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Transmittal

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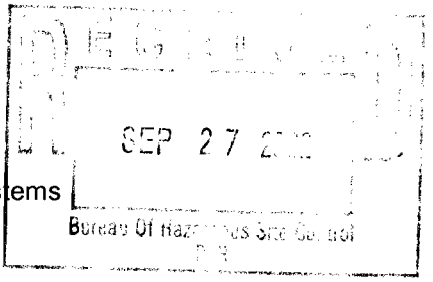
To: Mr. Thomas Reamon, P.E.
Bureau of Hazardous Site Control
New York State Department of
Environmental Conservation
625 Broadway, 11th Floor
Albany, NY 12233-7014

Date: September 26, 2002

File: 0260.26003 #2

Re: McKesson Envirosystems
Bear Street Facility
Syracuse, New York



We are sending you: ☒ herewith ☐ under separate cover
☐ drawings ☐ letters ☒ other _____

If material received is not as listed, please notify us at once.

Quantity	Title
1	Biannual Process Control Monitoring Report, January 2002 through June 2002

Remarks:

Please find enclosed the *Biannual Process Control Monitoring Report, January 2002 through June 2002* for the McKesson Envirosystems, Bear Street Facility. The report presents a description of the anaerobic bioremediation treatment activities conducted during the reporting period, a summary of the monitoring results, and the conclusions and recommendations based on the available data/information. The associated validated analytical data reports have been transmitted to your attention under separate cover.

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

cc: Mr. Reginald Parker, P.E., 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.

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Enclosure

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September 26, 2002

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 Corporation
Bear Street Facility
Syracuse, New York
Site No. 07-34-020
BBL Project #: 0260.26003 #2

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 2002 through June 2002. 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 2002 through June 2002), 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 approximately 647,800 gallons of water were pumped from the withdrawal trench and introduced into the Area 3 infiltration trenches as detailed herein.

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, non-aqueous phase liquid (NAPL) assessment activities were conducted to determine the presence and thickness of NAPL (if any) 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 identified 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 April 2002 monitoring event is detailed herein.

Prior to conducting the April 2002 activities, the NYSDEC (Kevin Delany and Cynthia Whitfield) was notified. Due to the detections of aniline and N,N-dimethylaniline in the groundwater samples collected from some downgradient perimeter monitoring wells, a resampling event was conducted on June 18, 2002 as detailed in Section IV of this Biannual Report. Prior to conducting the resampling event, the NYSDEC (Kevin Delaney) was notified of these detections of aniline and N,N-dimethylaniline and the resampling 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 2002 and June 2002 and the conclusions and recommendations based on these results.

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 introduction of Suga-Lik™ (with the RAMM) in Area 1 and downgradient of Area 2 were recommended in the March 2002 *Biannual Report* to further stimulate the anaerobic biodegradation of COCs. As detailed in that *Biannual Report*, certain COCs were detected in excess of NYSDEC Groundwater Quality Standards in the groundwater samples collected during the September 2001 sampling event from monitoring wells MW-33 and MW-36 (located downgradient of Area 1 and Area 2, respectively). 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.

- Beginning in February 2002, Suga-Lik™ has been added with RAMM into the two Area 1 infiltration trenches on a monthly basis. RAMM has been introduced into the 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.

- Beginning in March 2002, RAMM/Suga-Lik™ has been introduced on a monthly basis into piezometers PZ-G, PZ-Q, PZ-R, and PZ-S located within and downgradient of Area 1. RAMM/

Suga-Lik™ has 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 the targeted areas if distributed through the infiltration trenches only.

- Beginning in March 2002, RAMM/Suga-Lik™ has been also introduced on a monthly basis into piezometer PZ-W located downgradient of Area 2, near monitoring well MW-36.

Approximately 10 gallons of RAMM/Suga-Lik™ have been introduced into each of the aforementioned piezometers and approximately 100 gallons of Suga-Lik™ and/or RAMM into each of 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 2002 through June 2002, 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 April 15, June 3 and June 18, 2002.

Table 2 summarizes the water-level measurements collected during these hydraulic monitoring events. Figure 2 depicts the potentiometric surface of the shallow hydrogeologic unit using the June 18, 2002 data set, which also generally represents the two other rounds of hydraulic process control monitoring data obtained during this reporting period. 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 1.23 gallons per minute (gpm) to 4.43 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.

- The introduction of approximately 75 percent of the recovered groundwater to the secondary infiltration trench "B" and the remaining 25 percent to the secondary infiltration trench "A" continues in Area 3, increasing 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 toward the withdrawal trench and hydraulically influence monitoring wells MW-25S and MW-17R. COCs have historically been detected in groundwater samples collected from these wells at concentrations in excess of NYSDEC Groundwater Quality Standards (see Figure 12). 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. Benzene has been detected in groundwater samples collected from monitoring well MW-17R at concentrations slightly exceeding the NYSDEC Groundwater Quality Standard during each of the biannual sampling events conducted since March 2000.

- 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 wells 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 head of this unit. During the hydraulic process control monitoring, weekly conductivity measurements were also obtained from influent groundwater samples recovered from the withdrawal trench in Area 3. These measurements were obtained from the sampling port located before the equalization tank inside the building. The conductivity of groundwater pumped from the withdrawal trench ranged from approximately 1.45 millisiemens per centimeter (mS/cm) to approximately 2.09 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 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 phospholipid fatty acids (PLFA) and poly-b-hydroxy alkanoate (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 measured in the field during the biological sampling events: pH, temperature, conductivity, dissolved oxygen (DO), and oxidation/reduction potential (ORP). In addition, to better evaluate the availability of macronutrients necessary for biological growth, groundwater samples collected from Area 3 monitoring wells and from monitoring wells MW-29 and MW-30 located between the Area 3 withdrawal trench and site boundary were analyzed for ammonia potassium, and ortho-phosphate.

The results of the April 2002 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) levels slightly decreased in Area 1 monitoring locations during the April 2002 sampling event (see Figure 3). The anaerobic community within Area 1, however, increased or remained at approximately the same level as measured during the previous sampling events. 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 samples collected from Area 1, suggesting there are sufficient carbon, electron acceptors, and nutrients to sustain microbial activity within Area 1.

- The biomass (PLFA) level decreased in most Area 2 monitoring locations since the last sampling event (see Figure 6). In particular, there was approximately 60 percent reduction at TW-02R, however this reduction is consistent with seasonal fluctuations measured previously at this location (i.e., lower levels of PLFA in fall than in spring). The level of anaerobic bacteria, however, remained at a similar level as during the previous sampling events and still comprised a significant portion of the microbial community in Area 2 monitoring locations. 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 not detected in any Area 2 samples, suggesting that sufficient amounts of carbon, electron donors, and

nutrients are available to maintain cell division and balanced growth within the Area 2 microbial community.

- The April 2002 sampling results for Area 3 indicate a decrease in PLFA levels at monitoring locations MW-27 and MW-28 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 increased since the last sampling event conducted in September 2001. Additionally, there was an approximate seven-fold increase in the PLFA level measured at monitoring well MW-8S 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 not detected in any samples suggesting that sufficient amounts of carbon, nutrients and electron acceptors are available to maintain cell division and balanced growth within the Area 3 microbial community. As reported in the last biannual report, biological process control monitoring results for September 2001 indicated that the PLFA biomass level at monitoring well MW-8S had decreased since the March 2001 sampling event and that the microbial community may have entered an unbalanced growth. Therefore, as proposed in the last biannual report, the groundwater samples collected from the Area 3 monitoring locations were analyzed for ammonia, potassium, and ortho-phosphate to better evaluate the availability of macronutrients necessary for biological growth. The results of these additional analyses and the PHA 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.

- 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 April 15, 2002 through April 18, 2002, 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.

A summary of the COC groundwater monitoring data is presented in Table 4 and shown on Figure 12. A copy of the validated analytical laboratory reports associated with the April 2002 sampling and the June 2002 resampling are provided under separate cover. A summary of the results is provided below.

- As shown on Figure 12, the concentrations of COCs detected in the groundwater samples collected from the monitoring wells within Area 1 have declined or remained relatively the same during implementation of the in-situ anaerobic bioremediation treatment program, with the exception of aniline and N,N-dimethylaniline. Aniline and N,N-dimethylaniline concentrations increased at the Area 1 monitoring locations since the last sampling event conducted in September 2001.

- In the groundwater sample collected from monitoring well MW-33, located downgradient of Area 1, the concentration of aniline was higher than the concentrations previously detected at this location, whereas the concentrations of benzene, N,N-dimethylaniline, and methylene chloride decreased or remained relatively the same (see Figure 12).

- The data collected during the April 2002 sampling event indicated that 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 aniline detected at monitoring location TW-02R and aniline and N,N-dimethylaniline detected in monitoring well MW-34 (see Figure 12). The aniline concentration detected at monitoring location TW-02R was higher than those previously detected at this location. 17 1,000,000 ppb

- Aniline and N,N-dimethylaniline were detected above their respective NYSDEC Groundwater Quality Standard in the groundwater sample collected during the April 2002 sampling event from monitoring well MW-36, located downgradient of Area 2. Aniline concentrations decreased at this location, whereas the N,N-dimethylaniline concentration slightly increased since the last sampling event (see Figure 12).

- Aniline was detected at monitoring well MW-3S at 690 ppb during the September 2001 sampling event and at a concentration of 69 ppb during the November 8, 2001 resampling of this well, located between Areas 1 and 3. Aniline was not detected in the April 2002 groundwater sample collected from monitoring well MW-3S at a concentration exceeding the NYSDEC Groundwater Quality Standard for aniline (5 ppb).

- As presented on Figure 12, 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. The concentrations of aniline and N,N-dimethylaniline however increased in the groundwater samples collected from the three Area 3 monitoring wells

- Aniline and N,N-dimethylaniline were detected in the groundwater samples obtained during the April 2002 sampling event from monitoring well MW-30 and aniline was detected in the samples obtained during the April 2002 sampling event from monitoring wells MW-29 at concentrations exceeding their respective NYSDEC Groundwater Quality Standard of 5 ppb (see Figure 12). These monitoring wells are located between the Area 3 withdrawal trench and the site boundary. The concentrations of aniline and N,N-dimethylaniline detected at these locations were higher than those detected previously. MW-30 : 7200 ppb MW-29 : 210 ppb

- The results of the April 2002 biannual groundwater sampling and analysis program indicate that COCs at concentrations in excess of the NYSDEC Groundwater Quality Standards were detected in some of the downgradient perimeter monitoring locations: benzene, aniline, and N,N-dimethylaniline in the groundwater sample collected from monitoring well MW-17R; aniline and N,N-dimethylaniline at the groundwater sample collected from monitoring well MW-18; and aniline in the groundwater sample collected from piezometer PZ-4S. Because of the detections of aniline and N,N-dimethylaniline in the perimeter monitoring locations, the aforementioned perimeter monitoring wells and piezometer were resampled for aniline and N,N-dimethylaniline on June 18, 2002. Additionally, nearby perimeter monitoring locations MW-24SR and MW-24DR, that were not sampled during the April 2002 round of monitoring, were also sampled for aniline and N,N-dimethylaniline on June 18, 2002. Prior to the resampling event, the NYSDEC (Kevin Delaney) was notified of the detections of aniline and N,N-dimethylaniline at the three downgradient perimeter locations, and the resampling of

these locations plus the two additional wells. The results of this resampling event indicate that aniline or N,N-dimethylaniline were not detected above their respective quantitation limits at the perimeter monitoring locations sampled on June 18, 2002. (Note: Although benzene was detected in the April 2002 groundwater sample collected from perimeter monitoring well MW-17R at a concentration [6 ppb] slightly exceeding the Groundwater Quality Standard (1 ppb), benzene was not analyzed during the June 2002 resampling event because it had been previously detected in groundwater samples collected from MW-17R at similarly low concentrations and this well is hydraulically influenced by the Area 3 closed-loop hydraulic cell.)

- NAPL was not identified in any of the monitoring wells or piezometers used during the process control monitoring program.

V. Conclusions and Recommendations

The aniline and N,N-dimethylaniline concentrations detected during the April 2002 sampling event were anomalously higher than those previously detected, including the concentrations detected in the groundwater samples collected from perimeter monitoring wells MW-17R, MW-18, and PZ-4S. The June 2002 resampling event was conducted at these select monitoring locations, in addition to nearby perimeter monitoring wells MW-24SR and MW-24DR, to verify the concentrations of aniline and N,N-dimethylaniline detected in the perimeter wells. The analytical results of the June 2002 resampling indicated that aniline and N,N-dimethylaniline were not detected. The results of the resampling event are consistent with the perimeter groundwater data obtained since 1989, which brings into question the anomalously high concentrations of aniline and N,N-dimethylaniline detected during the April 2002 sampling event. No causes for these changes in concentrations at the site were identified and resampling did not confirm the elevated results. If the upcoming biannual sampling confirms the resampling results (i.e., concentrations are consistent with historical levels), the April 2002 data will be dismissed as anomalous.

To further evaluate the April and June 2002 COC results, the downgradient perimeter monitoring locations which exhibited detections of aniline and N,N-dimethylaniline during the April 2002 sampling event, will be sampled during the next biannual sampling event, including PZ-4S which is not typically sampled during the third quarter sampling event. These downgradient perimeter locations, along with the other monitoring wells/piezometers identified in Table 1 to be sampled during the third quarter, will be sampled in early October 2002 as further discussed below. Additionally, groundwater samples collected from within each of the three areas will also be analyzed for ammonia, potassium and ortho-phosphate.

Based on the process control monitoring data obtained to date, the addition of RAMM/Suga-Lik™ and the hydraulic control activities have been and will continue to be implemented consistent with the procedures performed during the January through June 2002 reporting period covered by this biannual report. As detailed herein, RAMM is needed to provide necessary nutrients and electron acceptors, while Suga-Lik™ provides electron donors in areas where relatively low concentrations of COCs may be limiting the effectiveness of bioremediation to reduce the concentrations of COCs. The results of the upcoming sampling event, along with the process control monitoring data obtained to date, will be used to evaluate the effectiveness of the in-situ anaerobic bioremediation treatment process in meeting the goals for OU No. 2 presented in the Record of Decision and to determine if modifications or additional measures are required.

The next biannual monitoring event will be conducted in early October 2002. Consistent with the previous sampling events, BBL will coordinate the schedule with the NYSDEC. The hydraulic, biological, and COC process control monitoring activities to be conducted during the next biannual

monitoring event are summarized in Table 1 and will also include sampling PZ-4S for COCs (as identified above). A summary of the O&M activities and the results of the process control monitoring activities will continue to be presented to the NYSDEC on a biannual basis.

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/kah

cc: Mr. Reginald Parker, P.E., 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.

Tables

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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 3		
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.

TABLE 2

SUMMARY OF SELECT GROUNDWATER LEVEL MEASUREMENTS

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

Location	Reference Elevation (feet AMSL)	6/10/1998 Static	6/22/1998 Week 1	7/6/1998 Week 2	7/20/1998 Week 3	7/27/1998 Week 4	8/3/1998 Week 13	8/10/1998 (morning) Week 22	8/10/1998 (afternoon) Week 23	8/11/1998 (morning) Week 25	8/11/1998 (afternoon) Week 26	8/12/1998 (morning) Week 39	8/12/1998 (afternoon) Week 46	10/6/1998 Week 52	11/17/1998 Week 1	12/16/1998 Week 14	1/22/1999 Week 22	3/6/1999 Week 25	3/13/1999 Week 26	4/14/1999 Week 30	6/3/1999 Week 46	7/13/1999 Week 52	9/14/2000	6/1/2000	9/18/2000	11/14/2000	3/13/2001	9/24/2001	1/15/2002	6/3/2002	6/27/02
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	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
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	361.18	361.75	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
MW-3S	376.54	365.93	366.26	367.82	366.20			365.29							365.25	365.67	366.81	365.67	365.25		365.26		357.10						367.70	366.26	367.50
MW-3D	375.56	365.63	365.87	366.16			364.97	364.85						365.08	365.00	365.04		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
MW-6D	377.07	365.75	366.01	366.29										365.25	365.15	365.23	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
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		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
MW-9D	376.76***	365.78					365.14	365.10						365.25	365.16	365.22	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
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		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
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	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
MW-18	372.57	362.64													361.90	361.93	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
MW-19	376.00	362.42													361.78	361.84	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
MW-23I	372.77	365.04	365.34	365.72			364.34		364.45	364.16			364.43	364.43	364.34	364.36		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
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	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
MW-24DR	375.14	365.41													364.63	364.67	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
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	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
MW-25D	373.67	365.43													364.74	364.76		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
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	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
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	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
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	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
PZ-8D	375.83	365.90	366.11	366.35			365.25	365.13	365.83					365.35	365.27	365.33	365.48	365.33	365.19	365.78	365.08	365.00									
PZ-9D	377.29	365.73					365.47	365.28						365.12	365.03	365.08	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
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	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
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	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
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	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
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	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
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	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	364.65	364.77
PZ-F	377.06	366.17					365.56	365.50						365.37	365.27	365.52	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
PZ-G	377.16	366.21					365.66	365.60						365.46	365.36	365.60	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
PZ-HR	376.99	366.16					365.54							365.44	365.34	365.54	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
PZ-I	375.15	366.56					365.86	365.64						365.88	365.57	365.90	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
PZ-J	374.89	366.15					365.53	365.40						365.53	365.39	365.55	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
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	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
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	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
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	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
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	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
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	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
PZ-P	376.89	366.25					365.65	365.60						365.52	365.39	365.61	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
PZ-Q	377.61	366.23					365.64	365.57						365.45	365.35	365.59	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
PZ-R	377.05	366.23		366.94			365.65	365.57						365.50	365.38	365.61	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
PZ-S	378.13	366.19					365.57	365.52						365.43	365.35	365.57	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
PZ-T	376.25	366.14					365.54	365.43						365.52	365.38	365.58	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
PZ-U	375.35	365.99		366.81			365.50	365.33						365.37	365.30	365.49	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
PZ-V	375.78	366.07					365.48	365.35						365.43	365.29	365.47	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
PZ-W	375.78	366.07					365.46	365.31						365.41	365.28	365.44	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

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.

TABLE 3

BIOLOGICAL MONITORING DATA
4/15-4/17/2002

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

	Biological Parameters																				
Monitoring Location	**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	0.5	<0.05	0.08	0.00	0.323	19	0.218	0.071	0.0034 J	0.0025 J	160	<1	27	0.0054	--	--	--	7.35	3.10	11.85	99	0.836
TW-01	1.5	<0.05	0.15	0.00	<0.1	17	1.41	0.97	0.953	0.952	582	<1	130	1.3	--	--	--	7.05	0.08	14.14	-87	2.17
MW-31	0.7	<0.05	0.00	0.00	<0.1	7.9	5.16	4.98	1.38	1.35	45.2	<1	220	7.4	--	--	--	6.91	0.00	13.64	-116	2.40
MW-32	0.7	<0.05	0.00	0.00	<0.1	18	3.78	3.19	1.72	1.54	496	<1	180	2.4	--	--	--	6.89	0.03	12.72	-166	2.33
MW-9S	0.3	<0.05	0.00	0.00	<0.1	12	13.5	13.5	2.04	1.96	9.02	<1	190	4.0	--	--	--	6.92	0.00	10.60	-127	1.71
MW-33	--	--	--	--	<0.1	5.3	4.62	1.25	0.68	0.613	168	<1	280	12.0	--	--	--	6.68	0.00	13.93	-314	3.84
AREA 2																					
TW-02R	63	<0.05	0.23	0.07	<0.1	11	11.5	9.34	14.9	13.7	29	3.77	180	3.4	--	--	--	6.39	0.00	18.91	-240	6.36
MW-34	2	<0.05	0.39	0.00	<0.1	14	2.3	2.26	0.834	0.841	31	<1	170	2.5	--	--	--	6.87	0.07	12.65	-123	1.72
MW-35	12	<0.05	0.11	0.05	1.11	20	0.173	0.101	0.18	0.158	12 J	<1	68	0.0071	--	--	--	6.94	0.37	9.93	59	0.810
MW-36	--	--	--	--	<0.1	11	0.587	0.286	2.77	2.8	77.9	<1	230	4.0	--	--	--	6.78	1.68	11.72	-164	3.38
AREA 3																					
MW-3S	20	<0.05	0.11	0.11	0.214	22	2.47	1.66	2.45	2.25	20.6	<1	53	0.042	--	--	--	7.10	0.43	12.05	-93	0.558
MW-8S	75	<0.05	0.21	0.10	<0.1	4.2	151	142	4.31	4.09	<1	7.54	760	4.3	15.8	2.44	27	5.93	0.00	12.69	-102	8.24
MW-27	3	<0.05	0.00	0.00	<0.1	5.2	29.9	29	1.92	1.9	8.16	<1	410	9.7	9.31	0.206	10.7	6.43	0.00	13.30	-186	4.95
MW-28	2	<0.05	0.00	0.00	<0.1	2.4	97.5	104	4.01	4.21	22.4	<1	540	9.5	11.5	2.5	16.6	6.29	0.50	13.85	-131	5.95
MW-29	--	--	--	--	<0.1	14	0.297	0.372	0.641	0.569	110	<1	130	5.0	6.43	0.196	0.244	6.86	0.16	13.72	-327	2.72
MW-30	--	--	--	--	<0.1	16	0.738	0.354	0.123	0.0972	259	<1	120	2.0	8.59	0.153	0.062	6.98	0.00	13.22	-315	2.72

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)

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-1	3/88	370.30	355.30	<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
MW-2S	3/88	368.10	353.10	<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	365.10	350.10	<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)^^**	**4 J**	<10
	4/02			<12	<5	<5	<5	<10	**370 J**	<5	**1.7 J**	<5	<5
MW-3D	8/95	343.80	339.00	<1,000	<25 D	<25 D	<25 D	<25 D	<1,000	<25 D	**1 J**	**5 J**	**200 D**
MW-4S	3/88	365.50	350.50	<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***	3/88	363.30	348.30	<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** (Replaced by MW-6S)	1/89	365.50	355.90	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-7**	1/89	367.00	357.40	<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**	1/89	364.70	355.10	<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
MW-9**	1/89	365.60	356.00	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
MW-10**	1/89	355.50	345.90	<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**	1/89	355.10	345.50	<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	359.90	354.90	<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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-11D	12/94	349.80	344.80	<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** (Replaced MW-8D)	1/89	354.80	345.20	<100,000	<1,000	<1,000	<1,000	<1,000	**12,000**	<1,000	**67**	**410**	**120,000**
	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	368.70	359.10	<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***	1/89	359.00	349.40	<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	370.00	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***	1/89	350.80	341.20	<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-17*** (Replaced by MW-17R)	11/90	365.70	356.10	<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	<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)^^^**	**110 (<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-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	<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)^^^**	**200 D (<5)^^^**	<10
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	**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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-20***	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***	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
MW-23S	12/94	364.10	354.10	<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**	**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
MW-23I	12/94	341.20	336.20	<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	<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**

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-24S***	12/94	358.40	352.40	<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	<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^^^			NS	NS	NS	NS	NS	NS	NS	ND	ND	NS
MW-24D***	12/94	334.40	341.20	<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	<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^^^			NS	NS	NS	NS	NS	NS	NS	ND	ND	NS
MW-25S	8/95	361.20	356.20	<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

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*	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
MW-26	12/96	365.00	355.30	<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
MW-27	9/98	362.50	354.50	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
MW-28	9/98^	363.60	355.60	<5,000 J	<5,000	<5,000	<5,000	<5,000	2,200	<5,000	546 D	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
MW-29	9/98	362.90	345.90	<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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-30	9/98	363.50	355.50	<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
MW-31	9/98	363.70	355.40	<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
MW-32	9/98	364.00	356.00	<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
MW-33	9/98	344.10	356.10	<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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
MW-34	9/98	362.70	354.70	<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
MW-35	9/98	363.00	355.00	<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
MW-36	9/98	363.60	355.60	<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
TW-01	12/96	365.10	355.40	<10	**82**	**4 J**	**6 J**	**4 J**	<1,000	<10	**2,090 D**	**13**	**4J**
	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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
TW-02***	12/96	363.30	353.30	**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**
PZ-4D	11/89	350.80	345.90	<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
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)^^^**	<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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
PZ-5D	11/89	353.50	348.60	<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	<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
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	<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
PZ-8S ****	9/98	362.60	357.70	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
PZ-11D**	11/89	352.09	347.19	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-11S**	11/89	359.09	354.19	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-12D**	11/89	350.00	345.10	<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**	11/89	360.00	355.10	<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

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*	Methanol	Trichloro-ethene	Aniline	N,N-dimethyl-aniline	Methylene Chloride
PZ-13D***	11/89	349.40	344.40	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-13S***	11/89	359.50	354.50	<100	<1	**2**	<1	**2**	<1,000	<1	<11	<11	<1
NYSDEC Groundwater Standards (Part 700)				50	1	5	5	5	NA	5	5	5	5

Notes:

1. Concentrations are presented in micrograms per liter (ug/L), which is equivalent to parts per billion (ppb).
2. PLFA = Phospholipid fatty acids
3. AMSL = Above Mean Sea Level (NGVD of 1929)
4. * = Data presented is total xylenes (m- and p- xylenes and o-xylenes). For the 1995 data, the listed quantitation limit applies to the analyses conducted for m- and p- xylenes and o-xylenes.
5. ** = Wells/piezometers MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12D, PZ-11D, PZ-11S, PZ-12D, and PZ-12S were abandoned during OU No.1 soil remediation activities (1994).
6. *** = Wells/piezometers MW-5, MW-14D, MW-16D, MW-17, MW-20, MW-21, MW-24S, MW-24D, TW-02, PZ-13S, and PZ-13D were abandoned 11/97 - 1/98.
7. **** = Piezometer PZ-8S was decommissioned 8/2000.
8. ^ = MW-18, MW-19, MW-23I, MW-23S, MW24DR, MW-24SR, MW-28, PZ-5S, and PZ-5D wells/piezometers were resampled for aniline on 12/8/98 and 12/9/98, because the 9/98 results were rejected due to laboratory error.
9. < = Compound was not detected at the listed quantitation limit
10. D = Indicates the presence of a compound in a secondary dilution analysis.
11. J = The compound was positively identified; however, the numerical value is an estimated concentration only.
12. E = The compound was quantitated above the calibration range.
13. JN = The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
14. B = The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
15. NA = Not available.
16. Compounds detected are indicated by bold-faced type.
17. Detections exceeding New York State Department of Environmental Conservation (NYSDEC) Groundwater Standards (Part 700) are indicated by shading.
18. Replacement wells for MW-6, MW-8, MW-9, MW-10, MW-11, and MW-12D were installed 8/95.
19. Replacement wells for MW-17, MW-24S, MW-24D, and TW-02 were installed 11/97 - 12/97.
20. The laboratory analytical results for the duplicate sample collected from monitoring well MW-23S during the 7/99 sampling event, indicated the presence of methanol at 5.1 mg/l. Because methanol was not detected in the original sample, the duplicate results were determined, based on the results of the data validation process, to be unacceptable. Furthermore, methanol has not been previously detected in groundwater samples collected from this monitoring well. Accordingly, the detection of methanol appears to be the result of a laboratory error and not representative of actual groundwater quality in the vicinity of monitoring well MW-23S.
21. ^^ = Because aniline was detected at monitoring well MW-3S at a concentration of 690 ug/l during the September 2001 sampling event, this well was resampled for aniline on November 8, 2001. Aniline was detected in MW-3S during the November 8, 2001 resampling event at a concentration of 69 ug/l.
22. ^^^ = Monitoring wells MW-17R, MW-18, and PZ-4S were sampled for aniline and N,N-dimethylaniline on June 18, 2002 because N,N-dimethylaniline and/or aniline was detected during the April 2002 sampling event. The results of this additional sampling event are shown in parenthesis. MW-24SR and MW-24DR were also sampled for aniline and N,N-dimethylaniline on June 18, 2002 because N,N-dimethylaniline and/or aniline was detected at nearby perimeter monitoring locations during the April 2002 sampling event.
23. ND = Not detected.
24. NS = Not sampled.

Figures

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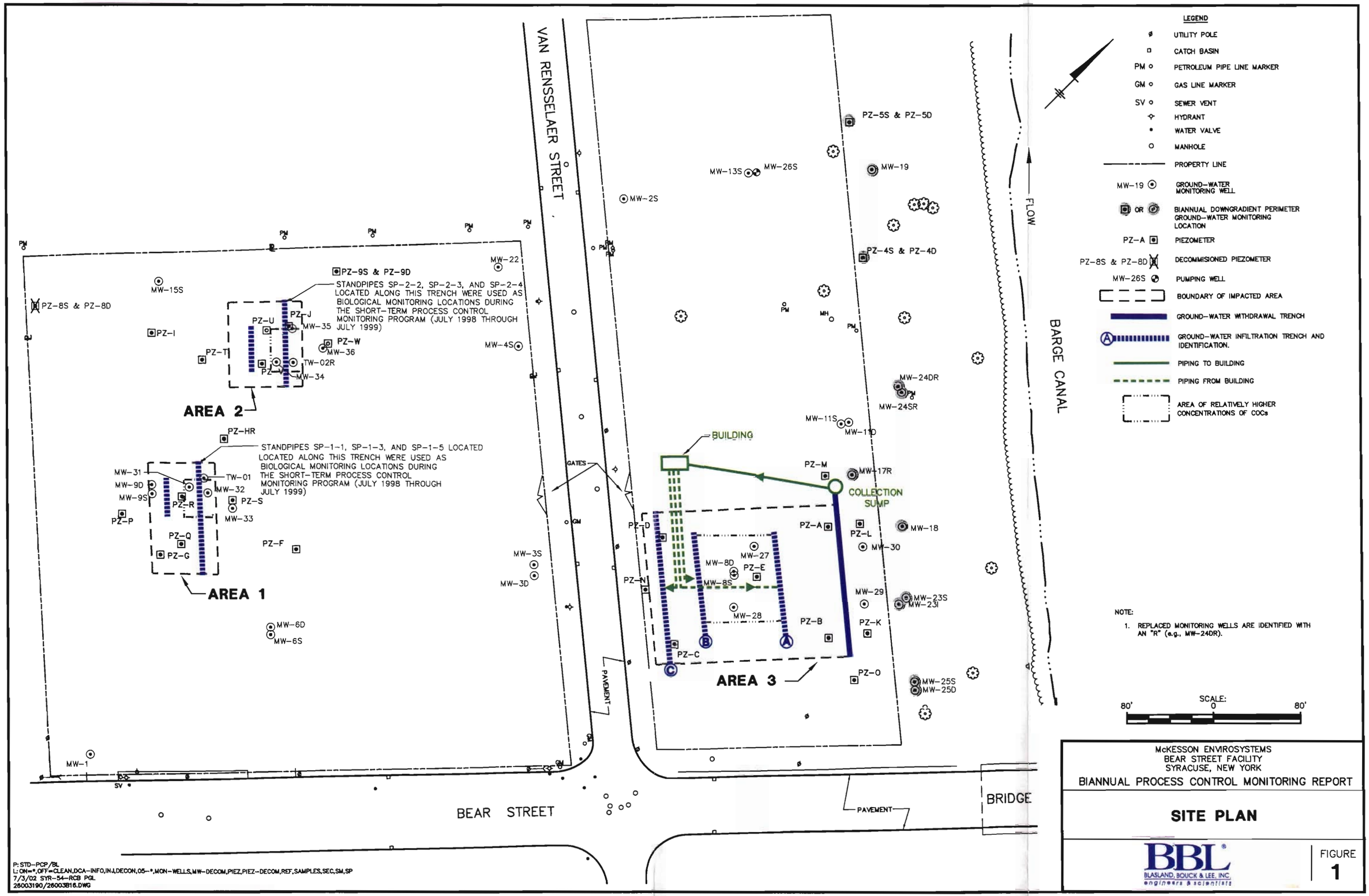
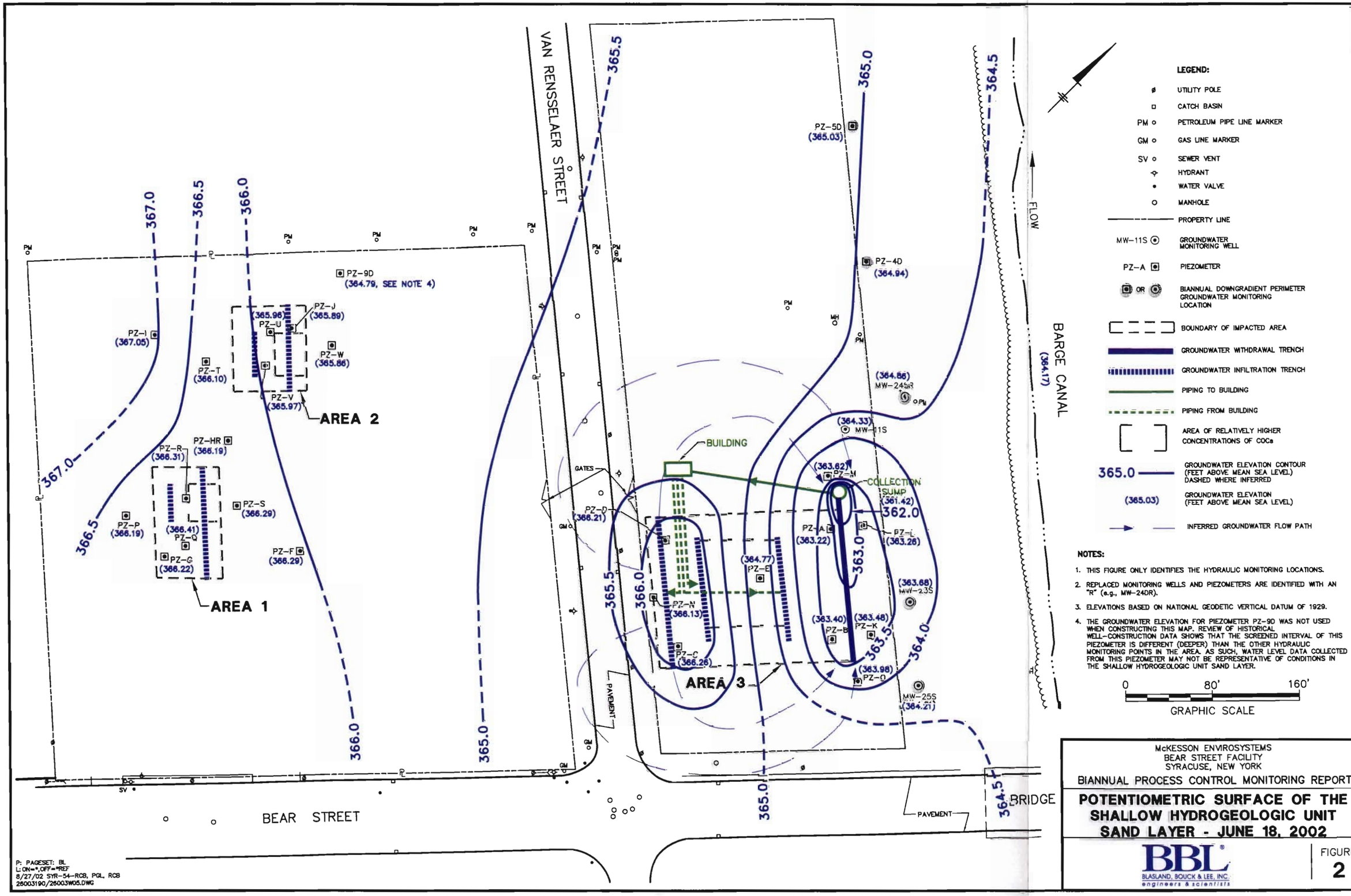

LEGEND
UTILITY POLE
CATCH BASIN
PM PETROLEUM PIPE LINE MARKER
GM GAS LINE MARKER
SV SEWER VENT
HYDRANT
WATER VALVE
MANHOLE
PROPERTY LINE
MW-19 GROUND-WATER MONITORING WELL
OR BIANNUAL DOWNGRADIENT PERIMETER GROUND-WATER MONITORING LOCATION
PZ-A PIEZOMETER
PZ-8S & PZ-8D DECOMMISIONED PIEZOMETER
MW-26S PUMPING WELL
BOUNDARY OF IMPACTED AREA
GROUND-WATER WITHDRAWAL TRENCH
GROUND-WATER INFILTRATION TRENCH AND IDENTIFICATION.
PIPING TO BUILDING
PIPING FROM BUILDING
AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs
VAN RENSSELAER STREET
BARGE CANAL
FLOW
BEAR STREET
BRIDGE
PAVEMENT
BUILDING
GATES
COLLECTION SUMP
AREA 1
AREA 2
AREA 3
PZ-9S & PZ-9D
STANDPIPES SP-2-2, SP-2-3, AND SP-2-4 LOCATED ALONG THIS TRENCH WERE USED AS BIOLOGICAL MONITORING LOCATIONS DURING THE SHORT-TERM PROCESS CONTROL MONITORING PROGRAM (JULY 1998 THROUGH JULY 1999)
STANDPIPES SP-1-1, SP-1-3, AND SP-1-5 LOCATED LOCATED ALONG THIS TRENCH WERE USED AS BIOLOGICAL MONITORING LOCATIONS DURING THE SHORT-TERM PROCESS CONTROL MONITORING PROGRAM (JULY 1998 THROUGH JULY 1999)
PZ-5S & PZ-5D
PZ-4S & PZ-4D
PZ-8S & PZ-8D
MW-1
MW-2S
MW-3S
MW-3D
MW-4S
MW-6D
MW-6S
MW-11S
MW-11D
MW-13S
MW-15S
MW-17R
MW-18
MW-19
MW-22
MW-23S
MW-23I
MW-24DR
MW-24SR
MW-25S
MW-25D
MW-26S
MW-27
MW-28
MW-29
MW-30
MW-31
MW-32
MW-33
MW-34
MW-35
MW-36
TW-01
TW-02R
PZ-A
PZ-B
PZ-C
PZ-D
PZ-E
PZ-F
PZ-G
PZ-I
PZ-J
PZ-K
PZ-L
PZ-M
PZ-N
PZ-O
PZ-P
PZ-Q
PZ-R
PZ-S
PZ-T
PZ-U
PZ-W
PZ-HR
NOTE:
1. REPLACED MONITORING WELLS ARE IDENTIFIED WITH AN "R" (e.g., MW-24DR).
SCALE:
80' 0 80'
McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK
BIANNUAL PROCESS CONTROL MONITORING REPORT
SITE PLAN
BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists
FIGURE 1
P: STD-PCP/BL
L: ON=*,OFF=CLEAN,DCA-INFO,IN,DECON,05-*,MON-WELLS,MW-DECOM,PIEZ,PIEZ-DECOM,REF,SAMPLES,SEC,SM,SP
7/3/02 SYR-54-RCB PGL
26003190/26003B16.DWG



LEGEND:

- UTILITY POLE
- CATCH BASIN
- PM — PETROLEUM PIPE LINE MARKER
- GM — GAS LINE MARKER
- SV — SEWER VENT
- HYDRANT
- WATER VALVE
- MANHOLE
- PROPERTY LINE
- MW-11S — GROUNDWATER MONITORING WELL
- PZ-A — PIEZOMETER
- OR — BIANNUAL DOWNGRADIENT PERIMETER GROUNDWATER MONITORING LOCATION
- BOUNDARY OF IMPACTED AREA
- GROUNDWATER WITHDRAWAL TRENCH
- GROUNDWATER INFILTRATION TRENCH
- PIPING TO BUILDING
- PIPING FROM BUILDING
- AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs
- 365.0 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL) DASHED WHERE INFERRED
- (365.03) — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- INFERRED GROUNDWATER FLOW PATH

NOTES:

1. THIS FIGURE ONLY IDENTIFIES THE HYDRAULIC MONITORING LOCATIONS.
2. REPLACED MONITORING WELLS AND PIEZOMETERS ARE IDENTIFIED WITH AN "R" (e.g., MW-24DR).
3. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
4. THE GROUNDWATER ELEVATION FOR PIEZOMETER PZ-9D WAS NOT USED WHEN CONSTRUCTING THIS MAP. REVIEW OF HISTORICAL WELL-CONSTRUCTION DATA SHOWS THAT THE SCREENED INTERVAL OF THIS PIEZOMETER IS DIFFERENT (DEEPER) THAN THE OTHER HYDRAULIC MONITORING POINTS IN THE AREA. AS SUCH, WATER LEVEL DATA COLLECTED FROM THIS PIEZOMETER MAY NOT BE REPRESENTATIVE OF CONDITIONS IN THE SHALLOW HYDROGEOLOGIC UNIT SAND LAYER.

0 80' 160'

GRAPHIC SCALE

McKESSON ENVIROSYSTEMS
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POTENTIOMETRIC SURFACE OF THE SHALLOW HYDROGEOLOGIC UNIT SAND LAYER - JUNE 18, 2002

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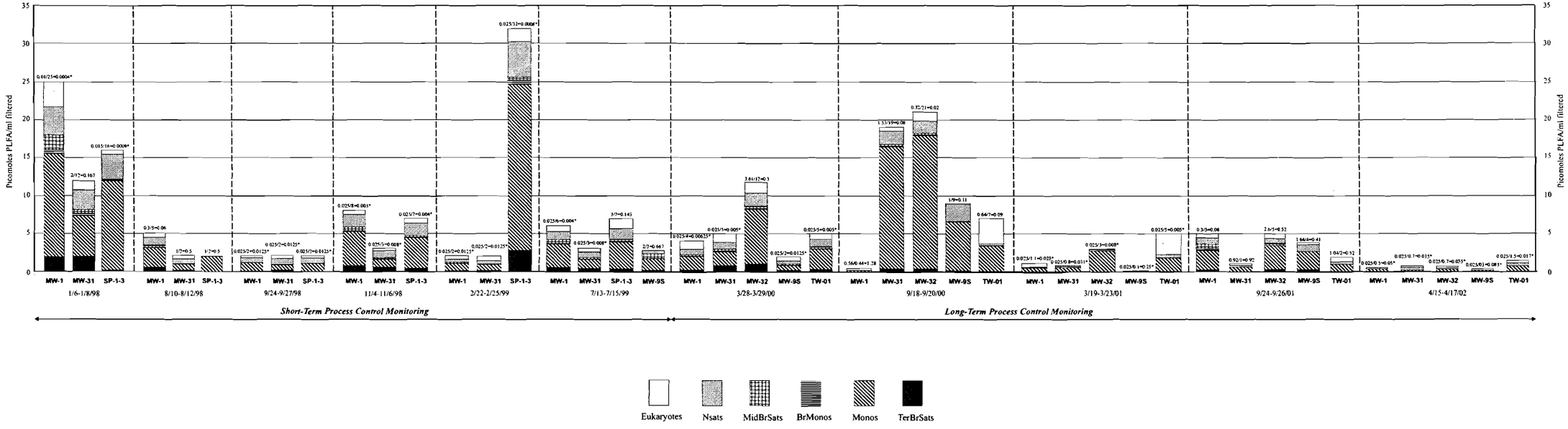
FIGURE 2

P: PAGESET: BL
L:ON=*;OFF=*REF
8/27/02 SYR-54-RCB, PGL, RCB
26003190/26003W05.DWG



NOTES:

1. Ratio above stacked bar graph is PHA to PLFA. PLFA/PHA 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.

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AREA 1 - BIOMASS PLFA DISTRIBUTION

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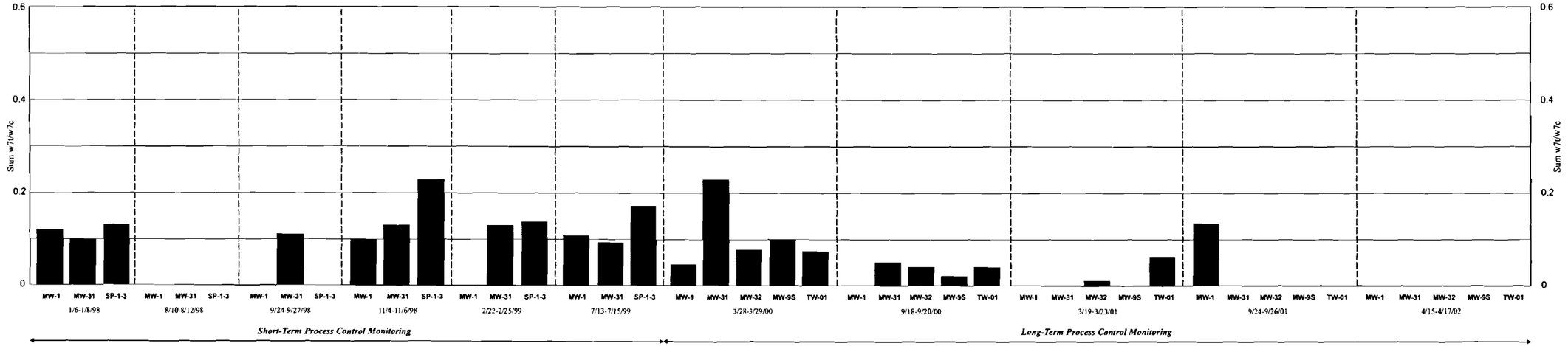
FIGURE 3

06/10/02 SYR-D54-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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AREA 1 - ENVIRONMENTAL STRESS

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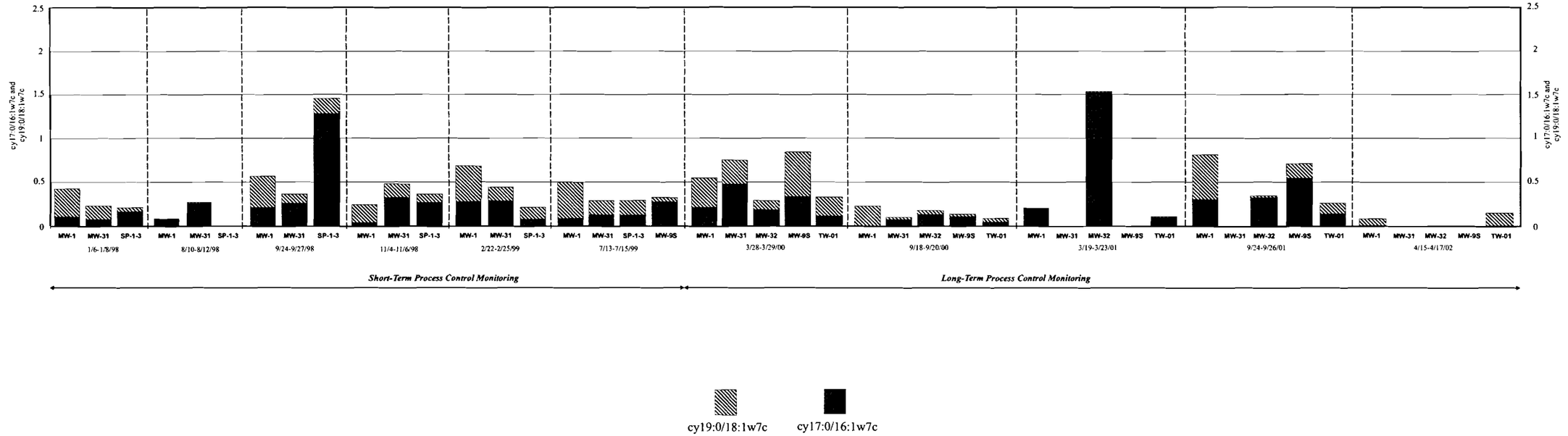
FIGURE 4

05/31/02 SYR-D54-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.

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BIANNUAL PROCESS CONTROL MONITORING REPORT

AREA 1 - TURNOVER RATE

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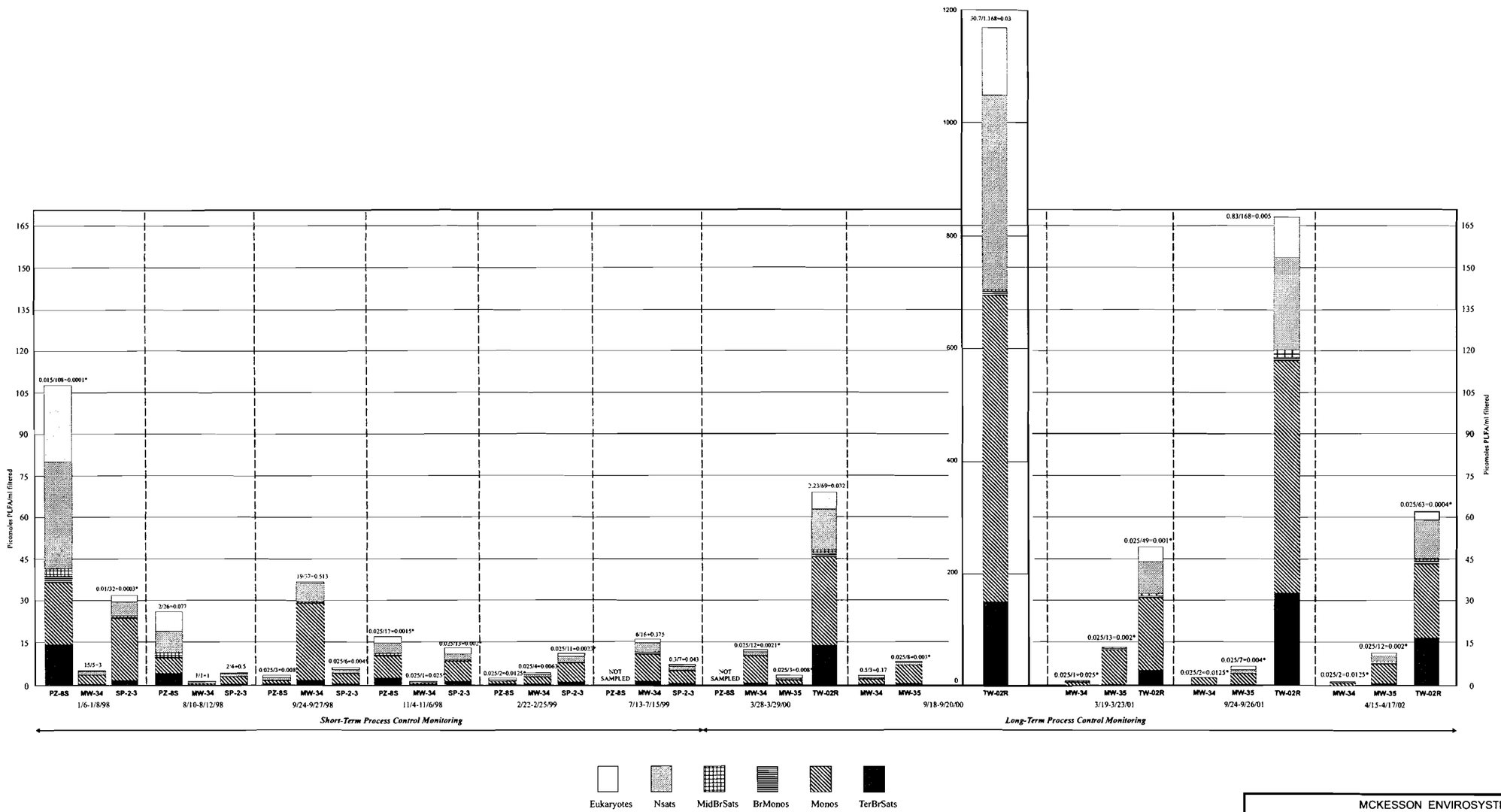
FIGURE 5

12/01 SYR-D54-DJH
26003190/26003n02.cdr



NOTES:

1. Ratio above stacked bar graph is PHA to PLFA. PLFA/PHA 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.

06/12/02 SYR-D54-DJH
26003190/26003n10.cdr

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AREA 2 - BIOMASS PLFA DISTRIBUTION

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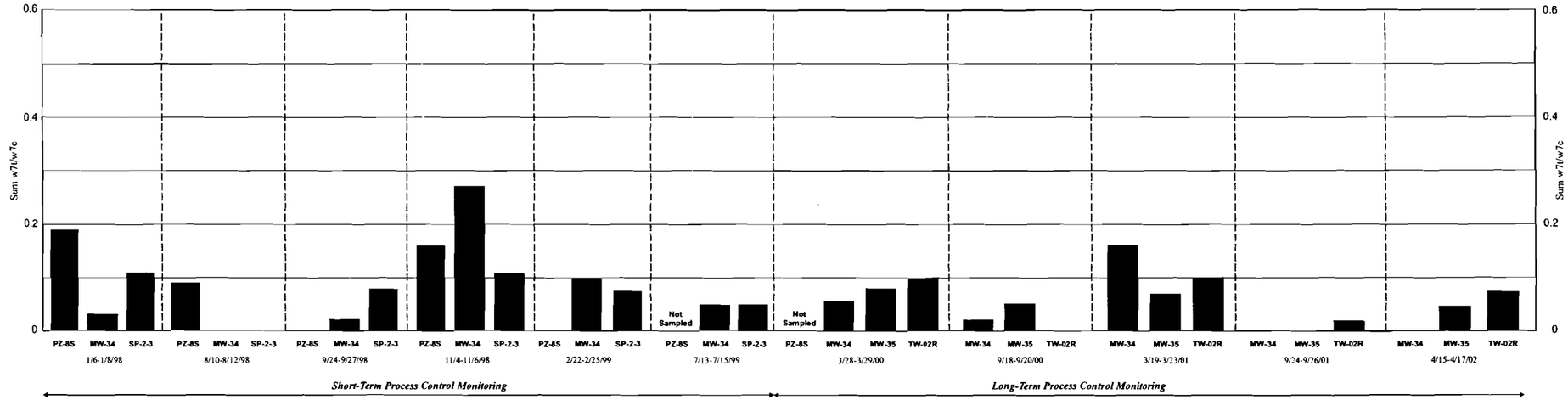
FIGURE 6



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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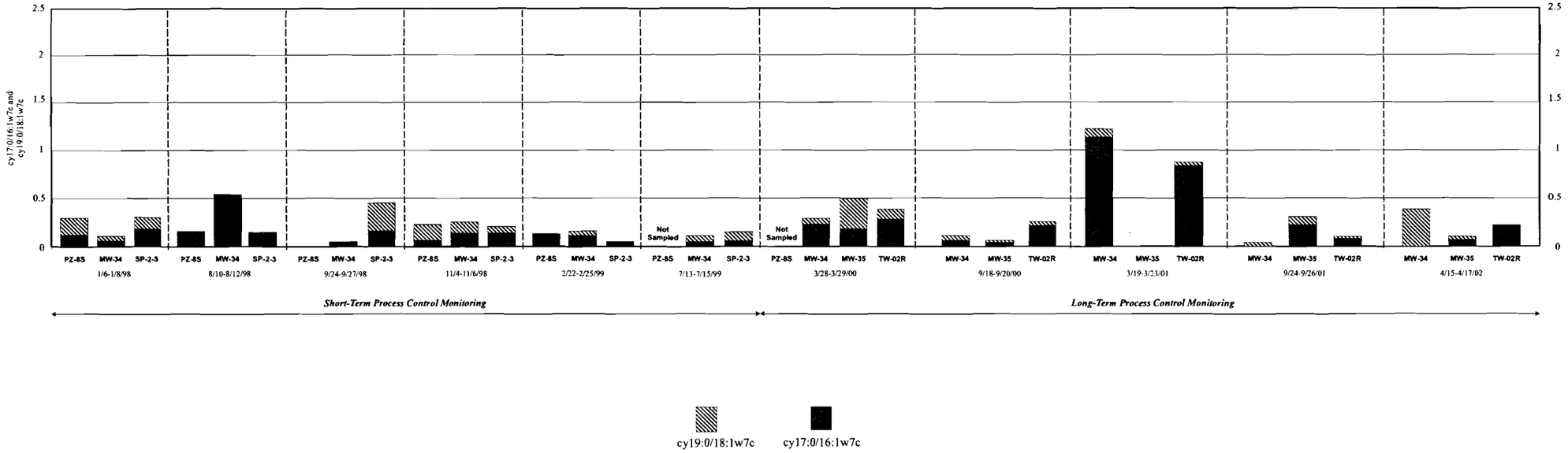
FIGURE 7

06/14/02 SYR-D54-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.

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BIANNUAL PROCESS CONTROL MONITORING REPORT

AREA 2 - TURNOVER RATE

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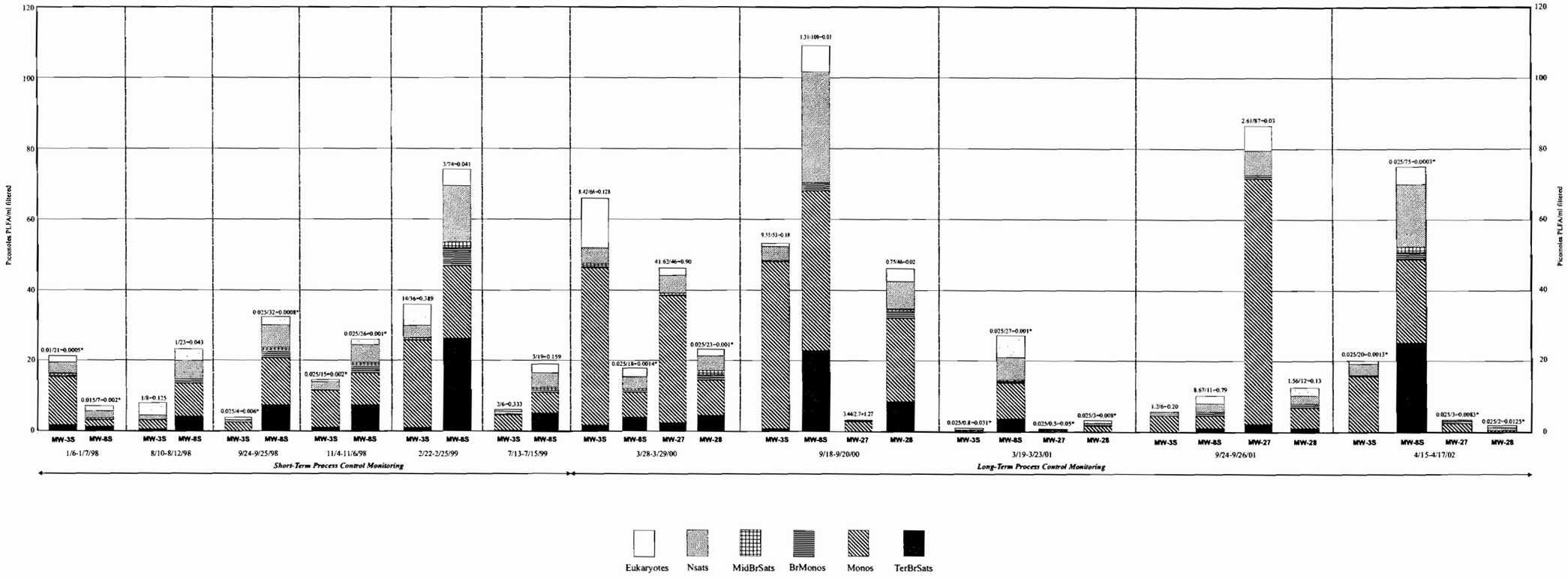
FIGURE 8

06/17/02 SYR-D54-DJH
26003190/26003n06.cdr



NOTES:

1. Ratio above stacked bar graph is PHA to PLFA. PLFA/PHA 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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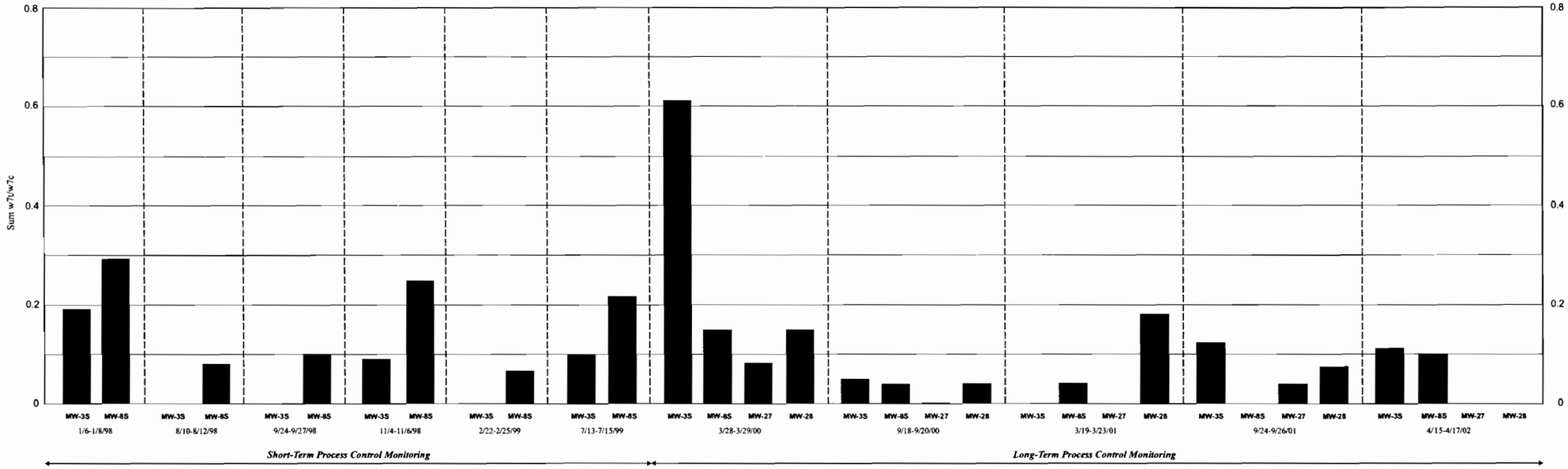
FIGURE 9

06/17/02 SYR-D54-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.

MCKESSON ENVIROSYSTEMS
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BIANNUAL PROCESS CONTROL MONITORING REPORT

AREA 3 - ENVIRONMENTAL STRESS

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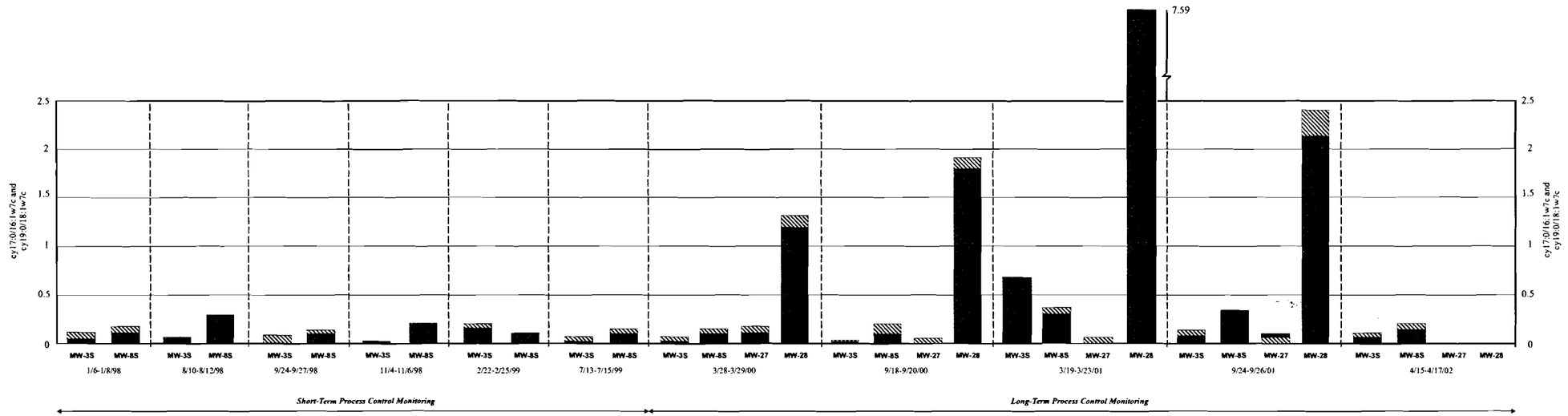
FIGURE 10

06/17/02 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.

MCKESSON ENVIROSYSTEMS
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SYRACUSE, NEW YORK

BIANNUAL PROCESS CONTROL MONITORING REPORT

AREA 3 - TURNOVER RATE

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FIGURE 11

06/17/02 SYR-D54-DJH
26003190/26003n07.cdr

TW-02R

Date	12/96	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	53	<500 J	<1,000	630	<1,000 J	190 J	81 J	57 J	240
Benzene	10	<500 J	<1,000	37 J	<1,000	28 J	19 J	25 J	18 J
Toluene	77	<500 J	190 J	240 J	160 J	95 J	85 J	70 J	85 J
Ethylbenzene	18	<500 J	<1,000	31 J	<1,000	35 J	26 J	31 J	23 J
Xylene	85	140 J	150 J	150 J	240 J	160 J	130 J	140 J	96 J
Methanol	<1,000	5,000	14,000 JN	<1,000	<1,000 J	<1,000	<1,000 J	<1,000	<1,000 J
Trichloroethene	585 D	1300 J	<1,000	55 J	<1,000	16 J	<10	<20	<5
Aniline	15,900 D	38,000 D	83,000 D	100,000 D	84,000 D	79,000 D	87,000 D	63,000 D	1,090,000 D
N,N-dimethylaniline	3,920 D	61,000 D	7,900 D	5,500 D	3,900 D	<10,000	3500 D	32 J	<5,300
Methylene Chloride	42,440 D	88,000 D	14,000 B	8,700 D	13,000 B	390 B	400 B	74 B	14 B

MW-34

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	2 J	<10 J	<10 J	<10	78 J	<32
Benzene	<10	0.9 J	1 J	<10 J	<10	2 J	<5
Toluene	<10	1 J	2 J	<10 J	2 J	2 J	<5
Xylene	<10	<10	<10	<10 J	2 J	2 J	<10
Aniline	83	580 D	200 D	320 D	700 D	76 J	840 D
N,N-dimethylaniline	<10	2 J	3 J	4 J	5 J	3 J	15 J

MW-35

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Benzene	<10	0.7 J	<10	<10 J	<10	<10	<5
Aniline	6 J	3 J	<10	<10	<10	<10	3 J
N,N-dimethylaniline	5 J	4 J	2 J	3 J	<10	2 J	4 J

MW-36

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	<10	8 J	<10 J	5 J	<10	54	<20
Benzene	<10	<10	0.8 J	<10	<10 J	<10	<10	<5
Aniline	290 D	860 D	250 D	80	8 J	<10	350 D	9 J
N,N-dimethylaniline	8 J	4 J	<10	7 J	6 J	<10	5 J	4 J
Methylene Chloride	<10	<10	<10	<10	2 J	<10	<10	<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
N,N-dimethylaniline	<10	<10	<10	<10	0.8 J	<10	<10	<12	<10	<10	<10	<10	<5

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
Aniline	<10	<10	<10	<10	<5	<5	<5	<10	<5	<5	<10	8 J (<5)**
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 J	3 J	<5 (<5)**

PZ-5S

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

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
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	<10	5 J	<10	<10	<10	<10	<10	<10	<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
Acetone	<100	<100	<100	<1,000	NA	11	<10	<10	<10	<10 J	<10	<10	<10
Benzene	<1	<1	<1	<5	<5	<10	<10	1 J	8	15	8	5 J	6
Trichloroethene	<1	<1	<1	<5	2J	<10	<10	<10	<10	<10 J	<10	<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	<1,000	620 J
Aniline	<10	<10	<10	<5	NA	<5	<5	<10	<5	24	<10	<10	150 (<5)**
N,N-dimethylaniline	<10	<10	<10	<10	NA	<10	<10	<10	<10	4 J	<10	<10	110 (<5)**
Methylene Chloride	<1	<1	<1	<11	<5	<10	<10	<10	<10	1 J	<10	<10	<5

MW-30

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	7 J	<10	<10	<10 J	<10	4 J	<10
Benzene	<10	<10	0.7 J	<10	<10 J	<10	2 J	<5
Trichloroethene	<10	<10	0.5 J	<10	<10 J	<10	<10	<5
Aniline	<10	<10	<10	15	5 J	8 J	8 J	250
N,N-dimethylaniline	<10	2 J	1 J	2 J	2 J	2 J	1 J	210
Methylene Chloride	<10	<10	<10	4 J	2 J	<10	<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
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
Aniline	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5

MW-18 (continued)

Date	9/00	3/01	9/01	4/02
Methanol	<1,000 J	<1,000	<1,000	720 J
Aniline	<10 J	<10	<10	280 D (<5)**
N,N-dimethylaniline	<10	<10	<10	200 D (<5)**

TW-01

Date	12/96	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02
Benzene	82	15	24	16	16	11	5	10	5 J
Toluene	4 J	<10	2 J	1 J	<10	<10 J	<10	<10	<5
Ethylbenzene	6	4 J	2 J	3 J	<10	<10 J	<10	<10	<5
Xylene	4 J	<10	2 J	<10	<10	<10 J	<10	<10	<10
Aniline	2,090 D	4,400 D	9,000 D	4,400 D	280 D	15	<10	<10	35
N,N-dimethylaniline	13	4 J	5 J	4 J	4 J	2 J	3 J	2 J	3 J
Methylene Chloride	4 J	<10	<10	<10	<10	<10 J	<10	<10	<5

MW-32

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	3 J	<10	<10 J	<10	<10	<15
Benzene	15	14	5 J	12	5 J	10	5 J
Toluene	2 J	2 J	<10	<10 J	<10	<10	<5
Ethylbenzene	5 J	4 J	<10	<10 J	<10	<10	<5
Xylene	3 J	<10	<10	<10 J	<10	<10	<10
Trichloroethene	<10	56	<10	<10 J	<10	<10	<5
Aniline	6,300 D	<10	800 D	4,500 D	3,900 D	3,100 D	4,820 D
N,N-dimethylaniline	4 J	3 J	<10	<10	2 J	2 J	3 J

MW-31

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	<10	<10	<10 J	21	<10	<14
Benzene	12	16	18	12	10	14	9
Aniline	34	230 D	3 J	10	<10	91 D	804 D
N,N-dimethylaniline	4 J	3 J	4 J	6	5 J	3 J	21

MW-9S

Date	1/89	11/89	11/91	8/95	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	1,600	<1,000	<100	<1,000	<10	<10	<10 J	<10	<10	<23
Benzene	NA	46	<10	110 D	46	32	13	1 J	10	10
Toluene	84	22	9	66 D	2 J	2 J	2 J	3 J	3 J	2 J
Ethylbenzene	130	50	10	60 D	8	5	3	6	2	6
Xylene	270	80	30	220 D	16	21	8	15	6	17
Methanol	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000 J	<1,000	<1,000	<1,000 J	370 J
Aniline	660	670	95	500	<10	2 J	1 J	2 J	<10	9
N,N-dimethylaniline	1,200	150	18	28	5 J	9	6	11	10	43
Methylene Chloride	1500	<10	<1	110 D	<10	<10	<10 J	<10	<10	<5

MW-33

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	<10	5 J	<10 J	45 J	17 J	21	<18
Benzene	<10	<10	2 J	<10	1 J	<20	5	3 J
Toluene	<10	<10	0.7 J	<10	1 J	<20	<10	<5
Aniline	9	120 J	150	51	540 D	1,300 D	1,900 D	2,700 D
N,N-dimethylaniline	6	8 J	6 J	2 J	23	16	32	27
Methylene Chloride	<10	<10	5 J	31	330 DJ	370 B	<18	19

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
Acetone	<100	<100	<100	<100	<100	<100	<1,000	<10	0.7 JN	<10	8 J	<10	<10	<12
Toluene	<1	<1	<1	<1	<1	<1	<5	<10	<10	<10	3 J	<10	<10	<5
Xylene	<1	<1	<1	<3	<3	<3	<5	<10	<10	<10	5 J	<10	<10	<10
Methylene Chloride	<1	<1	<1	<1	<1	<1	<11	<10	<10	<10	<10 J	10	<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

MW-35

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
Acetone	<100	<10,000	<10,000	2,900	<1,000	<10	<10	<10 J	<10 J	<10	<10	<12
Benzene	<1	<100	<100	10	<5	<10	1 J	<10	1 J	<10	3	<5
Toluene	<1	120	<100	10	<5	<10	0.7 J	<10	2 J	<10	8.07	<5
Ethylbenzene	<1	<100	<100	4	<5	<10	<10	<10	<10 J	<10	1 J	<5
Xylene	<1	<100	<100	31	<5	<10	<10	<10	<10 J	<10	2 J	<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
Trichloroethene	50	5,100	100	<10	<5	<10	<10	<10 J	<10	<10	<10	<5
Aniline	<10	<11	<52	790	15	<10	9	<10	2 J	<10	690 D	1.7 J
N,N-dimethylaniline	<10	5,570	440	170	2 J	<10	<10	<10	1 J	<10	4 J	<5
Methylene Chloride	110	4,700	2700	<10	<10	<10	<10	<10	<10 J	<10	<10	<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
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
Benzene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	22	<100,000	<50,000 J	<50,000	<400	50
Toluene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	240	<100,000	<50,000 J	<50,000	430	210
Ethylbenzene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	58	<100,000	<50,000 J	<50,000	170	100
Xylene	<10,000	<10,000	<10,000	<250,000 D	<10,000	<20,000	220	<100,000	<50,000 J	<50,000	880	400
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
Trichloroethene	<10,000	<10,000	<10,000	60,000 JD	3,300 D	11,000	11,000	11,000 J	<100,000	9,200	16,000 JD	9,600 J
Aniline	2,900	8,500	8,000	<25,000 D	1,200 J	30,000 D	24,000 D	82,000 D	42,000 J	90,000 D	21,000 JD	793,000 D
N,N-dimethylaniline	24,000	52,000	33,000	380,000 D	26,000 D	120,000 D	77,000 D	270,000 D	59,000 J	120,000 D	29,000 D	773,000 D
Methylene Chloride	3,200,000	2,800,000	1,600,000	7,700,000 D	140,000 B	650,000 D	450,000 D	1,300,000 D	540,000 BJ	990,000 D	440,000 BD	680,000 D

MW-27

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	23	<10 J	<10 J	<10 J	<10	<10	<18
Benzene	3 J	4 J	6	4 J	5 J	5 J	3 J
Toluene	4 J	2 J	<10	<10	<10	<10	11
Ethylbenzene	<10	3 J	8 J	3 J	5 J	2 J	12
Xylene	3 J	8 J	2 J	1 J	2 J	<10	26
Aniline	340 DJ	740 D	110 D	16 J	280 D	28	176,000 DJ
N,N-dimethylaniline	<10	<10	1 J	2 J	2 J	<10	19 J
Methylene Chloride	<10	<10	<10	1 J	<10	<10	<5

MW-28

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Benzene	<5,000	<500	<10,000	<1,000 J	<400	<400	8
Toluene	<5,000	<500	<10,000	<1,000 J	<400	<400	6
Ethylbenzene	<5,000	<500	<10,000	<1,000 J	<400	<400	9
Xylene	<5,000	<500	<10,000	<1,000 J	<400	<400	10
Methanol	2,200	<1,000	<1,000 J	<1,000 J	<1,000	<1,000 J	<1,000
Aniline	546 D	1,100 D	1,300 D	540 DJ	3,200 D	1,000 D	33,400 D
N,N-dimethylaniline	54	40	30	<10	7 J	<10	57
Methylene Chloride	84,000 J	39,000 D	130,000 J	8,100 BJ	5,900 B	4,700 B	4,600 D

MW-250

Date	8/95	10/95	8/96	8/97	2/99	3/00	9/00	3/01	4/02
Acetone	<1,000	NA	15	<10	<10	<10	<10	<10	<10
Trichloroethene	<5	3 J	<10	<10	<10	<10	<10	<10	<5
N,N-dimethylaniline	1 J	<10	<10	<11	<10	<10	<10	<10	<5
Aniline	<5	<5	<5	<5	<5	<10	<5	5 J	<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
Aniline	<5	<5	<5	<5	130	110	5 J	<5	<10 J	<10	<10	<5
N,N-dimethylaniline	0.7 J	<10	<10	<10	<10	210	<10	<10	<10	<10	<10	<5

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
Acetone	<10	<1,000	<1,000	<10	<10	12	<10	<10	<10 J	<10 J	<10	<10	<10	<10
Aniline	<5	<5	<5	7	18	92	56	<10	<10 J	<10	<5	<10	<10	<5
N,N-dimethylaniline	<10	<10	<10	<10	<10	<10	23	10	2 J	<10	2 J	<10	<10	<5

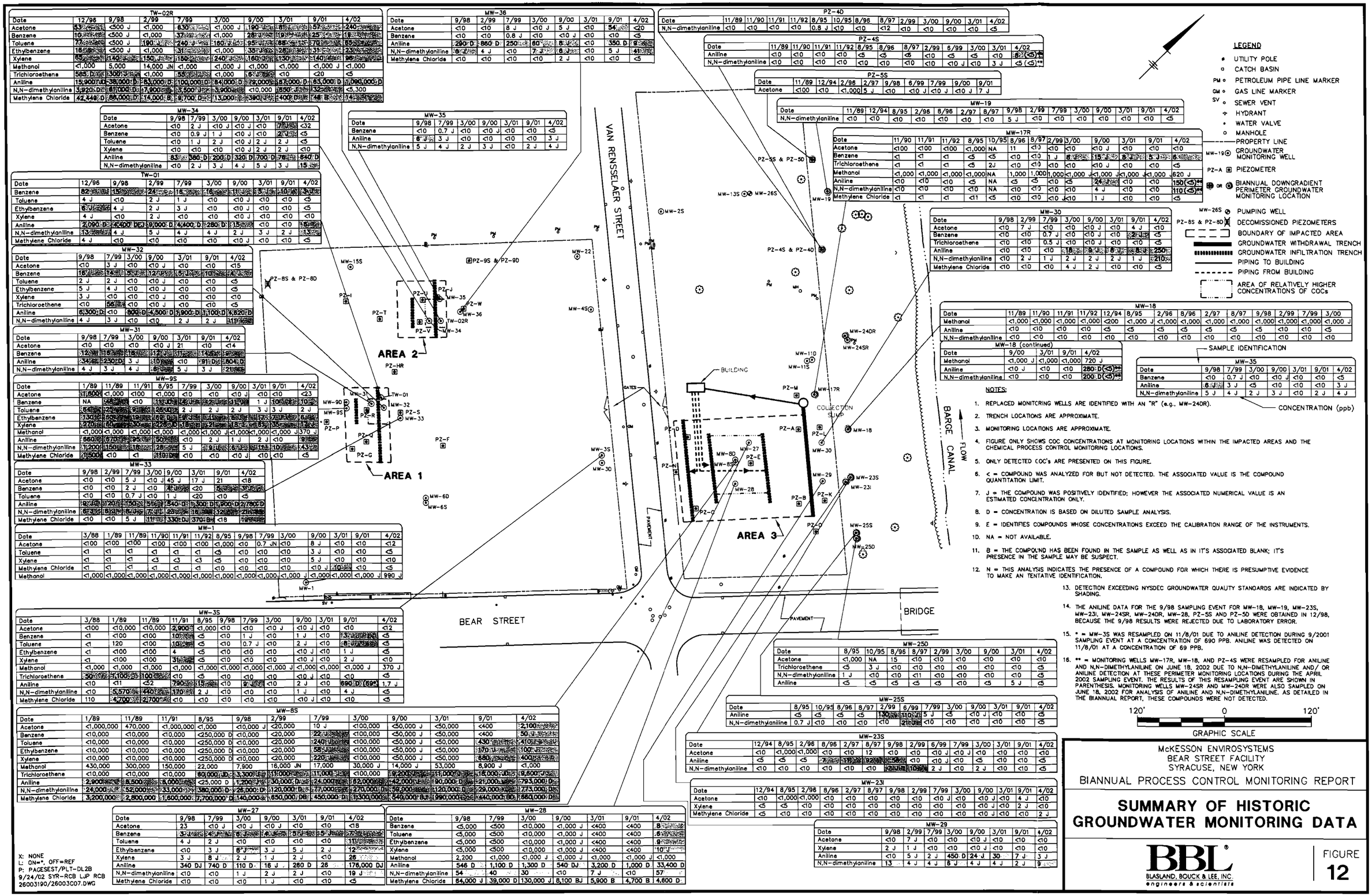
MW-23I

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
Acetone	<10	<1,000	<1,000	<10	<10	<10	<10	<10	<10 J	<10	<10 J	<10	4 J	<10
Xylene	<5	<5	<10	<10	<10	<10	<10	<10	<10	<10	<10 J	<10	2 J	<10
Methylene Chloride	<5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 J	<10	<10	2 J

MW-29

Date	9/98	2/99	7/99	3/00	9/00	3/01	9/01	4/02
Acetone	<10	7 J	<10	<10	<10 J	<10	<10	<10
Xylene	2 J	1 J	<10	<10	<10 J	<10	<10	<10
Aniline	<10	5 J	2 J	450 D	24 J	30	7 J	3 J
N,N-dimethylaniline	13	4 J	4 J	8 J	4 J	4 J	2 J	9

X: NONE
L: ON=*, OFF=REF
P: PAGESEST/PLT-DL2B
9/24/02 SYR-RCB L4P RCB
26003190/26003C07.DWG



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
- MW OR PZ — BIANNUAL DOWNGRADIENT PERIMETER GROUNDWATER MONITORING LOCATION
- MW-26S — PUMPING WELL
- PZ-8S & PZ-8D — DECOMMISSIONED PIEZOMETERS
- BOUNDARY OF IMPACTED AREA
- GROUNDWATER WITHDRAWAL TRENCH
- GROUNDWATER INFILTRATION TRENCH
- PIPING TO BUILDING
- PIPING FROM BUILDING
- AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs

SAMPLE IDENTIFICATION

MW-35

Date	9/98	7/99	3/00	9/00	3/01	9/01	4/02
Benzene	<10	0.7 J	<10	<10 J	<10	<10	<5
Aniline	6 J	3 J	<5	<10	<10	<10	3 J
N,N-dimethylaniline	5 J	4 J	2 J	3 J	<10	2 J	4 J

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 IT'S ASSOCIATED BLANK; IT'S 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 QUAUTY STANOARDS 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.

120' 0 120'

GRAPHIC SCALE

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK

BIANNUAL PROCESS CONTROL MONITORING REPORT

SUMMARY OF HISTORIC GROUNDWATER MONITORING DATA

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

FIGURE 12