

2021 Hazardous Waste Scanning Project

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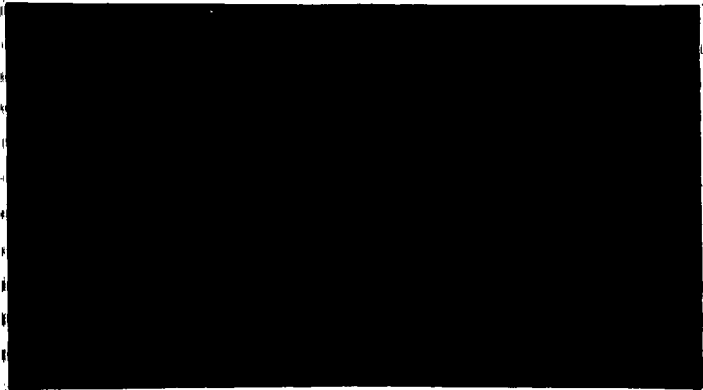
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**INTERIM REMEDIAL
MEASURES REPORT
5 BUFFALO STREET
HAMBURG, NEW YORK**

Prepared For:
Estate of Anthony C. Iardo
C/o Damon & Morey, LLP
Buffalo, New York

Prepared By:
GZA GeoEnvironmental of New York
Buffalo, New York

July 2004
File No: 21.0055727.10

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**INTERIM REMEDIAL MEASURES REPORT
5 BUFFALO STREET, HAMBURG, NEW YORK
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1.00 INTRODUCTION

1.10 PURPOSE



This Interim Remedial Measures (IRM) Report describes work done by GZA GeoEnvironmental of New York (GZA) or under its supervision as part of remedial activities at 5 Buffalo Street in Hamburg, Erie County, New York (Site) (See Figure 1). The objective of the IRM was to remediate/remove accessible on-site soil contamination identified in the gravel alley located east of the 5 Buffalo Street facility to decrease the potential threat and impacts to human health and the environment.

The Site entered into a Voluntary Cleanup Agreement with the New York State Department of Environmental Conservation (NYSDEC), designated as Site #V-00659-9.

1.20 BACKGROUND/PREVIOUS INVESTIGATIONS

"Phase I Environmental Site Assessment, Retail Buildings, 1-15 Buffalo Street and 20 Buffalo Street, Hamburg, New York" completed for HSBC Bank USA by GZA, dated January 2003.

GZA completed a Phase I Environmental Site Assessment (ESA) report dated January 2003. Information from the ESA indicated that dry cleaning was conducted in the 5 Buffalo Street unit from at least 1953 to 1998. Dry cleaners typically use various solvents for cleaning purposes including tetrachloroethene (PCE). Dry cleaning usage was also confirmed by the database listing of the property as a RCRIS – small quantity generator of hazardous waste.

The site building is a retail structure with seven units. Site occupants at the time of the Phase I ESA included the following.

- 1 Buffalo Street – Parkside Corner Restaurant
- 3 Buffalo Street – Irish Angles Gift Shop
- 5 Buffalo Street – Vacant (future site of Bibles & More)
- 7 Buffalo Street – Vacant
- 9 Buffalo Street – Danny's Shoe Repair
- 11 Buffalo Street – Expressions Floral & Gift Shoppe
- 13-15 Buffalo Street – Antiques of Hamburg

The Site, identified by Town of Hamburg tax identification number 196.09-2-30, was developed prior to 1885 and formerly occupied by Kopp's Hotel and the Hamburg Opera House until at least the mid 1910s. This original building was converted for commercial usage and appeared to be used for various storefronts between the mid 1920s to the late 1940s to early 1950s. At that time, it appears that the original building was demolished



and a new building (the existing structure) was constructed in 1952 for commercial purposes (i.e. storefronts). Store occupants included various restaurants, flower shops, dress makers, antique stores, and gift shops. As mentioned above, a dry cleaner was located at 5 Buffalo Street (near the center of the building) from at least 1953 to 1998 at which time the dry cleaners closed. The last 3 to 4 years of operation, the dry cleaner was a drop off center only. However, prior to that time, dry cleaning was completed on the property.

The Site consists of approximately 25,000 square feet. The building and front sidewalk area cover approximately 90% of the Site. The remaining 10% of the Site is gravel alleyways located on the east and north sides of the building. The alleyways range in width from approximately 10 to 13 feet.

The Site is located in a relatively flat area of Hamburg, New York, approximately 825 $\pm$ feet above mean sea level. Local topography in the area near the Site slopes gradually downward to the north. However, regional topography slopes downward to the south. Eighteenmile Creek is located approximately 300 feet southeast and 1,000 feet south of the Site. According to the Soil Survey of Erie County, New York by the United States Department of Agriculture Soil Conservation Service, issued December 1986, Site soils were identified as Urban Land (described as a miscellaneous area in which 80 percent or more of the soil surface is covered by asphalt, concrete, buildings or other impervious structures).

"Phase II Investigation, 5 and 7 Buffalo Street, Hamburg, New York" completed for Damon & Morey LLP by GZA, dated February 2003.

A Phase II investigation was done by GZA and summarized in our February 2003 report. The work further assessed whether historic dry cleaning operations at 5 Buffalo Street had impacted the Site. This Phase II investigation included the completion of nine soil probes (GP-1 to GP-9), installation of one temporary micro-well at GP-2, headspace screening of soil samples recovered from soil probes and analysis of six subsurface soil samples (See Figure 2 for locations).

Subsurface conditions found at the nine borings completed generally consisted of a mix of fill material of sand, gravel, silt and clay or brick, overlying naturally deposited silty clay. Native soils were encountered between seven and eight feet below ground surface (bgs) under the building floor, and approximately five to seven feet bgs in the gravel driveway located east of the building. Groundwater was not encountered at the soil probe locations and the temporary micro-well at GP-2 was dry. Probe refusal was noted at depths of about 10 to 12 feet bgs.

Four soil samples were collected from seven interior probe locations. PCE was identified in all four locations, at concentrations below the NYSDEC recommended soil cleanup



objectives (RSCO) identified in TAGM 4046¹. Two samples were collected from exterior soil probe locations in the eastern alley. The concentration of PCE detected in these two samples was above the NYSDEC RSCO. See Table 1 for a summary of analytical test results.

"Additional Environmental Services, 5 Buffalo Street, Hamburg, New York", prepared for Estate of Anthony C. Ilardo c/o Damon & Morey, LLP, by GZA, dated May 2003.

GZA completed additional environmental services and summarized this work in a May 2003 report. This work was done to better define the horizontal and vertical impact of the PCE contamination above the NYSDEC RSCO and identify potential groundwater contamination. Work completed as part of the additional investigation included a soil gas survey (SG-1 to SG-10) inside the building at 5 Buffalo Street; completion of seven soil probes (GP-10 to GP-16) in the gravel alleyway located east of the building; installation of a one-inch diameter micro-well at GP-13, in an apparent "perched" water condition; and installation of a deeper two-inch diameter monitoring well (MW-1) to assess groundwater conditions deeper than 16 feet bgs (See Figure 2 for locations).

The soil gas survey completed inside the 5 Buffalo Street portion of the building detected PCE at concentrations ranging from 0.075 to 3 parts per million (ppm) at nine out of ten locations. One soil gas location (SG-5), located inside the backdoor to the gravel alleyway at 5 Buffalo Street had a concentration of 25.3 ppm.

GZA also collected one ambient air sample from the interior of 5 Buffalo Street. The purpose of the ambient air sample was to assess for potential air contaminants migrating from below the building floor slab. The sample was collected with a Summa canister designed to draw in ambient air over an eight-hour period. The air sample was analyzed for volatile organics via analytical method EPA TO-15. The air sample was collected as an integrated sample, providing information on compound concentrations in air averaged over an eight-hour period to determine indoor air quality in the workplace of 5 Buffalo Street. The air sample was collected from the main counter/cash register area.

Six (6) VOCs were detected in the air sample collected from inside 5 Buffalo Street. Methylene chloride, toluene, PCE, m,p-xylene, acetone, and ethanol were detected above method detection limits. The air sample results were compared to the American Conference of Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), a standard for adults in the work place; ACGIH TLV/10; Occupational Health and Safety Administration (OSHA) Exposure Limits; and documents available through the New York State Department of Health (NYSDOH).

The TLV is the reported level at which, in the workplace (8 hours a day), workers (adults) may be repeatedly exposed without experiencing adverse health effect. The TLV/10 value

¹ Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels dated January 1994.



was used to evaluate child exposure. NYSDOH published information includes a fact sheet on tetrachloroethene (PCE or PERC) in indoor and outdoor air (copy included as Appendix H). Information regarding the other five compounds detected was not available in published NYSDOH documents. NYSDOH recommends that the average air level in a residential community not exceed 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) or 15 parts per billion (ppb) of PCE considering continuous lifetime exposure and sensitive people.

The compounds detected in the indoor air sample did not exceed the respective criteria set forth in the above referenced guidelines (See Table 2). PCE was detected at a concentration of 2.5 ppb.

Based on the results of the soil and groundwater samples collected from the gravel alleyway area (See Table 1 for soil data and Table 3 for groundwater data), GZA identified a "hot spot" that was estimated to be approximately 15 feet long by 12 feet wide (depending on width of alley) by 12 feet deep (See Figure 3). A shallow contaminated area, "alley area", with residual contamination was identified north of the "hot spot" and was considered to be approximately 45 feet long by approximately 12 feet wide (dependent upon width of alleyway) by 3 feet deep (See Figure 3). Both locations have been impacted by PCE at concentrations that were identified to be near or above RSCO.

2.00 DESCRIPTION OF INTERIM REMEDIAL MEASURES ACTIVITIES

2.10 INTERIM REMEDIAL MEASURE WORK PLAN DEVELOPMENT

GZA submitted a work plan to NYSDEC dated June 24, 2003 that described proposed remedial activities to include excavation of impacted soil in both the "hot spot" and "alley area". NYSDEC issued a letter dated November 14, 2003 (See Appendix A) that indicated GZA's June 24, 2003 draft work plan were reviewed and found to be generally acceptable as an IRM. NYSDEC comments identified additional confirmatory sampling requirements during the IRM work; submission of a Field Activities Plan (FAP); revisions to the Quality Assurance Project Plan (QAPjP) and Health and Safety Plan (HASP) and completion of a data usability summary report (DUSR) to validate the results of the earlier site investigations. Revisions were made and the IRM Work Plans dated December 4, 2003 were approved by the NYSDEC. A summary of the DUSR findings is included in Section 3.40 of this report.

GZA completed three additional geoprobe locations for the collection of a waste characterization sample for soil disposal on December 2, 2003. The probes (GP-17, GP-18, and GP-19) were completed in the "hot spot" previously identified by GZA and shown on Figure 2. A composite soil sample was collected from the three geoprobe locations and analyzed for volatile organic compounds (VOC) via EPA Method 8260 plus tentatively identified compounds (TICS), semi-volatile organic compounds (SVOC) via EPA Method

8270 plus TICS, toxicity characteristic leaching procedure (TCLP) VOCs, TCLP SVOCs and TCLP RCRA 8 Metals as requested by the landfill. The laboratory analytical results are summarized on Table 4.



The PCE concentration detected was 68,000 ppb or 68 ppm. It was GZA's original intention to transport the excavated hazardous waste soil for disposal from the Site to Chemical Waste Management (CWM) in Model City, New York. However, CWM could not accept hazardous waste with a PCE concentration greater than 60 ppm. Therefore, based upon the composite waste characterization sample, the soil excavated from within the "hot spot" required treatment prior to disposal at the landfill.

The Michigan Disposal Waste Treatment Plant (MDWTP) in Belleville, Michigan could accept the "hot spot" soil and would properly treat the soil prior to disposal. The costs associated with shipping the soil to Michigan for treatment and disposal were considerably higher than those for shipping and disposal at Model City, New York. Therefore the following additional options to treat the soil for prior to disposal were reviewed by GZA.

- On-Site treatment
- Off-Site treatment
- Transport and treatment/disposal at appropriate landfill (Michigan or Ontario)
- In-Situ remediation and leaving soil on-Site

GZA had subsequent conversations with Mr. David Locey of NYSDEC to review these four potential options. Based upon conversations with Mr. Locey and GZA's knowledge and experience of remedial alternatives, GZA made the following conclusions on the remedial options evaluated.

- On-Site Treatment – The limited space on and adjacent to the Site, the size of treatment equipment to make the work feasible and costs associated with coordination, mobilization, set-up and operation were estimated to likely exceed \$75,000. Furthermore, NYSDEC indicated that an air discharge permit would likely be required and due to the nearby residential and commercial occupants additional air monitoring would likely be needed. This option was not considered cost effective.
- Off-Site Treatment – NYSDEC indicated that if the on-Site soil were to be removed from the Site, the off-site treatment location would likely require a Resource Conservation and Recovery Act (RCRA) treatment, storage and disposal permit. A location for off-site treatment large enough to contain the required equipment, materials and soil that is not within a residential area has not been identified. This option would require double handling of the soil, which would also increase costs. By this further assessment, this option was not considered cost effective.
- In-Situ remediation – GZA reviewed this option under two potential scenarios



1. **Treat Soils in Place:** Treat on-Site soil in place to achieve NYSDEC soil guidance requirements. Under this scenario, the top two to three feet would require excavation and landfill disposal for installation of a remedial system. Soil within the "hot spot" would require disposal at a secure landfill (i.e. Michigan or Ontario) whereas soil within the "alley area" would be disposed at CWM. Remaining soil would be treated in-place for approximately 1 ½-years to 2 years. Mr. Locey indicated that NYSDOH would likely require additional air sampling in the on-Site building and adjoining building during in-situ treatment. Additionally, there is no guarantee that the PCE concentrations within the soil would be below NYSDEC requirements after 2 years and additional treatment may be needed.
2. **Treat and Remove Soils:** Treat soils in-place to achieve soil concentrations below 60 ppm. Under this scenario, soil within the "hot spot" would be treated in place until a concentration of PCE was below 60 ppm. The top two to three feet would be excavated and disposed of at an appropriate landfill for installation of the remedial system. Soil within the "hot spot" would require disposal at a secure landfill (i.e. Michigan or Ontario) whereas soil within the "alley area" would be disposed at CWM. Remaining soil would be treated in-place for 6 months to 1 year. Once a concentration of 60 ppm was achieved for PCE, the soil would be excavated and disposed at CWM. NYSDOH would likely require additional air sampling in the on-Site building and adjoining building during in-situ treatment. There is no guarantee that the PCE concentrations within the soil would be below 60 ppm in the 6 months to 1 year time frame.

Based upon the information above, it was GZA's opinion that the most economically feasible and fastest remedial option would be to remove the "hot spot" soil and dispose of at MDWTP; and remove the "alley area" soil and dispose of at CWM.

2.20 INTERIM REMEDIAL MEASURE FIELD ACTIVITIES

The IRM was intended to remove accessible PCE contaminated soil that poses a potential threat to human health and the environment. GZA completed the IRM work at the Site in general conformance with a NYSDEC approved Work Plan and the requirements of the voluntary clean-up agreement executed.

The subtasks described below were intended to assist in accomplishing the objectives of the IRM. Field activities were completed in general accordance with the project specific Field Activities Plan (FAP), Health and Safety Plan (HASP) and Quality Assurance Project Plan (QAPjP). A GZA representative observed the field activities discussed below.



2.20.1 Existing Buildings Condition Survey

GZA performed a visual structural survey of the interior and exterior of the on-Site building (1 – 15 Buffalo Street) and the western exterior walls of the two easterly adjacent buildings (12 East Main Street and associated garage) to document current building conditions on March 9, 2004. The survey consisted of video and photographic documentation along with measurements of locations and length of existing cracks within the on-Site and easterly adjacent buildings.

GZA also placed four crack monitoring units on the buildings adjacent to the excavation area to attempt to monitor if movement of the buildings was occurring. Two of the monitors did not hold in-place due to the adhesive used to attach the monitor and were removed after the excavation work had began. Two monitors did hold in-place, one on the 5 Buffalo Street building and one on the 12 East Main Street building. These crack monitors did not indicate movement had occurred during the excavation activities.

2.20.2 Soil Excavation Activities

IRM soil excavation activities included excavation of on-site soils, transportation for disposal, headspace screening of soil samples and post excavation analytical sampling. This work was done between March 15 and March 24, 2004 in accordance with our December 4, 2003 Work Plan.

The excavation work consisted of the following two areas.

1. Area 1: The "hot spot" area was identified outside the back door of 5 Buffalo Street, the location of the former dry cleaning facility. Based on our initial investigations, this area was estimated to be approximately 15 feet long by 12 feet wide by 12 feet deep.
2. Area 2: The "alley area" consisted of the shallow contaminated zone identified in the eastern alley north of the "hot spot" area in the near surface soils. This area to be excavated was estimated to be approximately 45 feet long by 12 feet wide and 3 feet deep.

A track mounted mini excavator with a reach of approximately 9 feet was used to complete the excavations. The soils were removed in approximate 12 to 18-inch layers, allowing observations to be made and soil samples to be collected for screening purposes. The soils excavated were transported by a bobcat/skid steer and placed in lined rolloffs located in the alleyway on the north side of the 5 Buffalo Street building.



The excavation activities of the IRM work began on March 15, 2004. Area 1 excavation was done between March 15 to 23, 2004. The excavation limits were approximately 23 feet long, 10 to 13 feet wide (depending on the alley width) and 9 to 10 feet bgs (See Figure 4); resulting is approximately 127 tons of soil. Due to low level field screening results observed in the deep portion of the excavation, at approximately 9-feet bgs (not detect (ND) to 3 parts per million (ppm)), the excavation was stepped up to a depth of approximately 7-feet bgs. A small portion of the excavation was completed with the dimensions of approximately 3 feet long by 13 feet wide by 7 feet deep (See Figure 4). The approximate 127 tons of soil removed was transported to MDWTP in Belleville, Michigan for disposal (See Appendix B for disposal documentation).

The western and eastern limits of the excavation were extended to, and determined by, the buildings and associated utilities located on the west and east sides. The excavation was done to prevent structural damage to these buildings and/or utilities. During excavation, GZA encountered the following utility lines.

- 1 ¼-inch diameter copper water line which traversed the center of the excavation, for the full Area 1 excavation area.
- 3" diameter steel gas line, which was abandoned in place, located on the western side of the excavation
- 3" diameter HDPE in-service gas line, located in the central to western portion of the excavation
- 1" diameter steel unidentified line, located along the western edge of the excavation
- 4" diameter PVC drainage pipe located on the east side of the excavation; caved in during excavation activities and replaced.

Additionally, GZA encountered an abandoned monitoring well MW-1, installed during previous GZA investigations, within Area 1 excavation. The 2-inch PVC well riser was cut off at a depth of approximately 10 feet and the remaining portions of the well were filled with grout. Monitoring well GP-13 was encountered and abandoned during Area 2 excavation. This well was cut off at a depth of 3 feet and also filled with grout.

Upon completion of Area 1 excavation, a portion of the excavation was backfilled with sand and gravel to provided stability to the excavation. The excavation work then moved to Area 2 and excavation depths were stepped up to approximately 3 feet bgs. The near surface soil or shallow excavation was done between March 23 and 24, 2004. This portion of the excavation was approximately 35 feet long, 10 feet wide and 3 to 3.5 feet deep (See Figure 4). Approximately 70 tons of soil were removed and disposed at CWM Chemical Services in Model City, NY (See Appendix B for disposal documentation).



During the excavation activities, GZA collected 13 analytical samples from locations where higher levels of contamination (based on field screening results) were observed to remain in the excavation. GZA collected numerous field samples (over 87 samples collected) for headspace screening to assist with excavation limit controls, assess relative contaminant levels present and determine analytical sample locations. Table 5 and Figure 5 are a summary of the analytical samples results and location and pertinent headspace sample results and locations. The pertinent headspace samples shown are those collected from excavation limits (i.e., side walls or bottom samples).

The following is a list of the analytical samples collected as part of the IRM work and their corresponding area of excavation.

Area 1 "Hot Spot" Excavation Samples

Sample Identification	Location
5B-BT-01-03-05 Composite	Composite Bottom sample approximately 9 feet bgs
5B-SW-02	South Wall sample approximately 4 to 6 feet bgs
5B-EW-04	East Wall sample approximately 8 feet bgs
5B-WW-06	West Wall sample approximately 4 to 8 feet bgs
5B-NW-08	North Wall sample approximately 7 to 9 feet bgs
5B-BT-09	Bottom sample approximately 6.5 to 7 feet bgs

Area 2 "Alley Area" Excavation Samples

Sample Identification	Location
5B-EW-10	East Wall sample approximately 1 to 3 feet bgs
5B-BT-11	Bottom sample approximately 3 feet bgs
5B-WW-12	West Wall sample approximately 1 to 3 feet bgs
5B-EW-13	East Wall sample approximately 1 to 3 feet bgs
5B-BT-14	Bottom sample approximately 3 feet bgs
5B-WW-15	West Wall sample approximately 1 to 3 feet bgs
5B-NW-16	North Wall sample approximately 1 to 3 feet bgs

Note: Sample 5B-SD-07 is not listed above, it is a duplicate sample for 5B-WW-06.

2.20.3 Excavation Water Accumulation and Disposal

During the excavation activities, water accumulated within the excavation over the weekend between March 19 and March 22, 2004 due to weather conditions. Approximately 275-gallons of water was removed from the excavation on March



22nd and stored in a 325-gallon polyethylene tank at the Site. No additional water or groundwater accumulated or was encountered during the remainder of the excavation activities.

GZA collected a sample of the water in the polyethylene tank for chemical analysis on April 5, 2004. The Erie County Division of Sewerage Management (ECDSM) required chemical analysis to include VOCs via EPA Method 624, SVOCs via EPA Method 625, pH, flash point, and arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, nickel, copper and zinc via EPA Method 6010/7470. The results of these analysis were to be included with the application to discharge the water to the ECDSM sanitary sewer.

Results of the analysis met the requirements of the ECDSM. A copy GZA's application to ECDSM with analytical results and the ECDSM discharge approval letter are included in Appendix C. The water in the polyethylene tank was run through a 5-gallon bucket of granular activated carbon and discharged to a utility sink inside the 9 Buffalo Street unit (Danny's Shoe Repair) on June 8, 2004.

2.20.4 Equipment Decontamination

The mini excavator bucket and bobcat used to excavate and haul contaminated soil to a roll-off dumpster on-Site prior to pick-up for transportation/disposal were decontaminated following completion of the excavation and prior to the start of backfill. The buckets of the equipment were scraped clean with a shovel into a lined rolloff box. Due to the weather condition and temperatures at the time of decontamination, water was not used to avoid the potential for freezing.

During excavation activities, it was necessary to bench or step the excavation down in order to reach the necessary depth of the excavation. Poly sheeting was placed on the bench/step prior to moving the mini excavator on to the bench. Also, the bobcat was not utilized over areas of contaminated soil. These actions were done to eliminate the need to decontaminate the tracks and wheels of the earth work equipment.

2.20.5 Dust Monitoring

GZA monitored for dust via visual observations and through the use of a downwind airborne particulate monitor (MIE pDR-1000 MiniRam). No dust clouds were observed during the excavation or soil transporting activities. An airborne particulate threshold value of 150 ug/m³ was established in the HASP for the monitoring equipment. If the threshold value is exceeded, dust control would be used. The threshold value of 150 ug/m³ value was exceeded on two occasions. The first exceedances was due to heavy snow fall on March 16th. The user manual states that the instrument should not be used in precipitation. The second exceedance



occurred while relocating the MiniRam from the upgradient to the downgradient position on March 22nd. No additional exceedances were identified.

2.20.6 Community Air Monitoring

Throughout the soil excavation and transportation activities, GZA used an organic vapor meter (OVM) equipped with a photoionization detector (PID) to monitor the perimeter of the work area and the intersection of the northern alleyway and the side walk along Buffalo Street, where the rolloffs were being staged, with for total VOCs. Monitoring events were typically done in 5 minute intervals and no sustained readings (longer than 1 minute) exceeded 1 ppm during the monitoring periods.

2.30 IN-SITU REMEDIATION PREPARATION

After removing the contaminated soil, the excavation was backfilled to approximately 2-feet below former existing grade with sand and gravel (See Appendix D for weight tickets). Three approximate 1-foot wide trenches were dug into the sand and gravel backfill at 3-foot, 6-foot and 9-foot distances from the eastern wall of the 5 Buffalo Street building. A 10-slot polyvinyl chloride (PVC) pipe was placed in each trench over both the "hot spot" and "alley area" portions of the excavation at an approximate depth of 3 feet below ground surface. Three rows of 2-inch diameter PVC pipe were placed the length of the excavated area, or approximately 55 feet long. Approximately 3-inches of pea stone was placed beneath the slotted PVC pipe prior to placement. The remaining space of the trench around the PVC pipe was also backfilled with pea stone.

The PVC pipelines were installed for use in the future if it became necessary to inject electron donors to facilitate anaerobic in-situ remediation. Two sets of access points were installed at either end of the piping system and finished with flush mounted road boxes. These access points will allow injections to occur from either the north or south end of the system (See Figure 6 for in-situ remediation system piping system lay out). The access ways will allow for repeat injections, if and as needed.

The alleyway elevation was brought up to the former existing grade using 1-inch crushed stone.

2.40 AIR SAMPLING

The purpose of the air sampling was to assess ambient air quality and air quality below the building floor slabs to determine if there is a potential for air contaminants to migrate from below the building slab into the occupied portions of the Buffalo Street and 12 East Main Street (Eric's Cycle) buildings.



Prior to initiating air sampling, GZA completed an indoor air quality questionnaire and building inventory for each unit, in order to access potential contaminants of concern within on-site chemicals. A copy of the questionnaires is included in Appendix G.

NYSDEC and New York State Department of Health (NYSDOH) requested that air samples be collected from the ambient air in the 3, 5, 7, 9 and 11 Buffalo Street units and from Eric's Cycle at 12 East Main Street. Also, sub-slab air samples were requested by NYSDEC/NYSDOH from the 3, 5, 7, 9 and 11 Buffalo Street units. A crawl space is located beneath Eric's Cycle building (no basement is present in this area of the excavation); therefore, NYSDOH did not require a sub-slab sample from this location. GZA also collected an air sample from the eastern alleyway where the soil excavation had occurred, to establish background air concentrations for comparative purposes with the indoor air samples.

The sub-slab and ambient air samples were collected using 0.4 liter (L) mini-cans provided by Centek Laboratory, LLC of Syracuse, New York (Centek). The 0.4 L mini-cans are designed to draw in air over an approximate one-hour period. The collected samples were analyzed for three target volatile organic compounds of concern previously identified by the results of the excavated soil sample analysis, specifically PCE, trichloroethylene (TCE) and cis-dichloroethylene (cis-DCE). These compounds were analyzed via analytical method EPA TO-15.

2.40.1 Ambient Air Samples

The purpose of collecting the ambient air samples was to determine potential presence of contaminants of concern (PCE, TCE, cis-DCE) and the potential of migration from beneath the building floor slabs, associated basement or crawlspace into the commonly occupied portions of the buildings. The ambient air samples were collected first to minimize the potential of cross contamination from dust and the air pathway created from placing a hole in the floor slab to collect the sub-slab samples.

Six (6) ambient air samples were collected from the commonly occupied interior portions of 3, 5, 7, 9 and 11 Buffalo Street and 12 Main Street and one ambient air sample (background sample) was collected in the alleyway located behind 5 and 7 Buffalo Street, proximate to the area of impacted soil excavation. The interior sample locations were chosen due to their relative location to previous exterior excavation activities (See Figure 5). The air samples were collected as an integrated sample, providing information on the concentrations of the compounds of concern in air to determine indoor air quality in the workplace of the respective commercial facilities at the Site. The air sample collected from 11 Buffalo Street was from a utility closet in the basement proximate to an open sump. The air sample from 12 Main Street was collected from a work area located in the northwestern corner of the store.



After approximately one hour or when the regulator pressure gauge read zero, the mini-cans were removed from the tubing and regulator, and were packaged up for shipment to Centek following typical chain of custody activities.

2.40.2 Sub-Slab Air Samples

The purpose of the sub-slab air samples was to assess the concentration of potential contaminants of concern that had volatilized into the unsaturated soil zone below the building slab-on-grade. GZA collected five sub-slab air samples from beneath the floor slab inside 3, 5, 7, 9 and 11 Buffalo Street facilities on June 8 and 9, 2004.

The five sub-slab sample locations were in the eastern portion of the facilities proximate to the recent contaminated soil excavation (See Figure 5).

The following is a description of the procedure used by GZA to collect the five sub-slab air samples.

- Holes were drilled through the existing concrete floor slab using a drill equipped with a 12-inch long, 3/8-inch diameter concrete drill bit.
- New polypropylene tubing was used at each sub-slab air sample location and inserted to the bottom of the drilled hole, approximately 10-inches below the concrete slab.
- The tubing was pulled up slightly above the bottom and melted bees wax was placed between the floor slab and the tubing to form a seal and limit the collection of atmospheric air.
- The tubing was connected to an air pump, which drew ambient air out of the tubing prior to sampling the sub-slab air.
- A 0.4 liter (L) minican air sampler and regulator was connected to the tubing and allowed to draw air from the sub-slab for approximately one hour. The minicans used had an approximate 29 pounds per square inch (psi) vacuum pressure prior to the start of sampling.
- After approximately one hour or when the regulator pressure gauge read zero, the minicans were removed from the tubing and regulator, and were packaged up for shipment to Centek following typical chain of custody activities.
- Upon completion of our sub-slab air sampling, the 3/8-inch diameter holes were patched with concrete.

2.50 SUMP WATER SAMPLE

A sample of water was collected from the sump located in the basement of 11 Buffalo Street on June 8, 2004. The approximate location of the sump is shown in Figure 5. The collected sample was designated as SUMP-1 and analyzed for VOCs via EPA Method 8260 target compound list. The sump sample was submitted to Upstate Laboratories, Inc. (Upstate) in East Syracuse, New York.



3.00 ANALYTICAL TEST RESULTS

Findings of the laboratory testing of the soil, air and water samples collected as part of the IRM activities are presented below. The analytical laboratory reports are provided in Appendix E. The results of the excavation soil samples are summarized on Table 6 and the air sample analytical results are summarized on Table 7. Additionally, the DUSR requested by NYSDEC is discussed in Section 3.40 and included in Appendix F.

3.10 EXCAVATION SOIL SAMPLE RESULTS

Sixteen soil samples were selected from excavation limits and submitted for analytical testing. The selected soil samples were packed in an ice filled cooler and sent to PSC Analytical Services, Inc. (PSC) in Burlington, Ontario, Canada following typical chain-of-custody procedures. The Area 1 "Hot Spot" bottom samples include 5B-BT-01, 5B-BT-03 and 5B-BT-05 were combined into one composite sample (5B-BT-01-03-05 Composite) per NYSDEC approval, resulting in the analysis of 13 samples.

The soil samples tested as part of the IRM were analyzed for volatile organic compounds (VOCs) via USEPA Method 8260 Total Compound List. Additionally, one sample, 5B-SW-02 was analyzed for SVOCs via USEPA Method 8270 full list, Metals via USEPA Method 6010/7470 and polychlorinated biphenyls (PCBs) via USEPA Method 8082. Soil samples were analyzed following Analytical Service Protocol (ASP) Category B deliverables. The analytical data has been sent to a subcontractor for validation. The validated data report has not yet been received.

The analytical test results for the soil samples tested were compared to TAGM 4046 RSCOs.

Volatile Organic Compounds:

Results of the analytical samples identified the following VOCs.

- PCE was detected in the 13 samples analyzed. Ten samples were reported to have a concentration that exceeded the TAGM 4046 RSCO of 1.4 ppm.
- TCE was detected in four of the 13 samples tested. Two samples were reported to have a concentration that exceeded the TAGM 4046 RSCO of 0.7 ppm.
- cis-DCE was detected in three samples. cis-DCE is not listed on the TAGM 4046 RSCO list.
- No additional VOCs were detected above method detection limits in the samples analyzed.



Area 1 - "Hot Spot": Analytical samples for PCE ranged from 0.12 ppm in the 5B-BT-01-03-05 composite sample taken from the bottom of the excavation to 430 ppm in sample 5B-EW-04. The higher levels of PCE contamination were identified on the east and west walls, at locations where soil could not be removed due to the building walls. The south wall sample, 5B-SW-02, had a measured PCE concentration of 1.9 ppm, slightly above the 1.4 ppm RSCO for PCE. The north wall sample, 5B-NW-08, collected from approximately 8 feet deep, prior to the step up to 7 feet bgs had a PCE concentration of 6.3 ppm.

Sample ID	Location	Depth	PCE Concentration (ppm)	RSCO (ppm)
5B-BT-01-03-05 Composite	Bottom	9 feet	0.12	1.4
5B-SW-02	South Wall	4 to 6 feet	1.9	1.4
5B-EW-04	East Wall	8 feet	430	1.4
5B-WW-06	West Wall	4 to 8 feet	310	1.4
5B-NW-08	North Wall	7 to 9 feet	6.3	1.4
5B-BT-09	Bottom	6.5 to 7 feet	20	1.4

Area 2 - "Alley Excavation": PCE was the only compound detected above method detection limits within this area. The PCE concentrations ranged from 0.58 ppm in sample 5B-WW-15 to 13 ppm in sample 5B-EW-13. The two analytical samples collected from the west wall (along 5 Buffalo Street building) were measured to have a PCE concentration below the TAGM 4048 RSCO. The two eastern wall samples had measured PCE concentrations of 3 ppm (5B-EW-10) and 13 ppm (5B-EW-13). The two bottom samples had measured PCE concentrations of 2.8 ppm (5B-BT-11) and 9.6 ppm (5B-BT-14).

Sample ID	Location	Depth	PCE Concentration (ppm)	RSCO (ppm)
5B-EW-10	East Wall	1 to 3 feet	3.0	1.4
5B-BT-11	Bottom	3 feet	2.8	1.4
5B-WW-12	West Wall	1 to 3 feet	0.77	1.4
5B-EW-13	East Wall	1 to 3 feet	13	1.4
5B-BT-14	Bottom	3 feet	9.6	1.4
5B-WW-15	West Wall	1 to 3 feet	0.58	1.4
5B-NW-16	North Wall	1 to 3 feet	4.6	1.4

Semi-volatile Organic Compounds:

One SVOCs, phenanthrene, was detected above method detection limits in the one sample tested. However, the concentration was below RSCO.



Polychlorinated Biphenyls:

No PCBs were detected above method detection limits in the one sample tested.

Metals:

Several metals were detected at concentrations above method detection limits. However, only one metal, zinc, was identified at a concentration above its respective TAGM 4046 RSCO and Eastern USA background concentration. However, the numeric criteria for zinc is referenced along with a site background (SB) criterion. Because only one sample was collected for metals analysis, SB can not be established. The presence of the identified naturally occurring metals at the levels detected do not pose a significant threat to human health or the environment.

3.20 AIR SAMPLE ANALYTICAL RESULTS

Ambient Air Samples: PCE and TCE were detected above method detection limits in several indoor samples tested. No compounds of concern were detected above method detection limits in the outside, background sample. PCE was detected at concentrations ranging from non-detect to 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (4.35 ppbV). TCE was detected at concentrations ranging from non-detect to $5.46 \mu\text{g}/\text{m}^3$ (1.66 ppbV). Cis-DCE was not detected in the ambient air samples collected. PCE concentrations within the ambient air are shown on the following table.

Location	PCE Concentration $\mu\text{g}/\text{m}^3$
3 Buffalo Street	24.0
5 Buffalo Street	Not detected
7 Buffalo Street	9.72
9 Buffalo Street	21.2
11 Buffalo Street	30.0
12 Main Street	9.51
Background	Not detected

The ambient air sample results were compared to an NYSDOH Fact Sheet pertaining to PCE, which is included as Appendix H. NYSDOH recommends that the average air level in a residential community not exceed $100 \mu\text{g}/\text{m}^3$, considering lifetime exposure and sensitive people. NYSDOH indicates that reasonable and practical actions should be taken to reduce PCE exposure when indoor air levels are above background, even when they are below the guideline of $100 \mu\text{g}/\text{m}^3$. The guideline is lower than the air levels that cause either non-cancer or cancer effects; thus, the possibility of health effects is low even at air levels slightly above the guideline. The compounds detected in the indoor ambient air



samples do not exceed the respective criteria set forth in the above referenced fact sheet (See Table 7).

Sub-Slab Samples: PCE and TCE were detected in several sub-slab samples above method detection limits. PCE was detected at concentrations ranging from non-detect to 1070 $\mu\text{m}/\text{m}^3$ (156 ppbV). TCE was detected at concentrations ranging from non-detect to 20.6 $\mu\text{m}/\text{m}^3$ (3.77 ppbV).

Location	PCE Concentration $\mu\text{g}/\text{m}^3$
3 Buffalo Street	718
5 Buffalo Street	140
7 Buffalo Street	Not detected
9 Buffalo Street	1,070
11 Buffalo Street	7.38

These detected concentrations are generally greater than the concentrations of the respective associated ambient air samples. No standards or guidelines are available for the detected sub-slab sample results. However, these results (both ambient air and sub-slab) indicate the potential for contaminated vapor migration from underneath the commercial units.

3.30 SUMP WATER SAMPLE RESULTS

One water sample was collected from the sump within the basement of 11 Buffalo Street. VOCs identified in the sump water sample tested included PCE and carbon disulfide at concentrations of 13 ppb and 3.8 ppb, respectively. The PCE concentration exceeds the NYSDEC Class GA² groundwater criteria of 5 ppb. The carbon disulfide concentration is less than the respective class GA guidance value of 60 ppb. No other VOC compounds were identified in the water sample above method detection limits. The commercial on-Site facilities are all on municipal supplied water. The sump is not used for drinking or for wash water.

3.40 DATA USABILITY SUMMARY REPORT FOR PREVIOUS DATA

The complete DUSR, prepared to address the usability of the analytical data presented in our Phase II investigation reports is located in Appendix F. A completeness assessment and a compliance assessment were done as part of this DUSR. The review identified deficiencies with the analyses of the solid and aqueous samples from the previous 5 Buffalo Street investigations. The completeness assessment identified the following deficiencies.

2 NYSDEC Class GA criteria obtained from NYSDEC's Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1), June 1998, amended April 2000.



- The tune verification and the continuing calibration verification (CCV) were missing from the February 10, 2003 analysis
- No raw quality control data or daily quality control data were submitted to verify the laboratory report for the February 3, 2003 STARS analytes.
- The laboratory documented sample size but did not include dilution factor calculations.
- If the laboratory calculated percent solid for each sample the results were not included and/or incorporated into the final results calculation.
- The laboratory ran, but did not include for review the CCV reports for all analysis dates.
- The laboratory did not analyze a Laboratory Control Sample on February 11, 2003.

The compliance assessment identified the following deficiencies.

- Solid samples collected on February 3, 2003 were logged in on February 4, 2003 at 15 degrees Celsius, which is above the 4 degree Celsius +/- 2 degrees required by EPA protocol.
- Solid and aqueous samples collected on April 10, 2003 were logged in on April 11, 2003 at 14 degrees Celsius. The aqueous sample was analyzed one day out of the seven day holding time.
- Aqueous sample collected on April 22, 2003 was logged in at the laboratory on April 24, 2003 at 16 degrees Celsius.
- The laboratory re-ran each sample using a smaller sub-sample when the results exceeded the linear calibration range. Dilution factors are not included in the raw data. A sample weight is recorded for each sample analyzed but no percent solid calculations are provided. The final calculated results are not verifiable.
- Multiple analytical runs may cause a loss of volatiles. EPA Method 5030 recommends extracting the sample in a methanol when the results are elevated. The laboratory did not perform these extractions but chose to run a smaller sub-sample. The results for these samples are most likely biased low.

In conclusion, the data should be used only as a qualitative measurement for site characterization. Quantitative measurements are to be rejected primarily due to poor sample handling.

4.00 CONCLUSIONS

GZA was retained to remediate/remove accessible on-site soil contamination identified in the gravel alley located east of the 5 Buffalo Street facility. Our work included excavation and disposal of approximately 197 tons of soil, collection and analysis of confirmatory soil samples, collection and analysis of ambient and sub-slab air samples, and completion of

this report. A summary of our finding and our opinion based upon the work conducted as part of this study follows.



- GZA successfully removed accessible contaminated soil within the "hot spot" and "alley area" from the gravel driveway located east of 5 Buffalo Street in Hamburg, New York. Excavation limits were determined to the east and west by both utilities and the presence of buildings.
- The vertical extent of accessible contamination was appropriately removed, as identified by confirmatory sample results. Additionally, GZA previously completed collection and analysis of one water sample at a depth of 30 feet, which did not identify the presence of PCE. Therefore, it appears that remedial activities were successful in removal of the vertical extent of contamination.
- The lateral extent of accessible contamination was successfully removed. Confirmatory soil samples from the north and south walls identified PCE concentrations ranging from 1.9 ppm to 4.6 ppm. Although these concentrations are slightly above the RSCO of 1.4 ppm, the majority of contamination has been appropriately removed.
- Residual contamination remains in the area of the excavation, particularly in the vicinity of the east and west walls of the Area 1 "Hot Spot" excavation. Due to the presence of utilities and/or building foundations, additional soil excavation could not occur in these areas without structurally supporting building foundation walls and utilities. The PCE concentrations within the soil on the east and west wall were 430 ppm and 310 ppm, respectively.
- GZA completed the collection of ambient air samples from the units within the Site building, including 3, 5, 7, 9, and 11 Buffalo Street, as well as the adjoining westerly building, addressed as 12 Main Street. Results of the ambient air samples are considered below the NYSDOH action level for PCE of 100 $\mu\text{g}/\text{m}^3$ in indoor air.
- GZA collected sub-slab air samples from beneath the floor slabs in units 3, 5, 7, 9, and 11 Buffalo Street. Results of the PCE concentrations within the sub-slab air samples ranged from not detected to 1,070 $\mu\text{g}/\text{m}^3$. NYSDOH does not have a guideline for sub-slab air samples. A background ambient air sample collected in the alleyway did not detect PCE above method detection limits.
- One water sample was collected from a sump located in the basement of 11 Buffalo Street. The water exhibited a PCE concentration of 13 ppb, which is above the NYSDEC Class GA guidance value for drinking water of 5 ppb. The ambient air sample from this unit (measured at 30 $\mu\text{g}/\text{m}^3$) was collected near the sump. The commercial facilities located within the on-Site building receive their drinking water and wash water from a municipal source.



GZA successfully removed and disposed accessible soil contaminated with PCE from historic dry cleaning operations. Residual contamination remains on the west and east walls of the excavation; however, these areas are located adjacent to existing buildings and/or utilities. The immediate threat to human health and the environment has been eliminated, by removal of the source material.

GZA completed ambient air sampling within the units immediately adjacent to the excavation area and at a location above the remediated area. Results of this testing did not exceed the NYSDOH Fact Sheet for PCE air guidance level. Therefore, the residual contamination remaining under the floor slabs does not appear to be a significant or immediate threat to the health of potential employees within these units.

The sub-slab air samples collected generally had a higher PCE concentration than their respecting corresponding ambient air sample. The building floor slab appears to be providing a vapor barrier, and limiting the subsurface vapors from migrating into the occupied portions of the building. However, there is a potential for the ambient air within the commercial facilities to become impacted and exceed the NYSDOH guidance.

5.00 RECOMMENDATIONS

GZA does not recommend additional remedial activities or soil removal be completed at the Site. The accessible contaminated soil was removed as part of the IRM. Residual contamination that could not be excavated in the alleyway adjacent to the foundation wall and near utilities is likely volatilizing, causing the trace levels detected within the building. To mitigate the potential for further vapor migration up and through the building floor slabs, we recommend leaving the east alleyway (driveway) unpaved to act as a venting system and allow residual contamination to volatilize. The NYSDEC approved work plan for the IRM work noted that the alleyway would be paved.

Demolition and utility construction in the area of concern should not be done without addressing the potential to encounter PCE contamination. Proper health and safety procedures should be established and followed. Any removed soils and/or materials should be characterized for disposal.

Although this report is submitted as an IRM, GZA does not recommend further remedial activities be completed at the Site and the work done should be considered the final remedy for remediation. GZA requests closure for this project completed under the Voluntary Cleanup Program.

G7A



TABLES

Table 1

February 2003 Phase II ESA and May 2003 Additional Environmental Services

Soil Analytical Testing Results Summary

5 Buffalo Street

Hamburg, New York

		Feburary 2003 Investigation						May 2003 Investigation					
Parameter	NYSDEC	GP-1	GP-2	GP-3	GP-4	GP-7	GP-9	GP-10	GP-11	GP-14	GP-15	GP-16	
	TAGM 4046												
	RSCO	6 to 7 feet bgs	6 to 7.5 feet bgs	6 to 8 feet bgs	0 to 4 feet bgs	1 to 2 feet bgs	4 to 8 feet bgs	8 to 9 feet bgs	8 to 9 feet bgs	6.5 to 8 feet bgs	4 to 7.7 feet bgs	4 to 6 feet bgs	
VOC - EPA Method 8260, STARS (ug/kg)													
Toluene	1,500		21.5										
m,p-xylene	1,200		20.5	10.2	6.1			12.6					
Tetrachloroethene	1,400	1,050	212	579	599	87,500	2,060		16,100	175	120	20.2	
1,1,1-Trichloroethane	800			14.2							7.78		
SVOC - EPA Method 8270, STARS (ug/kg)													
Notes:													
1. Compounds detected in one or more samples are presented on this table.													
Refer to Attachment D for list of all compounds included in analysis.													
2. Analytical testing completed by Paradigm Environmental Services Laboratory.													
3. Soil cleanup objectives based on the NYSDEC TAGM 4046													
Determination of Soil Cleanup Levels dated January 1994.													
4. ug/kg = part per billion (ppb).													
5. Blank indicates compound was not detected.													
6. Shading indicates values exceeding guidance criteria.													

TABLE 2
 May 2003 Additional Environmental Services
 Indoor Air Analytical Testing Results Summary
 5 Buffalo Street
 Hamburg, New York

Air Sample Location Sample Date	Air Standards/Guidance Values				Indoor Air Sample 42203-1
	ACGIH TLV (2)(3)	ACGIH TLV/10	OSHA (5)	NYSDOH (4)	
Volatile Organics (ppb)					
Methylene Chloride	50,000	5,000	2,500	NV	1.4
Toluene	50,000	5,000	200,000	NV	9.1
Tetrachloroethene	25,000	2,500	100,000	15	2.5
m,p-Xylene	100,000	10,000	100,000	NV	1.4
Acetone	500,000	50,000	1,000,000	NV	9.0
Ethanol	NV	NV	NV	NV	11

Notes:

- 1) NV - no value available
- 2) TLV (Threshold Limit Value) is the level at which no adverse health effects are expected in the workplace (8 hours a day), to which workers may be repeatedly exposed without adverse health effect.
- 3) ACGIH = American Conference of Industrial Hygienists.
- 4) New York State Department of Health (NYSDOH) Ambient Air Guideline.
- 5) Occupational Health and Safety Administration (OSHA) Exposure Limits.

Table 3

May 2003 Additional Environmental Services
Groundwater Analytical Testing Results Summary
5 Buffalo Street
Hamburg, New York

Parameter	NYSDEC Class GA Criteria	GP-13	MW-1
VOC - EPA Method 8260 STARS (ug/kg)			
Tetrachloroethene		1,470	

Notes:

1. Compounds detected in one or more samples are presented on this table.
2. Analytical testing completed by Paradigm Environmental Services Laboratory.
3. NYSDEC Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), June 1998.
4. ug/kg = part per billion (ppb).
5. Blank indicates compound was not detected.
6. Shading indicates values exceeding guidance criteria.

Table 4

Waste Characterization Sample Results Summary
5 Buffalo Street
Hamburg, New York

Parameter	NYSDEC TAGM 4046 RSCO	Waste Characterization Sample
VOC - EPA Method 8260/STARS (ug/kg)		
cis-1,2-Dichloroethene	NV	170
trans-1,2-Dichloroethene	300	22
1,1,1,2-Tetrachloroethane	NV	14
Tetrachloroethene	1,400	68,000
Trichloroethene	700	430
Vinyl Chloride	200	3
SVOC - EPA Method 8270/STARS (ug/kg)		
Phenol	30 or mdl	80
Naphthalene	13,000	250
Acenaphthylene	41,000	120
Acenaphthene	50,000	350
Fluorene	50,000	460
Phenanthrene	50,000	4,700
Anthracene	50,000	810
Fluoranthene	50,000	5,000
Pyrene	50,000	5,600
Benzo(a)anthracene	224 or mdl	2,800
Chrysene	400	2,900
Benzo(b)fluoranthene	1,100	3,600
Benzo(k)fluoranthene	1,100	2,500
Benzo(a)pyrene	61 or mdl	3,300
Indeno(1,2,3-cd)pyrene	3,200	2,600
Dibenzo(a,h)anthracene	14 or mdl	640
Benzo(ghi)perylene	50,000	2,300
EPA TCLP Standards for Hazardous Waste		
VOC - TCLP (ug/L)		
Tetrachloroethene	700	1,600
SVOC - TCLP (ug/L)		
No Detections		
RCRA 8 Metals - TCLP (mg/L)		
Arsenic	5	0.032
Barium	100	0.64
Cadmium	1	0.006
Chromium	5	0.029
Lead	5	0.053
Notes:		
1. Sample included a composite of two borings from 0 to 12 feet and one boring from 0 to 4 feet.		
2. Analytical testing completed by PSC Analytical Services.		
3. Soil cleanup objectives based on the NYSDEC TAGM 4046 Determination of Soil Cleanup Levels dated January 1994.		
4. ug/kg = part per billion (ppb); ug/L = parts per billion; mg/L = parts per million		
5. NV = no standard or guidance value		
6. mdl = method detection limit		

TABLE 5
Summary of Analytical Samples and Pertinent Headspace Samples Collected from Limits of Excavation
Interim Remedial Measure
5 Buffalo Street
Hamburg, New York

Headspace Sample #	Depth ft bgs	Headspace PID Reading (ppm)	Corresponding Analytical Sample Identification	Sample Location	Analytical Results for PCE (ppm)	Analytical Results for Total VOCs (ppm)
Area 1 - Hot Spot Excavation Area						
S-66	7	10		Bottom		
S-67	7.5	13	• 5B-BT-09	Bottom	20	20
S-26	9	3		Bottom		
S-20	9	< 1		Bottom		
S-37	9	ND		Bottom		
S-38	10	1.5	5B-BT-01-03-05 Composite	Bottom	0.12	0.12
S-16	8	1		Bottom		
S-28	9	< 1	• 5B-BT-01-03-05 Composite	Bottom Composite	0.12	0.12
S-31	6	200		East Wall		
S-35	7	3		East Wall		
S-36	7	180		East Wall		
S-32	8	500	• 5B-EW-04	East Wall	430	434.5
S-57	0 to 3	< 1		East Wall		
S-58	3 to 6	2		East Wall		
S-43	4 to 6	15		East Wall		
S-59	6 to 8	12		East Wall		
S-42	7 to 8	200		East Wall		
S-54	7 to 9	< 1	• 5B-NW-08	North Wall	6.3	6.3
S-11	6.5	4		South Wall		
A-1	9	< 1	5B-BT-01-03-05 Composite	South Wall	0.12	0.12
A-2	4 to 6	3	• 5B-SW-02	South Wall	1.9	2.1
S-60	2 to 3	18		West Wall		
S-46	4 to 8	60	• 5B-WW-06/5B-SD-07	West Wall	310	311.3
S-55	5 to 7	25		West Wall		
Aera 2 - Shallow Excavation Area						
S-68	3	1		Bottom		
S-81	3	1		Bottom		
S-84	3	1		Bottom		
S-69	3	2		Bottom		
S-70	3	3		Bottom		
S-82	3	< 1		Bottom		
5B-BT-11	3	NA	• 5B-BT-11	Bottom	2.8	2.8
5B-BT-14	3	NA	• 5B-BT-14	Bottom	9.6	9.6
S-87	3.5	< 1		Bottom		
S-75	1 to 3	1		East Wall		
5B-EW-13	1 to 3	1.5	5B-EW-13	East Wall	13	13
S-79	1 to 3	< 1		East Wall		
S-80	1 to 3	< 1	5B-EW-10	East Wall	3	3
5B-NW-16	1 to 3	2	• 5B-NW-16	North Wall	4.6	4.6
5B-WW-12	1 to 3	2	• 5B-WW-12	West Wall	0.77	0.77
5B-WW-15	1 to 3	2	• 5B-WW-15	West Wall	0.58	0.58
S-73	1 to 3	< 1		West Wall		
S-83	1 to 3	< 1		West Wall		

NOTES:

- Complete listing of detected compounds are included on Table 6.
- ppm = parts per million.

Table 6
Soil Excavation Analytical Testing Results Summary
Interim Remedial Measure
5 Buffalo Street
Hamburg, New York

Parameter	NYSDEC TAGM 4046 RSCO	NYSDEC Eastern USA Background	Area 1 - Hot Spot Samples						Area 2 - Alley Area Samples						
			5B-BT-01, 03, 05 Composite	5B-SW-02	5B-EW-04	5B-WW-06 ¹¹	5B-NW-08	5B-BT-09	5B-EW-10	5B-BT-11	5B-WW-12	5B-EW-13	5B-BT-14	5B-WW-15	5B-NW-16
Volatile Organic Compounds - EPA Method 8260 TCL (mg/kg)															
cis-1,2,dichloroethene	NV	NV			0.48	0.19									
Tetrachloroethene	1.4	NV	0.12	1.9	430	310	6.3	20	3.0	2.8	0.77	13	9.6	0.58	4.6
Trichloroethene	0.7	NV		0.15	4	11									
Semi-Volatile Organic Compounds - EPA Method 8270 Full List (mg/kg)															
Phenanthrene	50	NV	NT	0.06	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Metals (mg/kg)															
Aluminum	SB	33,000	NT	8,700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Barium	300 or SB	15 - 600	NT	59	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	0.16 or SB	16-600	NT	0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Calcium	SB	130 - 35,000	NT	56,000	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium	10 or SB	1.5 - 40	NT	16	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Cobalt	30 or SB	2.5 - 60	NT	7.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Copper	25 or SB	1 - 50	NT	36	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron	2,000 or SB	2,000 - 550,000	NT	18,000	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead	SB	200 - 500 ¹⁰	NT	16	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Magnesium	SB	100 - 5,000	NT	9,300	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Manganese	SB	50 - 5,000	NT	320	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nickel	13 or SB	0.5 - 25	NT	19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phosphorous	NV	NV	NT	850	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Potassium	SB	8,500 - 43,000	NT	1,800	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sodium	SB	6,000 - 8,000	NT	330	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Vandium	150 or SB	1 - 300	NT	20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Zinc	20 or SB	9 - 50	NT	87	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Poly Chlorinated Biphenyls (mg/kg)															
			NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Notes:															

Notes:

1. Compounds detected in one or more samples are presented on this table. Refer to Attachment E for list of all compounds included in analysis.
2. Analytical testing completed by PSC Analytical Services.
3. Recommended Soil cleanup objectives (RSCOs) and Eastern USA Background based on the NYSDEC TAGM 4046 'Determination of Soil Cleanup Levels dated January 1994.
4. mg/kg = parts per million
5. NT = not tested
6. SB = Site Background
7. NV = no value
8. Shading identifies VOC concentrations exceeding RSCO.
9. Blank indicates compound was not detected
10. Average background levels in metropolitan or suburban areas or near highways typically range from 200 to 500 mg/kg.
11. Sample results presented are the higher of this sample or its duplicate sample, 5B-SD-07.

TABLE 7
Ambient Air and Sub-Slab Air Sample Target Compound Analytical Results
Interim Remedial Measure
5 Buffalo Street
Hamburg, New York

AMBIENT AIR SAMPLES								
Air Sample Location	NYSDOH Ambient Air Guideline	Rear Alley Way	3 Buffalo St.	5 Buffalo St.	7 Buffalo St.	9 Buffalo St.	11 Buffalo St.	12 Main St.
Sample Identification		Background	3 Buffalo-A	5 Buffalo-A	7 Buffalo-A	9 Buffalo-A	11 Buffalo-A	12 Main -A
Sample Date <i>ug/m³</i>	ug/m ³	06/08/2004	06/08/2004	06/08/2004	06/08/2004	06/08/2004	06/08/2004	06/08/2004
Volatile Organics (ppbV)								
cis-1,2-Dichloroethene	NA	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	NA	ND	ND	ND	ND	ND	ND	9.07
Tetrachloroethene	100	ND	24.0	ND	9.72 ²	21.2	30.0	9.51

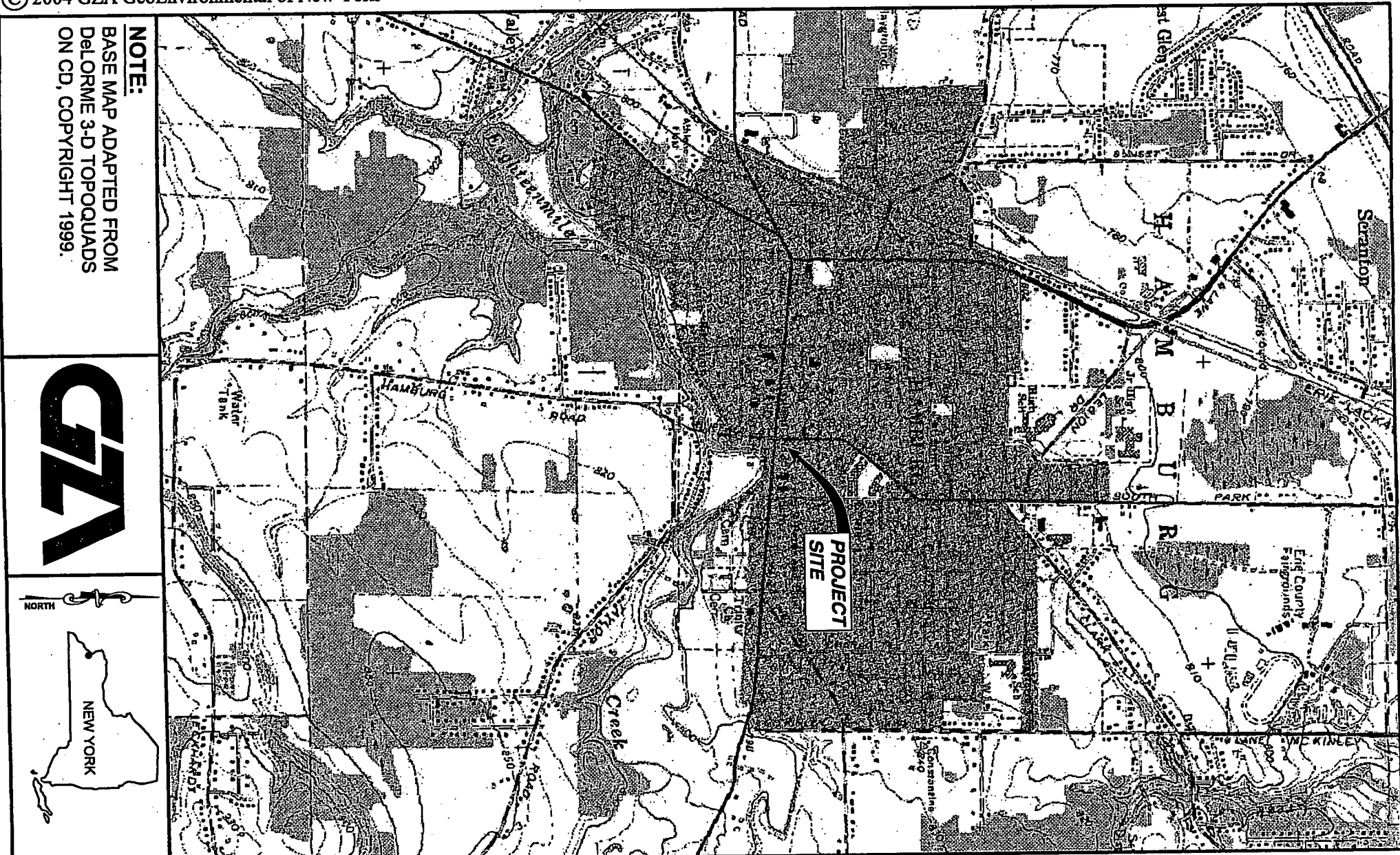
SUB-SLAB AIR SAMPLES					
Air Sample Location	3 Buffalo St.	5 Buffalo St.	7 Buffalo St.	9 Buffalo St.	11 Buffalo St.
Sample Identification	3 Buffalo-S	5 Buffalo-S	7 Buffalo-S	9 Buffalo-S	11 Buffalo-S
Sample Date <i>ug/m³</i>	06/09/2004	06/08/2004	06/08/2004	06/08/2004	06/08/2004
Volatile Organics (ppbV)					
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND
Trichloroethene	20.6	11.4	ND	11.9	ND
Tetrachloroethene	718	140	ND	1070	7.38

Notes:

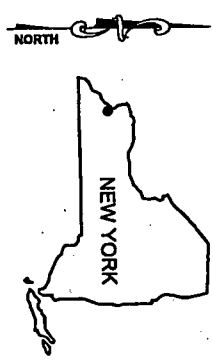
- 1) ug/m³ = microgram per cubic meter, ppbV = parts per billion per volume, ND- none detected by the analytical method (USEPA TO-15).
- 2) The higher concentration of the sample and duplicate sample collected.
- 3) TLV (Threshold Limit Value) is the level at which no adverse health effects are expected in the workplace (8 hours a day), to which workers may be repeatedly exposed without adverse health effect.
- 4) ACGIH = American Conference of Industrial Hygienists.
- 5) ND = non detect
- 6) NA = not available



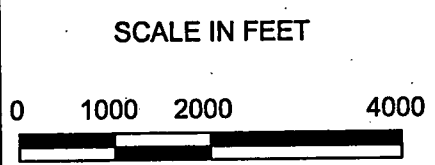
FIGURES



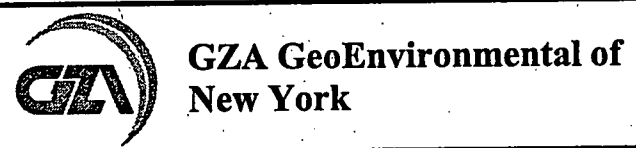
NOTE:
BASE MAP ADAPTED FROM
DELORME 3-D TOPOQUADS
ON CD, COPYRIGHT 1999.



**INTERIM REMEDIAL MEASURES REPORT
5 BUFFALO STREET
HAMBURG, NEW YORK**

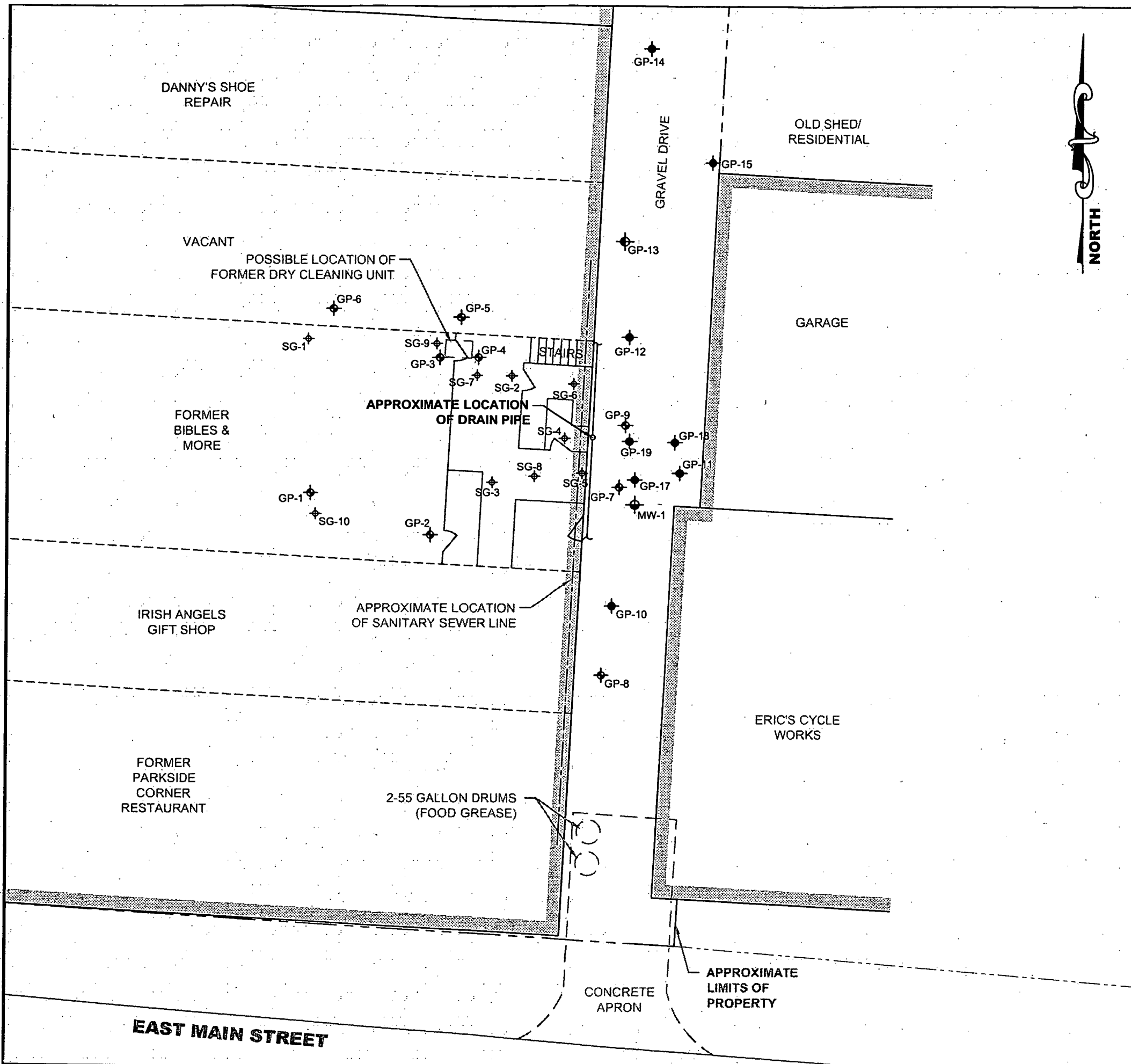


**DRAWN BY: DEW
DATE: JUNE 2004**



**PROJECT No.
21.0055727.10
FIGURE No.
1**

LOCUS PLAN



LEGEND:

- GP-13 APPROXIMATE LOCATION AND DESIGNATION OF MICROWELL INSTALLED BY SLC ENVIRONMENTAL SERVICES, INC. ON 4/10/03
- GP-10 APPROXIMATE LOCATION AND DESIGNATION OF SOIL PROBE DONE BY GZA 4/10/03
- SG-1 APPROXIMATE LOCATION AND DESIGNATION OF SOIL GAS POINT DONE BY GZA 4/10/03
- MW-1 APPROXIMATE LOCATION AND DESIGNATION OF BEDROCK MONITORING WELL INSTALLED BY SJB SERVICES ON 4/17/03
- GP-1 APPROXIMATE LOCATION AND DESIGNATION OF GEOPROBE SOIL BORING PREVIOUSLY DONE BY SLC ENVIRONMENTAL SERVICES, INC. ON 2/3/03

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTOGRAPH TAKEN IN 1995 AND A HAMBURG, NEW YORK TAX ASSESSORS MAP.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW

DATE: JUNE 2004

GZA GeoEnvironmental of
New York



APPROXIMATE SCALE IN FEET



INTERIM REMEDIAL MEASURES REPORT

5 BUFFALO STREET

HAMBURG, NEW YORK

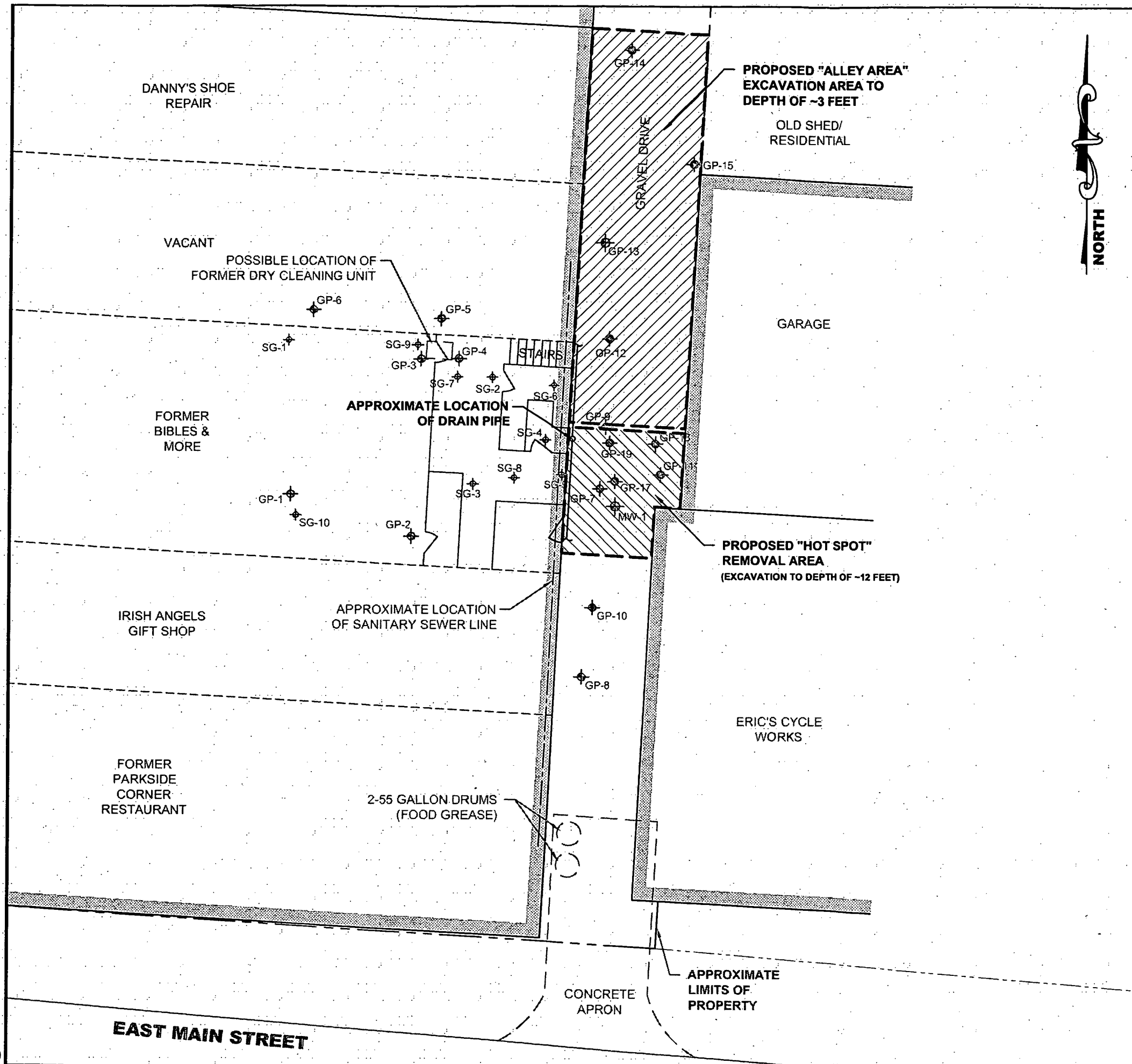
PREVIOUS INVESTIGATIONS

PROJECT No.

21.0055727.10

FIGURE No.

2



LEGEND:

- GP-13 APPROXIMATE LOCATION AND DESIGNATION OF MICROWELL INSTALLED BY SLC ENVIRONMENTAL SERVICES, INC. ON 4/10/03
- GP-10 APPROXIMATE LOCATION AND DESIGNATION OF SOIL PROBE DONE BY GZA 4/10/03
- SG-1 APPROXIMATE LOCATION AND DESIGNATION OF SOIL GAS POINT DONE BY GZA 4/10/03
- MW-1 APPROXIMATE LOCATION AND DESIGNATION OF BEDROCK MONITORING WELL INSTALLED BY SJB SERVICES ON 4/17/03
- GP-1 APPROXIMATE LOCATION AND DESIGNATION OF GEOPROBE SOIL BORING PREVIOUSLY DONE BY SLC ENVIRONMENTAL SERVICES, INC. ON 2/3/03

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTOGRAPH TAKEN IN 1995 AND A HAMBURG, NEW YORK TAX ASSESSORS MAP.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

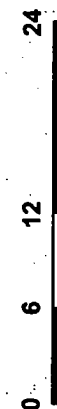
DRAWN BY: DEW

DATE: JUNE 2004



GZA GeoEnvironmental of New York

APPROXIMATE SCALE IN FEET



INTERIM REMEDIAL MEASURES REPORT

5 BUFFALO STREET

HAMBURG, NEW YORK

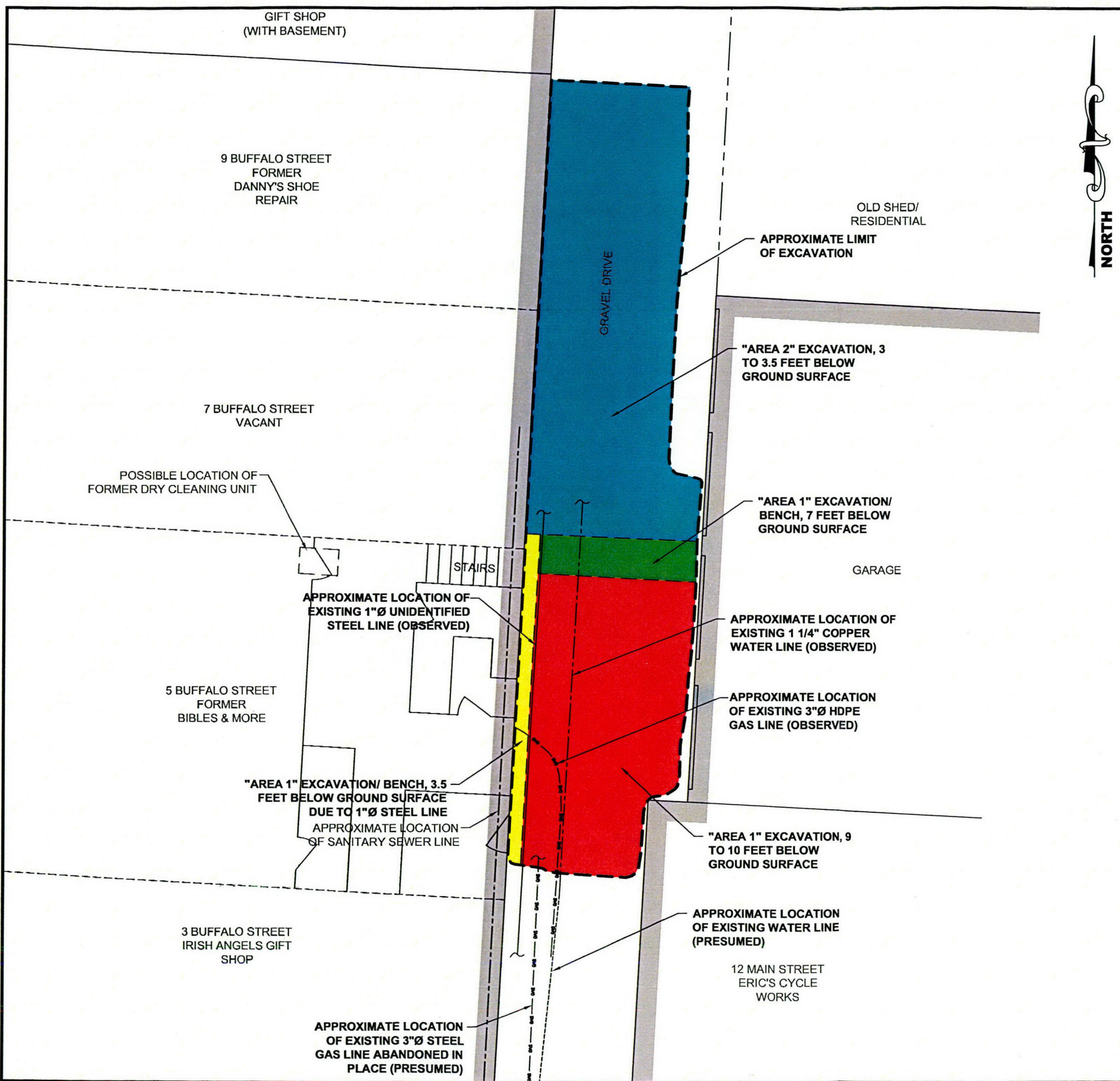
PROPOSED EXCAVATION AREAS

PROJECT No.

21.0055727.10

FIGURE No.

3



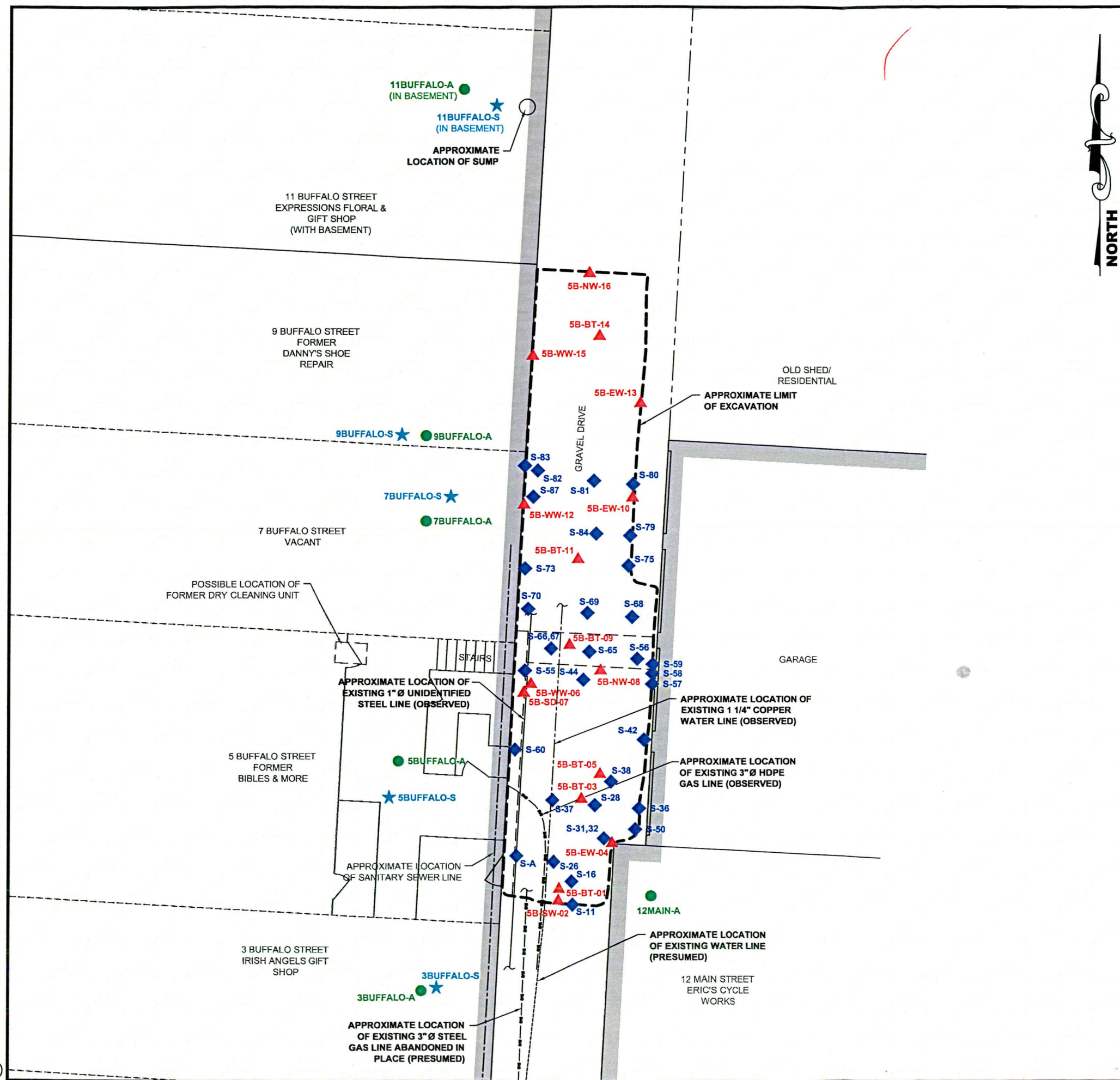
LEGEND:

- APPROXIMATE AREA OF "AREA 1" EXCAVATION, 9 TO 10 FEET BELOW GROUND SURFACE
- APPROXIMATE AREA OF "AREA 1" EXCAVATION/ BENCH, 7 FEET BELOW GROUND SURFACE
- APPROXIMATE AREA OF "AREA 2" EXCAVATION, 3 TO 3.5 FEET BELOW GROUND SURFACE
- APPROXIMATE AREA OF "AREA 1" EXCAVATION/ BENCH, 3.5 FEET BELOW GROUND SURFACE DUE TO 1"Ø STEEL LINE
- APPROXIMATE LIMITS OF SOIL EXCAVATION
- INDICATES DELINEATION BETWEEN EXCAVATION DEPTHS

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTOGRAPH TAKEN IN 1995 AND A HAMBURG, NEW YORK TAX ASSESSORS MAP.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW DATE: JUNE 2004		APPROXIMATE SCALE IN FEET 0 4 8 16	INTERIM REMEDIAL MEASURES REPORT 5 BUFFALO STREET HAMBURG, NEW YORK	ACTUAL EXCAVATION LIMITS PLAN
PROJECT No. 21.0055727.10		FIGURE No. 4		

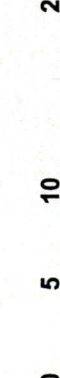


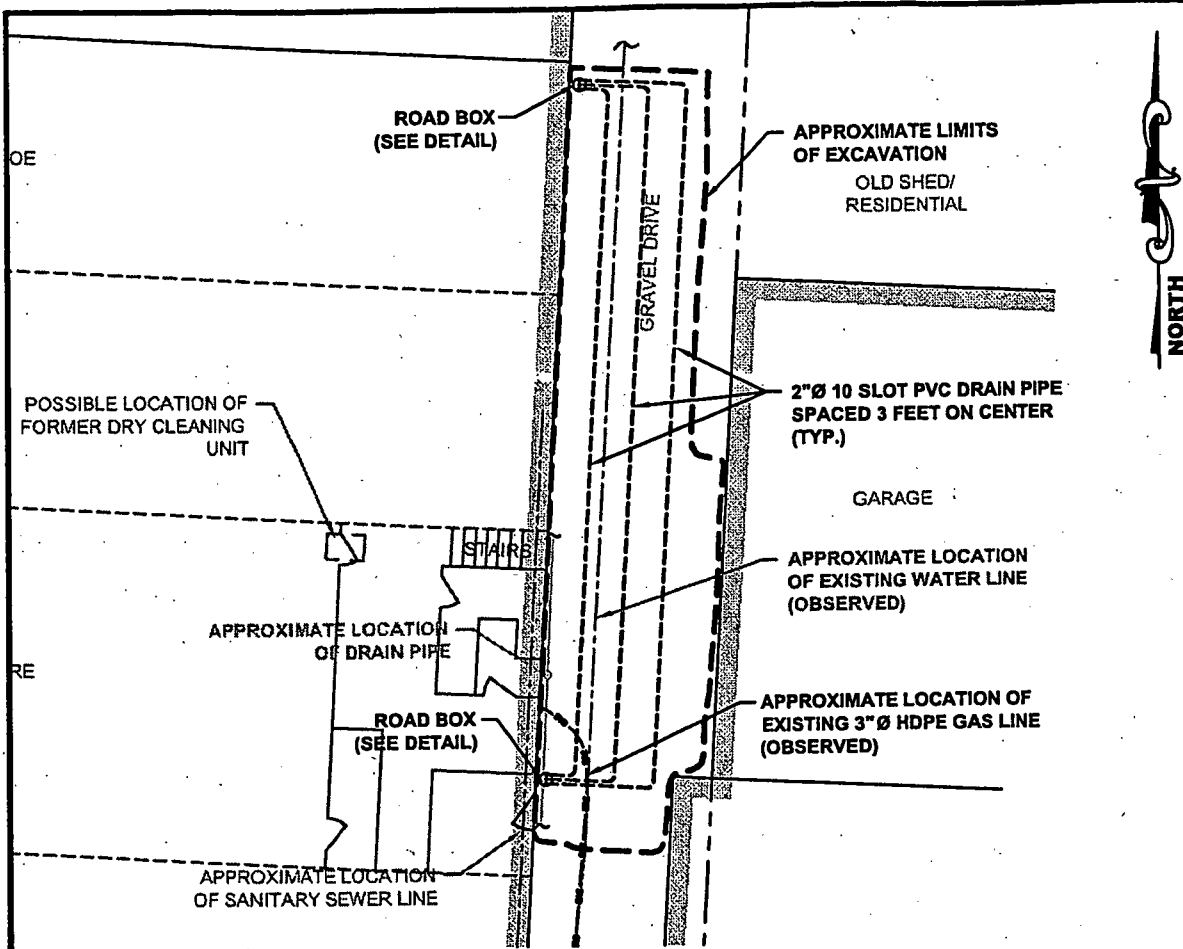
LEGEND:

- ▲ 5B-BT-01 APPROXIMATE LOCATION AND DESIGNATION OF ANALYTICAL SAMPLE COLLECTED BY GZA
- ◆ S-1 APPROXIMATE LOCATION AND DESIGNATION OF HEAD SPACE SAMPLE COLLECTED BY GZA
- 3BUFFALO-A APPROXIMATE LOCATION AND DESIGNATION OF AMBIENT AIR SAMPLING POINT
- ★ 3BUFFALO-S APPROXIMATE LOCATION AND DESIGNATION OF SUB-SLAB SOIL GAS SAMPLING POINT

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTOGRAPH TAKEN IN 1995, A HAMBURG, NEW YORK TAX ASSESSORS MAP AND FIELD MEASUREMENTS/OBSERVATIONS MADE BY GZA.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW DATE: JUNE 2004		 GZA GeoEnvironmental of New York
APPROXIMATE SCALE IN FEET 051020 		
INTERIM REMEDIAL MEASURES REPORT 5 BUFFALO STREET HAMBURG, NEW YORK		
SAMPLING LOCATION PLAN		
PROJECT No. 21.0055727.10		
FIGURE No. 5		



SITE PLAN
SCALE : 1" = 15.0'

DRAWN BY: DEW

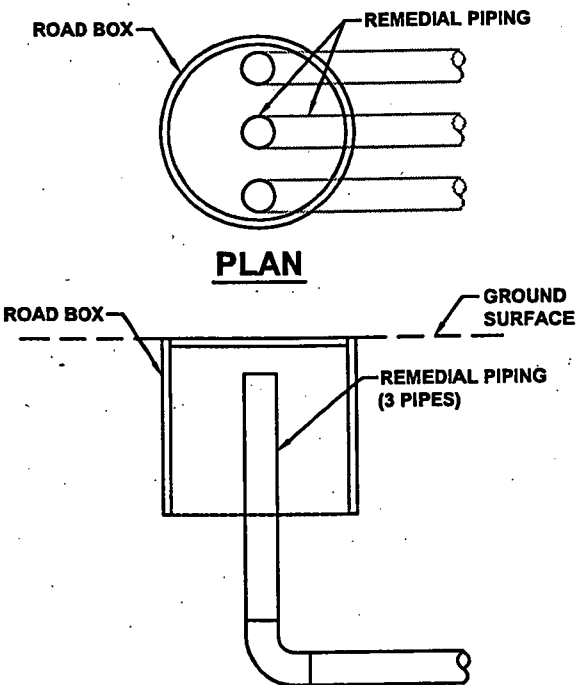
DATE: JUNE 2004

GZA GeoEnvironmental of
New York

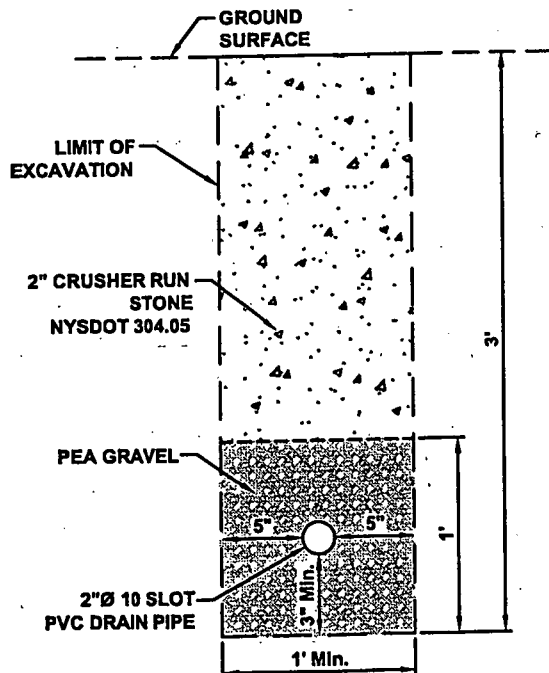


SCALE IN FEET

AS SHOWN



ROAD BOX DETAIL
NOT TO SCALE



TRENCH DETAIL
NOT TO SCALE

INTERIM REMEDIAL MEASURES REPORT

5 BUFFALO STREET

HAMBURG, NEW YORK

**IN-SITU REMEDIAL PIPING
SYSTEM SCHEMATIC**

PROJECT No.

21.0055727.10

FIGURE No.

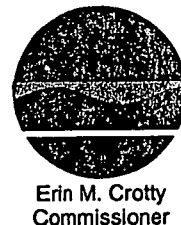
6



APPENDIX A

NYSDEC NOVEMBER 12, 2003 LETTER

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 • FAX: (716) 851-7226
Website: www.dec.state.ny.us



RECEIVED

NOV 17 2003

GZA-BUFFALO

November 14, 2003

Ms. Michele M. Wittman
GZA
364 Nagel Drive
Buffalo, New York 14225

Dear Ms. Wittman:

5 Buffalo Street, Site #V-00659-9
Hamburg (V), Erie County

The proposal to remediate the subject site, outlined in your letter of June 24, 2003, has been reviewed and found to be generally acceptable as an interim remedial measure (IRM).

The proposal included only two composite samples from the bottom of the three-foot excavation area and no samples from the side walls. In accordance with the NYSDEC's *Technical Guidance for Site Investigation and Remediation* (draft December 2002), a minimum of one confirmatory soil sample should be collected for every 30 linear feet of side wall of an excavation and one sample from the excavation bottom for every 900 square feet of bottom area. This would require the collection of at least five additional side wall samples.

In our meeting of June 27, 2003, NYSDEC required that at least one of the confirmatory soil samples from the excavations be tested for the full Target Compound and Target Analyte lists of (TCL/TAL) parameters, to confirm that tetrachlorethene and its breakdown products are the principal contaminants of concern. The same objective might also be accomplished by including TCL/TAL analyses in your proposed waste disposal characterization testing.

The NYSDEC will require data usability summary reports (DUSRs) to validate the results of the earlier site investigations. If the information for completing the DUSRs is unavailable, it will be necessary to resample some of the previously examined areas of the site and test for TCL/TAL parameters or the confirmed contaminants of concern. This validation sampling could be postponed until after the soil removal IRM is completed and the excavation confirmatory soil samples have been tested and evaluated. The NYSDEC finds it likely that off-site areas, e.g. properties on the east side of the alley, will need to be investigated. After the IRM has been completed, the NYSDEC will require an investigation work plan for review, which incorporates your proposed post-IRM soil gas and groundwater monitoring and addresses potential off-site issues.

Ms. Michele M. Wittman
November 14, 2003
Page 2

The proposal included procedures for screening equipment decontamination water with a portable organic vapor meter to determine means of disposal (Health & Safety Plan, page 15); NYSDEC requires that decontamination water be contained, sampled and tested by laboratory methods for proper characterization and disposal.

Before proceeding with the IRM, please submit a brief Field Activities Plan for the soil removal work, including a work schedule. Also, revise those portions of the Quality Assurance Project Plan and Health & Safety Plan attached to your June 24 proposal, to address the comments above.

The NYSDEC will prepare and distribute a fact sheet to adjacent property owners and surrounding community prior to the IRM work. Your client will be given the opportunity to review the fact sheet before it is distributed.

If you have any questions, please call me at (716) 851-7220.

Sincerely,



David P. Locey
Environmental Engineer I

fax 716-851-7227

DPL:sz

cc: Mr. Martin Doster (NYSDEC)
Glen Bailey, Esq. (NYSDEC)
Peter Ruppert, Esq. (Duke, Holzman, Yeager & Photiadis)
Mr. Robert Gaylord (HSBC Bank USA)
Mr. Cameron O'Connor (NYSDOH)



APPENDIX B

WASTE DISPOSAL DOCUMENTATION

MI9049067, Page 1


**WASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITY**

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐
 Required under authority of Part 111
and Part 121 of Act 461, 1994, as
amended.

 Failure to file may subject you to criminal
and/or civil penalties under Section
324.11181 or 324.12118 MCL.

Please print or type.

Form Approved OMB No. 2050-0036

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo, NY 14225		NY D 0 1 3 7 7 0 9 2 0	Manifest of Anthony C. Ilario	A. State Manifest Document Number MI 3049067	
4. Generator's Phone 716 685-2300				B. State Hazardous Waste Site ID Buffalo, NY 14225	
5. Transporter 1 Company Name Hansat Environmental Group Inc.		US EPA ID Number NY D 9 8 0 7 6 9 9 4 7		C. State Transporter ID 03112222	
7. Transporter 2 Company Name		US EPA ID Number		D. State Transporter ID 03112222	
9. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Bellefonte, MI 49811		US EPA ID Number MI D 0 0 0 7 2 4 8 3 1		E. State Facility ID (34) 031-7094	
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER)		12. Containers	13. Total Quantity	14. Unit	15. Value
a. X 9. Hazardous waste, solid, n.o.s. 9. HA3077, III (F001, D039)		No. Type	Quantity	Unit	Value
b. 14		0 0 1 CM	15	T	1000
c. 12			12		
d.					
Additional Descriptions for Materials Shipped Above					
16. Special Handling Instructions and Additional Information a. ERO9 171 b. Emergency Contact: 716-553-1494 WTS#12222					
18. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this assignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name ROBERT F. GAYLORD, VP		Signature HSC BANK USA ETEWON BY: Robert F. Gaylord, VP		Date Month Day Year 03 31 2004	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name MICHAEL RANCONI		Signature Michael Ranconi		Date Month Day Year 03 31 2004	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Date Month Day Year	
19. Discrepancy Indication Box CURSCHAUER 11/8@WTR-0328/04					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name TAMARA SCHWARTZ					
Signature TAMARA SCHWARTZ		Signature TAMARA SCHWARTZ		Date Month Day Year 03 31 2004	

ALL SHIPMENTS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-1706 OR OUT OF STATE AT 517-373-7040 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-6229 24 HOURS PER DAY

MI9049069, Page 1



WASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITY

DO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of Part 111
and Part 121 of Act 695, 1994, as
amended.

Failure to file may subject you to criminal
and/or civil penalties under Section
824.11151 or 324.12116 MCL.

Form Approved OMB No. 2030-0039

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NY D 0 1 3 7 7 0 9 2	Manifest Designation HAZARDOUS	2. Page of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address 364 Nagle Drive Buffalo, NY 14225		4. Generator's Phone 716 685-2300		5. State Manifest Document Number MI 3040069	
6. Generator's Name and Mailing Address Environmental (Estate of Anthony C. Ilardo)		7. Generator's Phone 716 685-2300		8. State Manifest Document Number MI 3040069	
9. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Bellefonte, MI 48811		10. US EPA ID Number MI D 0 0 0 7 2 4 8 3 1		11. State Facility ID MI 3040069	
12. Containers No. Type		13. Total Quantity		14. Unit W/Vol	
a. 9, HA3077, III (P001, D039)		0 0 1 CM		EST 11	
b.					
c.					
d.					
15. Special Handling Instructions and Additional Information a. ERCS 171 b. Emergency Contact: 716-553-1494 WTS012222					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have adopted the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR: If I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name ROBERT F. GAYLORD VP		Signature HSC BANK USA EYE WITH BY: Robert F. Gaylord, VP		Date 03/19/04	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name MICHAEL RONCONE		Signature Michael Roncone		Date 03/19/04	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Date	
19. Discrepancy Indication Space OUTCHAZIE					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name BIMAS SANCHEZ					
Signature		Date 03/19/04			

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM (MPEAS) AT 1-800-442-2262 OR OUT OF STATE AT 1-800-542-7276 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-6343 24 HOURS PER DAY

MI9049066, Page 1

DEQWASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITYDO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐Required under authority of Part 111
and Part 121 of Act 451, 1994, as
amended.Failure to file may subject you to criminal
and/or civil penalties under Section
224.111(1) or 224.121(1) MCL.

Please print or type

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NY D 0 1 3 7 7 0 9 2	Manifest Page 1 of 1	Form Approved, OMS No. 2050-0038
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo, NY 14225		4. Generator's Phone 716 685-2300		5. State Manifest Document Number MT 8049066
6. Transporter 1 Company Name Husnet Environmental Group Inc.		7. Transporter 1 US EPA ID Number NY D 9 8 0 7 6 9 9 4 7		8. State Transporter ID 1107
9. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Belleville, MI 48111		10. US EPA ID Number MI D 0 0 0 7 2 4 8 3 1		11. State Facility ID 1107
12. Containers		13. Total Quantity		14. Waste No.
a. 20 Hazardous waste, solid, n.o.s. 9. NA3077, III (P001,D039)		EST. 16		1
b. 001 CM		11		1
c.				
d.				
15. Special Handling Instructions and Additional Information b. Emergency Contact: 716-553-1494				
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR: If I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.				
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name ROBERT E. GAYLORD, VP		Signature HSC BANK USA EXECUTOR		Date 10/31/04
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name MICHAEL RANLONE		Signature Michael Ranlone		Date 10/31/04
19. Discrepancy Indication Space OK BCRN XIE PRA WY QUB CBUCU AD		Signature		Date
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name BRYAN SCHMIDT				
Signature		Signature		Date 02/22/04

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-252-4709 OR OUT OF STATE AT 617-252-4709 OR OUT OF STATE AT 617-252-4709



**WASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITY**

DO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of Part 111
and Part 181 of Act 451, 1994, as
amended.

Failure to file may subject you to criminal and/or civil penalties under Section 224, 11101 or 224, 12116 MCL.

Please print or type

Form Approved OMR No. 2050-0030

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's USEPA ID No. NY D 0 1 3 7 7 0 9 2	2. Page 1 of 1	3. Information in the shaded areas is not required by Federal law.	
1. Generator's Name and Mailing Address 364 Eagle Drive Buffalo, NY 14225		4. Generator's Phone 716 685-2300		5. State Manifest Document Number MI 804 8058	
6. Generator's Name and Mailing Address Hazard Environmental Group Inc. Buffalo, NY 14225		7. Generator's Phone 716 685-2300		8. State Manifest Document Number MI 804 8058	
9. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Bellaire, MI 48111		10. US EPA ID Number MI D 0 0 0 7 2 4 8 3 1		11. Facility's Phone (734) 697-7800	
12. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER)		13. Containers		14. Waste No.	
a. 9. HA3077, III (P001, D039)		b. 0 0 1 CM		c. EST. 16	
d. 11					
15. Additional Descriptions for Materials Listed Above		16. Containers		17. Waste No.	
a. 021429WTS, III		b. 0 0 1 CM		c. EST. 16	
18. Special Handling Instructions and Additional Information		19. Emergency Contact: 716-553-1494		20. WTS 12222	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this manifestation are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
17. Transporter 1 Acknowledgment of Receipt of Materials		18. Transporter 2 Acknowledgment of Receipt of Materials		19. Discrepancy Indication Space	
Printed/Typed Name ROBERT F. GAYLORD, VP		Printed/Typed Name MICHAEL R. RIVKINE		a. 13 QUINSE PER 1000 LBS 032404AD	
Signature dy. Robert F. Gaylord, VP		Signature Michael Rivkine			
Date 03/18/04		Date 03/18/04			
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 18.		21. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 18.		22. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 18.	
Printed/Typed Name EMILY SANZ		Printed/Typed Name EMILY SANZ		Date 03/23/04	
Signature [Signature]		Signature [Signature]			

ALL WILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM IN MICHIGAN AT 1-800-292-2386 OR OUT OF STATE AT 1-800-292-2386 OR OUT OF STATE AT 1-800-292-2386

MI9049064, Page 1

DEPARTMENT OF
ENVIRONMENTAL QUALITY

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of Part 111
and Part 121 of Act 451, 1989, as
amended.

Failure to file may subject you to criminal
and/or civil penalties under Section
324.11151 or 324.12115 MCL.

Please print or type

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's USEPA ID No. NY D01377092	Manifest No. 9049064	2. Page 1 4 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo, NY 14225		4. Generator's Phone 716 685-2300		A. State Manifest Document Number M 9049064	
5. Transporter 1 Company Name Hamm Environmental Group Inc.		6. US EPA ID Number NY D98076994		B. State Generator's ID 14871	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID	
9. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Belleville, MI 48111		10. US EPA ID Number MI D000724831		D. Transporter's Phone (734) 247-1200	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER) X HQ Hazardous Waste, Solids, n.o.s. 9, RA3077, III (P001,D039)		12. Containers No. Type 001 CK		13. Total Quantity 16	
14. Waste No. 1001		15. Special Handling Instructions and Additional Information b. Emergency Contact: 716-553-1494		16. Date 03/16/04	
17. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name ROBERT F. GAYWOLD, VP		Signature BY: Robert F. Gaywold, VP		Date 03/16/04	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name MICHAEL ROWLONE		Signature Michael Rowlone		Date 03/16/04	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Date	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name SCOTT SCHULTE					
Signature TJ		Date 03/22/04			

ALL BOLLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-252-4000 OR OUT OF STATE AT 1-800-252-4000. IN MICHIGAN AT 1-800-252-4000 OR OUT OF STATE AT 1-800-252-4000.

MI9049065, Page 1



**WASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITY**

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☐ REJ. ☐

Required under authority of Part 111
and Part 121 of Act 451, 1994, as
amended.

Failure to file may subject you to criminal and/or civil penalties under Section 324 of the 1976 or 324.1210 MCL.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Origin No.	2. Page of 1	3. Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo, NY 14225		4. Generator's US EPA ID No. NY D 0 1 3 7 7 0 9 2 0		5. State Manifest Disposal Number NY 1000000000	
4. Generator's Phone 716 685-2300		6. US EPA ID Number NY D 9 8 0 7 6 9 9 4 7		7. State Manifest Disposal Number NY 1000000000	
5. Transporter 1 Company Name Hannet Environmental Group Inc.		8. US EPA ID Number NY 0 9 8 0 7 6 9 9 4 7		9. State Manifest Disposal Number NY 1000000000	
6. Transporter 2 Company Name HANNET ENVIRONMENTAL GROUP INC.		9. US EPA ID Number		10. State Manifest Disposal Number NY 1000000000	
7. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Bellaire, MI 48111		10. US EPA ID Number M I D 0 0 0 7 2 4 8 3 1		11. State Manifest Disposal Number MI 1000000000	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and HM ID NUMBER) a. HQ Hazardous waste, solid, n.o.s. b. 9, HA3077, III (P001, D039)		12. Containers No. Type 10 10		13. Total Quantity EST 10	
14. Additional Descriptions for Materials Listed Above a. HA3077, III (P001, D039)		15. Special Handling Instructions and Additional Information a. ERG 171		b. W.O. 12222	
16. Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume, and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR: If I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.		17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name ROBERT F. GAYLORD, VP		18. Transporter 1 Signature Robert F. Gaylord, VP	
17. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name MICHAEL RANCONI		18. Transporter 2 Signature Michael Ranconi		19. Date 03/17/09	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name GRANT CARLSON		19. Transporter 2 Signature Grant Carlson		20. Date 03/17/09	
19. Discrepancy Indication Space 0013 QUANTITY DIFFERENCE 03/17/09		20. Facility Owner or Operator: Certification of Receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name THOMAS SCHULTZ		21. Facility Owner or Operator Signature Thomas Schultz	

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-282-8708 OR OUT OF STATE AT 517-373-3440 AND THE NATIONAL RESPONSE CENTER AT 1-800-784-5400. DO NOT CALL 911.

MI9049070, Page 1



WASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITY

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☐ REJ. ☐ PR ☐

Required under authority of Part 111
and Part 121 of Act 481, 1994, as
amended.

Failure to file may subject you to criminal
and/or civil penalties under Section
244.17151 or 244.17152 MCL.

Please print or type

UNIFORM HAZARDOUS
WASTE MANIFEST

1. Generator's USEPA ID No.

NYD01377092

Manifest

Form Approved, OMB No. 2000-0039

2. Page 1

Information in the shaded areas
is not required by Federal
law.

3. Generator's Name and Mailing Address
364 Eagle Drive
Buffalo, NY 14225
Anthony G. Ilardo)

4. Generator's Phone () 716 685-2300

5. Transporter 1 Company Name

Rasmussen Environmental Group Inc.

6. US EPA ID Number

NYD980769947

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

Michigan Disposal Waste Treatment Plant
49350 North I-94 Service Drive
Bellefonte, MI 48811

10. US EPA ID Number

MID000724831

11. US DOT Description (including Proper Shipping Name, Hazard Class, and
ID NUMBER)

9. Hazardous waste, solid, n.o.s.
9, NA3077, III (P001,D039)

12. Containers

No. Type

001 CM

13. Total

Quantity

EST.

11

14. Unit

M/Vol

15. Waste

No.

7951

16. Special Handling Instructions and Additional Information

a. Emergency Contact: 716-553-1494

b. EPA ID: 171

WT012222

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this manifest are true and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated, to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR: If I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

ROBERT F. GAYLORD, VP

Signature

JSC BANK USA, BY: ROBERT F. GAYLORD, VP

Date

03/19/04

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

MICHAEL RAYONE

Signature

Michael Rayone

Date

03/19/04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

MICHAEL RAYONE

Signature

Michael Rayone

Date

03/19/04

18. Discrepancy Indication Space

all is correct

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name

BWA

Signature

BWA

Date

03/25/04

MI9049071, Page 1


**WASTE AND HAZARDOUS MATERIALS DIVISION
MICHIGAN DEPARTMENT OF
ENVIRONMENTAL QUALITY**

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐
 Required under authority of Part 111
and Part 121 of Act 451, 1994, as
amended.

 Failure to file may subject you to criminal
and/or civil penalties under Section
324.11151 or 324.12110 MCL.

Form Approved: OMB No. 2050-0039

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		Generator's US EPA ID No.	Manifest Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo, NY 14225		1. Generator's US EPA ID No. NY D 0 1 3 7 7 0 9 2	2. State of Generator NY	3. State of Facility NY
4. Generator's Phone 716 685-2300		5. Transporter 1 Company Name Rasmat Environmental Group Inc.	6. US EPA ID Number NY D 9 0 0 7 6 9 9 4 7	7. State of Transporter NY
7. Transporter 2 Company Name		8. US EPA ID Number	9. State of Transporter	10. State of Facility
8. Designated Facility Name and Site Address Michigan Disposal Waste Treatment Plant 49350 North I-94 Service Drive Belleville, MI 48111		9. US EPA ID Number MI D 0 0 0 7 2 4 8 3 1	10. State of Facility	11. Facility's Phone (313) 602-7630
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER) 9, HA3077, III (FOOL,0039)		12. Containers No. Type 0 0 1 CM	13. Total Quantity EST 10	14. Unit KG
15. Additional Description for Materials Listed Above a. 021627828		16. Special Handling Instructions and Additional Information a. REG-171 b. Emergency Contact: 716-553-1494 MI8#12222		
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this assignment are fully and accurately described above by proper shipping name and are certified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR: If I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.				
Printed/Typed Name ROBERT F. GAYLORD VP		Signature RSBL BANK USA, PRESIDENT BY: Robert Gaylord VP		Date 03/19/04
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name MICHAEL RONCONE		Signature Michael Roncone		Month Day Year 03/19/04
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year
19. Discrepancy Indication Space OK TSCHAYE FOR WASTE WBS/SLN/CO				
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name BWA Source		Signature [Signature]		Date 03/25/04

ALL SHIPMENTS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-252-4200 OR OUT OF STATE AT 817-373-7600 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-6802 24 HOURS PER DAY.

NYG 4337793

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

RECEIVED



MAR 25 2004

[Hazardous Waste Manifest 1/23/03]

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD01B7709E037793		Manifest Doc. No.		2. Page 1 of 1		3. Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address GZA Geoenvironmental (Estate Anthony C. Ilardo) 364 Eagle Drive Buffalo NY 14225		4. Generator's Telephone Number (716) 685-2300		6. US EPA ID Number NYD09B0769947		C. State Transporter's ID 17063PA/NY		D. Transporter's Telephone (716) 827-7200	
5. Transporter 1 (Company Name) Kasmat Environmental Group		7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()	
9. Designated Facility Name and Site Address CMI Chemical Services, LLC 1550 Balmer Road Model City NY 14107		10. US EPA ID Number NYD049855579		G. State Facility ID		H. Facility Telephone (716) 754-8231			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. RQ Hazardous waste, solid, n.o.s. 9, NA3077, III (P001,D039)				1		EST 00016		T	
b.								I. Waste No. EPA P001	
c.								STATE	
d.								STATE	
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above					
(S) a.				c.		a. ☒		c. ☐	
b.				d.		b. ☐		d. ☐	
15. Special Handling Instructions and Additional Information WTS#12222 Emer. Contact: 716-553-1494 81583627									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name ROBERT F GAYWARD VP				Signature ROBERT F GAYWARD VP				Mo. Day Year 03 22 04	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MICHAEL RANCONE				Signature Michael Rancone				Mo. Day Year 03 22 04	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space Act. Rec. 21160P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Michelle Fleck				Signature Michelle Fleck				Mo. Day Year 03 23 04	



RECEIVED
MAR 25 2004
GZA-BUFFALO

WASTE MANAGEMENT

1550 Balmer Road
PO Box 200
Model City, NY 14107
(716) 754-8231
(716) 754-0211 Fax

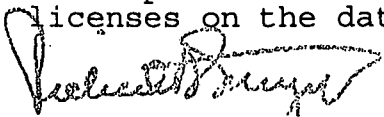
ESTATE OF ANTHONY C ILARDO
ATTN: ENVIRONMENTAL COMPLIANCE DEPT
NYD013770920
5 BUFFALO ST
HAMBURG NY 14075-5002

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/23/04 as described on Hazardous Waste Manifest number NYG4337793 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158362701
CWM Unit #: 1*0
Disposal Date: 03/23/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.



RICHARD STURGES
DISTRICT MANAGER
Certificate # 262929
03/24/04

For questions please call
our Customer Service Dept.
at (800) 843-3604

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

NYG 4337775

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/23/03)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. NYD01377092037775	Manifest Doc. No.	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
	3. Generator's Name and Mailing Address GZA Geoenvironmental (Estate) Anthony C. Ilardo 364 Nagle Drive Buffalo NY 14225		PA. NYG 4337775		
	4. Generator's Telephone Number (716) 685-2300		B. Generator's ID 5 Buffalo Street Hamburg, NY 14075		
	5. Transporter 1 (Company Name) Hazard Environmental Group	6. US EPA ID Number NYD080760047	C. State Transporter's ID 17063 PA/NY		
	7. Transporter 2 (Company Name)	8. US EPA ID Number	D. Transporter's Telephone (716) 827-1200		
	9. Designated Facility Name and Site Address CWN Chemical Services, LLC 1550 Balmer Road Model City NY 14107		E. State Transporter's ID		
	10. US EPA ID Number NYD049086679		F. Transporter's Telephone ()		
			G. State Facility ID		
			H. Facility Telephone (716) 754-8231		
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ Hazardous waste, solid, n.o.s. 9, NA3077, III (F001,D039)		12. Containers Number Type 001 CM	13. Total Quantity EST. 00016	14. Unit Wt/Vol T
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE
J. Additional Descriptions for Materials listed Above S)		K. Handling Codes for Wastes Listed Above a. ☒ b. ☐ c. ☐ d. ☐			
15. Special Handling Instructions and Additional Information WTS#12222 Emer. Contact: 716-553-1494 a. CW7428, REG# 171 81583047					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name ROBERT E. GAYLORD JR		Signature [Signature]		Mo. Day Year 03/22/04	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name MICHAEL RONCONE		Signature [Signature]	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature	
19. Discrepancy Indication Space Act. Rec. 23140P					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Michelle Fleck		Signature Michelle Fleck		Mo. Day Year 03/24/04	



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MAR 2 J 2004

GZA-BUFFALO

WASTE MANAGEMENT

1550 Balmer Road
PO Box 200
Model City, NY 14107
(716) 754-8231
(716) 754-0211 Fax

ESTATE OF ANTHONY C ILARDO
ATTN: C/O GZA GEOENVIRONMENTAL
NYD013770920
364 NAGLE DRIVE
BUFFALO NY 14225

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/24/04 as described on Hazardous Waste Manifest number NYG4337775 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158364701
CWM Unit #: 1*0
Disposal Date: 03/24/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.



RICHARD STURGES
DISTRICT MANAGER
Certificate # 262936
03/24/04

For questions please call
our Customer Service Dept.
at (800) 843-3604

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

NYG 4337757

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD01377092037757		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo NY 14225				NYG 4337757 5 Buffalo Street Hamburg, NY 14075					
4. Generator's Telephone Number (716) 685-2300				B. Generator's ID					
5. Transporter 1 (Company Name) Hazard Environmental Group				C. State Transporter's ID					
6. US EPA ID Number NYD930769947				D. Transporter's Telephone (716) 685-2300					
7. Transporter 2 (Company Name)				E. State Transporter's ID					
8. US EPA ID Number				F. Transporter's Telephone ()					
9. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Halmer Road Model City NY 14107				G. State Facility ID					
10. US EPA ID Number NYD049836679				H. Facility Telephone (716) 754-8231					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total		14. Unit	
a. RQ Hazardous waste, solid, n.o.s. 9, NA3077, III (F001,D039)				Number Type		Quantity		Wt/Vol	
				001 CM		EST, 00016		T	
b.								I. Waste No. EPA F001	
c.								STATE	
d.								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above					
(S) a.				a. ☒ b. ☐ c. ☐					
b.				b. ☐ d. ☐					
15. Special Handling Instructions and Additional Information WTS#12222 Emer. Contact: 716-533-1494 L. CW7468, ZRG# 171									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name VINCENT E. GAYLORD VP				Signature [Signature]				Mo. Day Year 03 23 04	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MICHAEL P. CONNOR				Signature [Signature]				Mo. Day Year 03 23 04	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space Actual Recd 27540 P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Angela Cadwalader				Signature [Signature]				Mo. Day Year 03 25 04	

COPY 5—Generator—Mailed by TSD Facility

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362



WASTE MANAGEMENT

1550 Balmer Road
PO Box 200
Model City, NY 14107
(716) 754-8231
(716) 754-0211 Fax

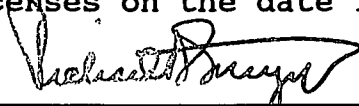
ESTATE OF ANTHONY C ILARDO
ATTN: C/O GZA GEOENVIRONMENTAL
NYD013770920
364 NAGLE DRIVE
BUFFALO NY 14225

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/25/04 as described on Hazardous Waste Manifest number NYG4337757 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158366501
CWM Unit #: 1*0
Disposal Date: 03/25/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.



RICHARD STURGES
DISTRICT MANAGER
Certificate # 262957
03/26/04

For questions please call
our Customer Service Dept.
at (800) 843-3604

NYG 4337784

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/23/03)

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD01377092037784		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
		3. Generator's Name and Mailing Address 62A Geoenvironmental (Estate) 364 Nagle Drive Buffalo NY 14225		B. Generator's ID NYG 4337784		5 Buffalo Street Hamburg, NY 14075			
4. Generator's Telephone Number (716) 685-2300		6. US EPA ID Number NYD030760947		C. State Transporter's ID 17063 PA/NY		D. Transporter's Telephone (716) 827-7200			
5. Transporter 1 (Company Name) Hazmat Environmental Group		7. Transporter 2 (Company Name)		E. State Transporter's ID		F. Transporter's Telephone ()			
9. Designated Facility Name and Site Address CJM Chemical Services, LLC 1550 Balmer Road Model City NY 14107		10. US EPA ID Number NYD049886079		G. State Facility ID		H. Facility Telephone (716) 754-8231			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. HQ Hazardous waste, solid, n.o.s. 9, NA3077, III (F001,D039)				001 CM		00016		T	
b.								I. Waste No. EPA F001	
c.								STATE	
d.								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above					
a.				c.		a.		c.	
b.				d.		b.		d.	
15. Special Handling Instructions and Additional Information WT5#12222 Emer. Contact: 716-553-1494 81583794									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name ROBERT F. GAYLORD VP				Signature HSBC BANK U.S.A. EXECUTOR BY: Robert Gaylord VP		Mo. 01		Day 22	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature Michael Roncone		Mo. 03		Day 22	
Printed/Typed Name MICHAEL RONCONE				Signature		Mo.		Day	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Mo.		Day	
Printed/Typed Name				Signature		Mo.		Day	
19. Discrepancy Indication Space Item 13. Generators quantity was eliminated - Resubled.									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Michelle Fleck				Signature Michelle Fleck		Mo. 03		Day 30	
						Year 04			



WASTE MANAGEMENT, INC.

CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

ESTATE OF ANTHONY C ILARDO
ATTN: C/O GZA GEOENVIRONMENTAL
NYD013770920
364 NAGLE DRIVE
BUFFALO NY 14225

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/30/04 as described on Hazardous Waste Manifest number NYG4337784 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158379401
CWM Unit #: 1*0
Disposal Date: 03/30/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.



RICHARD STURGES
DISTRICT MANAGER
Certificate # 263206
03/31/04

For questions please call
our Customer Service Dept.
at (800) 843-3604

NYG 4337712

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/23/03)

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NY001377002037712		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address 364 Eagle Drive Buffalo NY 14225				NYG 4337712 B. Generator's ID 5 Buffalo Street Hamburg, NY 14075 C. State Transporter's ID 17063 PA/NY D. Transporter's Telephone (716) 827-1200 E. State Transporter's ID F. Transporter's Telephone () G. State Facility ID H. Facility Telephone (716) 754-8231					
4. Generator's Telephone Number (716) 685-2300				6. US EPA ID Number NY0980769347					
5. Transporter 1 (Company Name) Hazmat Environmental Group				8. US EPA ID Number 					
7. Transporter 2 (Company Name)				10. US EPA ID Number 					
9. Designated Facility Name and Site Address CWA Chemical Services, LLC 1550 Balmer Road Model City NY 14107				11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ Hazardous waste, solid, n.o.s. 9, NA3077, III (P001,0039)					
				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
				0 0 1 C M		EST. 0 0 0 1 6		T	
								I. Waste No. EPA P001	
								STATE	
								EPA	
								STATE	
								EPA	
								STATE	
								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above					
a. S)				c.		a. L		c. ☐	
b.				d.		b. ☐		d. ☐	
15. Special Handling Instructions and Additional Information WTS#12222 Emer. Contact: 716-553-1494 a. UN7488, PG05 171									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name ROBERT E. BAYLORD VP				Signature HSBC BANK USA EXECUTOR BY Robert E Baylord VP				Mo. Day Year 10 3 23 04	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MICHAEL RONCONE				Signature Michael Roncone				Mo. Day Year 10 3 23 04	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space MF Act. Rec. 22929660P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Michelle Fleck				Signature Michelle Fleck				Mo. Day Year 03 30 04	



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GZA-BUFFALO

WASTE MANAGEMENT, INC.

CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

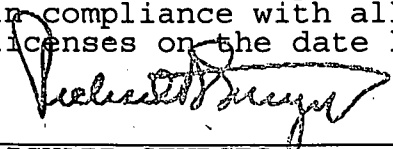
ESTATE OF ANTHONY C ILARDO
ATTN: C/O GZA GEOENVIRONMENTAL
NYD013770920
364 NAGLE DRIVE
BUFFALO NY 14225

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/30/04 as described on Hazardous Waste Manifest number NYG4337712 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158381101
CWM Unit #: 1*0
Disposal Date: 03/30/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.



RICHARD STURGES
DISTRICT MANAGER
Certificate # 263219
03/31/04

For questions please call
our Customer Service Dept.
at (800) 843-3604

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

NYG 4337748

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/23/03)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD01377092037748		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address 364 Nagle Drive Buffalo NY 14225		GZA Geoenvironmental (Estate of Anthony C. Ilardo)		NYG 4337748					
4. Generator's Telephone Number 716 685-2300		B. Generator's ID 3 Buffalo Street Tonawanda, NY 14075		C. State Transporter's ID 17963 PA/IN					
5. Transporter 1 (Company Name) Hazmat Environmental Group		6. US EPA ID Number NYD980769947		D. Transporter's Telephone (716) 624-1100					
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID					
9. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Balmer Road Model City NY 14107		10. US EPA ID Number NYD049836679		F. Transporter's Telephone ()					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. RQ Hazardous waste, solid, n.o.s. 9. NA3077, III (F001, D039)		Number Type 001 CH		EST 00016 T				EPA F001	
b.								STATE	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above							
a. (S)		b.		c.		d.			
b.		c.		d.					
15. Special Handling Instructions and Additional Information WTS#12222 Emer. Contact: 716-553-1494 a. CW745A, ECG# 171									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name Robert F. Gaylord Jr		Signature <i>Robert F. Gaylord Jr</i>		Mo. 03		Day 24		Year 04	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MICHAEL RANCONI		Signature <i>Michael Ranconi</i>		Mo. 03		Day 24		Year 04	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name		Signature		Mo.		Day		Year	
19. Discrepancy Indication Space ack Rec. 31300 P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Michelle Fleck		Signature <i>Michelle Fleck</i>		Mo. 03		Day 31		Year 04	



WASTE MANAGEMENT, INC.

CWM Chemical Services, L.L.C.

1550 Balmer Rd.

P.O. Box 200

Model City, N.Y. 14107

716/754-8231

ESTATE OF ANTHONY C ILARDO
ATTN: C/O GZA GEOENVIRONMENTAL
NYD013770920
364 NAGLE DRIVE
BUFFALO NY 14225

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/31/04 as described on Hazardous Waste Manifest number NYG4337748 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158386301
CWM Unit #: 1*0
Disposal Date: 03/31/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

RICHARD STURGES
DISTRICT MANAGER
Certificate # 263265
04/01/04

For questions please call
our Customer Service Dept.
at (800) 843-3604

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

NYG 4337766

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 1/23/03)

Please type or print. Do not staple

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Doc. No.	2. Page 1 of	Information within heavy bold line is not required by Federal Law.
		NYD01377092037766		1	
3. Generator's Name and Mailing Address 364 Nagle Drive Buffalo NY 14225		NYG 4337766 B. Generator's ID 5 Buffalo Street Hamburg, NY 14075			
4. Generator's Telephone Number (716) 685-2300					
5. Transporter 1 (Company Name) Hazmat Environmental Group		6. US EPA ID Number NYD980769947		C. State Transporter's ID 17063 PA/NY	
7. Transporter 2 (Company Name) Hazmat Environmental Group		8. US EPA ID Number NYD980769947		D. Transporter's Telephone (716) 827-7200	
9. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Balmer Road Model City NY 14107		10. US EPA ID Number NYD049836679		E. State Transporter's ID 17065 PA/NY	
				F. Transporter's Telephone (716) 827-7200	
				G. State Facility ID	
				H. Facility Telephone (716) 754-8231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total	14. Unit
a. HQ Hazardous waste, solid, n.o.s. 9, NA3077, III (F001,9039)		Number Type 001 CM		Quantity EST. 00016	Wt/Vol 1
b.					I. Waste No. EPA F001
c.					STATE
d.					EPA
					STATE
					EPA
					STATE
					EPA
					STATE
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above			
a. ☐		a. ☐			
b. ☐		b. ☐			
c. ☐		c. ☐			
d. ☐		d. ☐			
15. Special Handling Instructions and Additional Information WTS#12222 Emer. Contact: 716-553-1494 a. CW7488, ERG# 171 815538604					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name ROBERT F GAYLORD VP		Signature HEBC BANK USA. EXECUTOR BY: Robert F Gaylord, VP		Mo. Day Year 03 23 04	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name MICHAEL RONGONE		Signature Michael Rongone	
				Mo. Day Year 03 23 04	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name Kevin Maggard		Signature Kevin Maggard	
				Mo. Day Year 03 31 04	
19. Discrepancy Indication Space Act Fee 27860P					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Michelle Fleck		Signature Michelle Fleck		Mo. Day Year 03 31 04	



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APR 17 2004

GZA-BUFFALO

WASTE MANAGEMENT, INC.

CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

ESTATE OF ANTHONY C ILARDO
ATTN: C/O GZA GEOENVIRONMENTAL
NYD013770920
364 NAGLE DRIVE
BUFFALO NY 14225

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from ESTATE OF ANTHONY C ILARDO on 03/31/04 as described on Hazardous Waste Manifest number NYG4337766 Sequence number 01.

Profile Number: CW7488
CWM Tracking ID: 8158386401
CWM Unit #: 1*0
Disposal Date: 03/31/04

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

RICHARD STURGES
DISTRICT MANAGER
Certificate # 263266
04/01/04

For questions please call
our Customer Service Dept.
at (800) 843-3604



APPENDIX C

**ERIE COUNTY DIVISION OF SEWERAGE MANAGEMENT
DISCHARGE APPLICATION AND APPROVAL LETTER**

MEMORANDUM

To: Nicole Elliott
Pretreatment Coordinator
Erie County Division of Sewage Management

From: Chris Boron
GZA GeoEnvironmental of New York

Date: May 10, 2004

Re: Water Discharge Request
5 Buffalo Street
Hamburg, New York



40th Anniversary

GZA
GeoEnvironmental
of New York
364 Nagel Drive
Buffalo
New York 14225
T. 716-685-2300
F. 716-685-3629
www.gza.com

Offices:
Connecticut
Maine
Massachusetts
Michigan
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont
Wisconsin

Dear Ms. Elliott:

GZA GeoEnvironmental of New York (GZA) is providing this memorandum to Erie County Division of Sewage Management (ECDSM) to apply for a permit to discharge approximately 275 gallons of water to the sanitary sewer in the vicinity of 5 Buffalo Street, Hamburg, New York (Site). The following information is provided to address the provisions requested by the ECDSM in a facsimile to GZA with "Guideline for the Discharge of Petroleum Contaminated Water and Groundwater Remediation" (Attachment 1) received on March 30, 2004.

1. Name and Address of Facility Owner.

HSBC Bank USA
Executor of Anthony C. Ilardo Estate
One HSBC Center
23rd Floor
Buffalo, New York 14203

2. Name and Address of Contractor.

GZA GeoEnvironmental of New York
364 Nagel Drive
Buffalo, New York 14225



3. Description of the wastewater to be discharged.

Water to be discharged accumulated from precipitation and snowmelt in an open soil excavation completed at the Site from March 19, 2004 to March 23, 2004. The soil excavation was part of an Interim Remedial Measure (IRM) to remove soils contaminated with tetrachloroethene (PCE) from a former dry cleaner at the 5 Buffalo Street Site. Precipitation and snowmelt water that accumulated in the excavation was placed in a 325-gallon polyethylene storage tank at the Site.

4. Description of the proposed operation and treatment methods.

The water will be discharged to the sanitary sewer in the vicinity of the Site. The distance to the nearest sanitary sewers for discharge is approximately 200 feet and are located in either Buffalo Street or Main Street. Therefore, GZA proposes to discharge the water to a sink in a vacant retail unit at 5 Buffalo Street. The distance to the sink from the storage tank is approximately 30 feet.

5. Volume, rate and duration of the discharge.

The volume of water to be discharge is approximately 275-gallons and is a one time event. A small pump with a flow rate of 1 to 2 gallons per minute would be used to discharge into the sink. The duration of discharge would be approximately 5 to 6 hours.

6. Sketch of the storage tank and disposal point.

See Attachment 2 for figure identifying the location of the storage tank and possible discharge locations.

7. Required analytical data.

See Attachment 3 for the required analytical data.

8. Results of the analytical testing.

- a) pH was 7.00.
- b) Sample did not flash below 90 degrees Celsius or less than 194 degrees Fahrenheit.
- c) The following metals were detected: aluminum, barium, cadmium, cobalt, copper, iron, lead, manganese and zinc. See results on the following page.



	RCRA TCLP Limits (mg/L)	Detected Concentration (mg/L)
Aluminum	NV	0.51
Barium	100	0.049
Cadmium	1.0	0.0001
Cobalt	NV	0.0010
Copper	NV	0.003
Iron	NV	0.70
Lead	5	0.0036
Manganese	NV	0.060
Zinc	NV	0.020

NV = No value

d) The following volatile organic compound was detected: tetrachloroethylene (0.74 mg/L).

e) The following semi-volatile organic compounds were detected: fluoranthene (0.0004 mg/L), pyrene (0.0003 mg/L) and bis(2-ethylhexyl)phthalate (0.0038 mg/L).

9. *Groundwater from remediation sites must meet District limits for discharge, have no other contaminants of concern, and must be treated prior to discharge.*

Tetrachloroethylene is the only compound of concern detected. No treatment of water prior to discharge is planned. The water to be discharged is the result of accumulated precipitation within a soil excavation and not groundwater removed as part of remedial actions.

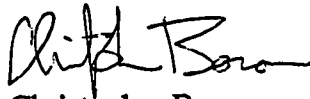
10. *Applicants for groundwater remediation discharges must also submit a plan for an alternative method of disposal should the District, at a later time, require that discharge can no longer be accepted into the sewer.*

This will be a one-time discharge event lasting approximately 5 to 6 hours. The alternative disposal method is to have a liquid waste hauler (i.e., Safety Kleen, Frank's Vacuum) remove and dispose the water.

11. *A letter or specific statement from NYSDEC stating the necessity for the District's acceptance of remediated groundwater is required for remediation site requests as well.*

The water to be discharged is the result of accumulated precipitation within a soil excavation and not groundwater removed as part of remedial actions. The discharge is a one-time event and not part of continued remedial efforts.

If you have any questions, please contact us at 685-2300.



Christopher Boron
Project Manager



Michele Wittman, P.G.
Senior Project Manager



Cc: David Locey (NYSDEC Region 9)
Robert Gaylord (HSBC Bank USA)

***** COUNTY OF ERIE *****
DEPARTMENT OF ENVIRONMENT & PLANNING
DIVISION OF SEWERAGE MANAGEMENT

GUIDELINES FOR THE DISCHARGE OF PETROLEUM CONTAMINATED
WATER AND GROUNDWATER REMEDIATION

Discharge of the contents of petroleum storage tanks and petroleum contaminated groundwater to the County's sanitary sewerage system is prohibited without prior written permission of the Erie County Sewer District. The design of the sanitary sewers is intended for residential and industrial wastewater. Groundwater, hydrocarbons, and other related substances are generally prohibited.

The following are the minimum guidelines under which Erie County Sewer Districts may accept the discharge from water filled petroleum storage tanks, contaminated ground water from the tank pit, or treated groundwater from remediation sites. Acceptance of the discharge water must not infringe on, or limit the available capacity of the sanitary sewer system for existing or future sanitary or industrial wastewater users. Requests are considered on a case by case basis.

A written request to discharge petroleum contaminated water (or treated groundwater) must be submitted to the Division of Sewerage Management that addresses the provisions above and includes the following information:

1. Name and address of the facility owner and operator (if different from the owner).
2. Name and address of the contractor.
3. Description of the wastewater to be discharged.
4. Description of the proposed operation and treatment methods. A flow delivery system that allows for the discharge to be reduced or stopped if necessitated by the District due to wet weather conditions or as otherwise determined by the District should also be included if applicable.
5. The volume, rate, and duration of the discharge. The discharge must be of a limited duration or of a specific volume.
6. A sketch of the well(s) and/or, storage tank(s), and disposal point.
7. The following analytical data must be submitted prior to approval:
 - a) pH
 - b) Pensky-Martens Closed Cup Test
 - c) Metals - arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, nickel, copper and zinc.
 - d) EPA methods 624 and 625.

**GUIDELINES FOR THE DISCHARGE OF PETROLEUM CONTAMINATED
WATER AND GROUNDWATER REMEDIATION**

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8. Results of the above tests must meet the following limits:
 - a) pH must be between 5 - 12 s.u.
 - b) Flashpoint must be greater than 140°F
 - c) Metals must be below RCRA TCLP limits and /or Sewer District limits.
 - d) Results of the toxic organics tests will determine if the wastewater will require pretreatment prior to discharge.
9. Groundwater from remediation sites must meet District limits for discharge, have no other contaminants of concern, and must be treated prior to discharge.
10. Applicants for groundwater remediation discharges must also submit a plan for an alternate method of disposal should the District, at a later time, require that discharge can no longer be accepted into the sewer system.
11. A letter or specific statement from the NYSDEC stating the necessity for the District's acceptance of remediated groundwater is required for remediation site requests as well.

If the written request is complete, a representative of the Division of Sewerage Management will be assigned to inspect the location. Once the information has been verified and the application is approvable, a letter of authorization would detail the proper discharge procedures, any limitations and charges. A temporary permit may then be issued depending on the conditions found.

The approval to discharge, if granted, is limited to discharge into those facilities that are completely under the jurisdiction of the County of Erie and do not constitute approval for discharge into sewerage facilities that are owned/operated by other entities. It is the responsibility of the applicant to obtain the permission of those entities prior to requesting permission from the County Sewer District. Nor does this approval supersede approval required of any other regulating body if required (i.e. DEC, EPA, et al.)

nje
(revised 11/02)

APPROXIMATE LOCATION OF
SANITARY SEWER MANHOLE

TREBHEARN T&A DIVISION

NORTH

OLD STREET
IN SOUTHWEST

APPROXIMATE
LOCATION OF
POLY TANK

APPROXIMATE LOCATION
OF SANITARY SEWER
MANHOLE

5
BUFFALO
STREET

APPROXIMATE
LOCATION OF SINK
FOR DISCHARGE

BUFFALO STREET

WILK ANDERSON
GIFT SHOP

PARTIAL
CONCRETE
RESTAURANT

CHURCH

BRICK CHURCH
NO. 3

APPROXIMATE
LOCATION OF
PROPERTY

CONCRETE
APRON

APPROXIMATE LOCATION
OF SANITARY SEWER
MANHOLE

0 10 20 40

APPROXIMATE SCALE IN FEET

EAST MAIN STREET

Certificate of Analysis

CLIENT INFORMATION

Attention: Gary Klawinski
Client Name: GZA GeoEnvironmental of NY
Project: Misc.
Project Desc:

Address: 364 Nagel Drive
Buffalo, NY
14225

Fax Number: 716 685-3629

Phone Number: 716 685-2300

LABORATORY INFORMATION

Contact: Mike Challis, B.Sc, C.Chem.
Project: AN981056
Date Received: 06-Apr-2004
Date Reported: 16-Apr-2004

Submission No.: 4D0202
Sample No.: 017609-017610

NOTES:

'-' = not analysed '<' = less than Method Detection Limit (MDL) 'NA' = no data available

LOQ can be determined for all analytes by multiplying the appropriate MDL X 3.33

Solids data is based on dry weight except for biota analyses.

Organic analyses are not corrected for extraction recovery standards except for isotope dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)

The enclosed copy of the Chain of Custody Record may contain information necessary for the interpretation of the data.

Methods used by PSC Analytical Services are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', Twentieth Edition. Other methods are based on the principles of MISA or EPA methodologies. New York State: ELAP Identification Number 10756.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied. Your samples will be retained at PSC Analytical Services for a period of three weeks from receipt of data or as per contract.

COMMENTS:

- (1) Received past hold time - data within statistical control
- (2) SAMPLE DID NOT FLASH BELOW 90 DEG. CELCIUS

Certified by: 

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4/19/04

PASC - Certificate of Analysis

Page 2 of 7

Component	Client ID:		Excavation	Method	Blank	%
	Lab No.:		Water	Blank	Spike	Recovery
	Date Sampled:		017610 04	017609 04	017609 04	017609 04
	MDL		05-Apr-2004	05-Apr-2004	05-Apr-2004	05-Apr-2004
	Units		(1)			
pH (20 DEG C)			7.93	-	-	-
Mercury	0.05	ug/L	<	<	1.0	100
Aluminum	0.005	mg/L	0.51	0.022	0.99	97
Antimony	0.002	"	<	<	0.097	96
Arsenic	0.002	"	<	<	0.49	99
Barium	0.005	"	0.049	<	0.49	98
Beryllium	0.001	"	<	<	0.51	100
Cadmium	0.0001	"	0.0001	<	0.23	92
Chromium	0.002	"	<	<	0.49	99
Cobalt	0.0005	"	0.0010	<	0.50	100
Copper	0.001	"	0.003	0.003	0.49	97
Iron	0.020	"	0.70	<	2.3	94
Lead	0.0003	"	0.0036	0.0003	0.49	97
Manganese	0.002	"	0.060	<	0.49	98
Nickel	0.002	"	<	<	0.49	98
Selenium	0.002	"	<	0.002	0.48	95
Silver	0.0001	"	<	<	0.24	96
Thallium	0.0002	"	<	<	0.49	99
Vanadium	0.002	"	<	<	0.49	99
Zinc	0.005	"	0.020	0.007	0.98	97
			(2)			
Flash Point	0.1	C	NA	-	-	-

pH via SW846 9045
 Mercury via Sw846 7470
 Metals via Sw846 6010
 Flash Point via Pensky-Martin

4/19/04

PASC - Certificate of Analysis

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Component	Client ID:		Excavation	Method	Blank	%
	Lab No.:		Water	Blank	Spike	Recovery
	Date Sampled:		017610 04	017609 04	017609 04	017609 04
			05-Apr-2004	05-Apr-2004	05-Apr-2004	05-Apr-2004
MDL	Units					
pH of VOC vials						
			7.00	7.00	-	-
Chloromethane	1.4	ug/L	<14	<	51	100
Vinyl Chloride	0.9	"	<9.0	<	56	110
Bromomethane	1.0	"	<10	<	41	81
Chloroethane	0.9	"	<9.0	<	52	100
Trichlorofluoromethane	1.8	"	<18	<	53	110
1,1-Dichloroethylene	0.7	"	<7.0	<	48	97
Methylene chloride	2.3	"	<23	<	48	95
trans-1,2-Dichloroethylene	0.5	"	<5.0	<	48	96
1,1-Dichloroethane	0.5	"	<5.0	<	49	98
Chloroform	0.4	"	<4.0	<	51	100
1,1,1-Trichloroethane	0.8	"	<8.0	<	50	100
1,2-Dichloroethane	0.4	"	<4.0	<	49	98
Carbon tetrachloride	0.7	"	<7.0	<	52	100
Benzene	0.5	"	<5.0	<	49	98
1,2-Dichloropropane	0.7	"	<7.0	<	49	98
Trichloroethylene	1.0	"	<10	<	51	100
Bromodichloromethane	0.4	"	<4.0	<	51	100
2-Chloroethylvinyl ether	2.8	"	<28	<	NA	<
cis-1,3-Dichloropropylene	0.3	"	<3.0	<	49	98
Toluene	1.0	"	<10	<	49	98
trans-1,3-Dichloropropylene	0.6	"	<6.0	<	46	92
1,1,2-Trichloroethane	0.6	"	<6.0	<	48	95
Chlorodibromomethane	0.4	"	<4.0	<	50	100
Tetrachloroethylene	0.5	"	740	<	51	100
Chlorobenzene	0.6	"	<6.0	<	49	99
Ethyl Benzene	0.5	"	<5.0	<	50	99
Bromoform	0.7	"	<7.0	<	52	100
1,1,2,2-Tetrachloroethane	0.8	"	<8.0	<	45	91
1,2-Dichlorobenzene	0.8	"	<8.0	<	50	99
1,3-Dichlorobenzene	1.8	"	<18	<	50	100
1,4-Dichlorobenzene	1.6	"	<16	<	52	100
1,2-Dibromoethane	0.4	"	<4.0	<	47	95
1,2-Dibromo-3-Chloropropane	15.0	"	<150	<	45	89
1,1,1,2-Tetrachloroethane	0.6	"	<6.0	<	51	100
cis-1,2-Dichloroethene	0.6	"	<6.0	<	51	100
Surrogate Recoveries		%				
d4-1,2-Dichloroethane			99	103	108	108
d8-Toluene			99	99	104	104
Bromofluorobenzene			99	100	107	107

VOC via Sw846 8260

4/19/04

PASC - Certificate of Analysis

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Component	Client ID:		Excavation	Method	Blank	%
	Lab No.:		Water	Blank	Spike	Recovery
	Date Sampled:		017610 04	017609 04	017609 04	017609 04
			05-Apr-2004	05-Apr-2004	05-Apr-2004	05-Apr-2004
MDL	Units					
Phenol	1.1	ug/L	<	<	6.1	30
Bis(2-chloroethyl)ether	1.8	"	<	<	18	89
2-Chlorophenol	2.7	"	<	<	16	82
1,3-Dichlorobenzene	2.0	"	<	<	10	52
1,4-Dichlorobenzene	2.0	"	<	<	11	54
1,2-Dichlorobenzene	2.0	"	<	<	12	59
Bis(2-chloroisopropyl)ether	1.5	"	<	<	20	97
Hexachloroethane	2.0	"	<	<	9.2	46
N-Nitroso-di-N-Propylamine	2.1	"	<	<	18	92
Nitrobenzene	2.0	"	<	<	18	90
Isophorone	4.0	"	<	<	17	86
2-Nitrophenol	1.4	"	<	<	17	83
2,4-Dimethylphenol	1.7	"	<	<	11	56
Bis(2-chloroethoxy)methane	1.3	"	<	<	18	91
2,4-Dichlorophenol	1.2	"	<	<	16	81
1,2,4-Trichlorobenzene	2.0	"	<	<	13	66
Naphthalene	0.3	"	<	<	15	77
Hexachlorobutadiene	2.0	"	<	<	11	56
4-Chloro-3-Methylphenol	1.4	"	<	<	16	81
Hexachlorocyclopentadiene	2.0	"	<	<	11	53
2,4,6-Trichlorophenol	1.2	"	<	<	17	83
2-Chloronaphthalene	0.9	"	<	<	15	73
Acenaphthylene	0.4	"	<	<	18	88
Dimethyl phthalate	1.1	"	<	<	19	97
2,6-Dinitrotoluene	0.6	"	<	<	19	93
Acenaphthene	0.7	"	<	<	18	89
2,4-Dinitrophenol	4.8	"	<	<	12	58
2,4-Dinitrotoluene	0.5	"	<	<	18	89
4-Nitrophenol	1.4	"	<	<	5.8	29
Fluorene	0.3	"	<	<	18	90
4-Chlorophenylphenylether	0.9	"	<	<	18	91
Diethyl phthalate	1.1	"	<	<	19	93
4,6-Dinitro-2-methylphenol	1.5	"	<	<	16	79
N-Nitrosodiphenylamine	1.9	"	<	<	9.5	47
4-Bromophenylphenylether	0.3	"	<	<	20	98
Hexachlorobenzene	2.0	"	<	<	19	94
Pentachlorophenol	1.1	"	<	<	16	81
Phenanthrene	0.3	"	<	<	19	92
Anthracene	0.2	"	<	<	19	94
Di-n-butyl phthalate	1.1	"	<	<	20	98
Fluoranthene	0.2	"	0.4	<	18	89
Pyrene	0.3	"	0.3	<	20	98
Benzyl butyl phthalate	0.6	"	<	<	20	100
3,3-Dichlorobenzidine	1.0	"	<	<	14	72
Benzo(a)anthracene	0.2	"	<	<	19	96
Chrysene	0.3	"	<	<	20	98
Bis(2-ethylhexyl)phthalate	1.4	"	3.8	<	19	96
Di-n-octyl phthalate	1.1	"	<	<	21	100
Benzo(b)fluoranthene	0.4	"	<	<	20	98
Benzo(k)fluoranthene	0.4	"	<	<	19	95

Client:GZA GeoEnvironmental of NY Project:Misc.

4/19/04

PASC - Certificate of Analysis

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Component	<i>Client ID:</i>		Excavation	Method	Blank	%
	<i>Lab No.:</i>		Water	Blank	Spike	Recovery
	<i>Date Sampled:</i>		017610 04	017609 04	017609 04	017609 04
			05-Apr-2004	05-Apr-2004	05-Apr-2004	05-Apr-2004
	MDL	Units				
Benzo(a)pyrene	0.5	ug/L	<	<	19	93
Indeno(1,2,3-cd)pyrene	0.6	"	<	<	19	93
Dibenzo(a,h)anthracene	0.4	"	<	<	18	92
Benzo(ghi)perylene	0.4	"	<	<	18	90
Surrogate Recoveries		%				
d5-Phenol			23	28	27	27
d5-Nitrobenzene			80	90	88	88
2-Fluorobiphenyl			79	87	82	82
2,4,6-Tribromophenol			78	86	86	86
d-14-p-Terphenyl			90	98	97	97

SVOC via SW846 8270

4/19/04

PASC - Summary of Analysis Pre. Dates

Page MS-6 of 7

Batch Code: 0408DJ01
pH of VOC vials 017609 04
017610 04
Date Analysed: 04/04/08
Date Prepared: 04/04/08

Batch Code: 0407MDA1
pH (20 DEG C) 017610 04
Date Analysed: 04/04/07
Date Prepared: 04/04/07

Batch Code: 0408MBL1
Mercury 017609 04
017610 04
Date Analysed: 04/04/08
Date Prepared: 04/04/08

Batch Code: 0407STD2
Aluminum 017609 04
017610 04
Date Analysed: 04/04/07
Date Prepared: 04/04/07

Batch Code: 0416RGA1
Flash Point 017610 04
Date Analysed: 04/04/16
Date Prepared: 04/04/16

Batch Code: 0408DJ01
Chloromethane 017609 04
017610 04
Date Analysed: 04/04/08
Date Prepared: 04/04/08

Batch Code: 0408DJ01
cis-1,3-Dichloropropylene 017609 04
017610 04
Date Analysed: 04/04/08
Date Prepared: 04/04/08

Batch Code: 0408DJ01
cis-1,2-Dichloroethene 017609 04
017610 04
Date Analysed: 04/04/08
Date Prepared: 04/04/08

Batch Code: 0408TKR2
Phenol 017609 04
017610 04
Date Analysed: 04/04/12

4/19/04

PASC - Summary of Analysis Pre. Dates

Page MS-7 of 7

Date Prepared: 04/04/08**Batch Code:** 0408TKR2
2-Chloronaphthalene 017609 04
017610 04**Date Analysed:** 04/04/12
Date Prepared: 04/04/08**Batch Code:** 0408TKR2
Di-n-butyl phthalate 017609 04
017610 04**Date Analysed:** 04/04/12
Date Prepared: 04/04/08

Client:GZA GeoEnvironmental of NY Project:Misc.

TOTAL P.07

GZA GeoEnvironmental of New York
364 Nagel Drive
Buffalo, New York 14225
Phone: (716) 685-2300
Fax: (716) 685-3629



Date: 5/10/04 **Job Number:** 21.0055727.10

To: **Name:** Nicole Elliott
Company: Erie Co. Division of Sewer Mgmt
Fax: 858-6257

From: Chris Boron

Pages: 15 (including cover)

Subject: Water Discharge Request

Note:

Nicole,

Please give me a call if you need anything else. Hard copy to follow via mail. Thanks.

HP OfficeJet K Series K60xi
Personal Printer/Fax/Copier/Scanner

Log for
GZA GeoEnvironme
7166853629
May 10 2004 3:35pm

Last Transaction

<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Identification</u>	<u>Duration</u>	<u>Pages</u>	<u>Result</u>
May 10	3:31pm	Fax Sent	8586257	4:25	15	OK



County of Erie

JOEL A. GIAMBRA
COUNTY EXECUTIVE

DEPARTMENT OF ENVIRONMENT & PLANNING

LAURENCE K. RUBIN
COMMISSIONER

CHARLES J. ALESSI, P.E.
DEPUTY COMMISSIONER
Sewerage Management

RECEIVED May 18, 2004

MAY 24 2004

GZA-BUFFALO

Mr. Chris Boron
Project Manager
GZA GeoEnvironmental of New York
364 Nagel Drive
Buffalo, New York 14225

RE: Southtowns Sewage Treatment Agency
Discharge Request
5 Buffalo Street
Hamburg, New York

Dear Mr. Boron:

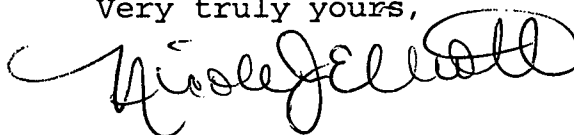
The Division of Sewerage Management has reviewed your request to discharge 275 gallons of contaminated water to the sanitary sewer. The water was encountered during excavation and removal of soil at the Buffalo Street site. The analytical results and discharge proposal will satisfy the County requirements provided that the following conditions are met:

1. The water to be discharged will be run through a 5-gallon carbon filter to another containment vessel prior to discharge, as we discussed.
2. The discharge will take place over a 5 to 6 hour period as proposed in the request.
3. Notification to the Southtowns Sewage Treatment Plant shall be made 48 (forty-eight) hours prior to commencing the discharge. Please contact Ms. Laura Surdej at the Southtowns Plant at 823-8188 to provide notification.
4. A Sewer District representative shall be present upon initiation of discharge. This may be arranged with Ms. Surdej as well.
5. Discharge shall not take place during a wet weather event.

Mr. Chris Boron
May 18, 2004
Page Two

If you should have any additional questions or concerns regarding this matter, you may reach me at 858-8756.

Very truly yours,

A handwritten signature in black ink, appearing to read "Nicole J. Elliott". The signature is fluid and cursive, with the first name "Nicole" being more prominent and the last name "Elliott" following in a similar style.

Nicole J. Elliott
Industrial Wastewater Specialist

NJE:dd

Cc: G. Devlin/3.2.4.3
G. Absolom/J. Keller/L. Surdej

ne/3126



APPENDIX D
BACKFILL WEIGHT TICKETS

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 15 Mar 03

Sold to:

LCA Dev.

Material: B & gravel

47,500

23⁷²

L410

(Driver

Truck No.)

Rcd. at job site

No. **47855**

Our Trucking Responsibility Ends at Curb

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 18 Mar 04

Sold to:

LCA Dev

Material: B & gravel

52,500

26²⁵

L49

(Driver

Truck No.)

Rcd. at job site

No. **47228**

Our Trucking Responsibility Ends at Curb

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 19 Mar 04

Sold to:

LCA Dev

Material: B & gravel

50,600

25³⁰

L49

(Driver

Truck No.)

Rcd. at job site

No. **47228**

Our Trucking Responsibility Ends at Curb

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 22 Mar 04

Sold to:

LCA Dev LLC

Material: B & gravel

48,400

24³⁰

L51

(Driver

Truck No.)

Rcd. at job site

No. **47229**

Our Trucking Responsibility Ends at Curb

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 24 Mar 04

Sold to: _____

LCA Dew

SLC Hamburg

Material: BR Gravel

55,600

✓ 27'80

L49

(Driver

Truck No.)

HL-49

Rcd. at job site

Our Trucking Responsibility Ends at Curb

No. **47851**

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 24 Mar 04

Sold to: _____

LCA Dew

SLC Hamburg

Material: BR Gravel

49,500

24'35 ✓

L49

(Driver

Truck No.)

HL-49

Rcd. at job site

Our Trucking Responsibility Ends at Curb

No. **47856**

McEwan Trucking & Gravel Prod. Inc.

10782 Sharp Street

East Concord, New York 14055

941-5148 • 592-4171

Date: 20 Mar 04

Sold to: _____

LCA Dew SLC

Hamburg

Material: BR Gravel

48,700

24'35 ✓

L-51

(Driver

Truck No.)

RR Bush

Rcd. at job site

Our Trucking Responsibility Ends at Curb

No. **47858**



BUFFALO CRUSHED STONE, INC.

Subsidiary of New Enterprise Stone & Lime Co., Inc.

2544 Clinton St. • P.O. Box 710 • Buffalo, NY 14224 • (716) 826-7310 • FAX (716) 826-1342

PLANT NAME
& NUMBER

WEHRLE QUARRY
PLANT NUMBER 23

(716) 631-7500

ORDER NO	TICKET NUMBER		DATE		TIME
CUSTOMER ID	2335491		3/26		
JOB SITE ID	LCA 04-050				STATE CITY ZONE
PRODUCT I.D.	PRODUCT DESCRIPTION				
CA301	1 1/2 CR				
CUSTOMER REQUIRED NUMBERS			CUSTOMER PHONE NO.		
TAG NO.	NO. AXLES	TRUCK NO.	CARRIER NAME		CARRIER CODE
		A0046			
Pick-up	Freight PPD	Freight Collect	ACCUMULATIVE QUANTITIES		CHARGE ☐ C.O.D. ☐
US Weight	METRIC Weight	Gross	Ordered	MATERIAL	UNIT PRICE TOTAL
77000			Today	HAUL	
26800		Tare	To Date	ADD'L CHARGES	
50200		Net	Accumulated Cash Sale	TAX	
25.10			TOTAL THIS LOAD		
WEIGHED BY			INSPECTORS SIGNATURE		
			JOB ARRIVAL TIME		
			JOB DEPT TIME		
RECEIVED ABOVE MATERIAL IN GOOD CONDITION			A SERVICE CHARGE, NOT TO EXCEED THE MAXIMUM ALLOWABLE BY LAW, WILL BE APPLIED TO ALL AMOUNTS OVER 30 DAYS PAST DUE DATE.		
X <i>[Signature]</i>					
DELIVERY INFORMATION					

21 COMO QUARRY (716) 823-3700	36 FRANKLINVILLE SAND & GRAVEL (716) 676-5574	51 COMO BLACKTOP (716) 883-4712	81 WOODLAWN SLAG (716) 823-6745
23 WEHRLE QUARRY (716) 631-7500	38 ALFRED SAND & GRAVEL (607) 587-8192	52 OLEAN BLACKTOP (716) 372-8900	50 WOODLAWN BLACKTOP (716) 823-6745
		53 WEHRLE BLACKTOP (716) 631-7502	

CUSTOMER



BUFFALO CRUSHED STONE, INC.

Subsidiary of New Enterprise Stone & Lime Co., Inc.
2544 Clinton St. • P.O. Box 710 • Buffalo, NY 14224 • (716) 826-7310 • FAX (716) 826-1342

PLANT NAME
& NUMBER

WEHRLE QUARRY
PLANT NUMBER 23

(716) 631-7500

ORDER NO	TICKET NUMBER 2335468	DATE	TIME
CUSTOMER ID	SOLD TO LCA DEV		
JOB SITE ID	SHIP TO 4-6		STATE CITY ZONE
PRODUCT I.D. A0301	PRODUCT DESCRIPTION 1 1/2 CR		
CUSTOMER REQUIRED NUMBERS		CUSTOMER PHONE NO.	
TAG NO.	NO. AXLES	TRUCK NO. A7046	CARRIER NAME CARRIER CODE
Pick-up	Freight PPD	Freight Collect	ACCUMULATIVE QUANTITIES
US Weight 76200	METRIC Weight	Gross	Ordered
26800		Tare	Today
49400		Net	To Date
24.70			Accumulated Cash Sale
WEIGHED BY		TOTAL THIS LOAD	
INSPECTORS SIGNATURE		JOB ARRIVAL TIME	JOB DEPT TIME
RECEIVED ABOVE MATERIAL IN GOOD CONDITION X [Signature]		A SERVICE CHARGE, NOT TO EXCEED THE MAXIMUM ALLOWABLE BY LAW, WILL BE APPLIED TO ALL AMOUNTS OVER 30 DAYS PAST DUE.	
DELIVERY INFORMATION			

PLANT DIRECTORY			
21 COMO QUARRY (716) 823-3700	38 FRANKLINVILLE SAND & GRAVEL (716) 676-5574	51 COMO BLACKTOP (716) 823-4712	81 WOODLAWN SLAG (716) 823-8745
23 WEHRLE QUARRY (716) 631-7500	38 ALFRED SAND & GRAVEL (607) 587-8102	52 CLEAN BLACKTOP (716) 372-8900	50 WOODLAWN BLACKTOP (716) 823-8745
		53 WEHRLE BLACKTOP (716) 831-7502	

CUSTOMER



BUFFALO CRUSHED STONE, INC.

Subsidiary of New Enterprise Stone & Lime Co., Inc.

2544 Clinton St. • P.O. Box 710 • Buffalo, NY 14224 • (716) 826-7310 • FAX (716) 826-1342

PLANT NAME
& NUMBER

FRANKLINVILLE QUARRY

PLANT NUMBER 36

PHONE (716) 676-5574

ORDER NO 040325031	TICKET NUMBER M SCALE 1 3614038	DATE 03/25/2004	TIME 7:17 AM
CUSTOMER ID 5010500	SOLD TO L.C.A. DEVELOPMENT 478 HOPKINS STREET BUFFALO, NY 14220		
JOB SITE ID	SHIP TO ROUTE 391 HAMBURG	STATE NY CITY ZONE	
PRODUCT I.D. CA0951	PRODUCT DESCRIPTION #1A RD/OR ROUND GRAVEL		
CUSTOMER REQUIRED NUMBERS		CUSTOMER PHONE NO. (716) 823-9645	
TAG NO. 11013JF	NO. AXLES 3	TRUCK NO. 00LCA49	CARRIER NAME CARRIER CODE
Pick-up XX	Freight PPD	Freight Collect	ACCUMULATIVE QUANTITIES CHARGE ☒ C.O.D. ☐
US Weight 78,820	METRIC Weight	Gross	Ordered 500.00
27,700		Tare	Today 25.56
51,120		Net	To Date 25.56
25.56		TONS	Accumulated Cash Sale
WEIGHED BY LAVERNE R. SANK		TOTAL THIS LOAD	
INSPECTORS SIGNATURE		JOB ARRIVAL TIME	JOB DEP'T TIME
RECEIVED ABOVE MATERIAL IN GOOD CONDITION X		A SERVICE CHARGE, NOT TO EXCEED THE MAXIMUM ALLOWABLE BY LAW, WILL BE APPLIED TO ALL AMOUNTS OVER 30 DAYS PAST DUE.	
DELIVERY INFORMATION			
PLEASE CONTACT US FOR YOUR "SPRING" LIME NEEDS.			

3614038

21 COMO QUARRY (716) 683-3700	36 FRANKLINVILLE SAND & GRAVEL (716) 878-5574	51 COMO BLACKTOP (716) 683-4712	81 WOODLAWN SLAG (716) 823-6745
23 WEHRLE QUARRY (716) 631-7500	38 ALFRED SAND & GRAVEL (607) 587-8102	52 OLEAN BLACKTOP (716) 372-8900	50 WOODLAWN BLACKTOP (716) 823-6745
		53 WEHRLE BLACKTOP (716) 631-7502	

CUSTOMER



APPENDIX E
LABORATORY ANALYTICAL RESULTS

CHAIN OF CUSTODY



ANALYTICAL SERVICES

5555 North Service Road
Burlington, Ontario L7L 5H7

Toll Free: 1-800-668-0639

Tel: (905) 332-8788

Fax: (905) 332-9169

Page 1 of 1

ANALYSIS REQUESTED

CLIENT INFORMATION

Company Name: GZA GeoEnvironmental
Project Manager: Michelle Wittman
Address: 364 Wazel Drive
Buffalo NY 14225
Phone #: 716-685-2300 Fax #: 716-685-3629
Sampled by: CZB

Philip Use Only	Field Sample ID	# Bottles	Matrix	Date	Time	8260 TCL	8270 Full List	226A 8 Metals	PLS 3082								Level of contamination (low, high, unknown)
	SB-BT-01	1	Soil	3.17.04	1520	X											
	SB-SW-02	3	Soil	3.17.04	1530	X	X	X	X								
	TRIP BLANK #1	3	Water	3.18.04		X											
	SB-BT-03	1	Soil	3.18.04	1230	X											
	SB-EW-04	1	Soil	3.18.04	1330	X											
	SB-BT-05	1	Soil	3.19.04	1100	X											
	SB-WW-06	1	Soil	3.19.04	1330	X											
	SB-SD-07	1	Soil	3.19.04	1200	X											

TAT (Turnaround Time)

RUSH TAT MUST HAVE PRIOR APPROVAL

*some exceptions apply please contact Lab

STD 10 Business Days ☒

RUSH 5 Business Days ☐

RUSH 2 Business Days ☐

RUSH 1 Business Days ☐

Other Business Days ☐

PROJECT INFORMATION

Project #: Z1 0055727.10
Site: 5 Buffalo St.
PO#: _____
Philip Quote #: _____
Philip Project #: _____
Philip Contact: K. Zielinski

SPECIAL DETECTION LIMITS

MISA ☐

SPECIAL REQUIREMENTS / REGULATIONS

ASP Category B

REMARKS

Please composite SB-BT-01, SB-BT-05, SB-BT-03 and analyze as one sample.

Client Signature: Al Boron

Affiliation: GZA GeoEnvironmental

Date/Time: 3.19.04 @ 1700

Received By: K. Zielinski

Affiliation: PSC

Date/Time: 3/19/04 5:05pm

Rec'd By: _____

Date/Time: _____

Certificate of Analysis

CLIENT INFORMATION

Attention: Michelle Whittman
Client Name: GZA GeoEnvironmental of NY
Project: Misc.
Project Desc:

Address: 364 Nagel Drive
Buffalo, NY
14225

Fax Number: 716 685-3629

Phone Number: 716 685-2300

LABORATORY INFORMATION

Contact: Mike Challis, B.Sc, C.Chem.
Project: AN981056
Date Received: 20-Mar-2004
Date Reported: 07-Apr-2004

Submission No.: 4C0801
Sample No.: 013797-013803

NOTES:

"-" = not analysed "<" = less than Method Detection Limit (MDL) 'NA' = no data available

LOQ can be determined for all analytes by multiplying the appropriate MDL X 3.33

Solids data is based on dry weight except for biota analyses.

Organic analyses are not corrected for extraction recovery standards except for isotope dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)

The enclosed copy of the Chain of Custody Record may contain information necessary for the interpretation of the data.

Methods used by PSC Analytical Services are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', Twentieth Edition. Other methods are based on the principles of MISA or EPA methodologies. New York State: ELAP Identification Number 10756.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied. Your samples will be retained at PSC Analytical Services for a period of three weeks from receipt of data or as per contract.

COMMENTS:

Certified by: _____

Client ID: 5B-SW-02 5B-SW-02 5B-SW-02 5B-SW-02 5B-SW-02
Lab No.: 013799 04 013799 04 013799 04 013799 04 013799 04
Date Sampled: 17-Mar-2004 17-Mar-2004 17-Mar-2004 17-Mar-2004 17-Mar-2004

Component	MDL	Units		Duplicate	M. Spike	MS % Rec.	MS Dup
Mercury	0.04	mg/kg	<	<	1.1	110	-
Aluminum	5	mg/kg	8700	-	-	-	-
Barium	0.5	"	59	-	-	-	-
Beryllium	0.1	"	0.4	-	-	-	-
Cadmium	1	"	<	-	-	-	-
Calcium	20	"	56000	-	-	-	-
Chromium	1	"	16	-	-	-	-
Cobalt	5	"	7.0	-	-	-	-
Copper	1	"	36	-	-	-	-
Iron	5	"	18000	-	-	-	-
Lead	5	"	16	-	-	-	-
Magnesium	5	"	9300	-	-	-	-
Manganese	1	"	320	-	-	-	-
Molybdenum	1	"	<	-	-	-	-
Nickel	5	"	19	-	-	-	-
Phosphorus	10	"	850	-	-	-	-
Potassium	100	"	1800	-	-	-	-
Silver	1.0	"	<	-	-	-	-
Sodium	10	"	330	-	-	-	-
Thallium	10	"	<	-	-	-	-
Vanadium	1	"	20	-	-	-	-
Zinc	1	"	87	-	-	-	-
Arsenic	5.0	"	<	-	-	-	-
Antimony	5	"	<	-	-	-	-
Selenium	10	"	<	-	-	-	-
Aroclor-1016	0.038	ug/gm	<	-	0.30	94	0.30
Aroclor-1221	0.041	"	<	-	<	<	<
Aroclor-1232	0.038	"	<	-	<	<	<
Aroclor-1242	0.050	"	<	-	<	<	<
Aroclor-1248	0.031	"	<	-	<	<	<
Aroclor-1254	0.059	"	<	-	<	<	<
Aroclor-1260	0.031	"	<	-	0.28	87	0.32
Aroclor-1262	0.031	"	<	-	<	<	<
Aroclor-1268	0.049	"	<	-	<	<	<
Total PCB	0.059	"	<	-	0.57	91	0.62
Surrogate Recoveries		%					
4,4'-Dibromooctafluorobiphenyl			92	-	94	94	87
Decachlorobiphenyl			86	-	85	85	93

Mercury via SW846 7471

Metals via SW846 6010

PCB via SW846 8081

	<i>Client ID:</i>	5B-SW-02	Method	Blank	%
	<i>Lab No.:</i>	013799 04	Blank	Spike	Recovery
	<i>Date Sampled:</i>	17-Mar-2004	013797 04	013797 04	013797 04
			17-Mar-2004	17-Mar-2004	17-Mar-2004
Component	MDL	Units	MSD % Rec.		
Mercury	0.04	mg/kg	-	<	1.07 107
Aluminum	5	mg/kg	-	<	199 99
Barium	0.5	"	-	<	101 101
Beryllium	0.1	"	-	<	49 98
Cadmium	1	"	-	<	47 94
Calcium	20	"	-	<	983 98
Chromium	1	"	-	<	100 100
Cobalt	5	"	-	<	101 101
Copper	1	"	-	<	100 100
Iron	5	"	-	<	1200 100
Lead	5	"	-	<	112 109
Magnesium	5	"	-	<	1070 97
Manganese	1	"	-	<	98 98
Molybdenum	1	"	-	<	49 97
Nickel	5	"	-	<	51 100
Phosphorus	10	"	-	<	509 98
Potassium	100	"	-	<	957 98
Silver	1.0	"	-	<	50 100
Sodium	10	"	-	<	1000 100
Thallium	10	"	-	<	99 100
Vanadium	1	"	-	<	50 99
Zinc	1	"	-	<	195 98
Arsenic	5.0	"	-	<	50 100
Antimony	5	"	-	<	46 95
Selenium	10	"	-	<	45 94
Aroclor-1016	0.038	ug/gm	91	<	0.40 100
Aroclor-1221	0.041	"	<	<	<
Aroclor-1232	0.038	"	<	<	<
Aroclor-1242	0.050	"	<	<	<
Aroclor-1248	0.031	"	<	<	<
Aroclor-1254	0.059	"	<	<	<
Aroclor-1260	0.031	"	96	<	0.44 110
Aroclor-1262	0.031	"	<	<	<
Aroclor-1268	0.049	"	<	<	<
Total PCB	0.059	"	94	<	0.84 100
Surrogate Recoveries		%			
4,4'-Dibromooctafluorobiphenyl			87	97	96 96
Decachlorobiphenyl			93	97	107 107

Mercury via SW846 7471

Metals via SW846 6010

PCB via SW846 8081

Component	5B-BT-01,03,05						
	Client ID:	COMP.	5B-SW-02	5B-EW-04	5B-WW-06	5B-SD-07	
	Lab No.:	013798 04	013799 04	013800 04	013801 04	013802 04	
	Date Sampled:	17-Mar-2004	17-Mar-2004	18-Mar-2004	19-Mar-2004	19-Mar-2004	
MDL	Units						
Acetone	0.020	mg/kg	<1.6	<1.6	<1.6	<2.0	<2.0
Acrolein	0.010	"	<0.80	<0.80	<0.80	<1.0	<1.0
Acrylonitrile	0.010	"	<0.80	<0.80	<0.80	<1.0	<1.0
Benzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Bromoform	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Bromomethane	0.006	"	<0.48	<0.48	<0.48	<0.60	<0.60
2-Butanone	0.005	"	<0.40	<0.40	<0.40	<0.50	<0.50
Carbon Disulfide	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Carbon Tetrachloride	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Chlorobenzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Chlorodibromomethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Chloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Chloroform	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Chloromethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,2-Dichlorobenzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,3-Dichlorobenzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,4-Dichlorobenzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Dichlorobromomethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,1-Dichloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,2-Dichloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,1-Dichloroethene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Dichloromethane	0.020	"	<1.6	<1.6	<1.6	<2.0	<2.0
Methyl-t-butylether	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Ethylene Dibromide	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,2-Dibromo-3-Chloropropane	0.005	"	<0.40	<0.40	<0.40	<0.50	<0.50
cis-1,2-Dichloroethene	0.001	"	<0.080	<0.080	0.48	0.19	0.084
trans-1,2-Dichloroethene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,2-Dichloropropane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
cis-1,3-Dichloropropene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
trans-1,3-Dichloropropene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Ethylbenzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
2-Hexanone	0.005	"	<0.40	<0.40	<0.40	<0.50	<0.50
4-Methyl-2-Pentanone	0.005	"	<0.40	<0.40	<0.40	<0.50	<0.50
Styrene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,1,1,2-Tetrachloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,1,2,2-Tetrachloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Tetrachloroethene	0.001	"	0.12	1.9	430	310	190
Toluene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,1,1-Trichloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
1,1,2-Trichloroethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Trichloroethene	0.001	"	<0.080	0.15	4.0	1.1	0.50
Trichlorofluoromethane	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Vinyl Chloride	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
m&p-Xylene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
o-Xylene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Isopropylbenzene	0.001	"	<0.080	<0.080	<0.080	<0.10	<0.10
Surrogate Recoveries		%					
d4-1,2-Dichloroethane			80	79	78	79	79
d8-Toluene			86	87	88	89	87
Bromofluorobenzene			85	86	87	87	87
d10-Ethylbenzene			85	65	67	60	61

04/13/2004

PASC - Certificate of Analysis

Page 2 of 4

	5B-BT-01,03,05				
Client ID:	COMP.	5B-SW-02	5B-EW-04	5B-WW-06	5B-SD-07
Lab No.:	013798 04	013799 04	013800 04	013801 04	013802 04
Date Sampled:	17-Mar-2004	17-Mar-2004	18-Mar-2004	19-Mar-2004	19-Mar-2004
	MDL	Units			

Component
VOC via SW846 8260

Component	Client ID:		Method	Blank	%	Blank Spike	%
	Lab No.:		Blank	Spike	Recovery	Duplicate	Recovery
	Date Sampled:		013797 04	013797 04	013797 04	013797 04	013797 04
			17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004
MDL	Units						
Acetone	0.020	mg/kg	<1.6	5.5	110	5.5	110
Acrolein	0.010	"	<0.80	5.4	110	4.8	97
Acrylonitrile	0.010	"	<0.80	5.5	110	5.4	110
Benzene	0.001	"	<0.080	5.0	99	4.7	95
Bromoform	0.001	"	<0.080	5.2	100	5.3	110
Bromomethane	0.006	"	<0.48	4.1	82	3.4	68
2-Butanone	0.005	"	<0.40	5.3	110	4.9	98
Carbon Disulfide	0.001	"	<0.080	4.8	96	4.8	90
Carbon Tetrachloride	0.001	"	<0.080	5.0	100	4.5	90
Chlorobenzene	0.001	"	<0.080	5.0	100	4.9	99
Chlorodibromomethane	0.001	"	<0.080	5.1	100	5.2	100
Chloroethane	0.001	"	<0.080	5.4	110	4.3	85
Chloroform	0.001	"	<0.080	5.1	100	4.6	92
Chloromethane	0.001	"	<0.080	5.6	110	4.2	84
1,2-Dichlorobenzene	0.001	"	<0.080	5.0	100	5.0	99
1,3-Dichlorobenzene	0.001	"	<0.080	5.0	100	4.9	98
1,4-Dichlorobenzene	0.001	"	<0.080	5.0	100	4.9	98
Dichlorobromomethane	0.001	"	<0.080	5.1	100	4.7	94
1,1-Dichloroethane	0.001	"	<0.080	5.0	99	4.5	89
1,2-Dichloroethane	0.001	"	<0.080	5.0	100	4.4	88
1,1-Dichloroethene	0.001	"	<0.080	4.6	92	4.4	89
Dichloromethane	0.020	"	<1.6	4.8	95	4.5	91
Methyl-t-butylether	0.001	"	<0.080	NS	-	NS	-
Ethylene Dibromide	0.001	"	<0.080	5.0	99	5.2	100
1,2-Dibromo-3-Chloropropane	0.005	"	<0.40	4.9	98	5.4	110
cis-1,2-Dichloroethene	0.001	"	<0.080	5.3	110	4.6	92
trans-1,2-Dichloroethene	0.001	"	<0.080	4.8	96	4.3	87
1,2-Dichloropropane	0.001	"	<0.080	5.0	99	4.7	95
cis-1,3-Dichloropropene	0.001	"	<0.080	5.1	100	4.7	95
trans-1,3-Dichloropropene	0.001	"	<0.080	4.6	92	4.5	90
Ethylbenzene	0.001	"	<0.080	5.1	100	5.0	100
2-Hexanone	0.005	"	<0.40	5.1	100	5.3	100
4-Methyl-2-Pentanone	0.005	"	<0.40	4.9	98	4.5	91
Styrene	0.001	"	<0.080	5.5	110	5.4	110
1,1,1,2-Tetrachloroethane	0.001	"	<0.080	5.1	100	5.0	100
1,1,2,2-Tetrachloroethane	0.001	"	<0.080	5.1	100	4.5	89
Tetrachloroethene	0.001	"	<0.080	4.8	97	5.2	100
Toluene	0.001	"	<0.080	4.9	99	5.0	100
1,1,1-Trichloroethane	0.001	"	<0.080	5.0	100	4.6	91
1,1,2-Trichloroethane	0.001	"	<0.080	4.9	98	5.1	100
Trichloroethene	0.001	"	<0.080	4.8	96	5.2	100
Trichlorofluoromethane	0.001	"	<0.080	5.3	110	4.2	85
Vinyl Chloride	0.001	"	<0.080	6.3	130	4.8	95
m&p-Xylene	0.001	"	<0.080	10	100	10	100
o-Xylene	0.001	"	<0.080	5.1	100	4.9	98
Isopropylbenzene	0.001	"	<0.080	4.7	94	4.7	94
Surrogate Recoveries		%					
d4-1,2-Dichloroethane			80	86	86	77	77
d8-Toluene			82	84	84	87	87
Bromofluorobenzene			85	87	87	92	92
d10-Ethylbenzene			97	121	121	96	96

04/13/2004

PASC - Certificate of Analysis

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Client ID:	Method	Blank	%	Blank Spike	%
Lab No.:	Blank	Spike	Recovery	Duplicate	Recovery
Date Sampled:	013797 04	013797 04	013797 04	013797 04	013797 04
	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004
MDL	Units				

Component
VOC via SW846 8260

	Client ID:	5B-SW-02	5B-SW-02	5B-SW-02	5B-SW-02	5B-SW-02	
	Lab No.:	013799 04	013799 04	013799 04	013799 04	013799 04	
	Date Sampled:	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	
Component	MDL	Units	M. Spike	MS % Rec.	MS Dup	MSD % Rec.	
Phenol	0.27	mg/kg	<0.54	7.8	79	7.3	73
Bis(2-chloroethyl)ether	0.18	"	<0.36	NS	-	NS	-
2-Chlorophenol	0.48	"	<0.96	8.1	81	7.8	78
1,3-Dichlorobenzene	0.20	"	<0.40	NS	-	NS	-
1,4-Dichlorobenzene	0.20	"	<0.40	4.0	80	3.8	77
1,2-Dichlorobenzene	0.20	"	<0.40	NS	-	NS	-
Bis(2-chloroisopropyl)ether	0.15	"	<0.30	NS	-	NS	-
Hexachloroethane	0.20	"	<0.40	NS	-	NS	-
N-Nitroso-di-N-Propylamine	0.21	"	<0.42	3.8	77	3.9	78
Nitrobenzene	0.20	"	<0.40	NS	-	NS	-
Isophorone	0.40	"	<0.80	NS	-	NS	-
2-Nitrophenol	0.14	"	<0.28	NS	-	NS	-
2,4-Dimethylphenol	0.17	"	<0.34	NS	-	NS	-
Bis(2-chloroethoxy)methane	0.13	"	<0.26	NS	-	NS	-
2,4-Dichlorophenol	0.15	"	<0.30	NS	-	NS	-
1,2,4-Trichlorobenzene	0.20	"	<0.40	3.9	78	3.9	79
Naphthalene	0.09	"	<0.18	NS	-	NS	-
Hexachlorobutadiene	0.20	"	<0.40	NS	-	NS	-
4-Chloro-3-Methylphenol	0.15	"	<0.30	7.5	75	5.8	58
Hexachlorocyclopentadiene	0.20	"	<0.40	NS	-	NS	-
2,4,6-Trichlorophenol	0.12	"	<0.24	NS	-	NS	-
2-Chloronaphthalene	0.34	"	<0.68	NS	-	NS	-
Acenaphthylene	0.04	"	<0.08	NS	-	NS	-
Dimethyl phthalate	0.11	"	<0.22	NS	-	NS	-
2,6-Dinitrotoluene	0.06	"	<0.12	NS	-	NS	-
Acenaphthene	0.07	"	<0.14	4.1	42	4.2	42
2,4-Dinitrophenol	0.48	"	<0.96	NS	-	NS	-
2,4-Dinitrotoluene	0.22	"	<0.44	4.1	83	4.2	84
4-Nitrophenol	0.17	"	<0.34	7.7	77	7.7	78
Fluorene	0.06	"	<0.12	NS	-	NS	-
4-Chlorophenylphenylether	0.09	"	<0.18	NS	-	NS	-
Diethyl phthalate	0.11	"	<0.22	NS	-	NS	-
4,6-Dinitro-2-methylphenol	0.16	"	<0.32	NS	-	NS	-
N-Nitrosodiphenylamine	0.19	"	<0.38	NS	-	NS	-
4-Bromophenylphenylether	0.04	"	<0.08	NS	-	NS	-
Hexachlorobenzene	0.20	"	<0.40	NS	-	NS	-
Pentachlorophenol	0.31	"	<0.62	6.9	69	7.5	75
Phenanthrene	0.03	"	0.06	NS	-	NS	-
Anthracene	0.06	"	<0.12	NS	-	NS	-
Di-n-butyl phthalate	0.11	"	<0.22	NS	-	NS	-
Fluoranthene	0.05	"	<0.10	NS	-	NS	-
Pyrene	0.06	"	<0.12	4.5	90	4.4	89
Benzyl butyl phthalate	0.10	"	<0.20	NS	-	NS	-
3,3-Dichlorobenzidine	0.34	"	<0.68	NS	-	NS	-
Benzo(a)anthracene	0.05	"	<0.10	NS	-	NS	-
Chrysene	0.06	"	<0.12	NS	-	NS	-
Bis(2-ethylhexyl)phthalate	0.75	"	<1.5	NS	-	NS	-
Di-n-octyl phthalate	0.11	"	<0.22	NS	-	NS	-

	<i>Client ID:</i>		5B-SW-02	5B-SW-02	5B-SW-02	5B-SW-02	5B-SW-02
	<i>Lab No.:</i>		013799 04	013799 04	013799 04	013799 04	013799 04
	<i>Date Sampled:</i>		17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004
Component	MDL	Units		M. Spike	MS % Rec.	MS Dup	MSD % Rec.
Benzo(b)fluoranthene	0.04	"	<0.08	NS	-	NS	-
Benzo(k)fluoranthene	0.04	"	<0.08	NS	-	NS	-
Benzo(a)pyrene	0.05	mg/kg	<0.10	NS	-	NS	-
Indeno(1,2,3-cd)pyrene	0.06	"	<0.12	NS	-	NS	-
Dibenzo(a,h)anthracene	0.06	"	<0.12	NS	-	NS	-
Benzo(ghi)perylene	0.05	"	<0.10	NS	-	NS	-
N-Nitrosodimethylamine	1.0	"	<2.0	NS	-	NS	-
Aniline	0.50	"	<1.0	NS	-	NS	-
Benzyl alcohol	0.50	"	<1.0	NS	-	NS	-
Carbazole	0.50	"	<1.0	NS	-	NS	-
2-Methylphenol	0.50	"	<1.0	NS	-	NS	-
3&4-Methylphenol	0.50	"	<1.0	NS	-	NS	-
Benzoic acid	0.50	"	<1.0	NS	-	NS	-
4-Chloroaniline	0.50	"	<1.0	NS	-	NS	-
2-Methylnaphthalene	0.34	"	<0.68	NS	-	NS	-
2,4,5-Trichlorophenol	0.10	"	<0.20	NS	-	NS	-
2-Nitroaniline	0.50	"	<1.0	NS	-	NS	-
3-Nitroaniline	0.50	"	<1.0	NS	-	NS	-
Dibenzofuran	0.50	"	<1.0	NS	-	NS	-
Benzidine	0.50	"	<1.0	NS	-	NS	-
4-Nitroaniline	0.50	"	<1.0	NS	-	NS	-
Surrogate Recoveries		%					
2-Fluorophenol			75	64	64	56	56
d5-Phenol			77	76	76	71	71
d5-Nitrobenzene			76	65	65	62	62
2-Fluorobiphenyl			77	76	76	77	77
2,4,6-Tribromophenol			68	81	81	70	70
d14-p-Terphenyl			92	98	98	92	92

Component	Client ID:		Method	Blank	%	Blank Spike	%
	Lab No.:		Blank	Spike	Recovery	Duplicate	Recovery
	Date Sampled:		013797 04	013797 04	013797 04	013797 04	013797 04
			17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004
	MDL	Units					
Phenol	0.27	mg/kg	<0.54	6.6	82	6.5	81
Bis(2-chloroethyl)ether	0.18	"	<0.36	NS	-	NS	-
2-Chlorophenol	0.48	"	<0.96	6.7	83	6.6	82
1,3-Dichlorobenzene	0.20	"	<0.40	NS	-	NS	-
1,4-Dichlorobenzene	0.20	"	<0.40	2.7	67	2.7	67
1,2-Dichlorobenzene	0.20	"	<0.40	NS	-	NS	-
Bis(2-chloroisopropyl)ether	0.15	"	<0.30	NS	-	NS	-
Hexachloroethane	0.20	"	<0.40	NS	-	NS	-
N-Nitroso-di-N-Propylamine	0.21	"	<0.42	3.1	78	3.0	78
Nitrobenzene	0.20	"	<0.40	NS	-	NS	-
Isophorone	0.40	"	<0.80	NS	-	NS	-
2-Nitrophenol	0.14	"	<0.28	NS	-	NS	-
2,4-Dimethylphenol	0.17	"	<0.34	NS	-	NS	-
Bis(2-chloroethoxy)methane	0.13	"	<0.26	NS	-	NS	-
2,4-Dichlorophenol	0.15	"	<0.30	NS	-	NS	-
1,2,4-Trichlorobenzene	0.20	"	<0.40	2.8	69	2.8	69
Naphthalene	0.09	"	<0.18	NS	-	NS	-
Hexachlorobutadiene	0.20	"	<0.40	NS	-	NS	-
4-Chloro-3-Methylphenol	0.15	"	<0.30	6.9	87	6.8	86
Hexachlorocyclopentadiene	0.20	"	<0.40	NA	<	NS	-
2,4,6-Trichlorophenol	0.12	"	<0.24	NS	-	NS	-
2-Chloronaphthalene	0.34	"	<0.68	NS	-	NS	-
Acenaphthylene	0.04	"	<0.08	NS	-	NS	-
Dimethyl phthalate	0.11	"	<0.22	NS	-	NS	-
2,6-Dinitrotoluene	0.06	"	<0.12	NS	-	NS	-
Acenaphthene	0.07	"	<0.14	3.3	83	3.3	81
2,4-Dinitrophenol	0.48	"	<0.96	NS	-	NS	-
2,4-Dinitrotoluene	0.22	"	<0.44	3.8	94	3.6	89
4-Nitrophenol	0.17	"	<0.34	7.5	94	6.9	86
Fluorene	0.06	"	<0.12	NS	-	NS	-
4-Chlorophenylphenylether	0.09	"	<0.18	NS	-	NS	-
Diethyl phthalate	0.11	"	<0.22	NS	-	NS	-
4,6-Dinitro-2-methylphenol	0.16	"	<0.32	NS	-	NS	-
N-Nitrosodiphenylamine	0.19	"	<0.38	NS	-	NS	-
4-Bromophenylphenylether	0.04	"	<0.08	NS	-	NS	-
Hexachlorobenzene	0.20	"	<0.40	NS	-	NS	-
Pentachlorophenol	0.31	"	<0.62	7.1	88	6.7	83
Phenanthrene	0.03	"	0.22	NS	-	NS	-
Anthracene	0.06	"	<0.12	NS	-	NS	-
Di-n-butyl phthalate	0.11	"	<0.22	NS	-	NS	-
Fluoranthene	0.05	"	0.16	NS	-	NS	-
Pyrene	0.06	"	0.14	3.5	88	3.8	94
Benzyl butyl phthalate	0.10	"	<0.20	NS	-	NS	-
3,3-Dichlorobenzidine	0.34	"	<0.68	NS	-	NS	-
Benzo(a)anthracene	0.05	"	<0.10	NS	-	NS	-
Chrysene	0.06	"	<0.12	NS	-	NS	-
Bis(2-ethylhexyl)phthalate	0.75	"	<1.5	NS	-	NS	-
Di-n-octyl phthalate	0.11	"	<0.22	NS	-	NS	-

Component	Client ID:		Method	Blank	%	Blank Spike	%
	Lab No.:		Blank	Spike	Recovery	Duplicate	Recovery
	Date Sampled:		013797 04	013797 04	013797 04	013797 04	013797 04
			17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004	17-Mar-2004
	MDL	Units					
Benzo(b)fluoranthene	0.04	"	<0.08	NS	-	NS	-
Benzo(k)fluoranthene	0.04	"	<0.08	NS	-	NS	-
Benzo(a)pyrene	0.05	mg/kg	<0.10	NS	-	NS	-
Indeno(1,2,3-cd)pyrene	0.06	"	<0.12	NS	-	NS	-
Dibenzo(a,h)anthracene	0.06	"	<0.12	NS	-	NS	-
Benzo(ghi)perylene	0.05	"	<0.10	NS	-	NS	-
N-Nitrosodimethylamine	1.0	"	<2.0	NS	-	NS	-
Aniline	0.50	"	<1.0	NS	-	NS	-
Benzyl alcohol	0.50	"	<1.0	NS	-	NS	-
Carbazole	0.50	"	<1.0	NS	-	NS	-
2-Methylphenol	0.50	"	<1.0	NS	-	NS	-
3&4-Methylphenol	0.50	"	<1.0	NS	-	NS	-
Benzoic acid	0.50	"	<1.0	NS	-	NS	-
4-Chloroaniline	0.50	"	<1.0	NS	-	NS	-
2-Methylnaphthalene	0.34	"	<0.68	NS	-	NS	-
2,4,5-Trichlorophenol	0.10	"	<0.20	NS	-	NS	-
2-Nitroaniline	0.50	"	<1.0	NS	-	NS	-
3-Nitroaniline	0.50	"	<1.0	NS	-	NS	-
Dibenzofuran	0.50	"	<1.0	NS	-	NS	-
Benzidine	0.50	"	<1.0	NS	-	NS	-
4-Nitroaniline	0.50	"	<1.0	NS	-	NS	-
Surrogate Recoveries		%					
2-Fluorophenol			78	80	80	80	80
d5-Phenol			85	84	84	85	85
d5-Nitrobenzene			83	78	78	78	78
2-Fluorobiphenyl			87	82	82	82	82
2,4,6-Tribromophenol			78	96	96	91	91
d14-p-Terphenyl			97	94	94	99	99

Client ID: Trip
 Lab No.: Blank #1
 Date Sampled: 013803 04
 18-Mar-2004

Component	MDL	Units	
pH of VOC vials			1.50
Acetone	12.7	ug/L	<
Acrolein	5.1	"	<
Acrylonitrile	2.7	"	<
Benzene	0.5	"	<
Bromoform	0.7	"	<
Bromomethane	1.0	"	<
2-Butanone	3.2	"	<
Carbon Disulfide	0.9	"	<
Carbon Tetrachloride	0.7	"	<
Chlorobenzene	0.6	"	<
Chlorodibromomethane	0.4	"	<
Chloroethane	0.9	"	<
2-Chloroethylvinylether	2.8	"	<
Chloroform	0.4	"	<
Chloromethane	1.4	"	<
1,2-Dichlorobenzene	0.8	"	<
1,3-Dichlorobenzene	1.8	"	<
1,4-Dichlorobenzene	1.6	"	<
Dichlorobromomethane	0.4	"	<
1,1-Dichloroethane	0.5	"	<
1,2-Dichloroethane	0.4	"	<
1,1-Dichloroethene	0.7	"	<
Methyl-t-butylether	0.5	"	<
Ethylene Dibromide	0.4	"	<
1,2-Dibromo-3-Chloropropane	10	"	<
cis-1,2-Dichloroethene	0.6	"	<
trans-1,2-Dichloroethene	0.5	"	<
1,2-Dichloropropane	0.7	"	<
cis-1,3-Dichloropropene	0.3	"	<
trans-1,3-Dichloropropene	0.6	"	<
Ethylbenzene	0.5	"	<
2-Hexanone	1.3	"	<
Methylene Chloride	2.3	"	<
4-Methyl-2-Pentanone	1.5	"	<
Styrene	0.6	"	<
1,1,1,2-Tetrachloroethane	0.6	"	<
1,1,2,2-Tetrachloroethane	0.8	"	<
Tetrachloroethene	0.5	"	<
Toluene	1.0	"	<
1,1,1-Trichloroethane	0.8	"	<
1,1,2-Trichloroethane	0.6	"	<
Trichloroethene	1.0	"	<
Trichlorofluoromethane	1.8	"	<
Vinyl Acetate	2.4	"	<
Vinyl Chloride	0.9	"	<
m&p-Xylene	1.1	"	<
o-Xylene	0.5	"	<
Surrogate Recoveries		%	
d4-1,2-Dichloroethane			83
d8-Toluene			80
Bromofluorobenzene			80

Page 2 of 2

Client ID:	Trip
Lab No.:	Blank #1
Date Sampled:	013803 04
MDL	18-Mar-2004
Units	

VOC via SW846 8260

Certificate of Analysis

CLIENT INFORMATION

Attention: Michelle Whittman
Client Name: GZA GeoEnvironmental of NY
Project: Misc.
Project Desc:

Address: 364 Nagel Drive
Buffalo, NY
14225

Fax Number: 716 685-3629
Phone Number: 716 685-2300

LABORATORY INFORMATION

Contact: Mike Challis, B.Sc, C.Chem.
Project: AN981056
Date Received: 26-Mar-2004
Date Reported: 08-Apr-2004

Submission No.: 4C1025
Sample No.: 015252-015261

NOTES:

*"-" = not analysed "<" = less than Method Detection Limit (MDL) 'NA' = no data available
LOQ can be determined for all analytes by multiplying the appropriate MDL X 3.33
Solids data is based on dry weight except for biota analyses.
Organic analyses are not corrected for extraction recovery standards except for isotope
dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)
The enclosed copy of the Chain of Custody Record may contain information necessary for the
interpretation of the data.*

Methods used by PSC Analytical Services are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', Twentieth Edition. Other methods are based on the principles of MISA or EPA methodologies. New York State: ELAP Identification Number 10756.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied. Your samples will be retained at PSC Analytical Services for a period of three weeks from receipt of data or as per contract.

COMMENTS:

Certified by: _____

Component	Client ID:		SB-NW-08	SB-NW-08	SB-NW-08	SB-NW-08	SB-NW-08
	Lab No.:		015253 04	015253 04	015253 04	015253 04	015253 04
	Date Sampled:		22-Mar-2004	22-Mar-2004	22-Mar-2004	22-Mar-2004	22-Mar-2004
	MDL	Units		M. Spike	MS % Rec.	MS Dup	MSD % Rec.
Acetone	0.020	mg/kg	<2.0	8.1	130	8.3	140
Acrolein	0.010	"	<1.0	6.2	100	6.3	110
Acrylonitrile	0.010	"	<1.0	6.5	110	6.5	110
Benzene	0.001	"	<0.10	5.7	95	5.6	97
Bromoform	0.001	"	<0.10	6.1	100	6.1	110
Bromomethane	0.006	"	<0.60	2.2	36	2.2	38
2-Butanone	0.005	"	<0.50	6.6	110	6.8	120
Carbon Disulfide	0.001	"	<0.10	5.5	91	5.5	95
Carbon Tetrachloride	0.001	"	<0.10	5.5	92	5.5	96
Chlorobenzene	0.001	"	<0.10	6.2	100	5.9	100
Chlorodibromomethane	0.001	"	<0.10	6.1	100	5.8	100
Chloroethane	0.001	"	<0.10	5.8	97	5.0	87
Chloroform	0.001	"	<0.10	5.7	95	5.7	99
Chloromethane	0.001	"	<0.10	6.5	110	6.9	120
1,2-Dichlorobenzene	0.001	"	<0.10	5.9	98	5.7	99
1,3-Dichlorobenzene	0.001	"	<0.10	6.0	100	5.8	100
1,4-Dichlorobenzene	0.001	"	<0.10	6.0	99	5.8	100
Dichlorobromomethane	0.001	"	<0.10	5.8	96	5.6	98
1,1-Dichloroethane	0.001	"	<0.10	5.5	91	5.4	94
1,2-Dichloroethane	0.001	"	<0.10	5.8	96	5.7	99
1,1-Dichloroethene	0.001	"	<0.10	5.5	91	5.4	94
Dichloromethane	0.020	"	<2.0	5.6	92	5.5	95
Methyl-t-butylether	0.001	"	<0.10	NS	-	NS	-
Ethylene Dibromide	0.001	"	<0.10	6.1	100	5.8	100
1,2-Dibromo-3-Chloropropane	0.005	"	<0.50	5.8	96	6.0	100
cis-1,2-Dichloroethene	0.001	"	<0.10	5.7	94	5.6	97
trans-1,2-Dichloroethene	0.001	"	<0.10	5.3	89	5.4	93
1,2-Dichloropropane	0.001	"	<0.10	5.6	93	5.5	95
cis-1,3-Dichloropropene	0.001	"	<0.10	5.5	91	5.4	93
trans-1,3-Dichloropropene	0.001	"	<0.10	5.3	89	5.2	89
Ethylbenzene	0.001	"	<0.10	6.2	100	6.0	100
2-Hexanone	0.005	"	<0.50	6.4	110	6.6	110
4-Methyl-2-Pentanone	0.005	"	<0.50	5.6	93	5.7	99
Styrene	0.001	"	<0.10	6.6	110	6.3	110
1,1,1,2-Tetrachloroethane	0.001	"	<0.10	6.1	100	5.9	100
1,1,2,2-Tetrachloroethane	0.001	"	<0.10	5.0	83	5.0	86
Tetrachloroethene	0.001	"	6.3	17	180	12	91
Toluene	0.001	"	<0.10	6.0	99	5.7	99
1,1,1-Trichloroethane	0.001	"	<0.10	5.6	94	5.6	97
1,1,2-Trichloroethane	0.001	"	<0.10	6.0	100	5.8	100
Trichloroethene	0.001	"	<0.10	6.4	110	6.3	110
Trichlorofluoromethane	0.001	"	<0.10	6.1	100	5.5	96
Vinyl Chloride	0.001	"	<0.10	6.2	100	5.4	94
m&p-Xylene	0.001	"	<0.10	13	110	12	110
o-Xylene	0.001	"	<0.10	6.3	110	6.1	110
Isopropylbenzene	0.001	"	<0.10	5.5	92	5.4	94
Surrogate Recoveries		%					
d4-1,2-Dichloroethane			78	82	82	86	86
d8-Toluene			87	85	85	85	85

	Client ID:	SB-NW-08	SB-NW-08	SB-NW-08	SB-NW-08	SB-NW-08
	Lab No.:	015253 04	015253 04	015253 04	015253 04	015253 04
	Date Sampled:	22-Mar-2004	22-Mar-2004	22-Mar-2004	22-Mar-2004	22-Mar-2004
Component	MDL	Units	M. Spike	MS % Rec.	MS Dup	MSD % Rec.
Bromofluorobenzene		84	87	87	86	86
d10-Ethylbenzene		79	72	72	73	73

Client ID:			SB-BT-09	SB-EW-10	SB-BT-11	SB-WW-12	SB-EW-13
Lab No.:			015254 04	015255 04	015256 04	015257 04	015258 04
Date Sampled:			22-Mar-2004	22-Mar-2004	23-Mar-2004	23-Mar-2004	24-Mar-2004
Component	MDL	Units					
Acetone	0.020	mg/kg	<2.0	<2.0	<2.4	<2.0	<2.4
Acrolein	0.010	"	<1.0	<1.0	<1.2	<1.0	<1.2
Acrylonitrile	0.010	"	<1.0	<1.0	<1.2	<1.0	<1.2
Benzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Bromoform	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Bromomethane	0.006	"	<0.60	<0.60	<0.72	<0.60	<0.72
2-Butanone	0.005	"	<0.50	<0.50	<0.60	<0.50	<0.60
Carbon Disulfide	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Carbon Tetrachloride	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Chlorobenzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Chlorodibromomethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Chloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Chloroform	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Chloromethane	0.001	"	<0.10	<0.10	<0.13	<0.12	<0.12
1,2-Dichlorobenzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,3-Dichlorobenzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,4-Dichlorobenzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Dichlorobromomethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,1-Dichloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,2-Dichloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,1-Dichloroethene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Dichloromethane	0.020	"	<2.0	<2.0	<2.4	<2.0	<2.4
Methyl-t-butylether	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Ethylene Dibromide	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,2-Dibromo-3-Chloropropane	0.005	"	<0.50	<0.50	<0.60	<0.50	<0.60
cis-1,2-Dichloroethene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
trans-1,2-Dichloroethene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,2-Dichloropropane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
cis-1,3-Dichloropropene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
trans-1,3-Dichloropropene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Ethylbenzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
2-Hexanone	0.005	"	<0.50	<0.50	<0.60	<0.50	<0.60
4-Methyl-2-Pentanone	0.005	"	<0.50	<0.50	<0.60	<0.50	<0.60
Styrene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,1,1,2-Tetrachloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,1,2,2-Tetrachloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Tetrachloroethene	0.001	"	20	3.0	2.8	0.77	13
Toluene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,1,1-Trichloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
1,1,2-Trichloroethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Trichloroethene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Trichlorofluoromethane	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Vinyl Chloride	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
m&p-Xylene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
o-Xylene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Isopropylbenzene	0.001	"	<0.10	<0.10	<0.12	<0.10	<0.12
Surrogate Recoveries		%					
d4-1,2-Dichloroethane			78	79	79	78	78
d8-Toluene			89	88	89	88	88

Client ID:	SB-BT-09	SB-EW-10	SB-BT-11	SB-WW-12	SB-EW-13
Lab No.:	015254 04	015255 04	015256 04	015257 04	015258 04
Date Sampled:	22-Mar-2004	22-Mar-2004	23-Mar-2004	23-Mar-2004	24-Mar-2004

Component	MDL	Units
Bromofluorobenzene	84	
d10-Ethylbenzene	58	

84	85	86	83	83
58	67	54	64	69

Client ID:	SB-BT-14	SB-WW-15	SB-NW-16
Lab No.:	015259 04	015260 04	015261 04
Date Sampled:	24-Mar-2004	24-Mar-2004	24-Mar-2004

Component	MDL	Units			
Acetone	0.020	mg/kg	<2.0	<2.0	<2.0
Acrolein	0.010	"	<1.0	<1.0	<1.0
Acrylonitrile	0.010	"	<1.0	<1.0	<1.0
Benzene	0.001	"	<0.10	<0.10	<0.10
Bromoform	0.001	"	<0.10	<0.10	<0.10
Bromomethane	0.006	"	<0.60	<0.60	<0.60
2-Butanone	0.005	"	<0.50	<0.50	<0.50
Carbon Disulfide	0.001	"	<0.10	<0.10	<0.10
Carbon Tetrachloride	0.001	"	<0.10	<0.10	<0.10
Chlorobenzene	0.001	"	<0.10	<0.10	<0.10
Chlorodibromomethane	0.001	"	<0.10	<0.10	<0.10
Chloroethane	0.001	"	<0.10	<0.10	<0.10
Chloroform	0.001	"	<0.10	<0.10	<0.10
Chloromethane	0.001	"	<0.11	<0.10	<0.10
1,2-Dichlorobenzene	0.001	"	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	0.001	"	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	0.001	"	<0.10	<0.10	<0.10
Dichlorobromomethane	0.001	"	<0.10	<0.10	<0.10
1,1-Dichloroethane	0.001	"	<0.10	<0.10	<0.10
1,2-Dichloroethane	0.001	"	<0.10	<0.10	<0.10
1,1-Dichloroethene	0.001	"	<0.10	<0.10	<0.10
Dichloromethane	0.020	"	<2.0	<2.0	<2.0
Methyl-t-butylether	0.001	"	<0.10	<0.10	<0.10
Ethylene Dibromide	0.001	"	<0.10	<0.10	<0.10
1,2-Dibromo-3-Chloropropane	0.005	"	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	0.001	"	<0.10	<0.10	<0.10
trans-1,2-Dichloroethene	0.001	"	<0.10	<0.10	<0.10
1,2-Dichloropropane	0.001	"	<0.10	<0.10	<0.10
cis-1,3-Dichloropropene	0.001	"	<0.10	<0.10	<0.10
trans-1,3-Dichloropropene	0.001	"	<0.10	<0.10	<0.10
Ethylbenzene	0.001	"	<0.10	<0.10	<0.10
2-Hexanone	0.005	"	<0.50	<0.50	<0.50
4-Methyl-2-Pentanone	0.005	"	<0.50	<0.50	<0.50
Styrene	0.001	"	<0.10	<0.10	<0.10
1,1,1,2-Tetrachloroethane	0.001	"	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	0.001	"	<0.10	<0.10	<0.10
Tetrachloroethene	0.001	"	9.6	0.58	4.6
Toluene	0.001	"	<0.10	<0.10	<0.10
1,1,1-Trichloroethane	0.001	"	<0.10	<0.10	<0.10
1,1,2-Trichloroethane	0.001	"	<0.10	<0.10	<0.10
Trichloroethene	0.001	"	<0.10	<0.10	<0.10
Trichlorofluoromethane	0.001	"	<0.10	<0.10	<0.10
Vinyl Chloride	0.001	"	<0.10	<0.10	<0.10
m&p-Xylene	0.001	"	<0.10	<0.10	<0.10
o-Xylene	0.001	"	<0.10	<0.10	<0.10
Isopropylbenzene	0.001	"	<0.10	<0.10	<0.10
Surrogate Recoveries		%			
d4-1,2-Dichloroethane			79	78	78
d8-Toluene			88	88	89

Client ID:	SB-BT-14	SB-WW-15	SB-NW-16
Lab No.:	015259 04	015260 04	015261 04
Date Sampled:	24-Mar-2004	24-Mar-2004	24-Mar-2004

Component	MDL	Units
Bromofluorobenzene	83	
d10-Ethylbenzene	80	

83	83	83
80	66	67

Component	Client ID:		Method	Blank	%
	Lab No.:		Blank	Spike	Recovery
	Date Sampled:		015252 04	015252 04	015252 04
			22-Mar-2004	22-Mar-2004	22-Mar-2004
	MDL	Units			
Acetone	0.020	mg/kg	<1.6	6.7	130
Acrolein	0.010	"	<0.80	5.8	120
Acrylonitrile	0.010	"	<0.80	5.5	110
Benzene	0.001	"	<0.080	4.8	96
Bromoform	0.001	"	<0.080	5.3	110
Bromomethane	0.006	"	0.48	3.7	74
2-Butanone	0.005	"	<0.40	5.5	110
Carbon Disulfide	0.001	"	<0.080	4.8	95
Carbon Tetrachloride	0.001	"	<0.080	4.9	97
Chlorobenzene	0.001	"	<0.080	5.1	100
Chlorodibromomethane	0.001	"	<0.080	5.1	100
Chloroethane	0.001	"	<0.080	5.3	110
Chloroform	0.001	"	<0.080	4.9	98
Chloromethane	0.001	"	<0.10	4.7	95
1,2-Dichlorobenzene	0.001	"	<0.080	5.1	100
1,3-Dichlorobenzene	0.001	"	<0.080	5.1	100
1,4-Dichlorobenzene	0.001	"	<0.080	5.0	100
Dichlorobromomethane	0.001	"	<0.080	4.9	98
1,1-Dichloroethane	0.001	"	<0.080	4.7	95
1,2-Dichloroethane	0.001	"	<0.080	5.0	99
1,1-Dichloroethene	0.001	"	<0.080	4.7	93
Dichloromethane	0.020	"	<1.6	4.7	93
Methyl-t-butylether	0.001	"	<0.080	NS	-
Ethylene Dibromide	0.001	"	<0.080	4.9	99
1,2-Dibromo-3-Chloropropane	0.005	"	<0.40	5.2	100
cis-1,2-Dichloroethene	0.001	"	<0.080	5.0	100
trans-1,2-Dichloroethene	0.001	"	<0.080	4.7	94
1,2-Dichloropropane	0.001	"	<0.080	4.7	94
cis-1,3-Dichloropropene	0.001	"	<0.080	4.7	95
trans-1,3-Dichloropropene	0.001	"	<0.080	4.4	89
Ethylbenzene	0.001	"	<0.080	5.1	100
2-Hexanone	0.005	"	<0.40	5.5	110
4-Methyl-2-Pentanone	0.005	"	<0.40	5.0	100
Styrene	0.001	"	<0.080	5.5	110
1,1,1,2-Tetrachloroethane	0.001	"	<0.080	5.0	100
1,1,2,2-Tetrachloroethane	0.001	"	<0.080	4.9	99
Tetrachloroethene	0.001	"	<0.080	4.9	98
Toluene	0.001	"	<0.080	4.9	98
1,1,1-Trichloroethane	0.001	"	<0.080	4.9	97
1,1,2-Trichloroethane	0.001	"	<0.080	4.9	98
Trichloroethene	0.001	"	<0.080	5.0	99
Trichlorofluoromethane	0.001	"	<0.080	5.2	100
Vinyl Chloride	0.001	"	<0.080	5.8	120
m&p-Xylene	0.001	"	<0.080	11	110
o-Xylene	0.001	"	<0.080	5.2	100
Isopropylbenzene	0.001	"	<0.080	4.7	93
Surrogate Recoveries		%			
d4-1,2-Dichloroethane			78	87	87
d8-Toluene			83	83	83

<i>Client ID:</i>	Method Blank	Blank Spike	% Recovery
<i>Lab No.:</i>	015252 04	015252 04	015252 04
<i>Date Sampled:</i>	22-Mar-2004	22-Mar-2004	22-Mar-2004

Component	MDL	Units
Bromofluorobenzene	82	86
d10-Ethylbenzene	100	114

Component	Client ID:		Trip	Method	Blank	Blank	%
	Lab No.:		Blank#2	Blank	Spike	Recovery	
	Date Sampled:		015263 04	015262 04	015262 04	015262 04	
			24-Mar-2004	24-Mar-2004	24-Mar-2004	24-Mar-2004	
MDL	Units						
pH of VOC vials			1.50	7.00	-	-	
Acetone	12.7	ug/L	<	<	50	100	
Acrolein	5.1	"	<	<	29	58	
Acrylonitrile	2.7	"	<	<	44	87	
Benzene	0.5	"	<	<	50	99	
Bromoform	0.7	"	<	<	51	100	
Bromomethane	1.0	"	<	<	39	78	
2-Butanone	3.2	"	<	<	45	91	
Carbon Disulfide	0.9	"	<	<	48	96	
Carbon Tetrachloride	0.7	"	<	<	53	110	
Chlorobenzene	0.6	"	<	<	49	98	
Chlorodibromomethane	0.4	"	<	<	49	99	
Chloroethane	0.9	"	<	<	51	100	
2-Chloroethylvinylether	2.8	"	<	<	NS	-	
Chloroform	0.4	"	<	<	52	100	
Chloromethane	1.4	"	<	<	46	92	
1,2-Dichlorobenzene	0.8	"	<	<	48	97	
1,3-Dichlorobenzene	1.8	"	<	<	49	98	
1,4-Dichlorobenzene	1.6	"	<	<	50	99	
Dichlorobromomethane	0.4	"	<	<	52	100	
1,1-Dichloroethane	0.5	"	<	<	49	99	
1,2-Dichloroethane	0.4	"	<	<	50	100	
1,1-Dichloroethene	0.7	"	<	<	48	95	
Methyl-t-butylether	0.5	"	<	<	NS	-	
Ethylene Dibromide	0.4	"	<	<	47	93	
1,2-Dibromo-3-Chloropropane	10	"	<	<	45	89	
cis-1,2-Dichloroethene	0.6	"	<	<	52	100	
trans-1,2-Dichloroethene	0.5	"	<	<	49	97	
1,2-Dichloropropane	0.7	"	<	<	49	98	
cis-1,3-Dichloropropene	0.3	"	<	<	50	100	
trans-1,3-Dichloropropene	0.6	"	<	<	45	90	
Ethylbenzene	0.5	"	<	<	49	98	
2-Hexanone	1.3	"	<	<	42	84	
Methylene Chloride	2.3	"	<	<	48	96	
4-Methyl-2-Pentanone	1.5	"	<	<	44	87	
Styrene	0.6	"	<	<	50	100	
1,1,1,2-Tetrachloroethane	0.6	"	<	<	51	100	
1,1,2,2-Tetrachloroethane	0.8	"	<	<	45	90	
Tetrachloroethene	0.5	"	<	<	50	100	
Toluene	1.0	"	<	<	48	96	
1,1,1-Trichloroethane	0.8	"	<	<	52	100	
1,1,2-Trichloroethane	0.6	"	<	<	47	94	
Trichloroethene	1.0	"	<	<	51	100	
Trichlorofluoromethane	1.8	"	<	<	52	100	
Vinyl Acetate	2.4	"	<	<	NS	-	
Vinyl Chloride	0.9	"	<	<	52	100	
m&p-Xylene	1.1	"	<	<	98	98	
o-Xylene	0.5	"	<	<	48	96	
Surrogate Recoveries		%					
d4-1,2-Dichloroethane			81	82	86	86	

04/13/2004

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Client ID:	Trip	Method	Blank	%
Lab No.:	Blank#2	Blank	Spike	Recovery
Date Sampled:	015263 04	015262 04	015262 04	015262 04
	24-Mar-2004	24-Mar-2004	24-Mar-2004	24-Mar-2004

Component

MDL Units

d8-Toluene

77

78

81

81

Bromofluorobenzene

78

79

84

84

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Chain Of Custody Record

HDD 6/17/04

[illegible]

Upstate Laboratories, Inc.

Date: 18-Jun-04

CLIENT: GZA Geo Environmental
Project: 11 Buffalo St.

Lab Order: U0406221

Lab ID: U0406221-001

Collection Date: 6/8/04 1:00:00 PM

Client Sample ID: Sump 1

Matrix: WASTEWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS		SW8260B				Analyst: RS
1,1,1-Trichloroethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
1,1,2,2-Tetrachloroethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
1,1-Dichloroethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
1,1-Dichloroethene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
1,2-Dichloroethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
1,2-Dichloropropane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
2-Butanone	ND	10		µg/L	1	6/16/04 6:41:00 PM
2-Hexanone	ND	10		µg/L	1	6/16/04 6:41:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	6/16/04 6:41:00 PM
Acetone	ND	10		µg/L	1	6/16/04 6:41:00 PM
Benzene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Bromodichloromethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Bromoform	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Bromomethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Carbon disulfide	3.8	3.0		µg/L	1	6/16/04 6:41:00 PM
Carbon tetrachloride	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Chlorobenzene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Chloroethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Chloroform	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Chloromethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Dibromochloromethane	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Ethylbenzene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
m,p-Xylene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Methylene chloride	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
o-Xylene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Styrene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Tetrachloroethene	13	3.0		µg/L	1	6/16/04 6:41:00 PM
Toluene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Trichloroethene	ND	3.0		µg/L	1	6/16/04 6:41:00 PM
Vinyl chloride	ND	2.0		µg/L	1	6/16/04 6:41:00 PM

Approved By: 

Date: 6/17/04

Page 1 of 1

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CENTEK LABORATORIES, LLC

143 Midler Park Drive * Syracuse, NY 13206

Phone (315) 431-9730 * Fax (315) 431-9731 * Emergency 24/7 (315) 416-2751

NELAC Certificate No. 11830



www.CentekLabs.com

Tuesday, June 15, 2004

Michele Wittman

GZA GeoEnvironmental of NY

364 Nagel Drive

Buffalo, NY 14225

TEL: (716) 685-2300

FAX (716) 685-3629

RE: 4216

Dear Michele Wittman:

Order No.: C0406007

Centek Laboratories, LLC received 13 sample(s) on 6/8/2004 for the analyses presented in the following report.

Centek Laboratories analyzes the samples as received from the client. We do our best to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services.

Centek Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service.

Please contact your client service representative, Michael Palmer at (315) 431-9730, if you would like any additional information regarding this report.

Thank you for using Centek Laboratories. This report can not be reproduced except in its entirety, without prior written authorization.

Sincerely,

Michael Palmer

CLIENT: GZA GeoEnvironmental of NY
Project: 4216
Lab Order: C0406007

CASE NARRATIVE

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the case narrative. All samples were received and analyzed within the EPA recommended holding times. Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.

CEN TEK LABORATORIES, LLC

143 Midler Park Drive * Syracuse, New York 13206

Phone (315) 431-9730 * Fax (315) 431-9731

Chain of Custody

NELAC No. 11830

Company Name: GZA		Site Name: 5 Buffalo	
Client Contact:		Phone #	Project #:
Send Report To:		Send Invoice To:	
Name	Michelle Withman	Same	
Company			
Address	GZA 364 Nagsle Drive		
Phone	716-685-2300		
Fax	685-3629		
e-mail	mwithman@gza.com		

Payment Choice:

Purchase order #	Credit Card (type)
Authorization:	Card #
	Date exp:

Turnaround Time Requested:

Same Day:	Next Day (24hr)	Normal (5 business days)	Other (specify) 1 ppbv
Reporting units: Please circle choice/s	ppbv	ug/m3	mg/m3

Sample Identification	Date Sampled	Canister Number	Regulator Number	Analysis Requested	Comments
5 Buffalo - A	6/8/04	18	110	TCE, PCE, 1,2 DCE	9:57am
7 Buffalo - A		33	14	Dichloro	10:02am
9 - Buffalo - A		12	41		10:07am
A /ms /msd		106	79		10:14am
11 Buffalo - A		72	49		10:17am
3 Buffalo - A		64²³	32⁶⁷		10:25am
12 Main - A		64	32		10:30am
Backbone		13	115		
5 - Buffalo - sub		76	51		
9 - Buffalo - sub		31	44		
11 - Buffalo - sub		74	43		
7 Buffalo - sub		77	63		
Sampled By: M. Palmer		Name of Courier			
Company: Cen Tek Lab					
Relinquished by: (sign)	Date	Time	Received by: (sign)		
Relinquished by: (sign)	Date	Time	Received by: (sign)		
Relinquished by: (sign)	Date	Time	Received for lab by: (sign) M. Palmer 6/8/04		

Chain of Custody

NELAC No. 11830

Payment Choice:

Turnaround Time Requested:[illegible]

Sampled By: <u>D. CLARK / D. TRAY</u>		Name of Courier <u>CD</u>	
Company: <u>CENTRECK</u>			
Relinquished by: (sign) <u>[Signature]</u>	Date <u>6/19/04</u>	Time	Received by: (sign)
Relinquished by: (sign)	Date	Time	Received by: (sign)
Relinquished by: (sign)	Date	Time	Received for lab by: (sign)

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-001A

Client Sample ID: 5 Buffalo - A
Tag Number: 18
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						
		TO-15				Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	ND	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	97.8	70-130		%REC	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-002A

Client Sample ID: 7 Buffalo -A
Tag Number: 33
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	1.41	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	97.4	70-130		%REC	1	6/11/2004

Qualifiers: • Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-003A

Client Sample ID: 9 Buffalo - A
Tag Number: 12
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
		TO-15				
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	3.07	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	98.5	70-130		%REC	1	6/11/2004

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-004A

Client Sample ID: A
Tag Number: 12
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	1.33	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	97.3	70-130		%REC	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-005A

Client Sample ID: 11 Buffalo - A
Tag Number: 70
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15				TO-15		Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	4.35	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	97.8	70-130		%REC	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-006A

Client Sample ID: 3 Buffalo - A
Tag Number: 23
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15				TO-15		Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	3.48	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	99.6	70-130		%REC	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-007A

Client Sample ID: 12 Main - A
Tag Number: 64
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	1.38	1.00		ppbV	1	6/11/2004
Trichloroethene	1.66	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	113	70-130		%REC	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-008A

Client Sample ID: Background
Tag Number: 13
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15				TO-15		Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	ND	1.00		ppbV	1	6/11/2004
Trichloroethene	ND	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	98.7	70-130		%REC	1	6/11/2004

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-009A

Client Sample ID: 5 Buffalo - sub
Tag Number: 76
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						
		TO-15				Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/11/2004
Tetrachloroethylene	20.3	1.00		ppbV	1	6/11/2004
Trichloroethene	2.09	1.00		ppbV	1	6/11/2004
Surr: Bromofluorobenzene	112	70-130		%REC	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-010A

Client Sample ID: 9 Buffalo -sub
Tag Number: 31
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15				TO-15		Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/14/2004
Tetrachloroethylene	156	10.0		ppbV	10	6/14/2004
Trichloroethene	2.18	1.00		ppbV	1	6/14/2004
Surr: Bromofluorobenzene	113	70-130		%REC	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-011A

Client Sample ID: 11 Buffalo - sub
Tag Number: 74
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/14/2004
Tetrachloroethylene	1.07	1.00		ppbV	1	6/14/2004
Trichloroethene	ND	1.00		ppbV	1	6/14/2004
Surr: Bromofluorobenzene	101	70-130		%REC	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-012A

Client Sample ID: 7 Buffalo - sub
Tag Number:
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/14/2004
Tetrachloroethylene	ND	1.00		ppbV	1	6/14/2004
Trichloroethene	ND	1.00		ppbV	1	6/14/2004
Surr: Bromofluorobenzene	111	70-130		%REC	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-013A

Client Sample ID: 3 Buffalo - sub
Tag Number: 28
Collection Date: 6/9/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	1.00		ppbV	1	6/14/2004
Tetrachloroethylene	104	10.0		ppbV	10	6/14/2004
Trichloroethene	3.77	1.00		ppbV	1	6/14/2004
Surr: Bromofluorobenzene	100	70-130		%REC	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-001A

Client Sample ID: 5 Buffalo - A
Tag Number: 18
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	ND	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-002A

Client Sample ID: 7 Buffalo -A
Tag Number: 33
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	9.72	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-003A

Client Sample ID: 9 Buffalo - A
Tag Number: 12
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						
		TO-15				Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	21.2	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-004A

Client Sample ID: A
Tag Number: 12
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	9.17	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-005A

Client Sample ID: 11 Buffalo - A
Tag Number: 70
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	30.0	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-006A

Client Sample ID: 3 Buffalo - A
Tag Number: 23
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	24.0	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-007A

Client Sample ID: 12 Main - A
Tag Number: 64
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	9.51	6.89		ug/m3	1	6/11/2004
Trichloroethene	9.07	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY**Client Sample ID:** Background**Lab Order:** C0406007**Tag Number:** 13**Project:** 4216**Collection Date:** 6/8/2004**Lab ID:** C0406007-008A**Matrix:** AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						
			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	ND	6.89		ug/m3	1	6/11/2004
Trichloroethene	ND	5.46		ug/m3	1	6/11/2004

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-009A

Client Sample ID: 5 Buffalo - sub
Tag Number: 76
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/11/2004
Tetrachloroethylene	140	6.89		ug/m3	1	6/11/2004
Trichloroethene	11.4	5.46		ug/m3	1	6/11/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-010A

Client Sample ID: 9 Buffalo -sub
Tag Number: 31
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						
		TO-15				Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/14/2004
Tetrachloroethylene	1070	68.9		ug/m3	10	6/14/2004
Trichloroethene	11.9	5.46		ug/m3	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-011A

Client Sample ID: 11 Buffalo - sub
Tag Number: 74
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/14/2004
Tetrachloroethylene	7.38	6.89		ug/m3	1	6/14/2004
Trichloroethene	ND	5.46		ug/m3	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-012A

Client Sample ID: 7 Buffalo - sub
Tag Number:
Collection Date: 6/8/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15						Analyst: RJP
		TO-15				
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/14/2004
Tetrachloroethylene	ND	6.89		ug/m3	1	6/14/2004
Trichloroethene	ND	5.46		ug/m3	1	6/14/2004

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 15-Jun-04

CLIENT: GZA GeoEnvironmental of NY
Lab Order: C0406007
Project: 4216
Lab ID: C0406007-013A

Client Sample ID: 3 Buffalo - sub
Tag Number: 28
Collection Date: 6/9/2004
Matrix: AIR

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
AIR TOXIC TO15			TO-15			Analyst: RJP
cis-1,2-Dichloroethene	ND	4.03		ug/m3	1	6/14/2004
Tetrachloroethylene	718	68.9		ug/m3	10	6/14/2004
Trichloroethene	20.6	5.46		ug/m3	1	6/14/2004

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

GLA

APPENDIX F
DATA USABILITY SUMMARY REPORT

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

VALIDATION REPORT

GZA GeoEnvironmental of NY
364 Nagel Drive
Buffalo, NY 14225
(716)685-2300

Project No.: 21.0055727.10
Project Name: Buffalo Street
Work Order No.: 0403-00010
Date Reported: 3/08/04

SAMPLE INFORMATION

Date Sampled	Matrix	Sample ID	Validated Method
2/03/2003	Solid	GP-1 6-7'	EPA Method 8260 - VOCs
2/03/2003	Solid	GP-2 6-7.5'	EPA Method 8260 - VOCs
2/03/2003	Solid	GP-3 6-8'	EPA Method 8260 - VOCs
2/03/2003	Solid	GP-4 0-4'	EPA Method 8260 - VOCs
2/03/2003	Solid	GP-7 1-2'	EPA Method 8260 - VOCs
2/03/2003	Solid	GP-9 4-8'	EPA Method 8260 - VOCs
4/10/2003	Solid	B-10 8-9	EPA Method 8260 - VOCs
4/10/2003	Solid	B-11 8-9	EPA Method 8260 - VOCs
4/10/2003	Solid	B-15 4-7.7	EPA Method 8260 - VOCs
4/10/2003	Solid	B-16 4-6	EPA Method 8260 - VOCs
4/10/2003	Solid	B-14 6.5-8	EPA Method 8260 - VOCs
4/10/2003	Aqueous	GP-13 Water	EPA Method 8260 - VOCs
4/22/2003	Aqueous	MW-1	EPA Method 8260 - VOCs

Project Reviewer: *Kathy Paul*

**Data Validation Report – 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples – February to April, 2003**

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Table 2 – Summary of Data Package Quality Control Samples

**Data Validation Report – 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples – February to April, 2003**

I. Introduction

This data validation report is based upon the review of data generated by Paradigm Environmental Services Laboratory for samples collected by GZA at the #5 Buffalo Street site in Hamburg, NY. The samples were collected by GZA on February 3, 2003, April 10, 2003, and April 22, 2003. These samples were received by Paradigm, respectively, on February 11, 2003, April 11, 2003, and April 22, 2003. The laboratory initially reported the results as a standard commercial package. Upon GZA's request on November 26, 2003, Paradigm assembled the summary and raw results into a package to be evaluated for NYSDEC ASP criteria. The lab promptly supplied the data on December 11, 2003 with narratives. This data package was assessed to determine the validity of the analytical results as well as the completeness and compliance of the data package. This data has undergone a quality control evaluation by GZA personnel and qualifier codes for the reported results have been summarized in Table 1 to assist the end data user in determining the qualitative and/or quantitative reliability of each result.

The data is generally unacceptable for use as a quantitative measurement of site conditions. Details of this determination are presented in the narrative below.

II. Volatile Organics Analysis

Eleven soil samples and two aqueous samples were submitted by GZA field personnel for volatile organics analysis. The requested analyses included New York's Target Compound List (TCL) by EPA Method 8260 and NY's STARS List by EPA Method 8260. This report is based upon a review of available Chain of Custody documentation, reported laboratory results, instrument run logs, and laboratory raw data.

A. Completeness Assessment

The laboratory submitted a data package with many correct elements for review, including COC's, Login documentation, initial calibration information, instrument logs, sample measurements, and raw quantitation reports with total ion chromatograms. Notable exceptions to the required QC for validation are:

- The laboratory has made clear that the samples were not submitted for analysis to include validation. The delay in the request (> 6 months) may be responsible for two of the missing items including: the tune verification and the continuing calibration verification (CCV) from the February 10, 2003 analyses.
- Although the Chain of Custody form dated 02/03/03 requested STARS list analytes, no raw calibration data or daily quality control data were

**Data Validation Report – 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples – February to April, 2003**

submitted to verify the laboratory report. Therefore no statements can be made regarding the validity of STARS analytes.

- The laboratory documented sample size analyzed but did not include dilution factor calculations.
- If the laboratory calculated percent solids for each sample the results were not included and/or incorporated into the final results calculations.
- The laboratory ran, but did not include for review, CCV reports for all analysis dates.
- The laboratory did not analyze a Laboratory Control Sample (LCS) sample on 02/11/03.

A summary of the missing files required to generate a complete validation report is included in Table 2.

B. Compliance Assessment

1. Sample Receipt and Holding Times

EPA Protocols indicate that all VOC samples must be kept cool at 4 degrees C +/- 2degrees. NY regulations do not mandate methanol preservation of soil samples for EPA Method 8260 analysis. Aqueous samples must be preserved with 1:1 Hydrochloric Acid for a fourteen day holding time. Un-preserved aqueous samples have a holding time of seven days.

The solid samples collected on 02/03/03 were not methanol preserved and were logged in at the laboratory on 02/04/03 at 15 degrees C. The laboratory has made the statement that compound of concern, Tetrachloroethene, is stable at higher temperatures. This statement is incorrect and the data must be flagged as estimated. The samples were run within the fourteen day holding time.

The solid and aqueous samples collected on 04/10/03 were neither methanol nor HCl preserved and were logged in at the laboratory on 04/14/03 at 14 degrees C. The laboratory has made the statement that compound of concern, Tetrachloroethene, is stable at higher temperatures. This statement is incorrect and coupled with the lapse of three days the data must be flagged as estimated. The solid samples were run within the fourteen day holding time. The aqueous sample was analyzed one day out of the seven day holding time.

The aqueous sample collected on 04/2/03 was not HCl preserved and was logged in at the laboratory on 04/24/03 at 16 degrees C. The laboratory has made the statement that compound of concern, Tetrachloroethene, is stable at higher temperatures. This statement is incorrect and the data must be flagged as estimated. The sample was run within the seven day holding time.

**Data Validation Report – 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples – February to April, 2003**

None of the samples for this project were transported or handled in a manner to preserve data quality.

2. Instrument Calibration and Tuning

The GC/MS system employed for EPA Method 8260 analysis must be tuned to 4-Bromofluorobenzene (4-BFB) and calibrated for the target EPA Method 8260 analytes. Periodically, an initial tuning and calibration must be performed to determine the linear range of analysis. The calibration must be verified every twelve hours for accuracy.

The laboratory performed a linear initial calibration on 12/26/02 and met the criteria of <15 % relative standard deviation for each target analyte. The laboratory verified the 4-BFB tuning and target compound calibration for each day samples were analyzed. The tune evaluation for 02/10/03 was not supplied as the laboratory stated that the restored file was corrupt. The results from this day must be flagged as rejected. Although the laboratory analyzed Continuing Calibration Verification (CCV) samples, they substituted Laboratory Control Samples (LCS) raw data for review. LCS samples verify matrix (soil or aqueous) and are run in addition to the CCV. An LCS was not analyzed on 02/11/03, therefore no calibration verification data is available for the samples run that day. The results for these 02/11/03 samples must be flagged as rejected. The results for samples analyzed on 4/18/03, 4/20/03, 4/21/03, and 4/29/03 were associated with acceptable tuning and calibration verifications.

3. Blank Analysis

No Trip Blanks or Field Blanks were submitted with the samples for analysis, therefore cross-contamination from highly contaminated samples to low-level samples cannot be evaluated.

Instrument Method Blanks (MB) are analyzed with every sample batch to check the GC/MS system for contamination. The laboratory performed these blanks as required and no contamination was evident.

4. Matrix Spike / Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate sets are analyzed to determine two measurements. Matrix Spikes are compounds added to the sample matrix to see any effects the sample type may have on the analysis. A Matrix Spike Duplicate is also analyzed to verify periodically the laboratory's precision between sample measurements. These sample sets are analyzed for every twenty samples run or by sampler request. As no samples were assigned for

**Data Validation Report – 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples – February to April, 2003**

this analysis on the COC's the laboratory did not target these samples for MS/MSD analysis. By chance (using the one per twenty rule), one sample, B-10 8-9', was selected for MS/MSD analysis on 04/20/03. The results indicate that no matrix effect was present and the laboratory generated acceptable precision data.

5. Report Results Verification

Please refer to Table 1 for a summary of the site results.

The laboratory reported analytical results for each sample analyzed, and re-ran each sample using a smaller sub-sample when the result exceeded the linear calibration range. Dilution factor calculations are not included in the raw data. A sample weight is recorded for each sample analyzed but no percent solids calculations are provided. The final calculated results are not verifiable. In addition multiple analytical runs may cause a loss of volatiles. EPA Method 5030 also recommends extracting the sample in methanol when the results are elevated. The laboratory did not perform these extractions but chose to run a smaller sub-sample. The results for these samples are most likely biased low. The laboratory also added surrogate compounds to each sample analyzed but did not include the results in the report. All surrogates reviewed were acceptable.

III. Conclusion

This data validation report has identified many deficiencies with the analyses of the solid and aqueous samples from the #5 Buffalo Street – Hamburg, NY site. The data should be used only as a qualitative measurement for site characterization. All quantitative measurements must be rejected primarily due to poor sample handling. It is suggested that future site work should be conducted using the updated SW-846 Method 5035 for the collection, preservation, and analysis of volatile compounds to minimize the loss of the detected target compounds. Additional quality control samples and blanks should also be submitted to check cross-contamination, laboratory accuracy, and precision.

Data Validation Report – 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples – February to April, 2003

Table 1 Data Summary with Qualifications

Sample	Sampled	Analyzed	Units	1,1,1-Trichloroethane	Tetrachloroethene	Toluene	m&p-Xylenes
GP-1 6-7'	2/3/03	2/10&11/03	ug/kg	4.8 r	1050 r	14 r	22 r
GP-2 6-7.5'	2/3/03	2/10/03	ug/kg	r	212 r	21.5 r	20.5 r
GP-3 6-8'	2/3/03	2/10/03	ug/kg	14.2 r	579 r	r	10.2 r
GP-4 0-4'	2/3/03	2/10/03	ug/kg	r	599 r	r	r
GP-7 1-2'	2/3/03	2/10&11/03	ug/kg	r	87500 r	r	r
GP-9 4-8'	2/3/03	2/10&11/03	ug/kg	r	2060r	r	r
B-10 8-9'	4/10/03	4/20/03	ug/kg	uj	uj	uj	uj
B-11 8-9'	4/10/03	4/20&21/03	ug/kg	uj	16100 j	uj	uj
B-15 4-7.7'	4/10/03	4/20&21/03	ug/kg	7.78 j	120 j	uj	uj
B-16 4-6'	4/10/03	4/20&21/03	ug/kg	uj	20.2j	uj	uj
B-14 6.5-8'	4/10/03	4/20&21/03	ug/kg	uj	175 j	uj	uj
GP-13 Water	4/10/03	4/18/03	ug/L	uj	1470 j	uj	uj
MW-1 Water	4/22/03	4/29/03	ug/L	uj	uj	uj	uj

Data Qualifier Definitions

These definitions can be found in the "Region I Laboratory Data Validation Functional Guidelines for Evaluating Organic Analysis" EPA, dated February 1, 1988, revised November 1, 1988.

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

J - The associated numerical value is an estimated quantity.

R - The data is unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

UJ - The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

Data Validation Report - 5 Buffalo Street, Hamburg, NY
Solid and Aqueous Samples - February to April, 2003

Table 2 Summary of Data Package Quality Control Samples

Associated Samples	Analysis Date	BFB Tune	CCV	LCS	Method Blank	MS/MSD Set
GP-1 6-7' GP-2 6-7.5' GP-3 6-8' GP-4 0-4' GP-7 1-2' GP-9 4-8'	2/10/03	63884 <i>Missing</i>	63885 <i>Missing</i>	63888 PASS	63887 PASS	<i>Not analyzed</i>
GP-1 6-7' GP-7 1-2' GP-9 4-8'	2/11/03	63903 PASS	63904 <i>Missing</i>	<i>Not analyzed</i>	63905 PASS	<i>Not analyzed</i>
GP-13 Water	4/18/03	64690 PASS	64691 <i>Missing</i>	64693 PASS	64694 PASS	<i>Not analyzed</i>
B-10 8-9' B-11 8-9' B-15 4-7.7' B-16 4-6' B-14 6.5-8'	4/20/03	64710 PASS	64711 <i>Missing</i>	64713 PASS	64712 PASS	64715/64716 PASS
B-11 8-9' B-15 4-7.7' B-16 4-6' B-14 6.5-8'	4/21/03	64728 PASS	64729 <i>Missing</i>	64731 PASS	64730 PASS	<i>Not analyzed</i>
MW-1 Water	4/29/03	64870 PASS	64871 <i>Missing</i>	64878 PASS	64877 PASS	<i>Not analyzed</i>

GLA

APPENDIX G

INDOOR AIR QUALITY QUESTIONNAIRES AND BUILDING INVENTORY

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Daniel Tray Date Prepared 6/3/04

Preparer's Affiliation 62A GREEN VISION Phone No. (716) 685-2300

1. OCCUPANT

Name: Marion + Robert Schlieper

Address: 3 Buffalo St.

Hamburg, NY 14075

County: ERIE

Home Phone No. _____ Office Phone No. 649-5343

2. OWNER OR LANDLORD:
(If different than occupant)

Name: _____

Address: _____

Phone No. _____

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch
Raised Ranch
Split Level
Colonial
Mobile Home

2-Family
Duplex
Apartment House _____ Units
Number of floors _____
Other specify _____

Residence Age _____ General Description of Building Construction Materials _____

Block exterior Slab on grade

Is the building insulated? Yes (No) How air tight is the building not too drafty

New Roof installed recently Back doors get 1. Hl. drafty in winter time

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement, crawlspace, slab on grade, other _____
2. Basement floor: concrete, dirt, other NA
3. Concrete floor: unsealed, painted, covered, with tile/vinyl tile ^{in majority of site} bathroom painted concrete
4. Foundation walls: poured concrete, block, laid up stone, other _____
5. The basement is: wet, damp, dry NA Sump present? y / n _____ Water in sump? y / n _____
6. The basement is: finished, unfinished NA
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
none noted
8. Describe how air tight the basement is NA

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

<u>Hot Air Circulation</u>	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify) _____
2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood Coal Solar
Other (specify) _____
3. Is the heating system's power plant located in the basement or another area: ceiling mounted
4. Is there air-conditioning? Yes / No Central Air or Window Units? Ceiling mounted inside
Specify the location In Show room AREA
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
NONE OBSERVED

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
NO

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____	Grouted or Ungouted _____
Well Depth _____	Type of Storage Tank _____
Depth to Bedrock _____	Size of Storage Tank _____
Feet of Casing _____	Describe type(s) of Treatment _____

Water Quality:

Taste and/or odor problems? y / n If so, describe None noted

How long has the taste and/or odor been present? _____

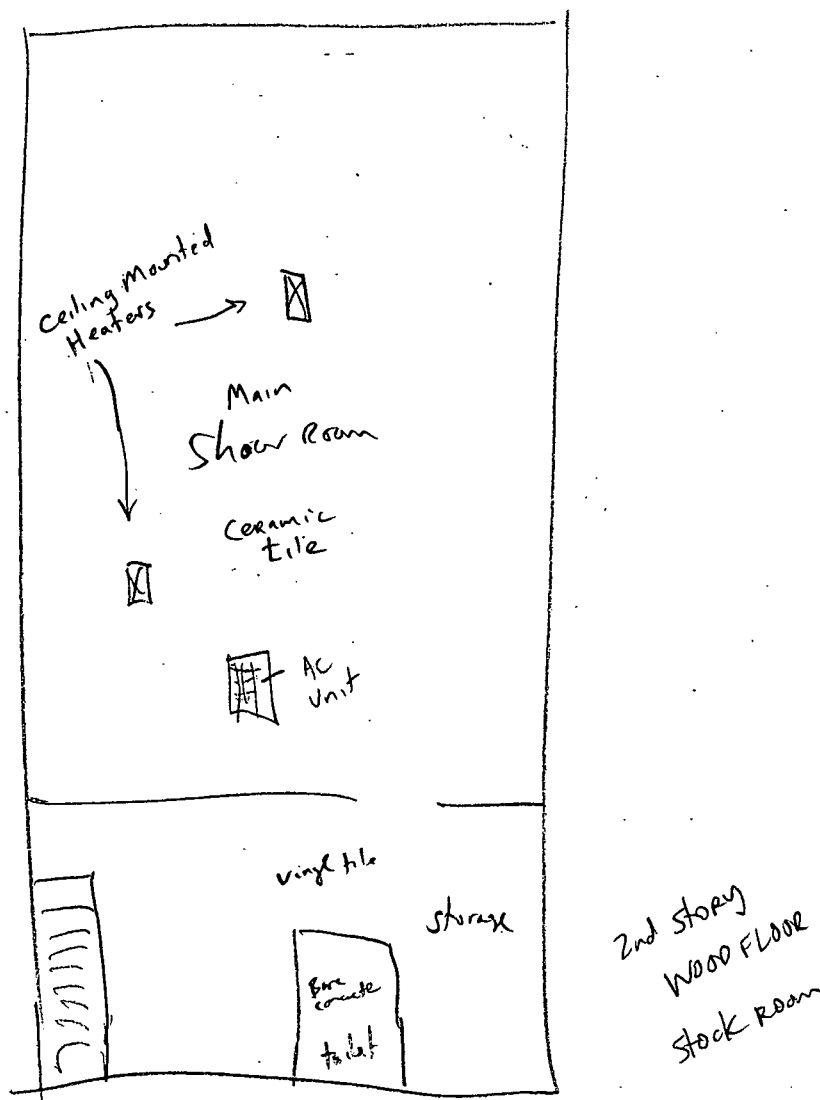
Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) _____

Distance from well to septic system _____ Type of septic tank additive _____

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.



OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Household Products Inventory

Occupant / residence FRISK ANGELS

Investigator: D. TROY

Date: 6/3/04

Product description (dispenser, size, manufacturer ...)

VOC Ingredients

PID
Reading

Some gallon paint cans on 2nd floor	< 200 g/L	ND

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name DANIEL TROY Date Prepared 6/3/04

Preparer's Affiliation GEA ENVIRONMENTAL OF NY Phone No. (716) 685-2300

1. OCCUPANT

Name: VACANT

Address: 5 Buffalo Street

Hamburg NY 14075

County: Hamburg ERIE

Home Phone No. _____ Office Phone No. NA

2. OWNER OR LANDLORD:
(If different than occupant)

Name: _____

Address: _____

Phone No. _____

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch
Raised Ranch
Split Level
Colonial
Mobile Home

2-Family
Duplex
Apartment House _____ Units
Number of floors _____
Other specify VACANT commercial 1.5 story

Residence Age _____ General Description of Building Construction Materials _____

Concrete Slab on grade Block walls

Is the building insulated? Yes / No How air tight is the building minimally

Rear of Building has leaks in windows and around door.

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement, crawlspace, slab on grade, other _____
2. Basement floor: concrete, dirt, other NA
3. Concrete floor: unsealed, painted, covered, with carpet
4. Foundation walls: poured concrete, block, laid up stone, other _____
5. The basement is: wet, damp, dry NA Sump present? y / n _____ Water in sump? y / n _____
6. The basement is: finished, unfinished NA
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
NA
8. Describe how air tight the basement is NA

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

<u>Hot Air Circulation</u>	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify) <u>Natural Gas ceiling mounted</u>
2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood, Coal, Solar
Other (specify) _____
3. Is the heating system's power plant located in the basement or another area: ceiling mounted 1st floor
4. Is there air-conditioning? Yes / No Central Air or Window Units?
Specify the location 2nd floor window unit → NOT functional.
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
NA

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No unknown
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
Unknown

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____ Grouted or Ungouted _____
Well Depth _____ Type of Storage Tank _____
Depth to Bedrock _____ Size of Storage Tank _____
Feet of Casing _____ Describe type(s) of Treatment _____

Water Quality:

Taste and/or odor problems? y / n If so, describe unknown

How long has the taste and/or odor been present? _____

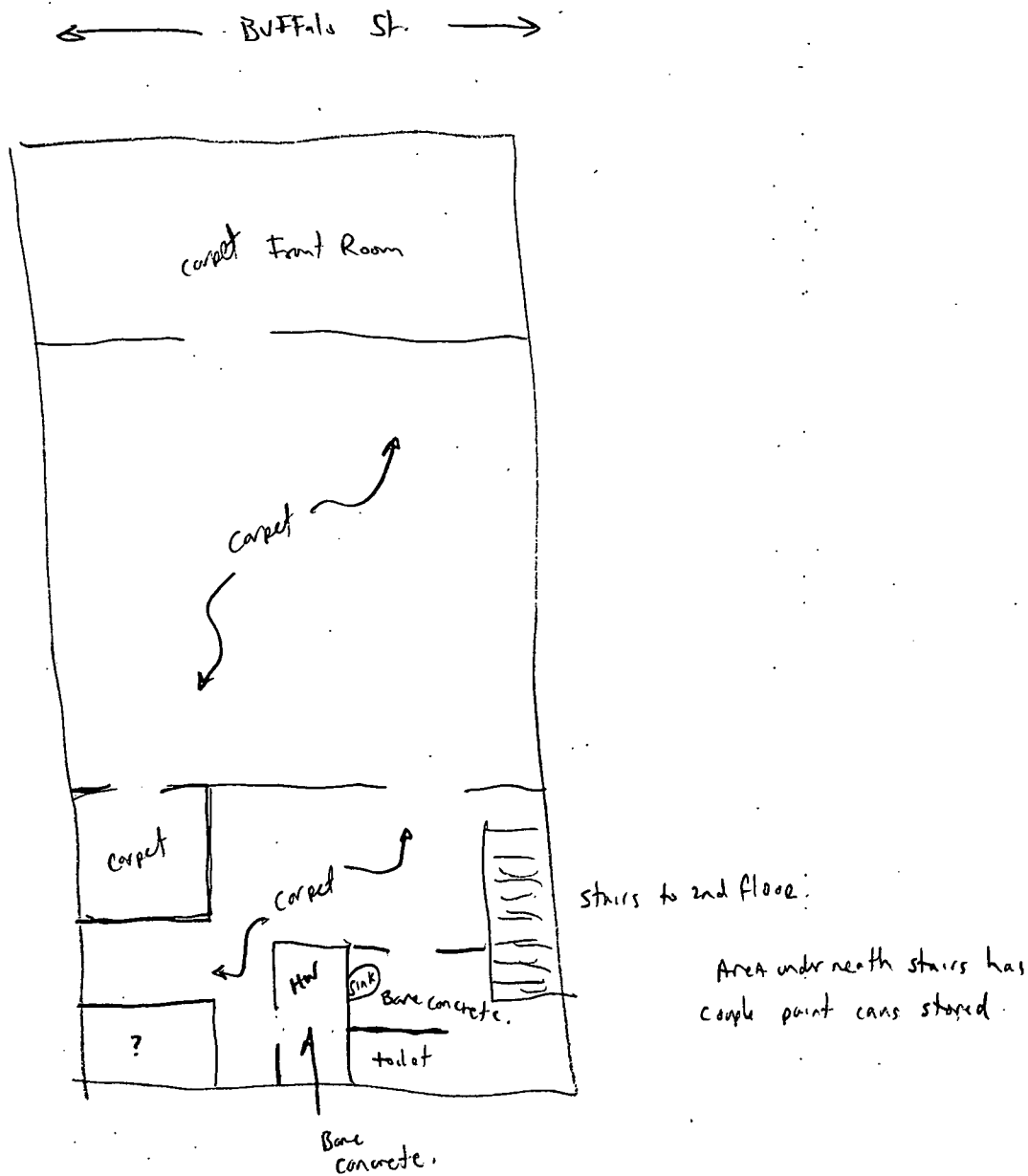
Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) _____

Distance from well to septic system _____ Type of septic tank additive _____

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.



OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Household Products Inventory

Occupant/residence 5 BUFFALO STREET

Investigator: DANIEL TROY / GSA Date: 6/3/04

Product description (dispenser, size, manufacturer ...)

VOC Ingredients

PID Reading

[illegible]

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name DANIEL TROY Date Prepared 6/3/04

Preparer's Affiliation GRA GOVERNMENTAL OF NY Phone No. (716) 685-2300

1. OCCUPANT

Name: VACANT

Address: 7 Buffalo Street

Hamburg NY 14075

County: ERIE

Home Phone No. _____ Office Phone No. NA

2. OWNER OR LANDLORD:

(If different than occupant)

Name: _____

Address: _____

Phone No. _____

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch
Raised Ranch
Split Level
Colonial
Mobile Home

2-Family
Duplex
Apartment House _____ Units
Number of floors 1.5 story
Other specify _____

Residence Age _____ General Description of Building Construction Materials _____

slab on grade w/ block exterior walls

Is the building insulated? Yes (No) How air tight is the building minimally

Back areas appear drafty around windows and doors

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement, crawlspace, slab on grade, other _____
2. Basement floor: concrete, dirt, other NA
3. Concrete floor: unsealed, painted, covered; with Vinyl tile (rear 1/2 of floor)
4. Foundation walls: poured concrete, block, laid up stone, other _____
5. The basement is: wet, damp, dry NA Sump present? y / n _____ Water in sump? y / n _____
6. The basement is: finished, unfinished NA
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
Windows / door jams
8. Describe how air tight the basement is N/A

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

<u>Hot Air Circulation</u>	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify) _____
2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood Coal Solar
Other (specify) _____
3. Is the heating system's power plant located in the basement or another area: 1st floor closet
4. Is there air-conditioning? Yes / No Central Air or Window Units?
Specify the location _____
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
Duct work appears to be insulated tubular "soft" pipe like ≈ 8-10" Ø
Located above ceiling tiles in Main Room

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No Unknown
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose. N/A
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
Unknown

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____	Grouted or Ungouted _____
Well Depth _____	Type of Storage Tank _____
Depth to Bedrock _____	Size of Storage Tank _____
Feet of Casing _____	Describe type(s) of Treatment _____

Water Quality:

Taste and/or odor problems? y / n If so, describe N/A

How long has the taste and/or odor been present? _____

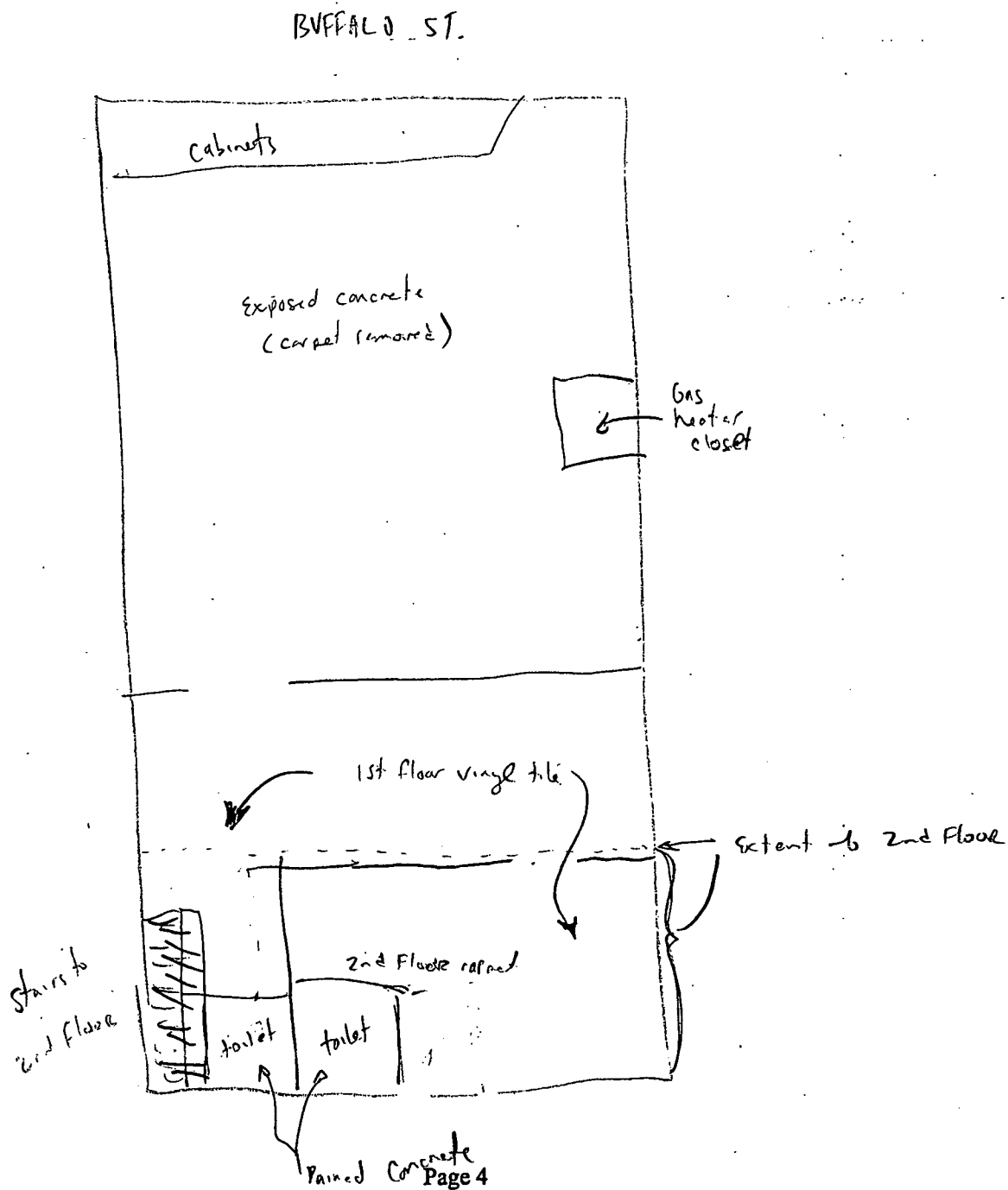
Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) _____

Distance from well to septic system _____ Type of septic tank additive _____

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.



OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Household Products Inventory

Occupant / residence VACANT

Investigator: DANIEL TROY Date: 6/3/04

Product description (dispenser, size, manufacturer ...)

VOC Ingredients

PID
Reading

NOTHING OBSERVED	—	ND

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name DANIEL TROY Date Prepared 6/3/84

Preparer's Affiliation GZA GEOENVIRONMENTAL Phone No. (716) 685-2300

1. OCCUPANT

Name: Dannys Shoe Repair (Sought to be vacant.)

Address: 9 Buffalo Street

Hamburg NY 14075

County: ERIE

Home Phone No. _____ Office Phone No. _____

2. OWNER OR LANDLORD:
(If different than occupant)

Name: _____

Address: _____

Phone No. _____

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch
Raised Ranch
Split Level
Colonial
Mobile Home

2-Family
Duplex
Apartment House _____ Units
Number of floors _____
Other specify 1.5 story commercial

Residence Age _____ General Description of Building Construction Materials _____

Slab on grade BLOCK WALL

Is the building insulated? Yes (No) How air tight is the building minimally airtight.

New Roof installed Back door & windows leak - currently sealed w/ PLASTIC

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement, crawlspace, slab on grade, other _____
2. Basement floor: concrete, dirt, other NA
3. Concrete floor: unsealed, painted, covered; with carpet / vinyl carpet
4. Foundation walls: poured concrete, block, laid up stone, other _____
5. The basement is: wet, damp, dry NA Sump present? y / n _____ Water in sump? y / n _____
6. The basement is: finished, unfinished NA
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
utility port (toilets)
8. Describe how air tight the basement is NA

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

<u>Hot Air Circulation</u>	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify) _____
2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood Coal Solar
Other (specify) _____
3. Is the heating system's power plant located in the basement or another area: ceiling mounted
4. Is there air-conditioning? Yes / No Central Air or Window Units
Specify the location A/C not working (front building)
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
NA

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
No

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____	Grouted or Ungouted _____
Well Depth _____	Type of Storage Tank _____
Depth to Bedrock _____	Size of Storage Tank _____
Feet of Casing _____	Describe type(s) of Treatment _____

Water Quality:

Taste and/or odor problems? y / n If so, describe N/A

How long has the taste and/or odor been present? _____

Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) _____

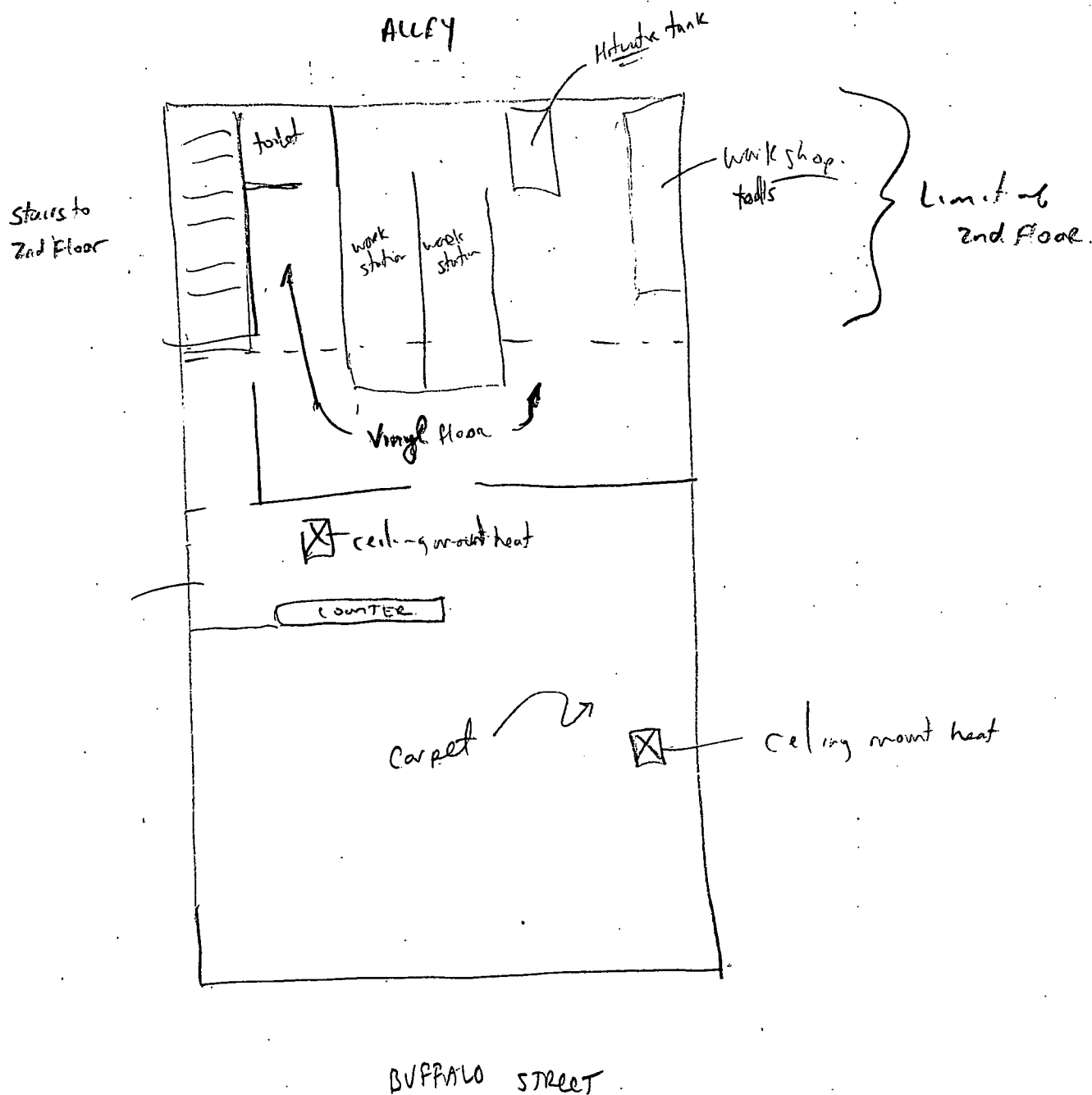
Distance from well to septic system _____ Type of septic tank additive _____

Hood for exhaust.

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.



OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Household Products Inventory

Occupant / residence Formerly Darning shoe repair

Investigator: D. Pro Date: 6/3/04

Product description (dispenser, size, manufacturer ...)	VOC Ingredients	PID Reading
4 1/2 oz color spray ~ 100+ cans	methylene chloride	0
Leather stain fins ~ 2 oz	~~meth~~ ?	0
All material to be removed from		
premises by time of Air sampling		
Ambient PID reading of 1 ppm recorded at bottom of stairs to 2nd floor		
unknown origin		

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name DANIEL TROY Date Prepared 6/3/04

Preparer's Affiliation GZA GREEN ENVIRONMENTAL Phone No. (716) 685-2300

1. OCCUPANT

Name: Jeanne Heckmiller

Address: 11 Buffalo Street

Hamburg, NY 14075

County: ERIE

Home Phone No. _____ Office Phone No. 716 648 2110

2. OWNER OR LANDLORD:
(If different than occupant)

Name: _____

Address: _____

Phone No. _____

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch
Raised Ranch
Split Level
Colonial
Mobile Home

2-Family
Duplex
Apartment House _____ Units
Number of floors _____
Other specify _____

Residence Age _____ General Description of Building Construction Materials _____

Brick Exterior w/ Block foundation (basement) Wood flooring

Is the building insulated? Yes / No

How air tight is the building drafty window/back door

Unsure

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement crawlspace, slab on grade, other _____
2. Basement floor concrete, dirt, other _____
3. Concrete floor: unsealed, painted, covered with carpeted
4. Foundation walls: poured concrete, block, laid up stone, other _____
5. The basement is: wet, damp, dry Sump present? y / n _____ Water in sump? y / n _____
6. The basement is: finished, unfinished, dry walled Both finished/unfinished _____
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
Some minor cracking in exposed concrete floor. Block walls seem very tight
8. Describe how air tight the basement is pretty tight

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

<u>Hot Air Circulation</u>	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify) _____
2. The type(s) of fuel(s) used is/are: Natural Gas Fuel Oil, Electric, Wood Coal Solar
Other (specify) _____
3. Is the heating system's power plant located in the basement or another area: Basement
4. Is there air-conditioning? Yes / No Central Air or Window Units?
Specify the location ceiling/roof mounted
5. Are there air distribution ducts present? Yes / No A
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
Air ducts. Floor mounted on 1st floor could not observe most of duct
those observed appeared tight

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No Unknown. possibly 100 yrs + ago
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
No.

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____	Grouted or Ungouted _____
Well Depth _____	Type of Storage Tank _____
Depth to Bedrock _____	Size of Storage Tank _____
Feet of Casing _____	Describe type(s) of Treatment _____

Water Quality:

Taste and/or odor problems? y / n If so, describe Nothing noted.

How long has the taste and/or odor been present? _____

Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) _____

Distance from well to septic system _____ Type of septic tank additive _____

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.

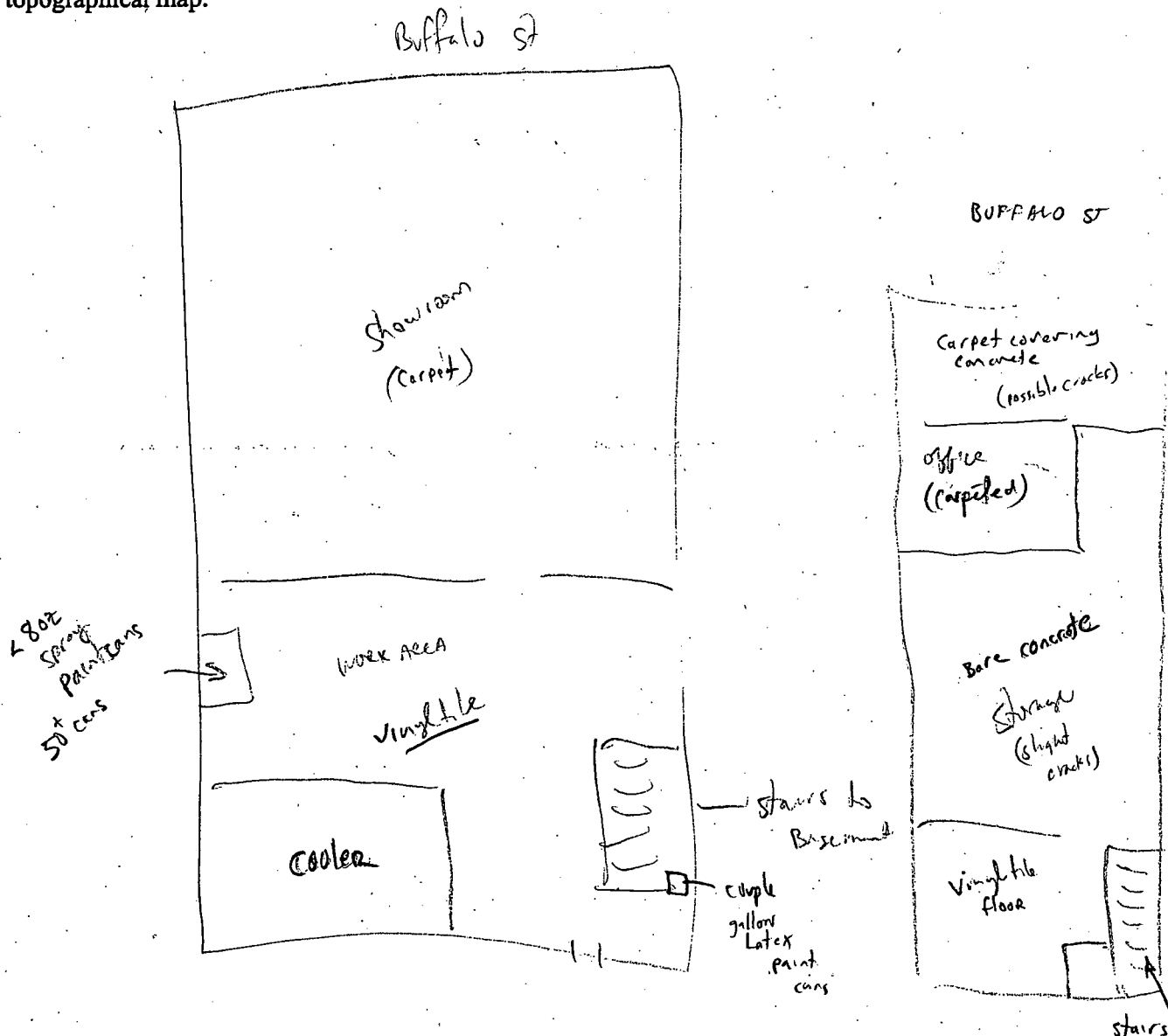
Some panels

OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.



BASEMENT

(No 2nd Floor)

Household Products Inventory

Occupant / residence 11 Buffalo Street

Investigator: D. Troy Date: 6/3/04

Product description (dispenser, size, manufacturer ...)

VOC Ingredients

PID
Reading

Sherwin Williams spray paint cans	Acetone / methyl chloride	ND

**NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT**

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name DANIEL TROY Date Prepared 6/3/04

Preparer's Affiliation GZA GEOENVIRONMENTAL Phone No. (716) 685-2700

1. OCCUPANT

Name: ERIC BARLOW

Address: 12 E. Main Street
Hamburg NY 14075

County: ERIE

Home Phone No. _____ Office Phone No. 649-8590

2. OWNER OR LANDLORD:
(If different than occupant)

Name: _____

Address: _____

Phone No. _____

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch
Raised Ranch
Split Level
Colonial
Mobile Home

2-Family
Duplex
Apartment House _____ Units
Number of floors _____

Other specify 2 story commercial 1st floor Residence 2nd floor

Residence Age 1900's General Description of Building Construction Materials stone foundation

poured concrete wall wood clap board siding

Is the building insulated? (Yes)/No How air tight is the building Drafty 1st floor

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. ^{partial} ~~Full~~ basement, crawlspace, slab on grade, other _____ small basement in store front
crawlspace under showroom (inaccessible)
2. Basement floor: concrete, dirt, other _____
3. Concrete floor: unsealed, painted, covered; with _____
4. Foundation walls: poured concrete, block, laid up stone, other _____
5. The basement is: wet, damp, dry Sump present? y n Water in sump? y / n NA
6. The basement is: finished, unfinished _____
7. Identify potential soil vapor entry points (e.g., cracks, utility ports etc.)
utility ports (e.g. gas/water)
8. Describe how air tight the basement is pretty tight (no leaks)

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:
- | | |
|----------------------------|--------------------------|
| <u>Hot Air Circulation</u> | Heat Pump |
| Hot Water Radiation | Unvented Kerosene Heater |
| Steam Radiation | Wood stove |
| Electric Baseboard | Other (specify) _____ |
2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood Coal Solar
Other (specify) _____
3. Is the heating system's power plant located in the basement or another area: yes
4. Is there air-conditioning? Yes / No Central Air or Window Units?
Specify the location outside unit connects to furnace in basement & distributed via ducts.
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
A/C / Heat share ducts Floor ducts / vents cold return
located central showroom, ducts appeared to be tight. could not observe all ducts

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No 4 wheel ee/motorcycle
4. Is there a kerosene heater present? Yes / No garage
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? _____
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
No.

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications:

Well Diameter _____	Grouted or Ungouted _____
Well Depth _____	Type of Storage Tank _____
Depth to Bedrock _____	Size of Storage Tank _____
Feet of Casing _____	Describe type(s) of Treatment _____

Water Quality:

Taste and/or odor problems? y / n If so, describe No

How long has the taste and/or odor been present? _____

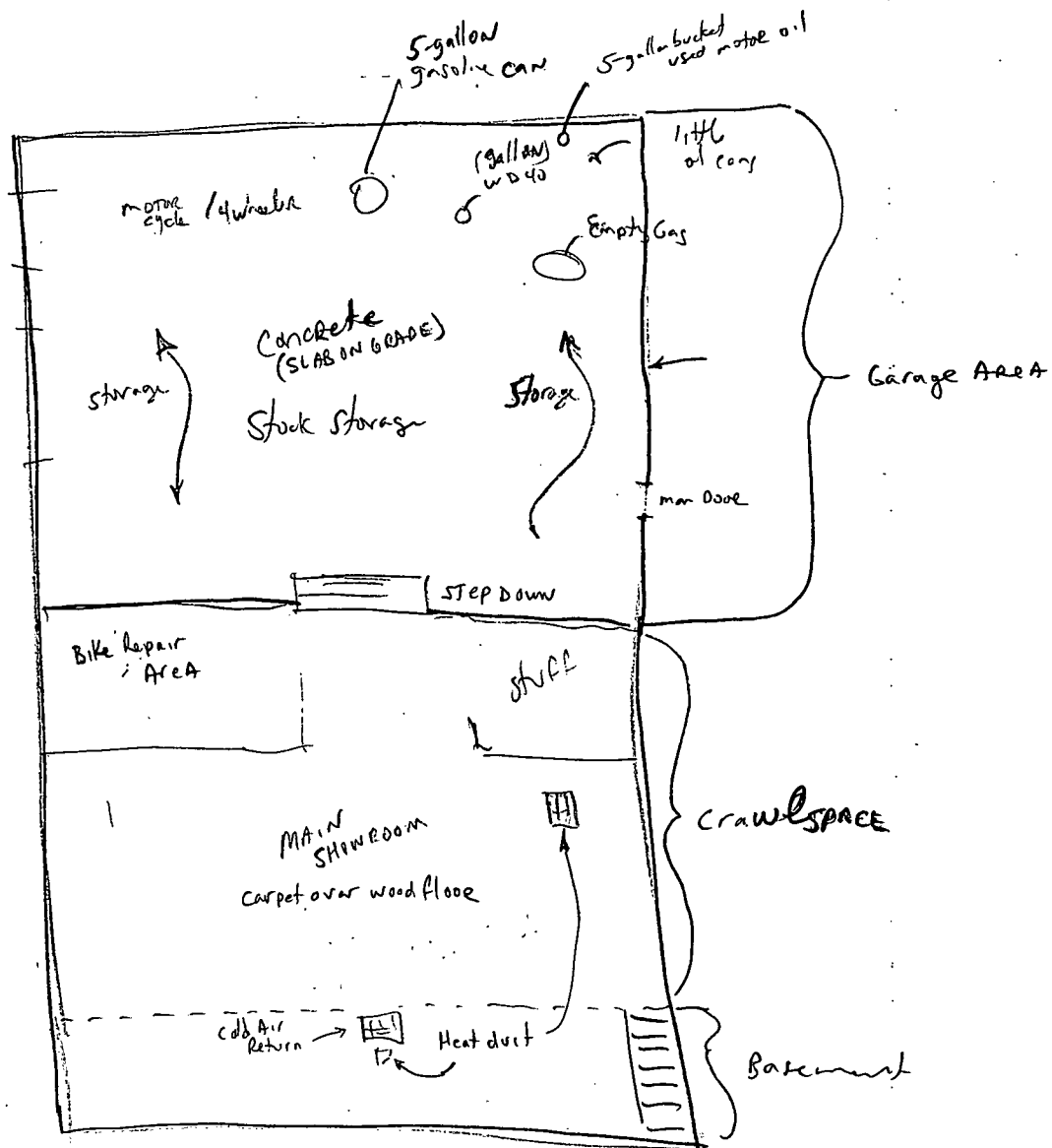
Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) _____

Distance from well to septic system _____ Type of septic tank additive _____

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.



E main street

OSR-3 (continued)

G. Potential Outdoor Sources of Pollution

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Household Products Inventory

Occupant / residence ERICS cycles 12 E. MAIN STREET

Investigator: D. Troy Date: 6/3/04

Product description (dispenser, size, manufacturer ...)

VOC Ingredients

PID Reading

[illegible]



APPENDIX H

**FACT SHEET - TETRACHLOROETHENE (PERC) IN
INDOOR AND OUTDOOR AIR**

FACT SHEET

TETRACHLOROETHENE (PERC) IN INDOOR AND OUTDOOR AIR

MAY, 2003

This fact sheet answers a few questions about a chemical called tetrachloroethene (PERC), which is widely used to dry-clean clothes. It provides information on health effects seen in humans and animals exposed to PERC in air. It also provides information about the New York State Department of Health (NYSDOH) guideline of 100 micrograms of PERC per cubic meter of air (100 mcg/m³) or 0.1 milligrams of PERC per cubic meter of air (0.1 mg/m³). The fact sheet focuses on the health risks from air exposures because most of the PERC released into the environment goes into air.

Prepared by

**New York State
Department of Health**

1. WHAT IS TETRACHLOROETHENE (PERC)?

Tetrachloroethene is a manufactured chemical that is widely used in the dry-cleaning of fabrics, including clothes. It is also used for degreasing metal parts and in manufacturing other chemicals. Tetrachloroethene is found in consumer products, including some paint and spot removers, water repellents, brake and wood cleaners, glues, and suede protectors. Other names for tetrachloroethene include PERC, tetrachloroethylene, perchloroethylene, and PCE. PERC is a commonly used name and will be used in the rest of the fact sheet.

PERC is a nonflammable, colorless liquid at room temperature. It readily evaporates into air and has an ether-like odor. Because most people stop noticing the odor of PERC in air after a short time, odor is not a reliable warning signal of PERC exposure.

2. HOW CAN I BE EXPOSED TO PERC?

People are exposed to PERC in air, water, and food. Exposure can also occur when PERC or material containing PERC (for example, soil) gets on the skin. For most people, almost all exposure is from PERC in air.

PERC gets into outdoor and indoor air by evaporation from industrial or dry-cleaning operations and from areas where chemical wastes are stored or disposed. Groundwater near these areas may become contaminated if PERC is improperly dumped or leaks into the ground. People may be exposed if they drink the contaminated water. They may also be exposed if PERC evaporates from contaminated drinking water into indoor air during cooking and washing. PERC may evaporate from contaminated groundwater and soil and into the indoor air of buildings above the contaminated area. PERC also may evaporate from dry-cleaned clothes and into indoor air or may get into indoor air after PERC-products, such as spot removers, are used. Indoor air PERC levels may get high if PERC-products are used in poorly ventilated areas.

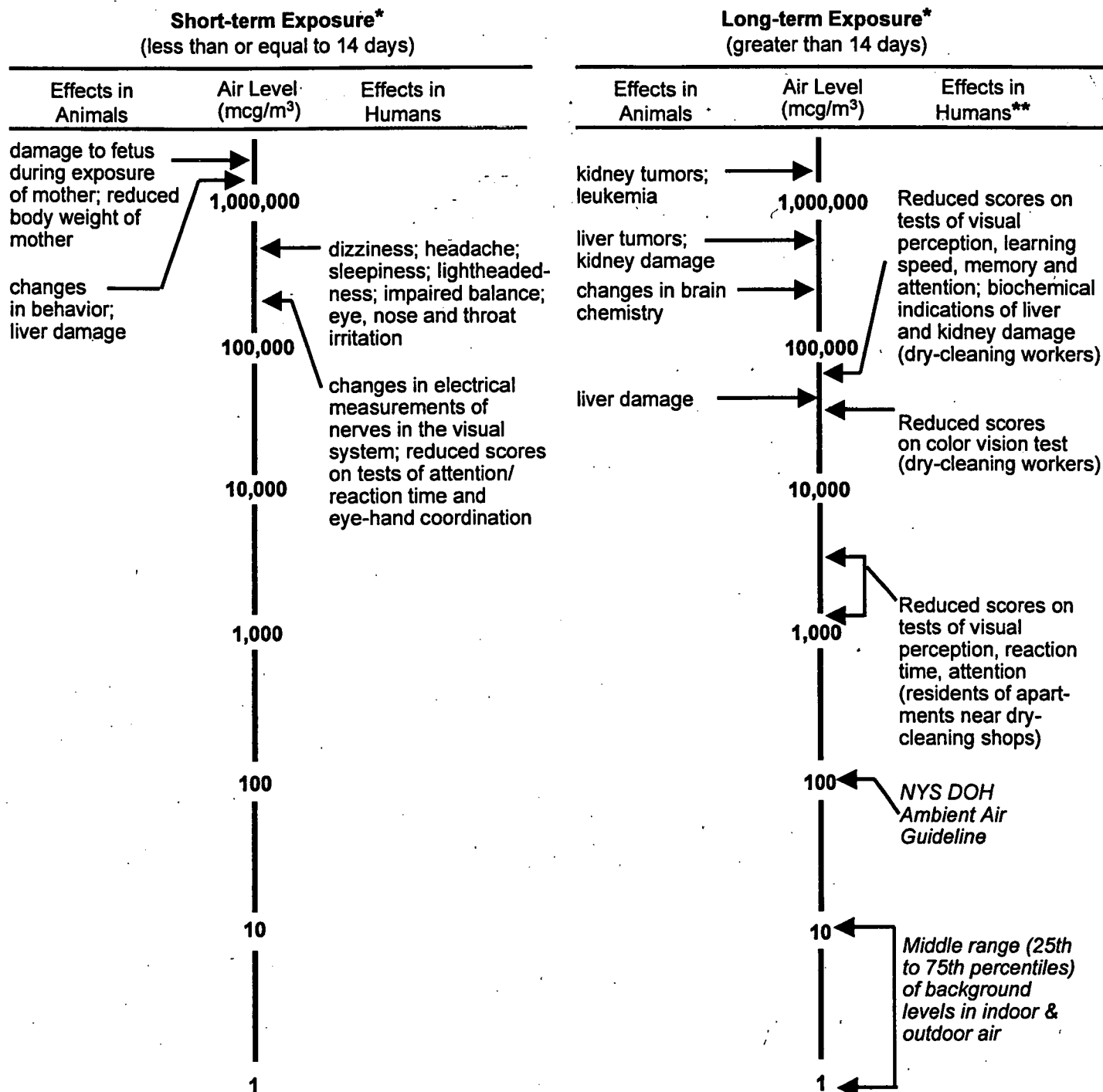
3. HOW DOES PERC ENTER AND LEAVE MY BODY?

When people breathe air containing PERC, the PERC is taken into the body through the lungs and passed into the blood, which carries it to all parts of the body. A large fraction of this PERC is breathed out, unchanged, through the lungs into the air. Some of this PERC is stored in the body (for example, in fat, liver, and brain) and some is broken down in the liver to other compounds and eliminated in urine. PERC can also be found in breastmilk. Once exposure stops, most of the PERC and its breakdown products leave the body in several days. However, it may take several weeks for all of the PERC and its breakdown products to leave the body.

4. WHAT KINDS OF HEALTH EFFECTS CAN BE CAUSED BY EXPOSURE TO PERC IN AIR?

In humans and animals, the major effects of PERC exposure are on the central nervous system, kidney, liver, and possibly the reproductive system. These effects vary with the level and length of exposure. Figure 1 shows the types of health effects seen in humans and animals and the lowest levels of PERC in air at which the effects were seen. The diagram on the right side of the figure shows the effects of long-term exposures in humans and animals whereas the diagram on the left side shows the same information for short-term exposures. Because there is a

Figure 1. Health Effects from Breathing Tetrachloroethene (PERC). The diagram shows the effects observed in humans and animals exposed to measured levels of PERC in air. The diagram contains information on the effects observed after short-term and long-term exposure. Also shown are background levels in indoor and outdoor air.



*Effects are listed at the lowest level (micrograms per cubic meter of air, mcg/m³) at which they were first observed. They and other effects may also be seen at higher levels. 100 mcg/m³ = 0.1 mg/m³ (milligrams per cubic meter of air) = 15 ppb (parts per billion) = 0.015 ppm (parts per million).

**Studies have shown that workplace exposure to PERC is associated with an increased risk of cancer and spontaneous abortion, but studies did not provide good quantitative data on exposure levels.

large amount of information on the human effects of PERC, the rest of the fact sheet will discuss only the human data.

The human effects shown in Figure 1 represent the average response of a group of individuals at an estimated level of exposure (typically, the average of the measured air levels). Because data for individual people are not usually reported, some people (those sensitive to the effects of PERC) may have experienced effects at air levels below the average air level, whereas other people (those resistant to the effects of PERC) may not have experienced effects at air levels above the average air level. The difference in how people respond to the same or similar exposure levels is due, in part, to the individual differences among people. People, for example, differ in age, sex, diet, family traits, lifestyle, genetic background, the presence of other chemicals in their body (e.g., alcohol, prescription drugs), and state of health. These differences can affect how people will respond to a given exposure. One person may feel fine during and after an exposure while another person may become sick. This is known as sensitivity. Differences in sensitivity should be kept in mind when reading the following information on the human health effects of PERC.

Short-Term Exposure - Studies with volunteers show that exposures of 8-hours or less to 700,000 micrograms per cubic meter of air (mcg/m^3) cause central nervous system symptoms such as dizziness, headache, sleepiness, lightheadedness, and poor balance (Figure 1). Exposures to 350,000 mcg/m^3 for 4 hours affected the nerves of the visual system and reduced scores on certain behavioral tests (which, for example, measure the speed and accuracy of a person's response to something they see on a computer screen). These effects were mild and disappeared soon after exposure ended.

Long-Term Exposure - Numerous studies of dry-cleaning workers indicate that long-term exposure (9 to 20 years, for example) to workplace air levels averaging about 50,000 mcg/m^3 to 80,000 mcg/m^3 reduces scores on behavioral tests and causes biochemical changes in blood and urine (Figure 1). The effects were mild and hard to detect. How long these effects would last if exposure ended is not known.

One study reported reduced scores on behavioral tests in 14 healthy adults living (for 10.6 years, on average) in apartments near dry-cleaning shops. The effects were small; the average test scores of the residents were slightly lower than the average score of unexposed people. The range of measured air levels in 13 apartments was 7.6 mcg/m^3 to 23,000 mcg/m^3 ; one air level was below 100 mcg/m^3 , five values were between 100 and 1,000 mcg/m^3 , and seven values were above 1,000 mcg/m^3 . The average air level in all apartments was 5,000 mcg/m^3 and the median value was about 1,400 mcg/m^3 (that is, half the measured air levels were above 1,400 mcg/m^3 and half were below it). As with the long-term occupational studies, how long these effects would last if exposure ended is not known. Confidence in the understanding of exposure in this study is less than that in the occupational studies.

Some studies show a slightly increased risk of some types of cancer and reproductive effects among workers, including dry-cleaning workers, exposed to PERC and other chemicals. Cancers associated with exposures include cancers of the esophagus, bladder, and non-Hodgkin's

lymphoma. Cancers less clearly associated with exposures include cancers of the cervix, tongue, and lung. The reproductive effects associated with exposure included increased risks of spontaneous abortion, menstrual and sperm disorders, and reduced fertility. The data suggest, but do not prove, that the effects were caused by PERC and not by some other factor or factors.

Data on the workplace air levels in these studies ranged from none (reproductive studies) to some (cancer studies); however, workplace air levels during the times these studies were conducted were considerably higher than those found in indoor or outdoor air (see next question).

5. WHAT ARE BACKGROUND LEVELS FOR PERC IN INDOOR AND OUTDOOR AIR IN AREAS THAT ARE NOT NEAR A KNOWN SOURCE OF PERC?

The United States Environmental Protection Agency (US EPA) has collected and analyzed information on PERC levels in indoor and outdoor air. Table 1 contains the results from air samples collected inside and outside of buildings that were not near known sources of PERC and other chemicals (for example, a home not known to be near a chemical spill, a hazardous waste site, a dry-cleaner, or a factory). The middle half (25th to 75th percentile) of PERC levels in indoor and outdoor air samples is about 1 to 10 mcg/m³. A similar result was found for NYS homes not near known PERC sources. NYSDOH sampled 138 homes between 1989 and 1996 and the level of PERC in the indoor air was below 10 mcg/m³ in 95% of the homes. Collectively, these data show that background levels of PERC in air are seldom above 10 mcg/m³.
 or 0.01 mg/m³

Table 1.

Table 1.

Sample	PERC Air Levels (mcg/m ³) ^A			Sample Size
	25 th Percentile	50 th Percentile (Median)	75 th Percentile	
Homes & Offices: Nationwide 1970 - 1988 ^B				
Indoor	1.7	5.0	11	2,195
Outdoor	0.82	2.4	5.9	3,226
Offices: Nationwide 1994 - 1996 ^C				
Indoor	not detected*	3.0	5.9	298
Outdoor		not detected*	3.0	100

^A These databases contain air-testing results from studies where there were no known sources of chemicals or chemical spills. Outdoor samples were taken at the same time as indoor samples and at a location close to the building sampled.

^B The US EPA Volatile Organic Compounds Database was published in March 1988.

^C From 1994 through 1996, US EPA measured volatile organic compounds in indoor and outdoor air at 100 randomly selected public and private office buildings across the US.

* Not detected means that the amount of PERC in the air sample was less than the smallest amount of PERC that could be accurately measured (that is, the level was less than the detection limit); in these studies, the detection limit ranged from 1.4 to 2.0 mcg/m³.

6. WHAT IS THE NEW YORK STATE DEPARTMENT OF HEALTH'S (NYSDOH) GUIDELINE FOR PERC IN AIR?

NYSDOH recommends that the average air level in a residential community not exceed 100 micrograms of PERC per cubic meter of air (100 mcg/m^3), considering continuous lifetime exposure and sensitive people. Three other ways of expressing the guideline are 0.1 milligrams per cubic meter of air (0.1 mg/m^3), 15 parts per billion (ppb) or 0.015 parts per million (ppm).

The purpose of the guideline is to help guide decisions about the nature of efforts to reduce PERC exposure. Reasonable and practical actions should be taken to reduce PERC exposure when indoor air levels are above background, even when they are below the guideline of 100 mcg/m^3 . The urgency to take actions increases as indoor air levels increase, especially when air levels are above the guideline. Finally, NYSDOH recommends taking immediate action to reduce exposure when an air level is ten-times or more higher than the guideline (that is, when the air level is $1,000 \text{ mcg/m}^3$ or higher). In all cases, the specific corrective actions to be taken depend on a case-by-case evaluation of the situation. The goal of the recommended actions is to reduce PERC levels in indoor air to as close to background as practical.

7. SHOULD I BE CONCERNED ABOUT HEALTH EFFECTS IF I AM EXPOSED TO AN AIR LEVEL SLIGHTLY ABOVE THE GUIDELINE?

The guideline is lower than the air levels that caused either non-cancer or cancer effects (Figure 1); thus, the possibility of health effects is low even at air levels slightly above the guideline. In addition, the guideline is based on the assumption that people are continuously exposed to PERC in air all day, every day for as long as a lifetime. This is rarely true for most people, who are more likely to be exposed for a part of the day and part of their lifetime.

8. WHEN SHOULD MY CHILDREN OR I SEE A PHYSICIAN?

If you believe you or your children have symptoms that you think are caused by PERC exposure, you and your children should see a physician. You should tell the physician about the symptoms and about when, how, and for how long you think you and/or your children were exposed to PERC.

9. WHERE CAN I GET MORE INFORMATION?

If you have any questions about the information in this fact sheet or would like to know more about PERC, please call the New York State Department of Health at 1-518-402-7800 or 1-800-458-1158 (extension 2-7800) or write to the following address.

New York State Department of Health
Bureau of Toxic Substance Assessment
Flanigan Square, 547 River Street
Troy, NY 12180-2216