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Syracuse

Subject:

McKesson Envirosystems Bear Street Site Syracuse, New York Site No. 07-34-020

Date:

June 8, 2007

Contact:

David J. Ulm

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Our ref:

B0026003.0000

Dear Mr. Mateunas:

This Biannual Process Control Monitoring Report (Biannual Report) for the McKesson Envirosystems, Bear Street Site (the site), located at 400 Bear Street in Syracuse, New York, has been prepared by ARCADIS of New York, Inc. (ARCADIS 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 of July 2006 through December 2006. 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 (Site O&M Plan) (BBL, Revised August 1999a) and a December 29, 1999, letter from David J. Ulm of ARCADIS BBL (formerly Blasland, Bouck & Lee, Inc. [BBL]) to Michael J. Ryan, P.E., of NYSDEC presenting the long-term process control monitoring program as an addendum to the Site O&M Plan (BBL, 1999b). The Site O&M Plan and the addendum are collectively referred to herein as the Site O&M Plan.

The site is divided into two operable units (OUs): OU No. 1 - Unsaturated Soil, and OU No. 2 - Saturated Soils and Groundwater. As a part of the NYSDEC-selected remedy for both of these OUs, 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 NYSDEC in biannual reports. A site description and history, along with a description of the remedial actions completed and the ongoing O&M activities, are detailed in the previous biannual

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reports, including BBL's August 2001 Biannual Report covering the period from July 2000 through December 2000 (BBL, 2001). That information has not changed and is, therefore, not repeated herein.

In the Biannual Report for the July 2005 to December 2005 reporting period, modifications to the existing treatment activities were proposed for Areas 1, 2 and 3. The modifications were based on the slow rate of aniline anaerobic biodegradation and its continued elevated concentration in groundwater samples, as seen in the November 2005 groundwater sampling results. An in-situ aerobic bioremediation treatment program was proposed as an alternate approach to lower aniline concentrations at each area, and consists of replacing the Revised Anaerobic Mineral Media (RAMM) and Suga-Lik® (Blackstrap Molasses) with an oxygen source and macronutrients. In July 2006, NYSDEC (Mark Mateunas) verbally approved this modification. The modifications were implemented in August 2006 and are briefly summarized in this report.

During this reporting period (July 2006 through December 2006), 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 775,700 gallons of water were pumped from the withdrawal trench and introduced into the Area 3 infiltration trenches, as detailed herein.

NYSDEC was notified of the November 2006 process control monitoring event (including hydraulic and chemicals of concern [COC] monitoring) prior to the commencement of the monitoring activities.

The information provided in this Biannual Report has been organized into the following sections:

- I. RAMM and Suga-Lik® Introduction Activities A description of the RAMM and Suga-Lik® introduction activities conducted in July 2006.
- II. In-situ Aerobic Bioremediation Treatment Program Activities A
  description of the in-situ aerobic bioremediation treatment program activities
  conducted between August 2006 and December 2006.

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- III. Hydraulic Process Control Monitoring A description of the results of the hydraulic control monitoring activities conducted between July 2006 and December 2006.
- IV. Intermediate Monitoring Event, COC Process Control and Biannual
   Groundwater Monitoring Program A description of the September 2006
   intermediate sampling results, the November 2006 results of the COC process
   control and Biannual Groundwater Monitoring Program, and a summary of the
   COC data obtained at the site from 1989 through December 2006.
- V. Conclusions Conclusions based on the results of the process control monitoring activities.
- VI. Recommendations Recommendations for the in-situ aerobic bioremediation treatment program and monitoring activities.
- I. RAMM and Suga-Lik® Introduction Activities

The RAMM and Suga-Lik® introduction activities listed below were conducted in July 2006. See Figure 1 for referenced locations.

- Introduced approximately 100 gallons of RAMM-amended groundwater into each of the three areas.
- Added Suga-Lik<sup>®</sup> with RAMM into the two Area 1 infiltration trenches by manually filling each of the standpipes located in the infiltration trenches.
   Suga-Lik<sup>®</sup> 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<sup>®</sup> provides electron donors, while RAMM provides nutrients and electron acceptors.
- Introduced RAMM and Suga-Lik<sup>®</sup> into three piezometers (PZ-G, PZ-Q and PZ-R) located within the shallow hydrogeologic unit of Area 1 to better distribute a readily degradable carbon source that otherwise may not reach these areas if distributed through the infiltration trenches only.
- Introduced RAMM into piezometer PZ-S, well point WP-4 and well point WP-5 located downgradient of Area 1, near monitoring well MW-33.

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- Introduced RAMM and Suga-Lik<sup>®</sup> into piezometer PZ-W located downgradient of Area 2, near monitoring well MW-36.
- Introduced RAMM and Suga-Lik<sup>®</sup> into six well points (WP-1, WP-2, WP-3, WP-6, WP-7 and WP-8) within Area 3, near monitoring wells MW-27 and MW-28.

Approximately 10 gallons of the RAMM/Suga-Lik® solution was introduced into each of the aforementioned piezometers and well points, and approximately 100 gallons of RAMM and/or Suga-Lik® solution was introduced into Areas 1, 2 and 3. The amount of Suga-Lik® added to the RAMM was proportional to the levels of COCs detected, at the dilution ratio of approximately 1,000:1.

Pursuant to the Biannual Report for the period between July 2005 and December 2005, the in-situ anaerobic bioremediation treatment program was discontinued in July 2006 and the in-situ aerobic bioremediation treatment program described below was initiated in August 2006.

#### II. In-situ Aerobic Bioremediation Treatment Program Activities

An in-situ aerobic bioremediation treatment program was approved as an alternate approach to lowering aniline concentrations at each area. This treatment program consists of replacing the RAMM and Suga-Lik® with an oxygen source and macronutrients. The oxygen source is dilute hydrogen peroxide ( $H_2O_2$ ), and the macronutrients include nitrogen and phosphorus in the form of Miracle-Gro®. This modification is anticipated to change the environmental conditions in the shallow hydrogeologic unit, switching the reducing (anaerobic) conditions to oxidizing (aerobic) conditions. The potential for aerobic biodegradation of aniline at the site was established during the successful in-situ biodegradation of unsaturated soils performed in 1994/1995 and confirmed in the treatability study conducted in 1996 (BBL, 1996). Under oxidizing conditions, the other COCs present at the site are also anticipated to continue to degrade.

The in-situ aerobic bioremediation treatment program was initiated on August 10, 2006. The following activities were conducted (see Figure 1 for referenced locations).

 Added H<sub>2</sub>O<sub>2</sub>/nutrient-amended groundwater into the infiltration trenches in Areas 1, 2 and 3 twice per week for the first 4 weeks. Following this 4-week

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program, the  $H_2O_2$ /nutrient-amended groundwater was injected once per week.

- Added H<sub>2</sub>O<sub>2</sub>/nutrient-amended groundwater into piezometers in Area 1 (PZ-G, PZ-Q and PZ-S), Area 2 (PZ-W) and Area 3 (PZ-E); and to well points in Area 1 (WP-4 and WP-5) and Area 3 (WP-1, WP-2, WP-3, WP-6, WP-7 and WP-8) to better distribute dissolved oxygen (DO) into the shallow hydrogeologic unit.
- Measured DO levels in the field once per week in Area 1 (MW-33) and Area 3 (MW-27 and MW-28).

The  $H_2O_2$ /nutrient-amended groundwater injection process is consistent with the previous RAMM introduction activities at each area.  $H_2O_2$  was added to the groundwater at a concentration of 100 parts per million (ppm), and nutrients were added at a carbon:nitrogen:phosphorus ratio of 50:25:10. The effectiveness of aerobic biodegradation and its continuous application is assessed in Section V using the aniline and DO data collected from the June and November 2006 biannual sampling events and the September 2006 intermediate sampling event.

#### III. Hydraulic Process Control Monitoring

As part of the hydraulic process control monitoring activities, 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 in and around each of the three areas. Additionally, a surface 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 October 30, 2006. The monitoring locations are shown on Figure 1.

Table 1 summarizes the groundwater-level measurements obtained during the October 2006 hydraulic monitoring event, as well as those obtained since June 1998 (immediately prior to commencing the in-situ anaerobic bioremediation treatment activities). Figure 2 depicts the potentiometric surface of the site's shallow hydrogeologic unit using the October 30, 2006 data set. Site-wide groundwater elevations for this round were generally the highest since startup of the treatment system. One explanation may be the fact that Syracuse received a significant rainfall (i.e., 1.15 inches) two days prior to the monitoring event. The

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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 1.25 gallons per minute (gpm) to 4.32 gpm from July 2006 through December 2006.
- The withdrawal of groundwater continues to induce a hydraulic gradient in Area 3 from perimeter monitoring wells MW-23S and MW-17R toward the withdrawal trench. Due to the unusually high groundwater levels at the time of monitoring (October 30, 2006), there was not a hydraulic gradient from perimeter monitoring well MW-25S toward the trench. This condition is expected to be short lived based on the historical operational data set for the site.
- In Area 3, approximately 75% of the recovered groundwater continues to be introduced to the secondary infiltration trench "B" and the remaining 25% continues to be introduced to the secondary infiltration trench "A." This introduction of recovered groundwater into the secondary infiltration trenches typically increases the rate at which H<sub>2</sub>O<sub>2</sub>/nutrient-amended groundwater moves through the area of relatively higher concentrations of COCs (between the secondary infiltration and recovery trenches). At the time that the site-wide round of water-level data was collected, the level for piezometer PZ-E suggested a slight groundwater mound existed at this location between the injection trenches in Area 3. The presence of a slight mound would indicate that, at the time the water-level data were collected, there may not have been an increased hydraulic gradient across the area of relatively higher COC concentrations. Although groundwater levels were generally above average for all site wells, the magnitude of the rise at PZ-E appears to be slightly greater than the other wells. This condition may be due to preferential recharge of precipitation in the area near PZ-E during higher rainfall events. Regardless of the cause, this condition is expected to be short-lived, based on the historical operational data set.
- The hydraulic data obtained over the 8-year operating history of the treatment system in Area 3 has consistently indicated no discernable effect on the hydraulic gradient of the deep hydrogeologic unit.

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• The weekly conductivity measurements of groundwater pumped from the withdrawal trench in Area 3 ranged from 1.29 millisiemens per centimeter (mS/cm) to 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 the operation of the Area 3 treatment system has not caused the freshwater/saltwater interface to upcone to the base of the withdrawal trench.

# IV. Intermediate Monitoring Event, COC Process Control and Biannual Groundwater Monitoring Program

To monitor the effectiveness of the in-situ aerobic biodegradation treatment program an intermediate monitoring event was performed on September 12, 2006. Aniline and N,N-dimethylaniline were analyzed for each sample. The monitoring locations are shown in Table 2. In addition, upon commencement of the in-situ aerobic biodegradation treatment program, DO levels were measured on weekly basis at monitoring locations MW-27, MW-28 and MW-33. Table 3 summarizes these DO measurements.

The COC process control and Biannual Groundwater Monitoring Program activities were conducted on October 30, 2006 through November 1, 2006, in accordance with the long-term COC process control monitoring program presented in the Site O&M Plan. In addition, the following groundwater quality parameters were also measured in the field during the November 2006 COC sampling event: temperature, conductivity, DO, and oxidation/reduction potential (ORP). The existing monitoring wells and piezometers that were used to conduct the long-term process control monitoring program and a schedule for implementing this program are provided in Table 4. The monitoring locations are shown on Figure 1.

In accordance with the requirements of the NYSDEC-approved monitoring program, laboratory analytical results for the September 2006 and November 2006 samples were validated. A summary of the validated COC groundwater analytical results is presented in Table 5 and shown on Figures 3 and 4. These figures also present the COC groundwater analytical results obtained during the biannual monitoring events conducted since October 2003, collectively presenting the results obtained after the first five years of implementing the in-

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situ anaerobic bioremediation treatment activities and the first half year of the aerobic bioremediation treatment. The COC groundwater analytical results obtained prior to October 2003 are presented in Attachment A. Copies of the validated analytical laboratory reports associated with the September 2006 and the November 2006 sampling events are presented in Attachment B. A summary of the COC analytical results and DO measurements is provided below for each of the three areas and the downgradient perimeter monitoring locations. The presence or absence of non-aqueous phase liquid (NAPL) was also assessed in existing monitoring wells and piezometers during the process control monitoring event. NAPL was not identified in any of the monitoring wells or piezometers used during the process control monitoring program.

#### Area 1

- As shown on Figure 3 and in Attachment A, the COC concentrations detected in groundwater samples collected from monitoring wells within Area 1 during June, September and November 2006 were generally low, ranging from not detected to concentrations just slightly greater than their respective NYSDEC Groundwater Quality Standard, with the exception of aniline concentrations detected in the groundwater samples collected at MW-33. All COC concentrations detected at monitoring wells within Area 1 were approximately the same or decreased over the three sampling events.
- The aniline concentrations detected at MW-33 increased from 370 parts per billion (ppb) in June 2006 to 940 ppb in September 2006; however, the aniline concentration decreased to 84 ppb in November 2006, which is the lowest aniline concentration detected at MW-33 since May 2003. Aniline was not detected in the groundwater sample collected from the monitoring well located downgradient of MW-33 (i.e., MW-3S).
- Weekly DO levels were measured at MW-33 from August 28, 2006 to December 14, 2006 and are summarized in Table 3. The DO levels ranged from 0.16 to 0.57 ppm; however, aerobic conditions in groundwater are generally indicated when DO levels are greater than 2 ppm.

#### Area 2

 As shown on Figure 3 and in Attachment A, the COC concentrations detected in groundwater samples collected from monitoring wells within Area 2 were

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generally low, with the exception of the aniline concentrations detected in the groundwater samples collected from TW-02RR and MW-36.

- The aniline concentration detected at TW-02RR decreased from 10,000 ppb in June 2006 to 7,600 ppb in September 2006. The aniline concentration continued to decrease in November 2006 to 2,100 ppb, which is the lowest aniline concentration detected at TW-02RR since November 2003. No other COCs, except benzene, xylene and acetone, were detected at concentrations greater than their respective NYSDEC Groundwater Quality Standard in the June and November 2006 groundwater samples collected at this location. The benzene and xylene concentrations were consistent between June and November 2006 sampling events; however, the only acetone concentration to exceed the NYSDEC Groundwater Quality Standard (50 ppb) was detected in November 2006 (78 ppb).
- The aniline concentrations detected at MW-36 decreased from 76 ppb in June 2006 to 3.5 ppb in September 2006, which is below the NYSDEC Groundwater Quality Standard of 5 ppb; however, the aniline concentration increased to 420 ppb in November 2006. No other COCs, except benzene, N,N-dimethylaniline and acetone, were detected at concentrations greater than their respective NYSDEC Groundwater Quality Standard in the June, September and November 2006 groundwater samples collected at this location. The benzene and N,N-dimethylaniline concentrations were consistent between the June and November 2006 sampling events; however, acetone was detected at a concentration that exceeded the NYSDEC Groundwater Quality Standard (50 ppb) only in the groundwater sample collected in November 2006 (130 ppb).
- No DO levels were measured in Area 2 during this reporting period.

#### Area 3

- As presented on Figure 4 and in Attachment A, the concentrations of COCs detected in groundwater samples collected from monitoring wells within Area 3 were generally consistent during the June, September and November 2006 sampling events.
- Monitoring well MW-8SR is located in the center of Area 3 and within the area that has been identified as containing relatively higher concentrations of COCs

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(Figure 4). The aniline concentrations detected at MW-8SR increased from 23,000 ppb in June 2006 to 52,000 ppb in September 2006; however, the aniline concentration decreased to 28,000 ppb in November 2006. The other COCs detected at concentrations greater than their respective NYSDEC Groundwater Quality Standard in the groundwater sample collected from MW-8SR in November 2006 were consistent with previously detected concentrations.

- The aniline concentrations detected at MW-27 decreased from 14,000 ppb in June 2006 to 1,700 ppb in September 2006; however, the aniline concentration increased to 33,000 ppb in the groundwater sample collected during the November 2006 event. The other COCs detected in the groundwater sample collected from MW-27 in November 2006 were relatively low and consistent with previously detected concentrations.
- Monitoring well MW-28 is also located within Area 3 and historically exhibited relatively higher concentrations of methylene chloride and aniline. The aniline concentrations detected at MW-28 decreased from 430 ppb in June 2006 to 280 ppb in September 2006; however, the aniline concentration increased to 1,000 ppb in November 2006. The other COCs have generally not been detected in groundwater samples collected from MW-28, or detected at concentrations just slightly greater than their respective NYSDEC Groundwater Quality Standard.
- The aniline concentrations detected at MW-30 decreased from 240 ppb in June 2006 to 29 ppb in September. The aniline concentration detected in the groundwater sample in November 2006 increased to 200 ppb. No other COCs were detected in this sample at concentrations greater than their respective NYSDEC Groundwater Quality Standard. Prior to June 2006, aniline has not been detected above the NYSDEC Groundwater Quality Standard (5 ppb) at this location. Aniline was not detected in groundwater samples collected from MW-18, which is a perimeter monitoring well location downgradient of MW-30.
- Weekly DO levels were measured at MW-28 from August 21 to December 14, 2006 and at MW-27 from August 28 to December 14, 2006 and are summarized in Table 3. The DO levels at MW-28 ranged from 0.21 to 3.35 ppm; however, the DO levels were only greater than 2 ppm on August 21 and 28, 2006. The DO levels at MW-27 ranged from 0.21 to 0.88 ppm.

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#### **Downgradient Perimeter Monitoring Locations**

As presented on Figure 4, COCs were not detected above their respective NYSDEC Groundwater Quality Standards at any of the downgradient perimeter monitoring locations during the September and November 2006 sampling events.

#### V. Conclusions

The process control monitoring data presented in this Biannual Report will continue to be used to monitor the effectiveness of the in-situ aerobic bioremediation treatment activities. The conclusions presented below are based on the process control monitoring data obtained to date.

- A closed loop hydraulic cell continues to be maintained in Area 3.
- Operation of the Area 3 treatment system has not caused the freshwater/saltwater interface to upcone to the base of the withdrawal trench.
- COCs were not detected above the NYSDEC Groundwater Quality Standards at the perimeter sampling locations in November 2006, which is consistent with prior perimeter groundwater data obtained, in some cases, since 1989.
- The COC concentrations detected in the groundwater samples collected from Area 1 since the in-situ anaerobic bioremediation treatment activities began in 1998 demonstrate a significant decrease in COC concentrations since commencement of these activities. The concentrations continue to remain low since the aerobic bioremediation treatment program was introduced. The COC concentrations in this area were mostly non-detect. A few COCs (e.g., benzene, ethylbenzene and xylene) continue to be present at concentrations slightly greater than their respective NYSDEC Groundwater Quality Standard.
- Based on the DO levels measured in Area 1, it is not apparent that aerobic conditions were achieved; however, the continuous decrease in aniline concentrations detected within Area 1 (i.e., MW-33) indicates that the in-situ aerobic bioremediation treatment program is facilitating the reduction of aniline.

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- In the area immediately downgradient of Area 1, aniline has been detected in MW-33. The November 2006 aniline concentration (84 ppb) was approximately 97% lower than the November 2004 concentration (2,700 ppb).
- The COC groundwater concentrations within Area 2 have been and continue to be relatively low, with the exception of aniline detected at monitoring location TW-02RR; however, the November 2006 aniline concentration (2,100 ppb) was approximately 79% lower than the June 2006 concentration (10,000 ppb) at TW-02RR, indicating that the in-situ aerobic bioremediation treatment program is facilitating the reduction of aniline. In addition, a few COCs (e.g., acetone, benzene, xylene and N,N-dimethylaniline) were present within Area 2 at concentrations slightly greater than their respective NYSDEC Groundwater Quality Standard in November 2006.
- The September 2006 aniline concentration at MW-36 in Area 2 (3.5 ppb) was approximately 95% lower than the June 2006 concentration (76 ppb); however, in November 2006 the aniline concentration increased to 420 ppb. The decrease in aniline concentration at MW-36 occurred when the system was being amended more frequently. The increase in aniline concentration detected at MW-36 in November 2006 indicate that there may be an oxygen sink in this area and the amount of oxygen source introduced initially during the in-situ aerobic bioremediation treatment is necessary for the continuous reduction of aniline.
- The concentrations of most COCs detected at Area 3 monitoring locations above their respective NYSDEC Groundwater Quality Standard have decreased or remained relatively the same since commencement of the in-situ anaerobic bioremediation treatment activities in 1998, with the exception of MW-8S/MW-8SR, MW-27, and MW-30. In MW-8S/MW-8SR, methylene chloride decreased from 1,200,000 ppb in June 2004 to not detected since June 2005. Both aniline and BTEX compounds (benzene, toluene, ethylbenzene and xylene) increased at MW-27, while only aniline increased at MW-30 (all other COCs at MW-30 remained below NYSDEC Groundwater Quality Standards). In November 2006, aniline was present at MW-27 at a concentration of 33,000 ppb and at MW-30 at a concentration of 200 ppb, which were both lower than the aniline concentrations detected in November 2005 (37,000 ppb and 240 ppb, respectively).

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- Based on the DO levels measured in Area 3, it is not apparent that aerobic conditions were achieved; however, the decrease in aniline concentrations detected at MW-27 and MW-28 during the September 2006 sampling event indicates that the in-situ aerobic bioremediation treatment program facilitated the reduction of aniline. The decrease in aniline concentrations occurred when the system was being amended more frequently. The increase in aniline concentrations detected at MW-27 and MW-28 during the November 2006 sampling event indicates that there may be an oxygen sink created by the aniline mass that exceeds the mass of oxygen in this area. Also, the rate or aerobic activity is less than the rate of aniline desorption and dissolution. Therefore, the amount of oxygen source introduced initially may be necessary for the continuous reduction of aniline.
- The total COC concentration measured at MW-8SR in November 2006 is approximately 12% lower than those measured in November 2005; however, aniline concentrations are still elevated (e.g., 28,000 ppb in November 2006).
- Although an aniline concentration reduction of approximately 46% was
  detected from September 2006 to November 2006, COC concentrations
  detected at MW-8SR are considerably higher than those detected at any other
  location in the three treatment areas. Therefore, the oxygen source
  requirement for effective in-situ aerobic bioremediation to occur may be
  considerably higher at MW-8SR than at other locations in the three treatment
  areas.

#### VI. Recommendations

Given the slow rate of aniline anaerobic biodegradation and its continued elevated concentration in groundwater samples, modifications to the existing treatment activities were proposed for Areas 1, 2 and 3 in the previous Biannual Report. As previously discussed, the NYSDEC verbally approved the modifications in July 2006. The modifications were implemented in August 2006.

Based on the DO measurements in all three areas, it is recommended that the oxygen source (diluted  $H_2O_2$ ) be introduced into all three areas at a concentration of twice the initial amount ( $H_2O_2$  was initially added to the groundwater at a concentration of 100 ppm). The increased concentration of  $H_2O_2$  will be introduced weekly, beginning June 2007. In addition, the macronutrients (Miracle-Gro®) will also be added weekly at the same

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carbon:nitrogen: phosphorus ratio of 50:25:10 that was initially introduced. The  $H_2O_2$ /nutrient-amended groundwater will be injected into the infiltration trenches. The  $H_2O_2$ /nutrient-amended groundwater will be introduced into Area 1 at PZ-5, WP-4, and WP-5; Area 2 at piezometer PZ-W; and Area 3 at piezometer PZ-E and at well points WP-1 through WP-3 and WP-6 through WP-8.

DO levels will be measured in the field at MW-33 in Area 1, MW-36 in Area 2, and continue to be measured in the field at MW-27 and MW-28 in Area 3 once per week or until aerobic conditions in groundwater are apparent (i.e., DO greater than 2 ppm). The Biannual Groundwater Monitoring Program activities summarized in Table 4 will continue to be conducted at the site. The first biannual sampling event of 2007 is anticipated to be conducted in June 2007. Similar to the intermediate sampling event conducted in September 2006, a supplemental sampling event will be conducted during August 2007, approximately two months after initiating modifications to the in-situ aerobic bioremediation treatment program. Monitoring locations are presented in Table 2. Groundwater samples will be collected and analyzed for aniline and N,N-dimethylaniline during this supplemental sampling event.

The in-situ aerobic biodegradation treatment activities will continue to be conducted in accordance with the site-specific Health and Safety Plan (BBL, 1999c).

The effectiveness of aerobic biodegradation and its continuous application will be assessed in the next Biannual Report using the aniline and DO data collected from the June 2006 biannual sampling event, September 2006 intermediate sampling event, November 2006 biannual sampling event, June 2007 biannual sampling event and August 2007 supplemental sampling event. In addition, the next Biannual Report for the January 2007 to June 2007 reporting period will further describe activities conducted to implement the in-situ aerobic bioremediation treatment activities and any operational problems encountered. It will also provide data collected and an assessment of the effectiveness of this new treatment approach.

As discussed in this Biannual Report and summarized in Table 4, the monitoring activities conducted at the site are included in the Biannual Groundwater Monitoring Program and the revised Process Control Monitoring Program. The activities included in the Biannual Groundwater Monitoring Program will continue, and include the biannual collection of chemical and hydraulic data from

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downgradient perimeter wells/piezometers to determine whether groundwater that contains concentrations of COCs in excess of their respective NYSDEC Groundwater Quality Standard is migrating beyond the site boundary.

If you have any questions or require additional information, please do not hesitate to contact me at (315) 671-9210.

Sincerely,

ARCADIS of New York, Inc.

David J. Ulm

Senior Vice President

#### Attachments

#### Copies:

Mr. Jim Burke, P.E., New York State Department of Environmental Conservation (w/out Attachment B)

Mr. Gerald J. Rider, Jr., New York State Department of Environmental Conservation (w/out Attachment B)

Mr. Chris Mannes, New York State Department of Environmental Conservation (w/out Attachment B)

Ms. Henriette Hamel, R.S., New York State Department of Health (w/out Attachment B)

Ms. Jean A. Mescher, McKesson Corporation (w/out Attachment B)

Mr. Christopher R. Young, P.G., de maximis, inc. (w/out Attachment B)

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**TABLES** 

Table 1. Summary of Select Groundwater Level Measurements, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Reference	6/10/98	6/22/98	7/6/98	7/20/98	7/27/98	8/5/98	8/10/98	8/10/98	8/11/98	8/11/98	8/12/98	8/12/98	10/16/98	11/17/98	12/16/98	12/22/98	1/6/99	1/13/99	4/14/99
Location	Elevation (feet AMSL)	Static			Week 1	Week 2	Week 3	(morning) Week 4	(afternoon) Week 4	(morning) Week 4	(afternoon) Week 4	(morning) Week 4	(afternoon) Week 4	Week 13	Week 18	Week 22	Week 23	Week 25	Week 26	Week 39
Canal	393.39*	362.91	363.37	363.72	363.08	363.08	362.94		362.78	362.94	1100111	1133.11	362.84	363.27		363.14	362.21	363.11	TICOK 20	THEEK 33
Collection Sump	372.81	364.33	363.08	363.68	362.50	361.31	361.83	361.89	362.14	361.00	361.71	361.95	362.31	362.01	361.48	361.75	363.09	361,93	361.73	363.17
MW-3S	376.54	365.93	366.26	367.82	366.20	501.01	001.00	365.29	002.14	001.00	501.11	001.00	002.01	302.01	365.25	365.67	366.81	365.67	365.25	303.17
MW-3D	375.56	365.63	365.87	366.16	500.20		364.97	364.85						365.08	365.00	365.04	300.01	365.04	364.91	365.41
MW-6D	377.07	365.75	366.01	366.29			004.01	001.00				-		365.25	365.15	365.23	365.36	365.23	365.06	365.62
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	303.30	364.88	364.74	365.22
MW-9D	376.76**	365.78	300.74	000.00			365.14	365.10	304.07	304.73	004.00	304.07	304.07	365.25	365.16	365.22	365.36	365.26	365.08	365.65
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	303.30	364.73	364.57	365.02
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
MW-18	372.57	362.64	004.02	300.11	304,12	303.70	303.30	300.02	303.00	303.73		505.05	303.74	303.74	361.90					
	376.00	362.42		_	<u> </u>											361.93	362.05	362.05	361.84	362.18
MW-19 MW-23I	376.00	365.04	365.34	365.72			204.24		204.45	204.40			204.42	201 42	361.78	361.84	361.98	361.87	361.89	362.15
				364.04	362 92	202.50	364.34		364.45	364.16		000.54	364.43	364.43	364.34	364.36		364.47	364.26	364.69
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
MW-24DR	375.14	365.41				221.12									364.63	364.67	364.81	364.69	364.54	364.96
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
MW-25D	373.67	365.43													364.74	364.76		364.77	364.64	365.07
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
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
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
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
PZ-9D	377.29	365.73					365.47	365.28						365.12	365.03	365.08	365.24		364.94	365.50
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
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
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
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
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
PZ-F	377.06	366.17					365.56	365.50						365.37	365.27	365.52	365,73	365.62	365.27	366,36
PZ-G	377.16	366.21					365.66	365.60						365.46	365,36	365.60	365.76	365.71	365.44	366.44
PZ-HR	376.99	366 16					365.54							365.44	365.34	365.54	365.84	365 60	365.39	366.34
PZ-I	375.15	366.56		$\vdash$			365.86	365.64		1				365.88	365.57	365.90	366.59	366.05	365.76	366.93
PZ-J	374.89	366.15				-	365.53	365.40				<u> </u>		365.53	365.39	365.55	365.93	365.59	365.47	366.21
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
PZ-L	374.62	364.25	363.59		363.04	362,42	362.48	362.44	0020	362.88	362.63	362.57	362.84	362.65	362.40	362.51	363.59	362.65	362.45	363.69
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
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
PZ-O	375.36	364.29	363.68			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
PZ-P	376.89	366.25	300.00	304.23	303.21	302.04	365.65	365.60	302.76	303.03	302.31	302.00	303.03	365.52	365.39	365.61	365.78	365.73	365.44	366.43
PZ-P	377.61	366.23			<del> </del>	<del> </del>	365.64	365.57						365.45	365.35	365.59	365.70	365.73	365.44	366.44
PZ-R	377.05	366.23		366.94		-	365.65	365.57		<del> </del>	<del> </del>	<del> </del>	<b></b>	365.45		365.59				
PZ-R PZ-S	378.13		$\vdash$	300.94					<del> </del>	+			<del> </del>		365.38		365.81	365.67	365.47	366.46
PZ-S PZ-T		366.19	-	-			365.57	365.52						365.43	365.35	365.57	365.94	365.65	365.40	366.39
	376.25	366.14		200.61	-		365.54	365.43		<u> </u>				365.52	365.38	365.58	365.96	365.64	365.47	366.34
PZ-U	375.35	365.99	<b>↓</b>	366.81			365.50	365.33						365.37	365.30	365.49	365.91	365.55	365.40	366.17
PZ-V	375.78	366.07			<b>—</b> —	-	365.48	365.35						365.43	365.29	365.47	365.90	365 52	365.37	366.20
PZ-W	375.78	366.07	<u> </u>				365.46	365.31	<u></u>	<u></u>		<u> </u>		365.41	365.28	365.44	365.78	365 53	365,33	366.15

Table 1. Summary of Select Groundwater Level Measurements, 2006 Blannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

Location	Reference Elevation (feet AMSL)	6/3/99 Week 46	7/13/99 Week 52	3/27/00	6/1/00	9/18/00	11/14/00	3/19/01	9/24/01	4/15/02	6/3/02	6/18/02	10/7/02	1/20/03	5/5/03	10/27/03	6/14/04	11/1/04	6/6/05	10/31/05	6/5/06	10/30/06
Canal	393.39*	363.22	362.78	363.73	363.75	362.75^	363.24	363.01	362.96	364.59	363.64	364.17	362.19	^^	363.34	363.34	363.39	363.39	364.39^^^	363.84	363.69	364.29
Collection Sump	372.81	362.45	361.87	362.99	361.48	361.69	361.66	361.59	362.04	362.27	361.50	361.42	362.05	361.90	361.91	361.86	362.11	362.00	361.49	362.96	361.70	363.18
MW-3S	376.54	365.26		357,10					-	367.70	366.26	367.50	364.26	366.27	366.38	366.98	366.65	365.54	365.82	368.11	368.19	369.08
MW-3D	375.56	364.92	364.57	355.64	365.57	364.81	355.16	365.40	364,54	364.16	364.55	365.10	363,92	365.10	365.53	365.05	365.59	365.27	365.36	366.25	366.07	366.90
MW-6D	377.07	365.12	364.79	365.85	365.77	364.97	365.34	365.64	364.75	364.22	364.62	365.21	364.07	365.31	365.75	365.24	365.80	365.46	365.59	366.45	366.29	367.07
MW-8D	374.68	364.77	364.35	365.42	365.36	364.62	364.94	365.18	364.34	364.13	364.51	365.01	363.82	^^	365.30	364.83	365.39					
MW-9D	376.76**	365.17	364.83	365.88	365.80	365.01	365.36	365.68	364.76	364.05	364.47	365.10	364.00	365.31	365.79	365.26	365.85	365.51	365.64	366.47	366.34	366.91
MW-11D	373.68	364.60	364.18	365.24	365.18	364.46	364.81	364.96	364.18	364.07	364.44	364.92	363.73	364.81	365.17	364.75	365.26	364.93	364.00	365.94	365.78	366.53
MW-11S	373.50	363.88	363.39	364.72	364.35	363.55	363.86	364.48	363.33	363.57	363.89	364.33	363.09	364.15	364.38	363.89	364.34	363.98	364.12	365.06	365.04	366.11
MW-18	372.57	361.79	361.38	362.43	361.77	361.71	362.08	362.17	361.50	361.65	362.09	362.50	361.37	362.26	362.69	362.26	362.62	362.29	362.37	363.17	363.07	363.82
MW-19	376.00	361.80	361.46	362.58	361.88	361.90	362.25	362.44	361.82	361.83	362.11	362.57	361.51	362.52	361.91	362.46	362.89	362.59	362.69	363.50	363.38	364.09
MW-23I	372.77	364.28	363.83	364.99	364.93	364.25	364.58	364.73	363.99	363.99	364.34	364.80	363.62	364.60	365.01	364.56	364.99	364.67	364.77	365.66	365.47	366.43
MW-23\$	372.61	362.94	362.42	363.85	363.17	362.64	362.87	363.59	362.36	363.97	363.38	363.68	362.50	362.26	363.31	362.81	363.04	362.77	362.80	364.05	363.80	365.28
MW-24DR	375.14	364.49	364.09	365.19	364.60	364.39	364.77	364.91	364.16	364.06	364.43	364.90	363.71	364.75	365.13	364.69	365.19	364.86	364.94	365.90	365.74	366.59
MW-24SR	375.55	364.41	363.95	365.12	365.55	364.30	364.60	364.86	364.05	364.00	364.40	364.86	363.64	364.69	365.03	364.62	365.12	364.78	364.88	365.81	365.66	366.49
MW-25D	373.67	364.64	364.20	365.28	365.20	364.51	364.84	364.97	364.22	364.19	364.57	365.02	363.82	364.82	365.24	364.74	365.26	364.93	365.00	364.49	365.77	366.64
MW-25\$	373.39	363 20	364.75	364.12	363.69	362.94	363.23	364.14	362.61	364.39	363.83	364.21	362.74	363.61	363.67	363.19	363.49	363.08	363.14	365.63	364.13	365.26
PZ-4D	376.11	364.60	364.22	365.28	365.21	364.49	364.82	365.03	364.22	364.06	364.43	364.94	363.73	364.81	365.23	364.78	365.28	364.96	365.07	365.96	365.85	366.64
PZ-5D	375.58	364.86	364.47	365.57	365.48	364.71	365.10	365.36	364.46	364.12	364.47	365.03	363.81	365.05	365.49	365.02	365.53	365.20	365.29	365.19	365.98	366.87
PZ-8D	375.83	365.08	365.00	$\overline{}$					$\top$	$\vdash$												
PZ-9D	377.29	365.04	364.68	365.70	365.72	364.87	365.16	365.55	364.60	363.75	364.14	364.79	363.71	365.08	365.64	365.09	365.68	365.35	365.48	366.33	366.19	366.91
PZ-A	373.94	363.12	362.61	363.95	363.15	362.75	362.91	363.56	362.58	363.92	363.05	363.22	362.59	^^	363.40	363.57	363.18	362.89	362.96	364.20	364.14	365.62
PZ-B	373.92	363.19	362.67	364.08	363.32	362.79	362.94	363.94	362.55	364.44	363.24	363.40	362.65	363.39	363.47	363.89	363.21	362.92	362.92	364.32	364.32	365.85
PZ-C	374.85	365.10	364.75	366.04	366.04	365.03	365.35	366.39	364.54	365.68	365.38	366.26	364.19	365.65	365.76	365.44	366.07	365.50	365.65	366.65	366.45	367.14
PZ-D	375.12	365.18	364.89	366.09	366.10	365.10	365.46	366.36	364.65	365.58	365.41	366.21	364.21	365.65	365.84	365.53	366.11	365.62	365.75	366.75	366.57	367.68
PZ-E	374.12	364.20	363.81	365.16	365.03	363.92	364.40	365.90	363.49	366.51	364.63	364.77	363.47	364.94	365.00	366.92	364.58	364.07	364.47	365.25	366.51	368.13
PZ-F	377.06	365.53	365.11	366.89	366.72	365.27	365.70	367.06	364.93	365.50	365.51	366.29	364.29	366.25	366.41	365.46	366.65	365.75	366.13	367.59	367.16	368.32
PZ-G	377.16	365.61	365.17	366.89	366.80	365.36	365.75	367.11	364.93	365.39	365.53	366.22	364.36	366.35	366.46	365.43	366.68	365.81	366.14	367.76	366.97	368.64
PZ-HR	376.99	365.55	365.11	366.80	366.68	365.33	365.66	367.02	364.91	365.39	365.46	366.19	364.24	366.22	366.41	365.50	366.62	365.81	366.12	367.56	367.14	368.31
PZ-I	375.15	365.79	365.23	367.30	367.23	365.55	366.08	367.81	364.91	366.29	366.16	367.05	364.22	366.58	366.90	365.97	367.01	365.26	366.41	368.02	367.82	369.00
PZ-J	374.89	365.53	365.14	366.55	366.50	365.32	365.64	366.69	364.96	365.10	365.18	365.89	364.21	365.96	366.73	365.61	366.45	365.86	366.07	367.29	367.04	367.96
PZ-K	373.19	363.13	362.59	363.97	363.19	362.69	362.86	363.53	362.49	363.82	363.19	363.48		363.25	363.36	363.12	363.13	362.84	362.97	364.21	364.01	365.58
PZ-L	374.62	363.00	362.47	363.84	363.03	362.61	362.68	363.42	362.47	363.44	362.96	363.26	362.53	363.42	363.25	363.06	363.04	362.79	362.91	364.02	363.89	365.23
PZ-M	374.35	363.40	362.90	364.22	363.54	363.05	363.24	363.86	362.90	363.93	363.37	363.62	362.82	363.60	363.77	363.66	363.61	363.31	363.45	364.53	364.40	365.60
PZ-N	376.94***	365.19	364.87	366.17	366.12	NM	365.35	366.43	364.47	366.60	365.29	366.13	364.09	365.54	365.74	364.48	365.95	365.47	365.53	366.56	366.41	367.51
PZ-O	375.36	363.25	362.73	364.22	363.57	362.86	363.06	364.22	362.64	364.47	363.63	363.98	362.75	363.61	363.53	363.36	363.43	363.04	363.13	364.36	364.26	365.42
PZ-P	376.89	365.59	365.18	366.85	366.73	365.34	365.77	367.02	364.93	365.31	365.48	366.19	364.25	366.25	366.45	365.53	366.65	365.87	366.20	367.63	367.19	368.30
PZ-Q	377.61	365.60	365,16	366.93	366.78	365.26	365.76	367.21	364.89	366.11	365.70	366.41	364.41	366.40	366.55	365.38	366.77	365.85	366.21	367.80	367.16	368.61
PZ-R	377.05	365.61	365.20	366.89	366.81	365.37	365.72	367.21	364.93	365.40	365.58	366.31	364.31	366.34	366.46	365.31	366.72	365.85	366.17	367.73	367.15	368.51
PZ-S	378.13	365.56	365.15	366.84	366.73	365.32	365.71	367.12	364.90	365.27	365.53	366.29	364.31	366.29	366.42	365.42	367.18	367.10	366.31	367.83	367.20	372.48
PZ-T	376.25	365.53	365.10	366.71	366.65	365.29	375.70	366.90	364.90	365.34	365.37	366.10	364.20	366.16	366.38	365.74	366.54	365.85	366.13	367.48	367.15	368.04
PZ-U	375.35	365.46	365.08	366 55	366.49	365.22	365.60	366.75	364.85	365.18	365.23	365.96	364.18	366.00	365.83	365.66	366.43	365.82	366.05	367.33	367.07	367.99
PZ-V	375.78	365.44	365.06	366.54	366.50	365.25	365.58	366.76	364.83	365.30	365.24	365.97	364.15	365.98	366.71	365.84	366.44	365.76	365.99	367.33	367.06	367.97
PZ-W	375.78	365.41	365.02	366.49	366.41	365.20	365.59	366.63	364.85	365.05	365.12	365.86	364.09	365.88	366.18	365.49	366.36	365.72	365.98	367.21	366.94	367.79

Table 1. Summary of Select Groundwater Level Measurements, 2006 Blannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

- 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.
- AMSL = Above Mean Sea Level (NGVD of 1929)
- 4. The groundwater level in PZ-8D was not measured on 3/27/00 and 6/1/00 because this piezometer was damaged and subsequently 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. \*\* = 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.
- 9. \*\*\* = 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.
- 10. ^^ = Due to frigid weather conditions, the groundwater level in PZ-A and MW-8D could not be measured on 1/20/03, because the locks were frozen. The canal water-level for the 1/03 resampling event could not be measured due to strong winds and ice on the water surface.
- 11. Monitoring location MW-8D was decommissioned on August 3, 2004.
- 12. The canal waterlevel measurement for the 2005 second quarter long-term process control monitoring program was obtained on November 1, 2005.
- 13. ^^ = The water level measurement of the canal collected during the first 2005 monitoring was not measured from the correct measuring point. The spring 2005 measurement was taken approximately 3 feet higher than the surveyed measuring point. This value reflects the corrected canal water level for the spring 2005 monitoring event.

Table 2. Intermediate Sampling Event, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

Monitoring Location	September Intermediate Event
Area 1	
MW-31	C
MW-33	C
Area 2	
TW-02RR	C
MW-36	C
Area 3	
MW-8SR	c
MW-27	C
MW-28	c

- 1. C = Monitoring for the aniline and N,N-dimethylaniline.
- Field groundwater parameters including pH, temperature, conductivity, dissolved oxygen (DO), and oxidation/ reduction potential (ORP) are measured during this COC sampling event.
- Each of the monitoring wells and piezometers were checked for the presence (if any) of non-aqueous phase liquid (NAPL).

Table 3. Summary of Dissolved Oxygen Measurements, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

Monitoring Date		Dissolved Oxygen (ppm)	
monitoring Date	MW-33 (Area 1)	MW-27 (Area 3)	MW-28 (Area 3)
8/21/2006	NM	NM	3.35
8/28/2006	0.28	0.88	2.18
9/1/2006	0.53	0.41	0.40
9/8/2006	0.22	0.42	0.53
9/21/2006	0.17	0.21	0.37
9/29/2006	0.28	0.37	0.40
10/6/2006	0.16	0.43	0.29
10/13/2006	0.21	0.33	0.31
10/28/2006	0.17	0.24	0.29
11/10/2006	0.37	0.33	0.38
11/16/2006	0.27	0.23	0.21
11/22/2006	0.41	0.37	0.42
12/4/2006	0.29	0.23	0.32
12/7/2006	0.24	0.22	0.29
12/14/2006	0.57	0.27	0.32

- 1. NM = Not measured.
- 2. Dissolved oxygen levels measured in parts per million (ppm).

Table 4. Revised Long-Term Hydraulic and COC Process Control Monitoring Schedule, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Annual Sam	pling Schedule
Monitoring Location	First Sampling Event	Second Sampling Event
Upgradient		
MW-1	c	c
MW-3S	c	c
MW-3D	Н	Н
Area 1		
TW-01	c_	C
MW-6D	Н	H
MW-9S	С	С
MW-9D	Н	H
MW-31	c	c
MW-32	с	c
MW-33	c	C
PZ-F	н	<u>H</u>
PZ-G	н	H
PZ-HR	Н	Н
PZ-P	Н	H
PZ-Q	Н	Н
PZ-R	Н	Н
PZ-S	Н	Н
Area 2		
TW-02RR	c	С
PZ-9D	Н	Н
MW-34	c	C
MW-35	СС	c
MW-36	c	C
PZ-I	н	H
PZ-J	н	Н
PZ-T	_ н	Н
PZ-U	Н	Н
PZ-V	н	Н
PZ-W	Н	Н
Area 3		
MW-8SR	С	С
MW-27	C	C
MW-28	C	С
MW-29	C	C
MW-30	С	С
PZ-A	Н	н

See Notes on Page 2.

Table 4. Revised Long-Term Hydraulic and COC Process Control Monitoring Schedule, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Annual Sam	pling Schedule
Monitoring Location	First Sampling Event	Second Sampling Event
PZ-B	H	Н
PZ-C	Н	Н
PZ-D_	н	Н
PZ-E	Н	Н
PZ-K	H	Н
PZ-L	Н	Н
PZ-M	Н	Н
PZ-N	Н	Н
PZ-O	Н	Н
MW-11S	Н Н	Н
MW-11D	Н	Н
Downgradient Perimeter M	onitoring Locations	
MW-17R	C	С
MW-18	C, H	C, H
MW-19	C, H	C, H
MW-23I	C, H	C, H
MW-23S	C, H	Ç, H
MW-24SR	Н	C, H
MW-24DR	н	C, H
MW-25S	C, H	C, H
MW-25D	C, H	Н
PZ-4S	СС	
PZ-4D	С, Н	н
PZ-5S		c
PZ-5D	H	C, H

- 1. H = Hydraulic Monitoring (Groundwater Level Measurements).
- 2. C = Monitoring for the Chemicals of Concern (COCs).
- The hydraulic monitoring identified in this table will be conducted on a semi-annual basis. The
  hydraulic monitoring also includes measuring the conductivity of groundwater recovered from
  Area 3 from a sampling port located before the equalization tank.
- Field groundwater parameters including pH, temperature, conductivity, dissolved oxygen (DO), and oxidation/reduction potential (ORP) are measured during each COC sampling event.
- Each of the monitoring wells and piezometers used for hydraulic and COC monitoring during the semi-annual monitoring event are checked for the presence (if any) of non-aqueous phase liquid (NAPL).
- Based on the results obtained, the scope and/or the frequency for the hydraulic 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).
- 7. 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 with the modifications detailed in the October 2004 Biannual Process Control Monitoring Report.

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Blannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

			n Elev.									2000	
Monitoring Well	Sampling Date	Top	MSL) Bottom	Acetone	Benzene	Toluene III	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Aniline	N,N-Dimethyl- aniline	Methylene Chloride
NYSDEC Groundwater Quali	ty Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-1	3/88	370.3	355.3	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	1/89	1		<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89	1		<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90	1	1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91	1	1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92	1	1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	9/98	1		<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99	1		0.7 JN	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00	1		<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00	1		8 J	<10 J	3 J	<10 J	5 J	<1,000	<10 J	<10 J	<10	<10 J
	3/01	1		<10	<10	<10	<10	<10	<1,000	<10	<10	<10	10
	9/01	1	1	<10	<10	<10	<10	<10	<1,000 J	<10	<10	<10	<10
	4/02	1		<12	<5	<5	<5	<10	990 J	<5	<5	<5	<5
	10/02	1		<25	<10	<10	<10	<20	<1,000	<10	<5	R	<10
	5/03	1		<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/03	1		<12	<5	<5	<5	<10	<1,000	<5	2 J	<5	<5
	6/04	1		<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
	11/04	1							<1,000	-	<5	<5	-
	6/05	1	1	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	0.2 J	<1.0	<3.0
	11/05	1	1	<1.3 J	<0.3	<0.4	<0.5	<0.5	<1,000	<0.4	<1.0	<1.0 J	<0.5
	6/06	1	]	<5.0 J	<1.0 J	<5.0 J	<4.0 J	<5.0 J	<1,000 J	<1.0 J	<1.0 J	<1.0 J	<3.0 J
	11/06	1		<5.0	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0	<3.0
MW-2S	3/88	368.1	353.1	<1,000	1,900	110	610	2,800	<1,000	<10	<10	<10	<10
	1/89	1		<1,000	2,000	65	330	1,200	<1,000	<10	<11	<11	<10
	11/89	1		<1,000	1,800	<100	360	810	38,000	<100	<100	<100	<100
MW-3S	3/88	365.1	350.1	<100	<1	<1	. <1	<1	<1,000	50	<10	<10	110
1	1/89	1		<10,000	<100	120	<100	<100	<1,000	1,100	<11	5,570	4,700
1	11/89	1		<10,000	<100	<100	<100	<100	<1,000	100	<52	440	2,700
	11/91	1		2,900	10	10	4	31	<1,000	<10	790	170	<10
	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	15	2 J	<10
1	9/98	1	1	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99	1		<10	1 J	0.7 J	<10	<10	<1,000	<10	9.1	<10	<10
	3/00	1	İ	<10 J	<10	<10	<10	<10	<1,000 J	<10	<10	<10	<10
	9/00	1		<10 J	1 J	2 J	<10 J	<10 J	<1,000	<10 J	2 J	1 J	<10 J
	3/01	7	1	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01	1	1	<10	3 J	8J	1 J	2 J	<1,000 J	<10	690 D (69)	4.3	<10
	4/02	1	1	<12	<5	<5	<5	<10	370 J	<5	1.7 J	<5	<5

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

		•	en Elev.										
Monitoring Well	Sampling Date	Тор	Bottom	Acetone	Benzene	Toluene	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Aniline	N,N-Dimethyl- aniline	Methylene Chloride
NYSDEC Groundwater Qual	lity Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-3S	10/02			<25	<10	<10	<10	<20	<1,000	<10	<5	R	<10
(cont'd.)	5/03			<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/03			<12	<5	<5	<5	<10	<1,000	<5	4 J	<5	<5
1	6/04	1		6 J	<10	<10	<10	<20	<1,000	<10	0.8 J	<6	<10
	11/04			<25	<10	<10	<10	<20	150 J	<10	4 J	<5	<10
	6/05		[	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	15	<1.0	<3.0
	11/05	ì		<1.3 J	<0.3	<0.4	<0.5	<0.4	<1,000	<0.4	<1.0	<1.0 J	<0.5
	6/06	]		<5.0	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/06			<5.0	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0	<3.0
MW-3D	8/95	343.8	339	<1,000	· <25 D	<25 D	<25 D	<25 D	<1,000	<25 D	1 J	5 J	200 D
MW-4S	3/88	365.5	350.5	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	1/89	]		<100	<1	<1	<1	<1	<1,000	<1	<11	19	280
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-5 <sup>c</sup>	3/88	363.3	348.3	<100	<1	<1	<1	<1	<1,000	<1	230	130	<1
	1/89			<100	<1	<1	<1	<1	<1,000	<1	34	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	17	<10	<1
MM-e <sub>p</sub>	1/89	365.5	355.9	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
(Replaced by MW-6S)	11/89			<10	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
MW-7 <sup>D</sup>	1/89	367	357.4	<100	<1	<1	<1	2	<1,000	<1	<11	<11	100
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-8 <sup>D</sup>	1/89	364.7	355.1	<1,000,000	<10,000	<10,000	<10,000	<10,000	430,000	<10,000	2,900	24,000	3,200,000
(Replaced by MW-8S) <sup>E</sup>	11/89	j		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	<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	1		<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	1		<20,000	<20,000	<20,000	<20,000	<20,000	16,000JN	11,000 J	30,000 D	120,090 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	1	1	<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	}	1	<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		1	<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	]	1	<400	<400	430	170 J	680	8,900 J	18,000 JD	21,000	29,000	440,000 BD
	4/02			2,100	50 J	410	100 J	400	<1,000	9,600 J	793,000 D	773,000 D	660,000 D
	10/02	,		120 J	23	310	73	267	<1,000	3,100	80,000	21,000 J	320,000
	5/03			<12	20 J	600 D	81	300	<1,000	6,700 D	79,000 D	29 J	910,000 D
	10/03			21	25	330 D	93	360	1,200 J	3,100 D	67,000 D	24,000 D	400,000 D
	6/04			<25	40	330 EJ	110	400	<1,000	5,900 D	56,000	51,000	1,200,000 D
MW-8SR	11/04	362.7	352.7	<1,200	<500	100 DJ	<500	164 DJ	<1,000	<500	35,000 D	5,300 D	10,000 D
	6/05	]		81 J	13	100	53	180	<1,000	<1.0	30,000	<200	<3.0
	11/05			15 J	13	130	66	260	<1,000	<1.0	32,000	<260 J	<3.0

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling		n Elev.	2.3			Ethyl-	10		Trichloro-		N,N-Dimethyl-	Methylene
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	aniline	Chloride
NYSDEC Groundwater Qua	ality Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-8SR	6/06			48	15	120	79	260	<1,000	<1.0	23,000	<200	<3.0
(cont'd.)	9/06	1		NS	NS	NS	NS	NS	NS	NS	52,000 (51,000)	<520 (<520)	NS
	11/06	1	[	28	16	100	84	270	<500	<1.0	28,000	<200	<3.0
MW-9 <sup>D</sup>	1/89	365.6	356	1,600	NA	64	130	270	<1,000	<10	660	1,200	1,500
(Replaced by MW-9S)	11/89	1	[	<1,000	48	25	60	60	<1,000	<10	670	150	<10
	11/91	1	ÌÌ	<100	<10	9	19	30	<1,000	<1	95	18	<1
	8/95	1	1	<1,000	11 JD	26 JD	69 D	226 JD	<1,000	<50	50	28	110 D
	7/99	1		<10	4.3	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	1	1	<10 J	11 J	2 J	6 J	18 J	<1,000	<10 J	1 J	6 J	<10 J
	3/01	1	1 [	<10	1 J	3 J	17	61	<1,000	<10	2 J	11	<10
	9/01	1	1 1	<10	10	3 J	73	35	<1,000 J	<10	<10	10	<10
	4/02	1		<23	10	2 J	6	17 J	370 J	<5	9	43	<5
	10/02	1	! !	16 J	38	40	2 J	15 J	<1,000	<10	<5	2 J	<10
	5/03	1	[	<12	-11	<5	7	18	<1,000	<5	0.9 J	3.J	<5
	10/03	1	[	<12	2 J	<5	5	19	<1,000	<5	1 J	<5	<5
	6/04	1	1 1	14 J	6 J	2 J	8 J	19 J	<1,000	<10	<5	<5	<10
	11/04	1		<25	4.3	2 J	9.1	30 J	<1,000	<10	<5	<5	<10
	6/05	1	1 1	44 J	1.9	3.2 J	24	64	<1,000	<1.0	2.6	1.9	<3.0
	11/05	1	1 1	<1.3 J	3.5	3.8	11	33	<1,000	<0.4	1.4	6.1 J	<0.5
	6/06	1	1 1	<5.0 J	1.1 J	2.3 J	25 J	60 J	<1,000 J	<1.0 J	<1.1 J	3.8 J	<3.0 J
	11/06	1	1 1	<5.0	1.4	3.5 J	23	63	<500	<1.0	0.5 J	3.3 J	<3.0
MW-10 <sup>D</sup>	1/89	355.5	345.9	<1,000,000	<10,000	<10,000	<10,000	<10,000	210,000	<10,000	720	9,400	520,000
(Replaced by MW-9D)	11/89	1	i i	<100,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	900	2,400	28,000
	11/91	1	1 1	<100	<1	3	2	<3	<1,000	<1	230	<10	41
	8/95	1	1 1	<1,000	<25 UD	<25 UD	<25 UD	<25 UD	<1,000	<25 UD	<5	<10	350 D
MW-11 <sup>D</sup>	1/89	355.1	345.5	<100	<1	<1	<1	<1	8,400	<1	<12	<12	1
(Replaced MW-6D)	11/89	1		<100	<1	<1	<1	<1	<1,000	<1	230	<52	<1
	8/95	7		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
MW-11S	12/94	359.9	354.9	<380	<10	<10	<10	<10	880	<10	<5	<10	<10
	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<26
	10/95			NA	<5	<5	<5	<5	NA	<5	NA	NA	<5
MW-11D	12/94	349.8	344.8	<310	<5	<5	<5	<5	2,100	<5	<5	<10	<5
	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	10/95	7		NA	<5	<5	<5	<5	NA	<5	NA	NA NA	<5

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling		en Elev. AMSL)	l			Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	aniline	Chloride
NYSDEC Groundwater Qua	lity Standards (	Part 700)	-	50	1	5	5	5	NA	5	5	1	5
MW-12D <sup>D</sup>	1/89	354.8	345.2	<100,000	<1,000	<1,000	<1,000	<1,000	12,000	<1,000	67	410	120,000
(Replaced MW-8D) <sup>E</sup>	11/89			69,000	<1,000	<1,000	<1,000	<1,000	39,000	<1,000	<1,000	4,900	360,000
	11/91	ĺ		<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-13\$	11/89	368.7	359,1	<100	3	<1	<1	<1	<1,000	<1	<52	<52	<1
	11/90	1		<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91	1		<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 <sup>C</sup>	1/89	359	349.4	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
MW-15S	1/89	370	360.25	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	11/89	1		<100	<1	<1	<1	<1	<1,000	<1	<52	<52	<1
MW-16D <sup>C</sup>	1/89	350.8	3412	<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 <sup>C</sup>	11/90	365.7	356.1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
(Replaced by MW-17R)	11/91	1	1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92	1		<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<11
	10/95	1	1	NA	<5	<5	<5	<5	NA	2 J	NA	NA	<5
	8/96	1	1	11	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97	1		<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/99	]	1	<10	1 J	<10	<10	<10	<1,000	<10	<10	<10	<10 J
	3/00	]	1	<10	8 J	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00	1		<10 J	15 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	24 J	4.3	1 J
	3/01	]	1	<10	8 J	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01	1		<10	5 J	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02	1		<10	6	<5	<5	<10	620 J	<5	150 (<5)	110 (<5) <sup>F</sup>	<5
	10/02	1	1	<25 J	14	<10	<10	<20	<1,000	<10	<5°	<5 <sup>G</sup>	<10
	5/03	1		<12	8	<5	<5	<5	<1,000	<5	<5	<5	<5
	11/03			<12	7	<5	<5	<10	<1,000	<5	<5	<5	<5
	6/04			<25	5 J	<10	<10	<20	<1,000	<10	<5	<5	<10
	11/04	]	}		- 15			_	200 J	-	<5	<5	_
	6/05	]	1	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/05	1		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3 0
	6/06	]	1	<5.0	0.8 J	<5.0	<4.0	<5.0	<1,000	<1.0	<1.1	<1.1	<3.0
	11/06	1	1	R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<10	<1.0 J	<3.0

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

			n Elev.										
Monitoring Well	Sampling Date	Top	Bottom	Acetone	Benzene	Toluene	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Aniline	N,N-Dimethyl- aniline	Methylene Chloride
NYSDEC Groundwater Quali		_	001101111	50	1	5	5	5	NA NA	5	5	1	5
MW-18	11/89	325.15	316.15	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92		1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	12/94		1 1	<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95			<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/96			<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97	1		<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97	1		<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98	ĺ	1	<10	<10	<10	<10	<10	<1,000	<10	<5 <sup>H</sup>	<10	<10
	2/99	1	1 1	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99	1	1	<10 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00	ì		<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	9/00	1	l i	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	3/01	1 :	1	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01	ĺ		<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02	i		<10	<10	<10	<10	<20	720 J	<10	280 D (<5)	200 D (<5)F	<10
	10/02	1	\ \ \	6 J	<10	<10	<10	<20	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	5/03	1		<12	<5	<5	<5	<5	280 J	<5	<5	<5	<5
	10/03	1		<12	<5	<5	<5	<10	<1,000	<5	0.7 J	<5	<5
	6/04	j	1 1	<25	<10	<10	<10	<20	<1,000	<10	R	R	<10
	11/04	1	] ]		-	-		-	<1,000		<5	<5	
	6/05	1	1 1	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/05	1		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.1	<1.1 J	<3.0
	6/06			<5.0	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/06	1	!	R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
MW-19	11/89	318.45	309.45	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	12/94	1	] [	<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<12
	10/95	1	i	NA	<5	<5	<5	<5	NA	<5	NA NA	NA	<5
	2/96	]	1	<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 <sup>H</sup>	5 J	<11
	2/99	]		<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	7/99	]	1	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	<10	<10 J

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling		en Elev. AMSL)				Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	aniline	Chloride
NYSDEC Groundwater C	Quality Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-19	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
(cont'd.)	9/00		1 [	<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		1 [	<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/02		1 [	<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	5/03		1 [	<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
	10/03		[	<11	<5	<5	<5	<10	<1,000	<5	51 J	16 J	<5
	6/04		[	<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
	11/04		! [	<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
	6/05		. [	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.1	<1.1	<3.0
	11/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0
	6/06		1 (	<5.0	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/06		[	R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
MW-20 <sup>c</sup>	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 <sup>c</sup>	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	364.1	354.1	<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95		1 [	<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		1 [	<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		1 [	12	<10	<10	<10	<10	<1,000	<10	92	<10	<10
	9/98	i	1 1	<10	<10	<10	<10	<10	<1,000	<10	56 <sup>H</sup>	7.3	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<10	10	<10 J
	6/99		1 1	<10 J	<10	<10	<10	<10	<1,000 J	<10	<10 J	2 J	<10 J
	7/99		l í	<10 J	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	3/00		1 1	<10	<10	<10	<10	<10	<1,000 J	<10	<5	2 J	<10
	9/00	)	[ [	<10 J	<1,000 J	<10 J	<10 J	2.J	<10 J				
	3/01		[	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	10/02		) [	<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	5/03		i	<62	<25	<25	<25	<50	380 J	<25	<5	<5	<25
	10/03			<12	<5	<5	<5	<10	<1,000	<5	60	<5	<5

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling		n Elev.				Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Anillne	aniline	Chloride
NYSDEC Groundwater Qual	ity Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-23S	6/04			<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
(cont'd.)	11/04		[	-	-	-	-	-	<1,000	-	<5	<5	_
	6/05		[	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/05		} [	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0
	6/06	]	! [	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.2	<1.2	<3.0
	11/06			R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
MW-231	12/94	341.2	336.2	<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	8/95	!	l 1	<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96 8/96	ļ		<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
		į	] }	<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
l	2/97		1 1	<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	8/97 9/98	1		<10	<10	<10	<10	<10	<1,000	<10	<5	<11	<10
	2/99			<10	<10	<10	<10	<10	<1,000	<10	<5 <sup>rt</sup>	<10	<10
	7/99	1	1 1	<10 <10 J	<10 <10	<10	<10	<10	<1,000	<10	<10	<10	<10 J
	3/00	1	l	<10 3	<10	<10 <10	<10 <10	<10 <10	<1,000 <1,000 J	<10 <10	<10	<10	<10
	9/00	5	5	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 <10 J	<5	<10	<10
	3/01	- 5	\ \ \	<10	<103	<10	<10 3	<10	<1,000 3	<10 J	<10 J	<10	<10 J
	9/01		1 1	4 J	<10	<10	<10	2 J	<1,000	<10	<10	<10 <10	<10 <10
	4/02		ļ ţ	<10	<5	<5	<5	<10	<1,000	<5	<5	<5	2 J
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<55	<5 <sup>C</sup>	<10
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
	10/03		1 1	<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	6/04		l Ì	<25	<10	<10	<10	<20	<1,000	<10	1,1	<5	<10
	11/04	]		_	_	-	-		<1,000		<5	<5	-
	6/05	)		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/05		\ [	<50 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0
	6/06			<5.0 J	<1.0	0.6 J	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
101010	11/06		<del>                                     </del>	R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
MW-24S <sup>c</sup>	12/94	358.4	352.4	<10	<5	<5	<5	<5	<1,000	<5	<5	<10	<5
(Replaced by MW-24SR)	8/95	1		<1,000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10
	2/96		1 1	<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97	1	(	<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	9/98			<10	<10	<10	<10	<10	<1,000	<10	<5 <sup>R</sup>	<10	<10
	6/99	1		<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	1		NS	· NS	NS	NS	NS	NS	NS	ND	ND	NS
	10/02	1		<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	10/03			<12	<5	<5	<5	<10	<1,000	<5	16	<6	<5

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

			n Elev.												
Monitoring Well	Sampling Date	Top	MSL) Bottom	Acetone	Benzene	Toluene	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Aniline	N,N-Dimethyl- aniline	Methylene Chloride		
NYSDEC Groundwater Qual			-	50	1	5	5	5	NA	5	5	1	5		
MW-24S <sup>c</sup>	6/04 J	1		<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10		
(cont'd.)	11/04	1					-		<1,000		<5	<5			
	6/05	1		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0		
	11/05	1		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1.000	<1.0	<1.0	<1.0 J	<3.0		
	11/06	1	1	R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1,0	<1.0 J	<3.0		
MW-24D <sup>c</sup>	12/94	334.4	341.2	<10	<5	<5	<5	<5	<1,000	<5	<5	<10	<5		
(Replaced by MW-24DR)	8/95	1	1	<1.000	<5	<5	<5	<5	<1,000	<5	<5	<10	<10		
	2/96	1		<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10		
	2/97	1		<1,000	<10	<10	<10	<10	<1.000	<10	<5	<10	<10		
	9/98	1	1	<10	<10	<10	<10	<10	<1,000	<10	<5 <sup>H</sup>	<10	<10		
	7/99	1		<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	<10	<10 J		
	9/00	1		<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J		
	9/01	1	1	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10		
	6/02	1		NS	NS	NS	NS	NS	NS	NS	ND	ND	NS		
	10/02	1	i i	<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10		
	10/03		1	<12	<5	<5	<5	<10	<1,000	<5	0.5 J	<5	<5		
	11/04			- [10]	34	_		-	<1,000		<5	<5			
	6/05			<5 J	<1	<5	<4	<5	<1,000	<1	<1	<1	<3		
	11/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.1	<1.1 J	<3.0		
	11/06			R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0		
MW-25S	8/95	361.2	356.2	<1,000	<5	<5	<5	<5	<1,000	<5	<5	0.7 J	<10		
	10/95			NA	<5	<5	<5	<5	NA 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	}	i í	<10	<10	<10	<10	<10	<1,000	<10	130	<10	<10 J		
	6/99		1 1	<10 J	<10	<10	<10	<10	<1,000 J	<10	110 J	21 J	<10 J		
	7/99	]		<10 J	<10	<10	<10	<10	<1,000	<10	5 J	<10	<10		
	3/00	,		<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10		
	9/00	]	[ ]	[	[	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	3/01	]		<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10		
	9/01	]		<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10		
	4/02			<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5		
	10/02	1		<25	<10	<10	<10	<20	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10		
	5/03			<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5		
	11/03			<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5		
	6/04			<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10		

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling		en Elev. AMSL)				Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	aniline	Chloride
NYSDEC Groundwater Qua	ality Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-25S	11/04			<b></b> .	-	-			<1,000	-	<5	<5	1
(cont'd.)	6/05	1	1 1	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.1	<1.1	<3.0
	11/05	]		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0
	6/06	]	] [	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/06			R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
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	1	}	<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		] 1	<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10
	3/01	1		<10	<10	<10	<10	<10	<1,000	<10	5 J	<10	<10
	4/02	1		<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	5/03	1	1	<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
	6/04	1		<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
	6/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	6/06	1		<5.0 J	<1.0	0.7 J	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
MW-26	12/96	365	355 3	<10	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
MW-27	9/98	362.5 354.5	354.5	23	3 J	4 J	<10	3 J	<1,000	<10	340 DJ	<10	<10
	7/99		2000	<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
1	9/00		1	<10 J	4.3	<10 J	3 J	1 J	<1,000 J	<10 J	16 J	2J	1 J
	3/01		<10	5 J	<10	5 J	2 J	<1,000	<10	260 D	2J	<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
1	10/02	7		9 J	3 J	<10	<10	<20	<1,000	4 J	2,700 D	100 J	60 JN
	5/03	1		<12	8	11	23	51	<1,000	<5	15,000 DJ	11	43
l	10/03	]	1	170	5	<5	<5	3 J	<1,000	<5	3,700 D	<5	240 D
Į.	6/04		'	23 J	5 J	4 J	2 J	6 J	<1,000	<10	3,700 D	20 J	<10
	11/04		l	<120 (28)	<50 (4 J)	<50 (2 J)	<50 (<10)	<100 (<20)	<1,000	<50 (<10)	1,100 DJ	<5	310 (490 D)
	6/05	7		31 J	6.1	15	5.8	15	<1,000	<1.0	5,200	<23	<3.0
	11/05	1		35 J (37 J)	11 (12)	77 (78)	26 (26)	86 (88)	<1,000 (<1,000)	<1.0 (<1.0)	37,000 (38,000)	<270 J (<260 J)	<3.0 (<3.0)
	6/06	1		5.3 J (5.8 J)	9.5 J (8.9 J)	50 J (48 J)	25 J (25 J)	66 J (63 J)	<1,000 J (<1,000 J)	<1.0 J (<1.0 J)	14,000 J (12,000 J)	<100 J (<100 J)	<3.0 J (<3.0 J)
	9/06	]		NS	NS	NS	NS	NS	NS	NS	1,700	<10	NS
	11/06			31 (24)	14 (14)	71 (71)	42 (45)	91 (110)	<500 (<500)	<1.0 (<1.0)	33,000 (33,000)	<210 (<200)	<3.0 (<3.0)
MW-28	9/98	363.6	355.6	<5,000 J	<5,000	<5,000	<5,000	<5,000	2,200	<5,000	546 D <sup>H</sup>	54	64,000 J
1	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
Į.	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
1	3/01	1	1	<400	<400	<400	<400	<400	<1,000	<400	3,200 D	7.3	5,900 B
	9/01	7		<400	<400	<400	<400	<400	<1,000 J	<400	1,000 D	<10	4,700 B
l	4/02	7		<49	8	6	9	10 J	<1,000	<5	33,400 D	57	4,600 D

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling	1	n Elev. AMSL)	_			Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene								
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	aniline	Chloride								
NYSDEC Groundwater Qualit	y Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5								
MW-28	10/02			14 J	8 3	6 J	11	12 J	<1,000	<10	2,700 D	R	<10								
(cont'd.)	5/03		· ·	13	43	2 J	2 J	8 J	<1,000	<5	1,000 DJ	31	52								
	10/03			24	11	6	12	13 J	<1,000	<5	1,900 D	<5	<5								
	6/04	]	ļ	20 J	4.3	2 J	5 J	4 J	<1,000	<10	910 D	<5	<10								
	11/04	}		<120 (<25)	<50 (4 J)	<50 (<10)	<50 (5 J)	<100 (3 J)	190 J	<50 (<10)	640 DJ	<5	<50 (<10)								
	6/05	]		5.2 J	4.5	1.2 J	4.6	3.9 J	<1,000	<1.0	630	<5.0	<3.0								
	11/05			6.8 J (7.8 J)	6.1 (5.8)	<5.0 (<5.0)	4.7 (4.7)	<5.0 (<5.0)	<1,000 (<1,000)	<1.0 (<1.0)	380 J (350 J)	<2.2 (<2.1)	<3.0 (<3.0)								
	6/06			<5.0 J (<5.0 J)	6.0 J (6.3 J)	1.2 J (1.3 J)	5.3.J (5.4 J)	4.2 J (4.3 J)	<500 J (<1,000 J)	<1.0 J (<1.0 J)	430 J (530 J)	<2.1 J (<5.0 J)	<3.0 J (<3.0 J)								
	9/06	1		NS	NS	NS	NS	NS	NS	NS	280	<2.2	NS								
	11/06			12	8.2	1.4 J	5.6	4.4 J	<500	<1.0	1,000	<5.2	<3.0								
MW-29	9/98	362.9	345.9	<10	<10	<10	<10	2 J	<1,000	<10	<10	13	<10								
	2/99			7 J	<10	<10	<10	1 J	<1,000	<10	5 J	4.J	<10								
	7/99	]		<10	<10	<10	<10	<10	<1,000	<10	2 J	43	<10								
	3/00			<10	<10	<10	<10	<10	<1,000 J	<10	450 D	6 J	<10								
	9/00		1	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	24 J	43	<10 J								
	3/01			<10	<10	<10	<10 .	<10	<1,000	<10	30	43	<10								
	9/01			<10	<10	<10	<10	<10	<1,000	<10	.73	2 J	<10								
	4/02		1	<10	<5	<5	<5	<10	<1,000	<5	3 J	9	<6								
	10/02		1	<25 J	<10	<10	<10	<20	<1,000	<10	8	R	4 JN								
	5/03			1	<12	<5	<5	<5	<10	<1,000	<5	19	1 J	<3							
	10/03												<12	<5	<5	<5	<10	<1,000	<5	2 J	<5
	6/04												1					<25	<10	<10	<10
	11/04	}		<120	<50	<50	<50	<100	420 J	<50	<5	<5	<50								
	6/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0								
	11/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0								
	6/06		1	<5.0	<1.0	<5.0	<4.0	<5.0	<1,000	<1,0	<1.0	<1.0	<3.0								
	11/06			5.4	<1.0	<5.0	<4.0	<5.0	<500	<1.0	0.4 J	<1.0	<3.0								
MW-30	9/98	363.5	355.5	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10								
	2/99	}		7 J	<10	<10	<10	<10	<1,000	<10	<10	2.1	<10								
	7/99	j	1	<10	0.7 J	<10	<10	<10	<1,000	0.5 J	<10	1J	<10								
	3/00	1	1	<10	<10	<10	<10	<10	<1,000 J	<10	18	2.J	4 J								
1	9/00		1	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	9.J	2.1	2 J								
	3/01	]	1	<10	<10	<10	<10	<10	<1,000	<10	8.J	2.5	<10								
	9/01	]		4 J	2.1	<10	<10	<10	<1,000 J	<10	8.3	1 J	<10								
	4/02		1	<10	<5	<5	<5	<10	<1,000	<5	2/50	210	<5								
	10/02	]		<25 J	<10	<10	<10	<20 J	<1,000	<10	R	R	<10								
	5/03			<62	<25	<25	<25	<50	<1,000	<25	13	0.6 J	8 J								
	10/03	]		<12	<5	<5	<5	<10	<1,000	<5	4 J	<5	<5								
	6/04			<25	<10	<10	<10	<20	<1.000	<10	<5	<5	<10								

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling		en Elev. AMSL)				Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene							
Monitoring Well	Date	Top	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	aniline	Chloride							
NYSDEC Groundwater Qual	ity Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5							
MW-30	11/04			<120	<50	<50	<50	<100	<1,000	<50	<5	<5	<50							
(cont'd.)	6/05		[	<5.0 J	0.3 J	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0							
	11/05		1 [	<5.0 J	0.7 J	0.6 J	<4.0	0.5 J	<1,000	<1.0	240	<1.0 J	<3.0							
	6/06		[	<5.0	0.6 J	0.4 J	<4.0	<5.0	<1,000	<1.0	29	<1.0	<3.0							
	11/06			11	1.0	<5.0	<4.0	<5.0	. <500	<1.0	200	<1.0	<3.0							
MW-31	9/98	363.7	355.4	<10	12	<10	<10	<10	<1,000	<10	34	4.3	<10							
	7/99	1	[	<10	16	<10	<10	<10	<1,000	<10	230 D	3J	<10							
	3/00	ļ	[	<10	16	<10	<10	<10	<1,000 J	<10	3 J	43	<10							
	9/00		] [	<10 J	12 J	<10 J	<10 J	<10 J	<1,000	<10 J	10	6J	<10 J							
	3/01	}	] [	21	11	<10	<10	<10	<1,000	<10	<10	5 J	<10							
	9/01		ļ [	<10	14	<10	<10	<10	<1,000 J	<10	91 D	3.1	<10							
	4/02		[	<14	9	<5	<5	<10	<1,000	<5	804 D	21	<5							
	10/02		l I	<25	11	<10	<10	<20	<1,000	<10	560 D	1 J	<10							
	5/03		1 [	<12	9	<5	<5	<10	<1,000	<5	0.9 J	3 J	<5							
	10/03	1 /	[	1,200 D	13	<5	<5	<5	<1,000	<5	88	<5	<5							
	6/04		1	15 J	12	<10	<10	<20	<1,000	<10	3 J	<5	<10							
	11/04		[	<25	9 J	<10	<10	<20	<1,000	<10	<5	<5	<10							
	6/05			<5.0 J	11	<5.0	<4.0	1.3 J	<1,000	<1.0	3,2	2.7	<3.0							
	11/05		[	<1.3 J	6.7	<0.4	<0.5	0.6	<1,000	<0.4	16	<1.0 J	<0.5							
	6/06							l	i	l		<5.0 J	11 J	0.6 J	<4.0 J	1.7 J	<1,000 J	<1.0 J	<1.0 J	2.4 J
	9/06							NS	NS	NS	NS	NS	NS	NS	1,6	3.4	NS			
	11/06			R	6.9	<5.0	<4.0	<5.0	<500	<1.0	0.4 J	1.1 J	<3.0							
MW-32	9/98	364	356	<10	16	2 J	5 J	3 J	<1,000	<10	6,300 D	4.J	<10							
	7/99			3 J	14	2 J	4 J	<10	<1,000	56	<10	3 J	<10							
	3/00			<10	5 J	<10	<10	<10	<1,000 J	<10	800 D	<10	<10							
	9/00			<10 J	12 J	<10 J	<10 J	<10 J	<1,000	<10 J	4,500 D	<10	<10 J							
	3/01		1	<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	4.3	<5	<5	<10	<1,000	<5	4,620 D	11	<5							
	10/02	}		<25	4.3	<10	<10	<20	<1,000	<10	50	R	<10							
1	5/03			<12	<5	<5	<5	<10	<1,000	<5	0.6 J	0.7 J	<5							
	10/03			20	2 J	<5	<5	<10	<1,000	<5	<5	<5	<5							
	6/04			6J	1 J	<10	<10	<20	<1,000	<10	1 J	<5	<10							
	11/04			<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10							
	6/05			<5.0 J	1.0	<5.0	<4.0	<5.0	<1,000	<1.0	0.4 J	<1.0	<3.0							
	11/05	]		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0							
	6/06			<5.0 J	<1.0 J	<5.0 J	<4.0 J	<5.0 J	<1,000 J	<1.0 J	<1.0 J	<1.0 J	<3.0 J							
	11/06	]		R	<1.0	0.8 J	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0							

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

			en Elev.									1	
Monitoring Well	Sampling Date	Top	AMSL) Bottom	Acetone	Benzene	Toluene	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Aniline	N,N-Dimethyl- aniline	Methylene Chloride
NYSDEC Groundwater Qua	ality Standards	(Part 700)		50	1	5	5	5	NA	5	5	1	5
MW-33	9/98	344.1	356.1	<10	<10	<10	<10	<10	<1,000	<10	9 J	6 J	<10
	2/99	]	1 [	<10	<10	<10	<10	<10	<1,000	<10	120	6.3	<10
	7/99		1	5 J	2 J	0.7 J	<10	<10	<1,000	<10	150	BJ	<23
	3/00	]	\ [	<10 J	<10	<10	<10	<10	<1,000 J	<10	61	7.1	11
	9/00	_	[	45 J	4 J	1 J	<10 J	<10 J	<1,000	<10 J	540 D	23	330 DJ
	3/01		1 [	17 J	<20	<20	<20	<20	<1,000	<20	1,300 D	16	370 B
	9/01	]	1 [	21	5 J	<10	<10	<10	<1,000 J	<10	1,900 D	12	<18
	4/02	1	[	<18	3 J	<5	<5	<10	<1,000	<5	2,780 D	21	19
	10/02	1	i i	11 J	4 J	<10	<10	<20	<1,000	<10	290 D	3 J	4 J
	5/03	1		88	13	<5	<5	<10	<1,000	<5	2,000	35 J	2,800 D
	10/03	1	1 [	22	2 J	<5	<5	<10	<1,000	<5	1,900 D	<6	<5
	6/04	1	1 L	9 J	12 J	<10 J	<10 J	<20 J	<1,000	<10 J	2,700 D	5 J	<10 J
	11/04	1			-	-			<1,000	-	2,700 D	5 J	-
	6/05	_	]	<5.0 J	11	1.0 J	<4.0	<5.0	<1,000	<1.0	1,800	<10	<3.0
	11/05	j	i i	<5.0 J	16	1.8 J	<4.0	<5.0	<1,000	<1.0	3,500	<25 J	<3.0
	6/06	_	[	<5.0 J	8.7 J	0.7 J	<4.0 J	<5.0 J	<1,000 J	<1.0 J	370 J	3.5 J	<3.0 J
	9/06	1	1 1	NS	NS	NS	NS	NS	NS	NS	940	8.0	NS
11/06				17 J	8.6	0.7 J	<4.0	<5.0	<500	<1.0	84	2.9 J	<3.0
/IW-34	9/98	362.7	354.7	<10	<10	<10	<10	<10	<1,000	<10	83	<10	<10
	7/99	1	1 1	2 J	0.9 J	1 J	<10	<10	<1,000	<10	3800	2 J	<10
	3/00	1	1 [	<10 J	1 J	2 J	<10	<10	<1,000 J	<10	200 E)	3.j	<10
	9/00		1 1	<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	320 D	4.1	<10 J
	3/01	1	1 1	<10	<10	2 J	<10	2 J	<1,000	<10	700 D	5 J	<10
	9/01	1	1 [	7 J	2 J	2 J	<10	2 J	<1,000 J	<10	76	3 j	<10
	4/02	]	! 1	<32	<5	<5	<5	<10	<1,000	<5	640 D	15	<5
	10/02	1	1 1	37 J	<10	<10	<10	<20	<1,000	<10	380 DJ	2 J	<10
	5/03	1	.	16	<5	<5	<5	<10	<1,000	<5	140	3,	<5
	10/03	1	1 [	9 J	<5	<5	<5	<10	<1,000	<5	18	<5	<5
	6/04	1	i l	24 J	<10	<10	<10	<20	<1,000	<10	30	<5	<10
	11/04		{	<25	<10	<10	<10	<20	180 J	<10	14	<5	<10
	6/05	1	1 [	5.6 J	0.7 J	0.9 J	<4.0	1.2 J	<1,000	0.4 J	16	2.5	<3.0
	11/05			20 J	<0.3	0.9	<0.5	1.1	<1,000	<0.4	12	2.5	<0.5
	6/06	_	1 [	6.4	0.6 J	0,5 J	<4.0	<5.0	<1,000	<1.0	16	2.3	<3.0
	11/06			49 J	<1.0	0.6 J	<4.0	0.6 J	<500	<1.0	9.9	1.2 J	<3.0
1W-35	9/98	363	355	<10	<10	<10	<10	<10	<1,000	<10	6.1	5.1	<10
	7/99	]	[	<10	0.7 J	<10	<10	<10	<1,000	<10	3 J	43	<10
	3/00	1	[	<10 J	<10	<10	<10	<10	<1,000 J	<10	<10	2J	<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 3
	9/01	]		<10	<10	<10	<10	<10	<1,000 J	<10	<10	2 J	<10
	4/02	1		<13	<5	<5	<5	<10	<1,000	<5	3 J	4 J	<5

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

	Sampling	ı	en Elev. AMSL)				Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene		
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanoi	ethene	Aniline	aniline	Chloride		
NYSDEC Groundwater Qualit	y Standards (	Part 700)		50	1	5	5	5	NA NA	5	5	1	5		
MW-35	10/02		]	<25	<10	<10	<10	<20	<1,000	<10	2 J	R	<10		
(cont'd.)	5/03	]		<12	<5	<5	<5	<10	<1,000	<5	1,000	<100	<5		
	10/03	]		5 J	<5	<5	<5	<10	<1,000	<5	4 J	<5	<5		
	6/04			<25	<10	<10	<10	<20	<1,000	<10	30	4 J	<10		
	11/04		'	<25	<10	<10	<10	<20	240 J	<10	82	<5	<10		
	6/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0		
	11/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0		
	6/06	<b>7</b>		<5.0	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	0.4 J	<1.0	<3.0		
	11/06			R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	1.1	<1.0 J	<3.0		
MW-36	9/98	363.6	355.6	<10	<10	<10	<10	<10	<1,000	<10	290 D	6 J	<10		
	2/99			<10	<10	<10	<10	<10	<1,000	<10	860 D	4.1	<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		1	5 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	. 8 J	6 J	<5		
	3/01	]	1	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10		
	9/01	]		54	<10	<10	<10	<10	<1,000 J	<10	350 D	5 J	<10		
	4/02			<20	<5	<5	<5	<10	<1,000	<5	9	41	<5		
	10/02			12 J	<10	<10	<10	<20	<1,000	<10	2 J	2 J	<10		
	5/03			9 J	<5	<5	<5	<10	<1,000	<5	67	4.J	<5		
	10/03						580 D	<5	<5	<5	<10	<1,000	<5	100	<5
	6/04						1			22 J	<10 J	<10 J	<10 J	<20 J	<1,000
	11/04	]		13 J	<10	<10	<10	<20	<1,000	<10	22	<5	<10		
	6/05	]		24 J	2.1	<5.0	<4.0	1.0 J	<1,000	<1.0	1,200	<5,4	<3.0		
	11/05		1	77 J	3.6	2.0 J	0.6 J	2.8 J	<1,000	<1.0	1,600	<10 J	<3.0		
	6/06	]		25	1.6	0.7 J	<4.0	1.2 J	<1,000	<1.0	76.	1.9	<3.0		
	9/06			NS	NS	NS	NS	NS	NS	NS	3,5	1,2	NS		
	11/06			130 J	3.6	1.2 J	<4.0	1.1 J	<500	<1.0	420	1,7 J	<30		
TW-01	12/96	365.1	355.4	<10	82	4 J	6.1	4 J	<1,000	<10	2,090 D	13	4 J		
	9/98	]		<10	15	<10	4 J	<10	<1,000	<10	4,400 DEJ	4.1	<10		
	2/99			<10	24	2 J	2 J	2 J	<1,000	<10	9,000 D	53	<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	1		<14	33	<5	<5	<10	<1,000	<5	8	13	<5		
	10/02	]		<25	7.3	<10	<10	<20	<1,000	<10	<5	R	<10		
	5/03			<12	7	<5	<5	<10	<1,000	<5	<5	1 J	<5		
	10/03			<12	6	<5	<5	<10	<1,000	<5	0.6 J	<5	<5		

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

Monitoring Well	Sampling Date	Screen Elev. (ft. AMSL)											
		Тор	Bottom	Acetone	Benzene	Toluene	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Anlline	N,N-Dimethyl- aniline	Methylene Chloride
NYSDEC Groundwater Qualit	y Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	5
TW-01	6/04			6 J	3 J	<10	<10	<20	<1,000	<10	<5	<5	<10
(cont'd.)	11/04			<25	2 J	<10	<10	<20	<1,000	<10	<5	<5	<10
	6/05		[	<5.0 J	1.8	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/05			<1.3 J	1.9	<0.4	<0.5	<0.4	<1,000	<0.4	<1.0	<1.0 J	<0.5
	6/06		[	<5.0 J	1 J	<5.0 J	<4.0 J	<5.0 J	<1,000 J	<1.0 J	<1.0 J	0.8 J	<3.0 J
	11/06			R	0.7 J	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
TW-02 <sup>c</sup>	12/96	363.3	353.3	53	10	77	16	65	<1,000	585 D	15,900 JD	3,920 D	42,449 D
(Replaced by TW-02R) <sup>E</sup>	9/98		1	<500 J	<500 J	<500 J	<500 J	53,000	5,000	300 J	38,000 D	51,000 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		1 5	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	6.3	79,000	<10,000	390 J
	3/01			81	19	68	28	130	<1,000	<10	67,000 D	65P J	400 D
	9/01		1	57	25	70	31	140	<1.000 J	<20	63,000 D	32	48 B
	4/02			240	19	65	23	96	<1,000	<5	1,090,000 D	<5,300	14
	10/02			110 J	15	19	23	65	<1,000	<10	80,000 D	10 J	<10
	5/03		1	240	30	130	49	226	<1,000	<5	160,000 D	230	97
	10/03		]	68	28	75 J	<5	<10	<1,000	2 J	92,000 D	<260	91
	6/04			140 J	19 J	39 J	31 J	111 J	<1,000	<10 J	82,000	<5,200	4 J
TW-02RR	11/04	363.3	363.3 353.3	18 J	4.3	8 J	4 J	16 J	<1,000	<10	7,100 D	<5	<10
	6/05	] ]		7.2 J	3.6	2.1 J	3.6 J	9.6	<1,000	0.3 J	8,400	<50	<3.0
	11/05		1 1	26 J	6	4.1	3.6	11	<1,000	<0.4	14,000	<110 J	<0.5
	6/06			16	4.4	1.3 J	2.7 J	6.7	<1,000	<1.0	19,000	<100	<3.0
	9/06		1 1	NS	NS	NS	NS	NS	NS	NS	7.600	<52	NS
	11/06		1	78 J	4.9	1.4 J	2.2 J	6.2	<500	<1.0	2,100	<10 J	<3.0
PZ-4D	11/89	350.8	345.9	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91		1 1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/92		1 1	<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	8/95		1 [	<1,000	<5	<5	<5	<5	<1,000	<5	<5	0.8 J	<5
	10/95			NA	<5	<5	<5	<5	NA NA	<5	<5	<10	<5
	8/96		1 1	<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	
	3/00		1	<10	<10	<10	<10	<10	<1,000 J	<10	<5	<10	<10 J
	3/01			<10	<10	<10	<10	<10	<1,000 3	<10	<10	<10	
	4/02		1 1	<10	<5	<5	<5	<10	<1,000	<5	<5	<5	<10
	5/03		1 1	<12	<5	<5	- <del> </del>	<5	<1,000	<5	<5 <5		<5
	6/04			<25	<10	<10	<10	<20	<1,000	<10	<5 <5	<5	<5
	6/05		1 1	<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0		<5	<10
	6/06			<5.0	<1.0	0.5 J	<4.0	<5.0	<1,000	<1.0	<1.0 <1.0	<1.0	<3.0 <3.0

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

			n Elev.		,								
Monitoring Well	Sampling Date	Top	MSL) Bottom	Acetone	Benzene	Toluene	Ethyl- benzene	Xylene <sup>A</sup>	Methanol	Trichloro- ethene	Aniline	N,N-Dimethyl- aniline	Methylene Chloride
NYSDEC Groundwater Quali	ty Standards (	Part 700)		50	1	5	5	5	NA	5	5	1	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 NA	<5	NA	NA	<5
1	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	1		<14	<5	<5	<5	<10	<1,000	<5	8 (<5) <sup>F</sup>	<5 (<5) <sup>F</sup>	<5
	10/02	]		<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	5/03	ļ		<12	<5	<5	<5	<5	<1,000	<5	<5	<5	<5
	6/04			<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
	6/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	6/06			<5.0	<1.0	0.6 J	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
PZ-5D	11/89	353.5 348.	348.6	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	12/94			<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	2/96			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97			<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
1	9/98	]		<10	<10	<10	<10	<10	<1,000	<10	<5 <sup>H</sup>	<10	<12
1	7/99			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000	<10 J	<10	<10	<10 J
	9/00			<10 J	<10 J	<10 J	<10 J	<10 J	<1,000 J	<10 J	<10 J	<10	<10 J
	9/01			<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	10/03			<12	<5	<5	<5	<10	<1,000	<5	46	<5	<5
	6/04			<25	<10	<10	<10	<20	<1,000	<10	<5	<5	<10
	11/04	1		-			_	-	<1,000	_	<5	<5	
	6/05	]		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0	<3.0
	11/05			<5.0 J	<1.0	0.7 J	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0
	11/06			R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0

Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

		Scree	n Elev.										
	Sampling		MSL)				Ethyl-			Trichloro-		N,N-Dimethyl-	Methylene
Monitoring Well	Date	Тор	Bottom	Acetone	Benzene	Toluene	benzene	Xylene <sup>A</sup>	Methanol	ethene	Aniline	аліline	Chloride
NYSDEC Groundwater Quality Standards (Part 700)			50	1	5	5	5	NA NA	5	5	1	5	
PZ-5\$	11/89	361.42	356.52	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
	12/94	1		<10	<5	<5	<5	<5	<200	<5	<5	<10	<5
	2/96	1	1	<1,000	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
	2/97	1		5 J	<10	<10	<10	<10	<1,000	<10	<5	<10	<10
1	9/98	1		<10	<10	<10	<10	<10	<1,000	<10	<5 <sup>H</sup>	<10	<12
1	6/99	1 '		<10 J	<10	<10	<10	<10	<1,000	<10	<10 J	<10 J	<10 J
	7/99			<10 J	<1,000 J	<10 J	<10	<10	<10 J				
	9/00	]		<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
i	10/02			<25 J	<10	<10	<10	<20 J	<1,000	<10	<5 <sup>G</sup>	<5 <sup>G</sup>	<10
	10/03		1 [	<12	<5	<5	<5	<10	<1,000	<5	<5	<5	<5
	11/04	]		-		_			<1,000		<b>&lt;</b> 5	<5	
	6/05			<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.1	<1.1	<3.0
	11/05	]		<5.0 J	<1.0	<5.0	<4.0	<5.0	<1,000	<1.0	<1.0	<1.0 J	<3.0
	11/06			R	<1.0	<5.0	<4.0	<5.0	<500	<1.0	<1.0	<1.0 J	<3.0
PZ-8S'	9/98	362.6	357.7	<10	<10	<10	<10	<10	<1,000	<10	<10	<10	<10
PZ-11D <sup>D</sup>	11/89	352.09	347.19	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-11S <sup>D</sup>	11/89	359.09	354.19	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-12D <sup>D</sup>	11/89	350	345.1	<100	<1	<1	<1	<1	<1,000	<1	<53	<53	<1
1	11/90			<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
ļ	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 <sup>D</sup>	11/89	360	355.1	<100	<1	<1	<1	<1	<1,000	<1	<10	<10	<1
	11/90			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
	11/91			<100	<1	<1	<1	<3	6	<1	<10	<10	5
	11/92			<100	<1	<1	<1	<3	<1,000	<1	<10	<10	<1
PZ-13D <sup>c</sup>	11/89	349.4	344.4	<100	<1	<1	<1	<1	<1,000	<1	<11	<11	<1
PZ-13S <sup>C</sup>	11/89	359.5	354.5	<100	<1	2	<1	2	<1,000	<1	<11	<11	<1

# Table 5. Summary of Historical Groundwater Monitoring Data, 2006 Biannual Process Control Monitoring Report, McKesson Envirosystems Former Bear Street Facility, Syracuse, New York

### General Notes:

- 1. Concentrations are presented in micrograms per liter (ug/L), which is equivalent to parts per billion (ppb).
- Compounds detected are indicated by bold-faced type.
- 3. Detections exceeding New York State Department of Environmental Conservation (NYSDEC) Groundwater Standards (Part 700) are indicated by shading.
- Replacement wells for MW-6, MW-8, MW-9, MW-10, MW-11, and MW-12D were installed 8/95.
- Replacement wells for MW-17, MW-24S, MW-24D, and TW-02 were installed 11/97 12/97.
- 6. 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.
- 7. N,N-dimethylaniline data for 10/02 sampling event for MW-1, MW-39, MW-29, MW-32, MW-35, and TW-01 were rejected due to matrix spike and matrix spike duplicate recoveries below control limits. Aniline and N,N-dimethylaniline data for 10/02 sampling event for MW-30 were rejected due to matrix spike and matrix spike duplicate recoveries below control limits. These wells and piezometers are not perimeter monitoring locations and were not resampled.
- 8. Aniline and N,N-dimethylaniline results of nondetect for the 6/04 sampling event at MW-18 were rejected due to the deviation from a surrogate recovery that was below 10 percent. This well was not resampled.
- 9. Volatile organic compound (VOC) results for the 11/04 sampling event were inadvertently lost due to laboratory equipment failure for monitoring locations MW-1, MW-17R, MW-18, MW-23I, MW-23I, MW-24DR, MW-24SR, MW-25, MW-33, PZ-5D, and PZ-5S. In addition, the initial VOC results were also irretrievable due to laboratory equipment failure for monitoring locations MW-27, MW-28, MW-29, and MW-30; however, results for subsequent dilutions of these groundwater samples were valid, but the detection limits were high. The duplicate sample VOC results for MW-27 and MW-28 have lower detection limits and are presented in parentheses. These wells were not resampled.
- 10. The sampling event in September 2006 was an interim sampling event to gauge the effects of the in-situ aerobic biodegradation treatment activities.

#### Superscript Notes

- ^= 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.
- 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.
- c = 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.
- 9 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).
- E Wells MW-8S, MW-8D, and TW-02R were abandoned in 8/04 and replacement wells MW-8SR and TW-02RR were installed in 8/04.
- F = MW-17R, MW-18, and PZ-4S wells/piezometers were resampled 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.
- <sup>G</sup> = MW-17R, MW-18, MW-23, MW-23I, MW-24DR, MW-24SR, MW-25S, PZ-4S, PZ-5S, and PZ-5D wells/peizometers were resampled for aniline and N,N-dimethylaniline during 1/03, because the 10/02 results were rejected due to matrix spike and matrix spike duplicate recoveries below control limits. These wells and piezometers are perimeter monitoring locations.
- H = MW-18, MW-23, MW-23, MW-24R, MW-24R, MW-28, PZ-5S, and PZ-5D wells/piezometers were resampled for aniline during 12/98, because the 9/98 results were rejected due to laboratory error.
- = Piezometer PZ-8S was decommissioned 8/2000.
- J = MW-24SR and PZ-5D well and piezometer were sampled during the June 2004 sampling event because N,N-dimethylaniline and/or aniline was detected at nearby perimeter monitoring locations during the October 2003 sampling event.

## Abbreviations:

AMSL = Above Mean Sea Level (NGVD of 1929).

NA = Not available

ND = Not detected

NS = Not sampled.

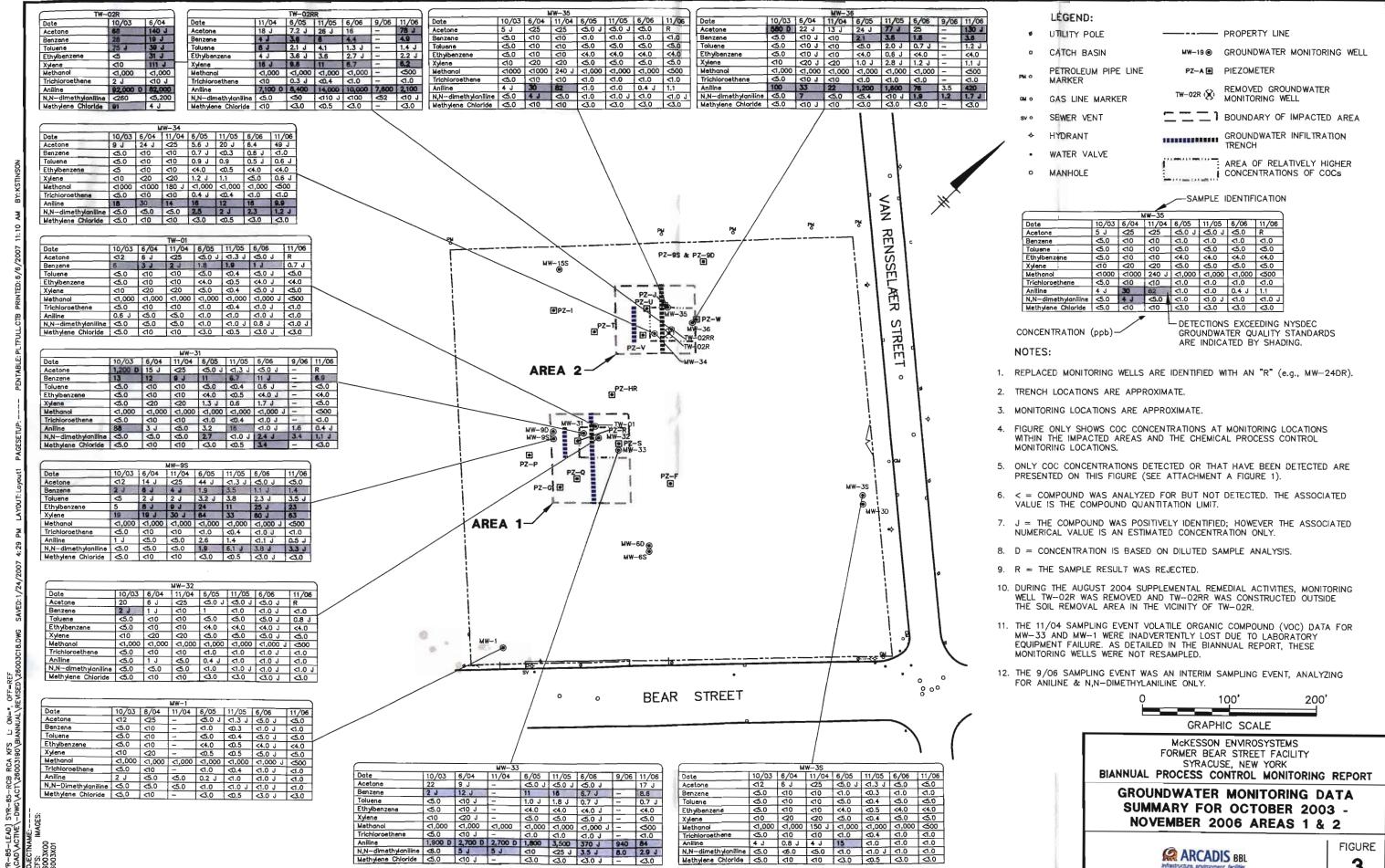
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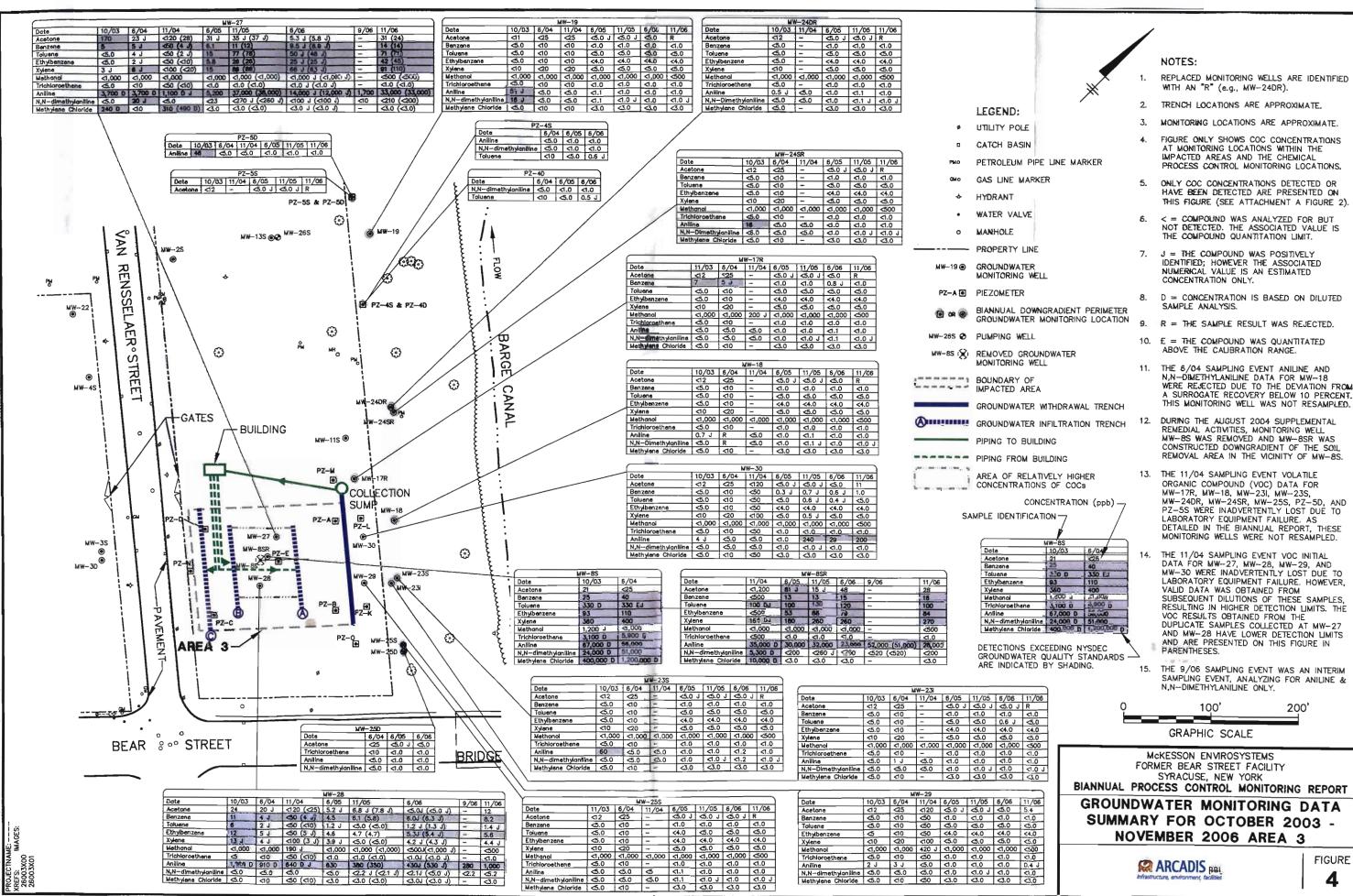
- D = Indicates the presence of a compound in a secondary dilution analysis.
- J = The compound was positively identified; however, the numerical value is an estimated concentration only.
- E = The compound was quantitated above the calibration range.
- JN = The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- B = The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- < = Compound was not detected at the listed quantitation limit.
- U = Undetected.
- R = The sample results were rejected.
- = Sample results are not available. (See Note 9.)

ARCADIS BBL **FIGURES** 

VAN LEGEND: UTILITY POLE RENSSELAER CATCH BASIN PETROLEUM PIPE LINE MARKER PZ-5S & PZ-5D GAS LINE MARKER SEWER VENT HYDRANT MW-13S **⊕** MW-26S S WATER VALVE **®** MANHOLE **(3)** PROPERTY LINE P₩ \_PZ-4S & PZ-4D GROUNDWATER MONITORING WELL PZ-9S & PZ-9D BIANNUAL DOWNGRADIENT PERIMETER GROUNDWATER MONITORING LOCATION -STANDPIPES SP-2-2, SP-2-3, AND SP-2-4 LOCATED ALONG THIS TRENCH WERE USED AS BIOLOGICAL MONITORING LOCATIONS DURING THE **③** PIEZOMETER **③** SHORT-TERM PROCESS CONTROL MONITORING PROGRAM (JULY 9 1998 THROUGH JULY 1999) MW-4S PUMPING WELL **③** WELL POINT CANAL MW-24DR BOUNDARY OF IMPACTED AREA AREA 2 GROUNDWATER WITHDRAWAL TRENCH - BUILDING MW-11S ®® -GATES 0 GROUNDWATER INFILTRATION TRENCH AND DENTIFICATION -STANDPIPES SP-1-1, SP-1-3, AND SP-1-5 LOCATED ALONG THIS TRENCH WERE USED AS PIPING TO BUILDING BIOLOGICAL MONITORING LOCATIONS DURING THE SHORT-TERM PROCESS CONTROL PIPING FROM BUILDING MONITORING PROGRAM (JULY 1998 THROUGH COLLECTION SUMP JUŁY 1999) AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs **③** NOTES: AREA 1 1. REPLACED MONITORING WELLS ARE IDENTIFIED ® MW-6D MW-6S PZ-K WITH AN "R" (e.g., MW-24DR). 2. LOCATIONS ARE APPROXIMATE. AREA 3 6 200' BRIDGE GRAPHIC SCALE - PAVEMENT-BEAR STREET McKESSON ENVIROSYSTEMS FORMER BEAR STREET FACILITY
SYRACUSE, NEW YORK
BIANNUAL PROCESS CONTROL MONITORING REPORT SITE PLAN **FIGURE** ARCADIS BR

LEGEND: UTILITY POLE CATCH BASIN PETROLEUM PIPE LINE MARKER GAS LINE MARKER SEWER VENT HYDRANT WATER VALVE (366.87)PZ-5S & PZ-50 MANHOLE - PROPERTY LINE **(3)** GROUNDWATER MONITORING WELL BIANNUAL DOWNGRADIENT PERIMETER GROUNDWATER MONITORING LOCATION 0 PZ-A PIEZOMETER (366.87)BOUNDARY OF IMPACTED AREA PZ-45 & PZ-40 GROUNDWATER WITHDRAWAL TRENCH **③** GROUNDWATER INFILTRATION TRENCH AND IDENTIFICATION (367.99) (367.96) PZ-J **(**) 0 (369.00) PZ-I AER - PIPING TO BUILDING 368.04) ---- PIPING FROM BUILDING STREET AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs PZ-V (367.97) GROUNDWATER ELEVATION CONTOUR AREA (FEET ABOVE MEAN SEA LEVEL) (368,31) WW-11S (366.11) DASHED WHERE INFERRED PZ-HR (368.81) GATES-BUILDING (365.60) + COLLECTION PZ-M SUMP(363.18) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL) SUMP (363.18) MW-17R PZ-A (365.62) (367.68) PZ-D INFERRED GROUNDWATER FLOW PATH PZ-L/(365.23) (368.61) PZ-Q PZ-P (368.30) (368.32)■ PZ-F 365.0 PZ-G (368.64) NOTES: -364.5 368.0 -364.0THIS FIGURE ONLY IDENTIFIES THE HYDRAULIC MONITORING AREA 1 LOCATIONS. REPLACED MONITORING WELLS AND PIEZOMETERS ARE IDENTIFIED WITH AN "R" (e.g., MW-24DR). ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929. (365.26) AREA 3 100' 200' GRAPHIC SCALE BEAR STREET - PAVEMENT-McKESSON ENVIROSYSTEMS FORMER BEAR STREET FACILITY **BRIDGE** SYRACUSE, NEW YORK BIANNUAL PROCESS CONTROL MONITORING REPORT POTENTIOMETRIC SURFACE OF THE SHALLOW HYDROGEOLOGIC UNIT SAND LAYER - OCTOBER 30, 2006 FIGURE ARCADIS BBL

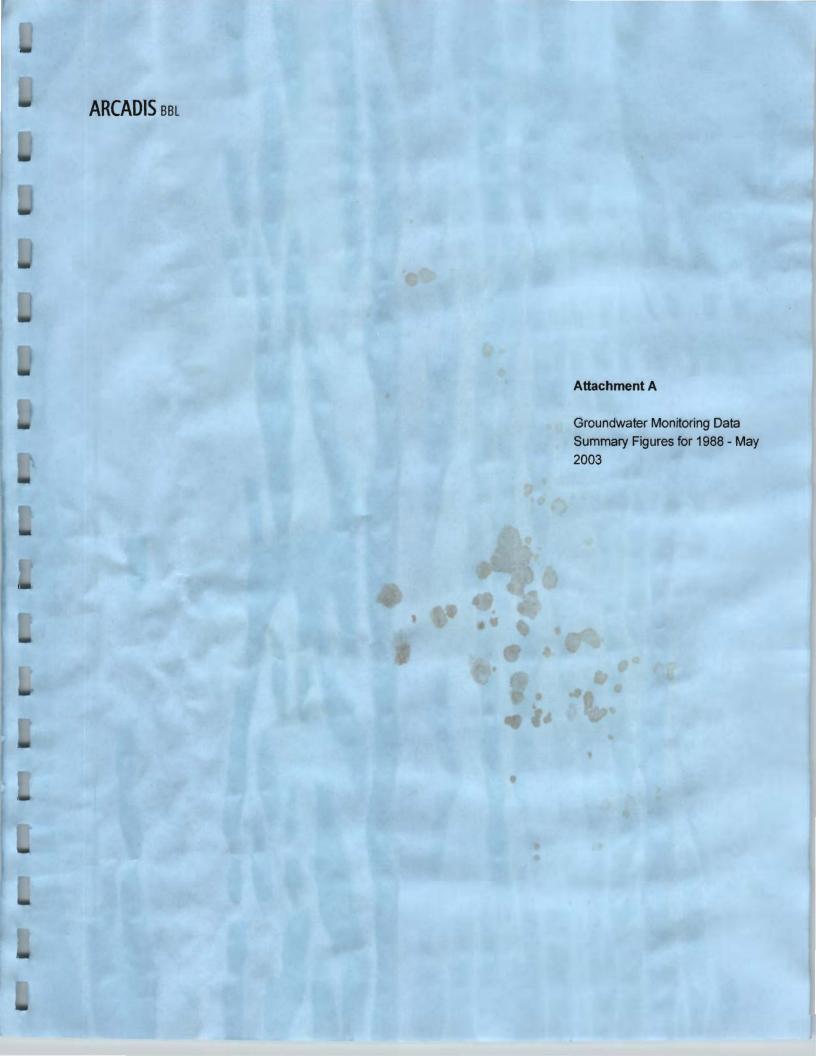


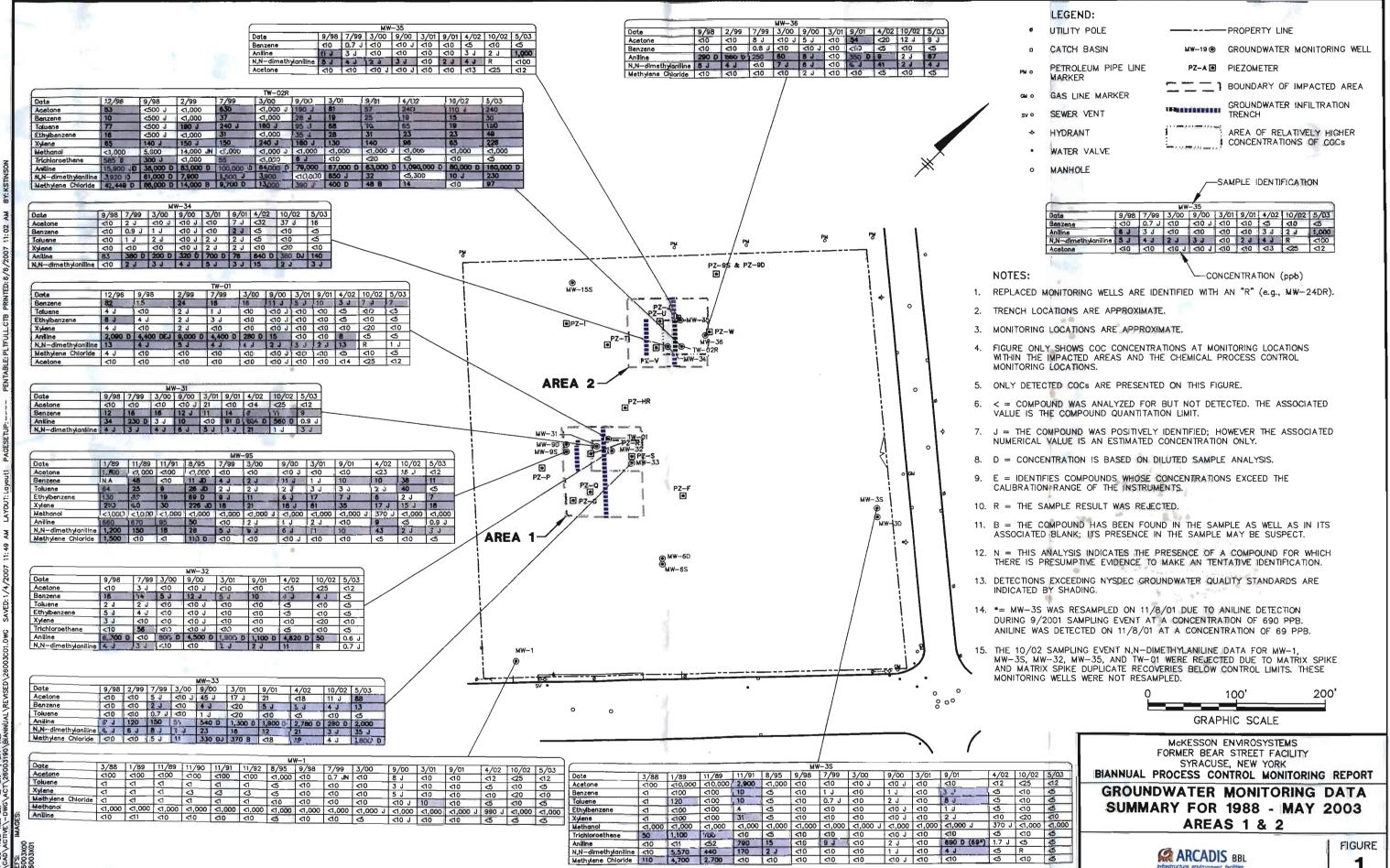


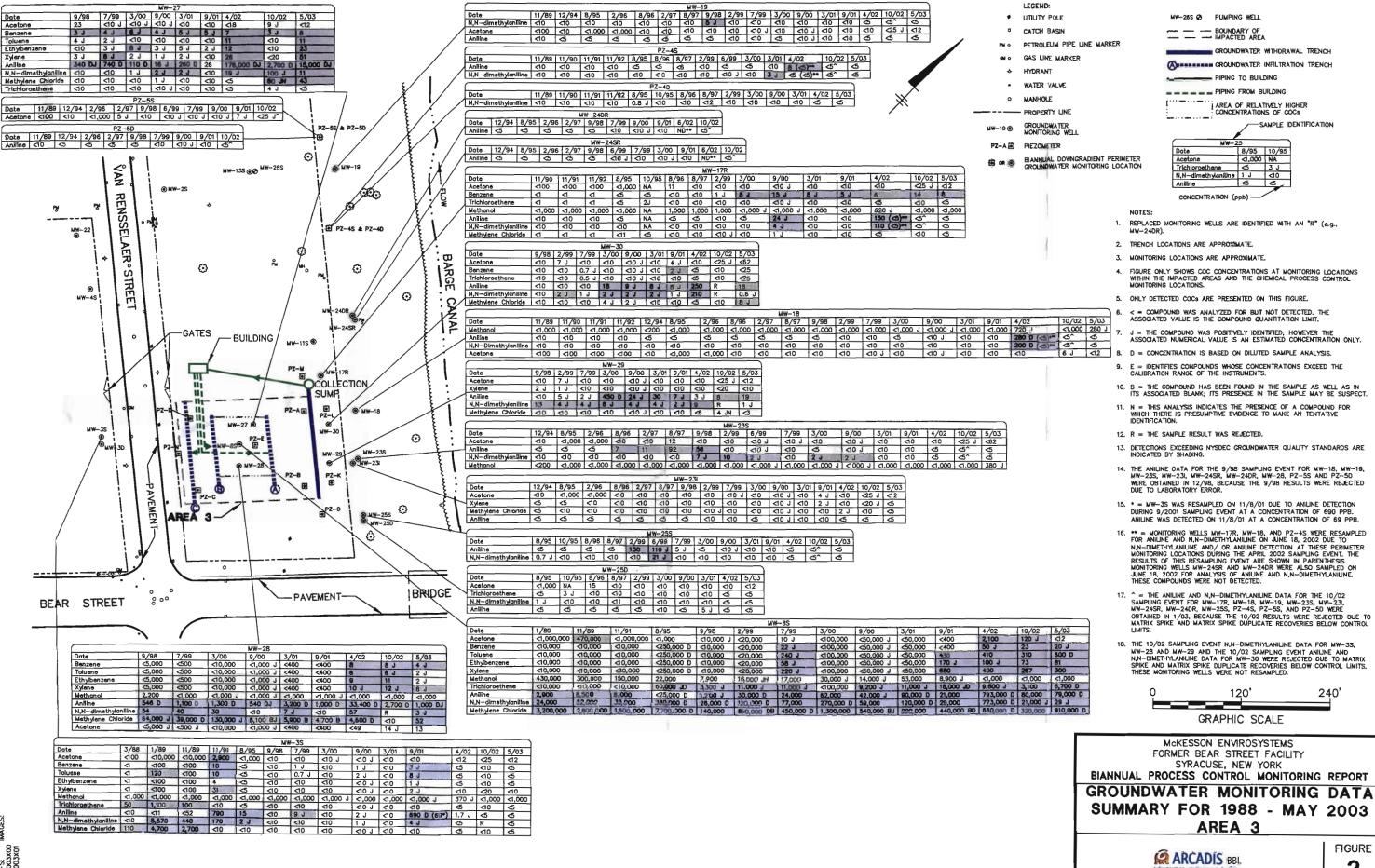
- REPLACED MONITORING WELLS ARE IDENTIFIED

- D = CONCENTRATION IS BASED ON DILUTED
- N,N-DIMETHYLANILINE DATA FOR MW-18
  WERE REJECTED DUE TO THE DEVIATION FROM
  A SURROGATE RECOVERY BELOW 10 PERCENT. THIS MONITORING WELL WAS NOT RESAMPLED.
- CONSTRUCTED DOWNGRADIENT OF THE SOIL REMOVAL AREA IN THE VICINITY OF MW-8S.
- MW-24DR, MW-24SR, MW-25S, PZ-5D, AND PZ-5S WERE INADVERTENTLY LOST DUE TO
- SUBSEQUENT DILUTIONS OF THESE SAMPLES, RESULTING IN HIGHER DETECTION LIMITS. THE DUPLICATE SAMPLES COLLECTED AT MW-27 AND MW-28 HAVE LOWER DETECTION LIMITS AND ARE PRESENTED ON THIS FIGURE IN

ARCADIS BBL **ATTACHMENTS** 







LEGEND:

**FIGURE** 

240'