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A subsidiary of Occidental Petroleum

Joe Branch
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7601 Old Channel Trail
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June 29, 2011

Reference No. 001431

Mr. Gregory P. Sutton
New York State Department of Environmental Conservation
270 Michigan Avenue
Region 9
Buffalo, NY 14203-2999

Dear Mr. Sutton:

Re: 2010 Annual Periodic Review Report
102nd Street Landfill Site, Niagara Falls, New York

Per the requirements of the Consent Decree and the Operations and Maintenance (O&M) Manual, Glenn Springs Holdings, Inc. (GSH) is submitting the 2010 Annual Periodic Review Report for the 102nd Street Landfill Site.

Please contact me at 231-670-6809 or email at Joseph_Branch@oxy.com should you have any questions or concerns.

GLENN SPRINGS HOLDINGS, INC.

JBranch

Joseph Branch
Project Manager
231-670-6809

JB/JP/adh/11
Encl.

c.c.: C. Babcock, GSH
M. Bellotti, Olin
P. Olivo, USEPA
J. Pentilchuk, CRA
J. Polovich, CRA
S. Radon, NYSDEC (email)
B. Sadowski, NYSDEC (email)

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CONESTOGA-ROVERS
& ASSOCIATES

2010 ANNUAL PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK

JUNE 2011
REF. NO. 001431 (87)

EXECUTIVE SUMMARY

The following report describes the Operation and Maintenance (O&M) activities for 2010 at the 102nd Street Landfill Site (Site) located in Niagara Falls, New York. The Site covers approximately 22.1 acres and consists of two separate properties owned by Occidental Chemical Corporation (OCC) (15.6 acres) and Olin Corporation (Olin) (6.5 acres). Both OCC's and Olin's responsibilities at the Site are currently performed by Conestoga-Rovers & Associates (CRA), under the direct supervision of Glenn Springs Holdings, Inc. (GSH), an affiliate of OCC.

During 2010, the Remedial Action (RA) system components at the Site performed as designed. The leachate collection system removed 389,884 gallons of Aqueous Phase Liquid (APL) from the Site. Water level monitoring showed that an inward gradient continues to be maintained at nine of the ten well pairs. Only one well pair (PCM-07R/PZ-07) on the north side of the Site indicated an outward gradient for each of the four monitoring events. However, analytical results indicate no Site parameters were observed above the survey levels (Site baseline guidance values from Table 3.1 of the Site O&M Manual, 2010) outside of the slurry wall at PCM-07R.

In 2010, 485 gallons of Non-Aqueous Phase Liquid (NAPL) were recovered from the Site NAPL Recovery Wells. The recovered NAPL was then sent to an off-Site incinerator (Clean Harbors, Deer Park, Texas) for final destruction.

The 2010 data indicate that there has been no significant change in chemical and hydrogeological conditions at the Site. The forcemain system continues to pump sufficient leachate from the landfill to maintain an inward gradient across the slurry wall. The slurry wall is functioning as designed, preventing off-Site migration and influx of groundwater.

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1.0 INTRODUCTION

The following report describes the Operation and Maintenance (O&M) activities for 2010 at the 102nd Street Landfill Site (Site) located in Niagara Falls, New York. Both Occidental Chemical Corporation's (OCC's) and Olin Corporation's (Olin's) responsibilities at the Site are currently performed by Conestoga-Rovers &Associates (CRA), under the direct supervision of Glenn Springs Holdings, Inc. (GSH), an affiliate of OCC.

The Site covers approximately 22.1 acres and consists of two separate properties owned by OCC (15.6 acres) and Olin (6.5 acres). The Site is bordered by the Niagara River to the south, Buffalo Avenue to the north, Griffon Park to the west, and privately owned land to the east. A perimeter fence restricts Site access. Authorized vehicular traffic access is provided from Buffalo Avenue by locked fence gates.

Remedial construction at the Site was completed in 1999, and groundwater pumping began in March 1999. The groundwater collection system at the Site is shown on Figure 1.1.

Final responses to the comments for the Final Closure Report for the Site were submitted to the New York State Department of Environmental Conservation (NYSDEC) and the United States Environmental Protection Agency (USEPA) (collectively, the "Agencies") on September 22, 2000. The Certificate of Completion for the Site was accepted by the Agencies on March 13, 2002, signifying that all remedial work had been completed. Subsequently, the formal initiation of the O&M for the Site occurred in April 2002. This report is the ninth annual report for the Site.

The Remedial Action (RA) system components at the Site that have associated O&M activities are as follows:

- Landfill cap
- Perimeter slurry wall
- Aqueous Phase Liquid (APL) collection and discharge system
- Non-Aqueous Phase Liquid (NAPL) recovery system
- Post-RA system performance monitoring
- Perimeter fence

This report describes the monitoring and maintenance activities conducted and presents the data collected at the Site between January 1, 2010 and December 31, 2010. The completed Institutional and Engineering Control Certification (ICEC) Form is included as Appendix A.

2.0 SITE MONITORING PROGRAMS

The post-RA system performance monitoring program was established to monitor the effectiveness of the RA system components and includes:

- Quarterly groundwater level measurements
- Semiannual groundwater quality monitoring
- Quarterly NAPL presence monitoring

2.1 HYDRAULIC MONITORING PROGRAM

Hydraulic monitoring at the Site consists of the measurement of water levels in monitoring wells and piezometers to determine groundwater elevations. This monitoring includes ten piezometers (PZ-01 through PZ-10) inside the slurry wall and ten monitoring wells (PCM-01 through PCM-10) outside the slurry wall. The measurements are used to evaluate Site performance toward establishment of an inward gradient by pairing wells (one inside the slurry wall and one outside the slurry wall) and demonstrating an inward gradient at each well pair. The established well pairs are listed in Table 2.1, and the locations of the monitoring wells, piezometers, and slurry walls are shown on Figure 1.1.

Water level measurements in the piezometers and monitoring wells were measured quarterly in 2010, in accordance with the O&M manual. The 2010 water level measurements have been converted to elevations and are presented in Table 2.2. The elevations for each of the well pairings and the gradients achieved for the quarterly events throughout the year are presented in Table 2.3.

Water level data have been converted to elevations and are listed on the Annual Report Forms (Appendix B). Data for 2002 through 2010 have also been graphed to show groundwater elevation trends (Appendix C). The quarterly groundwater elevations are presented on Figures 2.1 through 2.4.

2.2 GROUNDWATER QUALITY MONITORING PROGRAM

The groundwater quality monitoring program consists of ten overburden monitoring wells (PCM-01 through PCM-10) and three bedrock wells (PCBM-01 through PCBM-03). These wells were sampled quarterly for the first 2 years following the initiation of the

O&M, and then scheduled for semiannual sampling for 8 years thereafter. Semiannual sampling will continue through 2011. In 2012, sampling frequency will decrease to annually in accordance with the O&M Plan.

Groundwater quality monitoring was performed semiannually in April and October 2010. Table 2.4 presents the results of these groundwater monitoring events.

Concentrations present in the groundwater have been graphed to determine if any of the levels are increasing. These graphs are presented in Appendix D.

2.3 NAPL PRESENCE MONITORING PROGRAM

The NAPL presence monitoring program consists of eight NAPL Recovery (NR) wells (NR-01 through NR-05, NR-07, NR-08, and NR-10). NAPL presence monitoring began in these wells in April 2002, immediately after the USEPA approved the Certificate of Completion. In accordance with the O&M manual, NAPL presence was checked each month for the first 3 months. The monthly monitoring ended in June 2002. Since June 2002, the NAPL presence monitoring has been completed quarterly. If, during the quarterly monitoring, more than 3 gallons of NAPL (6 inches deep in the 12-inch diameter well) are present in a NAPL recovery well, the NAPL will be removed. NAPL removal will occur from April through October, during the warmer months of the year.

Results of the NAPL presence monitoring are presented on the Annual Report Forms presented in Appendix B.

3.0 SITE MONITORING RESULTS

3.1 HYDRAULIC MONITORING RESULTS

The 2010 quarterly groundwater elevations are shown on Figures 2.1 through 2.4. Inward gradients towards the landfill were demonstrated at all wells pairs with the exception of well pair 7 (PCM-07R/PZ-07) (see Table 2.3). An inward gradient was not maintained at any of the quarterly events for well pair 7, as demonstrated in Table 2.3.

Review of Table 2.3 appears to indicate that well pairs 6, 8, and 9 do not demonstrate inward gradients for the four quarterly events, due to one of the well pairs being dry. The absence of water level data (wells were dry) indicates that an inward gradient may not have been present at these well pairs; however, when the bottom elevations of PZ-06, PZ-08, and PZ-09 are taken into account when those wells were measured as dry, it is apparent that an inward gradient was being maintained (the water level elevation in the wells outside the slurry wall is higher than the elevation of the bottom of the dry wells inside the slurry wall).

PCM-07R was installed as a replacement for PCM-07 in October 2007. Evaluation of PCM-07 in 2006 demonstrated that the well was not monitoring the same interval as PZ-07. The well pairs at the Site were installed such that they monitored the same intervals in order to demonstrate inward gradients. However, the relative overlap of the screens in PCM-07 and PZ-07 was only 0.83 foot. Therefore, PCM-07 was abandoned and replaced with PCM-07R. PZ-07 is screened from 564.8 feet above mean sea level (AMSL) to 569.8 feet AMSL. PCM-07R is screened from 564.12 feet AMSL to 569.12 feet AMSL. The relative overlap of the well screens is now 4.6 feet, which will insure an accurate calculation of inward hydraulic gradients. However, even with the replacement of PCM-07, the calculations in Table 2.3 demonstrate that an inward gradient is not being maintained at this well pair. At this time, an evaluation of the conditions at this well pair is being conducted to determine potential reasons for the existing outward gradient. The results of this evaluation will be presented at a later date.

Well pairs 6, 7, 8, 9, and 10 are located along the northern side of the Site, and as shown on Figures 2.1 through 2.4, exhibit groundwater elevations ranging from 564.51 feet AMSL to 572.62 feet AMSL. The remaining wells on the Site (well pairs 1, 2, 3, 4, 5, NR-01 to NR-08, NR-10, and Wet Wells 1 through 4) to the south of well pairs 6, 7, 8, 9, and 10 exhibit groundwater elevations ranging from 559.65 feet AMSL to 567.02 feet AMSL. Although well pair 7 exhibits a potential outward groundwater gradient, Figures 2.1 through 2.4 demonstrate that a north-to-south groundwater gradient

towards the APL collection trench (located on the south side of the Site along the Niagara River) exists across the Site, and therefore, contaminant flow would be southwards toward the APL collection trench. Analytical results from the groundwater collected from wells PCM-7R through PCM-10 (located outside the slurry wall) demonstrates that there are no contaminants present at these locations at concentrations exceeding the Site groundwater survey criteria.

3.2 GROUNDWATER QUALITY MONITORING RESULTS

Overburden Monitoring Wells

In 2010, groundwater samples were obtained from all ten monitoring wells included in the semiannual analytical program, with the following deviations.

1. Well PCM-06 did not yield sufficient volume for collection of a sample in April 2010. It yielded sufficient volume in October 2010 for the collection of volatile organic compounds (VOCs), but insufficient volume for the collection of samples for semi-volatile organic compounds (SVOCs), metals, and pesticides.
2. Well PCM-07R yielded sufficient volume in October 2010 for the collection of samples for VOCs, SVOCs, and pesticides, but insufficient volume for the collection of a sample for metals.
3. Well PCM-09 did not yield sufficient volume for the collection of a sample in October 2010.

Site groundwater criteria were exceeded in three of the ten overburden monitoring wells in 2010. Wells PCM-03, PCM-04, and PCM-05 demonstrated exceedances of VOCs (benzene, chlorobenzene, chlorotoluene, and dichlorobenzene), and PCM-03 and PCM-04 demonstrated exceedances of SVOCs (chlorophenol and dichlorophenol).

Bedrock Monitoring Wells

Site groundwater criteria were not exceeded in the three bedrock monitoring wells that were sampled for groundwater quality in 2010.

3.3 NAPL PRESENCE MONITORING RESULTS

NAPL presence monitoring of the eight NR wells (NR-01, NR-02, NR-03, NR-04, NR-05, NR-07, NR-08, and NR-10) began in April 2002 immediately after USEPA approved the Certificate of Completion. In accordance with the O&M manual, NAPL presence was checked each month for the first 3 months (ending in 2002) and has been checked quarterly thereafter. Results of this monitoring are presented in the Annual Report Forms presented in Appendix B.

NAPL was present in five of the eight NR wells in 2010. Thickness of the NAPL ranged from 0.10 foot (NR-01) to 2.2 feet (NR-02). With the exception of the deviations discussed in Section 4.2.2, between April 1 and October 30, 2010, NAPL was removed when it was present at quantities more than 3 gallons or at a thickness greater than 6 inches.

4.0 OPERATION OF 102ND STREET LANDFILL SYSTEMS

4.1 APL COLLECTION AND DISCHARGE SYSTEM OPERATION

The individual APL pumps in the APL collection wet wells operated throughout 2010 on level control. All well pumps were set to start up at an elevation of 562.0 feet AMSL (1 foot below the average Niagara River water level) and shut down when elevations in the wells reached 561.8 feet AMSL.

A total of 389,884 gallons of APL were removed from the Site and pumped to the Love Canal Treatment Facility (LCTF). There, the APL was treated and discharged to the City of Niagara Falls Sanitary Sewer System, under the Niagara Falls Water Board Significant Industrial User (SIU) Permit #44. A total of approximately 8.1 million gallons of APL have been recovered from the Site since pumping was initiated in March 1999.

Wet Wells 1 through 4 collect APL at the Site. In 2010, Wet Well 1 collected 6,203 gallons of APL (1.6 percent of the total for the Site), Wet Well 2 collected 371,249 gallons of APL (95.2 percent), Wet Well 3 collected 585 gallons of APL (less than 1 percent), and Wet Well 4 collected 11,847 gallons of APL (3 percent).

4.2 NAPL RECOVERY

Four-hundred and eighty-five (485) gallons of NAPL were removed from the NR wells at the Site in 2010. The majority of the NAPL was pumped from NR-02. The NAPL was transported to Clean Harbors Facility in Deer Park, Texas for incineration.

4.2.1 NR-02 AND NR-03 NAPL RECOVERY

In 2010, a temporary change to the Accelerated NAPL Recovery Program at the Site was proposed. Previous to June 2010, the Accelerated NAPL Recovery Program consisted of continuous NAPL recovery at well NR-02 and quarterly NAPL presence checks and recovery (if necessary) from NR-01, NR-03, NR-04, NR-05, NR-07, NR-08, and NR-10 between April and October of each year. A review of historical NAPL presence and removal data suggested that NAPL presence in the vicinity of NR-02 was diminishing. In addition, quarterly NAPL measurements from recovery well NR-03 indicated that additional NAPL removal from NR-03 may be possible. On March 11, 2010, Mr. Brian Sadowski of the NYSDEC was contacted by CRA, and the addition of NR-03 to the Accelerated NAPL Recovery Program was discussed. Mr. Sadowski agreed to the

modification to the program (effective immediately) as long as pumping of NR-02 continued, at least on a weekly basis. The modification was further discussed and confirmed during the May 27, 2010 NYSDEC annual 102nd Street Landfill Site inspection. NR-03 was added to the Accelerated NAPL Recovery Program at the same frequency as NR-02 (which at that time was pumped daily/continuously). NAPL was to be pumped continuously from NR-03 from April 1 to October 31, and the presence and removal evaluated to determine whether continued pumping from NR-03 would be possible. Pumping from NR-02 would decrease from continuous to weekly, with removal rates to be evaluated to determine whether the frequency of NAPL presence and removal should be changed to quarterly, which is the current NAPL removal program for the remaining recovery wells (NR-01, NR-04, NR-05, NR-07, NR-08, and NR-10).

As per the approved modification to the Accelerated NAPL Recovery Program, pumping at NR-02 was conducted weekly during the second and third quarters of 2010. Though not required as per the O&M Manual, NAPL removal continued at NR-02 into the fourth quarter, until cold weather made NAPL removal difficult. Table 4.1 presents a summary of NAPL removed from NR-02 during 2010. Daily pumping from well NR-03 was attempted during the second quarter of 2010; however, a majority of the NAPL present in well NR-03 was found to be thick and not able to be removed from the well. Therefore, the frequency of pumping at NR-03 was reduced to quarterly, to coincide with the routine NAPL recovery program. The effect of increasing ambient summer temperatures on the mobility of the NAPL was also evaluated; however, the temperatures did not affect the mobility. At the time this report is being written, attempts at NAPL removal from NR-03 are being made with some success, and plans to install an inner casing for placement of a "jerk tube" (a more effective method of NAPL removal) are in place. GSH will continue to monitor and evaluate the removal of NAPL from NR-03.

A concentrated effort was implemented in 2004 to extract NAPL using NR-02, in accordance with the approved Work Plan "NAPL Extraction Program Work Plan for Accelerated Recovery" submitted to the NYSDEC in December 2003. This task was achieved by concentrating on the known quick recharge well NR-02. In 2010, NAPL was recovered weekly from May through November from NR-02 for a total NAPL recovery of 478 gallons. Table 4.1 presents a summary of the NAPL removed from NR-02 in 2010. The removal of NAPL from NR-02 will continue to be evaluated, and options to maximize NAPL removal and optimize the pumping schedule at NR-02 are being considered, such as an increase in pumping frequency, the possibility of automating the pumping (by use of a float switch or timer), etc.

Table 4.2 shows the current and historical NAPL recoveries from the on-Site NR wells.

4.2.2 NAPL REMOVAL DEVIATIONS

The NAPL removal information presented in Appendix B indicates that NAPL was present during the NAPL presence check conducted during the second quarter of 2010 in NR-03 at a thickness of 1.65 feet, in NR-05 at a thickness of 0.7 foot, and in NR-08 at a thickness of 0.7 foot. However, no NAPL was removed from these wells in the second quarter of 2010. NAPL was not removed from NR-03 for the reasons stated above. Though NAPL was present at NR-05 and NR-08 at thickness greater than 6 inches on the date of the NAPL presence check (June 1, 2010), when field personnel returned 3 days later (June 4, 2010) to remove NAPL from the NR wells, which demonstrated a need for NAPL removal, the NAPL was not present at NR-05 and NR-08 at a thickness greater than 6 inches. Therefore, no NAPL was removed from those two wells during the second quarter of 2010.

4.2.3 ON-SITE STORAGE OF NAPL

NAPL removed from the NR wells previous to August 2010 was pumped into a 5,000-gallon tanker that was stored at the Site, adjacent to NR-02. In 2010, it was determined that the tanker was no longer compliant with the New York State Bulk Storage Regulations that require secondary containment for tanks. A decision was made to take the tanker out of service, and replace it with two double-walled skid-mounted poly tanks with internal secondary containment. Secondary containment is built into the second wall of the tank which eliminates stormwater management. Since the tanks are skid mounted, no special foundation other than a gravel base is required, and the tanks can easily be relocated if necessary. The use of two 2,500-gallon tanks provides the greatest flexibility for pumping NAPL from multiple locations and provides a lower visual profile than one 5,000-gallon tank. The tanks were put into use at the Site in August 2010.

The tanks were installed at NR-02 and NR-03 due to the current pumping schedule and can be easily moved depending on the productivity of the two wells during pumping events. The 5,000-gallon tanker was decommissioned following the installation of the new tanks and appropriately cleaned out in September 2010. The tanker will be removed and disposed of when weather allows (currently the surface of the landfill is soft from the spring rains, and the tanker cannot be removed due to concerns of damage to the cap). The 2,500-gallon NAPL tanks are inspected regularly as part of the 102nd Street daily inspections.

4.2.4 2010 NAPL RE-CHARACTERIZATION

Every 5 years, the NAPL collected on Site is re-characterized to determine if there are any changes in the NAPL composition. A re-characterization sample was taken in October 2010. Table 4.3 presents a summary of the analytical results for each of the NAPL re-characterization events. Comparison of the 2010 NAPL analytical data to the historic data demonstrates that the current NAPL composition is comparable to the historic "fingerprint" of previous NAPL samples.

5.0 SITE MAINTENANCE AND INSPECTIONS

5.1 SITE INSPECTIONS

Daily inspections were conducted at the Site in 2010, as per the O&M Manual. Copies of these inspection forms are available upon request.

The 2010 annual Site inspection was held on May 27, 2010 with representatives from NYSDEC and CRA. The Site inspection reviews the RA System Components to ensure Site compliance.

The inspection included a general walk-around the Site and covered all portions of the landfill remediation including the APL Collection System, APL Discharge System, Landfill Cap, Bulkhead, and Storm Sewer.

In general, the NYSDEC commented that the Site looked well maintained and in very good order, with no evidence of erosion. Listed below are items that the NYSDEC indicated would need to be addressed:

- Fallen confined space entry sign on vault door.
  - The confined space entry sign was reinstalled in May 2010.

5.2 MONITORING WELL/PIEZOMETER INSPECTIONS

The monitoring wells, piezometers, and wet wells are inspected on a quarterly basis as part of the quarterly water level measurement events. The monitoring wells are also inspected on a semiannual basis, when the groundwater analytical samples are collected. As part of the water level measurement and groundwater sampling procedures, the physical condition of the well is recorded, and any repairs needed are noted.

5.3 MAINTENANCE

Maintenance performed at the Site in 2010 included the following:

- Mowing the landfill vegetation to inhibit the growth of woody material
- Filling of holes found in the soil cover made by burrowing animals

- Maintenance (including scheduled preventative maintenance) of all pumps and on-Site control equipment to ensure proper function
- Replacement of pump at Wet Well 1
- General repairs to NR-2
- NR-3 well development
- Cleaning of decommissioned NAPL storage tank
- Installation of inner casing of jerk tube for NR-02
- Installation of NAPL storage tanks by NR-2 and NR-3

5.4 SITE BEAUTIFICATION/WILDLIFE

Wildlife/beautification enhancements to the Site continue to provide wildlife habitat and beneficial reuse. The Site is a Wildlife Habitat Council (WHC) listed site. This designation indicates that the 102nd Street Landfill Site is an area dedicated to the restoration and enhancement of wildlife habitat. The WHC is comprised of a group of corporations, conservation organizations, and individuals with the goal of bringing together conservation and business. They work with corporations and landowners to create tailored voluntary wildlife habitat enhancement.

6.0 CONCLUSION

During 2010, the RA system components at the Site performed as designed. The leachate collection system removed 389,884 gallons of APL from the Site. Water level monitoring showed that an inward gradient continues to be maintained at nine of the ten well pairs. Only one well pair (PCM-07R/PZ-07) on the north side of the Site indicated an outward gradient for each of the four monitoring events. However, analytical results indicate no Site parameters were observed above the levels (Site baseline guidance values from Table 3.1 of the Site O&M Manual, 2010) outside of the slurry wall at PCM-07R.

In 2010, 485 gallons of NAPL were recovered from the Site NAPL Recovery Wells. The recovered NAPL was then sent to an off-Site incinerator (Clean Harbors, Deer Park, Texas) for final destruction.

The 2010 data indicate that there has been no significant change in chemical and hydrogeological conditions at the Site. The forcemain system continues to pump sufficient leachate from the landfill so as to maintain an inward gradient across the slurry wall. The slurry wall is functioning as designed, preventing off-Site migration and influx of groundwater.

FIGURES

LASALLE EXPRESSWAY

DOUBLE-CONTAINED PIPE
BENEATH LASALLE EXPRESSWAY

CO-MH8

CO-MH9

BUFFALO AVENUE

PZ-10

PCM-10

PCM-09

PZ-09

PCM-08

PZ-08

CO-MH1

SAMPLE
MANHOLE

SAMPLE
SHED

PCM-07R

PZ-07

BUFFALO AVENUE

102ND STREET
TOWN OF WHEATFIELD
CITY OF NIAGARA FALLS

PCM-06

PZ-06

PCM-01

PZ-01

CO-1

CO-MH2

NR-01

ACCESS ROAD

OUT OF SERVICE
NAPL TANK
(5,000 GALLON)

2,500 GALLON
SKID TANK

2,500 GALLON
SKID TANK

NR-02

NR-04

ACCESS ROAD

NR-10

NR-05

NR-07

CO-7

APL COLLECTION
TRENCH

APL COLLECTION
TRENCH

2'-2" HDPE FORCE MAINS

APL COLLECTION
TRENCH

PZ-04

CO-5

CO-MH6

WET WELL
WW-3

CO-6

CO-MH7

PZ-05

PCM-05

PCM-02

PZ-02

CO-2

CO-MH3

NR-03

NR-08

CO-4

CO-MH5

PCM-04

LITTLE RIVER

CAYUGA ISLAND

2'-2" HDPE FORCE MAINS

CO-MH4

PZ-03

CO-3

PCM-03

WET WELL
WW-2

WET WELL
WW-4

WET WELL
WW-1

APL COLLECTION
TRENCH

NIAGARA RIVER

0 75 150ft

LEGEND

PROPERTY LINE	SLURRY WALL AND CENTERLINE	CO-2	TRENCH CLEAN OUT
FENCE LINE	APL COLLECTION TRENCH	CO-MH3	FORCEMAIN CLEAN OUT MANHOLE
CRIB WALL	PZ-02	PIEZOMETER LOCATION		NAPL RECOVERY WELL LOCATION
FORCEMAIN	PCM-02	MONITORING WELL LOCATION		

figure 1.1

FACILITY LAYOUT
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York

01431-D23101(087)GN-WA001 MAY 24/2011

LASALLE EXPRESSWAY

DOUBLE-CONTAINED PIPE
BENEATH LASALLE EXPRESSWAY

CO-MH8

CO-MH9

BUFFALO AVENUE

PCM-10
(567.4)

PZ-10
(564.9)

PCM-09
(572.6)

PZ-09
(DRY)

PCM-08
(569.6)

PZ-08
(DRY)

PCM-07R
(566.1)

PZ-07
(567.1)

BUFFALO AVENUE

TOWN OF WHEATFIELD
CITY OF NIAGARA FALLS

102ND STREET

0 75 150ft

SAMPLE
MANHOLE

SAMPLE
SHED

CO-MH1

PCM-01
(566.0

PZ-01
(562.1)

CO-1

CO-MH2

APL COLLECTION
TRENCH

OUT OF SERVICE
NAPL TANK
(5,000 GALLON)

2,500 GALLON
SKID TANK

ACCESS ROAD

NR-01
(560.7)

NR-02
(560.5)

NR-03
(560.3)

NR-08
(560.2))

2,500 GALLON
SKID TANK

NR-04
(560.4)

NR-05
(560.4)

NR-07
(561.6)

NR-10
(560.6)

ACCESS ROAD

PZ-06
(DRY)

PCM-06
(565.8)

CO-7

APL COLLECTION
TRENCH

2'-2" HDPE FORCE MAINS

PCM-02
(567.0)

PZ-02
(561.1)

CO-2

CO-MH3

APL COLLECTION
TRENCH

PZ-04
(560.8)

PCM-04
(562.4)

CO-4

CO-MH5

CO-5

CO-MH6

CO-6

CO-MH7

PZ-05
(560.4)

PCM-05
(565.0)

WW-3
(560.5)

WW-4
(560.6)

2'-2" HDPE FORCE MAINS

LITTLE RIVER

CAYUGA ISLAND

2'-2" HDPE FORCE MAINS

CO-MH4

PZ-03
(560.5)

WW-1
(560.4)

CO-3

WW-2
(560.4)

PCM-03
(562.3)

APL COLLECTION
TRENCH

NIAGARA RIVER (562.7)

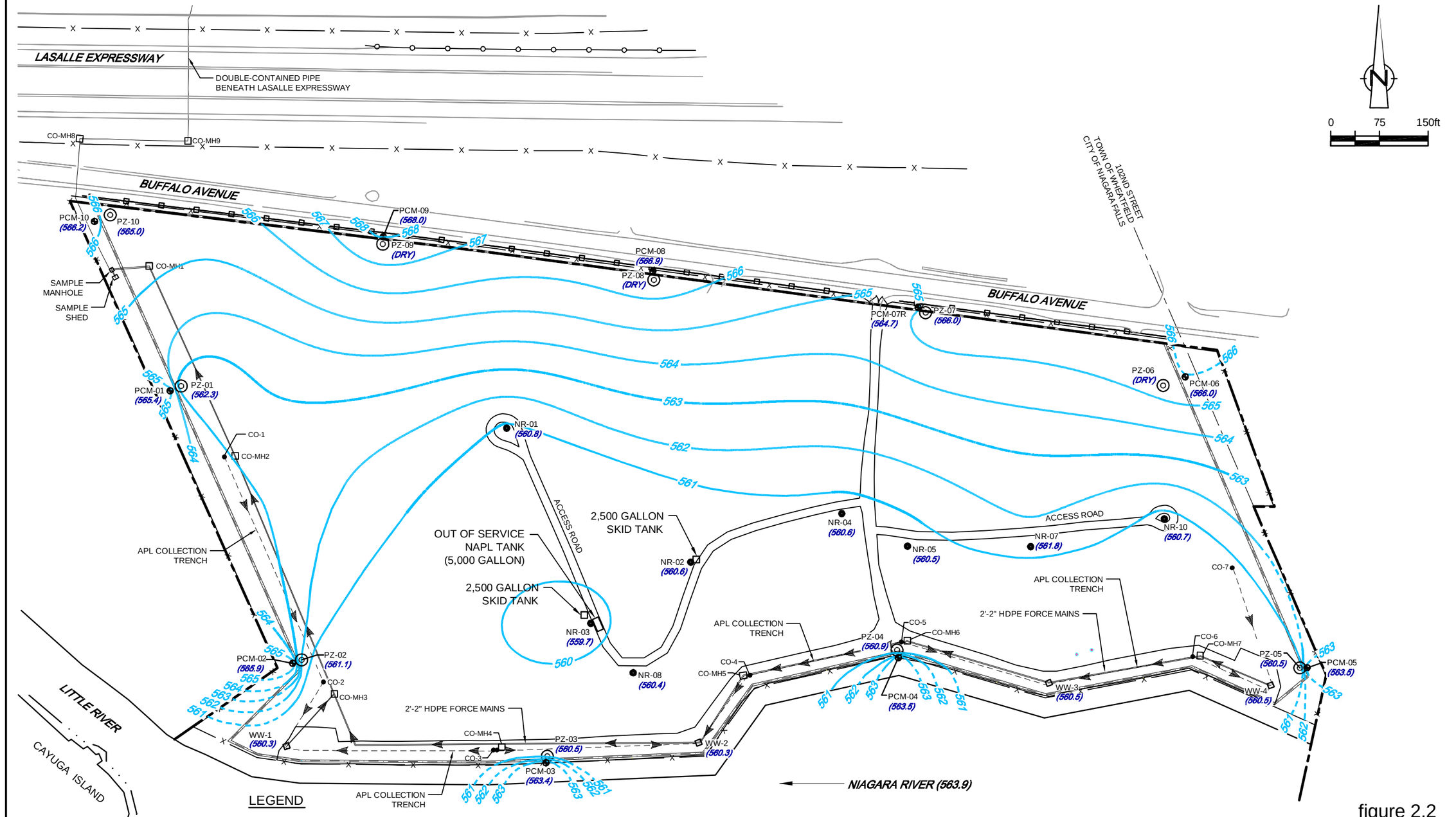
LEGEND

PROPERTY LINE	APL COLLECTION TRENCH	CO-MH3	FORCEMAIN CLEAN OUT MANHOLE
FENCE LINE	PZ-02 PIEZOMETER LOCATION		NAPL RECOVERY WELL LOCATION
CRIB WALL	PCM-02 MONITORING WELL LOCATION	(560.91)	GROUNDWATER ELEVATION
FORCEMAIN	CO-2 TRENCH CLEAN OUT	563	GROUNDWATER CONTOUR
SLURRY WALL AND CENTERLINE		563	APPROXIMATE INFERRED GROUNDWATER CONTOUR

figure 2.1

GROUNDWATER ELEVATIONS - MARCH 15, 2010
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York

01431-D23101(087)GN-WA002 MAY 24/2011



LEGEND

PROPERTY LINE	APL COLLECTION TRENCH	CO-MH3	FORCEMAIN CLEAN OUT MANHOLE
FENCE LINE	PZ-02 PIEZOMETER LOCATION		NAPL RECOVERY WELL LOCATION
CRIB WALL	PCM-02 MONITORING WELL LOCATION	(560.95)	GROUNDWATER ELEVATION
FORCEMAIN	CO-2 TRENCH CLEAN OUT	562	GROUNDWATER CONTOUR
SLURRY WALL AND CENTERLINE		562	APPROXIMATE INFERRED GROUNDWATER CONTOUR

figure 2.2

GROUNDWATER ELEVATIONS - JUNE 1, 2010
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York

01431-D23101(087)GN-WA003 MAY 24/2011

LASALLE EXPRESSWAY

DOUBLE-CONTAINED PIPE
BENEATH LASALLE EXPRESSWAY

CO-MH8

CO-MH9

BUFFALO AVENUE

PZ-10
(565.0)

PCM-10
(563.2)

PCM-09
(568.0)

PZ-09
(DRY)

PCM-08
(566.3)

PZ-08
(DRY)

PZ-07
(566.2)

PCM-07R
(565.4)

BUFFALO AVENUE

102ND STREET
TOWN OF WHEATFIELD
CITY OF NIAGARA FALLS

PCM-06
(567.3)

PZ-06
(DRY)

0 75 150ft

SAMPLE
MANHOLE

SAMPLE
SHED

CO-MH1

PCM-01
(564.6)

PZ-01
(562.3)

CO-1

CO-MH2

APL COLLECTION
TRENCH

OUT OF SERVICE
NAPL TANK
(5,000 GALLON)

2,500 GALLON
SKID TANK

ACCESS ROAD

NR-01
(560.8)

NR-02
(560.9)

NR-03
(560.6)

NR-04
(560.7)

NR-05
(560.7)

NR-07
(561.9)

NR-08
(560.5)

NR-10
(560.7)

ACCESS ROAD

2,500 GALLON
SKID TANK

APL COLLECTION
TRENCH

PZ-02
(561.4)

PCM-02
(564.9)

CO-2

CO-MH3

2'-2" HDPE FORCE MAINS

CO-MH4

PZ-03
(560.7)

WW-1
(560.5)

CO-3

WW-2
(560.3)

PCM-03
(563.2)

APL COLLECTION
TRENCH

APL COLLECTION
TRENCH

PZ-04
(561.1)

CO-5

CO-MH6

CO-4

CO-MH5

PCM-04
(563.2)

2'-2" HDPE FORCE MAINS

CO-6

CO-MH7

WW-3
(560.6)

WW-4
(560.7)

PZ-05
(560.6)

PCM-05
(562.5)

CO-7

LITTLE RIVER

CAYUGA ISLAND

NIAGARA RIVER (563.7)

LEGEND

PROPERTY LINE	APL COLLECTION TRENCH	CO-MH3	FORCEMAIN CLEAN OUT MANHOLE
FENCE LINE	PZ-02 PIEZOMETER LOCATION		NAPL RECOVERY WELL LOCATION
CRIB WALL	PCM-02 MONITORING WELL LOCATION	(560.85)	GROUNDWATER ELEVATION
FORCEMAIN	CO-2 TRENCH CLEAN OUT	561	GROUNDWATER CONTOUR
SLURRY WALL AND CENTERLINE		561	APPROXIMATE INFERRED GROUNDWATER CONTOUR

figure 2.3

GROUNDWATER ELEVATIONS - SEPTEMBER 16, 2010
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York

01431-D23101(087)GN-WA004 MAY 24/2011

LASALLE EXPRESSWAY

DOUBLE-CONTAINED PIPE
BENEATH LASALLE EXPRESSWAY

BUFFALO AVENUE

BUFFALO AVENUE

102ND STREET
TOWN OF WHEATFIELD
CITY OF NIAGARA FALLS

0 75 150ft

CO-MH8
CO-MH9
PZ-10 (564.8)
PCM-10 (565.7)
PCM-09 (569.6)
PZ-09 (DRY)
PCM-08 (569.0)
PZ-08 (DRY)
PCM-07R (564.5)
PZ-07 (565.8)
PZ-06 (DRY)
PCM-06 (565.9)
SAMPLE MANHOLE
SAMPLE SHED
CO-MH1
PCM-01 (564.6)
PZ-01 (561.9)
CO-1
CO-MH2
NR-01 (560.5)
ACCESS ROAD
OUT OF SERVICE NAPL TANK (5,000 GALLON)
2,500 GALLON SKID TANK
2,500 GALLON SKID TANK
NR-02 (560.5)
NR-03 (560.3)
NR-04 (560.3)
NR-05 (560.3)
NR-07 (561.6)
NR-10 (560.5)
NR-08 (560.2)
ACCESS ROAD
APL COLLECTION TRENCH
APL COLLECTION TRENCH
APL COLLECTION TRENCH
APL COLLECTION TRENCH
2'-2" HDPE FORCE MAINS
2'-2" HDPE FORCE MAINS
CO-7
CO-5
CO-MH6
CO-6
CO-MH7
CO-4
CO-MH5
CO-MH4
CO-3
CO-2
CO-MH3
PZ-02 (561.0)
PCM-02 (565.2)
PZ-04 (560.7)
PCM-04 (562.3)
PZ-05 (560.4)
PCM-05 (563.2)
WW-1 (560.4)
PZ-03 (560.4)
WW-2 (560.3)
PCM-03 (562.3)
WW-3 (560.5)
WW-4 (560.5)
LITTLE RIVER
CAYUGA ISLAND
NIAGARA RIVER (562.7)

LEGEND

PROPERTY LINE	APL COLLECTION TRENCH	CO-MH3	FORCEMAIN CLEAN OUT MANHOLE
FENCE LINE	PZ-02 PIEZOMETER LOCATION		NAPL RECOVERY WELL LOCATION
CRIB WALL	PCM-02 MONITORING WELL LOCATION	(559.78)	GROUNDWATER ELEVATION
FORCEMAIN	CO-2 TRENCH CLEAN OUT	563	GROUNDWATER CONTOUR
SLURRY WALL AND CENTERLINE		563	APPROXIMATE INFERRED GROUNDWATER CONTOUR

figure 2.4

GROUNDWATER ELEVATIONS - DECEMBER 9, 2010
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York

01431-D23101(087)GN-WA005 MAY 24/2011

TABLES

TABLE 2.1

HYDRAULIC GRADIENT WELL PAIRS
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Pair	*Outside*	*Inside*	*Location*
1	PCM-01	PZ-01	West Side
2	PCM-02	PZ-02	Southwest Side
3	PCM-03	PZ-03	South Side
4	PCM-04	PZ-04	South Side
5	PCM-05	PZ-05	Southeast Side
6	PCM-06	PZ-06	Northeast Side
7	PCM-07R	PZ-07	North Side
8	PCM-08	PZ-08	North Side
9	PCM-09	PZ-09	North Side
10	PCM-10	PZ-10	Northwest Side

TABLE 2.2

QUARTERLY WATER LEVEL ELEVATIONS - 2010
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Location	*Ref Elev.*	*March 15, 2010*	*June 1, 2010*	*September 16, 2010*	*December 9, 2010*
NR-1	595.96	560.67	560.83	560.79	560.50
NR-2	588.39	560.47	560.62	560.86	560.48
NR-3	593.09	560.34	559.65	560.60	560.30
NR-4	581.06	560.40	560.55	560.70	560.33
NR-5	580.33	560.40	560.51	560.67	560.33
NR-7	587.21	561.63	561.78	561.89	561.55
NR-8	590.72	560.24	560.40	560.53	560.21
NR-10	586.77	560.60	560.68	560.73	560.51
PCBM-1	576.19	563.23	563.86	563.46	562.81
PCBM-2	575.21	562.97	563.60	563.21	562.56
PCBM-3	579.34	563.73	563.70	563.08	562.91
PCM-01	577.02	566.04	565.43	564.61	564.59
PCM-02	576.22	567.02	565.89	564.93	565.21
PCM-03	576.14	562.31	563.41	563.16	562.32
PCM-04	574.90	562.37	563.52	563.24	562.32
PCM-05	575.21	565.04	563.52	562.47	563.24
PCM-06	579.26	565.83	565.98	567.28	565.92
PCM-07R	578.80	566.14	564.74	565.41	564.51
PCM-08	578.34	569.55	566.90	568.31	568.95
PCM-09	578.05	572.62	568.03	567.95	569.62
PCM-10	578.44	567.41	566.17	565.16	565.68
PZ-01	580.98	562.12	562.25	562.29	561.90
PZ-02	577.10	561.10	561.12	561.39	560.99
PZ-03	575.82	560.47	560.53	560.69	560.41
PZ-04	575.99	560.83	560.90	561.07	560.71
PZ-05	575.92	560.40	560.47	560.61	560.39
PZ-06	583.70	Dry	Dry	Dry	Dry
PZ-07	578.48	567.11	565.95	566.18	565.79
PZ-08	579.71	Dry	Dry	Dry	Dry
PZ-09	579.51	Dry	Dry	Dry	Dry
PZ-10	581.61	564.92	565.04	565.02	564.83
RIVERNPIER	567.02	562.74	563.90	563.67	562.71
WW-1	574.97	560.43	560.34	560.51	560.35
WW-2	574.43	560.37	560.34	560.32	560.31
WW-3	574.78	560.54	560.52	560.61	560.49
WW-4	575.20	560.57	560.54	560.67	560.51

Notes:
Dry - No water in well during time of measurement.

TABLE 2.3

WELL PAIR GRADIENTS - 2010
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

		Elevation (ft AMSL)						
	Pairs	*TOC*	*Bottom*	*March 15, 2010*	*June 1, 2010*	*September 16, 2010*	*December 9, 2010*	*Quarters Maintaining Inward Gradient*
Pair 1	PCM-01	577.02	549.05	566.04	565.43	564.61	564.59	
	PZ-01	580.98	549.64	562.12	562.25	562.29	561.9	
				-3.92	-3.18	-2.32	-2.69	4
Pair 2	PCM-02	576.22	547.90	567.02	565.89	564.93	565.21	
	PZ-02	577.10	548.43	561.1	561.12	561.39	560.99	
				-5.92	-4.77	-3.54	-4.22	4
Pair 3	PCM-03	576.14	545.15	562.31	563.41	563.16	562.32	
	PZ-03	575.82	545.63	560.47	560.53	560.69	560.41	
				-1.84	-2.88	-2.47	-1.91	4
Pair 4	PCM-04	574.90	545.74	562.37	563.52	563.24	562.32	
	PZ-04	575.99	545.63	560.83	560.9	561.07	560.71	
				-1.54	-2.62	-2.17	-1.61	4
Pair 5	PCM-05	575.21	550.00	565.04	563.52	562.47	563.24	
	PZ-05	575.92	550.50	560.4	560.47	560.61	560.39	
				-4.64	-3.05	-1.86	-2.85	4
Pair 6	PCM-06	579.26	566.50	566.5	566.5	567.28	566.5	
	PZ-06	583.70	564.05	Dry	Dry	Dry	Dry	
				NA	NA	NA	NA	NA*
Pair 7	PCM-07R	578.80	557.63	566.14	564.74	565.41	564.51	
	PZ-07	578.48	564.80	567.11	565.95	566.18	565.79	
				0.97	1.21	0.77	1.28	0
Pair 8	PCM-08	578.34	564.43	569.55	566.9	568.31	568.95	
	PZ-08	579.71	565.38	Dry	Dry	Dry	Dry	
				NA	NA	NA	NA	NA*
Pair 9	PCM-09	578.05	567.87	572.62	568.03	567.95	569.62	
	PZ-09	579.51	566.28	Dry	Dry	Dry	Dry	
				NA	NA	NA	NA	NA*
Pair 10	PCM-10	578.44	556.39	567.41	566.17	565.16	565.68	
	PZ-10	581.61	561.56	564.92	565.04	565.02	564.83	
				-2.49	-1.13	-0.14	-0.85	4

Notes:

ft AMSL	Feet above mean sea level.
-3.53	Negative number indicates an inward gradient.
Dry	No water in well during time of measurement.
NA	Gradient unable to be calculated due to dry well.
*	When the bottom elevation of the well is taken into account, all four quarters demonstrate inward gradients.

TABLE 2.4

ANALYTICAL RESULTS SUMMARY - 2010
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

				Sample Location:	*PCBM-01*				*PCBM-02*	
				Sample ID:	*PCBM-01-310*	*PCM-12*	*PCBM-01-1010*	*PCM-12-1010*	*PCBM-02-310*	*PCBM-02-1010*
				Sample Date:	*4/6/2010*	*4/6/2010 (Duplicate)*	*10/9/2010*	*10/9/2010 (Duplicate)*	*4/6/2010*	*10/9/2010*
Parameters	*NYSDEC Class GA GW Criteria*	*Survey Level*	*Units*							
Volatile Organic Compounds										
1,2,3-Trichlorobenzene	5	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	1	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds										
1,2,4,5-Tetrachlorobenzene	5	10	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
2,4,5-Trichlorophenol	1	50	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
2,4-Dichlorophenol	1	10	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
2,5-Dichlorophenol	1	10	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
2-Chlorophenol	1	10	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
4-Chlorophenol	1	10	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
Phenol	1	10	µg/L		9.4 U	9.5 U	9.6 U	9.4 U	9.4 U	9.5 U
Metals										
Arsenic	25	50	µg/L		10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Mercury	0.7	0.10	µg/L		0.26 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Pesticides										
alpha-BHC	0.01	10	µg/L		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
beta-BHC	0.04	10	µg/L		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
delta-BHC	0.04	10	µg/L		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
gamma-BHC (Lindane)	0.05	10	µg/L		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U

Notes:
µg/L Micrograms per liter.
J Estimated concentration.
U Not present at or above the associated value.
UJ Estimated reporting limit.
- Not analyzed
Exceedance of NYSDEC Class GA GW Criteria and/or Survey Level.

TABLE 2.4

ANALYTICAL RESULTS SUMMARY - 2010
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

				Sample Location:	*PCBM-03*		*PCM-01*		*PCM-02*	
				Sample ID:	*PCBM-03-310*	*PCBM-03-1010*	*PCM-01-310*	*PCM-01-1010*	*PCM-02-310*	*PCM-02-1010*
				Sample Date:	*4/6/2010*	*10/9/2010*	*4/13/2010*	*10/11/2010*	*4/13/2010*	*10/11/2010*
Parameters	*NYSDEC Class GA GW Criteria*	*Survey Level*	*Units*							
Volatile Organic Compounds										
1,2,3-Trichlorobenzene	5	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	1	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.12 J
Chlorobenzene	5	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.16 J
Semi-volatile Organic Compounds										
1,2,4,5-Tetrachlorobenzene	5	10	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
2,4,5-Trichlorophenol	1	50	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
2,4-Dichlorophenol	1	10	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
2,5-Dichlorophenol	1	10	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
2-Chlorophenol	1	10	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
4-Chlorophenol	1	10	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
Phenol	1	10	µg/L		9.4 U	9.4 U	9.6 U	9.4 U	9.7 U	9.5 U
Metals										
Arsenic	25	50	µg/L		10.0 U	10.0 U	7.1 J	6.6 J	4.6 J	2.7 J
Mercury	0.7	0.10	µg/L		0.20 U	0.20 U	0.20 U	0.060 J	0.20 U	0.20 UJ
Pesticides										
alpha-BHC	0.01	10	µg/L		0.047 U	0.048 U	0.048 U	0.047 U	0.048 U	0.045 J
beta-BHC	0.04	10	µg/L		0.16	0.048 U	0.048 U	0.047 U	0.048 U	0.047 U
delta-BHC	0.04	10	µg/L		0.047 U	0.048 U	0.048 U	0.047 U	0.048 U	0.047 U
gamma-BHC (Lindane)	0.05	10	µg/L		0.047 U	0.048 U	0.048 U	0.047 U	0.048 U	0.047 U

Notes:
µg/L Micrograms per liter.
J Estimated concentration.
U Not present at or above the associated value.
UJ Estimated reporting limit.
- Not analyzed
Exceedance of NYSDEC Class GA GW Criteria and/or Survey Level.

TABLE 2.4

ANALYTICAL RESULTS SUMMARY - 2010
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

				Sample Location:	*PCM-03*		*PCM-04*		*PCM-05*		*PCM-06*
				Sample ID:	*PCM-03-310*	*PCM-03-1010*	*PCM-04-310*	*PCM-04-1010*	*PCM-05-310*	*PCM-05-1010*	*PCM-06-1010*
				Sample Date:	*4/6/2010*	*10/9/2010*	*4/6/2010*	*10/9/2010*	*4/16/2010*	*10/9/2010*	*10/11/2010*
Parameters	*NYSDEC Class GA GW Criteria*	*Survey Level*	*Units*								
Volatile Organic Compounds											
1,2,3-Trichlorobenzene	5	10	µg/L		250 U	200 U	500 U	500 U	5.0 U	5.0 U	1.0 U
1,2,4-Trichlorobenzene	5	10	µg/L		250 U	200 U	500 U	500 U	5.0 U	5.0 U	1.0 U
1,2-Dichlorobenzene	3	10	µg/L		100 J	66 J	500 U	500 U	5.0 U	5.0 U	1.0 U
1,4-Dichlorobenzene	3	10	µg/L		510	340	380 J	210 J	5.0 U	5.0 U	1.0 U
2-Chlorotoluene	5	5	µg/L		120 J	200 U	500 U	500 U	5.0 U	5.0 U	1.0 U
Benzene	1	5	µg/L		76 J	50 J	500 U	500 U	4.3 J	1.8 J	1.0 U
Chlorobenzene	5	5	µg/L		5000	3500	12000	7700	130	100	1.0 U
Semi-volatile Organic Compounds											
1,2,4,5-Tetrachlorobenzene	5	10	µg/L		9.4 U	9.6 U	9.4 U	9.5 U	9.4 U	9.5 U	-
2,4,5-Trichlorophenol	1	50	µg/L		9.4 U	9.6 U	9.4 U	9.5 U	9.4 U	9.5 U	-
2,4-Dichlorophenol	1	10	µg/L		6.0 J	18	1.1 J	0.98 J	9.4 U	9.5 U	-
2,5-Dichlorophenol	1	10	µg/L		9.4 U	9.6 U	9.4 U	9.5 U	9.4 U	9.5 U	-
2-Chlorophenol	1	10	µg/L		5.9 J	14	14	14	9.4 U	9.5 U	-
4-Chlorophenol	1	10	µg/L		9.0 J	31	24	27	1.5 J	9.5 U	-
Phenol	1	10	µg/L		9.4 U	1.7 J	9.4 U	9.5 U	9.4 U	9.5 U	-
Metals											
Arsenic	25	50	µg/L		5.7 J	10.0 U	3.2 J	10.0 U	10.0 U	6.7 J	-
Mercury	0.7	0.10	µg/L		0.95	0.20 U	0.20 U	0.060 J	0.20 U	0.20 U	-
Pesticides											
alpha-BHC	0.01	10	µg/L		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	-
beta-BHC	0.04	10	µg/L		0.060	0.046 J	0.048 U	0.048 U	0.048 U	0.048 U	-
delta-BHC	0.04	10	µg/L		1.0	0.59	0.10	0.13 J	0.048 U	0.048 U	-
gamma-BHC (Lindane)	0.05	10	µg/L		0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	-

Notes:
µg/L Micrograms per liter.
J Estimated concentration.
U Not present at or above the associated value.
UJ Estimated reporting limit.
- Not analyzed
Exceedance of NYSDEC Class GA GW Criteria and/or Survey Level.

TABLE 2.4

ANALYTICAL RESULTS SUMMARY - 2010
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

				Sample Location:	*PCM-07R*		*PCM-08*		*PCM-09*	*PCM-10*	
				Sample ID:	*PCM-07R-310*	*PCM-07R-1010*	*PCM-08-310*	*PCM-08-1010*	*PCM-09-310*	*PCM-10-310*	*PCM-10-1010*
				Sample Date:	*4/16/2010*	*10/11/2010*	*4/6/2010*	*10/11/2010*	*4/6/2010*	*4/13/2010*	*10/11/2010*
Parameters	*NYSDEC Class GA GW Criteria*	*Survey Level*	*Units*								
Volatile Organic Compounds											
1,2,3-Trichlorobenzene	5	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	10	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	1	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	5	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds											
1,2,4,5-Tetrachlorobenzene	5	10	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
2,4,5-Trichlorophenol	1	50	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
2,4-Dichlorophenol	1	10	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
2,5-Dichlorophenol	1	10	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
2-Chlorophenol	1	10	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
4-Chlorophenol	1	10	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
Phenol	1	10	µg/L		9.6 U	9.6 U	10 U	9.4 U	9.5 U	9.7 U	9.5 U
Metals											
Arsenic	25	50	µg/L		10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Mercury	0.7	0.10	µg/L		0.20 U	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Pesticides											
alpha-BHC	0.01	10	µg/L		0.048 U	0.053 J	0.047 U	0.048 U	0.048 U	0.048 U	0.055 J
beta-BHC	0.04	10	µg/L		0.048 U	0.048 U	1.0	0.048 U	0.25	0.048 U	0.048 U
delta-BHC	0.04	10	µg/L		0.048 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U
gamma-BHC (Lindane)	0.05	10	µg/L		0.048 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U

Notes:
µg/L Micrograms per liter.
J Estimated concentration.
U Not present at or above the associated value.
UJ Estimated reporting limit.
- Not analyzed
Exceedance of NYSDEC Class GA GW Criteria and/or Survey Level.

TABLE 4.1

2010 NAPL RECOVERY FROM NR-2
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Date	*NAPL Removed (gallons)*
6/4/2010	6
6/15/2010	11.5
6/24/2010	18
6/28/2010	14.5
7/1/2010	15.5
7/9/2010	16.75
7/19/2010	16.5
7/26/2010	17
7/27/2010	14
8/2/2010	17.25
8/3/2010	15
8/4/2010	14.5
8/5/2010	9
8/9/2010	21
8/11/2010	19
8/16/2010	15.5
8/19/2010	17
8/24/2010	18
9/1/2010	16.25
9/16/2010	24.8
9/23/2010	19.5
9/29/2010	17.8
10/15/2010	15.3
10/22/2010	16
10/29/2010	16
11/5/2010	17
11/12/2010	26
11/19/2010	18
11/24/2010	15*
TOTAL	**478**

Notes:

* Volume estimated due to database error, which removed the data for this event from the system. Field technicians were able to estimate the amount of NAPL removed for the event.

TABLE 4.2

NAPL RECOVERY (NR) WELLS CURRENT AND HISTORICAL NAPL RECOVERIES
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

	AMOUNT OF NAPL REMOVED IN GALLONS											
YEAR / *WELL*	*1999*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*Totals*
NR-1	-	55	0	60	0	0	30	85	44	46	7	327
NR-2	-	200	1,490	1,355	12,151	18,153	8,738	9,421	6,189	7,164	478	65,338
NR-3	-	40	0	0	0	0	10	42	22	12	0	126
NR-4	-	0	0	0	0	0	0	0	0	0	0	0
NR-5	-	40	0	20	0	0	10	36	21	15	0	142
NR-7	-	0	0	0	0	0	0	0	0	0	0	0
NR-8	-	0	0	5	0	0	8	43	22	16	0	94
NR-10	-	0	0	0	0	0	0	0	0	0	0	0
Total	--	**335**	**1,490**	**1,440**	**12,151**	**18,153**	**8,796**	**9,627**	**6,298**	**7,253**	**485**	**66,027**

Notes:
* 2006: 4th tanker shipped January 9, 2007 after first of the year.
* 2006: NAPL slightly heavier.
* 2006: Inspection to daily instead of 2x more down time .

TABLE 4.3

NAPL RE-CHARACTERIZATION ANALYTICAL RESULTS SUMMARY
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Sample Location:		*NR-1*	*NR-2*	*NR-3*	*NR-5*	*NR-2*	*NR-2*	*NR-2*	*NR-2*
Sample ID:		*NR-11101*	*NR-21101*	*NR-31101*	*NR-51101*	*NR-02 804*	*NR-02 904*	*NR-02 1205*	*NR-210212010*
Sample Date:		*11/10/2001*	*11/10/2001*	*11/10/2001*	*11/10/2001*	*8/24/2004*	*9/21/2004*	*12/19/2005*	*10/21/2010*
Parameters	***Units***								
Volatile Organic Compounds									
1,1,1-Trichloroethane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,1,2,2-Tetrachloroethane	mg/kg	200 U	382	194 U	403	-	1920 U	2500 U	9.3 J
1,1,2-Trichloroethane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,1-Dichloroethane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,1-Dichloroethene	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,2,3-Trichlorobenzene	mg/kg	19100	34900	22700	38600	-	-	16000	1300
1,2,4-Trichlorobenzene	mg/kg	76600	122000	80400	155000	-	162000	61000	5600
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,2-Dichlorobenzene	mg/kg	9430	4480	5040	5740	-	5430	2000 J	180
1,2-Dichloroethane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,2-Dichloropropane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
1,3-Dichlorobenzene	mg/kg	3060	1180	4680	2860	-	1290 J	630 J	58
1,4-Dichlorobenzene	mg/kg	17000	7260	8280	5500	-	9080	3000	250
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	6300 U	32 U
2-Chlorotoluene	mg/kg	5060	808	375 U	372 U	-	-	2500 U	40
2-Hexanone	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	6300 U	63 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	6300 U	63 U
Acetone	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	6300 U	130 U
Benzene	mg/kg	2570	10100	1100	18800	-	12100	7300	200
Bromodichloromethane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Bromoform	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Bromomethane (Methyl bromide)	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	2500 U	32 U
Carbon disulfide	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Carbon tetrachloride	mg/kg	200 U	53.7 J	194 U	192 U	-	1920 U	2500 U	32 U
Chlorobenzene	mg/kg	6790	9030	6960	15300	-	11200	5400	290
Chloroethane	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	2500 U	32 U
Chloroform (Trichloromethane)	mg/kg	200 U	171 J	194 U	110 J	-	118 J	2500 U	32 U
Chloromethane (Methyl chloride)	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	2500 U	32 U
cis-1,2-Dichloroethene	mg/kg	200 U	197 U	194 U	245	-	1920 U	2500 U	32 U
cis-1,3-Dichloropropene	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Cyclohexane	mg/kg	200 U	201	194 U	1320	-	1920 U	2500 U	32 U
Dibromochloromethane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Dichlorodifluoromethane (CFC-12)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Ethylbenzene	mg/kg	200 U	42.3 J	194 U	257	-	1920 U	2500 U	32 U
Extractable organic halogens	mg/kg	-	-	-	-	-	-	-	398000
Isopropyl benzene	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Methyl acetate	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Methyl cyclohexane	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Methyl tert butyl ether (MTBE)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Methylene chloride	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Styrene	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Tetrachloroethene	mg/kg	200 U	1850	194 U	5840	-	1980	1000 J	49
Toluene	mg/kg	1990	286	155 J	249	-	317 J	2500 U	5.9 J
trans-1,2-Dichloroethene	mg/kg	200 U	197 U	194 U	42.6 J	-	1920 U	2500 U	32 U
trans-1,3-Dichloropropene	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Trichloroethene	mg/kg	200 U	417	194 U	510	-	406 J	2500 U	8.0 J
Trichlorofluoromethane (CFC-11)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Trifluorotrichloroethane (Freon 113)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	32 U
Vinyl chloride	mg/kg	387 U	381 U	375 U	372 U	-	3720 U	2500 U	32 U
Xylenes (total)	mg/kg	200 U	197 U	194 U	192 U	-	1920 U	2500 U	95 U
Semi-volatile Organic Compounds									
1,2,4,5-Tetrachlorobenzene	mg/kg	43100	40000 U	49900	51000	-	-	82700 D	34000
1,2,4-Trichlorobenzene	mg/kg	128000	77800	172000	172000	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
2,4,5-Trichlorophenol	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	99 U	49 J
2,4,6-Trichlorophenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
2,4-Dichlorophenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
2,4-Dimethylphenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
2,4-Dinitrophenol	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	200 U	1200 U
2,4-Dinitrotoluene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
2,5-Dichlorophenol	mg/kg	-	-	-	-	-	-	99 U	100 U
2,6-Dinitrotoluene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
2-Chloronaphthalene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	732	550	330
2-Chlorophenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
2-Methylnaphthalene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	12 J
2-Methylphenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
2-Nitroaniline	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	200 U	1200 U
2-Nitrophenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
3,3'-Dichlorobenzidine	mg/kg	4000 U	4000 U	4000 U	4000 U	-	1430 U	99 U	250 U
3-Nitroaniline	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	200 U	1200 U
4,6-Dinitro-2-methylphenol	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	200 U	1200 U
4-Bromophenyl phenyl ether	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
4-Chloro-3-methylphenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
4-Chloroaniline	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
4-Chlorophenol	mg/kg	-	-	-	-	-	-	99 U	100 U

NAPL RE-CHARACTERIZATION ANALYTICAL RESULTS SUMMARY
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Sample Location:		*NR-1*	*NR-2*	*NR-3*	*NR-5*	*NR-2*	*NR-2*	*NR-2*	*NR-2*
Sample ID:		*NR-11101*	*NR-21101*	*NR-31101*	*NR-51101*	*NR-02 804*	*NR-02 904*	*NR-02 1205*	*NR-210212010*
Sample Date:		*11/10/2001*	*11/10/2001*	*11/10/2001*	*11/10/2001*	*8/24/2004*	*9/21/2004*	*12/19/2005*	*10/21/2010*
Parameters	***Units***								
Semi-volatile Organic Compounds - Continued									
4-Chlorophenyl phenyl ether	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
4-Methylphenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	200 U	250 U
4-Nitroaniline	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	200 U	1200 U
4-Nitrophenol	mg/kg	10000 U	10000 U	10000 U	10000 U	-	1790 U	200 U	1200 U
Acenaphthene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
Acenaphthylene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
Acetophenone	mg/kg	2000 U	2000 U	2000 U	2000 U	-	-	99 U	250 U
Anthracene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	11 J	250 U
Atrazine	mg/kg	2000 U	2000 U	2000 U	2000 U	-	-	99 U	250 U
Benzaldehyde	mg/kg	2000 U	2000 U	2000 U	2000 U	-	-	99 U	250 U
Benzo(a)anthracene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	24 J	50 U
Benzo(a)pyrene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	13 J	50 U
Benzo(b)fluoranthene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	18 J	21 J
Benzo(g,h,i)perylene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	11 J	50 U
Benzo(k)fluoranthene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	14 J	50 U
Benzoic acid	mg/kg	-	-	-	-	-	1790 U	-	-
Benzyl alcohol	mg/kg	-	-	-	-	-	101 J	-	-
Biphenyl (1,1-Biphenyl)	mg/kg	2000 U	2000 U	2000 U	2100	-	-	99 U	250 U
bis(2-Chloroethoxy)methane	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
bis(2-Chloroethyl)ether	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	21 J	20 J
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	13 J	250 U
Butyl benzylphthalate (BBP)	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Caprolactam	mg/kg	2000 U	2000 U	2000 U	2000 U	-	-	99 U	1200 U
Carbazole	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
Chrysene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	22 J	50 U
Dibenz(a,h)anthracene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
Dibenzofuran	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Diethyl phthalate	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Dimethyl phthalate	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Di-n-butylphthalate (DBP)	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Di-n-octyl phthalate (DnOP)	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Fluoranthene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	49 J	30 J
Fluorene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	13 J	8.6 J
Hexachlorobenzene	mg/kg	2000 U	4160	8430	4480	-	3870	5500 D	3100
Hexachlorobutadiene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	162 J	99 U	140
Hexachlorocyclopentadiene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Hexachloroethane	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Indeno(1,2,3-cd)pyrene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	12 J	50 U
Isophorone	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	250 U
Naphthalene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	321 J	150	210
Nitrobenzene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
N-Nitrosodimethylamine	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	-	-
N-Nitrosodi-n-propylamine	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
N-Nitrosodiphenylamine	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
Pentachlorophenol	mg/kg	10000 U	10000 U	10000 U	10000 U	-	U	200 U	250 U
Phenanthrene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	55 J	47 J
Phenol	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	99 U	50 U
Pyrene	mg/kg	2000 U	2000 U	2000 U	2000 U	-	714 U	35 J	42 J
Total hazardous halogens	%	-	-	-	-	-	54.48	-	-
Metals									
Aluminum	mg/kg	97.0	8.93 U	9.43 U	2.08 U	-	4.63	2.8 B	24.6
Antimony	mg/kg	5.75	0.396 J	0.555 J	0.327 J	-	1.49 U	.96 U	0.35 J
Arsenic	mg/kg	11.3	8.76	2.14	0.809 J	-	11.2	7.5	0.69 J
Barium	mg/kg	0.227 J	1.79 U	1.89 U	2.00 U	-	0.121	.12 B	6.9 J
Beryllium	mg/kg	0.0814 J	0.446 U	0.472 U	0.500 U	-	0.0903	.48 U	0.046 J
Cadmium	mg/kg	0.385 U	0.446 U	0.472 U	0.500 U	-	0.0553	.48 U	0.44 U
Calcium	mg/kg	14.2 J	44.6 U	47.2 U	50.0 U	-	112 U	16 B	935
Chromium	mg/kg	8.77	0.473 J	0.528 J	0.449 J	-	0.606	.82 B	0.19 J
Cobalt	mg/kg	5.86	1.79 U	1.89 U	2.00 U	-	0.255	.48 U	4.4 U
Copper	mg/kg	3.56	1.79 U	1.89 U	0.949 J	-	0.508	.47 B	1.0 J
Iron	mg/kg	31.8	9.51	8.59	15.4	-	9.56 U	13.6	1120
Lead	mg/kg	17.2	0.446 U	1.79	0.461 J	-	0.373 U	.42	1.1
Magnesium	mg/kg	4.11 J	44.6 U	47.2 U	50.0 U	-	112 U	1.9 B	123 J
Manganese	mg/kg	0.293 J	0.893 U	0.943 U	1.00 U	-	0.746 U	.1 B	2.8
Mercury	mg/kg	0.104	1.31	0.0417 U	1.68	-	1.03	.95	0.19
Nickel	mg/kg	8.01	1.66 J	0.790 J	1.01 J	-	1.58	1.3 B	3.5 U
Potassium	mg/kg	76.9 U	89.3 U	94.3 U	100 U	-	112 U	1.7 B	52.9 J
Selenium	mg/kg	0.735 J	0.893 U	0.943 U	1.00 U	-	0.938	.43 B	0.44 U
Silver	mg/kg	0.769 J	0.893 J	0.943 J	1.00 J	-	0.746 U	.48 U	0.44 U
Sodium	mg/kg	76.9 U	89.3 U	94.3 U	100 U	-	112 U	34.4 B	538
Thallium	mg/kg	0.769 U	0.893 U	0.943 U	1.00 U	-	1.14	.96 U	0.88 U
Vanadium	mg/kg	0.975 J	0.873 J	1.89 U	1.23 J	-	1.04	1.2 B	4.4 U
Zinc	mg/kg	1.11	0.893 U	0.943 U	1.00 U	-	0.465 U	.81 B	2.2

TABLE 4.3

NAPL RE-CHARACTERIZATION ANALYTICAL RESULTS SUMMARY
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Sample Location:		*NR-1*	*NR-2*	*NR-3*	*NR-5*	*NR-2*	*NR-2*	*NR-2*	*NR-2*
Sample ID:		*NR-11101*	*NR-21101*	*NR-31101*	*NR-51101*	*NR-02 804*	*NR-02 904*	*NR-02 1205*	*NR-210212010*
Sample Date:		*11/10/2001*	*11/10/2001*	*11/10/2001*	*11/10/2001*	*8/24/2004*	*9/21/2004*	*12/19/2005*	*10/21/2010*
Parameters	***Units***								
PCBs									
Aroclor-1016 (PCB-1016)	mg/kg	2940 U	2500 U	1790 U	1790 U	-	2500 U	190 U	50 U
Aroclor-1221 (PCB-1221)	mg/kg	5880 U	5000 U	3570 U	3570 U	-	5000 U	250 U	50 U
Aroclor-1232 (PCB-1232)	mg/kg	2940 U	2500 U	1790 U	1790 U	-	2500 U	190 U	50 U
Aroclor-1242 (PCB-1242)	mg/kg	11100	7800	10500	9310	-	2500 U	130 U	50 U
Aroclor-1248 (PCB-1248)	mg/kg	2940 U	2500 U	1790 U	1790 U	-	2500 U	130 U	4000
Aroclor-1254 (PCB-1254)	mg/kg	2940 U	2500 U	1790 U	1790 U	-	2500 U	130 U	2000
Aroclor-1260 (PCB-1260)	mg/kg	2940 U	2500 U	1790 U	1790 U	-	2500 U	190 U	50 U
Pesticides									
4,4'-DDD	mg/kg	-	-	-	-	-	2270 U	900 EP	370
4,4'-DDE	mg/kg	-	-	-	-	-	2270 U	77	120 J
4,4'-DDT	mg/kg	-	-	-	-	-	2270 U	220 P	420
Aldrin	mg/kg	-	-	-	-	-	1140 U	2.5 U	110 J
alpha-BHC	mg/kg	-	-	-	-	-	8530	7800 E	9500
alpha-Chlordane	mg/kg	-	-	-	-	-	1140 U	5 U	250 U
beta-BHC	mg/kg	-	-	-	-	-	1140 U	2600 EP	560
delta-BHC	mg/kg	-	-	-	-	-	2780	4800 E	3600
Dieldrin	mg/kg	-	-	-	-	-	2270 U	5 U	250 U
Endosulfan I	mg/kg	-	-	-	-	-	2270 U	110 P	250 U
Endosulfan II	mg/kg	-	-	-	-	-	2270 U	10 U	250 U
Endosulfan sulfate	mg/kg	-	-	-	-	-	2270 U	240	210 J
Endrin	mg/kg	-	-	-	-	-	2270 U	190 P	250 U
Endrin aldehyde	mg/kg	-	-	-	-	-	2270 U	10 U	250 U
Endrin ketone	mg/kg	-	-	-	-	-	2270 U	25 U	250 U
gamma-BHC (lindane)	mg/kg	-	-	-	-	-	4730	6500 E	5900
gamma-Chlordane	mg/kg	-	-	-	-	-	1140 U	110 EP	220 J
Heptachlor	mg/kg	-	-	-	-	-	1140 U	2.5 U	270
Heptachlor epoxide	mg/kg	-	-	-	-	-	1140 U	52 P	200 J
Methoxychlor	mg/kg	-	-	-	-	-	11400 U	130 P	500 U
Toxaphene	mg/kg	-	-	-	-	-	45500 U	500 U	10000 U
Petroleum Products									
Total Petroleum Hydrocarbons (C10-C28) DRO	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C12-C24) Fuel Oil #2	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C12-C24) Fuel Oil #4	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C12-C36) Fuel Oil #6	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C28-C36) Motor Oil	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C6-C10) GRO	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C8-C12) Mineral Spirits	none	NEG	NEG	NEG	NEG	-	-	-	-
Total Petroleum Hydrocarbons (C9-C18) Kerosene	none	NEG	NEG	NEG	NEG	-	-	-	-
Unknown product	none	POS	POS	POS	POS	-	-	-	-
Dioxin Furans									
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	mg/kg	-	-	-	-	9.2 J	-	6.5	6.8 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	16800000	9310000	2830000	18900000	-	-	-	-
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	mg/kg	-	-	-	-	54 J	-	41	49
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	1420000	53600000 J	277000	1170000 J	-	-	-	-
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	mg/kg	-	-	-	-	1.4 J	-	2.6	3.5 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	34000000	2970000	1290000	3340000	-	-	-	-
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	mg/kg	-	-	-	-	7.9 J	-	12	14
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	826000	9630000	153000 J	23100000 J	-	-	-	-
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	mg/kg	-	-	-	-	1.4 J	-	1.6	1.6 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	1520000	1820000	1040000	2960000	-	-	-	-
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	mg/kg	-	-	-	-	6.8 J	-	4.7	4.8 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	6040000	5710000	5000000	6700000	-	-	-	-
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	mg/kg	-	-	-	-	0.00097 U	-	0.23 U	0.063 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	4620000 J	2060000 J	3420000 J	836000 J	-	-	-	-
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	mg/kg	-	-	-	-	0.46 J	-	0.33 U	0.47 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	3950000	4330000	825000	4710000	-	-	-	-
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	mg/kg	-	-	-	-	0.61 J	-	0.59 U	0.96 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	692000 U	524000 J	93500 U	1730000	-	-	-	-
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	mg/kg	-	-	-	-	0.037 J	-	0.1 U	0.71 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	217000	638000	364000	1120000	-	-	-	-
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	mg/kg	-	-	-	-	0.35 J	-	0.34 U	0.54 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	786000 U	364000	91900 U	645000	-	-	-	-
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	mg/kg	-	-	-	-	0.29 J	-	0.38 U	0.43 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	197000	223000	76000	185000	-	-	-	-
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	mg/kg	-	-	-	-	19 J	-	0.099 U	0.38 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	187000 U	59500 U	41900 U	50300 U	-	-	-	-
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	mg/kg	-	-	-	-	-	-	0.21 U	0.2 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	292000	206000	158000	263000	-	-	-	-
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	mg/kg	-	-	-	-	0.4 J	-	0.46 U	0.73 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	705000	872000	2460000	583000	-	-	-	-
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	mg/kg	-	-	-	-	0.47 J	-	0.41 J	0.62 U
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	156000	26000	42000	13300	-	-	-	-
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	mg/kg	-	-	-	-	0.032 J	-	0.033 U	0.18 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	183000 U	42200 J	14400 U	111000	-	-	-	-

TABLE 4.3

NAPL RE-CHARACTERIZATION ANALYTICAL RESULTS SUMMARY
GLENN SPRINGS HOLDINGS, INC.
102nd STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

Sample Location:		*NR-1*	*NR-2*	*NR-3*	*NR-5*	*NR-2*	*NR-2*	*NR-2*	*NR-2*
Sample ID:		*NR-11101*	*NR-21101*	*NR-31101*	*NR-51101*	*NR-02 804*	*NR-02 904*	*NR-02 1205*	*NR-210212010*
Sample Date:		*11/10/2001*	*11/10/2001*	*11/10/2001*	*11/10/2001*	*8/24/2004*	*9/21/2004*	*12/19/2005*	*10/21/2010*
Parameters	***Units***								
Dioxin Furans - Continued									
Total heptachlorodibenzofuran (HpCDF)	mg/kg	-	-	-	-	-	-	5.6	3.5 U
Total heptachlorodibenzofuran (HpCDF)	pg/L	38500000	6240000	2760000	9120000	-	-	-	-
Total heptachlorodibenzo-p-dioxin (HpCDD)	mg/kg	-	-	-	-	-	-	19	20
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	826000	18300000	2000000 J	40100000	-	-	-	-
Total hexachlorodibenzofuran (HxCDF)	mg/kg	-	-	-	-	-	-	5.3	4.8 U
Total hexachlorodibenzofuran (HxCDF)	pg/L	25500000	14900000	7650000	17400000	-	-	-	-
Total hexachlorodibenzo-p-dioxin (HxCDD)	mg/kg	-	-	-	-	-	-	50	24
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	26600000 J	2240000	20300000 J	7800000	-	-	-	-
Total pentachlorodibenzofuran (PeCDF)	mg/kg	-	-	-	-	-	-	4.2	1.2 U
Total pentachlorodibenzofuran (PeCDF)	pg/L	40300000	15500000	8150000	15100000	-	-	-	-
Total pentachlorodibenzo-p-dioxin (PeCDD)	mg/kg	-	-	-	-	-	-	62	25
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	15500000 J	13000000 J	15400000 J	736000	-	-	-	-
Total tetrachlorodibenzofuran (TCDF)	mg/kg	-	-	-	-	-	-	3.4	1.4 U
Total tetrachlorodibenzofuran (TCDF)	pg/L	38500000	10400000	12300000	7760000	-	-	-	-
Total tetrachlorodibenzo-p-dioxin (TCDD)	mg/kg	-	-	-	-	-	-	0.033 U	1.9 U
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	375000 J	315000 J	1690000 J	111000	-	-	-	-
Geotech									
Chlorine	%	-	-	-	-	-	-	-	75
Density at 25C	g/mL	-	-	-	-	-	-	-	1.3908
Sulfur	ppm	-	-	-	-	-	-	-	0.5 U
Viscosity	none	-	-	-	-	-	-	-	158
General Chemistry									
Bulk density	g/cc	-	-	-	-	-	1.34	-	-
Chlorine	mg/kg	-	-	-	-	-	-	330	-
Cyanide (total)	mg/kg	-	-	-	-	-	0.463 U	.5 U	0.32 J
Density at 15C	kg/L	-	-	-	-	-	-	01.3120	-
Fluorene	mg/kg	-	-	-	-	-	-	10 U	-
Fluorine	ppm	-	-	-	-	-	294	-	-
Ignitability	Deg F	-	-	-	-	-	122	110	200 >
Specific gravity	none	-	-	-	-	-	1.33	-	-
Specific gravity	sg	-	-	-	-	-	-	1.3110	-
Sulfur	%	-	-	-	-	-	0.47	-	-
Sulfur	mg/kg	-	-	-	-	-	-	880	-
Viscosity	cst	10.32	4.33	7.16	2.79	-	6.494	-	-
Viscosity	none	-	-	-	-	-	-	5.5	-
Viscosity at 100C	cst	-	-	-	-	-	-	-	2.3
Viscosity at 40C	cst	-	-	-	-	-	-	-	7.008

Notes:
g/cc - Gram per Cubic Centimeter.
g/mL - Gram per Milliliter
J - Estimated.
kg/L - Kilograms per Liter.
pg/L - Picogram per Liter.
ppm - Parts Per Million.
mg/kg - Milligram per Kilogram.
sg - Specific Gravity.
U - Not detected.
% - Percent.

APPENDIX A

INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **932022**

Site Name Hooker-102nd Street Landfill

Site Address: 102nd Street, South of River Road Zip Code: 14304
City/Town: Niagara Falls
County: Niagara
Site Acreage: ~~16.5~~ 22.1

Reporting Period: ~~April 14, 2010 to June 01, 2011~~
January 1, 2010 to December 31, 2010

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. 932022

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
174.07-1-1	Occidental Chemical Corporation	Landuse Restriction
174.07-1-2	Occidental Chemical Corporation	Landuse Restriction
161.18-1-34.2	Occidental Chemical Corporation	Landuse Restriction
161.19-3-1	Occidental Chemical Corporation	Landuse Restriction
161.19-3-2	Occidental Chemical Corporation	Landuse Restriction
174.07-1-3	Olin Corporation	Landuse Restriction
174.07-1-4	Olin Corporation	Landuse Restriction

Box 4

Description of Engineering Controls

Parcel	Engineering Control
174.07-1-1	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat Subsurface Barriers
174.07-1-2	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat Subsurface Barriers
161.18-1-34.2	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat Subsurface Barriers
161.19-3-1	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat Subsurface Barriers
161.19-3-2	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat Subsurface Barriers
174.07-1-3	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat

Parcel	Engineering Control
	Subsurface Barriers
174.07-1-4	
	Cover System
	Fencing/Access Control
	Groundwater Containment
	Leachate Collection
	Pump & Treat
	Subsurface Barriers

Control Description for Site No. 932022

Parcel: 161.18-1-34.2

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin, has perfomed the required O&M activities since 1999.

or their representative

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

Parcel: 161.19-3-1

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin has perfomed the required O&M activities since 1999.

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

text edits as above

Parcel: 161.19-3-2

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin has perfomed the required O&M activities since 1999.

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

text edits as above

Parcel: 174.07-1-1

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin has perfomed the required O&M activities since 1999.

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

text edits as above

Parcel: 174.07-1-2

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin has perfomed the required O&M activities since 1999.

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

text edits as above

Control Description for Site No. 932022

Parcel: 174.07-1-3

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin has perfomed the required O&M activities since 1999.

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

text edits as above

Parcel: 174.07-1-4

The engineering controls consist of a containment system for the landfill, including: perimeter fencing; NAPL recovery wells; a groundwater collection system; a perimeter sub-surface slurry wall; and a landfill cap. Groundwater collected from the containment system is pumped north for treatment at the Love Canal Leachate Treatment Facility. NAPL is pumped seasonally (April - Nov.) from select NAPL recovery wells into a waste tanker and sent off site for proper disposal. OCC/Olin has perfomed the required O&M activities since 1999.

The Institutional Controls include a January 2000 deed restriction that prohibits the use of site groundwater or disturbance of landfill cover.

text edits as above

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 932022

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Joseph Branch (print name) at 7601 Old Channel Trail, Montague MI 49437 (print business address)

am certifying as Glenn Springs Holdings, Inc. (Owner) or Remedial Party)

for the Site named in the Site Details Section of this form.

Petrazek-Polovich for Joseph Branch — Signature of Owner or Remedial Party Rendering Certification

6/29/11 — Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I James Thornton (print name) at 285 Delaware Ave Buffalo, NY (print business address)

am certifying as a Professional Engineer for the Remedial Party (Owner or Remedial Party)

STATE OF NEW YORK
JAMES C. THORNTON
No. 80482
LICENSED PROFESSIONAL ENGINEER

James Thornton — Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

6-29-11 — Date

APPENDIX B

ANNUAL REPORT FORMS

ANNUAL OPERATION AND MAINTENANCE REPORT

102ND STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

YEAR: **2010**

MONITORING - Water Level Measurements

Month	*Day*	*Inspector*	*PCM-01*	*PZ-01*	*PCM-02*	*PZ-02*	*PCM-03*	*PZ-03*
1st Qtr.	3/15/2010	D. Tyran	566.04	562.12	567.02	561.10	562.31	560.47
2nd Qtr.	6/1/2010	D. Tyran	565.43	562.25	565.89	561.12	563.41	560.53
3rd Qtr.	9/16/2010	D. Tyran	564.61	562.29	564.93	561.39	563.16	560.69
4th Qtr.	12/9/2010	D. Tyran	564.59	561.90	565.21	560.99	562.32	560.41

Month	*Day*	*Inspector*	*PCM-04*	*PZ-04*	*PCM-05*	*PZ-05*	*PCM-06*	*PZ-06*
1st Qtr.	3/15/2010	D. Tyran	562.37	560.83	565.04	560.40	565.83	Dry
2nd Qtr.	6/1/2010	D. Tyran	563.52	560.90	563.52	560.47	565.98	Dry
3rd Qtr.	9/16/2010	D. Tyran	563.24	561.07	562.47	560.61	567.28	Dry
4th Qtr.	12/9/2010	D. Tyran	562.32	560.71	563.24	560.39	565.92	Dry

Month	*Day*	*Inspector*	*PCM-07R*	*PZ-07*	*PCM-08*	*PZ-08*	*PCM-09*	*PZ-09*
1st Qtr.	3/15/2010	D. Tyran	566.14	567.11	569.55	Dry	572.62	Dry
2nd Qtr.	6/1/2010	D. Tyran	564.74	565.95	566.90	Dry	568.03	Dry
3rd Qtr.	9/16/2010	D. Tyran	565.41	566.18	568.31	Dry	567.95	Dry
4th Qtr.	12/9/2010	D. Tyran	564.51	565.79	568.95	Dry	569.62	Dry

Month	*Day*	*Inspector*	*PCM-10*	*PZ-10*
1st Qtr.	3/15/2010	D. Tyran	567.41	564.92
2nd Qtr.	6/1/2010	D. Tyran	566.17	565.04
3rd Qtr.	9/16/2010	D. Tyran	565.16	565.02
4th Qtr.	12/9/2010	D. Tyran	565.68	564.83

FORM 1

ANNUAL OPERATION AND MAINTENANCE REPORT

102ND STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

YEAR: **2010**

GROUNDWATER - Quality Monitoring

Quarter	*Date Sample Taken*	*Inspector*	*Comments*
1st			
2nd	4/6/10	D. Tyran	Semiannual sampling event.
3rd			
4th	10/9/10	D. Tyran	Semiannual sampling event.

Results of analyses are attached.

NAPL PRESENCE - Monitoring

			NR-01		*NR-02*		*NR-03*	
	Date	*Inspector*	*Depth of NAPL (ft)*	*Gallons Removed*	*Depth of NAPL (ft)*	*Gallons Removed*	*Depth of NAPL (ft)*	*Gallons Removed*
1st Quarter	3/15/2010	D. Tyran	1.30	0.00	1.75	0.00	1.58	0.00
2nd Quarter	6/1/2010	D. Tyran	0.93	2.50	2.20	50.00	1.65	0.00
3rd Quarter	9/16/2010	D. Tyran	0.10	0.00	1.64	304.35	0.00	0.00
4th Quarter	12/9/2010	D. Tyran	1.13	4.50	1.66	123.30	0.66	0.00

			NR-04		*NR-05*		*NR-07*	
	Date	*Inspector*	*Depth of NAPL (ft)*	*Gallons Removed*	*Depth of NAPL (ft)*	*Gallons Removed*	*Depth of NAPL (ft)*	*Gallons Removed*
1st Quarter	3/15/2010	D. Tyran	NO NAPL		0.24	0.00	NO NAPL	
2nd Quarter	6/1/2010	D. Tyran	NO NAPL		0.73	0.00	NO NAPL	
3rd Quarter	9/16/2010	D. Tyran	NO NAPL		NO NAPL		NO NAPL	
4th Quarter	12/9/2010	D. Tyran	NO NAPL		0.38	0.00	NO NAPL	

			NR-08		*NR-10*	
	Date	*Inspector*	*Depth of NAPL (ft)*	*Gallons Removed*	*Depth of NAPL (ft)*	*Gallons Removed*
1st Quarter	3/15/2010	D. Tyran	0.80	0.00	NO NAPL	
2nd Quarter	6/1/2010	D. Tyran	0.70	0.00	NO NAPL	
3rd Quarter	9/16/2010	D. Tyran	0.24	0.00	NO NAPL	
4th Quarter	12/9/2010	D. Tyran	0.66	0.00	NO NAPL	

FORM 1

ANNUAL OPERATION AND MAINTENANCE REPORT

102ND STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

YEAR: **2010**

OPERATION

APL COLLECTION AND DISCHARGE SYSTEM

APL Flow for Previous Year (gallons)	*APL Flow for Current Year (gallons)*
393,509	389,884

NAPL REMOVAL SYSTEM

	NAPL Removed for Previous Year (gallons)	*NAPL Removed for Current Year (gallons)*
NR-01	46.25	7
NR-02	7164	478
NR-03	12	0
NR-04	0	0
NR-05	14.75	0
NR-07	0	0
NR-08	16	0
NR-10	0	0
Total	7253	485

Where was NAPL treated/disposed?

Facility Clean Harbors , Deer Park, Texas Date 6/7/10
Facility _____ Date _____
Facility _____ Date _____
Facility _____ Date _____
Facility _____ Date _____
Facility _____ Date _____

FORM 1

ANNUAL OPERATION AND MAINTENANCE REPORT

102ND STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

YEAR: **2010**

INSPECTION AND MAINTENANCE

Scheduled inspections performed:

	Date	*Inspectors*
May	**27**	Brian Sadowski (NYSDEC); Jane Polovich (CRA), Darrell Crockett (CRA)

Was maintenance required?

	Yes	*No*
May	[x]	[ ]

What maintenance was required?	Date Performed
Re-hang fallen confined space entry sign	May 2010

Describe any maintenance activity that required an activity specific work plan and health and safety plan.

At this time no other concerns or issues conveyed.

Form Completed By:

Joseph Branch, Project Manager		May 31, 2011
NAME	SIGNATURE	DATE

FORM 1

ANNUAL OPERATION AND MAINTENANCE REPORT

102ND STREET LANDFILL SITE
NIAGARA FALLS, NEW YORK

YEAR: 2010

Send completed copies of this form to the following for review:

Joseph Branch
Glenn Springs Holdings, Inc.
7601 Old Channel Trail
Montague, MI 49437

and

Lorraine Miller
Olin Chemical Group
3855 North Ocoee Street, Suite 200
Cleveland, TN 37312

and

Michael J. Bellotti
Olin Chemical Group
3855 North Ocoee Street, Suite 200
Cleveland, TN 37312

After review is complete, send 5 copies to the following:

Chief-New York Remedial Branch
Emergency and Remedial Response Davison
U.S. Environmental Protection Agency - Region II
290 Broadway, 20th Floor
New York, NY 10007-1866
Attn: 102nd Street Landfill Superfund Site Manager

and

Mr. Brian Sadowski
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999

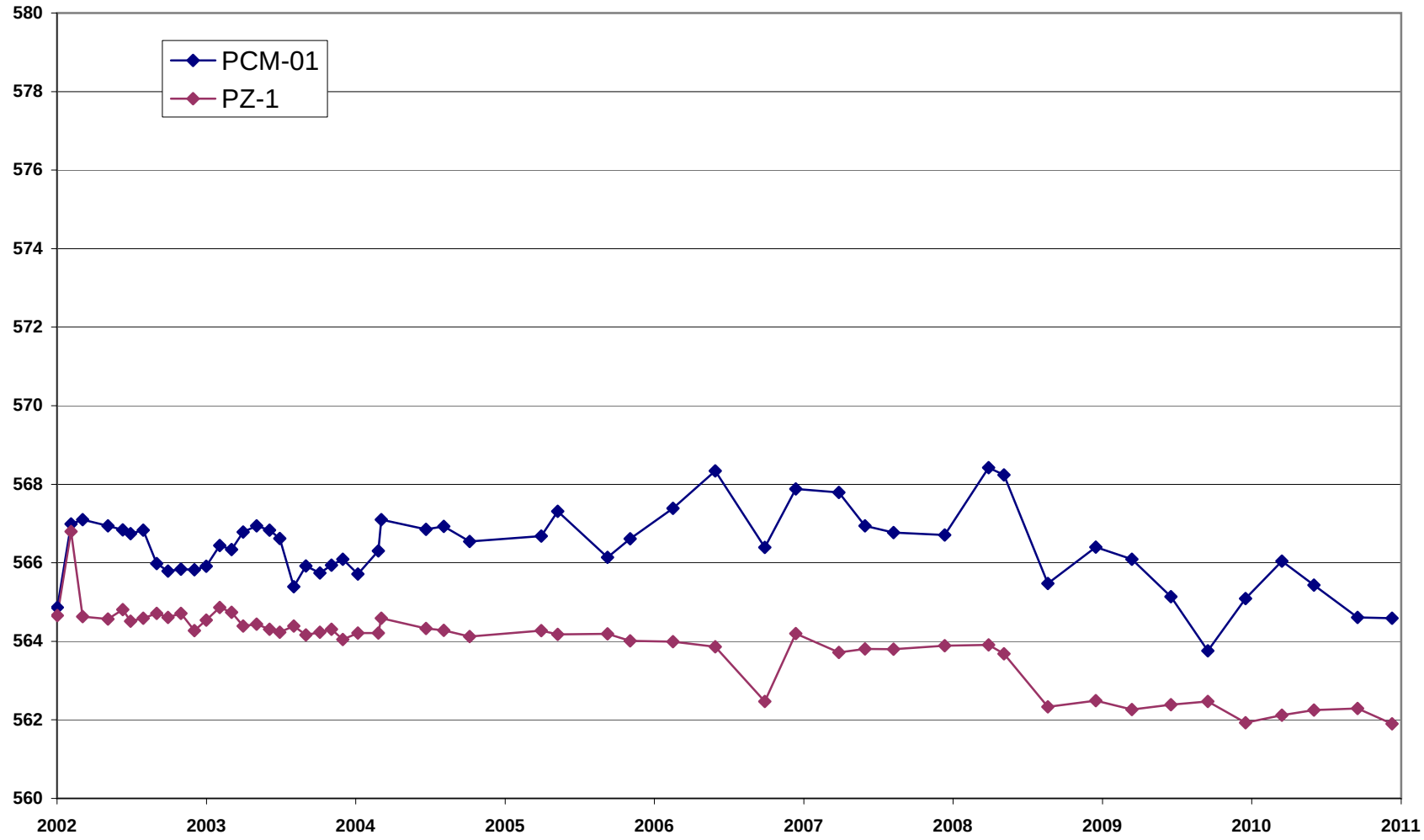
and

Mr. Gregory P. Sutton
Regional Remediation Engineer
New York State Dept. of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999

FORM 1

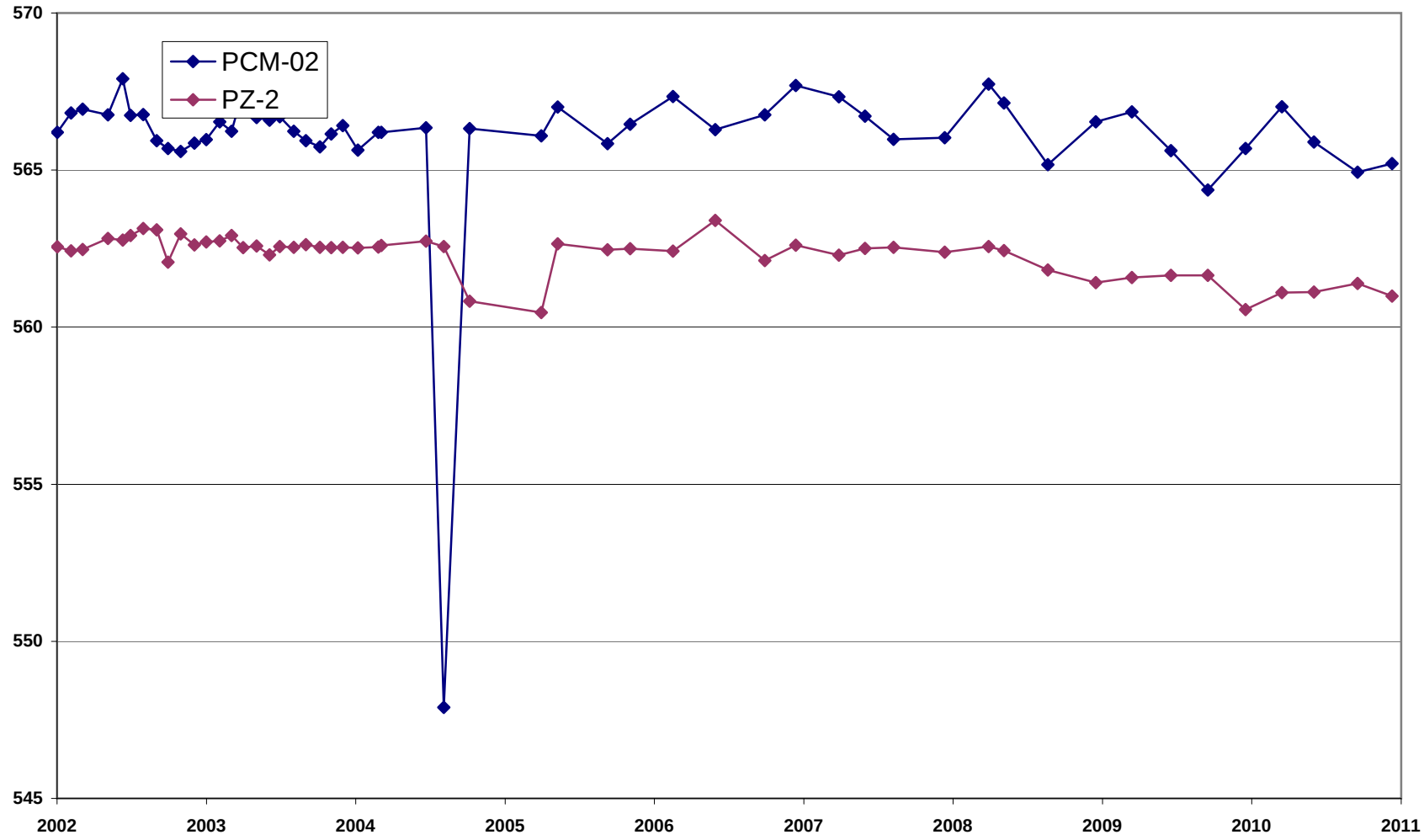
APPENDIX C

GRAPHS OF GROUNDWATER LEVEL ELEVATIONS 2002-2010



Note: Where the well was dry, the bottom of well elevation was used.

figure C.1
GROUNDWATER LEVELS WELL PAIR 1
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York



Note: Where the well was dry, the bottom of well elevation was used.

figure C.2
GROUNDWATER LEVELS WELL PAIR 2
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

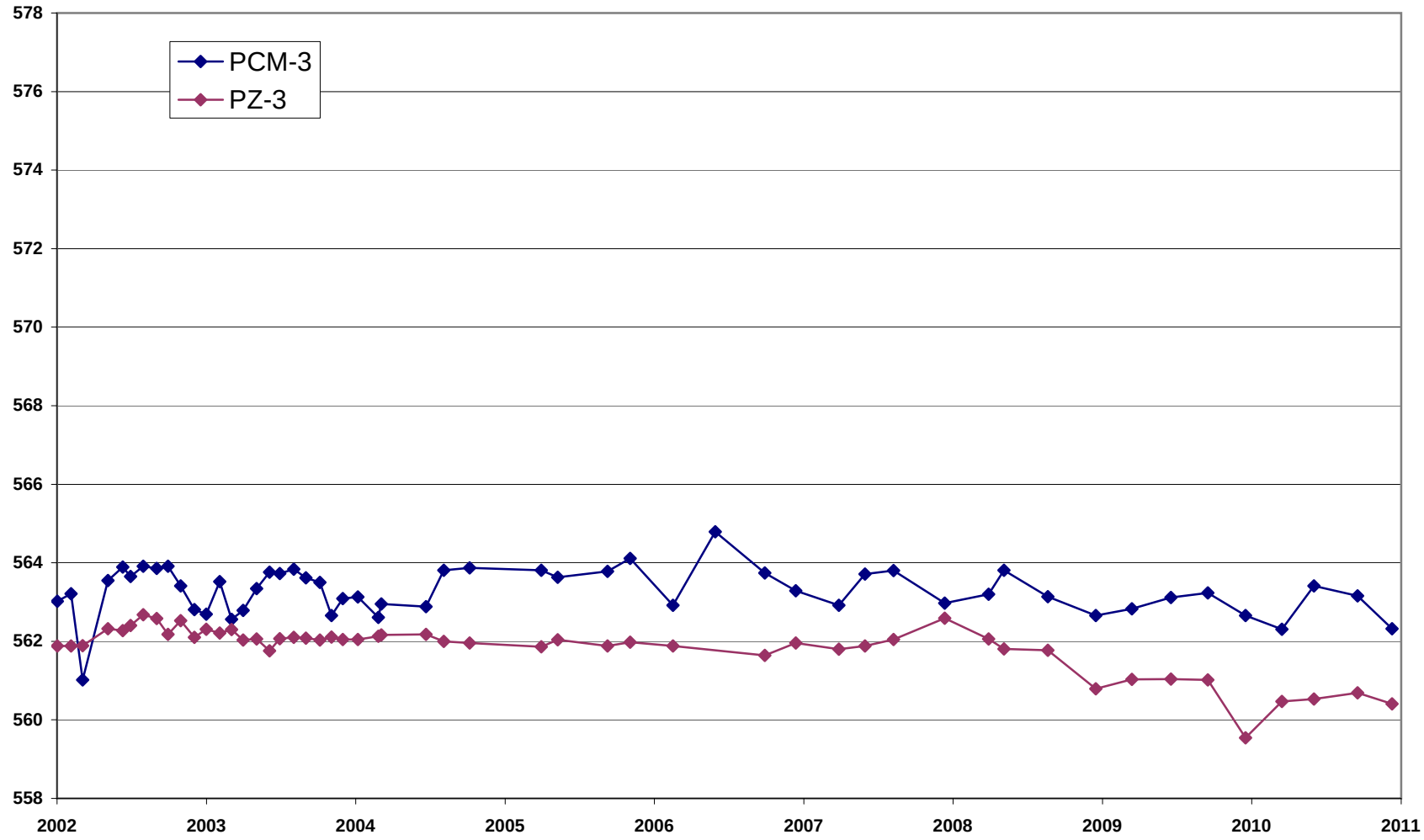
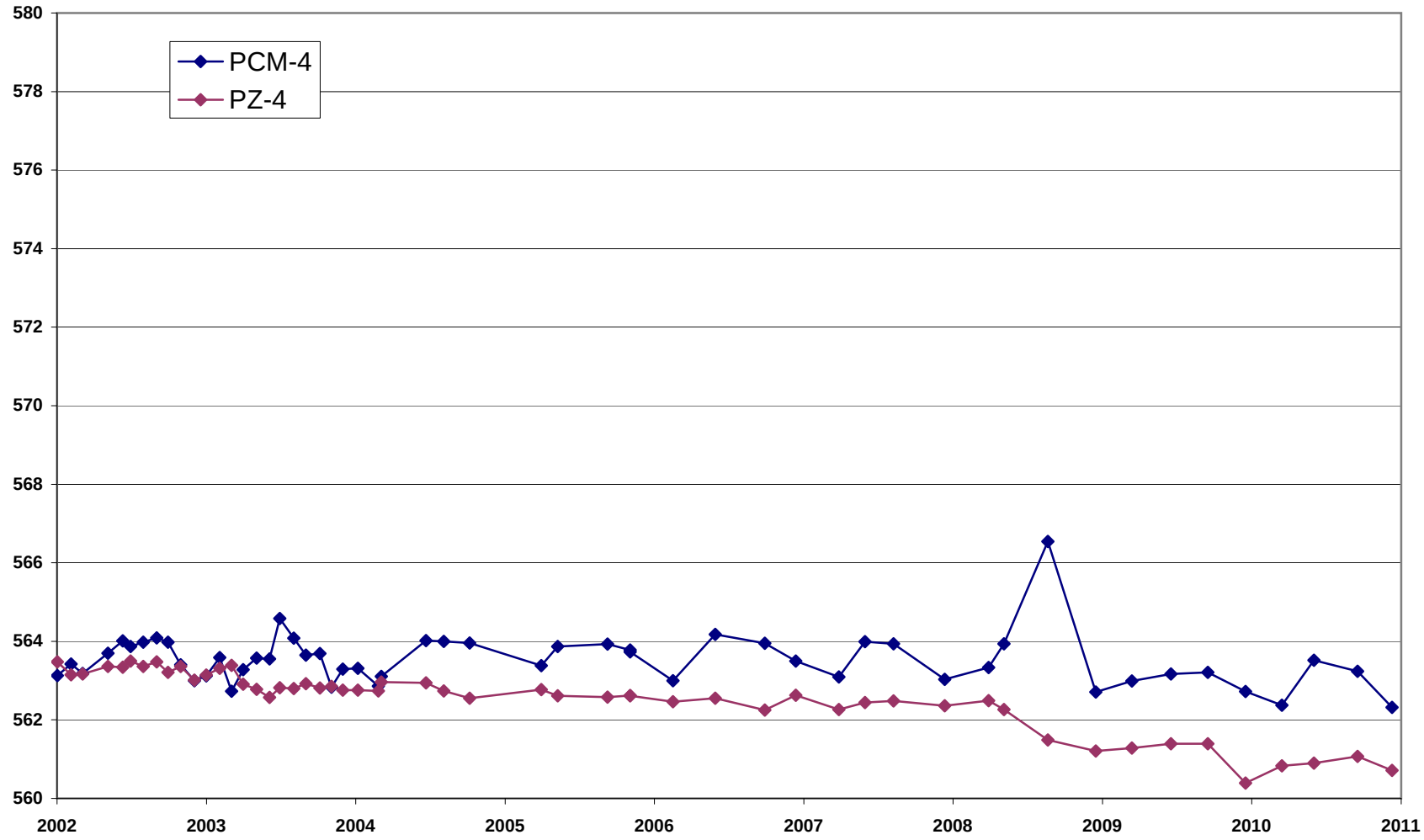


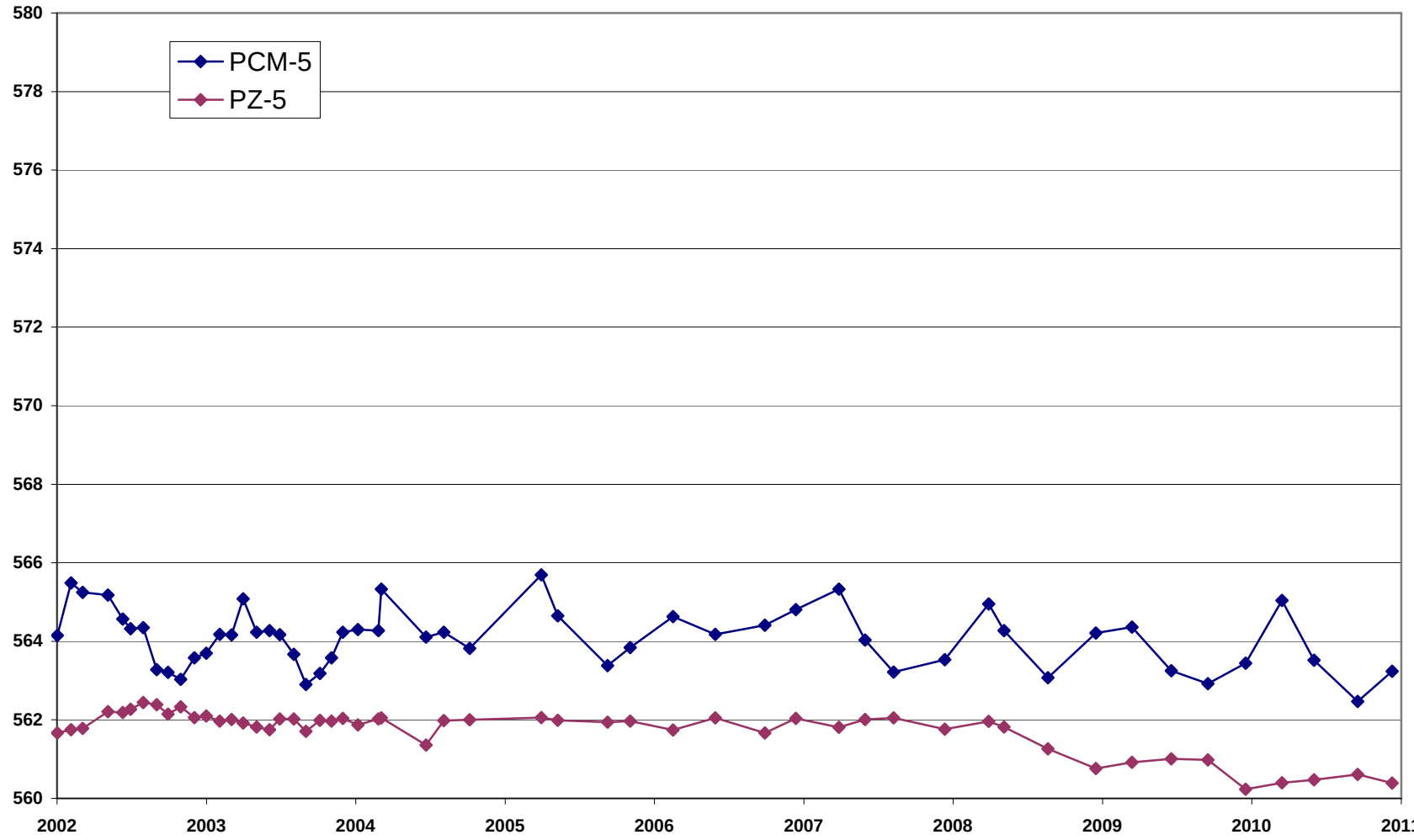
figure C.3
GROUNDWATER LEVELS WELL PAIR 3
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

Note: Where the well was dry, the bottom of well elevation was used.



Note: Where the well was dry, the bottom of well elevation was used.

figure C.4
GROUNDWATER LEVELS WELL PAIR 4
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York



Note: Where the well was dry, the bottom of well elevation was used.

figure C.5
GROUNDWATER LEVELS WELL PAIR 5
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

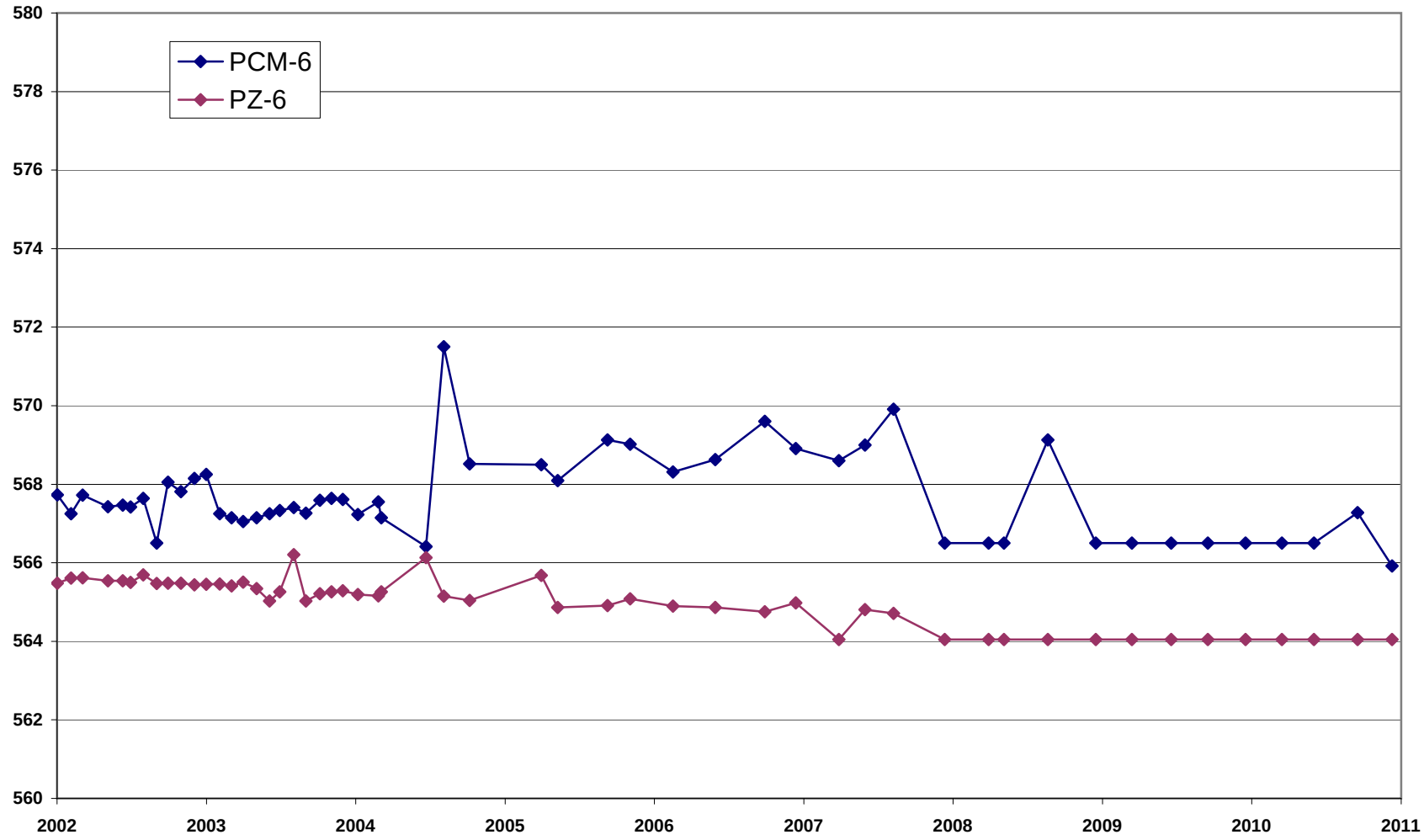
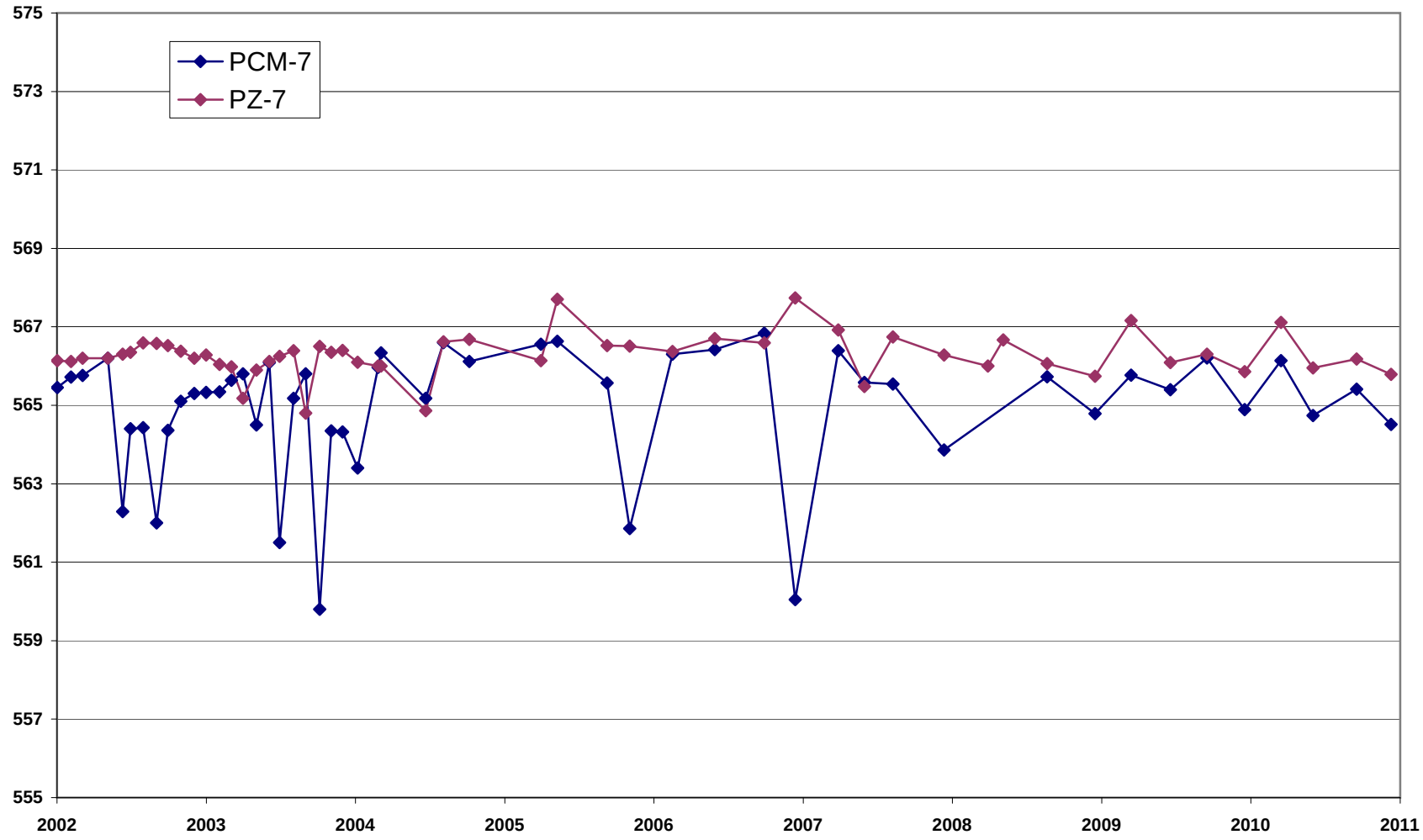


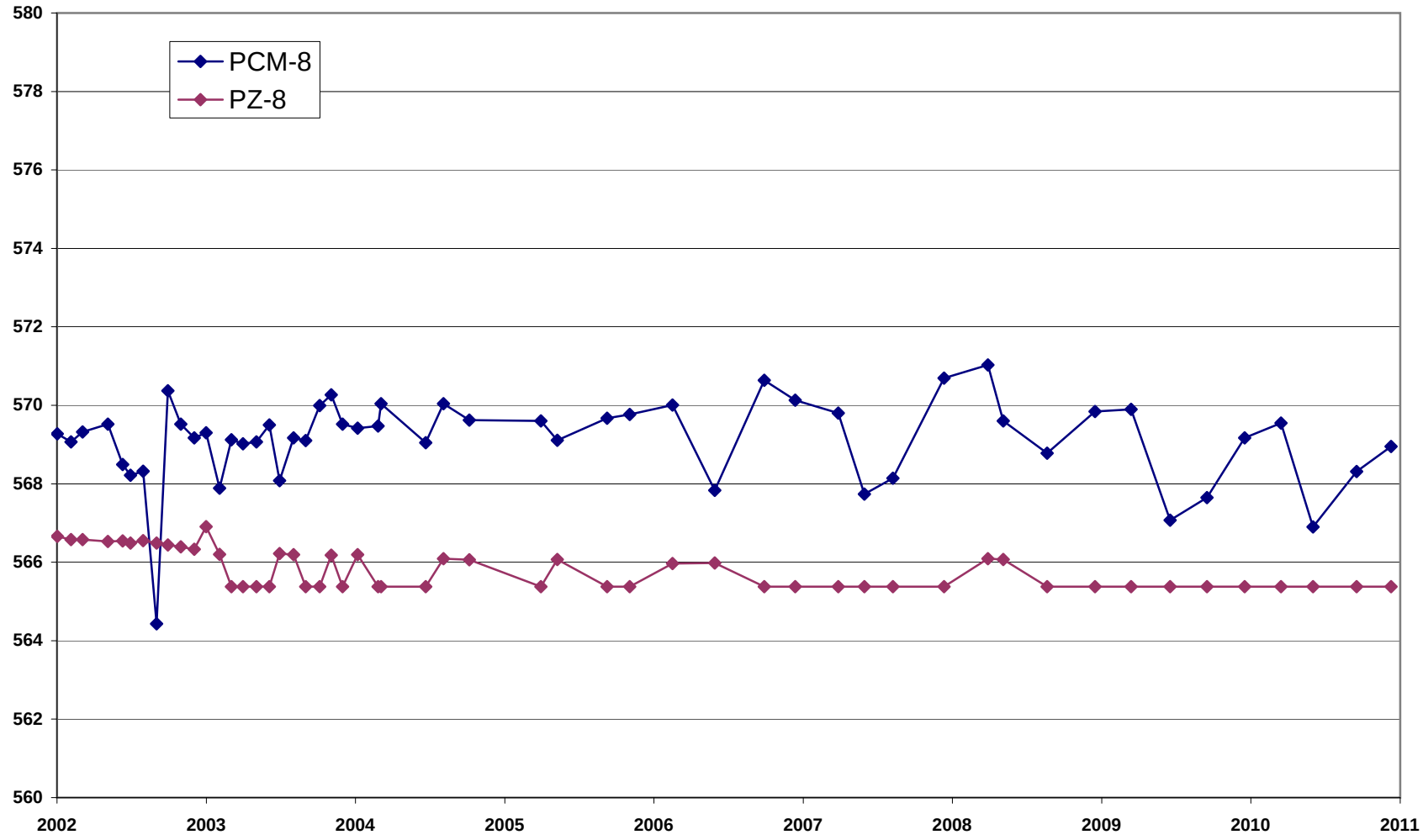
figure C.6
GROUNDWATER LEVELS WELL PAIR 6
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

Note: Where the well was dry, the bottom of well elevation was used.



Note: Where the well was dry, the bottom of well elevation was used.

figure C.7
GROUNDWATER LEVELS WELL PAIR 7
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York



Note: Where the well was dry, the bottom of well elevation was used.

figure C.8
GROUNDWATER LEVELS WELL PAIR 8
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

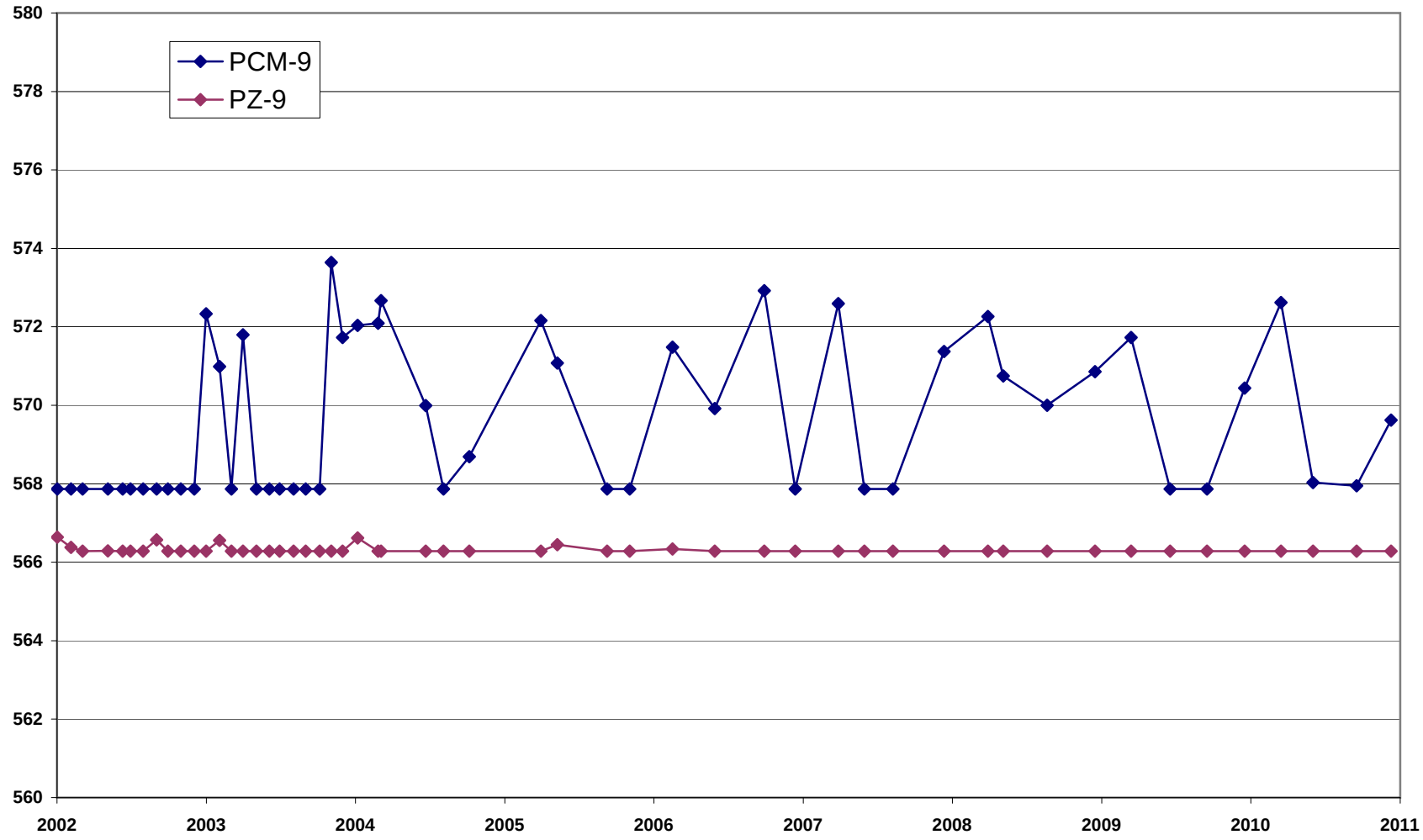
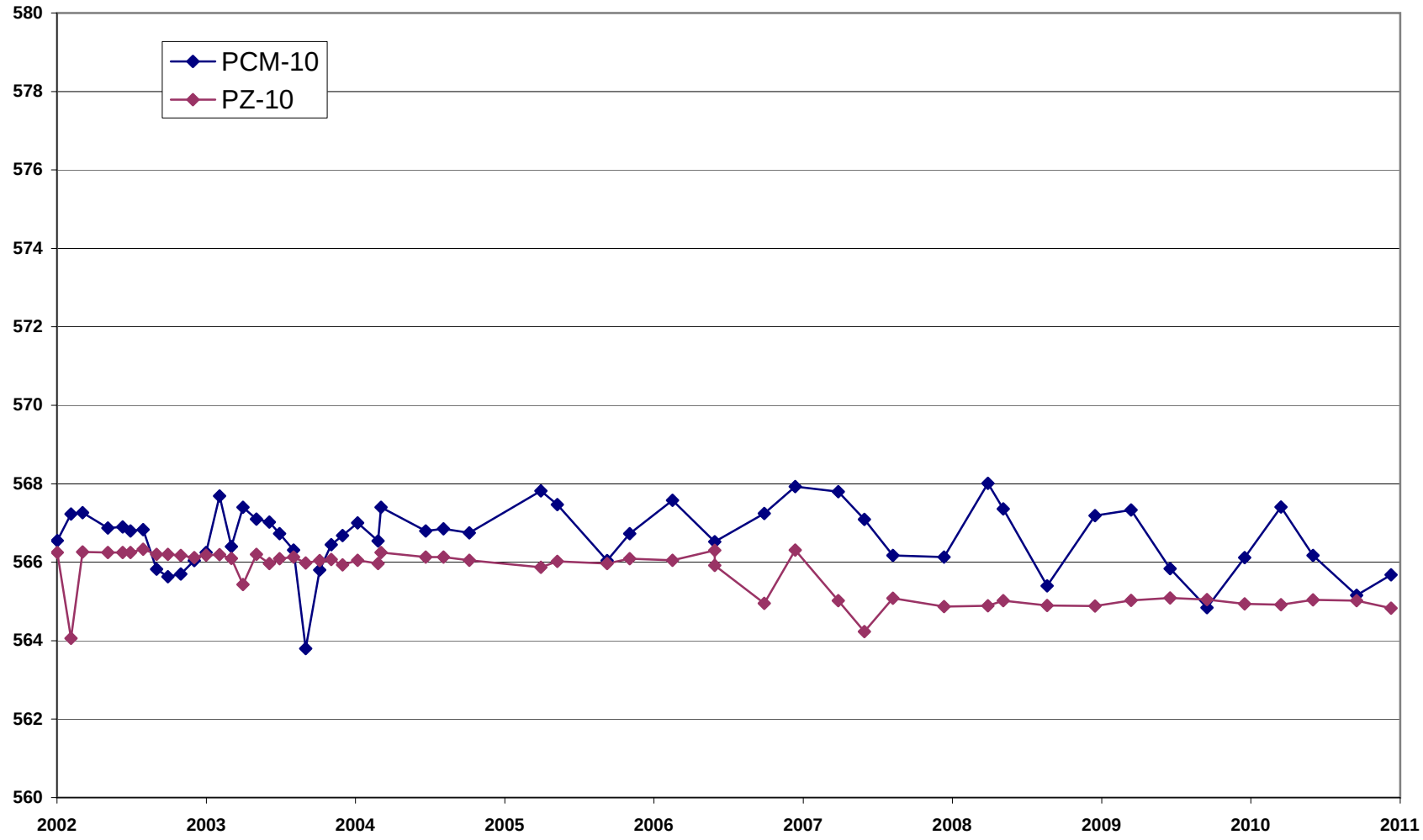


figure C.9
GROUNDWATER LEVELS WELL PAIR 9
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

Note: Where the well was dry, the bottom of well elevation was used.



Note: Where the well was dry, the bottom of well elevation was used.

figure C.10
GROUNDWATER LEVELS WELL PAIR 10
2010 PERIODIC REVIEW REPORT
102ND STREET LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC
Niagara Falls, New York

APPENDIX D

CONCENTRATION TREND GRAPHS

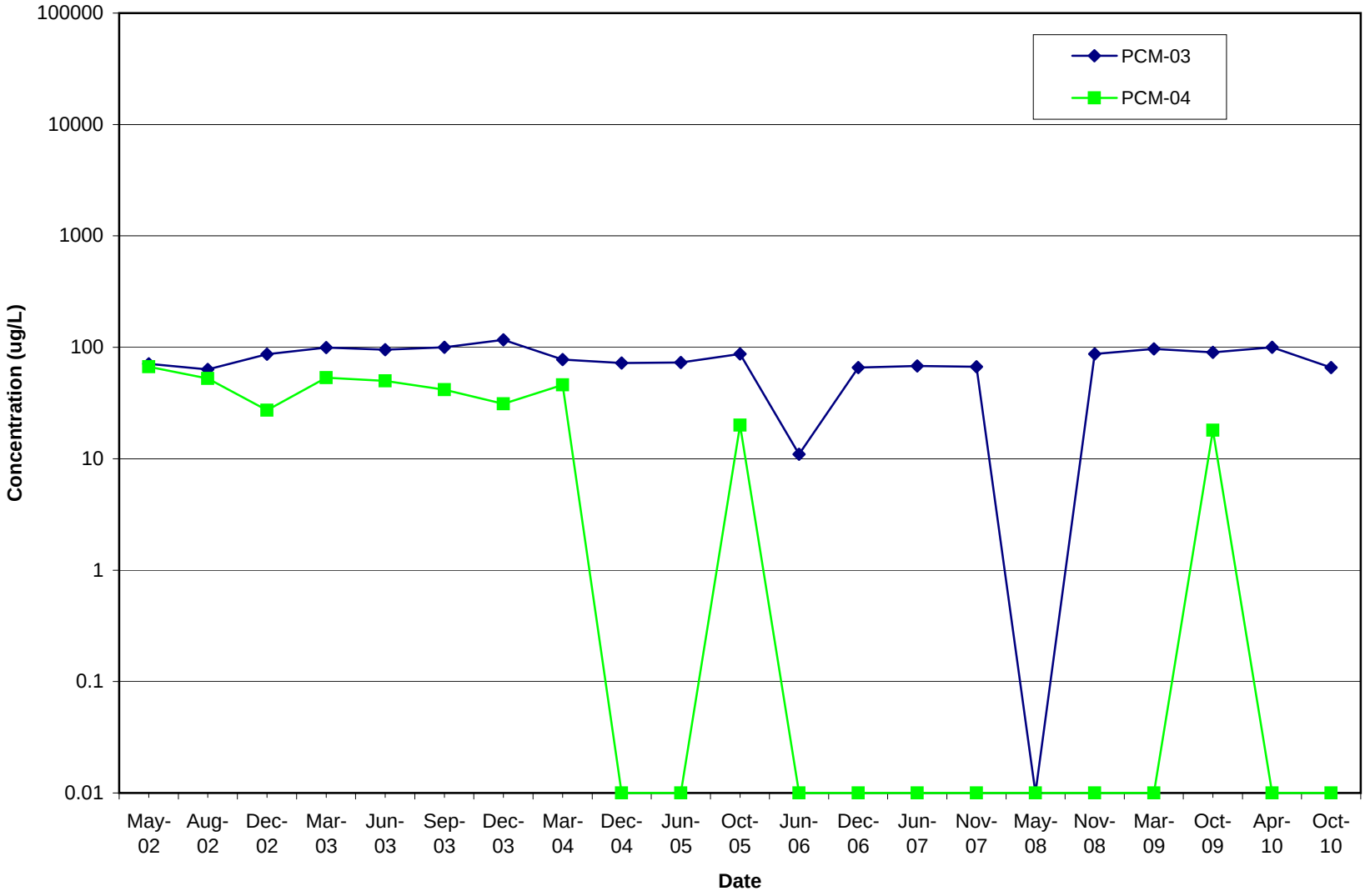


figure D.1
CONCENTRATION OF 1,2-DICHLOROBENZENE vs. TIME
102ND STREET LANDFILL

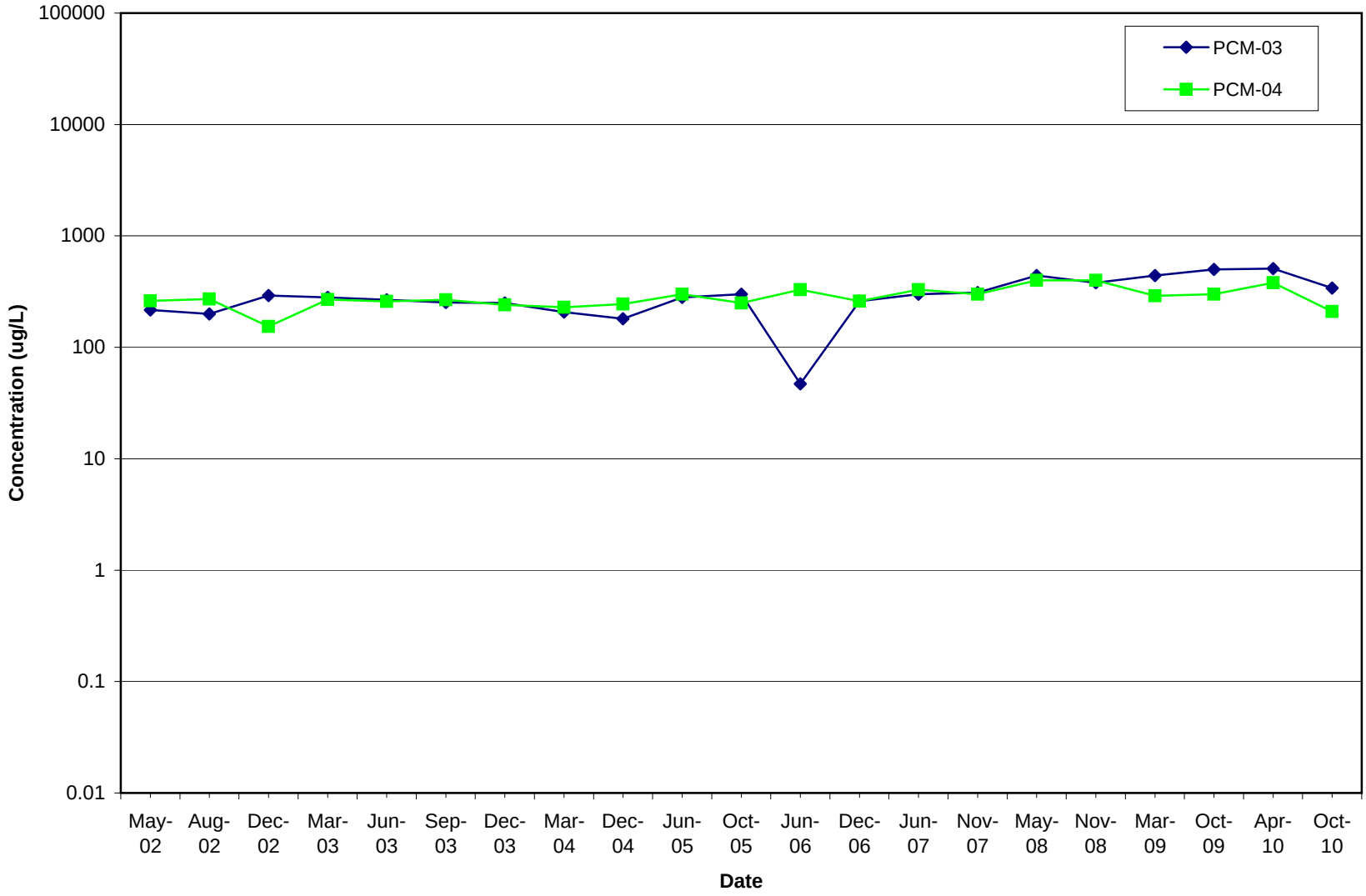


figure D.2
CONCENTRATION OF 1,4-DICHLOROBENZENE vs. TIME
102ND STREET LANDFILL

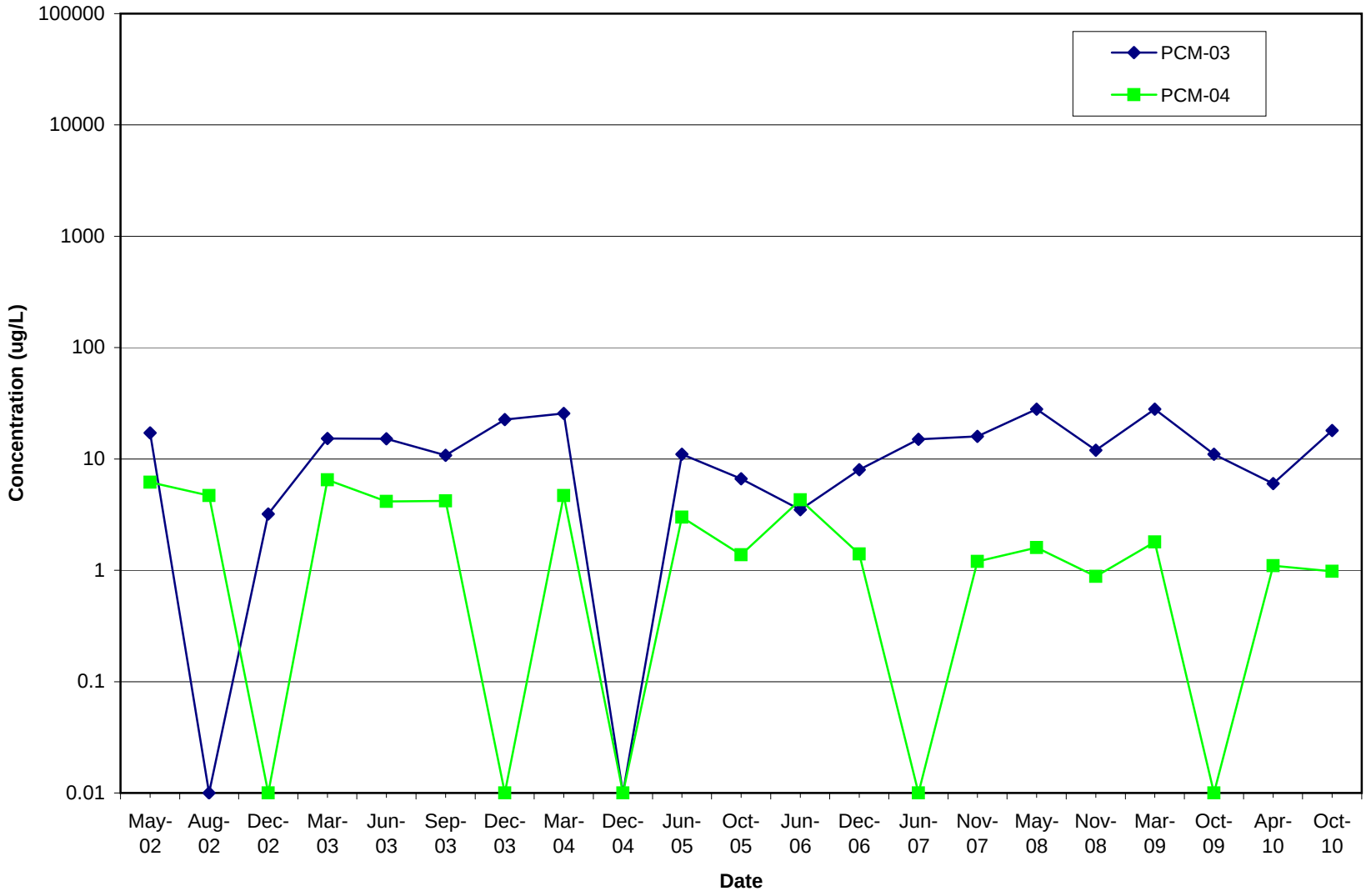


figure D.3
CONCENTRATION OF 2,4-DICHLOROPHENOL vs. TIME
102ND STREET LANDFILL

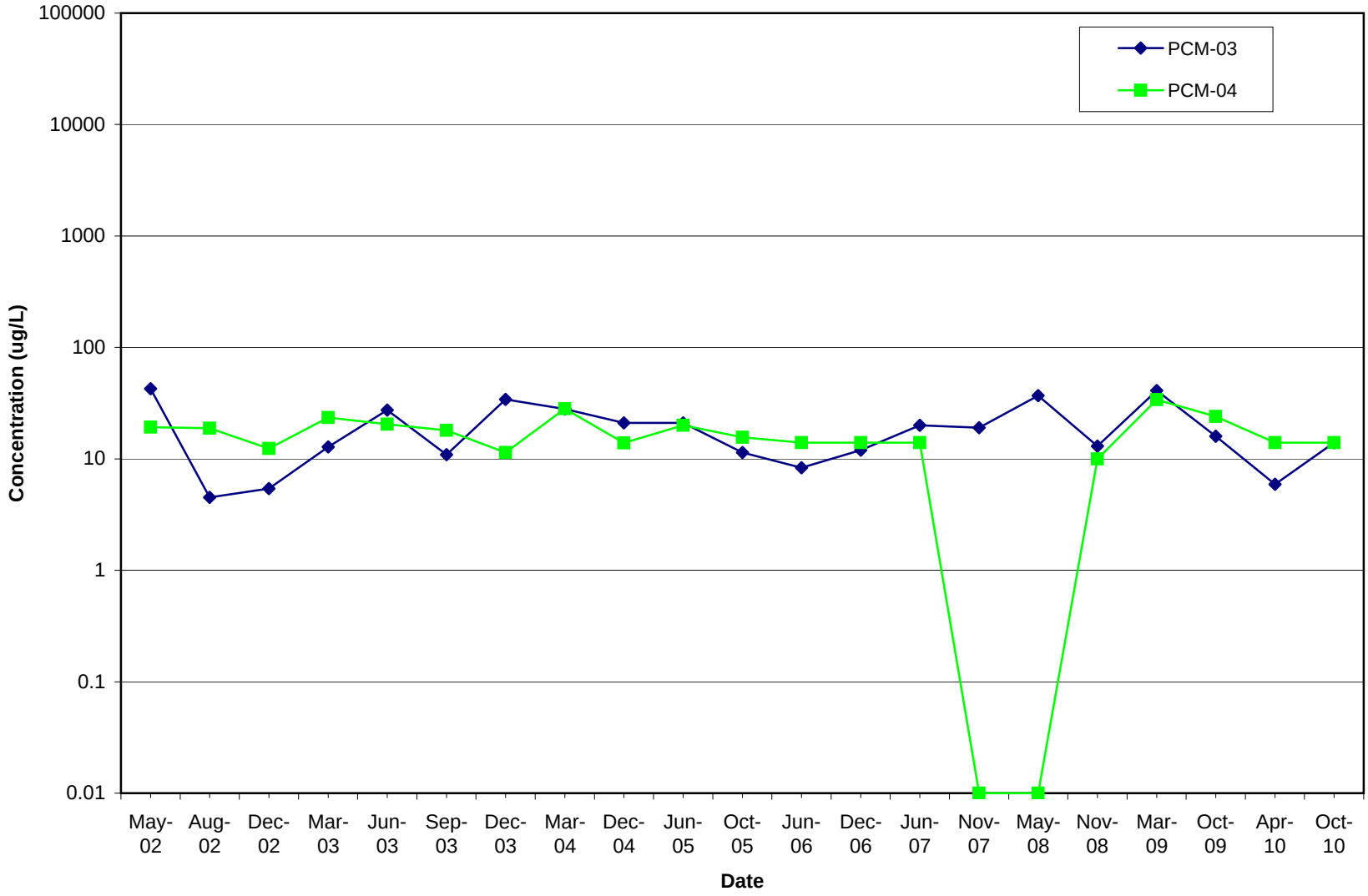


figure D.4
CONCENTRATION OF 2-CHLOROPHENOL vs. TIME
102ND STREET LANDFILL

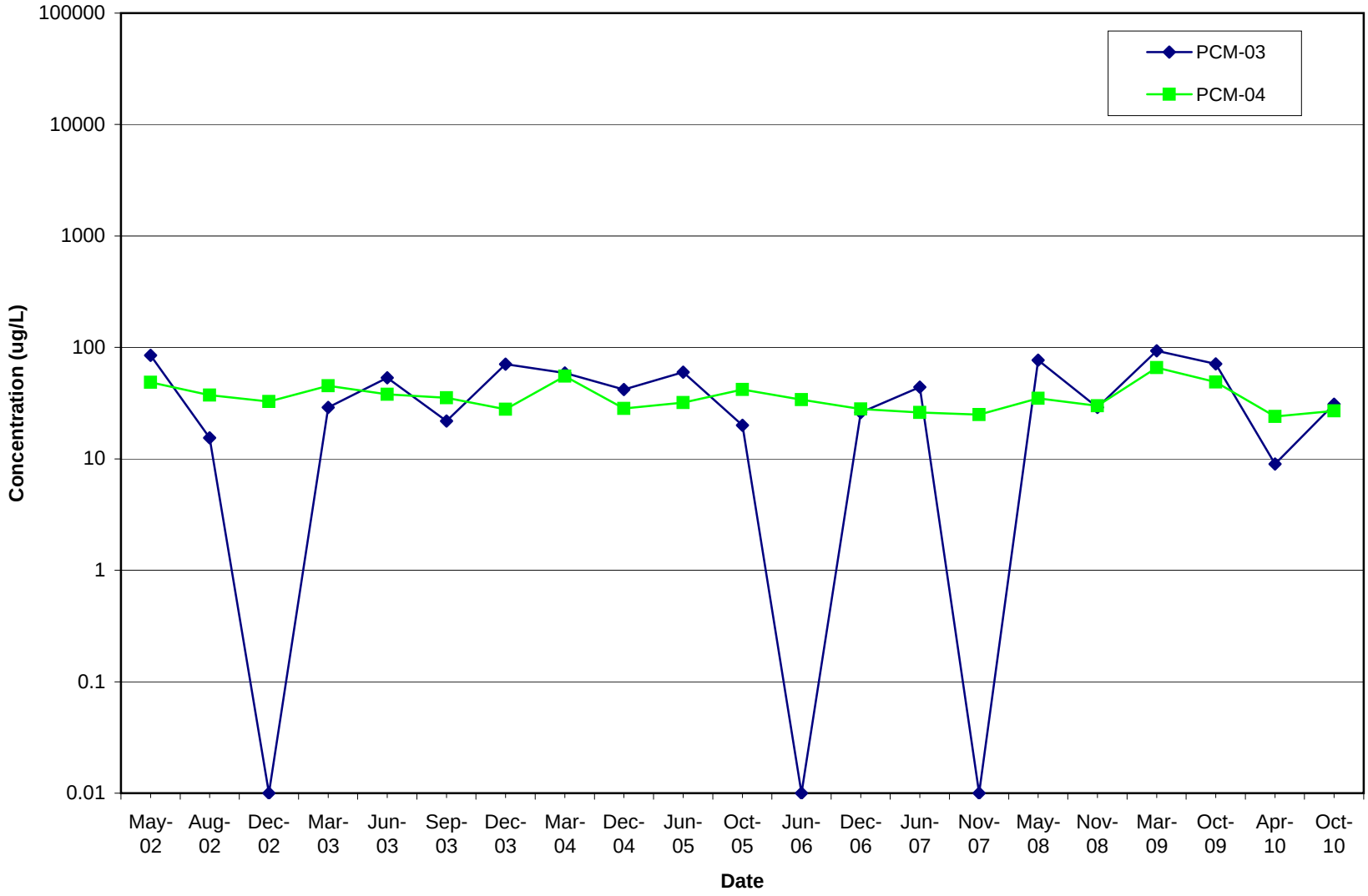


figure D.5
CONCENTRATION OF 4-CHLOROPHENOL vs. TIME
102ND STREET LANDFILL

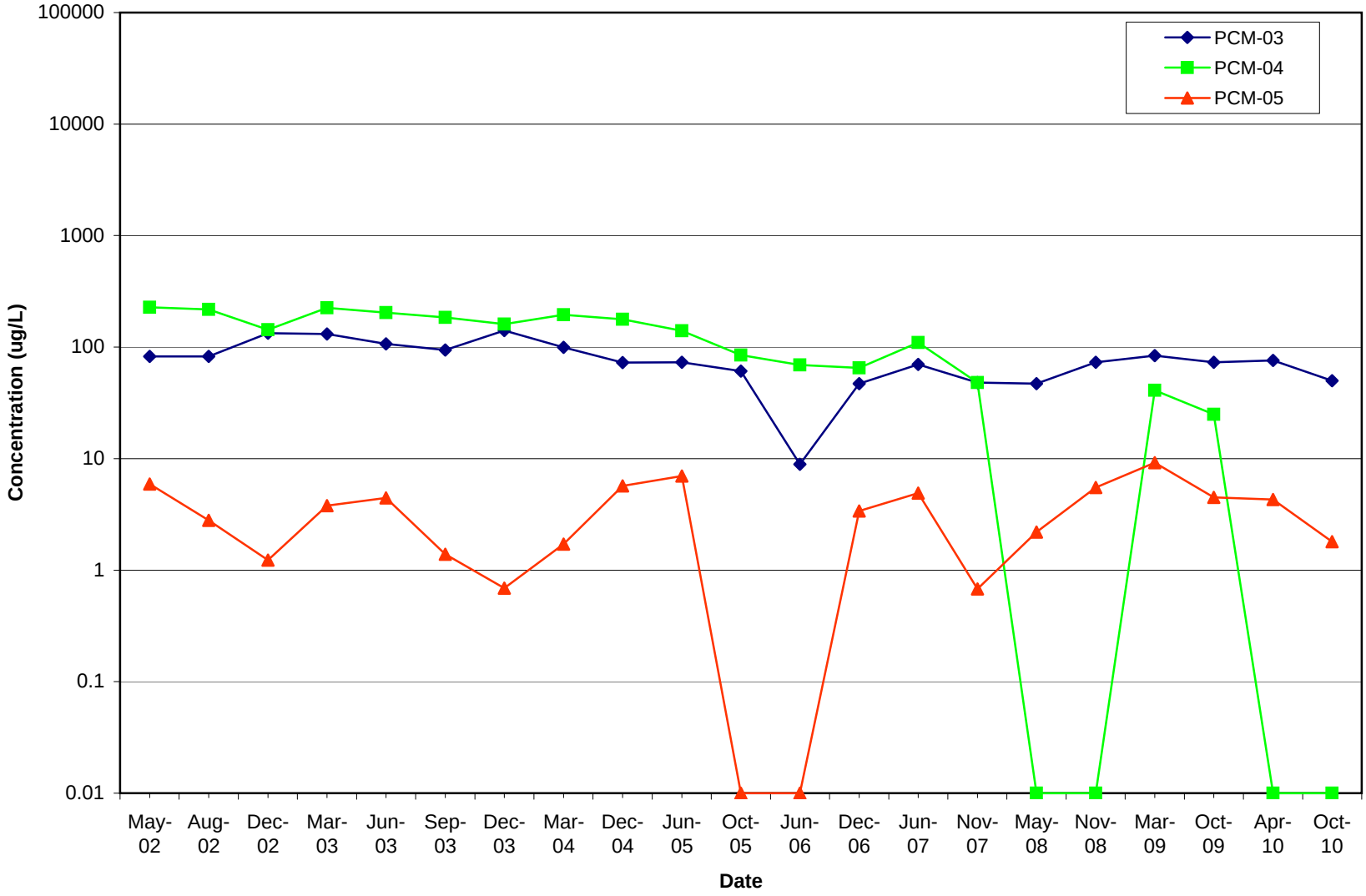


figure D.6
CONCENTRATION OF BENZENE vs. TIME
102ND STREET LANDFILL

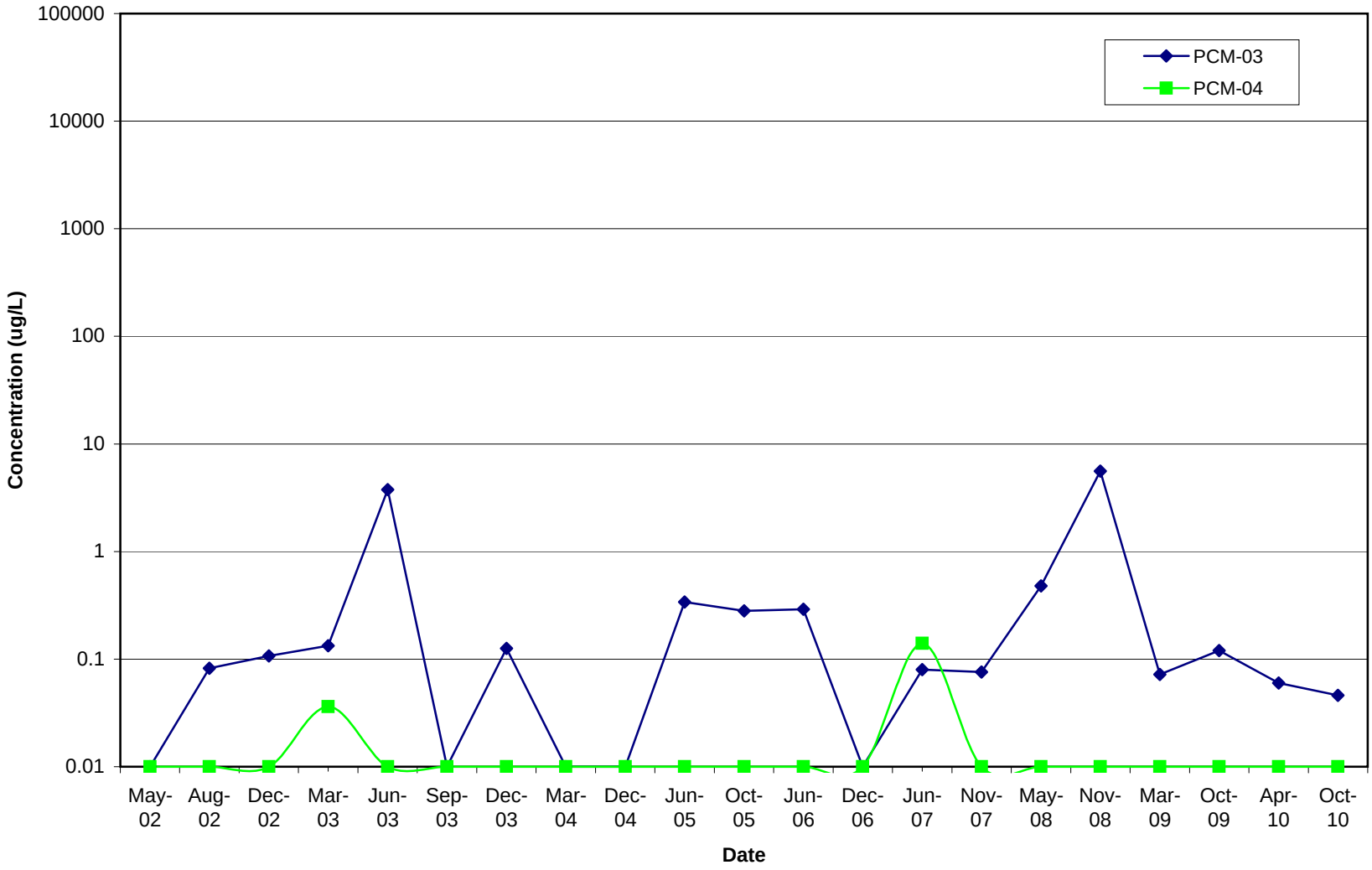


figure D.7
CONCENTRATION OF BETA-BHC vs. TIME
102ND STREET LANDFILL

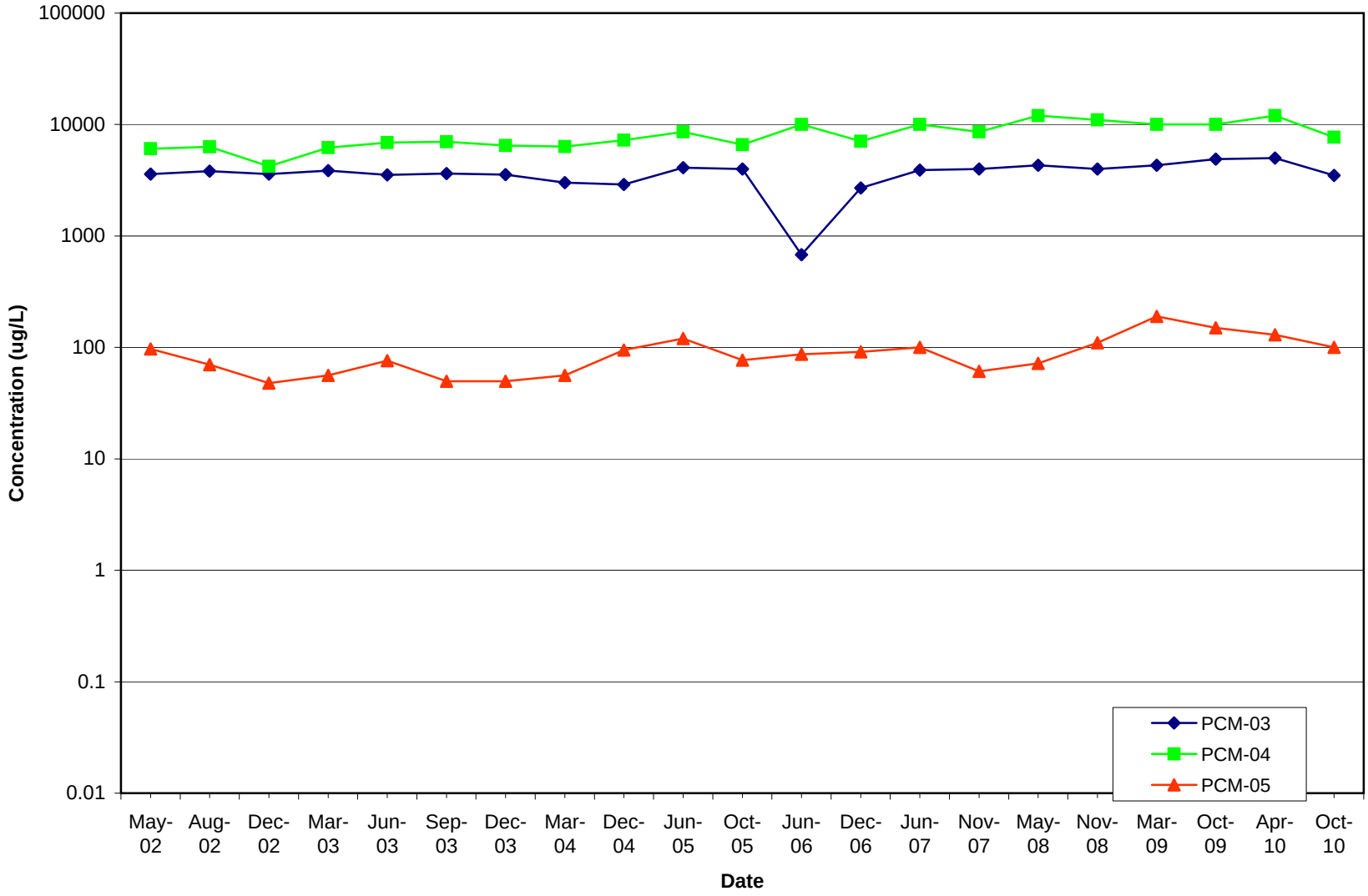


figure D.8
CONCENTRATION OF CHLOROBENZENE vs. TIME
102ND STREET LANDFILL

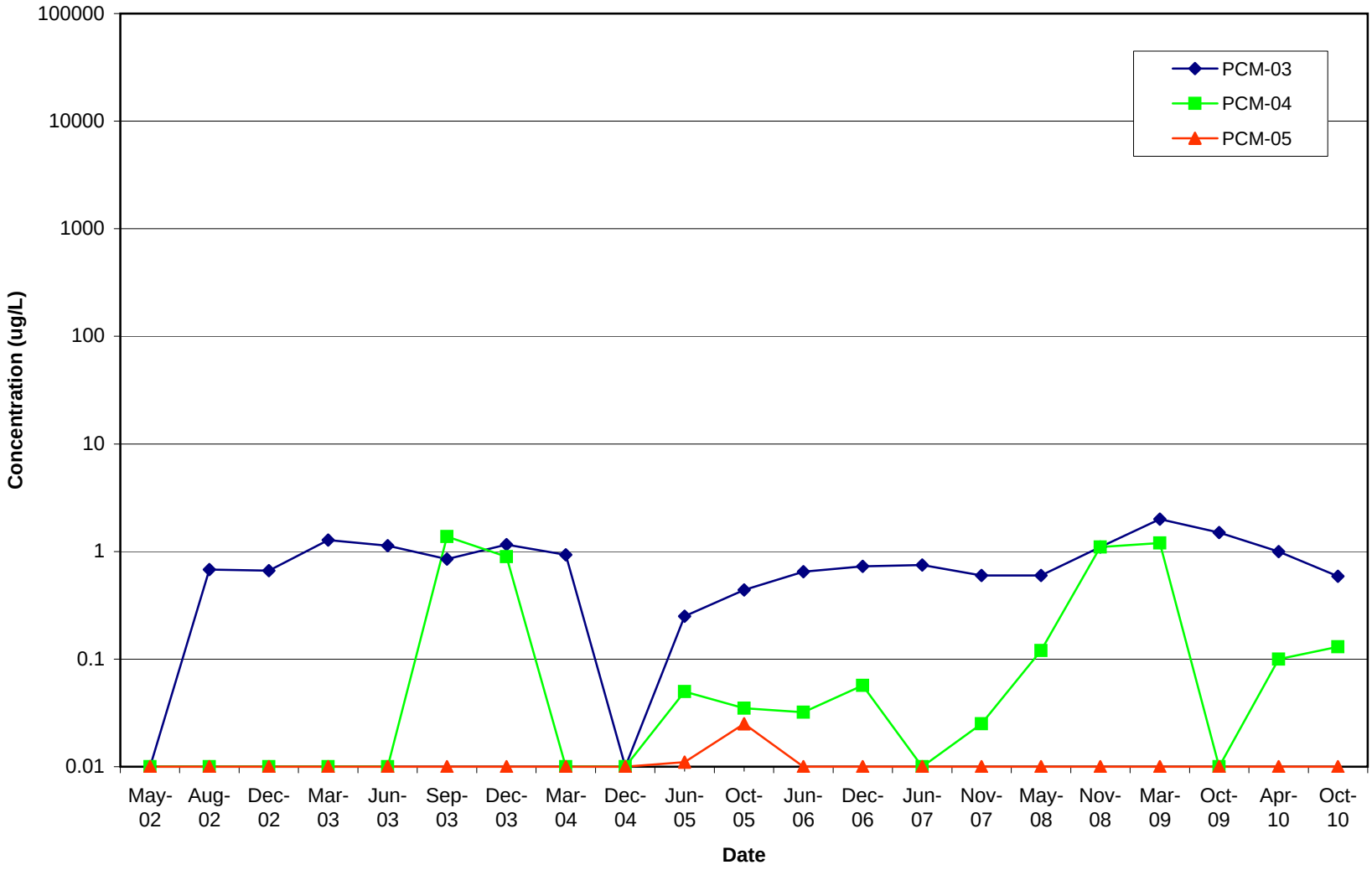


figure D.9
CONCENTRATION OF DELTA-BHC vs. TIME
102ND STREET LANDFILL

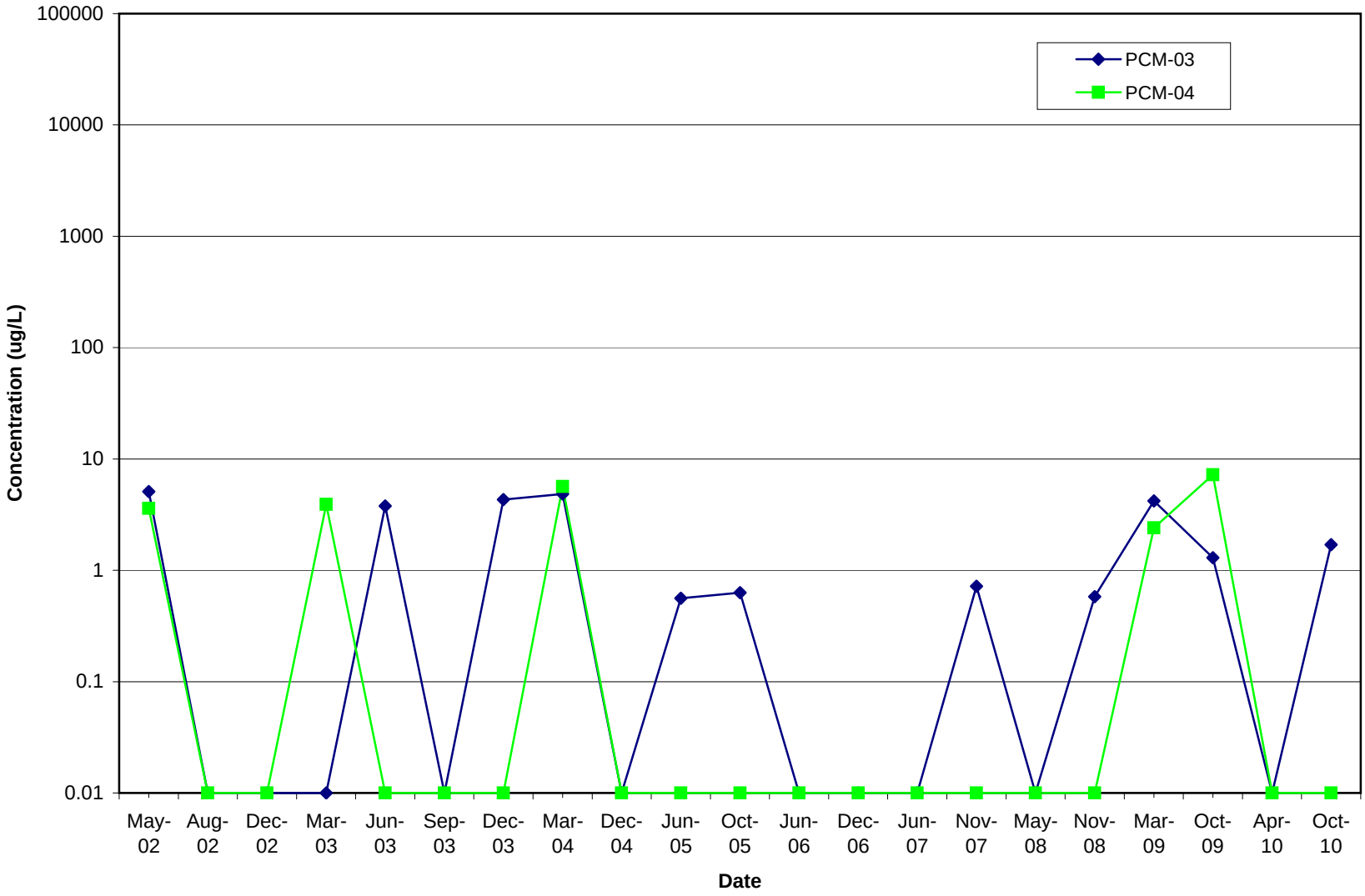


figure D.10
CONCENTRATION OF PHENOL vs. TIME
102ND STREET LANDFILL