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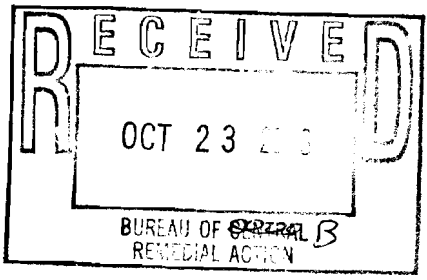
October 21, 2003

Mr. Thomas Reamon, P.E.
Bureau of Hazardous Site Control
New York State Department of Environmental Conservation
625 Broadway, 11th Floor
Albany, NY 12233-7014



Re: McKesson Envirosystems
Bear Street Facility
Syracuse, New York
Site No. 07-34-020
BBL Project #: 0260.26003 #10

Dear Mr. Reamon:

This *Biannual Process Control Monitoring Report* (Biannual Report) for the McKesson Envirosystems, Bear Street facility (the site), located at 400 Bear Street in Syracuse, New York has been prepared by Blasland, Bouck & Lee, Inc. (BBL), on behalf of McKesson Corporation (McKesson), to present a description of the operation and maintenance (O&M) activities conducted and the monitoring results obtained during the period from January 2003 through June 2003. This report has been prepared in accordance with the requirements of the New York State Department of Environmental Conservation-(NYSDEC-) approved *Site Operation and Maintenance Plan* (BBL, Revised August 1999) and a December 29, 1999 letter from David J. Ulm of BBL to Michael J. Ryan, P.E. of the NYSDEC, presenting the long-term process control monitoring program as an addendum to the Site O&M Plan. The Site O&M Plan and the addendum are collectively referred to herein as the O&M Plan.

The site is divided into two operable units: Operable Unit No. 1 (OU No. 1) - Unsaturated Soil and Operable Unit No. 2 (OU No. 2) - Saturated Soils and Groundwater. As a part of the NYSDEC-selected remedy for both of these operable units, there has been and continues to be ongoing O&M activities. Since completing the OU No. 1 remedial activities in 1994/1995 and commencing the OU No. 2 in-situ anaerobic bioremediation treatment activities in July 1998, the details regarding the O&M activities and the results of the process control monitoring program have been provided to the NYSDEC in biannual reports. A site description and history, along with a description of the remedial actions completed and the ongoing O&M activities being conducted were detailed in the previous biannual reports, including BBL's August 2001 Biannual Report covering the period from July 2000 through December 2000. That information has not changed and is not repeated herein.

During this reporting period (January 2003 through June 2003), no substantial system repairs were required and no unusual observations were made regarding system operations. The Area 3 in-situ anaerobic bioremediation treatment system has operated satisfactorily during this reporting period without interruption and 771,944 gallons of water were pumped from the withdrawal trench and introduced into the Area 3 infiltration trenches as detailed herein.

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The process control monitoring activities conducted included hydraulic, biological, and chemicals of concern (COC) monitoring using existing monitoring wells and piezometers. The monitoring locations are shown on Figure 1. In addition, the presence or absence of non-aqueous phase liquid (NAPL) was assessed in existing monitoring wells and piezometers. Table 1 provides a listing of the existing monitoring wells and piezometers used to conduct the long-term process control monitoring program, and a schedule for implementing this program. As presented in this table, the hydraulic, biological and COC monitoring activities, of the long-term process control monitoring program, are being conducted on a biannual basis during the first and third quarters of each year. The May 2003 monitoring event is detailed herein. The NYSDEC (Carl Cuipylo) was notified of the May 2003 monitoring event prior to the commencement of the monitoring activities.

A description of the Revised Anaerobic Mineral Media (RAMM) and Suga-Lik™ (Blackstrap Molasses) introduction activities is presented below, followed by a description and the results of the process control monitoring activities conducted between January 2003 and June 2003. In addition, the information and data included herein provides a comprehensive summary of the biological indicator (phospholipids fatty acids [PLFA] and poly-b-hydroxy alkanoate [PHA]) results obtained during the 5 years since commencement of the in-situ anaerobic bioremediation treatment activities and the COC data obtained at the site from 1989 through May 2003. The conclusions and recommendations based on these results are presented at the end of this letter.

I. RAMM and Suga-Lik™ Introduction Activities

Based on the results of the process control monitoring activities, the continued addition of RAMM into each of the three areas and the continued addition of Suga-Lik™ (with the RAMM) in Area 1 and downgradient of Area 2 were recommended in the September 2002 *Biannual Process Control Monitoring Report* to further stimulate the anaerobic biodegradation of COCs. As detailed in that Biannual Report, the COC concentrations detected at these locations and other Area 1 monitoring locations were relatively low and may not have provided a source of carbon sufficient to sustain microbial activity. To further stimulate growth of indigenous bacteria the RAMM and Suga-Lik™ introduction activities listed below have been conducted.

- Continuing to introduce approximately 100 gallons of RAMM-amended groundwater into each of the three areas on a monthly basis.

- Continuing to add Suga-Lik™ with RAMM into the two Area 1 infiltration trenches on a monthly basis by manually filling each of the standpipes located in these trenches. Suga-Lik™ has been added during these monthly RAMM introduction activities to provide an easily metabolized carbon source to further stimulate the growth of the indigenous bacteria. Suga-Lik™ provides electron donors, while RAMM provides nutrients and electron acceptors.

- Continuing to introduce RAMM and Suga-Lik™ on a monthly basis into piezometers PZ-G, PZ-Q, PZ-R, and PZ-S located within and downgradient of Area 1. RAMM and Suga-Lik™ have been introduced into the shallow hydrogeologic unit within and downgradient of Area 1 using these piezometers to provide a better distribution of a readily degradable carbon source that otherwise may not reach these areas if distributed through the infiltration trenches only.

- Continuing to introduce RAMM and Suga-Lik™ on a monthly basis into piezometer PZ-W located downgradient of Area 2, near monitoring well MW-36.

Approximately 10 gallons of the RAMM/Suga-Lik™ solution has been introduced into each of the aforementioned piezometers and approximately 100 gallons of Suga-Lik™ and/or RAMM into each of the three areas. The amount of Suga-Lik™ added to the RAMM has been proportional to the levels of COCs detected, at the dilution ratio of 1,000:1.

II. Hydraulic Process Control Monitoring

As part of the hydraulic process control monitoring activities conducted during January 2003 through June 2003, groundwater-level measurements were obtained at existing monitoring wells and piezometers that are screened entirely within the sand layer of the shallow hydrogeologic unit and located within and around each of the three areas. Groundwater-level measurements were also obtained from selected monitoring wells (MW-6D located upgradient of Area 3 and MW-8D located within Area 3) screened entirely within the deep hydrogeologic unit. Additionally, a water-level measurement was obtained from a staff gauge located in the Barge Canal adjacent to the site. The hydraulic process control monitoring activities were conducted on May 5, 2003 (biannual sampling event), as well as during the resampling event conducted in January 2003, which was reported in the previous Biannual Process Control Monitoring Report (June 2003).

Table 2 summarizes the water-level measurements obtained during these hydraulic monitoring events. Figure 2 depicts the potentiometric surface of the site's shallow hydrogeologic unit using the May 5, 2003 data set, which is similar to previous hydraulic monitoring events. The results and corresponding conclusions of the hydraulic process control monitoring are also summarized below.

- A closed-loop hydraulic cell continues to be maintained in Area 3, as shown on Figure 2.

- The groundwater withdrawal rate in Area 3 ranged from approximately 2.18 gallons per minute (gpm) to 4.46 gpm. These rates continue to induce a higher hydraulic gradient across the area of relatively higher concentrations of COCs within Area 3 (relative to baseline conditions), while maintaining hydraulic containment in Area 3.

- In Area 3, approximately 75 percent of the recovered groundwater continues to be introduced to the secondary infiltration trench "B" and the remaining 25 percent continues to be introduced to the secondary infiltration trench "A". This introduction of recovered groundwater into the secondary infiltration trenches increases the rate at which RAMM-amended groundwater moves through the area of relatively higher concentrations of COCs (between the secondary infiltration trenches). The withdrawal of groundwater continues to induce a hydraulic gradient in Area 3 from perimeter monitoring well MW-23S, as well as MW-25S and MW-17R, toward the withdrawal trench. COCs were historically detected in groundwater samples collected from these locations at concentrations in excess of NYSDEC Groundwater Quality Standards (see Figure 13). COCs at concentrations in excess of NYSDEC Groundwater Quality Standards have not been detected in perimeter monitoring wells MW-23S and MW-25S since the June/July 1999 sampling event.

- No discernable, long-term hydraulic effects were identified at or near Areas 1 and 2 as a result of introducing RAMM or RAMM/Suga-Lik™ into these areas on a monthly basis.

- The groundwater elevations measured at selected monitoring locations screened entirely within the deep hydrogeologic unit indicate that the operation of the Area 3 system is continuing to have no discernable effect on the hydraulic gradient of this unit.

- The weekly conductivity measurements of groundwater pumped from the withdrawal trench in Area 3 ranged from approximately 1.25 millisiemens per centimeter (mS/cm) to approximately 2.04 mS/cm,

which is within the range of the conductivity levels measured prior to system operation (1 mS/cm to 4 mS/cm). These measurements are well below the measured conductivity of the deep unit, which is greater than the calibration range of the field instrument (10 mS/cm). These data indicate that the operation of the Area 3 treatment system has not caused the freshwater/saltwater interface to upcone to the base of the withdrawal trench.

III. Biological Process Control Monitoring

As detailed in Table 1, the biological process control monitoring includes collecting groundwater samples for laboratory analysis of PLFA and PHA, common biological indicators in both oxidized and reduced states (e.g., electron acceptors: nitrate, manganese, iron, sulfate, and carbon dioxide), and permanent gases (nitrogen, carbon dioxide, and methane). In addition, the following groundwater quality parameters were also measured in the field during the May 2003 biological sampling event: pH, temperature, conductivity, dissolved oxygen (DO), and oxidation/reduction potential (ORP). To better evaluate the availability of macronutrients necessary for biological growth, groundwater samples collected from Areas 1, 2, and 3 monitoring locations and from perimeter monitoring wells MW-29 and MW-30 (downgradient of Area 3) and MW-33 and MW-36 (downgradient of Areas 1 and 2, respectively) were analyzed for ammonia, potassium, and ortho-phosphate.

The results of the May 2003 biological process control monitoring activities are presented in Table 3 and shown on Figures 3 through 11. These biological process control monitoring results are summarized below.

- The biomass (PLFA) level increased or remained the same in most Area 1 monitoring locations since the October 2002 sampling event, except at MW-1 (upgradient location) where the PLFA level decreased (see Figure 3). The PLFA level increased from 1 picomole/milliliter (pmol/ml) (October 2002) to 23 pmol/ml (May 2003) at monitoring location TW-01. The PLFA data used to monitor environmental stress and turnover rate indicate that the microbial community within Area 1 is undergoing limited stress and continues to have high turnover rates (see Figures 4 and 5). PHA was not detected in any of the May 2003 groundwater samples collected from Area 1, suggesting there are sufficient carbon, electron acceptors, and nutrients to sustain microbial activity within Area 1. As proposed in the last biannual report, the groundwater samples collected from monitoring locations within Area 1 were analyzed for ammonia, potassium, and ortho-phosphate to better evaluate the availability of macronutrients necessary for biological growth (see Table 3). The results of these additional analyses and the PHA/PLFA data indicate that there are sufficient amounts of macronutrients available within Area 1 to sustain microbial growth.

- The biomass (PLFA) level increased or remained the same in most Area 2 monitoring locations since the previous sampling event (see Figure 6). The PLFA level at monitoring location TW-02R increased from 148 pmol/ml in October 2002 to 439 pmol/ml in May 2003. The level of anaerobic bacteria, however, decreased since the previous sampling event and comprised a smaller portion of the microbial community in Area 2 monitoring locations, except at TW-02R where the anaerobic bacteria population increased. As shown on Figures 7 and 8, the PLFA data used to monitor environmental stress and turnover rate suggest that the microbial community within Area 2 is undergoing limited stress and continues to have high turnover rates. PHA was detected in all of the Area 2 samples collected during May 2003, but the PHA to PLFA ratios were all less than 0.2, which suggest that sufficient amounts of carbon, electron donors, and nutrients are available to maintain cell division and balanced growth within the Area 2 microbial community. As proposed in the last biannual report, the groundwater samples collected from monitoring locations within Area 2 were analyzed for ammonia, potassium, and ortho-phosphate to better evaluate the availability of macronutrients necessary for biological growth (see Table 3). The results of these additional analyses

and the PHA/PLFA data indicate that there are sufficient amounts of macronutrients available within Area 2 to sustain microbial growth.

- The May 2003 sampling results for Area 3 indicate an increase in PLFA levels at monitoring wells MW-3S and MW-27 since the last sampling event (see Figure 9). However, the select PLFA results obtained from Area 3 monitoring locations indicate that the relative percentage of anaerobic bacteria, compared to aerobic bacteria has decreased since the last sampling event conducted in October 2002. Additionally, there was an approximate two-fold decrease in the PLFA levels measured at monitoring wells MW-8S and MW-28 since the last sampling event. As shown on Figures 10 and 11, the PLFA data used to monitor environmental stress and turnover rate suggest that the microbial community in Area 3 is undergoing limited stress and continues to have high turnover. PHA was detected in samples collected from monitoring locations MW-8S and MW-28, but not in samples collected from MW-3S and MW-27. The PHA to PLFA ratios for the samples collected from MW-8S and MW-28 (0.05 and 0.01, respectively) were less than 0.2. The low PHA to PLFA ratios at MW-8S and MW-28 and the nondetections of PHA at MW-3S and MW-27 suggest that sufficient amounts of carbon, nutrients, and electron acceptors are available to maintain cell division and balanced growth. As proposed in the last biannual report, the groundwater samples collected from monitoring locations within Area 3 were analyzed for ammonia, potassium, and ortho-phosphate to better evaluate the availability of macronutrients necessary for biological growth (see Table 3). The results of these additional analyses and the PHA/PLFA data indicate that there are sufficient amounts of macronutrients available within Area 3 to sustain microbial growth.

- Dissolved gases results, together with ORP and DO data, indicate that conditions in the saturated soils/groundwater of the shallow hydrogeologic unit within each area are reduced, thus conducive to anaerobic bioremediation processes.

- The biological data (i.e., microbial analytes, indicator compounds, and permanent gases) obtained during the five years since commencement of the in-situ anaerobic treatment program verify that the saturated soil/groundwater conditions within the shallow hydrogeologic unit within each area are consistently conducive to microbial degradation of the COCs by anaerobic microbial populations. Additionally, these data have consistently confirmed that there are sufficient carbon, election acceptors, and nutrients to sustain microbial activity with each of the three areas.

- Common biological indicators were measured in groundwater samples collected from the four "sentinel" monitoring wells (MW-29, MW-30, MW-33, and MW-36) (see Table 3 and Figure 1). These results are consistent with previous sampling events and indicate no appreciable increase in RAMM constituents downgradient of each area.

IV. COC Process Control and Biannual Groundwater Monitoring Program

The COC process control biannual groundwater monitoring activities were conducted on May 5, 2003 through May 9, 2003, in accordance with the long-term COC process control monitoring program presented in the O&M Plan. Table 1 provides a listing of the existing monitoring wells and piezometers that are used to conduct the long-term process control monitoring program, and a schedule for implementing this program.

As previously mentioned, and in accordance with the requirements of the NYSDEC-approved monitoring program, laboratory analytical results for the May 2003 samples were validated.

A summary of the COC groundwater monitoring data is presented in Table 4 and shown on Figures 12 and 13. Copies of the validated analytical laboratory reports associated with the May 2003 sampling

event are provided under separate cover. A summary of the COC analytical results is provided below for each of the three areas, and the downgradient perimeter monitoring locations. NAPL was not identified in any of the monitoring wells or piezometers used during the process control monitoring program.

Area 1

- As shown on Figure 12, the concentrations of most COCs detected in the groundwater samples collected from the monitoring locations within Area 1 during the May 2003 sampling event declined or remained relatively the same during implementation of the in-situ anaerobic bioremediation treatment program. The COC concentrations detected at the monitoring wells within Area 1 were relatively low, ranging from not detected to concentrations just slightly greater than their respective NYSDEC Groundwater Quality Standard.

- The concentrations of COCs detected in groundwater samples collected from the monitoring well located immediately downgradient of Area 1 (MW-33) have increased since the October 2002 sampling event (Figure 12). In particular, the methylene chloride concentration increased from 4 ppb to an anomalously high concentration of 2,800 ppb and the aniline concentration increased from 290 ppb to 2,000 ppb (October 2002 and May 2003, respectively). COCs, however, were not detected above their respective NYSDEC Groundwater Quality Standard in the groundwater sample collected from the monitoring well located downgradient of MW-33 (MW-3S) during the May 2003 sampling event.

- The highest COC concentrations within Area 1 have been detected in groundwater samples collected from MW-32 and TW-01. The COC concentrations in May 2003 groundwater samples collected from these wells, and the other monitoring wells within this area, were all non-detect or just slightly above groundwater standards. These data demonstrate a significant decrease in COC concentrations since commencement of the in-situ anaerobic bioremediation treatment program. For example, the aniline concentration detected at MW-32 has continued to decrease from 6,300 ppb detected in September 1998 to 0.6 ppb in May 2003. The aniline concentration detected at TW-01 has decreased from 9,000 ppb in February 1999 to not detected in May 2003.

Area 2

- As shown on Figure 12, most COC concentrations detected within Area 2 during the May 2003 sampling event have decreased or remained relatively the same during implementation of the in-situ anaerobic bioremediation treatment program.

- Monitoring well TW-02R is located within Area 2 at a location identified as containing relatively higher concentrations of COCs (see Figure 12) and has typically exhibited the higher concentrations in Area 2 of N,N-dimethylaniline, methylene chloride, and aniline. The N,N-dimethylaniline and methylene chloride concentrations have significantly decreased since 1998: from 61,000 ppb and 86,000 ppb (September 1998), respectively, to 230 ppb and 97 ppb (May 2003), respectively. The aniline concentrations detected at TW-02R, however, have remained relatively consistent since commencement of the in-situ anaerobic bioremediation treatment activities, including the 160,000 ppb concentration of aniline detected during May 2003.

- COC concentrations detected in the May 2003 groundwater samples collected from monitoring well MW-35 were consistent with previous COC analytical results (i.e., not-detected or just slightly great than groundwater standards); however, the aniline concentration detected at monitoring location MW-35 in May 2003 (1,000 ppb) was anomalously higher than the previous aniline concentrations

detected at this location between September 1998 and October 2002, which ranged from not detect to 6 ppb.

- Consistent with the COC concentrations detected since the commencement of the in-situ anaerobic bioremediation treatment, COC concentrations detected in the May 2003 groundwater samples collected from monitoring well MW-36 located downgradient of Area 2 were not detected or just slightly greater than the NYSDEC Groundwater Quality Standard, except aniline, which was detected at a concentration of 67 ppb.

Area 3

- As presented on Figure 13, the concentrations of most COCs that were previously detected at Area 3 monitoring locations above their respective NYSDEC Groundwater Quality Standards have decreased or remained relatively the same during the implementation of the in-situ anaerobic bioremediation treatment program. However, aniline concentrations detected in Area 3 monitoring locations MW-8S and MW-27 have increased.

- At monitoring well MW-8S, located in the center of Area 3 and within the area that has been identified as containing relatively higher concentrations of COCs (see Figure 13), the concentrations of COCs detected in May 2003 are relatively consistent with those detected since commencement of the in-situ bioremediation treatment activities in 1998. Prior to starting the treatment activities, however, much greater methylene chloride concentrations were detected at this location: 7,700,000 ppb methylene chloride was detected in August 1995 compared to 910,000 ppb detected in May 2003. Additionally, since commencing the treatment activities, the concentrations of aniline have generally increased: 1,200 ppb aniline was detected in September 1998 compared to 79,000 ppb in May 2003.

- At monitoring well MW-28, also located within Area 3 and within the area of relatively higher concentrations of COCs, the methylene chloride concentrations detected in groundwater samples have decreased from 64,000 ppb (September 1998) to 52 ppb (May 2003). During the five years since commencement of the in-situ anaerobic bioremediation treatment program, aniline has remained relatively consistent, including the aniline concentration of 1,000 ppb detected in May 2003. The concentrations of the other COCs have generally been not detected or detected at concentrations just slightly greater than their respective NYSDEC Groundwater Standard.

- The aniline concentration detected at monitoring well MW-27 increased from 340 ppb (September 1998) to 15,000 ppb (May 2003). The other COCs detected at MW-27 in May 2003 were at relatively low concentrations, ranging from not detected to approximately 50 ppb (xylenes), which is consistent with concentrations detected during the implementation of the in-situ anaerobic treatment program over the past five years.

Downgradient Perimeter Monitoring Locations

- As presented on Figure 13, COCs were not detected at downgradient perimeter monitoring locations above their respective NYSDEC Groundwater Quality Standards. This is consistent with the previous results obtained since 1995.

V. Conclusions

The process control monitoring data presented in this Biannual Report provides information that has been and will continue to be used to monitor the effectiveness of the in-situ anaerobic bioremediation treatment program. The following conclusions are based on the process control monitoring data obtained to date:

- A closed loop hydraulic cell continues to be maintained in Area 3;

- Operation of the Area 3 treatment system has not caused the freshwater/saltwater interface to upcone to the base of the withdrawal trench;

- The biological data (i.e., microbiological analytes, indicator compounds, and permanent gases, see Table 1) obtained during the five years since commencement of the in-situ anaerobic bioremediation treatment program have consistently verified that the saturated soil/groundwater conditions within the shallow hydrogeologic unit at Areas 1, 2, and 3 have been and continue to be conducive to degradation of the COCs by anaerobic microbial populations. Additionally, these data have consistently confirmed that there are sufficient carbon, electron acceptors, and nutrients to sustain microbial activity in each of the three areas.

- COCs were not detected at the downgradient perimeter monitoring locations above their respective NYSDEC Groundwater Quality Standards, which is consistent with the previous results obtained since 1995;

- The COC concentrations detected in the groundwater samples collected from the monitoring locations within Area 1 during the five years since commencement of the in-situ anaerobic treatment program have decreased to or remained at concentrations ranging from not detected to just slightly greater than their respective NYSDEC Groundwater Standard;

- The COC concentrations within Area 2 have decreased or remained relatively the same during implementation of the in-situ anaerobic treatment program, with the exception of the aniline concentrations detected at monitoring location TW-02R and MW-35. The aniline concentrations detected in groundwater samples collected from TW-02R have increased from 38,000 ppb in September 1998 to 160,000 ppb in May 2003, and the May 2003 detection of 1,000 ppb in MW-35 was anomalously high (all previous detections were less than or close to the NYSDEC Groundwater Quality Standard of 5 ppb);

- The concentrations of most COCs that have been detected at Area 3 monitoring locations above their respective NYSDEC Groundwater Quality Standard have decreased or remained relatively the same during the five years since commencement of the in-situ anaerobic bioremediation treatment program. However, during the same five years aniline concentrations detected at monitoring location MW-8S have increased, from 1,200 ppb in September 1998 to 79,000 ppb in May 2003;

- The concentrations of methylene chloride and aniline at MW-8S and aniline concentrations at TW-02R have remained significantly higher than their respective NYSDEC Groundwater Quality Standard since commencement of the in-situ anaerobic bioremediation treatment activities, even with relatively high levels of biomass present. The relationship between relatively high COC concentrations and biomass levels suggest anaerobic biological processes are active, but may not be efficiently removing COC mass at these two locations; and

- Suga-Lik™ additions to Areas 1 and 2 are improving the biodegradation of the low concentrations of COCs detected in groundwater samples collected from monitoring wells MW-32 and MW-36.

VI. Recommendations

Based on the process control monitoring data obtained to date and the conclusions summarized above, the addition of RAMM and/or SugaLik™ in each of the three areas and the hydraulic control activities in Area 3 will continue to be implemented consistent with the operation procedures followed since January 2002 and described herein. To enhance the overall remediation of OU No. 2, supplemental remedial activities are recommended to further address the relatively higher concentrations of COCs consistently detected in groundwater samples collected from monitoring wells MW-8S and TW-02R, and the aniline concentrations detected at monitoring locations MW-35 (Area 2) and MW-27 and MW-28 (Area 3). These supplemental remedial activities are described below, along with proposed changes in the process control monitoring program.

Process Control Monitoring Program

As discussed in this report and summarized in Table 1, the ongoing monitoring activities conducted at the site are included in the Biannual Groundwater Monitoring Program and the Process Control Monitoring Program. The activities included in the Biannual Groundwater Monitoring Program will continue, and include the biannual collection of chemical and hydraulic data from downgradient perimeter wells/piezometers to determine whether or not groundwater that contains concentrations of COCs in excess of their respective NYSDEC Groundwater Quality Standard is migrating beyond the site boundary. The Process Control Monitoring Program has consisted of collecting COC, microbiological, and hydraulic groundwater data on a biannual basis to assess the effectiveness of the in-situ anaerobic bioremediation activities.

Based on the five years of data collected for the Process Control Monitoring Program, the following changes presented below are proposed.

- The biological data (i.e., microbiological analytes, indicator compounds, and permanent gases, see Table 1) obtained during the five years since commencement of the in-situ anaerobic bioremediation treatment program have consistently verified that the saturated soils/groundwater of the shallow hydrogeologic unit within each area are conducive to anaerobic bioremediation. Additionally, these data have consistently confirmed that there are sufficient carbon, electron acceptors, and nutrients to sustain microbial activity in each of the three areas. Because the biological data in each of the three areas have been consistent, the biological monitoring activities are proposed to be eliminated from the Process Control Monitoring Program.

- The COC sampling schedule is proposed to be changed from biannual to annual at upgradient monitoring location MW-1 and monitoring locations MW-3S, MW-9S, MW-29, MW-30, MW-34, and MW-36, due to the consistent concentrations of COCs detected below or slightly higher than the NYSDEC Groundwater Quality Standards at these monitoring locations.

- The COC sampling at monitoring location TW-01 is proposed to be discontinued because of the low COC concentrations detected since September 2000 and its close proximity to MW-32. The COC concentrations detected at these two locations in Area 1 have been similar over the past 5 years, except that aniline has consistently been detected at higher concentrations in groundwater samples collected from MW-32 since March 2000. Monitoring well MW-32 has been and will continue to be sampled biannually under the Process Control Monitoring Program.

Supplemental Remedial Activities

To enhance the overall remediation of OU No. 2, the supplemental remedial activities described below are proposed to further address the relatively higher concentrations of COCs consistently detected in groundwater samples collected from monitoring wells MW-8S (Area 3) and TW-02R (Area 2).

- Remove approximately 20 tons of soil from an approximate 4-foot-by-4-foot area surrounding monitoring locations MW-8S and TW-02R (approximately 40 tons total). The soil will be removed by advancing a 14-inch diameter auger to a depth of approximately 20 feet below ground surface (bgs) to overdrill and remove monitoring wells MW-8S and TW-02R and then to remove soil from up to seven locations near these monitoring wells. This depth below grade is the total depth of monitoring wells TW-02R and MW-8S, and is above the silt and clay layer underlying the shallow hydrogeologic unit (see the site cross-section provided as Attachment 1). Monitoring well MW-8D will also be properly abandoned, as it is adjacent to MW-8S. MW-8D will be overdrilled and will be grouted with cement/bentonite grout up to the shallow hydrogeologic unit (from approximately 18 feet below grade) and the remaining depth will be backfilled as described below. The drill cuttings will be collected and containerized in lined roll-offs, characterized, and properly disposed of offsite in accordance with applicable rules and regulations. The roll-offs will be covered at the end of the work-day, during precipitation events, and after filling. The augers will be decontaminated between use at Areas 2 and 3, and the decontamination water collected for subsequent disposal.

  The soil removal areas surrounding monitoring locations MW-8S and TW-02R will be backfilled with approximately 6 inches of bentonite, which will be covered with imported clean material (pea stone) amended with RAMM. The upper portion of the removal areas will be appropriately restored using topsoil and grass seed, and an approximate 1-foot lift of bentonite will be placed at the top of the upper silt/clay layer (from approximately 6 to 7 feet below grade, see cross-section provided in Attachment 1).

- Install replacement monitoring wells for existing monitoring wells MW-8S and TW-02R that will be abandoned (removed) during the above-described soil removal activities. The replacement wells will be constructed similar to their respective existing monitoring wells, and these locations will continue to be sampled biannually for COCs as part of the Process Control Monitoring Program. MW-8D will not be replaced, as hydraulic data obtained over the 5-year operating history of the treatment system in Area 3 consistently indicate no discernable effect on the hydraulic gradient of the deep hydrogeologic unit. The newly installed wells will be appropriately developed after installation.

- Install three well points in the shallow hydrogeologic unit around monitoring wells MW-27 and MW-28 (Area 3) to allow RAMM and SugaLik™ to be introduced into these locations on a monthly basis. The well points will be constructed of 1-inch diameter stainless steel pipe that is 20 feet in length, with a 10-foot screened (slotted) interval at the bottom of the well point. The monthly addition of RAMM and SugaLik™ is anticipated to enhance the anaerobic biodegradation of the COCs present in the shallow hydrogeologic unit at these locations. RAMM and SugaLik™ are also proposed to be added on a monthly basis into existing piezometer PZ-J within Area 2 to enhance the degradation of the low concentrations of COCs detected at nearby monitoring well MW-35.

The proposed supplemental remedial activities will be conducted in accordance with the procedures and requirements set forth in the site-specific Health and Safety Plan. The soil removal and backfilling activities, and the monitoring well and well point installation activities are anticipated to require less than a week to complete.

We will follow up with the NYSDEC in the near future regarding the proposed changes to the Process Control Monitoring Program and the proposed supplemental remedial activities, and the schedule for implementation. McKesson would like to complete the supplemental remedial activities this year to enhance the overall remediation of the saturated soils/groundwater within the shallow hydrogeologic unit.

If you have any questions or require additional information, please do not hesitate to contact me at (315) 446-2570, ext. 210.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

David J. Ulm
Senior Vice President

CWS/mbg

cc: Mr. Jim Burke, P.E., New York State Department of Environmental Conservation
Ms. Cynthia Whitfield, New York State Department of Environmental Conservation
Ms. Henriette Hamel, R.S., New York State Department of Health
Ms. Jean A. Mescher, McKesson Corporation
Mr. Christopher R. Young, P.G., de maximis, inc.

bcc: M. Cathy Geraci, Blasland, Bouck & Lee, Inc.
Patrick N. McGuire, Blasland, Bouck & Lee, Inc.
Keith A. White, Blasland, Bouck & Lee, Inc.

Tables

BBL®
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TABLE 1

LONG-TERM HYDRAULIC, BIOLOGICAL AND COC PROCESS CONTROL MONITORING SCHEDULE

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

Monitoring Location	Sampling Schedule	
	First Quarter	Third Quarter
Upgradient		
MW-1	B1, B2, C	B1, B2, C
MW-3S	B1, B2, C	B1, B2, C
MW-3D	H	H
Area 1		
TW-01	B1, B2, C	B1, B2, C
MW-6D	H	H
MW-9S	B1, B2, C	B1, B2, C
MW-9D	H	H
MW-31	B1, B2, C	B1, B2, C
MW-32	B1, B2, C	B1, B2, C
MW-33	B2, C	B2, C
PZ-F	H	H
PZ-G	H	H
PZ-HR	H	H
PZ-P	H	H
PZ-Q	H	H
PZ-R	H	H
PZ-S	H	H
Area 2		
TW-02R	B1, B2, C	B1, B2, C
PZ-9D	H	H
MW-34	B1, B2, C	B1, B2, C
MW-35	B1, B2, C	B1, B2, C
MW-36	B2, C	B2, C
PZ-I	H	H
PZ-J	H	H
PZ-T	H	H
PZ-U	H	H
PZ-V	H	H
PZ-W	H	H

TABLE 1

LONG-TERM HYDRAULIC, BIOLOGICAL AND COC PROCESS CONTROL MONITORING SCHEDULE

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

Monitoring Location	Sampling Schedule	
	First Quarter	Third Quarter
Area 1		
MW-8S	B1, B2, C	B1, B2, C
MW-8D	H	H
MW-27	B1, B2, C	B1, B2, C
MW-28	B1, B2, C	B1, B2, C
MW-29	B2, C	B2, C
MW-30	B2, C	B2, C
PZ-A	H	H
PZ-B	H	H
PZ-C	H	H
PZ-D	H	H
PZ-E	H	H
PZ-K	H	H
PZ-L	H	H
PZ-M	H	H
PZ-N	H	H
PZ-O	H	H
MW-11S	H	H
MW-11D	H	H
Downgradient Perimeter Monitoring Locations		
MW-17R^	C	C*
MW-18^	C, H	C, H
MW-19^	C, H	C, H
MW-23I^	C, H	C, H
MW-23S^	C, H	C, H
MW-24SR** ^	H	C, H
MW-24DR** ^	H	C, H
MW-25S^	C, H	C, H
MW-25D	C, H	H
PZ-4S*** ^	C	
PZ-4D	C, H	H
PZ-5S^		C
PZ-5D^	H	C, H

TABLE 1

LONG-TERM HYDRAULIC, BIOLOGICAL AND COC PROCESS CONTROL MONITORING SCHEDULE

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

Notes:

1. H = Hydraulic Monitoring (Groundwater Level Measurements).

2. B1 = Biological Monitoring for Poly-b-hydroxy alkanoate (PHA) and Phospholipid Fatty Acid (PLFA).

3. B2 = Biological Monitoring for Common Biological Indicators and permanent gases including nitrate, total/dissolved iron, total/dissolved manganese, sulfate/sulfide, nitrogen, carbon dioxide, and methane.

4. C = Monitoring for the Chemicals of Concern (COCs).

5. The hydraulic monitoring identified in this table was conducted on a quarterly basis for the first year of the long-term process control monitoring program, and has been/will be conducted on a semi-annual basis thereafter. The hydraulic monitoring also includes measuring the conductivity of groundwater recovered from Area 3 from a sampling port located before the equalization tank.

6. Field groundwater parameters including pH, temperature, conductivity, dissolved oxygen (DO), and oxidation/reduction potential (ORP) are measured during each biological sampling event.

7. Each of the monitoring wells and piezometers used for hydraulic, biological and COC monitoring during the semi-annual monitoring event are checked for the presence (if any) of non-aqueous phase liquid (NAPL).

8. Based on the results obtained, the scope and/or the frequency for the hydraulic, biological, and/or COC components of the long-term process control monitoring program, as detailed herein, may be modified. Any modifications would be made in consultation with the New York State Department of Environmental Conservation (NYSDEC).

9. This table is based on the NYSDEC-approved *Operation and Maintenance (O&M) Plan* (BBL, Revised August 1999), including the NYSDEC-approved December 29, 1999 Addendum.

10. Piezometers PZ-8S/PZ-8D were identified in the *O&M Plan* to be sampled during the long-term process control monitoring program; however, as presented in the August 2000 *Biannual Process Control Monitoring Report*, these piezometers were damaged and no longer needed for the process control monitoring program. These piezometers were abandoned in August 2000.

11. * = As presented in the August 2000 *Biannual Process Control Monitoring Report*, monitoring well MW-17R was identified in the *O&M Plan* to be sampled only during the first biannual monitoring event; however, because benzene has been detected at concentrations slightly exceeding the NYSDEC Groundwater Quality Standard since the March 2000 sampling event, this well was also sampled during the second biannual monitoring event conducted during 2000 and 2001 (i.e., September 2000 and September 2001).

12. ** = Monitoring wells MW-24SR and MW-24DR were additionally sampled for N,N-dimethylaniline and aniline on June 18, 2002 because N,N-dimethylaniline and/or aniline was detected at nearby downgradient perimeter monitoring locations during the April 2002 sampling event.

13. *** = Monitoring well PZ-4S was additionally sampled for COCs on October 10, 2002 because aniline was detected at this location during the April 2002 sampling event.

14. ^ = Monitoring wells MW17R, MW-18, MW-19, MW-23I, MW-23S, MW-24SR, MW-24DR, MW-25S, PZ-4S, PZ-5S, and PZ-5D were additionally sampled for N,N-dimethylaniline and aniline on January 20, 21, and 23, 2003 because the October 2002 N,N-dimethylaniline and aniline results for these locations were rejected during the validation process due to matrix spike and matrix spike duplicate recoveries below control limits.

TABLE 2

SUMMARY OF SELECT GROUNDWATER LEVEL MEASUREMENTS

MCKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

Location	Reference Elevation (ft AMSL)	6/10/98 Static	6/22/98	7/6/98	7/20/98 Week 1	7/27/98 Week 2	8/5/98 Week 3	8/10/98 (morning) Week 4	8/10/98 (afternoon) Week 4	8/11/98 (morning) Week 4	8/11/98 (afternoon) Week 4	8/12/98 (morning) Week 4	8/12/98 (afternoon) Week 4	10/15/98 Week 13	11/17/98 Week 18	12/16/98 Week 22
Canal	393.39*	362.91	363.37	363.72	363.08	363.08	362.94		362.78	362.94			362.84	363.27		363.14
Collection Sump	372.81	364.33	363.08	363.68	362.50	361.31	361.83	361.89	362.14	361.00	361.71	361.95	362.31	362.01	361.48	361.75
MW-3S	376.54	365.93	366.26	367.82	366.20			365.29							365.25	365.67
MW-3D	375.56	365.63	365.87	366.16			364.97	364.85						365.08	365.00	365.04
MW-6D	377.07	365.75	366.01	366.29										365.25	365.15	365.23
MW-8D	374.68	365.51	365.74	366.05			364.80		364.67	364.79	364.88	364.87	364.87	364.93	364.83	364.86
MW-9D	376.76***	365.78					365.14	365.10						365.25	365.16	365.22
MW-11D	373.68	365.46	365.67	365.29			364.62	364.49	364.50	364.62		364.69	364.67	364.77	364.68	364.73
MW-11S	373.50	364.88	364.62	365.11	364.12	363.70	363.58	363.52	363.58	363.73		363.69	363.74	363.74	363.69	363.69
MW-18	372.57	362.64													361.90	361.93
MW-19	376.00	362.42													361.78	361.84
MW-231	372.77	365.04	365.34	365.72			364.34		364.45	364.16			364.43	364.43	364.34	364.36
MW-23S	372.61	363.99	363.43	364.04	362.92	362.50	362.41		362.40	362.66		362.54	362.67	362.68	362.56	362.52
MW-24DR	375.14	365.41													364.63	364.67
MW-24SR	375.55	365.15	365.32	365.66	364.91	364.45	364.27		364.20				364.36	364.47	364.37	364.44
MW-25D	373.67	365.43													364.74	364.76
MW-25S	373.39	363.91	363.64	364.14	363.21	362.95	362.75		362.75			362.89	362.96	363.01	362.89	362.87
PZ-4D	376.11	365.46	365.73	366.01	365.21	364.83	364.63		364.54	364.67	364.75	364.74	364.70	364.80	364.69	364.73
PZ-5D	375.58	365.66	365.91	366.18	365.36	365.07	364.84		364.76	364.88	364.94	364.93	364.91	364.99	364.89	364.93
PZ-8D	375.83	365.90	366.11	366.35			365.25	365.13	365.83					365.35	365.27	365.33
PZ-9D	377.29	365.73					365.47	365.28						365.12	365.03	365.08
PZ-A	373.94	364.49	363.69	364.28	363.13	362.58	362.56	362.62	362.76	363.39	362.82	362.64	363.02	362.75	362.56	362.60
PZ-B	373.92	364.49	363.60	364.21	363.02	362.62	362.50	363.26	362.71	363.00	362.97	362.59	363.01	362.67	362.54	362.51
PZ-C	374.85	365.69	366.29	367.02	365.93	365.97	365.47	365.38	365.30	365.54	365.99	365.53	365.54	365.56	365.52	365.52
PZ-D	375.12	365.78	366.25	366.99	365.99	365.91	365.53	365.37	365.30	365.53	366.06	365.58	365.67	365.59	365.55	365.53
PZ-E	374.12	364.75	364.25	364.86	363.73	364.00	363.41	363.61	363.54	364.22	364.67	364.67	364.08	363.57	363.67	363.53
PZ-F	377.06	366.17					365.56	365.50						365.37	365.27	365.52
PZ-G	377.16	366.21					365.66	365.60						365.46	365.36	365.60
PZ-HR	376.99	366.16					365.54							365.44	365.34	365.54
PZ-I	375.15	366.56					365.86	365.64						365.88	365.57	365.90
PZ-J	374.89	366.15					365.53	365.40						365.53	365.39	365.55
PZ-K	373.19	364.53	363.78	364.35	363.27	362.69	362.69	362.71	362.75	362.92	362.80	362.78	362.98	362.82	362.66	362.66
PZ-L	374.62	364.25	363.59	364.18	363.04	362.42	362.48	362.44		362.88	362.63	362.57	362.84	362.65	362.40	362.51
PZ-M	374.35	364.70	364.09	364.64	363.52	362.96	362.96	362.96	363.09	363.29	363.15	363.05	363.30	363.12	362.93	363.01
PZ-N	376.94**	365.79	366.37	367.06	365.99	365.91	365.53	365.39	365.33	365.55	365.97	365.58	365.59	365.59	365.55	365.56
PZ-O	375.36	364.29	363.68	364.29	363.21	362.84	362.72	362.87	362.78	363.05	362.97	362.80	363.03	362.81	362.74	362.75
PZ-P	376.89	366.25					365.65	365.60						365.52	365.39	365.61
PZ-Q	377.61	366.23					365.64	365.57						365.45	365.35	365.59
PZ-R	377.05	366.23		366.94			365.65	365.57						365.50	365.38	365.61
PZ-S	378.13	366.19					365.57	365.52						365.43	365.35	365.57
PZ-T	376.25	366.14					365.54	365.43						365.52	365.38	365.58
PZ-U	375.35	365.99		366.81			365.50	365.33						365.37	365.30	365.49
PZ-V	375.78	366.07					365.48	365.35						365.43	365.29	365.47
PZ-W	375.78	366.07					365.46	365.31						365.41	365.28	365.44

Location	12/29/98 Week 23	1/6/99 Week 25	1/15/99 Week 26	4/13/99 Week 39	6/3/99 Week 46	7/13/99 Week 52	3/27/00	6/1/00	9/18/00	11/16/00	3/19/01	6/24/01	3/5/02	6/3/02	6/18/02	10/24/02	1/20/03	5/5/03
Canal	362.21	363.11			363.22	362.78	363.73	363.75	362.75^	363.24	363.01	362.96	364.59	363.64	364.17	362.19	^^	363.34
Collection Sump	363.09	361.93	361.73	363.17	362.45	361.87	362.99	361.48	361.69	361.66	361.59	362.04	362.27	361.50	361.42	362.05	361.90	361.91
MW-3S	366.81	365.67	365.25		365.26		357.10						367.70	366.26	367.50	364.26	366.27	366.38
MW-3D		365.04	364.91	365.41	364.92	364.57	355.64	365.57	364.81	355.16	365.40	364.54	364.16	364.55	365.10	363.92	365.10	365.53
MW-6D	365.36	365.23	365.06	365.62	365.12	364.79	365.85	365.77	364.97	365.34	365.64	364.75	364.22	364.62	365.21	364.07	365.31	365.75
MW-8D		364.88	364.74	365.22	364.77	364.35	365.42	365.36	364.62	364.94	365.18	364.34	364.13	364.51	365.01	363.82	^^	365.30
MW-9D	365.36	365.26	365.08	365.65	365.17	364.83	365.88	365.80	365.01	365.36	365.68	364.76	364.05	364.47	365.10	364.00	365.31	365.79
MW-11D		364.73	364.57	365.02	364.60	364.18	365.24	365.18	364.46	364.81	364.96	364.18	364.07	364.44	364.92	363.73	364.81	365.17
MW-11S	364.27	363.79	363.61	364.50	363.88	363.39	364.72	364.35	363.55	363.86	364.48	363.33	363.57	363.89	364.33	363.09	364.15	364.38
MW-18	362.05	362.05	361.84	362.18	361.79	361.38	362.43	361.77	361.71	362.08	362.17	361.50	361.65	362.09	362.50	361.37	362.26	362.69
MW-19	361.98	361.87	361.89	362.15	361.80	361.46	362.58	361.88	361.90	362.25	362.44	361.82	361.83	362.11	362.57	361.51	362.52	361.91
MW-231		364.47	364.26	364.69	364.28	363.83	364.99	364.93	364.25	364.58	364.73	363.99	363.99	364.34	364.80	363.62	364.60	365.01
MW-23S	363.35	362.66	362.46	363.64	362.94	362.42	363.85	363.17	362.64	362.87	363.59	362.36	363.97	363.38	363.68	362.50	362.26	363.31
MW-24DR	364.81	364.69	364.54	364.96	364.49	364.09	365.19	364.60	364.39	364.77	364.91	364.16	364.06	364.43	364.90	363.71	364.75	365.13
MW-24SR	364.66	364.50	364.33	364.87	364.41	363.95	365.12	365.55	364.30	364.60	364.86	364.05	364.00	364.40	364.86	363.64	364.69	365.03
MW-25D		364.77	364.64	365.07	364.64	364.20	365.28	365.20	364.51	364.84	364.97	364.22	364.19	364.57	365.02	363.82	364.82	365.24
MW-25S	363.48	362.96	362.79	363.89	363.20	364.75	364.12	363.69	362.94	363.23	364.14	362.61	364.39	363.83	364.21	362.74	363.61	363.67
PZ-4D	364.87	364.72	364.55	365.02	364.60	364.22	365.28	365.21	364.49	364.82	365.03	364.22	364.06	364.43	364.94	363.73	364.81	365.23
PZ-5D	365.09	364.94	364.78	365.28	364.86	364.47	365.57	365.48	364.71	365.10	365.36	364.46	364.12	364.47	365.03	363.81	365.05	365.49
PZ-8D	365.48	365.33	365.19	365.78	365.08	365.00												
PZ-9D	365.24		364.94	365.50	365.04	364.68	365.70	365.72	364.87	365.16	365.55	364.60	363.75	364.14	364.79	363.71	365.08	365.64
PZ-A	364.04	362.72	362.56	363.81	363.12	362.61	363.95	363.15	362.75	362.91	363.56	362.58	363.92	363.05	363.22	362.59	^^	363.40
PZ-B	364.27	362.62	363.45	363.91	363.19	362.67	364.08	363.32	362.79	362.94	363.94	362.55	364.44	363.24	363.40	362.65	363.39	363.47
PZ-C	365.97	365.18	365.02	365.79	365.10	364.75	366.04	366.04	365.03	365.35	366.39	364.54	365.68	365.38	366.26	364.19	365.65	365.76
PZ-D	366.06	365.25	365.12	365.79	365.18	364.89	366.09	366.10	365.10	365.46	366.36	364.65	365.58	365.41	366.21	364.21	365.65	365.84
PZ-E	366.41	363.57	363.52	364.93	364.20	363.81	365.16	365.03	363.92	364.40	365.90	363.49	366.51	364.63	364.77	363.47	364.94	365.00
PZ-F	365.73	365.62	365.27	366.36	365.53	365.11	366.89	366.72	365.27	365.70	367.06	364.93	365.50	365.51	366.29	364.29	366.25	366.41
PZ-G	365.76	365.71	365.44	366.44	365.61	365.17	366.89	366.80	365.36	365.75	367.11	364.93	365.39	365.53	366.22	364.36	366.35	366.46
PZ-HR	365.84	365.60	365.39	366.34	365.55	365.11	366.80	366.68	365.33	365.66	367.02	364.91	365.39	365.46	366.19	364.24	366.22	366.41
PZ-I	366.59	366.05	365.76	366.93	365.79	365.23	367.30	367.23	365.55	366.08	367.81	364.91	366.29	366.16	367.05	364.22	366.58	366.90
PZ-J	365.93	365.59	365.47	366.21	365.53	365.14	366.55	366.50	365.32	365.64	366.69	364.96	365.10	365.18	365.89	364.21	365.96	366.73
PZ-K	363.70	362.78	362.58	363.87	363.13	362.59	363.97	363.19	362.69	362.86	363.53	362.49	363.82	363.19	363.48	362.56	363.25	363.36
PZ-L	363.59	362.65	362.45	363.69	363.00	362.47	363.84	363.03	362.61	362.68	363.42	362.47	363.44	362.96	363.26	362.53	363.42	363.25
PZ-M	364.07	363.13	362.94	364.06	363.40	362.90	364.22	363.54	363.05	363.24	363.86	362.90	363.93	363.37	363.62	362.82	363.60	363.77
PZ-N	366.09	365.31	365.12	365.87	365.19	364.87	366.17	366.12	NM	365.35	366.43	364.47	366.60	365.29	366.13	364.09	365.54	365.74
PZ-O	363.74	362.87	362.68	364.01	363.25	362.73	364.22	363.57	362.86	363.06	364.22	362.64	364.47	363.63	363.98	362.75	363.61	363.53
PZ-P	365.78	365.73	365.44	366.43	365.59	365.18	366.85	366.73	365.34	365.77	367.02	364.93	365.31	365.48	366.19	364.25	366.25	366.45
PZ-Q	365.70	365.71	365.42	366.44	365.60	365.16	366.93	366.78	365.26	365.76	367.21	364.89	366.11	365.70	366.41	364.41	366.40	366.55
PZ-R	365.81	365.67	365.47	366.46	365.61	365.20	366.89	366.81	365.37	365.72	367.21	364.93	365.40	365.58	366.31	364.31	366.34	366.46
PZ-S	365.94	365.65	365.40	366.39	365.56	365.15	366.84	366.73	365.32	365.71	367.12	364.90	365.27	365.53	366.29	364.31	366.29	366.42
PZ-T	365.96	365.64	365.47	366.34	365.53	365.10	366.71	366.65	365.29	375.70	366.90	364.90	365.34	365.37	366.10	364.20	366.16	366.38
PZ-U	365.91	365.55	365.40	366.17	365.46	365.08	366.55	366.49	365.22	365.60	366.75	364.85	365.18	365.23	365.96	364.18	366.00	365.83
PZ-V	365.90	365.52	365.37	366.20	365.44	365.06	366.54	366.50	365.25	365.58	366.76	364.83	365.30	365.24	365.97	364.15	365.98	366.71
PZ-W	365.78	365.53	365.33	366.15	365.41	365.02	366.49	366.41	365.20	365.59	366.63	364.85	365.05	365.12	365.86	364.09	365.88	366.18

Notes:
1. Weeks 1, 2, 3, 4, 13, 18, 22, 23, 25, 26, 39, 46, and 52 are weeks after the initial introduction of Revised Anaerobic Mineral Media (RAMM) into the three impacted areas.
2. 8/10, 8/11, and 8/12/98 water level measurements were taken during the initial discrete RAMM injection event.
3. AMSL = Above Mean Sea Level (NGVD of 1929)
4. The ground-water level in PZ-8D was not measured on 3/27/00 and 6/1/00 because this piezometer was damaged. This piezometer was decommissioned on August 30, 2000.
5. ^ = The canal water-level measurement for the third quarter of the first year of the long-term process control monitoring program was obtained on September 29, 2000.
6. * = The reference elevation for canal gauging point was 363.06 feet AMSL prior to 11/16/00. The canal gauging point was re-marked and re-surveyed 11/16/00. The new reference elevation is 393.39 feet AMSL.
7. NM = The groundwater level in PZ-N was not measured on 9/18/00 because this piezometer was damaged. This piezometer was repaired and subsequently resurveyed on 11/16/00. The new reference elevation for PZ-N is 376.94 feet AMSL.
8. ** = The reference elevation for PZ-N was 376.02 feet AMSL prior to 11/16/00 and, as noted above, the new reference elevation is 376.94 feet AMSL.
9. *** = Monitoring well MW-9D inner PVC pipe was reduced (cut) by 1½ inches on 9/19/01. The reference elevation prior to 9/19/01 was 376.88 feet AMSL. The new reference elevation for MW-9D is 376.76 feet AMSL.
10. ^^ = Due to frigid weather conditions, the groundwater level in PZ-A and MW-8D could not be measured on 1/20/03, because the locks were frozen. The canal water-level for the 1/03 resampling event could not be measured due to strong winds and ice on the water surface.

Table 3

Biological Monitoring Data
5/5 - 5/8/03

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Location	Biological Parameters																				
	PLFA (Pmol/mL)	PHA (Pmol/mL)	Turnover Rate	Environmental Stress	Nitrate (mg/L)	Nitrogen (mg/L)	Total Fe (mg/L)	Dissolved Fe (mg/L)	Total Mn (mg/L)	Dissolved Mn (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Carbon Dioxide (mg/L)	Methane (mg/L)	Potassium (mg/L)	Ortho-Phosphate (mg/L)	Ammonia (mg/L)	pH	D.O. (mg/L)	Temp. (C)	ORP (mV)	Cond. (mS/cm)
AREA 1																					
MW-1	1	ND	0.18	0.00	< 0.200	20	0.0776	0.0878	0.0115 J	0.0158 J	110	< 2.00	29	0.0017	--	--	--	7.33	1.46	14.02	53	1.37
TW-01	23	ND	0.03	0.30	< 0.200	18	3.07	2.29	9.38	1.01	345	< 2.00	120	0.62	7.59	1.06	1.88	6.87	0.70	11.06	-87	1.92
MW-31	3	ND	0.00	0.00	< 0.200	13	5.77	7.02	1.76	1.88	104	< 2.00	280	8.5	6.27	0.188	4.52	6.48	0.77	9.01	-97	3.44
MW-32	9	ND	0.19	0.07	< 0.200	20	4.36	4.79	1.13	1.35	362	< 2.00	130	0.82	5.04	0.286	1.30	6.66	0.49	11.35	-112	2.04
MW-9S	3	ND	0.49	0.00	< 0.200	12	11.3	11.7	1.65	1.76	22.6	< 2.00	190	3.8	3.13	0.133	0.477	6.92	0.75	9.54	-110	1.88
MW-33	--	--	--	--	< 0.200	3.2	0.260	0.218	0.385	0.302	47.5	< 2.00	480	11	3.46	0.264	1.19	6.53	0.35	12.67	-291	5.420
AREA 2																					
TW-02R	439	0.932	0.02	0.04	2.1	4.3	13.2	12.10	17.3	16.6	6.32	< 2.00	300	9.8	58.3	0.963	144	6.60	0.54	12.43	-239	7.48
MW-34	5	0.013	0.09	0.08	< 0.200	14	2.02	2.15	0.82	0.90	23.7	< 2.00	200	2.0	12.4	0.172	7.47	6.53	0.49	11.77	-118	2.58
MW-35	3	0.007	0.24	0.09	0.653	19	R	R	0.572 J	0.709 J	103.0	< 2.00	46	<0.000015	7.97	0.169	1.14	6.80	0.92	9.29	-20	0.625
MW-36	--	--	--	--	0.298	13	0.252	0.251	2.79 J	3.59 J	74.2	< 2.00	240	2.2	18.9	0.624	13.5	6.57	0.78	10.49	-154	3.49
AREA 3																					
MW-3S	37	ND	0.09	0.09	0.223	17	5.77	4.78	3.12	3.01	17.2	< 2.00	61	9.8	--	--	--	7.08	1.32	12.42	-106	0.589
MW-8S	75	3.750	0.62	0.41	< 0.200	7.5	141	148	3.87	4.07	27.0	< 2.00	630	6.8	15.5	0.882	33.9	5.82	0.43	11.62	-118	7.73
MW-27	21	0.018	0.13	0.06	< 0.200	8.5	30.2	28.9	1.42	1.42	20.9	< 2.00	320	7.7	9.31	0.104	10.60	6.51	0.70	11.75	-200	2.87
MW-28	6	0.074	0.93	0.00	< 0.200	8.4	55.5	69.6	2.26	2.82	49.7	< 2.00	350	8.2	6.38	0.695	10.7	6.40	0.63	11.25	-135	3.69
MW-29	--	--	--	--	< 0.200	14	0.542	0.226	0.318	0.373	153	< 2.00	110	3.4	7.78	0.237	0.768	6.89	0.76	11.30	-308	2.59
MW-30	--	--	--	--	< 0.200	16	0.275	0.147	0.157	0.129	13.2	< 2.00	110	2.5	11.9	0.11	0.804	6.93	0.48	11.28	-318	2.55

Notes:

1. PLFA = Phospholipid fatty acids.
2. PHA = Poly-b-hydroxy alkanoate.
3. Turnover Rate = The summation of cy17:0/16:1w7c plus cy19:0/18:1w7c.
4. Environmental Stress = The summation of 16:1w7t/16:1w7c plus 18:1w7t/18:1w7c.
5. Fe = Iron.
6. Mn = Manganese.
7. D.O. = Dissolved oxygen.
8. Temp. = Temperature.
9. ORP = Oxidation/reduction potential.
10. Cond. = Conductivity.
11. Pmol/mL = Picomoles per milliliter.
12. mg/L = Milligrams per liter.
13. C = Degrees Celsius.
14. mV = Millivolts.
15. mS/cm = Millisiemens per centimeter.
16. -- = Not measured.
17. < = Parameter was not detected at the listed limit.
18. J = Result is estimated, reported value is less than practical quantitation limit (PQL).
19. NA = Not applicable.
20. ND = Parameter was not detected.
21. R = The total iron detected at MW-35 was less than the concentration of dissolved iron; based on the deviations these data were rejected.

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-1	3/88	370.3	355.3	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	1/89			<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99			0.7 JN	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00			8 J	<10 J	3 J	<10 J	5 J	<1,000	<10 J	<10 J	<10	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	10
	9/01			<10	<10	<10	<10	<10	<1,000 J	<10	<10	<10	<10
	4/02			<12	<5	<5	<5	<10	990 J	<5	<5	<5	<5
	10/02			<25	<10	<10	<10	<20	<1,000	<10	<5	R	<10
	5/03			<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
MW-2S	3/88	368.1	353.1	<1,000	1,900	110	610	2,800	<1,000	<10	<10	<10	<10
	1/89			<1,000	2,000	65	330	1,200	<1,000	<10	<11	<11	<10
	11/89			<1,000	1,800	<100	360	810	38,000	<100	<100	<100	<100
MW-3S	3/88	365.1	350.1	<100	<1	<1	<1	<1	<1,000	50	<10	<10	110
	1/89			<10,000	<100	120	<100	<100	<1,000	1,100	<11	5,570	4,700
	11/89			<10,000	<100	<100	<100	<100	<1,000	100	<52	440	2,700
	11/91			2,900	10	10	4	31	<1,000	<10	790	170	<10
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	15	2 J	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99			<10	1 J	0.7 J	<10	<10	<1,000	<10	9 J	<10	<10
	3/00			<10 J	<10	<10	<10	<10	<1,000 J	<10	<10	<10	<10
	9/00			<10 J	1 J	2 J	<10 J	<10 J	<1,000	<10 J	2 J	1 J	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	3 J	8 J	1 J	2 J	<1,000 J	<10	690 D (69)[1]	4 J	<10
	4/02			<12	<5	<5	<5	<10	370 J	<5	1.7 J	<5	<5
	10/02			<25	<10	<10	<10	<20	<1,000	<10	<5	R	<10
	5/03			<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
MW-3D	8/95	343.8	339	<1,000	<25 D	<25 D	<25 D	<25 D	<1,000	<25 D	1 J	5 J	200 D

Table 4

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Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-4S	3/88	365.5	350.5	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	1/89			<100	<1	<1	<1	<1	<1,000	<1	<11	19	280
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-5[F]	3/88	363.3	348.3	<100	<1	<1	<1	<1	<1,000	<1	230	130	<1
	1/89			<100	<1	<1	<1	<1	<1,000	<1	34	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	17	<10	<1
MW-6[C]	1/89	365.5	355.9	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
(Replaced by MW-6S)	11/89			<10	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
MW-7[C]	1/89	367	357.4	<100	<1	<1	<1	2	<1,000	<1	<11	<11	100
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-8[C]	1/89	364.7	355.1	<1,000,000	<10,000	<10,000	<10,000	<10,000	430,000	<10,000	2,900	24,000	3,200,000
(Replaced by MW-8S)	11/89			470,000	<10,000	<10,000	<10,000	<10,000	300,000	<10,000	8,500	52,000	2,800,000
	11/91			<1,000,000	<10,000	<10,000	<10,000	<30,000	150,000	<10,000	8,000	33,000	1,600,000
	8/95			<1,000	<250,000D	<250,000D	<250,000D	<250,000D	22,000	60,000 JD	<25,000D	380,000 D	7,700,000 D
	9/98			<10,000 J	<10,000	<10,000	<10,000	<10,000	7,900	3,300 J	1,200 J	26,000 D	140,000
	2/99			<20,000	<20,000	<20,000	<20,000	<20,000	16,000JN	11,000 J	30,000 D	120,000 D	650,000 DB
	7/99			10 J	22 J	240 J	58 J	220 J	17,000	11,000 J	24,000	77,000	450,000 D
	3/00			<100,000	<100,000	<100,000	<100,000	<100,000	30,000 J	<100,000	62,000	270,000 D	1,300,000
	9/00			<50,000 J	<50,000 J	<50,000 J	<50,000 J	<50,000 J	14,000 J	9,200 J	42,000 J	59,000	540,000 BJ
	3/01			<50,000	<50,000	<50,000	<50,000	<50,000	53,000	11,000 J	90,000 D	120,000 D	990,000
	9/01			<400	<400	430	170 J	680	8,900 J	18,000 JD	21,000	29,000	440,000 BD
	4/02			2,100	50 J	410	100 J	400	<1,000	9,600 J	793,000 D	773,000 D	660,000 D
	10/02			120 J	23	310	73	267	<1,000	3,100	80,000	21,000 J	320,000
	5/03			<12	20 J	600 D	81	300	<1,000	6,700 D	79,000 D	29 J	910,000 D
MW-9[C]	1/89	365.6	356	1,600	NA	64	130	270	<1,000	<10	660	1,200	1,500
(Replaced by MW-9S)	11/89			<1,000	48	25	60	60	<1,000	<10	670	150	<10
	11/91			<100	<10	9	19	30	<1,000	<1	95	18	<1
	8/95			<1,000	11 JD	26 JD	69 D	226 JD	<1,000	<50	50	28	110 D
	7/99			<10	4 J	2 J	9 J	18	<1,000	<10	<10	5 J	<10
	3/00			<10	2 J	2 J	11	21	<1,000 J	<10	2 J	9 J	<10
	9/00			<10 J	11 J	2 J	6 J	18 J	<1,000	<10 J	1 J	6 J	<10 J
	3/01			<10	1 J	3 J	17	61	<1,000	<10	2 J	11	<10
	9/01			<10	10	3 J	7 J	35	<1,000 J	<10	<10	10	<10
	4/02			<23	10	2 J	6	17 J	370 J	<5	9	43	<5
	10/02			16 J	38	40	2 J	15 J	<1,000	<10	<5	2 J	<10
	5/03			<12	11	<5	7	18	<1,000	<5	0.9 J	3 J	<5

Table 4

Summary of Historic Groundwater Monitoring Data

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Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-10[C]	1/89	355.5	345.9	<1,000,000	<10,000	<10,000	<10,000	<10,000	210,000	<10,000	720	9,400	520,000
(Replaced by MW-9D)	11/89			<100,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	900	2,400	28,000
	11/91			<100	<1	3	2	<3	<1,000	<1	230	<10	41
	8/95			<1,000	<25 UD	<25 UD	<25 UD	<25 UD	<1,000	<25 UD	<5	<10	350 D
MW-11[C]	1/89	355.1	345.5	<100	<1	<1	<1	<1	8,400	<1	<12	<12	1
(Replaced MW-6D)	11/89			<100	<1	<1	<1	<1	<1,000	<1	230	<52	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
MW-11S	12/94	359.9	354.9	<380	<10	<10	<10	<10	880	<10	<5	<10	<10
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<26
	10/95			NA	<5	<5	<5	<5	NA	<5	NA	NA	<5
MW-11D	12/94	349.8	344.8	<310	<5	<5	<5	<5	2,100	<5	<5	<10	<5
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	10/95			NA	<5	<5	<5	<5	NA	<5	NA	NA	<5
MW-12D[C]	1/89	354.8	345.2	<100,000	<1,000	<1,000	<1,000	<1,000	12,000	<1,000	67	410	120,000
(Replaced MW-8D)	11/89			69,000	<1,000	<1,000	<1,000	<1,000	39,000	<1,000	<1,000	4,900	360,000
	11/91			<1,000,000	<10,000	<10,000	<10,000	<30,000	<10,000	<10,000	750	5,800	220,000
	8/95			<1,000	450 JD	430 JD	430 JD	1,250 JD	<1,000	<1,300 D	30 D	230 D	<13,000 D
	8/96			13	<10	<10	<10	<10	<1,000	2 J	<5	<10	40
MW-13S	11/89	368.7	359.1	<100	3	<1	<1	<1	<1,000	<1	<52	<52	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
MW-14D[F]	1/89	359	349.4	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-15S	1/89	370	360.25	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<52	<52	<1
MW-16D[F]	1/89	350.8	341.2	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1

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Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Screen Elev. (ft. AMSL) Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-17[F]	11/90	365.7	356.1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
(Replaced by MW-17R)	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<11
	10/95			NA	<5	<5	<5	<5	NA	2 J	NA	NA	<5
	8/96			11	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/99			<10	1 J	<10	<10	<10	<1,000	<10	<10	<10	<10 J
	3/00			<10	8 J	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00			<10 J	15 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	24 J	4 J	1 J
	3/01			<10	8 J	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	5 J	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	6	<5	<5	<10	620 J	<5	150 (<5)[K]	110 (<5)[K]	<5
	10/02			<25 J	14	<10	<10	<20	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<12	8	<5	<5	<5	<1,000	<5	<5	<5	<5
MW-18	11/89	325.15	316.15	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	12/94			<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	<10	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99			<10 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	<10	<10	<10	<20	720 J	<10	280 D (<5)[K]	200 D (<5)[K]	<10
	10/02			6 J	<10	<10	<10	<20	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<12	<5	<5	<5	<5	280 J	<5	<5	<5	<5

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-19	11/89	318.45	309.45	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	12/94			<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<12
	10/95			NA	<5	<5	<5	<5	NA	<5	NA	NA	<5
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	5 J	<11
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	<10	<10 J
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
MW-20[F]	11/89	329.85	320.85	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
MW-21[F]	11/89	323.65	314.65	<100	<5	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-22	11/89	368.55	359.55	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-23S	12/94	364.1	354.1	<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/96			<10	<10	<10	<10	<10	<1,000	<10	7	<10	<10
	2/97			<10	<10	<10	<10	<10	<1,000	<10	11	<10	<10
	8/97			12	<10	<10	<10	<10	<1,000	<10	92	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	56[H]	7 J	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	10	<10 J
	6/99			<10 J	<10	<10	<10	<10	<1,000 J	<10	<10 J	2 J	<10 J
	7/99			<10 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	2 J	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	2 J	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<62	<25	<25	<25	<50	380 J	<25	<5	<5	<25
MW-23I	12/94	341.2	336.2	<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<11	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	<10	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10 J
	7/99			<10 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			4 J	<10	<10	<10	2 J	<1,000	<10	<10	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	2 J
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Screen Elev. (ft. AMSL) Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-24S[F]	12/94	358.4	352.4	<10	<5	<5	<5	<5	<1,000	<5	<5	<10	<5
(Replaced by MW-24SR)	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	<10	<10
	6/99			<10 J	<10	<10	<10	<10	<1,000 J	<10	<10 J	<10 J	<10 J
	7/99			<10 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	6/02[K]			NS	NS	NS	NS	NS	NS	NS	ND	ND	NS
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
MW-24D[F]	12/94	334.4	341.2	<10	<5	<5	<5	<5	<1,000	<5	<5	<10	<5
(Replaced by MW-24DR)	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	<10	<10
	7/99			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	<10	<10 J
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	6/02[K]			NS	NS	NS	NS	NS	NS	NS	ND	ND	NS
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
MW-25S	8/95	361.2	356.2	<1,000	<5	<5	<5	<5	<1,000	<5	<5	0.7 J	<10
	10/95			NA	<5	<5	<5	<5	NA	<5	<5	<10	<5
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	130	<10	<10 J
	6/99			<10 J	<10	<10	<10	<10	<1,000 J	<10	110 J	21 J	<10 J
	7/99			<10 J	<10	<10	<10	<10	<1,000	<10	5 J	<10	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/02			<25	<10	<10	<10	<20	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Screen Elev. (ft. AMSL) Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene^	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-25D	8/95	349.55	344.55	<1,000	<5	<5	<5	<5	<1,000	<5	<5	1 J	<5
	10/95			NA	<5	<5	<5	<5	NA	3 J	<5	<10	<5
	8/96			15	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<11	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10 J
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	3/01			<10	<10	<10	<10	<10	<1,000	<10	5 J	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
MW-26	12/96	365	355.3	<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
MW-27	9/98	362.5	354.5	23	3 J	4 J	<10	3 J	<1,000	<10	340 DJ	<10	<10
	7/99			<10 J	4 J	2 J	3 J	8 J	<1,000	<10	740 D	<10	<10
	3/00			<10	6 J	<10	8 J	2 J	<1,000 J	<10	110 D	1 J	<10
	9/00			<10 J	4 J	<10 J	3 J	1 J	<1,000 J	<10 J	16 J	2 J	1 J
	3/01			<10	5 J	<10	5 J	2 J	<1,000	<10	260 D	2 J	<10
	9/01			<10	5 J	<10	2 J	<10	<1,000 J	<10	26	<10	<10
	4/02			<18	7	11	12	26	<1,000	<5	176,000 DJ	19 J	<5
	10/02			9 J	3 J	<10	<10	<20	<1,000	4 J	2,700 D	100 J	60 JN
	5/03			<12	8	11	23	51	<1,000	<5	15,000 DJ	11	43
MW-28	9/98	363.6	355.6	<5,000 J	<5,000	<5,000	<5,000	<5,000	2,200	<5,000	546 DJ	54	64,000 J
	7/99			<500 J	<500	<500	<500	<500	<1,000	<500	1,100 D	40	39,000 D
	3/00			<10,000	<10,000	<10,000	<10,000	<10,000	<1,000 J	<10,000	1,300 D	30	130,000 J
	9/00			<1,000 J	<1,000 J	<1,000 J	<1,000 J	<1,000 J	<1,000 J	<1,000 J	540 DJ	<10	8,100 BJ
	3/01			<400	<400	<400	<400	<400	<1,000	<400	3,200 D	7 J	5,900 B
	9/01			<400	<400	<400	<400	<400	<1,000 J	<400	1,000 D	<10	4,700 B
	4/02			<49	8	6	9	10 J	<1,000	<5	33,400 D	57	4,600 D
	10/02			14 J	8 J	6 J	11	12 J	<1,000	<10	2,700 D	R	<10
	5/03			13	4 J	2 J	2 J	8 J	<1,000	<5	1,000 DJ	3 J	52
MW-29	9/98	362.9	345.9	<10	<10	<10	<10	2 J	<1,000	<10	<10	13	<10
	2/99			7 J	<10	<10	<10	1 J	<1,000	<10	5 J	4 J	<10
	7/99			<10	<10	<10	<10	<10	<1,000	<10	2 J	4 J	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	450 D	6 J	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	24 J	4 J	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	30	4 J	<10
	9/01			<10	<10	<10	<10	<10	<1,000	<10	7 J	2 J	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	3 J	9	<6
	10/02			<25 J	<10	<10	<10	<20	<1,000	<10	8	R	4 JN
	5/03			<12	<5	<5	<5	<10	<1,000	<5	19	1 J	<3

Table 4

Summary of Historic Groundwater Monitoring Data

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Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Screen Elev. (ft. AMSL) Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-30	9/98	363.5	355.5	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	2/99			7 J	<10	<10	<10	<10	<1,000	<10	<10	2 J	<10
	7/99			<10	0.7 J	<10	<10	<10	<1,000	0.5 J	<10	1 J	<10
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	18	2 J	4 J
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	9 J	2 J	2 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	8 J	2 J	<10
	9/01			4 J	2 J	<10	<10	<10	<1,000 J	<10	8 J	1 J	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	250	210	<5
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	R	R	<10
	5/03			<62	<25	<25	<25	<50	<1,000	<25	18	0.6 J	8 J
MW-31	9/98	363.7	355.4	<10	12	<10	<10	<10	<1,000	<10	34	4 J	<10
	7/99			<10	16	<10	<10	<10	<1,000	<10	230 D	3 J	<10
	3/00			<10	16	<10	<10	<10	<1,000 J	<10	3 J	4 J	<10
	9/00			<10 J	12 J	<10 J	<10 J	<10 J	<1,000	<10 J	10	6 J	<10 J
	3/01			21	11	<10	<10	<10	<1,000	<10	<10	5 J	<10
	9/01			<10	14	<10	<10	<10	<1,000 J	<10	91 D	3 J	<10
	4/02			<14	9	<5	<5	<10	<1,000	<5	804 D	21	<5
	10/02			<25	11	<10	<10	<20	<1,000	<10	560 D	1 J	<10
	5/03			<12	9	<5	<5	<10	<1,000	<5	0.9 J	3 J	<5
MW-32	9/98	364	356	<10	16	2 J	5 J	3 J	<1,000	<10	6,300 D	4 J	<10
	7/99			3 J	14	2 J	4 J	<10	<1,000	56	<10	3 J	<10
	3/00			<10	5 J	<10	<10	<10	<1,000 J	<10	800 D	<10	<10
	9/00			<10 J	12 J	<10 J	<10 J	<10 J	<1,000	<10 J	4,500 D	<10	<10 J
	3/01			<10	5 J	<10	<10	<10	<1,000	<10	1,900 D	2 J	<10
	9/01			<10	10	<10	<10	<10	<1,000 J	<10	1,100 D	2 J	<10
	4/02			<15	4 J	<5	<5	<10	<1,000	<5	4,620 D	11	<5
	10/02			<25	4 J	<10	<10	<20	<1,000	<10	50	R	<10
	5/03			<12	<5	<5	<5	<10	<1,000	<5	0.6 J	0.7 J	<5
MW-33	9/98	344.1	356.1	<10	<10	<10	<10	<10	<1,000	<10	9 J	6 J	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	120	6 J	<10
	7/99			5 J	2 J	0.7 J	<10	<10	<1,000	<10	150	8 J	<23
	3/00			<10 J	<10	<10	<10	<10	<1,000 J	<10	51	7 J	11
	9/00			45 J	4 J	1 J	<10 J	<10 J	<1,000	<10 J	540 D	23	330 DJ
	3/01			17 J	<20	<20	<20	<20	<1,000	<20	1,300 D	16	370 B
	9/01			21	5 J	<10	<10	<10	<1,000 J	<10	1,900 D	12	<18
	4/02			<18	3 J	<5	<5	<10	<1,000	<5	2,780 D	21	19
	10/02			11 J	4 J	<10	<10	<20	<1,000	<10	290 D	3 J	4 J
	5/03			88	13	<5	<5	<10	<1,000	<5	2,000	35 J	2,800 D

Table 4

Summary of Historic Groundwater Monitoring Data

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Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-34	9/98	362.7	354.7	<10	<10	<10	<10	<10	<1,000	<10	83	<10	<10
	7/99			2 J	0.9 J	1 J	<10	<10	<1,000	<10	380 D	2 J	<10
	3/00			<10 J	1 J	2 J	<10	<10	<1,000 J	<10	200 D	3 J	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	320 D	4 J	<10 J
	3/01			<10	<10	2 J	<10	2 J	<1,000	<10	700 D	5 J	<10
	9/01			7 J	2 J	2 J	<10	2 J	<1,000 J	<10	76	3 J	<10
	4/02			<32	<5	<5	<5	<10	<1,000	<5	640 D	15	<5
	10/02			37 J	<10	<10	<10	<20	<1,000	<10	380 DJ	2 J	<10
	5/03			16	<5	<5	<5	<10	<1,000	<5	140	3 J	<5
MW-35	9/98	363	355	<10	<10	<10	<10	<10	<1,000	<10	6 J	5 J	<10
	7/99			<10	0.7 J	<10	<10	<10	<1,000	<10	3 J	4 J	<10
	3/00			<10 J	<10	<10	<10	<10	<1,000 J	<10	<10	2 J	<10
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	3 J	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	<10	<10	<10	<10	<1,000 J	<10	<10	2 J	<10
	4/02			<13	<5	<5	<5	<10	<1,000	<5	3 J	4 J	<5
	10/02			<25	<10	<10	<10	<20	<1,000	<10	2 J	R	<10
	5/03			<12	<5	<5	<5	<10	<1,000	<5	1,000	<100	<5
MW-36	9/98	363.6	355.6	<10	<10	<10	<10	<10	<1,000	<10	290 D	6 J	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	860 D	4 J	<10
	7/99			8 J	0.8 J	<10	<10	<10	<1,000	<10	250	<10	<10
	3/00			<10 J	<10	<10	<10	<10	<1,000 J	<10	60	7 J	<10
	9/00			5 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	8 J	6 J	<5
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			54	<10	<10	<10	<10	<1,000 J	<10	350 D	5 J	<10
	4/02			<20	<5	<5	<5	<10	<1,000	<5	9	41	<5
	10/02			12 J	<10	<10	<10	<20	<1,000	<10	2 J	2 J	<10
	5/03			9 J	<5	<5	<5	<10	<1,000	<5	67	4 J	<5
TW-01	12/96	365.1	355.4	<10	82	4 J	6 J	4 J	<1,000	<10	2,090 D	13	4 J
	9/98			<10	15	<10	4 J	<10	<1,000	<10	4,400 DEJ	4 J	<10
	2/99			<10	24	2 J	2 J	2 J	<1,000	<10	9,000 D	5 J	<10
	7/99			<10	16	1 J	3 J	<10	<1,000	<10	4,400 D	4 J	<10
	3/00			<10	16	<10	<10	<10	<1,000 J	<10	280 D	4 J	<10
	9/00			<10 J	11 J	<10 J	<10 J	<10 J	<1,000	<10 J	15	2 J	<10 J
	3/01			<10	5 J	<10	<10	<10	<1,000	<10	<10	3 J	<10
	9/01			<10	10	<10	<10	<10	<1,000 J	<10	<10	2 J	<10
	4/02			<14	3 J	<5	<5	<10	<1,000	<5	8	13	<5
	10/02			<25	7 J	<10	<10	<20	<1,000	<10	<5	R	<10
	5/03			<12	7	<5	<5	<10	<1,000	<5	<5	1 J	<5

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
TW-02[F]	12/96	363.3	353.3	53	10	77	16	65	<1,000	585 D	15,900 JD	3,920 D	42,449 D
(Replaced by TW-02R)	9/98			<500 J	<500 J	<500 J	<500 J	53,000	5,000	300 J	38,000 D	61,000 D	86,000 D
	2/99			<1,000	<1,000	190 J	<1,000	150 J	14,000JN	<1,000	83,000 D	7,900	14,000 B
	7/99			630	37	240 J	31	150	<1,000	55	100,000 D	3,500 J	9,700 D
	3/00			<1,000 J	<1,000	160 J	<1,000	240 J	<1,000 J	<1,000	64,000 D	3,900	13,000
	9/00			190 J	28 J	95 J	35 J	160 J	<1,000	6 J	79,000	<10,000	390 J
	3/01			81	19	68	28	130	<1,000	<10	67,000 D	650 J	400 D
	9/01			57	25	70	31	140	<1,000 J	<20	63,000 D	32	48 B
	4/02			240	19	65	23	96	<1,000	<5	1,090,000 D	<5,300	14
	10/02			110 J	15	19	23	65	<1,000	<10	80,000 D	10 J	<10
	5/03			240	30	130	49	226	<1,000	<5	160,000 D	230	97
PZ-4D	11/89	350.8	345.9	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	0.8 J	<5
	10/95			NA	<5	<5	<5	<5	NA	<5	<5	<10	<5
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<6	<12	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10 J
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
PZ-4S	11/89	362.79	357.88	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<18
	10/95			NA	<5	<5	<5	<5	NA	<5	NA	NA	<5
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	6/99			<10 J	<10	<10	<10	<10	<1,000 J	<10	<10 J	<10 J	<10 J
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	3/01			<10	<10	<10	<10	<10	<1,000	<10	<10	3 J	<10
	4/02			<14	<5	<5	<5	<10	<1,000	<5	8 (<5)[K]	<5 (<5)[K]	<5
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5

Table 4

Summary of Historic Groundwater Monitoring Data

McKesson Envirosystems
Bear Street Facility
Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL) Top	Bottom	Acetone	Benzene	Toluene	Ethyl-benzene	Xylene[A]	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
PZ-5D	11/89	353.5	348.6	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	12/94			<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	<10	<12
	7/99			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	<10	<10 J
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
PZ-5S	11/89	361.42	356.52	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	12/94			<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			5 J	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5[H]	<10	<12
	6/99			<10 J	<10	<10	<10	<10	<1,000	<10	<10 J	<10 J	<10 J
	7/99			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10	<10	<10 J
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	9/01			7 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5[L]	<5[L]	<10
PZ-8S[G]	9/98	362.6	357.7	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
PZ-11D[C]	11/89	352.09	347.19	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-11S[C]	11/89	359.09	354.19	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-12D[C]	11/89	350	345.1	<100	<1	<1	<1	<1	<1,000	<1	<53	<53	<1
	11/90			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<1	3	<1	<10	<10	<1
	11/92			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
PZ-12S[C]	11/89	360	355.1	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	6	<1	<10	<10	5
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
PZ-13D[F]	11/89	349.4	344.4	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-13S[F]	11/89	359.5	354.5	<100	<1	2	<1	2	<1,000	<1	<11	<11	<1
NYSDEC Groundwater Standards (Part 700)				50	1	5	5	5	NA	5	5	1	5

Figures

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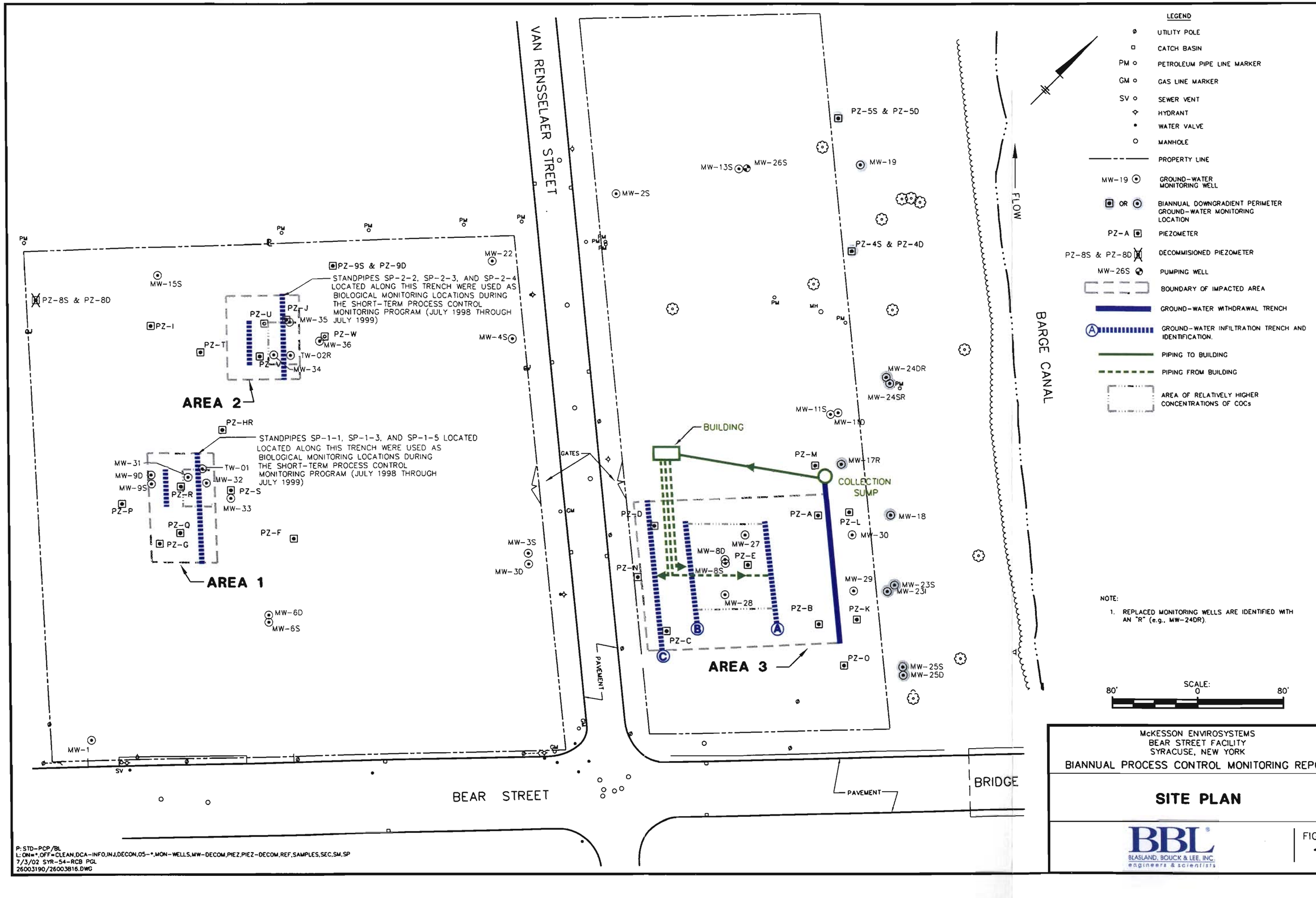
engineers & scientists



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7/3/02 SYR-54-RCB PGL
26003190/26003816.DWG

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BIANNUAL PROCESS CONTROL MONITORING REPORT

SITE PLAN

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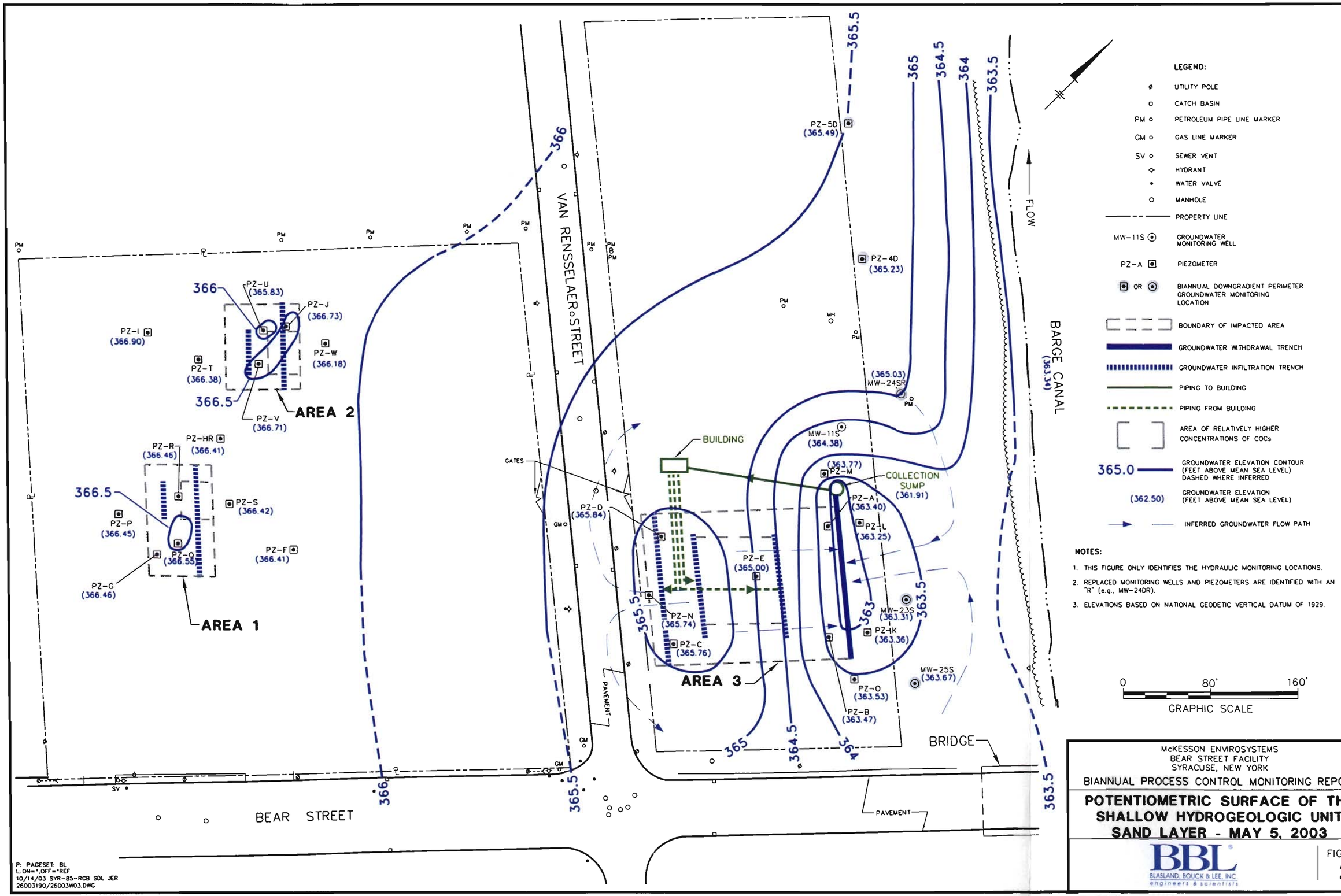
FIGURE 1



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BIANNUAL PROCESS CONTROL MONITORING REPORT

POTENTIOMETRIC SURFACE OF THE SHALLOW HYDROGEOLOGIC UNIT SAND LAYER - MAY 5, 2003

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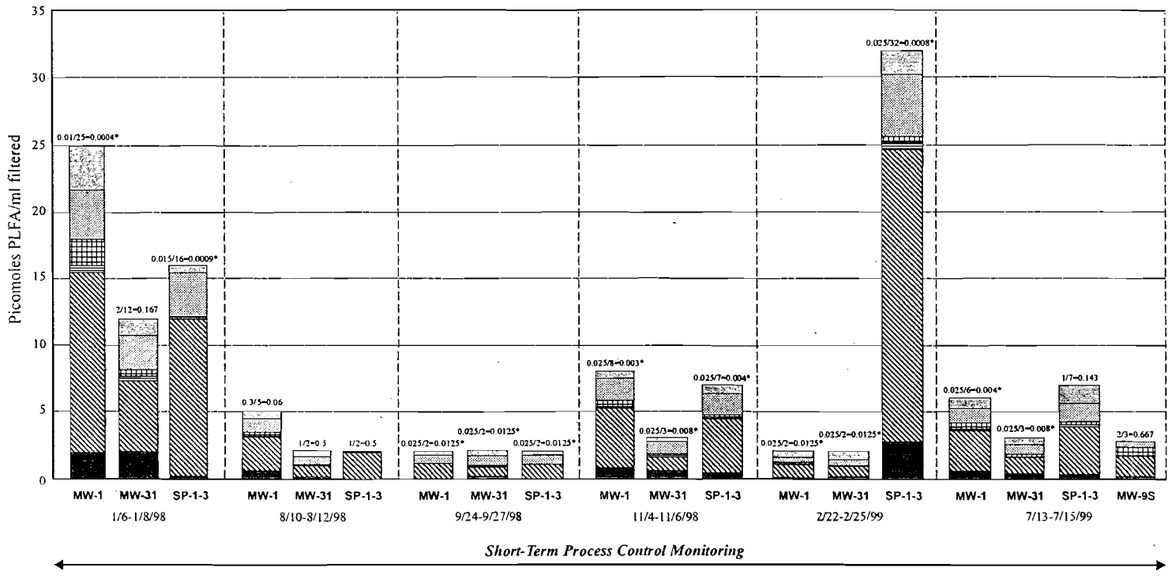
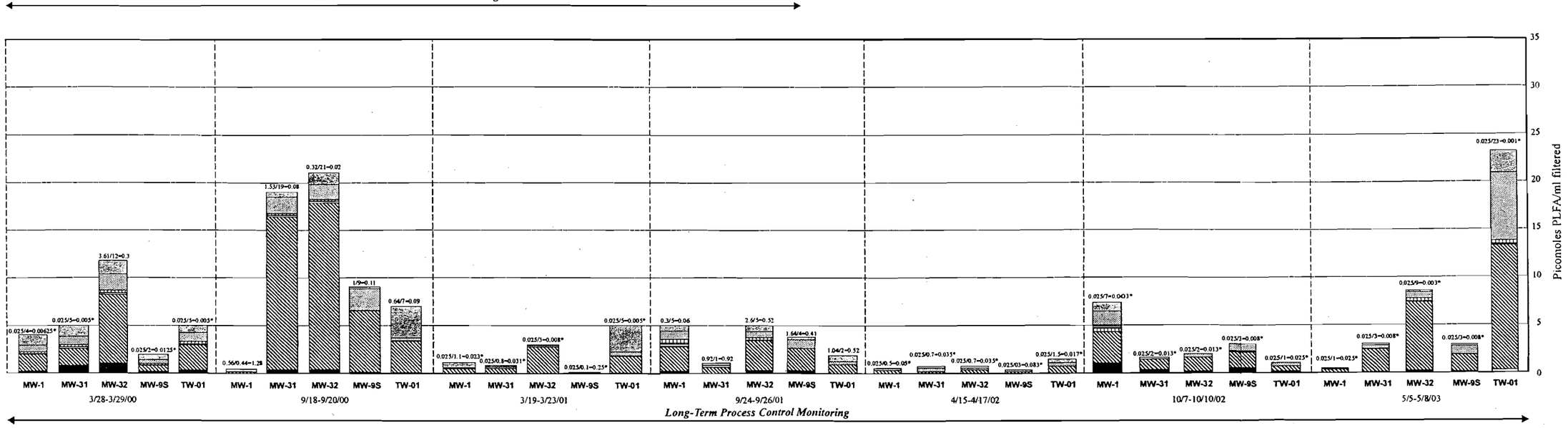
FIGURE **2**

P: PAGESET: BL
L: ON=*,OFF=*REF
10/14/03 SYR-85-RCB SDL JER
26003190/26003W03.DWG





NOTES:

1. Ratio above stacked bar graph is PHA to PLFA. PHA/PLFA ratio above 0.2 suggests unbalanced growth of the microbial community.
2. * = Ratio is half the PHA detection limit to PLFA.
3. Start up operation began on June 10, 1998.
4. Initial discrete RAMM injections were conducted from August 5 to August 12, 1998.
5. MW-9S was not scheduled to be sampled during the short-term process control monitoring program, but was sampled in July 1999 (week 52) to provide additional information regarding Area 1. This well is part of the long-term process control monitoring program.
6. Additional discrete RAMM injections were conducted on August 28 through August 30, 2000 and on August 27 through August 30, 2001.

Eukaryotes | Nsats | MidBrSats | BrMonos | Monos | TerBrSats

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AREA 1 - BIOMASS PLFA DISTRIBUTION

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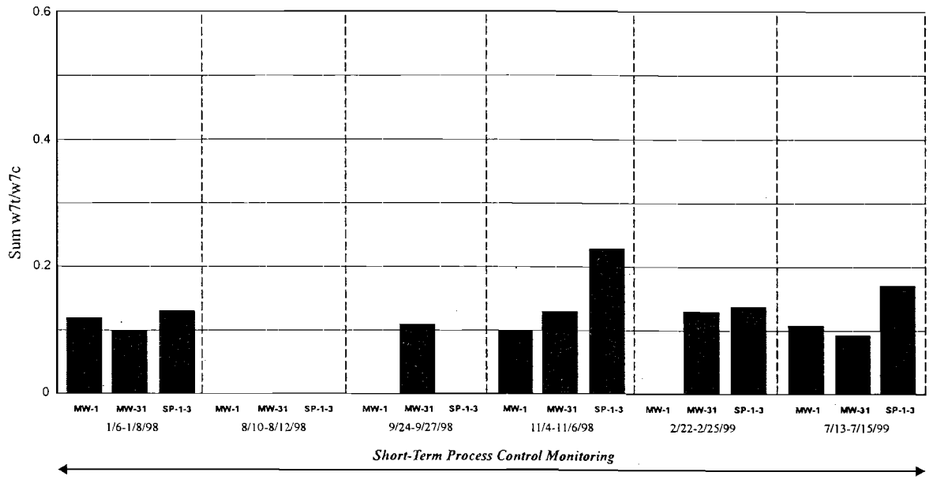
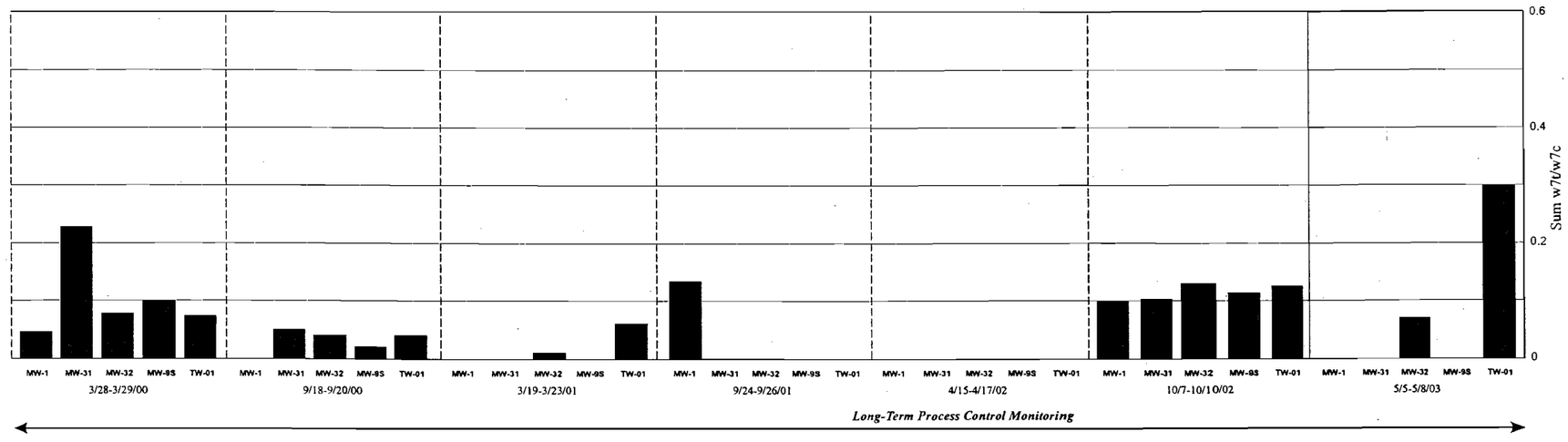
FIGURE 3

08/19/03 SYR-D85-DJH
26003190/26003n03.cdr





NOTES:

1. Sum w7t/w7c = The sum of 16:1w7t/16:1w7c and 18:1w7t/18:1w7c.
2. The ratios 16:1w7t/16:1w7c and 18:1w7t/18:1w7c show the effect of toxicity or starvation on the microbial community. The range (for the sum w7t/w7c) is generally between 0.1 (healthy) to 0.6 (starved). A higher ratio indicates increased stress.
3. MW-9S was not scheduled to be sampled during the short-term process control monitoring program, but was sampled in July 1999 (week 52) to provide additional information regarding Area 1. This well is part of the long-term process control monitoring program.

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BIANNUAL PROCESS CONTROL MONITORING REPORT

AREA 1 - ENVIRONMENTAL STRESS

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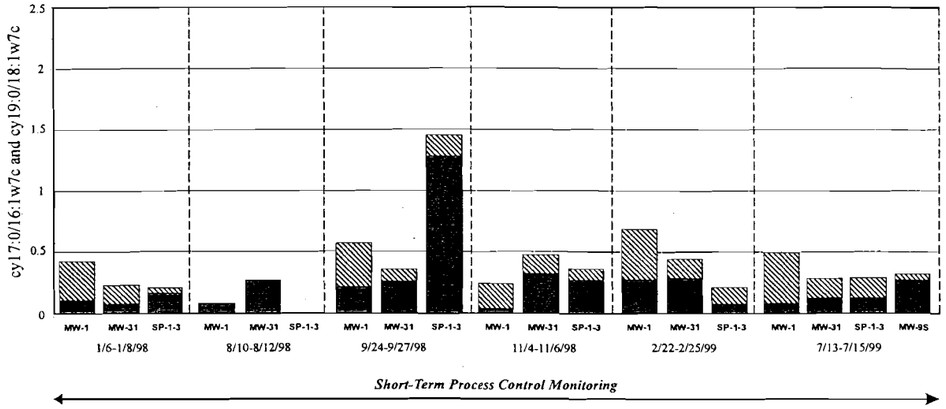
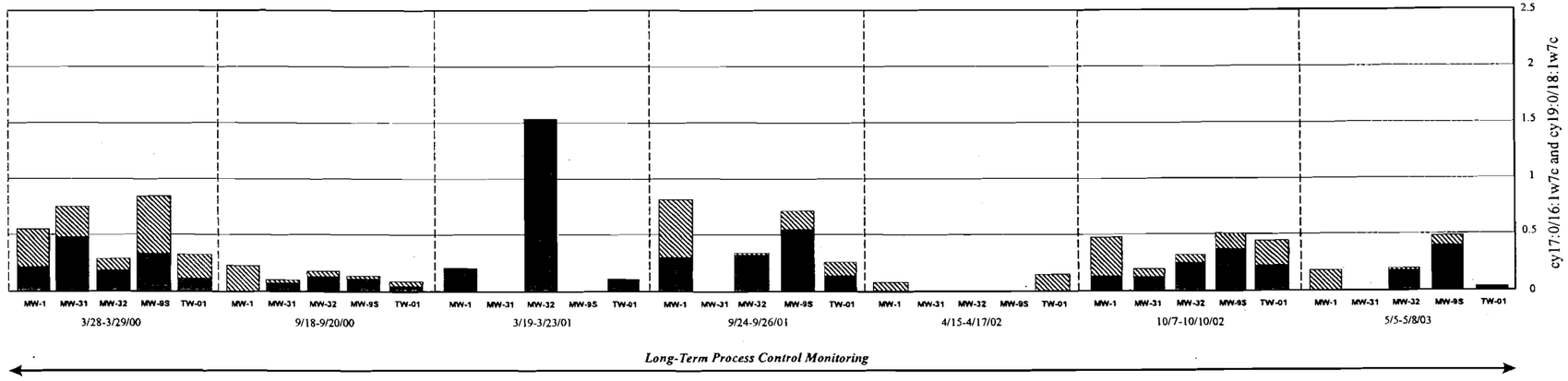
FIGURE 4

06/19/03 SYR-D85-DJH
26003190/26003n01.cdr





NOTES:

1. The two ratios: cy17:0/16:1w7c and cy19:0/18:1w7c express a growth rate of the microbial community. The sum of these two ratios falls within the range of 0.1 (log phase) to 5.0 (stationary phase). A lower ratio suggests a higher turnover rate.
2. MW-9S was not scheduled to be sampled during the short-term process control monitoring program, but was sampled in July 1999 (week 52) to provide additional information regarding Area 1. This well is part of the long-term process control monitoring program.

cy19:0/18:1w7c

cy17:0/16:1w7c

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AREA 1 - TURNOVER RATE

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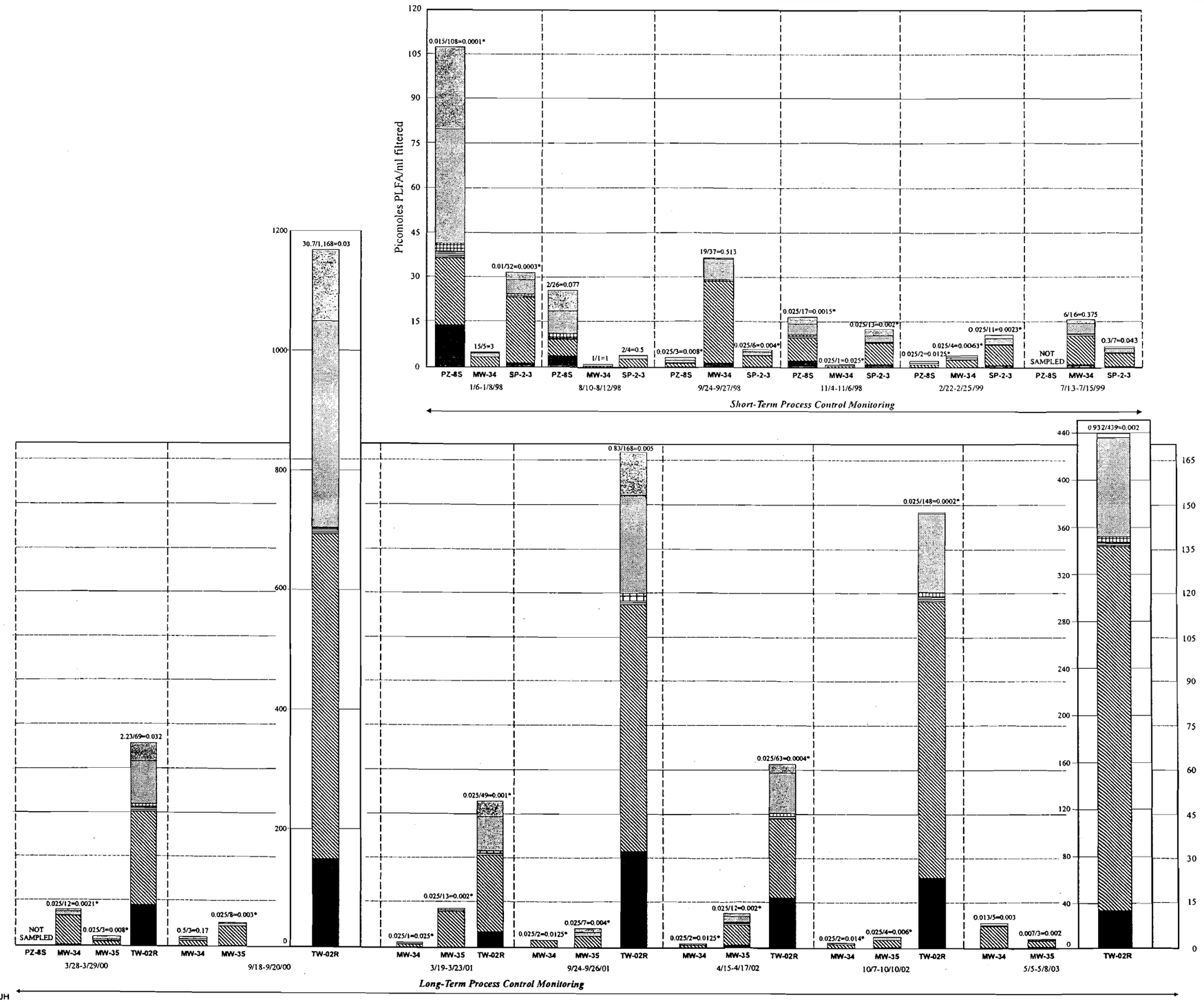
FIGURE 5

06/30/03 SYR-D85-DJH
26003190/26003n02.cdr



NOTES:

1. Ratio above stacked bar graph is PHA to PLFA. PHA/PLFA ratio above 0.2 suggests unbalanced growth of the microbial community.
2. * = Ratio is half the PHA detection limit to PLFA.
3. Start up operation began on June 10, 1998.
4. Initial discrete RAMM injections were conducted from August 5 to August 12, 1998.
5. PZ-8S was not sampled in July 1999 and in March 2000 because this piezometer was damaged. This piezometer was decommissioned in August 2000.
6. Additional discrete RAMM injections were conducted on August 28 through August 30, 2000 and on August 27 through August 30, 2001.

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AREA 2 - BIOMASS PLFA DISTRIBUTION

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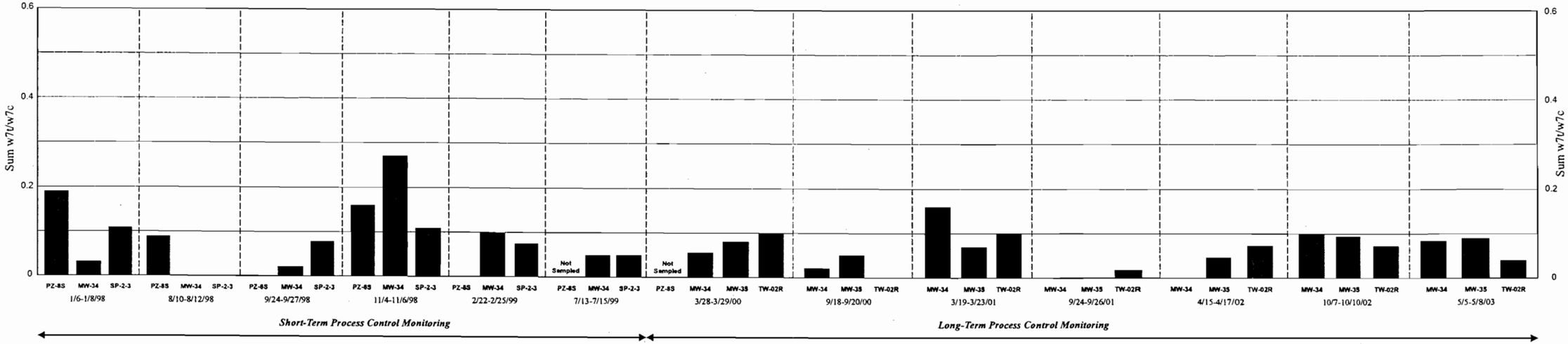
FIGURE 6

08/25/03 SYR-D85-DJH
26003190/26003n10.cdr



NOTES:

1. Sum w7t/w7c = The sum of 16:1w7t/16:1w7c and 18:1w7t/18:1w7c.
2. The ratios 16:1w7t/16:1w7c and 18:1w7t/18:1w7c show the effect of toxicity or starvation on the microbial community. The range (for the sum w7t/w7c) is generally between 0.1 (healthy) to 0.6 (starved). A higher ratio indicates increased stress.
3. PZ-8S was not sampled in July 1999 and in March 2000 because this piezometer was damaged. This piezometer was decommissioned in August 2000.

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AREA 2 - ENVIRONMENTAL STRESS

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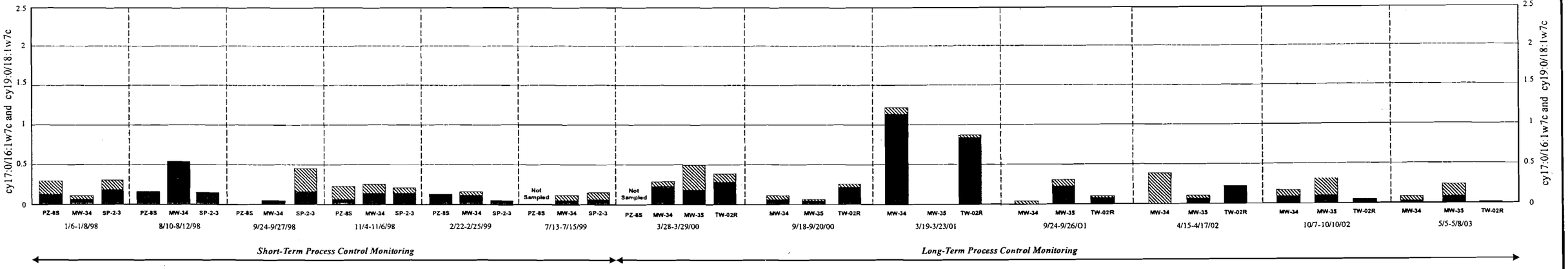
FIGURE 7

08/11/03 SYR-D85-DJH
26003190/26003n04.cdr



NOTES:

1. The two ratios: cy17:0/16:1w7c and cy19:0/18:1w7c express a growth rate of the microbial community. The sum of these two ratios falls within the range of 0.1 (log phase) to 5.0 (stationary phase). A lower ratio suggests a higher turnover rate.
2. PZ-8S was not sampled in July 1999 and in March 2000 because this piezometer was damaged. This piezometer was decommissioned in August 2000.

cy19:0/18:1w7c cy17:0/16:1w7c

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AREA 2 - TURNOVER RATE

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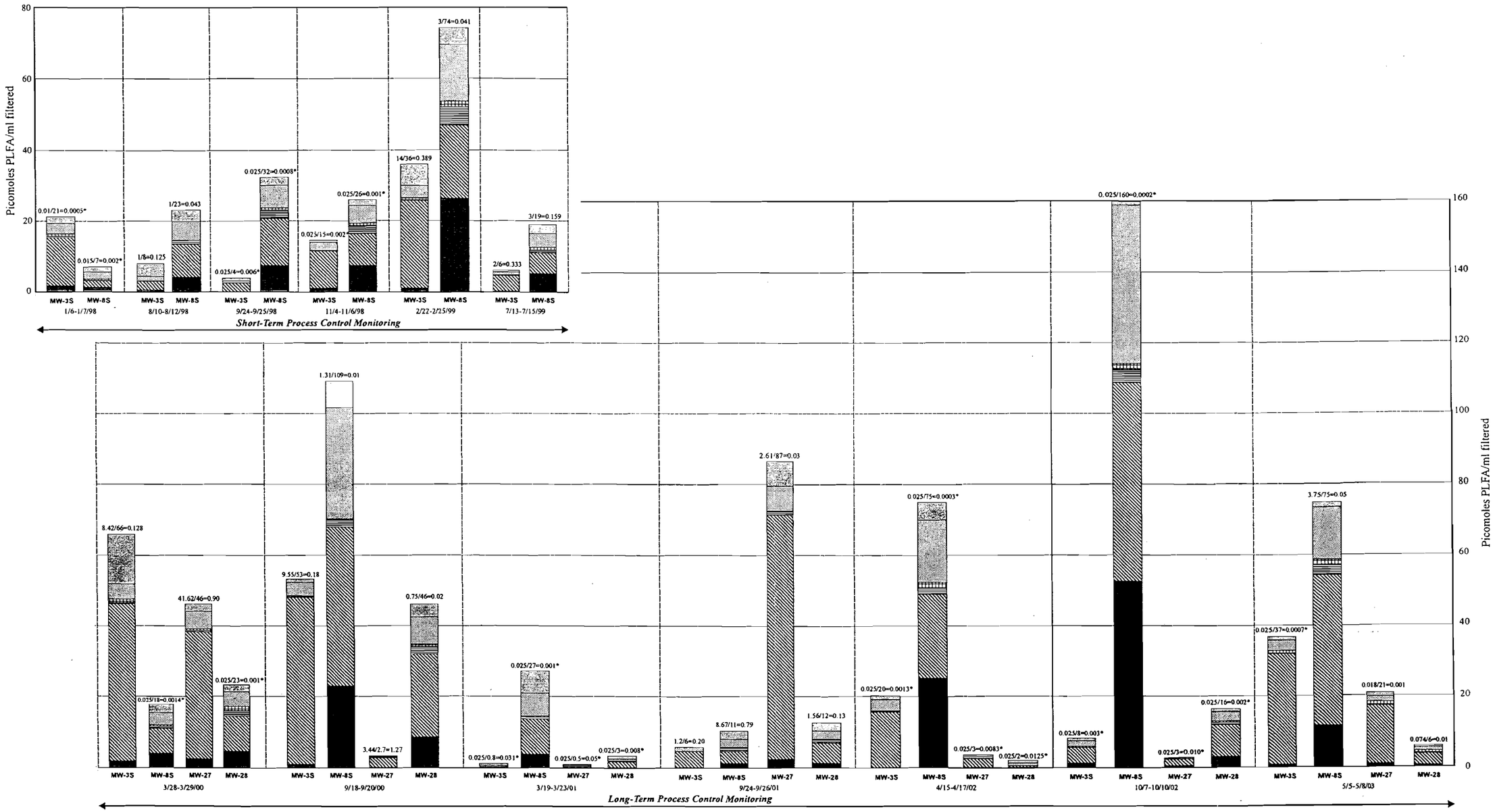
FIGURE 8

06/26/03 SYR-D85-DJH
26003190/28003n06.cdr



NOTES:

1. Ratio above stacked bar graph is PHA to PLFA. PHA/PLFA ratio above 0.2 suggests unbalanced growth of the microbial community.
2. * = Ratio is half the PHA detection limit to PLFA.
3. Start up operation began on June 10, 1998.
4. Initial discrete RAMM injections were conducted from August 5 to August 12, 1998.
5. Additional discrete RAMM injections were conducted on August 28 through August 30, 2000 and on August 27 through August 30, 2001.

MCKESSON ENVIROSYSTEMS
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BIANNUAL PROCESS CONTROL MONITORING REPORT

AREA 3 - BIOMASS PLFA DISTRIBUTION

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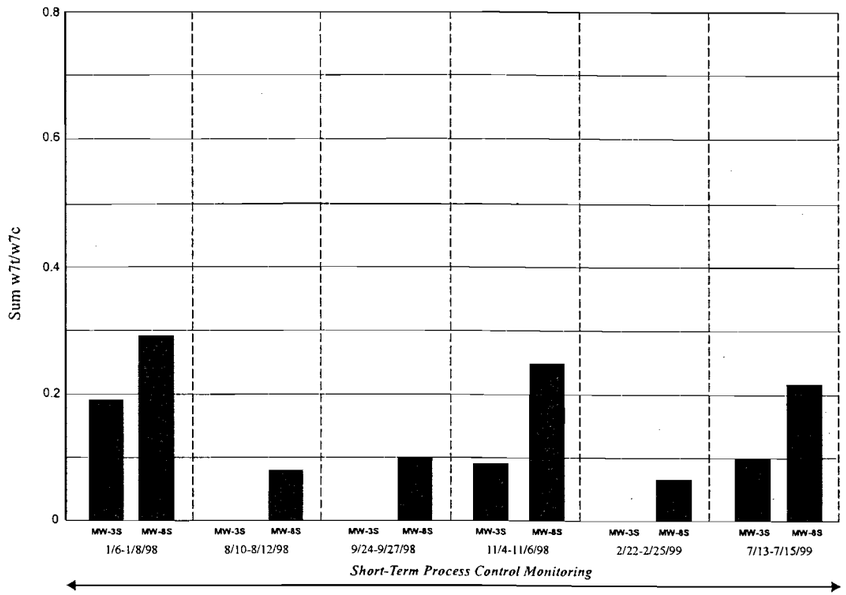
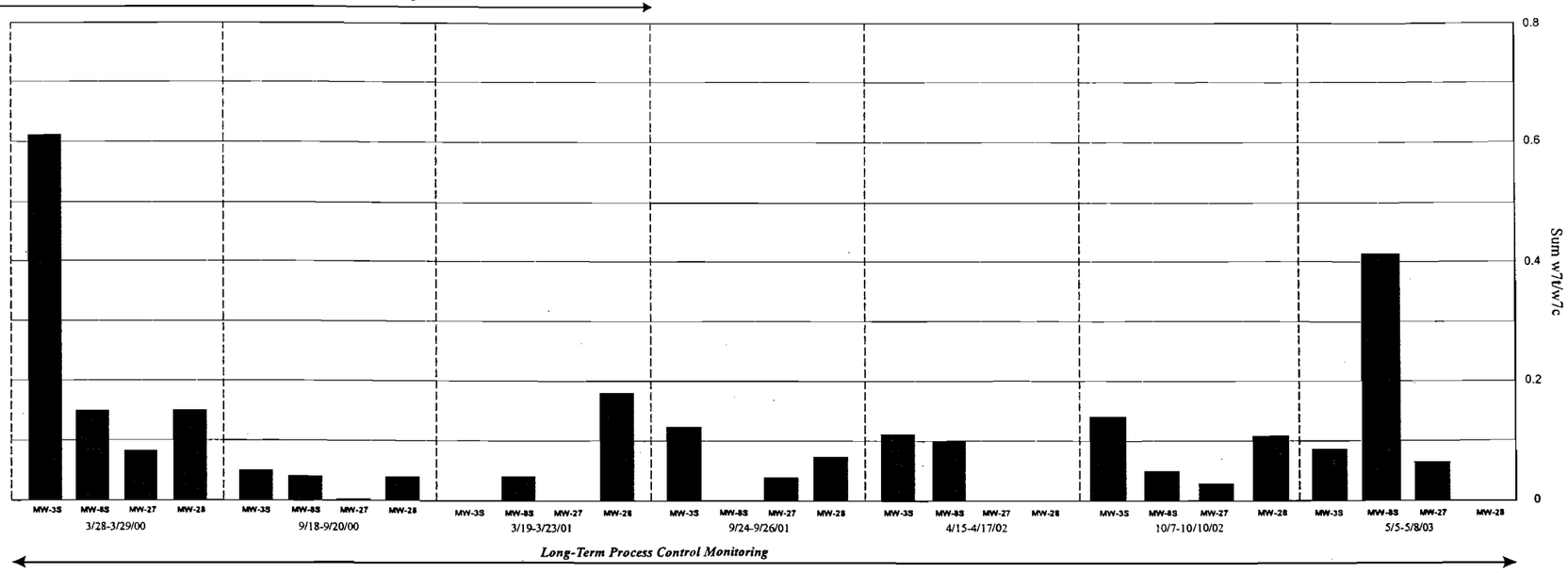
FIGURE 9

08/19/03 SYR-D85-DJH
26003190/26003n09.cdr





NOTES:

1. Sum w7t/w7c = The sum of 16:1w7t/16:1w7c and 18:1w7t/18:1w7c.
2. The ratios 16:1w7t/16:1w7c and 18:1w7t/18:1w7c show the effect of toxicity or starvation on the microbial community. The range (for the sum w7t/w7c) is generally between 0.1 (healthy) to 0.6 (starved). A higher ratio indicates increased stress.

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AREA 3 - ENVIRONMENTAL STRESS

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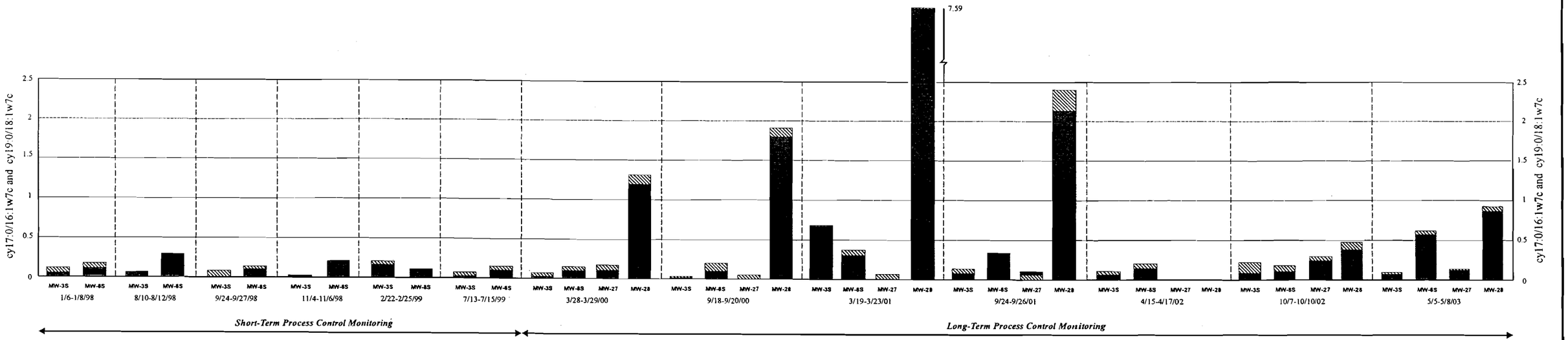
FIGURE 10

06/24/03 SYR-D54-DJH
26003190/26003n08.cdr



NOTE:

1. The two ratios: cy17:0/16:1w7c and cy19:0/18:1w7c express a growth rate of the microbial community. The sum of these two ratios falls within the range of 0.1 (log phase) to 5.0 (stationary phase). A lower ratio suggests a higher turnover rate.

cy19:0/18:1w7c cy17:0/16:1w7c

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AREA 3 - TURNOVER RATE

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FIGURE 11

06/25/03 SYR-D85-DJH
26003190/26003n07.cdr

MW-36

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	<10	8 J	<10 J	5 J	<10	54	<20	12 J	9 J
Benzene	<10	<10	0.8 J	<10	<10 J	<10	<10	<5	<10	<5
Aniline	290 D	860 D	250	60	8 J	<10	350 D	9	2 J	67
N,N-dimethylaniline	6 J	4 J	<10	7 J	6 J	<10	5 J	41	2 J	4 J
Methylene Chloride	<10	<10	<10	<10	2 J	<10	<10	<5	<10	<5

MW-35

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Benzene	<10	0.7 J	<10	<10 J	<10	<10	<5	<10	<5
Aniline	6 J	3 J	<10	<10	<10	<10	3 J	2 J	1,000
N,N-dimethylaniline	5 J	4 J	2 J	3 J	<10	2 J	4 J	NA	<100
Acetone	<10	<10	<10 J	<10 J	<10	<10	<13	<25	<12

TW-02R

Date	12/96	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	53	<500 J	<1,000	630	<1,000 J	190 J	81	57	240	110 J	240
Benzene	10	<500 J	<1,000	37	<1,000	28 J	19	25	19	15	30
Toluene	77	<500 J	190 J	240 J	180 J	95 J	68	70	65	19	130
Ethylbenzene	16	<500 J	<1,000	31	<1,000	35 J	28	31	23	23	49
Xylene	65	140 J	150 J	150	240 J	160 J	130	140	96	65	226
Methanol	<1,000	5,000	14,000 JN	<1,000	<1,000 J	<1,000	<1,000	<1,000 J	<1,000	<1,000	<1,000
Trichloroethene	585 D	300 J	<1,000	55	<1,000	6 J	<10	<20	<5	<10	<5
Aniline	15,900 JD	38,000 D	83,000 D	100,000 D	64,000 D	79,000	87,000 D	63,000 D	1,090,000 D	80,000 D	160,000 D
N,N-dimethylaniline	3,920 D	61,000 D	7,900	3,500 J	3,900	<10,000	650 J	32	<5,300	10 J	230
Methylene Chloride	42,449 D	86,000 D	14,000 B	9,700 D	13,000	390 J	400 D	48 B	14	<10	97

MW-34

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	2 J	<10 J	<10 J	<10	7 J	<32	37 J	16
Benzene	<10	0.9 J	1 J	<10 J	<10	2 J	<5	<10	<5
Toluene	<10	1 J	2 J	<10 J	2 J	2 J	<5	<10	<5
Xylene	<10	<10	<10	<10 J	2 J	2 J	<10	<20	<10
Aniline	53	360 D	320 D	320 D	770 D	176	640 D	380 DJ	140
N,N-dimethylaniline	<10	2 J	3 J	4 J	5 J	3 J	15	2 J	3 J

TW-01

Date	12/96	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Benzene	82	15	24	16	16	11 J	5 J	10	3 J	7 J	7
Toluene	4 J	<10	2 J	1 J	<10	<10 J	<10	<10	<5	<10	<5
Ethylbenzene	16 J	4 J	2 J	3 J	<10	<10 J	<10	<10	<5	<10	<5
Xylene	4 J	<10	2 J	<10	<10	<10 J	<10	<10	<10	<20	<10
Aniline	2,090 D	4,400 DEJ	9,000 D	4,400 D	280 D	15	<10	10	8	<5	<5
N,N-dimethylaniline	13	4 J	5 J	4 J	4 J	2 J	3 J	2 J	13	NA	1 J
Methylene Chloride	4 J	<10	<10	<10	<10	<10 J	<10	<10	<5	<10	<5

MW-9S

Date	1/89	11/89	11/91	8/95	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	1,600	<1,000	<100	<1,000	<10	<10	<10 J	<10	<10	<23	16 J	<12
Benzene	NA	48	<10	11 JD	4 J	2 J	11 J	1 J	10	10	38	11
Toluene	64	25	9	26 JD	2 J	2 J	2 J	3 J	3 J	2 J	40	<5
Ethylbenzene	130	60	19	69 D	9 J	11	6 J	17	7 J	6	2 J	7
Xylene	270	60	30	226 JD	18	21	18 J	51	35	17 J	15 J	18
Methanol	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000	<1,000	<1,000 J	370 J	<1,000	<1,000
Aniline	650	670	95	50	<10	2 J	1 J	2 J	<10	9	<5	0.9 J
N,N-dimethylaniline	1,200	150	18	28	5 J	9 J	6 J	11	10	13	2 J	3 J
Methylene Chloride	1,500	<10	<1	110 D	<10	<10	<10 J	<10	<10	<5	<10	<5

MW-31

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	<10	<10	<10 J	21	<10	<11	<25	<12
Benzene	12	16	16	12 J	11	14	9	11	9
Aniline	34	230 D	9 J	10	<10	38 D	604 D	360 D	0.9 J
N,N-dimethylaniline	4 J	3 J	4 J	6 J	5 J	1 J	21	1 J	3 J

MW-32

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	3 J	<10	<10 J	<10	<10	<15	<25	<12
Benzene	16	14	5 J	12 J	5 J	10	4 J	4 J	<5
Toluene	2 J	2 J	<10	<10 J	<10	<10	<5	<10	<5
Ethylbenzene	5 J	4 J	<10	<10 J	<10	<10	<5	<10	<5
Xylene	3 J	<10	<10	<10 J	<10	<10	<10	<20	<10
Trichloroethene	<10	56	<10	<10 J	<10	<10	<5	<10	<5
Aniline	6,300 D	<10	800 D	4,500 D	1,900 D	1,100 D	482 J D	50	0.6 J
N,N-dimethylaniline	4 J	3 J	<10	<10	2 J	2 J	11	NA	0.7 J

MW-1

Date	3/88	1/89	11/89	11/90	11/91	11/92	8/95	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<100	<100	<100	<100	<100	<100	<1,000	<10	0.7 JN	<10	8 J	<10	<10	<12	<25	<12
Toluene	<1	<1	<1	<1	<1	<1	<5	<10	<10	<10	3 J	<10	<10	<5	<10	<5
Xylene	<1	<1	<1	<3	<3	<3	<5	<10	<10	<10	5 J	<10	<10	<10	<20	<10
Methylene Chloride	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<10 J	10	<10	<5	<10	<5
Methanol	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000	<1,000	<1,000 J	990 J	<1,000	<1,000

MW-3S

Date	3/88	1/89	11/89	11/91	8/95	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<100	<10,000	<10,000	2,900	<1,000	<10	<10	<10 J	<10 J	<10	<10	<12	<25	<12
Benzene	<1	<100	<100	10	<5	<10	1 J	<10	1 J	<10	3 J	<5	<10	<5
Toluene	<1	120	<100	10	<5	<10	0.7 J	<10	2 J	<10	8 J	<5	<10	<5
Ethylbenzene	<1	<100	<100	4	<5	<10	<10	<10	<10 J	<10	1 J	<5	<10	<5
Xylene	<1	<100	<100	31	<5	<10	<10	<10	<10 J	<10	2 J	<10	<20	<10
Methanol	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000	<1,000 J	<1,000	<1,000	<1,000 J	370 J	<1,000	<1,000
Trichloroethene	50	1,100	100	<10	<5	<10	<10	<10	<10 J	<10	<10	<5	<10	<5
Aniline	<10	<11	<52	790	15	<10	9 J	<10	2 J	<10	690 D (69*)	1.7 J	<5	<5
N,N-dimethylaniline	<10	5,570	440	170	2 J	<10	<10	<10	1 J	<10	4 J	<5	NA	<5
Methylene Chloride	110	4,700	2,700	<10	<10	<10	<10	<10	<10 J	<10	<10	<5	<10	<5

MW-33

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	<10	5 J	<10 J	45 J	17 J	21	<18	11 J	88
Benzene	<10	<10	2 J	<10	4 J	<20	13 J	3 J	4 J	46
Toluene	<10	<10	0.7 J	<10	1 J	<20	<10	<5	<15	<5
Aniline	9 J	140	150	51	540 D	1,300 D	1,900 D	2,780 D	2,900 D	2,000
N,N-dimethylaniline	6 J	6 J	8 J	7 J	23	15	12	22	3 J	36 J
Methylene Chloride	<10	<10	5 J	11	330 DJ	370 B	<18	19	4 J	2,800 D

LEGEND:

- UTILITY POLE
- CATCH BASIN
- PM PETROLEUM PIPE LINE MARKER
- GM GAS LINE MARKER
- SV SEWER VENT
- HYDRANT
- WATER VALVE
- MANHOLE
- PROPERTY LINE
- MW-19 GROUNDWATER MONITORING WELL
- PZ-A PIEZOMETER
- PZ-8S & PZ-8D DECOMISSIONED PIEZOMETERS
- BOUNDARY OF IMPACTED AREA
- GROUNDWATER INFILTRATION TRENCH
- AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs

SAMPLE IDENTIFICATION

MW-3S

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Benzene	<10	0.7 J	<10	<10 J	<10	<10	<5	<10	<5
Aniline	6 J	3 J	<10	<10	<10	<10	3 J	2 J	1,000
N,N-dimethylaniline	5 J	4 J	2 J	3 J	<10	2 J	4 J	NA	<100
Acetone	<10	<10	<10 J	<10 J	<10	<10	<13	<25	<12

CONCENTRATION (ppb)

NOTES:

1. REPLACED MONITORING WELLS ARE IDENTIFIED WITH AN "R" (e.g., MW-24DR).
2. TRENCH LOCATIONS ARE APPROXIMATE.
3. MONITORING LOCATIONS ARE APPROXIMATE.
4. FIGURE ONLY SHOWS COC CONCENTRATIONS AT MONITORING LOCATIONS WITHIN THE IMPACTED AREAS AND THE CHEMICAL PROCESS CONTROL MONITORING LOCATIONS.
5. ONLY DETECTED COC's ARE PRESENTED ON THIS FIGURE.
6. < = COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
7. J = THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
8. D = CONCENTRATION IS BASED ON DILUTED SAMPLE ANALYSIS.
9. E = IDENTIFIES COMPOUNDS WHOSE CONCENTRATIONS EXCEED THE CALIBRATION RANGE OF THE INSTRUMENTS.
10. NA = NOT AVAILABLE.
11. B = THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS IN ITS ASSOCIATED BLANK; ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
12. N = THIS ANALYSIS INDICATES THE PRESENCE OF A COMPOUND FOR WHICH THERE IS PRESUMPTIVE EVIDENCE TO MAKE AN TENTATIVE IDENTIFICATION.
13. DETECTION EXCEEDING NYSDEC GROUNDWATER QUALITY STANDARDS ARE INDICATED BY SHADING.
14. THE 10/02 SAMPLING EVENT N,N-DIMETHYLANILINE DATA FOR MW-1, MW-3S, MW-32, MW-35, AND TW-01 WERE REJECTED DUE TO MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERIES BELOW CONTROL LIMITS. AS DETAILED IN THE BIANNUAL REPORT, THESE MONITORING WELLS WERE NOT RESAMPLED.

120' 0 120'

GRAPHIC SCALE

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

BIANNUAL PROCESS CONTROL MONITORING REPORT

SUMMARY OF AREAS 1&2 HISTORIC GROUNDWATER MONITORING DATA

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 12

L: ON=*, OFF=*REF*
P: PAGESEST/PLT-DL2B
10/15/03 SYR-RCB LAF JER
26003190/26003C10.DWG

MW-19

Date	11/89	12/94	8/95	2/96	8/96	2/97	8/97	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	<10	5 J	<10	<10	<10	<10	<10	<10	<5	<5^	<5
Acetone	<100	<10	<1,000	<1,000	<10	<10	<10	<10	<10	<10 J	<10	<10 J	<10	<10	<10	5 J	<12

PZ-5S

Date	11/89	12/94	2/96	2/97	9/98	6/99	7/99	9/00	9/01	10/02
Acetone	<100	<10	<1,000	5 J	<10	<10 J	<10 J	<10 J	7 J	<25 J

PZ-4S

Date	11/89	11/90	11/91	11/92	8/95	8/96	8/97	2/99	6/99	3/00	3/01	4/02	10/02	5/03
Aniline	<10	<10	<10	<10	<5	<5	<6	<10	<5	<5	<10	8 (<5)**	<5^	<5
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10 J	<10	3 J	<5 (<5)**	<5^	<5

PZ-4D

Date	11/89	11/90	11/91	11/92	8/95	10/95	8/96	8/97	2/99	3/00	9/00	3/01	4/02	5/03
N,N-dimethylaniline	<10	<10	<10	<10	0.8 J	<10	<10	<12	<10	<10	<10	<10	<5	<5

MW-27

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	23	<10 J	<10 J	<10 J	<10	<10	<18	9 J	<12
Benzene	3 J	4 J	6 J	4 J	5 J	5 J	7	3 J	8
Toluene	4 J	2 J	<10	<10	<10	<10	11	<10	11
Ethylbenzene	<10	3 J	8 J	3 J	5 J	2 J	12	<10	23
Xylene	3 J	8 J	2 J	1 J	2 J	<10	26	<20	51
Aniline	340 DJ	740 D	110 D	16 J	260 D	26	176,000 DJ	2,700 D	15,000 DJ
N,N-dimethylaniline	<10	<10	1 J	2 J	2 J	<10	19 J	100 J	11
Methylene Chloride	<10	<10	<10	1 J	<10	<10	<5	60 JN	43
Trichloroethene	<10	<10	<10	<10 J	<10	<10	<5	4 J	<5

MW-17R

Date	11/90	11/91	11/92	8/95	10/95	8/96	8/97	2/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<100	<100	<100	<1,000	NA	11	<10	<10	<10	<10 J	<10	<10	<25 J	<12	
Benzene	<1	<1	<1	<5	<5	<10	<10	1 J	8 J	15 J	8 J	5 J	6	14	8
Trichloroethene	<1	<1	<1	<5	2J	<10	<10	<10	<10	<10 J	<10	<10	<5	<10	<5
Methanol	<1,000	<1,000	<1,000	<1,000	NA	1,000	1,000	1,000	<1,000 J	<1,000 J	<1,000 J	<1,000 J	620 J	<1,000	<1,000
Aniline	<10	<10	<10	<5	NA	<5	<5	<10	<5	24 J	<10	<10	150 (<5)**	<5^	<5
N,N-dimethylaniline	<10	<10	<10	<10	NA	<10	<10	<10	<10	4 J	<10	<10	110 (<5)**	<5^	<5
Methylene Chloride	<1	<1	<1	<11	<5	<10	<10	<10 J	<10	1 J	<10	<10	<5	<10	<5

MW-18

Date	11/89	11/90	11/91	11/92	12/94	8/95	2/96	8/96	2/97	8/97	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Methanol	<1,000	<1,000	<1,000	<1,000	<200	<1,000 J	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000 J	<1,000	<1,000	720 J	<1,000	280 J
Aniline	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10 J	<10	<10	280 D (<5)**	<5^	<5
N,N-Dimethylaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	200 D (<5)**	<5^	<5
Acetone	<100	<100	<100	<100	<10	<1,000	<1,000	<10	<10	<10	<10	<10	<10	<10 J	<10	<10 J	<10	<10	6 J	<12

MW-30

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	7 J	<10	<10	<10 J	<10	4 J	<10	<25 J	<62
Benzene	<10	<10	0.7 J	<10	<10 J	<10	2 J	<5	<10	<25
Trichloroethene	<10	<10	0.5 J	<10	<10 J	<10	<10	<5	<10	<25
Aniline	<10	<10	<10	18	9 J	8 J	8 J	250	NA	18
N,N-dimethylaniline	<10	2 J	1 J	2 J	2 J	2 J	1 J	210	NA	0.6 J
Methylene Chloride	<10	<10	<10	4 J	2 J	<10	<10	<5	<10	8 J

MW-29

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	7 J	<10	<10	<10 J	<10	<10	<10	<25 J	<12
Xylene	2 J	1 J	<10	<10	<10 J	<10	<10	<10	<20	<10
Aniline	<10	5 J	2 J	450 D	24 J	30	7 J	3 J	8	19
N,N-dimethylaniline	13	4 J	4 J	6 J	4 J	4 J	2 J	9	NA	1 J
Methylene Chloride	<10	<10	<10	<10	<10 J	<10	<10	<6	4 JN	<3

MW-23S

Date	12/94	8/95	2/96	8/96	2/97	8/97	9/98	2/99	6/99	7/99	3/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	<1,000	<1,000	<10	<10	12	<10	<10	<10 J	<10 J	<10	<10	<10	<10	<25 J	<62
Aniline	<5	<5	<5	7	11	92	56	<10	<10 J	<10	<5	<10	<10	<5	<5^	<5
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	7 J	10	2 J	<10	2 J	<10	<10	<5	<5^	<5
Methanol	<200	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000	<1,000 J	<1,000 J	<1,000 J	<1,000	<1,000	380 J

MW-23I

Date	12/94	8/95	2/96	8/96	2/97	8/97	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<10	<1,000	<1,000	<10	<10	<10	<10	<10	<10 J	<10	<10 J	<10	4 J	<10	<25 J	<12
Xylene	<5	<5	<5	<10	<10	<10	<10	<10	<10	<10	<10 J	<10	2 J	<10	<20 J	<5
Methylene Chloride	<5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 J	<10	<10	2 J	<10	<5

MW-25S

Date	8/95	10/95	8/96	8/97	2/99	6/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Aniline	<5	<5	<5	<5	130	110 J	5 J	<5	<10 J	<10	<10	<5	<5^	<5
N,N-dimethylaniline	0.7 J	<10	<10	<10	21 J	<10	<10	<10	<10	<10	<10	<5	<5^	<5

MW-25D

Date	8/95	10/95	8/96	8/97	2/99	3/00	9/00	3/01	4/02	5/03
Acetone	<1,000	NA	15	<10	<10	<10	<10	<10	<10	<12
Trichloroethene	<5	3 J	<10	<10	<10	<10	<10	<10	<5	<5
N,N-dimethylaniline	1 J	<10	<10	<11	<10	<10	<10	<10	<5	<5
Aniline	<5	<5	<5	<5	<5	<10	<5	5 J	<5	<5

MW-25D

SAMPLE IDENTIFICATION

CONCENTRATION (ppb)

MW-25D

Date	8/95	10/95	8/96	8/97	2/99	3/00	9/00	3/01	4/02	5/03
Acetone	<1,000	NA	15	<10	<10	<10	<10	<10	<10	<12
Trichloroethene	<5	3 J	<10	<10	<10	<10	<10	<10	<5	<5
N,N-dimethylaniline	1 J	<10	<10	<11	<10	<10	<10	<10	<5	<5
Aniline	<5	<5	<5	<5	<5	<10	<5	5 J	<5	<5

MW-8S

Date	1/89	11/89	11/91	8/95	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<1,000,000	470,000	<1,000,000	<1,000	<10,000 J	<20,000	10 J	<100,000	<50,000 J	<50,000	<400	2,100	120 J	<12
Benzene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	22 J	<100,000	<50,000 J	<50,000	<400	50 J	23	20 J
Toluene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	240 J	<100,000	<50,000 J	<50,000	430	410	310	600 D
Ethylbenzene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	58 J	<100,000	<50,000 J	<50,000	170 J	100 J	73	81
Xylene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	220 J	<100,000	<50,000 J	<50,000	680	400	267	300
Methanol	430,000	300,000	150,000	22,000	7,900	16,000 JN	17,000	30,000 J	14,000 J	53,000	8,900 J	<1,000	<1,000	<1,000
Trichloroethene	<10,000	<10,000	<10,000	60,000 JD	3,300 J	11,000 J	11,000 J	<100,000	9,200 J	11,000 J	18,000 JD	9,600 J	3,100	6,700 D
Aniline	2,900	8,500	8,000	<25,000 D	1,200 J	30,000 D	24,000	62,000	42,000 J	90,000 D	21,000	793,000 D	80,000	79,000 D
N,N-dimethylaniline	24,000	52,000	33,000	380,000 D	26,000 D	120,000 D	77,000	270,000 D	59,000	120,000 D	29,000	773,000 D	21,000 J	29 J
Methylene Chloride	3,200,000	2,800,000	1,600,000	7,700,000 D	140,000	650,000 DB	450,000 D	1,300,000	540,000 BJ	990,000	440,000 BD	660,000 D	320,000	910,000 D

MW-3S

Date	3/88	1/89	11/89	11/91	8/95	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Acetone	<100	<10,000	<10,000	2,900	<1,000	<10	<10 J	<10 J	<10 J	<10	<10	<12	<25	<12
Benzene	<1	<100	<100	10	<5	<10	1 J	<10	1 J	<10	3 J	<5	<10	<5
Toluene	<1	120	<100	10	<5	<10	0.7 J	<10	2 J	<10	8 J	<5	<10	<5
Ethylbenzene	<1	<100	<100	4	<5	<10	<10	<10	<10 J	<10	1 J	<5	<10	<5
Xylene	<1	<100	<100	31	<5	<10	<10	<10	<10 J	<10	2 J	<10	<20	<10
Methanol	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000	<1,000	<1,000 J	370 J	<1,000	<1,000
Trichloroethene	50	1,100	700	<10	<5	<10	<10	<10	<10 J	<10	<10	<5	<10	<5
Aniline	<10	<11	<52	780	15	<10	9 J	<10	2 J	<10	690 D (69*)	1.7 J	<5	<5
N,N-dimethylaniline	<10	5,570	440	170	2 J	<10	<10	<10	1 J	<10	4 J	<5	NA	<5
Methylene Chloride	110	4,700	2,700	<10	<10	<10	<10	<10	<10 J	<10	<10	<5	<10	<5

MW-28

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02	10/02	5/03
Benzene	<5,000	<500	<10,000	<1,000 J	<400	<400	8	8 J	4 J
Toluene	<5,000	<500	<10,000	<1,000 J	<400	<400	6	6 J	2 J
Ethylbenzene	<5,000	<500	<10,000	<1,000 J	<400	<400	9	11	2 J
Xylene	<5,000	<500	<10,000	<1,000 J	<400	<400	10 J	12 J	8 J
Methanol	2,200	<1,000	<1,000 J	<1,000 J	<1,000	<1,000 J	<1,000	<1,000	<1,000
Aniline	546 D	1,100 D	1,300 D	540 DJ	3,200 D	1,000 D	33,400 D	2,700 D	1,000 DJ
N,N-dimethylaniline	54	40	30	<10	7 J	<10	57	NA	3 J
Methylene Chloride	64,000 J	39,000 D	130,000 J	8,100 BJ	5,900 B	4,700 B	4,600 D	<10	52
Acetone	<5,000 J	<500 J	<10,000	<1,000 J	<400	<400	<49	14 J	13

LEGEND:

- UTILITY POLE
- CATCH BASIN
- PM PETROLEUM PIPE LINE MARKER
- GM GAS LINE MARKER
- HYDRANT
- WATER VALVE
- MANHOLE
- PROPERTY LINE
- MW-19 GROUNDWATER MONITORING WELL
- PZ-A PIEZOMETER
- MW-26S PUMPING WELL
- BOUNDARY OF IMPACTED AREA
- GROUNDWATER WITHDRAWAL TRENCH
- GROUNDWATER INFILTRATION TRENCH
- PIPING TO BUILDING
- PIPING FROM BUILDING
- AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs

BIANNUAL DOWNGRADIENT PERIMETER GROUNDWATER MONITORING LOCATION

NOTES:

1. REPLACED MONITORING WELLS ARE IDENTIFIED WITH AN "R" (e.g., MW-24DR).
2. TRENCH LOCATIONS ARE APPROXIMATE.
3. MONITORING LOCATIONS ARE APPROXIMATE.
4. FIGURE ONLY SHOWS COC CONCENTRATIONS AT MONITORING LOCATIONS WITHIN THE IMPACTED AREAS AND THE CHEMICAL PROCESS CONTROL MONITORING LOCATIONS.
5. ONLY DETECTED COC's ARE PRESENTED ON THIS FIGURE.
6. < = COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
7. J = THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
8. D = CONCENTRATION IS BASED ON DILUTED SAMPLE ANALYSIS.
9. E = IDENTIFIES COMPOUNDS WHOSE CONCENTRATIONS EXCEED THE CALIBRATION RANGE OF THE INSTRUMENTS.
10. NA = NOT AVAILABLE.
11. B = THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS IN ITS ASSOCIATED BLANK; ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
12. N = THIS ANALYSIS INDICATES THE PRESENCE OF A COMPOUND FOR WHICH THERE IS PRESUMPTIVE EVIDENCE TO MAKE AN TENTATIVE IDENTIFICATION.
13. DETECTION EXCEEDING NYSDEC GROUNDWATER QUALITY STANDARDS ARE INDICATED BY SHADING.
14. THE ANILINE DATA FOR THE 9/98 SAMPLING EVENT FOR MW-18, MW-19, MW-23S, MW-23I, MW-24SR, MW-24DR, MW-28, PZ-5S AND PZ-5D WERE OBTAINED IN 12/98, BECAUSE THE 9/98 RESULTS WERE REJECTED DUE TO LABORATORY ERROR.
15. * = MW-3S WAS RESAMPLED ON 11/8/01 DUE TO ANILINE DETECTION DURING 9/2001 SAMPLING EVENT AT A CONCENTRATION OF 690 PPB. ANILINE WAS DETECTED ON 11/8/01 AT A CONCENTRATION OF 69 PPB.
16. ** = MONITORING WELLS MW-17R, MW-18, AND PZ-4S WERE RESAMPLED FOR ANILINE AND N,N-DIMETHYLANILINE ON JUNE 18, 2002 DUE TO N,N-DIMETHYLANILINE AND/ OR ANILINE DETECTION AT THESE PERIMETER MONITORING LOCATIONS DURING THE APRIL 2002 SAMPLING EVENT. THE RESULTS OF THIS RESAMPLING EVENT ARE SHOWN IN PARENTHESIS. MONITORING WELLS MW-24SR AND MW-24DR WERE ALSO SAMPLED ON JUNE 18, 2002 FOR ANALYSIS OF ANILINE AND N,N-DIMETHYLANILINE. AS DETAILED IN THE BIANNUAL REPORT, THESE COMPOUNDS WERE NOT DETECTED.
17. ^ = THE ANILINE AND N,N-DIMETHYLANILINE DATA FOR THE 10/02 SAMPLING EVENT FOR MW-17R, MW-18, MW-19, MW-23S, MW-23I, MW-24SR, MW-24DR, MW-25S, PZ-4S, PZ-5S, AND PZ-5D WERE OBTAINED IN 1/03, BECAUSE THE 10/02 RESULTS WERE REJECTED DUE TO MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERIES BELOW CONTROL LIMITS.
18. THE 10/02 SAMPLING EVENT N,N-DIMETHYLANILINE DATA FOR MW-3S, MW-28 AND MW-29 AND THE 10/02 SAMPLING EVENT ANILINE AND N,N-DIMETHYLANILINE DATA FOR MW-30 WERE REJECTED DUE TO MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERIES BELOW CONTROL LIMITS. AS DETAILED IN THE BIANNUAL REPORT, THESE MONITORING WELLS WERE NOT RESAMPLED.

120' 0 120'

GRAPHIC SCALE

L: ON=*, OFF=*REF*
P: PAGESEST/PLT-BL
10/15/03 SYR-RCB LAF JER
26003190/26003C11.DWG

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BEAR STREET FACILITY
SYRACUSE, NEW YORK

BIANNUAL PROCESS CONTROL MONITORING REPORT

SUMMARY OF AREA 3 HISTORIC GROUNDWATER MONITORING DATA

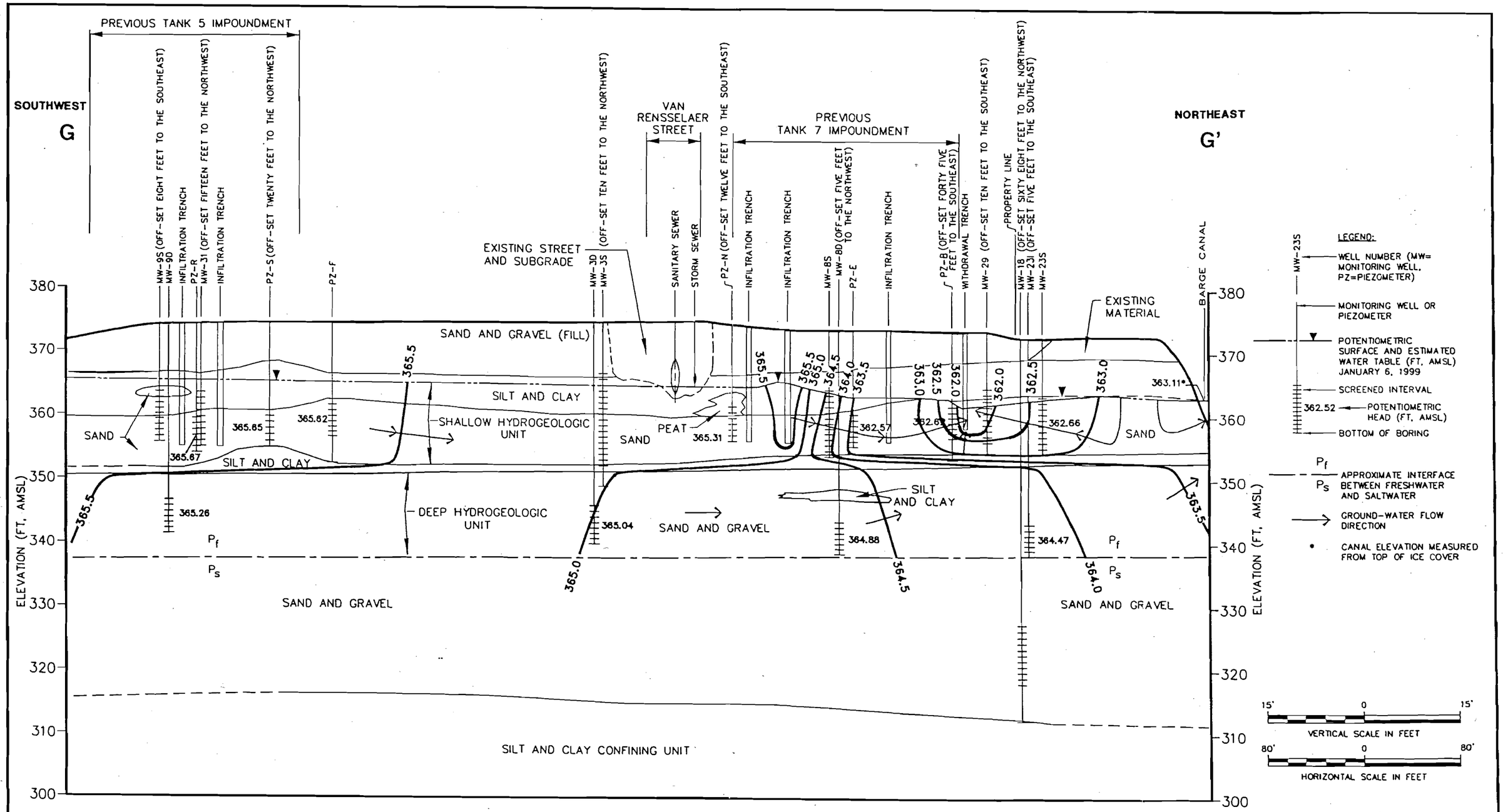
BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 13

Attachment 1

Hydrogeologic Cross-Section

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists



NOTES:

1. GEOLOGIC CONTACTS, INCLUDING EXISTING SUBGRADE, DASHED WHERE INFERRED
2. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. ALL OFF-SET DISTANCES ARE APPROXIMATE.
4. THE LOCATIONS AND ELEVATIONS OF THE SANITARY AND STORM SEWERS WHERE OBTAINED BY FIELD MEASUREMENTS WERE POSSIBLE, OTHERWISE OBTAINED FROM OTHER SOURCES AND MAY BE APPROXIMATE ONLY.

L: ON=* OFF=REF*, SP
P: STD BL_PCP
5/4/99 SYR-54-RCB
26003212/26003V02.DWG

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SYRACUSE, NEW YORK
REMEDIAL DESIGN/ REMEDIAL ACTION REORT

HYDROGEOLOGIC CROSS-SECTION G-G'

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 4