VOC concentrations detected in the POTW influent, sludge, and effluent are also summarized in Table 5. Total VOC concentrations in the POTW influent were typically between 104.8 ug/L and 134.1 ug/L. However, a spike in the total VOC concentrations was observed in the summer sampling event when the total VOC concentration was 472 ug/L. Based on previous years of data, when the POTW influent total VOC concentrations are compared to the total concentration of VOCs discharged from the Ranney Collectors, it appears that dilution of the VOCs in the Ranney Collector discharges are occurring prior to reaching the POTW.

Total VOC concentrations observed in the POTW sludge ranged between 28.3 and 2975 ug/L. The total VOC concentrations observed in the POTW sludge were typically attributed mostly to toluene and acetone.

The total VOC concentrations observed in the POTW effluent ranged between 0 and 4.76 ug/L. Total VOC concentrations in the POTW effluent were comprised of methylene chloride during the spring sampling event, and chloroform and toluene during the summer sampling event, and acetone and 1,1,1-trichloroethane during the fall sampling event.

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-01 not being sampled during the spring sampling event due to well maintenance activities and MW-03 not being sampled during the spring, summer, and fall sampling events due to well maintenance activities. No VOCs were detected in the municipal wells during the 1999 sampling events.

5.3.2 Perimeter Monitoring

Perimeter monitoring points are sampled on a semi-annual basis in April and October.

5.3.2.1 Glacial Drift Wells

VOC concentrations in the perimeter monitoring wells screened in the glacial drift in 1999 were generally at non-detectable levels, with the exception of wells W-20 and W-27. As in previous years, in W-27 concentrations of trichloroethene and 1,2-dichloroethene exceed the NR 140 ES and PAL, respectively. As mentioned earlier in this report, chlorinated solvents have never been utilized at the CCP facility. Well W-27 is located upgradient of the facility, and detections of chlorinated solvents are likely due to past TCE handling and spills at the former Northern Signal, formerly located immediately west of the CCP property.

5.3.2.2 Dolomite Wells

Perimeter wells screened in the dolomite generally contained less than 10 μg/L of total detectable VOCs, with the exception of W-23 which contained 46.2 ug/L in the fall sampling event. An exceedance to the ES for vinyl chloride was detected in W-23 in the spring sampling event, and an exceedance to the ES for benzene was detected in W-23 in the fall sampling event. Well W-23 has a history of low-level VOC concentrations. 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. In general, the total VOC concentrations observed in 1999 were consistent with the historical ranges. Total VOC concentrations ranged between 0.5 ug/L and 85,740 μg/L in 1999. A summary of the total VOCs detected in 1999 is presented in Table 7.

Several of the remediation progress wells screened in the glacial drift exhibited concentrations of individual VOCs in exceedance of the PALs and ESs. Specifically, well W-06A exhibited PAL exceedances for arsenic and naphthalene and ES exceedances for benzene, cis-1,2-dichloroethene, ethylbenzene, toluene, and xylenes; well W-41 had a PAL exceedance for benzene and an ES exceedance for xylenes; well W-42 had a PAL exceedance for toulene and ES exceedances for benzene,, ethylbenzene, and xylene; well W-43 had a PAL exceedance for toulene and ES exceedances for arsenic, napthalene, benzene, ethylbenzene, xylene, and bis(2-ethylhexyl)phthalate; and well W-47 had PAL exceedances for napthalene, 2-butanone, and acetone and ES exceedances for arsenic, benzene, cis-1,2-dichloroethene, ethylbenzene, toluene, and xylene.

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.

Five of the remediation progress wells screened in the shallow dolomite had concentrations of various VOCs in exceedance of the PAL or ES. Well W-21A exhibited exceedances to the PAL for 1,2-dichloropropane and toulene and ES exceedances for arsenic, naphthalene, 1,2-dichloroethane, benzene, ethylbenzene, vinyl chloride, and xylene; well W-24A exhibited a PAL exceedance for toulene and ES exceedances for arsenic, bis(2-ethylhexyl)phthalate, benzene, ethylbenzene, vinyl chloride, and xylene; well W-28 exhibited a PAL exceedance for benzene and an ES exceedance for arsenic; well W-30 exhibited ES exceedances for benzene and arsenic; and well W-38 exhibited ES exceedances for benzene and xylene.

5.4 APPENDIX IX RESULTS

In accordance with the WDNR requirement, seven remedial progress wells were analyzed during the annual sampling event in July 1999 for the non-VOC Appendix IX parameters detected during the October 1994 sampling event and during the January 1995 confirmatory sampling. A listing of the parameters included is shown on Table 8. 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 1999 annual sampling event included: 1,4-dioxane, 2,4-dimethylphenol, 2-methylphenol, 4-methylphenol, acetophenone, naphthalene, phenol, 1,2-dichlorobenzene, 2-methylnaphthalene, phenanthrene, bis(2-ethylhexyl)phthalate, arsenic, and barium. The metals detected may be related to naturally occurring elements. Naphthalene, bis(2-ethylhexyl)phthalate, and arsenic were detected at concentrations in exceedance of their respective PAL or ES.

As discussed in earlier sections of this report, well W-06A exhibited PAL exceedances for naphthalene and arsenic. The results from the 1999 sampling event are within the historical ranges observed in well W-06A. Well W-21A exhibited ES exceedances for naphthalene and arsenic. Results from the 1999 sampling event are within the historical ranges observed in W-21A. W-24A exhibited ES exceedances for bis(2-ethylhexyl)phthalate and arsenic. W-43 exhibited ES exceedances for naphthalene, bis(2-ethylhexyl)phthalate, and arsenic. W-47 exhibited a PAL exceedance for naphthalene and an ES exceedance for arsenic. The presence of the arsenic in the groundwater samples is believed to be due to natural concentrations of arsenic in the soils, and not due to operations at the site.

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), indicate that the off-site migration of contaminated groundwater within the glacial drift unit is being 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 1999, total VOC concentrations in the shallow dolomite remediation progress wells ranged between 56.2 and 7,615 µg/L. Shallow dolomite perimeter monitoring wells continue to exhibit total VOC concentrations of less than 10 µg/L, with the exception of the fall sampling of W-23. 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 which 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, migration of the contaminant plume in the shallow dolomite is being effectively contained and controlled.

6.3 DEEP DOLOMITE UNIT

VOC concentrations in the deep dolomite receptor (municipal) wells (MW-1, MW-2, MW-3, MW-4) have remained below detectable levels in 1999. Low level concentrations of carbon disulfide have been detected in PW-08, located upgradient to the CCP facility, in 1999. VOC concentrations observed in W-30 in 1999 decreased slightly over the concentrations observed in

1998. It should be noted that a subsurface investigation was performed in 1998 at the Saukville Feeds site located immediately upgradient to the W-30 location. Results of this investigation have not been reviewed by URSGWC professionals.

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 from the source areas in the glacial drift into the shallow dolomite 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.

URS Greiner Woodward Clyde. 1999a. 1998 Annual Groundwater Monitoring Report. April 1999.

URS Greiner Woodward Clyde. 1999b. Groundwater Monitoring Results - 1999 Winter Quarter. March 1999

URS Greiner Woodward Clyde. 1999c. Groundwater Monitoring Results - 1999 Spring Quarter. June 1999.

URS Greiner Woodward Clyde. 1999d. Groundwater Monitoring Results - 1999 Summer Quarter. September 1999.

URS Greiner Woodward Clyde. 1999e. Groundwater Monitoring Results - 1999 Fall Quarter. November 1999.

TABLE 1
SUMMARY OF WATER LEVELS, 1999 (FEET, MSL)
COOK COMPOSITES AND POLYMERS

GEOLOGIC UNIT	WELL ID	Jan-99	Apr-99	Jul-99	Oct-99
Glacial	W-01A	756.06	759.70	759.76	758.07
Glacial	W-03B	731.71	741.11	734.64	737.40
Glacial	W-04A	DRY	755.69	753.63	746.49
Glacial	W-06A	764.55	766.67	765.17	765.51
Glacial	W-08R	744.79	745.95	746.01	745.58
Glacial	W-14B	761.80	766.15	764.65	763.56
Glacial	W-16A	752.55	758.81	759.09	754.43
Glacial	W-18A	NM	770.13	766.91	768.64
Glacial	W-19A	NM	767.85	766.24	767.93
Glacial	W-20	726.32	728.35	728.81	733.31
Glacial	W-27	766.35	768.52	767.33	768.23
Glacial	W-37	Well abandoned August 2, 1996			
Glacial	W-41	758.23	760.88	760.92	759.00
Glacial	W-42	754.65	758.63	759.07	758.43
Glacial	W-43	NM	760.63	760.39	758.67
Glacial	W-44	NM	754.80	758.87	758.10
Glacial	W-45	DRY	752.42	752.48	752.84
Glacial	W-46	<752.35	NM	761.81	762.34
Glacial	W-47	NM	763.62	761.56	760.00
Glacial	W-48	NM	762.45	762.50	761.88
Shallow Dolomite	W-03A	730.75	733.06	733.64	736.66
Shallow Dolomite	W-07	741.69	744.73	745.01	743.29
Shallow Dolomite	W-21A*	NM	702.54	716.12	694.15
Shallow Dolomite	W-22	NM	731.25	730.21	729.62
Shallow Dolomite	W-23	735.19	737.10	738.12	738.60
Shallow Dolomite	W-24A*	NM	763.09	755.47	737.69
Shallow Dolomite	W-25	Well abandoned July 29, 1997			
Shallow Dolomite	W-28*	NM	700.61	734.81	711.77
Shallow Dolomite	W-29*	NM	758.54	736.94	NM
Shallow Dolomite	W-38	NM	748.77	750.42	749.47
Shallow Dolomite	W-39	755.91	758.56	758.28	757.10
Shallow Dolomite	W-40	735.24	737.44	740.40	739.96
Deep Dolomite	MW-01	NM	NM	679.00	686.00
Deep Dolomite	MW-02	NM	NM	579.03	NM
Deep Dolomite	MW-03	461.00	NM	NM	NM
Deep Dolomite	MW-04	668.00	668.00	673.00	674.00
Deep Dolomite	PW-08	736.48	741.69	741.83	740.65
Deep Dolomite	W-30*	660.73	649.18	630.73	700.00

* = Extraction Well
NM = not measured

TABLE 2
SUMMARY OF WELL RUNNING TIMES - 1999
COOK COMPOSITES AND POLYMERS CO.

Hydrogeologic Unit	Well ID	Monthly Running Times (hours) Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Total (hours)	Percent of Total Available	Comments
Glacial Drift	W-31	0	0.5	0.4	0.5	1.5	1	0.4	0	0	0	0	0	4.3	0.0%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	W-32	0	0.1	0.1	0.1	0	0	0.1	0	0	0.1	0	0	0.5	0.0%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	W-33	671.5	673.1	222.1	178.4	190.3	73.5	106.7	675.4	423.9	10.2	3.8	7.5	3236.4	36.9%	Dewatering of glacial drift due to pumping at RC-2 has affected shallow groundwater elevations.
	W-34	671.4	673.3	838.4	672.1	672.5	839	671.3	675.4	423.9	10.2	3.8	7.5	6158.8	70.3%	Continued pumping assists in controlling off-site migration of contaminants within the glacial drift.
	W-35	4.4	0	0	2.3	0	0	37.4	0	0	0.1	0	0	44.2	0.5%	Continued pumping assists in controlling off-site migration of contaminants within the glacial drift.
	RC-1	46.8	256.8	721.9	541.9	79.8	0	6	0	0	505	456.9	326	2941.1	33.6%	Pumping has created some dewatering of the glacial drift.
	RC-2	0	0	0	0	0	0	241.4	675.4	320.9	0	0	0	1237.7	14.1%	Pumping has created some dewatering of the glacial drift.
	RC-3	316.1	42.7	0	0	0	0	0	0	0	111.1	0.2	0	470.1	5.4%	Pumping has created some dewatering of the glacial drift.
Shallow Dolomite	W-21A	562.4	570.1	838.6	677	669	838	670.4	676.1	838.6	670.8	679.6	863.9	8554.5	97.7%	Pumping is contributing to the creation of a large dewatered zone within the shallow dolomite.
	W-24A	5.2	5.1	6.3	6.3	6	6.5	5.2	5.2	6.4	6	5.8	7.8	71.8	0.8%	Continued pumping assists in controlling off-site migration of contaminants within the shallow dolomite.
	W-28	8.8	0	0	3.6	0	44	55.2	89.2	114	170.1	166.2	199.1	850.2	9.7%	Continued pumping assists in controlling off-site migration of contaminants within the shallow dolomite.
	W-29	553.8	584.4	746.5	459.3	0	0	0	0	0	18	33.1	43.5	2438.6	27.8%	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 1999 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			8260, 8270, 7060, 6010
		W-19A			8021
		W-37[6]			
		W-41			8021

TABLE 3 (CONTINUED)

SUMMARY OF 1999 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			8260, 8270, 7060, 6010
		W-47			8260, 8270, 7060, 6010, 8081
	Shallow Dolomite	W-21A			8260, 8270, 7060, 6010
		W-24A			8260, 8270, 7060, 6010
		W-28			8260, 8270, 7060, 6010
		W-29			8260, 8270, 7060, 6010
		W-38			8021
	Deep Dolomite	W-30			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	

Aromatic Volatile 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 1999
Receptor Monitoring Group
Cook Composites and Polymers, Co.

Glacial Unit

Sample ID	Units	Jan-99	Apr-99	Jul-99	Oct-99
RC-1	ug/L	70.57	8192.9	NS	NS
RC-2	ug/L	NS	NS	NS	2737.1
RC-3	ug/L	406.67	NS	NS	NS

Deep Dolomite

Sample ID	Units	Jan-99	Apr-99	Jul-99	Oct-99
MW-01	ug/L	NS	0	0	0
MW-02	ug/L	NS	NS	0	NS
MW-03	ug/L	0	NS	NS	NS
MW-04	ug/L	0	0	0	0

POTW

Sample ID	Units	Jan-99	Apr-99	Jul-99	Oct-99
POTW-I	ug/L	131.44	134.08	472.05	104.78
POTW-E	ug/L	0	0.77	1.19	4.76
POTW-S	ug/L	2.9	206.1	2975	28.3

ND = Not Detected
NS = Not Sampled

Table 6
Total VOCs Detected 1999
Perimeter Monitoring Group
Cook Composites and Polymers, Co.

Glacial Unit

Sample ID	Units	Apr-99	Oct-99
W-01A	ug/L	0	0
W-03B	ug/L	0	0
W-04A	ug/L	0	0
W-08R	ug/L	0	~
W-20	ug/L	1.4	0
W-27	ug/L	97	214

Shallow Dolomite

Sample ID	Units	Apr-99	Oct-99
PW-08	ug/L	2.1	1.5
W-03A	ug/L	0	0
W-07	ug/L	0	0
W-22	ug/L	0	0
W-23	ug/L	3.71	46.2
W-25	ug/L	~	~

ND = Not Detected

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

Table 7
Total VOCs Detected 1999
Remediation Progress Monitoring Group
Cook Composites and Polymers, Co.

Glacial Unit

Sample ID	Units	Jul-99
W-06A	ug/L	85,740
W-19A	ug/L	0.5
W-37	ug/L	~
W-41	ug/L	830
W-42	ug/L	19,910
W-43	ug/L	14,640
W-47	ug/L	44,490

Shallow Dolomite

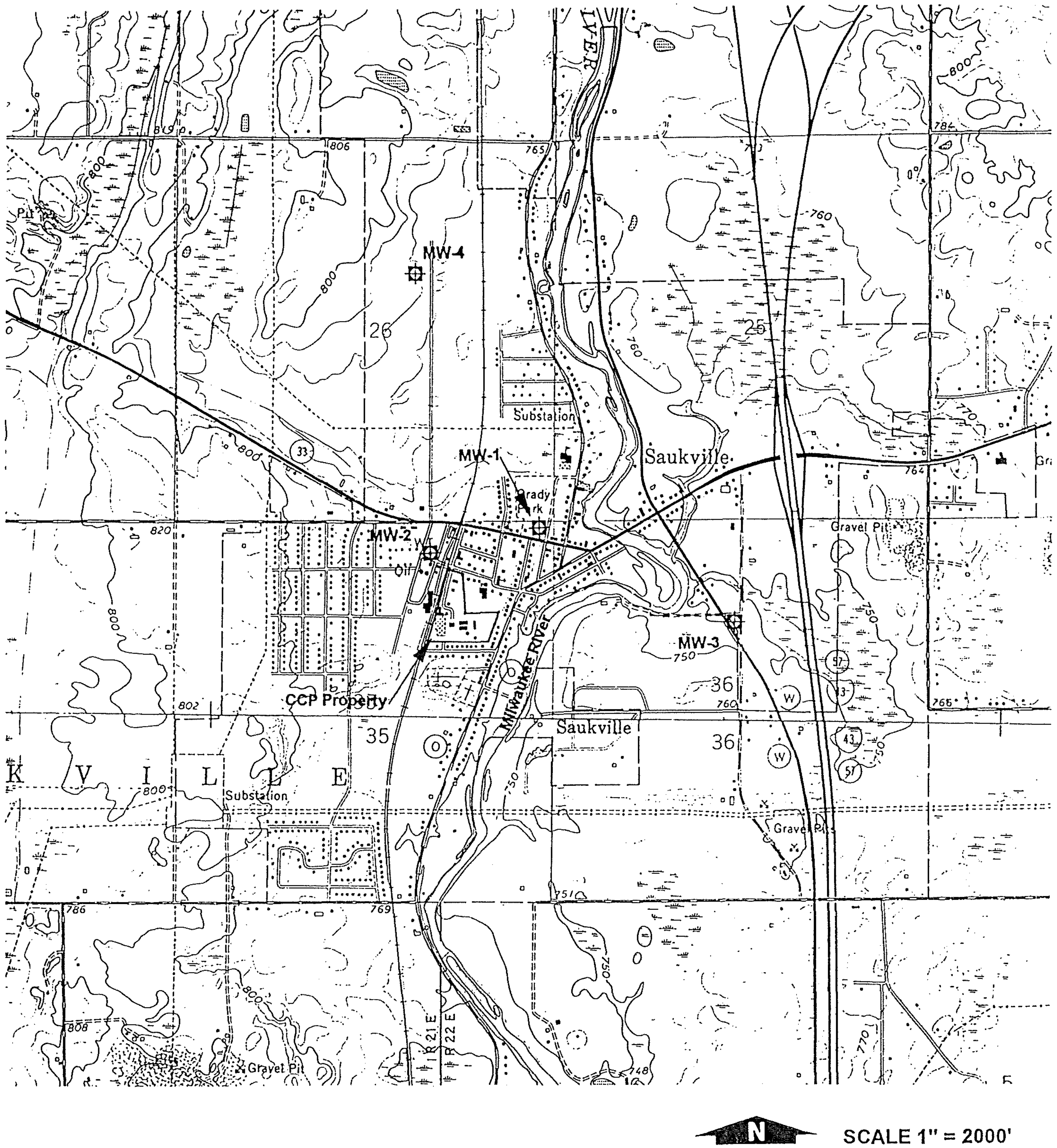
Sample ID	Units	Jul-99
W-21A	ug/L	7,615
W-24A	ug/L	508
W-28	ug/L	702.3
W-29	ug/L	NS
W-30	ug/L	56.2
W-38	ug/L	5,302

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

TABLE 8
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	19Q	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
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
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	<980	120
	Jul-98	–	–	26	<6.9	<1.4	<1.4	NS	<1.4	<14	140
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
Acetophenone	Oct-94	–	–	56	ND	ND	ND	ND	ND	ND	ND
	Jan-95	–	–	78Q	ND	ND	ND	ND	ND	9600	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
Naphthalene	Oct-94	8	40	10	ND	ND	ND	ND	ND	ND	34
	Jan-95	8	40	15Q	ND	ND	ND	ND	ND	1200Q	17Q
	Jul-95	8	40	ND	27Q	ND	ND	2Q	ND	43Q	30Q
	Jul-96	8	40	31	28Q	ND	ND	0.4Q	ND	75Q	90Q
	Jul-97	8	40	17J	4.1J	ND	ND	ND	ND	200	18J
	Jul-98	8	40	15	25	24	NS	<2.3	<2.1	<2100	110
	Jul-99	8	40	13	64	<0.41	<0.41	NS	<0.41	130	27
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
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
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
Acenaphthene	Jan-95	–	–	ND	ND	ND	ND	ND	ND	280Q	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
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	1.3J	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
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
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
Metals											
Arsenic	Oct-94	5	50	47	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	29	ND	ND	ND	ND	25	4.8
	Jul-96	5	50	29	20	ND	ND	4.4	ND	30	8
	Jul-97	5	50	38	16	ND	2.5	2.7	3.2	11	6.2
	Jul-98	5	50	43	26	7.6	NS	4.5	2.3	27	6.7
	Jul-99	5	50	46	150	86	140	NS	84	1100	110
Barium	Oct-94	400	2000	66	130	85	130	170	76	ND	150
	Jan-95	400	2000	68	130	74	ND	140	70	490	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	6
Zinc	Oct-94	2500	5000	ND	ND	ND	270	ND	ND	ND	ND

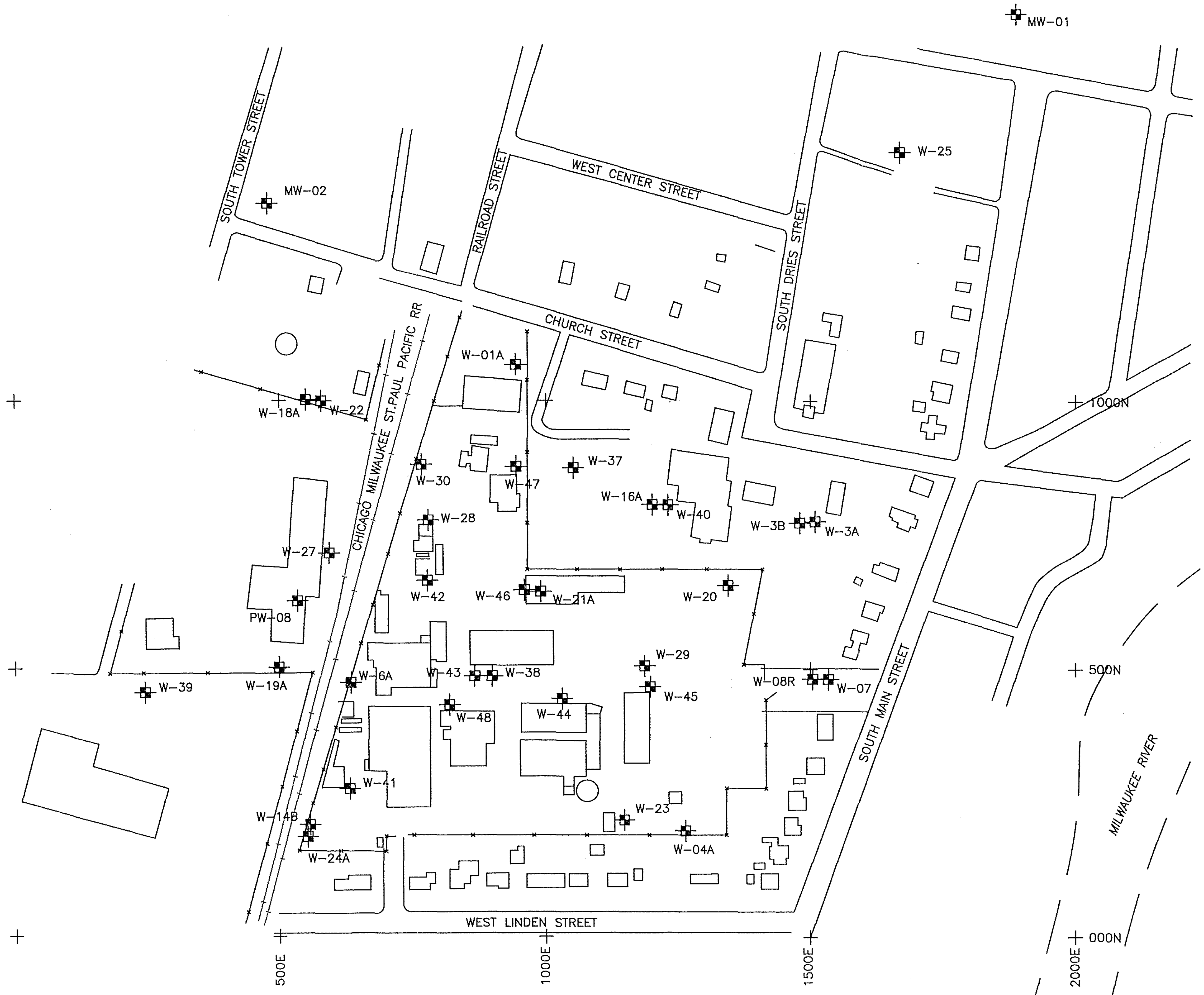
NS = Not Sampled
NA = Not Analyzed
ND = Not Detected
PAL Exceedance
ES Exceedance



Source : Port Washington West and Cedarburg, Wisconsin 7.5 minute topographic quadrangles.

Woodward-Clyde	FIGURE 1 Site Location Map Cook Composites and Polymers Co. Saukville, Wisconsin

DRAWN BY : RAC	CHECKED BY :	APPROVED BY :	DATE :	PROJECT NO. :



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.

N

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

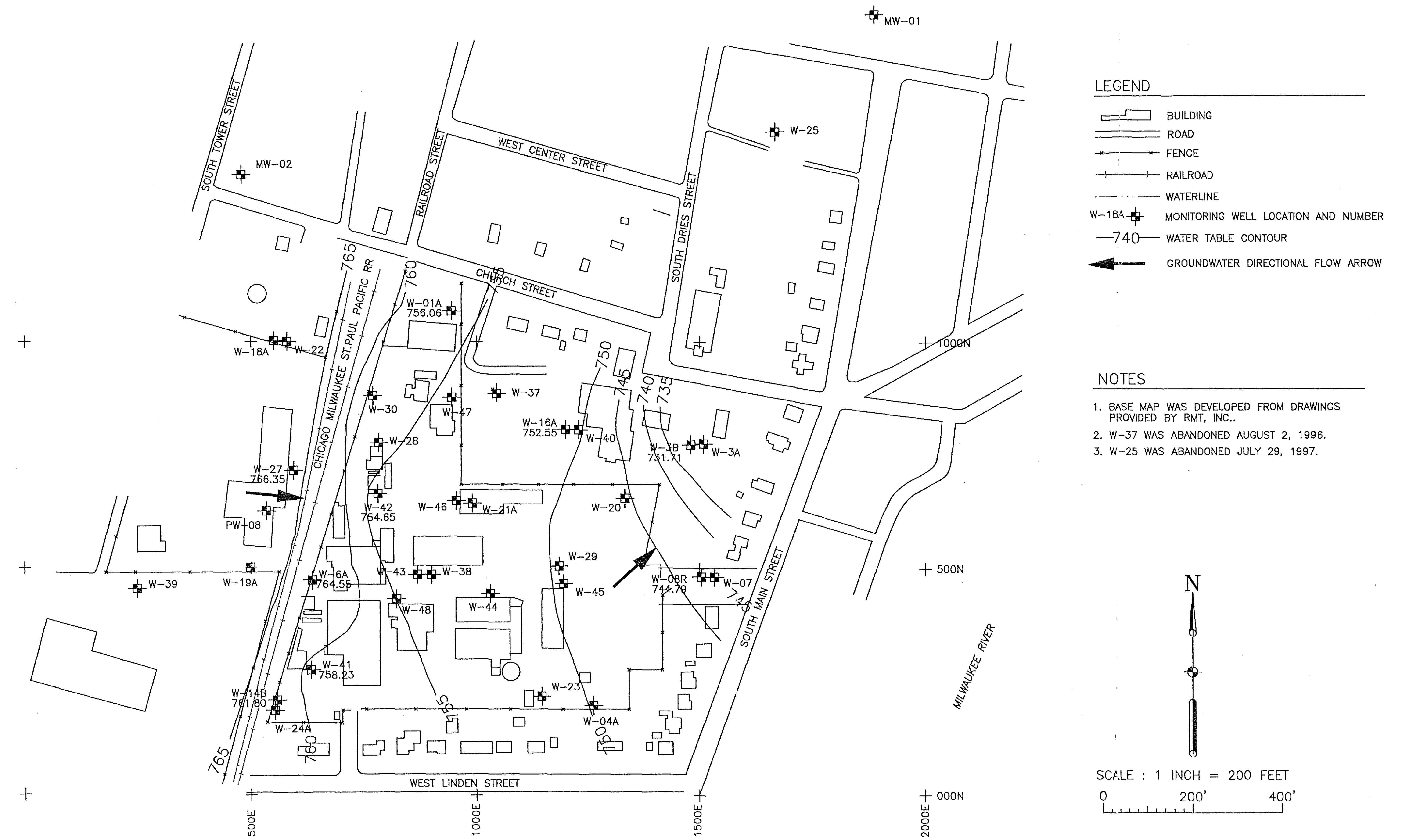
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1". THEN DRAWING IS NOT TO SCALE

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	08E13503.00
FIGURE	2
SHEET	2 OF 12



REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

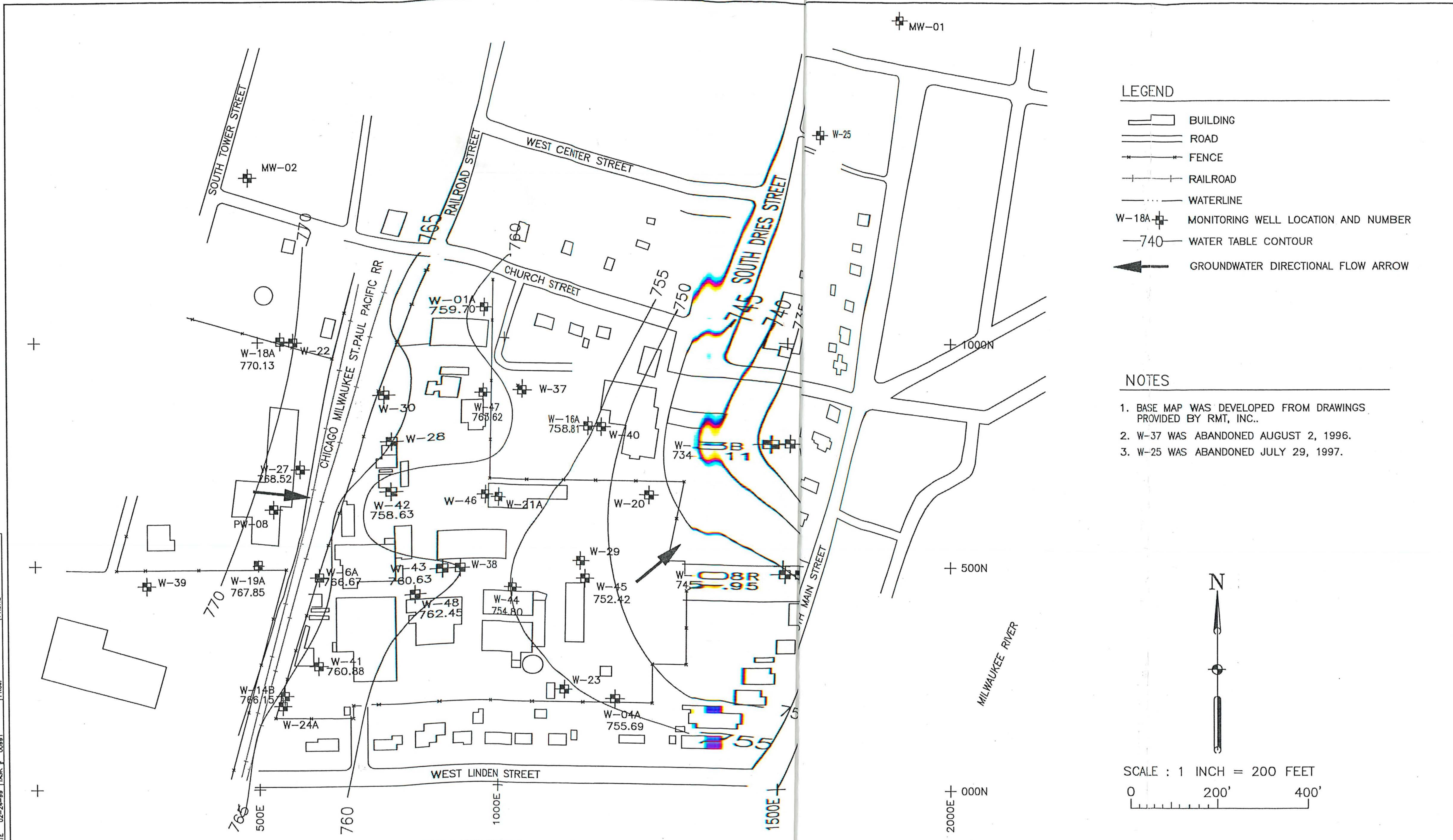
WARNING
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	RAC
DRAWN	MAS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	02-24-99

WATER TABLE MAP
GLACIAL DRIFT – WINTER 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION	
PROJECT	08E13503.00
FIGURE	3



REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Sui
Brookfield, Wisconsin 53005

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

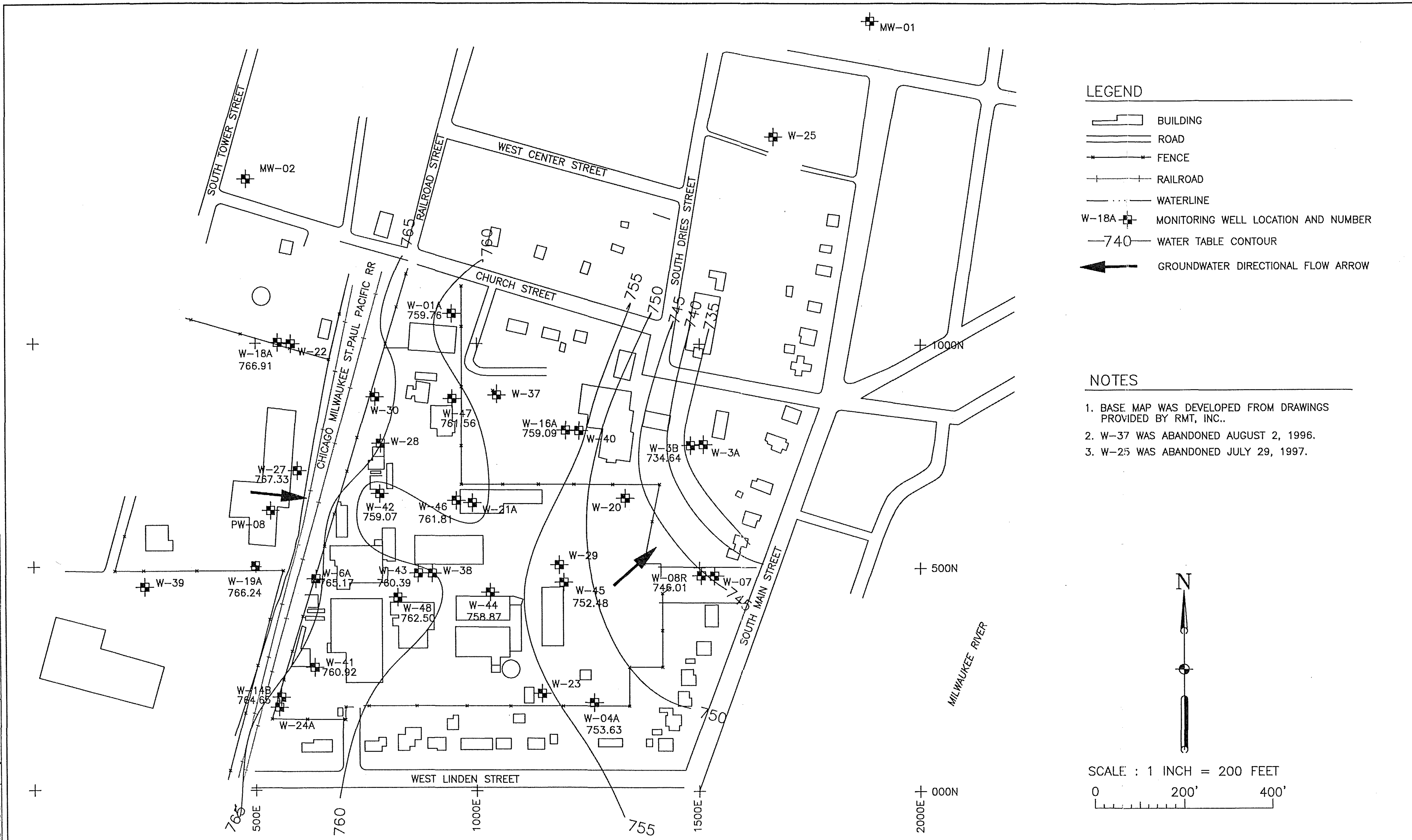
DESIGNED	RAC
DRAWN	MAS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	05-19-99

WATER TABLE MAP
GLACIAL DRIFT – SPRING 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 4

FILE NAME: FIG-1.DWG SCALE: 1" = 200' OPER. MAS DATE 02-24-99 PROJ. # 8E13503 TASK # 00991



REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

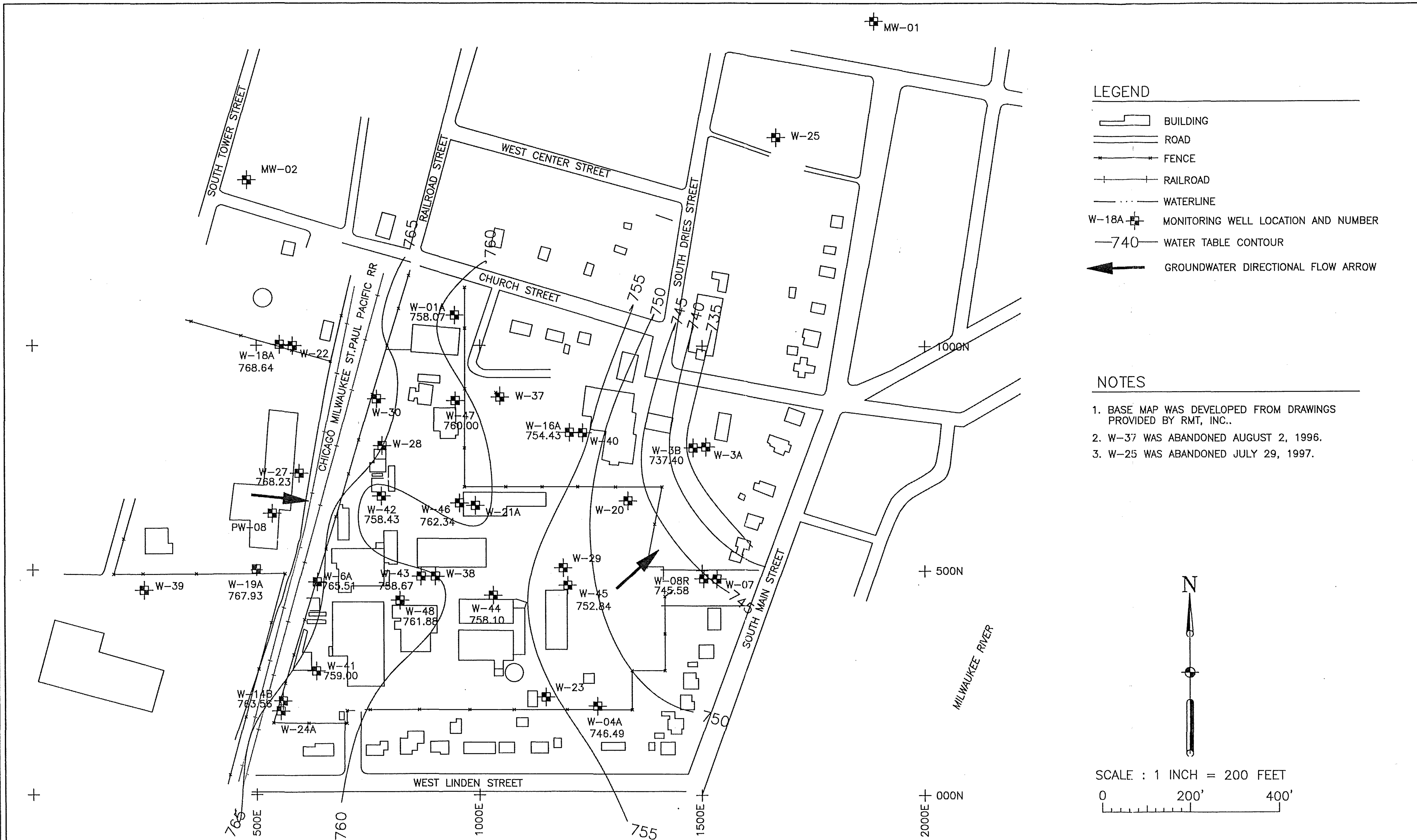
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RAC
DRAWN MAS
CHECKED
PEER REVIEWED
PROJECT MANAGER RAC
DATE 07-06-99

WATER TABLE MAP
GLACIAL DRIFT - SUMMER 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 5



REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

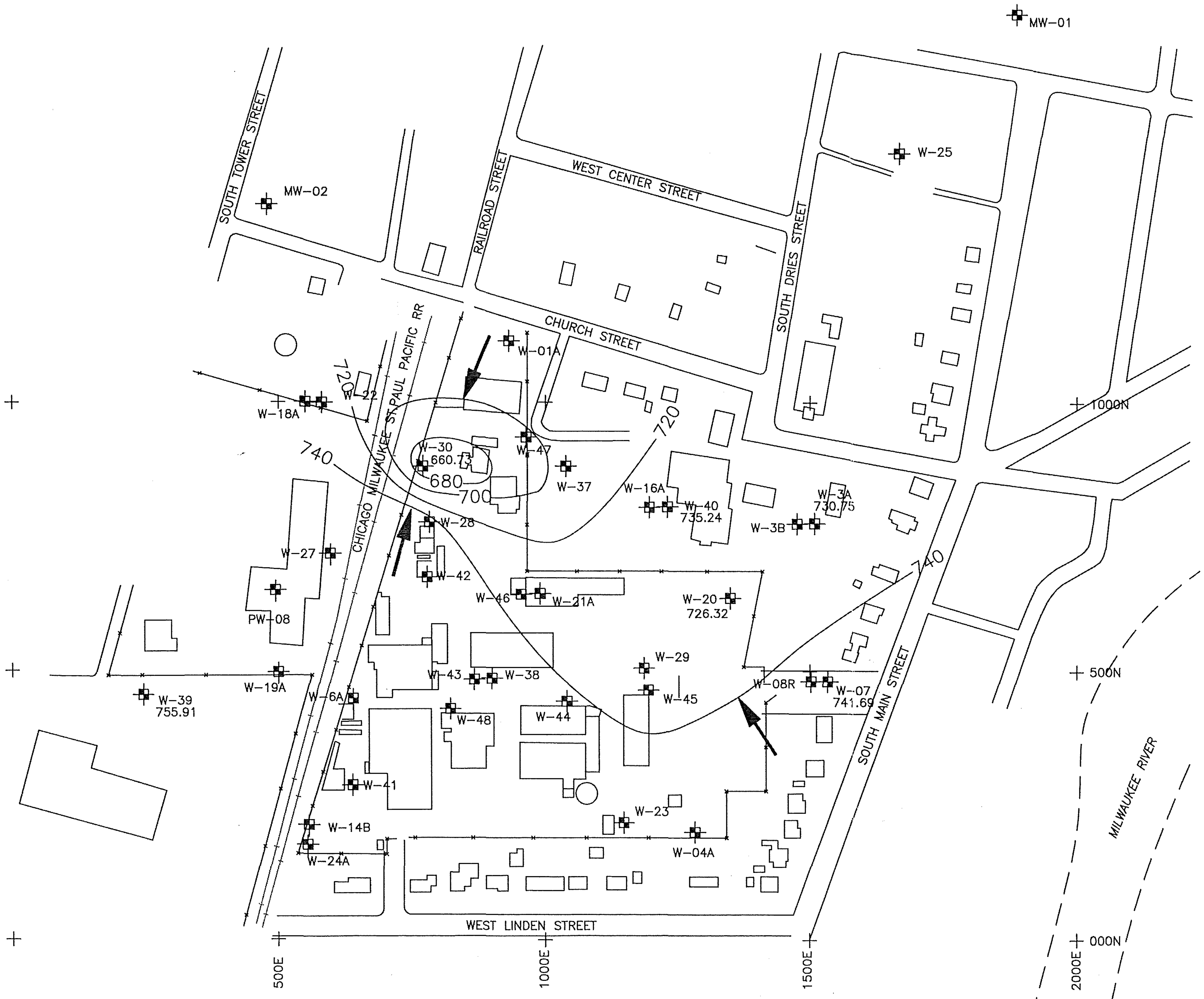
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RAC
DRAWN MAS
CHECKED
PEER REVIEWED
PROJECT MANAGER RAC
DATE 07-06-99

WATER TABLE MAP
GLACIAL DRIFT – FALL 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 6



LEGEND

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

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

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

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

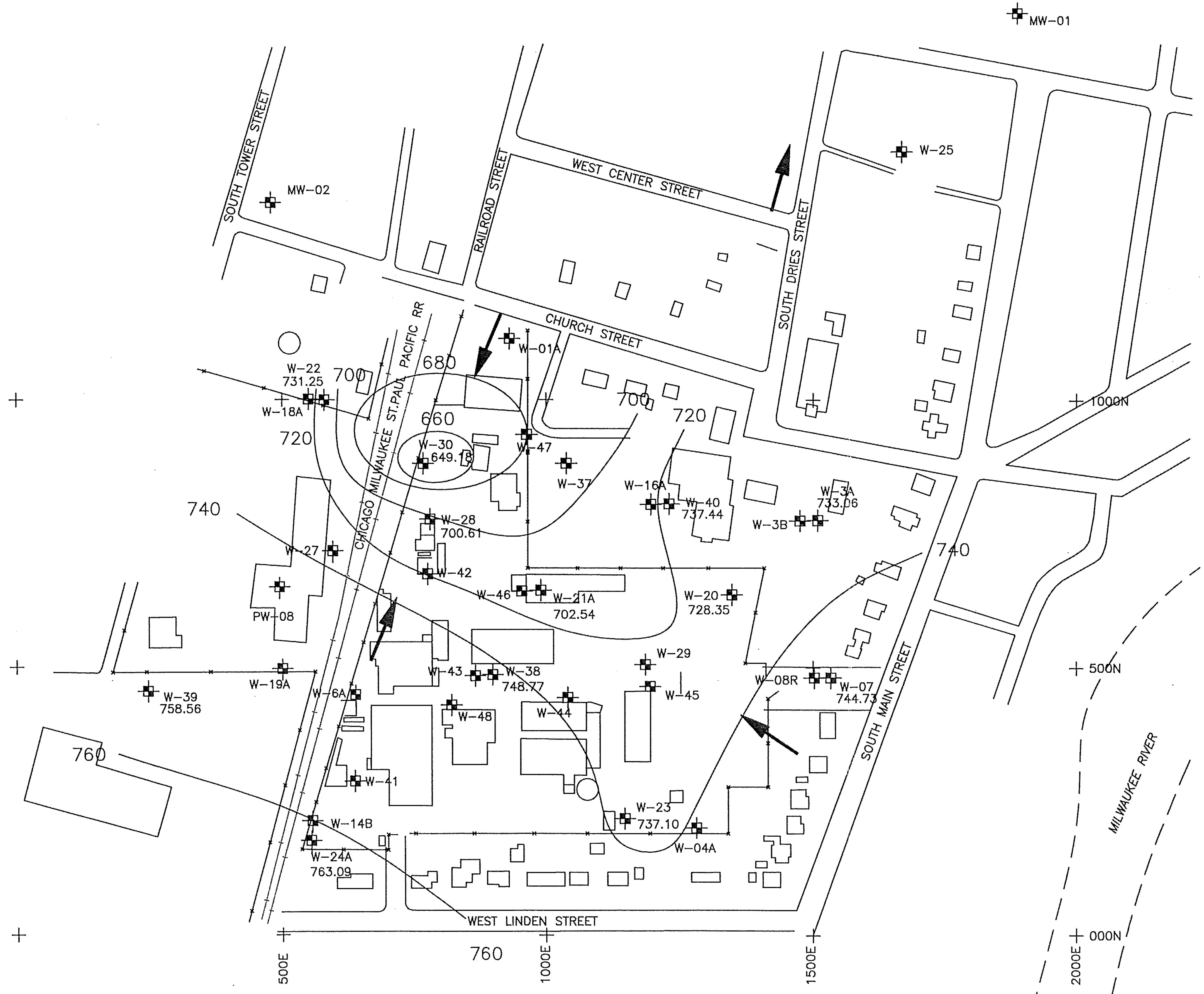
DESIGNED RAC
DRAWN MAS
CHECKED
PEER REVIEWED
PROJECT MANAGER RAC
DATE 02-24-99

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – WINTER 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 7

SCALE: 1" = 200' | OPER. | DATE 02-24-99 | TASK # 00991 | 8E135 | LOC. | PROJ. | TO | PHONE



LEGEND

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

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

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

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

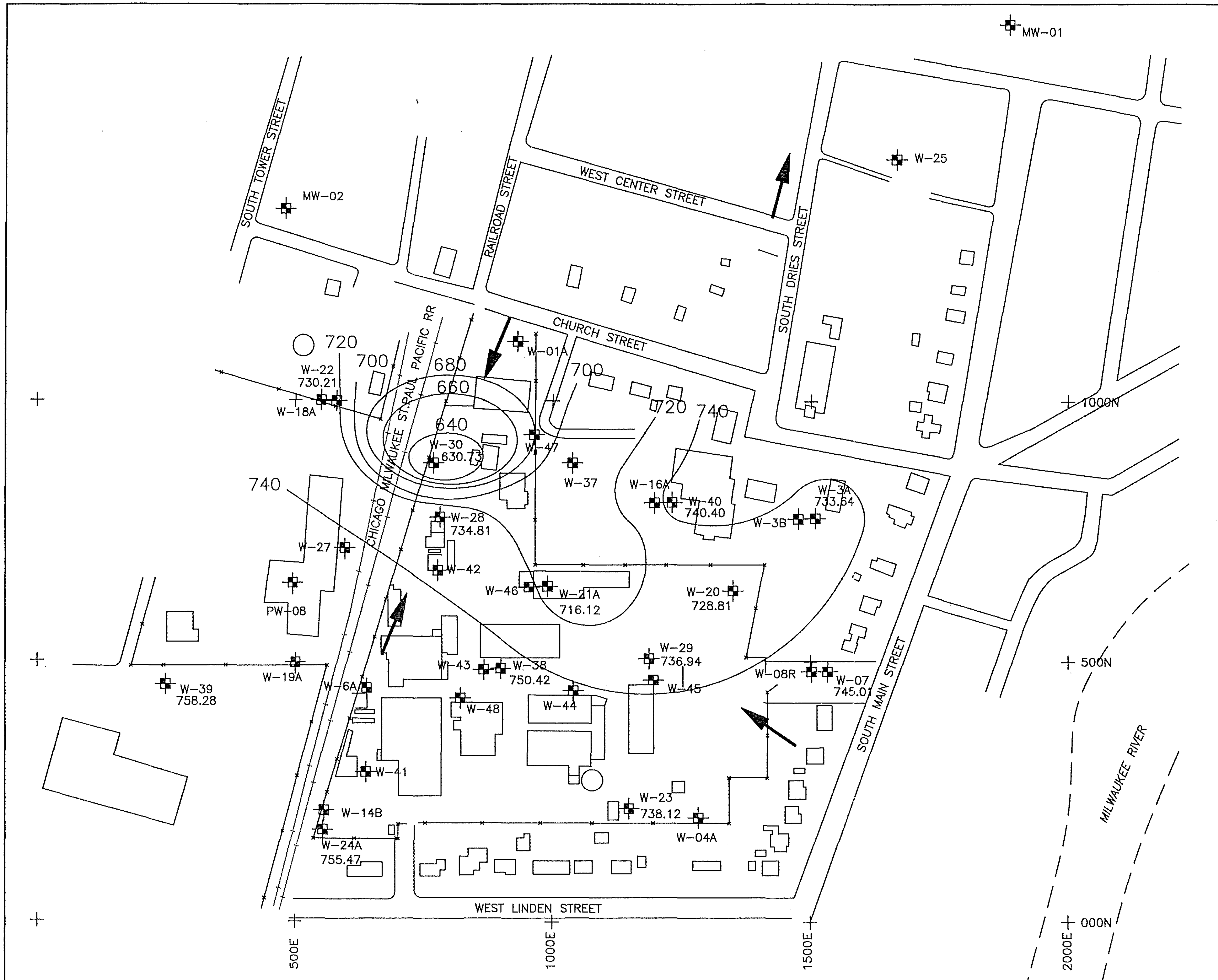
DESIGNED	RAC
DRAWN	MAS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	05-19-99

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – SPRING 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 8

FILE NAME: FIG-2.DWG | SCALE: 1" = 200' | OPER. MAS | DATE 02-24-99 | PROJ. # 8E13503 | TASK # 00081 | 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

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.

SCALE : 1 INCH = 200 FEET

0 200' 400'

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

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

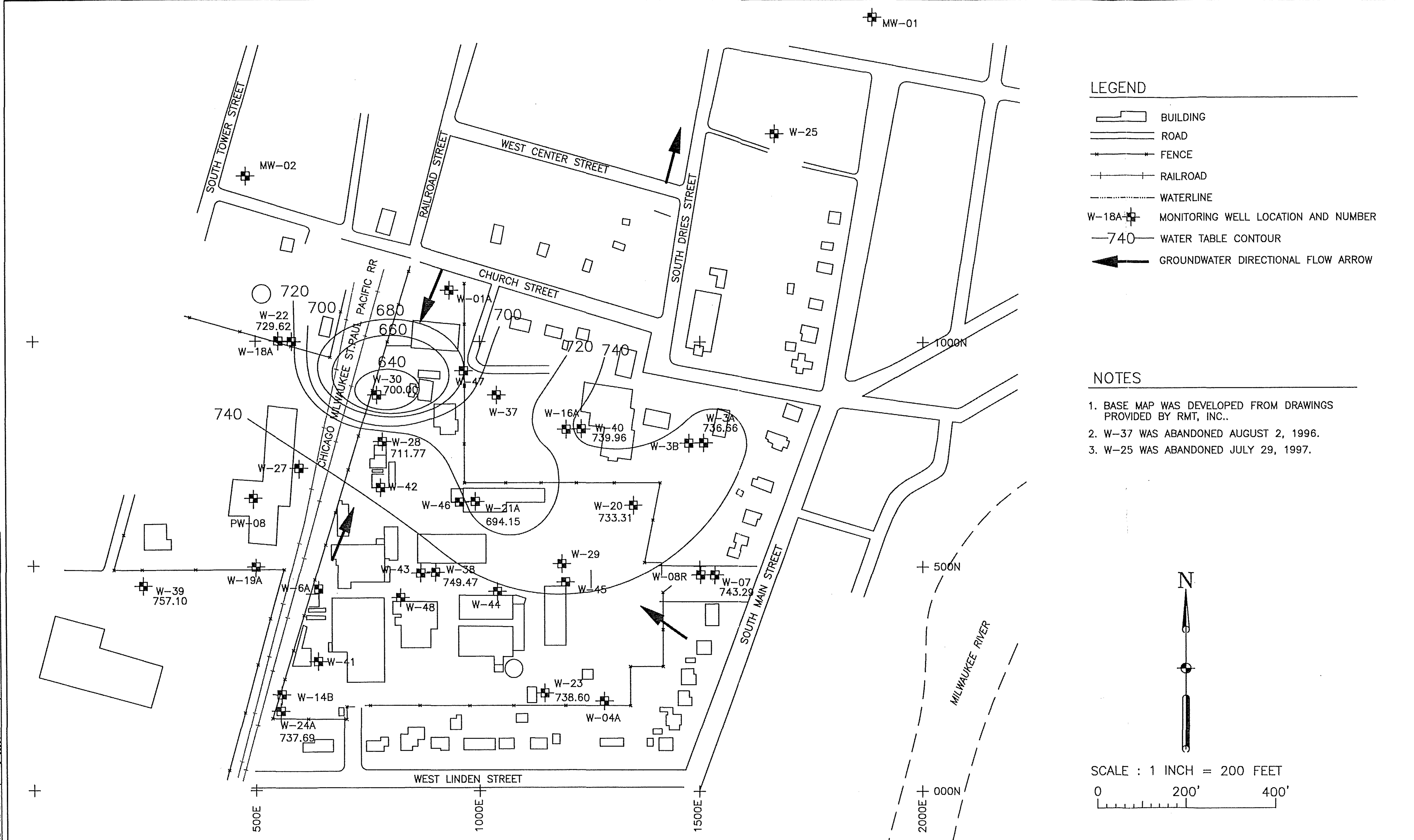
DESIGNED	RAC
DRAWN	MAS
CHECKED	
PEER REVIEWED	
PROJECT MANAGER	RAC
DATE	07-06-99

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – SUMMER 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 9

FILE: RC-2.D | SCALE: 1" = 200' | PER: | DATE: 02-24-99 | PRJ: 13503 | TASK #: 00991 | DC: | PROJ: | PHONE:



REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

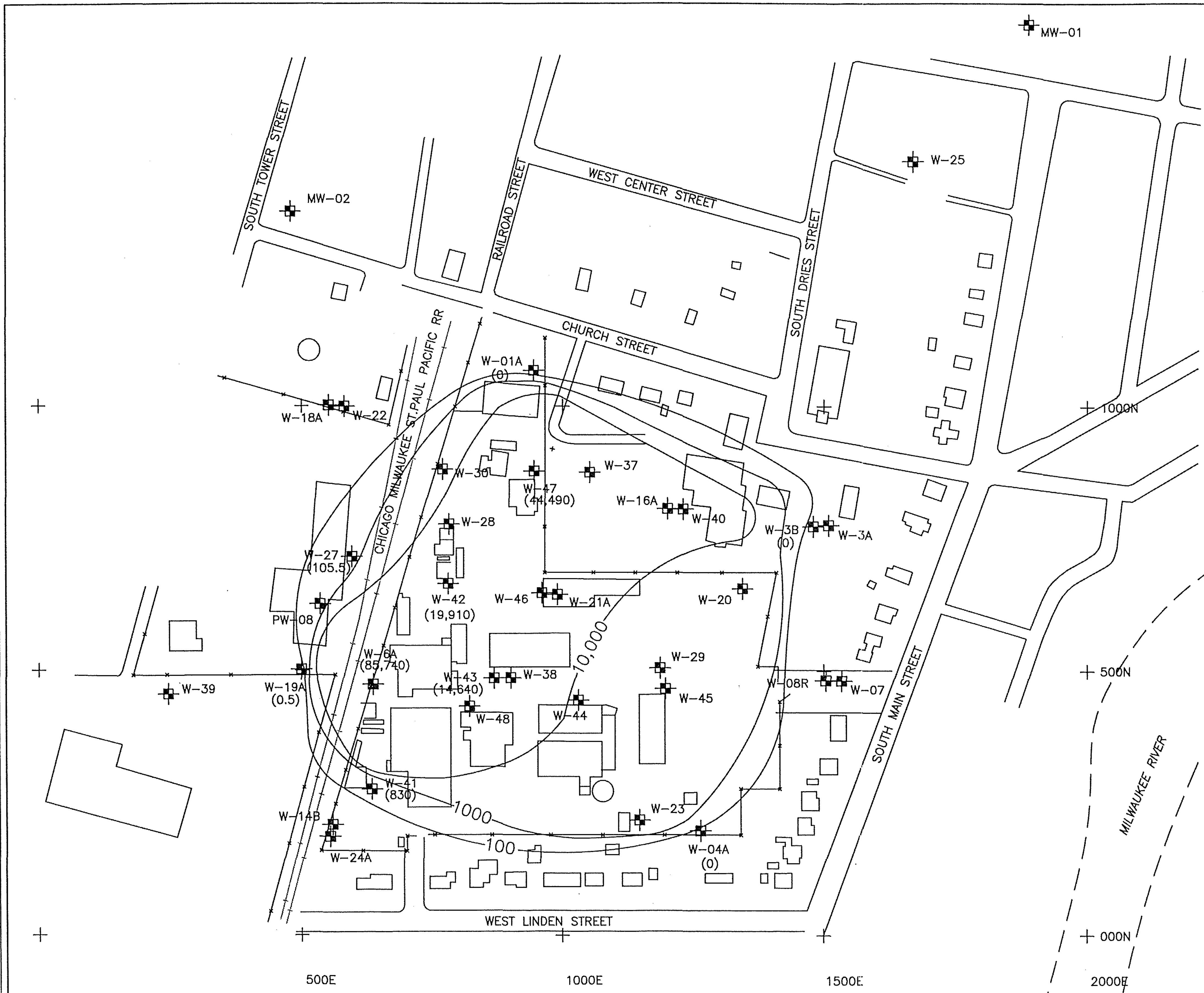
WARNING
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED RAC
DRAWN MAS
CHECKED
PEER REVIEWED
PROJECT MANAGER RAC
DATE 07-06-99

POTENTIOMETRIC SURFACE MAP
SHALLOW DOLOMITE – FALL 1999

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 10



LEGEND

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

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

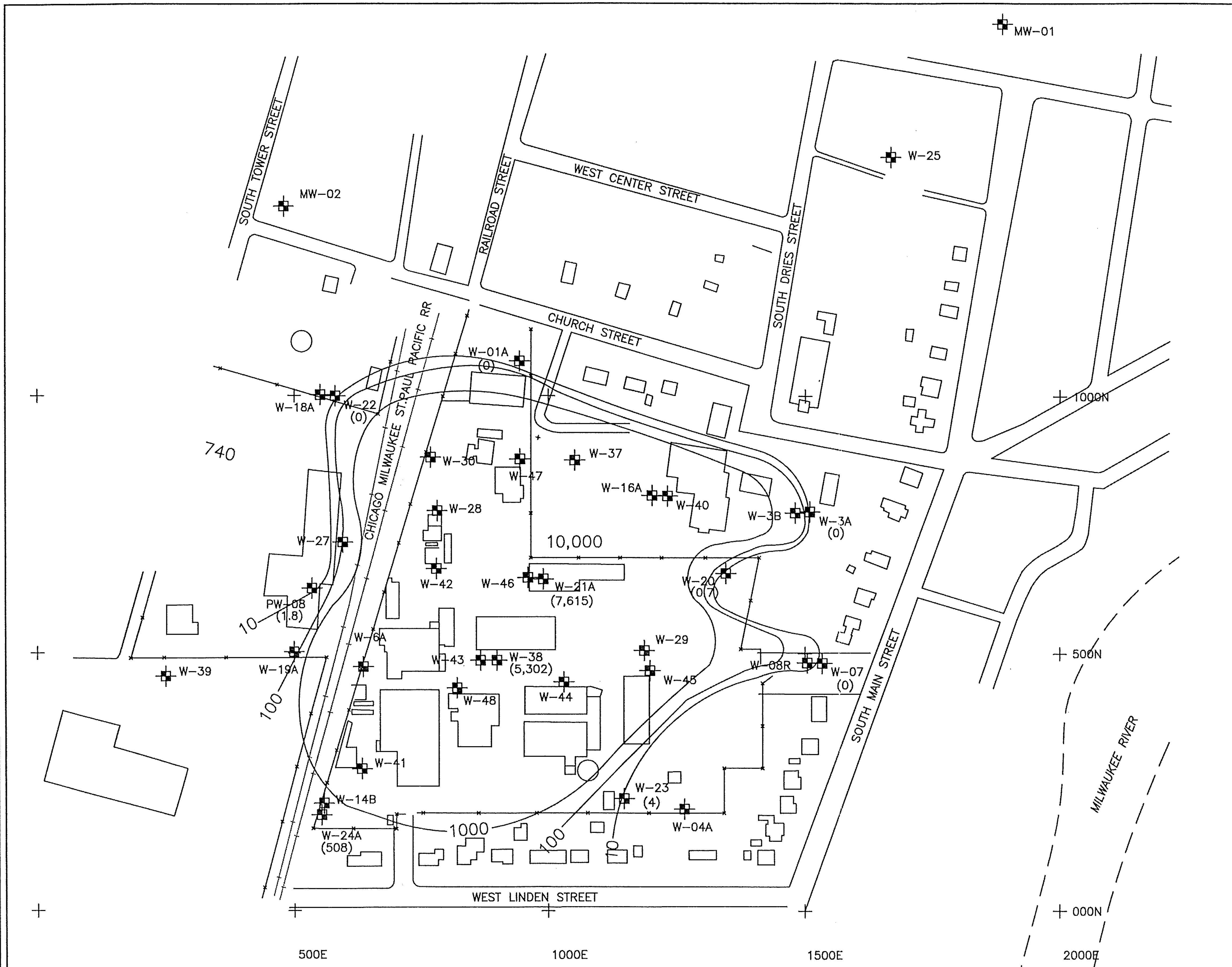
WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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

COMPOSITE 1999 – TOTAL VOC CONCENTRATIONS
GLACIAL DRIFT WELLS

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 11



LEGEND

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

REV	DESCRIPTION OF REVISION	BY	DATE

URS Corporation

13255 West Bluemound Road, Suite 202
Brookfield, Wisconsin 53005

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

COMPOSITE 1999 – TOTAL VOC CONCENTRATIONS
SHALLOW DOLOMITE WELLS

COOK COMPOSITES AND POLYMERS
GROUNDWATER MONITORING PROGRAM
SAUKVILLE, WISCONSIN

REVISION
PROJECT 08E13503.00
FIGURE 12

SCALE 1" = 200' DATE 10-15-97

PROJECT NUMBER: 8E13503
BEGINNING DATE: 4-Jan-99
ENDING DATE: 5-Jan-99

TABLE 1
MUNICIPAL WELL RESULTS

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

Parameter	PAL (1)	ES (2)	Units	MW-1-99-1 not sampled	MW-2-99-1 not sampled	MW-3-99-1 1/5/99	MW-4-99-1 1/5/99	DUP-1-99-1 1/5/99 (MW-4-99-1)	TB-1-99-1 1/5/99
1,1,1-Trichloroethane	40	200	ug/L	~	~	ND	ND	ND	ND
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	~	~	ND	ND	ND	ND
1,1,2-Trichloroethane	0.5	5	ug/L	~	~	ND	ND	ND	ND
1,1-Dichloroethane	85	850	ug/L	~	~	ND	ND	ND	ND
1,1-Dichloroethene	0.7	7	ug/L	~	~	ND	ND	ND	ND
1,2-Dichloroethane	0.5	5	ug/L	~	~	ND	ND	ND	ND
1,2-Dichloropropane	0.5	5	ug/L	~	~	ND	ND	ND	ND
2-Butanone	90	460	ug/L	~	~	ND	ND	ND	ND
2-Hexanone			ug/L	~	~	ND	ND	ND	ND
4-Methyl-2-pentanone	50	500	ug/L	~	~	ND	ND	ND	ND
Acetone	200	1000	ug/L	~	~	ND	ND	ND	ND
Benzene	0.5	5	ug/L	~	~	ND	ND	ND	ND
Bromodichloromethane	0.06	0.6	ug/L	~	~	ND	ND	ND	ND
Bromoform	0.44	4	ug/L	~	~	ND	ND	ND	ND
Bromomethane	1	10	ug/L	~	~	ND	ND	ND	ND
Carbon disulfide			ug/L	~	~	ND	ND	ND	ND
Carbon tetrachloride	0.5	5	ug/L	~	~	ND	ND	ND	ND
Chlorobenzene	20	100	ug/L	~	~	ND	ND	ND	ND
Chlorodibromomethane	6	60	ug/L	~	~	ND	ND	ND	ND
Chloroethane	80	400	ug/L	~	~	ND	ND	ND	ND
Chloroform	0.6	6	ug/L	~	~	ND	ND	ND	ND
Chloromethane	0.3	3	ug/L	~	~	ND	ND	ND	ND
1,2-Dichloroethene, total	7	70	ug/L	~	~	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.02	0.2	ug/L	~	~	ND	ND	ND	ND
Ethylbenzene	140	700	ug/L	~	~	ND	ND	ND	ND
Methylene chloride	0.5	5	ug/L	~	~	ND	ND	ND	ND
Styrene	10	100	ug/L	~	~	ND	ND	ND	ND
Tetrachloroethene	0.5	5	ug/L	~	~	ND	ND	ND	ND
Toluene	68.6	343	ug/L	~	~	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.02	0.2	ug/L	~	~	ND	ND	ND	ND
Trichloroethene	0.5	5	ug/L	~	~	ND	ND	ND	ND
Vinyl acetate			ug/L	~	~	ND	ND	ND	ND
Vinyl Chloride	0.02	0.2	ug/L	~	~	ND	ND	ND	ND
Xylene, total	124	620	ug/L	~	~	ND	ND	ND	ND
Total VOCs			ug/L	~	~	0.0	0.0	0.0	0.0
January 1998 Total VOCs			ug/L	0.0	~	0.0	0.0	0.0	0.0

ND = Not Detected

1/17/00

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

TABLE 2

POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 8E13503
BEGINNING DATE: 4-Jan-99
ENDING DATE: 5-Jan-99

Parameter	Units	POTW-I-99-1 1/5/99	POTW-E-99-1 1/5/99	POTW-S-99-1 1/5/99	RC-1-99-1 1/5/99	RC-2-99-1 1/5/99 (not sampled)	RC-3-99-1 1/5/99
1,1,1-Trichloroethane	ug/L	ND	ND	ND W			
1,1,2,2-Tretrachloroethane	ug/L	ND	ND	ND W			
1,1,2-Trichloroethane	ug/L	ND	ND	ND W			
1,1-Dichloroethane	ug/L	ND	ND	ND W			
1,1-Dichloroethene	ug/L	ND	ND	ND W			
1,2-Dichloroethane	ug/L	ND	ND	ND W			
1,2-Dichloropropane	ug/L	ND	ND	ND W			
2-Butanone	ug/L	ND	ND	ND W			
2-Hexanone	ug/L	ND	ND	ND W			
4-Methyl-2-pentanone	ug/L	ND	ND	ND W			
Acetone	ug/L	130	ND	ND W			
Benzene	ug/L	ND	ND	ND W	1.3 Q		35
Bromodichloromethane	ug/L	ND	ND	ND W			
Bromoform	ug/L	ND	ND	ND W			
Bromomethane	ug/L	ND	ND	ND W			
Carbon disulfide	ug/L	ND	ND	ND W			
Carbon tetrachloride	ug/L	ND	ND	ND W			
Chlorobenzene	ug/L	ND	ND	ND W	ND		ND
Chlorodibromomethane	ug/L	ND	ND	ND W			
Chloroethane	ug/L	ND	ND	ND W			
Chloroform	ug/L	ND	ND	ND W			
Chloromethane	ug/L	ND	ND	ND W			
1,2-Dichloroethene, total	ug/L	0.56 Q	ND	ND W			
cis-1,3-Dichloropropene	ug/L	ND	ND	ND W			
Ethylbenzene	ug/L	ND	ND	ND W	3.6		78
Methylene chloride	ug/L	ND	ND	ND W			
Styrene	ug/L	ND	ND	ND W			
Tetrachloroethene	ug/L	ND	ND	ND W			
Toluene	ug/L	ND	ND	2.9 W	4.8		20
trans-1,3-Dichloropropene	ug/L	ND	ND	ND W			
Trichloroethene	ug/L	ND	ND	ND W			
Vinyl acetate	ug/L	ND	ND	ND W			
Vinyl Chloride	ug/L	ND	ND	ND W			
Xylene, total	ug/L	0.88 Q	ND	ND W	60 D		273
1,3-Dichlorobenzene	ug/L	~	~	~	ND		ND
1,2-Dichlorobenzene	ug/L	~	~	~	0.87 Q		0.67 Q
1,4-Dichlorobenzene	ug/L	~	~	~	ND		ND
Total VOCs	ug/L	131.44	0	2.9	70.57	0	406.67
January 1998 Total VOCs	ug/L	26.44	0	3019.0	501.1	996	371

ND = Not Detected

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 8E13503

BEGINNING DATE: 5-Apr-99

ENDING DATE: 7-Apr-99

TABLE 1

MUNICIPAL WELL RESULTS

(1) PAL = NR140 Preventative Action Limit

(2) ES = NR140 Enforcement Standard

Parameter	PAL (1)	ES (2)	Units	MW-1-99-2 4/6/99	MW-2-99-2 not sampled	MW-3-99-2 not sampled	MW-4-99-2 4/6/99	DUP-1-99-2 4/6/99 (MW-4-99-2)	TB-1-99-2 4/6/99
1,1,1-Trichloroethane	40	200	ug/L	<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
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	~	~	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	~	~	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	~	~	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	~	~	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	~	~	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	~	~	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	~	~	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	~	~	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	~	~	<3.1	<3.1	14
Benzene	0.5	5	ug/L	<0.44	~	~	<0.44	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	~	~	<0.41	<0.41	<0.41
Bromoform	0.44	4	ug/L	<0.58	~	~	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	~	~	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	~	~	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	~	~	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	~	~	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	~	~	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	~	~	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	~	~	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	~	~	<0.44	<0.44	<0.44
cis-Dichloroethene	7	70	ug/L	<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
Ethylbenzene	140	700	ug/L	<0.50	~	~	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	~	~	<0.38	<0.38	0.42 Q
Styrene	10	100	ug/L	<0.37	~	~	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	~	~	<0.41	<0.41	<0.41
Toluene	68.6	343	ug/L	<0.40	~	~	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<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
Trichloroethene	0.5	5	ug/L	<0.49	~	~	<0.49	<0.49	<0.49
Vinyl acetate			ug/L	<0.70	~	~	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.52	~	~	<0.52	<0.52	<0.52
Xylene, o	124	620	ug/L	<0.54	~	~	<0.54	<0.54	<0.54
Xylene, m, p	124	620	ug/L	<0.77			<0.77	<0.77	<0.77
Total VOCs			ug/L	0.0	~	~	0.0	0.0	14.4
January 1999 Total VOCs			ug/L	~	~	0.0	0.0	0.0	~

1/17/00

TABLES.XLS:VILLAGE_WELLS

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

TABLE 2

POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 8E13503

BEGINNING DATE: 4/5/99

ENDING DATE: 4/7/99

Parameter	Units	POTW-I-99-2 4/6/99	POTW-E-99-2 4/6/99	POTW-S-99-2 4/6/99	RC-1-99-2 4/6/99	RC-2-99-2 not sampled	RC-3-99-2 not sampled
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	11			
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	62	<3.1	140			
Benzene	ug/L	<0.44	<0.44	<0.44	140		
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	2.1			
Carbon tetrachloride	ug/L	<0.90	<0.90	<0.90			
Chlorobenzene	ug/L	<0.43	<0.43	<0.43	<0.43		
Chlorodibromomethane	ug/L	<0.43	<0.43	<0.43			
Chloroethane	ug/L	<0.63	<0.63	<0.63			
Chloroform	ug/L	<0.41	<0.41	<0.41			
Chloromethane	ug/L	<0.44	<0.44	<0.44			
cis-Dichloroethene	ug/L	0.54 Q	<0.46	<0.46			
cis-1,3-Dichloropropene	ug/L	<0.54	<0.54	<0.54			
Ethylbenzene	ug/L	0.93 Q	<0.50	<0.50	1200 D		
Methylene chloride	ug/L	2.8	0.77 Q	<0.38			
Styrene	ug/L	<0.37	<0.37	<0.37			
Tetrachloroethene	ug/L	<0.41	<0.41	<0.41			
Toluene	ug/L	64	<0.40	53	750 D		
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	<0.49	<0.49	<0.49			
Vinyl acetate	ug/L	<0.70	<0.70	<0.70			
Vinyl Chloride	ug/L	<0.52	<0.52	<0.52			
Xylene, o	ug/L	0.91 Q	<0.54	<0.54	1000 D		
Xylene, m, p	ug/L	2.9	<0.77	<0.77	5100 D		
1,3-Dichlorobenzene	ug/L	~	~	~	2.9		
1,2-Dichlorobenzene	ug/L	~	~	~	<0.64		
1,4-Dichlorobenzene	ug/L	~	~	~	<0.43		
Total VOCs	ug/L	134.08	0.77	206.1	8192.9		
January 1999 Total VOCs	ug/L	131.44	0	2.9	71	0	407

TABLE2.XLS:POTW_RCs

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 8E13503

BEGINNING DATE: 05-Apr-99

ENDING DATE: 07-Apr-99

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-01A-99-2 10/7/98	W-03A-99-2 4/7/99	DUP3-99-2 4/7/99 (W-03A-99-2)	W-03B-99-2 4/7/99	W-04A-99-2 4/6/99	W-07-99-2 4/6/99	W-08R-99-2 4/6/99
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	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	68.6	343	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	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
Xylene, o	124	620	ug/L	<0.54	<0.54	<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	<0.77	<0.77
Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0
October 1998 Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE2.XLS: perimeter monitoring wells

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 8E13503
BEGINNING DATE: 05-Apr-99
ENDING DATE: 07-Apr-99

TABLE 3 CONTINUED
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-20-99-2 4/6/99	W-22-99-2 4/6/99	W-23-99-2 4/6/99	DUP-2-99-2 4/6/99 (W-23-99-2)	W-27-99-2 4/6/99	PW-08-99-2 4/6/99
1,1,1-Trichloroethane	40	200	ug/L	<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
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	1.4 Q	<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	0.48 Q	0.57 Q	<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	0.53 Q	0.48 Q	<0.40	2.1
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	1.7	1.7	15	<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	68.6	343	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	82	<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	<0.52	<0.52	1.0 Q	1.0 Q	<0.52	<0.52
Xylene, o	124	620	ug/L	<0.54	<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	<0.77
Total VOCs			ug/L	1.4	0.0	3.71	3.75	97	2.1
October 1998 Total VOCs			ug/L	0.0	1.9	4.0	3.9	112.0	4.6

Indicates concentration in exceedance of Preventative Action Limit
Indicates concentration in exceedance of Enforcement Standard

1/17/00

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 8E13503
BEGINNING DATE: 7/6/99
ENDING DATE: 7/8/99

TABLE 1
MUNICIPAL WELL RESULTS

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

Parameter	PAL (1)	ES (2)	Units	MW-1-99-3 7/7/99	MW-2-99-3 7/7/99	MW-3-99-2 not sampled	MW-4-99-3 7/7/99	DUP-1-99-3 7/7/99 (MW-4-99-3)	TB-99-3 4/6/99
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	11
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-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	0.0	~	0.0	0.0	11.0
July 1998 Total VOCs			ug/L	0.5	0.0	0.0	0.0	0.0	~

1/17/00

TABLES.XLS:VILLAGE_WELLS
NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

TABLE 2

POTW AND RANNEY COLLECTOR RESULTS

PROJECT NUMBER: 8E13503

BEGINNING DATE: 7/6/99

ENDING DATE: 7/8/99

Parameter	Units	POTW-I-99-3 7/6/99		POTW-E-99-3 7/6/99		POTW-S-99-3 7/6/99	RC-1-99-2 not sampled	RC-2-99-2 not sampled	RC-3-99-2 not sampled
1,1,1-Trichloroethane	ug/L	<0.53		<0.53		<5.3			
1,1,2,2-Tretrachloroethane	ug/L	<0.68		<0.68		<6.8			
1,1,2-Trichloroethane	ug/L	<0.47		<0.47		<4.7			
1,1-Dichloroethane	ug/L	<0.61		<0.61		<6.1			
1,1-Dichloroethene	ug/L	<0.47		<0.47		<4.7			
1,2-Dichloroethane	ug/L	<0.54		<0.54		<5.4			
1,2-Dichloropropane	ug/L	<0.34		<0.34		<3.4			
2-Butanone	ug/L	14		<1.2		65			
2-Hexanone	ug/L	<0.61		<0.61		<6.1			
4-Methyl-2-pentanone	ug/L	<0.61		<0.61		<6.1			
Acetone	ug/L	420	DH(1)	<3.1		210			
Benzene	ug/L	<0.44		<0.44		<4.4			
Bromodichloromethane	ug/L	<0.41		<0.41		<4.1			
Bromoform	ug/L	<0.58		<0.58		<5.8			
Bromomethane	ug/L	<0.94		<0.94		<9.4			
Carbon disulfide	ug/L	<0.40		<0.40		<4.0			
Carbon tetrachloride	ug/L	<0.90		<0.90		<9.0			
Chlorobenzene	ug/L	3.2		<0.43		<4.3			
Chlorodibromomethane	ug/L	<0.43		<0.43		<4.3			
Chloroethane	ug/L	<0.63		<0.63		<6.3			
Chloroform	ug/L	0.66	Q	0.78	Q	<4.1			
Chloromethane	ug/L	<0.44		<0.44		<4.4			
cis-1,2-Dichloroethene	ug/L	<0.46		<0.46		<4.6			
cis-1,3-Dichloropropene	ug/L	<0.54		<0.54		<5.4			
Ethylbenzene	ug/L	<0.50		<0.50		<5.0			
Methylene chloride	ug/L	<0.38		<0.38		<3.8			
Styrene	ug/L	<0.37		<0.37		<3.7			
Tetrachloroethene	ug/L	<0.41		<0.41		<4.1			
Toluene	ug/L	32		0.41	Q	2700			
trans-1,2-Dichloroethene	ug/L	<0.64		<0.64		<6.4			
trans-1,3-Dichloropropene	ug/L	<0.26		<0.26		<2.6			
Trichloroethene	ug/L	<0.49		<0.49		<4.9			
Vinyl acetate	ug/L	<0.70		<0.70		<7.0			
Vinyl Chloride	ug/L	<0.52		<0.17		<1.7			
Xylene, o	ug/L	0.59	Q	<0.54		<5.4			
Xylene, m, p	ug/L	1.6	Q	<0.77		<7.7			
1,3-Dichlorobenzene	ug/L	~		~		~			
1,2-Dichlorobenzene	ug/L	~		~		~			
1,4-Dichlorobenzene	ug/L	~		~		~			
Total VOCs	ug/L	472.05		1.19		2975.0			
July 1998 Total VOCs	ug/L	27.28		0		48.9			

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 8E13503
BEGINNING DATE: 7/6/99
ENDING DATE: 7/8/99

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-99-3 7/6/99		W-19A-99-3 7/6/99		DUP2-99-3 7/6/99 (W-19A-99-3)	W-21A-99-3 7/7/99		W-24A-99-3 7/7/99		W-28-99-3 7/7/99	
Barium	400	2000	ug/L	38					23		2.9		<2.4	
Arsenic	5	50	ug/L	46					150		86		140	
Aroclor 1016	0.03	0.3	ug/L											
Aroclor1221	0.03	0.3	ug/L											
Aroclor 1232	0.03	0.3	ug/L											
Aroclor 1242	0.03	0.3	ug/L											
Aroclor 1248	0.03	0.3	ug/L											
Aroclor 1254	0.03	0.3	ug/L											
Aroclor 1260	0.03	0.3	ug/L											
1,4-Dioxane	-	-	ug/L	210	D				420		230	D	480	D
2,4-Dimethylphenol	-	-	ug/L	170	D				78		<0.67		<0.67	
2-Methylnaphthalene	-	-	ug/L	<0.50					<2.5		<0.50		<0.50	
2-Methylphenol	-	-	ug/L	26					<6.9		<1.4		<1.4	
4-Methylphenol	-	-	ug/L	87					6.8		<1.1		<1.1	
Acetophenone	-	-	ug/L	30					<4.1		<0.82		<0.82	
Bis(2-ethylhexyl)phthalate	0.6	6	ug/L	<2.1					<10		26		<2.1	
Naphthalene	8	40	ug/L	13					64		<0.41		<0.41	
Phenanthrene	-	-	ug/L	<0.39					<1.9		<0.39		<0.39	
Phenol	1200	6000	ug/L	54					<4.0		<0.81		<0.81	
1,2-Dichlorobenzene	60	600	ug/L			<0.36		<0.36						
1,3-Dichlorobenzene	125	1250	ug/L			<0.64		<0.64						
1,4-Dichlorobenzene	15	75	ug/L			0.89	Q	<0.43						
1,1,1,2-Tetrachloroethane	7	70	ug/L	<49					<0.49		<0.49		<0.49	
1,1,1-Trichloroethane	40	200	ug/L	<53					<0.53		<0.53		<0.53	
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<68					<0.68		<0.68		<0.68	
1,1,2-Trichloroethane	0.5	5	ug/L	<47					<0.47		<0.47		<0.47	
1,1-Dichloroethane	85	850	ug/L	<61					0.69	Q	<0.61		<0.61	
1,1-Dichloroethene	0.7	7	ug/L	<47					<0.47		<0.47		<0.47	
1,2,3-Trichloropropane	12	60	ug/L	<71					<0.71		<0.71		<0.71	
1,2-Dibromo-3-chloropropane	0.02	0.2	ug/L	<120					<1.2		<1.2		<1.2	
1,2-Dibromoethane	0.005	0.05	ug/L	<49					<0.49		<0.49		<0.49	
1,2-Dichloroethane	0.5	5	ug/L	<54					5.1		<0.54		<0.54	
1,2-Dichloropropane	0.5	5	ug/L	<34					0.55	Q	<0.34		<0.34	
1,4-Dioxane	-	-	ug/L	<3600					610		480		700	
2-Butanone	90	460	ug/L	<130					6.0		<1.2		<1.2	
2-Hexanone	-	-	ug/L	<61					<0.61		<0.61		<0.61	
4-Methyl-2-pentanone	50	500	ug/L	<61					<0.61		<0.61		<0.61	
Acetone	200	1000	ug/L	<310					98		<3.1		<3.1	
Acetonitrile	-	-	ug/L	1100	B(930)				<0.51		<0.51		<0.51	
Acrolein	-	-	ug/L	<570					<5.7		<5.7		<5.7	
Acrylonitrile	-	-	ug/L	<65					<0.65		<0.65		<0.65	
Allyl Chloride	-	-	ug/L	<48					<0.48		<0.48		<0.48	
Benzene	0.5	5	ug/L	330		<0.44		<0.44	1400	D	19		2.3	
Bromodichloromethane	0.06	0.6	ug/L	<41					<0.41		<0.41		<0.41	
Bromoform	0.44	4	ug/L	<58					<0.58		<0.58		<0.58	
Bromomethane	1	10	ug/L	<94					<0.94		<0.94		<0.94	
Carbon disulfide	200	1000	ug/L	<40					<0.40		<0.40		<0.40	
Carbon tetrachloride	0.5	5	ug/L	<90					<0.90		<0.90		<0.90	
Chlorobenzene	20	100	ug/L	<43		0.50	Q	<0.43	<0.43		<0.43		<0.43	
Chlorodibromomethane	6	60	ug/L	<43					<0.43		<0.43		<0.43	
Chloroethane	80	400	ug/L	<63					<0.63		<0.63		<0.63	
Chloroform	0.6	6	ug/L	<41					<0.41		<0.41		<0.41	
Chloromethane	0.3	3	ug/L	<44					<0.44		<0.44		<0.44	
Chloroprene	-	-	ug/L	<100					<1.0		<1.0		<1.0	
cis-1,2-Dichloroethene	7	70	ug/L	310					2.9		3.1		<0.46	
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<54					<0.54		<0.54		<0.54	
Dibromomethane	-	-	ug/L	<60					<0.60		<0.60		<0.60	
Dichlorodifluoromethane	200	1000	ug/L	<61					<0.61		<0.61		<0.61	
Ethyl methacrylate	-	-	ug/L	<42					<0.42		<0.42		<0.42	
Ethylbenzene	140	700	ug/L	17000		<0.50		<0.50	4800	D	3.4		<0.50	
Fluorotrichloromethane	698	3490	ug/L	<47					<0.47		<0.47		<0.47	
Iodomethane	-	-	ug/L	<53					<0.53		<0.53		<0.53	
Isobutanol	-	-	ug/L	<1400					<14		<14		<14	
Methacrylonitrile	-	-	ug/L	<51					<0.51		<0.51		<0.51	
Methyl methacrylate	-	-	ug/L	<44					<0.44		<0.44		<0.44	
Methylene chloride	0.5	5	ug/L	<38					<0.38		<0.38		<0.38	
Propionitrile	-	-	ug/L	<120					<1.2		<1.2		<1.2	
Styrene	10	100	ug/L	<37					<0.37		<0.37		<0.37	
Tetrachloroethene	0.5	5	ug/L	<41					<0.41		<0.41		<0.41	
Toluene	68.6	343	ug/L	47000	D	<0.40		<0.40	220	D	<0.40		<0.40	
trans-1,2-Dichloroethene	20	100	ug/L	<64					<0.64		<0.64		<0.64	
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<26					<0.26		<0.26		<0.26	
trans-1,4-Dichloro-2-butene	-	-	ug/L	<24					<0.24		<0.24		<0.24	
Trichloroethene	0.5	5	ug/L	<49					<0.49		<0.49		<0.49	
Vinyl acetate	-	-	ug/L	<70					<0.70		<0.70		<0.70	
Vinyl Chloride	0.02	0.2	ug/L	<17					2.0		1.1		<0.17	
Xylene, o	124	620	ug/L	20000		<0.54		<0.54	470	D	1.5	Q	<0.54	
Xylene, m, p	124	620	ug/L	56000	D	<0.77		<0.77	12000	D	25		<0.77	
Total VOCs			ug/L	85740.0		0.5		0.0	7615.2		508.1		702.3	
July 1998 Total VOCs			ug/L	174410.4		7.7		0.0	18947.1		15269.6		~	

TABLE3.XLS: perimeter monitoring wells
NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B

1/17/00

PROJECT NUMBER: 8E13503
BEGINNING DATE: 7/6/99
ENDING DATE: 7/8/99

TABLE 3 CONTINUED
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-29-99-3 not sampled	W-30-99-3 7/6/99	DUP-3-99-3 7/6/99 (W-30-99-3)	W-38-99-3 7/8/99	W-41-99-3 7/6/99	W-42-99-3 7/6/99
Barium	400	2000	mg/L		<2.4	<2.4			
Arsenic	5	50	mg/L		84	83			
Aroclor 1016	0.03	0.3	ug/L						
Aroclor1221	0.03	0.3	ug/L						
Aroclor 1232	0.03	0.3	ug/L						
Aroclor 1242	0.03	0.3	ug/L						
Aroclor 1248	0.03	0.3	ug/L						
Aroclor 1254	0.03	0.3	ug/L						
Aroclor 1260	0.03	0.3	ug/L						
1,4-Dioxane	-	-	ug/L		29	35			
2,4-Dimethylphenol	-	-	ug/L		<0.67	<0.67			
2-Methylnaphthalene	-	-	ug/L		<0.50	<0.50			
2-Methylphenol	-	-	ug/L		<1.4	<1.4			
4-Methylphenol	-	-	ug/L		<1.1	<1.1			
Acetophenone	-	-	ug/L		<0.82	<0.82			
Bis(2-ethylhexyl)phthalate	0.6	6	ug/L		<2.1	<2.1			
Naphthalene	8	40	ug/L		<0.41	<0.41			
Phenanthrene	-	-	ug/L		<0.39	<0.39			
Phenol	1200	6000	ug/L		<0.81	<0.81			
1,2-Dichlorobenzene	60	600	ug/L				2.4	<0.36	<18
1,3-Dichlorobenzene	125	1250	ug/L				<0.64	<0.64	<32
1,4-Dichlorobenzene	15	75	ug/L				<0.43	<0.43	<22
1,1,1,2-Tetrachloroethane	7	70	ug/L		<0.49	<0.49			
1,1,1-Trichloroethane	40	200	ug/L		<0.53	<0.53			
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L		<0.68	<0.68			
1,1,2-Trichloroethane	0.5	5	ug/L		<0.47	<0.47			
1,1-Dichloroethane	85	850	ug/L		<0.61	<0.61			
1,1-Dichloroethene	0.7	7	ug/L		<0.47	<0.47			
1,2,3-Trichloropropane	12	60	ug/L		<0.71	<0.71			
1,2-Dibromo-3-chloropropane	0.02	0.2	ug/L		<1.2	<1.2			
1,2-Dibromoethane	0.005	0.05	ug/L		<0.49	<0.49			
1,2-Dichloroethane	0.5	5	ug/L		<0.54	<0.54			
1,2-Dichloropropane	0.5	5	ug/L		<0.34	<0.34			
1,4-Dioxane	-	-	ug/L		40 Q	46 Q			
2-Butanone	90	460	ug/L		<1.2	<1.2			
2-Hexanone	-	-	ug/L		<0.61	<0.61			
4-Methyl-2-pentanone	50	500	ug/L		<0.61	<0.61			
Acetone	200	1000	ug/L		<3.1	<3.1			
Acetonitrile	-	-	ug/L		<0.51	<0.51			
Acrolein	-	-	ug/L		<5.7	<5.7			
Acrylonitrile	-	-	ug/L		<0.65	<0.65			
Allyl Chloride	-	-	ug/L		<0.48	<0.48			
Benzene	0.5	5	ug/L		7.1	7.1	2600 D	2.4	700
Bromodichloromethane	0.06	0.6	ug/L		<0.41	<0.41			
Bromoform	0.44	4	ug/L		<0.58	<0.58			
Bromomethane	1	10	ug/L		<0.94	<0.94			
Carbon disulfide	200	1000	ug/L		<0.40	<0.40			
Carbon tetrachloride	0.5	5	ug/L		<0.90	<0.90			
Chlorobenzene	20	100	ug/L		<0.43	<0.43	<0.43	<0.43	<22
Chlorodibromomethane	6	60	ug/L		<0.43	<0.43			
Chloroethane	80	400	ug/L		<0.63	<0.63			
Chloroform	0.6	6	ug/L		<0.41	<0.41			
Chloromethane	0.3	3	ug/L		<0.44	<0.44			
Chloroprene	-	-	ug/L		<1.0	<1.0			
cis-1,2-Dichloroethene	7	70	ug/L		<0.46	<0.46			
cis-1,3-Dichloropropene	0.02	0.2	ug/L		<0.54	<0.54			
Dibromomethane	-	-	ug/L		<0.60	<0.60			
Dichlorodifluoromethane	200	1000	ug/L		<0.61	<0.61			
Ethyl methacrylate	-	-	ug/L		<0.42	<0.42			
Ethylbenzene	140	700	ug/L		<0.50	<0.50	99	6.6	4300
Fluorotrichloromethane	698	3490	ug/L		0.50 Q	0.53 Q			
Iodomethane	-	-	ug/L		<0.53	<0.53			
Isobutanol	-	-	ug/L		<14	<14			
Methacrylonitrile	-	-	ug/L		<0.51	<0.51			
Methyl methacrylate	-	-	ug/L		<0.44	<0.44			
Methylene chloride	0.5	5	ug/L		<0.38	<0.38			
Propionitrile	-	-	ug/L		<1.2	<1.2			
Styrene	10	100	ug/L		<0.37	<0.37			
Tetrachloroethene	0.5	5	ug/L		<0.41	<0.41			
Toluene	68.6	343	ug/L		<0.40	<0.40	1.3	0.46 Q	110
trans-1,2-Dichloroethene	20	100	ug/L		<0.64	<0.64			
trans-1,3-Dichloropropene	0.02	0.2	ug/L		<0.26	<0.26			
trans-1,4-Dichloro-2-butene	-	-	ug/L		<0.24	<0.24			
Trichloroethene	0.5	5	ug/L		<0.49	<0.49			
Vinyl acetate	-	-	ug/L		<0.70	<0.70			
Vinyl Chloride	0.02	0.2	ug/L		<0.17	<0.17			
Xylene, o	124	620	ug/L		<0.54	<0.54	1.3 Q	0.63 Q	2800
Xylene, m, p	124	620	ug/L		8.6	7.9	2600 D	820 DH(1)	12000
Total VOCs			ug/L	~	56.2	61.5	5301.6	830.1	19910
July 1998 Total VOCs			ug/L	511.6	61.2		3756.4	787.6	16880

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 8E13503
BEGINNING DATE: 7/6/99
ENDING DATE: 7/8/99

TABLE 3 CONTINUED
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-43-99-3 7/7/99		W-47-99-3 7/8/99		DUP4-99-3 7/8/99 (W-47-99-3)
Barium	400	2000	mg/L	140		6.0		
Arsenic	5	50	mg/L	1100		110		
Aroclor 1016	0.03	0.3	ug/L			<0.33		<0.33
Aroclor1221	0.03	0.3	ug/L			<0.33		<0.33
Aroclor 1232	0.03	0.3	ug/L			<0.33		<0.33
Aroclor 1242	0.03	0.3	ug/L			<0.33		<0.33
Aroclor 1248	0.03	0.3	ug/L			<0.33		<0.33
Aroclor 1254	0.03	0.3	ug/L			<0.33		<0.33
Aroclor 1260	0.03	0.3	ug/L			<0.33		<0.33
1,4-Dioxane	-	-	ug/L	<35		230		
2,4-Dimethylphenol	-	-	ug/L	120		1000		
2-Methylnaphthalene	-	-	ug/L	310		<5.0		
2-Methylphenol	-	-	ug/L	<14		140		
4-Methylphenol	-	-	ug/L	<11		260		
Acetophenone	-	-	ug/L	680		200		
Bis(2-ethylhexyl)phthalate	0.6	6	ug/L	490		<21		
Naphthalene	8	40	ug/L	130		27		
Phenanthrene	-	-	ug/L	89		<3.9		
Phenol	1200	6000	ug/L	<8.1		68		
1,2-Dichlorobenzene	60	600	ug/L					
1,3-Dichlorobenzene	125	1250	ug/L					
1,4-Dichlorobenzene	15	75	ug/L					
1,1,1,2-Tetrachloroethane	7	70	ug/L	<9.8		<49		
1,1,1-Trichloroethane	40	200	ug/L	<11		<53		
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<14		<68		
1,1,2-Trichloroethane	0.5	5	ug/L	<9.4		<47		
1,1-Dichloroethane	85	850	ug/L	<12		<61		
1,1-Dichloroethene	0.7	7	ug/L	<9.4		<47		
1,2,3-Trichloropropane	12	60	ug/L	<14		<71		
1,2-Dibromo-3-chloropropane	0.02	0.2	ug/L	<25		<120		
1,2-Dibromoethane	0.005	0.05	ug/L	<9.8		<49		
1,2-Dichloroethane	0.5	5	ug/L	<11		<54		
1,2-Dichloropropane	0.5	5	ug/L	<6.8		<34		
1,4-Dioxane	-	-	ug/L	<720		<3600		
2-Butanone	90	460	ug/L	<25		200	Q	
2-Hexanone	-	-	ug/L	<12		<61		
4-Methyl-2-pentanone	50	500	ug/L	<12		<61		
Acetone	200	1000	ug/L	<62		500	Q	
Acetonitrile	-	-	ug/L	230	B(190)	1100	B(930)	
Acrolein	-	-	ug/L	<110		<570		
Acrylonitrile	-	-	ug/L	<13		<65		
Allyl Chloride	-	-	ug/L	<9.6		<48		
Benzene	0.5	5	ug/L	5000	D	180		
Bromodichloromethane	0.06	0.6	ug/L	<8.2		<41		
Bromoform	0.44	4	ug/L	<12		<58		
Bromomethane	1	10	ug/L	<19		<94		
Carbon disulfide	200	1000	ug/L	<8.0		<40		
Carbon tetrachloride	0.5	5	ug/L	<18		<90		
Chlorobenzene	20	100	ug/L	<8.6		<43		
Chlorodibromomethane	6	60	ug/L	<8.6		<43		
Chloroethane	80	400	ug/L	<13		<63		
Chloroform	0.6	6	ug/L	<8.2		<41		
Chloromethane	0.3	3	ug/L	<8.8		<44		
Chloroprene	-	-	ug/L	<20		<100		
cis-1,2-Dichloroethene	7	70	ug/L	<9.2		110	Q	
cis-1,3-Dichloropropene	0.02	0.2	ug/L	<11		<54		
Dibromomethane	-	-	ug/L	<12		<60		
Dichlorodifluoromethane	200	1000	ug/L	<12		<61		
Ethyl methacrylate	-	-	ug/L	<8.4		<42		
Ethylbenzene	140	700	ug/L	7200	D	10000		
Fluorotrichloromethane	698	3490	ug/L	<9.4		<47		
Iodomethane	-	-	ug/L	<11		<53		
Isobutanol	-	-	ug/L	<290		<1400		
Methacrylonitrile	-	-	ug/L	<10		<51		
Methyl methacrylate	-	-	ug/L	<8.8		<44		
Methylene chloride	0.5	5	ug/L	<7.6		<38		
Propionitrile	-	-	ug/L	<25		<120		
Styrene	10	100	ug/L	<7.4		<37		
Tetrachloroethene	0.5	5	ug/L	<8.2		<41		
Toluene	68.6	343	ug/L	310		9400		
trans-1,2-Dichloroethene	20	100	ug/L	<13		<64		
trans-1,3-Dichloropropene	0.02	0.2	ug/L	<5.2		<26		
trans-1,4-Dichloro-2-butene	-	-	ug/L	<4.8		<24		
Trichloroethene	0.5	5	ug/L	<9.8		<49		
Vinyl acetate	-	-	ug/L	<14		<70		
Vinyl Chloride	0.02	0.2	ug/L	<3.4		<17		
Xylene, o	124	620	ug/L	1900		23000	D	
Xylene, m, p	124	620	ug/L	8600	D	66000	D	
Total VOCs			ug/L	14640		44490		
July 1998 Total VOCs			ug/L	103110		88676		

TABLE 4
NR 140 PAL and ES EXCEEDANCES

PROJECT NUMBER: 8E13503
BEGINNING DATE: 7/6/99
ENDING DATE: 7/8/99

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

Parameter	PAL (1)	ES (2)	Units	W-06A-99-3	W-21A-99-3	W-24A-99-3	W-28-99-3	W-30-99-3
Arsenic	5	50	ug/L	PAL	ES	ES	~	ES
Benzene	1	5	ug/L	ES	ES	ES	PAL	ES
cis-1,2-Dichloroethene	7	70	ug/L	ES	~	~	~	~
Ethylbenzene	140	700	ug/L	ES	ES	~	~	~
Toluene	69	343	ug/L	ES	PAL	~	~	~
Vinyl Chloride	0.02	0.2	ug/L	~	ES	ES	~	~
Xylenes (total)	124	620	ug/L	ES	ES	~	~	~
bis (2-ethylhexyl) pthalate	6	6	ug/L	~	~	ES	~	~
Napthalene	8	40	ug/L	PAL	ES	~	~	~
1,2-Dichloroethane	0.5	5	ug/L	~	ES	~	~	~
1,2-Dichloropropane	0.5	5	ug/L	~	PAL	~	~	~

Parameter	PAL (1)	ES (2)	Units	W-38-99-3	W-41-99-3	W-42-99-3	W-43-99-3	W-47-993
Arsenic	5	50	ug/L	NA	NA	NA	ES	ES
Benzene	1	5	ug/L	ES	PAL	ES	ES	ES
cis-1,2-Dichloroethene	7	70	ug/L	NA	NA	NA	~	ES
Ethylbenzene	140	700	ug/L	~	~	ES	ES	ES
Styrene	10	100	ug/L	NA	NA	NA	~	~
Toluene	69	343	ug/L	~	~	PAL	PAL	ES
Xylenes (total)	124	620	ug/L	ES	ES	ES	ES	ES
bis (2-ethylhexyl) pthalate	6	6	ug/L	NA	NA	NA	ES	~
Napthalene	8	40	ug/L	NA	NA	NA	ES	PAL
2-Butanone	90	460	ug/L	NA	NA	NA	~	PAL
Acetone	200	1000	ug/L	NA	NA	NA	~	PAL

NA Indicates that parameter was not analyzed for.

TABLE 1
MUNICIPAL WELL RESULTS

PROJECT NUMBER: 36-08E13503.00
BEGINNING DATE: 5-Oct-99
ENDING DATE: 7-Oct-99

TABLE 1
MUNICIPAL WELL RESULTS

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

Parameter	PAL (1)	ES (2)	Units	MW-1-99-4 10/6/99	MW-2-99-4 not sampled	MW-3-99-4 not sampled	MW-4-99-4 10/6/09	DUP-1-99-4 10/6/99 (MW-4-99-4)	TB-1-99-4
1,1,1-Trichloroethane	40	200	ug/L	<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
1,1,2-Trichloroethane	0.5	5	ug/L	<0.47	~	~	<0.47	<0.47	<0.47
1,1-Dichloroethane	85	850	ug/L	<0.61	~	~	<0.61	<0.61	<0.61
1,1-Dichloroethene	0.7	7	ug/L	<0.47	~	~	<0.47	<0.47	<0.47
1,2-Dichloroethane	0.5	5	ug/L	<0.54	~	~	<0.54	<0.54	<0.54
1,2-Dichloropropane	0.5	5	ug/L	<0.34	~	~	<0.34	<0.34	<0.34
2-Butanone	90	460	ug/L	<1.2	~	~	<1.2	<1.2	<1.2
2-Hexanone			ug/L	<0.61	~	~	<0.61	<0.61	<0.61
4-Methyl-2-pentanone	50	500	ug/L	<0.61	~	~	<0.61	<0.61	<0.61
Acetone	200	1000	ug/L	<3.1	~	~	<3.1	<3.1	8.6 Q
Benzene	0.5	5	ug/L	<0.44	~	~	<0.44	<0.44	<0.44
Bromodichloromethane	0.06	0.6	ug/L	<0.41	~	~	<0.41	<0.41	<0.41
Bromoform	0.44	4	ug/L	<0.58	~	~	<0.58	<0.58	<0.58
Bromomethane	1	10	ug/L	<0.94	~	~	<0.94	<0.94	<0.94
Carbon disulfide	200	1000	ug/L	<0.40	~	~	<0.40	<0.40	<0.40
Carbon tetrachloride	0.5	5	ug/L	<0.90	~	~	<0.90	<0.90	<0.90
Chlorobenzene	20	100	ug/L	<0.43	~	~	<0.43	<0.43	<0.43
Chlorodibromomethane	6	60	ug/L	<0.43	~	~	<0.43	<0.43	<0.43
Chloroethane	80	400	ug/L	<0.63	~	~	<0.63	<0.63	<0.63
Chloroform	0.6	6	ug/L	<0.41	~	~	<0.41	<0.41	<0.41
Chloromethane	0.3	3	ug/L	<0.44	~	~	<0.44	<0.44	<0.44
cis-1,2-Dichloroethene	7	70	ug/L	<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
Ethylbenzene	140	700	ug/L	<0.50	~	~	<0.50	<0.50	<0.50
Methylene chloride	0.5	5	ug/L	<0.38	~	~	<0.38	<0.38	<0.38
Styrene	10	100	ug/L	<0.37	~	~	<0.37	<0.37	<0.37
Tetrachloroethene	0.5	5	ug/L	<0.41	~	~	<0.41	<0.41	<0.41
Toluene	68.6	343	ug/L	<0.40	~	~	<0.40	<0.40	<0.40
trans-1,2-Dichloroethene	20	100	ug/L	<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
Trichloroethene	0.5	5	ug/L	<0.49	~	~	<0.49	<0.49	<0.49
Vinyl acetate			ug/L	<0.70	~	~	<0.70	<0.70	<0.70
Vinyl Chloride	0.02	0.2	ug/L	<0.17	~	~	<0.17	<0.17	<0.17
Xylene, o	124	620	ug/L	<0.54	~	~	<0.54	<0.54	<0.54
Xylene, m, p	124	620	ug/L	<0.77			<0.77	<0.77	<0.77
Total VOCs			ug/L	0.0	NS	NS	0.0	0.0	8.6
July 1999 Total VOCs			ug/L	0.0	NS	0.0	0.0	0.0	11

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: 36-08E13503.00
BEGINNING DATE: 10/5/99
ENDING DATE: 10/7/99

Parameter	Units	POTW-I-99-4 10/5/99	POTW-E-99-4 10/5/99	POTW-S-99-4 10/5/99	RC-1-99-4 not sampled	RC-2-99-4 10/5/99	RC-3-99-2 not sampled
1,1,1-Trichloroethane	ug/L	1.7	0.56 Q	<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	<1.2			
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	67	4.2 Q	18			
Benzene	ug/L	<0.44	<0.44	<0.44		130	
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	0.58 Q	<0.40	0.73 Q			
Carbon tetrachloride	ug/L	<0.90	<0.90	<0.90			
Chlorobenzene	ug/L	<0.43	<0.43	<0.43		<0.43	
Chlorodibromomethane	ug/L	<0.43	<0.43	<0.43			
Chloroethane	ug/L	<0.63	<0.63	<0.63			
Chloroform	ug/L	<0.41	<0.41	<0.41			
Chloromethane	ug/L	<0.44	<0.44	0.84 Q			
cis-1,2-Dichloroethene	ug/L	<0.46	<0.46	<0.46			
cis-1,3-Dichloropropene	ug/L	<0.54	<0.54	<0.54			
Ethylbenzene	ug/L	2.9	<0.50	<0.50		160	
Methylene chloride	ug/L	<0.38	<0.38	<0.38			
Styrene	ug/L	<0.37	<0.37	<0.37			
Tetrachloroethene	ug/L	<0.41	<0.41	<0.41			
Toluene	ug/L	17	<0.40	7.4		9	
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	<0.49	<0.49	<0.49			
Vinyl acetate	ug/L	<0.70	<0.70	<0.70			
Vinyl Chloride	ug/L	<0.17	<0.17	<0.17			
Xylene, o	ug/L	4.6	<0.54	<0.54		38	
Xylene, m, p	ug/L	11	<0.77	1.3 Q		2400 D	
1,3-Dichlorobenzene	ug/L	~	~	~		<0.64	
1,2-Dichlorobenzene	ug/L	~	~	~		0.47 Q	
1,4-Dichlorobenzene	ug/L	~	~	~		<0.43	
Total VOCs	ug/L	104.78	4.76	28.3		2737.1	
July 1999 Total VOCs	ug/L	427.05	1.19	2975	NS	NS	NS

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

TABLE2.XLS:POTW_RCs
NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 36-08E13503.00
BEGINNING DATE: 10/5/99
ENDING DATE: 10/7/99

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-01A-99-4 10/5/99	W-03A-99-4 10/6/99	DUP3-99-4 10/6/99 (W-03A-99-4)	W-03B-99-4 10/6/99	W-04A-99-4 10/5/99	W-07-99-4 10/5/99
1,1,1-Trichloroethane	40	200	ug/L	<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
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	68.6	343	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	124	620	ug/L	<0.54	<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	<0.77
Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.0	0.0
April 1999 Total VOCs			ug/L	0.0	0.0	0.0	0.0	0.0	0.0

NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

PROJECT NUMBER: 36-08E13503.00
BEGINNING DATE: 10/5/99
ENDING DATE: 10/7/99

TABLE 3 CONTINUED
SUMMARY OF MONITORING WELL RESULTS

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

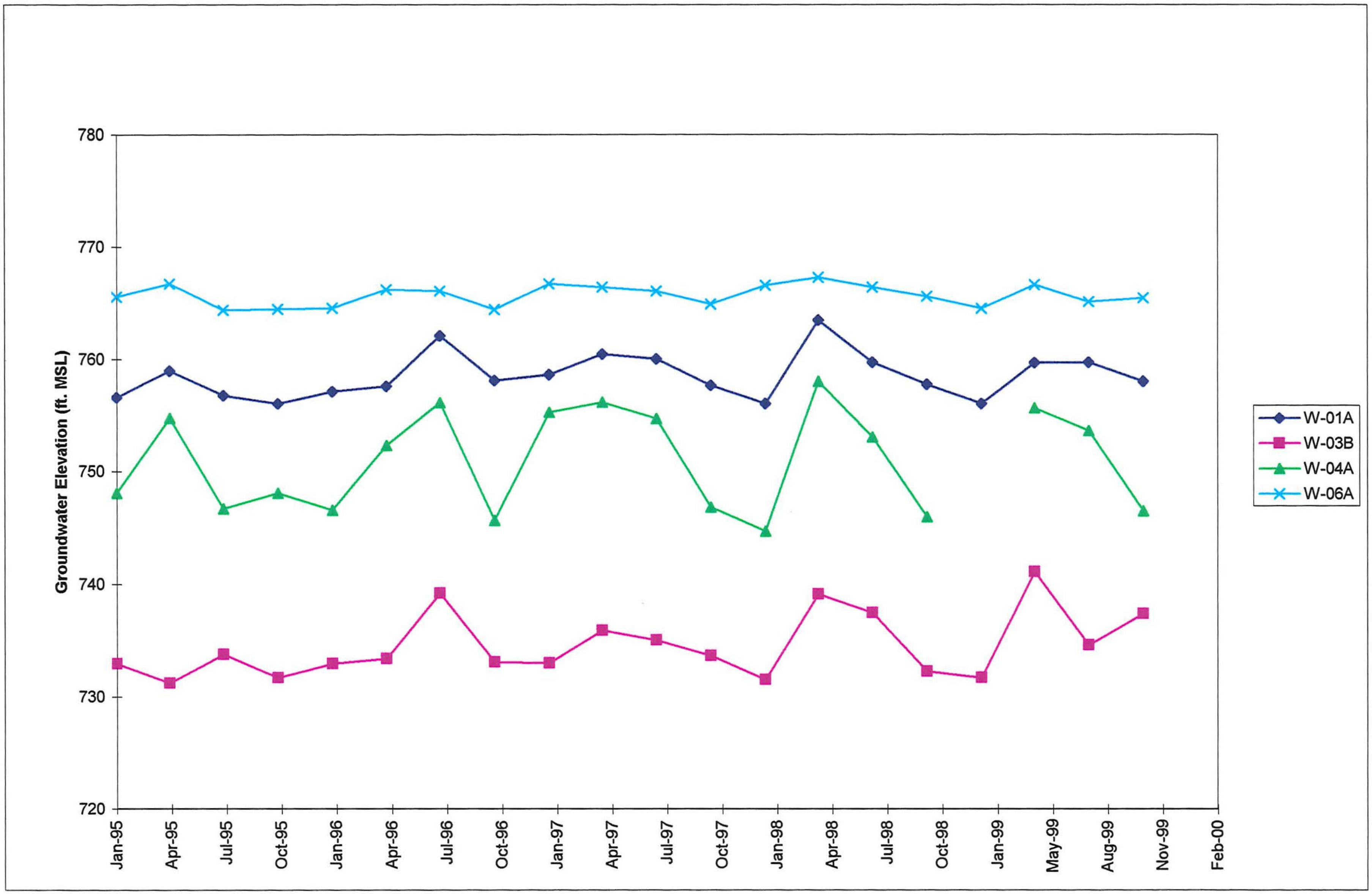
Parameter	PAL (1)	ES (2)	Units	W-20-99-4 10/5/99	W-22-99-4 10/5/99	W-23-99-4 10/6/99	DUP-2-99-4 10/6/99 (W-23-99-4)	W-27-99-4 10/5/99	PW-08-99-4 10/5/99
1,1,1-Trichloroethane	40	200	ug/L	<0.53	<0.53	<0.53	<0.53	1.4 Q	<0.53
1,1,2,2-Tretrachloroethane	0.02	0.2	ug/L	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68
1,1,2-Trichloroethane	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	12	13	<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	1.5
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	4.2	4.3	31	<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	15	16	<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	68.6	343	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	1.4 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	180	<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	124	620	ug/L	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Xylene, m, p	124	620	ug/L	<0.77	<0.77	15	16	<0.77	<0.77
Total VOCs			ug/L	0.0	0.0	46.20	49.30	214	1.5
April 1999 Total VOCs			ug/L	1.4	0.0	3.71	3.75	97	2.1

Indicates concentration in exceedance of Preventative Action Limit
Indicates concentration in exceedance of Enforcement Standard

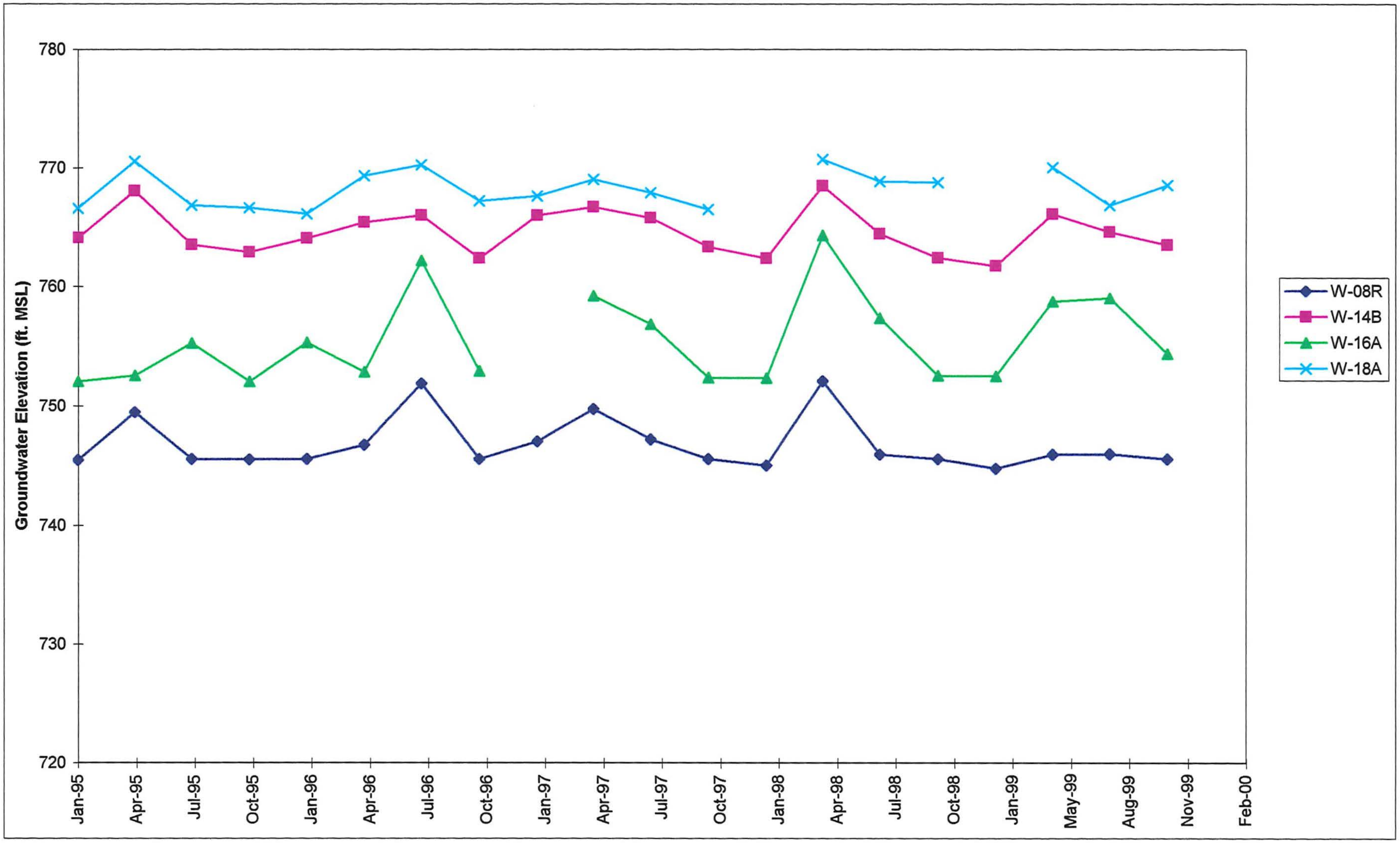
NOTE: DATA QUALIFIERS ARE DISCUSSED IN APPENDIX B.

1/17/00

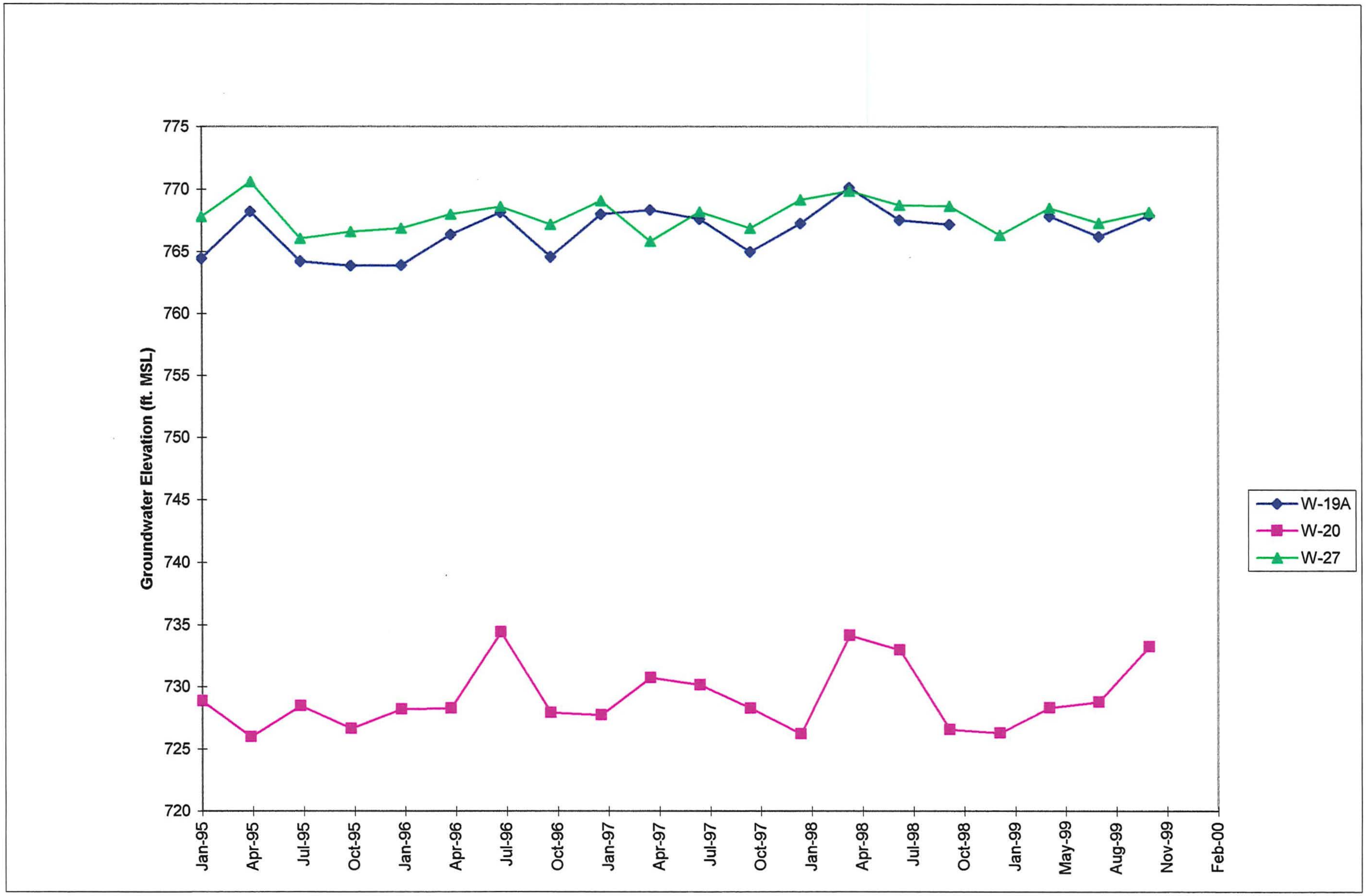
Groundwater Elevation Trends
Glacial Wells, 1995 to 1998
Cook Composites and Polymers Co.



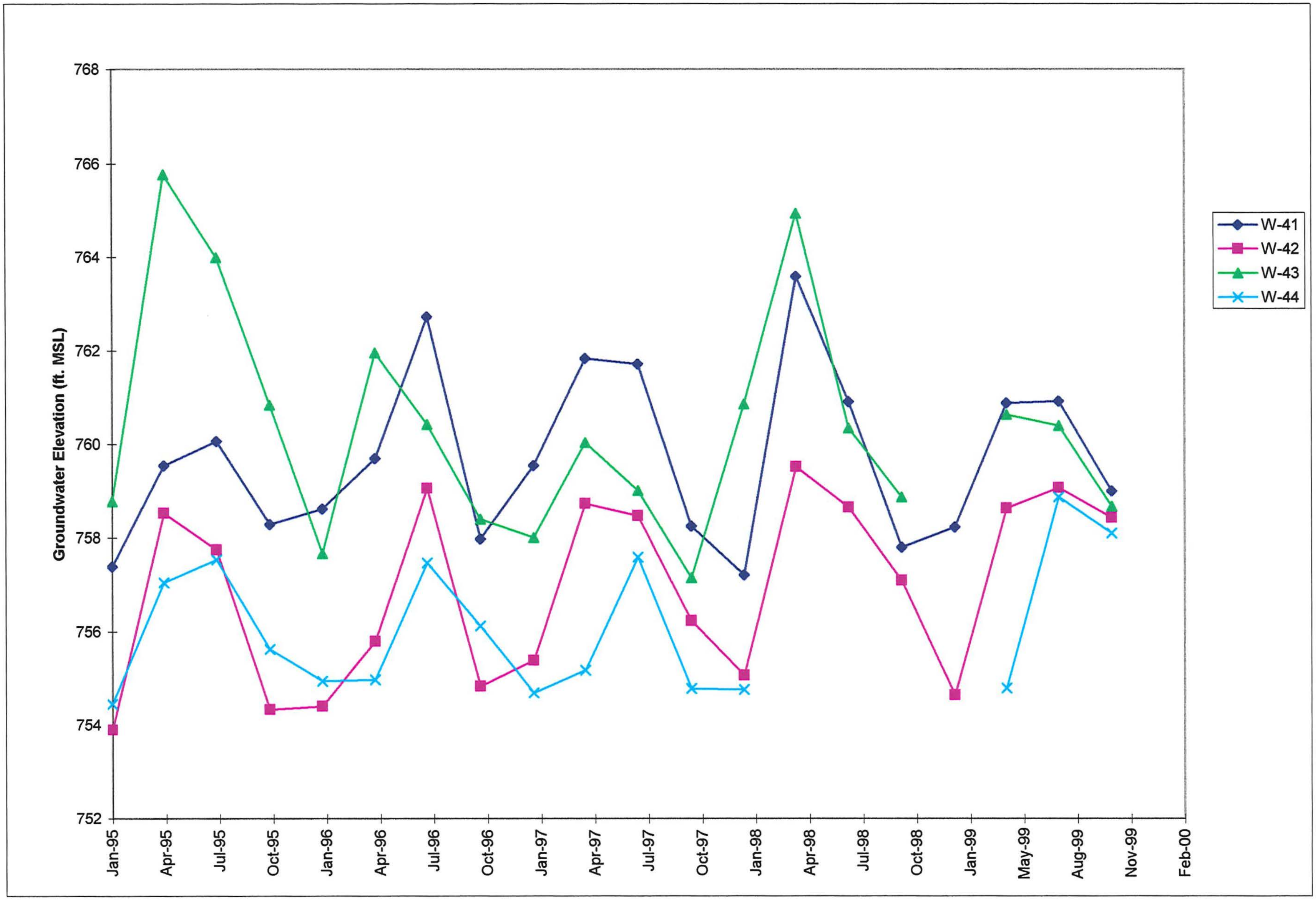
Groundwater Elevation Trends
Glacial Wells, 1995 to 1999
Cook Composites and Polymers Co.



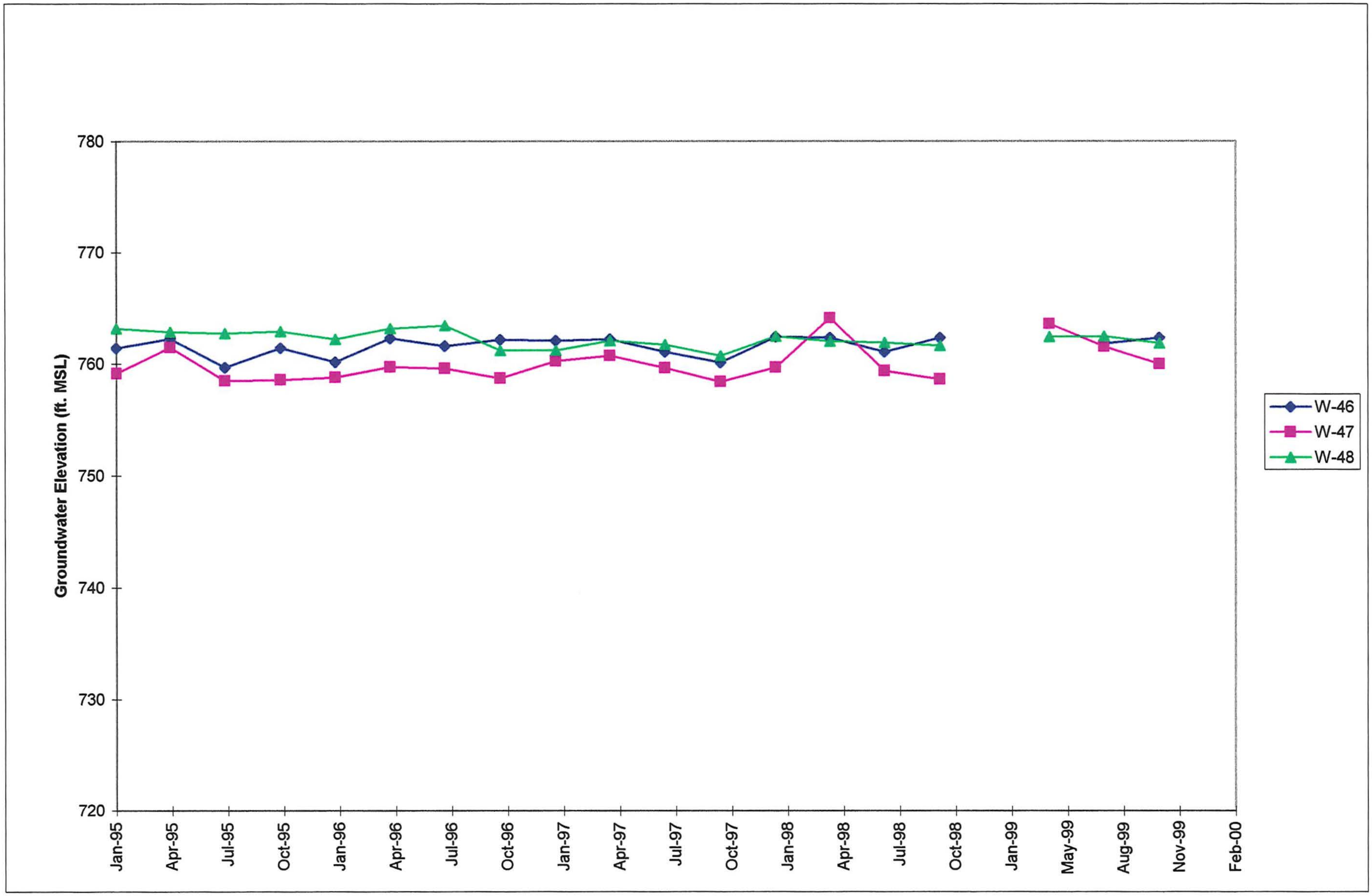
Groundwater Elevation Trends
Glacial Wells, 1995 to 1999
Cook Composites and Polymers Co.



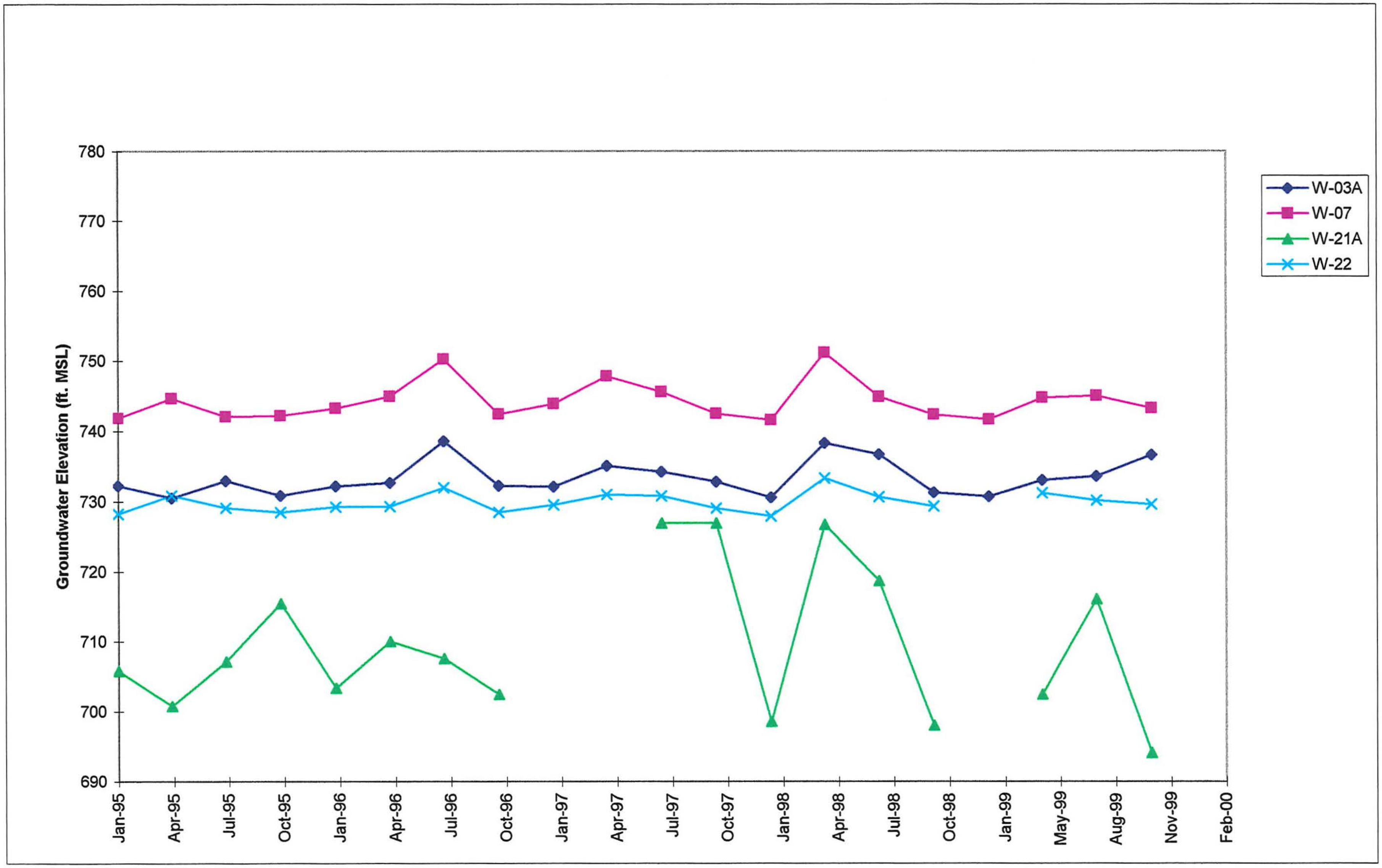
Groundwater Elevation Trends
Glacial Wells, 1995 to 1999
Cook Composites and Polymers Co.



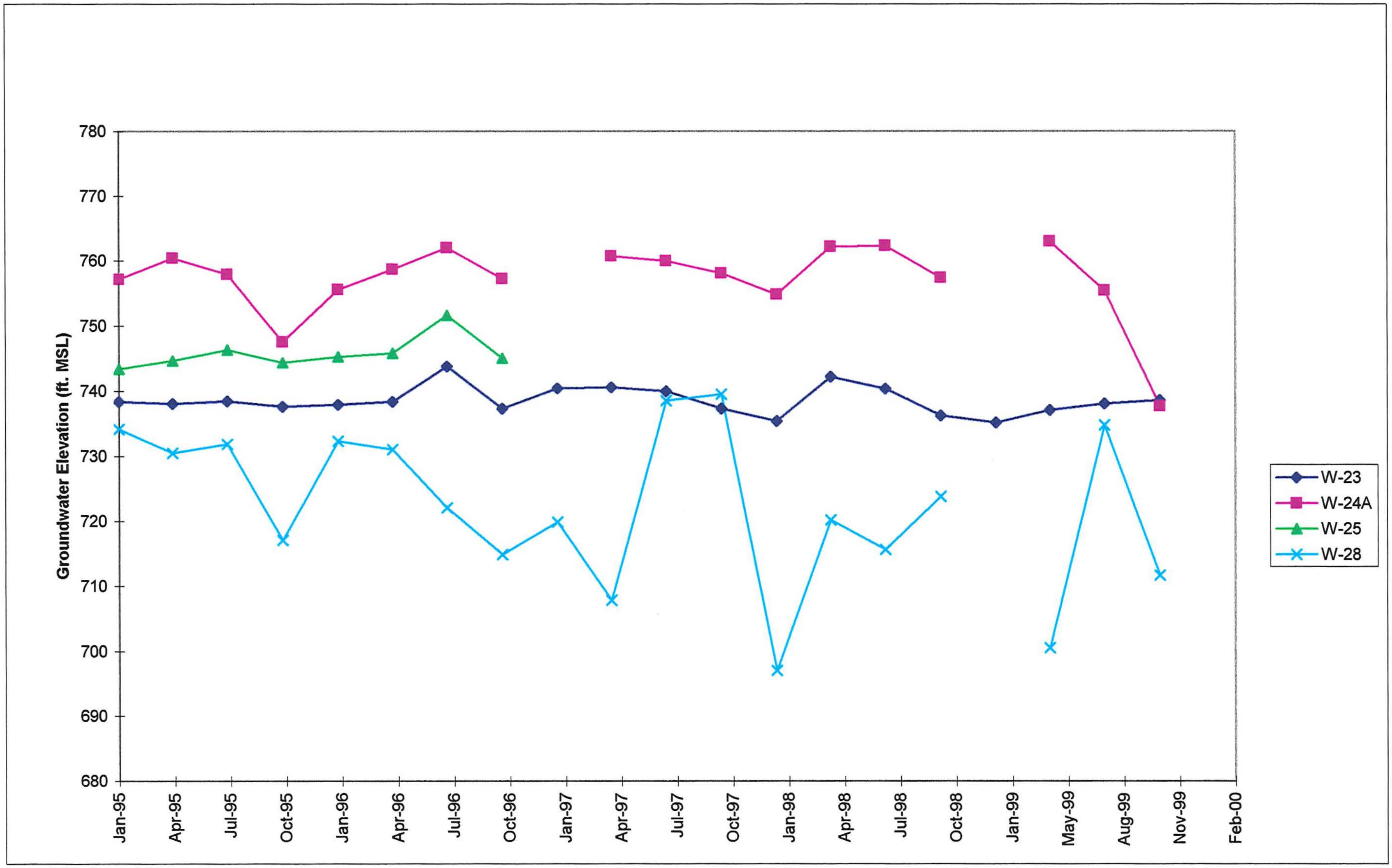
Groundwater Elevation Trends
Glacial Wells, 1995 to 1999
Cook Composites and Polymers Co.



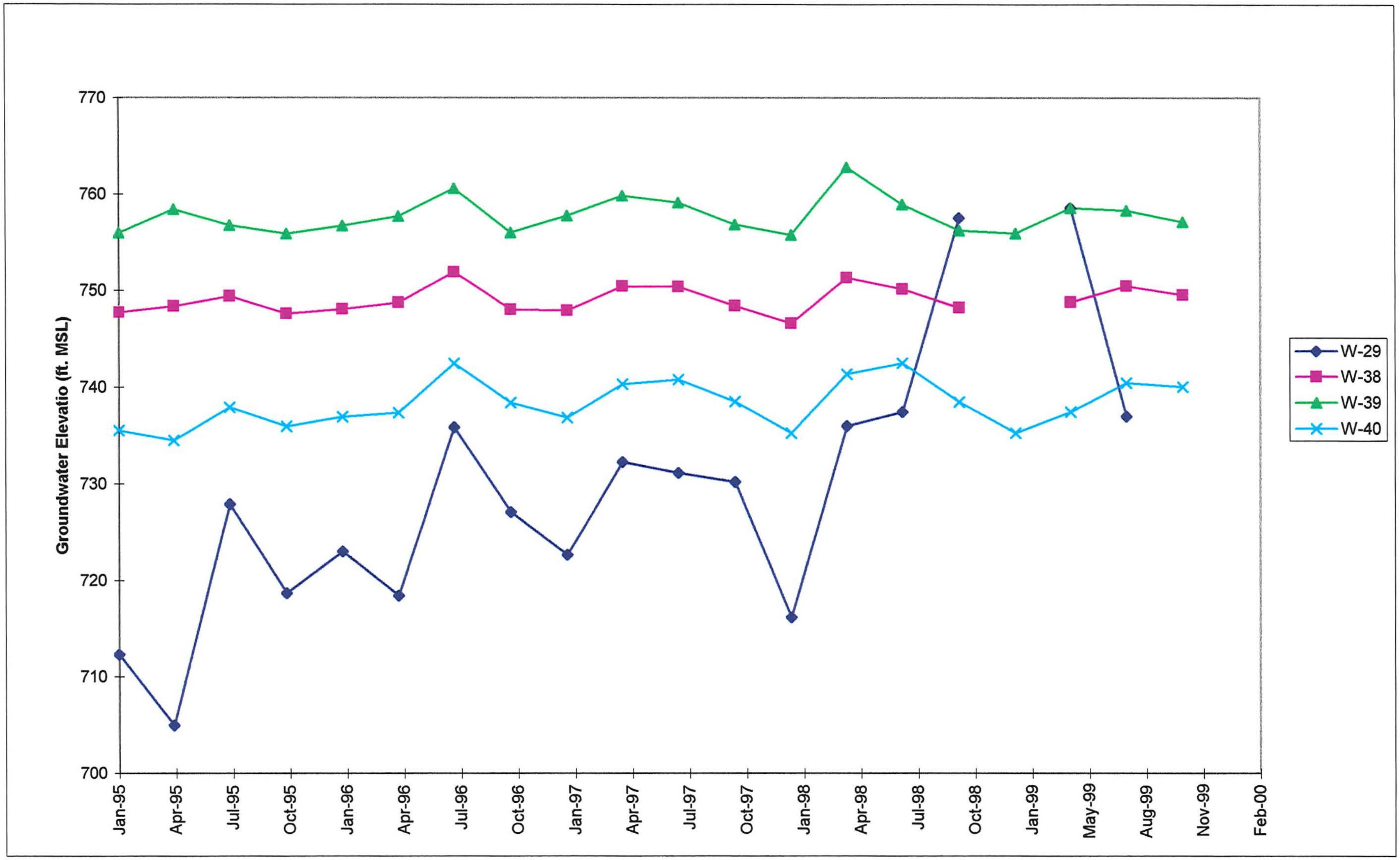
Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 1999
Cook Composites and Polymers Co.



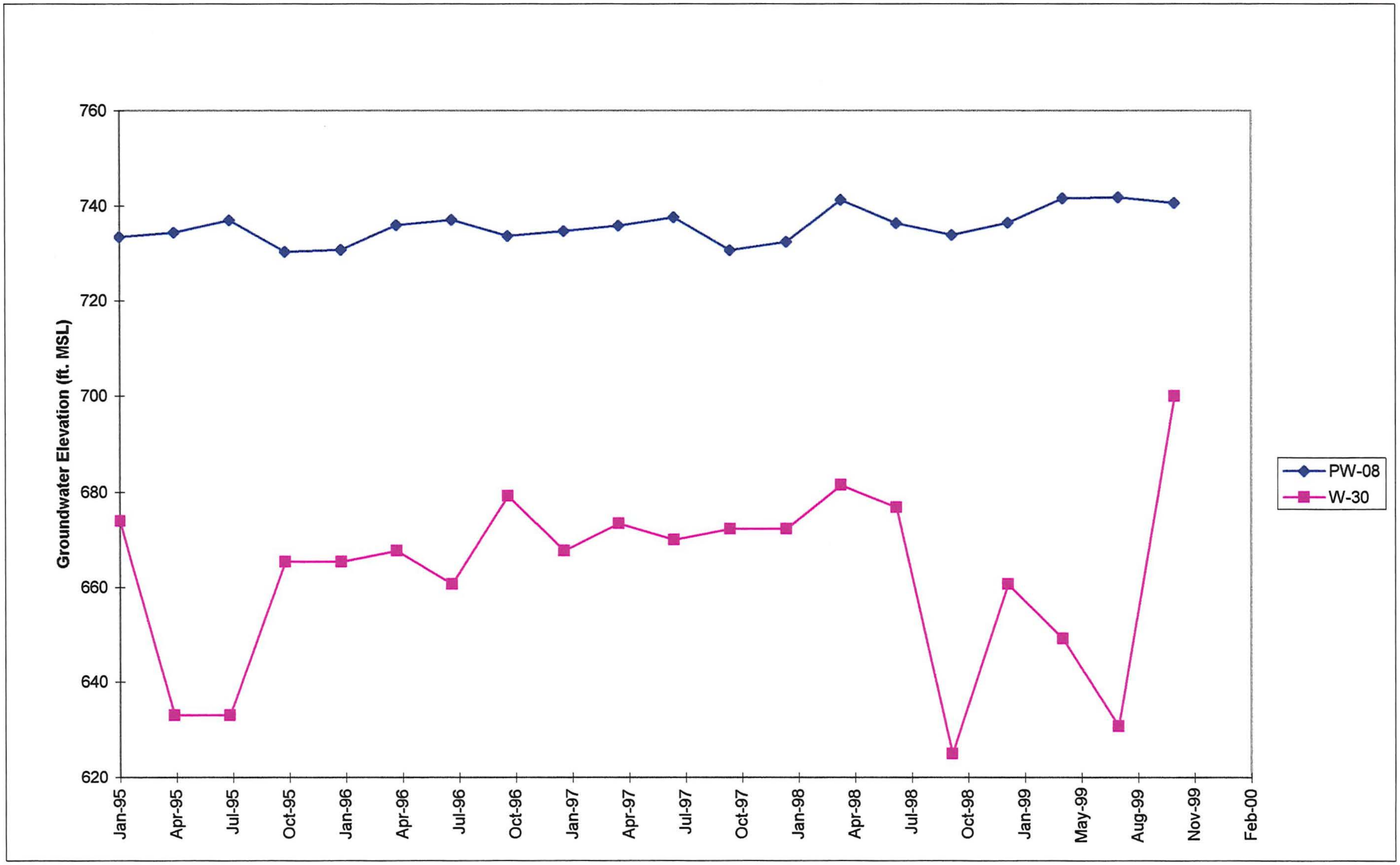
Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 1999
Cook Composites and Polymers Co.



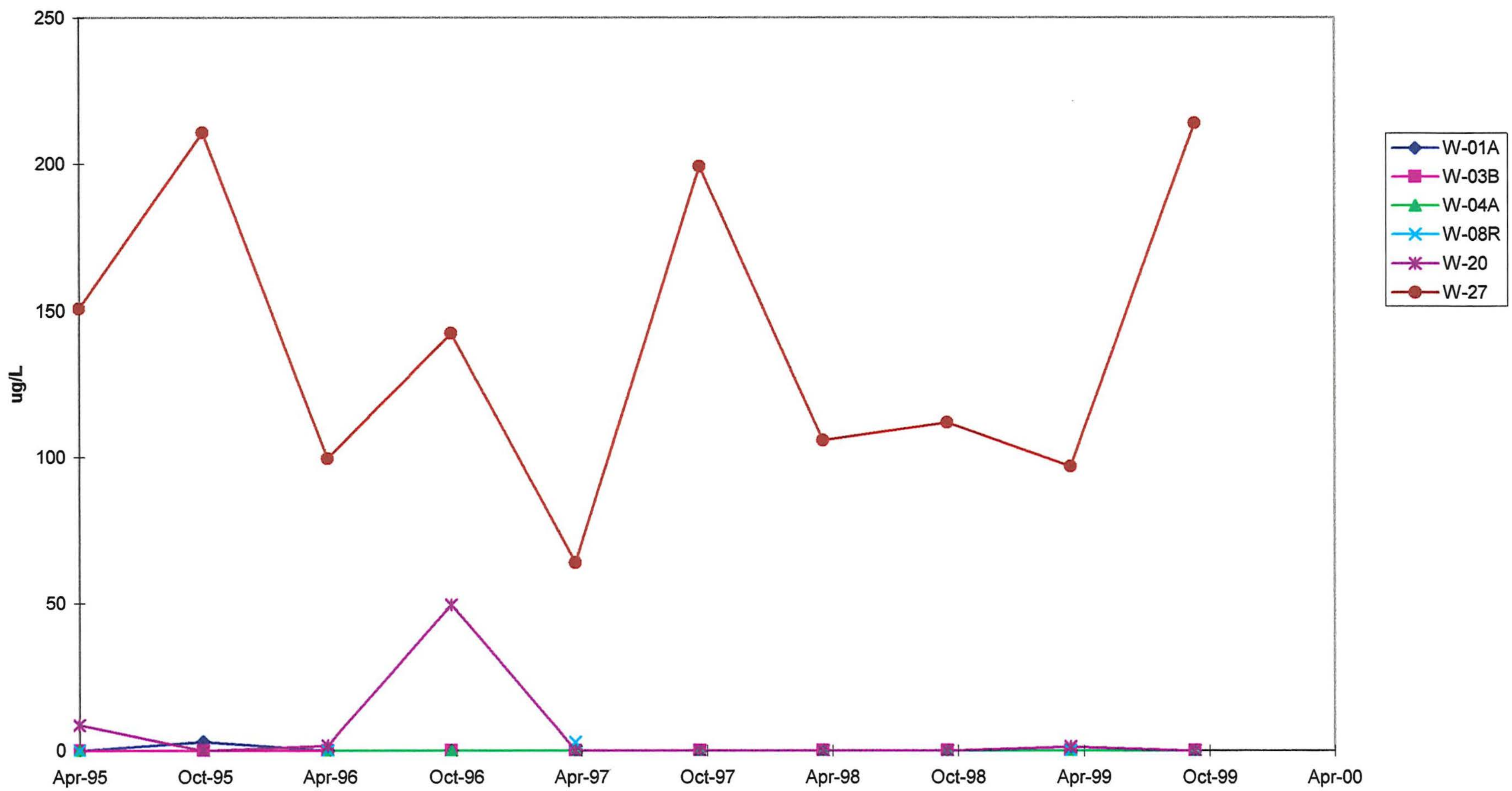
Groundwater Elevation Trends
Shallow Dolomite Wells, 1995 to 1999
Cook Composites and Polymers Co.



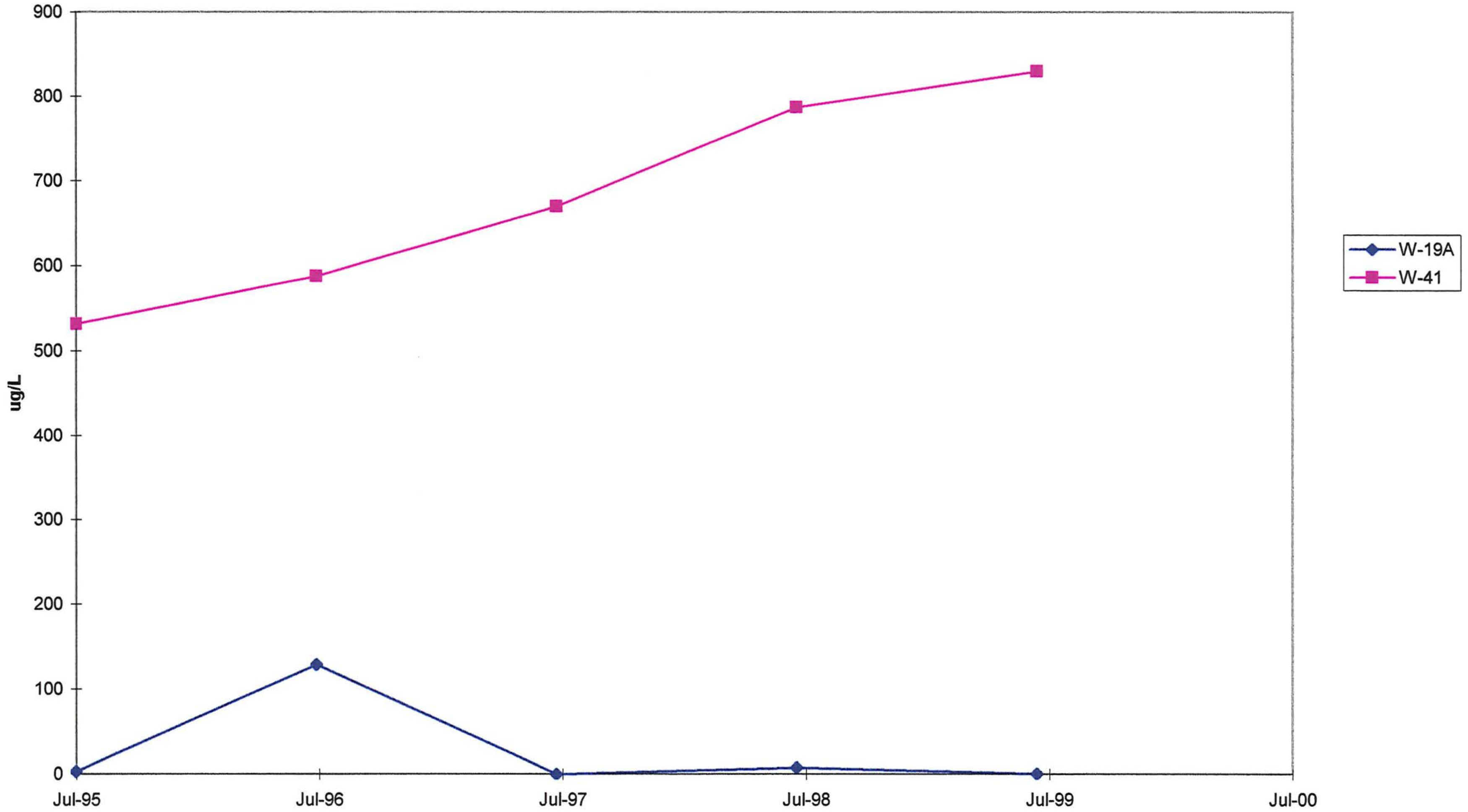
Groundwater Elevation Trends
Deep Dolomite Wells, 1995 to 1999
Cook Composites and Polymers Co.



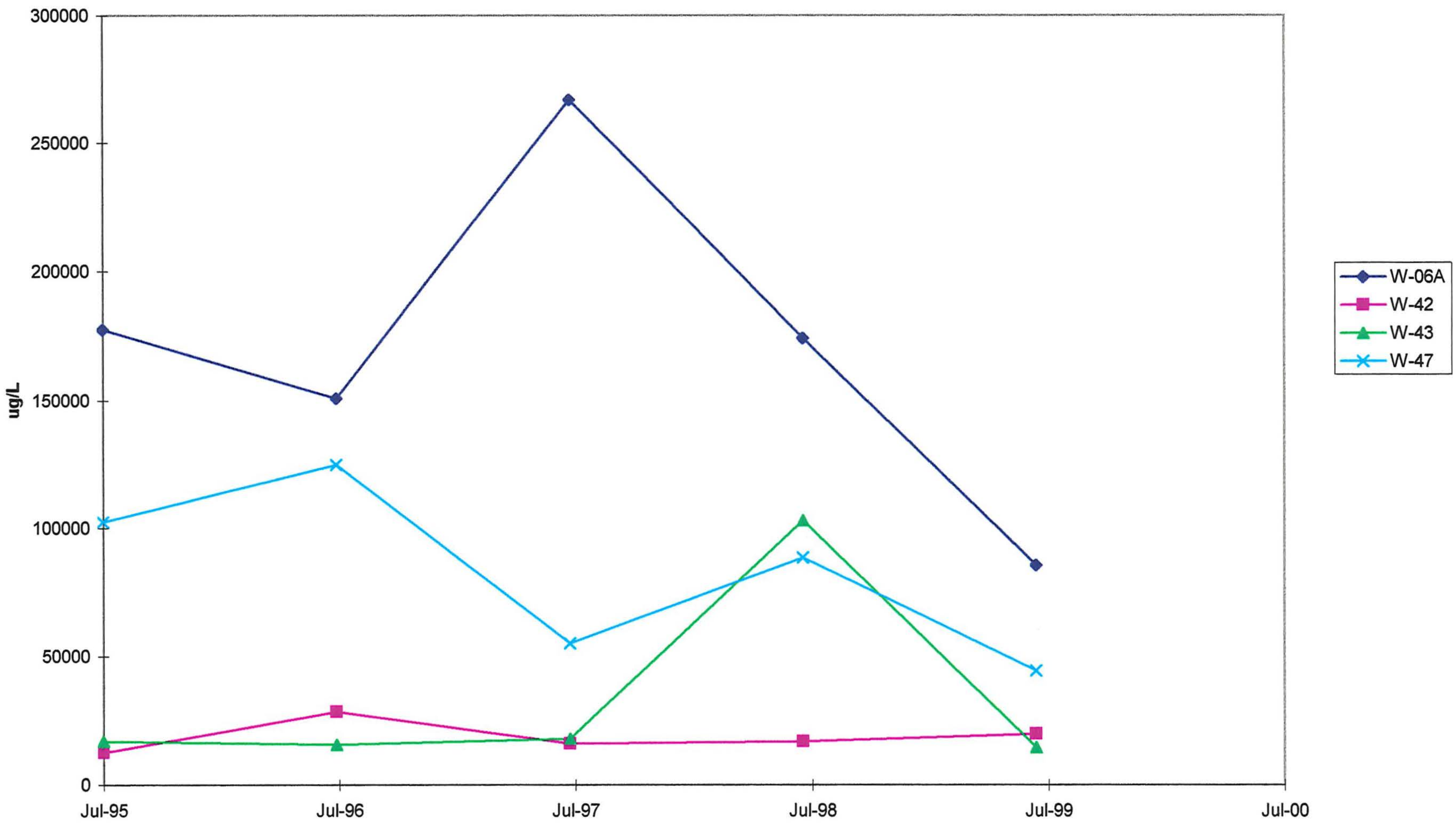
Total VOC Trends
Perimeter Glacial Wells, 1995 to 1999
Cook Composites and Polymers Co.



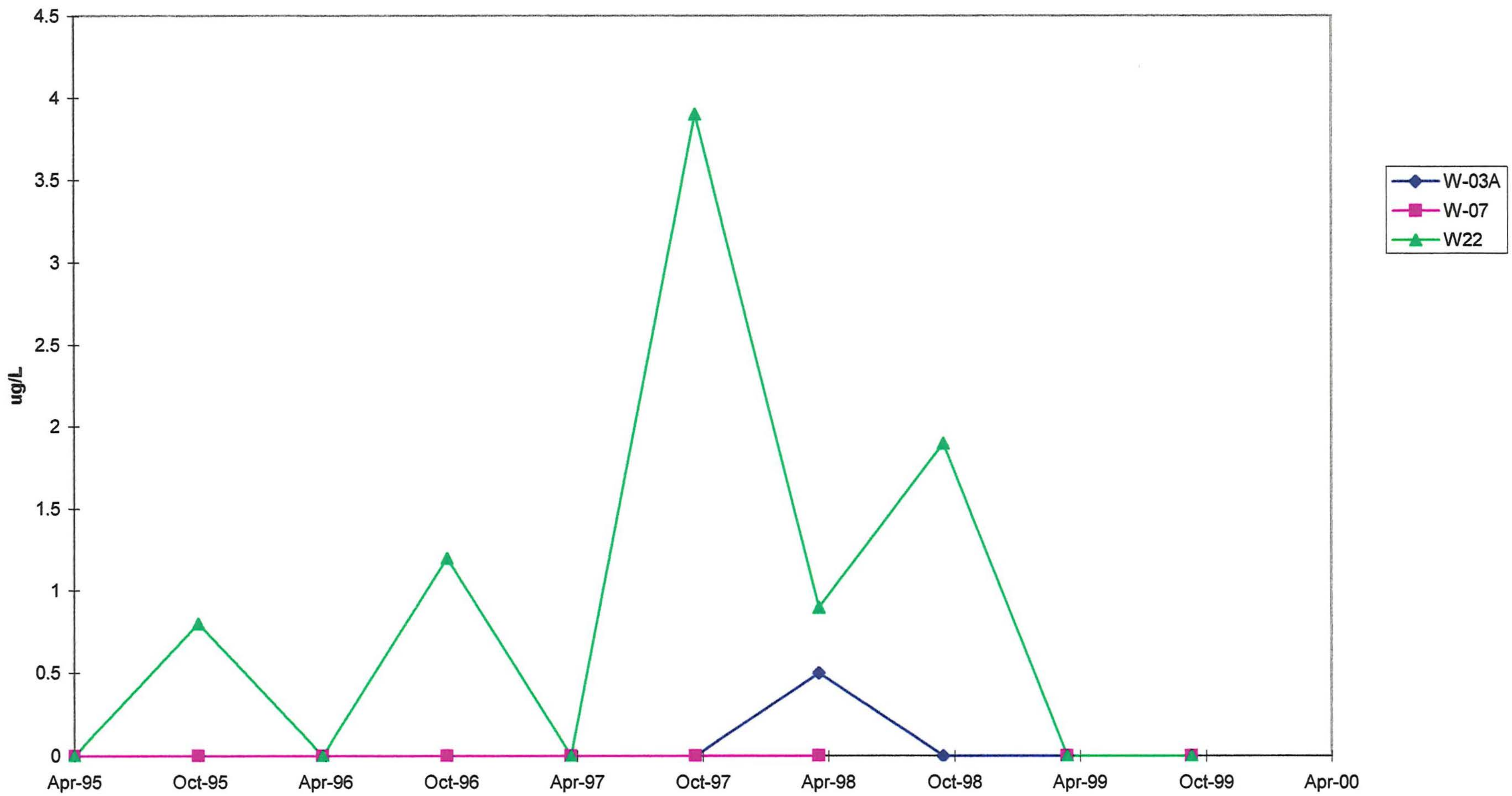
Total VOC Trend
Glacial Drift Progress Wells, 1995 to 1999
Cook Composites and Polymers Co.



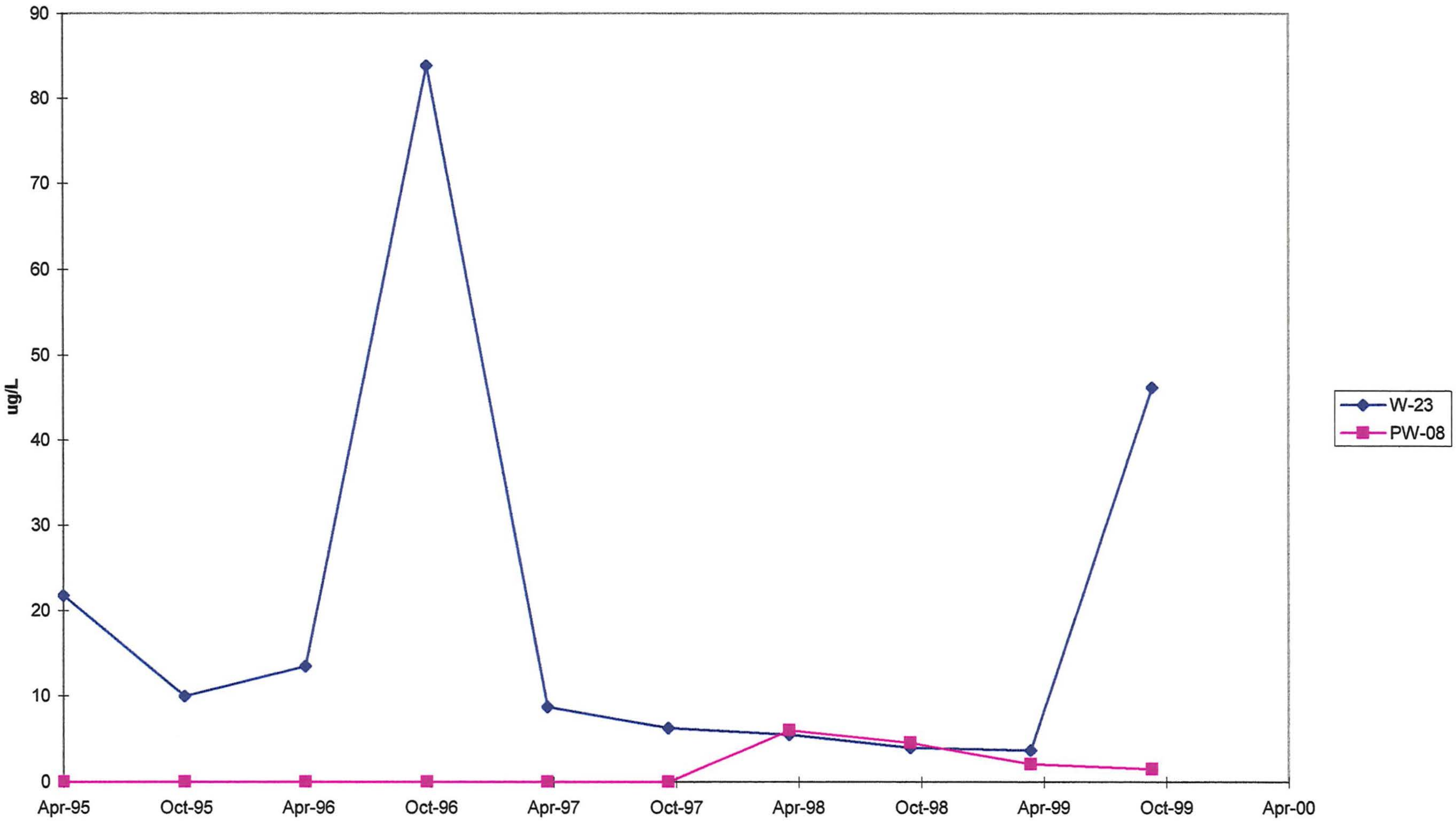
Total VOC Trends
Glacial Drift Progress Wells, 1995 to 1999
Cook Composites and Polymers Co.



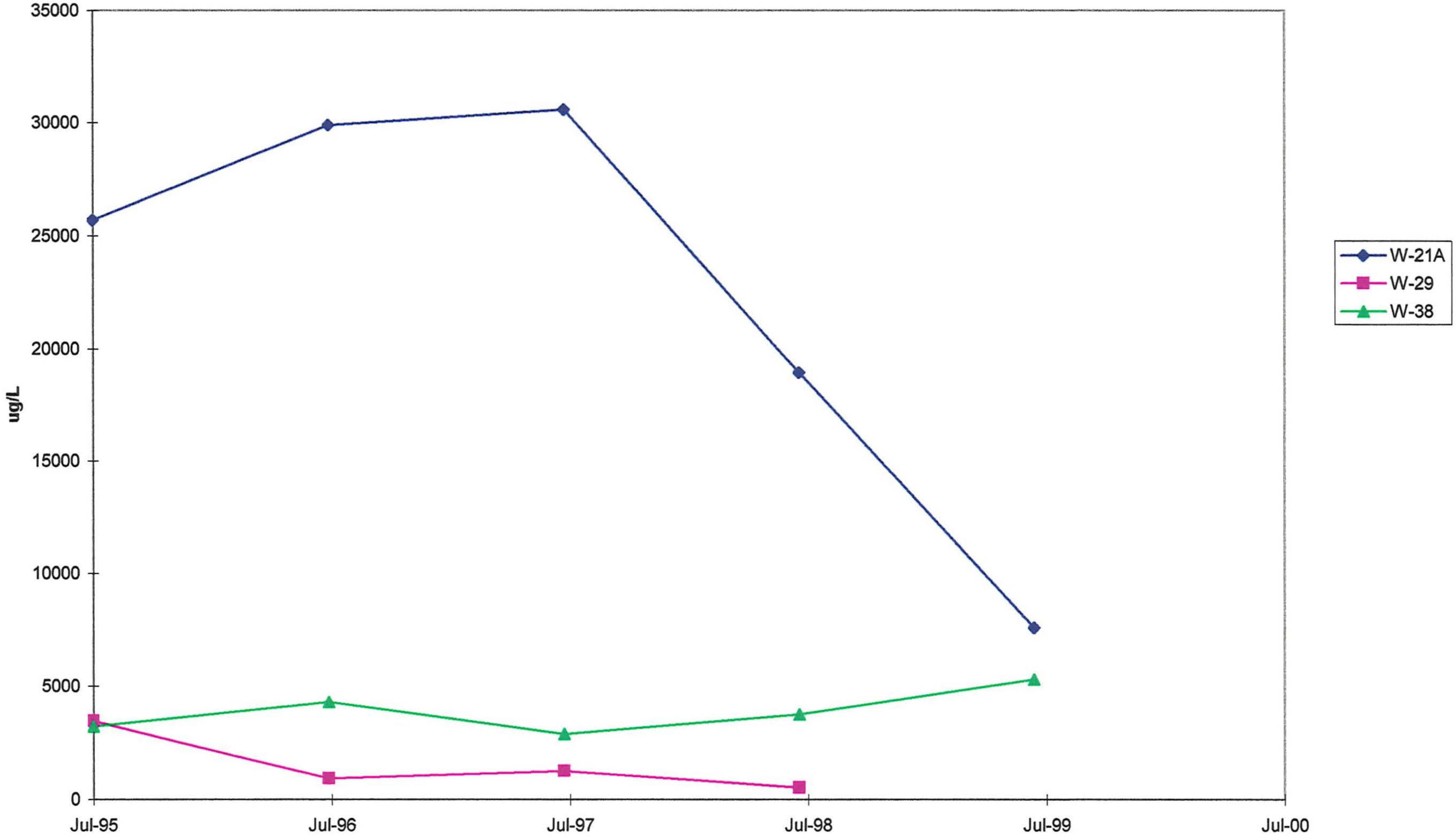
Total VOC Trends
Perimeter Dolomite Wells, 1995 to 1999
Cook Composites and Polymers Co.



Total VOC Trends
Perimeter Dolomite Wells, 1995 to 1999
Cook Composites and Polymers Co.



Total VOC Trends
Dolomite Progress Wells, 1995 to 1999
Cook Composites and Polymers Co.



Total VOC Trends
Dolomite Progress Wells, 1995 to 1999
Cook Composites and Polymers Co.