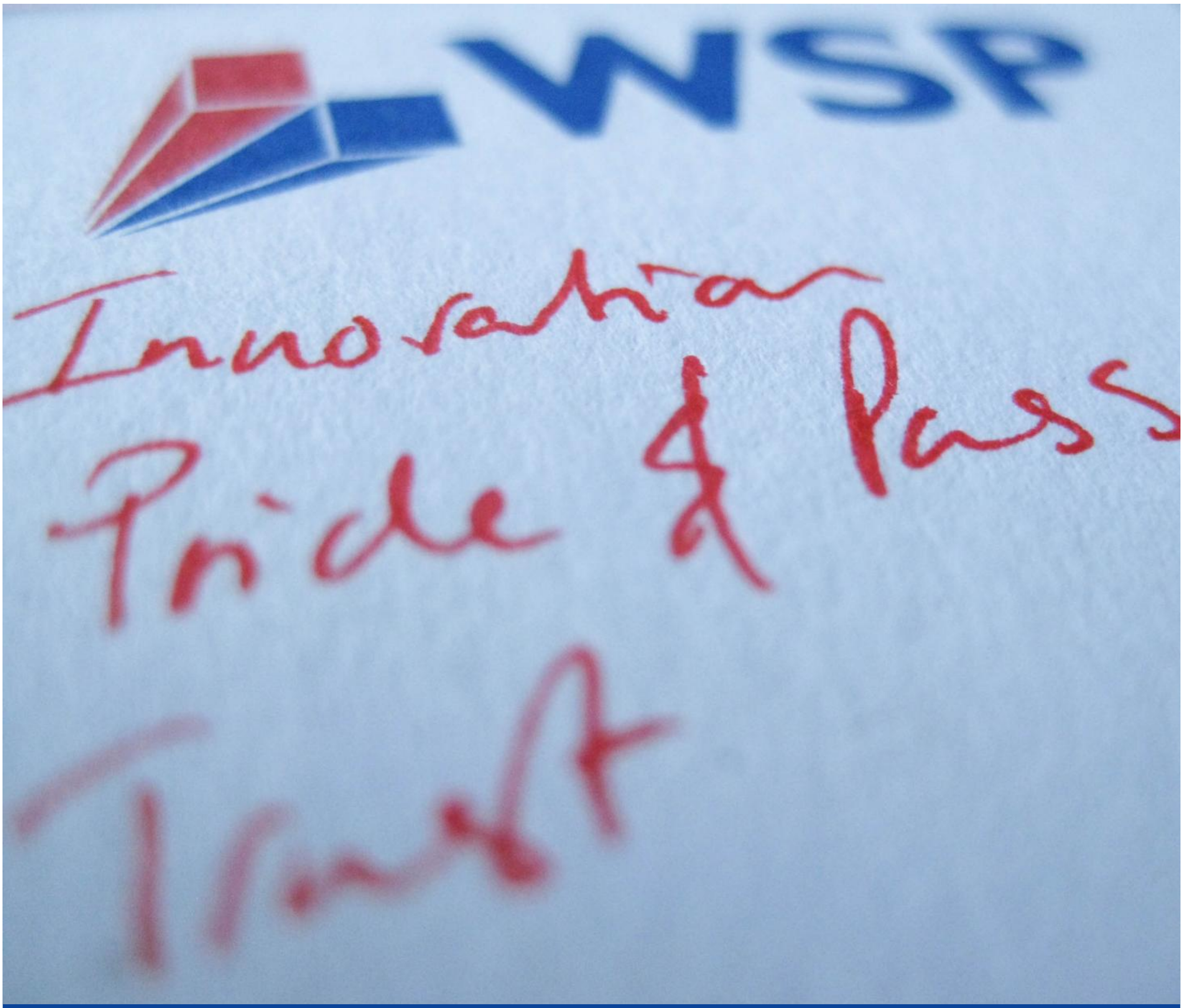


REMEDIAL INVESTIGATION REPORT
NYSDEC SITE NO. 224145

Chemtura Corporation
688-700 Court Street
Brooklyn, New York

April 26, 2013

Confidential

REMEDIAL INVESTIGATION REPORT
NYSDEC SITE NO. 224145

Chemtura Corporation
688-700 Court Street
Brooklyn, New York

4/26/2013

Chemtura Corporation

Paul Meyer
Manager, Environmental Remediation
199 Benson Road
Middlebury, CT 06749

Consultant

Kevin Sullivan
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228

Tel: (716) 691-5232
Fax: (716) 608-1387

www.wspenvironmental.com

Certification

I, Kevin D. Sullivan, P.E., certify that I am currently a New York State registered professional engineer, that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Department of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10), and that all activities were performed in full accordance with the DER-approved Remedial Investigation Work Plan, dated September 2011, unless otherwise noted herein.

KEVIN D. SULLIVAN
No. 073712

Kevin D. Sullivan, P.E.
License No. 073712

Table of Contents

Figures

Tables

Appendices

Executive Summary

On behalf of Chemtura Corporation (Chemtura), WSP USA Corp. (WSP) has conducted a Remedial Investigation (RI) and prepared this RI Report for the former Chemtura facility located at 688-700 Court Street, Brooklyn, New York (Site). The RI was implemented in response to Order on Consent R2-0346-98-01 (Order) between the New York State Department of Environmental Conservation (NYSDEC) and Crompton Corporation (predecessor to Chemtura), dated May 2002, and Amended Order on Consent D2-03811-10-08 (Amended Order) between NYSDEC and Chemtura, dated November 30, 2010. The RI work was performed in accordance with the NYSDEC-approved RI Work Plan for the Site, dated September 2011, unless otherwise noted in Section 2 of this report.

In general, the RI program consisted of the following activities:

- implementation of the off-site PCB investigation including collection and analysis of over 680 samples from 90 locations
- collection and analysis of over 150 soil samples from 75 on-site and off-site locations for analysis of target compound list volatile organic compounds (TCL VOCs), semi-volatile organic compounds (SVOCs), pesticides, poly-chlorinated biphenyls (PCBs), and target analyte list (TAL) metals
- collection and analysis of groundwater samples from 16 Site monitoring wells for analysis of TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals
- collection and analysis of sub-slab soil vapor samples from six locations beneath the two active buildings at the Site, for analysis of VOCs by Method TO-15

The findings and recommendations of the RI are summarized in the following paragraphs.

Soil/Fill

A consistent layer of historic fill material extending from immediately beneath the ground surface down to the native clay was visually identified in all soil borings advanced on-site and off-site. The historic fill material was found to be consistent with the descriptions provided in historical site-related documents (i.e., Phase II SI) and other documents not directly related to the Site, such as the Gowanus RI Report. Placement of this historic fill material is well documented based on the property history, and has been determined to have occurred prior to the original site development in 1904. In fact, historical records indicate that by 1840, dams, landfills, straightening, and bulk-heading had significantly altered the physical and ecological characteristics of the (former) Gowanus Creek and that its transformation into the Gowanus Canal was essentially completed by 1869 (NYCDEP 2008). The progression of the canal construction from inland toward the bay suggests that it would be likely for early industries along the upper reaches of the canal to have impacted the lower reaches in the vicinity of the Site. This impact could have been due to surface water discharges and runoff from the upstream properties eventually reaching the vicinity of the Site, or from historic fill placement directly on to the Site property. This history is also further supported by the Gowanus RI Report. Both the Gowanus RI Report and the Gowanus Canal Plan present an overlay of the current canal with the historic ponds, creek, and marshes, depicting large areas beyond the current canal (and along the entire length of the canal) as having been filled during (or following) its construction. Based on the illustrations presented in Appendix A, these historic ponds, creeks, and marshes encompassed the entirety of the site, Red Hook Park to the north, and all of the surroundings to the east, west, and south.

The Gowanus RI Report provides a significant number of historic fill sample data points collected from along the length of the canal that can be used for comparison to Site data. In general, these historic fill samples were found to contain high concentrations of SVOCs in comparison to other parameters, with nearly all of the primary constituents classified as polycyclic aromatic hydrocarbons (PAHs). The primary PAHs identified in the Gowanus RI samples were acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene. Based on these findings, elevated concentrations of PAHs identified in Site soils may be directly attributable to this historic fill placement and land development, and delineation of SVOCs to the unrestricted use soil cleanup objectives (UU-SCOs) was not practicable in all areas.

The Site is within the lowest performing manufacturing district classification in New York City (M3-1, Heavy Manufacturing District [low performance]; NYC 2012). A detailed discussion of the zoning in the area is provided in Section 1.2 (Site Description). Based on this classification, the Industrial Use Soil Clean-up Objectives (IU-SCOs) are appropriate for characterization of the Site.

There were a total of eight VOCs detected at concentrations above the UU-SCOs. The four most frequently detected VOCs included: acetone, ethylbenzene, toluene, and xylene. These VOCs were detected in more than 10% of the samples collected. There were only two detections of VOCs (both xylene [total]) in soil at concentrations that exceeded the IU-SCOs (1,620 mg/kg and 1,220 mg/kg compared to the IU-SCO of 1,000 mg/kg).

There were a total of ten pesticides detected at concentrations above the UU-SCOs. The four most frequently detected pesticides included: 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and endrin. These pesticides were detected in more than 10% of the samples collected. There was only a single pesticide detection (heptachlor; 78 mg/kg at RI-SB-36) that was above the IU-SCO of 29 mg/kg.

Overall, VOCs and pesticides do not present a significant concern in Site soils.

There were a total of 13 metals detected at concentrations above the UU-SCOs. The seven most frequently detected metals included: barium, cadmium, copper, lead, mercury, nickel, and zinc. These metals were detected in more than 10% of the samples collected. There were only a few metals that were detected at concentrations above the IU-SCOs, including arsenic (six samples), cadmium (17 samples), lead (four samples), mercury (seven samples), and zinc (one sample). Of these detections, mercury exceeded the IU-SCO (5.7 mg/kg) by more than one order of magnitude at one location (89.1 mg/kg at RI-SB-22), and cadmium exceeded the IU-SCO (60 mg/kg) by more than one order of magnitude at two locations (4,390 mg/kg at RI-SB-32 and 3,900 mg/kg at RI-SB-39). The remaining samples with metals concentrations above the IU-SCO were within one order of magnitude above the standard.

There were a total of 15 SVOCs detected at concentrations above the UU-SCOs. The eight most frequently detected SVOCs included: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenol. These SVOCs were detected in more than 10% of the samples collected. All of these detections were within one order of magnitude of the IU-SCO with the exception of benzo(a)pyrene. This constituent was detected in 15 samples from 14 locations at concentrations ranging from 12.3 mg/kg to 53 mg/kg compared to the IU-SCO of 1.1 mg/kg. These concentrations of SVOCs in subsurface historic fill are likely attributed to the original filling of the area.

The PCB delineation on-site has been thoroughly characterized through the PCB investigations conducted between 2006 and 2009. These data are reflected in the Aroclor 1248 delineation graphics presented earlier in Section 5.2 of this report. As shown in the graphics, the highest concentration of PCBs on-site were detected in the northern central portion of the Site, where hot-oil systems (suspected PCB-containing oil) were reportedly utilized in past site operations.

In off-site samples to the north and west, PCBs were adequately delineated to the residential SCO of 1 mg/kg. In off-site samples to the south, PCBs were adequately defined to the same level with three exceptions in Row S. In terms of the row S data, the PCB concentrations ranged from 1.69 ppm at 13S (4-5ft), to 1.78 ppm at 12S (4-5ft), to 5.19 ppm at 11S (3-4ft). There were no detections of PCBs above the residential soil cleanup objective (1 ppm) in any other outer ring location. Due to the fact that this location is clearly an industrial location (in comparison to Red Hook Park to the north), and the residual concentrations are well below any reasonable cleanup level that would be established for this property classification, the investigation was concluded.

For the purposes of the feasibility study, the PCB-impacted soil is assumed to extend to the limits developed using EVS. Based on the depth of the samples (for PCBs) and the fact that there is a minimum of 3 feet of soil cover over the elevated PCB concentrations, there is no complete exposure pathway to these constituents in subsurface soil, so there is no need for interim remedial measures with respect to PCBs. Similarly, there are no complete exposure pathways to the historic fill impacted with SVOCs and metals since the area is covered by paved surfaces and/or building footprints. Therefore, these detections do not represent a significant health/exposure concern on-site, and there is no need for interim remedial measures with respect to metals.

Groundwater

Groundwater has been adequately characterized by collecting and analyzing samples from a total of 16 on-site and off-site groundwater monitoring wells and from the idled dual-phase extraction (DPE) system's extraction wells.

The highest concentrations of VOCs were detected in extraction well EW-6, located near the center of the Site. The on-site detections are largely dominated by xylene which was generally found at concentrations that were one to two orders of magnitude above the other VOCs that exceeded the GA-SGVs. The VOC detections are largely dominated by benzene in the area off-site to the east (monitoring well MW-03). Overall, the VOC concentrations found at these two wells appears to be similar to the levels that existed in these areas during the Phase II SI (i.e., prior to implementation of the corrective measures). These findings were expected as the area surrounding extraction well EW-6 had not received any steam treatment prior to the DPE system shut down in 2006.

SVOCs were again detected at the highest concentrations at extraction well EW-6 located near the center of the site and monitoring well MW-03 located to the east. The SVOC mass at extraction well EW-6 is dominated by phenol, while the SVOC mass at monitoring well MW-03 is dominated by naphthalene. The concentrations of these constituents are once again consistent with those that were identified during the Phase II SI.

Arsenic and barium were the metals most often detected above the GA groundwater standards and guidance values (GA-SGVs) during the RI (based on the dissolved analyses). The highest concentration of dissolved barium detected during the RI was detected off-site to the west in monitoring well MW-07 (1,510 µg/l). The concentration of this constituent is consistent with the levels found during the Phase II SI.

The greatest exceedance of the GA-SGVs for pesticides was for dieldrin, which was detected at two locations (extraction wells EW-2 and EW-42) at concentrations (0.052 µg/l and 0.043 µg/l, respectively) more than one order of magnitude above the GA-SGV standard of 0.004 µg/l. The site-related PCB congener, Aroclor 1248, was detected in two locations on-site, extraction wells EW-2 (1.5 µg/l) and EW-6 (1.6 µg/l). Aroclor 1221 was detected at a concentration of 108 µg/l in the sample from monitoring well MW-07 (off-site to the west). The source of this contamination is currently unknown, but Aroclor 1221 is not known to be site-related.

The relevant findings of this investigation were as follows:

- The groundwater samples were found to contain VOCs, SVOCs, metals, pesticides, and PCBs above the GA-SGVs.
- Concentrations of constituents in groundwater were found to be consistent with the values presented in the May 1999 Phase II Report, with no quantifiable outward migration of contaminants.
- There are no known planned or current groundwater uses and no known potential human exposure risks due to the groundwater contamination.

In conclusion, since the groundwater constituent and LNAPL plumes appear to be stable, and since there are no groundwater users in the vicinity, there is no immediate need for interim remedial action with respect to groundwater.

Sub-Slab Soil Vapor

The sub-slab vapor investigation involved installation of six permanent sub-slab vapor probes within the slabs of Buildings 16 and 17 at the Site, and collection and analysis of vapor samples from each location. Probe installation and sample collection was performed in accordance with the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (SVI Guidance). There were several constituents detected in sub-slab vapor, however, the sub-slab vapor concentrations are likely to have little to no impact on indoor air quality, based on comparisons to available guideline concentrations. No further action is recommended for sub-slab vapor and indoor air.

Summary and Recommendations

The RI provided a clear understanding of the nature and extent of contamination at the Site. The following general conclusions can be made based on the RI:

1. With the exception of a few, very small, unpaved areas, the Site surface is currently capped with concrete pads/slabs, asphalt roadways, and existing buildings. Beneath the Site's surface, historic fill which consisted of fine to course sand with silt and miscellaneous debris (ash, slag, coal, wood, brick, and

concrete) was identified in all soil borings. Underlying the historic fill layer, a silt-clay layer was encountered which has been determined to be the former base of the Gowanus Canal. The placement of this historic fill is well documented, is confirmed to have occurred during the middle to late 1800s, and was generated from the phases of the Gowanus Canal construction.

2. Subsurface soils were found to contain elevated concentrations of VOCs, SVOCs, metals, and PCBs when compared against the UU-SCOs.
3. Groundwater was conservatively compared against the GA-SGVs, although the groundwater beneath the Site is considered saline groundwater, and is not currently used for any purposes. Further, the Site groundwater is not suitable for use as a potable water source based on the natural salinity. Based on this conservative comparison, Site groundwater was found to contain elevated concentrations of VOCs, SVOCs, metals, PCBs, and pesticides.
4. The qualitative exposure assessment identified potential routes for human exposure to Site contaminants in soil and groundwater through ingestion, inhalation, and dermal contact. The potentially exposed population consisted mainly of industrial workers both on-site and off-site, and future construction workers performing excavations and penetrating the surface caps at that Site.

Based on the findings of the RI, a feasibility study is recommended as the next step in determining the appropriate remedial response for the Site. No interim remedial measures are recommended at this time based on the site assessment and lack of any imminent or acute hazards related to the exposure of workers to potential site-related contaminants.

1 Introduction

1.1 General

On behalf of Chemtura Corporation (Chemtura), WSP USA Corp. (WSP) has conducted a Remedial Investigation (RI) and prepared this RI Report for the former Chemtura facility located at 688-700 Court Street, Brooklyn, New York (Site). The RI was implemented in response to Order on Consent R2-0346-98-01 (Order) between the New York State Department of Environmental Conservation (NYSDEC) and Crompton Corporation (predecessor to Chemtura), dated May 2002, and Amended Order on Consent D2-03811-10-08 (Amended Order) between NYSDEC and Chemtura, dated November 30, 2010. The RI work was performed in accordance with the NYSDEC-approved RI Work Plan for the Site, dated September 2011, unless otherwise noted in Section 2 of this report.

The Site has been the subject of numerous historical environmental investigations including a Phase I Environmental Site Assessment (Phase I ESA; GTI 1998), a Phase II Site Investigation (Phase II SI; ESI 1999), and supplemental investigations into the nature and extent of polychlorinated biphenyl (PCB) contamination found at the Site in 2006. Subsequent to the Phase II, a facility Closure Plan and a Remedial Action Work Plan were undertaken, whereby soils contaminated with heavy metals were excavated and removed from the Site, and a steam-enhanced dual phase extraction (DPE) system was designed, constructed, and operated. The investigations have identified residual chemical presence in the historic fill layer and in groundwater beneath the Site.

In accordance with the State Superfund Program, this RI Report has been prepared using the NYSDEC's Department of Environmental Remediation (DER), Technical Guidance for Site Investigation and Remediation (DER-10), dated May 2010, as a guide.

This report continues to recognize the Order and Amended Order as the primary compliance documents, and the specific requirements of the Order and Amended Order have, therefore, been incorporated into the RI Work Plan as well as this RI Report.

This RI Report is organized into the following sections:

Section 1	provides an introduction and basis for the RI, provides a physical description of the Site, the operational history, and a chronology of the various site investigations and remediation activities undertaken at the Site
Section 2	discusses the data collection activities undertaken, primarily focusing on the field work performed while on-site
Section 3	summarizes the past, current, and future uses of the Site, and the physical conditions present on-site during the RI
Section 4	utilizes previous and current investigation findings to present a summary of the local site and regional geology and hydrogeology
Section 5	presents the standards, criteria, and guidelines (SCGs) that are applicable to the site and the RI data, and summarizes the current nature and extent of contamination in the various Site environmental media
Section 6	provides a qualitative human health exposure assessment for potentially site-related chemicals
Section 7	presents conclusions of the RI data collection and provides recommendations for completing a Feasibility Study (FS)
Section 8	provides an outline for the FS and discusses presumptive remedies that may be applicable to the Site

1.2 Site Description

The Site is located at 688-700 Court Street in Brooklyn, New York, and consists of numerous occupied, vacant, and/or partially demolished buildings located on approximately 5.5 acres. Figure 1 illustrates the Site Location and Figure 2 illustrates the Site Layout, and includes the RI monitoring points that will be discussed later. The Site, which is generally impervious (covered with concrete, asphalt, or buildings), is known to have been used for industrial and commercial purposes since approximately 1904. Based on reports documenting the early history of the Gowanus Canal and the Red Hook area of Brooklyn, the entire Site and the property to the north (Red Hook Park), was filled/created using excavated and/or dredged material from the Gowanus Canal construction project(s). The early history of the Gowanus Canal (or former Gowanus Creek) and the Red Hook area of Brooklyn is well documented, and the transformation of the Site and the surroundings from a tidal marsh/wetland into a commercial/industrial district is well known. One of the most detailed presentations of this transformation is contained in the "Gowanus Canal, Waterbody/Watershed Facility Plan Report", produced by the City of New York, Department of Environmental Protection, August 2008 (Gowanus Canal Plan; NYCDEP 2008).

Historical records indicate that in 1765, the Gowanus Creek was still a tidal creek, surrounded by large salt marshes (NYCDEP 2008). Based on a review of the Gowanus Canal Plan, Figure 2-1 (Appendix A), the tidal salt marshes extended minimally up to Bay Street, suggesting that the entire Site property and all immediately adjacent surroundings were under water. By 1840, dams, landfills, straightening and bulk-heading had significantly altered the physical and ecological characteristics of the Gowanus Creek. The area was largely industrial, consisting of flour mills, cement works, tanneries, and paint, ink, and soap factories that discharged pollutants into the Gowanus Creek. In 1849, the first mile of the Gowanus Creek was dredged and its transformation into the Gowanus Canal was essentially completed by 1869 (NYCDEP 2008). The Gowanus Canal Plan presents a series of figures that depict the transformation, marking the filling of the area north of Bryant Street, between Clinton Street and Smith Street (including the Site, the Red Hook Park property, and the 688-700 Court Street property) as having been completed in 1891 (Appendix A).

The former chemical manufacturing facility has been completely decommissioned, and all former chemical storage and process tanks were decontaminated and removed from the facility. A complete description of the Site and history of its use is presented in the document titled Results of Phase II Site Investigation, Witco Brooklyn Plant, Court Street, Brooklyn, New York, by Enviro-Sciences, Inc., dated May 1999 (Phase II Report) and summarized below.

The property is in a heavily industrialized area in the Red Hook section of Brooklyn, New York. The Site is bordered to the east by Court Street then National Grid USA (formerly Brooklyn Union Gas Company) and Hornbeck Offshore Transportation, LLC; to the south by an empty lot, Bryant Street, then an oil terminal owned by Hess Corporation; to the west by Clinton Street then Sunlight Clinton Realty; and to the north by Halleck Street (abandoned section between Clinton and Court streets) then Red Hook Recreational Park (Figure 3). Additionally, the western boundary of the Gowanus Canal Superfund Site (United States Environmental Protection Agency [USEPA] -led RI) is located within 150 feet to the east. All of the adjacent and contiguous properties (except the park) perform heavy industrial operations and include petroleum terminals, machining and manufacturing facilities, and waterfront operations.

Based on the New York City zoning maps, the Site and surroundings are classified as manufacturing district, M3-1 - Heavy Manufacturing District (Low Performance). Low performance manufacturing districts are designed to accommodate the essential heavy industrial uses which involve more objectionable influences and hazards, and which, therefore, cannot reasonably be expected to conform to those performance standards which are appropriate for most other types of industrial development. No new residences or community facilities are permitted in M3-1 districts (NYCPC 2012).

Red Hook Park, to the north of the Site, is situated in Residence District, R-5, which is a General Residence District. These districts are designed to provide for all types of residential buildings, in order to permit a broad range of housing types, with appropriate standards for each district on density, open space, and spacing of buildings. The various districts are mapped in relation to a desirable future residential density pattern, with emphasis on accessibility to transportation facilities and to various community facilities, and upon the character of existing development. These districts also include community facilities and open uses which serve the residents of these districts or benefit from a residential environment. Although the nearest residential-zoned area, Red Hook Recreational Area, begins on the opposite side of Halleck Street from the Site, the nearest residential structure in the westerly direction is across the park, approximately 0.4 mile from the Site. The nearest residential structures to the north, east, and south are on the opposite side of the Gowanus Expressway, approximately 1,800 feet, 2,400 feet, and 4,200 feet away, respectively.

As previously mentioned, the Site is located within 150 feet of the Gowanus Canal, a major industrial shipping waterway in the New York City area, and the location of the Gowanus Canal Superfund Site, a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Superfund investigation and remediation project. The property to the east of 688-700 Court Street, currently owned by National Grid USA, was formerly owned by Brooklyn Union Gas Company, who manufactured and distributed natural gas appliances at this location dating back to the early 1900s. In addition, the Hess Oil Terminal Property to the south of the Site is currently undertaking a spill response action (Spill #90-02896) within the NYSDEC Oil Spill Response Program.

1.3 Operational History

There are no known site uses prior to 1904. Between 1904 and 1958, the property was used as a lumberyard, marine canvas supply business, and an iron works facility. From 1958 until the mid-1960s, the Site was owned and operated by Argus Chemical Laboratory manufacturing vinyl stabilizers and plastic additives. In the mid-1960s, Witco Corporation purchased Argus Chemical Laboratory and continued manufacturing plastic additives at the facility until 1999 when plant operations ceased. Witco Corporation later merged with Crompton & Knowles and the merged company eventually became known as Crompton Corporation. In 2005, Crompton Corporation merged with Great Lakes Chemical Corporation and later became known as Chemtura Corporation.

The Site is currently owned by VIP Builders, LLC (VIP) and is used as both a granite cutting/processing facility and construction company warehouse. Aside from certain storage areas about the Site, the facility and operations are generally limited to Buildings 16 and 17 (Figure 2).

1.4 Site Investigation and Remediation Chronology

Several investigations have been conducted at the facility to identify areas of potential concern and to delineate the nature and extent of contamination. The following information has been included to provide information related to historical activities conducted at the Site.

1.4.1 Phase I Environmental Site Assessment - 1998

A Phase I ESA was completed for the property in 1998. The results of the Phase I were presented in the Phase I Environmental Site Assessment Report (Phase I Report) prepared by Fluor Daniel GTI, Inc. The Phase I Report identified areas of potential environmental concern based on a review of the Site history and operations that were conducted at that time and provided recommendations for further investigation. In particular, the Phase I identified and illustrated the location of the following areas of potential environmental concern (AOCs):

- AOC-3 Tank Farm 1
- AOC-4 Tank Farm 2
- AOC-5 Boiler Room at Building 14 (former hot oil system)
- AOC-6 Building 16 – Solids Production
- AOC-6A Former Hot Oil System in Building 16
- AOC-7 Building 13 – Totes Cleaning, Waste water Pretreatment System, and former Hot Oil System
- AOC-7A Waste water effluent line from Building 13 to the discharge point at Court Street
- AOC-8 Tank Farm between Buildings 12 and 13
- AOC-9 Buildings 11 and 12 (Liquids Production and Blending Area)
- AOC-10 Buildings 7 and 7 Extension (Liquids Production and Phosphite Production)

AOC-11	Area 22 – Neutralization Area
AOC-12	Tank Farm 5
AOC-13	Building 19 and Tank 1001 Area
AOC-14	Area 24 – Tank Farm
AOC-15	Former USTs at Tank Farm 4
AOC-16	Hazardous Waste Storage Area
AOC-17	Former Burn Area west of Building 18
AOC-18	Groundwater beneath 688 and 700 Court Street

The Phase I Report also provided a detailed summary of the Site and vicinity, compiling the first known documentation of the Site setting in a heavily industrialized area, and provided visual descriptions of the Site and surroundings including a notation regarding the property to the east of the Site (National Grid, formerly Brooklyn Union Gas Company). The report stated that a "black, tarry substance" was observed seeping through the asphalt in the National Grid parking lot and the sidewalks outside of the fence line. This substance/location was not investigated in the Phase II report, and has not been further investigated as of the date of this RI Report. A similar substance was noted at the intersection of Halleck and Court Streets, but was not directly linked to any individual property. This second location was subsequently investigated and delineated as part of this RI and the relevant discussion is provided in Sections 2 and 5.

1.4.2 Phase II Site Investigation - 1999

A Phase II SI was performed in May 1999 to evaluate the AOCs outlined in the Phase I ESA. The Phase II SI included the collection and analyses of over 100 soil samples and the installation and sampling of over 15 groundwater monitoring wells. A summary of the Phase II investigation activities is provided in the report titled "Results of Phase II Site Investigation" (Phase II Report) prepared by Enviro-Sciences, Inc. (ESI). The Phase II included properties located at both 633 Court Street and 688 Court Street. Although the focus of the Phase II was to investigate the AOCs identified in the Phase I, a site-wide approach was employed instead, allowing for the collection of not only AOC-specific data, but also for the collection of additional data to more thoroughly characterize subsurface conditions and to develop a conceptual remedial strategy for the Site.

Some of the more notable conclusions of the Phase II Report pertaining to 688 Court Street are as follows:

- Site Hydrogeology – Fill material consisting of fine to course sand with silt and miscellaneous debris (ash, slag, coal, wood, brick, and concrete), was observed across the site from 0 to 12 feet below ground surface (ft bgs) during the advancement of soil borings. Underlying the fill materials, a silt-clay layer was encountered, which was determined to be the former base of the Gowanus Canal. The silt-clay layer was deepest in the northern half of the Site. Seemingly, due to the manmade coastline toward the east (mainly rip rap) and the potential for enhanced groundwater conductivity through this type of porous media, Site groundwater flow is generally from the east, flowing somewhat radially across the Site. The nature of the groundwater beneath the Site is saline, which is a reflection of the site's proximity to the Gowanus Canal. The groundwater beneath the Site is not used as a drinking water source or as a source of water for Site processes. A comprehensive well search was completed which indicated that there are no public water supply wells in the vicinity of the Site and that there are no pumping wells on adjacent properties. Drinking water at the Site and throughout the borough of Brooklyn, is supplied by New York City municipal distribution, which derives water from upstate New York reservoirs (ESI 1999).
- Site Fill Material – As part of the Phase II, over 100 samples from the historical fill were collected from 50 soil borings both on-site and off-site. A total of 8 of the 34 volatile organic compounds (VOCs), 21 of the 66 semi-volatile organic compounds (SVOCs), and 7 of the 8 Resource Conservation and Recovery Act (RCRA) metals were detected at concentrations exceeding the NYSDEC recommended soil clean-up objectives (RSCOs).[1] A fraction of the samples collected from the historical fill were also analyzed for

---

[1] RSCOs from Technical and Administrative Guidance Memorandum 4046. This guidance document has been superseded by Title 6 New York Codes, Rules, and Regulations (NYCRR) Part 375.

polychlorinated biphenyls (PCBs). One sample from the historical fill contained Aroclor 1248 at a concentration of 53 milligrams/kilogram (mg/kg), which is above the NYSDEC RSCO of 10 mg/kg. The concentrations of PCBs otherwise ranged from not-detected up to 1.3 mg/kg. The discussion included in Section 5.0 of this Report presents the relevant Phase II results (ESI 1999) together with the RI results, in comparison against the NYSDEC SCGs appropriate for the Site.

- Site Groundwater – aside from groundwater compliance monitoring undertaken during the corrective measures implementation (Section 1.4.5), the last complete round of groundwater samples collected at the Site (prior to this RI) occurred in March 1999. During that activity, a total of 5 VOCs, 22 SVOCs, and 7 RCRA metals were detected site-wide at concentrations exceeding the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values (AWQSGVs). In filtered samples, there were only two detections of RCRA metals above the respective standards and guidance values. Barium was detected in the filtered sample from former monitoring well MW-10 at 18,900 microgram per liter (µg/l), and from monitoring well MW-7 (formerly MW-13) at 1,920 µg/l. As expected, sodium was detected in all filtered and unfiltered groundwater samples. In addition, 6 of the 13 samples collected satisfied the definition of "saline groundwater" with chloride concentrations greater than 250 milligrams per liter (mg/L) and total dissolved solids concentrations greater than 1,000 mg/L (ESI 1999).

The Phase II Report further concluded, based on the Site history and chemicals processed, that the constituents of concern (COCs) for the Site should be limited to toluene, xylenes (total), acetone, phenol, barium, cadmium, and lead.

1.4.3 Supplemental Investigations – 1999 through 2001

A subsequent groundwater sampling event conducted in December 1999 and a supplemental soil and groundwater investigation performed in April 2000, provided additional information where data gaps were identified from the Phase II investigation activities. A water level and light non-aqueous phase liquid (LNAPL) gauging/fingerprinting study was also conducted from December 1999 through June 2000, and a supplemental metals-in-soil investigation was performed in February 2001. A detailed summary of these subsequent investigations is provided in the Corrective Measures Implementation (CMI) Plan, which is briefly discussed below.

1.4.4 Baseline Human and Environmental Health Evaluation - 2001

A Baseline Human and Environmental Health Evaluation (BHHE) was prepared for the Site in February 2000 and subsequently revised in April 2001. Based on the results of the evaluation, site-specific target levels (SSTLs) were developed for VOCs and SVOCs in soil and groundwater. The SSTLs were intended to be protective, risk-based clean-up concentrations for Site soils and groundwater. Based on previous soil and groundwater investigations, the BHHE identified a total of eight AOCs at the Site, five of which contained organic compounds (VOCs and SVOCs) in soil or groundwater at concentrations that exceed the proposed SSTLs. The remaining three AOCs were affected by metals in shallow soil and subsequently addressed through excavation and off-site disposal during the CMI. The soil excavation activities are detailed in a letter report prepared by WSP, dated March 17, 2003.

As required by under DER-10, a qualitative human health exposure assessment has been performed and is presented in Section 6 of this report. This exposure assessment has been prepared considering the findings of the April 2001 evaluation and includes consideration of the current site use and nature and extent of contamination determined during the RI.

1.4.5 Corrective Measures Implementation – 2003 through 2007

In accordance with the Order, between May 2001 and February 2002, Chemtura prepared a Remedial Action Work Plan and design drawings (collectively referred to as the CMI Plan). Between April and June 2002, final approval of the CMI Plan was negotiated, which proposed a remediation approach based on DPE with steam enhancement to accelerate the rate at which residual organic constituents could be removed from the subsurface. The CMI Plan was prepared based on the compilation of the results of previous investigations including the Phase II Investigation, supplemental investigations, and the BHHE. In summary, the CMI Plan identified the following primary organic COCs in soil and groundwater at the Site: benzene, toluene, xylenes, acetone, phenol, and naphthalene.

A pilot test was performed by WSP to obtain and verify parameters necessary for design, and in 2003, a full-scale DPE system was installed. The DPE system consisted of 47 injection wells designated I-1 through I-47, and 44 extraction wells designated EW-1 through EW-44, which were subdivided into four treatment zones to maximize operational efficiency. The layout of the DPE system is illustrated in Figure 2. Several of the extraction wells were utilized as part of the RI. The system was operated between July 16, 2004 and July 30, 2007. During the full scale operation, Zones 1 and 4 had undergone nearly complete treatment and were undergoing monitoring to demonstrate achievement of asymptotic aqueous concentrations of COCs within each zone. In accordance with the Order, the achievement of asymptotic concentrations was the negotiated end point at which point groundwater treatment would be deemed complete. Zone 2 was undergoing treatment when PCBs were detected in the LNAPL collection component associated with the DPE System. Based on data collected during the operation and monitoring of the system, the following accomplishments were realized:

- approximately 14,509 pounds of VOCs were removed through vapor phase
- over 4,020,000 gallons of groundwater were treated and over 743 pounds of VOCs and SVOCs were removed from the aqueous phase
- approximately 1,650 gallons of separate phase hydrocarbons (i.e., LNAPL) were removed by the oil-water separator

In July 2007, during a routine LNAPL removal, approximately 468 gallons of LNAPL were removed from the remedial systems oil-water separator and associated product storage tank, and according to normal practice, a sample of the liquid was submitted for analysis. The sample was found to contain PCBs at a concentration of 788 parts per million (ppm). The remediation system was shut down at once and has not been in operation since the detection.

1.4.6 PCB Investigations – 2007 through 2009

Immediately following the detection of PCBs in the LNAPL, WSP collected LNAPL samples from extraction wells extraction wells EW-16 and EW-19 (Figure 2). Historically, extraction wells EW-16 and EW-19 had the greatest LNAPL thickness; however, only extraction well EW-16 was in operation immediately prior to the PCB detection from the waste stream removed from the oil-water separator. Extraction well EW-19 was located in an area (Zone 3) that had not yet received stream treatment. The LNAPL samples collected from extraction wells EW-16 and EW-19 were found to contain PCBs at concentrations of 94.7 mg/kg and 35.8 mg/kg, respectively.

Subsequently, WSP conducted three iterative rounds of soil investigation in response to the detection of PCBs at the Site. The initial soil investigation was conducted between October and November 2007 and was designed to determine the horizontal extent of PCBs in the subsurface. A grid system based on an interval of 20 feet was used for each round of investigations to determine sampling locations. Results of the initial investigation were presented to the NYSDEC and USEPA Region 2 PCB Coordinator in a letter dated March 13, 2008. The initial investigation also included well gauging of the accessible DPE extraction wells and sampling of the LNAPL with analysis of PCBs, when present.

On August 18, 2008, WSP submitted a supplemental PCB investigation work plan to NYSDEC and to the USEPA Region 2 PCB Coordinator. The supplemental investigation was designed to complete the horizontal delineation of PCB impacts to soil at the site and begin vertical delineation of PCB concentrations greater than or equal to a screening value of 10 mg/kg.

Upon approval of the work plan, WSP conducted the supplemental investigation in September 2008 and preliminary draft results were presented to NYSDEC and the USEPA in a letter dated January 22, 2009. This letter also included a work plan for a limited additional delineation to further refine the spatial distribution of PCBs at the Site and gather sufficient data to begin a technical review of potential remedial options. Upon approval, WSP conducted the additional delineation investigation in May 2009.

At the conclusion of the PCB investigations, WSP submitted a report titled “PCB Investigation Final Report, Chemtura Corporation, Brooklyn, New York”, dated August 2009. This report summarized the results of the PCB soil investigations completed at the Site between October 2007 and May 2009, and concluded that the on-site PCB contamination had been adequately delineated.

Subsequent to the PCB Investigation Final Report, WSP prepared an Off-site PCB Investigation Work Plan, and submitted the Work Plan to NYSDEC for review via letter dated July 15, 2010. In accordance with the Amended Order, the work proposed in this work plan was merged into the RI and was implemented as prescribed. Discussions of the nature and extent of PCB contamination and graphical representations of the PCB data that are presented in this report have been prepared considering all of the PCB investigations implemented to date (2007 through the current RI program).

1.4.7 Source and Composition of LNAPL

According to the Phase I Report, PCB-containing oils were reported to have been used in hot oil systems at the Site. Based on historic records, three hot oil systems were located in/near former Buildings 13, 14, and 16, in the northwest corner of the Site.

The use of all PCB-containing oils is reported to have ceased in the 1980s per corporate Witco direction requiring the removal of all PCB-containing oils from all plants. Chemtura subsequently conducted a search of its records related to historic operations at the plant and found no relevant operational configuration or piping layout regarding past use or distribution of PCBs in the hot oil system.

Leaks/discharges from these hot oil systems are believed to be the primary source of the PCB-containing LNAPL at the Site. During LNAPL investigations prior to the RI, the LNAPL was found to contain up to 450 mg/kg PCBs. The LNAPL was also found to contain benzene, toluene, xylene, and phenol as primary constituents. LNAPL fingerprinting did not provide any further conclusions as to the nature or source of the LNAPL, as these analyses did not compare well with any of the petroleum product standards evaluated.

2 Land Use and Physical Conditions of the Site

2.1 Land Use

The 688-700 Court Street property consists of two occupied buildings and a variety of vacant and/or partially demolished buildings located on approximately 5.5 acres. The Site is very secure and is surrounded by a perimeter block wall approximately 10 feet in height. The Site is located in an area of Brooklyn designated for heavy industrial/manufacturing, Figure 1 illustrates the Site Location and Figure 2 illustrates the Site Layout. The Site, which is primarily covered with concrete, asphalt, or buildings, is known to have been used for industrial and commercial purposes since approximately 1904. Aside from the two occupied buildings, the remainder of the Site is currently used for storing raw materials (rock, stone, granite, brick, and other building products) and equipment staging. The occupied buildings are steel frame and clad buildings that are used for stone cutting and related manufacturing processes.

The property is in a heavily industrialized area in the Red Hook section of Brooklyn, New York, and the Site surroundings include: a National Grid facility, an off-shore transportation facility, the Gowanus Canal, manufacturing businesses, an oil terminal, and a recreational area. Detailed discussion of the surrounding businesses and zoning limits is presented in Section 1.

2.2 Population Data

According to census data, the population of Brooklyn, New York has grown from approximately 2.3 million residents in 1990 to approximately 2.6 million residents in 2010 (USDOC 2010). This current population represents approximately 31-percent of the overall New York City population of approximately 8.4 million residents.

The Red Hook neighborhood, which is loosely defined by the land south of the Gowanus Expressway and west of the Gowanus Canal, is approximately 0.75-square-miles (480 acres) in area and holds approximately 10,200 residents (< 1-percent of the Brooklyn total population; City-Data 2012). The land use in Red Hook, based on New York City zoning maps, is as follows (NYCPC 2012):

■	Residential	50 acres	10-percent of total Red Hook land
■	Red Hook Park	65 acres	14-percent of total Red Hook land
■	Heavy Manufacturing	365 acres	76-percent of total Red Hook land

2.3 Physiography and Climate

2.3.1 Physical Geography

The Site topography is relatively flat, with an elevation ranging from approximately 7 feet above mean sea level (AMSL) near the southeast corner of the site, to 12 feet (AMSL) near the northwest corner of the Site and in Red Hook Park. The Site itself is almost entirely covered with concrete pavement and/or standing buildings in various states of use and disrepair.

Based on reports documenting the early history of the Gowanus Canal and the Red Hook area of Brooklyn, the entire Site extending from the proximity of Halleck Street, was filled/created using excavated material from the Gowanus Canal Construction project(s). The Site filling is reported to have begun in the mid-1800s and was completed prior to 1904, when the first settlement and development of the property occurred.

2.3.2 Climate

The Site is located at the far western tip of Long Island, adjacent to the Gowanus Bay and the Upper Bay of New York. The average precipitation in Brooklyn (NOAA 2012) is approximately 50 inches per year, with approximately 25.1 inches of annual snowfall. The average daytime high temperature in New York ranges from 84.1 degrees Fahrenheit (deg. F, July) to 38.3 deg. F (January). The overall annual average high temperature is 62 deg. F. The average daily low temperature in New York ranges from 26.9 deg. F (January) to 68.8 deg. F (July). The overall annual average low temperature is 47.9 deg. F. Below-freezing temperatures are typically only experienced during December, January, and February.

2.4 Water Supply and Groundwater Use

There are no known public water supply wells in the vicinity of the Site and there are no known pumping wells on adjacent properties. Drinking water at the Site, as well as the remainder of Brooklyn, is supplied by New York City municipal distribution, which derives water from a network of 18 upstate New York reservoirs.

The nearest groundwater supply system (which is no longer used) is located in south-eastern section of Queens, New York. The water well system consisted of 68 supply wells at 44 well stations and several water storage tanks. Most of the system has not operated in more than 10 years, but the groundwater system did provide water to a limited portion of the city’s distribution system in Queens until 2007. When online, residents within the service area received groundwater or a mix of ground and surface waters depending on demand and supply availability. This system is located more than 12 miles east of Red Hook.

2.5 Surface Water

Storm water in and around the Site is collected by a series of drop inlets that connect to the New York City combined sewer system in Red Hook. All storm and sanitary waste water that is collected in Red Hook is eventually pumped through lift stations to the Red Hook Water Pollution Control Plant (WPCP), located approximately 3 miles to the north. The Red Hook WPCP is operated and maintained by the New York City Department of Environmental Protection (NYCDEP), and is located along the East River in Brooklyn, New York.

3 Geology and Hydrogeology

3.1 Regional Geology and Hydrogeology

The regional geology and lithology are of little direct importance at the Site since the land underlying the Site as well as much of the Site vicinity, was formed by the filling of marsh and waterfront areas in the late 1800's to early 1900's (GTI 1998). Inclusive of this historic fill layer, the following geologic units (in order of increasing depth and age) lie beneath the area surrounding the Site:

- historic fill
- alluvial/marsh deposits
- glacial sands and silts (aquifers discussed below)
- bedrock

Historic fill materials (at the Site) are associated with nearby Gowanus Canal and waterfront construction and subsequent industrialization and re-contouring of the area, much of which was originally marshland. The historic fill material consists primarily of fine to coarse sand-sized particles of man-made origin (i.e., ash, slag, coal, wood, brick, concrete, etc.; GTI 1998) with varying amounts of silt and miscellaneous debris.

The alluvial/marsh deposits lie below the historic fill and are composed of sands (alluvial deposits from flowing water bodies), peat, organic silts, and clays (marsh deposits). These alluvial/marsh deposits are associated with the original wetlands complex that was present when the area was settled (GTI 1998).

A thick sequence of glacial deposits occurs below the alluvial/marsh deposits. These glacial sands, silts, and gravel were deposited as glacial ice melted during the retreat of the last ice age. At the base of the glacial sequence lies a layer of dense clay, deposited by the glacier or prior to glaciation. Weathered and competent bedrock, known as the Fordham Gneiss, underlies the glacial deposits (HDR 2011). There are four distinct water-bearing units that occur beneath Long Island including the Site, including: The Upper Glacial, the Jameco, the Magothy, and the Lloyd aquifers. The following summary is provided from "Brooklyn-Queens Aquifer System, Support Document, Kings and Queens Counties, New York, December 1983" which was a petition for classification of the aquifer as a sole source aquifer.

- Upper Glacial Aquifer - The Upper Glacial aquifer, overlies all underlying units and is found at the surface in nearly all of Kings (Brooklyn) and Queens (Queens) Counties. The geology of this unit was mapped and found to contain the following glacial deposits: (1) terminal moraine deposits emplaced by an ice front of Harbor Hill age; (2) ground-moraine deposits north of the terminal moraine; and (3) glacial outwash south of the terminal moraine. The thickness of the Upper Glacial Aquifer ranges from zero in small areas of northwestern Queens, where bedrock crops out, to as much as 300 feet in the terminal moraine and near the buried valley.
- Jameco Aquifer - The Jameco Gravel is the earliest Pleistocene deposit in the area. It is considered to be a channel-filling deposit, associated with ancestral pre-Sangamon diversion of the Hudson River. The Jameco is present in most of Brooklyn and southern Queens. It reaches its greatest thickness in the deep channels eroded in the underlying unit and thins severely over the higher areas. The thickness of the Jameco Aquifer ranges from a knife edge at its northern limit to more than 200 feet in the main buried valley in central Queens.
- Magothy Aquifer - The Magothy Aquifer, which underlies both of Brooklyn and Queens, is of continental origin and is mostly deltaic quartzose, very fine to coarse sand and silty sand with lesser amounts of interbedded clay and silt. The unit commonly contains coarse quartzose sand and in many places a gravel basal zone 25 to 50 feet thick. The thickness of the Magothy Aquifer ranges from zero at its limits, to more than 200 feet in southeast Brooklyn, and 500 feet in southeast Queens.
- Lloyd Aquifer - The Lloyd Aquifer, which lies unconformably on bedrock, is absent in northwestern Brooklyn and Queens. The limit of this aquifer generally follows a line from southwest Brooklyn through central Brooklyn, and northward to near LaGuardia Airport. The Lloyd Aquifer consists mainly of deltaic deposits of fine to coarse quartzose sand interbedded with sand and small to large pebble quartzose gravel. Interbeds of silt and clay and silty and clayey sand are common throughout the unit. The extent of the Lloyd Aquifer

is largely coincident where eroded in the buried valley system in northern Queens. The thickness of the Lloyd Aquifer ranges from zero at its northern extent to about 200 feet at the southeast edge of Brooklyn, and 300 feet in southeast Queens. The surface of this unit is as shallow as 90 feet below sea level in northern Queens and as deep as 825 feet below sea level in the southeast (HDR 2011).

3.2 Site Geology and Hydrogeology

Historic fill material consists primarily of fine to coarse sand-sized particles of man-made origin (i.e., ash, slag, coal, wood, brick, concrete, etc.; GTI 1998) with varying amounts of silt and miscellaneous debris, was observed across the site from immediately beneath the improved surface (concrete, asphalt, or topsoil) down to approximately 18 to 20 feet bgs during the installation of monitoring wells. A native silt-clay layer was encountered beneath the fill layer in each of the monitoring well borings, which is presumed to be the former base of the Gowanus Canal/Bay prior to reclamation. The silt-clay layer was not penetrated during the RI.

Based on the RI monitoring well boring records, the silt-clay layer depth (fill thickness) ranged from approximately 11.75 feet in monitoring well MW-03, to 23 feet in monitoring well MW-09 (northwest corner of the Site). Monitoring wells installed in Red Hook Park to the north along Court Street as part of the 633 Court Street Site Characterization confirmed the depth to the confining layer further north of the Site as 17 to 18 feet.

Groundwater flow in the historic fill layer generally appears to flow toward the north and south, originating from a linear ridge/high-point between monitoring well MW-10 and extraction well EW-27. Seemingly, due to the manmade coastline toward the east (mainly rip rap) and the potential for enhanced groundwater conductivity through this type of porous media, groundwater recharge could occur. The groundwater beneath the Site is not used as a drinking water source or as a source of water for Site processes. Section 5.2 discusses the RI findings specific to groundwater flow direction and hydraulic gradient.

4 Remedial Investigation Scope and Implementation

4.1 Remedial Investigation Objectives

In accordance with DER-10, the overall goal of this RI is to (1) delineate the areal and vertical extent of contaminants in all media at or emanating from the Site; (2) determine the surface and subsurface characteristics of the Site, including topography, geology, and hydrogeology, including depth to groundwater; (3) identify the sources of contamination, the migration pathways, and actual or potential receptors of contaminants on or through air, soil, bedrock, sediment, groundwater, surface water, utilities, and structures at the Site; (4) collect and evaluate all data necessary to evaluate the actual and potential threats to public health and the environment; and (5) collect the data necessary to evaluate any release to an environmental medium and develop remedial alternative(s) to address the release. Due to the fact that Articles 1, 3, and 4 in DER-10, Section 3.10.1(b) are applicable to this site, there should be no need for a fish and wildlife resources impact analysis.

The objectives, which are intended to focus the RI on reaching the goals stated, are largely based on the Compliance Schedule contained in the Amended Order. The following elements outlined in paragraph 1 of the Compliance Schedule are considered specific requirements of the RI:

- expand on the “Off-site PCB Investigation Work Plan”, letter dated July 15, 2010, from WSP to NYSDEC (Mr. Paul Patel, PE)
- define the extent of Site-related contaminated groundwater using current groundwater data from all sides of the Site, including installation and sampling of sufficient off-site groundwater monitoring wells and soil borings to delineate the vertical and horizontal extent of contamination
- evaluate the potential for soil vapor intrusion using sub-slab vapor samples collected from beneath the occupied building foundation slabs (Buildings 16 and 17)

The RI scope of work was proposed in the document entitled “Remedial Investigation Work Plan, Chemtura Corporation, 688-700 Court Street, Brooklyn, New York”, dated September 30, 2011. This RI Work Plan was subsequently approved by NYSDEC by letter a dated October 6, 2011. In consideration of the amount of sub-surface contamination that had been removed by the steam-enhanced SVE treatment system that had operated at the Site, the RI encompassed a complete characterization of the Site, including those areas investigated prior to the CMI, for analysis of the full list of organic and inorganic parameters.

4.2 Property Access and Agreements

Since Chemtura is not owner of any property involved in the RI program, access agreements and or entry/work permits were required for access to the subject property as well as numerous vicinity properties. The access agreements and permits that were required included:

- access agreement with VIP Builders, Inc., for access to 688-700 Court Street Site
- access agreement with Hess Corporation for access to 139 Bryant Street (property south of the site)
- construction/work permit with the City of New York Department of Parks and Recreation for entry on to Red Hook Park
- sidewalk and street permits with the City of New York for work involving the sidewalks and paved areas of Court Street, Halleck Street, Clinton Street, and Bryant Street

Applications for these access agreement and work permits were filed shortly following approval of the RI Work Plan by the NYSDEC. With access to the 688-700 Court Street Site in hand, the field component of the RI was initiated on October 17, 2011, with the intention that work would continue as access is granted to the remaining vicinity properties. Sidewalk and street permits were provided by WSP’s direct-push subcontractor, Trinity Environmental Corporation, of Deer Park, New York.

In mid-November 2011, work on the 688-700 Court Street Property and on the surrounding streets and sidewalks was completed, and access to the Red Hook Park to the north, and the Hess Property to the south, had not yet been granted. WSP and Trinity subsequently demobilized from the Site pending access to these final two areas.

In March 2012, the New York City Department of Parks and Recreation granted a work permit for the scope of work involving the Red Hook Park, and Hess Corporation granted access to the 139 Bryant Street Property. WSP and Trinity remobilized to the Site on March 12, 2012 and completed the soil borings and well installations on March 23, 2012. Groundwater well purging and sampling were subsequently performed on April 10, 11, and 12, 2012.

As discussed previously, PCB sample collection and analysis was performed in stages in order to minimize costs and mobilization effort. With the first soil borings designated for Red Hook Park occurring immediately following the access agreement, and the soil sample analyses being performed in two stages (April and June), the complete data set was not fully available until late June 2012. The June 2012 Monthly Report was prepared to provide a detailed summary of the investigation in progress, and to describe the plans and schedule for additional sample collection and analysis both in Red Hook Park and to the south of the Site on the Hess property. The NYSDEC subsequently provided verbal notice to proceed with the plan as outlined in the monthly report. All field sample collection was completed in late August 2012. Detailed discussion of the off-site PCB investigation is provided in Section 2.3.2.

4.3 Remedial Investigation Activities

4.3.1 Schedule and Organization

The RI field investigation commenced on October 25, 2011 following approval of the RI Work Plan by NYSDEC. As previously discussed, the work was implemented during four individual mobilizations as follows:

- October 25 – November 15, 2011: All of the soil sampling on the 688-700 Court Street property as well as in the public roadways and on sidewalks was completed during this first mobilization.
- March 12 – March 30, 2012: Following receipt of a permit for the Red Hook Park (City of New York Property), the second mobilization included collection of the PCB samples primarily from Red Hook Park.
- April 9 – April 12, 2012: The third mobilization occurred April 9 thru April 12, 2012 for monitoring well purging and groundwater sample collection.
- August 27 – August 31, 2012: Following receipt of the March PCB sample results, additional samples were collected from the sampling grid between the site and the soccer field side-line, as well as the other three sides of the field.

WSP was responsible for all activities involving sample collection and handling including borehole locations, sample management, sample shipping, chain of custody, and record keeping. In addition, WSP was responsible to ensure that activities that have a direct impact on sample quality (i.e., equipment decontamination, validation, and surveying) were being conducted in accordance with the RI Work Plan and relevant WSP Standard Operating Procedures (SOPs). Finally, WSP was responsible to ensure that the requirements of the various access agreements and entry permits (i.e., protection of trees and surface restoration) were being conducted in accordance with those permits. All activities at the site were performed under the direct supervision and guidance of a WSP geologist or engineer.

Several subcontractors were employed to assist WSP with soil borings, well installations, sample analysis, and other tasks. These subcontractors and their general responsibilities included:

- Trinity Environmental Corporation, Deer Park, New York – responsible for providing direct-push services, well installations, monitoring well development, and ancillary services
- Pace Analytical Services, Inc., Pittsburgh, Pennsylvania – responsible for providing laboratory and analytical services for soil, groundwater, and soil vapor samples

- Underground Services, Inc., (SoftDig), West Chester, Pennsylvania – responsible for underground utility locating services
- Clean Harbors Environmental Services, Inc., Edison, New Jersey – responsible for characterization, profiling, and off-site disposal of investigation-derived wastes
- ECT, Inc., Palm Coast, Florida – responsible for independent third party full data validation
- Field Environmental Instruments, Inc., Pittsburgh, Pennsylvania – responsible for provision of checked and calibrated field monitoring equipment
- WSP Sells, Briarcliff Manor, New York – responsible for providing licensed surveying services.

The following subsections describe the RI field activities in detail.

4.3.2 Soil Investigations

4.3.2.1 PCB Delineation

In accordance with the primary and contingency plans developed in the RI Work Plan (and building on the 2009 Off-site PCB Investigation Work Plan), WSP completed delineation of the off-site PCB soil contamination. The initial PCB investigation included a plan for a total of 45 soil borings in the following locations:

- 8 soil borings to the west along Clinton Street
- 6 soil borings to the south along Bryant Street
- 31 soil borings along the Halleck Street right-of-way and in the Red Hook Park

In general, if surface soil was present, then a surface soil sample was collected, in addition to a sample from each 1-foot interval from the ground surface to 2 feet below the static water table. Based on the static water table depth at each location, the number of samples that were collected from each borehole ranged from approximately seven or eight in the areas west and south of the Site, to up to 10 in the elevated section of Red Hook Park to the north.

However, utilizing the contingency plan designed into the RI Work Plan, the PCB investigation was expanded several times to the north, west, and south, to accomplish the delineation. In accordance with the RI Work Plan, if any sample from an outer boring was found to contain PCBs above the SCOs, then an additional soil boring(s) would be completed and samples would be collected from the next grid node further out (i.e., in a direction away from the Site) from the detection. In some cases, Chemtura elected to collect samples from additional borings in advance, placing those samples on “hold” with the laboratory, in order to minimize the need to remobilize to the site due to PCB detections. In these cases, if PCBs were detected and additional samples were needed, these “hold” samples were simply released for analysis. Utilizing this contingency plan, a total of 53 additional locations were investigated in order to adequately delineate the PCB impacts in these three off-site areas. In total, the following PCB borings were completed as shown in Figure 4:

- 18 soil borings along Clinton Street (approximately 127 soil samples)
- 15 soil borings along Bryant Street (approximately 105 soil samples)
- 57 soil borings along Halleck Street and in Red Hook Park (approximately 450 soil samples)

At each location and from every 1-foot interval (i.e., 0-1 feet, 1-2 feet, 2-3 feet, etc.) to 2 feet below the water table, a 1-foot homogenized sample was collected. In addition, when surface soil was available, one shallow surface sample was collected from the 0-2-inch interval from each location. At boring locations north of the facility, the shallow samples were collected from the topsoil by hand using clean nitrile gloves. At boring locations west of the facility, the shallow sample was collected from the loose gravel and soil by hand using the same method. Surface soil samples were not collected from locations in asphalt or stone areas such as the Hess Corporation property, and several of the Clinton and Halleck Street sample locations. Table 1 presents the complete sample key for the RI.

Subsequent samples were collected using a Geoprobe® 7720DT, track-mounted hydraulic rig. At each location, once the surface soil sample was collected, a dedicated, plastic, 5-foot macro-core tube inside of a 1.25-inch direct-push rod was driven to the appropriate interval using standard direct-push methods. Samples were collected in 5-foot increments using the macro-core tubes. The samples were then screened with a photo-ionization detector (PID) equipped with a 10.6 electron volt (eV) lamp, divided into sections representing the 1-foot intervals, and transferred directly from the macro-core into glass jars supplied by the laboratory. New disposable nitrile gloves were used to collect and containerize each sample. The samples were placed in 250 milliliter (ml) amber jars and stored in a cooler packed with ice to await shipping. The core catcher and bit were thoroughly decontaminated using Alconox and water between extractions of each 5-foot core sample. Soil classification in these borings could not be applied to the United Soil Classification System (USCS) as it consisted of various types of fill with little to no classifiable soil.

Once samples were collected, excess soil in the macro-core was used to backfill the boring. The backfill was supplemented using bentonite chips to achieve final backfill to just below the surrounding surface. At boring locations in grassed areas (Red Hook Park) north of the site, the backfill was completed to the surface using clean silica sand. At soil boring locations in concrete or asphalt (north and west of the site), the boring was made flush with the original surface using quick-curing concrete.

Sample collection, handling, shipping, and chain of custody procedures were performed in accordance with the RI Work Plan, including WSP SOPs. Samples were generally shipped via Federal Express for next day delivery to Pace Analytical Services, Inc., located in Pittsburgh, Pennsylvania. Samples were analyzed for PCBs by USEPA SW846 Method 8082/3540C.

Based on the RI Work Plan, the PCB investigation and delineation was to continue in each area until the outermost soil borings reflected maximum individual sample concentrations of 0.1 mg/kg or less. This plan was initially used to guide the investigation planning and results reporting. However, during the final phases of the off-site investigation, it became clear that delineation of an industrial area down to unrestricted future use criteria may not be economically feasible. Therefore, in Red Hook Park, delineation was deemed complete once all outer borehole concentrations were below 1 mg/kg (use-based clean-up value). On the property to the south of the Site (lot owned by Hess), for similar reasons, the delineation was deemed complete when soil samples were consistently below 10 mg/kg (one outer borehole contained concentrations slightly above 5 mg/kg and two others contained concentrations slightly above 1 mg/kg). Further discussion of the off-site PCB delineation results is presented in Section 5.2.1.

4.3.2.2 Organic and Inorganic Contaminant Delineation

In addition to the PCB investigation, WSP conducted a site-wide soil characterization aimed at delineation of organic and inorganic contamination at the Site. This investigation consisted of approximately 67 soil borings on an approximate 50-foot grid over the Site, as well as eight perimeter off-site soil borings taken to delineate contamination at the site boundaries. The location of each site-wide soil characterization borehole is illustrated in Figure 5.

A total of up to two soil samples were collected from each soil boring as follows:

1. at the 2-foot interval immediately above the static groundwater table
2. at a second interval where PID field screening results indicate that the soil may be impacted (elevated readings)

Most of the boreholes were drilled through the concrete pads that cover the majority of the Site and surrounding perimeter. In these locations, the concrete was pulverized with a 4-inch-diameter air hammer before drilling could begin. Due to the thickness of concrete, which ranged from 6 inches to 12 inches thick, the first 2 feet below the bottom of the concrete was considered to be the 0 to 2-foot interval with regards to sample collection. The static groundwater depth in these borings was fairly consistent at 4 feet to 5 feet bgs. Soil classification in these borings could not be applied to the USCS as it consisted of various types of fill with little to no classifiable soil.

Cores were retrieved using the same direct-push hydraulic drill rig described previously. At each location, a dedicated plastic macro-core tube inside of the 1.25-inch drill rod was advanced using standard direct-push methods. Upon retrieval, the macro-core was then cut, screened with a PID, and sampled by hand using clean nitrile gloves. Immediately after screening, the samples were placed in laboratory-provided glass jars for shipping and analysis. Between each coring run, the core catcher and bit were thoroughly decontaminated using Alconox and water. Once samples were collected, excess soil in the macro-core was used to backfill the boring. The borings were then filled with bentonite chips to just below the surface and made flush with the original surface using quick-curing concrete.

All of the samples collected under this site-wide characterization program were analyzed for Target Analyte List (TAL) metals (USEPA SW846 Method 6010), Target Compound List (TCL) VOCs (USEPA SW846 Method 8260), TCL SVOCs (USEPA SW846 Method 8270), and TCL pesticides (USEPA SW846 Method 8080). The site-wide soil sampling program did not include analysis of PCBs since the focus of the PCB investigation was already well defined and was limited to the three off-site areas discussed in Section 4.3.2.1.

4.3.2.3 Tar Seep Delineation

During the Phase II SI, a tar-like substance was observed in a soil boring near the intersection of Halleck and Court Streets, close to the northeast corner of the Site property. Delineation was performed in the Phase II SI which identified an area of at least 30 feet by 35 feet that was impacted by the tar substance based on visual observations. The delineation was reportedly not completed (tar was observed in the outermost soil borings) due to permitting and access issues. A sample of the tar was collected during the Phase II SI and analyzed for TCL and Toxicity Characteristic Leaching Procedure (TCLP) VOCs and SVOCs. The TCL analyses identified numerous VOCs and SVOCs in the tar, which were dominated by fluoranthene (13,000 mg/kg), naphthalene (8,200 mg/kg), and phenanthrene (19,000 mg/kg). The TCLP analysis identified a similar composition, with high concentrations of SVOCs in the extract, including naphthalene which was reportedly detected at a concentration of 26,000 mg/l (extraction).

The intended purpose of the tar investigation was to provide a level of data that would be sufficient to estimate the depth, horizontal extent, and volume of tar, as well as to determine the tar waste classification (for disposal purposes). This information would then be used in the feasibility study to develop remedial alternatives focused on addressing the material, if appropriate (i.e., excavation and off-site disposal). The waste classification would also be used to estimate the costs for addressing the material. Based on these objectives, a qualitative/visual investigation of the tar seep area was completed.

The tar was identified in several borings and appeared as a sticky, ductile, black mass within the macro-core. A layer of the tar substance was easily identified in soil boring RI-SB-02 (shown in Figure 6) at 4 feet bgs, which then became the origin for a testing grid. Boreholes were added to the investigation 15 feet away from RI-SB-02 in four directions (northeast, northwest, southeast, and southwest). Each additional borehole was inspected for the presence of tar. If tar was found in any of these boreholes, an additional borehole was added 10 feet further outward, continuing on until tar was no longer found. There was no tar present in the borehole 15 feet southeast of RI-SB-02, and only a small amount at 3 feet bgs in the borehole to the southwest. The delineation was deemed completed in these directions. At both boreholes to the northeast and northwest, a 2-foot-thick layer of tar was found between 3 feet and 5 feet bgs. The second borehole to the northeast, 25 feet northeast of RI-SB-02, contained a 1-inch-thick layer of tar at 5 feet bgs. WSP deemed this to be at or near the limit of tar and did not continue delineating to the northeast.

The second borehole to the northwest, 25 feet northwest of RI-SB-02, contained a 3-inch layer of tar at 4 feet bgs. Based on this significant thickness reduction over such a short distance, the majority of the tar volume appeared to have been delineated (for volume estimating purposes for the feasibility study) and WSP did not continue delineating to the northwest. Figure 6 provides the approximate limits of tar contamination in the vicinity of RI-SB-02. A composite sample of the tar using aliquots from each of the positive soil borings was also collected and analyzed for the full TCL and TAL lists discussed above. The tar composite sample was not analyzed for PCBs since the focus of the PCB investigation was already well defined and was limited to the three off-site areas discussed in Section 4.3.2.1. Discussion of the tar characterization is presented in Section 5.3.

4.3.3 Groundwater Investigations

The primary objective of the groundwater investigation (per the Order) was to define the extent of Site-related contaminated groundwater using current groundwater data from all sides of the Site, including installation and sampling of sufficient off-site groundwater wells.

A total of three new wells were planned to be installed at the Site as part of the investigation. In addition, existing monitoring well MW-18 was found to be damaged beyond repair, and existing monitoring well MW-17 could not be located in the field. Both of these wells were added to the well installation program and have since been replaced. It should be noted that several of the well numbers have been changed from those presented in the Phase II SI and the RI Work Plan. The renumbering was done to provide better separation/identification of the wells related to this Site versus the 633 Court Street property. The numbering changes (referencing the RI Work Plan, Figure 13) are reflected in Figure 7 and listed in Table 15.

At each well location, a macro-core was advanced using the direct-push drill rig to determine the depth to groundwater as well as verify the depth to the top of the confining silt and clay layer. Using a direct-push rig equipped with a hollow-stem auger, all borings were extended into the top of the underlying silt and clay layer, which varied across the site from 16 feet to 20 feet bgs. Each well was then screened to 2 feet above the static water table, where possible, and down to the silt and clay layer using 2-inch polyvinyl chloride (PVC) well screen (0.010-inch slot size). The only exception was monitoring well MW-04 where the static groundwater was found to be 2 feet below the surface. Consequently, monitoring well MW-04 was constructed with only 1 foot of screen above the static groundwater table to allow for proper sealing of the well from intrusion by surface water.

Upon reaching the planned borehole depth, each well was backfilled with 1 foot of #2 silica sand as a base for setting the well screen. The #2 silica sand was then used as filter pack through the entire screened interval up to 1 foot above the screened interval. Bentonite pellets were then poured up to a depth of 1 foot bgs to fill the remaining annular space and to form a well seal. At monitoring well MW-04, only 6 inches of Bentonite chips were used to bring the well seal up to a depth of 6 inches bgs. The procedures implemented at monitoring well MW-04 were done in accordance with WSP SOPs for situations where there is an abnormally high water table. Bentonite chips were left to hydrate for a minimum of 1 hour at each location before a flush mount well box was installed and set using concrete. Final well depths with surveyed elevations and horizontal coordinates are presented in Table 2. Appendix B contains a compilation of available boring logs and well construction diagrams for the soil boring and monitoring wells installed or used under this program. Although soil boring information is presented in Tables 1 and 2 for all samples collected and wells installed, soil boring logs (graphic representation) were not completed for each individual soil boring completed under this program.

Following well installations, all wells within the monitoring network were sounded for LNAPL using a Heron® interface probe. Wells which contained measureable LNAPL were not scheduled for development or sampling due to the potential for contamination of the well screen, sand pack, and the aqueous sample during development or purging. Four of the extraction wells scheduled for development (EW-2, EW-6, EW-18, and EW-36) contained a floating sheen while five of the extraction wells (EW-4, EW-7, EW-13, EW-19, and EW-27) were found to contain a measureable thickness of LNAPL. The extraction wells with measureable LNAPL were not developed or sampled. The results of the LNAPL monitoring are discussed in Section 5.4.

Development of all new and existing wells (without measureable LNAPL) was performed using an electric submersible pump and dedicated polyethylene tubing. At each well, a target minimum of 10 well volumes was to be purged, but development generally continued beyond that volume due to the continued production of visibly turbid water. With sometimes little to no improvement in water turbidity during the course of development pumping, and in order to minimize unnecessary water generation, a limit of 1 hour of pumping was implemented during development. The high level of turbidity was deemed a natural characteristic of the groundwater aquifer. The pump was decontaminated using Alconox cleaning solution and tap water after each use and before proceeding with development at the next well.

Sampling activities began at the Site 10 days following completion of development to allow ample time for well stabilization. Prior to purging wells and collecting samples, a round of water level measurements was taken from all wells to be sampled. The water level results are summarized in Table 2 and discussed in detail in Section 5.4.

A minimum of three wells volumes was purged at each well before sampling in accordance with WSP SOPs (Table 9). Monitoring wells were purged and sampled using a peristaltic pump and dedicated Teflon tubing. Due to large well volumes, extraction wells were purged and sampled using dedicated 1-gallon bailers. Water parameters were recorded after each well volume was extracted to ensure that the well water had stabilized for sampling. Similar to the development process, low-turbidity samples could not be obtained in some cases even though extreme care was taken to minimize aquifer disturbance. Samples were collected through the dedicated tubing in the case of monitoring wells and directly from the bailer in the case of extraction wells. At each well a total of seven sample containers were filled:

- three (3) 30 ml vials preserved with hydrochloric acid (HCl) for TCL VOC analysis by USEPA SW846 Method 8260
- one (1) 150 ml plastic jar preserved with nitric acid (HNO3) for total metals analysis by USEPA SW846 Method 6010
- one (1) 150 ml unpreserved plastic jar for dissolved metal analysis by USEPA SW846 Method 6010
- one (1) 250 ml unpreserved amber jar for SVOCs analysis by USEPA SW846 Method 8270
- one (1) 250 ml unpreserved jar for pesticides/PCBs analysis by USEPA SW846 Methods 8081A and 8082

Samples collected for dissolved metals analysis were subsequently filtered by the laboratory prior to analysis. The results of the groundwater investigation are presented and discussed in detail in Section 5.4.

4.3.4 Sub-Slab Vapor Investigations

The objective of the sub-slab vapor investigation was to provide a rough, conservative indication of the potential for indoor air contamination in occupied Site buildings. The investigation involved the installation and sampling of six sub-slab vapor probes inside Buildings 16 and 17. Figure 8 illustrates the location of the sub-slab vapor probes. Since the buildings house an operating warehouse facility, specific locations were selected in the field based on the available and accessible space.

Sub-slab vapor probes were constructed using 0.25-inch stainless-steel tubing with swagelok fittings installed within a 0.375-inch pilot hole drilled entirely through the slab and into the sub-slab material. The vapor probes were sealed into the concrete using non-VOC emitting modeling clay and cement grout. Probe installation was performed in accordance with the procedures recommended in the New York State Department of Health (NYSDOH) "*Final – Guidance for Evaluating Soil Vapor Intrusion in the State of New York*" (SVI Guidance), dated October 2006, and USEPA "*Response Engineering Analytical Contract, Standard Operating Procedure #2082 – Construction and Installation of Permanent Sub-Slab Soil Gas Wells*", dated March 2007. A copy of this procedure is also included in Appendix C.

Sub-slab vapor samples were collected after purging three liters of vapor from each sampling location. The purge volume was collected using a peristaltic pump and measured using 1-liter tedlar bags. Following purging, sub-slab vapor samples were collected using Summa® canisters and regulators provided by the laboratory. All sub-slab vapor samples were analyzed for TCL VOCs by USEPA Method TO-15. Vapor sampling results are discussed in detail in Section 5.5.

4.4 RI Quality Assurance/Quality Control Program

Sample analyses for the RI were performed by Pace Analytical Laboratories located in Pittsburgh, Pennsylvania (NYSDOH ELAP # 10888 (soil and water)), Pace Analytical Laboratories located in Minneapolis, Minnesota (NYSDOH ELAP #11647 (air)), and Accutest of New England, located in Marlboro, Massachusetts (NYSDOH ELAP # 11791). As required, the laboratory provided Category B data packages in accordance with NYSDEC Analytical Services Protocol (ASP). The Category B data packages subsequently underwent a full, independent, third-party data validation in accordance with USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review and the analytical methods. The data validation was performed by ECT.CON Inc. of Palm Coast, Florida. The data validation summaries for the 33 data packages that comprised the RI data set are included in Appendix D.

Overall, the validated data are acceptable and have been used for generation of the tables and figures that support this document. There were several data points; however, they were rejected in the data validation process. The rejected data points are discussed below.

4.4.1 Soil Sample Data Quality

There were two key data quality issues that impacted the soil sample data quality as follows:

1. Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit in all sample data sets. Therefore, in all soil samples, non-detected results for 1,4-dioxane were rejected "UR".
2. Although the National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns, for the purposes of the validation, compounds with RPDs less than 45-percent (Method SW-846 specifies a 45-percent RPD limit) were not qualified. Compounds with RPDs between 46-percent and 90-percent were qualified as estimated "J". Compounds with RPDs greater than 90-percent were qualified as non-detected "U" at the reporting limit or rejected "R" if the positive result was greater than the reporting limit. In the following samples, positive results were rejected based on RPD between columns:

Sample	Qualifier	Parameter
RI-SB/MW-04-02	R	Dieldrin, Endosulfan sulfate, Endrin aldehyde
RI-SB-03-02 Dup	R	Heptachlor epoxide, b-BHC
RI-SB-28-02	R	b-BHC
RI-SB-33B-24	R	a-Chlordane
RI-SB-37-24	R	g-BHC
RI-SB-41-24	R	Endosulfan sulfate
RI-SB-51-02	R	Heptachlor, Dieldrin
RI-SB-52-02	R	Dieldrin
RI-SB-59-56	R	b-BHC
RI-SB-62-02	R	a-Chlordane
RI-SB-65-57	R	Endosulfan I
RI-SB-66-24	R	Heptachlor, Endosulfan II, a-Chlordane, g-Chlordane
RI-SB-66-24 Dup	R	g-BHC, Heptachlor, Endosulfan I, Dieldrin, Endosulfan II
RI-SB-66-46	R	4,4'-DDE
RI-SB-67-13	R	d-BHC
RI-SB-68-35	R	4,4'-DDT
RI-SB-74-02	R	d-BHC, Lindande, Heptachlor
RI-SB-74-24	R	Heptachlor, a-Chlordane
RI-SB-75-24	R	a-Chlordane

In addition, the following rejections were made based on matrix spike and matrix spike duplicate (MS/MSD) analysis:

- Recovery of acetone fell below the 10-percent quality control limit in the MSD for RI-SB-06-02. Therefore, the non-detected result for acetone was rejected "UR", and the positive and non-detected results for the remaining noncompliant compounds, were qualified as estimated "J" and "UJ" in the unspiked sample.
- In RI-SB-13-35 MS/MSD, recoveries of methylene chloride fell below 10-percent. Therefore, in the unspiked sample (RI-SB-13-35), the non-detected result for methylene chloride was rejected, "UR."

- Recovery of one or more acid fraction surrogates fell below 10-percent in several samples. Therefore, non-detected acid fraction results were rejected “UR” and positive acid fraction results were qualified as estimated “J” for samples RI-SB-29-02, RI-SB-29-02 Dup, RI-SB-36-34, RI-SB-38-24, RI-SB-74-24, and RI-SB-75-24.
- Recovery of one or more base/neutral fraction surrogates fell below 10-percent in several samples. Therefore, in samples RI-SB-14-24 and RI-SB-75-02, non-detected base/neutral fraction results were rejected “UR” and positive base/neutral fraction results were qualified as estimated “J”.
- Recovery of one or more base/neutral and acid fraction surrogates fell below 10-percent in several samples. Therefore, in samples RI-SB-47-02, RI-SB-23-24, RI-SB-74-24, and RI-SB-76-02, non-detected results were rejected “UR” and positive results were qualified as estimated “J”.
- Recovery of endrin aldehyde fell below 10-percent in a laboratory control sample (LCS). Therefore, in samples RI-SB-23-02, RI-SB-23-24, RI-SB-62-02, RI-SB-74-02, RI-SB-74-24, RI-SB-75-02, RI-SB-75-24, RI-SB-76-02, and RI-SB-76-24, non-detected results were rejected “UR” and positive results were qualified as estimated “J.”
- Recoveries of bis(2-chloroethyl)ether and hexachlorocyclopentadiene fell below 10-percent in RI-SB-59-56 MS and/or MSD. Therefore, in the unspiked sample, non-detected results for the aforementioned compounds were rejected “UR”.
- Recoveries of 4,4’-DDE, Aldrin, Endrin, and Methoxychlor fell below 10-percent in RI-SB-59-56 MS and/or MSD. Therefore, in the unspiked sample, non-detected results for these compounds were rejected “UR”.

4.4.2 Groundwater Sample Data Quality

Similar to soil analytical results, there were two key quality control issues that impacted the groundwater samples. Again, initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit in all sample data sets. Therefore, in all groundwater samples, non-detected results for 1,4-dioxane were rejected “UR”. In addition, recovery of the surrogate compound 2-fluorobiphenyl fell below the 10-percent quality control limit in sample MW-01. Therefore, non-detected results for base and neutral compounds were rejected, “UR”.

The fact that a large part of the MW-01 data was rejected is not a significant issue since a field duplicate was collected at this location. The field duplicate analytical data were not rejected.

The laboratory did not include aluminum, antimony, selenium, and thallium on the initial calibration verification (ICV), continuing calibration verification (CCV), initial calibration blank (ICB), continuing calibration blank (CCB), contract recovery detection limit (CRDL), and serial dilution forms. Therefore, in samples MW-01, MW-01 Dup, and MW-02, positive and non-detected results for the dissolved analyses of these parameters were rejected, “R” and “UR”.

In addition, the following rejections were made based on MS and MSD analysis:

- Recovery of the surrogates 2-fluorobiphenyl, phenol-d6, and 2-fluorophenol fell below the 10-percent quality control limit in sample MW-09. Therefore, positive results for these compounds in MW-09 were qualified as estimated, “J” and non-detected results were rejected, “UR”.
- Recovery of the surrogates phenol-d6 and 2-fluorophenol fell below the 10-percent quality control limit in sample MW-03. Therefore, positive acid fraction results for sample MW-03 were qualified as estimated, “J”, and non-detected acid fraction results were rejected, “UR”.
- Recovery of the surrogate phenol-d6 fell below the 10-percent quality control limit in sample MW-07. Therefore, non-detected acid fraction results for MW-07 were rejected, “UR”.
- Recovery of the surrogates nitrobenzene-d5, phenol-d6, and 2-fluorophenol fell below the 10-percent quality control limit in sample EW-18. Therefore, positive results for EW-18 were qualified as estimated, “J” and non-detected results were rejected, “UR”.

5 Chemical Presence in Site Media

5.1 Standards, Criteria, and Guidelines

SCGs are standards, criteria, and guidelines that are:

1. generally applicable, consistently applied, and officially promulgated
2. either directly applicable, or not directly applicable, but relevant and appropriate
3. determined to be applicable through engineering consideration and judgment

For purposes of this RI, the SCOs identified in title 6 NYCRR Part 375-6.8 and the supplemental SCOs identified in the Final Commissioner Policy (CP-51), Soil Clean-up Guidance, dated October 2010, were applied to the Site. In accordance with DER-10, all initial comparisons to detected compounds in soil were made against the Unrestricted Use Soil Clean-up Objectives (UU-SCOs) identified in these two documents. However, the Site location, past and current use, and the New York Zoning Resolution and maps, all consistently consider this area (including the Site) to be heavily industrial. The New York Zoning Resolution further classifies the Site property within the M3-1 – Heavy Manufacturing District (Low Performance), which is reserved to accommodate the essential heavy industrial uses which involve more objectionable influences and hazards, and which cannot reasonably be expected to conform to those performance standards which are appropriate for most other types of industrial development. Therefore, in discussing the nature and extent of contamination and the areas/volumes requiring remediation, the use-based SCOs that were considered applicable to the site were the Industrial Use SCOs (IU-SCOs), identified in 6 NYCRR Part 375-6.8 on Table 375-6.8(b).

Based on the findings of the Phase II SI Site Investigation, and confirmed through sampling and analysis under this RI, the groundwater underlying the Site is saline, and is therefore, unsuitable for use as a potable water supply. New York does not provide standards or guidance values for contaminants in class GSA groundwaters. Therefore, by default, the RI groundwater results will be compared to the class GA groundwater standards and guidance values (GA-SGVs) that are presented in TOGS 1.1.1. These comparisons are expected to present a very conservative estimation of the limits of groundwater contamination at the site.

The State of New York does not have any standards, criteria, or guidance values for concentrations of VOCs in subsurface soil vapor or sub-slab soil vapor. The NYSDOH has developed a limited number of guideline values for chemicals in ambient air. These guideline values are presented in Table 3.1 of the SVI Guidance.

For the initial screening of the analytical data, chemicals detected in sub-slab soil vapor samples will be compared against the available values in "Table 3.1 – Air Guideline Values Derived by the NYSDOH". This table contains guideline concentrations for 1,1,1-trichloroethane (100 $\mu g/m^3$), carbon tetrachloride (5 $\mu g/m^3$), methylene chloride (60 $\mu g/m^3$), tetrachloroethene (100 $\mu g/m^3$), and trichloroethene (5 $\mu g/m^3$). Where applicable, the detected concentrations will be further compared against the action matrices presented in Section 3.4 of the SVI Guidance. Although the matrices require indoor air and sub-slab vapor samples to be collected simultaneously, the sub-slab concentrations will be used to determine the need for further sampling of indoor air.

This evaluation of the sub-slab soil vapor sample results is presented in Section 5.5.

5.2 Chemical Modeling Software

Within the following sections, three-dimensional models were created to enhance the ability to interpolate and visualize the contaminant distribution and develop a better understanding of site conditions. Ctech Development Corporation's Environmental Visualization Software (EVS) was used to create the three-dimensional visualizations of the VOC, SVOC, metal, and PCB constituents in the unsaturated zone. The modeled dataset includes soil samples collected during the RI from October 2011 through August 2012. Samples with non-detect results were entered into the model as 1/10th of the reported detection limit.

The distribution for each constituent was interpolated and contoured between the ground surface (upper boundary) and the groundwater surface (lower boundary) using three-dimensional geostatistical kriging of the log-transformed sample concentrations. The lower boundary was defined as the interpolated groundwater surface from the most recent (July 17, 2012) Site groundwater monitoring event. Due to the fact that it is the only Site-related PCB constituent, Aroclor 1248 was used to create the PCB distribution model.

5.3 Groundwater Hydraulic Monitoring Results

Groundwater hydraulic monitoring was performed on two occasions: July 16, 2012 during low tide (Figure 9a), and July 17, 2012 during high tide (Figure 9b). The objectives of this monitoring exercise were to determine the flow characteristics and evaluate the potential for tidal influences on static groundwater elevations and flow direction.

Groundwater in the historic fill layer generally appears to flow outward in a radial direction, originating from a ridge/high-point near the center of the Site as shown in Figures 9a and 9b. The flow direction and magnitude did not chance substantially between high and low tides. A tidal influence study was completed during the Phase II SI which concluded that the tides did not influence groundwater at the Site. However, there does appear to be recharge occurring along this high point. This concept is further supported by the fact that the Site is almost entirely capped with impervious surfaces (concrete or asphalt) and that Site drainage is provided by a series of storm drainage inlets. Seemingly, due to the manmade coastline toward the east (mainly rip rap) and the potential for enhanced groundwater conductivity through this type of porous media, groundwater recharge could occur. The groundwater beneath the Site is not used as a drinking water source or as a source of water for Site processes.

Based on the groundwater hydraulic monitoring exercise conducted, the hydraulic gradient appears to vary from approximately 2.81×10^{-3} feet per foot (ft/ft) in the east-west direction, up to 1.06×10^{-2} ft/ft in the north-south direction.

5.4 Soils

5.4.1 PCB Delineation

During the RI PCB delineation activities, four PCB congeners were identified above method detection limits in surface and subsurface soils. The PCB detections were heavily dominated by Aroclor 1248 which, thus far, is the only site-related PCB congener. Aroclor 1254 was also detected, albiet to a much lesser extent. Aroclor 1242 (two samples) and Aroclor 1260 (four samples) were also detected.

LNAPL at the site, the source of PCBs in subsurface soils, is dominated by Aroclor 1248. In July 2007, two samples of LNAPL were collected from Site extraction wells (EW-16 and EW-19), analyzed, and found to contain 91.0 mg/l and 27 mg/l of Aroclor 1248, respectively. The samples also contained Aroclor 1260 at significantly lower concentrations of 3.7 mg/l and 8.8 mg/l, respectively. There were no detections of Aroclor 1254 in these initial LNAPL samples.

Subsequent LNAPL samples were collected from various extraction wells across the Site in November 2007. PCBs were detected in six of the LNAPL samples at the following concentrations:

	Extraction Well Location					
PCBS (µg/l)	**E-11**	**E-14**	**E-19**	**E-16**	**E-7**	**E-13**
Aroclor 1016	ND	ND	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND	ND	ND
Aroclor 1248	120,000	450,000	30,000	200,000	130,000	1,600
Aroclor 1254	ND	ND	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND	ND	ND

Although Aroclor 1254 is completely absent from any LNAPL sample that has been analyzed at the Site, there have been detections of Aroclor 1254 in soil samples collected in support of the PCB investigations. In the earliest on-site PCB investigations performed between 1998 and early 2007, Aroclor 1254 was not detected in any of the soil samples collected. This investigation consisted of collection and analysis of soil and groundwater samples for on-site areas. The Aroclor 1254 congener was detected in only one groundwater sample collected from extraction well E-5 in July 2007 (WSP 2009).

During the on-site PCB investigations conducted in November 2007, a total of 137 soil samples were collected from locations across the Site. Aroclor 1254 was only detected in one sample out of the 137 samples collected. This sample set was dominated by Aroclor 1248, which was detected in 101 of the 137 samples, as was expected based on the LNAPL analyses (WSP 2009).

The findings of these early PCB investigations were again confirmed in the 2008 and 2009 PCB investigations. These investigations included collection of samples from a mix of potentially impacted on-site and off-site areas. A total of 637 soil samples were collected throughout these investigations and the analytical data were dominated by Aroclor 1248, which was detected in 346 of the samples. In comparison, Aroclor 1254 was detected in only four samples collected on-site. The remainder of the detections of Aroclor 1254 (15 samples) were found in samples collected from off-site soil piles that are located on the Halleck Street right-of-way (ROW, WSP 2009). These samples were collected from the PCB investigation grid, Rows N, O, and P, beginning north of the Site perimeter (Figure 4). Based on these data and the findings of the PCB investigations performed as part of the RI, these soil piles are considered a potential source of the Aroclor 1254 contamination. The origin of these soil piles is unknown and unrelated to any activities undertaken by Chemtura at the Site.

During the RI, a total of 682 samples were collected to complete the off-site delineation of PCBs to the north (Halleck Street and Red Hook Park), to the west (Clinton Street), and to the south (Hess property).

The PCB congener Aroclor 1254 was detected at low levels in several of the surface and shallow sub-surface soil samples collected from Red Hook Park. The depth at which the Aroclor 1254 was most commonly detected was 0 to 2 inches bgs (17 locations), followed by 0 to 1 foot bgs (11 locations), 1 to 2 feet bgs (six locations), and 2 to 3 feet bgs (3 locations). Aroclor 1254 was detected at one anomalous location in the 4 to 5 foot interval. The concentration of this PCB congener in park soils was below 1 mg/kg in all samples. This shallow contamination is likely either the result of surface water runoff and wind dispersion from the Halleck Street soil piles or from other off-site sources associated with the regrading of Red Hook Park during its most recent renovation.

The results of the various PCB investigations have been compiled in this RI Report and are presented in the remainder of this section, and through a series of figures (Figures 10 through 12) and a table (Table 3). In accordance with DER-10, the baseline for comparison of the PCB results is the UU-SCOs. In addition to that baseline comparison, the PCB data have been compared against the site-appropriate IU-SCO to create illustrations of the area and depth of PCB contamination that would conceptually be targeted for remediation.

The baseline comparison of the PCB data against the UU-SCOs is presented in Table 3.

Figures 10 through 12 illustrate the extent of PCB (Aroclor 1248) contamination in on-site and off-site soils, at concentrations above 1 mg/kg, 10 mg/kg, and 25 mg/kg, utilizing RI and pre-RI data. The figure was generated using the following assumptions:

- Only Aroclor 1248 concentrations were incorporated into the modeling graphic since Aroclor 1254 is not considered to be site-related.
- Where duplicate data were available for any data point, the primary data value (not the duplicate) was used in the model.
- Although samples were collected over 1-foot intervals, the depth of the sample was set to the lowest depth of the sample interval (i.e., a sample from the 2- to 3-foot interval was set at 3 feet).
- U qualified data were entered into the model at a concentration of 10-percent of the listed reporting limit.
- J qualified data were entered into the model as the reported estimated value.
- D qualified data were entered into the model as the reported value following dilution.
- Data from MW-12, at a 7-8-foot interval, was omitted since the sample had an elevated reporting limit due to matrix interference.

Discussion of the delineation of PCB contamination in the three off-site areas is discussed below.

Clinton Street Delineation

Delineation of the horizontal and vertical extents of PCB contamination at Clinton Street was deemed necessary based on two soil borings completed within Building 17 (Grid Nodes 22W and 22V), both of which contained at least one sample with total PCB concentrations above the UU-SCO of 0.1 mg/kg. The delineation to the west of Building 17, in the Clinton Street ROW, was completed using a total of approximately 127 additional soil samples from 18 soil borings (including duplicate samples). In total, 16 of the samples collected (from 10 different borings) contained concentrations of total PCBs above the UU-SCO. The congeners detected above the UU-SCOs consisted of Aroclor 1254 (10 samples), Aroclor 1248 (5 samples), Aroclor 1242 (2 samples), and Aroclor 1260 (1 sample).

Four of the 16 samples (from two different borings) contained concentrations of total PCBs above the Residential Use SCO of 1 mg/kg. These samples were collected from boreholes 26U (15.30 mg/kg Aroclor 1254 from the 0 to 2-inch interval, and 1.06 mg/kg and 1.10 mg/kg (duplicate) Aroclor 1254 from the 0 to 1-foot interval) and 27V (1.11 mg/kg Aroclor 1242 from the 0 to 1-foot interval). Table 3 presents the results of the off-site PCB investigation.

It should be noted that, like the surficial exceedances in the Red Hook Park and in the Halleck Street ROW, these PCB detections are entirely comprised of Aroclor 1254 which is not considered to be site-related contamination. Aroclor 1248 associated with site-related activities was not detected. There were no detections of PCBs in this off-site area that exceeded the IU-SCO of 25 mg/kg.

The delineation of off-site contamination along the Clinton Street ROW was completed by Borings 26S, 27T, 28U through 28X, 27A, and 26A, all of which were at or below the Residential Use SCO of 1 mg/kg.

Hess Yard Delineation

Delineation of the horizontal and vertical extents of PCB contamination at the Hess Yard south of the Site was deemed necessary based on one soil boring (Grid Node 12V, 42 mg/kg at 4 to 5 feet bgs) completed to the east of the DPE system treatment building. The delineation to the south of the treatment building, in the Hess Yard, was completed using a total of 105 additional soil samples (including field duplicates) from 15 soil borings. In total, 17 of the samples collected (from 10 different borings) contained concentrations of total PCBs above the UU-SCO (0.1 mg/kg). The congeners detected consisted of Aroclor 1248 (15 samples), Aroclor 1260 (3 samples), and Aroclor 1254 (2 samples).

Seven of the 17 samples (from six different borings) contained concentrations of total PCBs (all Aroclor 1248) above the Residential Use SCO of 1 mg/kg. These samples were collected from boreholes:

- 11S (5.19 mg/kg from the 3- to 4-foot interval)
- 11T (8.6 mg/kg from the 3- to 4-foot interval)
- 11U (21.2 mg/kg from the 2- to 3-foot interval)
- 12S (1.78 mg/kg from the 4- to 5-foot interval)
- 13S (1.69 mg/kg and 1.39 mg/kg from the 4- to 5-foot and 5- to 6-foot intervals, respectively)

- 13T (1.12 mg/kg from the 4- to 5-foot interval)

There were no detections of PCBs in this off-site area that exceeded the IU-SCO of 25 mg/kg. Table 3 presents the results of the off-site PCB investigation. Based largely on the considerations that this parcel is still subject to heavy industrial use, and that the elevated concentrations of constituents above the UU-SCO are at depths greater than 3 feet bgs, the delineation was deemed complete at Row S where concentrations of PCBs were only slightly elevated above the SCO.

Halleck Street/Red Hook Park Delineation

During the PCB investigations conducted in 2009, numerous samples in Row N (straddling the northern property boundary) were found to have concentrations of PCBs above the Residential Use SCO of 1 mg/kg. Based on these detections, the off-site investigation was expanded to the north. The delineation to the north, crossing Halleck Street and extending into the Red Hook Park, was completed using a total of 450 additional soil samples from 57 soil borings (including duplicate samples).

PCB detections in Row Z (Figure 4; 20 feet inside of the park perimeter fence line and 80 feet north of the northern Site boundary) ranged from 0.41 mg/kg at location 11Z to 109 mg/kg at location 8Z (both Aroclor 1248). These locations in Row Z represent the northern-most detections of Aroclor 1248 off-site. Figures 10, 11, and 12 illustrate the volume of soil impacted with Aroclor 1248 above 1 mg/kg, 10 mg/kg, and 25 mg/kg, respectively.

In terms of depth of contamination, the two primary congeners detected in off-site soils to the north (Aroclor 1248 and Aroclor 1254) appear to have resulted from two different contamination processes. In particular, since the Aroclor 1254 detections are limited to the top 2 feet of soil (with two exceptions: one detection in 2 to 3 foot interval and one detection in 4 to 5 foot interval), this contamination appears to have undergone atmospheric dispersion by wind or water, or direct placement of contaminated surface soils (topsoil placement). Similarly, since the Aroclor 1248 detections are concentrated between 3 and 7 feet bgs (immediately above the groundwater table in most cases), this contamination appears to have been spread by groundwater migration/movement (e.g., historic LNAPL floating on top of the water table).

It should be noted that all of samples containing concentrations above 1 mg/kg were collected from depths greater than 3 feet bgs.

Beyond the detections in Row Z, there were only three locations where PCBs were detected above the UU-SCO of 0.1 mg/kg:

- FarField 2: 0.151 mg/kg (Aroclor 1254) from the 1- to 2-foot interval
- 2ZA: 0.411 mg/kg (Aroclor 1254) from the 0 to 2-inch interval (surface soil)
- 11ZB: 0.156 mg/kg (Aroclor 1254) from the 0 to 1-foot interval

Based on the fact that none of the PCB detections north of Row Z are considered to be site-related, and that soils with detections of Aroclor 1248 (site-related PCBs) have been delineated to the Residential Use SCO of 1 mg/kg, the delineation to the north is considered complete.

5.4.2 Organic Contaminant Delineation

5.4.2.1 Volatile Organic Compounds

Approximately 161 soil samples were collected from approximately 75 soil borings located across the Site and analyzed for TCL VOCs by USEPA SW846 Method 8260B. The results of those analyses, compared against the UU-SCOs presented in NYCRR Part 375-6.8 (Table 375-6.8[a]), are presented in Table 4. As shown in the table, approximately 105 of the samples (corresponding to 62 of the 75 soil borings) were found to contain one or more of the TCL VOCs at concentrations above the UU-SCOs.

The following VOCs were detected at concentrations above the UU-SCOs:

Analyte	*Samples > UU-SCOs*	*Maximum Concentration (mg/kg)*	*Location of Maximum Concentration*
1,2-Dichlorobenzene	1	1.880	RI-SB-67, Hazardous Waste Area
2-Butanone (MEK)	5	0.733	RI-SB-21, Bldg. 14/Area 9 Tank Farm
Acetone	50	0.406	RI-SB-D(60), Area 23, Tank Farm No 5
Benzene	7	3.19	RI-SB-32, Bldg. 7 North Tank Farm
Ethylbenzene	28	83.2	RI-SB-38, Bldg. 12/13 Tank Farm
Methylene Chloride	4	0.374	RI-SB-19, Bldg. 15 Area
Toluene	29	633	RI-SB-57, Bldg. 7 Ext Tank Farm
Xylene (Total)	50	1,620	RI-SB-15, Area 4 and 5 (northeast)

Xylene was the only analyte found in more than one boring at the Site at concentrations above the IU-SCOs provided in NYCRR part 375-6.8 (Table 375-6.8[b]). Specifically, xylene was found in RI-SB-15, located at the northeast end of the Site (former Area 4 and Area 5), at a concentration of 1,620 mg/kg, above the IU-SCO of 1,000 mg/kg. The location of this exceedance was anticipated due to elevated concentrations of xylene (13,336 mg/kg at GB-17) found in this vicinity during the Phase II SI. The significant reduction in xylene concentration may be attributed to the performance of the Corrective Measures treatment system. Although this location falls within Zone 3 of the treatment system which had not been treated with steam prior to the discovery of PCBs, soil vapor extraction was applied and is very effective on the volatile constituents. The other location where elevated xylene was detected in soil was RI-SB-38 (1,220 mg/kg), which is located in the center of the Site, within a former tank farm situated between Buildings 12 and 13.

Figure 13 illustrates the extent of xylene contamination at the Site. The illustration depicts the extent of contamination above the UU-SCOs in transparent shading. The extent of contamination above the IU-SCOs is illustrated in solid color, with the edge of the solid color marking the IU-SCO value. No other VOCs were detected above the IU-SCOs at the Site.

5.4.2.2 Semi-Volatile Organic Compounds

Approximately 161 soil samples were collected from approximately 75 soil borings located across the Site (some off-site) and analyzed for TCL SVOCs by USEPA SW846 Method 8270C. The results of those analyses, compared against the UU-SCOs are presented in Table 5. As shown in the table, approximately 110 of the 161 samples (corresponding to 63 of the 75 soil borings) were found to contain one or more of the TCL SVOCs at concentrations above the UU-SCOs.

The following SVOCs were detected at concentrations above the UU-SCOs:

Analyte	*Samples > UU-SCOs*	*Maximum Concentration (mg/kg)*	*Location of Maximum Concentration*
2-Methylphenol(o-Cresol)	1	0.809	RI-SB-61, Tank Farm No. 5
Acenaphthene	1	32.2	RI-SB-74, Bldg. 19 Tank Farm
Benzo(a)anthracene	65	62.5	RI-SB-33b
Benzo(a)pyrene	63	53	RI-SB-33b
Benzo(b)fluoranthene	68	59.3	RI-SB-33b
Benzo(k)fluoranthene	54	25.5	RI-SB-33b
Chrysene	70	58.2	RI-SB-33b
Dibenz(a,h)anthracene	27	3.7	RI-SB-33b
Dibenzofuran	3	9.62	RI-SB-53
Fluoranthene	3	161	RI-SB-33b
Indeno(1,2,3-cd)pyrene	55	25.1	RI-SB-33b
Naphthalene	9	52.2	RI-SB-74, Bldg. 19 Tank Farm

Analyte	***Samples > UU-SCOs***	***Maximum Concentration (mg/kg)***	***Location of Maximum Concentration***
Phenanthrene	4	148	RI-SB-74, Bldg 19 Tank Farm
Phenol	57	1,290	RI-SB-48, Bldg 7 Ext Tank Farm
Pyrene	4	169	RI-SB-33b

Only a small subset of the SVOCs shown in the table above were found at elevated concentrations in more than one Site boring at concentrations above the applicable IU-SCO, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

Figures 14 through 18 illustrate the extent of SVOC contamination at the Site, focusing on those constituents exceeding both the UU-SCOs and the IU-SCOs. The illustrations depict the extent of these constituents above the UU-SCOs in transparent shading (outer ring). The extent of contamination above the IU-SCOs is illustrated in solid color, with the edge of the solid color marking the IU-SCO value. Chrysene and phenol, both found at concentrations above the IU-SCO, were not mapped since the exceedances occurred at only one Site location for each constituent. In particular, chrysene exceeded the IU-SCO of 100 mg/kg at only RI-SB-28 (165 mg/kg). Phenol exceeded the IU-SCO of 1,000 mg/kg at only RI-SB-48 (0 to 2 feet; 1,290 mg/kg).

5.4.2.3 Pesticides

Approximately 161 soil samples were collected from approximately 75 soil borings located across the Site and analyzed for TCL pesticides by USEPA SW846 Method 8080. The results of those analyses, compared against the UU-SCOs are presented in Table 6. As shown in the table, 94 of the samples (corresponding to approximately 61 of the 75 borings) were found to contain one or more of the TCL pesticides at concentrations above the UU-SCOs.

The following pesticides were detected at concentrations above the UU-SCOs:

Analyte	***Samples > UU-SCOs***	***Maximum Concentration (mg/kg)***	***Location of Maximum Concentration***
4,4'-DDD	39	0.098	RI-SB-66, Bldg. 18, HWSA
4,4'-DDE	29	21.4	RI-SB-36, Bldg. 13, Tank Farm Area
4,4'-DDT	61	0.274	RI-SB-36, Bldg. 13, Tank Farm Area
Aldrin	1	0.0062	RI-SB-34, Offices and Area 10
alpha-Chlordane	4	0.313	RI-SB-33b, Area 10, MW-10
beta-BHC	2	0.299	RI-SB-28, Bldg. 13 Tank Farm
delta-BHC	2	0.106	RI-SB-74, Bldg. 19 Tank Farm
Dieldrin	25	0.107	12Z (PCB Investigation – Halleck St.)
Endrin	15	0.0555	MW-04, Bldg 19 Tank Farm Area (1)
Heptachlor	7	78	RI-SB-36, Bldg 13, Tank Farm Area

(1) Sample was collected from an off-site area, southeast corner of the Site.

Dieldrin and heptachlor were the only analytes found at concentrations exceeding the IU-SCU and both exceedances were from a single location (RI-SB-36 from 0 to 2 feet). All other pesticides detected at the site were found at concentrations below the IU-SCOs. Based on the limited number of exceedances, the pesticide constituents were not modeled to estimate the extent of contamination.

5.4.3 Inorganic Contaminant Delineation

Approximately 161 soil samples were collected from approximately 75 soil borings located across the Site (some off-site) and analyzed for TAL metals by USEPA SW846 Method 6010. The results of those analyses, compared against the UU-SCOs are presented in Table 7. As shown in the table, 153 of the samples (corresponding to 74 of the 75 soil borings) were found to contain one or more of the TAL metals at concentrations above the UU-SCOs.

The following metals were detected at concentrations above the UU-SCOs:

Analyte/Metal	***Samples > UU-SCOs***	***Maximum (mg/kg)***	***Location of Maximum***
Arsenic	9	74.1	12Z (PCB Investigation – Halleck St.)
Barium	26	8,630	RI-SB-39, Bldg 12 Tank Farm
Beryllium	1	246	RI-SB-57, Bldg 7 Ext Tank Farm
Cadmium	42	4,390	RI-SB-32, Bldg 7 North Tank Farm
Chromium	13	1,600	RI-SB-57, Bldg 7 Ext Tank Farm
Copper	88	8,550	RI-SB-57, Bldg 7 Ext Tank Farm
Lead	126	10,400	RI-SB-48, Bldg 7 Ext Tank Farm
Manganese	1	2,760	RI-SB-57, Bldg 7 Ext Tank Farm
Nickel	40	2,150	RI-SB-57, Bldg 7 Ext Tank Farm
Selenium	1	9.6	RI-SB-57, Bldg 7 Ext Tank Farm
Silver	2	23.5	RI-SB-64, West of Drum Stor. Area
Zinc	97	37,300	RI-SB-57, Bldg 7 Ext Tank Farm
Mercury	129	89.1	RI-SB-22, Area 9, Tank Farm 2

A smaller subset of the metals shown in the table above were found in more than one Site boring at concentrations above the applicable IU-SCO, including arsenic, cadmium, lead, mercury, and zinc.

Figures 19 through 22 illustrate the extent of metals contamination at the Site, focusing on those constituents exceeding the UU-SCOs and IU-SCOs. The illustrations depict the extent of constituents above the UU-SCOs in transparent shading (outer ring). The extent of contamination above the IU-SCOs is illustrated in solid color, with the edge of the solid color marking the IU-SCO value. Zinc was not mapped since only one location (RI-SB-57) contained a concentration (37,300 mg/kg) above the IU-SCO of 10,000 mg/kg.

5.5 Tar Sample Characterization

As discussed in Section 2.3.2.3, a tar-like substance was observed in a soil boring near the intersection of Halleck and Court Streets. The soil boring was completed during previous investigations in the area close to the northeast corner of the Site. The horizontal and vertical limits of the tar substance were roughly delineated during the Phase II SI, and further delineation was completed as part of the RI. Figure 6 illustrates the approximate delineation achieved during the RI.

A composite sample of the tar was collected during the RI and submitted to the laboratory for analysis of TAL metals (USEPA SW846 Method 6010), TCL VOCs (USEPA SW846 Method 8260), TCL SVOCs (USEPA SW846 Method 8270), and TCL pesticides (USEPA SW846 Method 8080).

The TCL analyses identified numerous VOCs, SVOCs, metals, and pesticides in the tar. However, the constituents in the tar were largely dominated by poly-aromatic hydrocarbons (PAHs) including acenaphthalene (1,040 mg/kg), anthracene (1,010 mg/kg), benzo(a)anthracene (944 mg/kg), benzo(b)fluoranthene (970 mg/kg), chrysene (1,010 mg/kg), fluoranthene (3,640 mg/kg), naphthalene (2,170 mg/kg), phenanthrene (4,830 mg/kg), and pyrene (2,350 mg/kg), which are constituents commonly associated with coal tar. The SVOC constituents in the tar sample comprised more than 2-percent of the substance by weight.

5.6 Groundwater

5.6.1 Volatile Organic Compounds

The groundwater sampling program consisted of the collection and analysis of samples from each of 10 Site groundwater monitoring wells in addition to 11 remediation system extraction wells. In total, five of the extraction wells were found to contain LNAPL floating on the groundwater surface and were, therefore, not sampled. LNAPL thickness measurements were taken at each of these locations (extraction wells EW-4, EW-7, EW-13, EW-19, and EW-27) and the results of these measurements are presented in Table 2. The measured LNAPL thicknesses ranged from 0.03 feet in extraction well EW-4 to 2.23 feet in extraction well EW-19. The LNAPL measurements are also indicated in Figure 23.

The remaining six extraction wells and 10 monitoring wells were purged and sampled in accordance with WSP SOPs, and the groundwater samples were analyzed for TCL VOCs by USEPA Method SW846 8260B, as well as the parameters listed in the subsequent groundwater sections. Table 9 presents the water quality parameters recorded during the well purging process prior to sample collection.

The results of the sample analyses compared against the GA-SGVs are presented in Table 10. As shown in the table, VOCs were detected in all the sampled wells with the exception of monitoring well MW-10. None of the VOCs detected in monitoring wells MW-6, MW-7, MW-8, and MW-9 exceeded their respective GA-SGVs. The number of VOC detections above the GA-SGVs, the maximum concentration detected, and the location of the maximum concentration on-site is summarized in the table below.

Analyte	***Samples > GA-SGVs***	***Maximum Concentration (µg/L)***	***Location of Maximum Concentration***
1,2-Dichloropropane	1	1.5	EW-6, Bldg 12 Tank Farm
Acetone	1	279	EW-6, Bldg 12 Tank Farm
Benzene	7	767	MW-03, Former Brooklyn Union Gas
Ethylbenzene	6	160	EW-6, Bldg 12 Tank Farm
Toluene	5	572	EW-6, Bldg 12 Tank Farm
Xylene (Total)	9	3,010	EW-6, Bldg 12 Tank Farm

Two VOCs, 1,2-dichloropropane and acetone, were only detected in extraction well EW-6, and at levels that only slightly exceeded the GA-SGVs. Acetone was detected at 279 µg/l compared to the GA-SGV of 50 µg/l, and 1,2-dichloropropane was detected at 1.5 µg/l compared to the GA-SGV of 1 µg/l.

The remaining constituents that were found at concentrations above the GA-SGVs were limited to benzene, toluene, ethylbenzene, and xylene. Figure 24 illustrates the distribution of these four chemicals in Site groundwater. As expected based on the Phase II SI data, the concentration of benzene is the highest (767 µg/l) in monitoring well MW-03, located east of the Site, adjacent to the National Grid property (formerly Brooklyn Union Gas). This detection, based on the hydraulic monitoring performed in support of the RI, appears to be up-gradient of the Site. The remainder of the benzene detections ranged from 1.4 µg/l to 66.7 µg/l compared to the GA-SGV of 1 µg/l.

Also as expected based on the soil investigation results, xylene concentrations were found to be highest in the central and northern Site areas. The concentration of xylene in extraction well EW-6 (central) was found to be 3,010 µg/l, while the concentrations north of the Site ranged from 281 µg/l (monitoring well MW-01) to 761 µg/l (monitoring well MW-02), compared to the GA-SGV of 5 µg/l for this analyte.

Concentrations of ethylbenzene and toluene were highest in extraction well EW-6 (160 µg/l and 572 µg/l, respectively) and ranged from 12.8 µg/l to 55.9 µg/l and 9.3 µg/l to 40.3 µg/l, respectively. The GA-SGV for both of these constituents is 5 µg/l.

5.6.2 Semi-Volatile Organic Compounds

The six extraction wells (without floating LNAPL) and 10 monitoring wells at the Site were sampled, and the groundwater samples were analyzed for TCL SVOCs by USEPA SW846 Method 8270C, as well as the parameters listed in the subsections below. The SVOCs that were detected above the GA-SGVs included acenaphthene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, naphthalene, and phenol. A complete listing of the SVOC analytical data in comparison to the GA-SGVs is presented in Table 11. Figure 25 illustrates the distribution of SVOCs that were detected above the GA-SGVs. It should be noted that all chemicals included in the figure are listed as guidance values in TOGS, with the exception of phenol, which has a GA-SGV of 1 µg/l.

Acenaphthene was detected above the GA-SGV (20 µg/l) in three wells (EW-36, MW-02, and MW-03) and ranged in concentration from 24.8 µg/l to 43.7 µg/l. Benzo(b)fluoranthene was detected above the GA-SGV (0.002 µg/l) at four Site extraction wells and ranged in concentration from 1.8 µg/l up to 16.8 µg/l. This constituent was not detected above the guidance value in any off-site monitoring location. Similarly, benzo(k)fluoranthene and chrysene were each detected in extraction wells EW-29, EW-36, and EW-42 at concentrations above the GA-SGVs (0.002 µg/l, same for each constituent), ranging from 1.1 µg/l to 5.7 µg/l, and 2.3 µg/l to 10.5 µg/l, respectively. These constituents were not detected above the guidance values in any off-site monitoring location. The following table summarizes the number of exceedances and maximum concentrations of SVOCs detected in Site groundwater.

Analyte	***Samples > GA-SGVs***	***Maximum Concentration (µg/L)***	***Location of Maximum Concentration***
Acenaphthene	3	43.7	EW-36, Area 8 Warehouse
Benzo(b)fluoranthene	4	16.8	EW-29, Near Offices/Bldg. 3
Benzo(k)fluoranthene	3	5.7	EW-29, Near Offices/Bldg. 3
Chrysene	3	10.5	EW-29, Near Offices/Bldg. 3
Naphthalene	5	1,130	MW-03, Former Brooklyn Union Gas
Phenol	3	9,230	EW-6, Bldg. 12 Tank Farm

Site-wide naphthalene was detected at relatively low concentrations ranging from 14.1 µg/l to 98.8 µg/l, slightly above the guidance value of 10 µg/l. One off-site detection of naphthalene (1,130 µg/l) was found in monitoring well MW-03, which appears to be up-gradient of the Site. This monitoring well was also the location where the highest concentration of benzene was detected. Naphthalene concentrations detected on-site were two orders of magnitude less than this off-site location.

Phenol was detected at levels that slightly exceeded the GA-SGV at extraction well EW-36 (1.4 µg/l) and monitoring well MW-05 (1.4 µg/l). At extraction well EW-6, phenol was detected at a comparatively high concentration of 9,230 µg/l. As shown on the figure, extraction well EW-6 is located near the center of the Site, within the area of the former treatment system.

5.6.3 Metals

Groundwater samples (filtered and unfiltered) from the 16 Site monitoring points were also analyzed for TAL metals according to USEPA SW846 Methods 6010B and 7470 (mercury). When analyzing the unfiltered samples, a total of 16 (antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, selenium, sodium, and zinc) of the 25 target analytes (including mercury) were detected at concentrations that exceeded the GA-SGVs. When analyzing the filtered samples (dissolved metals), only antimony, barium, iron, manganese, and sodium were detected at concentrations that exceeded the GA-SGVs. A complete listing of the metals analytical data in comparison to the GA-SGVs is presented in Table 12. Figure 26 illustrates the distribution of metals that were detected above the GA-SGVs. The following table summarizes the number of exceedances and maximum concentrations detected in Site groundwater.

Analyte/Metal	***Samples > GA-SGVs***	***Maximum Concentration (µg/L)***	***Location of Maximum Concentration***
Antimony	1	7.8	EW-18, Area 8/ Tank Farm
Arsenic	9	135	EW-42, Area 24/Tank Farm No.4
Barium	4	2,390	MW-07, West of Bldg. 16
Beryllium	1	4.1	EW-42, Area 24/Tank Farm No.4
Cadmium	5	40.7	EW-29, Near Offices/Bldg. 3
Chromium	3	188	EW-18, Area 8/ Tank Farm
Copper	4	35,700	EW-42, Area 24/Tank Farm No.4
Iron	16	162,000	EW-29, Near Offices/Bldg. 3
Lead	6	5,760	EW-29, Near Offices/Bldg. 3
Magnesium	1	37,000	EW-42, Area 24/Tank Farm No.4
Manganese	16	2,180	EW-42, Area 24/Tank Farm No.4
Mercury	5	109	EW-18, Area 8/ Tank Farm
Nickel	3	1,060	EW-29, Near Offices/Bldg. 3
Selenium	1	16.1	EW-18, Area 8/ Tank Farm
Sodium	14	277,000	MW-03, Former Brooklyn Union Gas
Zinc	3	19,600	EW-29, Near Offices/Bldg. 3
Arsenic, Dissolved	1	42.8	EW-6, Bldg. 12 Tank Farm
Barium, Dissolved	1	1,510	MW-07, West of Bldg. 16
Iron, Dissolved	15	4,470	EW-18, Area 8/ Tank Farm
Manganese, Dissolved	14	1,600	MW-05, South of Site, Bryant St
Sodium, Dissolved	13	288,000	MW-03, Former Brooklyn Union Gas

5.6.3.1 Total Metals

Antimony concentrations in the four groundwater samples that exceeded the GA-SGV (3 mg/l) ranged from 5 mg/l to 12.6 mg/l. Barium concentrations in the four groundwater samples that exceeded the GA-SGV (1,000 mg/l) ranged from 1,300 mg/l to 2,390 mg/l. Beryllium was identified in only one sample (4.1 mg/l at extraction well EW-42) at a concentration that exceeded the GA-SGV of 3 mg/l. Chromium concentrations in the three groundwater samples that exceeded the GA-SGV (50 mg/l) ranged from 181 mg/l to 184 mg/l. Selenium was identified in only one sample (16.1 mg/l at extraction well EW-18) at a concentration that exceeded the GA-SGV of 10 mg/l.

Iron and sodium, as expected, were detected above the GA-SGVs (300 mg/l and 20,000 mg/l, respectively) in nearly all of the samples collected. Iron concentrations ranged from 4,650 mg/l to 162,000 mg/l, and sodium concentrations ranged from 7,840 mg/l to 277,000 mg/l.

Zinc concentrations in the three groundwater samples that exceeded the GA-SGV (2,000 mg/l) ranged from 2,630 mg/l to 19,600 mg/l.

5.6.3.2 Dissolved Metals

Each of the groundwater samples was also filtered at the laboratory and further analyzed for TAL metals using the same USEPA method. In the filtered samples, only arsenic, barium, iron, manganese, and sodium were detected at concentrations above the respective GA-SGVs. Arsenic was detected above the GA-SGV at a single location (extraction well EW-6: 42.8 µg/l). Similarly, barium was detected above the GA-SGV at a single location (monitoring well MW-07: 1,510 µg/l). It should be noted that the maximum concentrations for both of these analytes is below the GA-SGVs. Iron, manganese, and sodium were detected above the GA-SGVs in nearly all of the filtered samples, and are believed to be related to the saline nature of the groundwater at the Site.

Comparison of the unfiltered results against the filtered results illustrates a significant decline in all metals concentrations through the filtering process (except sodium). This occurrence, together with the turbidity noted in the sampling logs, strongly suggests that the elevated total metals concentrations are largely due to the presence of suspended solids and the saline nature of the groundwater beneath the Site.

5.6.4 Pesticides and PCBs

PCBs were detected during the groundwater investigation at extraction well EW-2 (1.5 µg/l), extraction well EW-6 (1.6 µg/l), and monitoring well MW-07 (108 µg/l). Table 13 presents the PCB groundwater analytical data compared against the GA-SGVs. The two extraction wells are within the area of PCB soil contamination and immediately adjacent to the LNAPL plume (also containing PCBs), and extraction well EW-6 was reported to have had a trace sheen on the water surface during the well development. Based on the location of these wells, the PCB detections were not unexpected. The PCB congener that was detected in both of these wells was Aroclor 1248, which is consistent with the Site chemistry. The detection and concentration of PCBs in monitoring well MW-07 was unexpected, but the congener that was detected was Aroclor 1221. This is the only instance that Aroclor 1221 has been detected throughout all of the monitoring programs that have been undertaken at the Site since the PCB discovery in 2006. These data clearly indicate that the PCB detection in monitoring well MW-07 (off-site to the west) is not a result of past Site activities. The distribution of PCBs (and pesticides) at the site is illustrated in Figure 27.

The pesticides that that were detected above GA-SGVs included dieldrin, gamma-chlordane, heptachlor, and heptachlor epoxide. A complete listing of the pesticides (and PCBs) in comparison to the GA-SGVs is presented in Table 13. Figure 27 illustrates the distribution of pesticides in groundwater that were detected above the GA-SGVs. The following table summarizes the number of exceedances and maximum concentrations of PCBs and pesticides detected in Site groundwater.

Analyte	***Samples > GA-SGVs***	***Maximum Concentration (µg/L)***	***Location of Maximum Concentration***
Aroclor 1221	1	108	MW-07, West of Bldg. 16
Aroclor 1248	2	1.6	EW-6, Bldg. 12 Tank Farm
Dieldrin	6	0.052	EW-2, Adjacent Bldg. 18 and Drum Storage Area
Gamma-Chlordane	1	0.085	EW-6, Bldg. 12 Tank Farm
Heptachlor	1	0.097	EW-2, Adjacent Bldg. 18 and Drum Storage Area
Heptachlor epoxide	2	0.19	EW-2, Adjacent Bldg. 18 and Drum Storage Area

The highest concentrations of pesticides in groundwater were found in the extraction wells, with one outlying groundwater standard exceedance in the monitoring well network. This outlier occurred at monitoring well MW-02 (north of the Site), where dieldrin was detected at 0.036 µg/l compared to the GA-SGV of 0.004 µg/l. In total, dieldrin was detected in six of the 16 wells sampled during this investigation.

The concentration of dieldrin ranged from 0.01 µg/l to 0.052 µg/l, compared to the GA-SGV of 0.004 µg/l. This constituent was detected at each of the extraction well samples, with the exception of extraction well EW-6.

Gamma-chlordane was only detected above the GA-SGV (0.05 µg/l) at extraction well EW-6 at a concentration of 0.085 µg/l. Heptachlor was also only detected above the GA-SGV (0.04 µg/l) at one location (extraction well EW-2) at a concentration of 0.097 µg/l.

Heptachlor epoxide was identified above the GA-SGV at two locations, extraction wells EW-2 and EW-6. The concentrations of this constituent ranged from 0.034 µg/l to 0.190 µg/l, compared to the GA-SGV of 0.03 µg/l.

5.7 Sub-Slab Vapor

Sub-slab vapor samples were collected at six sampling locations: RI-SV-01 (and duplicate), RI-SV-02, RI-SV-03, RI-SV-04, RI-SV-05, and RI-SV-06, as shown on Figure 8. Sub-slab vapor samples were collected through the concrete slabs of occupied buildings to evaluate the potential for indoor air contamination. Since the buildings are occupied by a mix of office space and operating facilities, specific locations were selected in the field based on the available space.

The following VOCs were detected in the sub-slab vapor samples at the concentration ranges indicated. The concentrations of VOCs were reported by the laboratory in parts per billion by volume (ppbv) and have been converted to units of micrograms per cubic meter (µg/m^3) for this discussion and for presentation in Table 14. Where applicable, guideline concentrations are also shown:

- 1,2,4-trimethylbenzene (16.4 to 172.5 µg/m^3)
- 2-butanone (methyl ethyl ketone [MEK]; 53.3 to 98.0 µg/m^3)
- acetone (71.0 to 628.1 µg/m^3)
- benzene (3.0 to 5.3 µg/m^3)
- carbon disulfide (4.01 to 149.7 µg/m^3)
- chloroform (3.7 µg/m^3)
- cyclohexane (8.8 to 208.1 µg/m^3)
- ethylbenzene (6.0 µg/m^3, 2 locations)
- m&p-xylene (11.1 to 14.1 µg/m^3)
- methylene chloride (140.7 to 161.5 µg/m^3)
- n-heptane (3.2 to 21.3 µg/m^3)
- n-hexane (62.4 to 86.9 µg/m^3)
- propylene (392.5 µg/m^3)
- tetrahydrofuran (32.8 J to 88.4 J µg/m^3)
- toluene (15.6 to 20.7 µg/m^3)

The state of New York does not have any standards or guidance values for concentrations of volatile chemicals in subsurface vapor (either soil vapor or sub-slab vapor). In addition, the SVI Guidance provides air guideline values (Table 3.1 of the SVI Guidance, Appendix C) for only a select few volatile chemicals including methylene chloride (60 µg/m^3), PCBs (1 µg/m^3), tetrachlorobenzo-p-dioxin equivalents (TCDD; 0.00001 µg/m^3), tetrachloroethene (PCE; 100 µg/m^3), and trichloroethene (TCE; 5 µg/m^3). In terms of these air guideline values, methylene chloride was the only constituent that was detected in sub-slab vapor at the Site. The concentrations of methylene chloride in sub-slab soil vapor ranged from 140.7 to 161.5 µg/m^3, which is only slightly elevated above the guideline for indoor air (60 µg/m^3). PCBs and TCDD were not analyzed as these compounds are not included on the target compound list for VOCs and were therefore not listed in the NYSDEC-approved RI Work Plan.

The NYSDOH has also developed the two decision matrices (Appendix C), which are included in Section 3.4 of the SVI Guidance (NYSDOH 2006). The first of the two matrices was originally developed for TCE, but has since been applied to carbon tetrachloride as well. Likewise, the second matrix was originally designed for PCE, but has since been applied to 1,1,1-TCA as well. None of these four VOCs were detected in the sub-slab soil vapor samples collected during the RI.

In summary, the sub-slab vapor concentrations are likely to have little to no impact on indoor air quality, based on comparisons to available guideline concentrations. No further action is recommended for sub-slab vapor and indoor air.

6 Qualitative Human Health Exposure Assessment

The overall purpose of this Qualitative Human Health Exposure Assessment (Exposure Assessment) is to evaluate and document how people and/or fish and wildlife might be exposed to potentially site-related contaminants, and to identify and characterize the potentially exposed populations now and under the reasonably anticipated future use of the Site.

In accordance with DER-10, this section is designed to address the following exposure pathway elements:

1. a description of the contaminant source(s) including the location of the contaminant release to the environment or if the original source is unknown, the contaminated environmental medium at the point of exposure
2. an explanation of the contaminant release and transport mechanisms to the exposed population
3. identification of all potential exposure point(s) where actual or potential human contact with a contaminated medium may occur
4. description(s) of the route(s) of exposure (i.e., ingestion, inhalation, and dermal adsorption)
5. a characterization of the receptor populations who may be exposed to contaminants at a point of exposure

6.1 Contaminated Media

Environmental media that have been impacted by past site operations and/or historical grading and filling/reclamation of the historic waterway for development include historic fill overburden, groundwater, and soil vapor.

6.1.1 Historic Fill

Contamination (i.e., above the Unrestricted Soil Clean-up Criteria) in the historic fill layer has been well delineated, with some contamination extending off-site to the north, west, and south. The historic fill medium is primarily comprised of grading fill placed in the mid-19th century, with the first settlements and Site development occurring in the early 20th century. The historic fill consists of fine- to coarse-sized sand particles with varying amounts of silt and miscellaneous debris (i.e., ash, slag, coal, wood, brick, concrete, etc.). Based on the results of this RI, the historic fill is contaminated with VOCs, SVOCs, metals, pesticides, and PCBs. Some surface soil contaminated with PCBs has been noted also. Nearly the entire site and surrounding area are covered with asphalt pavement or concrete, minimizing the potential for human exposure to contaminants. Surficial contamination by PCBs (0 to 2 inches below the surface) was identified in the soils west of the site and north of the site. These areas could conceivably be involved in a complete exposure pathway due to wind dispersion, surface water erosion/transport, or direct ingestion of contaminants, as discussed later.

A list of fill potential contaminants of concern (PCOCs) for consideration in remediation decision-making was developed based on a comparison to the IU-SCOs. The following constituents are considered PCOCs in the historic fill underlying the Site:

- VOCs: xylene
- SVOCs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene
- Metals: arsenic, cadmium, lead, mercury, and zinc
- PCBs: Aroclor 1248

6.1.2 Groundwater

Groundwater contamination has been identified beneath the Site as well as to the north and east of the Site. The groundwater beneath the Site has been determined to be saline, and is not suitable for use as a potable water source and is not currently used for any purposes. Despite this, groundwater concentrations were conservatively compared against the GA-SGVs, which typically apply to potable water sources. All potable water supplied in Brooklyn is provided by the New York City water system, including 19 fresh water reservoirs located upstate. Based on this conservative comparison, Site groundwater was found to contain elevated concentrations of VOCs, SVOCs, metals, PCBs, and pesticides. A plume of PCB-contaminated LNAPL (floating on the water surface) exists on-site.

A list of groundwater PCOCs for consideration in remediation decision-making was developed based on a comparison to the GA-SGVs. The following constituents are considered PCOCs in Site groundwater:

- VOCs: benzene, ethylbenzene, toluene, and xylene
- SVOCs: acenaphthalene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, naphthalene, and phenol
- Metals: arsenic and barium
- Pesticides and PCBs: dieldrin, gamma-chlordane, heptachlor, heptachlor epoxide, and Aroclor 1248

Iron, manganese, and sodium were excluded for the list of PCOC since these analytes were detected at nearly all monitoring locations and appeared to be present at the highest concentrations off-site to the east and south. These locations have likely been impacted by the nearby coastline and the saline water from the Gowanus Bay.

6.1.3 Sub-Slab Vapor

Sub-slab soil vapor contamination has been detected in samples collected beneath the occupied buildings on-site (Buildings 16 and 17). In outside areas, subsurface soil vapor contamination does not contribute to the exposure pathway based on the current use of the property. Acetone, 1,2,4-trimethylbenzene, carbon disulfide, cyclohexane, methylene chloride, and n-hexane were the contaminants detected in at least half of the samples collected from beneath the building slabs. Although none of these contaminants are directly regulated in the NYSDOH vapor intrusion guidance, an air guidance value for methylene chloride is provided as 100 µg/m^3. The methylene chloride concentrations detected in sub-slab soil vapor only slightly exceeded this air guideline concentration. Accordingly, there are no PCOCs identified for sub-slab vapor.

6.2 Potential Contaminant Transport Pathways

There are three primary contaminant transport pathways that have been identified at the Site. Contaminant transport pathways define means by which contaminants can be moved off-site to potential off-site receptors. These pathways are not intended to include all means by which potential receptors may come in contact with contaminants (i.e., worker exposures due to future excavations on-site). Contaminants in soil, groundwater, and soil vapor may be transported off-site by means of air transport, surface water runoff/transport, and transport in groundwater. Each of these modes is discussed in the following subsections.

6.2.1 Air Transport Pathways

There are two primary airborne transport pathways that may occur at the Site. The first, transport by wind erosion of surface soils can occur in areas where contaminated bare, or otherwise exposed surface soil, is present. Since most of the site and surrounding areas are covered in asphalt paving, concrete paving, or constructed buildings, the potential for this pathway to impact off-site receptors is very low. In the area to the north of the Site, within the Halleck Street right-of-way, piles of soil have been staged over time. These piles, although not attributable to the Site, have been found to contain low levels of contaminants and could contribute to the airborne pathway. However, the soil piles have become naturally overgrown with vegetation which mitigates any potential for wind erosion to occur.

An area to the west of the Site has also been identified to contain potentially site-related contamination in surface soils. This area is currently exposed soil and gravel, and is used as a vehicle parking area for site-related and nearby businesses. This location would contribute to the airborne pathway considering the vehicle traffic and the potential for dust generation.

The second airborne pathway, transportation by volatilization of contaminants, can occur due to surface and sub-surface contamination of soil with volatile contaminants. Based on the results of the RI, VOCs and particularly benzene, ethylbenzene, toluene, and xylene are known to exist in vadose zone soils beneath the surface. This contamination was identified early in the investigation history, during the Phase II SI, and further delineated during the RI. In addition, the RI prescriptively included sub-slab soil vapor sampling (samples collected from beneath the Site buildings) in order to better understand the potential for this pathway to exist. Initially, the Order contained a requirement for sub-slab vapor samples to be collected from the sidewalks and paved areas surrounding the site buildings. However, in order to quantify the worst case scenario in terms of soil vapor contamination, this requirement was revised to include sub-slab samples rather than sub-sidewalk samples.

Concerning soil vapor intrusion and indoor air exposures, the maximum concentrations of those VOCs known to pose a potential cancer risk or non-cancer hazard through the inhalation pathway were compiled from sub-slab vapor sampling conducted at the Site, and used to calculate estimated indoor air concentrations using the vapor intrusion screening level calculation discussed previously. None of the VOCs detected in sub-slab vapor at the Site exceeded the target risk for carcinogens of $1x10^{-6}$, or the target hazard quotient for non-carcinogens of 1. In summary, the sub-slab vapor concentrations are likely to have little to no impact on indoor air quality, based on comparisons to available guideline concentrations.

6.2.2 Surface water Runoff Transport Pathway

Similar to the wind erosion pathway, the surface water runoff pathway relies on bare and/or erosive soils, lack of mitigating vegetation, and topography. The conditions at the Site are very unfavorable to erosion by surface water runoff, in that nearly the entire site is covered with concrete, asphalt, or existing buildings. As stated previously, the soil piles to the north of the Site (on the Halleck Street ROW) are heavily vegetated mitigating any potential for surface water transport.

The location to the west of the Site that was investigated for off-site PCB contamination (adjacent to Building 17) was found to contain potential site-related contamination in surface soils. This area is currently exposed soil and gravel, and is used as a vehicle parking area for site-related and nearby businesses. This location could be included in the surface water pathway considering the vehicle traffic and potential for soil disturbance and sediment-laden runoff during storms. However, surface water is collected into the combined sewer system beneath and around the Site. Further discussion of the surface water pathway via the combined sewer system is discussed below.

The last potential for off-site contaminant transport in surface water is via the sewer system in and around the Site. There is an extensive network of shallow sewer pipes running throughout the Site, which discharge to an off-site manhole located on Court Street, approximately 100 feet south of the Halleck Street intersection. A second Site connection occurs approximately 75 feet south of the Halleck Street intersection which is a blind connection to the sewer (no manhole). Surface soil contaminants could conceivably be transported via runoff to sewer system inlets and transported off-site. In addition, shallow groundwater that is impacted could infiltrate the sewer system on-site and be transported off-site. However, these city sewers are part of a combined system that convey sanitary and storm water flows to the Red Hook WPCP. The Red Hook WPCP is operated and maintained by the NYCDEP, and is located along the East River in Brooklyn, New York. The fact that under normal circumstances, this flow is being treated prior to discharge to surface water receptors (East River), the potential contaminant transport pathway via the sewer system is considered unlikely.

6.2.3 Contaminant Transport in Groundwater

Although the plume of potentially site-related groundwater contaminants appears to be stable and has not moved significantly since the Phase II SI, contaminants could conceivably be transported off-site via groundwater migration. The limited groundwater gradient at the Site is partially responsible for the limited movement of contaminants. It is also expected that although tidal fluctuations may not be evident in groundwater monitoring results, there is still a potential for groundwater recharge from the Gowanus Canal (inward flow only occurring once the high tide reaches a certain level). This recharge condition would help to explain the evident high groundwater ridge that appears across the Site. Nevertheless, the only nearby groundwater receptor beside the sewer system would be the Gowanus Canal which is an USEPA superfund site and subject to an on-going CERCLA RI. The groundwater transport pathway is considered to be unlikely at the Site.

6.3 Identification of Contaminant Exposure Points

There are currently two locations where the potential for human contact with contaminants exists: (1) within the soil piles staged on the Halleck Street ROW north of the Site; and (2) within the surface soils located west of Building 17.

The soil piles staged north of the Site were placed in the current location at some point between 2002 and the present. These piles are now covered in heavy vegetation and the potential for windblown or surface water driven contaminant transport is minimal. There is the potential for direct human contact with contaminants for trespassers; however, the area is completely enclosed in a fence which adequately restricts human access. The potential for contaminant exposure in this location is considered minimal.

The location west of Building 17 does represent a potential exposure point. Direct human contact with surface contaminants may occur in this area, in addition to inhalation of wind-driven contamination. Like the Site, this location is within a heavy industrial area and the exposed soil is part of an area used for parking of personal and commercial vehicles during the work day. Due to the nature of the use of this area, human occupancy in the area is expected to be very low. In addition, the concentrations of constituents found in this location are within the range expected based on the current site use. Therefore, the potential for this exposure to occur is also considered to be very low.

There is also a potential future exposure point to a worker excavating and disturbing contaminated subsurface soils at the Site. Currently, the site is completed capped with asphalt and/or concrete surfaces.

6.4 Description of Routes of Exposure

There are three primary routes of exposure that exist at the site including dermal contact (contact with surficial soils), inhalation (potentially contaminated windblown dust), and ingestion (contaminants adsorbed to food, utensils, etc.). As discussed previously, the only areas of contamination that are not covered with pavement, buildings, or clean surface soils, and which presents a potential for windblown dust and/or direct human contact, are the soil piles on Halleck Street and the location of surface contamination west of Building 17. Low levels of PCB contamination has been detected in surface soils in each of these areas. Since the duration of human occupancy in these areas is already expected to be low, the most likely potential for human exposure to surface soil contaminants would be due to inhalation of windblown dust or ingestion.

All three of these exposure routes (inhalation, dermal contact, and ingestion) would also be valid for the future Site excavation worker scenario.

6.5 Receptor Population Characterization

The individual receptors that could potentially be exposed to contaminants at the location west of Building 17 are expected to be employees of the businesses at 688-700 Court Street and/or the various businesses along the west side of Clinton Street. Based on the land use that was observed during the RI, the area is currently being used as a parking lot. Human occupation is therefore expected to be very temporary. Similarly, the exposure to contaminants north of the Site would only occur when an individual enters the fenced-in area. Although there is some evidence on Halleck Street of homeless occupation in the soil stockpile area, there were no such observations made during implementation of the RI.

Employees working in the businesses along Clinton Street could also conceivably be receptors of contaminated windblown dust. If offices within nearby businesses do not utilize central heating and air conditioning, windows may be open during dry periods where dust generation is higher than normal. Even though the surface contamination is not within the normal traffic pattern (used for parking and standing), there is a potential for dust generation due to vehicular traffic. The windblown dust exposure route does not exist for the northern stock pile area since the piles are heavily vegetated.

Employees performing excavation work in the future could be exposed to contaminants in the soil and the shallow groundwater.

6.6 Summary

The qualitative human health exposure assessment identified two potentially complete exposure routes, each involving surface soil contamination. There were no significant pathways through which contaminants are currently being transported off-site either through soil, vapor, or groundwater pathways. These exposure routes were completed based on contamination that has recently been detected in off-site areas. The transport mechanism responsible for this off-site contamination is unknown, but it is likely attributable to surface deposition during historic operations in the vicinity of the site, or sediment-laden runoff from the soil piles staged on Halleck Street. Both of these exposure scenarios involve the PCB congener Aroclor 1254 which is not related to the Site, but which has been detected in off-site areas to the north and west of the Site.

The concentrations of Aroclor 1254 detected in these surficial off-site areas (ranging from > 1 mg/kg, up to 15 mg/kg) exceed the UU-SCOs, but are within the range of concentrations that could be expected in an industrial setting (based on NYCRR 385-6.8[b], the Industrial SCO for PCBs is 25 mg/kg).

Workers and visitors to the businesses located along Clinton Street could be exposed to windblown dust while walking to and from the parking area, or while occupying the nearby offices with windows open. To a lesser extent, these workers or visitors could also become exposed to contaminants through short-term dermal contact while entering or exiting the parking area or through ingestion of contaminants.

Similarly, workers or intruders that enter the fenced-in area north of the Site could become exposed through ingestion and dermal contact, and future construction workers at the Site (excavation work) could become exposed through ingestion, inhalation, and dermal contact.

Each of these current exposure pathways could be prevented through removal of surface soil contamination and/or installation of surface improvements such as asphalt or concrete paving. Future exposure pathways would be prevented through removal of subsurface contamination or institutional controls restricting the Site use into the future.

7 Conclusions and Recommendations

7.1 General

Characterization of the historic fill material, groundwater, and sub-slab vapor at the Site, and delineation of the contaminants of concern identified in these media, including off-site PCBs, has been completed.

In summary, the delineation of constituents of concern found in the soil is presented in Figures 10 through 22. Each of these figures has been designed to illustrate the extent of contaminants above the UU-SCOs as well as a further comparison against the IU-SCOs, which may be relevant during the feasibility study. The few exceptions to the delineation are described in detail in Section 5, and primarily involve the tar delineation and the PCB investigations, where the mapping of contaminant limits begins at the residential soil cleanup objective, 1ppm.

The groundwater characterization has been completed, and the concentrations of constituents of concern above NYSDEC TOGS 1.1.1 (conservatively for class GA groundwater) are illustrated in Figures 23 through 27. The groundwater contamination source, presumed to be a free-phase floating LNAPL, has been delineated and is present only in on-site wells.

The sub-slab vapor characterization has been completed, and detected concentrations of TCL VOCs are summarized in Table 14. In summary, the sub-slab vapor concentrations were evaluated against the NYSDOH SVI Guidance, the risk for indoor air contamination was determined to be minimal, and therefore no additional soil vapor delineation is necessary.

7.2 Fill Material

A consistent layer of historic fill material extending from immediately beneath the ground surface down to the native clay was visually identified in all soil borings advanced on-site and off-site. The historic fill material was found to be consistent with the descriptions provided in historical site-related documents (i.e., Phase II SI) and other documents not directly related to the Site, such as the Gowanus RI Report. Placement of this historic fill material is well documented based on the property history, and has been determined to have occurred prior to the original site development in 1904. In fact, historical records indicate that by 1840, dams, landfills, straightening and bulk-heading had significantly altered the physical and ecological characteristics of the (former) Gowanus Creek and that its transformation into the Gowanus Canal was essentially completed by 1869 (NYCDEP 2008). The progression of the canal construction from inland toward the bay suggests that it would be likely for early industries along the upper reaches of the canal to have impacted the lower reaches in the vicinity of the Site. This impact could have been due to surface water discharges and runoff from the upstream properties eventually reaching the vicinity of the Site, or from historic fill placement directly on to the Site property. This history is also further supported by the Gowanus RI Report. Both the Gowanus RI Report and the Gowanus Canal Plan present an overlay of the current canal with the historic ponds, creek, and marshes, depicting large areas beyond the current canal (and along the entire length of the canal) as having been filled during (or following) its construction. Based on the illustrations presented in Appendix A, these historic ponds, creeks, and marshes encompassed the entirety of the site, Red Hook Park to the north, and all of the surroundings to the east, west, and south.

The Gowanus RI Report provides a significant number of historic fill sample data points collected from along the length of the canal that can be used for comparison to Site data. In general, these historic fill samples were found to contain high concentrations of SVOCs in comparison to other parameters, with nearly all of the primary constituents classified as PAHs. The primary PAHs identified in the RI samples were acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene. Based on these findings, elevated concentrations of PAHs identified in Site soils may be directly attributable to this historic fill placement and land development. As such, delineation and remediation of the Site soils (historic fill) to the levels of UU-SCOs may not be practicable for these constituents.

The Site is within the lowest performing manufacturing district classification in New York City (M3-1, Heavy Manufacturing District [low performance]; NYC 2012). A detailed discussion of the zoning in the area is provided in Section 1.2 (Site Description). Based on this classification, the IU-SCOs are appropriate for characterization of the Site.

There were a total of eight VOCs detected at concentrations above the UU-SCOs. The four most frequently detected VOCs included: acetone, ethylbenzene, toluene, and xylene. These VOCs were detected in more than 10% of the samples collected. There were only two detections of VOCs (both xylene [total]) in soil at concentrations that exceeded the IU-SCOs (1,620 mg/kg and 1,220 mg/kg compared to the IU-SCO of 1,000 mg/kg).

There were a total of ten pesticides detected at concentrations above the UU-SCOs. The four most frequently detected pesticides included: 4,4’-DDD, 4,4’-DDE, 4,4’-DDT, and endrin. These pesticides were detected in more than 10% of the samples collected. There was only a single pesticide detection (heptachlor; 78 mg/kg at RI-SB-36) that was above the IU-SCO of 29 mg/kg.

Overall, VOCs and pesticides do not present a significant concern in Site soils when evaluating the existing conditions against the IU-SCOs.

There were a total of 13 metals detected at concentrations above the UU-SCOs. The seven most frequently detected metals included: barium, cadmium, copper, lead, mercury, nickel, and zinc. These metals were detected in more than 10% of the samples collected. There were only a few metals that were detected at concentrations above the IU-SCOs, including arsenic (six samples), cadmium (17 samples), lead (four samples), mercury (seven samples), and zinc (one sample). Of these detections, mercury exceeded the IU-SCO (5.7 mg/kg) by more than one order of magnitude at one location (89.1 mg/kg at RI-SB-22), and cadmium exceeded the IU-SCO (60 mg/kg) by more than one order of magnitude at two locations (4,390 mg/kg at RI-SB-32 and 3,900 mg/kg at RI-SB-39). The remaining samples with metals concentrations above the IU-SCO were within one order of magnitude above the standard.

There were a total of 15 SVOCs detected at concentrations above the UU-SCOs. The eight most frequently detected SVOCs included: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenol. These SVOCs were detected in more than 10% of the samples collected. All of these detections were within one order of magnitude of the IU-SCO with the exception of benzo(a)pyrene. This constituent was detected in 15 samples from 14 locations at concentrations ranging from 12.3 mg/kg to 53 mg/kg compared to the IU-SCO of 1.1 mg/kg. These concentrations of SVOCs in subsurface historic fill are likely attributed to the original filling of the area.

The PCB delineation on-site has been thoroughly characterized through the PCB investigations conducted between 2006 and 2009. These data are reflected in the Aroclor 1248 delineation graphics presented earlier in Section 5.2 of this report. As shown in the graphics, the highest concentration of PCBs on-site were detected in the northern central portion of the Site, where hot-oil systems (suspected PCB-containing oil) were reportedly utilized in past site operations.

In off-site samples to the north and west, PCBs were adequately delineated to the residential SCO of 1 mg/kg. In off-site samples to the south, PCBs were adequately defined to the same level with three exceptions in Row S. In terms of the row S data, the PCB concentrations ranged from 1.69 ppm at 13S (4-5ft), to 1.78 ppm at 12S (4-5ft), to 5.19 ppm at 11S (3-4ft). There were no detections of PCBs above the residential soil cleanup objective (1 ppm) in any other outer ring location. Due to the fact that this location is clearly an industrial location (in comparison to Red Hook Park to the north), and the residual concentrations are well below any reasonable cleanup level that would be established for this property classification, the investigation was concluded.

For the purposes of the feasibility study, the PCB-impacted soil is assumed to extend to the limits developed using EVS, as illustrated in Figures 10, 11, and 12. It should also be noted that if the selected remedy involves removal of some or all of the impacted soil in this vicinity, that confirmation sampling will be used to ensure that the appropriate soil cleanup objectives are met. Regardless of the remedy selected in the feasibility study, post-excavation and confirmation sampling activities will be used to evaluate and demonstrate compliance with the remedial action objectives.

Based on the depth of the samples (for PCBs) and the fact that there is a minimum of 3 feet of soil cover over the elevated PCB concentrations, there is no complete exposure pathway to these constituents in subsurface soil, so there is no need for interim remedial measures with respect to PCBs. Similarly, there are no complete exposure pathways to the historic fill impacted with SVOCs and metals since the area is covered by paved surfaces and/or building footprints. Therefore, these detections do not represent a significant health/exposure concern on-site, and there is no need for interim remedial measures with respect to metals.

7.3 Groundwater

Groundwater has been adequately characterized by collecting and analyzing samples from a total of 16 on-site and off-site groundwater monitoring wells and former DPE system extraction wells.

The highest concentrations of VOCs were detected in extraction well EW-6, located near the center of the Site. The on-site detections are largely dominated by xylene which was generally found at concentrations that were one to two orders of magnitude above the other VOCs that exceeded the GA-SGVs. The VOC detections are largely dominated by benzene in the area off-site to the east (monitoring well MW-03). Overall, the VOC concentrations found at these two wells appears to be similar to the levels that existed in these areas during the Phase II SI (i.e., prior to implementation of the corrective measures). These findings were expected as the area surrounding extraction well EW-6 had not received any stream treatment prior to the system shut-down in 2006.

SVOCs were again detected at the highest concentrations at extraction well EW-6 located near the center of the site and monitoring well MW-03 located to the east. The SVOC mass at extraction well EW-6 is dominated by phenol, while the SVOC mass at monitoring well MW-03 is dominated by naphthalene. The concentrations of these constituents are once again consistent with those that were identified during the Phase II SI.

Arsenic and barium were the primary metals detected above the GA-SGVs during the RI (based on the dissolved analyses). The highest concentration of dissolved barium detected during the RI was detected off-site to the west in monitoring well MW-07 (1,510 µg/l). The concentration of this constituent is consistent with the levels found during the Phase II SI.

The greatest exceedance of the GA-SGVs for pesticides was for dieldrin, which was detected at two locations (extraction wells EW-2 and EW-42) at concentrations (0.052 µg/l and 0.043 µg/l, respectively) more than one order of magnitude above the GA-SGV standard of 0.004 µg/l. The site-related PCB congener, Aroclor 1248, was detected in two locations on-site, extraction well EW-2 (1.5 µg/l) and extraction well EW-6 (1.6 µg/l). Aroclor 1221 was detected at a concentration of 108 µg/l in the sample from monitoring well MW-07 (off-site to the west). The source of this contamination is currently unknown, but it is suspected that Aroclor 1221 is not site-related.

The relevant findings of this investigation were as follows:

- The groundwater samples were found to contain VOCs, SVOCs, metals, pesticides, and PCBs above the GA-SGVs.
- Concentrations of constituents in groundwater were found to be consistent with the values presented in the May 1999 Phase II Report, with no quantifiable outward migration of contaminants.
- There are no known planned or current groundwater uses and no known potential human exposure risks due to the groundwater contamination.

In conclusion, since the groundwater constituent and LNAPL plumes appear to be stable, and since there are no groundwater users in the vicinity, there is no immediate need for interim remedial action with respect to groundwater.

7.4 Sub-slab Vapor

The maximum concentrations of those VOCs known to pose a potential cancer risk or non-cancer hazard through the inhalation pathway were compiled from sub-slab vapor sampling conducted at the Site. These maximum concentrations were then used to calculate estimated indoor air concentrations using the vapor intrusion screening level calculation discussed previously. None of the VOCs detected in sub-slab vapor at the Site exceeded the target risk for carcinogens of $1x10^{-6}$, or the THQ for non-carcinogens of 1.

In summary, the sub-slab vapor concentrations are likely to have little to no impact on indoor air quality, based on comparisons to available guideline concentrations. No further action is recommended for sub-slab vapor and indoor air.

7.5 Summary and Recommendations

The RI provided a clear understanding of the nature and extent of contamination at the Site. The following general conclusions can be made based on the RI:

1. Nearly the entire Site surface is currently capped with concrete pads/slabs, asphalt roadways, and existing buildings. Beneath the surface, historic fill was identified in all soil borings which consisted of fine to course sand with silt and miscellaneous debris (ash, slag, coal, wood, brick, and concrete). Underlying the historic fill layer, a silt-clay layer was encountered, which has been determined to be the former base of the Gowanus Canal. The placement of this historic fill is well documented, confirmed to have occurred during the middle to late 1800s, and was generated from the phases of the Gowanus Canal construction.
2. Subsurface soils were found to contain elevated concentrations of VOCs, SVOCs, metals, and PCBs when compared against the IU-SCOs.
3. Groundwater was conservatively compared against the GA-SGVs, although the groundwater beneath the Site is considered saline groundwater, and is not currently used for any purposes. Further, the Site groundwater is not suitable for use as a potable water source based on the natural salinity. Based on this conservative comparison, Site groundwater was found to contain elevated concentrations of VOCs, SVOCs, metals, PCBs, and pesticides.
4. The qualitative exposure assessment identified potential routes for human exposure to Site contaminants in soil and groundwater through ingestion, inhalation, and dermal contact. The potentially exposed population consisted mainly of industrial workers both on-site and off-site, and future construction workers performing excavations and penetrating the surface caps at that Site.

Based on the findings of the RI, an FS is recommended as the next step in determining the appropriate remedial response for the Site. In addition, no interim remedial measures are recommended at this time, based on the site assessment and lack of any immediate hazards related to human exposure of potential site-related contaminants.

The following section discusses the proposed FS process, and outlines some of the more likely remedial responses based on NYSDEC DER-15: Presumptive/Proven Remedial Technologies, dated February 2007 (DER-15).

8 Feasibility Study Scope of Work

The FS is the required remedy selection report for all sites listed as class 2 on the NYS Registry of Inactive Hazardous Waste Disposal Sites. The FS develops and evaluates options for a remedial action in accordance with CERCLA 40 CFR 300.430(e). As recommended, an FS will be performed to evaluate remedial actions which may be required at the Site. The FS will be performed and documented in accordance with NYSDEC DER-10, as well as appropriate federal CERCLA process guidance, and will include the following components:

- development of remedial action objectives (RAOs) and identification of applicable, relevant, and appropriate requirements (ARARs)
- identification and screening of applicable technologies and process options
- development, scoping, and initial screening of remedial action alternatives
- detailed evaluation of remedial action alternatives
- selection and recommendation of a preferred alternative for the remedial design
- presentation of the FS process and results in a final FS report

Detailed evaluation of the remedial action alternatives will be performed against the nine evaluation criteria identified in DER-10 including:

1. Threshold Criteria – requirements that each alternative must meet in order to be eligible for selection.
   - overall protectiveness of public health and the environment
   - conformance with the standards, criteria and guidance
2. Primary Balancing Criteria – used to distinguish the relative effectiveness between alternatives, so that the alternative's strengths and weaknesses can be evaluated.
   - long-term effectiveness and permanence
   - reduction of toxicity, mobility, or volume of contamination through treatment
   - short-term impact and effectiveness
   - implementability
   - cost effectiveness
   - current, intended and reasonably anticipated future land use
3. Modifying Criteria – considered after review of this document, public comment and preparation of the proposed plan, then documented as part of the ROD.
   - community acceptance

The FS will be prepared based on the Site conditions identified in this RI Report. The FS is expected to include a range of alternatives, considering soil and groundwater media, which will include but not be limited to: a no action alternative (baseline case); a limited action alternative which may involve containment in place with little or no treatment of contaminants (engineering control) and/or legal limitations to control potential contact with site contaminants (institutional control); and an alternative in which treatment is employed in order to significantly reduce the toxicity, mobility, or volume of contaminants as a principle element.

The no action alternative, as required by CERCLA, provides a baseline for comparing and contrasting other alternatives. Because no remedial activities would be implemented with the no action alternative, the short- and long-term human health and environmental risks for the Site would essentially be the same as those identified in Section 6 of this report.

The limited action alternative (as recommended by CERCLA guidance) would further consider these risks and exposures, and might include a set of engineering and institutional controls to ensure that human health exposures and environmental risks are mitigated or eliminated. Engineering controls might include physical restriction of personnel or public access to contaminated areas. Institutional controls might include deed restrictions or notations to ensure that future Site landowners are notified of the hazards associated with the Site in perpetuity. The limited action alternative might also include a monitoring program to track the natural degradation of contaminants at the edges of the Site and ensure that sources/contaminants on-Site do not migrate off-Site in the future.

A range of active/removal/treatment remedial responses will also be evaluated. Some of the presumptive remedies discussed in DER-15 which are likely applicable to the site media, and which may be considered in the FS are discussed in the following paragraphs.

Soil Presumptive Remedies

Excavation/Off-site disposal – This is a conventional and most commonly employed remedy for PCB-, metal-, SVOC-, and pesticide-contaminated soil. Contaminated soil may be excavated and disposed off-site in a permitted waste landfill or hazardous waste landfill based on the contamination levels and their waste characteristics. Excavation, removal, and proper disposal are the presumptive remedy for soils contaminated with PCBs at levels exceeding 1 ppm. Federal Toxic Substance Control Act (TSCA) regulations specify that waste material containing PCBs between 50 and 100 ppm can be disposed in a TSCA-approved landfill without pre-treatment. Soils containing PCBs above 100 ppm must be reduced to 10-percent of the original concentration or 100 ppm, whichever is greater, before landfilling.

Thermal Desorption – Thermal desorption is an *ex situ* presumptive remedy for SVOC- and PCB-contaminated soils that uses direct or indirect high temperature heating to vaporize organic contaminants from soil, sediment, sludge or other solid and semi-solid matrices. The vapors are then condensed or otherwise collected for further treatment. When PCB concentrations are above 100 ppm, but below 500 ppm, thermal desorption may be considered as the primary *ex situ* presumptive remedy. Thermal desorption could be used as a presumptive remedy to treat waste material with PCBs between 100 and 500 ppm prior to concentrations that would permit disposal in a TSCA or solid waste landfill.

Incineration – Incineration is an *ex situ* process that employs thermal decomposition via oxidation at temperatures usually greater than 900°C to destroy the organic fraction of the waste. TSCA requires that soils containing liquid waste and over 500 ppm of PCBs must be thermally treated in a TSCA-permitted incinerator. Incineration is also a presumptive remedy for VOCs and SVOCs.

Immobilization – Immobilization is commonly referred to as stabilization or solidification and may be considered as a presumptive remedy for *in situ* or *ex situ* treatment of metals-contaminated soils. Immobilization includes processes that change the physical or chemical properties that impact the leaching characteristics of a treated waste or decrease its bioavailability and concentration. This treatment locks metals within a solidified matrix (solidification) and/or converts the waste constituent into a more immobile form, usually by chemical reaction (stabilization). The process involves mixing a reagent (usually cement kiln dust, proprietary agents, cement, fly ash, or blast furnace slag) and generally solidifying the material with the contaminated soil.

Groundwater/LNAPL Presumptive Remedies

Extraction and Treatment - This *ex situ* presumptive remedy creates a depression of the water table so that contaminated groundwater is directed toward pumping wells within the plume area. The recovery well's flow rate would be increased until the capture zone radius is sufficient to cover the lateral extent of the area of concern. LNAPL can also be effectively removed using extraction technologies employing DPE and vacuum enhancement. Treatment associated with this remedy might include air stripping, phase separation, carbon adsorption (aqueous and/or vapor), chemical/ultraviolet (UV) oxidation, chemical precipitation, and others. Some of these potentially applicable treatment alternatives are discussed below.

Granular Activated Carbon (GAC) - GAC is an excellent sorbent due to its large surface area, which generally ranges from 500 - 2,000 m2/g. It removes contaminants from groundwater by adsorption. GAC is typically used for polishing aqueous effluents or controlling air emissions from other treatment technologies. Contaminants are not destroyed, but are physically separated from contaminated water and transferred to carbon. After exhaustion, the spent carbon may be regenerated, incinerated, or disposed. Thermal reactivation and incineration destroy most or all adsorbed organic contaminants.

Chemical Precipitation - This method chemically converts dissolved metal and/or other inorganic ions in groundwater into an insoluble form, or precipitate. Metal ions generally precipitate out as hydroxides, sulfides, or carbonates and are removed as solids through clarification and filtration. Chemical precipitation is defined to include chemical precipitation of metals by oxidizing or reducing agents, as well as any pH adjustment (neutralization) and solids removals steps. This process generally takes place at ambient temperature. Site-specific treatability tests are required to determine the optimum type and dosage of precipitation chemicals, necessary pre-treatment steps, and post-treatment requirements for aqueous effluent and sludge residuals.

Ion Exchange/Adsorption - Ion exchange removes metal contaminants from water by passing contaminated groundwater through a granular solid or other porous material, usually an impregnated resin, that exchanges sorbed ions for contaminants dissolved in groundwater. When most of the exchange sites of the media become filled, the exchange media are regenerated by back-flushing with a suitable regeneration solution. Exchange resins can generally be regenerated many times and have a relatively long useful life. Flow rates up to 7,000 gallons per minute (gpm) have been reported for ion-exchange systems. Conventional ion exchange resins are generally too costly for large-scale groundwater treatment and are predominantly used for polishing of aqueous effluents after other treatment processes.

9 References

City-Data 2012 Urban Mapping. Red Hook neighborhood in Brooklyn, New York (NY), 11231 detailed profile, available at: http://www.city-data.com/neighborhood/Red-Hook-Brooklyn-NY.html

USEPA 1983 *Brooklyn-Queens Aquifer System, Support Document, Kings and Queens Counties, New York*, United States Environmental Protection Agency, December 1983

USEPA 1 *Draft – Standard Operating Procedure (SOP) for Installation of Sub-Slab Vapor Probes and Sampling Using EPA Method TO-15 to Support Vapor Intrusion Investigations*, United States Environmental Protection Agency, Dominic DiGiulio, Ph.D., undated

ESI 1999 Phase II Report*, Results of Phase II Site Investigation, Witco Brooklyn Plant, Court Street, Brooklyn, New York*, Enviro-Sciences, Inc. May 1999

GTI 1998 Phase I Report, *Phase I Environmental Site Assessment, Brooklyn Plant, Brooklyn, New York*, Fluor Daniel GTI, March 1998

HDR 2011 Gowanus RI Report, *Gowanus Canal Remedial Investigation Report, Volume 1*, US Environmental Protection Agency, HDR/CH2MHill/GRB Environmental Services, Inc., January 2011

NOAA 2012 Normals & Extremes, Central Park, New York, 1869 to Present, National Oceanic and Atmospheric Administration, Updated July 6, 2012, available at: http://www.erh.noaa.gov/okx/climate/records/nycnormals.htm

NYCPC 2012 New York City Zoning Maps, *Zoning Resolution, The City of New York*, City Planning Commission, January 25, 2012.

NYCDEP 2008 Gowanus Canal Plan, *Gowanus Canal Waterbody/Watershed Facility Plan Report,* the City of New York, Department of Environmental Protection, August 2008

NYSDEC 2010 DER 10, *DER-10 / Technical Guidance for Site Investigation and Remediation*, New York State Department of Environmental Conservation, DEC Program Policy, May 3, 2010

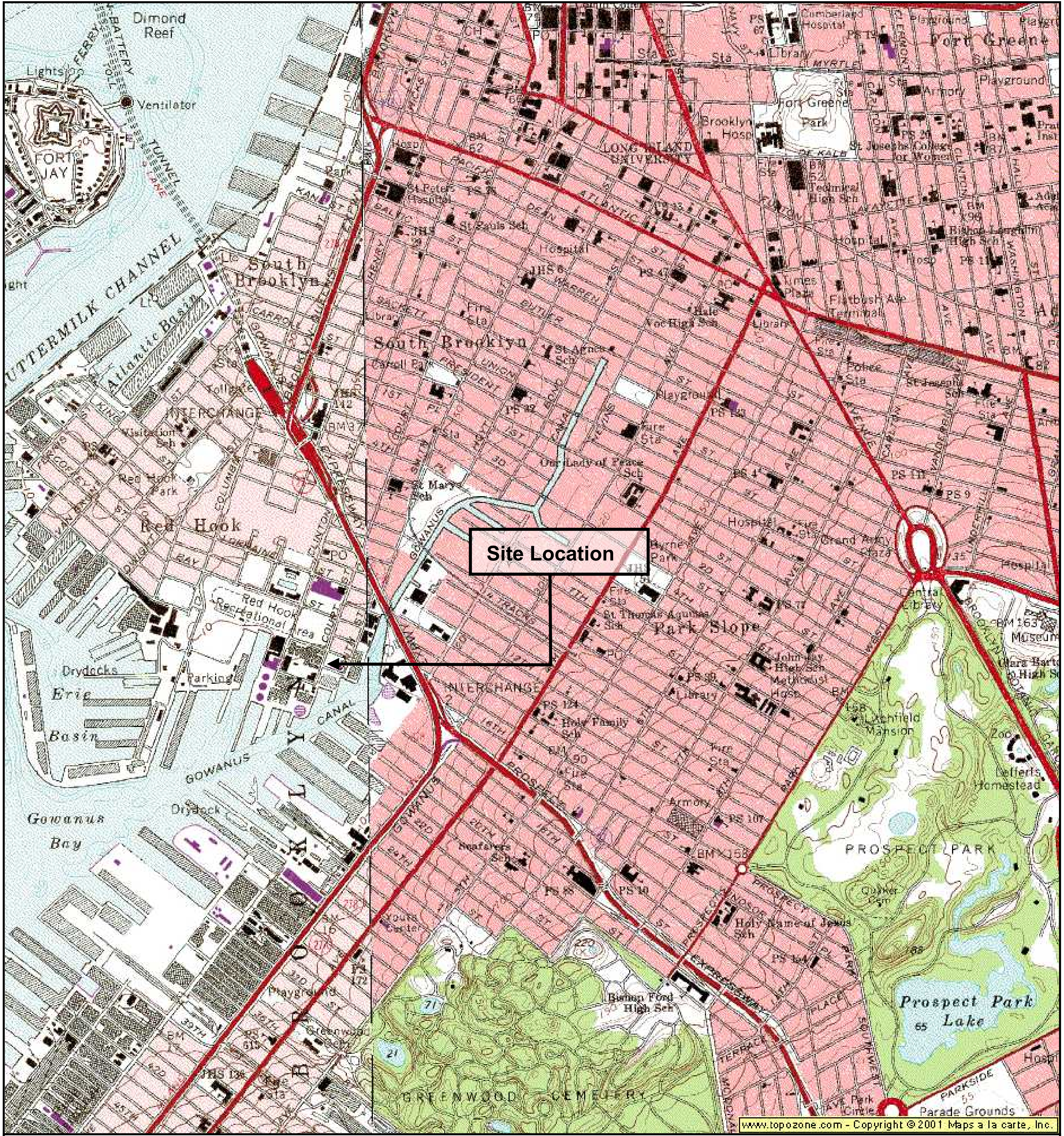
NYSDOH 2006 SVI Guidance, *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, New York State Department of Health, October 2006

WSP 2011 RI Work Plan, *Remedial Investigation Work Plan, Chemtura Corporation, 688-700 Court Street, Brooklyn, New York*, WSP Engineering of New York, P.C., September 2011

USDOC 2010 State & County QuickFacts for Kings County, New York. United States Census Bureau, US Dept. of Commerce. 2010. Available at: http://quickfacts.census.gov/qfd/states/36/36047.html

Figures

q:\client\crompton\brooklyn\brooklyn, ny figure 1.doc



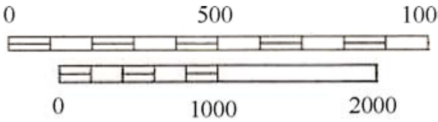
www.topozone.com - Copyright © 2001 Maps a la carte, Inc.

Reference

7.5 Minute Series Topographic Quadrangle
Jersey City, New York – New Jersey
Photorevised 1976 Scale 1:25,000 Metric

Quadrangle Location

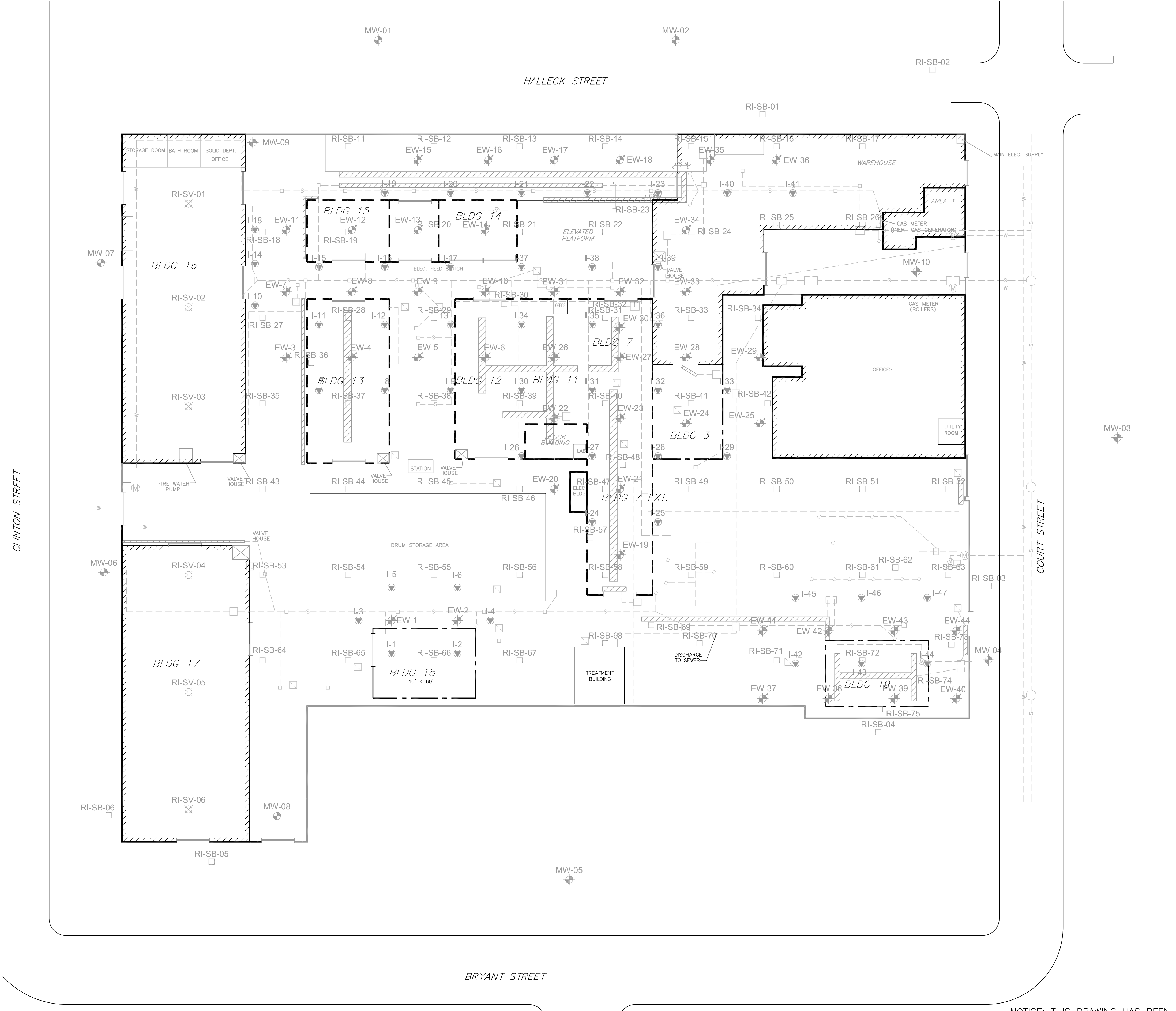
Scale in Meters



Scale in Feet

WSP USA Corp.
2360 SWEET HOME ROAD, SUITE 3
AMHERST, NEW YORK, 14228
716-691-5232

Figure 1
Site Location
Chemtura Corporation
688-700 Court Street
Brooklyn, New York



LEGEND

▼	INJECTION WELL
⊕	MONITORING WELL
✣	EXTRACTION WELL
RI-SB ☐	RI SOIL SAMPLING LOCATION
RI-SV ☒	RI SOIL VAPOR SAMPLING LOCATION
▨	PRE-EXISTING TRENCH
——S——	EXISTING SEWER LINE
——W——	EXISTING WATER LINE
▨	EXISTING BUILDING
— — —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
—·—	FORMER BUILDING LOCATION (FOUNDATION PRESENT)

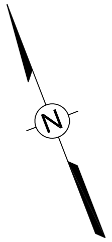
Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247-006

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 2

SITE LAYOUT

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.



0 60 120
SCALE IN FEET

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CADD\00026247\CAD\00026247-006.dwg 4/24/2013 4:04 PM Usec01012

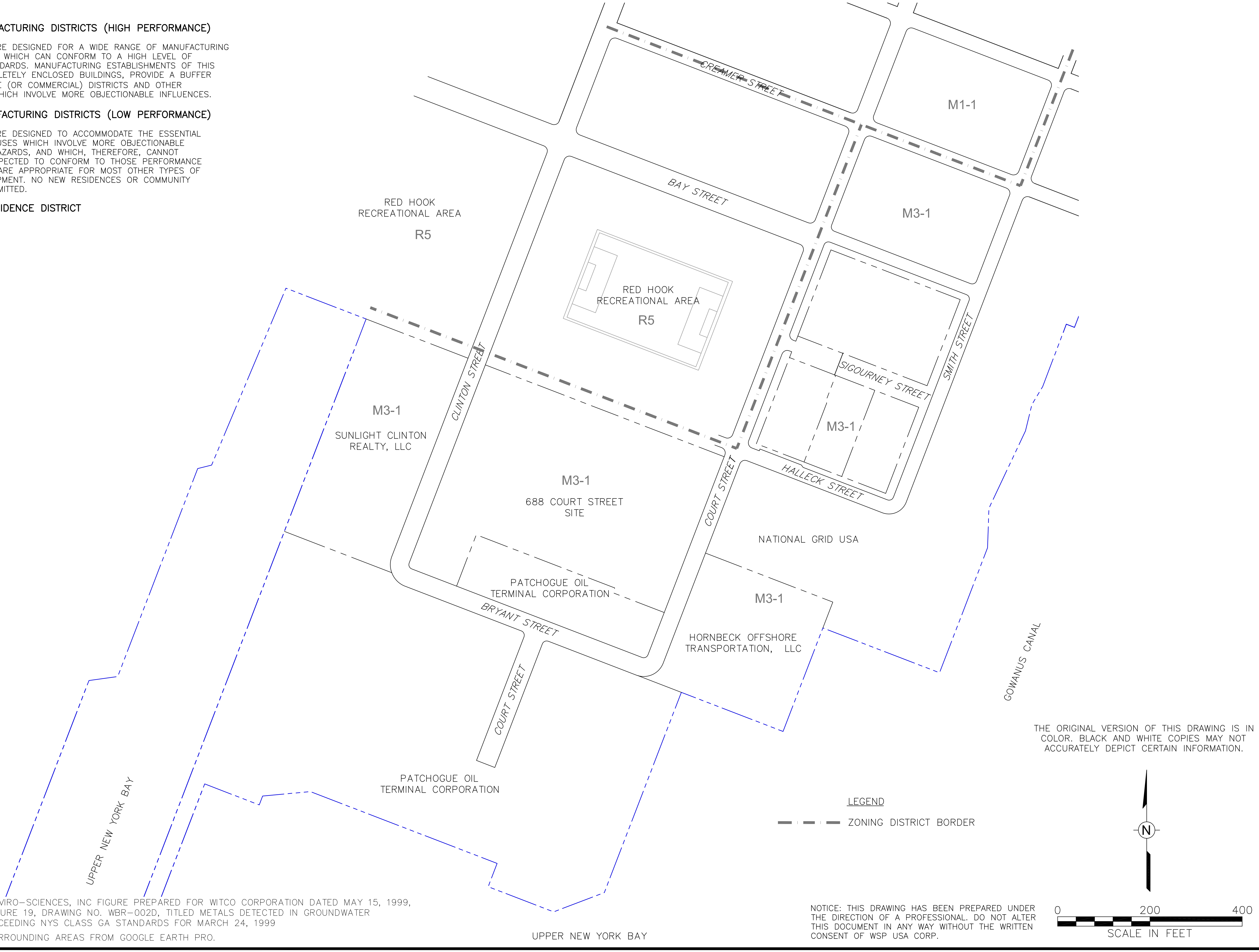
M1 LIGHT MANUFACTURING DISTRICTS (HIGH PERFORMANCE)

THESE DISTRICTS ARE DESIGNED FOR A WIDE RANGE OF MANUFACTURING AND RELATED USES WHICH CAN CONFORM TO A HIGH LEVEL OF PERFORMANCE STANDARDS. MANUFACTURING ESTABLISHMENTS OF THIS TYPE, WITHIN COMPLETELY ENCLOSED BUILDINGS, PROVIDE A BUFFER BETWEEN RESIDENCE (OR COMMERCIAL) DISTRICTS AND OTHER INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES.

M3 HEAVY MANUFACTURING DISTRICTS (LOW PERFORMANCE)

THESE DISTRICTS ARE DESIGNED TO ACCOMMODATE THE ESSENTIAL HEAVY INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES AND HAZARDS AND WHICH, THEREFORE, CANNOT REASONABLY BE EXPECTED TO CONFORM TO THOSE PERFORMANCE STANDARDS WHICH ARE APPROPRIATE FOR MOST OTHER TYPES OF INDUSTRIAL DEVELOPMENT. NO NEW RESIDENCES OR COMMUNITY FACILITIES ARE PERMITTED.

R5 GENERAL RESIDENCE DISTRICT



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

LEGEND

▬ ▬ · ▬ ZONING DISTRICT BORDER

REFERENCE: 1. ENVIRO-SCIENCES, INC FIGURE PREPARED FOR WITCO CORPORATION DATED MAY 15, 1999, FIGURE 19, DRAWING NO. WBR-002D, TITLED METALS DETECTED IN GROUNDWATER EXCEEDING NYS CLASS GA STANDARDS FOR MARCH 24, 1999

2. SURROUNDING AREAS FROM GOOGLE EARTH PRO.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

B

R:\ACAD\CADD\00026247\CAD\00026247-007.dwg 4/24/2013 4:06 PM Usec01012

Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247-007

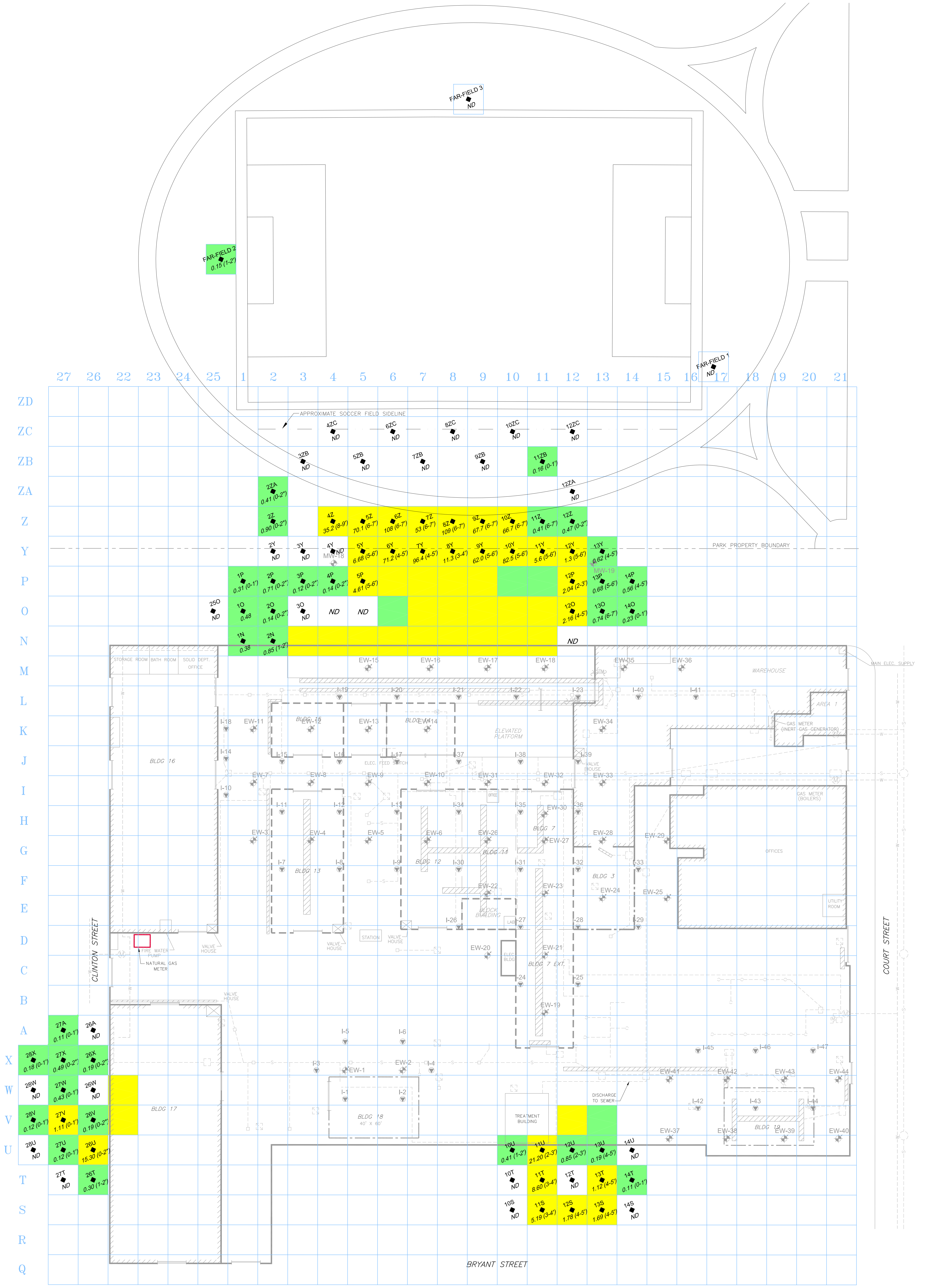
CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 3

SITE VICINITY AND ZONING MAP

WSP

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



LEGEND

✦	EXTRACTION WELL
▼	INJECTION WELL
▨	PRE–EXISTING TRENCH
------S----	PRE–EXISTING SEWER LINE
------W----	PRE–EXISTING WATER LINE
▨	PRE–EXISTING BUILDING
— — — —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
—·—·—	FORMER BUILDING LOCATION (FOUNDATION PRESENT)
0.19	TOTAL PCB CONCENTRATION (mg/kg)
ND	TOTAL PCB CONCENTRATION OF ALL SAMPLES COLLECTED WITHIN GRID LESS THAN 0.1 mg/kg
J	ESTIMATED VALUE
🟨 20' TYP. × 20' TYP.	TOTAL PCB CONCENTRATION OF AT LEAST ONE SOIL SAMPLE COLLECTED WITHIN GRID >1 mg/kg
🟩	TOTAL PCB CONCENTRATION OF AT LEAST ONE SOIL SAMPLE COLLECTED WITHIN GRID >0.1 mg/kg

GENERAL NOTES:

1. PCB SAMPLE LOCATIONS ARE APPROXIMATE.
2. LOCATION OF SOCCER FIELD AND WALKING TRACK ARE APPROXIMATE.

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO–SCIENCES, INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

0 25 50 75
SCALE IN FEET

D

R:\ACAD\CAD\00026247\CAD\00026247-020.dwg 4/24/2013 4:46 PM USEC01012

REVISIONS

REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

SEAL

DATE

DRAWN BY	EGC	
CHECKED		
APPROVED	KDS	4/22/2013

PROPERTY OF WSP USA CORP.
IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IT IS A VIOLATION OF STATE LAW FOR ANY PERSONS, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY.

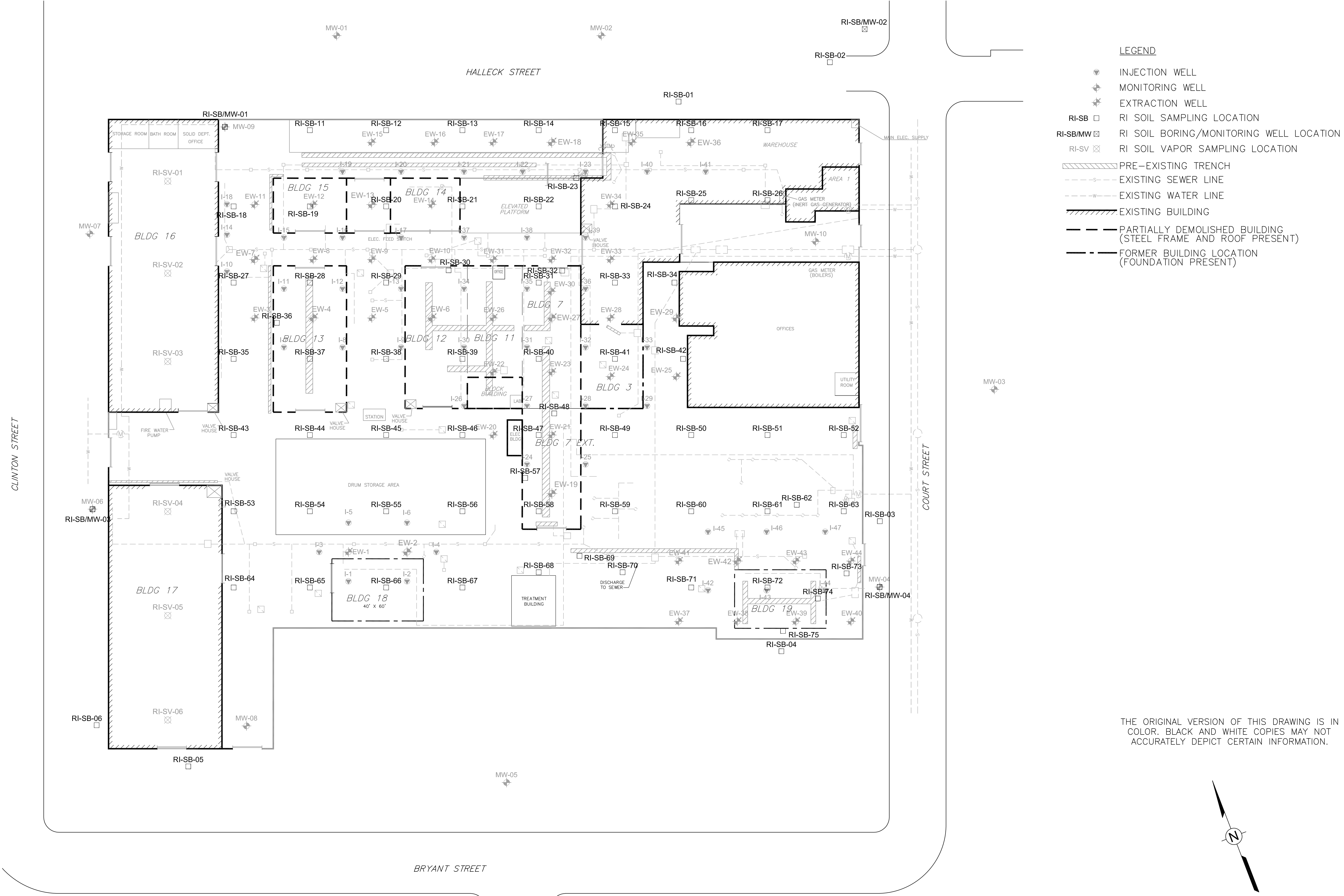
OFF–SITE PCB SOIL SAMPLING LOCATIONS

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

FIGURE 4

Drawing Number
00026247–020



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP ENVIRONMENT & ENERGY, LLC.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CADD\00026247\CAD\00026247-009.dwg 4/24/2013 4:06 PM Usec01012

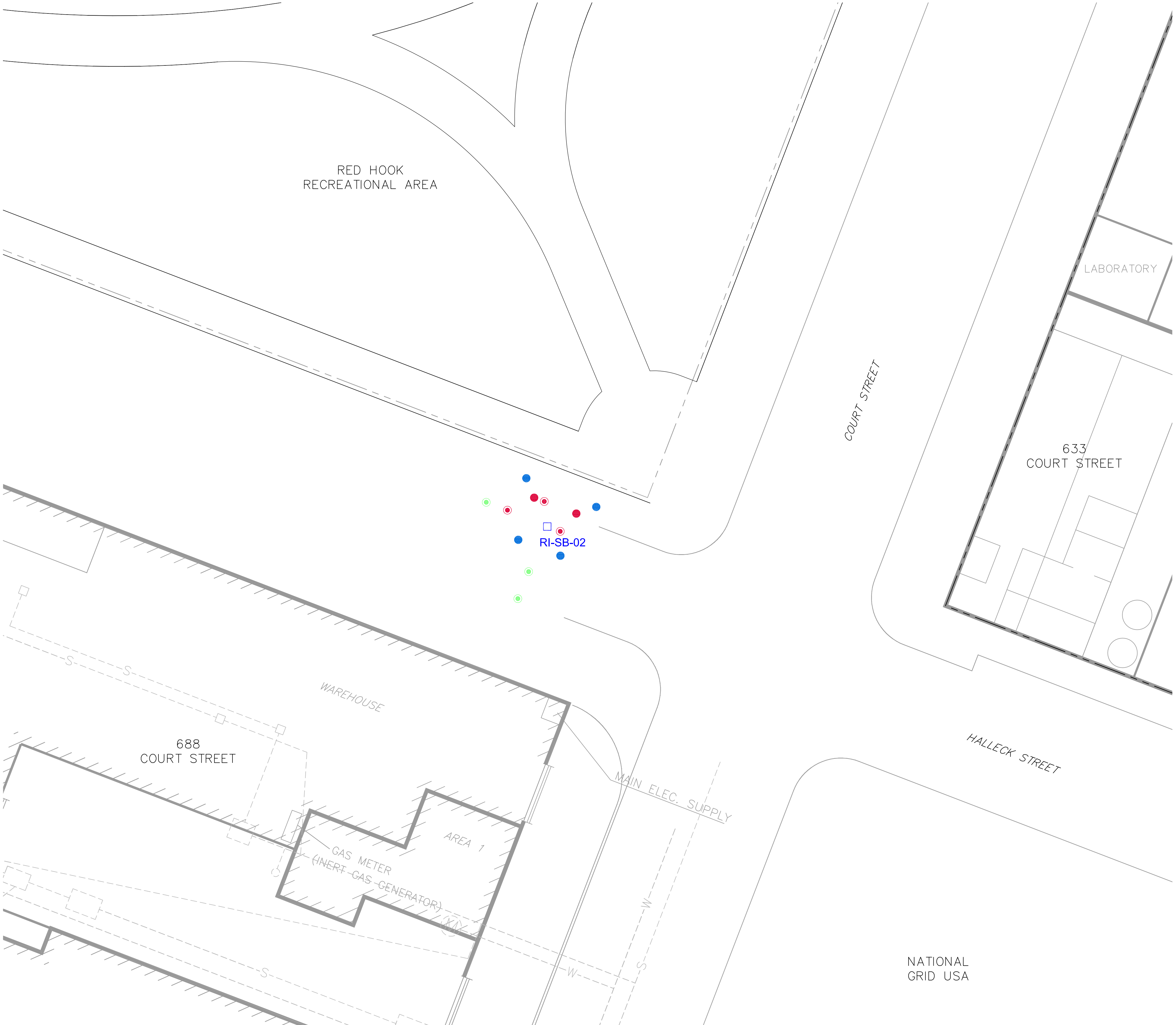
Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247-009

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 5

ORGANIC AND INORGANIC
SOIL SAMPLING LOCATIONS

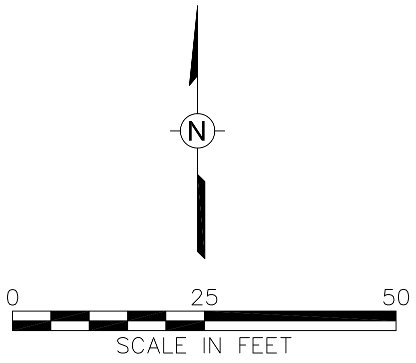
WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



LEGEND

RI-SB ☐	SOIL BORING
●	RI BORING (NO TAR PRESENT)
●	RI BORING (> TRACE OF TAR)
◉	1999 SOIL BORING (NO TAR PRESENT)
◉	1999 SOIL BORING (> TRACE OF TAR)
------S------	PRE–EXISTING SEWER LINE
------W------	PRE–EXISTING WATER LINE
▨	PRE–EXISTING BUILDING
― ― ― ―	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
―― · ――	FORMER BUILDING LOCATION (FOUNDATION PRESENT)

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.



REFERENCE: 1. ENVIRO–SCIENCES, INC FIGURE PREPARED FOR WITCO CORPORATION DATED MAY 15, 1999, FIGURE 19, DRAWING NO. WBR–002D, TITLED METALS DETECTED IN GROUNDWATER EXCEEDING NYS CLASS GA STANDARDS FOR MARCH 24, 1999

2. SURROUNDING AREAS FROM GOOGLE EARTH PRO.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

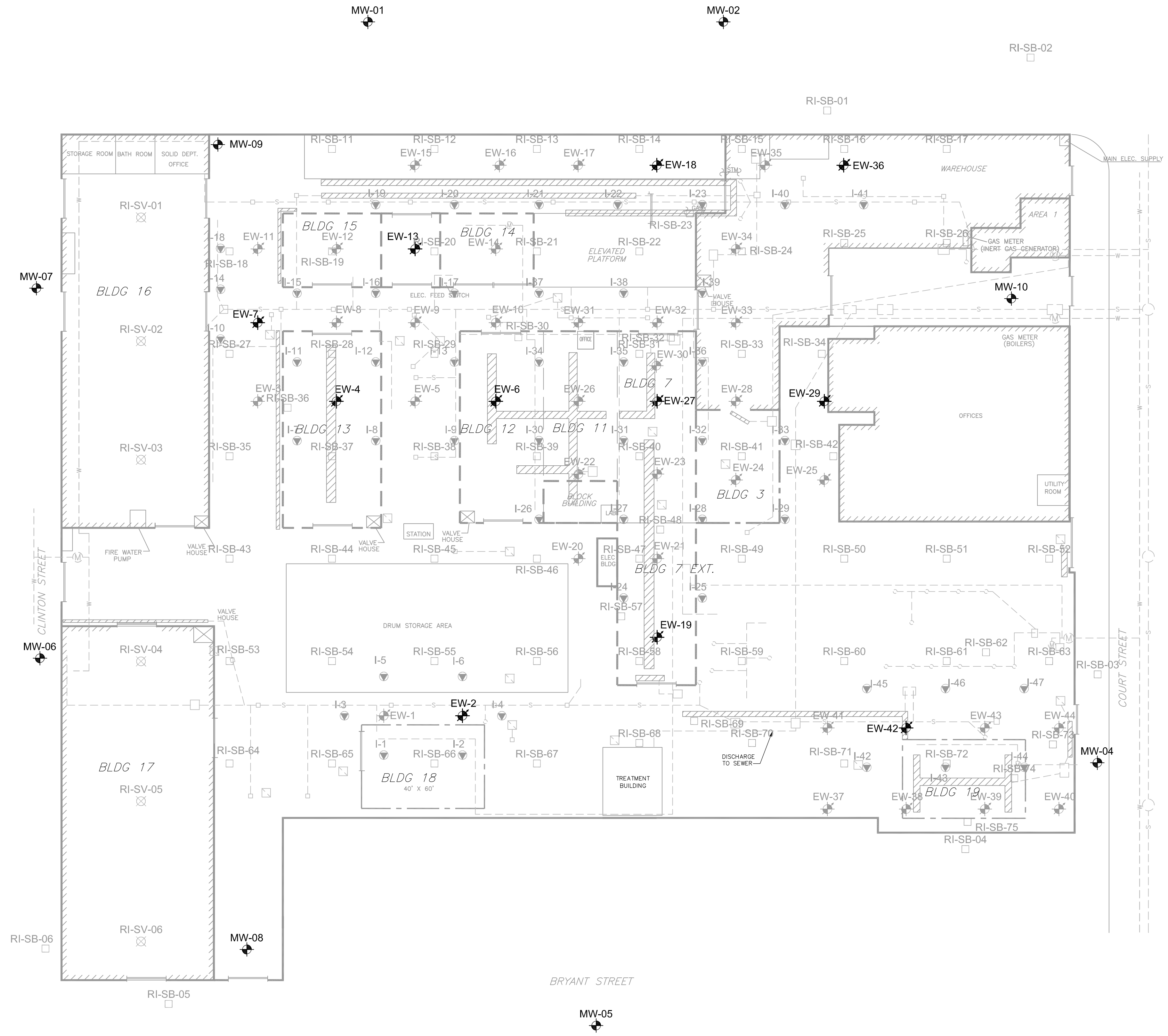
B

Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247–010

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 6
TAR SEEP DELINEATION SAMPLING LOCATIONS

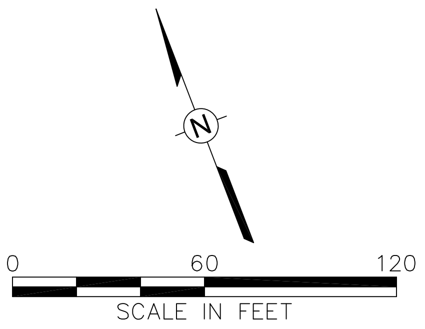
WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



LEGEND

▼	INJECTION WELL
✚	MONITORING WELL
✚	EXTRACTION WELL
RI-SB ☐	RI SOIL SAMPLING LOCATION
RI-SV ☒	RI SOIL VAPOR SAMPLING LOCATION
▨	PRE–EXISTING TRENCH
---S---	EXISTING SEWER LINE
---W---	EXISTING WATER LINE
▨	EXISTING BUILDING
— —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
—·—	FORMER BUILDING LOCATION (FOUNDATION PRESENT)

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO–SCIENCES, INC.

R:\ACAD\CADD\00026247\CAD\00026247-011.dwg 4/24/2013 4:07 PM Usec01012

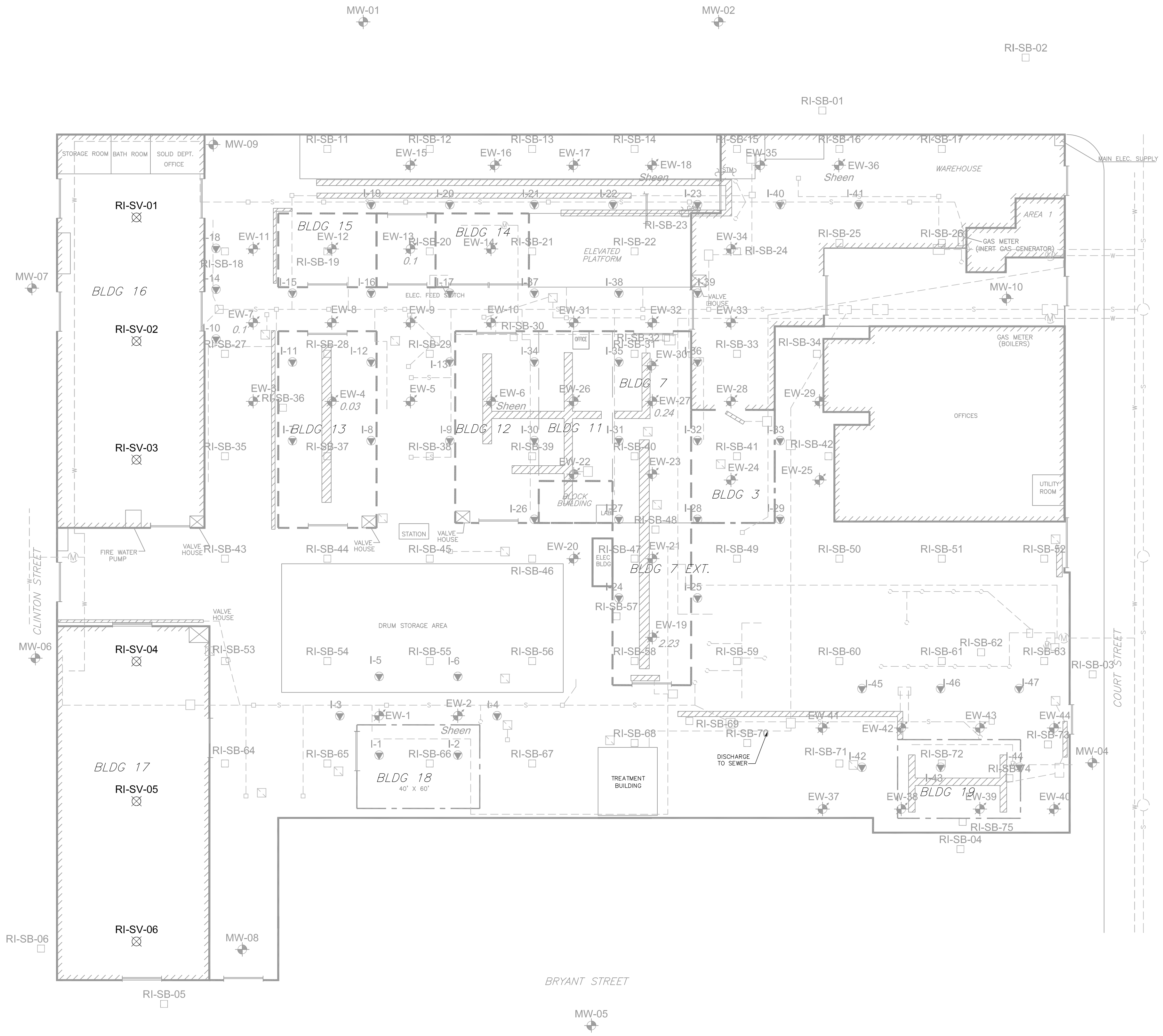
Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247–011

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 7

GROUNDWATER SAMPLING LOCATIONS

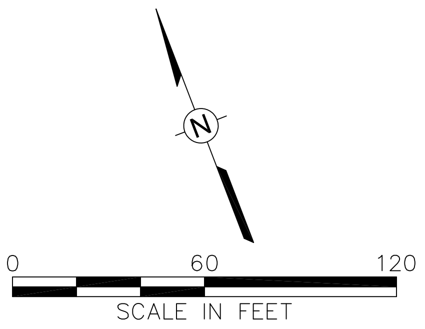
WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



LEGEND

	INJECTION WELL
	MONITORING WELL
	EXTRACTION WELL
RI-SB ☐	RI SOIL SAMPLING LOCATION
RI-SV ☒	RI SOIL VAPOR SAMPLING LOCATION
▨	PRE-EXISTING TRENCH
---S---	EXISTING SEWER LINE
---W---	EXISTING WATER LINE
▨	EXISTING BUILDING
— — —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
— · —	FORMER BUILDING LOCATION (FOUNDATION PRESENT)

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP ENVIRONMENT & ENERGY, LLC.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

Drawn By: EGC
Checked:
Approved: KJS 12/18/2012
DWG Name: 00026247-012

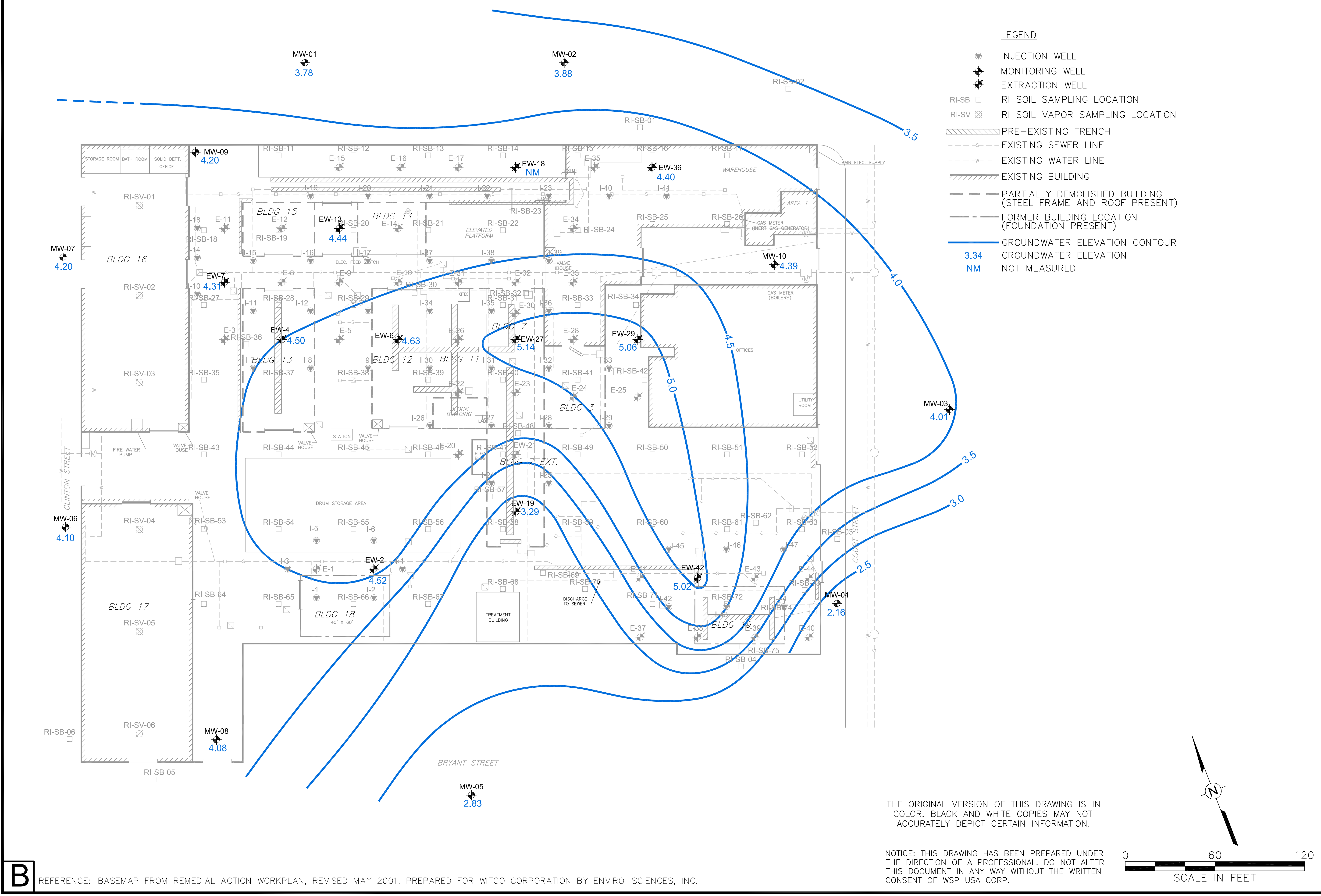
CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 8

SUB-SLAB SOIL VAPOR SAMPLING LOCATIONS

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

R:\ACAD\CAD\00026247\CAD\00026247-012.dwg 4/24/2013 4:08 PM Usec01012



LEGEND

▼	INJECTION WELL
⯐	MONITORING WELL
⯐	EXTRACTION WELL
RI-SB ☐	RI SOIL SAMPLING LOCATION
RI-SV ☒	RI SOIL VAPOR SAMPLING LOCATION
▨	PRE-EXISTING TRENCH
---S---	EXISTING SEWER LINE
---W---	EXISTING WATER LINE
▨	EXISTING BUILDING
— —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
—·—	FORMER BUILDING LOCATION (FOUNDATION PRESENT)
—	GROUNDWATER ELEVATION CONTOUR
3.34	GROUNDWATER ELEVATION
NM	NOT MEASURED

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THE DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CAD\00026247\CAD\00026247-017.dwg 4/24/2013 4:09 PM Usec01012

Drawn By: EGC
Checked: DAC 12/18/2012
Approved:
DWG Name: 00026247-017

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK

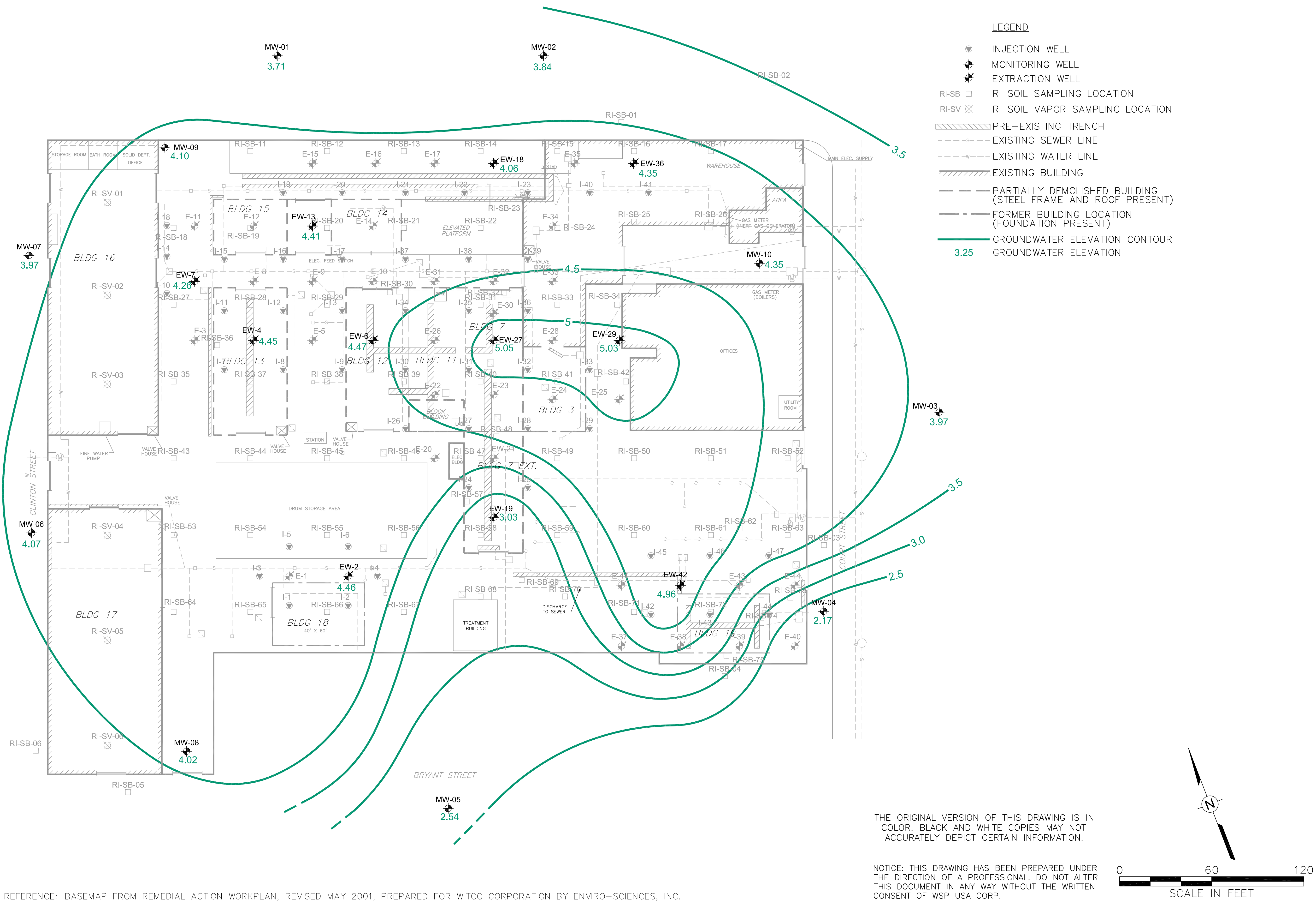
PREPARED FOR
CHEMTURA CORPORATION

Figure 9A

GROUNDWATER CONTOUR MAP
JULY 16, 2012
(LOW TIDE)

WSP

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

B

R:\ACAD\CADD\00026247\CAD\00026247-017.dwg 4/24/2013 4:10 PM Usec01012

Drawn By: EGC
Checked: DAC 12/18/2012
Approved:
DWG Name: 00026247-017

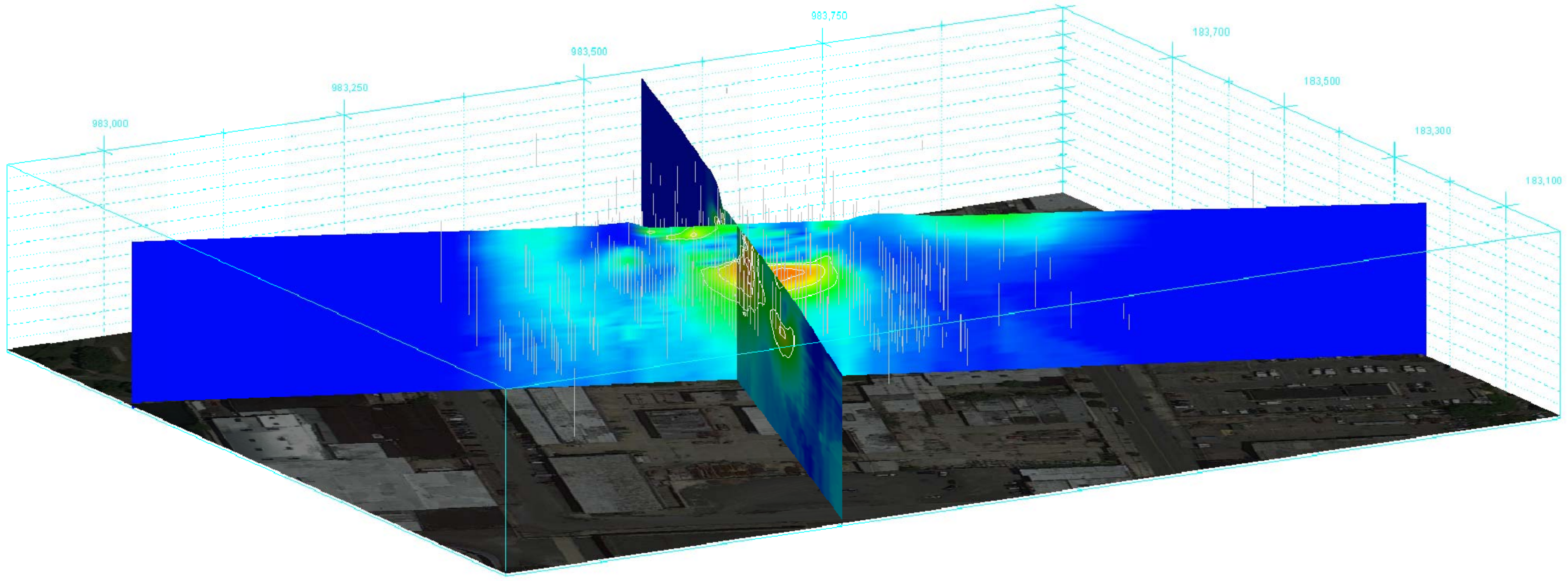
CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK

PREPARED FOR
CHEMTURA CORPORATION

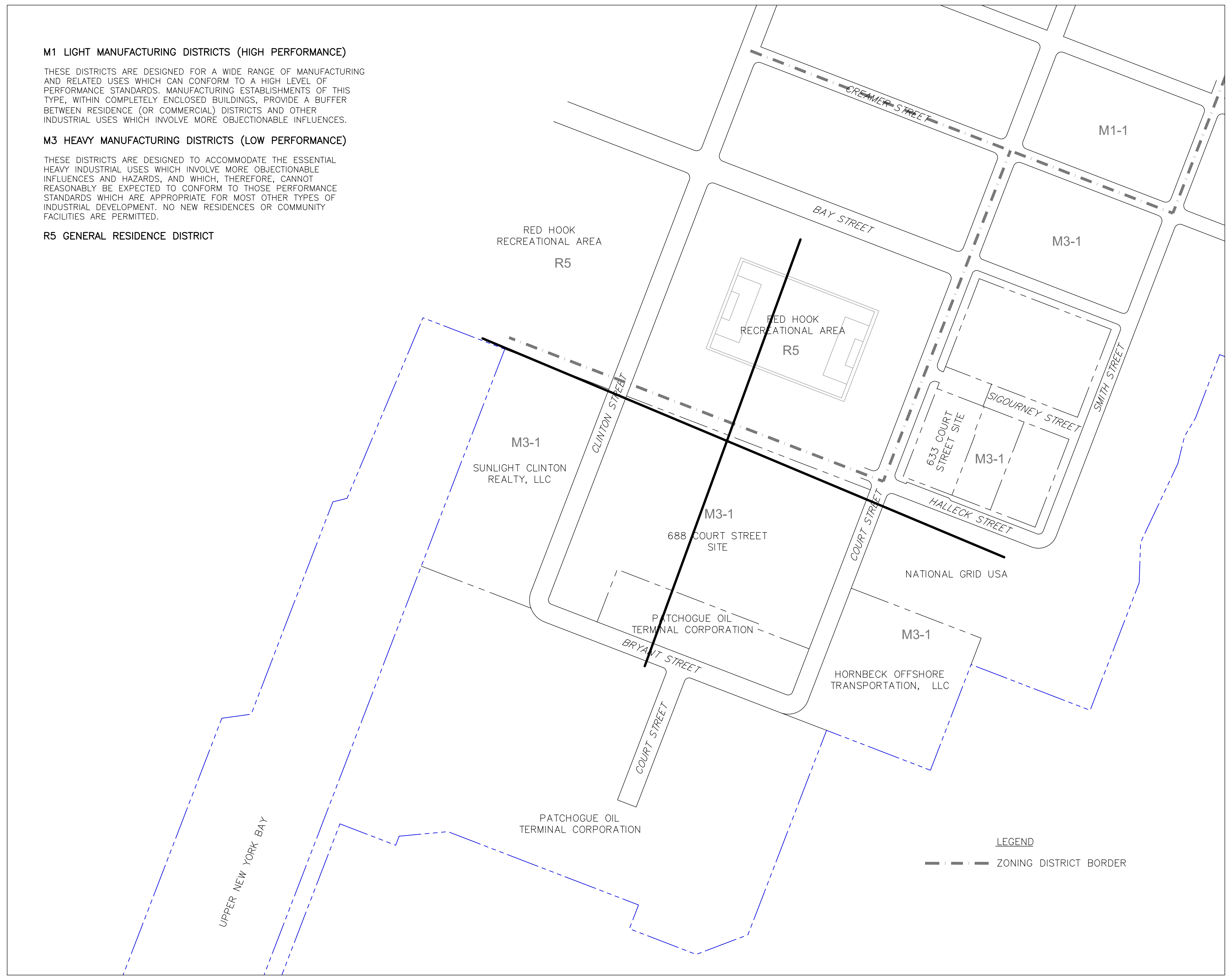
Figure 9B

GROUNDWATER CONTOUR MAP
JULY 17, 2012
(HIGH TIDE)

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



ORTHOGRAPHIC VIEW FROM SOUTHWEST SHOWING PCBs



M1 LIGHT MANUFACTURING DISTRICTS (HIGH PERFORMANCE)

THESE DISTRICTS ARE DESIGNED FOR A WIDE RANGE OF MANUFACTURING AND RELATED USES WHICH CAN CONFORM TO A HIGH LEVEL OF PERFORMANCE STANDARDS. MANUFACTURING ESTABLISHMENTS OF THIS TYPE, WITHIN COMPLETELY ENCLOSED BUILDINGS, PROVIDE A BUFFER BETWEEN RESIDENCE (OR COMMERCIAL) DISTRICTS AND OTHER INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES.

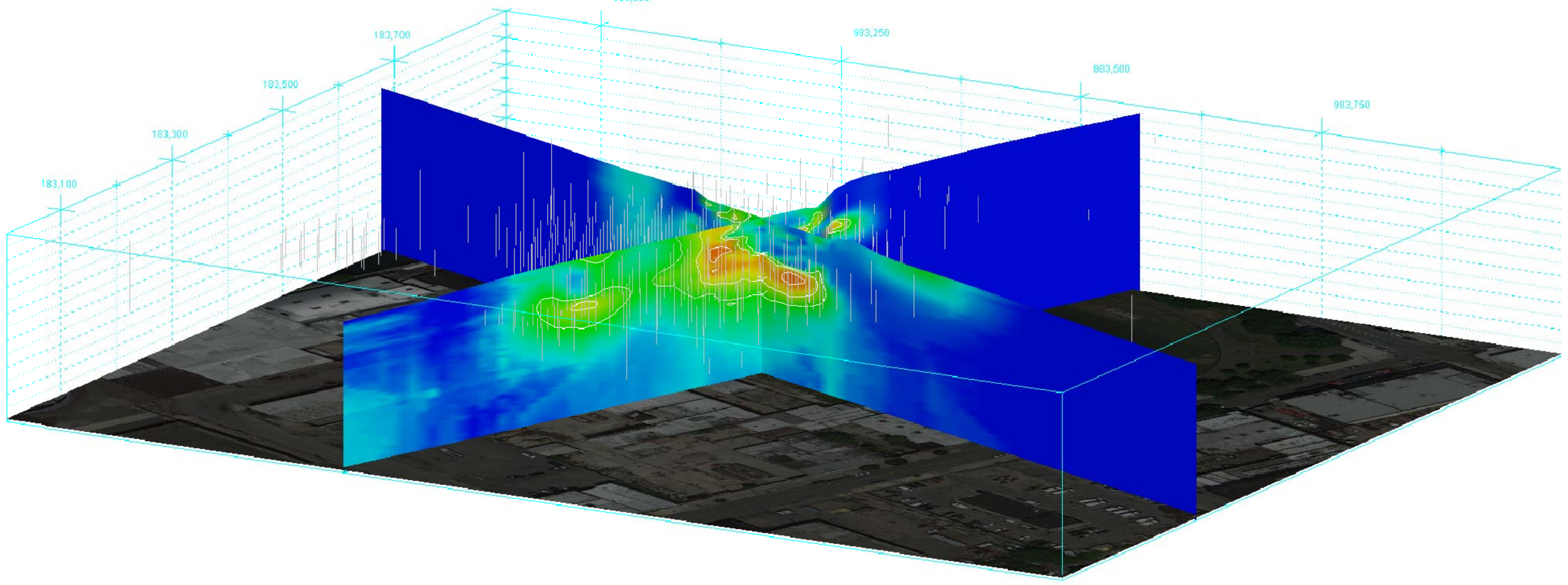
M3 HEAVY MANUFACTURING DISTRICTS (LOW PERFORMANCE)

THESE DISTRICTS ARE DESIGNED TO ACCOMMODATE THE ESSENTIAL HEAVY INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES AND HAZARDS, AND WHICH, THEREFORE, CANNOT REASONABLY BE EXPECTED TO CONFORM TO THOSE PERFORMANCE STANDARDS WHICH ARE APPROPRIATE FOR MOST OTHER TYPES OF INDUSTRIAL DEVELOPMENT. NO NEW RESIDENCES OR COMMUNITY FACILITIES ARE PERMITTED.

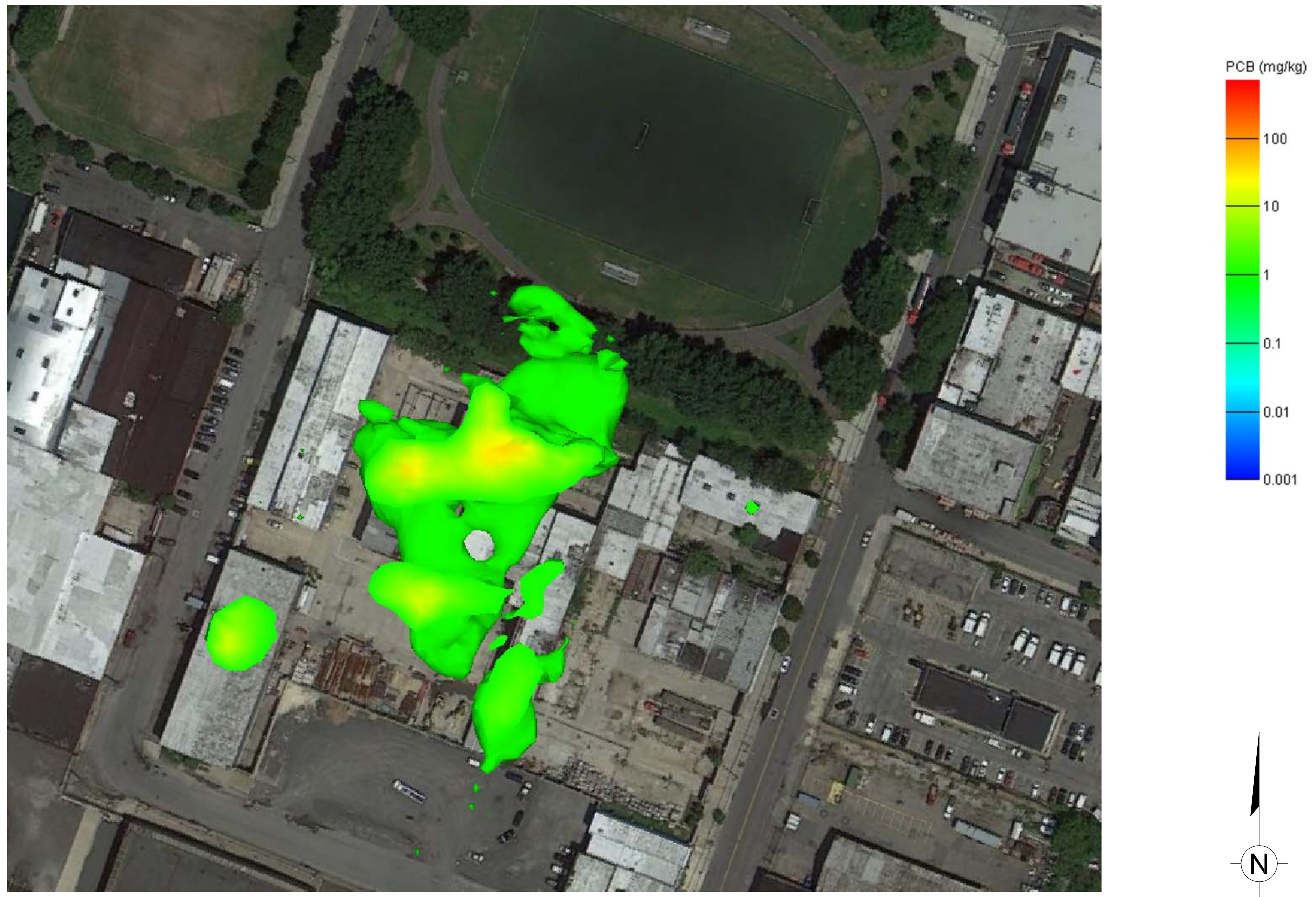
R5 GENERAL RESIDENCE DISTRICT

CROSS SECTION LOCATIONS

SCALE: 1"=200'



ORTHOGRAPHIC VIEW FROM SOUTHEAST SHOWING PCBs



PLAN VIEW SHOWING PCB >1 mg/kg

N

NOTE: AROCHLOR-1248 WAS USED AS A SURROGATE FOR PCB CONCENTRATIONS.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

0 100 200 300
SCALE IN FEET

D

R:\ACAD\CADD\00026247\CAD\00026247-015.dwg 4/24/2013 4:51 PM USEC01012

REVISIONS

REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

SEAL

DATE

DRAWN BY	EGC	
CHECKED	DAC	11/13/2012
APPROVED	KDS	4/24/2013

PROPERTY OF WSP USA CORP.
IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IT IS A VIOLATION OF STATE LAW FOR ANY PERSONS, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY.

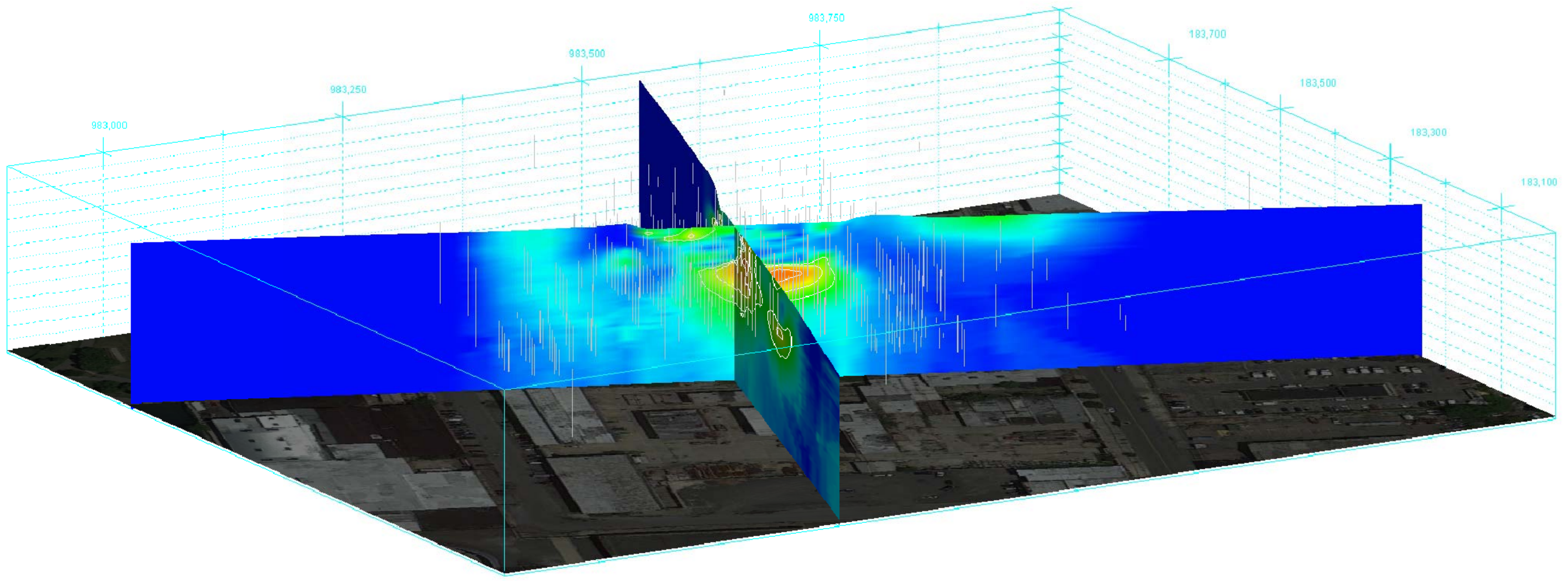
PCBs (AROCLOR 1248) IN SOIL (>1 mg/kg)

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

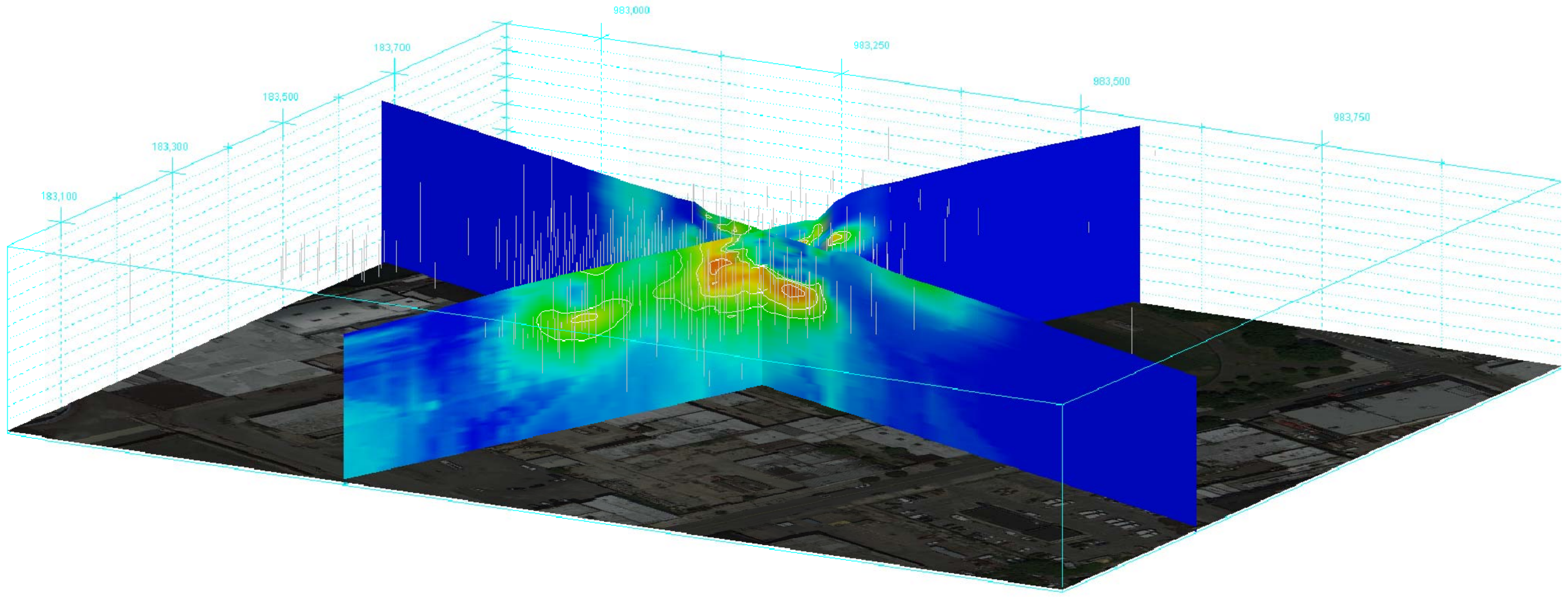
WSP
WSP USA Corp.
11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspenvironmental.com/usa

FIGURE 10

Drawing Number
00026247-015



ORTHOGRAPHIC VIEW FROM SOUTHWEST SHOWING PCBs



ORTHOGRAPHIC VIEW FROM SOUTHEAST SHOWING PCBs

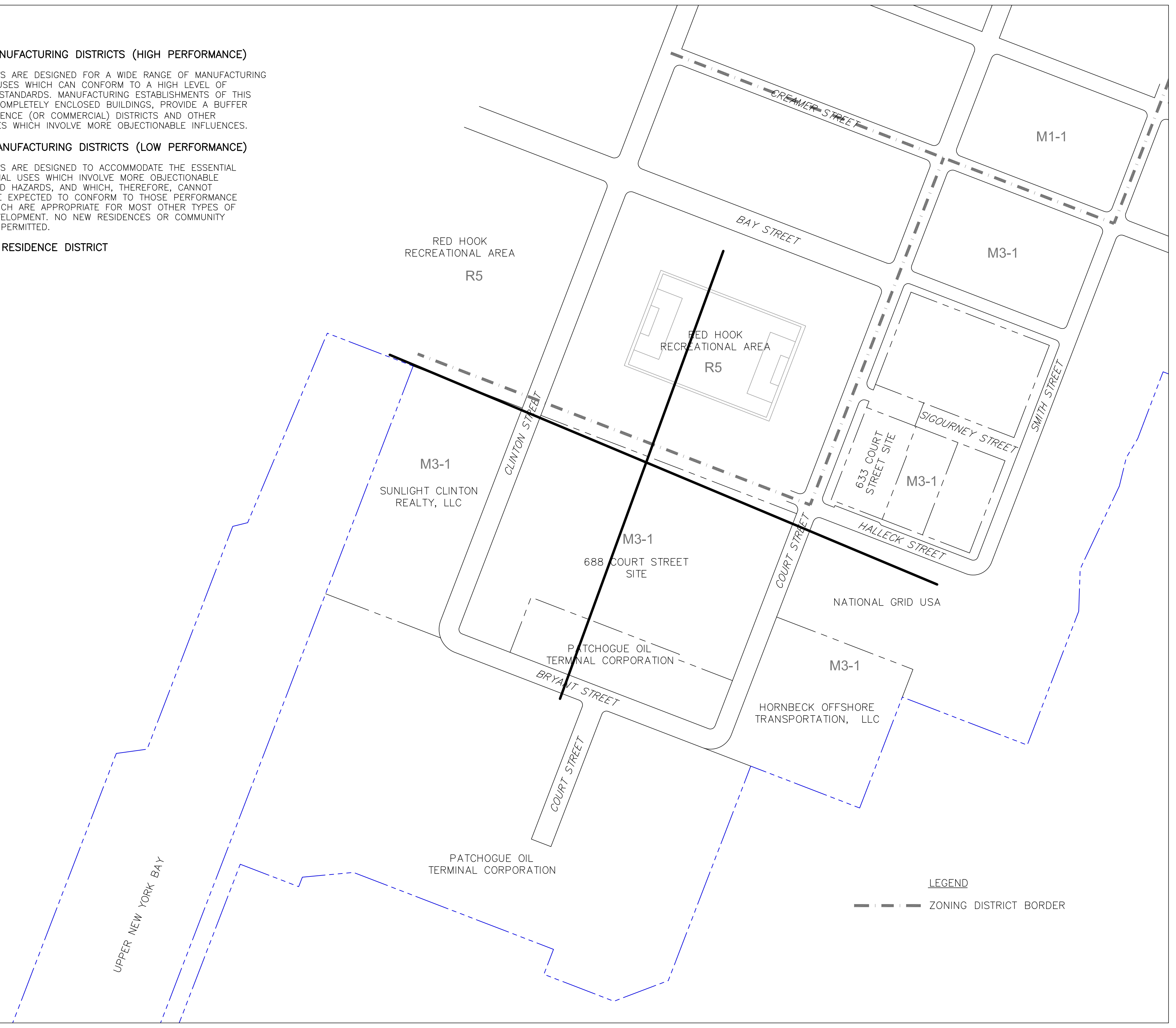
M1 LIGHT MANUFACTURING DISTRICTS (HIGH PERFORMANCE)

THESE DISTRICTS ARE DESIGNED FOR A WIDE RANGE OF MANUFACTURING AND RELATED USES WHICH CAN CONFORM TO A HIGH LEVEL OF PERFORMANCE STANDARDS. MANUFACTURING ESTABLISHMENTS OF THIS TYPE, WITHIN COMPLETELY ENCLOSED BUILDINGS, PROVIDE A BUFFER BETWEEN RESIDENCE (OR COMMERCIAL) DISTRICTS AND OTHER INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES.

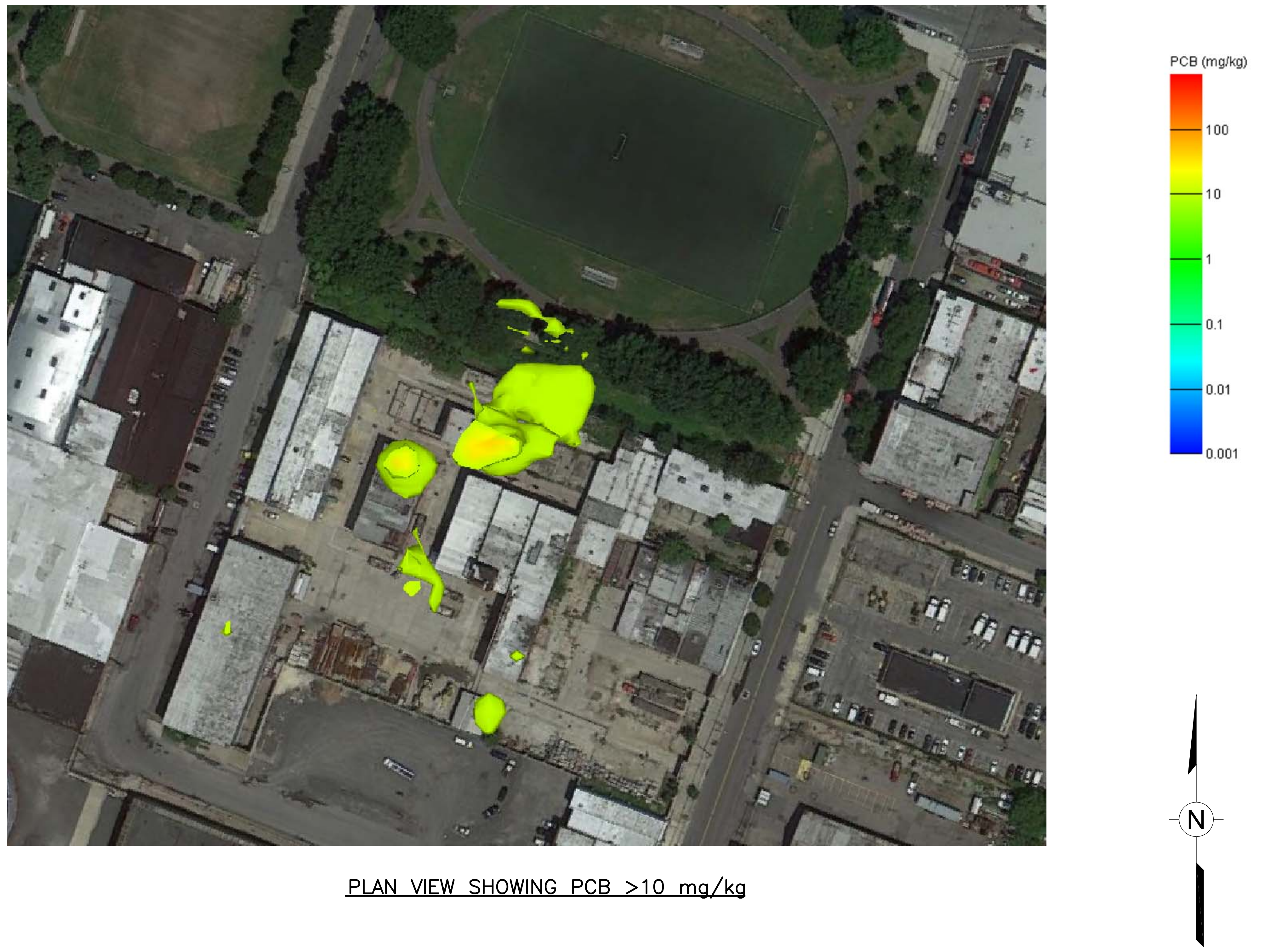
M3 HEAVY MANUFACTURING DISTRICTS (LOW PERFORMANCE)

THESE DISTRICTS ARE DESIGNED TO ACCOMMODATE THE ESSENTIAL HEAVY INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES AND HAZARDS, AND WHICH, THEREFORE, CANNOT REASONABLY BE EXPECTED TO CONFORM TO THOSE PERFORMANCE STANDARDS WHICH ARE APPROPRIATE FOR MOST OTHER TYPES OF INDUSTRIAL DEVELOPMENT. NO NEW RESIDENCES OR COMMUNITY FACILITIES ARE PERMITTED.

R5 GENERAL RESIDENCE DISTRICT



CROSS SECTION LOCATIONS
SCALE: 1"=200'



PLAN VIEW SHOWING PCB >10 mg/kg

NOTE: AROCHLOR–1248 WAS USED AS A SURROGATE FOR PCB CONCENTRATIONS.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

0 100 200 300
SCALE IN FEET

D

R:\ACAD\CADD\00026247\CAD\00026247-015.dwg 4/24/2013 4:54 PM USEC01012

REVISIONS

REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

SEAL

DATE

DRAWN BY	EGC	
CHECKED	DAC	11/13/2012
APPROVED	KDS	4/24/2013

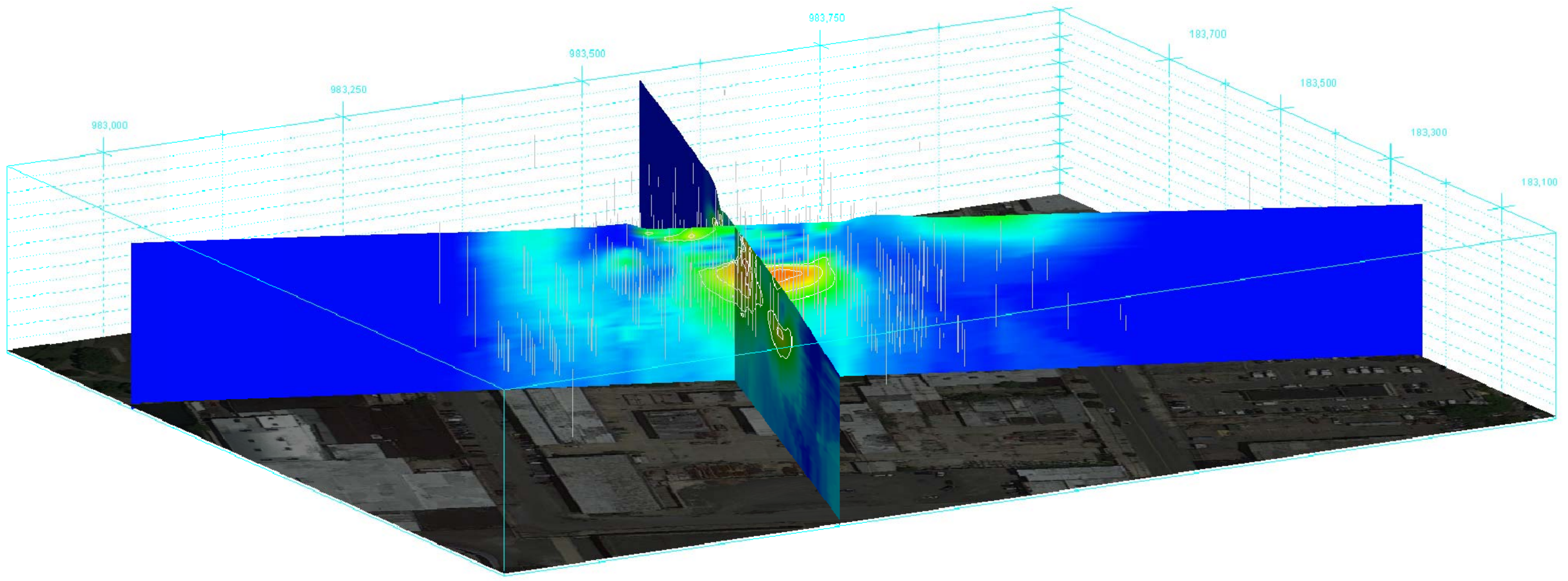
PCBs (AROCLOR 1248) IN SOIL (>10 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

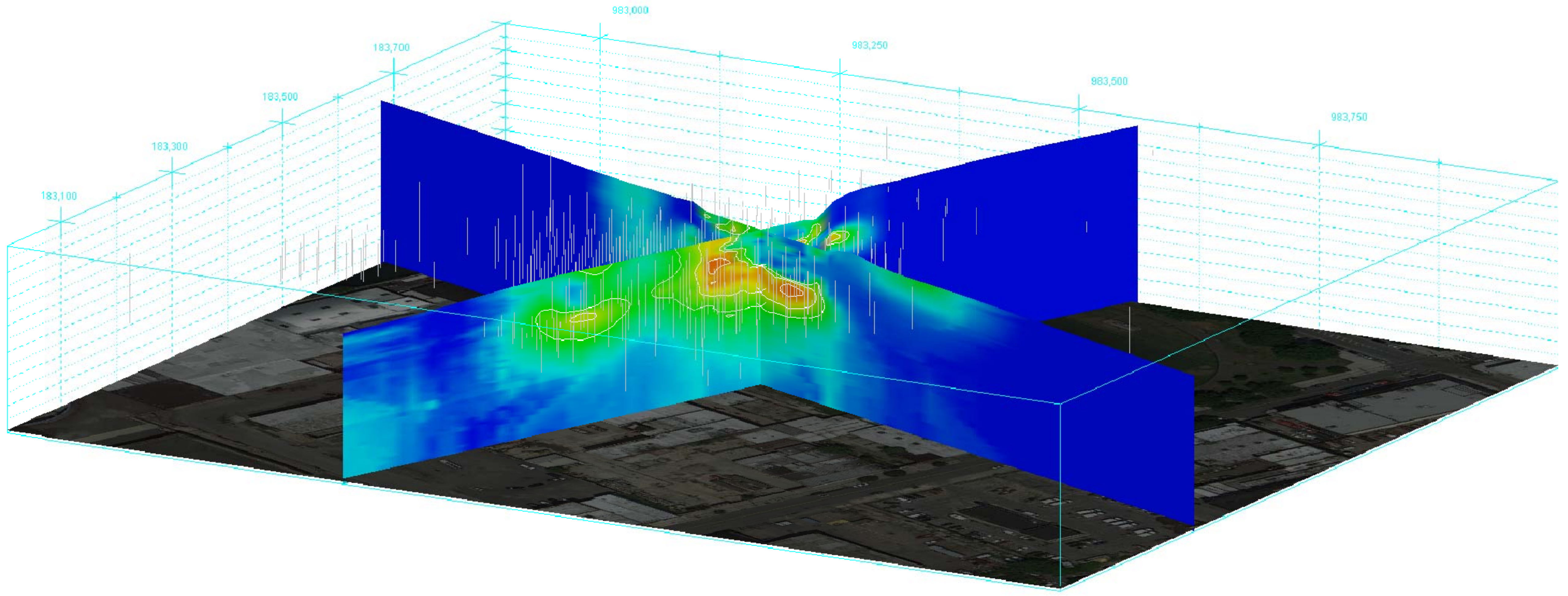
WSP
WSP USA Corp.
11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspenvironmental.com/usa

FIGURE 11

Drawing Number
00026247–015



ORTHOGRAPHIC VIEW FROM SOUTHWEST SHOWING PCBs



ORTHOGRAPHIC VIEW FROM SOUTHEAST SHOWING PCBs

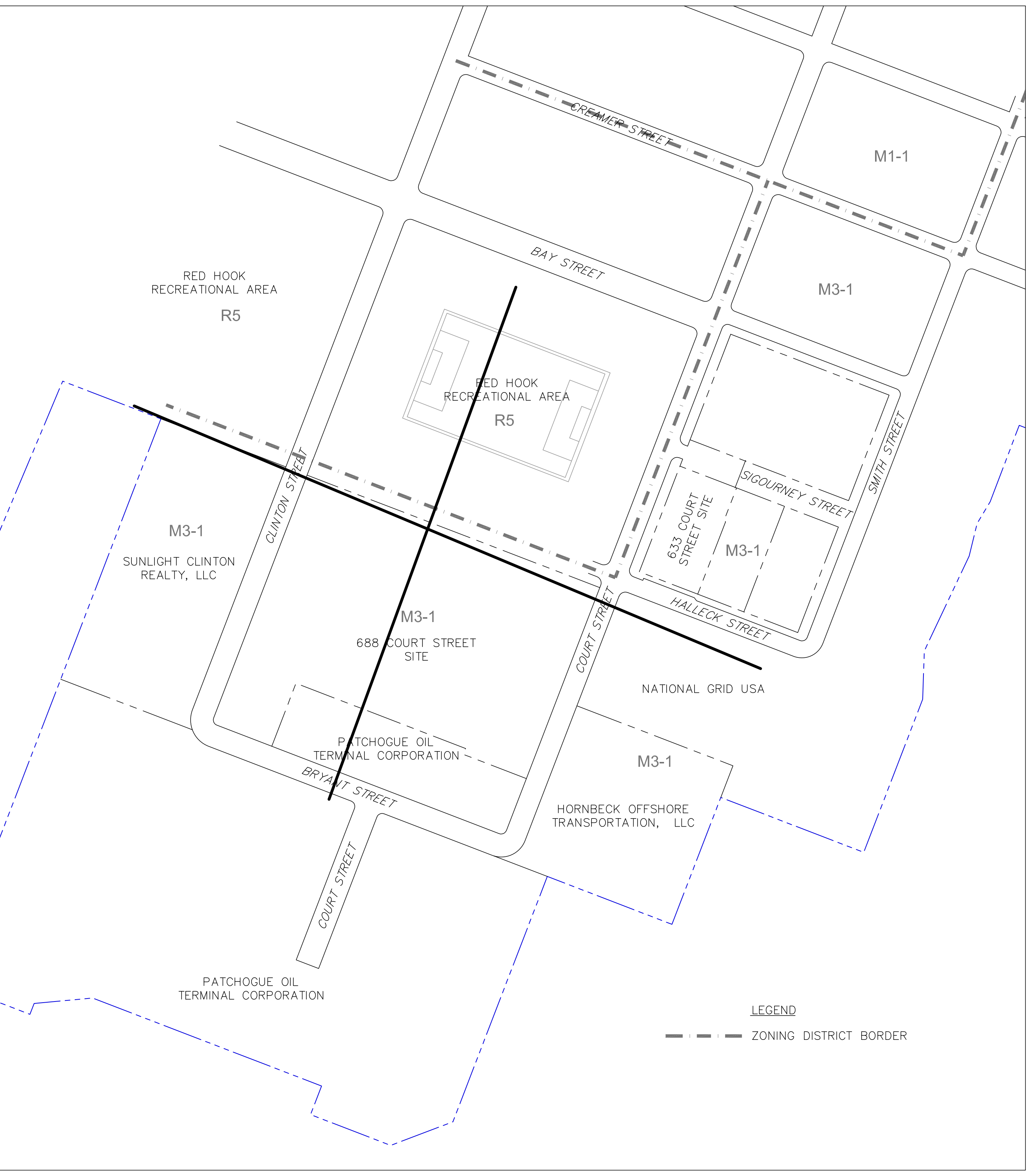
M1 LIGHT MANUFACTURING DISTRICTS (HIGH PERFORMANCE)

THESE DISTRICTS ARE DESIGNED FOR A WIDE RANGE OF MANUFACTURING AND RELATED USES WHICH CAN CONFORM TO A HIGH LEVEL OF PERFORMANCE STANDARDS. MANUFACTURING ESTABLISHMENTS OF THIS TYPE, WITHIN COMPLETELY ENCLOSED BUILDINGS, PROVIDE A BUFFER BETWEEN RESIDENCE (OR COMMERCIAL) DISTRICTS AND OTHER INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES.

M3 HEAVY MANUFACTURING DISTRICTS (LOW PERFORMANCE)

THESE DISTRICTS ARE DESIGNED TO ACCOMMODATE THE ESSENTIAL HEAVY INDUSTRIAL USES WHICH INVOLVE MORE OBJECTIONABLE INFLUENCES AND HAZARDS, AND WHICH, THEREFORE, CANNOT REASONABLY BE EXPECTED TO CONFORM TO THOSE PERFORMANCE STANDARDS WHICH ARE APPROPRIATE FOR MOST OTHER TYPES OF INDUSTRIAL DEVELOPMENT. NO NEW RESIDENCES OR COMMUNITY FACILITIES ARE PERMITTED.

R5 GENERAL RESIDENCE DISTRICT



CROSS SECTION LOCATIONS
SCALE: 1"=200'

PLAN VIEW SHOWING PCB >25 mg/kg

NOTE: AROCHLOR-1248 WAS USED AS A SURROGATE FOR PCB CONCENTRATIONS.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

0 100 200 300
SCALE IN FEET

D

R:\ACAD\CADD\00026247\CAD\00026247-015.dwg 4/24/2013 4:54 PM USEC01012

REVISIONS

REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

SEAL

DATE

DRAWN BY	EGC	
CHECKED	DAC	11/13/2012
APPROVED	KDS	4/24/2013

PROPERTY OF WSP USA CORP.
IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IT IS A VIOLATION OF STATE LAW FOR ANY PERSONS, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY.

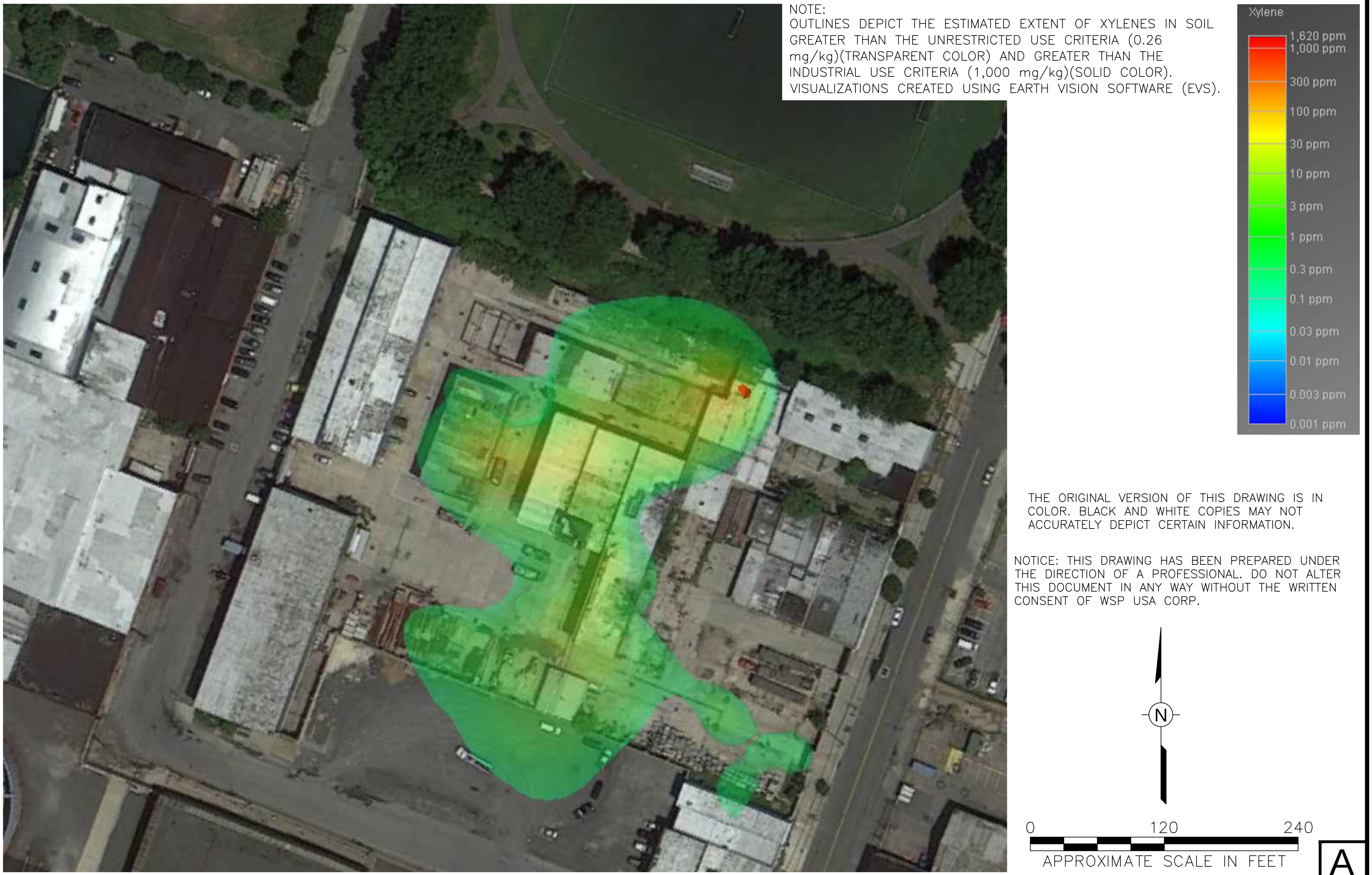
PCBs (AROCLOR 1248) IN SOIL (>25 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

WSP USA Corp.
11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspenvironmental.com/usa

FIGURE 12

Drawing Number
00026247–015



NOTE:
OUTLINES DEPICT THE ESTIMATED EXTENT OF XYLENES IN SOIL GREATER THAN THE UNRESTRICTED USE CRITERIA (0.26 mg/kg)(TRANSPARENT COLOR) AND GREATER THAN THE INDUSTRIAL USE CRITERIA (1,000 mg/kg)(SOLID COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

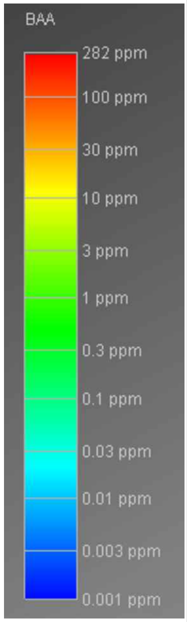
Figure 13

XYLENE IN SOIL
(>1,000 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

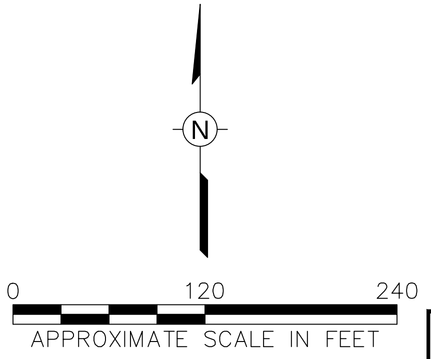
Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING BENZO(A)ANTHRACENE AT THE INDUSTRIAL USE CRITERIA (11 mg/kg)(SOLID COLOR AND THE UNRESTRICTED USE CRITERIA (1 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.



A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

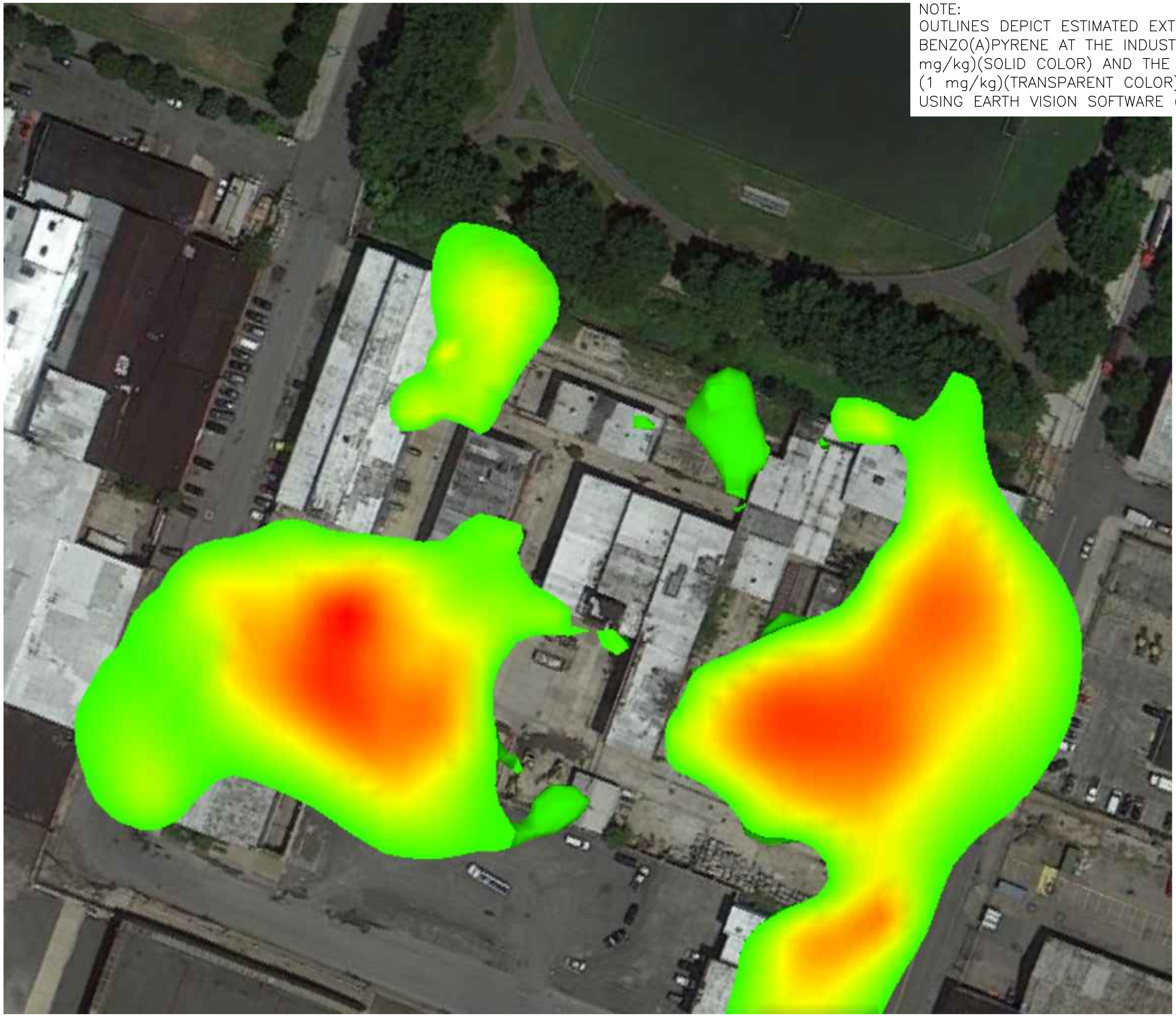
Figure 14

BENZO(a)ANTHRACENE (>11 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

R:\ACAD\CADD\00026247\CAD\00026247-016.dwg 4/24/2013 4:13 PM Usec01012



NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING BENZO(A)PYRENE AT THE INDUSTRIAL USE CRITERIA (1.1 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (1 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

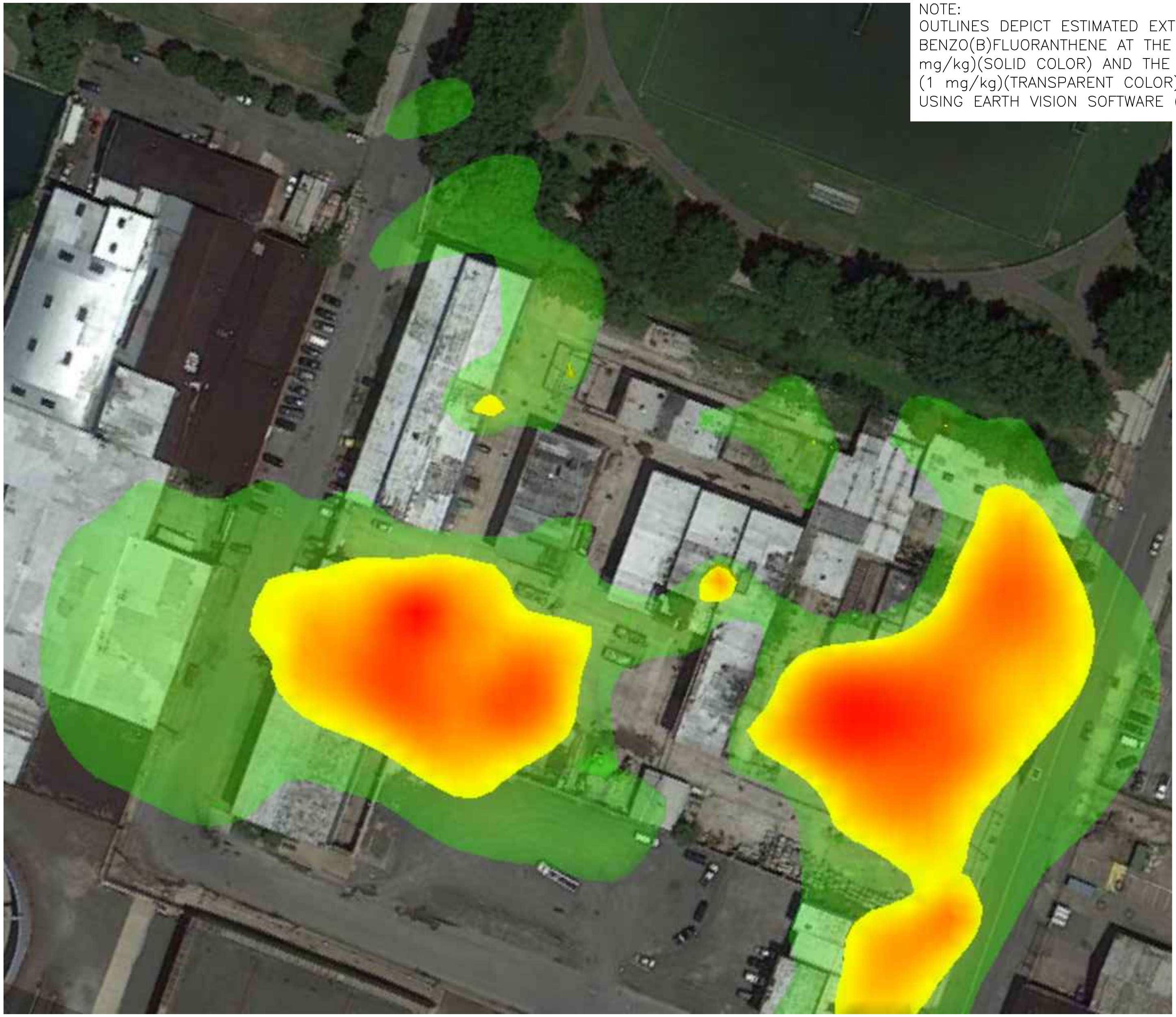
WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Figure 15

BENZO(a)PYRENE IN SOIL (> 1.1 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016



NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING BENZO(B)FLUORANTHENE AT THE INDUSTRIAL USE CRITERIA (11 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (1 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Figure 16

BENZO(b)FLUORANTHENE IN SOIL (> 11 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK

PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

R:\ACAD\CADD\00026247\CAD\00026247-016.dwg 4/24/2013 4:13 PM Usec01012

NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING DIBENZ(A,H)ANTHRACENE AT THE INDUSTRIAL USE CRITERIA (1.1 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (0.33 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

D-A,H-A
29 ppm
10 ppm
3 ppm
1 ppm
0.3 ppm
0.1 ppm
0.03 ppm
0.01 ppm
0.003 ppm
0.001 ppm

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

N

0 120 240
APPROXIMATE SCALE IN FEET

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

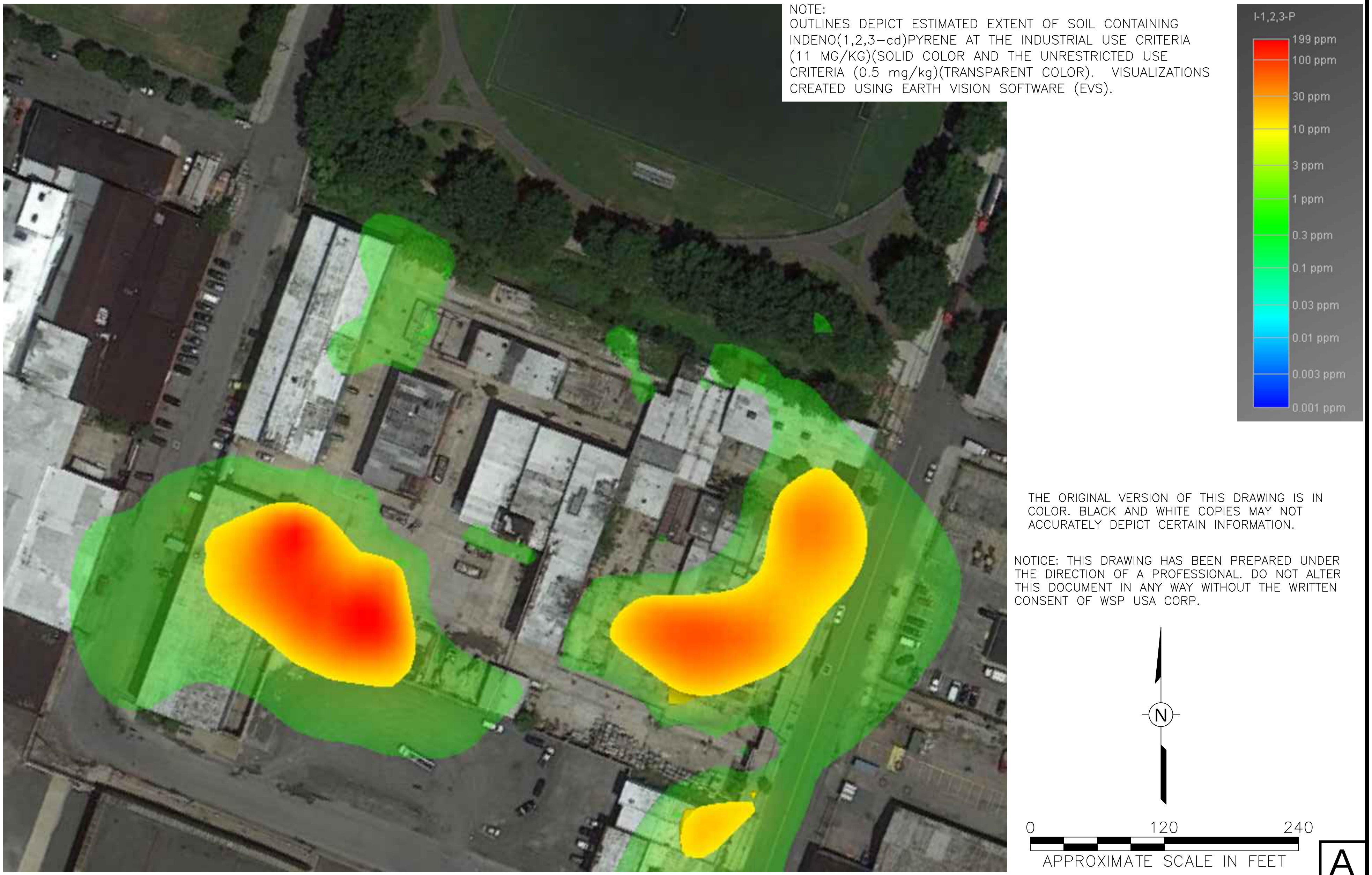
Figure 17

DIBENZ(a,h)ANTHRACENE IN SOIL
(> 1.1 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

R:\ACAD\CADD\00026247\CAD\00026247-016.dwg 4/24/2013 4:13 PM Usec01012



NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING INDENO(1,2,3–cd)PYRENE AT THE INDUSTRIAL USE CRITERIA (11 MG/KG)(SOLID COLOR AND THE UNRESTRICTED USE CRITERIA (0.5 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Figure 18

INDENO(1,2,3–cd)PYRENE IN SOIL
(> 11 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

R:\ACAD\CADD\00026247\CAD\00026247-016.dwg 4/24/2013 4:14 PM Usec01012

NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING ARSENIC AT THE INDUSTRIAL USE CRITERIA (16 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (13 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Figure 19

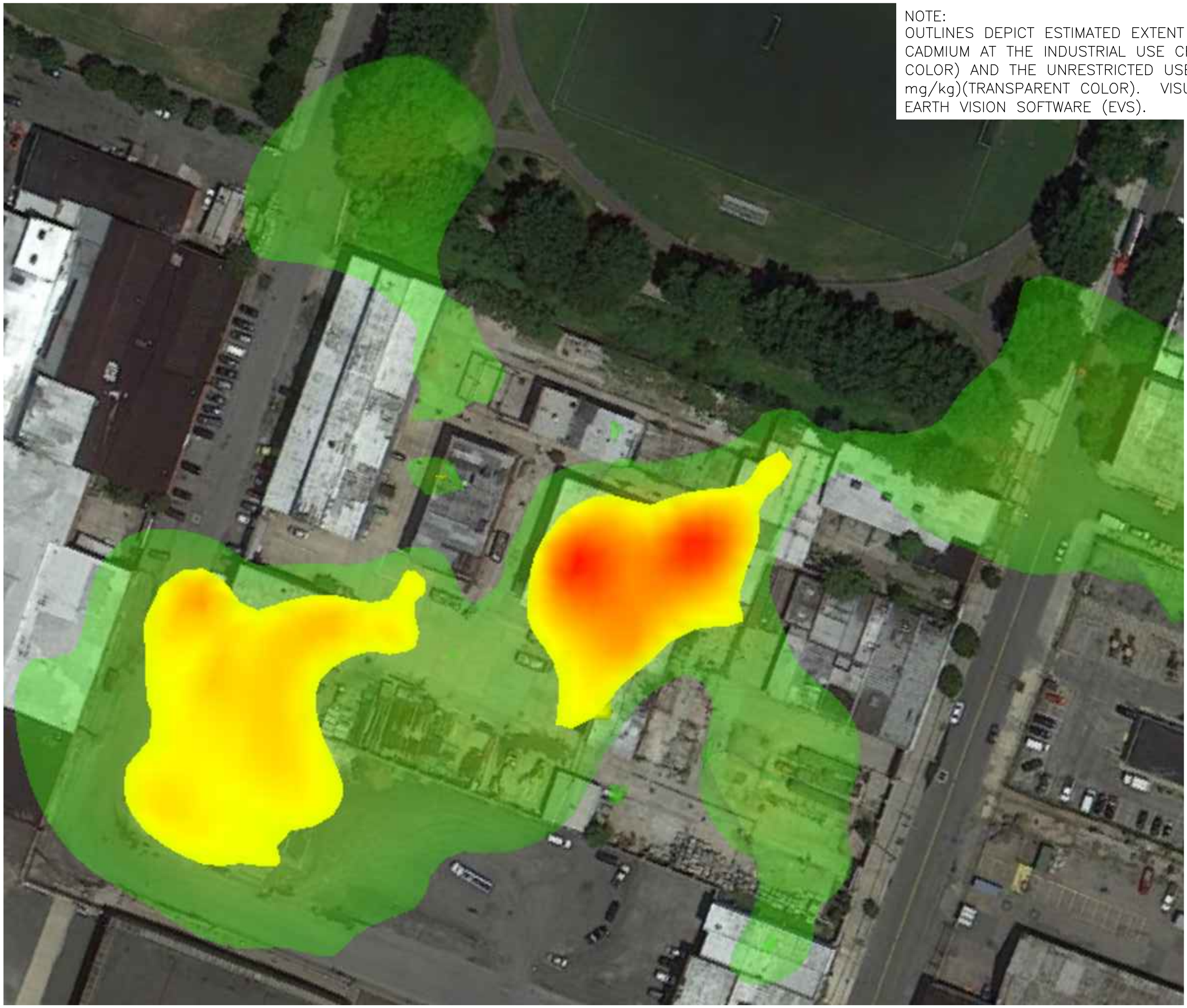
ARSENIC IN SOIL
(> 16 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

R:\ACAD\CADD\00026247\CAD\00026247-016.dwg 4/24/2013 4:15 PM Usec01012

NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING CADMIUM AT THE INDUSTRIAL USE CRITERIA (60 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (4.3 mg/kg)(TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

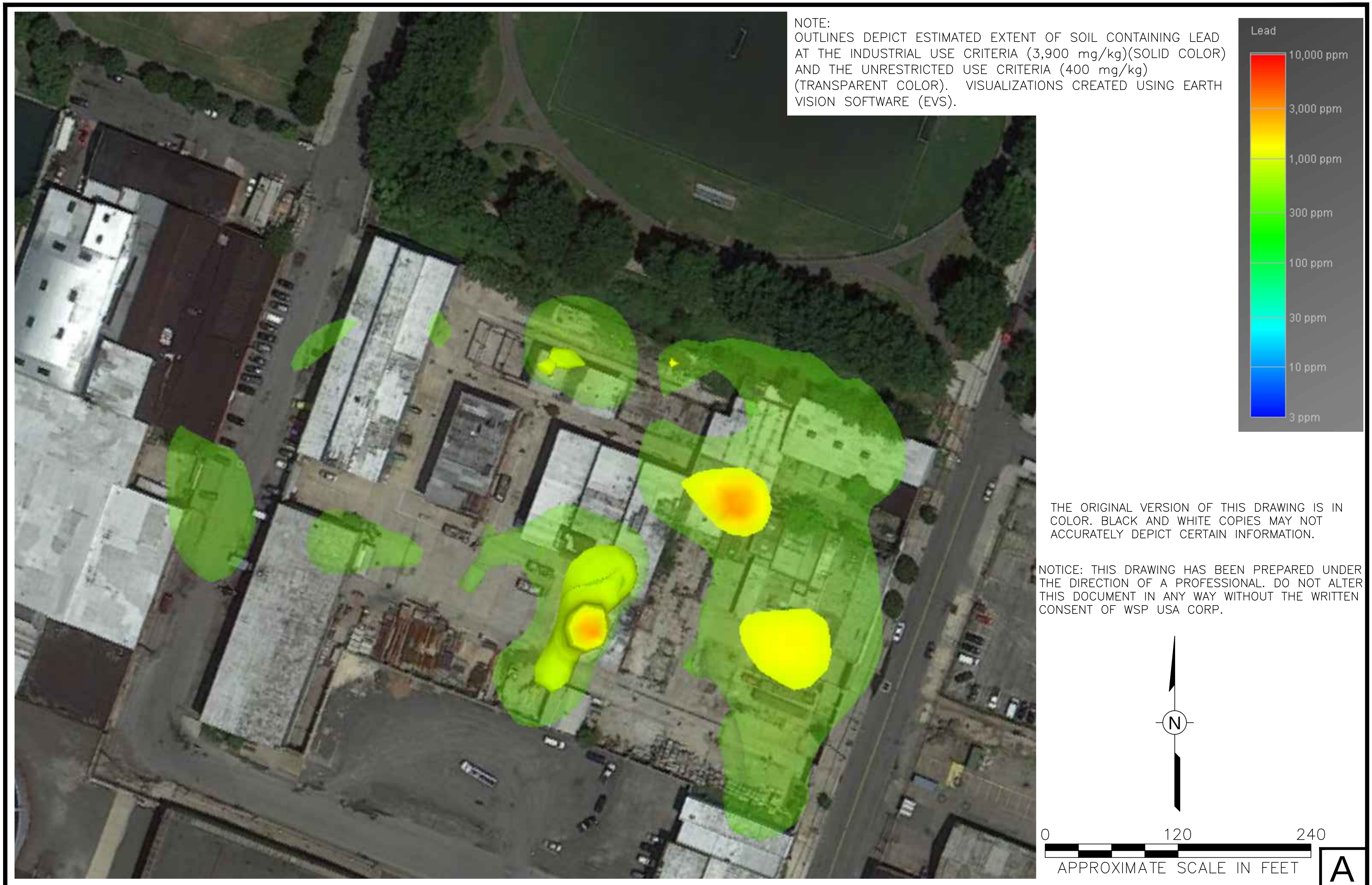
Figure 20

CADMIUM IN SOIL
(> 60 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

R:\ACAD\CADD\00026247\CAD\00026247-016.dwg 4/24/2013 4:15 PM Usec01012



NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING LEAD AT THE INDUSTRIAL USE CRITERIA (3,900 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (400 mg/kg) (TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Figure 21

LEAD IN SOIL
(> 3,900 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK

PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016

NOTE:
OUTLINES DEPICT ESTIMATED EXTENT OF SOIL CONTAINING MERCURY AT THE INDUSTRIAL USE CRITERIA (5.7 mg/kg)(SOLID COLOR) AND THE UNRESTRICTED USE CRITERIA (0.81 mg/kg) (TRANSPARENT COLOR). VISUALIZATIONS CREATED USING EARTH VISION SOFTWARE (EVS).

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

A

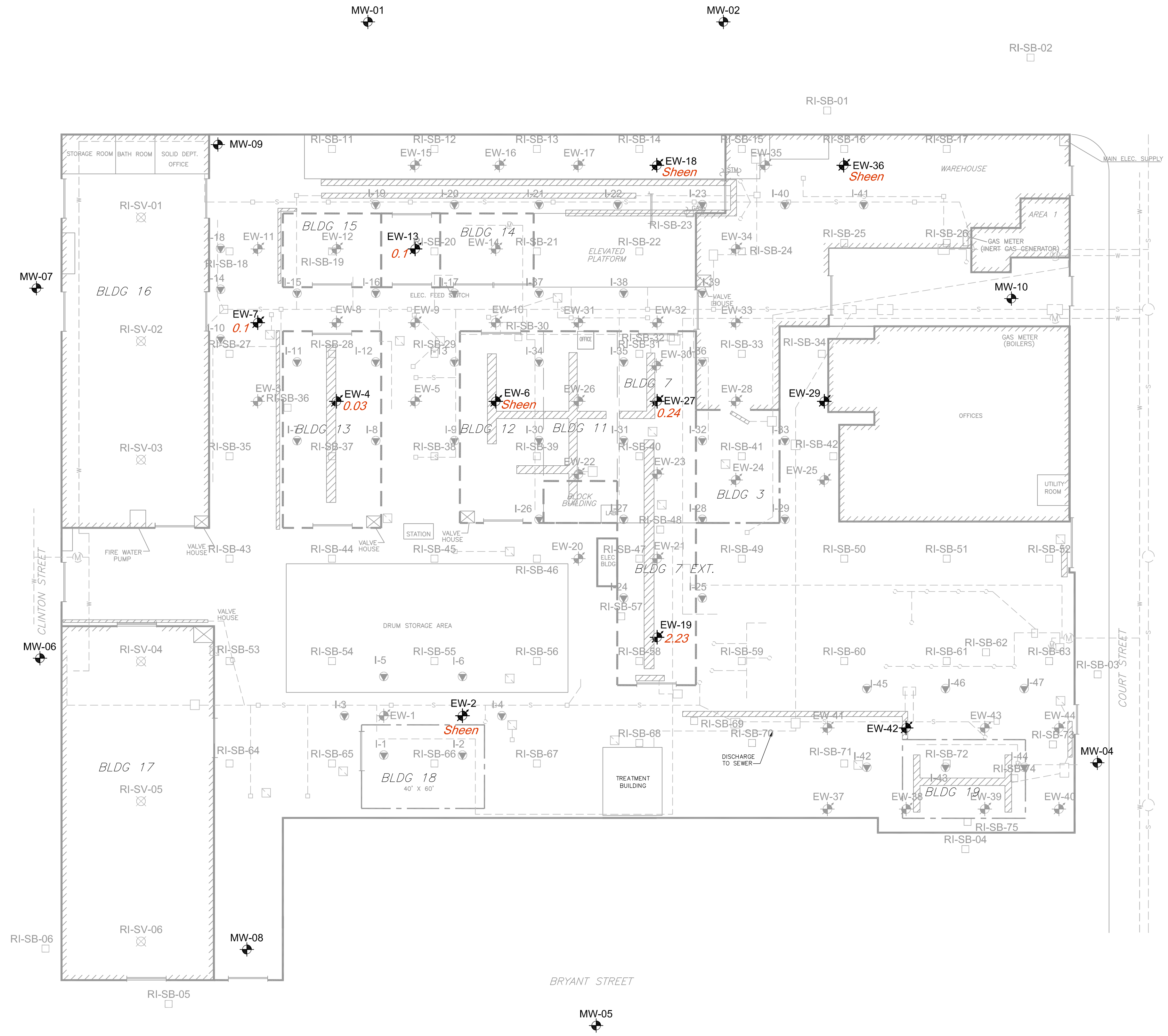
WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Figure 22

MERCURY IN SOIL
(> 5.7 mg/kg)

CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Drawn By: EGC
Checked: DAC 11/13/2012
Approved: KDS 12/18/2012
DWG Name: 00026247–016



LEGEND

- ▼ INJECTION WELL
- ⊕ MONITORING WELL
- ⊕ EXTRACTION WELL
- RI-SB ☐ RI SOIL SAMPLING LOCATION
- RI-SV ☒ RI SOIL VAPOR SAMPLING LOCATION
- ▨ PREW–EXISTING TRENCH
- ---S--- EXISTING SEWER LINE
- ---W--- EXISTING WATER LINE
- ▨ EXISTING BUILDING
- — — PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
- —·— FORMER BUILDING LOCATION (FOUNDATION PRESENT)
- 0.24 ESTIMATED THICKNESS OF LNAPL (FEET)

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

N

0 60 120

SCALE IN FEET

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO–SCIENCES, INC.

R:\ACAD\CADD\00026247\CAD\00026247-019.dwg 4/24/2013 4:17 PM Usec01012

Drawn By: EGC
Checked:
Approved: KJS 12/18/2012
DWG Name: 00026247–019

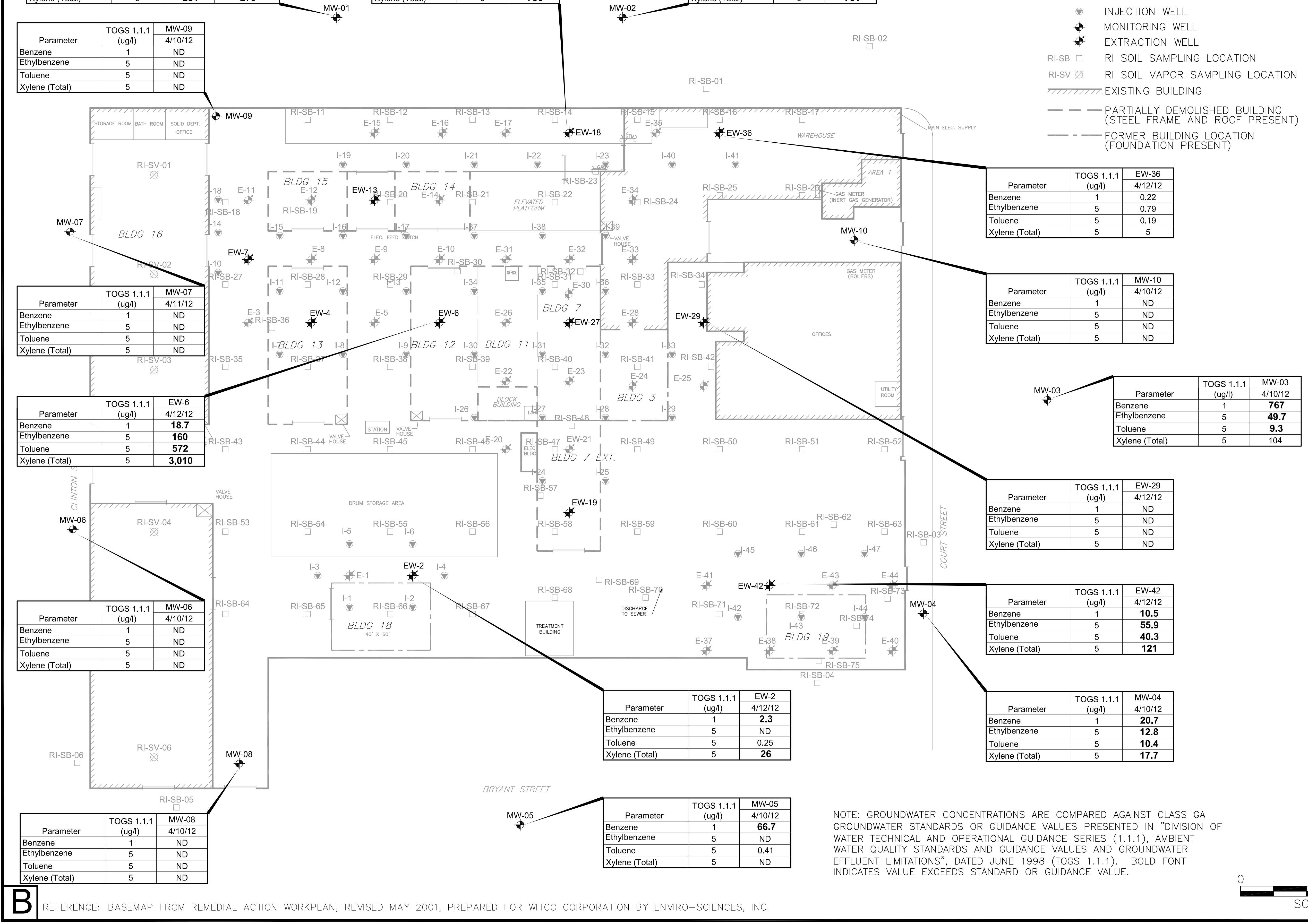
CHEMTURA CORPORATION
688–700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 23

LNAPL SOUNDINGS
(APRIL 2012)

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.



Parameter	TOGS 1.1.1 (ug/l)	MW-01	MW-01 Dup
		4/12/12	4/12/12
Benzene	1	ND	ND
Ethylbenzene	5	2	2.2
Toluene	5	ND	ND
Xylene (Total)	5	**281**	**279**

Parameter	TOGS 1.1.1 (ug/l)	EW-18
		4/12/12
Benzene	1	0.73
Ethylbenzene	5	**29.3**
Toluene	5	**21.6**
Xylene (Total)	5	**736**

Parameter	TOGS 1.1.1 (ug/l)	MW-02
		4/12/12
Benzene	1	**1.4**
Ethylbenzene	5	**33.4**
Toluene	5	1.7
Xylene (Total)	5	**761**

Parameter	TOGS 1.1.1 (ug/l)	MW-09
		4/10/12
Benzene	1	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylene (Total)	5	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-36
		4/12/12
Benzene	1	0.22
Ethylbenzene	5	0.79
Toluene	5	0.19
Xylene (Total)	5	5

Parameter	TOGS 1.1.1 (ug/l)	MW-07
		4/11/12
Benzene	1	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylene (Total)	5	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-10
		4/10/12
Benzene	1	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylene (Total)	5	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-03
		4/10/12
Benzene	1	**767**
Ethylbenzene	5	**49.7**
Toluene	5	**9.3**
Xylene (Total)	5	104

Parameter	TOGS 1.1.1 (ug/l)	EW-6
		4/12/12
Benzene	1	**18.7**
Ethylbenzene	5	**160**
Toluene	5	**572**
Xylene (Total)	5	**3,010**

Parameter	TOGS 1.1.1 (ug/l)	EW-29
		4/12/12
Benzene	1	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylene (Total)	5	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-06
		4/10/12
Benzene	1	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylene (Total)	5	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-42
		4/12/12
Benzene	1	**10.5**
Ethylbenzene	5	**55.9**
Toluene	5	**40.3**
Xylene (Total)	5	**121**

Parameter	TOGS 1.1.1 (ug/l)	EW-2
		4/12/12
Benzene	1	**2.3**
Ethylbenzene	5	ND
Toluene	5	0.25
Xylene (Total)	5	**26**

Parameter	TOGS 1.1.1 (ug/l)	MW-04
		4/10/12
Benzene	1	**20.7**
Ethylbenzene	5	**12.8**
Toluene	5	**10.4**
Xylene (Total)	5	**17.7**

Parameter	TOGS 1.1.1 (ug/l)	MW-08
		4/10/12
Benzene	1	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylene (Total)	5	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-05
		4/10/12
Benzene	1	**66.7**
Ethylbenzene	5	ND
Toluene	5	0.41
Xylene (Total)	5	ND

NOTE: GROUNDWATER CONCENTRATIONS ARE COMPARED AGAINST CLASS GA GROUNDWATER STANDARDS OR GUIDANCE VALUES PRESENTED IN "DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS", DATED JUNE 1998 (TOGS 1.1.1). BOLD FONT INDICATES VALUE EXCEEDS STANDARD OR GUIDANCE VALUE.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CAD\00026247\CAD\00026247-018.dwg 4/24/2013 4:19 PM Usec01012

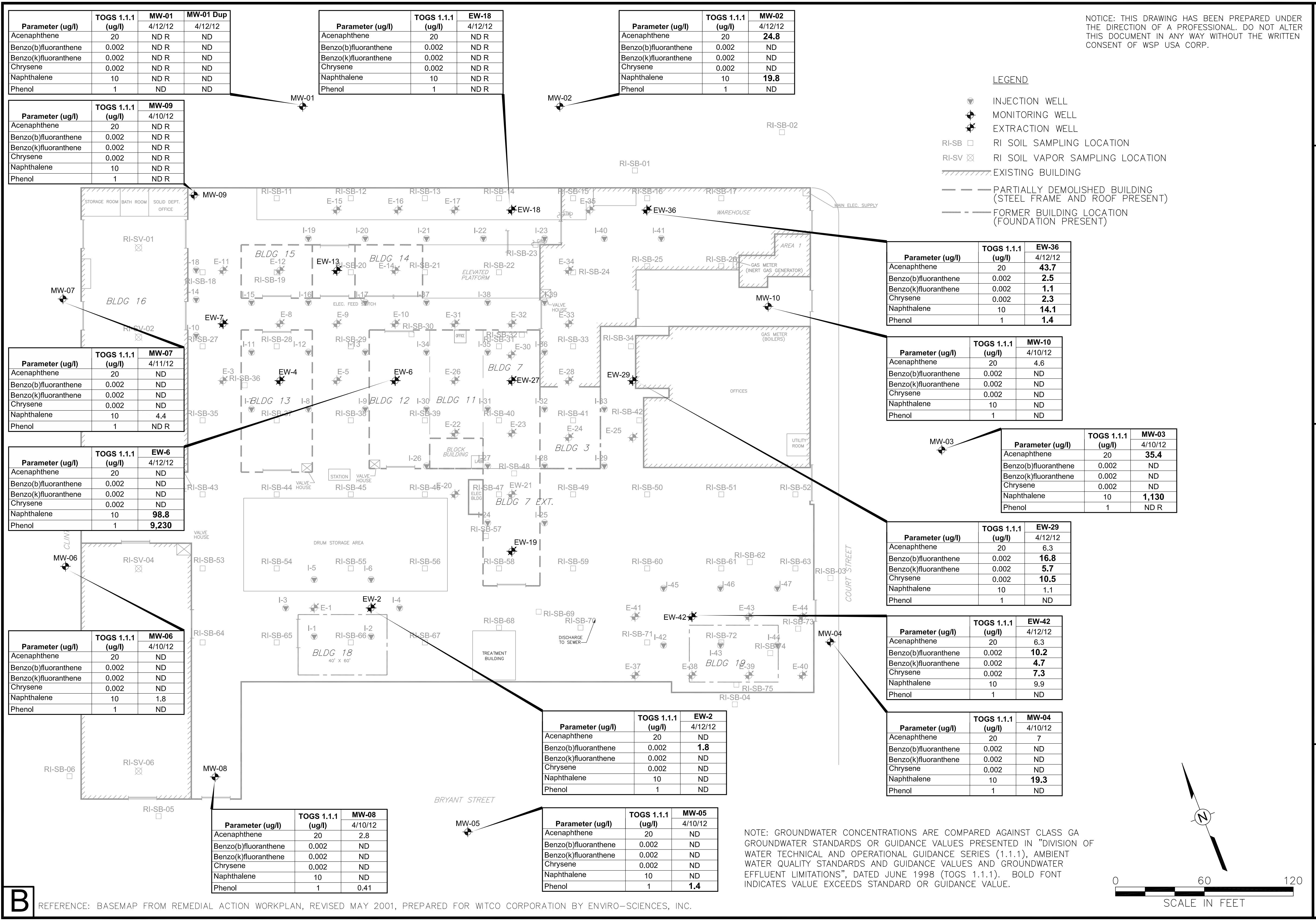
Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247-018

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 24

VOCs IN GROUNDWATER (>GA-SGVs)

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa



LEGEND

- ▼ INJECTION WELL
- ⊕ MONITORING WELL
- ⊕ EXTRACTION WELL
- RI-SB ☐ RI SOIL SAMPLING LOCATION
- RI-SV ☒ RI SOIL VAPOR SAMPLING LOCATION
- ▨ EXISTING BUILDING
- — — PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
- — · — FORMER BUILDING LOCATION (FOUNDATION PRESENT)

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-01	MW-01 Dup
		4/12/12	4/12/12
Acenaphthene	20	ND R	ND
Benzo(b)fluoranthene	0.002	ND R	ND
Benzo(k)fluoranthene	0.002	ND R	ND
Chrysene	0.002	ND R	ND
Naphthalene	10	ND R	ND
Phenol	1	ND	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-09
		4/10/12
Acenaphthene	20	ND R
Benzo(b)fluoranthene	0.002	ND R
Benzo(k)fluoranthene	0.002	ND R
Chrysene	0.002	ND R
Naphthalene	10	ND R
Phenol	1	ND R

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	EW-18
		4/12/12
Acenaphthene	20	ND R
Benzo(b)fluoranthene	0.002	ND R
Benzo(k)fluoranthene	0.002	ND R
Chrysene	0.002	ND R
Naphthalene	10	ND R
Phenol	1	ND R

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-02
		4/12/12
Acenaphthene	20	**24.8**
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	**19.8**
Phenol	1	ND

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	EW-36
		4/12/12
Acenaphthene	20	**43.7**
Benzo(b)fluoranthene	0.002	**2.5**
Benzo(k)fluoranthene	0.002	**1.1**
Chrysene	0.002	**2.3**
Naphthalene	10	**14.1**
Phenol	1	**1.4**

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-10
		4/10/12
Acenaphthene	20	4.6
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	ND
Phenol	1	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-03
		4/10/12
Acenaphthene	20	**35.4**
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	**1,130**
Phenol	1	ND R

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-07
		4/11/12
Acenaphthene	20	ND
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	4.4
Phenol	1	ND R

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	EW-6
		4/12/12
Acenaphthene	20	ND
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	**98.8**
Phenol	1	**9,230**

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	EW-29
		4/12/12
Acenaphthene	20	6.3
Benzo(b)fluoranthene	0.002	**16.8**
Benzo(k)fluoranthene	0.002	**5.7**
Chrysene	0.002	**10.5**
Naphthalene	10	1.1
Phenol	1	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	EW-42
		4/12/12
Acenaphthene	20	6.3
Benzo(b)fluoranthene	0.002	**10.2**
Benzo(k)fluoranthene	0.002	**4.7**
Chrysene	0.002	**7.3**
Naphthalene	10	9.9
Phenol	1	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-06
		4/10/12
Acenaphthene	20	ND
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	1.8
Phenol	1	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	EW-2
		4/12/12
Acenaphthene	20	ND
Benzo(b)fluoranthene	0.002	**1.8**
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	ND
Phenol	1	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-04
		4/10/12
Acenaphthene	20	7
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	**19.3**
Phenol	1	ND

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-08
		4/10/12
Acenaphthene	20	2.8
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	ND
Phenol	1	0.41

Parameter (ug/l)	TOGS 1.1.1 (ug/l)	MW-05
		4/10/12
Acenaphthene	20	ND
Benzo(b)fluoranthene	0.002	ND
Benzo(k)fluoranthene	0.002	ND
Chrysene	0.002	ND
Naphthalene	10	ND
Phenol	1	**1.4**

NOTE: GROUNDWATER CONCENTRATIONS ARE COMPARED AGAINST CLASS GA GROUNDWATER STANDARDS OR GUIDANCE VALUES PRESENTED IN "DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS", DATED JUNE 1998 (TOGS 1.1.1). BOLD FONT INDICATES VALUE EXCEEDS STANDARD OR GUIDANCE VALUE.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CAD\00026247\CAD\00026247-018.dwg 4/24/2013 4:19 PM Usec01012

Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247-018

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 25

SVOCs IN GROUNDWATER (>GA-SGVs)

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-01	MW-01 Dup
		4/12/12	4/12/12
Iron	300	**40,400**	**39,700**
Manganese	300	**1,080**	**1,070**
Sodium	20000	**51,100**	**50,500**
Iron, Dissolved	300	**1,930**	**1,900**
Manganese, Dissolved	300	**1,010**	**1,040**
Sodium, Dissolved	20000	**51,800**	**51,900**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-09
		4/10/12
Iron	300	**36,800**
Manganese	300	**1,120**
Sodium	20000	**47,600**
Iron, Dissolved	300	**2,060**
Manganese, Dissolved	300	**1,100**
Sodium, Dissolved	20000	**49,300**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-07
		4/11/12
Arsenic	25	**44.7**
Barium	1000	**2,390**
Iron	300	**29,800**
Manganese	300	**720**
Sodium	20000	**64,100**
Barium, Dissolved	1000	**1,510**
Iron, Dissolved	300	**2,910**
Manganese, Dissolved	300	**713**
Sodium, Dissolved	20000	**66,000**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	EW-18
		4/12/12
Antimony	3	**7.8**
Arsenic	25	**126**
Barium	1000	**1,300**
Cadmium	5	**10.5**
Chromium	50	**188**
Copper	200	**461**
Iron	300	**161,000**
Lead	25	**2,910**
Manganese	300	**1,550**
Mercury	0.7	**109**
Nickel	100	**165**
Selenium	10	**16.1**
Sodium	20000	**31,800**
Zinc	2000	**2,630**
Iron, Dissolved	300	**4,470**
Manganese, Dissolved	300	**624**
Sodium, Dissolved	20000	**32,600**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-02
		4/12/12
Iron	300	**8,020**
Manganese	300	**1,280**
Sodium	20000	**31,800**
Iron, Dissolved	300	**1,040**
Manganese, Dissolved	300	**1,250**
Sodium, Dissolved	20000	**30,500**

NOTE: GROUNDWATER CONCENTRATIONS ARE COMPARED AGAINST CLASS GA GROUNDWATER STANDARDS OR GUIDANCE VALUES PRESENTED IN "DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS", DATED JUNE 1998 (TOGS 1.1.1). BOLD FONT INDICATES VALUE EXCEEDS STANDARD OR GUIDANCE VALUE.

LEGEND

▼	INJECTION WELL
⊕	MONITORING WELL
✦	EXTRACTION WELL
RI-SB ☐	RI SOIL SAMPLING LOCATION
RI-SV ☒	RI SOIL VAPOR SAMPLING LOCATION
▨	EXISTING BUILDING
— — —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
— · —	FORMER BUILDING LOCATION (FOUNDATION PRESENT)

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	EW-36
		4/12/12
Arsenic	25	**51.6**
Iron	300	**21,700**
Lead	25	**109**
Manganese	300	**1,100**
Iron, Dissolved	300	**728**
Manganese, Dissolved	300	**940**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-10
		4/10/12
Iron	300	**4,650**
Iron, Dissolved	300	**554**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	EW-6
		4/12/12
Arsenic	25	**76.8**
Cadmium	5	**10**
Iron	300	**20,800**
Lead	25	**579**
Manganese	300	**391**
Mercury	0.7	**0.81**
Sodium	20000	**44,600**
Arsenic, Dissolved	25	**42.8**
Iron, Dissolved	300	**1,060**
Sodium, Dissolved	20000	**47,000**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-03
		4/10/12
Arsenic	25	**67.1**
Iron	300	**11,800**
Manganese	300	**696**
Sodium	20000	**277,000**
Iron, Dissolved	300	**816**
Manganese, Dissolved	300	**675**
Sodium, Dissolved	20000	**288,000**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	EW-29
		4/12/12
Arsenic	25	**130**
Barium	1000	**1,500**
Cadmium	5	**40.7**
Chromium	50	**184**
Copper	200	**8,080**
Iron	300	**162,000**
Lead	25	**5,760**
Manganese	300	**1,450**
Mercury	0.7	**18.9**
Nickel	100	**1,060**
Sodium	20000	**30,700**
Iron, Dissolved	300	**809**
Manganese, Dissolved	300	**329**
Sodium, Dissolved	20000	**27,300**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-06
		4/10/12
Iron	300	**49,000**
Manganese	300	**746**
Sodium	20000	**84,700**
Iron, Dissolved	300	**3,760**
Manganese, Dissolved	300	**752**
Sodium, Dissolved	20000	**88,900**

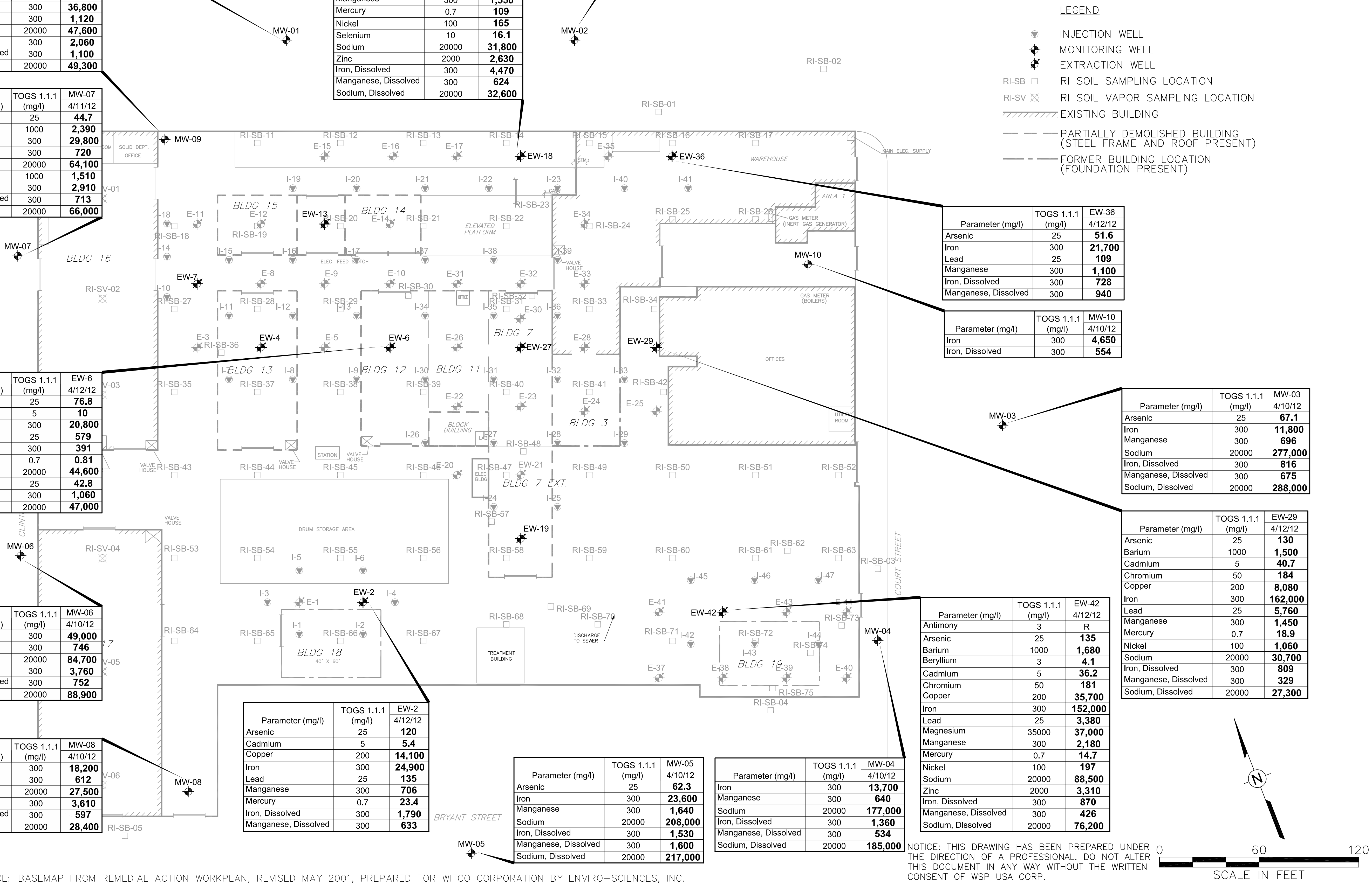
Parameter (mg/l)	TOGS 1.1.1 (mg/l)	EW-42
		4/12/12
Antimony	3	R
Arsenic	25	**135**
Barium	1000	**1,680**
Beryllium	3	**4.1**
Cadmium	5	**36.2**
Chromium	50	**181**
Copper	200	**35,700**
Iron	300	**152,000**
Lead	25	**3,380**
Magnesium	35000	**37,000**
Manganese	300	**2,180**
Mercury	0.7	**14.7**
Nickel	100	**197**
Sodium	20000	**88,500**
Zinc	2000	**3,310**
Iron, Dissolved	300	**870**
Manganese, Dissolved	300	**426**
Sodium, Dissolved	20000	**76,200**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	EW-2
		4/12/12
Arsenic	25	**120**
Cadmium	5	**5.4**
Copper	200	**14,100**
Iron	300	**24,900**
Lead	25	**135**
Manganese	300	**706**
Mercury	0.7	**23.4**
Iron, Dissolved	300	**1,790**
Manganese, Dissolved	300	**633**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-08
		4/10/12
Iron	300	**18,200**
Manganese	300	**612**
Sodium	20000	**27,500**
Iron, Dissolved	300	**3,610**
Manganese, Dissolved	300	**597**
Sodium, Dissolved	20000	**28,400**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-05
		4/10/12
Arsenic	25	**62.3**
Iron	300	**23,600**
Manganese	300	**1,640**
Sodium	20000	**208,000**
Iron, Dissolved	300	**1,530**
Manganese, Dissolved	300	**1,600**
Sodium, Dissolved	20000	**217,000**

Parameter (mg/l)	TOGS 1.1.1 (mg/l)	MW-04
		4/10/12
Iron	300	**13,700**
Manganese	300	**640**
Sodium	20000	**177,000**
Iron, Dissolved	300	**1,360**
Manganese, Dissolved	300	**534**
Sodium, Dissolved	20000	**185,000**



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA CORP.

B

REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CADD\00026247\CAD\00026247-018.dwg 4/24/2013 4:19 PM Usec01012

Drawn By: EGC
Checked:
Approved: KJS 12/18/2012
DWG Name: 00026247-018

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 26

METALS IN GROUNDWATER (>GA-SGVs)

WSP

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

NOTE: GROUNDWATER CONCENTRATIONS ARE COMPARED AGAINST CLASS GA GROUNDWATER STANDARDS OR GUIDANCE VALUES PRESENTED IN "DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS", DATED JUNE 1998 (TOGS 1.1.1). BOLD FONT INDICATES VALUE EXCEEDS STANDARD OR GUIDANCE VALUE.

LEGEND

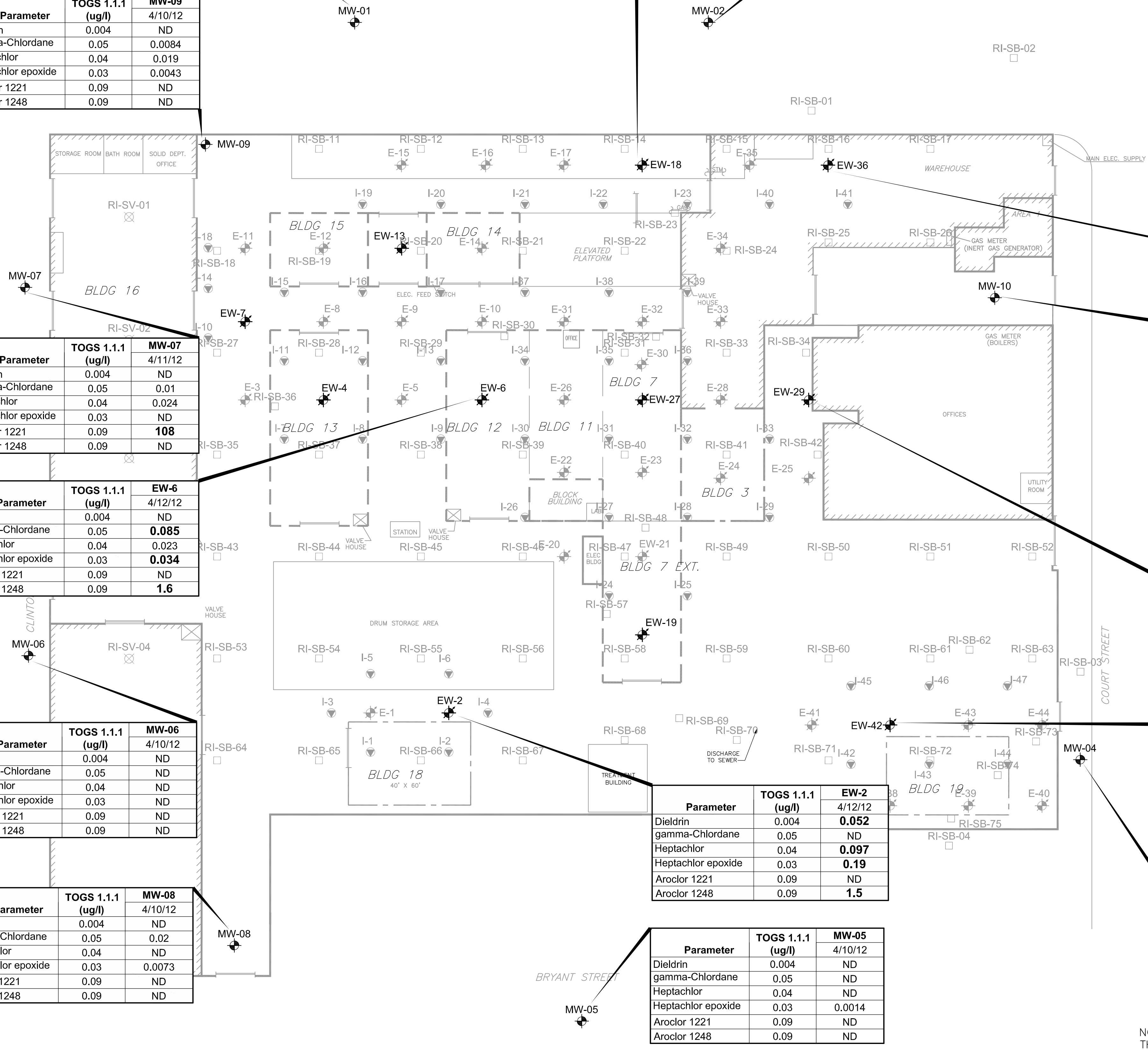
▼	INJECTION WELL
✜	MONITORING WELL
✜	EXTRACTION WELL
RI-SB ☐	RI SOIL SAMPLING LOCATION
RI-SV ☒	RI SOIL VAPOR SAMPLING LOCATION
▨	EXISTING BUILDING
— —	PARTIALLY DEMOLISHED BUILDING (STEEL FRAME AND ROOF PRESENT)
—·—	FORMER BUILDING LOCATION (FOUNDATION PRESENT)

Parameter	TOGS 1.1.1 (ug/l)	MW-01 4/12/12	MW-01 Dup 4/12/12
Dieldrin	0.004	ND	ND
gamma-Chlordane	0.05	0.015	0.011
Heptachlor	0.04	ND	ND
Heptachlor epoxide	0.03	0.0057	ND
Aroclor 1221	0.09	ND	ND
Aroclor 1248	0.09	ND	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-18 4/12/12
Dieldrin	0.004	**0.011**
gamma-Chlordane	0.05	0.0042
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	0.0055
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-02 4/12/12
Dieldrin	0.004	**0.036**
gamma-Chlordane	0.05	0.01
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	0.015
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-09 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	0.0084
Heptachlor	0.04	0.019
Heptachlor epoxide	0.03	0.0043
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND



Parameter	TOGS 1.1.1 (ug/l)	MW-10 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	ND
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-36 4/12/12
Dieldrin	0.004	**0.019**
gamma-Chlordane	0.05	0.0085
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-07 4/11/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	0.01
Heptachlor	0.04	0.024
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	**108**
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-6 4/12/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	**0.085**
Heptachlor	0.04	0.023
Heptachlor epoxide	0.03	**0.034**
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	**1.6**

Parameter	TOGS 1.1.1 (ug/l)	MW-03 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	ND
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-29 4/12/12
Dieldrin	0.004	**0.0095**
gamma-Chlordane	0.05	0.0088
Heptachlor	0.04	0.005
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-06 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	ND
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

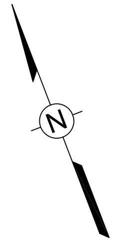
Parameter	TOGS 1.1.1 (ug/l)	EW-42 4/12/12
Dieldrin	0.004	**0.043**
gamma-Chlordane	0.05	ND
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	0.0063
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	EW-2 4/12/12
Dieldrin	0.004	**0.052**
gamma-Chlordane	0.05	ND
Heptachlor	0.04	**0.097**
Heptachlor epoxide	0.03	**0.19**
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	**1.5**

Parameter	TOGS 1.1.1 (ug/l)	MW-08 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	0.02
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	0.0073
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-05 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	ND
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	0.0014
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND

Parameter	TOGS 1.1.1 (ug/l)	MW-04 4/10/12
Dieldrin	0.004	ND
gamma-Chlordane	0.05	0.013
Heptachlor	0.04	0.0055
Heptachlor epoxide	0.03	ND
Aroclor 1221	0.09	ND
Aroclor 1248	0.09	ND



0 60 120
SCALE IN FEET

B REFERENCE: BASEMAP FROM REMEDIAL ACTION WORKPLAN, REVISED MAY 2001, PREPARED FOR WITCO CORPORATION BY ENVIRO-SCIENCES, INC.

R:\ACAD\CAD\00026247\CAD\00026247-018.dwg 4/24/2013 4:19 PM Usec01012

Drawn By: EGC
Checked:
Approved: KDS 12/18/2012
DWG Name: 00026247-018

CHEMTURA CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK
PREPARED FOR
CHEMTURA CORPORATION

Figure 27
PESTICIDES AND PCBs IN GROUNDWATER
(>GA-SGVs)

WSP
WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228
(716) 691-5232
www.wspenvironmental.com/usa

Tables

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
PCB Soil Samples										
1N	1 N - 0 - 1	0	1	21-Mar	0925					X
	1 N - 1 - 2	1	2	21-Mar	0926					X
	1 N - 2 - 3	2	3	21-Mar	0927					X
	1 N - 3 - 4	3	4	21-Mar	0928					X
	1 N - 4 - 5	4	5	21-Mar	0929					X
	1 N - 5 - 6	5	6	21-Mar	0930					X
	1 N - 6 - 7	6	7	21-Mar	0931					X
1O	1 O - 0 - 1	0	1	21-Mar	0904					X
	1 O - 1 - 2	1	2	21-Mar	0905					X
	1 O - 2 - 3	2	3	21-Mar	0906					X
	1 O - 3 - 4	3	4	21-Mar	0907					X
	1 O - 4 - 5	4	5	21-Mar	0908					X
	14 D - 4 - 5	4	5	12-Mar	0911					X
	1 O - 5 - 6	5	6	21-Mar	0909					X
	1 O - 6 - 7	6	7	21-Mar	0912					X
1P	1 P - 0 - 1	0	1	20-Mar	1443					X
	1 P - 1 - 2	1	2	20-Mar	1444					X
	1 P - 2 - 3	2	3	20-Mar	1445					X
	1 P - 3 - 4	3	4	20-Mar	1446					X
	1 P - 4 - 5	4	5	20-Mar	1447					X
	1 P - 5 - 6	5	6	20-Mar	1448					X
	1 P - 6 - 7	6	7	20-Mar	1449					X
2N	2 N - 0 - 2	0	0.17	25-Oct	1530					X
	2 N - 0 - 1	0	1	25-Oct	1540					X
	2 N - 1 - 2	1	2	25-Oct	1541					X
	2 N - 2 - 3	2	3	25-Oct	1542					X
	2 N - 3 - 4	3	4	25-Oct	1551					X
	2 N - 4 - 5	4	5	25-Oct	1552					X
	2 N - 5 - 6	5	6	25-Oct	1553					X
2O	2 O - 0 - 2	0	0.17	25-Oct	1606					X
	2 O - 0 - 1	0	1	25-Oct	1610					X
	2 O - 1 - 2	1	2	25-Oct	1611					X
	2 O - 2 - 3	2	3	25-Oct	1612					X
	2 O - 3 - 4	3	4	25-Oct	1614					X
	2 O - 4 - 5	4	5	25-Oct	1615					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
2P	2P-0-2	0	0.17	25-Oct	1205					X
	2P-0-1	0	1	25-Oct	1212					X
	2P-1-2	1	2	25-Oct	1213					X
	2P-2-3	2	3	25-Oct	1214					X
	2P-3-4	3	4	25-Oct	1215					X
	2P-4-5	4	5	25-Oct	1216					X
	2D-4-5	4	5	25-Oct	1230					X
2Y	2Y-0-1	0	1	15-Mar	1420					X
	2Y-1-2	1	2	15-Mar	1422					X
	2Y-2-3	2	3	15-Mar	1424					X
	2Y-3-4	3	4	15-Mar	1426					X
	2Y-4-5	4	5	15-Mar	1428					X
	2Y-5-6	5	6	15-Mar	1430					X
	2Y-6-7	6	7	15-Mar	1432					X
2Z	2Z-0-2	0	0.17	27-Aug	1546					X
	2Z-0-1	0	1	28-Aug	1440					X
	2Z-1-2	1	2	28-Aug	1441					X
	2Z-2-3	2	3	28-Aug	1442					X
	2Z-3-4	3	4	28-Aug	1443					X
	2Z-4-5	4	5	28-Aug	1444					X
	2Z-5-6	5	6	28-Aug	1445					X
	2Z-6-7	6	7	28-Aug	1446					X
	2Z-7-8	7	8	28-Aug	1447					X
3O	3O-0-2	0	0.17	25-Oct	1500					X
	3O-0-1	0	1	25-Oct	1510					X
	3O-1-2	1	2	25-Oct	1511					X
	3O-2-3	2	3	25-Oct	1512					X
	3O-3-4	3	4	25-Oct	1513					X
	3O-4-5	4	5	25-Oct	1514					X
	3O-5-6	5	6	25-Oct	1515					X
3P	3P-0-2	0	0.17	25-Oct	1132					X
	3P-0-1	0	1	25-Oct	1145					X
	3P-1-2	1	2	25-Oct	1146					X
	3P-2-3	2	3	25-Oct	1147					X
	3P-3-4	3	4	25-Oct	1148					X
	3P-4-5	4	5	25-Oct	1150					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
3Y	3 Y - 0 - 1	0	1	15-Mar	1352					X
	3 Y - 1 - 2	1	2	15-Mar	1354					X
	3 Y - 2 - 3	2	3	15-Mar	1356					X
	3 Y - 3 - 4	3	4	15-Mar	1358					X
	3 Y - 4 - 5	4	5	15-Mar	1400					X
	3 Y - 5 - 6	5	6	15-Mar	1402					X
	3 Y - 6 - 7	6	7	15-Mar	1404					X
4P	4 P - 0 - 2	0	0.17	25-Oct	1103					X
	4 P - 0 - 1	0	1	25-Oct	1108					X
	4 P - 1 - 2	1	2	25-Oct	1109					X
	4 P - 2 - 3	2	3	25-Oct	1110					X
	4 P - 3 - 4	3	4	25-Oct	1111					X
	4 P - 4 - 5	4	5	25-Oct	1112					X
4Y	4 Y - 0 - 1	0	1	15-Mar	1302					X
	4 D - 0 - 1	0	1	15-Mar	1300					X
	4 Y - 1 - 2	1	2	15-Mar	1304					X
	4 Y - 2 - 3	2	3	15-Mar	1305					X
	4 Y - 3 - 4	3	4	15-Mar	1307					X
	4 Y - 4 - 5	4	5	15-Mar	1309					X
	4 Y - 5 - 6	5	6	15-Mar	1311					X
	4 Y - 6 - 7	6	7	15-Mar	1313					X
4Z	4 Z - 0 - 2	0	0.17	27-Aug	1542					X
	4 Z - 0 - 1	0	1	28-Aug	1412					X
	4 Z - 1 - 2	1	2	28-Aug	1413					X
	4 Z - 2 - 3	2	3	28-Aug	1414					X
	4 Z - 3 - 4	3	4	28-Aug	1415					X
	4 Z - 4 - 5	4	5	28-Aug	1416					X
	4 Z - 5 - 6	5	6	28-Aug	1418					X
	4 Z - 6 - 7	6	7	28-Aug	1419					X
	4 Z - 7 - 8	7	8	28-Aug	1420					X
	4 Z - 8 - 9	8	9	28-Aug	1421					X
5P	5 P - 0 - 2	0	0.17	25-Oct	1018					X
	5 P - 0 - 1	0	1	25-Oct	1030					X
	5 P - 1 - 2	1	2	25-Oct	1031					X
	5 P - 2 - 3	2	3	25-Oct	1032					X
	5 P - 3 - 4	3	4	25-Oct	1033					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	5 P - 4 - 5	4	5	25-Oct	1034					X
	5 P - 5 - 6	5	6	25-Oct	1035					X
5Y	5 Y - 0 - 1	0	1	15-Mar	1230					X
	5 Y - 1 - 2	1	2	15-Mar	1232					X
	5 Y - 2 - 3	2	3	15-Mar	1234					X
	5 Y - 3 - 4	3	4	15-Mar	1236					X
	5 Y - 4 - 5	4	5	15-Mar	1238					X
	5 Y - 5 - 6	5	6	15-Mar	1240					X
	5 Y - 6 - 7	6	7	15-Mar	1242					X
5Z	5 Z - 0 - 2	0	0.17	19-Mar	0926					X
	5 Z - 0 - 1	0	1	19-Mar	1140					X
	5 Z - 1 - 2	1	2	19-Mar	1141					X
	5 Z - 2 - 3	2	3	19-Mar	1142					X
	5 Z - 3 - 4	3	4	19-Mar	1143					X
	5 Z - 4 - 5	4	5	19-Mar	1144					X
	5 Z - 5 - 6	5	6	19-Mar	1145					X
	5 Z - 6 - 7	6	7	19-Mar	1146					X
6Y	6 Y - 0 - 1	0	1	15-Mar	1211					X
	6 Y - 1 - 2	1	2	15-Mar	1213					X
	6 Y - 2 - 3	2	3	15-Mar	1215					X
	6 Y - 3 - 4	3	4	15-Mar	1217					X
	6 Y - 4 - 5	4	5	15-Mar	1219					X
	6 Y - 5 - 6	5	6	15-Mar	1221					X
	6 Y - 6 - 7	6	7	15-Mar	1223					X
6Z	6 Z - 0 - 2	0	0.17	19-Mar	0916					X
	6 Z - 0 - 1	0	1	19-Mar	1130					X
	6 Z - 1 - 2	1	2	19-Mar	1131					X
	6 Z - 2 - 3	2	3	19-Mar	1132					X
	6 Z - 3 - 4	3	4	19-Mar	1133					X
	6 Z - 4 - 5	4	5	19-Mar	1134					X
	6 Z - 5 - 6	5	6	19-Mar	1135					X
	6 Z - 6 - 7	6	7	19-Mar	1136					X
7Y	7 Y - 0 - 1	0	1	15-Mar	1135					X
	7 Y - 1 - 2	1	2	15-Mar	1137					X
	7 Y - 2 - 3	2	3	15-Mar	1139					X
	7 Y - 3 - 4	3	4	15-Mar	1141					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	7 Y - 4 - 5	4	5	15-Mar	1143					X
	3 D - 4 - 5	4	5	15-Mar	1130					X
	7 Y - 5 - 6	5	6	15-Mar	1145					X
	7 Y - 6 - 7	6	7	15-Mar	1147					X
7Z	7 Z - 0 - 2	0	0.17	19-Mar	0909					X
	7 Z - 0 - 1	0	1	19-Mar	1113					X
	7 Z - 1 - 2	1	2	19-Mar	1114					X
	7 Z - 2 - 3	2	3	19-Mar	1115					X
	7 Z - 3 - 4	3	4	19-Mar	1116					X
	7 Z - 4 - 5	4	5	19-Mar	1117					X
	7 Z - 5 - 6	5	6	19-Mar	1118					X
	7 D - 5 - 6	5	6	19-Mar	1121					X
	7 Z - 6 - 7	6	7	19-Mar	1119					X
8Y	8 Y - 0 - 1	0	1	15-Mar	1109					X
	8 Y - 1 - 2	1	2	15-Mar	1111					X
	8 Y - 2 - 3	2	3	15-Mar	1113					X
	8 Y - 3 - 4	3	4	15-Mar	1115					X
	8 Y - 4 - 5	4	5	15-Mar	1116					X
	8 Y - 5 - 6	5	6	15-Mar	1117					X
8Z	8 Z - 0 - 2	0	0.17	19-Mar	0903					X
	8 Z - 0 - 1	0	1	19-Mar	1100					X
	8 Z - 1 - 2	1	2	19-Mar	1101					X
	8 Z - 2 - 3	2	3	19-Mar	1102					X
	8 Z - 3 - 4	3	4	19-Mar	1103					X
	8 Z - 4 - 5	4	5	19-Mar	1104					X
	8 Z - 5 - 6	5	6	19-Mar	1105					X
	8 Z - 6 - 7	6	7	19-Mar	1106					X
9Y	9 Y - 0 - 1	0	1	15-Mar	1047					X
	9 Y - 1 - 2	1	2	15-Mar	1049					X
	9 Y - 2 - 3	2	3	15-Mar	1051					X
	9 Y - 3 - 4	3	4	15-Mar	1053					X
	9 Y - 4 - 5	4	5	15-Mar	1055					X
	9 Y - 5 - 6	5	6	15-Mar	1057					X
	9 Y - 6 - 7	6	7	15-Mar	1059					X
9Z	9 Z - 0 - 2	0	0.17	19-Mar	0859					X
	9 Z - 0 - 1	0	1	19-Mar	1045					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	9 Z - 1 - 2	1	2	19-Mar	1046					X
	9 Z - 2 - 3	2	3	19-Mar	1047					X
	9 Z - 3 - 4	3	4	19-Mar	1048					X
	9 Z - 4 - 5	4	5	19-Mar	1049					X
	9 Z - 5 - 6	5	6	19-Mar	1050					X
	9 Z - 6 - 7	6	7	19-Mar	1051					X
10S	10 S - 0 - 1	0	1	31-Aug	0926					X
	10 S - 1 - 2	1	2	31-Aug	0927					X
	10 S - 2 - 3	2	3	31-Aug	0928					X
	10 S - 3 - 4	3	4	31-Aug	0929					X
	10 S - 4 - 5	4	5	31-Aug	0930					X
	10 S - 5 - 6	5	6	31-Aug	0931					X
10T	10 T - 0 - 1	0	1	31-Aug	0856					X
	10 T - 1 - 2	1	2	31-Aug	0857					X
	13 D - 1 - 2	1	2	31-Aug	0830					X
	10 T - 2 - 3	2	3	31-Aug	0858					X
	10 T - 3 - 4	3	4	31-Aug	0859					X
	10 T - 4 - 5	4	5	31-Aug	0900					X
	10 T - 5 - 6	5	6	31-Aug	0903					X
10U	10 U - 0 - 1	0	1	30-Aug	1031					X
	10 U - 1 - 2	1	2	30-Aug	1032					X
	10 U - 2 - 3	2	3	30-Aug	1033					X
	10 U - 3 - 4	3	4	30-Aug	1034					X
	10 U - 4 - 5	4	5	30-Aug	1035					X
	10 U - 5 - 6	5	6	30-Aug	1036					X
10Y	10 Y - 0 - 1	0	1	15-Mar	1015					X
	10 Y - 1 - 2	1	2	15-Mar	1017					X
	10 Y - 2 - 3	2	3	15-Mar	1019					X
	10 Y - 3 - 4	3	4	15-Mar	1021					X
	10 Y - 4 - 5	4	5	15-Mar	1023					X
	10 Y - 5 - 6	5	6	15-Mar	1025					X
	10 Y - 6 - 7	6	7	15-Mar	1027					X
	2 D - 6 - 7	6	7	15-Mar	1030					X
10Z	10 Z - 0 - 2	0	0.17	19-Mar	0853					X
	10 Z - 0 - 1	0	1	19-Mar	1025					X
	10 Z - 1 - 2	1	2	19-Mar	1026					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	6 D - 1 - 2	1	2	19-Mar	1027					X
	10 Z - 2 - 3	2	3	19-Mar	1028					X
	10 Z - 3 - 4	3	4	19-Mar	1029					X
	10 Z - 4 - 5	4	5	19-Mar	1030					X
	10 Z - 5 - 6	5	6	19-Mar	1031					X
	10 Z - 6 - 7	6	7	19-Mar	1032					X
11S	11 S - 0 - 1	0	1	31-Aug	0912					X
	11 S - 1 - 2	1	2	31-Aug	0913					X
	11 S - 2 - 3	2	3	31-Aug	0914					X
	11 S - 3 - 4	3	4	31-Aug	0915					X
	11 S - 4 - 5	4	5	31-Aug	0916					X
	11 S - 5 - 6	5	6	31-Aug	0917					X
11T	11 T - 0 - 1	0	1	23-Mar	1142					X
	16 D - 0 - 1	0	1	23-Mar	1155					X
	11 T - 1 - 2	1	2	23-Mar	1144					X
	11 T - 2 - 3	2	3	23-Mar	1145					X
	11 T - 3 - 4	3	4	23-Mar	1148					X
	11 T - 4 - 5	4	5	23-Mar	1150					X
	11 T - 5 - 6	5	6	23-Mar	1152					X
	11 T - 6 - 7	6	7	23-Mar	1154					X
11U	11 U - 0 - 1	0	1	23-Mar	1225					X
	11 U - 1 - 2	1	2	23-Mar	1227					X
	11 U - 2 - 3	2	3	23-Mar	1229					X
	11 U - 3 - 4	3	4	23-Mar	1231					X
	11 U - 4 - 5	4	5	23-Mar	1233					X
	11 U - 5 - 6	5	6	23-Mar	1235					X
11Y	11 Y - 0 - 1	0	1	15-Mar	0951					X
	11 Y - 1 - 2	1	2	15-Mar	0954					X
	11 Y - 2 - 3	2	3	15-Mar	1001					X
	11 Y - 3 - 4	3	4	15-Mar	1003					X
	11 Y - 4 - 5	4	5	15-Mar	1005					X
	11 Y - 5 - 6	5	6	15-Mar	1007					X
	11 Y - 6 - 7	6	7	15-Mar	1009					X
11Z	11 Z - 0 - 2	0	0.17	19-Mar	0841					X
	11 Z - 0 - 1	0	1	19-Mar	1012					X
	11 Z - 1 - 2	1	2	19-Mar	1013					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	11 Z - 2 - 3	2	3	19-Mar	1014					X
	11 Z - 3 - 4	3	4	19-Mar	1015					X
	11 Z - 4 - 5	4	5	19-Mar	1016					X
	11 Z - 5 - 6	5	6	19-Mar	1017					X
	11 Z - 6 - 7	6	7	19-Mar	1018					X
12O	12 O - 0 - 2	0	0.17	25-Oct	1351					X
	12 O - 0 - 1	0	1	25-Oct	1416					X
	12 O - 1 - 2	1	2	25-Oct	1417					X
	12 D 1 2	1	2	25-Oct	1400					X
	12 O - 2 - 3	2	3	25-Oct	1418					X
	12 O - 3 - 4	3	4	25-Oct	1419					X
	12 O - 4 - 5	4	5	25-Oct	1420					X
12P	12 P - 0 - 2	0	0.17	25-Oct	0928					X
	12 P - 0 - 1	0	1	25-Oct	0940					X
	12 P - 1 - 2	1	2	25-Oct	0955					X
	12 P - 2 - 3	2	3	25-Oct						X
	12 P - 3 - 4	3	4	25-Oct	0948					X
	12 P - 4 - 5	4	5	25-Oct	0956					X
12S	12 S - 0 - 1	0	1	31-Aug	1000					X
	12 S - 1 - 2	1	2	31-Aug	1001					X
	12 S - 2 - 3	2	3	31-Aug	1002					X
	12 S - 3 - 4	3	4	31-Aug	1003					X
	12 S - 4 - 5	4	5	31-Aug	1004					X
	12 S - 5 - 6	5	6	31-Aug	1005					X
12T	12 T - 0 - 1	0	1	23-Mar	1029					X
	12 T - 1 - 2	1	2	23-Mar	1031					X
	12 T - 2 - 3	2	3	23-Mar	1033					X
	12 T - 3 - 4	3	4	23-Mar	1035					X
	12 T - 4 - 5	4	5	23-Mar	1037					X
	12 T - 5 - 6	5	6	23-Mar	1039					X
	12 T - 6 - 7	6	7	23-Mar	1041					X
12U	12 U - 0 - 1	0	1	23-Mar	1111					X
	12 U - 1 - 2	1	2	23-Mar	1113					X
	12 U - 2 - 3	2	3	23-Mar	1115					X
	12 U - 3 - 4	3	4	23-Mar	1117					X
	12 U - 4 - 5	4	5	23-Mar	1119					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	12 U - 5 - 6	5	6	23-Mar	1121					X
	12 U - 6 - 7	6	7	23-Mar	1123					X
	12 U - 0 - 2	0	2	23-Mar	1107	X	X	X	X	X
	12 U - 5 - 7	5	7	23-Mar	1109	X	X	X	X	X
12Y	12 Y - 0 - 1	0	1	15-Mar	0912					X
	12 Y - 1 - 2	1	2	15-Mar	0914					X
	1 D - 1 - 2	1	2	15-Mar	0905					X
	12 Y - 2 - 3	2	3	15-Mar	0916					X
	12 Y - 3 - 4	3	4	15-Mar	0918					X
	12 Y - 4 - 5	4	5	15-Mar	0920					X
	12 Y - 5 - 6	5	6	15-Mar	0924					X
	12 Y - 6 - 7	6	7	15-Mar	0926					X
12Z	12 Z - 0 - 2	0	0.17	15-Mar	0834					X
	12 Z - 0 - 1	0	1	19-Mar	0952					X
	12 Z - 1 - 2	1	2	19-Mar	0953					X
	12 Z - 2 - 3	2	3	19-Mar	0954					X
	12 Z - 3 - 4	3	4	19-Mar	0955					X
	12 Z - 4 - 5	4	5	19-Mar	0956					X
	12 Z - 5 - 6	5	6	19-Mar	0957					X
	12 Z - 6 - 7	6	7	19-Mar	0958					X
	5 D - 6 - 7	6	7	19-Mar	1000					X
	12 Z - 0 - 2	0	2	19-Mar	0905	X	X	X	X	X
	12 Z - 5 - 7	5	7	19-Mar	0905	X	X	X	X	X
13O	13 O - 0 - 1	0	1	20-Mar	1205					X
	13 O - 1 - 2	1	2	20-Mar	1206					X
	13 O - 2 - 3	2	3	20-Mar	1207					X
	13 O - 3 - 4	3	4	20-Mar	1208					X
	13 O - 4 - 5	4	5	20-Mar	1209					X
	13 O - 5 - 6	5	6	20-Mar	1210					X
	13 O - 6 - 7	6	7	20-Mar	1211					X
13P	13 P - 0 - 1	0	1	20-Mar	1228					X
	13 P - 1 - 2	1	2	20-Mar	1229					X
	13 P - 2 - 3	2	3	20-Mar	1230					X
	13 P - 3 - 4	3	4	20-Mar	1231					X
	13 P - 4 - 5	4	5	20-Mar	1232					X
	13 P - 5 - 6	5	6	20-Mar	1233					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	13 P - 6 - 7	6	7	20-Mar	1234					X
13S	13 S - 0 - 1	0	1	31-Aug	0935					X
	13 S - 1 - 2	1	2	31-Aug	0936					X
	13 S - 2 - 3	2	3	31-Aug	0937					X
	14 D - 2 - 3	2	3	31-Aug	0933					X
	13 S - 3 - 4	3	4	31-Aug	0938					X
	13 S - 4 - 5	4	5	31-Aug	0939					X
	13 S - 5 - 6	5	6	31-Aug	0940					X
13T	13 T - 0 - 1	0	1	23-Mar	0935					X
	13 T - 1 - 2	1	2	23-Mar	0937					X
	13 T - 2 - 3	2	3	23-Mar	0939					X
	13 T - 3 - 4	3	4	23-Mar	0941					X
	13 T - 4 - 5	4	5	23-Mar	0943					X
	13 T - 5 - 6	5	6	23-Mar	0945					X
	13 T - 6 - 7	6	7	23-Mar	0947					X
13U	13 U - 0 - 1	0	1	23-Mar	1000					X
	13 U - 1 - 2	1	2	23-Mar	1002					X
	13 U - 2 - 3	2	3	23-Mar	1004					X
	13 U - 3 - 4	3	4	23-Mar	1006					X
	13 U - 4 - 5	4	5	23-Mar	1009					X
	13 U - 5 - 6	5	6	23-Mar	1010					X
	15 D - 5 - 6	5	6	23-Mar	0955					X
	13 U - 6 - 7	6	7	23-Mar	1012					X
13Y	13 Y - 0 - 1	0	1	15-Mar	0846					X
	13 Y - 1 - 2	1	2	15-Mar	0848					X
	13 Y - 2 - 3	2	3	15-Mar	0850					X
	13 Y - 3 - 4	3	4	15-Mar	0852					X
	13 Y - 4 - 5	4	5	15-Mar	0854					X
	13 Y - 5 - 6	5	6	15-Mar	0858					X
	13 Y - 6 - 7	6	7	15-Mar	0900					X
14O	14 O - 0 - 1	0	1	20-Mar	1148					X
	14 O - 1 - 2	1	2	20-Mar	1149					X
	14 O - 2 - 3	2	3	20-Mar	1150					X
	14 O - 3 - 4	3	4	20-Mar	1151					X
	14 O - 4 - 5	4	5	20-Mar	1152					X
	12 D - 4 - 5	4	5	20-Mar	1156					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	14 O - 5 - 6	5	6	20-Mar	1153					X
	14 O - 6 - 7	6	7	20-Mar	1154					X
14P	14 P - 0 - 1	0	1	20-Mar	1127					X
	14 P - 1 - 2	1	2	20-Mar	1128					X
	14 P - 2 - 3	2	3	20-Mar	1129					X
	14 P - 3 - 4	3	4	20-Mar	1130					X
	14 P - 4 - 5	4	5	20-Mar	1131					X
	14 P - 5 - 6	5	6	20-Mar	1132					X
	14 P - 6 - 7	6	7	20-Mar	1133					X
14S	14 S - 0 - 1	0	1	31-Aug	1010					X
	14 S - 1 - 2	1	2	31-Aug	1011					X
	14 S - 2 - 3	2	3	31-Aug	1012					X
	14 S - 3 - 4	3	4	31-Aug	1013					X
	14 S - 4 - 5	4	5	31-Aug	1014					X
	14 S - 5 - 6	5	6	31-Aug	1015					X
14T	14 T - 0 - 1	0	1	31-Aug	1020					X
	14 T - 1 - 2	1	2	31-Aug	1021					X
	14 T - 2 - 3	2	3	31-Aug	1022					X
	14 T - 3 - 4	3	4	31-Aug	1023					X
	15 D - 3 - 4	3	4	31-Aug	1018					X
	14 T - 4 - 5	4	5	31-Aug	1024					X
	14 T - 5 - 6	5	6	31-Aug	1025					X
14U	14 U - 0 - 1	0	1	31-Aug	1032					X
	14 U - 1 - 2	1	2	31-Aug	1033					X
	14 U - 2 - 3	2	3	31-Aug	1034					X
	14 U - 3 - 4	3	4	31-Aug	1035					X
	14 U - 4 - 5	4	5	31-Aug	1036					X
	14 U - 5 - 6	5	6	31-Aug	1037					X
25O	25 O - 0 - 1	0	1	20-Mar	1420					X
	25 O - 1 - 2	1	2	20-Mar	1421					X
	25 O - 2 - 3	2	3	20-Mar	1422					X
	25 O - 3 - 4	3	4	20-Mar	1423					X
	25 O - 4 - 5	4	5	20-Mar	1424					X
	25 O - 5 - 6	5	6	20-Mar	1425					X
	25 O - 6 - 7	6	7	20-Mar	1426					X
26A	26 A - 0 - 1	0	1	19-Mar	1515					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	26 A - 1 - 2	1	2	19-Mar	1516					X
	26 A - 2 - 3	2	3	19-Mar	1517					X
	26 A - 3 - 4	3	4	19-Mar	1518					X
	26 A - 4 - 5	4	5	19-Mar	1519					X
	26 A - 5 - 6	5	6	19-Mar	1520					X
	26 A - 6 - 7	6	7	19-Mar	1521					X
26T	26 T - 0 - 1	0	1	20-Mar	1018					X
	26 T - 1 - 2	1	2	20-Mar	1019					X
	26 T - 2 - 3	2	3	20-Mar	1020					X
	26 T - 3 - 4	3	4	20-Mar	1021					X
	11 D - 3 - 4	3	4	20-Mar	1026					X
	26 T - 4 - 5	4	5	20-Mar	1022					X
	26 T - 5 - 6	5	6	20-Mar	1023					X
	26 T - 6 - 7	6	7	20-Mar	1024					X
26U	26 U - 0 - 2	0	0.17	3-Nov	1157					X
	26 U - 0 - 1	0	1	3-Nov	1159					X
	26 D - 0 - 1	0	1	3-Nov	1145					X
	26 U - 1 - 2	1	2	3-Nov	1201					X
	26 U - 2 - 3	2	3	3-Nov	1203					X
	26 U - 3 - 4	3	4	3-Nov	1205					X
	26 U - 4 - 5	4	5	3-Nov	1207					X
	26 U - 5 - 6	5	6	3-Nov	1209					X
	26 U - 6 - 7	6	7	3-Nov	1211					X
26V	26 V - 0 - 2	0	0.17	3-Nov	1244					X
	26 V - 0 - 1	0	1	3-Nov	1246					X
	26 V - 1 - 2	1	2	3-Nov	1248					X
	26 D - 1 - 2	1	2	3-Nov	1230					X
	26 V - 2 - 3	2	3	3-Nov	1250					X
	26 V - 3 - 4	3	4	3-Nov	1252					X
	26 V - 4 - 5	4	5	3-Nov	1254					X
	26 V - 5 - 6	5	6	3-Nov	1256					X
	26 V - 6 - 7	6	7	3-Nov	1258					X
26W	26 W - 0 - 2	0	0.17	3-Nov	1411					X
	26 W - 0 - 1	0	1	3-Nov	1413					X
	26 W - 1 - 2	1	2	3-Nov	1415					X
	26 W - 2 - 3	2	3	3-Nov	1417					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	26 D - 2 - 3	2	3	3-Nov	1400					X
	26 W - 3 - 4	3	4	3-Nov	1419					X
	26 W - 4 - 5	4	5	3-Nov	1421					X
	26 W - 5 - 6	5	6	3-Nov	1423					X
	26 W - 6 - 7	6	7	3-Nov	1425					X
26X	26 X - 0 - 2	0	0.17	3-Nov	1452					X
	26 X - 0 - 1	0	1	3-Nov	1454					X
	26 X - 1 - 2	1	2	3-Nov	1456					X
	26 X - 2 - 3	2	3	3-Nov	1458					X
	26 X - 3 - 4	3	4	3-Nov	1500					X
	26 X - 4 - 5	4	5	3-Nov	1501					X
	26 X - 5 - 6	5	6	3-Nov	1502					X
	26 X - 6 - 7	6	7	3-Nov	1504					X
27A	27 A - 0 - 1	0	1	19-Mar	1456					X
	27 A - 1 - 2	1	2	19-Mar	1457					X
	27 A - 2 - 3	2	3	19-Mar	1458					X
	27 A - 3 - 4	3	4	19-Mar	1459					X
	27 A - 4 - 5	4	5	19-Mar	1500					X
	27 A - 5 - 6	5	6	19-Mar	1501					X
	10 D - 5 - 6	5	6	19-Mar	1504					X
	27 A - 6 - 7	6	7	19-Mar	1502					X
27T	27 T - 0 - 1	0	1	20-Mar	1005					X
	27 T - 1 - 2	1	2	20-Mar	1006					X
	27 T - 2 - 3	2	3	20-Mar	1007					X
	27 T - 3 - 4	3	4	20-Mar	1008					X
	27 T - 4 - 5	4	5	20-Mar	1009					X
	27 T - 5 - 6	5	6	20-Mar	1010					X
	27 T - 6 - 7	6	7	20-Mar	1011					X
27U	27 U - 0 - 2	0	0.17	3-Nov	1119					X
	27 U - 0 - 1	0	1	3-Nov	1121					X
	27 U - 1 - 2	1	2	3-Nov	1123					X
	27 U - 2 - 3	2	3	3-Nov	1125					X
	27 U - 3 - 4	3	4	3-Nov	1127					X
	27 U - 4 - 5	4	5	3-Nov	1129					X
	27 U - 5 - 6	5	6	3-Nov	1131					X
	27 U - 6 - 7	6	7	3-Nov	1133					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
27V	27 V - 0 - 2	0	0.17	3-Nov	1038					X
	27 V - 0 - 1	0	1	3-Nov	1040					X
	27 V - 1 - 2	1	2	3-Nov	1042					X
	27 V - 2 - 3	2	3	3-Nov	1044					X
	27 V - 3 - 4	3	4	3-Nov	1046					X
	27 V - 4 - 5	4	5	3-Nov	1048					X
	27 V - 5 - 6	5	6	3-Nov	1050					X
	27 V - 6 - 7	6	7	3-Nov	1052					X
27W	27 W - 0 - 2	0	0.17	3-Nov	0957					X
	27 W - 0 - 1	0	1	3-Nov	0959					X
	27 W - 1 - 2	1	2	3-Nov	1001					X
	27 W - 2 - 3	2	3	3-Nov	1003					X
	27 W - 3 - 4	3	4	3-Nov	1005					X
	27 W - 4 - 5	4	5	3-Nov	1007					X
	27 W - 5 - 6	5	6	3-Nov	1009					X
	27 W - 6 - 7	6	7	3-Nov	1011					X
27X	27 X - 0 - 2	0	0.17	3-Nov	0930					X
	27 X - 0 - 1	0	1	3-Nov	0932					X
	27 X - 1 - 2	1	2	3-Nov	0933					X
	27 X - 2 - 3	2	3	3-Nov	0934					X
	27 X - 3 - 4	3	4	3-Nov	0936					X
	27 X - 4 - 5	4	5	3-Nov	0938					X
	27 X - 5 - 6	5	6	3-Nov	0940					X
28U	28 U - 0 - 1	0	1	19-Mar	1400					X
	28 U - 1 - 2	1	2	19-Mar	1401					X
	28 U - 2 - 3	2	3	19-Mar	1402					X
	28 U - 3 - 4	3	4	19-Mar	1403					X
	28 U - 4 - 5	4	5	19-Mar	1404					X
	8 D - 4 - 5	4	5	19-Mar	1202					X
	28 U - 5 - 6	5	6	19-Mar	1405					X
	28 U - 6 - 7	6	7	19-Mar	1406					X
28V	28 V - 0 - 1	0	1	19-Mar	1408					X
	28 V - 1 - 2	1	2	19-Mar	1409					X
	28 V - 2 - 3	2	3	19-Mar	1410					X
	28 V - 3 - 4	3	4	19-Mar	1411					X
	28 V - 4 - 5	4	5	19-Mar	1412					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	9 D - 4 - 5	4	5	19-Mar	1416					X
	28 V - 5 - 6	5	6	19-Mar	1413					X
	28 V - 6 - 7	6	7	19-Mar	1414					X
28W	28 W - 0 - 1	0	1	19-Mar	1430					X
	28 W - 1 - 2	1	2	19-Mar	1431					X
	28 W - 2 - 3	2	3	19-Mar	1432					X
	28 W - 3 - 4	3	4	19-Mar	1433					X
	28 W - 4 - 5	4	5	19-Mar	1434					X
	28 W - 5 - 6	5	6	19-Mar	1435					X
	28 W - 6 - 7	6	7	19-Mar	1436					X
28X	28 X - 0 - 1	0	1	19-Mar	1445					X
	28 X - 1 - 2	1	2	19-Mar	1446					X
	28 X - 2 - 3	2	3	19-Mar	1447					X
	28 X - 3 - 4	3	4	19-Mar	1448					X
	28 X - 4 - 5	4	5	19-Mar	1449					X
	28 X - 5 - 6	5	6	19-Mar	1450					X
	28 X - 6 - 7	6	7	19-Mar	1451					X
Farfield1	Farfield 1 - 0 - 2	0	0.17	27-Aug	1350					X
	Farfield 1 - 0 - 1	0	1	27-Aug	1540					X
	Farfield 1 - 1 - 2	1	2	27-Aug	1541					X
	Farfield 1 - 2 - 3	2	3	27-Aug	1542					X
	Farfield 1 - 3 - 4	3	4	27-Aug	1543					X
	Farfield 1 - 4 - 5	4	5	27-Aug	1544					X
	Farfield 1 - 5 - 6	5	6	27-Aug	1551					X
	Farfield 1 - 6 - 7	6	7	27-Aug	1552					X
	Farfield 1 - 7 - 8	7	8	27-Aug	1553					X
	Farfield 1 - 8 - 9	8	9	27-Aug	1554					X
Farfield2	Farfield 2 - 0 - 2	0	0.17	27-Aug	1345					X
	Farfield 2 - 0 - 1	0	1	27-Aug	1430					X
	Farfield 2 - 1 - 2	1	2	27-Aug	1433					X
	Farfield 2 - 2 - 3	2	3	27-Aug	1435					X
	Farfield 2 - 3 - 4	3	4	27-Aug	1437					X
	Farfield 2 - 4 - 5	4	5	27-Aug	1440					X
	Farfield 2 - 5 - 6	5	6	27-Aug	1441					X
	Farfield 2 - 6 - 7	6	7	27-Aug	1445					X
	Farfield 2 - 7 - 8	7	8	27-Aug	1447					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	Farfield 2 - 8 - 9	8	9	27-Aug	1450					X
Farfield3	Farfield 3 - 0 - 2	0	0.17	27-Aug	1348					X
	Farfield 3 - 0 - 1	0	1	27-Aug	1505					X
	Farfield 3 - 1 - 2	1	2	27-Aug	1508					X
	Farfield 3 - 2 - 3	2	3	27-Aug	1510					X
	Farfield 3 - 3 - 4	3	4	27-Aug	1512					X
	Farfield 3 - 4 - 5	4	5	27-Aug	1515					X
	Farfield 3 - 5 - 6	5	6	27-Aug	1520					X
	Farfield 3 - 6 - 7	6	7	27-Aug	1523					X
	Farfield 3 - 7 - 8	7	8	27-Aug	1525					X
	Farfield 3 - 8 - 9	8	9	27-Aug	1526					X
2ZA	2 ZA - 0 - 2	0	0.17	27-Aug	1544					X
	2 ZA - 0 - 1	0	1	28-Aug	1456					X
	2 ZA - 1 - 2	1	2	28-Aug	1457					X
	2 ZA - 2 - 3	2	3	28-Aug	1458					X
	2 ZA - 3 - 4	3	4	28-Aug	1459					X
	2 ZA - 4 - 5	4	5	28-Aug	1500					X
	11 D - 4 - 5	4	5	28-Aug	1504					X
	2 ZA - 5 - 6	5	6	28-Aug	1501					X
	2 ZA - 6 - 7	6	7	28-Aug	1502					X
	2 ZA - 7 - 8	7	8	28-Aug	1503					X
12ZA	12 ZA - 0 - 2	0	0.17	27-Aug	1355					X
	12 ZA - 0 - 1	0	1	28-Aug	1303					X
	12 ZA - 1 - 2	1	2	28-Aug	1304					X
	12 ZA - 2 - 3	2	3	28-Aug	1305					X
	12 ZA - 3 - 4	3	4	28-Aug	1306					X
	12 ZA - 4 - 5	4	5	28-Aug	1307					X
	12 ZA - 5 - 6	5	6	28-Aug	1308					X
	12 ZA - 6 - 7	6	7	28-Aug	1308					X
	12 ZA - 7 - 8	7	8	28-Aug	1309					X
	12 ZA - 8 - 9	8	9	28-Aug	1310					X
3ZB	3 ZB - 0 - 2	0	0.17	27-Aug	1416					X
	3 ZB - 0 - 1	0	1	28-Aug	0727					X
	3 ZB - 1 - 2	1	2	28-Aug	0728					X
	3 ZB - 2 - 3	2	3	28-Aug	0729					X
	3 ZB - 3 - 4	3	4	28-Aug	0730					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	3 ZB - 4 - 5	4	5	28-Aug	0731					X
	4 D - 4 - 5	4	5	28-Aug	0725					X
	3 ZB - 5 - 6	5	6	28-Aug	0732					X
	3 ZB - 6 - 7	6	7	28-Aug	0733					X
	3 ZB - 7 - 8	7	8	28-Aug	0734					X
	3 ZB - 8 - 9	8	9	28-Aug	0735					X
5ZB	5 ZB - 0 - 2	0	0.17	27-Aug	1418					X
	5 ZB - 0 - 1	0	1	28-Aug	0809					X
	5 ZB - 1 - 2	1	2	28-Aug	0810					X
	5 ZB - 2 - 3	2	3	28-Aug	0811					X
	5 ZB - 3 - 4	3	4	28-Aug	0812					X
	5 ZB - 4 - 5	4	5	28-Aug	0813					X
	5 ZB - 5 - 6	5	6	28-Aug	0814					X
	5 ZB - 6 - 7	6	7	28-Aug	0815					X
	5 ZB - 7 - 8	7	8	28-Aug	0816					X
	5 ZB - 8 - 9	8	9	28-Aug	0817					X
7ZB	7 ZB - 0 - 2	0	0.17	27-Aug	1410					X
	7 ZB - 0 - 1	0	1	28-Aug	0840					X
	7 ZB - 1 - 2	1	2	28-Aug	0841					X
	7 ZB - 2 - 3	2	3	28-Aug	0842					X
	7 ZB - 3 - 4	3	4	28-Aug	0843					X
	7 ZB - 4 - 5	4	5	28-Aug	0844					X
	7 ZB - 5 - 6	5	6	28-Aug	0845					X
	7 ZB - 6 - 7	6	7	28-Aug	0846					X
	7 ZB - 7 - 8	7	8	28-Aug	0847					X
	7 ZB - 8 - 9	8	9	28-Aug	0849					X
9ZB	9 ZB - 0 - 2	0	0.17	27-Aug	1405					X
	9 ZB - 0 - 1	0	1	28-Aug	1339					X
	9 ZB - 1 - 2	1	2	28-Aug	1340					X
	9 D - 1 - 2	1	2	28-Aug	1330					X
	9 ZB - 2 - 3	2	3	28-Aug	1341					X
	9 ZB - 3 - 4	3	4	28-Aug	1342					X
	9 ZB - 4 - 5	4	5	28-Aug	1343					X
	9 ZB - 5 - 6	5	6	28-Aug	1344					X
	9 ZB - 6 - 7	6	7	28-Aug	1345					X
	9 ZB - 7 - 8	7	8	28-Aug	1346					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	9 ZB - 8 - 9	8	9	28-Aug	1347					X
11ZB	11 ZB - 0 - 2	0	0.17	27-Aug	1402					X
	11 ZB - 0 - 1	0	1	28-Aug	1319					X
	11 ZB - 1 - 2	1	2	28-Aug	1320					X
	11 ZB - 2 - 3	2	3	28-Aug	1321					X
	11 ZB - 3 - 4	3	4	28-Aug	1322					X
	11 ZB - 4 - 5	4	5	28-Aug	1323					X
	11 ZB - 5 - 6	5	6	28-Aug	1324					X
	11 ZB - 6 - 7	6	7	28-Aug	1325					X
	11 ZB - 7 - 8	7	8	28-Aug	1326					X
	11 ZB - 8 - 9	8	9	28-Aug	1327					X
4ZC	4 ZC - 0 - 2	0	0.17	27-Aug	1422					X
	4 ZC - 0 - 1	0	1	28-Aug	0711					X
	4 ZC - 1 - 2	1	2	28-Aug	0712					X
	4 ZC - 2 - 3	2	3	28-Aug	0713					X
	4 ZC - 3 - 4	3	4	28-Aug	0714					X
	4 ZC - 4 - 5	4	5	28-Aug	0715					X
	4 ZC - 5 - 6	5	6	28-Aug	0716					X
	4 ZC - 6 - 7	6	7	28-Aug	0717					X
	4 ZC - 7 - 8	7	8	28-Aug	0718					X
	4 ZC - 8 - 9	8	9	28-Aug	0719					X
6ZC	6 ZC - 0 - 2	0	0.17	27-Aug	1420					X
	6 ZC - 0 - 1	0	1	28-Aug	0651					X
	6 ZC - 1 - 2	1	2	28-Aug	0652					X
	6 ZC - 2 - 3	2	3	28-Aug	0653					X
	6 ZC - 3 - 4	3	4	28-Aug	0654					X
	3 D - 3 - 4	3	4	28-Aug	0640					X
	6 ZC - 4 - 5	4	5	28-Aug	0655					X
	6 ZC - 5 - 6	5	6	28-Aug	0656					X
	6 ZC - 6 - 7	6	7	28-Aug	0657					X
	6 ZC - 7 - 8	7	8	28-Aug	0658					X
	6 ZC - 8 - 9	8	9	28-Aug	0659					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
8ZC	8 ZC - 0 - 2	0	0.17	27-Aug	1424					X
	8 ZC - 0 - 1	0	1	28-Aug	0618					X
	2 D - 0 - 1	0	1	28-Aug	0600					X
	8 ZC - 1 - 2	1	2	28-Aug	0619					X
	8 ZC - 2 - 3	2	3	28-Aug	0620					X
	8 ZC - 3 - 4	3	4	28-Aug	0621					X
	8 ZC - 4 - 5	4	5	28-Aug	0622					X
	8 ZC - 5 - 6	5	6	28-Aug	0623					X
	8 ZC - 6 - 7	6	7	28-Aug	0624					X
	8 ZC - 7 - 8	7	8	28-Aug	0625					X
	8 ZC - 8 - 9	8	9	28-Aug	0626					X
10ZC	10 ZC - 0 - 2	0	0.17	27-Aug	1426					X
	10 ZC - 0 - 1	0	1	27-Aug	1643					X
	10 ZC - 1 - 2	1	2	27-Aug	1644					X
	10 ZC - 2 - 3	2	3	27-Aug	1645					X
	10 ZC - 3 - 4	3	4	27-Aug	1646					X
	10 ZC - 4 - 5	4	5	27-Aug	1647					X
	1 D - 4 - 5	4	5	27-Aug	1630					X
	10 ZC - 5 - 6	5	6	27-Aug	1648					X
	10 ZC - 6 - 7	6	7	27-Aug	1649					X
	10 ZC - 7 - 8	7	8	27-Aug	1650					X
	10 ZC - 8 - 9	8	9	27-Aug	1651					X
12ZC	12 ZC - 0 - 2	0	0.17	27-Aug	1428					X
	12 ZC - 0 - 1	0	1	27-Aug	1612					X
	12 ZC - 1 - 2	1	2	27-Aug	1613					X
	12 ZC - 2 - 3	2	3	27-Aug	1614					X
	12 ZC - 3 - 4	3	4	27-Aug	1615					X
	12 ZC - 4 - 5	4	5	27-Aug	1616					X
	12 ZC - 5 - 6	5	6	27-Aug	1618					X
	12 ZC - 6 - 7	6	7	27-Aug	1619					X
	12 ZC - 7 - 8	7	8	27-Aug	1620					X
	12 ZC - 8 - 9	8	9	27-Aug	1621					X

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
Organic and Inorganic Chemistry Soil Samples										
RI-SB-01	RISB - 01 - 0 2	0	2	10-Nov	1356	X	X	X	X	
	RISB - 01 - 2 4	2	4	10-Nov	1400	X	X	X	X	
RI-SB-01B	RISB - 01B - 0 2	0	2	10-Nov	1338	X	X	X	X	
	RISB - 01B - 2 4	2	4	10-Nov	1342	X	X	X	X	
RI-SB-02	RISB - 02 - 0 2	0	2	10-Nov	1417	X	X	X	X	
	RISB - 02 - 2 4	2	4	10-Nov	1421	X	X	X	X	
RI-SB-03	RISB - 03 - 0 2	0	2	4-Nov	0842	X	X	X	X	
	RISB - 7D - 0 2	0	2	4-Nov	0830	X	X	X	X	
	RISB - 03 - 2 4	2	4	4-Nov	0846	X	X	X	X	
RI-SB-04	RISB - 04 - 0 2	0	2	9-Nov	1430	X	X	X	X	
	RISB - 04 - 2 4	2	4	9-Nov	1435	X	X	X	X	
RI-SB-05	RISB - 05 - 0 2	0	2	3-Nov	1609	X	X	X	X	
	RISB - 05 - 2 4	2	4	3-Nov	1613	X	X	X	X	
RI-SB-06	RISB - 06 - 0 2	0	2	3-Nov	1551	X	X	X	X	
	RISB - 06 - 2 4	2	4	3-Nov	1554	X	X	X	X	
RI-SB-11	RISB - 11 - 0 2	0	2	31-Oct	1345	X	X	X	X	
	RISB - 4D - 0 2	0	2	31-Oct	1300	X	X	X	X	
	RISB - 11 - 2 4	2	4	31-Oct	1348	X	X	X	X	
RI-SB-12	RISB - 12 - 0 2	0	2	1-Nov	1049	X	X	X	X	
	RISB - 12 - 2 4	2	4	1-Nov	1053	X	X	X	X	
RI-SB-13	RISB - 13 - 0 2	0	2	1-Nov	1136	X	X	X	X	
	RISB - 13 - 3 5	3	5	1-Nov	1140	X	X	X	X	
RI-SB-14	RISB - 14 - 0 2	0	2	1-Nov	1158	X	X	X	X	
	RISB - 14 - 2 4	2	4	1-Nov	1204	X	X	X	X	
RI-SB-15	RISB - 15 - 0 2	0	2	2-Nov	1011	X	X	X	X	
	RISB - 15 - 2 4	2	4	2-Nov	1014	X	X	X	X	
RI-SB-16	RISB - 16 - 0 2	0	2	2-Nov	1031	X	X	X	X	
	RISB - 16 - 2 4	2	4	2-Nov	1035	X	X	X	X	
RI-SB-17	RISB - 17 - 0 2	0	2	2-Nov	1348	X	X	X	X	
	RISB - 17 - 2 4	2	4	2-Nov	1352	X	X	X	X	
RI-SB-18	RISB - 18 - 0 2	0	2	31-Oct	1118	X	X	X	X	
	RISB - 18 - 3 5	3	5	31-Oct	1120	X	X	X	X	
RI-SB-19	RISB - 19 - 0 2	0	2	31-Oct	1408	X	X	X	X	
	RISB - 19 - 2 4	2	4	31-Oct	1411	X	X	X	X	
RI-SB-20	RISB - 20 - 0 2	0	2	27-Oct	1448	X	X	X	X	

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number					Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	RISB -	2D	-	0	2	0	2	27-Oct	1500	X	X	X	X	
	RISB -	20	-	4	6	4	6	27-Oct	1458	X	X	X	X	
RI-SB-21	RISB -	21	-	0	2	0	2	27-Oct	1418	X	X	X	X	
	RISB -	21	-	4	6	4	6	27-Oct	1426	X	X	X	X	
RI-SB-22	RISB -	22	-	0	2	0	2	2-Nov	1128	X	X	X	X	
	RISB -	22	-	2	4	2	4	2-Nov	1132	X	X	X	X	
RI-SB-23	RISB -	23	-	0	2	0	2	1-Nov	1218	X	X	X	X	
	RISB -	23	-	2	4	2	4	1-Nov	1222	X	X	X	X	
RI-SB-24	RISB -	24	-	0	2	0	2	2-Nov	1411	X	X	X	X	
	RISB -	24	-	2	4	2	4	2-Nov	1415	X	X	X	X	
RI-SB-25	RISB -	25	-	0	2	0	2	2-Nov	1307	X	X	X	X	
	RISB -	6D	-	0	2	0	2	2-Nov	1300	X	X	X	X	
	RISB -	25	-	3	5	3	5	2-Nov	1311	X	X	X	X	
RI-SB-26	RISB -	26	-	0	2	0	2	2-Nov	1531	X	X	X	X	
	RISB -	26	-	2	4	2	4	2-Nov	1535	X	X	X	X	
RI-SB-27	RISB -	27	-	0	2	0	2	31-Oct	1051	X	X	X	X	
	RISB -	27	-	3	5	3	5	31-Oct	1100	X	X	X	X	
RI-SB-28	RISB -	28	-	0	2	0	2	31-Oct	1436	X	X	X	X	
	RISB -	28	-	0	2	0	2	3-Nov	0803	X	X	X	X	
	RISB -	28	-	2	4	2	4	30-Oct	1440	X	X	X	X	
RI-SB-29	RISB -	29	-	0	2	0	2	1-Nov	1019	X	X	X	X	
	RISB -	5D	-	0	2	0	2	1-Nov	0830	X	X	X	X	
	RISB -	29	-	2	4	2	4	1-Nov	1023	X	X	X	X	
RI-SB-30	RISB -	30	-	0	2	0	2	27-Oct	1301	X	X	X	X	
	RISB -	30	-	4	6	4	6	27-Oct	1307	X	X	X	X	
RI-SB-31	RISB -	31	-	0	2	0	2	27-Oct	1120	X	X	X	X	
	RISB -	31	-	4	6	4	6	27-Oct	1127	X	X	X	X	
RI-SB-32	RISB -	32	-	0	2	0	2	27-Oct	1023	X	X	X	X	
	RISB -	32	-	5	7	5	7	27-Oct	1031	X	X	X	X	
RI-SB-33	RISB -	33	-	0	2	0	2	2-Nov	1056	X	X	X	X	
	RISB -	33	-	2	4	2	4	2-Nov	1101	X	X	X	X	
RI-SB-33B	RISB -	33	-	0	2	0	2	2-Nov	1456	X	X	X	X	
	RISB -	33	-	2	4	2	4	2-Nov	1500	X	X	X	X	
RI-SB-34	RISB -	34	-	0	2	0	2	2-Nov	0812	X	X	X	X	
	RISB -	34	-	2	4	2	4	2-Nov	0816	X	X	X	X	
RI-SB-35	RISB -	35	-	0	2	0	2	31-Oct	1029	X	X	X	X	

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number					Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
	RISB -	35	-	2	4	2	4	31-Oct	1038	X	X	X	X	
RI-SB-36	RISB -	36	-	0	2	0	2	31-Oct	1517	X	X	X	X	
	RISB -	36	-	2	4	2	4	31-Oct	1520	X	X	X	X	
RI-SB-37	RISB -	37	-	0	2	0	2	31-Oct	1454	X	X	X	X	
	RISB -	37	-	2	4	2	4	31-Oct	1458	X	X	X	X	
RI-SB-38	RISB -	38	-	0	2	0	2	1-Nov	0959	X	X	X	X	
	RISB -	38	-	2	4	2	4	1-Nov	1004	X	X	X	X	
RI-SB-39	RISB -	39	-	0	2	0	2	27-Oct	1329	X	X	X	X	
	RISB -	39	-	5	7	5	7	27-Oct	1336	X	X	X	X	
RI-SB-40	RISB -	40	-	0	2	0	2	27-Oct	0927	X	X	X	X	
	RISB -	40	-	5	7	5	7	27-Oct	0935	X	X	X	X	
RI-SB-41	RISB -	41	-	0	2	0	2	2-Nov	0918	X	X	X	X	
	RISB -	41	-	2	4	2	4	2-Nov	0922	X	X	X	X	
RI-SB-42	RISB -	42	-	0	2	0	2	2-Nov	0843	X	X	X	X	
	RISB -	42	-	2	4	2	4	2-Nov	0846	X	X	X	X	
RI-SB-43	RISB -	43	-	0	2	0	2	31-Oct	1006	X	X	X	X	
	RISB -	43	-	2	4	2	4	31-Oct	1015	X	X	X	X	
RI-SB-44	RISB -	44	-	0	2	0	2	31-Oct	1535	X	X	X	X	
	RISB -	44	-	2	4	2	4	31-Oct	1540	X	X	X	X	
	RISB -	44	-	2	4	2	4	3-Nov	0811	X	X	X	X	
RI-SB-45	RISB -	45	-	0	2	0	2	1-Nov	0934	X	X	X	X	
	RISB -	45	-	2	4	2	4	1-Nov	0938	X	X	X	X	
RI-SB-46	RISB -	46	-	0	2	0	2	1-Nov	0912	X	X	X	X	
	RISB -	46	-	2	4	2	4	1-Nov	0915	X	X	X	X	
RI-SB-47	RISB -	47	-	0	2	0	2	1-Nov	0843	X	X	X	X	
	RISB -	47	-	2	4	2	4	1-Nov	0847	X	X	X	X	
RI-SB-48	RISB -	48	-	0	2	0	2	27-Oct	0844	X	X	X	X	
	RISB -	48	-	4	6	4	6	27-Oct	0854	X	X	X	X	
RI-SB-49	RISB -	49	-	0	2	0	2	26-Oct	1104	X	X	X	X	
	RISB -	49	-	5	7	5	7	26-Oct	1107	X	X	X	X	
RI-SB-50	RISB -	50	-	0	2	0	2	26-Oct	1032	X	X	X	X	
	RISB -	50	-	5	7	5	7	26-Oct	1041	X	X	X	X	
RI-SB-51	RISB -	51	-	0	2	0	2	26-Oct	0959	X	X	X	X	
	RISB -	51	-	2	4	2	4	26-Oct	1004	X	X	X	X	
RI-SB-52	RISB -	52	-	0	2	0	2	26-Oct	0924	X	X	X	X	
	RISB -	52	-	2	4	2	4	26-Oct	0931	X	X	X	X	

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number					Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
RI-SB-53	RISB -	53	-	0	2	0	2	31-Oct	0942	X	X	X	X	
	RISB -	53	-	2	4	2	4	31-Oct	0953	X	X	X	X	
RI-SB-54	RISB -	54	-	0	2	0	2	31-Oct	0925	X	X	X	X	
	RISB -	54	-	2	4	2	4	31-Oct	0934	X	X	X	X	
RI-SB-55	RISB -	55	-	1	3	1	3	28-Oct	1542	X	X	X	X	
	RISB -	55	-	3	5	3	5	28-Oct	1551	X	X	X	X	
RI-SB-56	RISB -	56	-	0	2	0	2	28-Oct	1520	X	X	X	X	
	RISB -	56	-	4	6	4	6	28-Oct	1529	X	X	X	X	
RI-SB-57	RISB -	57	-	0	2	0	2	27-Oct	0813	X	X	X	X	
	RISB -	57	-	4	6	4	6	27-Oct	0822	X	X	X	X	
RI-SB-59	RISB -	59	-	0	2	0	2	26-Oct	1455	X	X	X	X	
	RISB -	59	-	5	6	5	6	26-Oct	1512	X	X	X	X	
RI-SB-60	RISB -	60	-	1	3	1	3	26-Oct	1412	X	X	X	X	
	RISB -	D		1	3	1	3	26-Oct	1130	X	X	X	X	
	RISB -	60	-	5	7	5	7	26-Oct	1422	X	X	X	X	
RI-SB-61	RISB -	61	-	1	3	1	3	26-Oct	1334	X	X	X	X	
	RISB -	61	-	5	7	5	7	26-Oct	1342	X	X	X	X	
RI-SB-62	RISB -	62	-	0	2	0	2	1-Nov	1440	X	X	X	X	
RI-SB-63	RISB -	63	-	0	2	0	2	26-Oct	1207	X	X	X	X	
	RISB -	63	-	4	6	4	6	26-Oct	1215	X	X	X	X	
RI-SB-64	RISB -	64	-	1	3	1	3	28-Oct	1453	X	X	X	X	
	RISB -	64	-	5	7	5	7	28-Oct	1505	X	X	X	X	
RI-SB-65	RISB -	65	-	1	3	1	3	28-Oct	1431	X	X	X	X	
	RISB -	65	-	5	7	5	7	28-Oct	1440	X	X	X	X	

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
RI-SB-66	RISB - 66 - 2 4	2	4	28-Oct	1347	X	X	X	X	
	RISB - 3D - 2 4	2	4	28-Oct	1030	X	X	X	X	
	RISB - 66 - 4 6	4	6	28-Oct	1356	X	X	X	X	
RI-SB-67	RISB - 67 - 1 3	1	3	28-Oct	1202	X	X	X	X	
	RISB - 67 - 3 5	3	5	28-Oct	1211	X	X	X	X	
RI-SB-68	RISB - 68 - 1 3	1	3	28-Oct	1119	X	X	X	X	
	RISB - 68 - 3 5	3	5	28-Oct	1127	X	X	X	X	
RI-SB-69	RISB - 69 - 0 2	0	2	28-Oct	1043	X	X	X	X	
	RISB - 69 - 3 5	3	5	28-Oct	1050	X	X	X	X	
RI-SB-70	RISB - 70 - 0 2	0	2	28-Oct	0957	X	X	X	X	
	RISB - 70 - 4 6	4	6	28-Oct	1004	X	X	X	X	
RI-SB-71	RISB - 71 - 1 3	1	3	28-Oct	0930	X	X	X	X	
	RISB - 71 - 3 5	3	5	28-Oct	0939	X	X	X	X	
RI-SB-72	RISB - 72 - 0 2	0	2	28-Oct	0902	X	X	X	X	
	RISB - 72 - 4 6	4	6	28-Oct	0910	X	X	X	X	
RI-SB-73	RISB - 73 - 1 3	1	3	28-Oct	0823	X	X	X	X	
	RISB - 73 - 4 6	4	6	28-Oct	0831	X	X	X	X	
RI-SB-74	RISB - 74 - 0 2	0	2	1-Nov	1454	X	X	X	X	
	RISB - 74 - 2 4	2	4	1-Nov	1502	X	X	X	X	
RI-SB-75	RISB - 75 - 0 2	0	2	1-Nov	1515	X	X	X	X	
	RISB - 75 - 2 4	2	4	1-Nov	1519	X	X	X	X	
RI-SB-76	RISB - 76 - 0 2	0	2	1-Nov	1538	X	X	X	X	
	RISB - 76 - 2 4	2	4	1-Nov	1542	X	X	X	X	
Tar Seep Area	Tar Seep Composite			10-Nov	1514	X	X	X	X	X
Monitoring Well Borehole Samples										
RI-SB/MW-01	RI-SB/MW - 01 - 0 2	0	2	31-Oct	1150	X	X	X	X	
	RI-SB/MW - 01 - 2 4	2	4	31-Oct	1155	X	X	X	X	
RI-SB/MW-03	RI-SB/MW - 03 - 0 2	0	2	3-Nov	0908	X	X	X	X	
	RI-SB/MW - 03 - 2 4	2	4	3-Nov	0912	X	X	X	X	
RI-SB/MW-04	RI-SB/MW - 04 - 0 2	0	2	4-Nov	0918	X	X	X	X	
	RI-SB/MW - 04 - 2 4	2	4	4-Nov	0922	X	X	X	X	
RI-SB/MW-17	RI-SB/MW - 17 -					No Samples				
RI-SB/MW-18	RI-SB/MW - 18 -					No Samples				

Table 1

RI Sample Key
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample Location	Sample Number	Starting Depth (ft bgs)	Ending Depth (ft bgs)	Date	Time	TCL VOC	TCL SVOC	TCL Pesticides	TAL Metals	PCBs
Soil Vapor Samples										
RI-SV-01	RI-SV - 01			15-Nov	1235	X				
	RI-SV - D			15-Nov	1200	X				
RI-SV-02	RI-SV - 02			15-Nov	1301	X				
RI-SV-03	RI-SV - 03			15-Nov	1315	X				
RI-SV-04	RI-SV - 04			15-Nov	1335	X				
RI-SV-05	RI-SV - 05			15-Nov	1344	X				
RI-SV-06	RI-SV - 06			15-Nov	1352	X				
Groundwater Samples										
MW-04	MW - 04			10-Apr	0945	X	X		X	X
MW-09	MW - 09			10-Apr	1115	X	X		X	X
MW-10	MW - 10			10-Apr	1145	X	X		X	X
MW-08	MW - 08			10-Apr	1345	X	X		X	X
MW-03	MW - 03			10-Apr	1430	X	X		X	X
MW-05	MW - 05			10-Apr	1510	X	X		X	X
MW-06	MW - 06			10-Apr	1645	X	X		X	X
MW-07	MW - 07			11-Apr	1650	X	X		X	X
EW-02	EW - 02			12-Apr	0830	X	X		X	X
EW-06	EW - 06			12-Apr	1333	X	X		X	X
EW-18	EW - 18			12-Apr	1355	X	X		X	X
EW-36	EW - 36			12-Apr	1430	X	X		X	X
EW-42	EW - 42			12-Apr	1440	X	X		X	X
EW-29	EW - 29			12-Apr	1450	X	X		X	X
EW-49	EW - 49			12-Apr	1440	X	X		X	X
MW-02	MW - 02			12-Apr	1645	X	X		X	X
MW-01	MW - 01			12-Apr	1700	X	X		X	X
MW-01 (DUP)	MW - 201			12-Apr	1745	X	X		X	X

Table 2

Well Construction Details and Hydraulic Monitoring Records
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Well ID	Easting	Northing	DTW (4/9/2012) (ft)	DTNAPL (4/9/2012) (ft)	LNAPL Thickness (ft)	Ground surface (ft amsl)
EW-02	983300.12	183211.92	5.59	5.59	0	10.59
EW-04	983297.70	183386.41	6.4	6.37	0.03	11.26
EW-06	983374.26	183355.59	6.03	6.03	0	11.08
EW-07	983275.97	183438.33	7.2	7.1	0.1	11.47
EW-13	983363.51	183445.12	6.74	6.64	0.1	11.15
EW-18	983491.66	183440.93	5.83	5.83	0	10.99
EW-19	983408.53	183213.33	7.52	5.29	2.23	10.98
EW-27	983451.62	183326.22	4.71	4.47	0.24	10.38
EW-29	983532.30	183296.80	5.66			11.19
EW-36	983581.84	183400.04	5.59	5.59	0	10.91
EW-42	983499.04	183127.37	3.89			9.35
MW-01	983384.62	183549.42	5.46			9.16
MW-02	983555.65	183484.76	5.02			8.92
MW-03	983699.07	183179.54	3.64			7.75
MW-04	983591.06	183071.26	5.06			7.13
MW-05	983418.72	182991.76	4.19			7.50
MW-06	983107.77	183310.25	6.38			9.94
MW-07	983181.71	183469.30	7.89			11.85
MW-08	983146.73	183123.62	4.04			7.98
MW-09	983288.77	183525.34	8.1			11.95
MW-10	983652.47	183314.38	5.01			9.55
MW-101	983850.18	183367.19	3.71			7.88
MW-102	983806.24	183488.83	4.4			7.71
MW-103	983850.69	183594.63	4.71			7.47
MW-104	983980.60	183553.20	5.91			9.07
MW-105	983939.62	183463.01				7.80
MW-106	983909.33	183520.21				8.43
MW-107	983723.69	183434.96	3.43			7.10
MW-108	983709.10	183558.73	8.59			12.29
MW-109	983771.61	183678.49	8.49			11.99
MW-110	983797.27	183805.05	7.48			10.29

DTW = Depth to water from Top of Casing (feet)
DTNAPL = Depth to floating Layer (feet; no entry if not present)
ft amsl = Feet above mean sea level
ft bgs = Feet below ground surface

Table 2

Well Construction Details and Hydraulic Monitoring Records
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Top of Casing (ft amsl)	Total Depth (ft)	Screen Length (ft)	Screen Interval (ft bgs)	Groundwater Elevation (ft amsl)
9.46	17.5	10	5.5 - 15.5	3.87
10.31	16.5	8.5	6.0 - 14.50	3.91
10.00	18	10	6.0 - 16.0	3.97
10.85	18.17	8.5	7.7 - 16.17	3.65
10.26	17.7	10	5.7 - 15.7	3.52
9.60	19.75	12	5.8 - 17.75	3.77
10.08	18.2	10	6.2 - 16.20	2.56
9.14	19	11	6.0 - 17.00	4.43
9.97	18.5	13	3.5 - 16.5	4.31
9.83	16.5	9	5.5 - 14.5	4.24
8.40	15	7.5	5.5 - 13.0	4.51
8.82	21.9	20	1.9 - 21.9	3.36
8.64	13.93	6	2.0 - 8.0	3.62
7.57	11.75	8	2.0 - 10.0	3.93
6.90	21.5	20	1.5 - 21.5	1.84
6.58	16.92	15	1.92 - 16.92	2.39
9.77	22.6	20	2.6 - 22.6	3.39
11.21	16.9	13	6.0 - 19.0	3.32
7.60	12.14	11	2.0 - 13.0	3.56
11.73	23.55	20	3.55 - 23.55	3.63
9.53	13.01	10	3.0 - 13.0	4.52
7.69	22.5	20	2.5 - 22.5	3.98
7.30	13.64	12	2.0 - 14.0	2.90
7.22	21.5	20	1.5 - 21.5	2.51
8.75	18.24	15	3.24 - 18.24	2.84
7.52	18	15	3 - 18	7.52
8.21	18	15	3 - 18	8.21
6.83	18	15	3 - 18	3.40
12.04	18.1	15	3.1 - 18.1	3.45
11.74	17.8	15	2.8 - 17.8	3.25
10.04	17.3	15	2.3 - 17.3	2.56

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		10S-01		10S-12		10S-23		10S-34		10S-45		10S-56		10T-01		10T-12		10T-12 Dup		10T-23	
Sample Date:	**UU-SCG [b]**	**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	17	U	17	U	18	U	18	U	19	U	19	U	7.3	U	7	U	16	U	8.2	U
Aroclor 1248	100	15	U	15	U	16	U	16	U	17	U	17	U	2.8	U	2.7	U	15	U	3.1	U
Aroclor 1254	100	25	U	25	U	26	U	26	U	27	U	28	U	17	U	16	U	24	U	19	U
Aroclor 1260	100	18	U	18	U	18	U	18	U	19	U	19	U	4.1	U	3.9	U	17	U	4.6	U

Sample ID:		10T-34		10T-45		10T-56		10U-01		10U-12		10U-23		10U-34		10U-45		10U-56		10Y-01	
Sample Date:	**UU-SCG [b]**	**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	22	U	7.7	U	19	U	18	U	21	U	20	U	19	U	18	U	9.3	U	13.2	U
Aroclor 1248	100	19	U	3	U	17	U	16	U	18	U	18	U	17	U	16	U	3.6	U	14.2	U
Aroclor 1254	100	32	U	18	U	27	U	27	U	409	0	157	J	27	U	26	U	21	U	31	U
Aroclor 1260	100	22	U	4.3	U	19	U	19.7	J	231	J	181	0	19	U	18	U	5.2	U	10.4	U

Sample ID:		10Y-12		10Y-23		10Y-34		10Y-45		10Y-56		10Y-67		10Y-67 Dup		10Z-01		10Z-02		10Z-12	
Sample Date:	**UU-SCG [b]**	**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**		**8/27/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.8	U	14.1	U	15.3	U	18	U	1,490	U	851	U	1,760	U	14.8	UJ	13.4	UJ	15.1	UJ
Aroclor 1248	100	14.9	U	15.2	U	16.5	U	19.4	U	82,500		28,600		119,000		16	UJ	14.5	UJ	16.3	UJ
Aroclor 1254	100	32.5	U	33.2	U	35.9	U	42.3	U	3,500	U	2,000	U	4,140	U	35	UJ	44.5	J	35.5	UJ
Aroclor 1260	100	10.9	U	11.1	U	12	U	14.1	U	1,170	U	669	U	1,380	U	11.7	UJ	10.5	UJ	11.9	UJ

Sample ID:		10Z-12 Dup		10Z-23		10Z-34		10Z-45		10Z-56		10Z-67		10ZC-01		10ZC-02		10ZC-12		10ZC-23	
Sample Date:	**UU-SCG [b]**	**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/27/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	15	U	16.2	UJ	16.1	UJ	15.9	UJ	338	UJ	1,620	UJ	7.6	U	8.5	U	8	U	8.1	U
Aroclor 1248	100	16.2	U	17.4	UJ	17.3	UJ	17.1	UJ	23,800	J	66,700	J	2.9	U	3.3	U	3.1	U	3.1	U
Aroclor 1254	100	87.7		38	UJ	37.8	UJ	37.4	UJ	795	UJ	3,810	UJ	17	U	48.7	J	18	U	19	U
Aroclor 1260	100	11.8	U	12.7	UJ	12.6	UJ	12.5	UJ	266	UJ	1,270	UJ	4.3	U	4.8	U	4.5	U	4.6	U

Sample ID:		10ZC-34		10ZC-45		10ZC-45 Dup		10ZC-56		10ZC-67		10ZC-78		10ZC-89		11S-01		11S-12		11S-23	
Sample Date:	**UU-SCG [b]**	**8/28/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/15/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	8.3	U	8.8	U	8.9	U	9.2	U	9.5	U	10	U	9.2	U	19	U	17	U	17	U
Aroclor 1248	100	3.2	U	3.4	U	3.4	U	3.5	U	3.6	U	3.9	U	3.5	U	16	U	15	U	15	U
Aroclor 1254	100	19	U	20	U	20	U	21	U	22	U	23	U	21	U	27	U	25	U	25	U
Aroclor 1260	100	4.7	U	4.9	U	5	U	5.2	U	5.3	U	5.7	U	5.1	U	19	U	18	U	17	U

Sample ID:		11S-34		11S-45		11S-56		11T-01		11T-12		11T-23		11T-34		11T-45		11T-56		11T-67	
Sample Date:	**UU-SCG [b]**	**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	17	U	25	U	30	U	12.8	U	12.8	U	15.6	U	130	U	13.7	U	15.7	U	15.9	U
Aroclor 1248	100	5,190	0	34.3	J	26	U	13.9	U	13.8	U	16.9	U	8,600		324		16.9	U	17.2	U
Aroclor 1254	100	26	U	36	U	43	U	30.2	U	30	U	36.8	U	306	U	32.2	U	37	U	37.4	U
Aroclor 1260	100	18	U	25	U	30	U	10.1	U	10	U	12.3	U	102	U	10.8	U	12.4	U	12.5	U

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYCRR Part 375-6.8(a) Soil Cleanup Objectives;
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
R = Data Rejected due to quality control issues, refer to Appendix B.
d/ Sample and duplicate.

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**11U-01**		**11U-12**		**11U-23**		**11U-34**		**11U-45**		**11U-56**		**11Y-01**		**11Y-12**		**11Y-23**		**11Y-34**	
Sample Date:	**UU-SCG [b]**	**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/27/2012**		**8/28/2012**		**8/28/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.3	U	15.3	U	307	U	14.5	U	15.3	U	15.2	U	12.9	U	13.7	U	15.7	U	15.3	U
Aroclor 1248	100	14.3	U	16.6	U	21,200		15.6	U	400		37.7	J	13.9	U	14.8	U	17	U	16.6	U
Aroclor 1254	100	31.2	U	74.5	J	722	U	34	U	36	U	35.7	U	30.3	U	32.2	U	37	U	36.1	U
Aroclor 1260	100	10.4	U	12.1	U	241	U	11.4	U	12	U	11.9	U	10.1	U	10.8	U	12.4	U	12.1	U

Sample ID:		**11Y-45**		**11Y-56**		**11Y-67**		**11Z-01**		**11Z-02**		**11Z-12**		**11Z-23**		**11Z-34**		**11Z-45**		**11Z-56**	
Sample Date:	**UU-SCG [b]**	**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	15.9	U	154	U	16.8	U	15.4	UJ	13.9	UJ	15.2	UJ	15.2	UJ	15.3	UJ	16	UJ	15.8	UJ
Aroclor 1248	100	66.3	J	5,640		728		16.6	UJ	15	UJ	16.4	UJ	16.4	UJ	16.6	UJ	17.3	UJ	17.1	UJ
Aroclor 1254	100	37.4	U	363	U	39.4	U	49.2	J	53.2	J	35.7	UJ	35.7	UJ	36.1	UJ	37.7	UJ	37.2	UJ
Aroclor 1260	100	12.5	U	121	U	13.2	U	12.1	UJ	10.9	UJ	11.9	UJ	11.9	UJ	12.1	UJ	12.6	UJ	12.4	UJ

Sample ID:		**11Z-67**		**11ZB-01**		**11ZB-02**		**11ZB-12**		**11ZB-23**		**11ZB-34**		**11ZB-45**		**11ZB-56**		**11ZB-67**		**11ZB-78**	
Sample Date:	**UU-SCG [b]**	**3/15/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/27/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	16.2	UJ	19	U	22	U	17	U	21	U	22	U	23	U	21	U	20	U	21	U
Aroclor 1248	100	407	J	17	U	20	U	15	U	19	U	20	U	20	U	18	U	18	U	19	U
Aroclor 1254	100	38.1	UJ	156	0	33	U	26	U	31	U	33	U	33	U	30	U	30	U	31	U
Aroclor 1260	100	12.7	UJ	102	J	23	U	18	U	21	U	23	U	23	U	21	U	21	U	21	U

Sample ID:		**11ZB-89**		**12O-01**		**12O-02**		**12O-12**		**12O-12 Dup**		**12O-23**		**12O-34**		**12O-45**		**12P-01**		**12P-02**	
Sample Date:	**UU-SCG [b]**	**8/28/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	22	U	8.6	U	283	U	9.4	U	7.4	U	9.3	U	8.5	U	18.4	U	9.2	U	8.4	U
Aroclor 1248	100	19	U	11.8	U	399	U	12.8	U	10.5	U	12.8	U	561	J	2,160	J	948		11.5	U
Aroclor 1254	100	32	U	8.6	U	233	U	9.4	U	6.1	U	9.3	U	8.5	U	18.4	U	9.2	U	8.4	U
Aroclor 1260	100	22	U	8.6	U	682	U	9.4	U	18	U	9.3	U	8.5	U	18.4	U	9.2	U	8.4	U

Sample ID:		**12P-12**		**12P-23**		**12P-34**		**12P-45**		**12S-01**		**12S-12**		**12S-23**		**12S-34**		**12S-45**		**12S-56**	
Sample Date:	**UU-SCG [b]**	**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**8/28/2012**		**8/28/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	9.3	U	17.2	U	9.3	U	10.2	U	18	U	18	U	18	U	18	U	21	U	21	U
Aroclor 1248	100	12.7	U	2,040		144		14	U	16	U	16	U	16	U	16	U	1,780	0	102	J
Aroclor 1254	100	9.3	U	17.2	U	9.3	U	10.2	U	26	U	26	U	26	U	26	U	31	U	31	U
Aroclor 1260	100	9.3	U	17.2	U	9.3	U	10.2	U	18	U	18	U	18	U	18	U	21	U	21	U

Sample ID:		**12T-01**		**12T-12**		**12T-23**		**12T-34**		**12T-45**		**12T-56**		**12T-67**		**12U-01**		**12U-12**		**12U-23**	
Sample Date:	**UU-SCG [b]**	**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/27/2012**		**8/28/2012**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.6	U	13.8	U	14	U	14.1	U	13.5	U	34.6	U	25.8	U	15.3	U	14.2	U	16.1	U
Aroclor 1248	100	14.7	U	14.9	U	15.2	U	15.2	U	14.6	U	37.3	U	27.9	U	16.5	U	15.4	U	848	
Aroclor 1254	100	32	U	32.5	U	33	U	33.1	U	31.8	U	81.5	U	60.8	U	40.6	J	73.5		38	U
Aroclor 1260	100	10.7	U	10.9	U	11	U	11.1	U	10.6	U	27.2	U	20.3	U	12	U	11.2	U	12.7	U

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		12U-34		12U-45		12U-56		12U-67		12U-VOC-02		12U-VOC-57		12Y-01		12Y-12		12Y-12 Dup		12Y-23	
Sample Date:	UU-SCG ^{b}	3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/15/2012		3/15/2012		3/15/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	13	U	14.9	U	14.2	U	15	U	14.1	U	18.1	U	13.6	U	13.1	U	13.3	U	14.9	U
Aroclor 1248	100	14	U	503		15.4	U	16.2	U	15.2	U	179		14.7	U	14.1	U	14.4	U	16.1	U
Aroclor 1254	100	49.5	J	35	U	33.5	U	35.4	U	93.2		42.5	U	32	U	30.8	U	31.3	U	35.1	U
Aroclor 1260	100	10.2	U	11.7	U	11.2	U	11.8	U	11.1	U	14.2	U	10.7	U	10.3	U	10.5	U	11.7	U

Sample ID:		12Y-34		12Y-45		12Y-56		12Y-67		12Z-01		12Z-02		12Z-12		12Z-23		12Z-34		12Z-45	
Sample Date:	UU-SCG ^{b}	3/15/2012		3/15/2012		3/15/2012		3/15/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	16.1	U	15.3	U	69.6	U	16.7	U	14.7	UJ	15.1	UJ	14.4	UJ	14.5	UJ	16.2	UJ	15.7	UJ
Aroclor 1248	100	17.4	U	16.5	U	1,250		18	U	15.8	UJ	16.3	UJ	15.6	UJ	15.7	UJ	17.4	UJ	16.9	UJ
Aroclor 1254	100	37.9	U	36	U	164	U	39.3	U	34.5	UJ	474	J	34	UJ	34.1	UJ	38	UJ	36.9	UJ
Aroclor 1260	100	12.7	U	12	U	54.7	U	13.1	U	11.5	UJ	11.9	UJ	11.4	UJ	11.4	UJ	12.7	UJ	12.3	UJ

Sample ID:		12Z-56		12Z-67		12Z-67 Dup		12ZA-01		12ZA-02		12ZA-12		12ZA-23		12ZA-34		12ZA-45		12ZA-56	
Sample Date:	UU-SCG ^{b}	8/28/2012		8/28/2012		8/27/2012		8/28/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	15.3	UJ	16.8	UJ	15.9	UJ	21	U	23	U	18	U	21	U	20	U	21	U	20	U
Aroclor 1248	100	16.5	UJ	18.1	UJ	63.2	UJ	18	U	20	U	16	U	18	U	18	U	18	U	18	U
Aroclor 1254	100	36	UJ	39.5	UJ	37.4	UJ	30	U	42.2	J	26	U	30	U	30	U	30	U	30	U
Aroclor 1260	100	12	UJ	13.2	UJ	12.5	UJ	21	U	23	U	18	U	21	U	21	U	21	U	21	U

Sample ID:		12ZA-67		12ZA-78		12ZA-89		12ZC-01		12ZC-02		12ZC-12		12ZC-23		12ZC-34		12ZC-45		12ZC-56	
Sample Date:	UU-SCG ^{b}	3/19/2012		3/19/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		10/25/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	21	U	21	U	21	U	7.8	U	7.9	U	7.3	U	8.5	U	8.9	U	9.1	U	9	U
Aroclor 1248	100	19	U	19	U	19	U	3	U	3	U	2.8	U	3.3	U	3.4	U	3.5	U	3.4	U
Aroclor 1254	100	31	U	31	U	31	U	18	U	56	J	17	U	20	U	20	U	21	U	21	U
Aroclor 1260	100	22	U	22	U	21	U	4.4	U	4.4	U	4.1	U	4.8	U	5	U	5.1	U	5	U

Sample ID:		12ZC-67		12ZC-78		12ZC-89		12Z-VOC-02		12Z-VOC-57		13O-01		13O-12		13O-23		13O-34		13O-45	
Sample Date:	UU-SCG ^{b}	10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		8/28/2012		8/28/2012		8/28/2012		8/28/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	9.4	U	9.1	U	9.5	U	14.6	U	32.2	U	14.9	U	13.8	U	28.2	UJ	15.4	U	14.8	U
Aroclor 1248	100	3.6	U	3.5	U	3.6	U	15.8	U	34.8	U	16.1	U	14.9	U	30.5	UJ	16.7	U	16	U
Aroclor 1254	100	22	U	21	U	22	U	72.2	J	75.9	U	35.1	U	32.6	U	66.4	UJ	36.4	U	34.9	U
Aroclor 1260	100	5.3	U	5.1	U	5.3	U	11.5	U	25.4	U	11.7	U	10.9	U	22.2	UJ	12.2	U	11.7	U

Sample ID:		13O-56		13O-67		13P-01		13P-12		13P-23		13P-34		13P-45		13P-56		13P-67		13S-01	
Sample Date:	UU-SCG ^{b}	8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/27/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	15.8	U	14.8	U	13.5	U	14.7	U	14.7	U	14.9	U	14.9	UJ	17	UJ	18.2	UJ	19	U
Aroclor 1248	100	17	U	741		14.6	U	15.9	U	15.9	U	16	U	65.7	J	683	J	19.6	UJ	17	U
Aroclor 1254	100	37.1	U	35	U	303	J	34.6	U	34.7	U	35	U	35.2	UJ	40	UJ	42.8	UJ	28	U
Aroclor 1260	100	12.4	U	11.7	U	10.6	U	11.6	U	11.6	U	11.7	U	11.8	UJ	13.4	UJ	14.3	UJ	19	U

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		13S-12		13S-23		13S-23 Dup		13S-34		13S-45		13S-56		13T-01		13T-12		13T-23		13T-34	
Sample Date:	UU-SCG [b]	8/28/2012		8/28/2012		8/28/2012		8/28/2012		3/19/2012		8/27/2012		8/28/2012		3/15/2012		3/15/2012		3/15/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	18	U	18	U	18	U	18	U	19	U	18	U	13.9	U	13.2	U	13.6	U	14.1	U
Aroclor 1248	100	16	U	16	U	16	U	16	U	1,690	0	1,390	0	15	U	14.2	U	14.7	U	15.2	U
Aroclor 1254	100	27	U	26	U	26	U	27	U	28	U	27	U	32.6	U	31	U	32	U	33.2	U
Aroclor 1260	100	19	U	18	U	18	U	19	U	20	U	18	U	10.9	U	10.4	U	10.7	U	11.1	U

Sample ID:		13T-45		13T-56		13T-67		13U-01		13U-12		13U-23		13U-34		13U-45		13U-56		13U-56 Dup	
Sample Date:	UU-SCG [b]	3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	14.9	U	14.2	U	15.8	U	14.3	U	14.2	U	14	U	14.5	U	15.5	U	14.2	U	14.6	U
Aroclor 1248	100	1,120		235		17	U	15.5	U	15.3	U	15.1	U	15.7	U	189		15.3	U	15.7	U
Aroclor 1254	100	35.2	U	33.5	U	37.1	U	33.7	U	33.4	U	33	U	34.2	U	36.4	U	33.5	U	34.3	U
Aroclor 1260	100	11.8	U	11.2	U	12.4	U	18.9	J	17.2	J	11	U	11.4	U	12.2	U	11.2	U	11.5	U

Sample ID:		13U-67		13Y-01		13Y-12		13Y-23		13Y-34		13Y-45		13Y-56		13Y-67		14O-01		14O-12	
Sample Date:	UU-SCG [b]	10/25/2011		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	14.8	U	13.2	U	14.6	U	15.3	U	17.5	U	16.8	U	15.9	U	18	U	14.2	U	14.1	U
Aroclor 1248	100	15.9	U	14.2	U	15.7	U	16.5	U	18.9	U	622		119		19.5	U	15.3	U	15.2	U
Aroclor 1254	100	34.7	U	31	U	34.3	U	35.9	U	41.3	U	39.5	U	37.4	U	42.4	U	234		49.9	J
Aroclor 1260	100	11.6	U	10.4	U	11.5	U	12	U	13.8	U	13.2	U	12.5	U	14.2	U	11.1	U	11.1	U

Sample ID:		14O-23		14O-34		14O-45		14O-45 Dup		14O-56		14O-67		14P-01		14P-12		14P-23		14P-34	
Sample Date:	UU-SCG [b]	8/27/2012		8/28/2012		8/28/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	15.4	U	14.6	U	15.4	U	14.1	U	13.7	U	13.8	U	15	U	13.8	U	14.9	U	17	U
Aroclor 1248	100	16.7	U	15.7	U	16.6	U	15.2	U	14.8	U	14.9	U	16.2	U	14.9	U	16.1	U	18.3	U
Aroclor 1254	100	36.3	U	34.3	U	36.3	U	33.2	U	32.2	U	32.5	U	35.3	U	32.6	U	35.1	U	45.5	J
Aroclor 1260	100	12.1	U	11.5	U	12.1	U	11.1	U	10.8	U	10.9	U	31.1	J	10.9	U	11.7	U	13.3	U

Sample ID:		14P-45		14P-56		14P-67		14S-01		14S-12		14S-23		14S-34		14S-45		14S-56		14T-01	
Sample Date:	UU-SCG [b]	10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011		10/25/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	17.9	U	14.8	U	14.8	U	18	U	19	U	19	U	19	U	19	U	19	U	18	U
Aroclor 1248	100	19.3	U	16	U	15.9	U	16	U	17	U	17	U	17	U	17	U	17	U	16	U
Aroclor 1254	100	557		34.9	U	34.7	U	27	U	28	U	28	U	28	U	28	U	28	U	88.2	J
Aroclor 1260	100	14.1	U	11.7	U	11.6	U	39.9	J	19	U	19	U	19	U	19	U	19	U	108	J

Sample ID:		14T-12		14T-23		14T-34		14T-34 Dup		14T-45		14T-56		14U-01		14U-12		14U-23		14U-34	
Sample Date:	UU-SCG [b]	10/25/2011		10/25/2011		10/25/2011		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	19	U	18	U	19	U	19	U	18	U	20	U	17	U	19	U	20	U	18	U
Aroclor 1248	100	17	U	16	U	16	U	16	U	18.9	J	18	U	15	U	17	U	18	U	16	U
Aroclor 1254	100	28	U	27	U	27	U	27	U	27	U	29	U	25	U	28	U	30	U	27	U
Aroclor 1260	100	19	U	18	U	19	U	19	U	18	U	20	U	17	U	19	U	21	U	18	U

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**14U-45**		**14U-56**		**1N-01**		**1N-12**		**1N-23**		**1N-34**		**1N-45**		**1N-56**		**1N-67**		**1O-01**	
Sample Date:	**UU-SCG ^{b}**	**8/28/2012**		**8/27/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	18	U	21	U	16.3	U	17.5	U	28.7	U	13.5	U	14.2	U	14.1	U	14.4	U	14.1	U
Aroclor 1248	100	16	U	19	U	17.5	U	18.8	U	31	U	14.5	U	15.3	U	15.2	U	15.6	U	15.2	U
Aroclor 1254	100	26	U	31	U	386		305		67.6	U	31.7	U	33.5	U	33.1	U	34	U	480	
Aroclor 1260	100	18	U	21	U	12.8	U	13.7	U	22.6	U	10.6	U	11.2	U	11.1	U	11.4	U	11.1	U

Sample ID:		**1O-12**		**1O-23**		**1O-34**		**1O-45**		**1O-45 dup**		**1O-56**		**1O-67**		**1P-01**		**1P-12**		**1P-23**	
Sample Date:	**UU-SCG ^{b}**	**8/27/2012**		**8/28/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**10/25/2011**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.8	U	13.8	U	14.2	U	14.1	U	13.7	U	14	U	13.3	U	15	UJ	14.5	UJ	15.3	UJ
Aroclor 1248	100	14.9	U	14.9	U	15.3	U	15.3	U	14.8	U	15.1	U	14.3	U	16.1	UJ	15.7	UJ	16.5	UJ
Aroclor 1254	100	32.4	U	32.5	U	33.4	U	33.3	U	32.3	U	32.9	U	31.3	U	311	J	34.2	UJ	36.1	UJ
Aroclor 1260	100	10.8	U	10.9	U	11.2	U	11.1	U	10.8	U	11	U	10.5	U	11.8	UJ	11.4	UJ	12.1	UJ

Sample ID:		**1P-34**		**1P-45**		**1P-56**		**1P-67**		**25N-45 Dup**		**25O-01**		**25O-12**		**25O-23**		**25O-34**		**25O-45**	
Sample Date:	**UU-SCG ^{b}**	**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**	
PCBs (ug/kg)																					
Aroclor 1242	100	15.2	UJ	15.9	UJ	17.1	UJ	17.7	UJ	13.4	U	135	U	26.5	U	14.3	U	16	U	13.6	U
Aroclor 1248	100	16.4	UJ	17.2	UJ	18.4	UJ	19.1	UJ	14.5	U	145	U	28.6	U	15.5	U	72.6	J	14.6	U
Aroclor 1254	100	35.8	UJ	37.5	UJ	40.2	UJ	41.7	UJ	31.6	U	317	U	62.4	U	33.8	U	37.7	U	31.9	U
Aroclor 1260	100	12	UJ	12.5	UJ	13.4	UJ	13.9	UJ	10.6	U	106	U	20.9	U	11.3	U	12.6	U	10.7	U

Sample ID:		**25O-56**		**25O-67**		**26A-01**		**26A-12**		**26A-23**		**26A-34**		**26A-45**		**26A-56**		**26A-67**		**26S-23**	
Sample Date:	**UU-SCG ^{b}**	**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.6	U	13.8	U	30.3	UJ	30.5	UJ	13.5	UJ	13.9	UJ	13.1	UJ	16	U	18.3	U	13.3	U
Aroclor 1248	100	14.7	U	14.8	U	32.6	UJ	33	UJ	14.5	UJ	15	UJ	14.2	UJ	17.3	U	19.7	U	14.3	U
Aroclor 1254	100	32.1	U	32.4	U	71.2	UJ	71.9	UJ	31.7	UJ	32.7	UJ	30.9	UJ	37.7	U	43	U	31.2	U
Aroclor 1260	100	10.7	U	10.8	U	23.8	UJ	24	UJ	10.6	UJ	10.9	UJ	10.3	UJ	12.6	U	14.4	U	10.4	U

Sample ID:		**26S-34**		**26S-45**		**26S-56**		**26S-67**		**26T-01**		**26T-12**		**26T-23**		**26T-34**		**26T-34 Dup**		**26T-45**	
Sample Date:	**UU-SCG ^{b}**	**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.2	U	14	U	14.2	U	13.9	U	13.2	U	13.8	U	14.7	U	13.5	U	14	U	13.4	U
Aroclor 1248	100	14.2	U	15.1	U	15.3	U	15	U	14.2	U	14.9	U	15.8	U	14.5	U	15.1	U	14.5	U
Aroclor 1254	100	31	U	33	U	33.4	U	32.8	U	31	U	300		34.5	U	31.7	U	32.9	U	31.6	U
Aroclor 1260	100	10.4	U	11	U	11.2	U	10.9	U	115		10.9	U	11.5	U	10.6	U	11	U	10.6	U

Sample ID:		**26T-56**		**26T-67**		**26U-01**		**26U-01 Dup**		**26U-02**		**26U-12**		**26U-23**		**26U-34**		**26U-45**		**26U-56**	
Sample Date:	**UU-SCG ^{b}**	**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	28	U	16.3	U	15.3	U	15.3	U	154	U	7.2	U	8.1	U	7	U	7	U	7.8	U
Aroclor 1248	100	112	J	17.6	U	21.6	U	21.5	U	217	U	10.1	U	135	0	9.9	U	105	0	42.3	J
Aroclor 1254	100	65.9	U	38.4	U	1,060	0	1,100	0	15,300	0	326	0	138	0	5.8	U	5.8	U	6.4	U
Aroclor 1260	100	22	U	12.8	U	36.8	U	36.8	U	371	U	17.3	U	19.7	U	16.8	U	16.9	U	18.8	U

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		26U-67		26V-01		26V-02		26V-12		26V-12 Dup		26V-23		26V-34		26V-45		26V-56		26V-67	
Sample Date:	UU-SCG ^{b}	3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	7.9	U	7.6	U	7.1	U	7.3	U	7	U	7	U	7.1	UJ	7.5	U	8.2	U	13.5	U
Aroclor 1248	100	11.1	U	10.7	U	10	U	40.8	J	9.9	U	9.9	U	10	UJ	10.6	U	11.6	U	19.1	U
Aroclor 1254	100	6.5	U	78.2	0	186	0	6.1	U	5.8	U	5.8	U	5.8	UJ	6.2	U	6.7	U	11.1	U
Aroclor 1260	100	19	U	18.3	U	17	U	17.7	U	16.9	U	16.9	U	17.1	UJ	18	U	19.8	U	32.6	U

Sample ID:		26W-01		26W-02		26W-12		26W-23		26W-23 Dup		26W-34		26W-45		26W-56		26W-67		26X-01	
Sample Date:	UU-SCG ^{b}	11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	7	U	6.8	U	7.4	U	7	U	7	U	7.5	U	7.2	U	8	U	18.6	U	7.3	U
Aroclor 1248	100	9.9	U	28.2	J	10.5	U	9.9	U	9.9	U	10.7	U	10.1	U	11.3	U	26.3	U	10.3	U
Aroclor 1254	100	6.4	J	29.7	J	6.1	U	5.8	U	5.8	U	6.2	U	5.9	U	6.6	U	15.3	U	6	U
Aroclor 1260	100	16.9	U	16.5	U	17.9	U	17	U	16.9	U	18.2	U	17.3	U	19.3	U	44.9	U	26.6	J

Sample ID:		26X-02		26X-12		26X-23		26X-34		26X-45		26X-56		26X-67		27A-01		27A-12		27A-23	
Sample Date:	UU-SCG ^{b}	11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	6.9	U	6.9	U	7	U	6.8	U	7.2	U	7.5	U	8	U	12.6	U	13.1	U	13.2	U
Aroclor 1248	100	9.8	U	9.7	U	9.8	U	9.6	U	10.2	U	10.6	U	11.3	U	72.9		14.2	U	14.2	U
Aroclor 1254	100	188	0	5.7	U	5.7	U	5.6	U	6	U	6.2	U	6.6	U	33.8	J	30.9	U	31	U
Aroclor 1260	100	16.7	U	16.6	U	16.8	U	16.5	U	17.4	U	18.1	U	19.3	U	9.9	U	10.3	U	10.4	U

Sample ID:		27A-34		27A-45		27A-56		27A-56 Dup		27A-67		27T-01		27T-12		27T-23		27T-34		27T-45	
Sample Date:	UU-SCG ^{b}	11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	13.7	U	14.2	U	13.8	U	14.8	U	17.7	U	12.4	U	12.4	U	12.9	U	13.6	U	13.5	U
Aroclor 1248	100	14.8	U	15.3	U	14.9	U	15.9	U	19.1	U	13.4	U	13.4	U	13.9	U	14.7	U	14.5	U
Aroclor 1254	100	32.3	U	33.3	U	32.6	U	34.8	U	41.7	U	29.1	U	35.6	J	30.4	U	32	U	31.7	U
Aroclor 1260	100	10.8	U	11.1	U	10.9	U	11.6	U	13.9	U	9.7	U	9.8	U	10.1	U	10.7	U	10.6	U

Sample ID:		27T-56		27T-67		27U-01		27U-02		27U-12		27U-23		27U-34		27U-45		27U-56		27U-67	
Sample Date:	UU-SCG ^{b}	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/19/2012		3/19/2012		3/19/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	15.4	U	15.4	U	12.7	UJ	12.7	UJ	6.7	UJ	7.2	UJ	6.7	UJ	7.1	UJ	7.2	UJ	7.2	UJ
Aroclor 1248	100	16.6	U	16.6	U	123	J	17.9	UJ	9.5	UJ	10.2	UJ	9.4	UJ	10.1	UJ	10.2	UJ	10.1	UJ
Aroclor 1254	100	36.2	U	36.2	U	68.9	J	49.6	J	5.5	UJ	6	UJ	5.5	UJ	5.9	UJ	6	UJ	5.9	UJ
Aroclor 1260	100	12.1	U	12.1	U	30.6	UJ	30.6	UJ	16.2	UJ	17.5	UJ	16.1	UJ	17.2	UJ	17.4	UJ	17.3	UJ

Sample ID:		27V-01		27V-02		27V-12		27V-23		27V-34		27V-45		27V-56		27V-67		27W-01		27W-02	
Sample Date:	UU-SCG ^{b}	3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	1,110		12.6	UJ	6.8	UJ	7	UJ	6.9	UJ	7	UJ	7.5	UJ	8	UJ	433		12.7	UJ
Aroclor 1248	100	18	UJ	99	J	10.5	J	9.9	UJ	9.7	UJ	9.9	UJ	10.6	UJ	11.3	UJ	17.9	UJ	96.8	J
Aroclor 1254	100	10.5	UJ	10.4	UJ	5.6	UJ	5.8	UJ	5.7	UJ	5.8	UJ	6.2	UJ	6.6	UJ	10.4	UJ	10.5	UJ
Aroclor 1260	100	30.8	UJ	30.4	UJ	16.4	UJ	16.9	UJ	16.6	UJ	16.9	UJ	18.1	UJ	19.3	UJ	30.6	UJ	30.6	UJ

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		27W-12		27W-23		27W-34		27W-45		27W-56		27W-67		27X-01		27X-02		27X-12		27X-23	
Sample Date:	UU-SCG [b]	11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	6.8	UJ	7	UJ	6.8	UJ	7.3	UJ	7.2	UJ	8.3	UJ	6.4	UJ	6.4	UJ	6.6	UJ	7.1	UJ
Aroclor 1248	100	9.6	UJ	44.2	J	9.7	UJ	10.2	UJ	10.2	UJ	11.7	UJ	9	UJ	490	J	9.4	UJ	10	UJ
Aroclor 1254	100	5.6	UJ	18.5	J	5.6	UJ	6	UJ	6	UJ	6.8	UJ	14.5	J	267	J	5.5	UJ	5.9	UJ
Aroclor 1260	100	16.4	UJ	16.8	UJ	16.5	UJ	17.5	UJ	17.5	UJ	20	UJ	15.4	UJ	15.3	UJ	16	UJ	17.1	UJ

Sample ID:		27X-34		27X-45		27X-56		28U-01		28U-12		28U-23		28U-34		28U-45		28U-45 Dup		28U-56	
Sample Date:	UU-SCG [b]	11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	7.1	UJ	7.2	UJ	8	UJ	13.1	U	13.9	U	14.1	U	14.2	U	14	U	13.9	U	27.3	U
Aroclor 1248	100	10	UJ	10.1	UJ	11.3	UJ	14.2	U	15.1	U	15.2	U	15.3	U	15.1	U	15	U	29.4	U
Aroclor 1254	100	5.8	UJ	5.9	UJ	6.6	UJ	30.9	U	32.8	U	33.1	U	33.4	U	33	U	32.7	U	64.2	U
Aroclor 1260	100	17	UJ	17.3	UJ	19.2	UJ	37.9	J	11	U	11.1	U	11.2	U	11	U	10.9	U	21.5	U

Sample ID:		28U-67		28V-01		28V-12		28V-23		28V-34		28V-45		28V-45 Dup		28V-56		28V-67		28W-01	
Sample Date:	UU-SCG [b]	11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011		11/3/2011	
PCBs (ug/kg)																					
Aroclor 1242	100	15.5	U	25.1	U	14.1	U	13.9	U	13.2	U	13.4	U	13.6	U	15.2	U	15.6	U	13	U
Aroclor 1248	100	16.7	U	27.1	U	15.2	U	15	U	14.2	U	14.4	U	14.7	U	16.4	U	16.8	U	36	J
Aroclor 1254	100	36.5	U	124	J	33.1	U	32.7	U	31.1	U	31.4	U	32.1	U	35.9	U	36.7	U	30.5	U
Aroclor 1260	100	12.2	U	19.7	U	11.1	U	10.9	U	10.4	U	10.5	U	10.7	U	12	U	12.3	U	10.2	U

Sample ID:		28W-12		28W-23		28W-34		28W-45		28W-56		28W-67		28X-01		28X-12		28X-23		28X-34	
Sample Date:	UU-SCG [b]	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	13.6	U	14.5	U	14.5	U	16.6	U	15.6	U	15.1	U	12.5	U	14	U	13.8	UJ	13.8	UJ
Aroclor 1248	100	14.7	U	15.6	U	15.6	U	17.9	U	16.9	U	16.3	U	95.1		15.1	U	14.9	UJ	14.9	UJ
Aroclor 1254	100	32	U	34.1	U	34.1	U	39.1	U	36.8	U	35.6	U	81.9		33	U	32.6	UJ	32.6	UJ
Aroclor 1260	100	10.7	U	11.4	U	11.4	U	13.1	U	12.3	U	11.9	U	9.8	U	11	U	10.9	UJ	10.9	UJ

Sample ID:		28X-45		28X-56		28X-67		2N-01		2N-02		2N-12		2N-23		2N-34		2N-45		2N-56	
Sample Date:	UU-SCG [b]	3/20/2012		3/20/2012		3/20/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	14.1	U	15.1	U	16.7	U	685	U	277	U	7.5	U	6.9	U	7	U	7.1	U	7.9	U
Aroclor 1248	100	15.2	U	16.3	U	18.1	U	967	U	391	U	445		9.8	U	9.9	U	10	U	11.1	U
Aroclor 1254	100	33.1	U	35.6	U	39.4	U	564	U	228	U	400		5.7	U	5.8	U	5.8	U	6.5	U
Aroclor 1260	100	11.1	U	11.9	U	13.2	U	1,650	U	669	U	18.1	U	16.7	U	16.9	U	17.1	U	19	U

Sample ID:		2O-01		2O-02		2O-12		2O-23		2O-34		2O-45		2P-01		2P-02		2P-12		2P-23	
Sample Date:	UU-SCG [b]	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	8.1	UJ	7.4	U	7	U	7.2	U	7.1	U	8.9	U	7.3	U	8	U	7.1	U	7.2	U
Aroclor 1248	100	11.1	UJ	10.5	U	9.9	U	10.2	U	10	U	12.5	U	10.3	U	11.3	U	10	U	10.2	U
Aroclor 1254	100	8.1	UJ	143	0	5.8	U	5.9	U	5.8	U	7.3	U	6	U	707		5.8	U	5.9	U
Aroclor 1260	100	8.1	UJ	18	U	16.9	U	17.4	U	17.1	U	21.4	U	17.5	U	19.3	U	17	U	17.4	U

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		2P-34		2P-45		2P-45 Dup		2Y-01		2Y-12		2Y-23		2Y-34		2Y-45		2Y-56		2Y-67	
Sample Date:	UU-SCG ^{b}	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	8	U	8.9	U	9.1	U	13.8	U	13.5	U	13.1	U	14.3	U	15.9	U	14.3	U	14.8	U
Aroclor 1248	100	11.3	U	12.6	U	12.8	U	14.9	U	14.6	U	14.1	U	15.4	U	17.1	U	15.5	U	15.9	U
Aroclor 1254	100	51.1	J	7.3	U	7.5	U	32.6	U	31.8	U	30.8	U	33.6	U	37.4	U	33.8	U	34.8	U
Aroclor 1260	100	19.2	U	21.4	U	21.9	U	10.9	U	10.6	U	10.3	U	11.2	U	12.5	U	11.3	U	11.6	U

Sample ID:		2Z-01		2Z-02		2Z-12		2Z-23		2Z-34		2Z-45		2Z-56		2Z-67		2Z-78		2ZA-01	
Sample Date:	UU-SCG ^{b}	3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012		3/21/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	18	U	23	U	17	U	18	U	18	U	18	U	17	U	19	U	22	U	18	U
Aroclor 1248	100	16	U	20	U	15	U	16	U	16	U	16	U	15	U	17	U	19	U	16	U
Aroclor 1254	100	27	U	898	0	24	U	27	U	26	U	26	U	25	U	27	U	32	U	26	U
Aroclor 1260	100	19	U	323	0	17	U	19	U	18	U	18	U	17	U	19	U	22	U	18	U

Sample ID:		2ZA-02		2ZA-12		2ZA-23		2ZA-34		2ZA-45		2ZA-45 Dup		2ZA-56		2ZA-67		2ZA-78		3O-01	
Sample Date:	UU-SCG ^{b}	8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	22	U	17	U	16	UJ	17	U	18	U	18	U	18	UJ	18	U	18	U	1.4	U
Aroclor 1248	100	20	U	15	U	15	UJ	15	U	16	U	16	U	16	UJ	16	U	16	U	1.9	U
Aroclor 1254	100	411	0	24	U	24	UJ	25	U	27	U	26	U	26	UJ	26	U	26	U	1.1	U
Aroclor 1260	100	160	0	17	U	17	UJ	17	U	18	U	18	U	18	UJ	18	U	18	U	3.3	U

Sample ID:		3O-02		3O-12		3O-23		3O-34		3O-45		3O-56		3P-01		3P-02		3P-12		3P-23	
Sample Date:	UU-SCG ^{b}	8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		3/20/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	7.1	U	1.3	U	1.4	U	6.8	U	6.5	U	8.2	U	7.4	U	6.8	U	7.7	U	6.9	U
Aroclor 1248	100	10	U	1.9	U	2	U	9.6	U	9.2	U	11.6	U	10.5	U	9.6	U	10.9	U	9.8	U
Aroclor 1254	100	5.8	U	1.1	U	1.1	U	5.6	U	5.4	U	6.8	U	6.1	U	120		6.3	U	5.7	U
Aroclor 1260	100	17.1	U	3.2	U	3.4	U	16.3	U	15.7	U	19.8	U	17.9	U	16.4	U	18.6	U	16.7	U

Sample ID:		3P-34		3P-45		3Y-01		3Y-12		3Y-23		3Y-34		3Y-45		3Y-56		3Y-67		3Z-45 Dup	
Sample Date:	UU-SCG ^{b}	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	8.9	U	7.8	U	13.7	U	13.7	U	13.7	U	13.5	U	16.2	U	15.9	U	16.1	U	18	U
Aroclor 1248	100	12.5	U	11.1	U	14.8	U	14.8	U	14.8	U	14.6	U	17.5	U	17.1	U	17.4	U	16	U
Aroclor 1254	100	7.3	U	6.5	U	32.3	U	32.3	U	32.3	U	31.8	U	38.1	U	37.3	U	38	U	27	U
Aroclor 1260	100	21.4	U	18.9	U	10.8	U	10.8	U	10.8	U	10.6	U	12.7	U	12.5	U	12.7	U	19	U

Sample ID:		3ZB-01		3ZB-02		3ZB-12		3ZB-23		3ZB-34		3ZB-45		3ZB-45 Dup							
Sample Date:	UU-SCG ^{b}	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/15/2012		3/15/2012		3/15/2012							
PCBs (ug/kg)																					
Aroclor 1242	100	18	U	21	U	17	U	17	U	18	U	18	U	18	U						
Aroclor 1248	100	16	U	19	U	15	U	15	U	16	U	16	U	16	U						
Aroclor 1254	100	27	U	35.4	J	25	U	25	U	26	U	26	U	27	U						
Aroclor 1260	100	18	U	22	U	17	U	18	U	18	U	18	U	19	U						

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		3ZB-56		3ZB-67		3ZB-78		3ZB-89		4P-01		4P-02		4P-12		4P-23		4P-34		4P-45	
Sample Date:	UU-SCG [b]	3/15/2012		3/15/2012		3/15/2012		3/15/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	18	U	18	UJ	18	U	22	U	7.1	U	6.9	U	6.9	U	8.1	U	8.9	U	8.3	U
Aroclor 1248	100	16	U	16	UJ	16	U	20	U	10	U	9.7	U	9.8	U	11.4	U	12.6	U	11.7	U
Aroclor 1254	100	26	U	26	UJ	27	U	32	U	5.8	U	143		5.7	U	6.7	U	7.4	U	6.8	U
Aroclor 1260	100	18	U	18	UJ	18	U	22	U	17.1	U	16.7	U	16.7	U	19.5	U	21.5	U	19.9	U

Sample ID:		4Y-01		4Y-01 Dup		4Y-12		4Y-23		4Y-34		4Y-45									
Sample Date:	UU-SCG [b]	3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012									
PCBs (ug/kg)																					
Aroclor 1242	100	13.3	U	13.9	U	13.9	U	13.6	U	15.4	U	16.2	U								
Aroclor 1248	100	14.3	U	15	U	15.1	U	14.7	U	16.6	U	17.5	U								
Aroclor 1254	100	31.3	U	32.7	U	32.8	U	32	U	36.2	U	38.1	U								
Aroclor 1260	100	10.4	U	10.9	U	11	U	10.7	U	12.1	U	12.7	U								

Sample ID:		4Y-56		4Y-67		4Z-01		4Z-02		4Z-12		4Z-23		4Z-34		4Z-45		4Z-56		4Z-67	
Sample Date:	UU-SCG [b]	3/23/2012		3/23/2012		3/23/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	16.9	U	18.2	U	7.6	U	7.7	U	7.2	U	6.9	U	7.6	U	7.3	U	7.2	U	7.6	U
Aroclor 1248	100	18.2	U	19.7	U	2.9	U	2.9	U	2.7	U	2.6	U	2.9	U	2.8	U	2.8	U	2.9	U
Aroclor 1254	100	39.7	U	42.9	U	17	U	107	J	16	U	16	U	17	U	17	U	16	U	17	U
Aroclor 1260	100	13.3	U	14.3	U	4.2	U	4.3	U	4	U	3.8	U	4.2	U	4.1	U	4	U	4.3	U

Sample ID:		4Z-78		4Z-89		4ZA-01		4ZC-01		4ZC-02		4ZC-12		4ZC-23		4ZC-34		4ZC-45		4ZC-56	
Sample Date:	UU-SCG [b]	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/20/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	8.2	U	22	U	20	U	7.6	U	8.3	U	7.5	U	7.2	U	7.3	U	8	U	8.2	U
Aroclor 1248	100	3.1	U	35,200	0	18	U	2.9	U	3.2	U	2.9	U	2.8	U	2.8	U	3	U	3.1	U
Aroclor 1254	100	19	U	32	U	29	U	17	U	49.2	J	17	U	16	U	17	U	18	U	19	U
Aroclor 1260	100	4.6	U	22	U	20	U	4.3	U	4.6	U	4.2	U	4	U	4.1	U	4.5	U	4.6	U

Sample ID:		4ZC-67		4ZC-78		4ZC-89		5P-01		5P-02		5P-12		5P-23		5P-34		5P-45		5P-56	
Sample Date:	UU-SCG [b]	3/20/2012		3/20/2012		3/20/2012		3/20/2012		3/19/2012		3/19/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	8	U	8.8	U	8.4	U	7.4	U	7.7	U	8	U	9	U	8.8	U	11	U	47.6	U
Aroclor 1248	100	3.1	U	3.4	U	3.2	U	10.1	U	10.5	U	11	U	12.3	U	12	U	72.3	J	4,610	
Aroclor 1254	100	18	U	20	U	19	U	7.4	U	529		8	U	9	U	8.8	U	11	U	47.6	U
Aroclor 1260	100	4.5	U	4.9	U	4.7	U	7.4	U	7.7	U	8	U	9	U	8.8	U	11	U	47.6	U

Sample ID:		5Y-01		5Y-12		5Y-23		5Y-34		5Y-45		5Y-56		5Y-67		5Z-01		5Z-02		5Z-12	
Sample Date:	UU-SCG [b]	8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	13.2	U	13.8	U	16	U	16.8	U	19.6	U	164	U	17.3	U	15.8	UJ	17.9	UJ	14.9	UJ
Aroclor 1248	100	14.2	U	14.9	U	17.2	U	18.1	U	21.1	U	6,680		317		17	UJ	19.3	UJ	16.1	UJ
Aroclor 1254	100	31.1	U	32.5	U	37.6	U	39.5	U	46	U	385	U	40.7	U	37.1	UJ	996	J	35.1	UJ
Aroclor 1260	100	10.4	U	10.9	U	12.6	U	13.2	U	15.4	U	129	U	13.6	U	12.4	UJ	14	UJ	11.7	UJ

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		5Z-23		5Z-34		5Z-45		5Z-56		5Z-67		5ZB-01		5ZB-02		5ZB-12		5ZB-23		5ZB-34	
Sample Date:	**UU-SCG ^{b}**	**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/28/2012**		**8/27/2012**		**8/28/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	13.7	UJ	13.4	UJ	14.2	UJ	16.1	UJ	1,750	UJ	19	U	22	U	19	U	19	U	19	U
Aroclor 1248	100	14.8	UJ	14.4	UJ	15.3	UJ	17.4	UJ	70,100	J	17	U	19	U	17	U	16	U	16	U
Aroclor 1254	100	32.3	UJ	31.5	UJ	33.3	UJ	38	UJ	4,120	UJ	28	U	38.5	J	28	U	27	U	27	U
Aroclor 1260	100	10.8	UJ	10.5	UJ	11.1	UJ	12.7	UJ	1,380	UJ	27.6	J	22	U	19	U	19	U	19	U

Sample ID:		5ZB-45		5ZB-56		5ZB-67		5ZB-78		5ZB-89		6Y-01		6Y-12		6Y-23		6Y-34		6Y-45	
Sample Date:	**UU-SCG ^{b}**	**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/19/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	20	U	18	U	18	U	21	U	22	U	13.3	U	15.6	U	15.5	U	1,450	U	1,640	U
Aroclor 1248	100	18	U	16	U	16	U	19	U	19	U	14.4	U	16.9	U	16.7	U	38,800		71,200	
Aroclor 1254	100	29	U	27	U	27	U	31	U	32	U	31.3	U	36.8	U	36.5	U	3,420	U	3,870	U
Aroclor 1260	100	20	U	19	U	19	U	21	U	22	U	10.5	U	12.3	U	12.2	U	1,140	U	1,290	U

Sample ID:		6Y-56		6Y-67		6Z-01		6Z-02		6Z-12		6Z-23		6Z-34		6Z-45		6Z-56		6Z-67	
Sample Date:	**UU-SCG ^{b}**	**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	155	U	17.1	U	15.3	UJ	16.5	UJ	14	UJ	13.9	UJ	13.5	UJ	15.5	UJ	15.9	UJ	1,870	UJ
Aroclor 1248	100	4,440		429		16.5	UJ	17.8	UJ	15.1	UJ	15	UJ	14.6	UJ	16.7	UJ	414	J	108,000	J
Aroclor 1254	100	365	U	40.2	U	36	UJ	83.1	J	33	UJ	32.7	UJ	31.8	UJ	36.5	UJ	37.4	UJ	4,400	UJ
Aroclor 1260	100	122	U	13.4	U	12	UJ	13	UJ	11	UJ	10.9	UJ	10.6	UJ	12.2	UJ	12.5	UJ	1,470	UJ

Sample ID:		6ZC-01		6ZC-02		6ZC-12		6ZC-23		6ZC-34		6ZC-34 Dup		6ZC-45		6ZC-56		6ZC-67		6ZC-78	
Sample Date:	**UU-SCG ^{b}**	**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**3/23/2012**		**8/31/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	7.1	U	8.4	U	7.4	U	7.4	U	7.6	U	7.7	U	8.6	U	7.6	U	8.2	U	9.2	U
Aroclor 1248	100	2.7	U	3.2	U	2.8	U	2.8	U	2.9	U	3	U	3.3	U	2.9	U	3.1	U	3.5	U
Aroclor 1254	100	53.7	J	41.3	J	17	U	17	U	17	U	18	U	20	U	17	U	19	U	21	U
Aroclor 1260	100	14.8	J	4.7	U	4.1	U	4.2	U	4.3	U	4.3	U	4.8	U	4.2	U	4.6	U	5.2	U

Sample ID:		6ZC-89		7Y-01		7Y-12		7Y-23		7Y-34		7Y-45		7Y-45 Dup		7Y-56		7Y-67		7Z-01	
Sample Date:	**UU-SCG ^{b}**	**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**	
PCBs (ug/kg)																					
Aroclor 1242	100	8.8	U	14.2	U	14.1	U	158	U	83.4	U	1,780	U	1,720	U	775	U	19.5	U	15.7	UJ
Aroclor 1248	100	3.4	U	15.3	U	15.2	U	5,600		3,280		96,400		72,500		17,200		21.1	U	16.9	UJ
Aroclor 1254	100	20	U	33.3	U	33.1	U	372	U	196	U	4,180	U	4,040	U	1,820	U	45.9	U	37	UJ
Aroclor 1260	100	4.9	U	11.1	U	11.1	U	124	U	65.6	U	1,400	U	1,350	U	609	U	15.3	U	12.3	UJ

Sample ID:		7Z-02		7Z-12		7Z-23		7Z-34		7Z-45		7Z-56		7Z-56 Dup		7Z-67		7ZB-01		7ZB-02	
Sample Date:	**UU-SCG ^{b}**	**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**10/25/2011**		**8/28/2012**		**8/28/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	16.5	UJ	15.3	UJ	14.5	UJ	14.1	UJ	14.2	UJ	307	UJ	877	UJ	1,690	UJ	20	U	24	U
Aroclor 1248	100	17.8	UJ	16.5	UJ	15.6	UJ	15.3	UJ	15.3	UJ	21,800	J	47,600	J	53,000	J	17	U	21	U
Aroclor 1254	100	474	J	36	UJ	34.1	UJ	33.3	UJ	33.4	UJ	722	UJ	2,060	UJ	3,990	UJ	57	J	34	U
Aroclor 1260	100	13	UJ	12	UJ	11.4	UJ	11.1	UJ	11.2	UJ	241	UJ	690	UJ	1,330	UJ	31.4	J	24	U

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		7ZB-12		7ZB-23		7ZB-34		7ZB-45		7ZB-56		7ZB-67		7ZB-78		7ZB-89		8Y-01		8Y-12	
Sample Date:	UU-SCG ^{b}	8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/28/2012		8/27/2012		8/28/2012		3/19/2012		3/19/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	19	U	18	U	17	U	20	U	22	U	23	U	25	U	25	U	13.1	U	13.9	U
Aroclor 1248	100	17	U	16	U	15	U	18	U	19	U	20	U	22	U	22	U	14.1	U	15	U
Aroclor 1254	100	59	J	27	U	26	U	30	U	32	U	33	U	37	U	37	U	30.8	U	32.6	U
Aroclor 1260	100	23.4	J	19	U	18	U	20	U	22	U	23	U	25	U	25	U	10.3	U	10.9	U

Sample ID:		8Y-23		8Y-34		8Y-45		8Y-56		8Z-01		8Z-02		8Z-12		8Z-23		8Z-34		8Z-45	
Sample Date:	UU-SCG ^{b}	3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/15/2012		3/15/2012		3/15/2012		3/15/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	15.3	U	328	U	172	U	158	U	15.5	UJ	14.8	UJ	15.3	UJ	16.4	UJ	15.7	UJ	15.6	UJ
Aroclor 1248	100	16.6	U	11,300		2,630		3,360		16.7	UJ	16	UJ	16.5	UJ	17.7	UJ	16.9	UJ	16.9	UJ
Aroclor 1254	100	36.1	U	771	U	405	U	372	U	50.9	J	245	J	36.1	UJ	38.7	UJ	36.9	UJ	36.8	UJ
Aroclor 1260	100	12.1	U	258	U	135	U	124	U	12.2	UJ	11.7	UJ	12.1	UJ	12.9	UJ	12.3	UJ	12.3	UJ

Sample ID:		8Z-56		8Z-67		8ZC-01		8ZC-01 Dup		8ZC-02		8ZC-12		8ZC-23		8ZC-34		8ZC-45		8ZC-56	
Sample Date:	UU-SCG ^{b}	3/15/2012		3/15/2012		3/15/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	1,520	UJ	1,850	UJ	8.3	U	7.6	U	8.2	U	7.4	U	7.7	U	8.2	U	8.5	U	8.6	U
Aroclor 1248	100	61,400	J	109,000	J	3.2	U	2.9	U	3.1	U	2.8	U	3	U	3.1	U	3.3	U	3.3	U
Aroclor 1254	100	3,590	UJ	4,360	UJ	61.8	J	58.2	J	49.5	J	89.7	J	178	0	19	U	19	U	20	U
Aroclor 1260	100	1,200	UJ	1,460	UJ	4.7	U	29.9	J	4.6	U	37.7	J	25.2	J	4.6	U	4.8	U	4.8	U

Sample ID:		8ZC-67		8ZC-78		8ZC-89		9Y-01		9Y-12		9Y-23		9Y-34		9Y-45		9Y-56		9Y-67	
Sample Date:	UU-SCG ^{b}	3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		3/23/2012		8/31/2012		8/31/2012		8/31/2012		8/31/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	8.6	U	9.4	U	9.7	U	13.4	U	13.7	U	15.9	U	15.9	U	798	U	1,690	U	35.1	U
Aroclor 1248	100	3.3	U	3.6	U	3.7	U	14.5	U	14.7	U	17.2	U	17.1	U	18,000		62,000		1,090	
Aroclor 1254	100	20	U	21	U	22	U	31.6	U	32.1	U	37.4	U	37.3	U	1,880	U	3,970	U	82.7	U
Aroclor 1260	100	4.8	U	5.2	U	5.4	U	10.6	U	10.7	U	12.5	U	12.5	U	628	U	1,330	U	27.6	U

Sample ID:		9Z-01		9Z-02		9Z-12		9Z-23		9Z-34		9Z-45		9Z-56		9Z-67		9ZB-01		9ZB-02	
Sample Date:	UU-SCG ^{b}	8/31/2012		8/31/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012		8/27/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	15.5	UJ	14.4	UJ	15	UJ	15	UJ	16.4	UJ	15.3	UJ	15.7	UJ	1,560	UJ	19	U	22	U
Aroclor 1248	100	16.7	UJ	15.6	UJ	16.2	UJ	16.1	UJ	17.7	UJ	16.5	UJ	93.9	J	67,700	J	17	U	19	U
Aroclor 1254	100	137	J	831	J	35.3	UJ	35.2	UJ	38.6	UJ	35.9	UJ	37	UJ	3,670	UJ	50.6	J	54.7	J
Aroclor 1260	100	12.2	UJ	11.3	UJ	11.8	UJ	11.8	UJ	12.9	UJ	12	UJ	12.4	UJ	1,230	UJ	28.4	J	22	U

Sample ID:		9ZB-12		9ZB-12 Dup		9ZB-23		9ZB-34		9ZB-45		9ZB-56		9ZB-67		9ZB-78		9ZB-89		FARFIELD 1-01	
Sample Date:	UU-SCG ^{b}	8/27/2012		8/27/2012		8/27/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012		3/19/2012	
PCBs (ug/kg)																					
Aroclor 1242	100	18	U	18	U	22	U	23	U	21	U	22	U	23	U	23	U	25	U	8.2	U
Aroclor 1248	100	16	U	16	U	19	U	20	U	19	U	20	U	20	U	20	U	22	U	3.1	U
Aroclor 1254	100	26	U	27	U	32	U	33	U	31	U	33	U	33	U	33	U	36	U	19	U
Aroclor 1260	100	18	U	18	U	22	U	23	U	22	U	23	U	23	U	23	U	25	U	69.1	J

Table 3

PCBs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**FARFIELD 1-02**		**FARFIELD 1-12**		**FARFIELD 1-23**		**FARFIELD 1-34**		**FARFIELD 1-45**		**FARFIELD 1-56**		**FARFIELD 1-67**		**FARFIELD 1-78**		**FARFIELD 1-89**		**FARFIELD 2-01**	
Sample Date:	**UU-SCG [b]**	**3/19/2012**		**3/19/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**		**3/15/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	8.7	U	7.4	U	7.2	U	7.2	U	7.6	U	7.3	U	7.3	U	7.7	U	9.8	U	7.6	U
Aroclor 1248	100	3.3	U	2.8	U	2.8	U	2.7	U	2.9	U	2.8	U	2.8	U	2.9	U	3.7	U	2.9	U
Aroclor 1254	100	43.3	J	17	U	17	U	16	U	17	U	17	U	17	U	18	U	22	U	85.5	J
Aroclor 1260	100	17.3	J	4.2	U	4.1	U	4	U	4.2	U	4.1	U	4.1	U	4.3	U	5.5	U	4.2	U

Sample ID:		**FARFIELD 2-02**		**FARFIELD 2-12**		**FARFIELD 2-23**		**FARFIELD 2-34**		**FARFIELD 2-45**		**FARFIELD 2-56**		**FARFIELD 2-67**		**FARFIELD 2-78**		**FARFIELD 2-89**		**FARFIELD 3-01**	
Sample Date:	**UU-SCG [b]**	**8/30/2012**		**8/30/2012**		**8/30/2012**		**8/30/2012**		**8/30/2012**		**8/30/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**	
PCBs (ug/kg)																					
Aroclor 1242	100	8.7	U	7.4	U	7.5	U	7.4	U	7.7	U	7.7	U	7.4	U	7.3	U	7.5	U	7.1	U
Aroclor 1248	100	3.3	U	2.8	U	2.9	U	2.8	U	3	U	2.9	U	2.9	U	2.8	U	2.9	U	2.7	U
Aroclor 1254	100	42.6	J	151		17	U	17	U	18	U	18	U	17	U	17	U	17	U	41.3	J
Aroclor 1260	100	4.8	U	37.3	J	4.2	U	4.1	U	4.3	U	4.3	U	4.2	U	4.1	U	4.2	U	3.9	U

Sample ID:		**FARFIELD 3-02**		**FARFIELD 3-12**		**FARFIELD 3-23**		**FARFIELD 3-34**		**FARFIELD 3-45**		**FARFIELD 3-56**		**FARFIELD 3-67**		**FARFIELD 3-78**		**FARFIELD 3-89**	
Sample Date:	**UU-SCG [b]**	**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**		**8/31/2012**	
PCBs (ug/kg)																			
Aroclor 1242	100	8.9	U	7.1	U	7.2	U	7.6	U	7.7	U	7.1	U	7.7	U	9	U	9.1	U
Aroclor 1248	100	3.4	U	2.7	U	2.8	U	2.9	U	2.9	U	2.7	U	2.9	U	3.4	U	3.5	U
Aroclor 1254	100	48	J	16	U	16	U	17	U	18	U	16	U	18	U	20	U	21	U
Aroclor 1260	100	18.6	J	4	U	4	U	4.2	U	4.3	U	4	U	4.3	U	5	U	5.1	U

Sample ID:	
Sample Date:	**UU-SCG [b]**
PCBs (ug/kg)	
Aroclor 1242	100
Aroclor 1248	100
Aroclor 1254	100
Aroclor 1260	100

Sample ID:	
Sample Date:	**UU-SCG [b]**
PCBs (ug/kg)	
Aroclor 1242	100
Aroclor 1248	100
Aroclor 1254	100
Aroclor 1260	100

Sample ID:	
Sample Date:	**UU-SCG [b]**
PCBs (ug/kg)	
Aroclor 1242	100
Aroclor 1248	100
Aroclor 1254	100
Aroclor 1260	100

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**12U-VOC-02**		**12U-VOC-57**		**12Z-VOC-02**		**12Z-VOC-57**		**MW-04-02**		**MW-04-24**		**MW-06-02**		**MW-06-24**	
Sample Date:		3/23/12		3/23/12		3/19/12		3/19/12		11/4/11		11/4/11		11/3/11		11/3/11	
VOCs (ug/kg)																	
1,1,2,2-Tetrachloroethane	-	1.8	U	2.2	U	0.78	U	0.89	U	14.3	U	12.7	U	0.47	UJ	0.55	U
1,1-Dichloroethane	270	1.5	U	1.9	U	0.66	U	0.76	U	13.1	U	11.6	U	0.4	U	0.46	U
1,1-Dichloroethene	330	0.97	U	1.2	U	0.42	U	0.49	U	14.3	U	12.7	U	0.19	U	0.22	U
1,2,3-Trichlorobenzene	-	0.59	U	2	J	0.61	U	0.67	U	20.3	U	17.9	U	0.26	UJ	0.31	U
1,2,4-Trichlorobenzene	-	0.59	U	4.2	J	0.61	U	0.67	U	20.3	U	17.9	U	0.34	UJ	0.39	U
1,2-Dichlorobenzene	1100	1.1	U	104		0.48	U	0.55	U	13.1	U	11.6	U	0.29	UJ	0.34	U
1,2-Dichloropropane	-	0.97	U	1.2	U	0.42	U	0.49	U	11.9	U	10.6	U	0.26	U	0.3	U
1,3-Dichlorobenzene	2400	1.5	U	6.3	J	0.67	U	0.77	U	17.5	U	15.5	U	0.41	UJ	0.47	U
1,4-Dichlorobenzene	1800	1.7	U	69.1		0.73	U	0.84	U	15.5	U	13.7	U	0.44	UJ	0.51	U
2-Butanone (MEK)	120	6.4	U	8	U	2.8	U	3.2	U	33.4	U	29.6	U	1.7	U	2	U
2-Hexanone	-	3.2	U	4	U	1.4	U	1.6	U	18.3	U	16.2	U	0.84	U	0.98	U
4-Methyl-2-pentanone (MIBK)	-	2.7	U	3.4	U	1.2	U	1.4	U	17.1	U	15.1	U	0.72	U	0.84	U
Acetone	50	20.7	J	14.9	U	5.2	U	51.3		177	U	156	U	11.5	UJ	70.8	J
Benzene	60	1.3	U	48.9		0.55	U	0.63	U	14.7	U	13	U	0.34	U	0.39	U
Carbon disulfide	-	1.3	U	1.6	U	0.55	U	0.63	U	18.7	U	16.5	U	0.24	U	4.1	U
Chloroform	370	0.89	U	1.1	U	0.39	U	0.59	J	12.3	U	10.9	U	0.24	U	1.6	J
Cyclohexane	-	1.4	J	2,050		0.53	U	0.58	U	10.8	U	89.4	J	0.31	U	2.5	J
Dibromochloromethane	-	1.3	U	1.6	U	0.55	U	0.63	U	13.5	U	12	U	0.34	U	0.39	U
Ethylbenzene	1000	1.5	U	12.9	J	0.63	U	0.73	U	16.7	U	14.8	U	0.39	U	0.45	U
Isopropylbenzene (Cumene)	-	0.46	U	16.6		0.48	U	0.52	U	229		8,450		0.21	UJ	0.24	U
m&p-Xylene	-	2.4	U	99.2		1.1	U	1.2	U	29.1	U	58.1	J	0.64	U	0.75	U
Methylcyclohexane	-	0.56	U	18.8		0.58	U	0.63	U	19.1	U	16.9	U	2.7	J	3.7	J
Methylene Chloride	50	2	U	36.7		0.87	U	1	U	199	U	176	U	2	J	16	
Methyl-tert-butyl ether	930	1.5	U	3.6	J	0.67	U	0.77	U	13.5	U	12	U	0.41	U	0.47	U
o-Xylene	-	1.6	U	18.4		0.69	U	0.8	U	14.3	U	55.2	J	0.42	U	0.49	U
Styrene	-	1.8	U	2.2	U	0.76	U	0.88	U	15.1	U	13.4	U	0.47	U	0.54	U
Tetrachloroethene	1300	1.3	U	1.6	U	0.55	U	0.63	U	15.9	U	14.1	U	0.34	U	0.39	U
Toluene	700	1.3	U	313		0.58	U	0.66	U	53.1	J	12	U	13.9		29.3	J
Trichlorofluoromethane	-	0.57	U	0.73	U	0.59	U	0.64	U	16.7	U	14.8	U	0.35	U	0.41	U
Xylene (Total)	260	4	U	118		1.7	U	2	U	43.4	U	113	J	1.1	U	1.2	U

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds;
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYCRR Part 375-6.8(a) Soil Cleanup Objectives;
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
R = Data Rejected due to quality control issues, refer to Appendix B.
d/ Sample and duplicate.

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	UU-SCG ^{b}	MW-09-02		MW-09-24		RI-SB-01-02		RI-SB-01-24		RI-SB-01b-02		RI-SB-01b-24		RI-SB-02-02		RI-SB-02-24		RI-SB-03-02		RI-SB-03-02 Dup	
Sample Date:		10/31/11		10/31/11		11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/4/11		11/4/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.29	UJ	0.26	UJ	0.55	U	19.7	U	0.5	U	0.51	U	0.47	U	25.6	U	0.23	U	0.28	U
1,1-Dichloroethane	270	0.26	U	0.24	U	0.47	U	16.7	U	0.42	U	0.43	U	0.4	U	21.7	U	0.21	U	0.25	U
1,1-Dichloroethene	330	0.29	U	0.26	U	0.22	U	8.1	U	0.2	U	0.21	U	0.19	U	10.5	U	0.23	U	0.28	U
1,2,3-Trichlorobenzene	-	0.41	UJ	0.38	UJ	0.31	U	11	U	0.28	U	0.29	U	0.27	U	14.4	U	0.33	U	0.39	U
1,2,4-Trichlorobenzene	-	0.41	UJ	0.38	UJ	0.39	U	14	U	0.36	U	0.37	U	0.34	U	18.2	U	0.33	U	0.39	U
1,2-Dichlorobenzene	1100	0.26	UJ	0.24	UJ	0.34	U	12.2	U	0.31	U	0.32	U	0.29	U	15.9	U	0.21	U	0.25	U
1,2-Dichloropropane	-	0.24	U	0.22	U	0.3	U	10.7	U	0.27	U	0.28	U	0.26	U	14	U	0.19	U	0.23	U
1,3-Dichlorobenzene	2400	0.35	UJ	0.32	UJ	0.47	U	17	U	0.43	U	0.44	U	0.41	U	22.1	U	0.28	U	0.34	U
1,4-Dichlorobenzene	1800	0.31	UJ	0.29	UJ	0.51	U	18.5	U	0.47	U	0.48	U	0.44	U	24.1	U	0.25	U	0.3	U
2-Butanone (MEK)	120	14.7	J	0.62	U	2	U	71.3	U	1.8	U	18.7		1.7	U	92.8	U	0.54	U	6.1	J
2-Hexanone	-	0.37	U	0.34	U	0.98	U	35.2	U	0.89	U	0.92	U	0.85	U	45.8	U	0.3	U	1.1	J
4-Methyl-2-pentanone (MIBK)	-	0.34	U	0.32	U	0.84	UJ	30.1	UJ	0.76	U	0.78	UJ	0.72	U	39.2	UJ	0.28	U	0.33	U
Acetone	50	136	J	20.6	U	3.6	U	130	U	3.3	U	113		3.1	U	168	U	6.4	U	65	J
Benzene	60	0.29	U	0.27	U	0.39	U	14	U	0.36	U	0.37	U	0.34	U	18.2	U	0.24	U	0.29	U
Carbon disulfide	-	2.6	J	2.4	J	0.28	U	10.1	U	0.26	U	0.26	U	0.24	U	13.2	U	0.3	U	0.36	U
Chloroform	370	4.6	J	0.23	U	0.27	U	9.8	U	0.25	U	0.26	U	0.24	U	12.8	U	0.2	U	0.24	U
Cyclohexane	-	1.9	J	0.2	U	0.37	U	13.1	U	0.33	U	0.34	U	0.32	U	17.1	U	0.17	U	0.21	U
Dibromochloromethane	-	0.27	U	0.25	U	0.39	U	14	U	0.36	U	0.37	U	0.34	U	18.2	U	0.22	U	0.26	U
Ethylbenzene	1000	0.33	U	0.31	U	0.45	U	16.1	U	0.41	U	0.42	U	0.39	U	21	U	0.27	U	0.32	U
Isopropylbenzene (Cumene)	-	21.7	J	3.8	J	0.24	U	8.7	U	0.22	U	0.23	U	0.21	U	11.3	U	0.26	U	0.31	U
m&p-Xylene	-	8	J	2.2	J	0.75	U	26.9	U	0.68	U	0.7	U	0.65	U	34.9	U	0.47	U	0.56	U
Methylcyclohexane	-	8.4	J	2.1	J	0.38	U	13.7	U	2.8	J	2.9	J	2.7	J	17.9	U	0.31	U	0.37	U
Methylene Chloride	50	14.7	J	3.5	J	4.2	U	60.6	J	0.56	U	5.6	U	0.53	U	60.9	J	3.2	U	0.41	U
Methyl-tert-butyl ether	930	0.27	U	0.25	U	0.47	U	17	U	0.43	U	0.44	U	0.41	U	22.1	U	0.22	U	0.26	U
o-Xylene	-	0.29	U	0.26	U	0.49	U	17.6	U	0.45	U	0.46	U	0.42	U	22.9	U	0.23	U	0.28	U
Styrene	-	0.3	U	0.28	U	0.54	U	19.4	U	0.49	U	0.5	U	0.47	U	25.2	U	0.24	U	0.29	U
Tetrachloroethene	1300	0.32	U	0.29	U	0.39	U	14	U	0.36	U	0.37	U	0.34	U	18.2	U	0.26	U	0.31	U
Toluene	700	87.5	J	6.7	J	1	J	14.6	U	0.37	U	0.38	U	0.35	U	57.2	J	0.22	U	0.26	U
Trichlorofluoromethane	-	0.33	U	0.31	U	0.41	U	14.6	U	0.37	U	0.38	U	0.35	U	19	U	0.27	U	0.32	U
Xylene (Total)	260	NA		NA		1.2	U	44.2	U	1.1	U	1.1	U	1.1	U	57.5	U	0.7	U	0.84	U

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG ^{b}**	**RI-SB-03-24**		**RI-SB-04-02**		**RI-SB-04-24**		**RI-SB-05-02**		**RI-SB-05-24**		**RI-SB-06-02**		**RI-SB-06-24**		**RI-SB-11-02**		**RI-SB-11-02 Dup**		**RI-SB-11-24**	
Sample Date:		11/4/11		11/9/11		11/9/11		11/3/11		11/3/11		11/3/11		11/3/11		10/31/11		10/31/11		10/31/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.54	U	0.52	U	24.1	U	0.52	U	0.43	U	0.37	UJ	0.54	U	0.29	UJ	0.3	UJ	0.28	U
1,1-Dichloroethane	270	0.46	U	0.44	U	20.4	U	0.44	U	0.37	U	0.31	UJ	0.45	U	0.27	U	0.27	U	0.26	U
1,1-Dichloroethene	330	0.22	UJ	0.21	U	9.8	U	0.21	U	0.18	U	0.15	UJ	0.22	U	0.29	U	0.3	U	0.28	U
1,2,3-Trichlorobenzene	-	0.3	U	0.29	U	13.5	U	0.29	U	0.24	U	0.21	UJ	0.3	U	0.42	UJ	0.42	UJ	0.4	U
1,2,4-Trichlorobenzene	-	0.39	U	0.37	U	17.1	U	0.37	U	0.31	U	0.26	UJ	0.38	U	0.42	UJ	0.42	UJ	0.4	UJ
1,2-Dichlorobenzene	1100	0.34	U	0.32	U	14.9	U	0.32	U	0.27	U	0.23	UJ	0.33	U	0.27	UJ	0.27	UJ	0.26	U
1,2-Dichloropropane	-	0.3	U	0.28	U	13.1	U	0.28	U	0.24	U	0.2	UJ	0.29	U	0.24	U	0.25	U	0.23	U
1,3-Dichlorobenzene	2400	0.47	U	0.45	U	20.8	U	0.45	U	0.37	U	0.32	UJ	0.46	U	0.36	UJ	0.37	UJ	0.34	U
1,4-Dichlorobenzene	1800	0.51	U	0.49	U	22.6	U	0.49	U	0.41	U	0.35	UJ	0.5	U	0.32	UJ	0.32	UJ	0.3	U
2-Butanone (MEK)	120	14.6	J	25.6	J	87.1	U	1.9	U	1.6	U	1.3	UJ	12.7		33	J	30.2	J	24.4	
2-Hexanone	-	0.97	U	0.93	U	43	U	0.93	U	0.77	U	0.66	UJ	0.96	U	0.38	U	0.38	U	0.36	U
4-Methyl-2-pentanone (MIBK)	-	0.83	U	0.8	U	36.8	UJ	0.8	U	0.66	U	0.57	U	0.82	U	0.35	U	0.36	U	0.34	U
Acetone	50	77.9	J	68.6	J	377		3.4	UJ	37.5	UJ	2.4	UR	94.3	J	215	J	166	J	176	J
Benzene	60	0.39	U	8.1		17.1	U	0.37	U	0.31	U	0.26	UJ	0.38	U	0.3	U	0.31	U	0.29	U
Carbon disulfide	-	0.28	U	2.7	J	12.4	U	0.27	U	0.22	U	0.19	UJ	4.1	U	4.2	J	4.6	J	3.6	J
Chloroform	370	0.27	U	0.26	U	12	U	0.26	U	0.22	U	0.19	UJ	0.27	U	2.8	J	0.26	U	2.1	J
Cyclohexane	-	0.36	U	27.8		141	J	0.35	U	0.29	U	0.25	UJ	0.36	U	1.6	J	1.6	J	1.4	J
Dibromochloromethane	-	0.39	U	0.37	U	17.1	U	0.37	U	0.31	U	0.26	UJ	0.38	U	0.28	U	0.28	U	0.27	U
Ethylbenzene	1000	0.44	U	0.43	U	114	J	0.43	U	0.35	U	0.3	UJ	0.44	U	0.34	U	0.35	U	0.33	U
Isopropylbenzene (Cumene)	-	161	J	4		319		0.23	U	0.19	U	0.16	UJ	0.24	U	5.2	J	3.6	J	11.9	
m&p-Xylene	-	0.74	U	7.9	J	294	J	0.71	U	0.59	U	0.51	UJ	0.73	U	4.6	J	0.61	U	5.9	J
Methylcyclohexane	-	3	J	23.7		147	J	0.36	U	0.3	U	0.26	UJ	2.9	J	3.1	J	3.5	J	3.9	J
Methylene Chloride	50	4.1	U	9	U	182	U	1.5	J	5.9		1.7	J	5.3		13.9	J	8.4	J	10.9	
Methyl-tert-butyl ether	930	0.47	U	0.45	U	20.8	U	0.45	U	0.37	U	0.32	U	0.46	U	0.28	U	0.28	U	0.27	U
o-Xylene	-	0.48	U	6.2		41.9	J	0.47	U	0.39	U	0.33	UJ	0.48	U	0.29	U	0.3	U	0.28	U
Styrene	-	0.53	U	0.51	U	23.7	U	0.51	U	0.43	U	0.36	UJ	0.53	U	0.31	U	0.32	U	0.3	U
Tetrachloroethene	1300	0.39	U	0.37	U	17.1	U	0.37	U	0.31	U	0.26	UJ	0.38	U	0.33	U	0.33	U	0.31	U
Toluene	700	0.4	U	15		176	J	5.5		12.8		0.27	UJ	15.2		74.4	J	13.5	J	29.3	
Trichlorofluoromethane	-	0.4	UJ	0.39	U	17.9	U	0.39	U	0.32	U	0.27	UJ	0.4	U	0.34	U	0.35	U	0.33	U
Xylene (Total)	260	1.2	U	14		336	J	1.2	U	0.97	U	0.83	UJ	1.2	U	NA		NA		NA	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG ^{b}**	**RI-SB-12-02**		**RI-SB-12-24**		**RI-SB-13-02**		**RI-SB-13-35**		**RI-SB-14-02**		**RI-SB-14-24**		**RI-SB-15-02**		**RI-SB-15-24**		**RI-SB-16-02**		**RI-SB-16-24**	
Sample Date:		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/2/11		11/2/11		11/2/11		11/2/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	11.9	U	0.27	U	0.26	U	11.9	U	0.28	UJ	0.27	U	14.6	U	19.9	U	13.6	U	16.7	U
1,1-Dichloroethane	270	10.9	U	0.25	U	0.24	U	11	U	0.26	U	0.25	U	13.4	U	18.3	U	12.5	U	15.3	U
1,1-Dichloroethene	330	11.9	U	0.27	U	0.26	U	11.9	U	0.28	U	0.27	U	14.6	U	19.9	U	13.6	U	16.7	U
1,2,3-Trichlorobenzene	-	16.8	U	0.38	U	0.37	U	16.9	UJ	0.39	UJ	0.39	U	20.7	U	28.2	U	19.3	U	23.7	U
1,2,4-Trichlorobenzene	-	16.8	U	0.38	U	0.37	U	16.9	UJ	0.39	UJ	0.39	U	20.7	U	28.2	U	19.3	U	23.7	U
1,2-Dichlorobenzene	1100	10.9	U	0.25	U	0.24	U	11	U	0.26	UJ	0.25	U	13.4	U	18.3	U	12.5	U	15.3	U
1,2-Dichloropropane	-	9.9	U	0.22	U	0.22	U	10	U	0.23	U	0.23	U	12.2	U	16.6	U	11.4	U	13.9	U
1,3-Dichlorobenzene	2400	14.5	U	0.33	U	0.32	U	14.6	U	0.34	UJ	0.33	U	17.9	U	24.4	U	16.7	U	20.4	U
1,4-Dichlorobenzene	1800	12.9	U	0.29	U	0.28	U	12.9	U	0.3	UJ	0.3	U	15.8	U	21.6	U	14.8	U	18.1	U
2-Butanone (MEK)	120	27.7	U	7.8		0.61	U	27.9	U	0.65	U	0.64	U	34.1	U	46.5	U	31.8	U	39	U
2-Hexanone	-	15.2	U	0.34	U	0.33	U	15.3	U	0.36	U	0.35	U	18.7	U	25.5	U	17.4	U	21.3	U
4-Methyl-2-pentanone (MIBK)	-	14.2	U	0.32	U	0.31	U	14.3	U	0.33	U	0.33	U	17.5	U	23.8	U	16.3	U	19.9	U
Acetone	50	146	U	146		3.2	U	147	U	7.7	U	71.4		180	U	246	U	168	U	206	U
Benzene	60	12.2	U	0.28	U	0.27	U	12.3	U	0.29	U	0.28	U	52.3	J	348		14	U	17.2	U
Carbon disulfide	-	15.5	U	1.5	J	0.34	U	15.6	U	0.36	U	1.1	J	19.1	U	26	U	17.8	U	21.8	U
Chloroform	370	10.2	U	0.23	U	0.22	U	10.3	U	2.6	J	1.3	J	12.6	U	17.2	U	11.7	U	14.4	U
Cyclohexane	-	8.9	U	0.2	U	0.2	U	9	U	0.21	U	0.21	U	117	J	258	J	82.8	J	121	J
Dibromochloromethane	-	11.2	U	0.25	U	0.25	U	11.3	U	0.26	U	0.26	U	13.8	U	18.8	U	12.9	U	15.8	U
Ethylbenzene	1000	13.8	U	0.31	U	0.3	U	13.9	U	0.32	U	2.1	J	6,920	J	39,800		13,400	J	45,200	J
Isopropylbenzene (Cumene)	-	13.2	U	4.2		0.29	U	118	J	0.31	UJ	7		1,060	J	3,650		1,320	J	3,900	J
m&p-Xylene	-	24.1	U	7.1	J	0.53	U	77	J	9.7	J	298		312,000	J	1,600,000		152,000	J	407,000	J
Methylcyclohexane	-	15.8	U	0.36	U	0.35	U	15.9	U	0.37	U	0.37	U	605	J	1,100		582	J	935	J
Methylene Chloride	50	165	U	4.6		2.6	J	55.7	UR	10.1	J	7.3		203	U	277	U	189	U	232	U
Methyl-tert-butyl ether	930	11.2	U	0.25	U	0.25	U	11.3	U	0.26	U	0.26	U	13.8	U	18.8	U	12.9	U	15.8	U
o-Xylene	-	11.9	U	0.27	U	0.26	U	11.9	U	0.28	U	0.27	U	4,550	J	19,600		4,100	J	12,800	J
Styrene	-	12.5	U	0.28	U	0.27	U	12.6	UJ	0.29	U	0.29	U	15.4	U	21	U	14.4	U	17.6	U
Tetrachloroethene	1300	13.2	U	0.3	U	0.29	U	13.3	U	0.31	U	0.3	U	16.2	U	22.2	U	15.2	U	18.6	U
Toluene	700	11.2	U	17.9		1.3	J	89.9	J	5	J	26.5		9,160	J	44,400		303	J	794	J
Trichlorofluoromethane	-	13.8	U	0.31	U	0.3	U	13.9	U	0.32	U	0.32	U	17	U	23.3	U	15.9	U	19.5	U
Xylene (Total)	260	35.9	U	7.1	J	0.79	U	77	J	9.7	J	298		316,000	J	1,620,000		157,000	J	420,000	J

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG ^{b}**	**RI-SB-17-02**		**RI-SB-17-24**		**RI-SB-18-02**		**RI-SB-18-35**		**RI-SB-19-02**		**RI-SB-19-24**		**RI-SB-20-02**		**RI-SB-20-02 Dup**		**RI-SB-20-46**		**RI-SB-21-02**	
Sample Date:		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11		10/31/11		10/27/11		10/27/11		10/27/11		10/27/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.27	U	0.29	U	13.6	U	0.26	U	14.4	U	0.27	U	0.62	U	30.4	U	0.72	U	0.67	U
1,1-Dichloroethane	270	0.25	U	0.27	U	12.5	U	0.24	U	13.2	U	0.24	U	0.52	U	0.53	U	0.61	U	0.57	U
1,1-Dichloroethene	330	0.27	U	0.29	U	13.6	U	0.26	U	14.4	U	0.27	U	0.25	U	0.25	U	0.29	U	0.27	U
1,2,3-Trichlorobenzene	-	0.39	U	0.41	U	19.2	U	0.37	U	20.4	U	0.38	U	0.35	U	0.35	U	0.4	U	0.37	U
1,2,4-Trichlorobenzene	-	0.39	U	0.41	U	19.2	U	0.37	U	20.4	UJ	0.38	UJ	0.44	U	0.44	U	0.51	U	0.48	U
1,2-Dichlorobenzene	1100	0.25	U	0.27	U	12.5	U	0.24	U	13.2	U	0.24	U	0.38	U	18.9	U	0.44	U	0.42	U
1,2-Dichloropropane	-	0.23	U	0.24	U	11.3	U	0.22	U	12	U	0.22	U	0.34	U	0.34	U	0.39	U	0.36	U
1,3-Dichlorobenzene	2400	0.34	U	0.35	U	16.6	U	0.32	U	17.6	U	0.32	U	0.53	U	26.3	U	0.62	U	0.58	U
1,4-Dichlorobenzene	1800	0.3	U	0.31	U	14.7	U	0.28	U	15.6	U	0.29	U	0.58	U	28.6	U	0.67	U	0.63	U
2-Butanone (MEK)	120	0.64	U	0.67	U	31.7	U	10.2		33.7	U	13		17.5		19.2		42.9		21.6	
2-Hexanone	-	0.35	U	0.37	U	17.4	U	0.33	U	18.4	U	0.34	U	1.1	U	1.1	U	1.3	U	1.2	U
4-Methyl-2-pentanone (MIBK)	-	0.33	U	0.35	U	16.2	U	0.31	U	17.2	U	0.32	U	0.95	U	0.95	U	1.1	U	1	U
Acetone	50	11.9	U	25.7	U	168	U	66.1	J	178	U	129	J	110		94.5		281		124	
Benzene	60	0.28	U	0.3	U	14	U	0.27	U	14.8	U	0.27	U	0.44	U	0.44	U	0.51	U	15.4	
Carbon disulfide	-	0.36	U	0.38	U	17.7	U	2.1	J	18.8	U	0.35	U	2.4	J	3.1	J	2.9	J	1.8	J
Chloroform	370	1.5	J	1.2	J	11.7	U	0.22	U	12.4	U	0.23	U	0.31	U	0.31	U	0.36	U	0.33	U
Cyclohexane	-	0.21	U	0.22	U	10.2	U	0.2	U	10.8	U	0.2	U	0.41	U	0.42	U	0.48	U	0.45	U
Dibromochloromethane	-	0.26	U	0.27	U	12.8	U	0.25	U	13.6	U	0.25	U	0.44	U	0.44	U	0.51	U	0.48	U
Ethylbenzene	1000	0.32	U	0.34	U	15.9	U	0.3	U	16.8	U	0.31	U	5.8		0.51	U	3.6	J	16.8	
Isopropylbenzene (Cumene)	-	0.31	U	0.32	U	15.1	U	3.6		274		3.9		12.9		0.27	U	11.1		31.4	
m&p-Xylene	-	2.1	J	5.8	J	27.6	U	0.53	U	29.3	U	11.8		84.5		2	J	64.2		229	
Methylcyclohexane	-	0.37	U	0.39	U	193	J	0.35	U	151	J	0.35	U	2	J	1.6	J	2.2	J	3.1	J
Methylene Chloride	50	15		4.7		20	U	6		95.5	J	3.7		4.1	J	1.4	J	6		3.6	J
Methyl-tert-butyl ether	930	0.26	U	0.27	U	12.8	U	0.25	U	13.6	U	0.25	U	0.53	U	0.54	U	0.62	U	0.58	U
o-Xylene	-	0.27	U	0.29	U	13.6	U	0.26	U	14.4	U	1.3	J	11.6		3.4	J	9.2		9.1	
Styrene	-	0.29	U	0.31	U	14.3	U	0.27	U	15.2	U	0.28	U	0.61	U	0.61	U	0.7	U	0.66	U
Tetrachloroethene	1300	0.31	U	0.32	U	15.1	U	0.29	U	16	U	0.3	U	0.44	U	0.44	U	0.51	U	0.48	U
Toluene	700	3.6	J	0.27	U	12.8	U	7.3		54.2	J	6.3		31.5		0.46	U	52.9		28.2	
Trichlorofluoromethane	-	0.32	U	0.34	U	15.9	U	0.3	U	16.8	U	0.31	U	0.46	U	0.46	U	0.53	U	0.5	U
Xylene (Total)	260	2.1	J	5.8	J	NA		NA		NA		NA		96.2		5.3	J	73.4		238	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG ^{b}**	**RI-SB-21-46**		**RI-SB-22-02**		**RI-SB-22-24**		**RI-SB-23-02**		**RI-SB-23-24**		**RI-SB-24-02**		**RI-SB-24-24**		**RI-SB-25-02**		**RI-SB-25-02 Dup**		**RI-SB-25-35**	
Sample Date:		10/27/11		11/2/11		11/2/11		11/1/11		11/1/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	19.4	U	29.9	U	0.3	U	13.5	U	14.2	U	0.27	UJ	0.21	U	0.28	U	0.23	U	0.23	U
1,1-Dichloroethane	270	17.8	U	25.4	U	0.28	U	12.4	U	13	U	0.25	U	0.2	U	0.25	U	0.21	U	0.21	U
1,1-Dichloroethene	330	19.4	U	12.2	U	0.3	U	13.5	U	14.2	U	0.27	U	0.21	U	0.28	U	0.23	U	0.23	U
1,2,3-Trichlorobenzene	-	199	U	16.8	U	0.43	U	19.2	U	20.2	U	0.38	UJ	0.3	U	0.39	U	0.33	U	0.33	U
1,2,4-Trichlorobenzene	-	253	U	21.3	U	0.43	U	19.2	U	20.2	U	0.38	UJ	0.3	U	0.39	U	0.33	U	0.33	U
1,2-Dichlorobenzene	1100	17.8	U	18.6	U	0.28	U	12.4	U	13	U	0.25	UJ	0.2	U	0.25	U	0.21	U	0.21	U
1,2-Dichloropropane	-	16.1	U	16.3	U	0.25	U	11.3	U	11.9	U	0.22	U	0.18	U	0.23	U	0.19	U	0.19	U
1,3-Dichlorobenzene	2400	23.7	U	25.9	U	0.37	U	16.5	U	17.4	U	0.33	UJ	0.26	U	0.34	U	0.28	U	0.28	U
1,4-Dichlorobenzene	1800	21	U	28.1	U	0.33	U	14.7	U	15.4	U	0.29	UJ	0.23	U	0.3	U	0.25	U	0.25	U
2-Butanone (MEK)	120	733		108	U	41.3	J	31.6	U	33.2	U	0.63	U	0.5	U	0.64	U	0.54	U	0.54	U
2-Hexanone	-	24.8	U	53.5	U	0.39	U	17.3	U	18.2	U	0.34	U	0.27	U	0.35	U	0.29	U	0.3	U
4-Methyl-2-pentanone (MIBK)	-	23.1	U	5,600		0.36	U	16.2	U	17	U	0.32	U	0.26	U	0.33	U	0.28	U	0.28	U
Acetone	50	340	J	197	UJ	211	J	167	U	176	U	3.3	U	49.8	U	58.6	J	20.9	U	2.9	U
Benzene	60	1,130		21.3	U	0.31	U	13.9	U	14.6	U	0.28	U	0.22	U	0.28	U	0.24	U	0.24	U
Carbon disulfide	-	138	J	15.4	U	4.6	J	17.7	U	18.6	U	0.35	U	0.28	U	0.36	U	0.3	U	0.3	U
Chloroform	370	16.7	U	15	U	0.26	U	11.6	U	12.3	U	0.23	U	0.18	U	2	J	0.2	U	0.2	U
Cyclohexane	-	237	U	374	J	2.9	J	643	J	10.7	U	0.2	U	0.16	U	0.21	U	0.17	U	0.17	U
Dibromochloromethane	-	18.3	U	21.3	U	0.28	U	12.8	U	13.4	U	0.25	U	0.2	U	0.26	U	0.22	U	0.22	U
Ethylbenzene	1000	19,500		4,110	J	9.9	J	4,150	J	652		0.31	U	0.25	U	0.32	U	0.27	U	0.27	U
Isopropylbenzene (Cumene)	-	19,000		7,170	J	141	J	6,350	J	290		0.3	UJ	0.24	U	3.6	J	2.5	J	0.26	U
m&p-Xylene	-	327,000		37,800	J	111	J	254,000	J	203,000		2.9	J	0.44	U	12.9		8.2		0.47	U
Methylcyclohexane	-	2,240	J	910	J	9.7	J	2,570	J	87.5	J	0.36	U	0.29	U	0.37	U	0.31	U	0.31	U
Methylene Chloride	50	28.5	U	227	U	12.4	J	188	U	198	U	0.4	U	3	U	31		8.5		3.2	U
Methyl-tert-butyl ether	930	18.3	U	25.9	U	0.28	U	12.8	U	13.4	U	0.25	U	0.2	U	0.26	U	0.22	U	0.22	U
o-Xylene	-	41,500		18,100	J	43.3	J	22,100	J	1,110		0.27	U	0.21	U	3.3	J	2.8	J	0.23	U
Styrene	-	20.5	U	29.5	U	0.32	U	14.3	U	15	U	0.28	U	0.23	U	0.29	U	0.24	U	0.24	U
Tetrachloroethene	1300	158	J	118	J	0.34	U	15	U	15.8	U	0.3	U	0.24	U	0.31	U	0.26	U	0.26	U
Toluene	700	17,800		14,500	J	57.8	J	2,150	J	837		18.6	J	0.2	U	189		159		0.22	U
Trichlorofluoromethane	-	264	U	22.2	U	0.35	U	15.8	U	16.6	U	0.31	U	0.25	U	0.32	U	0.27	U	0.27	U
Xylene (Total)	260	368,000		56,000	J	154	J	276,000	J	204,000		2.9	J	0.65	U	16.1		11		0.7	U

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-26-02**		**RI-SB-26-24**		**RI-SB-27-02**		**RI-SB-27-35**		**RI-SB-28-02**		**RI-SB-28-24**		**RI-SB-29-02**		**RI-SB-29-02 Dup**		**RI-SB-29-24**		**RI-SB-30-02**	
Sample Date:		11/2/11		11/2/11		10/31/11		10/31/11		11/3/11		10/31/11		11/1/11		11/1/11		11/1/11		10/27/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.48	U	0.47	U	0.3	U	0.27	U	0.57	U	12	U	11	U	10.4	U	10.9	U	28.4	U
1,1-Dichloroethane	270	0.4	U	0.4	U	0.27	U	0.25	U	0.48	U	11	U	10.1	U	9.6	U	10	U	24.1	U
1,1-Dichloroethene	330	0.2	U	0.19	U	0.3	U	0.27	U	0.23	U	12	U	11	U	10.4	U	10.9	U	11.6	U
1,2,3-Trichlorobenzene	-	0.27	U	0.27	U	0.42	U	0.39	U	0.31	U	16.9	U	15.6	U	14.8	U	15.5	U	15.9	U
1,2,4-Trichlorobenzene	-	0.34	U	0.34	U	0.42	UJ	0.39	U	0.4	U	16.9	U	15.6	U	14.8	U	15.5	U	20.2	U
1,2-Dichlorobenzene	1100	0.3	U	0.29	U	0.27	U	0.25	U	0.35	U	11	U	10.1	U	9.6	U	10	U	17.6	U
1,2-Dichloropropane	-	0.26	U	0.26	U	0.25	U	0.23	U	0.31	U	10	U	9.1	U	8.7	U	9.1	U	15.5	U
1,3-Dichlorobenzene	2400	0.41	U	0.41	U	0.37	U	0.34	U	0.49	U	14.6	U	13.4	U	12.7	U	13.4	U	24.5	U
1,4-Dichlorobenzene	1800	0.45	U	0.44	U	0.32	U	0.3	U	0.53	U	13	U	11.9	U	11.3	U	11.9	U	26.7	U
2-Butanone (MEK)	120	1.7	U	1.7	U	11.4		13		17.8		27.9	U	25.6	U	24.3	U	25.5	U	103	U
2-Hexanone	-	0.85	U	0.85	U	0.38	U	0.35	U	1	U	15.3	U	14	U	13.3	U	14	U	50.7	U
4-Methyl-2-pentanone (MIBK)	-	0.73	U	0.72	U	0.36	U	0.33	U	0.87	U	14.3	U	13.1	U	12.5	U	13.1	U	43.4	U
Acetone	50	3.1	U	3.1	U	85	J	82.5	J	124	J	148	U	135	U	129	U	135	U	187	U
Benzene	60	0.34	U	0.34	U	1.4	J	0.28	U	0.4	U	12.3	U	11.3	U	10.7	U	11.3	U	20.2	U
Carbon disulfide	-	0.25	U	0.24	U	2.1	J	0.36	U	4.3	U	15.6	U	14.3	U	13.6	U	14.3	U	14.6	U
Chloroform	370	1.3	J	0.24	U	1.7	J	0.24	U	0.28	U	10.3	U	9.5	U	9	U	9.4	U	14.2	U
Cyclohexane	-	0.32	U	0.32	U	1.6	J	0.21	U	2.5	J	9	U	8.2	U	7.8	U	8.2	U	156	J
Dibromochloromethane	-	0.34	U	0.34	U	0.28	U	0.26	U	0.4	U	11.3	U	10.4	U	9.9	U	10.3	U	20.2	U
Ethylbenzene	1000	0.39	U	0.39	U	0.35	U	1.8	J	61.5		76.7	J	116	J	117	J	12.8	U	6,240	
Isopropylbenzene (Cumene)	-	0.21	U	0.21	U	4.3		4.8		22.4		337		166		11.6	U	12.2	U	5,610	
m&p-Xylene	-	5.5	J	5.2	J	4.1	J	10.7		12,800		2,620		6,180		7,420		22.2	U	23,700	
Methylcyclohexane	-	2.8	J	0.33	U	3.2	J	0.37	U	3.7	J	16	U	14.6	U	13.9	U	14.6	U	1,450	
Methylene Chloride	50	16.7	U	3.6	U	6.5		0.4	U	70.6	J	17.6	U	152	U	145	U	48.4	U	31.8	U
Methyl-tert-butyl ether	930	0.41	U	0.41	U	0.28	U	0.26	U	0.49	U	11.3	U	10.4	U	9.9	U	10.3	U	24.5	U
o-Xylene	-	0.43	U	0.42	U	0.3	U	5.7		20.2		227		235		304		10.9	U	11,200	
Styrene	-	0.47	U	0.47	U	0.32	U	0.29	U	0.56	U	12.6	U	11.6	U	11	U	11.6	U	440	
Tetrachloroethene	1300	0.34	U	0.34	U	0.33	U	0.3	U	0.4	U	13.3	U	12.2	U	11.6	U	12.2	U	20.2	U
Toluene	700	0.35	U	0.35	U	33		0.26	U	11.1		11.3	U	10.4	U	9.9	U	10.3	U	17,000	
Trichlorofluoromethane	-	0.35	U	0.35	U	0.35	U	0.32	U	0.42	U	14	U	12.8	U	12.2	U	12.8	U	21.1	U
Xylene (Total)	260	5.5	J	5.2	J	NA		NA		12,800		NA		6,420		7,730		33.1	U	34,800	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-30-46**		**RI-SB-31-02**		**RI-SB-31-46**		**RI-SB-32-02**		**RI-SB-32-57**		**RI-SB-33-02**		**RI-SB-33-24**		**RI-SB-33b-02**		**RI-SB-33b-24**		**RI-SB-34-02**	
Sample Date:		10/27/11		10/27/11		10/27/11		10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	32.5	U	0.67	U	0.64	U	18.4	U	0.59	U	23.7	U	19.9	U	0.3	U	0.25	U	0.26	U
1,1-Dichloroethane	270	27.6	U	0.57	U	0.55	U	16.8	U	0.5	U	20.1	U	16.9	U	0.27	U	0.23	U	0.23	U
1,1-Dichloroethene	330	13.3	U	0.27	U	0.26	U	18.4	U	0.24	U	9.7	U	8.1	U	0.3	U	0.25	U	0.26	U
1,2,3-Trichlorobenzene	-	18.2	U	0.38	U	0.36	U	189	U	0.33	U	13.3	U	11.1	U	0.42	UJ	0.35	U	0.36	U
1,2,4-Trichlorobenzene	-	23.1	U	0.48	U	0.46	U	240	U	0.42	U	16.9	U	14.1	U	0.42	UJ	0.35	U	0.36	U
1,2-Dichlorobenzene	1100	20.2	U	0.42	U	0.4	U	16.8	U	0.37	U	14.7	U	12.3	U	0.27	UJ	0.23	U	0.23	U
1,2-Dichloropropane	-	17.7	U	0.37	U	0.35	U	15.3	U	0.32	U	12.9	U	10.8	U	0.25	U	0.21	U	0.21	U
1,3-Dichlorobenzene	2400	28.1	U	0.58	U	0.56	U	22.5	U	0.51	U	20.4	U	17.2	U	0.36	UJ	0.3	U	0.31	U
1,4-Dichlorobenzene	1800	30.5	U	0.63	U	0.6	U	19.9	U	0.55	U	22.2	U	18.7	U	0.32	UJ	0.27	U	0.28	U
2-Butanone (MEK)	120	118	U	48		25.4		42.9	U	186		85.7	U	71.9	U	0.69	U	0.57	U	0.6	U
2-Hexanone	-	58.1	U	1.2	U	1.2	U	23.5	U	1.1	U	42.3	U	35.5	U	0.38	U	0.31	U	0.33	U
4-Methyl-2-pentanone (MIBK)	-	49.7	U	1	U	0.98	U	21.9	U	0.9	U	36.2	U	30.4	U	0.35	U	0.29	U	0.31	U
Acetone	50	245	J	173		58.7		227	U	354		156	UJ	131	UJ	3.6	U	20.6	U	7.1	U
Benzene	60	62.3	J	3.9	J	14.6		3,190		112		16.9	U	14.1	U	0.3	U	3.5		1	J
Carbon disulfide	-	16.7	U	8.4		1.9	J	465		1.9	J	12.2	U	10.2	U	0.39	U	0.32	U	0.33	U
Chloroform	370	16.2	U	0.34	U	0.32	U	15.8	U	0.29	U	11.8	U	9.9	U	1.2	J	1	J	1.2	J
Cyclohexane	-	62.9	J	6.3	J	19.4		1,090	J	14.9		15.8	U	13.2	U	1.9	J	0.18	U	1.2	J
Dibromochloromethane	-	23.1	U	0.48	U	0.46	U	17.4	U	0.42	U	16.9	U	14.1	U	0.28	U	0.23	U	0.24	U
Ethylbenzene	1000	6,840		39.5		118		5,660		248		62.6	J	16.3	U	0.35	U	0.29	U	0.3	U
Isopropylbenzene (Cumene)	-	11,400		148		190		6,840		139		342		379		0.33	UJ	0.27	U	8.9	
m&p-Xylene	-	27,700		305		29,000		59,700		25,000		448		240	J	0.6	U	5.8	J	4.2	J
Methylcyclohexane	-	409	J	46.1		81.8		4,970	J	56.6		16.5	U	115	J	0.39	U	0.33	U	3.5	J
Methylene Chloride	50	36.4	U	2.3	J	0.72	U	27.1	U	1.6	J	179	U	150	U	13.5	J	14		7.5	
Methyl-tert-butyl ether	930	28.1	U	0.58	U	0.56	U	17.4	U	0.51	U	20.4	U	17.2	U	0.28	U	0.23	U	0.24	U
o-Xylene	-	10,200		182		170		15,900		10,800		219		17.8	U	0.3	U	0.25	U	0.26	U
Styrene	-	32	U	0.66	U	0.63	U	19.4	U	0.58	U	23.3	U	19.6	U	0.31	U	1.6	J	0.27	U
Tetrachloroethene	1300	23.1	U	0.48	U	4.2	J	117	J	4	J	16.9	U	14.1	U	0.33	U	0.27	U	0.28	U
Toluene	700	10,800		35.2		137		45,700		19,600		528		624		22.5	J	24.1		27.6	
Trichlorofluoromethane	-	24.1	U	0.5	U	0.48	U	250	U	0.44	U	17.6	U	14.7	U	0.35	U	0.29	U	0.3	U
Xylene (Total)	260	37,900		488		29,100		75,600		35,800		667		240	J	0.9	U	5.8	J	4.2	J

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-34-24**		**RI-SB-35-02**		**RI-SB-35-24**		**RI-SB-36-02**		**RI-SB-36-24**		**RI-SB-37-02**		**RI-SB-37-24**		**RI-SB-38-02**		**RI-SB-38-24**		**RI-SB-39-02**	
Sample Date:		11/2/11		10/31/11		10/31/11		10/31/11		10/31/11		10/31/11		10/31/11		11/1/11		11/1/11		10/27/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.25	U	0.28	U	0.28	U	13.3	U	12.4	U	0.25	U	13.4	U	14.4	U	14.4	U	30.8	U
1,1-Dichloroethane	270	0.22	U	0.25	U	0.25	U	12.2	U	11.3	U	0.23	U	12.2	U	13.2	U	13.2	U	26.1	U
1,1-Dichloroethene	330	0.25	U	0.28	U	0.28	U	13.3	U	12.4	U	0.25	U	13.4	U	14.4	U	14.4	U	12.6	U
1,2,3-Trichlorobenzene	-	0.35	U	0.39	U	0.39	U	18.9	U	17.5	U	0.36	U	18.9	U	20.4	U	20.4	U	17.2	U
1,2,4-Trichlorobenzene	-	0.35	U	0.39	UJ	0.39	UJ	18.9	U	17.5	U	0.36	U	18.9	U	20.4	U	20.4	U	21.9	U
1,2-Dichlorobenzene	1100	0.22	U	0.25	U	0.25	U	12.2	U	11.3	U	0.23	U	12.2	U	13.2	U	13.2	U	19.1	U
1,2-Dichloropropane	-	0.2	U	0.23	U	0.23	U	11.1	U	10.3	U	0.21	U	11.1	U	12	U	12	U	16.8	U
1,3-Dichlorobenzene	2400	0.3	U	0.34	U	0.34	U	16.3	U	15.1	U	0.31	U	16.3	U	17.6	U	17.6	U	26.6	U
1,4-Dichlorobenzene	1800	0.27	U	0.3	U	0.3	U	14.4	U	13.4	U	0.27	U	14.5	U	15.6	U	15.6	U	28.9	U
2-Butanone (MEK)	120	0.57	U	0.65	U	19.6		31.1	U	28.9	U	0.59	U	31.2	U	33.6	U	33.7	U	111	U
2-Hexanone	-	0.31	U	0.35	U	0.35	U	17	U	15.8	U	0.32	U	17.1	U	18.4	U	18.4	U	55	U
4-Methyl-2-pentanone (MIBK)	-	0.29	U	0.33	U	0.33	U	15.9	U	14.8	U	0.3	U	16	U	17.2	U	17.2	U	47.1	U
Acetone	50	3	U	93.1	J	120	J	164	U	153	U	3.1	U	165	U	178	U	178	U	202	U
Benzene	60	0.25	U	0.29	U	0.28	U	13.7	U	12.7	U	0.26	U	13.7	U	14.8	U	14.8	U	21.9	U
Carbon disulfide	-	0.32	U	0.36	U	2.8	J	17.4	U	16.2	U	3.5	U	17.4	U	18.8	U	18.8	U	15.8	U
Chloroform	370	0.21	U	0.24	U	2	J	11.5	U	10.7	U	0.22	U	11.5	U	12.4	U	12.4	U	15.4	U
Cyclohexane	-	0.18	U	0.21	U	0.21	U	10	U	9.3	U	0.19	U	10	U	10.8	U	10.8	U	122	J
Dibromochloromethane	-	0.23	U	0.26	U	0.26	U	12.6	U	11.7	U	0.24	U	12.6	U	13.6	U	13.6	U	21.9	U
Ethylbenzene	1000	0.29	U	0.32	U	0.32	U	15.5	U	325		20		4,520		2,050		83,200	J	2,430	
Isopropylbenzene (Cumene)	-	0.27	U	0.31	U	2.9	J	196		1,020		9.3		1,620		215		4,070	J	6,680	
m&p-Xylene	-	0.5	U	1.6	J	2.7	J	224	J	208	J	2,790		151,000		28,300		1,070,000	J	13,300	
Methylcyclohexane	-	4	J	0.37	U	0.37	U	17.8	U	83.8	J	0.34	U	17.8	U	19.2	U	147	J	449	J
Methylene Chloride	50	3.4	U	3.7	J	13.8		19.6	U	18.2	U	1.7	J	19.7	U	21.2	U	21.2	U	34.5	U
Methyl-tert-butyl ether	930	0.23	U	0.26	U	0.26	U	12.6	U	11.7	U	0.24	U	12.6	U	13.6	U	13.6	U	26.6	U
o-Xylene	-	0.25	U	2.4	J	0.28	U	13.3	U	12.4	U	19.2		5,330		2,080		149,000	J	11,600	
Styrene	-	0.26	U	0.29	U	0.29	U	14.1	U	13.1	U	0.27	U	14.1	U	15.2	U	15.2	U	30.3	U
Tetrachloroethene	1300	0.27	U	0.31	U	0.31	U	14.8	U	13.7	U	0.28	U	14.8	U	16	U	16	U	109	J
Toluene	700	2.9	J	11.2		24.4		12.6	U	50.2	J	3.2	J	119	J	109	J	7,700		12,700	
Trichlorofluoromethane	-	0.29	U	0.32	U	0.32	U	15.5	U	14.4	U	0.29	U	15.6	U	16.8	U	16.8	U	22.8	U
Xylene (Total)	260	0.74	U	NA		NA		NA		NA		NA		NA		30,400		1,220,000	J	24,800	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-39-57**		**RI-SB-40-02**		**RI-SB-40-57**		**RI-SB-41-02**		**RI-SB-41-24**		**RI-SB-42-02**		**RI-SB-42-24**		**RI-SB-43-02**		**RI-SB-43-24**		**RI-SB-44-02**	
Sample Date:		10/27/11		10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	334	U	31.6	U	312		0.3	UJ	12.5	U	0.28	U	0.27	U	0.27	U	0.32	U	14.8	U
1,1-Dichloroethane	270	283	U	26.8	U	0.55	U	0.27	U	11.5	U	0.25	U	0.25	U	0.25	U	0.3	U	13.5	U
1,1-Dichloroethene	330	136	U	12.9	U	0.27	U	0.3	U	12.5	U	0.28	U	0.27	U	0.27	U	0.32	U	14.8	U
1,2,3-Trichlorobenzene	-	187	U	17.7	U	0.36	U	0.42	U	17.7	U	0.39	U	0.39	U	0.39	U	0.46	U	20.9	U
1,2,4-Trichlorobenzene	-	238	U	22.5	U	0.46	U	0.42	U	17.7	U	0.39	U	0.39	U	0.39	UJ	0.46	UJ	20.9	U
1,2-Dichlorobenzene	1100	207	U	19.7	U	0.4	U	0.27	UJ	11.5	U	0.25	U	0.25	U	0.25	U	0.3	U	13.5	U
1,2-Dichloropropane	-	182	U	17.3	U	3.1	J	0.25	U	10.4	U	0.23	U	0.23	U	0.23	U	0.27	U	12.3	U
1,3-Dichlorobenzene	2400	288	U	27.3	U	0.56	U	0.37	UJ	15.3	U	0.34	U	0.34	U	0.33	U	0.4	U	18.1	U
1,4-Dichlorobenzene	1800	313	U	29.7	U	0.61	U	0.32	UJ	13.6	U	0.3	U	0.3	U	0.3	U	0.35	U	16	U
2-Butanone (MEK)	120	1,210	U	115	U	129		0.7	U	29.2	U	57.1	J	9.2		0.64	U	9.8		34.5	U
2-Hexanone	-	596	U	56.6	U	1.2	U	0.38	U	16	U	0.36	U	0.35	U	0.35	U	0.41	U	18.9	U
4-Methyl-2-pentanone (MIBK)	-	510	U	48.4	U	0.99	U	0.36	U	15	U	0.33	U	0.33	U	0.33	U	0.39	U	17.6	U
Acetone	50	2,190	U	208	U	266		3.7	U	154	U	358	J	93.4	J	7.6	U	92.8	J	182	U
Benzene	60	238	U	164	J	18.5		0.31	U	12.9	U	0.29	U	0.28	U	0.28	U	0.33	U	15.2	U
Carbon disulfide	-	172	U	16.3	U	2.7	J	0.39	U	16.3	U	15.3	J	2.2	J	0.36	U	0.42	U	19.3	U
Chloroform	370	167	U	15.8	U	0.32	U	2.8	J	10.8	U	1.3	J	0.24	U	0.24	U	3.5	J	12.7	U
Cyclohexane	-	222	U	21.1	U	3.3	J	0.22	U	9.4	U	0.21	U	0.21	U	0.2	U	0.24	U	11.1	U
Dibromochloromethane	-	238	U	22.5	U	0.46	U	0.28	U	11.8	U	0.26	U	0.26	U	0.26	U	0.31	U	14	U
Ethylbenzene	1000	30,300		4,270		121		0.35	U	14.6	U	0.32	U	0.32	U	0.32	U	0.38	U	17.2	U
Isopropylbenzene (Cumene)	-	8,880		4,620		3,190		0.33	UJ	13.9	U	14.2	J	4.7		0.3	U	0.36	U	16.4	U
m&p-Xylene	-	142,000		24,000		670		0.61	U	25.4	U	27.6	J	0.56	U	0.55	U	3.6	J	30	U
Methylcyclohexane	-	2,000	J	1,190		15.5		0.4	U	96.4	J	0.37	U	2.1	J	0.36	U	0.43	U	19.7	U
Methylene Chloride	50	374	U	35.5	U	1.4	J	18.6		174	U	14.5	J	9.1		2.8	J	17.2		21.8	U
Methyl-tert-butyl ether	930	288	U	27.3	U	0.56	U	0.28	U	11.8	U	0.26	U	0.26	U	0.26	U	0.31	U	14	U
o-Xylene	-	40,800		14,200		298		0.3	U	12.5	U	2.2	J	0.27	U	0.27	U	0.32	U	14.8	U
Styrene	-	328	U	31.2	U	0.64	U	0.32	U	13.2	U	0.29	U	0.29	U	0.29	U	0.34	U	15.6	U
Tetrachloroethene	1300	238	U	22.5	U	2.8	J	0.33	U	13.9	U	0.31	U	0.3	U	0.3	U	0.36	U	16.4	U
Toluene	700	57,500		7,420		766		3.5	J	58.6	J	41	J	9.7		4.4		15.5		60.8	J
Trichlorofluoromethane	-	248	U	23.5	U	0.48	U	0.35	U	14.6	U	0.32	U	0.32	U	0.32	U	0.38	U	17.2	U
Xylene (Total)	260	183,000		38,300		968		0.91	U	37.9	U	29.8	J	0.83	U	NA		NA		NA	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-44-24**		**RI-SB-45-02**		**RI-SB-45-24**		**RI-SB-46-02**		**RI-SB-46-24**		**RI-SB-47-02**		**RI-SB-47-24**		**RI-SB-48-02**		**RI-SB-48-46**		**RI-SB-49-02**	
Sample Date:		11/3/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		10/27/11		10/27/11		10/26/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.26	U	12.2	U	16.5	U	15	U	13.3	U	15.5	U	14.5	U	17.6	U	17.6	U	32.8	U
1,1-Dichloroethane	270	0.26	U	11.1	U	15.1	U	13.7	U	12.2	U	14.2	U	13.3	U	16.2	U	16.1	U	27.8	U
1,1-Dichloroethene	330	0.26	U	12.2	U	16.5	U	15	U	13.3	U	15.5	U	14.5	U	17.6	U	17.6	U	13.4	U
1,2,3-Trichlorobenzene	-	0.26	U	17.2	U	23.4	U	21.2	U	18.8	U	21.9	U	20.6	U	181	U	180	U	18.4	U
1,2,4-Trichlorobenzene	-	0.26	U	17.2	U	23.4	U	21.2	U	18.8	U	21.9	U	20.6	U	230	U	229	U	23.3	U
1,2-Dichlorobenzene	1100	0.26	U	11.1	U	15.1	U	13.7	U	12.2	U	14.2	U	13.3	U	16.2	U	16.1	U	20.4	U
1,2-Dichloropropane	-	0.26	U	10.1	U	13.8	U	12.5	U	11.1	U	12.9	U	12.1	U	90.4	J	78.3	J	17.9	U
1,3-Dichlorobenzene	2400	0.26	U	14.9	U	20.2	U	18.3	U	16.2	U	18.9	U	17.8	U	21.6	U	21.5	U	28.3	U
1,4-Dichlorobenzene	1800	0.26	U	13.2	U	17.9	U	16.2	U	14.4	U	16.8	U	15.8	U	19.1	U	19	U	30.8	U
2-Butanone (MEK)	120	0.26	U	28.4	U	38.5	U	34.9	U	31	U	36.1	U	33.9	U	41.2	U	314	J	119	U
2-Hexanone	-	0.26	U	15.5	U	21.1	U	19.1	U	17	U	19.8	U	18.6	U	22.5	U	22.4	U	58.6	U
4-Methyl-2-pentanone (MIBK)	-	0.26	U	14.5	U	19.7	U	17.9	U	15.9	U	18.5	U	17.4	U	21.1	U	21	U	50.2	U
Acetone	50	0.26	U	150	U	204	U	185	U	164	U	191	U	179	U	218	U	217	U	216	U
Benzene	60	0.26	U	12.5	U	17	U	15.4	U	13.7	U	15.9	U	15	U	18.1	U	71.8	J	23.3	U
Carbon disulfide	-	0.26	U	15.9	U	21.6	U	19.5	U	17.3	U	20.2	U	19	U	397		256		16.9	U
Chloroform	370	0.26	U	10.5	U	14.2	U	12.9	U	11.4	U	13.3	U	12.5	U	15.2	U	15.1	U	16.4	U
Cyclohexane	-	0.26	U	9.1	U	12.4	U	11.2	U	10	U	81.8	J	10.9	U	216	U	215	U	64.7	J
Dibromochloromethane	-	0.26	U	11.5	U	15.6	U	14.1	U	12.5	U	14.6	U	13.7	U	16.7	U	16.6	U	23.3	U
Ethylbenzene	1000	0.26	U	14.2	U	2,030		17.5	U	42	J	18.1	U	17	U	4,400		3,500		67.7	J
Isopropylbenzene (Cumene)	-	0.26	U	135	J	2,420		167	J	437		606		675		34,800		156,000		1,100	
m&p-Xylene	-	0.26	U	96.5	J	32,300		30.4	U	64.7	J	745		244	J	64,300		38,100		1,270	
Methylcyclohexane	-	0.26	U	86.6	J	248	J	20	U	118	J	166	J	19.4	U	1,110	J	878	J	135	J
Methylene Chloride	50	0.26	U	17.9	U	229	U	22	U	185	U	22.8	U	21.4	U	26	U	25.9	U	36.8	U
Methyl-tert-butyl ether	930	0.26	U	11.5	U	15.6	U	14.1	U	12.5	U	14.6	U	13.7	U	16.7	U	16.6	U	28.3	U
o-Xylene	-	0.26	U	12.2	U	3,650		15	U	13.3	U	206	J	14.5	U	16,900		12,200		518	
Styrene	-	0.26	U	12.8	U	17.4	U	15.8	U	14	U	16.3	U	15.4	U	18.6	U	18.5	U	32.3	U
Tetrachloroethene	1300	0.26	U	13.5	U	18.4	U	16.6	U	14.8	U	17.2	U	16.2	U	19.6	U	19.5	U	23.3	U
Toluene	700	0.26	U	11.5	U	249		14.1	U	60.8	J	92.8	J	13.7	U	10,400		9,450		24.3	U
Trichlorofluoromethane	-	0.26	U	14.2	U	19.3	U	17.5	U	15.5	U	18.1	U	17	U	240	U	239	U	24.3	U
Xylene (Total)	260	0.26	U	96.5	J	35,900		45.3	U	64.7	J	951		244	J	81,200		50,300		1,780	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-49-57**		**RI-SB-50-02**		**RI-SB-50-57**		**RI-SB-51-02**		**RI-SB-51-24**		**RI-SB-52-02**		**RI-SB-52-24**		**RI-SB-53-02**		**RI-SB-53-24**		**RI-SB-54-02**	
Sample Date:		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/31/11		10/31/11		10/31/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	14.4		28.8	U	29.7	U	0.63	U	0.61	U	0.64	U	0.61	U	0.33	U	0.28	UJ	0.26	U
1,1-Dichloroethane	270	0.51	U	24.4	U	25.2	U	0.53	U	0.52	U	0.55	U	0.52	U	0.3	U	0.26	U	0.24	U
1,1-Dichloroethene	330	0.25	U	11.8	U	12.1	U	0.26	U	0.25	U	0.26	U	0.25	U	0.33	U	0.28	U	0.26	U
1,2,3-Trichlorobenzene	-	0.34	U	16.1	U	16.6	U	0.35	U	0.34	U	0.36	U	0.34	U	0.47	U	0.4	UJ	0.37	U
1,2,4-Trichlorobenzene	-	0.43	U	20.5	U	21.1	U	0.45	U	0.43	U	0.46	U	0.44	U	0.47	UJ	0.4	UJ	0.37	UJ
1,2-Dichlorobenzene	1100	0.37	U	17.9	U	18.4	U	0.39	U	0.38	U	0.4	U	0.38	U	0.3	U	0.26	UJ	0.24	U
1,2-Dichloropropane	-	0.33	U	15.7	U	16.2	U	0.34	U	0.33	U	0.35	U	0.33	U	0.28	U	0.24	U	0.22	U
1,3-Dichlorobenzene	2400	0.52	U	24.9	U	25.6	U	0.54	U	0.53	U	0.56	U	0.53	U	0.41	U	0.34	UJ	0.32	U
1,4-Dichlorobenzene	1800	0.56	U	27.1	U	27.9	U	0.59	U	0.57	U	0.61	U	0.58	U	0.36	U	0.31	UJ	0.28	U
2-Butanone (MEK)	120	119	J	104	U	107	U	27.5	J	15.2	J	2.3	U	2.2	U	10.7	J	16.6		22.3	
2-Hexanone	-	21.9		51.5	U	53	U	1.1	U	1.1	U	1.2	U	1.1	U	0.42	U	0.36	U	0.33	U
4-Methyl-2-pentanone (MIBK)	-	8.9	J	44.1	U	45.4	U	0.96	U	0.93	U	0.99	U	0.94	U	0.4	U	0.34	U	0.31	U
Acetone	50	277		189	U	195	U	212		123		9.8	U	4	U	76.9	J	156	J	158	J
Benzene	60	0.43	U	20.5	U	21.1	U	0.45	U	0.43	U	0.46	U	0.44	U	0.34	U	0.29	U	0.27	U
Carbon disulfide	-	1.5	J	14.8	U	15.3	U	1.9	J	0.31	U	0.33	U	0.32	U	0.43	U	0.37	U	3.6	U
Chloroform	370	0.3	U	14.4	U	14.8	U	0.31	U	0.3	U	0.32	U	0.31	U	0.29	U	4.9		0.22	U
Cyclohexane	-	0.4	U	19.2	U	19.8	U	0.42	U	0.41	U	0.43	U	0.41	U	0.25	U	0.21	U	0.2	U
Dibromochloromethane	-	0.43	U	20.5	U	21.1	U	0.45	U	0.43	U	0.46	U	0.44	U	0.31	U	0.27	U	0.25	U
Ethylbenzene	1000	0.49	U	23.6	U	24.3	U	0.51	U	0.5	U	0.53	U	0.5	U	0.39	U	0.33	U	0.3	U
Isopropylbenzene (Cumene)	-	0.26	U	5,320		68.4	J	2	J	2.2	J	0.28	U	0.27	U	0.37	U	0.31	UJ	3.3	J
m&p-Xylene	-	0.82	U	39.3	U	40.5	U	0.85	U	0.83	U	0.88	U	0.84	U	0.67	U	3.9	J	3	J
Methylcyclohexane	-	0.42	U	69.5	J	20.7	U	1.4	J	1.3	J	0.45	U	0.43	U	0.44	U	0.38	U	0.35	U
Methylene Chloride	50	0.67	U	32.3	U	33.3	U	3.3	J	6.9		3.4	J	0.69	U	2.7	J	18.2		7.7	
Methyl-tert-butyl ether	930	0.52	U	24.9	U	25.6	U	0.54	U	0.53	U	0.56	U	0.53	U	0.31	U	0.27	U	0.25	U
o-Xylene	-	0.54	U	25.7	U	26.5	U	0.56	U	0.54	U	0.58	U	0.55	U	0.33	U	0.28	U	2.6	J
Styrene	-	0.59	U	28.4	U	29.2	U	0.62	U	0.6	U	0.63	U	0.6	U	0.35	U	0.3	U	0.28	U
Tetrachloroethene	1300	0.43	U	20.5	U	21.1	U	0.45	U	0.43	U	0.46	U	0.44	U	0.37	U	0.31	U	0.29	U
Toluene	700	5.1		21.4	U	22	U	12.3		24.8		3.9	J	2.9	J	0.31	U	80.6		11.3	
Trichlorofluoromethane	-	0.44	U	21.4	U	22	U	0.46	U	0.45	U	4	J	0.46	U	0.39	U	0.33	U	0.3	U
Xylene (Total)	260	1.3	U	64.6	U	66.5	U	1.4	U	1.4	U	1.4	U	1.4	U	NA		NA		NA	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-54-24**		**RI-SB-55-13**		**RI-SB-55-35**		**RI-SB-56-02**		**RI-SB-56-46**		**RI-SB-57-02**		**RI-SB-57-46**		**RI-SB-59-02**		**RI-SB-59-56**		**RI-SB-60-13**	
Sample Date:		10/31/11		10/28/11		10/28/11		10/28/11		10/28/11		10/27/11		10/27/11		10/26/11		10/26/11		10/26/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.25	U	23.3	U	0.56	U	23.1	UJ	22.3	U	0.58	U	332	U	32.8	U	28.4	U	28.3	U
1,1-Dichloroethane	270	0.23	U	19.8	U	0.48	U	NA	UJ	18.9	U	0.49	U	281	U	27.8	U	24.1	UJ	24	U
1,1-Dichloroethene	330	0.25	U	9.5	U	0.23	U	NA	UJ	9.1	U	0.24	U	136	U	13.4	U	11.6	UJ	11.6	U
1,2,3-Trichlorobenzene	-	0.36	U	13	U	0.32	U	NA		12.5	U	0.32	U	186	U	18.4	U	15.9	U	15.9	U
1,2,4-Trichlorobenzene	-	0.36	UJ	16.6	U	0.4	U	NA		15.9	U	0.41	U	236	U	23.3	U	20.2	U	20.2	U
1,2-Dichlorobenzene	1100	0.23	U	14.5	U	0.35	U	14.4	UJ	13.9	U	0.36	U	206	U	20.4	U	927	J	17.6	U
1,2-Dichloropropane	-	0.21	U	12.7	U	0.31	U	12.6	UJ	12.2	U	2.4	J	181	U	17.9	U	126	J	15.5	U
1,3-Dichlorobenzene	2400	0.31	U	20.1	U	0.49	U	20	UJ	19.3	U	0.5	U	286	U	28.3	U	54.9	J	24.5	U
1,4-Dichlorobenzene	1800	0.28	U	21.9	U	0.53	U	21.7	UJ	21	U	0.54	U	312	U	30.8	U	984	J	26.6	U
2-Butanone (MEK)	120	15.1		84.3	U	34.1		83.7	UJ	80.8	U	2.1	U	1,200	U	119	U	103	U	103	U
2-Hexanone	-	0.33	U	41.6	U	1	U	41.3	UJ	39.9	U	1	U	593	U	58.6	U	50.8	U	50.7	U
4-Methyl-2-pentanone (MIBK)	-	0.3	U	35.6	U	0.86	U	35.4	UJ	34.2	U	0.89	U	508	U	50.1	U	43.5	U	43.4	U
Acetone	50	136	J	153	U	198		152	UJ	147	U	32.2		2,180	U	215	U	187	U	186	U
Benzene	60	0.26	U	16.6	U	0.4	U	16.5	UJ	15.9	U	2.6	J	236	U	23.3	U	20.2	U	20.2	U
Carbon disulfide	-	0.33	U	12	U	4.2	J	11.9	UJ	11.5	U	1.2	J	171	U	16.9	U	14.6	UJ	14.6	U
Chloroform	370	0.22	U	11.6	U	0.28	U	11.6	UJ	11.2	U	0.29	U	166	U	16.4	U	14.2	UJ	14.2	U
Cyclohexane	-	0.19	U	15.5	U	0.37	U	NA		14.9	U	5.7	J	221	U	21.8	U	86.6	J	18.9	U
Dibromochloromethane	-	0.24	U	16.6	U	0.4	U	NA	UJ	15.9	U	0.41	U	236	U	23.3	U	20.2	U	20.2	U
Ethylbenzene	1000	0.3	U	19	U	0.46	U	18.9	UJ	18.3	U	71.6		3,270		106	J	421	J	23.2	U
Isopropylbenzene (Cumene)	-	0.28	U	10.2	U	0.25	U	NA		96	J	5,480		1,800	J	612		NA		4,710	
m&p-Xylene	-	0.52	U	31.7	U	0.77	U	293	J	248	J	6,320		25,300		137	J	7,180	J	149	J
Methylcyclohexane	-	0.34	U	16.2	U	3.4	J	NA		133	J	15.3		1,380	J	75.6	J	116	J	62	J
Methylene Chloride	50	6.9		26.1	UJ	0.63	UJ	175	UJ	25	UJ	3.9	J	372	U	36.7	U	31.9	UJ	31.8	U
Methyl-tert-butyl ether	930	0.24	U	20.1	U	0.49	U	20	UJ	19.3	U	0.5	U	286	U	28.3	U	24.5	U	24.5	U
o-Xylene	-	0.25	U	20.8	U	0.5	U	20.7	UJ	20	U	785		4,480		29.3	U	752	JJ	25.3	U
Styrene	-	0.27	U	22.9	U	0.55	U	22.8	UJ	22	U	0.57	U	327	U	32.3	U	28	U	27.9	U
Tetrachloroethene	1300	0.28	U	16.6	U	0.4	U	16.5	UJ	15.9	U	3.1	J	236	U	23.3	U	299	J	20.2	U
Toluene	700	3.6		17.3	U	0.42	U	17.2	UJ	48.5	J	34,200		633,000		95.8	J	12,000		104	J
Trichlorofluoromethane	-	0.3	U	17.3	U	0.42	U	NA		16.6	U	0.43	U	246	U	24.3	U	21.1	U	21	U
Xylene (Total)	260	NA		52.2	U	1.3	U	293	J	248	J	7,100		29,800		137	J	7,930	J	149	J

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG [b]**	**RI-SB-60-13 Dup**		**RI-SB-60-57**		**RI-SB-61-13**		**RI-SB-61-57**		**RI-SB-62-02**		**RI-SB-63-02**		**RI-SB-63-46**		**RI-SB-64-13**		**RI-SB-64-57**		**RI-SB-65-13**	
Sample Date:		10/26/11		10/26/11		10/26/11		10/26/11		11/1/11		10/26/11		10/26/11		10/28/11		10/28/11		10/28/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.7	U	30.8	U	0.34	U	0.31	U	0.27	U	0.61	U	0.62	U	0.55	U	0.6	U	28.7	U
1,1-Dichloroethane	270	0.64	U	26.2	U	0.31	U	0.29	U	0.25	U	0.52	U	0.53	U	0.47	U	0.5	U	24.3	U
1,1-Dichloroethene	330	0.7	U	12.6	U	0.34	U	0.31	U	0.27	U	0.25	U	0.25	U	0.23	U	0.24	U	11.7	U
1,2,3-Trichlorobenzene	-	1	UJ	17.3	U	0.48	UJ	0.45	UJ	0.38	U	0.34	U	0.35	U	0.31	U	0.33	U	16.1	U
1,2,4-Trichlorobenzene	-	1	UJ	22	U	0.48	UJ	0.45	UJ	0.38	U	0.43	U	0.44	U	0.39	U	0.42	U	20.4	U
1,2-Dichlorobenzene	1100	0.64	U	19.2	U	0.31	U	8.9		0.25	U	0.38	U	0.38	U	0.34	U	0.37	U	17.8	U
1,2-Dichloropropane	-	0.59	U	16.8	U	0.28	U	0.26	U	0.23	U	0.33	U	0.34	U	0.3	U	0.32	U	15.6	U
1,3-Dichlorobenzene	2400	0.86	U	26.6	U	0.41	U	0.38	U	0.33	U	0.53	U	0.53	U	0.48	U	0.51	U	24.8	U
1,4-Dichlorobenzene	1800	0.76	U	29	U	0.37	U	0.34	U	0.29	U	0.57	U	0.58	U	0.52	U	0.56	U	27	U
2-Butanone (MEK)	120	206		112	U	31.6		0.73	U	0.63	U	2.2	U	14.5	J	2	U	22.4		104	U
2-Hexanone	-	127		55.1	U	5.7	J	0.4	U	0.35	U	1.1	U	1.1	U	0.99	U	1.1	U	51.3	U
4-Methyl-2-pentanone (MIBK)	-	0.84	U	47.2	U	5.8	J	0.38	U	0.32	U	0.93	U	4.2	J	0.85	U	0.91	U	43.9	U
Acetone	50	406		203	U	144		39.4		25.2	U	15.9	U	132		28.5	U	108		189	U
Benzene	60	2.5	J	22	U	0.35	U	0.32	U	0.28	U	0.43	U	1.5	J	0.39	U	0.42	U	20.4	U
Carbon disulfide	-	5.6	J	15.9	U	0.44	U	6.2		0.35	U	0.31	U	6.9		0.28	U	2.6	J	14.8	U
Chloroform	370	0.61	U	15.4	U	0.29	U	0.27	U	1.5	J	0.3	U	0.31	U	0.28	U	0.3	U	14.3	U
Cyclohexane	-	0.53	U	20.6	U	0.25	U	0.24	U	0.2	U	0.41	U	0.41	U	0.37	U	2.9	J	19.1	U
Dibromochloromethane	-	0.66	U	22	U	0.32	U	0.3	U	0.26	U	0.43	U	0.44	U	0.39	U	0.42	U	20.4	U
Ethylbenzene	1000	0.82	U	25.2	U	0.39	U	7.4		0.32	U	0.5	U	0.51	U	0.45	U	0.49	U	23.5	U
Isopropylbenzene (Cumene)	-	582		2,590		18.9		138		5.5		3.3	J	86.5		0.24	U	0.26	U	12.6	U
m&p-Xylene	-	31.3		110	J	2.2	J	26.3		7.2	J	0.83	U	0.84	U	0.75	U	0.81	U	39.1	U
Methylcyclohexane	-	0.94	U	66.3	J	0.45	U	0.42	U	0.36	U	0.42	U	1.6	J	0.38	U	3.8	J	20	U
Methylene Chloride	50	7.8	J	34.6	U	3.1	J	2.9	J	13.7		4.1	J	5.5		4.2	UJ	4.5	UJ	32.2	UJ
Methyl-tert-butyl ether	930	0.66	U	26.6	U	0.32	U	0.3	U	0.26	U	0.53	U	0.53	U	0.48	U	0.51	U	24.8	U
o-Xylene	-	4.7	J	27.6	U	0.34	U	4.8		0.27	U	0.54	U	0.55	U	0.49	U	0.53	U	25.6	U
Styrene	-	0.74	U	30.4	U	0.36	U	0.33	U	0.29	U	0.6	U	0.61	U	0.54	U	0.59	U	28.3	U
Tetrachloroethene	1300	0.78	U	22	U	0.37	U	0.35	U	0.3	U	0.43	U	0.44	U	0.39	U	0.42	U	20.4	U
Toluene	700	19.7		22.9	U	11		8.7		46.2		1.5	J	13.4		0.41	U	0.44	U	21.3	U
Trichlorofluoromethane	-	0.82	U	22.9	U	0.39	U	0.37	U	0.32	U	0.45	U	0.46	U	0.41	U	0.44	U	21.3	U
Xylene (Total)	260	35.9		110	J	2.2	J	31.1		7.2	J	1.4	U	1.4	U	1.2	U	1.3	U	64.3	U

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	UU-SCG ^{b}	RI-SB-65-57		RI-SB-66-24		RI-SB-66-24 Dup		RI-SB-66-46		RI-SB-67-13		RI-SB-67-35		RI-SB-68-13		RI-SB-68-35		RI-SB-69-02		RI-SB-69-35	
Sample Date:		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	21.4	U	24.3	U	26.7	U	26.6	U	0.53	U	27.3	U	23.6	U	48.6	U	23.5	U	24.2	U
1,1-Dichloroethane	270	18.1	U	20.6	U	22.7	U	22.6	U	0.45	U	23.2	U	20	U	41.3	U	20	U	20.6	U
1,1-Dichloroethene	330	8.7	U	9.9	U	10.9	U	10.9	UJ	0.22	U	11.2	U	9.7	U	19.9	U	9.6	U	9.9	U
1,2,3-Trichlorobenzene	-	12	U	13.6	U	15	U	14.9	U	0.3	U	15.3	U	13.2	U	27.3	U	13.2	U	13.6	U
1,2,4-Trichlorobenzene	-	15.2	U	17.3	U	19	U	18.9	U	0.37	U	19.5	U	16.8	U	34.6	U	16.8	U	17.3	U
1,2-Dichlorobenzene	1100	144	J	54.2	J	126	J	1,030	J	1.7	J	1,880		14.7	U	439		14.6	U	15.1	U
1,2-Dichloropropane	-	11.6	U	13.3	U	14.6	U	14.5	U	0.29	U	14.9	U	12.9	U	175	J	130	J	13.2	U
1,3-Dichlorobenzene	2400	18.4	U	21	U	23.1	U	68.9	J	0.45	U	23.6	U	20.4	U	42	U	20.3	U	20.9	U
1,4-Dichlorobenzene	1800	147	J	65.5	J	163	J	684	J	3.6	J	1,790		22.2	U	556		162	J	22.8	U
2-Butanone (MEK)	120	77.3	U	88	U	96.7	U	96.3	U	1.9	U	98.9	U	85.5	U	176	U	85.2	U	87.8	U
2-Hexanone	-	38.2	U	43.4	U	47.8	U	47.5	U	0.94	U	48.8	U	42.2	U	87	U	42.1	U	43.3	U
4-Methyl-2-pentanone (MIBK)	-	81.4	J	37.2	U	40.9	U	40.7	U	0.81	U	41.8	U	36.1	U	74.4	U	36	U	37.1	U
Acetone	50	140	U	160	U	176	U	175	U	14.8	U	180	U	155	U	320	U	155	U	159	U
Benzene	60	15.2	U	17.3	U	19	U	18.9	U	0.37	U	19.5	U	16.8	U	34.6	U	16.8	U	17.3	U
Carbon disulfide	-	11	U	12.5	U	13.8	U	13.7	U	0.27	U	14.1	U	12.2	U	25.1	U	12.1	U	12.5	U
Chloroform	370	10.7	U	12.1	U	13.4	U	13.3	U	0.26	U	13.7	U	11.8	U	24.3	U	11.8	U	12.1	U
Cyclohexane	-	14.2	U	16.2	U	123	J	240	J	2.4	J	119	J	111	J	3,140		2,760		220	J
Dibromochloromethane	-	15.2	U	17.3	U	19	U	18.9	UJ	0.37	U	19.5	U	16.8	U	34.6	U	16.8	U	17.3	U
Ethylbenzene	1000	17.5	U	19.9	U	21.9	U	128	J	2.5	J	192	J	19.3	U	15,000		2,210		486	
Isopropylbenzene (Cumene)	-	114	J	113	J	152	J	768		15.3		907		146	J	142,000		NA		NA	
m&p-Xylene	-	459		282	J	411		3,430	J	22.6		3,070		760		185,000		38,100		9,270	
Methylcyclohexane	-	125	J	141	J	166	J	201	J	3	J	163	J	152	J	606	J	865		152	J
Methylene Chloride	50	23.9	UJ	27.2	U	30	U	29.8	U	0.59	U	30.6	U	26.5	U	54.5	U	26.4	U	27.2	U
Methyl-tert-butyl ether	930	18.4	U	21	U	23.1	U	23	U	0.45	U	23.6	U	20.4	U	42	U	20.3	U	20.9	U
o-Xylene	-	19.1	U	21.7	U	23.9	U	348	J	1.1	J	410		339		23,700		4,180		649	
Styrene	-	21	U	23.9	U	26.3	U	26.2	U	0.52	U	26.9	U	23.3	U	47.9	U	23.2	U	23.9	U
Tetrachloroethene	1300	15.2	U	17.3	U	19	U	18.9	U	0.37	U	19.5	U	16.8	U	279	J	16.8	U	17.3	U
Toluene	700	15.9	U	18	U	19.8	U	114	J	1.9	J	224		17.5	U	1,350		1,570		167	J
Trichlorofluoromethane	-	15.9	U	18	U	19.8	U	19.7	U	0.39	U	20.3	U	17.5	U	36.1	U	17.5	U	18	U
Xylene (Total)	260	459	J	282	J	411	J	3,780	J	23.7		3,480		1,100		209,000		42,200		9,920	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	**UU-SCG ^{b}**	**RI-SB-70-02**		**RI-SB-70-46**		**RI-SB-71-13**		**RI-SB-71-35**		**RI-SB-72-02**		**RI-SB-72-46**		**RI-SB-73-13**		**RI-SB-73-46**		**RI-SB-74-02**		**RI-SB-74-24**	
Sample Date:		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		11/1/11		11/1/11	
VOCs (ug/kg)																					
1,1,2,2-Tetrachloroethane	-	0.48	U	25.5	U	0.51	U	0.6	U	0.53	U	0.59	U	0.53	U	0.49	U	11.1	U	15.1	U
1,1-Dichloroethane	270	0.41	U	21.6	U	0.44	U	0.51	U	0.45	U	0.5	U	0.45	U	0.42	U	10.2	U	13.9	U
1,1-Dichloroethene	330	0.2	U	10.4	U	0.21	U	0.25	U	0.22	U	0.24	U	0.22	U	0.2	U	11.1	U	15.1	U
1,2,3-Trichlorobenzene	-	0.27	U	14.3	U	0.29	U	0.34	U	0.3	U	0.33	U	0.3	U	0.28	U	15.7	U	21.4	U
1,2,4-Trichlorobenzene	-	0.34	U	18.1	U	0.37	U	0.43	U	0.38	U	2.6	J	0.38	U	0.35	U	15.7	U	21.4	U
1,2-Dichlorobenzene	1100	0.3	U	210		0.32	U	0.37	U	0.33	U	0.37	U	0.33	U	0.31	U	10.2	U	13.9	U
1,2-Dichloropropane	-	0.26	U	13.9	U	0.28	U	0.33	U	0.29	U	0.32	U	0.29	U	0.27	U	9.2	U	12.6	U
1,3-Dichlorobenzene	2400	0.42	U	22	U	0.44	U	0.52	U	0.46	U	0.51	U	0.46	U	0.43	U	13.5	U	18.5	U
1,4-Dichlorobenzene	1800	0.45	U	268		0.48	U	0.57	U	0.5	U	0.55	U	0.5	U	0.46	U	12	U	16.4	U
2-Butanone (MEK)	120	1.7	U	92.2	U	1.9	U	10.6		1.9	U	2.1	U	1.9	U	10.6		25.9	U	35.3	U
2-Hexanone	-	0.86	U	45.5	U	0.92	U	1.1	U	0.95	U	1.1	U	0.95	U	0.88	U	14.2	U	19.3	U
4-Methyl-2-pentanone (MIBK)	-	0.74	U	39	U	0.79	U	0.92	U	0.81	U	0.9	U	0.82	U	0.75	U	13.2	U	18.1	U
Acetone	50	3.2	U	167	U	3.4	U	17.1	U	3.5	U	85.7	U	166		57.5	U	137	U	187	U
Benzene	60	0.34	U	18.1	U	0.37	U	0.43	U	0.38	U	2.8	J	0.38	U	0.35	U	11.4	U	15.6	U
Carbon disulfide	-	0.25	U	13.1	U	0.26	U	0.31	U	0.27	U	55.2		0.27	U	0.25	U	14.5	U	19.8	U
Chloroform	370	0.24	U	12.7	U	0.26	U	0.3	U	0.26	U	0.29	U	0.27	U	0.25	U	9.5	U	13	U
Cyclohexane	-	0.32	U	17	U	0.34	U	0.4	U	0.35	U	2.7	J	2.3	J	3.5	J	85.9	J	93.4	J
Dibromochloromethane	-	0.34	U	18.1	U	0.37	U	0.43	U	0.38	U	0.42	U	0.38	U	0.35	U	10.5	U	14.3	U
Ethylbenzene	1000	0.39	U	1,180		0.42	U	0.49	U	0.43	U	18.5		6.5		44.4		22,300	J	6,970	
Isopropylbenzene (Cumene)	-	0.21	U	NA		0.23	U	13.7		4.1		263		NA		NA		NA		NA	
m&p-Xylene	-	0.66	U	2,620		0.7	U	6.9	J	0.72	U	10.8		5.7	J	54.1		28,500	J	7,480	
Methylcyclohexane	-	0.34	U	1,270		0.36	U	3.3	J	0.37	U	3.6	J	3	J	4.2	J	82.2	J	20.2	U
Methylene Chloride	50	0.54	UJ	28.5	U	0.58	U	0.68	UJ	0.59	UJ	0.66	U	0.6	UJ	0.55	UJ	154	U	210	U
Methyl-tert-butyl ether	930	0.42	U	22	U	0.44	U	0.52	U	0.46	U	0.51	U	0.46	U	0.43	U	10.5	U	14.3	U
o-Xylene	-	0.43	U	1,170		0.46	U	0.54	U	3	J	20.5		1.3	J	19.6		7,130	J	1,760	
Styrene	-	0.47	U	25.1	U	0.51	U	0.59	U	0.52	U	13.8		0.53	U	0.48	U	11.7	U	16	U
Tetrachloroethene	1300	0.34	U	96.8	J	0.37	U	0.43	U	0.38	U	0.42	U	0.38	U	0.35	U	12.3	U	16.8	U
Toluene	700	0.36	U	6,160		1.3	J	0.45	U	0.39	U	5.5		0.4	U	0.99	J	6,640	J	1,160	
Trichlorofluoromethane	-	0.36	U	18.9	U	0.38	U	0.45	U	0.39	U	0.44	U	0.4	U	0.37	U	12.9	U	17.7	U
Xylene (Total)	260	1.1	U	3,800		1.2	U	6.9	J	3	J	31.3		7	J	73.7		35,700	J	9,240	

Table 4

VOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:	UU-SCG [b]	RI-SB-75-02		RI-SB-75-24		RI-SB-76-02		RI-SB-76-24	
Sample Date:		11/1/11		11/1/11		11/1/11		11/1/11	
VOCs (ug/kg)									
1,1,2,2-Tetrachloroethane	-	0.26	U	15.2	U	14.8	U	16.1	U
1,1-Dichloroethane	270	0.24	U	14	U	13.6	U	14.7	U
1,1-Dichloroethene	330	0.26	U	15.2	U	14.8	U	16.1	U
1,2,3-Trichlorobenzene	-	0.37	U	21.6	U	21	U	108	J
1,2,4-Trichlorobenzene	-	0.37	U	94.6	J	101	J	147	J
1,2-Dichlorobenzene	1100	0.24	U	14	U	13.6	U	115	J
1,2-Dichloropropane	-	0.21	U	12.7	U	12.4	U	13.4	U
1,3-Dichlorobenzene	2400	0.32	U	18.6	U	18.1	U	19.6	U
1,4-Dichlorobenzene	1800	0.28	U	16.5	U	16.1	U	17.4	U
2-Butanone (MEK)	120	7	J	35.6	U	34.6	U	37.5	U
2-Hexanone	-	0.33	U	19.5	U	19	U	20.5	U
4-Methyl-2-pentanone (MIBK)	-	0.31	U	18.2	U	17.7	U	19.2	U
Acetone	50	177	U	424	U	183	U	198	U
Benzene	60	0.26	U	15.7	U	15.2	U	16.5	U
Carbon disulfide	-	1.9	J	19.9	U	19.4	U	21	U
Chloroform	370	1.2	J	13.1	U	12.8	U	13.8	U
Cyclohexane	-	1.3	J	116	J	192	J	124	J
Dibromochloromethane	-	0.24	U	14.4	U	14	U	15.2	U
Ethylbenzene	1000	6.5		33,000		5,880		2,160	
Isopropylbenzene (Cumene)	-	286		NA		NA		NA	
m&p-Xylene	-	19.7		18,700		70,300		21,300	
Methylcyclohexane	-	1.8	J	403	J	204	J	137	J
Methylene Chloride	50	7.4		212	U	21.8	U	223	U
Methyl-tert-butyl ether	930	0.24	U	14.4	U	14	U	15.2	U
o-Xylene	-	6.3		3,840		7,540		3,030	
Styrene	-	0.27	U	16.1	U	15.7	U	17	U
Tetrachloroethene	1300	0.29	U	16.9	U	16.5	U	17.9	U
Toluene	700	11.3		5,140		2,870		4,540	
Trichlorofluoromethane	-	0.3	U	17.8	U	17.3	U	18.8	U
Xylene (Total)	260	26		22,500		77,900		24,300	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		12U-VOC-02		12U-VOC-57		12Z-VOC-02		12Z-VOC-57		MW-04-02		MW-04-24		MW-06-02		MW-06-24	
Sample Date:	**UU-SCG [b]**	3/23/12		3/23/12		3/19/12		3/19/12		11/4/11		11/4/11		11/3/11		11/3/11	
SVOCs (ug/kg)																	
2,4,6-Trichlorophenol	-	52.6	U	67.5	U	54.5	U	240	U	73	U	76.9	U	71.3	U	79.5	U
2,4-Dichlorophenol	-	49.4	U	2,680		51.1	U	225	U	82.1	U	86.5	U	80.2	U	89.3	U
2,4-Dimethylphenol	-	50.8	U	65.2	U	52.6	U	231	U	69.6	U	73.4	U	68	U	75.8	U
2-Chlorophenol	-	36.7	U	4,070		38	U	167	U	95.1	U	100	U	92.9	U	103	U
2-Methylnaphthalene	-	34.7	U	44.6	U	35.9	U	158	U	82.3	U	893		80.5	U	342	
2-Methylphenol(o-Cresol)	330	50.9	U	65.3	U	52.7	U	232	U	48.4	U	51	U	47.3	U	52.7	U
3&4-Methylphenol(m&p Cresol)	-	58	U	74.4	U	60	U	264	U	177	U	186	U	173	U	192	U
3,3'-Dichlorobenzidine	-	31.4	U	40.2	U	32.5	U	143	U	103	U	108	U	100	U	112	U
4,6-Dinitro-2-methylpheno	-	41.6	U	53.3	U	43	U	189	U	81.5	U	85.9	U	79.6	U	88.7	U
Acenaphthene	20000	33.5	U	466		513		153	U	66.2	U	69.8	U	64.7	U	72.1	U
Acenaphthylene	100000	33.1	U	42.5	U	34.2	U	151	U	51.8	U	54.6	U	50.6	U	56.4	U
Acetophenone	-	35.1	U	45	U	36.3	U	160	U	5,070		56.4	U	52.3	U	58.2	U
Anthracene	100000	45	U	427		950		3,980		41.6	U	43.8	U	696		45.3	U
Atrazine	-	1,300		2,010		79.4	J	18,500		671	U	70.7	U	65.5	U	73	U
Benzaldehyde	-	50.7	U	65.1	U	52.5	U	231	U	406		64.4	U	59.7	U	66.5	U
Benzo(a)anthracene	1000	852		723		2,830		9,400		45	U	47.4	U	2,930		501	
Benzo(a)pyrene	1000	1,000		685		2,770		8,140		41.6	U	43.8	U	2,770		45.3	U
Benzo(b)fluoranthene	1000	1,150		847		3,860		10,500		40.7	U	42.9	U	4,170		624	
Benzo(g,h,i)perylene	100000	839		343	J	815		2,500		82.3	U	86.8	U	1,070		89.6	U
Benzo(k)fluoranthene	800	436		336	J	1,580		3,940		86.6	U	91.3	U	2,000		199	J
Biphenyl (Diphenyl)	-	52.5	U	67.4	U	54.4	U	239	U	93.4	J	40.3	U	37.3	U	41.6	U
bis(2-Ethylhexyl)phthalate	-	98.5	U	126	U	102	U	448	U	35.7	U	37.6	U	34.8	U	38.8	U
Butylbenzylphthalate	-	33	U	42.3	U	34.2	U	150	U	28.9	U	30.4	U	28.2	U	31.4	U
Caprolactam	-	37.3	U	47.9	U	38.6	U	170	U	2,190		110	U	102	U	114	U
Carbazole	-	50.9	U	65.3	U	380		1,370		8,120		67.1	U	62.2	U	69.3	U
Chrysene	1000	984		856		2,890		9,670		95.1	U	100	U	3,010		1,050	
Dibenz(a,h)anthracene	330	96.8	U	124	U	100	U	441	U	79.8	U	84.1	U	78	U	86.8	U
Dibenzofuran	7000	38.5	U	49.3	U	39.8	U	175	U	69.6	U	73.4	U	68	U	75.8	U
Di-n-butylphthalate	-	47.7	U	61.2	U	49.4	U	217	U	44.1	U	46.5	U	43.1	U	48	U
Di-n-octylphthalate	-	53.1	U	68.1	U	54.9	U	242	U	36.5	U	38.5	U	35.7	U	39.7	U
Fluoranthene	100000	1,310		1,920		4,970		18,300		50.1	U	720		5,780		778	
Fluorene	30000	40.5	U	415		405		1,630		50.9	U	362		49.8	U	55.4	U
Indeno(1,2,3-cd)pyrene	500	742		335	J	922		2,830		137	U	144	U	963		149	U
Naphthalene	12000	38.4	U	1,120		39.7	U	175	U	35.7	U	37.6	U	34.8	U	338	
Phenanthrene	100000	787		2,110		4,310		17,700		50.1	U	1,200		2,940		1,400	
Phenol	330	69.9	U	7,630		72.3	U	318	U	72.2	U	76	U	70.5	U	78.5	U
Pyrene	100000	1,350		2,030		5,550		17,000		51.8	U	770		5,860		781	

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds;
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYCRR Part 375-6.8(a) Soil Cleanup Objectives;
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
R = Data Rejected due to quality control issues, refer to Appendix B.
d/ Sample and duplicate.

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**MW-09-02**		**MW-09-24**		**RI-SB-01-02**		**RI-SB-01-24**		**RI-SB-01b-02**		**RI-SB-01b-24**		**RI-SB-02-02**		**RI-SB-02-24**		**RI-SB-03-02**		**RI-SB-03-02 Dup**	
Sample Date:	**UU-SCG** [b]	10/31/11		10/31/11		11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/4/11		11/4/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	75.1	U	74.3	U	76.8	U	72	U	71.7	U	74.2	U	730	U	75.7	U	75.7	U	75.7	U
2,4-Dichlorophenol	-	84.5	U	83.5	U	86.3	U	81	U	80.6	U	83.4	U	821	U	85.1	U	85.1	U	85.1	U
2,4-Dimethylphenol	-	71.6	U	70.8	U	73.2	U	68.7	U	68.4	U	70.7	U	696	U	72.1	U	72.2	U	72.1	U
2-Chlorophenol	-	97.8	U	96.7	U	100	U	93.8	U	93.4	U	96.6	U	951	U	98.5	U	98.6	U	98.5	U
2-Methylnaphthalene	-	381		83.8	U	86.6	U	81.2	U	80.9	U	83.7	U	4,080		344		85.4	U	85.3	U
2-Methylphenol(o-Cresol)	330	49.8	U	49.2	U	50.9	U	47.7	U	47.5	U	49.2	U	484	U	50.1	U	50.2	U	50.1	U
3&4-Methylphenol(m&p Cresol)	-	182	U	180	U	186	U	174	U	173	U	179	U	1,770	U	183	U	183	U	183	U
3,3'-Dichlorobenzidine	-	106	UJ	105	U	108	U	101	U	101	U	104	U	1,030	UJ	106	U	107	U	106	U
4,6-Dinitro-2-methylpheno	-	83.9	U	82.9	U	85.7	U	80.4	U	80	U	82.8	U	815	U	84.5	U	84.5	U	84.5	U
Acenaphthene	20000	938		528		904		65.3	U	284		67.3	U	7,670		2,120		68.7	U	748	
Acenaphthylene	100000	53.3	U	52.7	U	54.5	U	51.1	U	50.9	U	52.6	U	518	U	53.7	U	53.7	U	53.7	U
Acetophenone	-	55	U	54.4	U	56.2	U	52.8	U	52.5	U	54.3	U	535	U	55.4	U	55.5	U	55.4	U
Anthracene	100000	2,180		1,360	J	2,130		41	U	1,150		42.3	U	12,000		2,290		358		1,580	
Atrazine	-	69	U	68.2	U	70.5	U	66.1	U	65.9	U	68.1	U	671	U	69.5	U	69.6	U	69.5	U
Benzaldehyde	-	62.9	U	62.2	U	64.3	U	60.3	U	60	U	62.1	U	611	U	63.3	U	63.4	U	63.3	U
Benzo(a)anthracene	1000	4,640	J	2,050	J	8,610		44.4	U	3,840		45.7	U	32,200	J	5,170		1,570		3,170	
Benzo(a)pyrene	1000	4,210	J	1,630	J	5,340		41	U	3,180		42.3	U	33,500	J	4,360		1,090		2,320	
Benzo(b)fluoranthene	1000	4,190		2,060	J	7,480		40.2	U	3,250		41.4	U	43,200	J	5,170		1,110		3,570	
Benzo(g,h,i)perylene	100000	1,040	J	406	J	5,470		81.2	UJ	1,480	J	83.7	UJ	18,000	J	2,740		507		920	
Benzo(k)fluoranthene	800	2,130	J	825		3,650		85.4	U	1,180	J	88	U	11,000	J	2,280		515		1,190	
Biphenyl (Diphenyl)	-	39.3	U	38.9	U	40.2	U	37.7	U	37.5	U	38.8	U	382	U	39.6	U	39.6	U	39.6	U
bis(2-Ethylhexyl)phthalate	-	36.7	UJ	36.3	U	37.5	U	35.2	U	35	U	36.2	U	357	UJ	36.9	U	37	U	37	U
Butylbenzylphthalate	-	29.7	UJ	29.4	U	30.3	U	28.5	U	28.3	U	29.3	U	289	UJ	29.9	U	29.9	U	29.9	U
Caprolactam	-	107	U	106	U	110	U	103	U	103	U	106	U	1,040	U	108	U	108	U	108	U
Carbazole	-	460		594		66.9	U	62.8	U	62.5	U	64.7	U	4,780		516		66	U	66	U
Chrysene	1000	4,460	J	1,950	J	9,580		93.8	U	3,800		96.6	U	37,300	J	5,270		1,520		2,890	
Dibenz(a,h)anthracene	330	82.1	UJ	81.2	U	83.9	U	78.7	U	78.4	UJ	81.1	U	798	UJ	571		82.8	U	82.7	U
Dibenzofuran	7000	553		446		302		68.7	U	68.4	U	70.7	U	3,890		1,040		72.2	U	72.1	U
Di-n-butylphthalate	-	45.4	U	44.9	U	46.4	U	43.5	U	43.3	U	44.9	U	442	U	45.7	U	45.8	U	45.7	U
Di-n-octylphthalate	-	37.6	UJ	37.1	U	38.4	U	36	U	35.8	U	37.1	U	365	UJ	37.8	U	37.9	U	37.8	U
Fluoranthene	100000	8,350		4,370	J	15,200		301		4,250		401		81,100		9,580		2,330		51.9	U
Fluorene	30000	903		670		763		50.2	U	50	U	51.8	U	6,280		1,780		52.8	U	622	
Indeno(1,2,3-cd)pyrene	500	978	J	548		4,040		135	U	1,130	J	139	U	15,700	J	2,410		404		953	
Naphthalene	12000	789		595		644		35.2	U	35	U	36.2	U	7,020		1,260		37	U	37	U
Phenanthrene	100000	7,380		4,840	J	12,900		49.4	U	3,750		412		85,500		6,230		1,630		51.9	U
Phenol	330	74.3	U	73.4	U	75.9	U	71.2	U	70.9	U	73.3	U	722	U	74.8	U	74.8	U	74.8	U
Pyrene	100000	11,600		4,700	J	18,400		385		7,570		429		103,000		7,740		3,490		53.7	U

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-03-24**		**RI-SB-04-02**		**RI-SB-04-24**		**RI-SB-05-02**		**RI-SB-05-24**		**RI-SB-06-02**		**RI-SB-06-24**		**RI-SB-11-02**		**RI-SB-11-02 Dup**		**RI-SB-11-24**	
Sample Date:	**UU-SCG [b]**	11/4/11		11/9/11		11/9/11		11/3/11		11/3/11		11/3/11		11/3/11		10/31/11		10/31/11		10/31/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	79.1	U	722	U	77	U	73.2	U	72.7	U	70.6	U	74.2	U	73.3	U	73.4	U	71.9	U
2,4-Dichlorophenol	-	89	U	812	U	86.6	U	82.3	U	81.8	U	79.4	U	83.4	U	82.4	U	82.6	U	80.8	U
2,4-Dimethylphenol	-	75.5	U	688	U	73.5	U	69.8	U	69.3	U	67.3	U	70.7	U	69.9	U	70	U	68.5	U
2-Chlorophenol	-	103	U	940	U	100	U	95.4	U	94.7	U	92	U	96.6	U	95.5	U	95.6	U	93.6	U
2-Methylnaphthalene	-	89.3	U	814	U	86.9	U	82.6	U	82	U	79.7	U	83.7	U	373		906		81.1	U
2-Methylphenol(o-Cresol)	330	52.5	U	479	U	51.1	U	48.5	U	48.2	U	46.8	U	49.2	U	48.6	U	48.7	U	47.6	U
3&4-Methylphenol(m&p Cresol)	-	191	U	1,750	U	186	U	177	U	176	U	171	U	179	U	177	U	178	U	174	U
3,3'-Dichlorobenzidine	-	111	U	1,020	U	108	U	103	U	102	U	99.4	U	104	U	103	U	103	U	101	UJ
4,6-Dinitro-2-methylpheno	-	88.4	U	806	U	86	U	81.7	U	81.2	U	78.8	U	82.8	U	81.8	U	82	U	80.2	U
Acenaphthene	20000	71.8	U	3,690		614		66.4	U	65.9	U	64.1	U	67.3	U	861		2,390		65.2	U
Acenaphthylene	100000	56.1	U	512	U	54.6	U	51.9	U	51.6	U	50.1	U	52.6	U	455		804		51	U
Acetophenone	-	58	U	529	U	56.4	U	53.6	U	53.3	U	51.7	U	54.4	U	53.7	U	53.8	U	52.7	U
Anthracene	100000	45.1	U	9,140		774		41.7	U	41.4	U	406		42.3	U	3,090		5,490		462	
Atrazine	-	72.7	U	663	U	70.8	U	67.3	U	66.8	U	64.9	U	68.2	U	67.3	U	67.5	U	66	U
Benzaldehyde	-	66.3	U	604	U	64.5	U	61.3	U	60.9	U	59.1	U	62.1	U	61.4	U	61.5	U	60.2	U
Benzo(a)anthracene	1000	48.8	U	25,800		1,590		45.1	U	44.8	U	2,130		45.7	U	7,030		10,800		1,050	J
Benzo(a)pyrene	1000	45.1	U	22,100		1,470		41.7	U	41.4	U	1,710		42.3	U	4,710	J	8,980		960	J
Benzo(b)fluoranthene	1000	44.2	U	27,800		1,700		40.9	U	40.6	U	2,100		41.4	U	7,790		12,200		1,410	J
Benzo(g,h,i)perylene	100000	89.3	U	7,960		838		82.6	U	82	U	408		83.7	U	1,810	J	2,330	J	305	J
Benzo(k)fluoranthene	800	93.9	U	14,500		512		86.8	U	86.2	U	1,270		88	U	4,090	J	5,410	J	667	J
Biphenyl (Diphenyl)	-	41.4	U	378	U	40.3	U	38.3	U	38	U	37	U	38.8	U	38.4	U	38.4	U	37.6	U
bis(2-Ethylhexyl)phthalate	-	38.7	U	353	U	37.6	U	35.8	U	35.5	U	34.5	U	36.2	U	35.8	U	35.9	U	35.1	UJ
Butylbenzylphthalate	-	31.3	U	285	U	30.5	U	28.9	U	28.7	U	27.9	U	29.3	U	29	U	29	U	28.4	UJ
Caprolactam	-	113	U	1,030	U	110	U	105	U	104	U	101	U	106	U	105	U	105	U	103	U
Carbazole	-	69	U	3,110		314		63.9	U	63.4	U	61.6	U	64.7	U	788		2,270		62.7	U
Chrysene	1000	103	U	24,900		1,600		95.4	U	94.7	U	1,890		96.6	U	7,080		10,900		1,180	J
Dibenz(a,h)anthracene	330	86.5	U	789	U	84.2	U	80	U	79.5	U	77.2	U	81.1	U	414	J	725	J	78.6	UJ
Dibenzofuran	7000	75.5	U	4,340		357		69.8	U	69.3	U	67.3	U	70.7	U	739		1,970		68.5	U
Di-n-butylphthalate	-	47.9	U	437	U	46.6	U	44.3	U	44	U	42.7	U	44.9	U	44.3	U	44.4	U	43.5	U
Di-n-octylphthalate	-	39.6	U	361	U	38.5	U	36.6	U	36.4	U	35.3	U	37.1	U	36.7	U	36.7	U	35.9	UJ
Fluoranthene	100000	54.3	U	65,100		3,490		50.2	U	49.9	U	3,280		455		15,500		24,400		2,840	
Fluorene	30000	55.2	U	6,410		553		51.1	U	50.7	U	49.3	U	51.8	U	1,020		2,630		50.2	U
Indeno(1,2,3-cd)pyrene	500	148	U	8,410		760		137	U	136	U	472		139	U	1,790	J	2,300	J	135	UJ
Naphthalene	12000	38.7	U	3,560		551		35.8	U	35.5	U	34.5	U	36.2	U	898		1,800		441	
Phenanthrene	100000	54.3	U	41,900		3,340		50.2	U	49.9	U	1,020		268	J	8,980		22,500		1,910	
Phenol	330	78.2	U	714	U	76.1	U	72.4	U	71.9	U	69.8	U	73.3	U	1,690		1,610		2,200	
Pyrene	100000	56.1	U	48,900		3,140		51.9	U	51.6	U	4,010		346		18,200		26,900		2,920	J

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-12-02**		**RI-SB-12-24**		**RI-SB-13-02**		**RI-SB-13-35**		**RI-SB-14-02**		**RI-SB-14-24**		**RI-SB-15-02**		**RI-SB-15-24**		**RI-SB-16-02**		**RI-SB-16-24**	
Sample Date:	**UU-SCG ^{b}**	11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/2/11		11/2/11		11/2/11		11/2/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	72	U	76.2	U	69.1	U	72.1	U	71.7	U	76.7	U	745	U	935	U	822	U	916	U
2,4-Dichlorophenol	-	80.9	U	85.7	U	77.7	U	81	U	80.6	U	86.3	U	837	U	1,050	U	924	U	1,030	U
2,4-Dimethylphenol	-	68.6	U	72.6	U	65.9	U	68.7	U	68.4	U	73.2	U	710	U	891	U	784	U	873	U
2-Chlorophenol	-	93.7	U	99.2	U	90	U	93.9	U	93.4	U	99.9	U	970	U	1,220	U	1,070	U	1,190	U
2-Methylnaphthalene	-	81.2	U	85.9	U	78	U	81.3	U	80.9	U	823	J	7,840		1,050	U	11,000		11,300	
2-Methylphenol(o-Cresol)	330	47.7	U	50.5	U	45.8	U	47.8	U	47.5	U	50.9	U	494	U	619	U	545	U	607	U
3&4-Methylphenol(m&p Cresol)	-	174	U	530	J	167	U	174	U	173	U	186	U	1,800	U	2,260	U	1,990	U	2,220	U
3,3'-Dichlorobenzidine	-	101	U	107	U	97.3	U	101	U	101	U	108	UR	1,050	U	1,310	U	1,160	U	1,290	U
4,6-Dinitro-2-methylphenol	-	80.3	U	85	U	77.2	U	80.5	U	80.1	U	85.7	U	831	UJ	1,040	UJ	918	UJ	1,020	UJ
Acenaphthene	20000	65.3	U	69.1	U	62.7	U	65.4	U	65	U	4,460	J	675	U	848	U	9,280		5,310	
Acenaphthylene	100000	51.1	U	54	U	49	U	51.1	U	50.9	U	336	J	528	U	663	U	583	U	650	U
Acetophenone	-	52.7	U	55.8	U	50.6	U	52.8	U	52.5	U	56.2	UR	545	U	685	U	602	U	671	U
Anthracene	100000	41	U	43.4	U	39.4	U	41.1	U	40.9	U	9,670	J	424	U	532	U	8,270		5,110	
Atrazine	-	66.1	U	70	U	63.5	U	66.2	U	65.9	U	70.5	UR	684	U	858	U	755	U	841	U
Benzaldehyde	-	60.3	U	63.8	U	57.9	U	60.3	U	60	U	64.2	UR	623	U	782	U	688	U	767	U
Benzo(a)anthracene	1000	351		47	U	42.6	U	44.4	U	44.2	U	12,800	J	459	U	576	U	9,640		3,410	J
Benzo(a)pyrene	1000	297		43.4	U	39.4	U	41.1	U	40.9	U	12,300	J	424	U	532	U	9,610		522	U
Benzo(b)fluoranthene	1000	40.2	U	42.5	U	38.6	U	40.2	U	40	U	12,600	J	416	U	522	U	9,620		511	U
Benzo(g,h,i)perylene	100000	81.2	UJ	85.9	UJ	78	UJ	81.3	UJ	80.9	UJ	3,020	J	840	UJ	1,050	UJ	6,900	J	1,030	UJ
Benzo(k)fluoranthene	800	85.4	U	90.4	U	82	U	85.5	U	85.1	U	4,840	J	883	U	1,110	U	4,570	J	1,090	U
Biphenyl (Diphenyl)	-	37.7	U	39.9	U	36.2	U	37.7	U	37.5	U	40.2	UR	390	U	489	U	430	U	479	U
bis(2-Ethylhexyl)phthalate	-	35.2	U	37.2	U	33.8	U	359		35	U	37.5	UR	3,280		456	U	3,830		447	U
Butylbenzylphthalate	-	28.5	U	30.1	U	27.3	U	28.5	U	28.4	U	30.3	UR	294	U	369	U	325	U	362	U
Caprolactam	-	103	U	109	U	98.9	U	103	U	103	U	110	UR	1,060	U	1,340	U	1,180	U	1,310	U
Carbazole	-	62.8	U	66.4	U	60.3	U	62.9	U	62.5	U	1,500	J	649	U	815	U	717	U	799	U
Chrysene	1000	383		99.2	U	90	U	93.9	U	93.4	U	13,100	J	970	U	1,220	U	10,200		3,890	
Dibenz(a,h)anthracene	330	78.7	UJ	83.3	UJ	75.6	UJ	78.8	UJ	78.4	UJ	1,440	J	814	UJ	1,020	UJ	899	UJ	1,000	UJ
Dibenzofuran	7000	68.6	U	72.6	U	65.9	U	68.7	U	68.4	U	73.2	UR	710	U	891	U	5,810		873	U
Di-n-butylphthalate	-	43.5	U	46.1	U	41.8	U	43.6	U	43.4	U	46.4	UR	450	U	565	U	497	U	554	U
Di-n-octylphthalate	-	36	U	38.1	U	34.6	U	36	U	35.9	U	38.4	UR	372	U	467	U	411	U	458	U
Fluoranthene	100000	453		52.3	U	47.4	U	49.4	U	268	J	35,200	J	511	U	641	U	24,800		10,500	
Fluorene	30000	50.2	U	53.2	U	48.2	U	50.3	U	50	U	5,200	J	520	U	652	U	7,350		3,890	
Indeno(1,2,3-cd)pyrene	500	135	U	143	U	129	U	135	U	134	U	3,470	J	1,390	U	1,750	U	5,910		1,710	U
Naphthalene	12000	334		37.2	U	33.8	U	35.2	U	35	U	11,500	J	28,800		15,900		36,000		49,000	
Phenanthrene	100000	452		52.3	U	47.4	U	49.4	U	49.2	U	36,000	J	511	U	641	U	34,900		20,200	
Phenol	330	71.1	U	75.3	U	68.3	U	71.2	U	70.9	U	75.8	U	46,300		4,240		813	U	905	U
Pyrene	100000	687		54	U	49	U	51.1	U	280		34,200	J	528	U	663	U	22,600		11,700	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-17-02**		**RI-SB-17-24**		**RI-SB-18-02**		**RI-SB-18-35**		**RI-SB-19-02**		**RI-SB-19-24**		**RI-SB-20-02**		**RI-SB-20-02 Dup**		**RI-SB-20-46**		**RI-SB-21-02**	
Sample Date:	**UU-SCG ^{b}**	11/2/11		11/2/11		10/31/11		10/31/11		10/31/11		10/31/11		10/27/11		10/27/11		10/27/11		10/27/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	75.4	U	74.6	U	71.5	U	71	U	73.4	U	71.3	U	70.5	U	72.6	U	93.7	U	727	U
2,4-Dichlorophenol	-	84.8	U	83.9	U	80.4	U	79.8	U	82.5	U	80.1	U	79.3	U	81.6	U	105	U	817	U
2,4-Dimethylphenol	-	71.9	U	71.1	U	68.1	U	67.7	U	70	U	67.9	U	67.2	U	69.2	U	89.3	U	693	U
2-Chlorophenol	-	98.2	U	97.2	U	93.1	U	92.4	U	95.6	U	92.8	U	91.8	U	94.5	U	122	U	946	U
2-Methylnaphthalene	-	85.1	U	84.1	U	80.6	U	80.1	U	564		1,590		79.5	U	81.9	U	106	U	820	U
2-Methylphenol(o-Cresol)	330	50	U	49.4	U	47.4	U	47	U	48.6	U	47.2	U	46.7	U	48.1	U	62.1	U	482	U
3&4-Methylphenol(m&p Cresol)	-	182	U	180	U	173	U	172	U	178	U	172	U	171	U	176	U	227	U	1,760	U
3,3'-Dichlorobenzidine	-	106	U	105	U	101	UJ	99.9	U	103	UJ	100	U	99.2	U	102	U	132	U	1,020	U
4,6-Dinitro-2-methylpheno	-	84.2	UJ	83.3	U	79.8	U	79.2	U	81.9	U	79.5	U	78.7	U	81	U	105	U	811	U
Acenaphthene	20000	68.4	U	67.7	U	64.8	U	64.4	U	1,040		2,980		63.9	U	65.8	U	85	U	659	U
Acenaphthylene	100000	53.5	U	52.9	U	50.7	U	50.3	U	52.1	U	3,310		50	U	51.5	U	66.5	U	515	U
Acetophenone	-	55.2	U	54.7	U	52.4	U	52	U	53.8	U	52.2	U	51.6	U	53.2	U	68.6	U	532	U
Anthracene	100000	43	U	42.5	U	406		40.4	U	1,820		16,100		40.2	U	41.4	U	53.4	U	414	U
Atrazine	-	69.3	U	68.5	U	65.6	U	65.2	U	67.4	U	65.5	U	64.8	U	66.7	U	86.1	U	668	U
Benzaldehyde	-	63.1	U	62.5	U	59.8	U	59.4	U	61.4	U	59.7	U	59	U	60.8	U	78.4	U	608	U
Benzo(a)anthracene	1000	604		46	U	1,200	J	43.7	U	2,960	J	37,100		43.4	U	44.7	U	57.7	U	2,780	J
Benzo(a)pyrene	1000	600		289		915	J	40.4	U	2,430	J	36,000		40.2	U	41.4	U	53.4	U	414	U
Benzo(b)fluoranthene	1000	712		362		1,660	J	39.6	U	3,410	J	44,900		39.4	U	40.5	U	52.3	U	3,090	
Benzo(g,h,i)perylene	100000	447		84.1	U	403	J	80.1	U	568	J	20,500		79.5	U	81.9	U	106	U	820	U
Benzo(k)fluoranthene	800	89.4	U	88.5	U	688	J	84.2	U	1,970	J	15,700		83.6	U	86.1	U	111	U	862	U
Biphenyl (Diphenyl)	-	39.5	U	39	U	37.4	U	37.1	U	38.4	U	37.3	U	36.9	U	38	U	49	U	380	U
bis(2-Ethylhexyl)phthalate	-	36.8	U	36.4	U	418	J	34.7	U	18,900		1,340	J	34.4	U	35.5	U	45.8	U	355	U
Butylbenzylphthalate	-	29.8	U	29.5	U	28.3	UJ	28.1	U	29	UJ	28.2	UJ	27.9	U	28.7	U	37	U	287	U
Caprolactam	-	108	U	107	U	102	U	102	U	105	U	102	U	101	U	104	U	134	U	1,040	U
Carbazole	-	65.8	U	65.1	U	62.3	U	61.9	U	678		4,590		61.5	U	63.3	U	81.7	U	634	U
Chrysene	1000	623		330		1,380	J	92.4	U	2,830	J	37,700		91.8	U	94.5	U	122	U	3,140	
Dibenz(a,h)anthracene	330	82.4	U	81.5	U	78.1	UJ	77.6	U	80.2	UJ	3,580	J	77.1	U	79.3	U	102	U	794	U
Dibenzofuran	7000	71.9	U	71.1	U	68.1	U	67.7	U	682		3,700	UJ	67.2	U	69.2	U	89.3	U	693	U
Di-n-butylphthalate	-	45.6	U	45.1	U	43.2	U	42.9	U	44.4	U	43.1	U	42.6	U	43.9	U	56.7	U	439	U
Di-n-octylphthalate	-	37.7	U	37.3	U	35.7	UJ	35.5	U	36.7	UJ	35.6	UJ	35.3	U	36.3	U	46.8	U	363	U
Fluoranthene	100000	1,300		660		2,300		48.7	U	5,260		79,000		48.4	U	49.8	U	64.3	U	5,970	
Fluorene	30000	52.6	U	52	U	49.9	U	49.5	U	1,000		5,780		49.2	U	50.6	U	65.4	U	507	U
Indeno(1,2,3-cd)pyrene	500	352		140	U	403	J	133	U	577	J	17,700		132	U	136	U	175	U	1,360	U
Naphthalene	12000	36.8	U	36.4	U	338		348		1,230		4,620		285		35.5	U	1,100		355	U
Phenanthrene	100000	714		341		1,820		48.7	U	6,840		72,500		48.4	U	49.8	U	64.3	U	4,400	
Phenol	330	74.5	U	73.7	U	70.6	U	70.2	U	72.5	U	70.4	U	38,100		71.7	U	386		10,800	
Pyrene	100000	1,180		645		2,820	J	50.3	U	6,990		101,000		50	U	51.5	U	66.5	U	6,010	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-21-46		RI-SB-22-02		RI-SB-22-24		RI-SB-23-02		RI-SB-23-24		RI-SB-24-02		RI-SB-24-24		RI-SB-25-02		RI-SB-25-02 Dup		RI-SB-25-35	
Sample Date:	UU-SCG ^{b}	10/27/11		11/2/11		11/2/11		11/1/11		11/1/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	924	U	817	U	78.2	U	745	U	74.4	UR	75.9	U	78	U	71.7	U	70.4	U	75.3	U
2,4-Dichlorophenol	-	1,040	U	919	U	87.9	U	837	U	83.7	UR	85.4	U	87.7	U	80.6	U	79.1	U	84.7	U
2,4-Dimethylphenol	-	881	U	779	U	74.6	U	710	U	71	UR	72.4	U	74.3	U	68.4	U	67.1	U	71.8	U
2-Chlorophenol	-	1,200	U	1,060	U	102	U	970	U	97	UR	98.9	U	102	U	93.4	U	91.6	U	98.1	U
2-Methylnaphthalene	-	8,360		921	U	348		840	U	3,610	J	85.6	U	87.9	U	448		299		85	U
2-Methylphenol(o-Cresol)	330	612	U	541	U	51.8	U	494	U	49.3	UR	50.3	U	51.7	U	47.5	U	46.6	U	49.9	U
3&4-Methylphenol(m&p Cresol)	-	2,230	U	1,980	U	189	U	1,800	U	180	UR	184	U	189	U	173	U	170	U	182	U
3,3'-Dichlorobenzidine	-	1,300	U	1,150	U	110	U	1,050	U	105	UR	107	U	110	U	101	U	99	U	106	U
4,6-Dinitro-2-methylpheno	-	1,030	U	912	UJ	87.3	UJ	831	U	83.1	UR	84.8	U	87	U	80	UJ	78.5	UJ	84.1	UJ
Acenaphthene	20000	4,980		741	U	715		676	U	7,620	J	68.9	U	70.7	U	1,650		63.8	U	68.3	U
Acenaphthylene	100000	655	U	579	U	55.5	U	528	U	984	J	53.9	U	55.3	U	50.9	U	49.9	U	53.4	U
Acetophenone	-	677	U	598	U	57.3	U	546	U	54.5	UR	55.6	U	57.1	U	52.5	U	51.5	U	55.2	U
Anthracene	100000	4,880		465	U	1,380		424	U	12,100	J	43.3	U	44.4	U	2,960		316		42.9	U
Atrazine	-	849	U	750	U	71.8	U	684	U	68.4	UR	69.8	U	71.6	U	65.9	U	64.6	U	69.2	U
Benzaldehyde	-	774	U	684	U	65.5	U	624	U	62.3	UR	63.6	U	65.3	U	60	U	58.9	U	63.1	U
Benzo(a)anthracene	1000	6,510		5,160		2,330	J	459	U	25,400	J	46.8	U	48.1	U	5,400	J	942		46.4	U
Benzo(a)pyrene	1000	4,230		5,170		1,500	J	424	U	20,100	J	43.3	U	44.4	U	5,450	J	1,080		42.9	U
Benzo(b)fluoranthene	1000	6,190		5,650		2,740	J	416	U	24,300	J	230	J	43.5	U	6,630	J	1,280		42.1	U
Benzo(g,h,i)perylene	100000	1,040	U	921	UJ	326	J	840	U	2,470	J	85.6	U	87.9	U	1,190	J	916		85	UJ
Benzo(k)fluoranthene	800	3,280	J	2,700	J	1,740	J	883	U	9,330	J	90.1	U	92.5	U	3,370	J	409	J	89.4	U
Biphenyl (Diphenyl)	-	484	U	427	U	40.9	U	390	U	1,380	J	39.7	U	40.8	U	37.5	U	36.8	U	39.4	U
bis(2-Ethylhexyl)phthalate	-	35,400		8,930		635		364	U	36.4	UR	37.1	U	38.1	U	35	U	34.4	U	36.8	U
Butylbenzylphthalate	-	365	U	323	U	30.9	U	294	U	29.4	UR	30	U	30.8	U	28.3	U	27.8	U	29.8	U
Caprolactam	-	1,320	U	1,170	U	112	U	1,070	U	106	UR	109	U	112	U	103	U	101	U	108	U
Carbazole	-	806	U	712	U	68.2	U	650	U	3,220	J	66.2	U	68	U	1,700		252	J	65.7	U
Chrysene	1000	6,570		5,560		2,480		970	U	27,100	J	240	J	102	U	6,520		1,060		98.1	U
Dibenz(a,h)anthracene	330	1,010	U	893	UJ	85.5	UJ	814	U	1,180	J	83	U	85.2	U	78.4	UJ	76.9	U	82.4	UJ
Dibenzofuran	7000	881	U	779	U	74.6	U	710	U	71	UR	72.4	U	74.3	U	1,040		67.1	U	71.8	U
Di-n-butylphthalate	-	559	U	494	U	47.3	U	450	U	45	UR	45.9	U	47.1	U	43.3	U	42.5	U	45.6	U
Di-n-octylphthalate	-	462	U	408	U	39.1	U	372	U	37.2	UR	38	U	39	U	35.8	U	35.2	U	37.7	U
Fluoranthene	100000	17,900		9,070		5,080		511	U	75,600	J	310		53.5	U	13,200		1,710		51.7	U
Fluorene	30000	4,250		570	U	730		520	U	9,390	J	53	U	54.4	U	1,330		49.1	U	52.6	U
Indeno(1,2,3-cd)pyrene	500	1,730	U	1,530	U	354	J	1,390	U	4,050	J	142	U	146	U	1,120	J	827		141	UJ
Naphthalene	12000	43,100		10,100		636		13,800		12,000	J	37.1	U	38.1	U	1,400		1,940		36.8	U
Phenanthrene	100000	22,000		8,800		5,300		511	U	89,100	J	52.1	U	53.5	U	14,700		1,400		51.7	U
Phenol	330	913	U	807	U	1,130		736	U	5,810	J	75	U	77.1	U	480		69.5	U	74.5	U
Pyrene	100000	14,600		9,540		5,380		528	U	86,600	J	321		55.3	U	14,600		1,500		53.4	U

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-26-02**		**RI-SB-26-24**		**RI-SB-27-02**		**RI-SB-27-35**		**RI-SB-28-02**		**RI-SB-28-24**		**RI-SB-29-02**		**RI-SB-29-02 Dup**		**RI-SB-29-24**		**RI-SB-30-02**	
Sample Date:	**UU-SCG ^{b}**	11/2/11		11/2/11		10/31/11		10/31/11		11/3/11		10/31/11		11/1/11		11/1/11		11/1/11		10/27/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	70.9	U	72.2	U	73.3	U	70.6	U	695	U	70.2	U	67.9	UR	67.8	UR	70.8	U	73.1	U
2,4-Dichlorophenol	-	79.8	U	81.2	U	82.4	U	79.4	U	781	U	78.9	U	76.4	UR	76.2	UR	79.6	U	82.2	U
2,4-Dimethylphenol	-	67.6	U	68.9	U	69.9	U	67.3	U	662	U	66.9	U	64.7	UR	64.6	UR	67.5	U	69.7	U
2-Chlorophenol	-	92.4	U	94.1	U	95.5	U	91.9	U	904	U	91.4	U	88.4	UR	88.2	UR	92.2	U	95.2	U
2-Methylnaphthalene	-	80	U	81.5	U	3,450		581		19,900		1,000		340		244	J	79.9	U	1,050	
2-Methylphenol(o-Cresol)	330	47	U	47.9	U	48.6	U	46.8	U	460	U	46.5	U	45	UR	44.9	UR	46.9	U	48.4	U
3&4-Methylphenol(m&p Cresol)	-	172	U	175	U	177	U	757		1,680	U	170	U	164	UR	164	UR	171	U	177	U
3,3'-Dichlorobenzidine	-	99.8	U	102	U	103	U	99.3	U	977	U	98.7	U	95.5	U	95.3	U	99.6	U	103	U
4,6-Dinitro-2-methylphenol	-	79.2	U	80.6	U	81.8	U	78.8	U	775	U	78.3	U	75.8	UR	75.6	UR	79	U	81.6	U
Acenaphthene	20000	64.3	U	65.5	U	665	U	64	U	44,600		539		61.6	U	61.5	U	64.2	U	66.3	U
Acenaphthylene	100000	50.3	U	51.2	U	1,800		50.1	U	493	U	49.8	U	48.2	U	48.1	U	50.2	U	51.8	U
Acetophenone	-	52	U	52.9	U	53.7	U	51.7	U	536	J	51.4	U	49.7	U	49.6	U	51.9	U	53.5	U
Anthracene	100000	458		41.2	U	28,300		40.2	U	94,300		40	U	187	J	38.6	U	40.3	U	41.6	U
Atrazine	-	65.2	U	66.4	U	67.4	U	64.8	U	638	U	64.5	U	62.4	U	62.2	U	65	U	67.1	U
Benzaldehyde	-	59.4	U	60.5	U	61.4	U	59.1	U	581	U	58.7	U	56.8	U	56.7	U	59.3	U	61.2	U
Benzo(a)anthracene	1000	1,060		44.5	U	41,100		275		166,000		43.2	U	41.8	U	41.8	U	43.6	U	45	U
Benzo(a)pyrene	1000	984		41.2	U	35,900		40.2	U	144,000		40	U	38.7	U	38.6	U	40.3	U	41.6	U
Benzo(b)fluoranthene	1000	1,230		40.3	U	40,200		304		166,000		39.2	U	37.9	U	37.8	U	39.5	U	40.8	U
Benzo(g,h,i)perylene	100000	450		81.5	U	15,900		79.6	U	66,100		79.1	U	76.6	UJ	76.4	UJ	79.9	UJ	82.4	U
Benzo(k)fluoranthene	800	434		85.7	U	15,600		83.7	U	41,900		83.2	U	80.5	U	80.4	U	84	U	86.7	U
Biphenyl (Diphenyl)	-	37.1	U	37.8	U	1,280		36.9	U	4,710		36.7	U	35.5	U	35.5	U	37	U	38.2	U
bis(2-Ethylhexyl)phthalate	-	34.6	U	35.3	U	35.8	U	34.5	U	339	U	34.3	U	33.2	U	33.1	U	34.6	U	2,450	
Butylbenzylphthalate	-	28	U	28.6	U	29	U	27.9	U	275	U	27.7	U	26.8	U	26.8	U	28	U	28.9	U
Caprolactam	-	101	U	103	U	105	U	101	U	993	U	100	U	97.1	U	96.9	U	101	U	104	U
Carbazole	-	61.9	U	63	U	9,450		61.5	U	24,300		61.2	U	59.2	U	59.1	U	61.7	U	63.7	U
Chrysene	1000	1,140		94.1	U	36,600		417		165,000		91.4	U	88.4	U	88.2	U	92.2	U	95.2	U
Dibenz(a,h)anthracene	330	77.5	U	79	U	2,520	J	77.1	U	15,900		76.7	U	74.2	UJ	74.1	UJ	77.4	UJ	79.9	U
Dibenzofuran	7000	67.6	U	68.9	U	7,580		67.3	U	662	U	66.9	U	64.7	U	64.6	U	67.5	U	69.7	U
Di-n-butylphthalate	-	42.9	U	43.7	U	44.3	U	42.7	U	420	U	42.4	U	41.1	U	41	U	42.8	U	44.2	U
Di-n-octylphthalate	-	35.5	U	36.1	U	36.7	U	35.3	U	347	U	35.1	U	34	U	33.9	U	35.4	U	36.5	U
Fluoranthene	100000	3,000		49.6	U	105,000		401		290,000		48.1	U	633		738		48.6	U	50.1	U
Fluorene	30000	49.5	U	50.4	U	12,400		49.2	U	49,200		49	U	47.4	U	47.3	U	49.4	U	51	U
Indeno(1,2,3-cd)pyrene	500	459		135	U	19,200		132	U	50,500		131	U	127	U	127	U	133	U	137	U
Naphthalene	12000	34.6	U	35.3	U	4,500		15,300		46,000		4,860		3,070		1,950		34.6	U	5,580	
Phenanthrene	100000	1,890		49.6	U	114,000		572		393,000		48.1	U	1,350		1,330		48.6	U	50.1	U
Phenol	330	70.1	U	71.4	U	72.5	U	69.8	U	547	J	69.4	U	67.1	UR	67	UR	70	U	4,390	
Pyrene	100000	2,640		51.2	U	94,800		434		505,000		49.8	U	672		784		50.2	U	51.8	U

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-30-46**		**RI-SB-31-02**		**RI-SB-31-46**		**RI-SB-32-02**		**RI-SB-32-57**		**RI-SB-33-02**		**RI-SB-33-24**		**RI-SB-33b-02**		**RI-SB-33b-24**		**RI-SB-34-02**	
Sample Date:	**UU-SCG ^{b}**	10/27/11		10/27/11		10/27/11		10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	72.4	U	73.6	U	799	U	769	U	77.4	U	727	U	72.7	U	74.1	U	74	U	70.6	U
2,4-Dichlorophenol	-	81.4	U	82.7	U	898	U	865	U	87	U	817	U	81.8	U	83.3	U	83.2	U	79.4	U
2,4-Dimethylphenol	-	69	U	70.1	U	762	U	733	U	73.8	U	693	U	69.3	U	70.7	U	70.5	U	67.3	U
2-Chlorophenol	-	94.3	U	95.8	U	1,040	U	1,000	U	101	U	947	U	94.7	U	96.5	U	96.3	U	91.9	U
2-Methylnaphthalene	-	526		83	U	901	U	867	U	1,590		820	U	82	U	1,380		2,300		79.6	U
2-Methylphenol(o-Cresol)	330	48	U	48.8	U	530	U	510	U	51.3	U	482	U	48.2	U	49.1	U	49	U	46.8	U
3&4-Methylphenol(m&p Cresol)	-	175	U	178	U	1,930	U	1,860	U	187	U	1,760	U	176	U	179	U	179	U	171	U
3,3'-Dichlorobenzidine	-	102	U	103	U	1,120	U	1,080	U	109	U	1,020	U	102	U	104	U	104	UJ	99.3	U
4,6-Dinitro-2-methylpheno	-	80.8	U	82.1	U	892	U	858	U	86.4	U	811	UJ	81.2	UJ	82.7	U	82.6	U	78.8	UJ
Acenaphthene	20000	65.7	U	66.7	U	725	U	697	U	308		659	U	66	U	4,360		7,100		64	U
Acenaphthylene	100000	51.4	U	52.2	U	567	U	545	U	54.9	U	516	U	51.6	U	52.6	U	4,140		50.1	U
Acetophenone	-	53	U	53.9	U	585	U	563	U	56.7	U	532	U	53.3	U	54.3	U	54.2	U	51.7	U
Anthracene	100000	41.3	U	41.9	U	455	U	438	U	299	J	414	U	41.4	U	11,000		35,500		40.2	U
Atrazine	-	66.5	U	67.6	U	734	U	706	U	71.1	U	668	U	66.8	U	68.1	U	68	U	64.8	U
Benzaldehyde	-	60.6	U	61.6	U	669	U	644	U	64.8	U	609	U	60.9	U	62	U	61.9	U	59.1	U
Benzo(a)anthracene	1000	296		45.3	U	492	U	474	U	683		448	U	44.8	U	24,300		62,500		43.5	U
Benzo(a)pyrene	1000	41.3	U	41.9	U	455	U	438	U	44.1	U	414	U	41.4	U	19,500		53,000		40.2	U
Benzo(b)fluoranthene	1000	40.4	U	41.1	U	446	U	429	U	390		406	U	40.6	U	25,800		59,300		39.4	U
Benzo(g,h,i)perylene	100000	81.7	U	83	U	901	U	867	U	87.3	U	820	UJ	82	UJ	11,200		28,700		79.6	U
Benzo(k)fluoranthene	800	85.9	U	87.2	U	948	U	912	U	91.8	U	862	U	86.3	U	9,370		25,500		83.7	U
Biphenyl (Diphenyl)	-	37.9	U	38.5	U	418	U	402	U	40.5	U	380	U	38.1	U	38.8	U	969		36.9	U
bis(2-Ethylhexyl)phthalate	-	2,440		395		23,700		15,300		378	U	4,620		645		36.2	U	36.1	UJ	34.5	U
Butylbenzylphthalate	-	28.6	U	29.1	U	316	U	304	U	3,390		287	U	28.8	U	29.3	U	29.2	UJ	27.9	U
Caprolactam	-	104	U	105	U	1,140	U	1,100	U	111	U	1,040	U	104	U	106	U	106	U	101	U
Carbazole	-	63.1	U	64.1	U	697	U	671	U	67.5	U	634	U	63.4	U	5,070		6,280		61.5	U
Chrysene	1000	288		95.8	U	1,040	U	1,000	U	519		947	U	94.7	U	23,200		58,200		91.9	U
Dibenz(a,h)anthracene	330	79.1	U	80.4	U	873	U	841	U	84.6	U	794	UJ	79.5	UJ	2,590	J	3,700		77.1	U
Dibenzofuran	7000	69	U	70.1	U	762	U	733	U	73.8	U	693	U	69.3	U	4,350		8,370		67.3	U
Di-n-butylphthalate	-	43.8	U	44.5	U	483	U	465	U	46.8	U	439	U	44	U	44.8	U	44.7	U	42.7	U
Di-n-octylphthalate	-	36.2	U	36.8	U	400	U	384	U	38.7	U	363	U	36.4	U	37.1	U	37	U	35.3	U
Fluoranthene	100000	792		50.5	U	548	U	528	U	999		499	U	299		60,500		161,000		48.4	U
Fluorene	30000	50.5	U	51.3	U	557	U	536	U	54	U	507	U	50.7	U	4,520		11,500		49.2	U
Indeno(1,2,3-cd)pyrene	500	136	U	138	U	1,500	U	1,440	U	145	U	1,360	U	136	UJ	10,100		25,100		132	U
Naphthalene	12000	3,230		1,130		10,900		10,300		8,450		6,470		1,300		2,680		4,650		34.5	U
Phenanthrene	100000	981		50.5	U	548	U	528	U	1,290		499	U	49.9	U	61,500		146,000		48.4	U
Phenol	330	71.6	U	72.7	U	82,700		760	U	50,100		718	U	71.9	U	73.2	U	73.1	U	69.8	U
Pyrene	100000	708		52.2	U	567	U	545	U	1,440		516	U	51.6	U	56,800		169,000		50.1	U

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-34-24**		**RI-SB-35-02**		**RI-SB-35-24**		**RI-SB-36-02**		**RI-SB-36-24**		**RI-SB-37-02**		**RI-SB-37-24**		**RI-SB-38-02**		**RI-SB-38-24**		**RI-SB-39-02**	
Sample Date:	**UU-SCG ^{b}**	11/2/11		10/31/11		10/31/11		10/31/11		10/31/11		10/31/11		10/31/11		11/1/11		11/1/11		10/27/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	71.4	U	70.7	U	74.4	U	712	U	72.2	UR	67.9	U	74.9	U	72	U	71.9	UR	701	U
2,4-Dichlorophenol	-	80.3	U	79.5	U	83.6	U	801	U	81.2	UR	76.4	U	84.2	U	80.9	U	80.8	UR	788	U
2,4-Dimethylphenol	-	68.1	U	67.4	U	70.9	U	679	U	68.9	UR	64.8	U	579		10,300		68.5	UR	669	U
2-Chlorophenol	-	93	U	92.1	U	96.8	U	927	U	94.1	UR	88.5	U	97.5	U	93.7	U	93.6	UR	913	U
2-Methylnaphthalene	-	80.6	U	79.8	U	83.9	U	803	U	81.5	U	76.6	U	280	J	81.2	U	81.1	U	791	U
2-Methylphenol(o-Cresol)	330	47.4	U	46.9	U	49.3	U	472	U	47.9	UR	45	U	49.6	U	47.7	U	47.6	UR	465	U
3&4-Methylphenol(m&p Cresol)	-	173	U	171	U	180	U	1,720	U	175	UR	164	U	181	U	656		174	UR	1,700	U
3,3'-Dichlorobenzidine	-	101	U	99.5	U	105	U	1,000	U	102	U	95.6	U	105	U	101	U	101	U	987	U
4,6-Dinitro-2-methylphenol	-	79.7	UJ	78.9	U	83	U	795	U	80.6	UR	75.8	U	83.6	U	80.3	U	80.2	UR	783	U
Acenaphthene	20000	64.8	U	64.1	U	67.4	U	646	U	65.5	U	61.6	U	67.9	U	65.3	U	65.2	U	636	U
Acenaphthylene	100000	50.7	U	50.2	U	52.7	U	505	U	51.2	U	48.2	U	53.1	U	51	U	51	U	497	U
Acetophenone	-	52.3	U	51.8	U	54.5	U	5,220	U	52.9	U	49.8	U	748		52.7	U	52.7	U	514	U
Anthracene	100000	40.7	U	40.3	U	42.4	U	406	U	41.2	U	38.7	U	42.7	U	415		41	U	400	U
Atrazine	-	65.6	U	65	U	68.3	U	6,540	U	66.3	U	62.4	U	68.8	U	66.1	U	66	U	644	U
Benzaldehyde	-	59.8	U	59.2	U	62.2	U	5,960	U	60.5	U	56.9	U	62.7	U	60.2	U	60.2	U	587	U
Benzo(a)anthracene	1000	44	UJ	43.6	U	45.8	U	493	J	44.5	U	261	J	46.1	U	1,570		44.3	U	432	U
Benzo(a)pyrene	1000	338	J	40.3	U	42.4	U	406	U	41.2	U	299		42.7	U	1,740		41	U	400	U
Benzo(b)fluoranthene	1000	395	J	39.5	U	41.5	U	397	U	392		360		41.8	U	2,030		40.1	U	391	U
Benzo(g,h,i)perylene	100000	80.6	UJ	79.8	U	83.9	U	803	U	81.5	U	76.6	U	84.4	U	721	J	81.1	UJ	791	U
Benzo(k)fluoranthene	800	294	J	83.9	U	88.2	U	844	U	85.7	U	80.6	U	88.8	U	1,160		85.3	U	832	U
Biphenyl (Diphenyl)	-	37.4	U	37	U	38.9	U	3,730	U	3,280		35.5	U	39.2	U	37.7	U	37.6	U	367	U
bis(2-Ethylhexyl)phthalate	-	34.9	U	34.5	U	36.3	U	348	U	35.3	U	33.2	U	356		35.1	U	35.1	U	342	U
Butylbenzylphthalate	-	28.2	U	28	U	29.4	U	49,000		5,340		26.9	U	29.6	U	28.4	U	28.4	U	277	U
Caprolactam	-	102	U	101	U	106	U	10,200	U	103	U	97.1	U	107	U	103	U	103	U	1,000	U
Carbazole	-	62.3	U	61.7	U	64.8	U	6,210	U	954		59.2	U	65.3	U	62.8	U	62.7	U	612	U
Chrysene	1000	296		92.1	U	96.8	U	5,490		1,470		290		97.5	U	2,010		93.6	U	913	U
Dibenz(a,h)anthracene	330	78.1	UJ	77.3	U	81.3	U	778	U	78.9	U	74.2	U	81.8	U	78.6	UJ	78.6	UJ	766	U
Dibenzofuran	7000	68.1	U	67.4	U	70.9	U	679	U	68.9	U	64.8	U	71.4	U	68.6	U	68.5	U	669	U
Di-n-butylphthalate	-	43.2	U	42.8	U	45	U	431	U	43.7	U	41.1	U	45.3	U	43.5	U	43.5	U	424	U
Di-n-octylphthalate	-	35.7	U	35.4	U	37.2	U	356	U	36.1	U	34	U	37.4	U	36	U	35.9	U	351	U
Fluoranthene	100000	339		331		51	U	488	U	49.6	U	603		309		3,170		49.3	U	481	U
Fluorene	30000	49.8	U	49.3	U	51.9	U	497	U	50.4	U	47.4	U	52.2	U	50.2	U	50.2	U	489	U
Indeno(1,2,3-cd)pyrene	500	134	UJ	132	U	139	U	1,330	U	135	U	127	U	140	U	757		135	U	1,310	U
Naphthalene	12000	34.9	U	34.5	U	36.3	U	348	U	35.3	U	365		931		504		770		7,510	
Phenanthrene	100000	49	U	48.5	U	51	U	488	U	49.6	U	686		265	J	1,620		49.3	U	481	U
Phenol	330	70.6	U	69.9	U	73.5	U	704	U	71.4	UR	755		2,500		71.1	U	71	UR	616,000	
Pyrene	100000	360		355		52.7	U	505	U	51.2	U	588		412		2,790		51	U	497	U

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-39-57**		**RI-SB-40-02**		**RI-SB-40-57**		**RI-SB-41-02**		**RI-SB-41-24**		**RI-SB-42-02**		**RI-SB-42-24**		**RI-SB-43-02**		**RI-SB-43-24**		**RI-SB-44-02**	
Sample Date:	**UU-SCG ^{b}**	10/27/11		10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	757	U	70.6	U	74.6	U	76	U	75.1	U	71.5	U	73.3	U	74.5	U	85.2	U	74.9	U
2,4-Dichlorophenol	-	852	U	79.3	U	83.9	U	85.5	U	84.5	U	80.3	U	82.4	U	83.8	U	95.8	U	84.3	U
2,4-Dimethylphenol	-	722	U	67.3	U	71.2	U	72.5	U	71.6	U	68.1	U	69.9	U	71.1	U	81.3	U	71.4	U
2-Chlorophenol	-	986	U	91.9	U	97.2	U	99	U	97.9	U	93.1	U	95.4	U	97	U	111	U	97.6	U
2-Methylnaphthalene	-	3,190		1,410		84.2	U	85.8	U	84.8	U	686		846		84.1	U	96.1	U	600	
2-Methylphenol(o-Cresol)	330	502	U	46.8	U	49.5	U	50.4	U	49.8	U	47.4	U	48.6	U	49.4	U	56.5	U	49.7	U
3&4-Methylphenol(m&p Cresol)	-	1,830	U	171	U	181	U	184	U	182	U	173	U	177	U	180	U	206	U	181	U
3,3'-Dichlorobenzidine	-	1,070	U	99.3	U	105	U	107	U	106	UJ	101	U	103	U	105	U	120	U	281	J
4,6-Dinitro-2-methylpheno	-	845	U	125	J	83.3	U	84.9	UJ	83.9	UJ	79.8	UJ	81.8	UJ	83.2	U	95.1	U	83.6	U
Acenaphthene	20000	687	U	64	U	67.7	U	69	U	68.2	U	64.8	U	3,400		67.6	U	77.3	U	537	
Acenaphthylene	100000	537	U	50	U	52.9	U	53.9	U	53.3	U	50.7	U	52	U	52.9	U	60.5	U	53.1	U
Acetophenone	-	555	U	51.7	U	54.7	U	55.7	U	55	U	52.3	U	53.7	U	54.6	U	62.4	U	54.9	U
Anthracene	100000	432	U	40.2	U	42.5	U	43.3	U	42.8	U	40.7	U	6,100		493		342		1,120	
Atrazine	-	696	U	64.8	U	68.6	U	69.8	U	69	U	65.6	U	67.3	U	68.5	U	78.3	U	68.8	U
Benzaldehyde	-	634	U	59.1	U	62.5	U	63.7	U	62.9	U	59.8	U	61.4	U	62.4	U	71.4	U	62.7	U
Benzo(a)anthracene	1000	467	U	43.5	U	46	U	378		46.3	UJ	497		8,380		2,320		574		2,380	J
Benzo(a)pyrene	1000	432	U	40.2	U	42.5	U	43.3	U	42.8	UJ	571		5,140		2,550		427		1,720	J
Benzo(b)fluoranthene	1000	423	U	389		41.7	U	514		41.9	UJ	665		6,200		3,320		527		5,000	J
Benzo(g,h,i)perylene	100000	854	U	79.6	U	84.2	U	85.8	UJ	84.8	UJ	80.6	U	2,430		719		96.1	U	1,120	J
Benzo(k)fluoranthene	800	898	U	83.7	U	88.5	U	391	J	89.1	UJ	584	J	5,360	J	1,370		101	U	1,540	J
Biphenyl (Diphenyl)	-	396	U	36.9	U	39.1	U	39.8	U	39.3	U	37.4	U	38.3	U	39	U	44.6	U	39.2	U
bis(2-Ethylhexyl)phthalate	-	14,400		4,480		36.5	U	37.1	U	529	J	34.9	U	35.8	U	36.4	U	41.6	U	33,200	
Butylbenzylphthalate	-	299	U	27.9	U	29.5	U	30.1	U	29.7	UJ	28.2	U	29	U	29.5	U	33.7	U	29.6	U
Caprolactam	-	1,080	U	101	U	107	U	109	U	107	U	102	U	105	U	107	U	122	U	107	U
Carbazole	-	660	U	61.5	U	65.1	U	66.3	U	65.5	U	62.3	U	1,480		65	U	74.3	U	65.3	U
Chrysene	1000	986	U	91.9	U	97.2	U	612		97.9	UJ	600		9,420		2,430		551		2,270	
Dibenz(a,h)anthracene	330	828	U	77.1	U	81.6	U	83.1	UJ	82.1	UJ	78.1	U	80.1	U	81.5	U	93.2	U	81.9	UJ
Dibenzofuran	7000	722	U	67.3	U	71.2	U	72.5	U	71.6	U	68.1	U	2,310		71.1	U	81.3	U	71.4	U
Di-n-butylphthalate	-	458	U	42.7	U	45.1	U	46	U	45.4	UJ	43.2	U	44.3	U	45.1	U	51.5	U	45.3	U
Di-n-octylphthalate	-	379	U	405		37.3	U	38	U	37.6	U	35.7	U	36.6	U	37.3	U	42.6	U	37.5	U
Fluoranthene	100000	520	U	309		51.2	U	967		51.6	U	882		23,900		3,580		1,270		5,580	
Fluorene	30000	528	U	49.2	U	52.1	U	53	U	52.4	U	49.9	U	2,610		52	U	59.5	U	711	
Indeno(1,2,3-cd)pyrene	500	1,420	U	132	U	140	U	142	UJ	141	UJ	134	U	2,450		955		160	U	959	J
Naphthalene	12000	14,900		8,550		36.5	U	37.1	U	36.7	U	34.9	U	1,190		493		41.6	U	2,200	
Phenanthrene	100000	520	U	417		51.2	U	423		51.6	U	807		27,700		2,030		1,190		5,580	
Phenol	330	749	U	697	U	22,800		1,860		497	J	1,950		2,320		73.7	U	84.2	U	12,100	
Pyrene	100000	537	U	447		52.9	U	1,080		641		1,080		25,200		4,460		1,330		7,500	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-44-24**		**RI-SB-45-02**		**RI-SB-45-24**		**RI-SB-46-02**		**RI-SB-46-24**		**RI-SB-47-02**		**RI-SB-47-24**		**RI-SB-48-02**		**RI-SB-48-46**		**RI-SB-49-02**	
Sample Date:	**UU-SCG ^{b}**	11/3/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		10/27/11		10/27/11		10/26/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	70.5	U	73.2	U	85.5	U	78.1	U	71.7	U	78.5	UR	76	U	728	U	77.9	U	74.3	UR
2,4-Dichlorophenol	-	79.3	U	82.3	U	96.1	U	87.8	U	80.7	U	88.3	UR	85.5	U	818	U	87.6	U	83.6	UR
2,4-Dimethylphenol	-	67.3	U	69.8	U	81.5	U	74.5	U	68.4	U	74.9	UR	72.5	U	694	U	74.3	U	70.9	UR
2-Chlorophenol	-	91.9	U	95.3	U	111	U	102	U	93.4	U	102	UR	99	U	948	U	101	U	96.8	UR
2-Methylnaphthalene	-	79.6	U	82.6	U	96.4	U	88.1	U	80.9	U	2,920	J	85.8	U	821	U	467		408	J
2-Methylphenol(o-Cresol)	330	46.8	U	48.5	U	56.7	U	51.8	U	47.5	U	52	UR	50.4	U	482	U	51.6	U	49.3	UR
3&4-Methylphenol(m&p Cresol)	-	171	U	177	U	207	U	189	U	174	U	190	UR	184	U	1,760	U	188	U	180	UR
3,3'-Dichlorobenzidine	-	99.3	U	103	U	120	U	110	U	101	U	110	UR	107	U	1,020	U	110	U	105	UR
4,6-Dinitro-2-methylphenol	-	78.7	U	81.7	U	95.4	U	87.2	U	80.1	U	87.6	UR	84.9	U	813	U	86.9	U	83	UR
Acenaphthene	20000	291		66.4	U	77.5	U	626		65.1	U	2,260	J	69	U	660	U	70.6	U	378	J
Acenaphthylene	100000	50	U	51.9	U	60.6	U	55.4	U	50.9	U	493	J	53.9	U	516	U	55.2	U	52.7	UR
Acetophenone	-	1,050		53.6	U	62.6	U	57.2	U	52.6	U	57.5	UR	55.7	U	533	U	57.1	U	54.5	UR
Anthracene	100000	346		41.7	U	48.7	U	1,120		783		3,490	J	43.3	U	415	U	44.4	U	639	J
Atrazine	-	64.8	U	67.2	U	78.5	U	71.7	U	65.9	U	72.1	UR	69.8	U	669	U	71.5	U	68.3	UR
Benzaldehyde	-	59.1	U	61.3	U	71.6	U	65.4	U	60.1	U	65.7	UR	63.7	U	609	U	65.2	U	62.2	UR
Benzo(a)anthracene	1000	568		367		52.7	U	6,020		2,000		9,910	J	46.9	U	449	U	48	U	1,420	J
Benzo(a)pyrene	1000	456		429		48.7	U	4,280		1,130		8,810	J	43.3	U	415	U	44.4	U	1,110	J
Benzo(b)fluoranthene	1000	608		432		47.7	U	5,030		2,110		9,340	J	42.4	U	406	U	43.5	U	1,620	J
Benzo(g,h,i)perylene	100000	79.6	U	82.6	UJ	96.4	UJ	1,850	J	405	J	2,720	J	85.8	UJ	821	U	87.8	U	397	J
Benzo(k)fluoranthene	800	220	J	86.8	U	101	U	2,960		1,100		3,580	J	90.2	U	863	U	92.4	U	633	J
Biphenyl (Diphenyl)	-	36.9	U	38.3	U	44.7	U	40.9	U	37.5	U	41.1	UR	39.8	U	381	U	40.8	U	38.9	UR
bis(2-Ethylhexyl)phthalate	-	34.5	U	63,300		1,670		2,600		647		120,000	J	26,600		355	U	5,240		803	J
Butylbenzylphthalate	-	27.9	U	28.9	U	33.8	U	30.9	U	28.4	U	31	UR	30.1	U	288	U	30.8	U	29.4	UR
Caprolactam	-	101	U	105	U	122	U	112	U	103	U	112	UR	109	U	1,040	U	111	U	106	UR
Carbazole	-	61.5	U	63.8	U	74.6	U	68.1	U	62.6	U	1,130	J	66.3	U	635	U	67.9	U	64.8	UR
Chrysene	1000	529		434		111	U	5,680		2,030		10,400	J	99	U	948	U	101	U	1,380	J
Dibenz(a,h)anthracene	330	77.1	U	80	UJ	93.4	UJ	839	J	78.4	UJ	1,010	J	83.1	UJ	796	U	85.1	U	81.3	UR
Dibenzofuran	7000	67.3	U	69.8	U	81.5	U	74.5	U	68.4	U	1,250	J	72.5	U	694	U	74.3	U	70.9	UR
Di-n-butylphthalate	-	42.7	U	44.3	U	51.7	U	47.2	U	43.4	U	307	J	46	U	440	U	47.1	U	45	UR
Di-n-octylphthalate	-	35.3	U	36.6	U	42.7	U	39.1	U	35.9	U	39.3	UR	38	U	364	U	1,130		37.2	UR
Fluoranthene	100000	1,180		537		58.7	U	7,970		5,500		19,300	J	653		499	U	53.4	U	3,200	J
Fluorene	30000	224	J	438		59.6	U	726		614		2,250	J	53.1	U	508	U	54.3	U	434	J
Indeno(1,2,3-cd)pyrene	500	132	U	137	U	160	U	1,790		479		3,100	J	142	U	1,360	U	146	U	454	J
Naphthalene	12000	274		35.7	U	363		1,180		1,060		8,260	J	731		8,590		3,340		1,950	J
Phenanthrene	100000	1,050		50.2	U	58.7	U	5,690		4,320		19,100	J	539		499	U	53.4	U	3,250	J
Phenol	330	2,450		72.3	U	583		77.2	U	70.9	U	776	UR	579		#######		77	U	10,300	J
Pyrene	100000	1,090		639		60.6	U	10,900		5,010		21,700	J	559		516	U	55.2	U	3,950	J

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-49-57**		**RI-SB-50-02**		**RI-SB-50-57**		**RI-SB-51-02**		**RI-SB-51-24**		**RI-SB-52-02**		**RI-SB-52-24**		**RI-SB-53-02**		**RI-SB-53-24**		**RI-SB-54-02**	
Sample Date:	**UU-SCG ^{b}**	10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/31/11		10/31/11		10/31/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	70.3	U	71.3	U	71	U	74.8	U	74	U	76.7	U	70.8	U	89.9	U	74	U	69.2	U
2,4-Dichlorophenol	-	79	U	80.2	U	79.8	U	84.2	U	83.2	U	86.3	U	79.6	U	101	U	83.2	U	77.8	U
2,4-Dimethylphenol	-	67	U	68	U	67.7	U	71.4	U	70.5	U	73.2	U	67.5	U	85.7	U	70.5	U	66	U
2-Chlorophenol	-	91.5	U	92.9	U	92.4	U	97.5	U	96.3	U	99.9	U	92.2	U	117	U	96.3	U	90.2	U
2-Methylnaphthalene	-	79.2	U	818		80	U	496		83.4	U	830		79.8	U	5,310		83.4	U	421	
2-Methylphenol(o-Cresol)	330	46.6	U	47.3	U	47	U	49.6	U	49	U	50.9	U	46.9	U	59.6	U	49	U	45.9	U
3&4-Methylphenol(m&p Cresol)	-	170	U	173	U	172	U	181	U	179	U	186	U	171	U	217	U	179	U	167	U
3,3'-Dichlorobenzidine	-	98.8	U	100	UJ	99.8	U	105	U	104	U	108	U	99.6	U	126	U	104	U	97.4	U
4,6-Dinitro-2-methylpheno	-	78.4	U	79.6	U	79.2	U	83.5	U	82.6	U	85.7	U	79	U	100	U	82.6	U	77.3	U
Acenaphthene	20000	63.7	U	2,390		64.4	U	1,520		67.1	U	3,310		64.2	U	10,500		67.1	U	701	
Acenaphthylene	100000	49.8	U	50.6	U	50.3	U	484		52.5	U	54.4	U	50.2	U	2,580		52.5	U	49.1	U
Acetophenone	-	51.5	U	52.2	U	52	U	54.8	U	54.2	U	56.2	U	51.8	U	65.8	U	54.2	U	50.7	U
Anthracene	100000	40	U	4,390		40.4	U	3,880		42.1	U	5,700		40.3	U	25,700		42.1	U	977	
Atrazine	-	64.5	U	65.5	U	65.2	U	68.7	U	67.9	U	70.5	U	65	U	82.5	U	67.9	U	63.6	U
Benzaldehyde	-	58.8	U	59.7	U	59.4	U	1,660		61.9	U	64.2	U	59.3	U	75.2	U	61.9	U	58	U
Benzo(a)anthracene	1000	43.3	U	19,800	J	43.7	U	13,100		360		11,800		43.6	U	46,500		45.6	U	2,650	J
Benzo(a)pyrene	1000	40	U	18,200	J	40.4	U	12,500		305		10,500		40.3	U	39,600		42.1	U	2,610	J
Benzo(b)fluoranthene	1000	39.2	U	28,000	J	39.6	U	17,400		459		12,900		39.5	U	50,400		41.3	U	4,390	J
Benzo(g,h,i)perylene	100000	79.2	U	6,390	J	80	U	4,580	J	83.4	U	4,510		79.8	U	12,500		83.4	U	650	J
Benzo(k)fluoranthene	800	83.3	U	10,800	J	84.2	U	6,660		87.7	U	4,780		83.9	U	19,400		87.7	U	1,370	J
Biphenyl (Diphenyl)	-	36.8	U	37.3	U	37.1	U	39.2	U	38.7	U	40.2	U	37	U	47	U	38.7	U	36.2	U
bis(2-Ethylhexyl)phthalate	-	34.3	U	1,270	J	34.7	U	36.5	U	36.1	U	37.5	U	34.6	U	1,070		36.1	U	147	J
Butylbenzylphthalate	-	27.8	U	28.2	UJ	28.1	U	29.6	U	29.2	U	30.3	U	28	U	35.5	U	29.2	U	27.4	U
Caprolactam	-	100	U	102	U	101	U	107	U	106	U	110	U	101	U	129	U	106	U	99	U
Carbazole	-	61.3	U	1,730		61.9	U	2,000		64.5	U	2,360		61.7	U	784	U	64.5	U	415	
Chrysene	1000	91.5	U	18,800	J	92.4	U	14,200		378		12,000		92.2	U	42,100		96.3	U	2,820	
Dibenz(a,h)anthracene	330	76.8	U	2,670	J	77.6	U	1,510	J	80.9	U	1,550		77.4	U	3,190	J	80.8	U	75.7	UJ
Dibenzofuran	7000	67	U	1,260		67.7	U	71.4	U	70.5	U	1,840		67.5	U	9,620		70.5	U	495	
Di-n-butylphthalate	-	42.5	U	43.1	U	42.9	U	45.3	U	44.7	U	46.4	U	42.8	U	54.3	U	44.7	U	41.9	U
Di-n-octylphthalate	-	35.1	U	35.7	UJ	35.5	U	37.4	U	37	U	38.4	U	35.4	U	44.9	U	37	U	34.6	U
Fluoranthene	100000	289		32,800		48.7	U	29,600		669		28,100		48.6	U	108,000		50.7	U	5,200	
Fluorene	30000	49	U	2,320		49.5	U	1,520		51.6	U	2,760		49.4	U	12,600		51.6	U	797	
Indeno(1,2,3-cd)pyrene	500	132	U	7,890		133	U	5,350	J	138	U	4,720		132	U	17,500		138	U	733	J
Naphthalene	12000	34.3	U	1,380		34.7	U	737		36.1	U	1,020		34.6	U	11,200		36.1	U	736	
Phenanthrene	100000	48.2	U	19,300		48.7	U	20,000		537		28,200		48.6	U	104,000		50.7	U	5,140	
Phenol	330	69.4	U	3,850		70.1	U	74	U	73.1	U	2,360		70	U	574		73.1	U	68.4	U
Pyrene	100000	49.8	U	32,300	J	50.3	U	30,100		789		26,600		50.2	U	106,000		52.5	U	5,690	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-54-24**		**RI-SB-55-13**		**RI-SB-55-35**		**RI-SB-56-02**		**RI-SB-56-46**		**RI-SB-57-02**		**RI-SB-57-46**		**RI-SB-59-02**		**RI-SB-59-56**		**RI-SB-60-13**	
Sample Date:	**UU-SCG [b]**	10/31/11		10/28/11		10/28/11		10/28/11		10/28/11		10/27/11		10/27/11		10/26/11		10/26/11		10/26/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	69.1	U	70.3	U	75.8	U	68.5	U	71.5	U	68.3	U	769	U	72.8	UR	720	U	2,060	J
2,4-Dichlorophenol	-	77.7	U	79	U	85.3	U	77	U	80.3	U	76.8	U	865	U	81.9	UR	810	U	82.8	UR
2,4-Dimethylphenol	-	65.9	U	67	U	72.3	U	65.3	U	68.1	U	65.1	U	733	U	69.4	UR	687	U	70.2	UR
2-Chlorophenol	-	90	U	91.5	U	98.8	U	89.2	U	93.1	U	89	U	1,000	U	94.9	UR	938	U	12,500	J
2-Methylnaphthalene	-	78	U	367		85.5	U	1,730		80.6	U	77.1	U	936	J	183	J	813	U	83	U
2-Methylphenol(o-Cresol)	330	45.8	U	46.6	U	50.3	U	45.4	U	47.4	U	45.3	U	510	U	48.3	UR	478	U	48.8	UR
3&4-Methylphenol(m&p Cresol)	-	167	U	170	U	183	U	166	U	173	U	165	U	1,860	U	176	UR	1,740	U	178	UR
3,3'-Dichlorobenzidine	-	97.3	U	98.9	U	107	U	96.4	U	101	U	96.1	U	1,080	U	102	UJ	1,010	U	104	U
4,6-Dinitro-2-methylphenol	-	77.2	U	78.4	U	84.7	U	76.5	U	79.8	U	76.3	U	858	U	81.3	UR	804	U	82.2	UR
Acenaphthene	20000	62.7	U	898		68.8	U	62.1	U	64.8	U	62	U	697	U	66.1	U	653	U	66.8	U
Acenaphthylene	100000	49	U	49.8	U	53.8	U	48.6	U	50.7	U	48.5	U	545	U	51.7	U	511	U	52.2	U
Acetophenone	-	50.6	U	51.5	U	55.6	U	50.2	U	52.3	U	50	U	563	U	53.4	U	528	U	53.9	U
Anthracene	100000	39.4	U	1,750		43.2	U	316		40.7	U	38.9	U	438	U	383		411	U	325	
Atrazine	-	63.5	U	64.5	U	69.7	U	62.9	U	65.6	U	62.8	U	706	U	66.9	U	662	U	67.6	U
Benzaldehyde	-	57.9	U	58.8	U	63.5	U	57.4	U	59.8	U	57.2	U	644	U	61	U	603	U	61.6	U
Benzo(a)anthracene	1000	42.6	U	5,680		352		420		298		42.1	U	474	U	5,500	J	444	U	1,990	
Benzo(a)pyrene	1000	39.4	U	3,990		328		39	U	280		38.9	U	438	U	3,180	J	411	U	1,930	
Benzo(b)fluoranthene	1000	38.6	U	6,790		433		380		366		38.1	U	429	U	6,990	J	402	U	2,630	
Benzo(g,h,i)perylene	100000	78	U	1,860		85.5	U	77.3	U	80.6	U	77.1	U	867	U	2,180	J	813	U	1,080	
Benzo(k)fluoranthene	800	82	U	2,640		89.9	U	81.3	U	84.8	U	81	U	912	U	4,120	J	855	U	771	
Biphenyl (Diphenyl)	-	36.2	U	36.8	U	39.7	U	35.9	U	37.4	U	35.7	U	402	U	38.1	U	377	U	38.5	U
bis(2-Ethylhexyl)phthalate	-	33.8	U	34.3	U	37	U	4,640		1,260		334	U	7,500		309	J	352	U	35.9	U
Butylbenzylphthalate	-	27.3	U	27.8	U	30	U	27.1	U	28.3	U	27	U	304	U	28.8	UJ	285	U	29.1	U
Caprolactam	-	98.9	U	100	U	108	U	98	U	102	U	97.7	U	1,100	U	104	U	1,030	U	105	U
Carbazole	-	60.3	U	850		66.1	U	59.8	U	62.3	U	59.6	U	671	U	63.5	U	628	U	64.2	U
Chrysene	1000	90	U	5,880		394		414		341		89	U	1,000	U	5,040		938	U	1,940	
Dibenz(a,h)anthracene	330	75.6	U	76.8	U	82.9	U	74.9	U	78.1	U	74.7	U	841	U	737	J	788	U	327	
Dibenzofuran	7000	65.9	U	541		72.3	U	65.3	U	68.1	U	65.1	U	733	U	388		687	U	70.2	U
Di-n-butylphthalate	-	41.8	U	42.5	U	45.9	U	41.4	U	43.2	U	41.3	U	465	U	44	U	436	U	44.5	U
Di-n-octylphthalate	-	34.6	U	35.1	U	37.9	U	34.3	U	35.7	U	2,380		385	U	36.4	UJ	360	U	36.8	U
Fluoranthene	100000	47.4	U	11,900		869		736		737		281		528	U	12,600		494	U	3,080	
Fluorene	30000	48.2	U	1,090		52.9	U	47.8	U	49.9	U	47.7	U	537	U	50.8	U	503	U	51.3	U
Indeno(1,2,3-cd)pyrene	500	129	U	2,150		142	U	128	U	134	U	128	U	1,440	U	2,260	J	1,350	U	1,100	
Naphthalene	12000	33.8	U	678		37	U	860		470		790		5,180		35.6	U	1,180	J	35.9	U
Phenanthrene	100000	47.4	U	7,380		1,240		1,390		729		46.9	U	528	U	8,320		494	U	1,870	
Phenol	330	68.3	U	69.4	U	465		1,330		70.6	U	8,380		494,000		27,600	J	712	U	76,500	J
Pyrene	100000	49	U	10,600		794		781		761		377		545	U	10,200		511	U	4,250	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-60-13 Dup**		**RI-SB-60-57**		**RI-SB-61-13**		**RI-SB-61-57**		**RI-SB-62-02**		**RI-SB-63-02**		**RI-SB-63-46**		**RI-SB-64-13**		**RI-SB-64-57**		**RI-SB-65-13**	
Sample Date:	**UU-SCG [b]**	10/26/11		10/26/11		10/26/11		10/26/11		11/1/11		10/26/11		10/26/11		10/28/11		10/28/11		10/28/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	412	J	74.7	U	73.4	U	74.8	U	76.8	U	70.4	U	73.1	U	76.8	U	89.1	U	76.9	U
2,4-Dichlorophenol	-	82.6	U	84	U	82.5	U	84.1	U	86.3	U	79.1	U	82.2	U	86.4	U	100	U	86.5	U
2,4-Dimethylphenol	-	70.1	U	71.3	U	70	U	71.4	U	73.2	U	67.1	U	69.7	U	73.2	U	85	U	73.3	U
2-Chlorophenol	-	9,850	J	1,230		95.6	U	97.5	U	100	U	91.6	U	95.2	U	100	U	116	U	100	U
2-Methylnaphthalene	-	82.9	U	84.3	U	82.8	U	665		287	J	79.3	U	82.5	U	1,540		101	U	86.8	U
2-Methylphenol(o-Cresol)	330	48.7	U	49.5	U	809		215	J	50.9	U	46.6	U	48.5	U	50.9	U	59.1	U	51	U
3&4-Methylphenol(m&p Cresol)	-	178	U	181	U	178	U	181	U	186	U	170	U	177	U	186	U	216	U	186	U
3,3'-Dichlorobenzidine	-	103	U	105	UJ	103	U	105	U	108	U	99	U	103	U	108	U	125	U	108	U
4,6-Dinitro-2-methylphenol	-	82	U	83.4	U	81.9	U	83.5	U	85.7	U	78.5	U	81.6	U	85.7	U	99.5	U	85.9	U
Acenaphthene	20000	66.6	U	67.8	U	463		1,160		495		63.8	U	456		1,110		80.8	U	69.8	U
Acenaphthylene	100000	52.1	U	53	U	719		53.1	U	54.5	U	49.9	U	285		54.5	U	63.2	U	54.6	U
Acetophenone	-	53.8	U	54.7	U	53.8	U	54.8	U	56.3	U	51.5	U	488		56.3	U	65.3	U	56.3	U
Anthracene	100000	41.9	U	42.6	U	2,300		1,720		1,530		286		1,660		638		50.8	U	43.8	U
Atrazine	-	67.5	U	68.7	U	67.4	U	68.7	U	70.5	U	64.6	U	67.2	U	70.6	U	81.9	U	70.7	U
Benzaldehyde	-	61.5	U	62.6	U	61.5	U	62.7	U	64.3	UJ	58.9	U	61.2	U	64.3	U	74.6	U	64.4	U
Benzo(a)anthracene	1000	45.3	U	46.1	UJ	13,700		2,320		8,420		1,400	J	3,970		2,500		54.9	U	894	
Benzo(a)pyrene	1000	41.9	U	42.6	UJ	13,900		1,840		10,100		2,590	J	3,100		2,490		50.8	U	1,650	
Benzo(b)fluoranthene	1000	343		41.7	UJ	17,700		2,220		13,000		3,100	J	3,700		3,410		49.7	U	1,290	
Benzo(g,h,i)perylene	100000	82.9	U	84.3	UJ	4,420	J	901		2,930		1,160	J	1,440		733		101	U	1,100	
Benzo(k)fluoranthene	800	87.1	U	88.6	UJ	6,410		914		4,640		1,230	J	1,450		1,350		106	U	489	
Biphenyl (Diphenyl)	-	38.4	U	39.1	U	38.4	U	39.2	U	40.2	U	36.8	U	38.3	U	40.2	U	46.6	U	40.2	U
bis(2-Ethylhexyl)phthalate	-	35.9	U	36.5	UJ	35.9	U	36.5	U	37.5	U	34.4	U	35.7	U	37.5	U	43.5	U	37.6	U
Butylbenzylphthalate	-	29	U	29.5	UJ	29	U	29.6	U	30.4	U	27.8	U	28.9	U	30.4	U	35.2	U	30.4	U
Caprolactam	-	105	U	107	U	105	U	107	U	110	U	101	U	105	U	110	U	127	U	110	U
Carbazole	-	64.1	U	65.2	U	499		750		1,950		116	J	63.8	U	67	U	77.7	U	67.1	U
Chrysene	1000	355		97.3	UJ	12,900		1,900		8,410		1,500		3,450		2,360		116	U	937	
Dibenz(a,h)anthracene	330	80.3	U	81.7	UJ	1,360	J	81.8	U	1,020		361	J	475		84	U	97.4	U	340	
Dibenzofuran	7000	70.1	U	71.3	U	380		71.4	U	73.2	U	67.1	U	338		418		85	U	73.3	U
Di-n-butylphthalate	-	44.4	U	45.2	U	44.4	U	45.2	U	46.4	U	42.5	U	44.2	U	46.4	U	53.9	U	46.5	U
Di-n-octylphthalate	-	36.7	U	37.4	UJ	36.7	U	37.4	U	38.4	U	35.2	U	36.6	U	38.4	U	44.6	U	38.5	U
Fluoranthene	100000	455		321		25,700		5,270		8,520		1,150		7,420		4,120		61.1	U	988	
Fluorene	30000	51.3	U	52.1	U	507		1,110		581		49.1	U	578		686		62.2	U	53.7	U
Indeno(1,2,3-cd)pyrene	500	138	U	140	UJ	5,130	J	911		4,130		1,080	J	1,560		819		167	U	895	
Naphthalene	12000	35.9	U	36.5	U	859		9,270		919		34.4	U	521		1,440		43.5	U	37.6	U
Phenanthrene	100000	579		402		7,020		7,760		6,200		1,060		5,150		2,430		61.1	U	1,100	
Phenol	330	80,500	J	15,200		2,110		3,100		460		8,090		5,010		75.9	U	8,390		517	
Pyrene	100000	426		375	J	28,400		5,750		9,300		1,800		7,170		4,530		63.2	U	1,500	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-65-57		RI-SB-66-24		RI-SB-66-24 Dup		RI-SB-66-46		RI-SB-67-13		RI-SB-67-35		RI-SB-68-13		RI-SB-68-35		RI-SB-69-02		RI-SB-69-35	
Sample Date:	UU-SCG ^{b}	10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	70.1	U	76.5	U	74.5	U	82.2	U	72.1	U	761		71.4	U	1,640		72.6	U	74	U
2,4-Dichlorophenol	-	78.9	U	86	U	83.8	U	92.4	U	81.1	U	92.8	U	80.3	U	128	U	81.6	U	83.2	U
2,4-Dimethylphenol	-	66.9	U	73	U	71.1	U	78.3	U	68.7	U	78.7	U	68.1	U	109	U	69.2	U	70.6	U
2-Chlorophenol	-	91.4	U	99.7	U	97.1	U	107	U	93.9	U	694		93	U	148	U	94.5	U	96.4	U
2-Methylnaphthalene	-	79.1	U	320		84.1	U	92.7	U	81.3	U	250	J	275	J	128	U	335		83.5	U
2-Methylphenol(o-Cresol)	330	46.5	U	50.7	U	49.4	U	54.5	U	47.8	U	54.7	U	47.3	U	75.5	U	48.1	U	49.1	U
3&4-Methylphenol(m&p Cresol)	-	170	U	185	U	180	U	199	U	174	U	200	U	173	U	275	U	176	U	179	U
3,3'-Dichlorobenzidine	-	98.7	U	108	U	223	J	116	U	101	U	116	U	100	U	160	U	102	U	104	U
4,6-Dinitro-2-methylpheno	-	78.3	U	85.4	U	83.2	U	91.7	U	80.5	U	92.2	U	79.7	U	127	U	81	U	82.6	U
Acenaphthene	20000	63.6	U	1,080		301		74.5	U	65.4	U	359		64.8	U	103	U	278	J	67.1	U
Acenaphthylene	100000	49.8	U	1,440		52.9	U	58.3	U	51.1	U	58.6	U	50.7	U	80.8	U	51.5	U	52.5	U
Acetophenone	-	51.4	U	56.1	U	54.6	U	60.2	U	52.8	U	60.5	U	52.3	U	83.4	U	53.2	U	54.2	U
Anthracene	100000	40	U	4,850		907		46.8	U	41.1	U	719		40.7	U	64.9	U	519		42.2	U
Atrazine	-	64.4	U	70.3	U	68.5	U	75.5	U	66.2	U	75.8	U	65.6	U	105	U	66.7	U	68	U
Benzaldehyde	-	58.7	U	64.1	U	62.4	U	68.8	U	8,090		69.1	U	59.8	U	95.3	U	60.8	U	62	U
Benzo(a)anthracene	1000	43.2	U	32,800		6,860		561		473		1,360		543		521		826		334	
Benzo(a)pyrene	1000	40	U	28,500		5,030		454		537		1,230		516		550		602		302	
Benzo(b)fluoranthene	1000	39.2	U	35,700		9,070		586		631		1,770		671		712		768		367	
Benzo(g,h,i)perylene	100000	79.1	U	15,900		3,760		92.7	U	350		684		404		128	U	323		83.5	U
Benzo(k)fluoranthene	800	83.2	U	14,100		3,090		97.4	U	254	J	654		219	J	135	U	335		87.8	U
Biphenyl (Diphenyl)	-	36.7	U	40	U	39	U	43	U	37.7	U	43.2	U	37.4	U	59.6	U	38	U	38.7	U
bis(2-Ethylhexyl)phthalate	-	34.3	U	37.4	U	36.4	U	411		35.2	U	40.3	U	4,490		1,090		512		36.1	U
Butylbenzylphthalate	-	27.7	U	30.3	U	29.5	U	32.5	U	28.5	U	32.6	U	28.2	U	45	U	28.7	U	29.3	U
Caprolactam	-	100	U	109	U	107	U	118	U	103	U	118	U	102	U	163	U	104	U	106	U
Carbazole	-	61.2	U	2,320		405		71.6	U	62.9	U	72	U	62.3	U	99.3	U	63.3	U	64.6	U
Chrysene	1000	91.4	U	33,100		7,350		559		502		1,750		554		508		830		353	
Dibenz(a,h)anthracene	330	76.7	U	2,740		1,170		89.8	U	78.8	U	90.2	U	78.1	U	124	U	79.3	U	80.9	U
Dibenzofuran	7000	66.9	U	718		71.1	U	78.3	U	68.7	U	78.7	U	68.1	U	109	U	69.2	U	70.6	U
Di-n-butylphthalate	-	42.4	U	46.3	U	45.1	U	49.7	U	43.6	U	49.9	U	43.2	U	68.8	U	43.9	U	44.8	U
Di-n-octylphthalate	-	35.1	U	38.3	U	37.3	U	41.1	U	36	U	41.3	U	2,110		56.9	U	36.3	U	37	U
Fluoranthene	100000	494		57,300		10,400		1,400		855		3,060		922		1,390		2,360		858	
Fluorene	30000	48.9	U	1,610		408		57.3	U	50.3	U	507		49.8	U	79.4	U	324		51.6	U
Indeno(1,2,3-cd)pyrene	500	131	U	19,200		4,010		154	U	325		706		377		213	U	333		139	U
Naphthalene	12000	34.3	U	419		36.4	U	40.1	U	35.2	U	711		525		55.6	U	1,560		36.1	U
Phenanthrene	100000	845		21,700		4,710		1,430		752		3,260		892		1,550		2,470		920	
Phenol	330	463		75.6	U	73.7	U	81.2	U	12,900		6,400		2,020		15,500		4,420		4,280	
Pyrene	100000	508		55,900		12,700		1,440		817		3,440		1,180		1,250		2,160		818	

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-70-02		RI-SB-70-46		RI-SB-71-13		RI-SB-71-35		RI-SB-72-02		RI-SB-72-46		RI-SB-73-13		RI-SB-73-46		RI-SB-74-02		RI-SB-74-24	
Sample Date:	**UU-SCG [b]**	10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		11/1/11		11/1/11	
SVOCs (ug/kg)																					
2,4,6-Trichlorophenol	-	67.8	U	70.2	U	69.5	U	81.9	U	75.7	U	84.9	U	72.5	U	74.4	U	706	U	76.8	UR
2,4-Dichlorophenol	-	76.2	U	78.9	U	78.2	U	92.1	U	85.1	U	95.5	U	81.5	U	83.7	U	794	U	86.4	UR
2,4-Dimethylphenol	-	64.6	U	66.9	U	66.3	U	78.1	U	72.2	U	81	U	69.1	U	71	U	673	U	73.3	UR
2-Chlorophenol	-	88.3	U	91.4	U	90.5	U	107	U	98.6	U	111	U	94.4	U	96.9	U	920	U	1,250	J
2-Methylnaphthalene	-	76.4	U	760		78.4	U	92.4	U	85.4	U	95.8	U	81.8	U	84	U	23,200		9,780	
2-Methylphenol(o-Cresol)	330	44.9	U	46.5	U	46.1	U	54.3	U	50.2	U	56.3	U	48.1	U	49.3	U	468	U	50.9	UR
3&4-Methylphenol(m&p Cresol)	-	164	U	170	U	168	U	198	U	183	U	205	U	175	U	180	U	1,710	U	186	UR
3,3'-Dichlorobenzidine	-	95.4	U	98.8	U	97.8	U	115	U	106	U	120	U	102	U	105	U	993	U	108	U
4,6-Dinitro-2-methylpheno	-	75.7	U	78.4	U	77.6	U	91.5	U	84.5	U	94.8	U	80.9	U	83.1	U	788	U	85.8	UR
Acenaphthene	20000	61.5	U	477		63.1	U	74.3	U	648		1,060		596		67.5	U	32,200		15,000	
Acenaphthylene	100000	48.1	U	49.8	U	49.3	U	58.1	U	53.7	U	60.3	U	51.4	U	52.8	U	501	U	54.5	U
Acetophenone	-	49.6	U	51.4	U	50.9	U	60	U	55.4	U	62.2	U	53.1	U	54.5	U	403,000		104,000	
Anthracene	100000	38.6	U	446		39.6	U	46.7	U	677		535		3,630		672		4,150		29,100	
Atrazine	-	62.3	U	64.5	U	63.9	U	75.3	U	69.5	U	78	U	66.6	U	68.4	U	649	U	70.6	U
Benzaldehyde	-	56.7	U	58.8	U	58.2	U	68.6	U	63.4	U	71.1	U	60.7	U	62.3	U	591	U	64.3	UJ
Benzo(a)anthracene	1000	41.8	U	674		352		300	J	46.6	U	52.4	U	1,480		869		4,580		28,100	
Benzo(a)pyrene	1000	38.6	U	555		632		46.7	U	43.1	U	48.4	U	1,520		789		3,550		22,100	
Benzo(b)fluoranthene	1000	37.8	U	726		955		45.7	U	279	J	47.4	U	1,740		718		4,370		26,900	
Benzo(g,h,i)perylene	100000	76.4	U	317		78.4	U	92.4	U	85.4	U	95.8	U	522		84	U	2,780		2,900	J
Benzo(k)fluoranthene	800	80.4	U	287		527		97.2	U	89.8	U	101	U	896		591		837	U	9,590	
Biphenyl (Diphenyl)	-	35.5	U	36.7	U	36.4	U	42.9	U	39.6	U	44.4	U	37.9	U	39	U	5,820		3,440	
bis(2-Ethylhexyl)phthalate	-	33.1	U	401		2,020		373		1,220		41.5	U	785		285	J	5,460		5,480	
Butylbenzylphthalate	-	26.8	U	27.8	U	27.5	U	32.4	U	29.9	U	33.6	U	28.7	U	29.4	U	279	U	30.4	U
Caprolactam	-	96.9	U	100	U	99.4	U	117	U	108	U	121	U	104	U	106	U	1,010	U	110	U
Carbazole	-	59.1	U	61.2	U	60.6	U	71.5	U	66	U	699		347		127	J	616	U	10,200	
Chrysene	1000	88.3	U	648		401		374		98.6	U	111	U	1,580		877		4,280		24,500	
Dibenz(a,h)anthracene	330	74.1	U	76.7	U	76	U	89.6	U	82.7	U	92.9	U	79.3	U	81.4	U	772	U	1,710	J
Dibenzofuran	7000	64.6	U	66.9	U	66.3	U	78.1	U	72.2	U	852		69.1	U	71	U	673	U	733	U
Di-n-butylphthalate	-	41	U	42.4	U	42	U	49.5	U	45.8	U	51.4	U	43.8	U	45	U	427	U	46.5	U
Di-n-octylphthalate	-	33.9	U	35.1	U	34.8	U	41	U	37.8	U	42.5	U	36.3	U	37.2	U	353	U	654	
Fluoranthene	100000	46.5	U	1,820		47.7	U	276	J	2,700		436		5,970		2,650		10,800		74,000	
Fluorene	30000	47.3	U	512		48.5	U	57.2	U	706		947		853		299		23,300		26,500	
Indeno(1,2,3-cd)pyrene	500	127	U	292		130	U	153	U	142	U	159	U	549		139	U	1,320	U	4,790	J
Naphthalene	12000	33.1	U	1,720		34	U	40	U	37	U	1,120		628		36.4	U	52,200		20,200	
Phenanthrene	100000	46.5	U	2,240		47.7	U	56.2	U	3,020		2,580		10,800		2,680		20,900		148,000	
Phenol	330	67	U	69.4	U	68.7	U	81	U	74.8	U	84	U	71.7	U	73.6	U	698	U	13,800	J
Pyrene	100000	48.1	U	1,870		49.3	U	323		1,910		60.3	U	5,460		2,330		9,310		96,000	J

Table 5

SVOCs Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-75-02**		**RI-SB-75-24**		**RI-SB-76-02**		**RI-SB-76-24**	
Sample Date:	**UU-SCG ^{b}**	11/1/11		11/1/11		11/1/11		11/1/11	
SVOCs (ug/kg)									
2,4,6-Trichlorophenol	-	74	UR	84.2	UR	75.7	UR	86	U
2,4-Dichlorophenol	-	83.2	UR	94.7	UR	85.1	UR	96.7	U
2,4-Dimethylphenol	-	70.6	UR	80.3	UR	72.2	UR	82	U
2-Chlorophenol	-	96.4	UR	110	UR	98.5	UR	112	U
2-Methylnaphthalene	-	1,060	J	3,200		2,170	J	1,240	
2-Methylphenol(o-Cresol)	330	49.1	UR	55.8	UR	50.2	UR	57	U
3&4-Methylphenol(m&p Cresol)	-	179	UR	1,120	J	183	UR	1,110	
3,3'-Dichlorobenzidine	-	104	UR	118	U	106	UR	121	U
4,6-Dinitro-2-methylphenol	-	82.6	UR	94	UR	84.5	UR	96	U
Acenaphthene	20000	1,810	J	3,810		3,220	J	5,420	
Acenaphthylene	100000	52.5	UR	59.7	U	578	J	61	U
Acetophenone	-	2,460	J	61.7	U	55.4	UR	1,890	
Anthracene	100000	2,950	J	3,340		5,820	J	6,610	
Atrazine	-	68	UR	77.3	U	69.5	UR	79	U
Benzaldehyde	-	62	UR	70.5	UJ	63.4	UR	72	UJ
Benzo(a)anthracene	1000	8,200	J	5,650	J	10,200	J	14,000	
Benzo(a)pyrene	1000	8,340	J	4,640	J	8,450	J	12,100	
Benzo(b)fluoranthene	1000	9,160	J	6,500		10,900	J	13,800	
Benzo(g,h,i)perylene	100000	1,160	J	943	J	1,880	J	3,970	
Benzo(k)fluoranthene	800	3,550	J	999	U	4,280	J	5,980	
Biphenyl (Diphenyl)	-	38.7	UR	44.1	U	540	J	512	
bis(2-Ethylhexyl)phthalate	-	3,100		411	U	398		42	U
Butylbenzylphthalate	-	29.3	UR	33.3	U	29.9	UR	34	U
Caprolactam	-	106	UR	120	U	108	UR	123	U
Carbazole	-	818	J	749		1,570	J	3,420	
Chrysene	1000	7,850	J	5,590		9,370	J	13,200	
Dibenz(a,h)anthracene	330	529	J	92	UJ	710	J	1,590	
Dibenzofuran	7000	1,220	J	2,110		3,050	J	2,990	
Di-n-butylphthalate	-	44.8	UR	50.9	U	45.8	UR	52	U
Di-n-octylphthalate	-	37	UR	42.1	U	37.8	UR	43	U
Fluoranthene	100000	17,400	J	14,400		25,300	J	33,600	
Fluorene	30000	2,080	J	3,910		4,310	J	4,410	
Indeno(1,2,3-cd)pyrene	500	1,860	J	1,450	J	2,870	J	5,770	
Naphthalene	12000	1,140	J	3,190		7,680	J	4,530	
Phenanthrene	100000	16,900	J	16,400		26,000	J	28,200	
Phenol	330	2,820	J	5,590	J	74.8	UR	45,400	
Pyrene	100000	15,600	J	11,800		24,000	J	37,500	

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**12Z-VOC-02**		**12Z-VOC-57**		**MW-04-02**		**MW-04-24**		**MW-06-02**		**MW-06-24**		**MW-09-02**		**MW-09-24**		**RI-SB-01-02**	
Sample Date:	**UU-SCG ^{b}**	3/19/12		3/19/12		11/4/11		11/4/11		11/3/11		11/3/11		10/31/11		10/31/11		11/10/11	
Pesticides (ug/kg)																			
4,4'-DDD	3.3	8.1	J	4.9	U	2.2	U	0.12	U	15.8	J	5.8	UJ	2.2	U	9.7	J	5.7	U
4,4'-DDE	3.3	49.2	J	4.2	U	42.7	J	0.1	U	4.5	UJ	5	UJ	1.9	U	1.9	U	4.9	U
4,4'-DDT	3.3	39	J	41.7	J	1.7	U	0.091	U	137	UJ	4.5	UJ	1.7	U	6.6	J	4.5	U
Aldrin	5	0.99	U	2.1	U	0.94	U	0.05	U	2.3	UJ	2.5	UJ	0.96	U	0.96	U	2.5	U
alpha-BHC	20	15	U	32.1	U	14.2	U	0.76	U	34.2	UJ	37.9	UJ	14.5	U	14.5	U	37.5	U
alpha-Chlordane	94	1	U	13.6	J	313	J	1.5	U	68.3	UJ	2.6	UJ	29.1	U	29	U	42.9	J
beta-BHC	36	1.3	U	2.9	U	12.8	U	0.068	U	3.1	UJ	3.4	UJ	1.3	U	1.3	U	3.4	U
delta-BHC	40	0.77	U	1.7	U	0.73	U	1.5	U	1.8	UJ	2	UJ	0.75	U	0.75	U	1.9	U
Dieldrin	5	107		3.5	U	126	R	3	U	5.7	J	4.2	UJ	1.6	U	1.6	U	4.1	U
Endosulfan I	2400	1.8	U	11.3	J	1.7	U	0.089	U	4	UJ	5.5	J	29.1	U	1.7	U	4.4	U
Endosulfan II	2400	2.3	J	5.8	J	34.1	J	0.11	U	5	UJ	5.5	UJ	58.2	U	58	UJ	110	J
Endosulfan sulfate	2400	18.7	J	78.7	J	267	0	0.079	U	74.2	J	4	UJ	27.4	J	19.1	J	93	J
Endrin	14	3.1	U	6.7	U	55.5	J	0.16	U	7.1	UJ	7.9	UJ	10	J	4.1	J	7.8	U
Endrin aldehyde	-	7.4	J	27.4	J	143	R	0.14	U	6.3	UJ	6.9	UJ	2.7	U	8.1	J	6.9	U
Endrin ketone	-	10.3	J	79.7	J	56.9	U	0.11	U	4.9	UJ	5.4	UJ	2.1	U	2.1	U	136	J
gamma-BHC (Lindane)	-	0.95	U	2	U	0.9	U	0.048	U	2.2	UJ	2.4	UJ	0.92	U	0.92	U	2.4	U
gamma-Chlordane	-	0.3	U	26.8	J	2.9	U	1.5	U	68.3	UJ	75.9	UJ	29.1	U	29	UJ	46.2	J
Heptachlor	42	1.1	U	2.3	U	28.4	U	0.055	U	68.3	UJ	2.8	UJ	1.1	U	29	UJ	52.1	J
Heptachlor epoxide	-	4.1	J	2	U	53.7	J	0.047	U	68.3	UJ	2.4	UJ	0.91	U	0.9	U	39.5	J
Methoxychlor	-	38.7	J	114	J	11.5	U	0.61	U	38.6	UJ	30.6	UJ	11.7	U	11.7	U	30.2	U
Toxaphene	-	50.9	U	109	U	48.4	U	2.6	U	116	UJ	129	UJ	49.4	U	49.3	U	127	U

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYCRR Part 375-6.8(a) Soil Cleanup Objectives;
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
R = Data Rejected due to quality control issues, refer to Appendix B.
d/ Sample and duplicate.

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-01-24		RI-SB-01b-02		RI-SB-01b-24		RI-SB-02-02		RI-SB-02-24		RI-SB-03-02		RI-SB-03-02 Dup		RI-SB-03-24		RI-SB-04-02		RI-SB-04-24		RI-SB-05-02		RI-SB-05-24	
Sample Date:	UU-SCG [b]	11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/4/11		11/4/11		11/4/11		11/9/11		11/9/11		11/3/11		11/3/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	0.11	U	6.4	J	0.11	U	8.9	J	7.8	J	0.57	U	15.8	J	0.12	U	5.3	U	2.3	U	0.54	UJ	2.2	UJ
4,4'-DDE	3.3	0.091	U	1.8	U	0.096	U	1.9	U	1.9	U	0.49	U	1.9	U	0.1	U	4.6	U	2	U	0.46	UJ	1.9	UJ
4,4'-DDT	3.3	0.083	U	1.7	U	0.087	U	8.2	J	1.8	U	0.44	U	58.4	U	0.091	U	60.6	J	16.2	J	0.42	UJ	1.7	UJ
Aldrin	5	0.046	U	0.92	U	0.048	U	0.94	U	0.97	U	0.24	U	0.96	U	0.05	U	2.3	U	0.98	U	0.23	UJ	0.93	UJ
alpha-BHC	20	0.69	U	13.9	U	0.73	U	14.2	U	14.7	U	3.7	U	14.6	U	0.76	U	34.7	U	14.8	U	3.5	UJ	14.1	UJ
alpha-Chlordane	94	0.048	U	0.97	U	0.05	U	0.99	U	1	U	0.26	U	1	U	0.053	U	50.1	J	104	J	0.24	UJ	0.98	UJ
beta-BHC	36	0.062	U	1.2	U	0.065	U	1.3	U	1.3	U	0.33	U	1.3	U	0.068	U	3.1	U	15.3	J	0.32	UJ	1.3	UJ
delta-BHC	40	0.036	U	0.72	U	0.037	U	0.73	U	0.76	U	0.19	U	0.75	U	1.5	U	1.8	U	0.76	U	0.18	UJ	0.73	UJ
Dieldrin	5	0.076	U	23.5	J	0.08	U	24.1	J	1.6	U	0.41	U	58.4	U	0.084	U	3.8	U	11.8	J	0.39	UJ	1.6	UJ
Endosulfan I	2400	0.081	U	1.6	U	0.085	U	8.8	J	1.7	U	7.4	U	1.7	U	0.089	U	4.1	U	1.7	U	0.41	UJ	1.7	UJ
Endosulfan II	2400	0.1	U	2	U	0.11	U	2.1	U	2.2	U	0.54	U	2.1	U	0.11	U	38.7	J	2.2	U	0.51	UJ	2.1	UJ
Endosulfan sulfate	2400	0.072	U	17.1	J	0.68	J	1.5	U	19.6	J	3.8	J	51.3	J	0.079	U	3.6	U	37.8	J	1.8	J	1.5	UJ
Endrin	14	0.14	U	2.9	U	0.15	U	3	U	3.1	U	0.77	U	3	U	0.16	U	28.3	J	35.4	J	0.73	UJ	2.9	UJ
Endrin aldehyde	-	0.13	U	2.5	U	0.13	U	2.6	U	6.5	J	0.68	U	58.4	U	0.14	U	113	J	34.3	J	0.64	UJ	2.6	UJ
Endrin ketone	-	0.13	U	13.5	J	0.5	J	13.8	J	10.9	J	2.1	J	28.2	J	0.11	U	5	U	2.1	U	0.5	UJ	2	UJ
gamma-BHC (Lindane)	-	0.044	U	0.88	U	0.046	U	0.9	U	0.93	U	0.24	U	0.93	U	1.5	U	20.1	J	7.6	J	0.22	UJ	0.9	UJ
gamma-Chlordane	-	0.014	U	4.4	J	0.32	J	12.2	J	0.3	U	1	J	0.3	U	1.5	U	74.1	J	50.3	J	1.9	J	4.2	J
Heptachlor	42	0.051	U	1	U	0.053	U	1	U	1.1	U	0.27	U	29.2	U	0.056	U	2.5	U	1.1	U	0.26	UJ	1	UJ
Heptachlor epoxide	-	0.043	U	7.6	J	0.045	U	13	J	18	J	0.23	U	30.4	R	0.047	U	2.2	U	0.92	U	0.22	UJ	0.88	UJ
Methoxychlor	-	0.56	U	11.2	U	0.59	U	11.5	U	11.9	U	3	U	292	U	0.61	U	28	U	12	U	2.8	UJ	11.4	UJ
Toxaphene	-	2.4	U	47.3	U	2.5	U	48.4	U	50.1	U	12.6	U	49.6	U	2.6	U	118	U	50.4	U	12	UJ	48.1	UJ

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-06-02**		**RI-SB-06-24**		**RI-SB-11-02**		**RI-SB-11-02 Dup**		**RI-SB-11-24**		**RI-SB-12-02**		**RI-SB-12-24**		**RI-SB-13-02**		**RI-SB-13-35**		**RI-SB-14-02**		**RI-SB-14-24**		**RI-SB-15-02**	
Sample Date:	**UU-SCG [b]**	11/3/11		11/3/11		10/31/11		10/31/11		10/31/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/2/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	10.4	UJ	0.55	UJ	2.2	U	2.2	U	1.1	U	0.54	U	2.3	U	0.1	U	2.1	U	1.1	U	149	U	14.4	J
4,4'-DDE	3.3	8.9	UJ	0.47	UJ	1.9	U	58.2	U	0.92	U	0.46	U	1.9	U	0.089	U	1.8	U	0.91	U	4.9	U	10.1	J
4,4'-DDT	3.3	17.9	J	0.43	UJ	57.1	U	5	J	0.84	U	0.42	U	1.8	U	0.5	J	7.4	J	1	J	4.5	U	10.8	J
Aldrin	5	4.5	UJ	0.24	UJ	0.94	U	0.96	U	0.46	U	0.23	U	0.97	U	0.044	U	0.91	UJ	0.45	U	2.5	U	0.95	U
alpha-BHC	20	67.8	UJ	3.6	UJ	14.3	U	14.5	U	7	U	3.5	U	14.8	U	0.67	U	13.9	U	6.9	U	37.2	U	14.4	U
alpha-Chlordane	94	6.2	J	0.25	UJ	5	U	29.1	U	14	U	0.24	U	1	U	0.047	U	0.96	U	0.48	U	69.3	J	1	U
beta-BHC	36	12.2	J	0.32	UJ	1.3	U	1.3	U	0.63	U	0.31	U	1.3	U	0.061	U	1.2	U	0.62	U	3.3	U	1.3	U
delta-BHC	40	3.5	UJ	0.18	UJ	0.74	U	0.75	U	0.36	U	0.18	U	0.76	U	1.3	U	0.71	U	0.36	U	1.9	U	0.74	U
Dieldrin	5	7.5	UJ	0.39	UJ	1.6	U	1.6	U	4.1	J	0.39	U	1.6	U	0.27	J	55.5	UJ	0.76	U	4.1	U	57.6	U
Endosulfan I	2400	8	UJ	0.42	UJ	1.7	U	1.7	U	0.82	U	0.41	U	1.7	U	1.3	U	4.3	J	0.81	U	4.4	U	7.5	J
Endosulfan II	2400	9.9	UJ	0.52	UJ	28.1	J	2.1	U	4.9	J	1.9	J	2.2	U	0.42	J	55.5	UJ	1	U	22.4	J	2.1	U
Endosulfan sulfate	2400	7.1	UJ	0.37	UJ	66	0	20	J	8.6	J	14	U	1.5	U	0.07	U	1.4	U	0.74	J	117	J	1.5	U
Endrin	14	14.1	UJ	0.75	UJ	19.2	J	6.3	J	2.5	J	0.73	U	3.1	U	0.14	U	2.9	U	1.4	U	32.4	J	3	U
Endrin aldehyde	-	12.4	UJ	0.66	UJ	35.8	J	2.7	U	1.3	U	0.64	U	2.7	U	0.12	U	2.5	U	1.3	U	6.8	U	57.6	U
Endrin ketone	-	9.7	UJ	0.51	UJ	2	U	2.1	U	1	U	0.5	U	59.1	U	0.096	U	2	U	0.98	U	5.3	U	2.1	U
gamma-BHC (Lindane)	-	4.3	UJ	0.23	UJ	0.91	U	0.92	U	0.44	U	7	U	0.94	U	0.26	J	27.7	UJ	0.44	U	74.4	U	28.8	U
gamma-Chlordane	-	136	UJ	0.073	UJ	143	U	0.3	U	0.14	U	7	U	0.3	U	1.3	U	27.7	UJ	1.5	J	149	U	28.8	U
Heptachlor	42	5	UJ	0.26	UJ	1	U	1.1	U	0.51	U	0.26	U	1.1	U	0.39	J	11.2	J	13.8	U	2.7	U	1.1	U
Heptachlor epoxide	-	4.2	UJ	0.22	UJ	0.89	U	0.91	U	0.44	U	0.22	U	0.92	U	0.042	U	0.86	U	0.43	U	74.4	U	28.8	U
Methoxychlor	-	54.8	UJ	2.9	UJ	11.5	U	11.7	U	5.6	U	4.9	J	11.9	U	0.56	J	11.2	UJ	5.6	U	30	U	11.6	U
Toxaphene	-	231	UJ	12.2	UJ	48.6	U	49.5	U	23.8	U	11.9	U	50.3	U	2.3	U	47.2	U	23.4	U	127	U	49	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-15-24		RI-SB-16-02		RI-SB-16-24		RI-SB-17-02		RI-SB-17-24		RI-SB-18-02		RI-SB-18-35		RI-SB-19-02		RI-SB-19-24		RI-SB-20-02		RI-SB-20-02 Dup		RI-SB-20-46	
Sample Date:	UU-SCG [b]	11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11		10/31/11		10/27/11		10/27/11		10/27/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	6.8	J	63.3	UJ	70.4	UJ	0.55	UJ	0.56	UJ	5.4	J	0.53	U	1.1	U	1.1	U	0.53	U	0.11	U	1.4	U
4,4'-DDE	3.3	13.6	J	2.1	UJ	2.3	UJ	0.47	UJ	0.48	UJ	28.6	J	0.46	U	12.3	J	7.9	J	0.46	U	0.092	U	1.2	U
4,4'-DDT	3.3	13.4	J	1.9	UJ	10.1	J	0.43	UJ	0.44	UJ	1.7	U	0.42	U	0.85	U	0.83	U	0.75	J	0.084	U	3.5	J
Aldrin	5	1.2	U	1	UJ	1.2	UJ	0.24	UJ	0.24	UJ	0.92	U	0.23	U	0.47	U	0.46	U	0.23	U	0.046	U	0.61	U
alpha-BHC	20	18.1	U	15.9	UJ	17.6	UJ	3.6	UJ	3.7	UJ	13.9	U	3.5	U	7.1	U	6.9	U	3.5	U	0.7	U	9.2	U
alpha-Chlordane	94	1.3	U	1.1	UJ	1.2	UJ	7.2	UJ	0.25	UJ	0.97	U	7	U	0.49	U	2.7	J	0.24	U	0.049	U	0.64	U
beta-BHC	36	1.6	U	1.4	UJ	1.6	UJ	0.32	UJ	0.33	UJ	1.2	U	0.31	U	0.64	U	0.62	U	0.31	U	0.063	U	0.83	U
delta-BHC	40	0.93	U	0.82	UJ	0.91	UJ	0.18	UJ	0.19	UJ	0.72	U	0.18	U	0.37	U	0.36	U	0.18	U	0.036	U	0.48	U
Dieldrin	5	72.2	U	1.8	UJ	5.8	J	0.4	UJ	0.4	UJ	10.3	J	0.38	U	4.4	J	0.76	U	0.38	U	0.077	U	1	U
Endosulfan I	2400	2.1	U	31.8	UJ	3.1	J	0.42	UJ	0.43	UJ	27.8	U	0.41	U	0.83	U	13.8	U	0.41	U	0.082	U	1.1	U
Endosulfan II	2400	2.6	U	63.6	UJ	70.4	UJ	14.4	UJ	0.53	UJ	2	U	0.51	U	1	U	1	U	0.51	U	0.1	U	1.4	U
Endosulfan sulfate	2400	10.2	J	1.7	UJ	7.5	J	13	J	0.38	UJ	1.4	U	3.8	J	0.74	U	2.8	J	0.36	U	0.073	U	4	J
Endrin	14	3.8	U	63.6	UJ	3.7	UJ	0.75	UJ	0.76	UJ	2.9	U	0.73	U	1.5	U	1.4	U	0.72	U	0.15	U	1.9	U
Endrin aldehyde	-	12.8	J	63.6	UJ	70.4	UJ	0.66	UJ	0.67	UJ	2.5	U	0.64	U	1.3	U	1.3	U	0.63	U	0.13	U	1.7	U
Endrin ketone	-	6.1	J	2.3	UJ	70.4	UJ	0.51	UJ	0.52	UJ	2	U	0.5	U	1	U	0.99	U	0.49	U	0.1	U	1.3	U
gamma-BHC (Lindane)	-	36.1	U	1	UJ	25.6	J	7.2	UJ	0.23	UJ	0.88	U	0.22	U	0.45	U	0.44	U	0.22	U	0.045	U	0.59	U
gamma-Chlordane	-	0.37	U	31.8	UJ	16.9	J	3.9	J	2	J	0.28	U	7	U	0.14	U	13.8	U	0.46	J	0.11	J	0.19	U
Heptachlor	42	1.3	U	11.2	J	11.7	J	7.2	UJ	0.27	UJ	27.8	U	0.25	U	12.4	J	0.51	U	0.25	U	0.051	U	0.68	U
Heptachlor epoxide	-	1.1	U	31.8	UJ	1.1	U	7.2	UJ	0.23	UJ	0.87	U	2.1	J	0.44	U	0.43	U	0.22	U	0.044	U	0.58	U
Methoxychlor	-	110	J	12.8	UJ	14.2	U	71.8	UJ	2.9	UJ	11.2	U	69.6	U	5.7	U	5.6	U	2.8	U	0.57	U	7.5	U
Toxaphene	-	61.4	U	54.1	UJ	59.9	U	12.2	UJ	12.4	UJ	47.3	U	11.8	U	24.1	U	23.5	U	11.8	U	2.4	U	31.5	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-21-02**		**RI-SB-21-46**		**RI-SB-22-02**		**RI-SB-22-24**		**RI-SB-23-02**		**RI-SB-23-24**		**RI-SB-24-02**		**RI-SB-24-24**		**RI-SB-25-02**		**RI-SB-25-02 Dup**		**RI-SB-25-35**		**RI-SB-26-02**	
Sample Date:	**UU-SCG [b]**	10/27/11		10/27/11		11/2/11		11/2/11		11/1/11		11/1/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	2.2	U	6.8	U	12.3	UJ	5.9	UJ	2.2	U	2.2	U	2	J	0.11	UJ	55.4	UJ	0.52	UJ	2.9	UJ	13.8	UJ
4,4'-DDE	3.3	38.5	J	405		10.6	UJ	5	UJ	1.9	U	1.9	U	0.48	UJ	0.098	UJ	1.8	UJ	0.45	UJ	0.097	UJ	0.45	UJ
4,4'-DDT	3.3	1.7	U	5.3	U	321	UJ	4.6	UJ	3.4	J	57	UJ	0.44	UJ	0.089	UJ	1.7	UJ	3.1	J	2.9	UJ	0.41	UJ
Aldrin	5	0.93	U	2.9	U	5.3	UJ	2.5	UJ	0.96	U	0.94	U	0.24	UJ	0.049	UJ	0.91	UJ	0.23	UJ	0.049	UJ	0.23	UJ
alpha-BHC	20	14.1	U	44.2	U	80.3	UJ	38.2	UJ	14.5	U	14.2	U	3.6	UJ	0.74	UJ	13.9	UJ	3.4	UJ	0.74	UJ	3.4	UJ
alpha-Chlordane	94	0.98	U	3.1	U	5.6	UJ	2.7	UJ	1	U	100	J	0.25	UJ	0.052	UJ	27.7	UJ	6.8	UJ	0.051	UJ	0.24	UJ
beta-BHC	36	1.3	U	50.6	J	7.2	UJ	7.6	J	1.3	U	1.3	U	0.33	UJ	0.067	UJ	1.2	UJ	0.31	UJ	0.066	UJ	0.31	UJ
delta-BHC	40	0.73	U	2.3	U	4.1	UJ	2	UJ	0.75	U	28.5	U	0.19	UJ	0.038	UJ	0.71	UJ	0.18	UJ	0.22	J	0.18	UJ
Dieldrin	5	5.2	J	68	J	10.4	J	4.2	UJ	1.6	U	1.6	U	14.6	UJ	0.082	UJ	1.5	UJ	0.38	UJ	2.9	UJ	0.38	UJ
Endosulfan I	2400	50.2		39.8	J	17.7	J	4.5	UJ	3.3	J	1.7	U	7.3	UJ	0.087	UJ	1.6	UJ	1.6	J	0.086	UJ	0.4	UJ
Endosulfan II	2400	7.1	J	15	J	11.7	UJ	5.6	UJ	2.1	U	2.1	U	0.53	UJ	0.11	UJ	55.4	UJ	13.7	UJ	0.11	UJ	0.5	UJ
Endosulfan sulfate	2400	1.5	U	4.6	U	64.3	J	4	UJ	1.5	UJ	76.9	J	0.38	UJ	0.078	UJ	37.7	J	8.9	J	2.9	UJ	0.36	UJ
Endrin	14	2.9	U	16.2	J	16.7	UJ	8	UJ	3	U	28	J	0.76	UJ	0.16	UJ	2.9	UJ	0.71	UJ	0.15	UJ	0.72	UJ
Endrin aldehyde	-	2.6	U	22.6	J	38.5	J	7	UJ	2.7	UR	15.2	J	0.67	UJ	0.14	UJ	2.5	UJ	13.7	UJ	2.9	UJ	0.63	UJ
Endrin ketone	-	2	U	24.9	J	321	UJ	5.4	UJ	2.1	U	2	U	0.52	UJ	0.11	UJ	2	UJ	0.49	UJ	0.1	UJ	0.49	UJ
gamma-BHC (Lindane)	-	42.9		856		97.7	J	2.4	UJ	29.1	U	28.5	U	0.23	UJ	0.047	UJ	27.7	UJ	6.8	UJ	0.047	UJ	0.22	UJ
gamma-Chlordane	-	0.29	U	0.9	U	161	UJ	76.5	UJ	29.1	U	71.2	U	7.3	UJ	1.5	UJ	14.6	J	6.8	UJ	0.16	J	1.7	J
Heptachlor	42	64.6		642		21.1	J	2.8	UJ	29.1	UJ	28.5	UJ	0.27	UJ	0.054	UJ	27.7	UJ	6.8	UJ	0.054	UJ	0.25	UJ
Heptachlor epoxide	-	7.7	J	2.7	U	5	UJ	2.4	UJ	0.91	U	0.89	U	7.3	UJ	0.046	UJ	27.7	UJ	5.1	J	0.046	UJ	0.21	UJ
Methoxychlor	-	19.6	J	46.2	J	64.8	UJ	30.9	UJ	29.1	UJ	11.5	UJ	73	UJ	0.6	UJ	277	UJ	2.8	UJ	0.59	UJ	2.8	UJ
Toxaphene	-	48.1	U	150	U	273	U	130	UJ	49.4	U	48.4	U	12.4	UJ	2.5	UJ	47.1	UJ	11.6	UJ	2.5	UJ	11.7	UJ

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-26-24		RI-SB-27-02		RI-SB-27-35		RI-SB-28-02		RI-SB-28-24		RI-SB-29-02		RI-SB-29-02 Dup		RI-SB-29-24		RI-SB-30-02		RI-SB-30-46		RI-SB-31-02		RI-SB-31-46	
Sample Date:	**UU-SCG [b]**	11/2/11		10/31/11		10/31/11		11/3/11		10/31/11		11/1/11		11/1/11		11/1/11		10/27/11		10/27/11		10/27/11		10/27/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	0.11	UJ	2.2	U	1.2	J	2.1	U	0.84	J	0.1	U	0.1	U	0.1	U	0.54	U	0.54	U	0.54	U	11.3	J
4,4'-DDE	3.3	0.094	UJ	56.7	U	0.46	U	262	J	0.62	J	0.086	U	0.088	U	0.09	U	0.66	J	24		5.8	J	14.5	J
4,4'-DDT	3.3	0.085	UJ	56.7	U	13.9	U	89.1	0	0.082	U	1.5	J	2.6	J	0.14	J	2	J	6.5	J	0.42	U	10.8	J
Aldrin	5	0.047	UJ	0.93	U	0.23	U	4.9	UJ	0.045	U	0.043	U	0.044	U	0.045	U	0.23	U	0.23	U	0.23	U	2.6	U
alpha-BHC	20	0.71	UJ	14.2	U	3.5	U	74.8	UJ	0.68	U	0.65	U	0.67	U	0.68	U	3.5	U	3.5	U	3.5	U	39.2	U
alpha-Chlordane	94	0.049	UJ	70.9	UJ	0.24	U	129	J	1.4	U	0.045	U	0.046	U	0.047	U	0.25	U	0.24	U	0.25	U	2.7	U
beta-BHC	36	0.064	UJ	1.3	U	0.31	U	299	0	0.061	U	0.058	U	0.06	U	0.061	U	0.32	U	13.8		5.3	J	3.5	U
delta-BHC	40	0.037	UJ	0.73	U	0.18	U	3.9	UJ	0.035	U	0.034	U	1.3	U	0.035	U	0.18	U	0.18	U	0.18	U	2	U
Dieldrin	5	0.078	UJ	1.6	U	0.38	U	72	0	0.075	U	1.6	J	1.4	J	0.15	J	1.3	J	1.2	J	9.2	J	25	J
Endosulfan I	2400	0.083	UJ	1.7	U	0.41	U	1.6	U	0.08	U	1.3	U	1.3	U	0.25	J	0.42	U	0.41	U	3.3	J	8.6	J
Endosulfan II	2400	0.1	UJ	2.1	U	0.51	U	54.3	U	0.099	U	2.6	U	0.097	U	0.1	U	0.52	U	3.2	J	0.52	U	5.7	U
Endosulfan sulfate	2400	0.074	UJ	1.5	U	0.36	U	7.8	UJ	0.72	J	0.068	U	0.069	U	0.071	U	0.37	U	0.36	U	0.37	U	4.1	U
Endrin	14	0.15	UJ	18.6	J	0.72	U	54.5	0	0.46	J	2.6	U	2.7	U	0.14	U	0.74	U	0.73	U	1.2	J	15.3	J
Endrin aldehyde	-	0.13	UJ	2.6	U	0.64	U	13.7	UJ	0.35	J	0.7	J	0.71	J	0.13	U	0.65	U	3.2	J	0.65	U	7.2	U
Endrin ketone	-	0.1	UJ	2	U	0.5	U	10.7	UJ	2.7	U	0.88	U	2.7	U	0.19	J	3.3	J	9.3	J	0.5	U	5.6	U
gamma-BHC (Lindane)	-	0.045	UJ	0.9	U	0.22	U	4.7	UJ	0.043	U	8.2	0	6.8	0	1.4	U	0.22	U	5.6	J	10.8		19.5	J
gamma-Chlordane	-	0.014	UJ	70.9	UJ	7	U	150	UJ	0.014	U	0.013	U	0.014	U	1.1	J	0.072	U	0.071	U	0.072	U	0.8	U
Heptachlor	42	0.052	UJ	1	U	0.25	U	465	J	0.77	J	10.2	0	8.7	0	1.4	0	0.26	U	31.5		0.26	U	2.9	U
Heptachlor epoxide	-	0.044	UJ	0.88	U	0.22	U	828	J	0.042	U	0.041	U	0.041	U	0.043	U	0.22	U	0.22	U	0.22	U	2.4	U
Methoxychlor	-	0.57	UJ	11.4	U	2.8	U	130	J	0.55	U	0.53	U	0.54	U	13.7	U	2.9	U	2.8	U	5.1	J	44.7	J
Toxaphene	-	2.4	UJ	48.2	U	11.8	U	254	UJ	2.3	U	2.2	U	2.3	U	2.3	U	12	U	11.9	U	12	U	133	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-32-02**		**RI-SB-32-57**		**RI-SB-33-02**		**RI-SB-33-24**		**RI-SB-33b-02**		**RI-SB-33b-24**		**RI-SB-34-02**		**RI-SB-34-24**		**RI-SB-35-02**		**RI-SB-35-24**		**RI-SB-36-02**		**RI-SB-36-24**	
Sample Date:	**UU-SCG** [b]	10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11		10/31/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	14.2	J	8.3	J	2.2	UJ	0.53	UJ	2.2	UJ	5.5	UJ	0.97	J	0.5	J	0.53	U	1.1	U	1,070	UJ	53.6	U
4,4'-DDE	3.3	2.1	J	31.1	J	1.9	UJ	0.46	UJ	1.9	UJ	4.7	UJ	2.7	U	0.091	U	1.6	J	0.95	U	21,400	J	46.1	U
4,4'-DDT	3.3	10	J	15.6	J	12.1	J	0.42	UJ	57.3	UJ	144	UJ	0.082	U	0.27	J	0.41	U	0.86	U	833	UJ	274	J
Aldrin	5	0.5	U	1	U	0.93	UJ	0.23	UJ	0.94	UJ	2.4	UJ	6.2	J	0.046	U	0.23	U	0.47	U	458	UJ	23	U
alpha-BHC	20	7.6	U	15.2	U	14.1	UJ	3.5	UJ	14.3	UJ	35.9	UJ	0.68	U	0.69	U	3.4	U	7.2	U	6,960	UJ	350	U
alpha-Chlordane	94	0.53	U	1.1	U	2.1	J	0.24	UJ	28.6	UJ	549	R	0.047	U	0.048	U	6.9	U	0.5	U	483	UJ	24.3	U
beta-BHC	36	0.68	U	1.4	U	5.6	J	0.31	UJ	1.3	UJ	3.2	UJ	0.061	U	1.4	U	0.31	U	0.65	U	625	UJ	31.4	U
delta-BHC	40	0.39	U	0.78	U	0.72	UJ	0.18	UJ	0.74	UJ	1.9	UJ	1	J	0.036	U	0.18	U	0.37	U	358	UJ	18	U
Dieldrin	5	0.83	U	1.7	U	56.3	UJ	0.38	UJ	4.9	J	144	UJ	0.075	U	0.076	U	0.38	U	0.79	U	27,800	UJ	1,400	U
Endosulfan I	2400	0.89	U	1.8	U	4.3	J	0.41	UJ	4.2	J	4.2	UJ	0.08	U	0.081	U	0.4	U	0.85	U	13,900	UJ	367	J
Endosulfan II	2400	1.1	U	2.2	U	4.8	J	0.51	UJ	57.3	UJ	144	UJ	2.6	J	0.36	J	0.5	U	1.1	U	1,020	UJ	51.1	U
Endosulfan sulfate	2400	25.1	J	1.6	U	14.1	J	0.36	UJ	37.3	J	3.7	UJ	0.071	U	1.7	J	0.91	J	0.75	U	725	UJ	36.4	U
Endrin	14	21.6	J	13.8	J	2.9	UJ	0.72	UJ	3	UJ	7.5	UJ	0.14	U	0.14	U	0.72	U	1.5	U	1,450	UJ	72.8	U
Endrin aldehyde	-	5	J	2.8	U	56.3	UJ	0.64	UJ	2.6	UJ	6.6	UJ	14.9	J	2.8	U	0.63	U	1.3	U	27,800	UJ	75.4	J
Endrin ketone	-	11	J	2.2	U	56.3	UJ	0.49	UJ	2	UJ	5.1	UJ	11	J	1.2	J	0.49	U	1	U	992	UJ	49.8	U
gamma-BHC (Lindane)	-	3.9	J	7.9	J	15.3	J	0.22	UJ	28.6	UJ	71.9	UJ	1.4	U	0.044	U	0.22	U	0.46	U	13,900	UJ	699	U
gamma-Chlordane	-	0.15	U	0.31	U	28.1	UJ	6.9	UJ	13.3	J	80.5	J	0.014	U	1.1	J	6.9	U	0.15	U	142	UJ	1,740	0
Heptachlor	42	11	J	1.1	U	28.1	UJ	0.25	UJ	1	UJ	71.9	UJ	0.05	U	0.051	U	6.9	U	0.53	U	78,000	J	25.5	U
Heptachlor epoxide	-	0.47	U	0.94	U	0.88	UJ	0.22	UJ	12.9	J	2.2	UJ	5.6	0	0.043	U	0.36	J	0.45	U	99,700	J	21.8	U
Methoxychlor	-	15.2	J	12.2	U	11.4	UJ	69.4	UJ	286	UJ	29	UJ	5.7	J	0.56	U	3.2	J	5.8	U	5,620	UJ	282	U
Toxaphene	-	25.7	U	51.6	U	47.9	UJ	11.8	UJ	48.7	UJ	122	UJ	2.3	U	2.4	U	11.7	U	24.5	U	23,700	UJ	1,190	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-37-02		RI-SB-37-24		RI-SB-38-02		RI-SB-38-24		RI-SB-39-02		RI-SB-39-57		RI-SB-40-02		RI-SB-40-57		RI-SB-41-02		RI-SB-41-24		RI-SB-42-02		RI-SB-42-24	
Sample Date:	**UU-SCG ^{b}**	10/31/11		10/31/11		11/1/11		11/1/11		10/27/11		10/27/11		10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	0.51	U	0.55	U	8	J	2.1	J	1	U	1.1	U	1.1	U	0.22	U	6	J	4.7	J	2.8	U	2.2	J
4,4'-DDE	3.3	0.44	U	3.6	J	1.8	U	13.9	U	0.89	U	14.9	J	0.92	U	4.4	J	0.48	U	2	J	0.093	U	0.094	U
4,4'-DDT	3.3	0.4	U	1.5	J	5.5	J	13.9	U	4.1	J	9.2	J	0.83	U	0.57	J	0.43	U	0.44	U	0.085	U	0.085	U
Aldrin	5	0.22	U	0.24	U	0.92	U	0.23	U	0.45	U	0.48	U	0.46	U	0.095	U	0.24	U	0.24	U	0.047	U	0.047	U
alpha-BHC	20	3.3	U	3.6	U	14	U	3.5	U	6.8	U	7.4	U	7	U	1.4	U	3.6	U	3.7	U	0.71	U	0.71	U
alpha-Chlordane	94	6.6	U	0.8	J	0.97	U	0.54	J	2.7	J	0.51	U	0.48	U	0.1	U	0.25	U	0.26	U	0.049	U	0.049	U
beta-BHC	36	0.3	U	7.2	U	1.3	U	7	U	8.4	J	7.8	J	7.6	J	0.13	U	0.33	U	0.33	U	0.063	U	0.064	U
delta-BHC	40	0.17	U	0.18	U	0.72	U	7	U	0.35	U	0.38	U	0.36	U	0.074	U	7.3	U	0.19	U	0.036	U	1.4	U
Dieldrin	5	13.2	U	1.6	J	1.5	U	1.6	J	5.5	J	4.6	J	1.7	J	0.16	U	14.5	U	14.7	U	2.8	U	2.9	U
Endosulfan I	2400	0.39	U	0.42	U	1.6	U	1.3	J	0.79	U	0.86	U	0.82	U	0.17	U	0.43	U	1.2	J	0.083	U	0.084	U
Endosulfan II	2400	0.48	U	0.52	U	2	U	2.3	J	2.1	J	1.1	U	1	U	0.21	U	4	J	5	J	1.5	J	1.9	J
Endosulfan sulfate	2400	3.4	J	0.37	U	1.5	U	0.36	U	0.71	U	16.4	J	14.4	J	0.58	J	6.2	J	107	R	2.1	J	0.074	U
Endrin	14	0.81	J	0.75	U	2.9	U	0.73	U	1.4	U	13	J	1.5	U	0.3	U	0.76	U	0.77	U	0.15	U	0.15	U
Endrin aldehyde	-	0.61	U	0.66	U	2.6	U	1	J	1.2	U	13.8	J	1.3	U	0.26	U	3.6	J	0.67	U	0.13	U	1.2	J
Endrin ketone	-	0.47	U	0.51	U	2	U	0.5	U	15.7	J	25.5	J	0.99	U	0.2	U	0.52	U	0.52	U	0.1	U	0.1	U
gamma-BHC (Lindane)	-	0.21	U	132	R	0.89	U	6.6	J	0.43	U	0.47	U	0.44	U	0.38	J	0.23	U	7.4	U	0.045	U	0.045	U
gamma-Chlordane	-	6.6	U	0.073	U	27.9	U	7	U	3.1	J	0.15	U	1.5	J	0.029	U	7.3	U	7.4	U	1.4	U	1.4	U
Heptachlor	42	0.24	U	51.7	J	1	U	7	U	0.49	U	9.7	J	0.51	U	0.11	U	7.3	U	0.27	U	0.052	U	1.4	U
Heptachlor epoxide	-	0.21	U	0.22	U	27.9	U	7	U	3.2	J	0.46	U	4.1	J	0.09	U	0.23	U	7.4	U	0.044	U	0.044	U
Methoxychlor	-	2.7	U	2.9	U	27.9	U	2.8	U	5.5	U	5.9	U	5.6	U	1.2	U	2.9	U	24.1	J	0.57	U	0.58	U
Toxaphene	-	11.2	U	12.2	U	47.5	U	11.8	U	23	U	25	U	23.7	U	4.9	U	12.3	U	12.5	U	2.4	U	2.4	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-43-02**		**RI-SB-43-24**		**RI-SB-44-02**		**RI-SB-44-24**		**RI-SB-45-02**		**RI-SB-45-24**		**RI-SB-46-02**		**RI-SB-46-24**		**RI-SB-47-02**		**RI-SB-47-24**		**RI-SB-48-02**		**RI-SB-48-46**	
Sample Date:	**UU-SCG ^{b}**	10/31/11		10/31/11		10/31/11		11/3/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		10/27/11		10/27/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	2.2	U	1.3	U	2.2	U	0.53	UJ	1.1	U	0.63	U	6.6	J	138	U	2.8	J	1.1	U	1.1	U	1.1	U
4,4'-DDE	3.3	1.9	U	1.1	U	83.4	0	0.46	UJ	0.95	U	16.3	UR	5	U	4.5	U	2	U	0.97	U	0.93	U	0.98	U
4,4'-DDT	3.3	1.7	U	1	U	1.7	U	0.42	UJ	0.86	U	0.49	U	15.4	J	4.1	U	3.6	U	0.88	U	7.4	J	6.1	J
Aldrin	5	0.96	U	0.55	U	0.96	U	0.23	UJ	0.47	U	0.27	U	2.5	U	2.3	U	1	U	0.48	U	0.46	U	0.49	U
alpha-BHC	20	14.5	U	8.3	U	14.5	U	3.5	UJ	7.2	U	4.1	U	38.2	U	34.4	U	15.4	U	7.4	U	7	U	7.5	U
alpha-Chlordane	94	29	U	0.58	U	29	U	0.24	UJ	0.5	U	0.28	U	2.7	U	2.4	U	30.8	U	0.51	U	3.2	J	0.54	J
beta-BHC	36	1.3	U	0.75	U	1.3	U	0.31	UJ	0.64	U	0.37	U	3.4	U	3.1	U	1.4	U	0.66	U	0.63	U	0.67	U
delta-BHC	40	0.75	U	0.43	U	0.75	U	0.18	UJ	0.37	U	0.21	U	2	U	1.8	U	30.8	U	0.38	U	18.1		0.38	U
Dieldrin	5	1.6	U	0.92	U	58	U	0.38	UJ	2	J	0.45	U	153	U	3.8	U	1.7	U	0.81	U	0.77	U	15.3	J
Endosulfan I	2400	1.7	U	0.98	U	1.7	U	0.41	UJ	14.4	U	0.48	U	7.9	J	7.6	J	1.8	U	0.86	U	0.82	U	0.88	U
Endosulfan II	2400	58.1	U	1.2	U	2.1	U	0.51	UJ	1	U	0.6	U	5.6	U	5	U	2.2	U	1.1	U	4.2	J	2.5	J
Endosulfan sulfate	2400	11.4	J	0.87	U	1.5	U	0.36	UJ	28.7	U	0.42	U	4	U	59.9	J	61.6	U	0.77	U	5.2	J	0.78	U
Endrin	14	3	U	1.7	U	3	U	0.72	UJ	1.5	U	16.3	U	8	U	7.2	U	3.2	U	1.5	U	6.3	J	11.2	J
Endrin aldehyde	-	2.7	U	1.5	U	2.7	U	0.64	UJ	1.3	U	0.75	U	8.4	J	138	U	61.6	U	1.3	U	6.6	J	4.8	J
Endrin ketone	-	2.1	U	1.2	U	2.1	U	0.49	UJ	1	U	0.58	U	5.4	U	4.9	U	2.2	U	1	U	1	U	19.9	J
gamma-BHC (Lindane)	-	0.92	U	0.53	U	0.92	U	0.22	UJ	0.46	U	0.26	U	21.2	J	68.9	U	30.8	U	0.47	U	0.45	U	5	J
gamma-Chlordane	-	29	U	0.17	U	0.3	U	6.9	UJ	14.4	U	8.2	U	76.4	U	68.9	U	30.8	U	14.7	U	0.14	U	6.2	J
Heptachlor	42	29	U	0.61	U	71.1	0	0.25	UJ	5.1	J	0.3	U	22.6	J	2.5	U	1.1	U	0.54	U	0.51	U	0.55	U
Heptachlor epoxide	-	5	J	0.52	U	0.9	U	0.22	UJ	0.45	U	0.25	U	2.4	U	58.4	J	0.96	U	0.46	U	0.44	U	0.47	U
Methoxychlor	-	11.7	U	6.7	U	11.7	U	2.8	UJ	5.8	U	3.3	U	30.8	U	27.8	U	12.4	U	14.7	U	39.5	J	6	U
Toxaphene	-	49.4	U	28.3	U	49.3	U	11.8	UJ	24.4	U	13.9	U	130	U	117	U	52.4	U	25	U	23.9	U	25.4	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-49-02**		**RI-SB-49-57**		**RI-SB-50-02**		**RI-SB-50-57**		**RI-SB-51-02**		**RI-SB-51-24**		**RI-SB-52-02**		**RI-SB-52-24**		**RI-SB-53-02**		**RI-SB-53-24**		**RI-SB-54-02**		**RI-SB-54-24**	
Sample Date:	**UU-SCG ^{b}**	10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/31/11		10/31/11		10/31/11		10/31/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	10.3	J	0.1	U	18.1	J	0.11	U	45.5	J	2.9	U	49.5	0	0.11	U	2.6	U	0.54	U	1	U	0.1	U
4,4'-DDE	3.3	28.1	J	0.089	U	1.8	U	0.091	U	1.9	U	0.094	U	0.98	U	0.092	U	2.3	U	0.47	U	0.89	U	0.087	U
4,4'-DDT	3.3	12.3	J	0.081	U	1.7	U	0.083	U	58.7	U	0.085	U	18.8	J	0.083	U	69.1	U	0.61	J	2.1	J	0.18	J
Aldrin	5	0.96	U	0.045	U	0.92	U	0.046	U	0.97	U	0.047	U	0.49	U	0.046	U	1.1	U	0.23	U	0.45	U	0.044	U
alpha-BHC	20	14.6	U	0.68	U	14	U	0.69	U	14.7	U	0.71	U	7.4	U	0.7	U	17.3	U	3.5	U	6.8	U	0.66	U
alpha-Chlordane	94	10.4	J	0.047	U	0.97	U	0.048	U	147	U	0.05	U	0.52	U	0.048	U	86.4	UJ	2.3	J	1.6	J	0.046	U
beta-BHC	36	1.3	U	0.061	U	1.3	U	0.062	U	1.3	U	0.064	U	0.67	U	0.062	U	1.6	U	0.32	U	0.61	U	0.06	U
delta-BHC	40	0.75	U	0.035	U	0.72	U	0.036	U	173	J	0.037	U	0.38	U	0.036	U	0.89	U	0.18	U	13.6	U	0.034	U
Dieldrin	5	58.5	U	0.075	U	25.4	J	0.076	U	286	R	0.079	U	176	R	2.8	U	1.9	U	0.39	U	0.75	U	0.073	U
Endosulfan I	2400	13.5	J	0.079	U	1.6	U	0.081	U	1.7	U	0.084	U	0.87	U	0.082	U	2	U	0.42	U	0.8	U	0.078	U
Endosulfan II	2400	2.1	U	0.099	U	2	U	0.1	U	2.1	U	0.1	U	1.1	U	0.1	U	2.5	U	1.2	J	0.99	U	0.097	U
Endosulfan sulfate	2400	16.3	J	0.071	U	1.5	U	0.072	U	124	0	0.074	U	80.5	0	0.072	U	154	0	0.37	U	1.4	J	0.069	U
Endrin	14	4.8	J	0.14	U	2.9	U	0.14	U	3.1	U	0.15	U	1.6	U	0.14	U	42	J	0.74	U	1.4	U	0.14	U
Endrin aldehyde	-	2.7	U	0.12	U	2.6	U	0.13	U	48.5	J	0.13	U	25.1	J	0.13	U	3.2	U	0.65	U	1.2	U	0.12	U
Endrin ketone	-	18.3	J	0.096	U	2	U	0.099	U	2.1	U	0.1	U	1.1	U	0.099	U	2.5	U	0.51	U	0.97	U	0.094	U
gamma-BHC (Lindane)	-	29.2	U	0.043	U	0.89	U	0.044	U	29.3	U	0.045	U	0.47	U	0.044	U	1.1	U	0.23	U	0.43	U	0.042	U
gamma-Chlordane	-	29.2	U	0.014	U	28	U	0.014	U	147	U	1.4	U	29.8	U	0.11	J	86.4	UJ	7.1	U	13.6	U	1.3	U
Heptachlor	42	1.1	U	0.049	U	28	U	0.051	U	390	R	0.052	U	14.9	U	0.051	U	1.3	U	0.26	U	0.5	U	0.048	U
Heptachlor epoxide	-	29.2	U	0.042	U	0.87	U	0.043	U	0.91	U	1.4	U	0.46	U	0.043	U	1.1	U	0.22	U	2	J	0.093	J
Methoxychlor	-	47.8	J	0.55	U	11.3	U	13.8	U	11.8	U	14.3	U	6	U	0.56	U	14	U	2.9	U	136	U	0.54	U
Toxaphene	-	49.7	U	2.3	U	47.7	U	2.4	U	49.9	U	2.4	U	25.3	U	2.4	U	58.8	U	12.1	U	23.1	U	2.3	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-55-13**		**RI-SB-55-35**		**RI-SB-56-02**		**RI-SB-56-46**		**RI-SB-57-02**		**RI-SB-57-46**		**RI-SB-59-02**		**RI-SB-59-56**		**RI-SB-60-13**		**RI-SB-60-13 Dup**		**RI-SB-60-57**		**RI-SB-61-13**	
Sample Date:	**UU-SCG** ^{b}	10/28/11		10/28/11		10/28/11		10/28/11		10/27/11		10/27/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	2.1	U	1.1	U	53.7	U	1.1	U	1	U	2.3	U	76.6	0	1.1	U	1.1	U	18	J	14.6	U	2.2	U
4,4'-DDE	3.3	1.8	U	0.97	U	1.8	U	0.91	U	6.4	J	2	U	1.8	U	19.6	U	0.94	U	0.93	U	0.48	U	1.9	U
4,4'-DDT	3.3	1.7	U	29.5	U	1.6	U	1.5	J	7.3	J	31.4	J	56.1	U	27.9	U	88	0	12.1	J	3.5	J	56.7	U
Aldrin	5	0.91	U	0.49	U	0.88	U	0.46	U	0.43	U	1	U	0.92	U	0.46	UR	0.47	U	0.47	U	0.24	U	0.93	U
alpha-BHC	20	13.8	U	7.4	U	13.4	U	6.9	U	6.6	U	15.2	U	14	U	7	U	7.1	U	7.1	U	3.7	U	14.2	U
alpha-Chlordane	94	32.4	J	14.7	U	0.93	U	0.48	U	0.46	U	1.1	U	0.97	U	14	U	0.49	U	0.49	U	0.25	U	70.9	U
beta-BHC	36	1.2	U	0.66	U	1.2	U	0.62	U	0.59	U	1.4	U	1.3	U	62	R	0.64	U	0.63	U	0.33	U	1.3	U
delta-BHC	40	0.71	U	0.38	U	0.69	U	0.36	U	13	J	0.78	U	0.72	U	0.36	U	0.37	U	0.36	U	0.19	U	0.73	U
Dieldrin	5	1.5	U	2.9	J	1.5	U	0.76	U	22.2	J	24.9	J	1.5	U	19.1	J	0.78	U	0.78	U	14.6	U	1.6	U
Endosulfan I	2400	1.6	U	0.87	U	1.6	U	13.8	U	9.6	J	24.2	J	1.6	U	11.5	J	14.2	U	3.3	J	0.43	U	1.7	U
Endosulfan II	2400	2	U	1.9	J	2	U	1	U	0.96	U	47.7	J	2.1	U	1	U	20.4	J	1	U	0.99	J	2.1	U
Endosulfan sulfate	2400	1.4	U	29.5	U	1.4	U	4.3	J	15.6	J	14.8	J	40	J	8.5	J	28.4	U	28.2	U	0.38	U	1.5	U
Endrin	14	6.3	J	1.5	U	2.8	U	1.4	U	1.4	U	3.2	U	2.9	U	27.9	UR	1.5	U	1.5	U	0.76	U	31.3	J
Endrin aldehyde	-	2.5	U	1.4	U	2.5	U	27.6	U	6.4	J	33	J	2.6	U	21	J	1.3	U	13.1	J	14.6	U	32	J
Endrin ketone	-	2	U	1.1	U	1.9	U	0.98	U	4.9	J	41.3	J	2	U	1	U	52	0	14.8	J	14.6	U	2	U
gamma-BHC (Lindane)	-	27.6	U	14.7	U	0.85	U	0.44	U	6	J	6.8	J	28.1	U	47.3	J	0.45	U	14.1	U	0.23	U	0.9	U
gamma-Chlordane	-	27.6	U	14.7	U	0.27	U	0.14	U	0.13	U	8.4	J	28.1	U	14	U	71.1	U	14.1	U	7.3	U	70.9	U
Heptachlor	42	5.5	J	0.54	U	26.8	U	13.8	U	5.6	J	13	J	1	U	11	J	14.2	U	0.52	U	7.3	U	1	U
Heptachlor epoxide	-	0.86	U	0.46	U	26.8	U	0.43	U	0.41	U	17.6	J	0.87	U	10.6	J	0.44	U	0.44	U	0.23	U	0.88	U
Methoxychlor	-	11.1	U	6	U	10.8	U	5.6	U	5.3	U	12.3	U	11.3	U	5.6	UR	38.7	J	5.7	U	3	U	11.4	U
Toxaphene	-	46.9	U	25.1	U	45.7	U	23.5	U	22.4	U	51.6	U	47.7	U	23.8	U	24.2	U	24	U	12.4	U	48.2	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-61-57		RI-SB-62-02		RI-SB-63-02		RI-SB-63-46		RI-SB-64-13		RI-SB-64-57		RI-SB-65-13		RI-SB-65-57		RI-SB-66-24		RI-SB-66-24 Dup		RI-SB-66-46		RI-SB-67-13	
Sample Date:	**UU-SCG [b]**	10/26/11		11/1/11		10/26/11		10/26/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	2.3	U	2.3	M	4.4	J	1.1	U	5.9	J	1.3	U	2.3	U	1	U	98	J	1.1	U	1.2	U	5.4	J
4,4'-DDE	3.3	1.9	U	2	U	0.9	U	0.94	U	2	U	1.1	U	2	U	7.5	J	138	J	189	J	1	U	13.8	U
4,4'-DDT	3.3	58.8	U	20.1	J	0.82	U	6	J	1.8	U	1	U	1.8	U	27.3	UJ	59.5	U	0.86	U	341	R	10	J
Aldrin	5	0.97	U	0.98	U	0.45	U	0.47	U	0.98	U	0.57	U	0.99	U	0.45	U	0.98	U	0.47	U	0.52	U	0.23	U
alpha-BHC	20	14.7	U	14.8	U	6.8	U	7.1	U	14.9	U	8.6	U	15	U	6.8	U	14.9	U	7.2	U	7.9	U	3.5	U
alpha-Chlordane	94	29.4	U	79.3	R	0.47	U	71.3	U	29.8	U	0.6	U	1	U	0.47	U	228	R	69.2	0	21	J	5.1	J
beta-BHC	36	1.3	U	1.3	U	0.61	U	0.64	U	1.3	U	0.77	U	1.3	U	0.61	U	1.3	U	0.65	U	0.71	U	0.31	U
delta-BHC	40	0.76	U	0.76	U	0.35	U	0.37	U	0.77	U	0.44	U	0.77	U	13.6	U	0.77	U	0.37	U	0.41	U	57	R
Dieldrin	5	1.6	U	1.6	U	0.75	U	0.79	U	8.9	J	0.95	U	1.7	U	6	J	59.5	U	138	R	0.87	U	0.38	U
Endosulfan I	2400	1.7	U	10.9	J	0.8	U	0.84	U	2.1	J	1	U	1.8	U	16.3	R	29.7	U	103	R	0.93	U	0.41	U
Endosulfan II	2400	58.8	U	2.2	U	1	U	17.4	J	2.2	U	1.3	U	2.2	U	1	U	146	R	214	R	1.2	U	0.5	U
Endosulfan sulfate	2400	43.6	J	45	J	0.71	U	45.8	J	14.8	J	0.89	U	60	UR	0.71	U	90.9	0	0.75	U	5.2	J	5.2	J
Endrin	14	3.1	U	12.2	J	1.4	U	1.5	U	3.1	U	1.8	U	3.1	U	1.4	U	3.1	U	1.5	U	1.6	U	0.72	U
Endrin aldehyde	-	2.7	U	13.2	J	1.2	U	13.2	J	2.7	U	1.6	U	2.7	U	1.2	U	55.4	J	74.7	J	1.5	U	0.63	U
Endrin ketone	-	2.1	U	2.1	U	11.8	J	28.5	U	2.1	U	1.2	U	2.1	U	0.97	U	2.1	U	35.2	0	1.1	U	0.49	U
gamma-BHC (Lindane)	-	0.93	U	0.94	U	0.43	U	14.3	U	0.95	U	0.54	U	0.95	U	4.1	J	29.7	U	33.9	R	15.8	U	6.9	U
gamma-Chlordane	-	29.4	U	29.7	U	13.6	U	71.3	U	0.3	U	0.17	U	0.31	U	0.14	U	459	R	71.9	U	0.16	U	0.07	U
Heptachlor	42	1.1	U	1.1	UJ	5.4	U	0.52	U	5.6	J	0.63	U	1.1	U	13.6	U	57.9	R	82.4	R	15.8	U	6.9	U
Heptachlor epoxide	-	0.92	U	30	0	1.6	J	14.3	U	0.93	U	0.53	U	0.93	U	0.42	U	0.93	U	33.7	0	0.49	UJ	0.21	U
Methoxychlor	-	11.9	U	12	UJ	13.6	U	5.8	U	12	U	6.9	U	12.1	U	5.5	U	12	U	5.8	U	24.1	J	2.8	U
Toxaphene	-	50	U	50.5	U	23.2	U	24.2	U	50.7	U	29.2	U	51	U	23.2	U	50.6	U	24.5	U	26.9	U	11.7	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-67-35**		**RI-SB-68-13**		**RI-SB-68-35**		**RI-SB-69-02**		**RI-SB-69-35**		**RI-SB-70-02**		**RI-SB-70-46**		**RI-SB-71-13**		**RI-SB-71-35**		**RI-SB-72-02**		**RI-SB-72-46**		**RI-SB-73-13**	
Sample Date:	**UU-SCG [b]**	10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11	
Pesticides (ug/kg)																									
4,4'-DDD	3.3	0.61	U	1	U	0.85	U	6.9	J	3.3	0	2.6	U	9.4	J	3.9	J	0.61	U	2.7	J	0.13	U	2.1	U
4,4'-DDE	3.3	0.53	U	0.9	U	0.73	U	12	J	0.094	U	0.087	U	17.7	0	0.88	U	0.52	U	0.48	U	0.11	U	1.8	U
4,4'-DDT	3.3	16	U	27.4	U	111	R	14	U	0.085	U	0.079	U	13.9	U	2.6	J	0.48	U	0.44	U	0.098	U	3.4	J
Aldrin	5	0.26	U	0.45	U	0.37	U	0.23	U	0.047	U	0.043	U	0.23	U	0.44	U	0.26	U	0.24	U	0.054	U	0.92	U
alpha-BHC	20	4	U	6.8	U	5.5	U	3.5	U	0.71	U	0.66	U	3.5	U	6.7	U	4	U	3.7	U	0.82	U	14	U
alpha-Chlordane	94	0.28	U	13.7	U	0.39	U	0.24	U	0.83	J	0.046	U	0.24	U	0.46	U	0.28	U	0.26	U	0.057	U	10.1	J
beta-BHC	36	8	U	0.61	U	6.2	J	0.31	U	0.064	U	0.059	U	0.31	U	0.6	U	0.36	U	0.33	U	0.074	U	1.3	U
delta-BHC	40	0.21	U	0.35	U	11.1	U	0.18	U	0.037	U	0.034	U	0.18	U	0.34	U	0.21	U	0.19	U	0.042	U	0.72	U
Dieldrin	5	0.44	U	0.75	U	0.61	U	14	U	0.078	U	2.6	U	8.6	J	2.8	J	15.9	U	14.7	U	3.3	U	1.5	U
Endosulfan I	2400	0.47	U	4	J	0.65	U	0.41	U	0.084	U	0.095	J	5.5	J	0.79	U	0.47	U	0.43	U	0.097	U	1.6	U
Endosulfan II	2400	0.58	U	1	U	0.81	U	0.51	U	0.1	U	0.096	U	0.51	U	0.98	U	0.58	U	6.7	J	0.12	U	2	U
Endosulfan sulfate	2400	4.2	J	18.9	J	0.58	U	0.36	U	0.074	U	0.069	U	5.8	J	9.5	J	1.6	J	0.38	U	0.086	U	24.4	J
Endrin	14	0.83	U	5.9	J	1.2	U	0.73	U	2.8	U	0.14	U	0.73	U	1.4	U	0.83	U	0.77	U	0.17	U	5.4	J
Endrin aldehyde	-	0.73	U	1.3	U	1	U	4.2	J	2.3	J	0.12	U	0.64	U	3	J	0.73	U	0.67	U	0.15	U	2.6	U
Endrin ketone	-	0.57	U	0.97	U	0.79	U	5.4	J	0.1	U	0.094	U	13.9	U	26.8	U	15.9	U	14.7	U	3.3	U	2	U
gamma-BHC (Lindane)	-	0.25	U	15.6	0	0.35	U	9.4	0	0.045	U	0.09	J	7	U	0.42	U	0.25	U	0.23	U	0.052	U	0.89	U
gamma-Chlordane	-	0.081	U	0.14	U	0.11	U	69.8	UJ	0.015	U	0.52	J	0.71	UJ	13.4	U	0.081	U	7.3	U	1.6	U	28	U
Heptachlor	42	18.1	0	14.1	0	0.41	U	0.25	U	0.052	U	0.048	U	0.25	U	0.49	U	0.29	U	7.3	U	0.06	U	14.3	J
Heptachlor epoxide	-	0.25	U	0.43	U	33.9	0	0.22	U	1.4	U	1.3	U	0.22	U	0.42	U	0.25	U	7.3	U	0.051	U	0.87	U
Methoxychlor	-	3.2	U	5.5	U	59.2	J	2.8	U	0.57	U	0.53	U	69.7	U	134	U	79.7	U	73.5	U	1.4	J	11.3	U
Toxaphene	-	13.6	U	23.3	U	18.9	U	11.9	U	2.4	U	2.2	U	11.8	U	22.8	U	13.5	U	12.5	U	2.8	U	47.5	U

Table 6

Pesticides Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-73-46**		**RI-SB-74-02**		**RI-SB-74-24**		**RI-SB-75-02**		**RI-SB-75-24**		**RI-SB-76-02**		**RI-SB-76-24**	
Sample Date:	**UU-SCG ^{b}**	10/28/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11	
Pesticides (ug/kg)															
4,4'-DDD	3.3	2.2	U	54.9	U	2.3	U	2.2	U	2.5	U	2.3	U	67.5	U
4,4'-DDE	3.3	1.9	U	1.8	U	2	U	1.9	U	2.1	U	1.9	U	2.2	U
4,4'-DDT	3.3	1.7	U	1.6	UJ	60.7	UJ	1.7	UJ	2	UJ	8.5	J	67.5	UJ
Aldrin	5	0.95	U	0.9	U	1	U	0.94	U	1.1	U	0.97	U	1.1	U
alpha-BHC	20	14.4	U	13.7	U	15.2	U	14.3	U	16.3	U	14.8	U	16.9	U
alpha-Chlordane	94	1.8	J	27.5	U	86.2	R	28.6	U	55	0	9.9	J	30.5	J
beta-BHC	36	1.3	U	1.2	UR	1.4	U	1.3	U	17.1	J	1.3	U	1.5	U
delta-BHC	40	0.74	U	106	0	0.78	U	0.74	U	32.6	U	0.76	U	0.87	U
Dieldrin	5	1.6	U	7.1	J	1.7	U	68.1	0	55.2	J	1.6	U	1.9	U
Endosulfan I	2400	1.7	U	27.5	U	30.4	U	4.3	J	13.4	J	1.7	U	2	U
Endosulfan II	2400	2.1	U	2	U	2.2	U	2.1	U	2.4	U	2.2	U	67.5	U
Endosulfan sulfate	2400	57.5	UJ	1.4	UJ	100	J	57.3	UJ	61.2	J	28.5	UJ	45.8	J
Endrin	14	3	U	2.9	U	27.8	J	7.5	J	25.3	J	10.8	J	10.9	J
Endrin aldehyde	-	2.6	U	2.5	UR	2.8	UR	9.3	J	18.4	UR	6.2	J	13.1	J
Endrin ketone	-	2	U	2	U	2.2	U	2	U	14.3	U	2.1	U	2.4	U
gamma-BHC (Lindane)	-	0.91	U	90.2	R	30.4	U	0.91	U	1	U	0.94	U	1.1	U
gamma-Chlordane	-	0.29	U	27.5	U	152	U	28.6	U	32.6	U	29.5	U	33.7	U
Heptachlor	42	1.1	U	345	R	59.1	R	28.6	UJ	32.6	UJ	29.5	UJ	33.7	UJ
Heptachlor epoxide	-	28.8	U	0.86	U	11.3	J	0.89	U	1	U	0.92	U	1.1	U
Methoxychlor	-	11.6	U	11.1	UJ	12.3	UJ	286	UJ	326	UJ	11.9	UJ	337	UJ
Toxaphene	-	48.9	U	46.7	U	51.7	U	48.7	U	55.5	U	50.2	U	57.4	U

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**12U-VOC-02**		**12U-VOC-57**		**12Z-VOC-02**		**12Z-VOC-57**		**MW-04-02**		**MW-04-24**		**MW-06-02**		**MW-06-24**	
Sample Date:	**UU-SCG** [b]	3/23/12		3/23/12		3/19/12		3/19/12		11/4/11		11/4/11		11/3/11		11/3/11	
Metals (mg/kg)																	
Aluminum	-	836		7,360		14,900		8,130		5,290		7,400		6,970		4,830	
Antimony	-	1.3		1.4		1.3		4		0.19	U	0.17	U	1.6	U	0.51	U
Arsenic	13	7.2		14.1		17.7		74.1		6.1	U	4.4	U	9.6	U	15.6	
Barium	350	149		290		178		816		48.3		22	U	267		87.9	
Beryllium	7.2	0.14	U	0.37		0.53		0.59		0.32	U	0.31	U	0.42	U	0.43	U
Cadmium	2.5	0.42		11.9		67.9		1.6		0.21	U	0.064	U	98.9		0.082	U
Calcium	-	617		1,970		1,940		13,300		17,500		844	U	3,350		5,700	
Chromium	30	5		21.8		26.6		38.9		12.7		14		27		13.2	
Cobalt	-	1.5		7.2		6.1		16.8		4.8	U	3.7	U	8		10.2	
Copper	50	28.6		64.9		110		221		31.3	U	6.5	U	111		81.1	
Iron	-	6,430		20,000		19,400		44,600		10,200		12,600		19,200		32,100	
Lead	63	84.9		278		653		3,470		204		6.6	U	460		199	
Magnesium	-	119		2,170		1,990		754		1,960		3,020		2,500		1,470	
Manganese	1600	21.4		174		440		278		226		92.5	U	210		119	
Mercury	0.18	1.6		3.2		0.73		2.6		0.76		0.024	J	0.36		0.1	J
Nickel	30	3.1		36.8		24.8		32.5		17.2	U	15.8	U	47.8		24.7	
Potassium	-	286		1,320		749		972		1,240	U	1,220	U	758		665	
Selenium	3.9	1.4		1.3		1.2		24.7		0.76	U	0.39	U	1.7	U	1.4	U
Silver	2	0.16	J	0.18	U	0.53	J	1.3		0.11	U	0.1	U	0.31	J	0.13	U
Sodium	-	124	J	683		185	J	968		357	U	334	U	488	U	429	U
Thallium	-	0.56	U	0.67	U	0.69	U	0.75	U	0.34	U	0.32	U	0.46	U	0.41	U
Zinc	109	9		245		320		1,150		80.1	U	27.8	U	185		66.5	

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYCRR Part 375-6.8(a) Soil Cleanup Objectives;
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
R = Data Rejected due to quality control issues, refer to Appendix B.
d/ Sample and duplicate.

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**MW-09-02**		**MW-09-24**		**RI-SB-01-02**		**RI-SB-01-24**		**RI-SB-01b-02**		**RI-SB-01b-24**		**RI-SB-02-02**		**RI-SB-02-24**		**RI-SB-03-02**	
Sample Date:	**UU-SCG ^{b}**	10/31/11		10/31/11		11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/10/11		11/4/11	
Metals (mg/kg)																			
Aluminum	-	6,120		2,440	J	5,810		9,020		7,280		6,570		7,290		4,590		8,500	
Antimony	-	0.59	U	3.5	UJ	1.1		0.22	U	3		0.16	U	1.1		0.21	U	0.21	U
Arsenic	13	12.9	U	2	U	14.4	U	3.7	U	11.6	U	4.2	U	16.8		10.8		5.1	U
Barium	350	128		20.3	U	157		49.8	U	259		44.8	U	857		75.2		34.3	
Beryllium	7.2	0.4	U	0.15	U	0.41	U	0.48	U	0.53	U	0.37	U	0.39		0.27		0.31	U
Cadmium	2.5	2.9	U	3.7	U	6.9	U	0.25	U	0.52	U	0.06	U	2.4	U	0.29	U	0.24	U
Calcium	-	10,600		4,590	J	3,200		1,570	U	10,700		2,090		14,400		3,860		1,410	U
Chromium	30	16	U	6.3	U	16.2	U	22.4	U	16	U	15.4	U	27.8		13		15.4	
Cobalt	-	6	U	2.3	U	5.8		9.7		8		6.9		7	U	5.9	U	4.7	U
Copper	50	85.5		33.4	J	116	U	16.7	U	201		15.4	U	64.9		78.8		14.7	U
Iron	-	13,100		4,940	J	13,600		12,700		12,000		11,200		41,100		13,100		14,600	
Lead	63	260		85.5	J	493		33.8		767		59.3		3,360		318		43.1	
Magnesium	-	2,300		1,020	J	1,440		3,070		2,890		2,510		2,920		2,070		3,720	
Manganese	1600	201		49.2	J	243		176		151		202		371		175		98.6	U
Mercury	0.18	0.9		0.099	J	2.2		0.062	J	1.5		0.57		1		0.41		0.098	J
Nickel	30	21.7		8.5	U	21.1	U	61.6		107		27.1	U	32.3		19.5		22.4	U
Potassium	-	1,080		496	J	692		1,140		819		999		1,170		952		1,340	U
Selenium	3.9	1.1	U	0.54	U	1	U	0.67	U	1.4	U	0.37	U	1.9		0.56	J	0.65	U
Silver	2	0.41	U	0.4	U	0.48	U	0.13	U	0.39	U	0.094	U	0.59	U	0.5	U	0.12	U
Sodium	-	238	J	168	U	403	U	211	U	322	U	156	U	237	U	208	J	204	U
Thallium	-	0.33	U	0.32	U	0.38	U	0.4	U	0.31	U	0.3	U	0.45	U	0.39	U	0.39	U
Zinc	109	202		215	J	334		52.8		287		40.3	U	511		162		45.6	U

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-03-02 Dup**		**RI-SB-03-24**		**RI-SB-04-02**		**RI-SB-04-24**		**RI-SB-05-02**		**RI-SB-05-24**		**RI-SB-06-02**		**RI-SB-06-24**		**RI-SB-11-02**	
Sample Date:	**UU-SCG ^{b}**	11/4/11		11/4/11		11/9/11		11/9/11		11/3/11		11/3/11		11/3/11		11/3/11		10/31/11	
Metals (mg/kg)																			
Aluminum	-	8,100		6,520		6,700		6,910		7,520		6,110		6,540		7,720		6,660	
Antimony	-	0.16	U	0.2	UJ	0.59		0.21	U	0.16	U	0.73	U	0.85	U	0.17	U	0.51	U
Arsenic	13	4	U	2.6	U	8.2	U	9.1	U	6.2	U	6.2	U	6.3	U	6.5	U	7.9	U
Barium	350	35.2		13.7	U	201		47.1	U	112		56		212		64		90.2	
Beryllium	7.2	0.34	U	0.24	U	0.36	U	0.34	U	0.42	U	0.43	U	0.34	U	0.59	U	0.46	U
Cadmium	2.5	0.18	U	0.075	U	7.5	U	0.25	U	9.3	U	0.19	U	21		0.2	U	0.43	U
Calcium	-	1,040	U	740	U	6,420		8,780		4,290		6,060		18,300		6,150		4,910	
Chromium	30	14.6		11.6		19.1	U	21.1	U	17.2		14.3		21.9		14.8		13.2	U
Cobalt	-	4.4	U	3.3	U	6		5.1		7.7	U	6.8	U	6.3		7		6.6	U
Copper	50	10	U	6.1	U	88.1	U	24.5	U	44.7	U	105		80.2	U	66.8		49.1	
Iron	-	13,500		10,200		11,800		10,400		15,000		17,400		16,100		12,400		11,000	
Lead	63	10.9	U	6	U	470		84.1		240		141		202		189		253	
Magnesium	-	3,070		2,660		2,440		2,040		2,760		2,260		8,430		2,570		2,460	
Manganese	1600	86.1	U	80.4	U	157		133		283		158		225		239		124	
Mercury	0.18	0.095	J	0.031	J	0.35		0.59		0.32		0.2		0.2		0.34		1.1	
Nickel	30	16	U	13.8	U	19.7	U	14.9	U	30.8		23.3	U	19.9	U	22	U	18.3	U
Potassium	-	1,270	U	1,080	U	737		988		1,060		1,160		668		1,020		997	
Selenium	3.9	0.54	U	0.68	U	0.74	U	0.97	U	0.67	U	0.8	U	0.87	U	0.88	U	2.6	U
Silver	2	0.09	U	0.12	U	0.47	U	0.49	U	0.092	U	0.093	U	0.14	J	0.1	U	0.36	U
Sodium	-	300	U	196	U	283	U	205	U	306	U	310	U	547	U	332	U	161	J
Thallium	-	0.29	U	0.37	U	0.27	U	0.39	U	0.29	U	0.29	U	0.36	U	0.32	U	0.28	U
Zinc	109	30.1	U	24.6	U	269		59.9		165		123		232		70.2		102	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-11-02 Dup**		**RI-SB-11-24**		**RI-SB-12-02**		**RI-SB-12-24**		**RI-SB-13-02**		**RI-SB-13-35**		**RI-SB-14-02**		**RI-SB-14-24**		**RI-SB-15-02**	
Sample Date:	**UU-SCG ^{b}**	10/31/11		10/31/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/2/11	
Metals (mg/kg)																			
Aluminum	-	6,650		5,950		8,540		5,780		7,970		6,570		6,490		4,660		2,120	
Antimony	-	0.66	U	0.45	U	0.25	U	0.18	U	0.22	U	0.25	UJ	2.2		0.24	U	1.6	U
Arsenic	13	11.3	U	16.4	U	13.9		31	U	5.1	UR	33.1	U	29.1	U	4.5	U	36.2	U
Barium	350	72.3		228		38.5		393		40.5		201	J	250		250		252	
Beryllium	7.2	0.43	U	0.38	U	0.46	U	0.35	U	0.17	U	0.4	U	0.38	U	0.45	U	0.33	U
Cadmium	2.5	0.49	U	3.2	U	0.28	U	0.54	U	0.082	U	0.52	U	3.3	U	0.09	U	167	
Calcium	-	14,300		7,160		3,350		18,000		12,200		2,450	J	5,640		1,520		2,950	
Chromium	30	13	U	15.2	U	12.4		17.6		1.3	U	17.4		17.6		8.2	U	9.3	
Cobalt	-	6.8	U	6.2	U	5.1	U	5.8	U	21.3		7.9	U	8.3	U	6.9	U	5.5	U
Copper	50	94.6		197		11.8		46.5		212		102	J	186		72.5		65.6	
Iron	-	13,400		16,300		13,100		14,000		34,600		12,500		16,200		5,370		28,300	
Lead	63	173		313		16.5	U	372		9.3	U	503	J	1,400		88.8		157	U
Magnesium	-	4,420		2,730		2,210		1,910		7,990		1,990		1,860		266		401	
Manganese	1600	296		266		310		196		372		127	J	230		60.5		62.9	U
Mercury	0.18	0.66		0.88		0.016	J	3.5		0.0021	J	2.6		1.6		0.39		2	
Nickel	30	21.2		25.7		13	U	13.3	U	7	U	20	U	27.4	U	14.2	U	150	
Potassium	-	981		776		954	U	753	U	1,270		1,050	U	575	U	306	U	448	
Selenium	3.9	4.3	U	0.55	U	0.56	U	0.4	U	0.5	U	0.75	U	0.71	U	0.56	U	1.7	U
Silver	2	0.41	U	0.35	U	0.14	U	0.41	U	0.51	U	0.24	U	0.59	U	0.14	U	0.5	U
Sodium	-	190	J	197	J	236	U	170	U	514		242	U	218	J	235	U	210	U
Thallium	-	0.32	U	0.27	U	0.45	U	0.32	U	1.7	U	0.46	U	0.28	U	0.45	U	3.7	U
Zinc	109	101		1,410		34	U	277		64.5		209	J	274		49.8		199	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-15-24**		**RI-SB-16-02**		**RI-SB-16-24**		**RI-SB-17-02**		**RI-SB-17-24**		**RI-SB-18-02**		**RI-SB-18-35**		**RI-SB-19-02**		**RI-SB-19-24**	
Sample Date:	**UU-SCG** [b]	11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11		10/31/11	
Metals (mg/kg)																			
Aluminum	-	5,110		6,870		8,300		9,550		8,360		8,270		12,400		5,960		7,080	
Antimony	-	0.85	U	0.56	U	0.68	U	0.26	U	4.7	UJ	0.15	U	0.21	U	1.3	U	0.19	UJ
Arsenic	13	13.3	U	12.6	U	13.5	U	10.4	U	19.2	U	7.5	U	4.4	U	7.6	U	6.4	U
Barium	350	118		183		163		135		108	J	120		45.6		108		92.1	J
Beryllium	7.2	0.3	U	0.47	U	0.71	U	0.54	U	0.44	U	0.44	U	0.44	U	0.41	U	0.48	U
Cadmium	2.5	0.75		4.3		0.51		1.8		0.098	J	19.3		0.078	U	3.8	U	0.22	U
Calcium	-	2,840		13,400		3,890		19,000		4,820	J	22,400		1,100		6,740		3,540	
Chromium	30	15.5		15.3		15.2		22		18.1		18.8	U	20.4		13.8	U	17.8	U
Cobalt	-	6.8	U	7.5	U	7.4	U	10	U	8.7	U	6.5	U	5.8	U	5.3	U	7.2	U
Copper	50	124		83.5		2,710		89.2		65.9	J	41.5		11.1		37.9		23	
Iron	-	13,500		20,000		9,690		17,700		34,200	J	13,800		14,900		11,300		13,000	
Lead	63	531		644		589		380		391		524		26.9	U	158		95.1	J
Magnesium	-	2,220		2,220		631		4,110		2,250		4,850		2,320		3,230		2,400	
Manganese	1600	97		553		135		287		332		613		144		146		335	
Mercury	0.18	2		1.6		1.5		1.8		0.084	J	1.3		0.24		0.33		0.33	J
Nickel	30	28.8		20.1		17		43.8		29.2		17.6	U	19.8		19.9		25.6	
Potassium	-	1,290		905		881		2,340		1,780	J	1,290		793		1,040		1,230	J
Selenium	3.9	1.3	U	0.55	U	2.1	U	0.9	U	0.67	UJ	0.48	U	0.65	U	1.2	U	0.42	U
Silver	2	0.68	U	0.63	U	0.68	U	0.6	U	0.49	U	0.36	U	0.12	U	0.41	U	0.43	U
Sodium	-	283	U	310	J	415	J	276	J	331	J	306		203	U	171	U	180	U
Thallium	-	0.54	U	0.45	U	0.54	U	0.47	U	0.37	U	0.28	U	0.39	U	0.33	U	0.34	U
Zinc	109	443		227		295		160		147	J	147		40.9		126		121	J

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		RI-SB-20-02		RI-SB-20-02 Dup		RI-SB-20-46		RI-SB-21-02		RI-SB-21-46		RI-SB-22-02		RI-SB-22-24		RI-SB-23-02		RI-SB-23-24	
Sample Date:	**UU-SCG [b]**	10/27/11		10/27/11		10/27/11		10/27/11		10/27/11		11/2/11		11/2/11		11/1/11		11/1/11	
Metals (mg/kg)																			
Aluminum	-	5,490		6,830		7,880		5,550		6,180		8,060		5,380		5,070		1,460	J
Antimony	-	2.7		3.5		1.4		0.76		1.4		1.6	U	3.5	U	0.16	U	0.18	U
Arsenic	13	8.2		4.9		18.5		70.6		51.2		31.8	U	103	U	7.9	U	1.7	U
Barium	350	62.4		85.6		193		357		434		669		605		52.2		83.6	J
Beryllium	7.2	0.33		0.35		0.79		0.89		0.71		0.53	U	0.24	U	0.3	U	0.15	U
Cadmium	2.5	0.45		0.17	J	0.44		0.11	J	7.1		121		0.93		1.3	U	0.7	U
Calcium	-	7,020		3,060		6,230		16,300		20,000		9,500		44,500		2,280		1,130	J
Chromium	30	11.5		15.6		20		14.2		24.6		26.7		20.4		14.3		6	U
Cobalt	-	7.3		6.9		10.3		10.3		9.4		4.3	U	7	U	5.5	U	2.4	U
Copper	50	31.7		21.1		44.4		129		117		492		246		32.2		29.4	J
Iron	-	10,400		11,400		17,600		11,900		24,400		14,000		55,300		12,800		5,690	J
Lead	63	2,100		1,960		1,100		389		950		672		851		84.6		198	J
Magnesium	-	3,180		3,130		657		1,720		2,340		2,750		2,760		2,190		344	
Manganese	1600	140		91.5		318		153		273		90.9		594		180		64.7	J
Mercury	0.18	0.32		0.15		1.7		23.4		3.7		1.2		89.1		0.87		1.2	
Nickel	30	28.2		25.2		20.6		23.8		23		21.7		33.8		32.7		9.2	U
Potassium	-	912		1,210		773		792		974		1,110		715		971	U	671	U
Selenium	3.9	1.8		0.7		1.6		2.2		2.4		1.7	U	0.59	U	0.36	U	0.45	U
Silver	2	0.19	J	0.12	U	0.38	J	0.31	J	0.39	J	0.67	U	0.82	U	0.36	U	0.16	U
Sodium	-	208	U	205	U	383	J	397	J	530		279	U	496	J	377		182	J
Thallium	-	0.4	U	0.39	U	0.47	U	0.44	U	0.41	U	0.53	U	0.47	U	0.29	U	0.32	U
Zinc	109	185		69.4		608		222		800		390		901		64.3		256	J

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-24-02**		**RI-SB-24-24**		**RI-SB-25-02**		**RI-SB-25-02 Dup**		**RI-SB-25-35**		**RI-SB-26-02**		**RI-SB-26-24**		**RI-SB-27-02**		**RI-SB-27-35**	
Sample Date:	**UU-SCG** ^{b}	11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11	
Metals (mg/kg)																			
Aluminum	-	11,000		10,500		6,390		6,220		1,620		7,610		7,910		6,700		4,880	
Antimony	-	0.2	U	0.19	U	1	U	0.19	U	0.41	U	0.2	U	0.24	U	0.99	U	0.72	U
Arsenic	13	12.8	U	5.4	U	7	U	5.9	U	1.7	UJ	5.6	U	4.4	U	8.9	U	11.3	U
Barium	350	101		37.7		793		90.4		11.1	J	59.9		44.8		216		37	
Beryllium	7.2	0.51	U	0.51	U	0.36	U	0.36	U	0.14	U	0.44	U	0.58	U	0.42	U	0.35	U
Cadmium	2.5	0.2	J	0.069	U	22.8		9.2		0.64		0.093	J	0.087	U	15.2		0.083	U
Calcium	-	2,610		2,740		16,100		16,500		676	U	1,800		5,380		10,900		4,600	
Chromium	30	16.2		43.4		29.2		15.2		2.8		15.1		28.9		21.6		17.7	U
Cobalt	-	8.3	U	12.5	U	6.1	U	5.5	U	1.1	U	7.2	U	9	U	5.7	U	7	U
Copper	50	139		37.5	U	249		40.9	U	6.6	U	28.7	U	33.6	U	96.3		30.3	
Iron	-	19,000		17,400		13,100		10,700		3,210		14,300		17,000		13,400		34,000	
Lead	63	495		19.1	U	325		197		7.4	U	160	U	51.1	U	417		203	
Magnesium	-	2,030		5,680		2,260		2,560		550	J	2,370		3,050		3,020		2,200	
Manganese	1600	162		236		185		172		35.4	U	230		462		176		320	
Mercury	0.18	0.83		0.16		1.2		1.9		0.011	J	0.83		0.14		0.53		0.55	
Nickel	30	16.8		89.6		24.3		24.8		3.6	U	23.1		42.8		21		27.9	
Potassium	-	1,060		1,060		1,160		939		253	J	1,050		1,060		1,340		964	
Selenium	3.9	1.4	U	0.43	U	0.56	U	0.59	U	0.4	U	0.44	U	0.53	U	0.83	U	0.51	U
Silver	2	0.46	U	0.43	U	0.57	U	0.45	U	0.1	U	0.45	U	0.54	U	0.6	U	0.52	U
Sodium	-	369	J	330	J	295	J	284	J	170	U	188	U	227	U	291	J	314	J
Thallium	-	0.36	U	0.34	U	0.45	U	0.35	U	0.32	U	0.36	U	0.43	U	0.47	U	0.41	U
Zinc	109	243		47.1		911		119		44.5	J	58.5		53.3		322		50.9	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-28-02**		**RI-SB-28-24**		**RI-SB-29-02**		**RI-SB-29-02 Dup**		**RI-SB-29-24**		**RI-SB-30-02**		**RI-SB-30-46**		**RI-SB-31-02**		**RI-SB-31-46**	
Sample Date:	**UU-SCG ^{b}**	11/3/11		10/31/11		11/1/11		11/1/11		11/1/11		10/27/11		10/27/11		10/27/11		10/27/11	
Metals (mg/kg)																			
Aluminum	-	5,850		8,660		7,920		6,650		6,690		8,540		6,850		11,200		8,600	
Antimony	-	0.95	U	0.25	U	0.32	J	0.25	J	0.32	J	0.23	J	0.21	U	0.35	J	0.17	U
Arsenic	13	16.8	U	4.1	U	2.3	UR	2.5	UR	1.6	U	6.1		6.1		8.5		5.1	
Barium	350	124	J	42.4		90.6		68.9		32.3		290		360		234		735	
Beryllium	7.2	0.4	U	0.51	U	0.14	U	0.12	U	0.12	U	0.42		0.32		0.5		0.38	
Cadmium	2.5	0.68	U	0.094	U	0.51	U	4.1	U	0.057	U	92		18.9		47.4		302	
Calcium	-	2,420	J	1,070		12,900		10,300		8,240		3,100		1,980		19,200		20,500	
Chromium	30	13.1		17.6	U	1.1	U	0.65	U	0.61	U	17.2		13.1		19.8		16.2	
Cobalt	-	5.7	U	8.5	U	24.7		21.3		19.4		10		6.1		8.3		5.4	
Copper	50	49.2		18		274		264		162		39.8		25		60.5		24.2	
Iron	-	14,100		17,300		41,700		35,400		30,600		25,100		13,100		16,400		14,200	
Lead	63	239	J	32.2	U	9.6	U	12.7	U	5.4	U	148		122		364		108	
Magnesium	-	2,640		3,390		6,720		5,550		6,890		2,060		1,720		4,940		2,480	
Manganese	1600	118	J	178		494		415		326		356		160		173		255	
Mercury	0.18	0.28		0.062	J	0.0012	U	0.0013	U	0.0012	U	0.39		0.34		1.5		0.34	
Nickel	30	20.2	U	29.9		6.5	U	5.5	U	7.4	U	22.3		17.7		48.3		16	
Potassium	-	1,190		2,410		1,850		1,490		1,040	U	1,340		1,140		1,270		750	
Selenium	3.9	1.4	U	0.58	U	0.41	U	0.34	U	0.35	U	0.37	U	0.88		0.6	J	0.54	J
Silver	2	0.49	U	0.59	U	0.42	U	0.44	U	0.35	U	0.22	J	0.18	J	0.28	J	0.18	J
Sodium	-	363	U	245	U	500		409		428		238	J	201	U	275	J	193	J
Thallium	-	0.3	UJ	0.47	U	0.33	U	0.28	U	0.28	U	0.3	U	0.38	U	0.4	U	0.32	U
Zinc	109	222		39.7		63.7		55.5		41.8		70.5		86.9		186		256	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-32-02**		**RI-SB-32-57**		**RI-SB-33-02**		**RI-SB-33-24**		**RI-SB-33b-02**		**RI-SB-33b-24**		**RI-SB-34-02**		**RI-SB-34-24**		**RI-SB-35-02**	
Sample Date:	**UU-SCG [b]**	10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11	
Metals (mg/kg)																			
Aluminum	-	8,570		7,760		7,050		5,320		8,750		4,640		7,670		6,170		5,050	
Antimony	-	0.38	J	13.1		0.82	U	0.57	U	1.7	U	0.21	U	41.8	U	9.1	U	0.51	U
Arsenic	13	8.7		4.6		10.3	U	7.4	U	12.6	U	5	U	11.3	U	5.4	U	4.5	U
Barium	350	4,450		2,780		311		200		84.5		44.9		103		66.5		59.8	
Beryllium	7.2	0.38		0.47		0.43	U	0.4	U	0.4	U	0.3	U	0.43	U	0.31	U	0.37	U
Cadmium	2.5	4,390		117		24.5		4.2		0.081	U	0.17	J	2.1		0.064	U	0.26	U
Calcium	-	4,200		3,090		8,160		8,540		2,690		6,080		1,750		1,170	U	6,630	
Chromium	30	29.5		15.9		14.5		12.7		29.4		11.9		13.7		11.2		9.1	U
Cobalt	-	8.8		9.9		6.6	U	4.9	U	11.3	U	5.5	U	6.9	U	5.2	U	3.5	U
Copper	50	69.3		25.8		340		55.3		103		31.7	U	61		22.1	U	40	
Iron	-	10,600		15,700		14,300		14,300		70,700		12,100		15,200		12,200		8,250	
Lead	63	994		269		647		285		166	U	134	U	4,860		194	U	120	
Magnesium	-	2,260		1,400		1,970		1,570		2,030		4,670		1,790		1,570		1,380	U
Manganese	1600	103		218		181		138		718		211		280		166		93.8	
Mercury	0.18	9.3		0.89		0.67		0.89		0.39		0.7		0.74		0.4		0.61	
Nickel	30	25.3		24.3		21.1		18.9		95.2		23.8		24		14.6		9.6	U
Potassium	-	1,230		755		1,110		985		1,270		797		821		749		672	
Selenium	3.9	1		1		0.5	U	0.56	U	0.5	U	0.48	U	0.56	U	0.39	U	0.5	U
Silver	2	0.33	J	0.3	J	0.37	U	0.57	U	0.8	U	0.49	U	0.43	U	0.4	U	0.13	U
Sodium	-	266	U	214	J	386		236	U	529		205	U	216	J	167	U	213	U
Thallium	-	0.51	U	0.39	U	0.3	U	0.45	U	0.4	U	0.39	U	0.33	U	0.32	U	0.4	U
Zinc	109	594		540		354		185		133		118		405		92.2		75.6	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-35-24**		**RI-SB-36-02**		**RI-SB-36-24**		**RI-SB-37-02**		**RI-SB-37-24**		**RI-SB-38-02**		**RI-SB-38-24**		**RI-SB-39-02**		**RI-SB-39-57**	
Sample Date:	**UU-SCG [b]**	10/31/11		10/31/11		10/31/11		10/31/11		10/31/11		11/1/11		11/1/11		10/27/11		10/27/11	
Metals (mg/kg)																			
Aluminum	-	5,640		5,090		3,750		4,970		6,400		3,640		5,430		4,630		3,640	
Antimony	-	0.16	U	0.15	U	0.2	U	0.4	U	0.23	U	0.25	U	0.15	U	40.1		0.82	
Arsenic	13	4.3	U	2.9	U	2.7	U	5.5	U	6.4	U	10.8	UR	3.1	U	2.7		4.7	
Barium	350	44.6		452		152		59.3		54.3		91.4		51.1		8,630		524	
Beryllium	7.2	0.34	U	0.28	U	0.19	U	0.28	U	0.42	U	0.38	U	0.36	U	0.25		0.2	
Cadmium	2.5	0.06	U	169		3.6	U	0.2	U	0.75	U	0.29	U	0.054	U	3,900		8.2	
Calcium	-	4,330		20,200		23,800		25,200		22,300		1,980		1,410		10,400		4,660	
Chromium	30	15.4	U	22.4		8.2	U	11.1	U	13.7	U	13.2		10.7		16.8		11.8	
Cobalt	-	6.8	U	5.3	U	2.8	U	5	U	6.2	U	7.2	U	4.5	U	1.5		4.2	
Copper	50	36.6		34.4		14.1		93.4		16.6		177		13.7		140		45.6	
Iron	-	13,000		6,820		5,410		10,700		12,300		9,100		10,300		9,270		11,700	
Lead	63	73.6		47.7		39.7	U	138		117		123		71.9		238		452	
Magnesium	-	2,400		2,080		2,280		2,260		2,390		1,330		1,140		1,160		1,590	
Manganese	1600	292		82.9		101		180		197		128		204		53.9		234	
Mercury	0.18	0.32		0.13		0.096	J	0.28		0.26		0.96		0.34		9.5		0.42	
Nickel	30	30		14.1	U	9.9	U	19		25.9		25.6	U	9.8	U	5.7		17.3	
Potassium	-	1,090		662		497		1,110		1,310		692	U	633	U	1,020		1,030	
Selenium	3.9	0.37	U	0.46	U	0.46	U	0.39	U	1	U	1.9	U	0.33	U	0.62	J	0.51	J
Silver	2	0.37	U	0.35	U	0.47	U	0.4	U	0.53	U	0.57	U	0.085	U	0.51	J	0.17	J
Sodium	-	179	J	144	U	196	U	181	J	222	U	239	U	142	U	222	U	184	J
Thallium	-	0.3	U	0.27	U	0.37	U	0.32	U	0.42	U	0.45	U	0.27	U	0.42	U	0.32	U
Zinc	109	45.2		391		49.9		52		48.6		84.4		49.4		1,300		117	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-40-02**		**RI-SB-40-57**		**RI-SB-41-02**		**RI-SB-41-24**		**RI-SB-42-02**		**RI-SB-42-24**		**RI-SB-43-02**		**RI-SB-43-24**		**RI-SB-44-02**	
Sample Date:	**UU-SCG [b]**	10/27/11		10/27/11		11/2/11		11/2/11		11/2/11		11/2/11		10/31/11		10/31/11		10/31/11	
Metals (mg/kg)																			
Aluminum	-	8,470		5,060		6,680		6,800		7,010		6,970		8,600		6,140		7,300	
Antimony	-	0.4		0.67		0.42	U	0.19	U	0.25	U	0.21	U	0.42	U	0.44	U	0.88	U
Arsenic	13	8.7		5.8		9.7	U	7.1	U	6.5	U	4.1	U	6.7	U	5.8	U	10.1	U
Barium	350	267		189		176		106		74.9		64.2		88.9		53.8		259	
Beryllium	7.2	0.47		0.31		0.44	U	0.41	U	0.37	U	0.41	U	0.41	U	0.4	U	0.44	U
Cadmium	2.5	209		170		49.5		16.9		23.6		0.25		2	U	0.071	U	75.5	
Calcium	-	1,270		2,710		2,810		2,110		13,600		2,120		11,900		6,590		11,800	
Chromium	30	18.4		14.1		16.1		19.2		15		18.7		14.9	U	14.1	U	20.5	
Cobalt	-	9.3		5.3		9	U	7.9	U	7.1		8.9	U	6.6	U	7.3	U	8.1	U
Copper	50	55.2		23.9		75		55.6		546		73		46.2		26.8		105	
Iron	-	16,100		9,090		11,900		11,700		15,100		15,500		17,300		16,200		27,400	
Lead	63	200		363		236		172	U	262		46.5	U	145		112		408	
Magnesium	-	2,590		1,250		2,600		2,810		3,630		2,460		3,220		2,400		2,600	
Manganese	1600	221		140		97.5		140		295		435		180		314		310	
Mercury	0.18	0.44		1.3		2.3		0.81		0.61		0.36		0.46		0.73		0.95	
Nickel	30	41.4		20.6		44.5		45.2		121		18.5		19.3	U	23.3		33.3	
Potassium	-	1,760		683		1,040		1,200		879		1,950		1,320		1,070		1,110	
Selenium	3.9	0.56		1.6		0.77	U	0.43	U	0.78	U	0.48	U	0.64	U	0.59	U	0.71	U
Silver	2	0.17	J	0.29	J	0.42	U	0.44	U	0.58	U	0.48	U	0.42	U	0.44	U	0.47	U
Sodium	-	203	J	225	U	191	J	187	J	244	U	201	U	238	J	204	J	299	J
Thallium	-	0.28	U	0.43	U	0.33	U	0.35	U	0.46	U	0.38	U	0.33	U	0.35	U	0.36	U
Zinc	109	344		125		169		198		382		81.9		112		51.9		271	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-44-24**		**RI-SB-45-02**		**RI-SB-45-24**		**RI-SB-46-02**		**RI-SB-46-24**		**RI-SB-47-02**		**RI-SB-47-24**		**RI-SB-48-02**		**RI-SB-48-46**	
Sample Date:	**UU-SCG ^{b}**	11/3/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		10/27/11		10/27/11	
Metals (mg/kg)																			
Aluminum	-	5,250		7,380		7,630		6,890		5,360		6,330		6,430		6,420		12,100	
Antimony	-	0.51	U	0.25	U	1		1.1		1.1		0.65		0.17	U	0.63		3.5	
Arsenic	13	5	U	7.1	UR	29.7	U	16.5	UR	8.6	U	7.5	U	5.5	U	8.1		8	
Barium	350	40.8		67.2		183		243		230		247		50.7		385		607	
Beryllium	7.2	0.31	U	0.44	U	0.65	U	0.39	UR	0.45	U	0.38	U	0.35	U	0.35		0.54	
Cadmium	2.5	0.082	U	0.29	U	0.62		59.4		13.8	U	214		2.9	U	261		498	
Calcium	-	3,890		1,600		7,460		17,700		5,100		1,720		1,680		4,880		14,300	
Chromium	30	12.2		22		17.6		15.6		18		15.6		13.6		43.9		37.7	
Cobalt	-	5.1	U	7.7	U	12.2	U	7.1	U	5.5	U	12		7.7	U	3.7		4.5	
Copper	50	41.3	U	52.3		239		58		96.1		55.5		98.1		82.2		175	
Iron	-	12,500		17,500		14,400		33,300		17,800		15,500		14,900		25,300		20,800	
Lead	63	92.3		136		482		219		435		328		163		565		10,400	
Magnesium	-	2,590		2,910		614		2,420		1,460		2,200		2,470		1,490		3,110	
Manganese	1600	262		240		297		413		204		98.4		141		153		254	
Mercury	0.18	0.89		0.27		0.66		0.74		0.55		0.29		0.24		0.2		1.1	
Nickel	30	22.6		32.4	U	19.3	U	20	U	23.4	U	22.2	U	23.7	U	15.3		18.7	
Potassium	-	1,230		1,320		854	U	1,180	U	840	U	1,080	U	1,140	U	1,850		1,360	
Selenium	3.9	0.5	U	0.58	U	1.1	U	0.52	U	0.96	U	0.72	U	0.39	U	0.62		0.49	U
Silver	2	0.13	U	0.15	U	0.79	U	0.53	U	0.57	U	0.54	U	0.39	U	0.49		0.67	
Sodium	-	213	U	245	U	326	U	318	J	237	U	224	U	165	U	297	J	263	J
Thallium	-	0.41	U	0.47	U	0.62	U	0.42	U	0.45	U	0.43	U	0.31	U	0.35	U	0.4	U
Zinc	109	60.3		97.7		256		278		425		886		139		388		547	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-49-02**		**RI-SB-49-57**		**RI-SB-50-02**		**RI-SB-50-57**		**RI-SB-51-02**		**RI-SB-51-24**		**RI-SB-52-02**		**RI-SB-52-24**		**RI-SB-53-02**	
Sample Date:	**UU-SCG ^{b}**	10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/31/11	
Metals (mg/kg)																			
Aluminum	-	11,500		8,280		7,100		8,340		10,800		10,700		6,940		10,500		6,670	
Antimony	-	0.16	U	0.24	U	3.5	U	0.18	U	2.1	U	0.4	U	0.81	U	0.19	U	3.5	U
Arsenic	13	5.6	U	4.2	U	14	U	4.1	U	30.5	U	6.9	U	15.5	U	4.5	U	5.5	U
Barium	350	135		51		621		54.1		514		71.4		521		50.3		362	
Beryllium	7.2	0.84	U	0.42	U	0.52	U	0.47	U	0.74	U	0.52	U	0.48	U	0.51	U	0.47	U
Cadmium	2.5	3.1	U	0.09	U	1.6	U	0.068	U	3.8	U	0.2	U	2.2	U	0.22	U	41.3	
Calcium	-	1,200		1,860		4,610		1,580		2,760		1,340		8,800		1,870		5,960	
Chromium	30	46.2		19.8	U	18.8		18.4	U	37.9		15.5	U	24.5	U	19.4	U	27.5	
Cobalt	-	19.5		8.2		8		8.6		10.1		7.5		7.3		11.5		5.5	U
Copper	50	25.3	U	17.5	U	119		22.4	U	194		16.7	U	96		25.4	U	128	
Iron	-	15,800		13,200		20,000		15,100		33,700		15,700		25,300		16,800		13,200	
Lead	63	48.7		94.2		540		89.3		788		118		724		48.9		732	
Magnesium	-	2,930		3,680		2,130		2,940		3,770		2,180		2,700		5,260		4,780	
Manganese	1600	118		174		220		293		224		238		262		362		135	
Mercury	0.18	0.25	J	0.21		3.6		0.29		1.1		0.87		1		0.19		0.97	
Nickel	30	98.9		54		28.5		35.6		51		18.3	U	30.2		55.4		26.1	
Potassium	-	1,550		1,160		869		1,270		1,350		941		1,080		1,260		1,050	
Selenium	3.9	0.36	U	0.55	U	0.53	U	0.42	U	1.8	U	0.39	U	0.69	U	0.74	U	0.63	
Silver	2	0.092	U	0.14	U	0.54	U	0.43	U	1	U	0.4	U	0.7	U	0.44	U	0.47	U
Sodium	-	308	U	235	U	516	U	178	U	506	U	165	U	355	U	368	U	252	J
Thallium	-	0.29	U	0.45	U	0.43	U	0.34	U	0.5	U	0.31	U	0.34	U	0.35	U	0.37	U
Zinc	109	818		68	U	530		47.1	U	1,870		66.8	U	582		91.3	U	537	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-53-24**		**RI-SB-54-02**		**RI-SB-54-24**		**RI-SB-55-13**		**RI-SB-55-35**		**RI-SB-56-02**		**RI-SB-56-46**		**RI-SB-57-02**		**RI-SB-57-46**	
Sample Date:	**UU-SCG ^{b}**	10/31/11		10/31/11		10/31/11		10/28/11		10/28/11		10/28/11		10/28/11		10/27/11		10/27/11	
Metals (mg/kg)																			
Aluminum	-	4,930		4,130		7,820		7,320		6,720		7,480		5,390		45,600		6,440	
Antimony	-	0.8	U	1.7	U	0.25	U	0.59	U	1.1	U	0.23	U	0.16	U	0.17	U	2.6	
Arsenic	13	6.7	U	18.8	U	4	U	9.1	U	8.5	U	4.6	U	5.7	U	11.3		9.8	
Barium	350	153		223		57.3		212		81.7		128		40.4		958		444	
Beryllium	7.2	0.45	U	0.28	U	0.44	U	0.41	U	0.41	U	1	U	0.41	U	246		0.38	
Cadmium	2.5	0.19	U	15.9		0.091	U	8.6		0.31	U	1.8	U	0.061	U	49		299	
Calcium	-	5,390		15,900		1,890		6,760		2,990		5,380		2,140	U	15,000		46,000	
Chromium	30	9.5	U	45		20		54		26.2		17		10.4	U	1,600		22.2	
Cobalt	-	6.2	U	7.2	U	8.4	U	7.6	U	10.4	U	13.6		4.8	U	370		5.2	
Copper	50	67.4		97		22.5		56.2		698		28.4		9.8		8,550		56.3	
Iron	-	10,700		32,600		16,400		15,800		38,000		12,200		9,790		332,000		18,400	
Lead	63	820		431		27.7	U	300		569		48.4	U	144		7,450		2,240	
Magnesium	-	381	U	10,700		3,850		2,970		1,500		2,940		1,280		9,280		2,270	
Manganese	1600	181		299		142		201		932		205		134		2,760		325	
Mercury	0.18	0.28		1.3		0.056	J	0.43		48.4		0.047	J	0.3		0.16		1.1	
Nickel	30	12.4	U	58.8		48.4		35.3		20.6		31.6		11.7	U	2,150		14.2	
Potassium	-	584		760		1,490		1,190		634		1,210	U	789		2,550		1,190	
Selenium	3.9	0.89		0.6	U	0.56	U	1.2	U	0.95	U	1.3		0.53		9.6		0.45	U
Silver	2	0.37	U	0.61	U	0.14	U	0.15	U	0.43	U	0.13	U	0.095	U	5.7		0.24	J
Sodium	-	264	J	282	J	238	U	488	U	320	U	220	U	158	U	5,640		251	J
Thallium	-	0.29	U	0.48	U	0.45	U	0.46	U	0.3	U	0.42	U	0.3	U	0.3	U	0.36	U
Zinc	109	117		372		49.6		220		714		67.5		42.3		37,300		517	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-59-02**		**RI-SB-59-56**		**RI-SB-60-13**		**RI-SB-60-13 Dup**		**RI-SB-60-57**		**RI-SB-61-13**		**RI-SB-61-57**		**RI-SB-62-02**		**RI-SB-63-02**	
Sample Date:	**UU-SCG** [b]	10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		10/26/11		11/1/11		10/26/11	
Metals (mg/kg)																			
Aluminum	-	1,260		598	J	7,030		6,230		8,670		6,550		4,650		7,260		9,000	
Antimony	-	0.84	U	0.25	UJ	2.7	U	1.9	U	0.62	U	0.9	U	1.4	U	4		0.28	U
Arsenic	13	7.3	U	1.2	U	22.3	U	10.8	U	8.1	U	19.5	U	18.6	U	8.4	U	7.6	U
Barium	350	293	U	76.9	J	146		64		145		89.3		75.4		224		187	
Beryllium	7.2	0.12	U	0.095	U	0.73	U	0.35	U	0.47	U	0.38	U	0.22	U	0.43	U	0.67	U
Cadmium	2.5	0.18	U	0.091	U	11.3	U	1.8	U	9.9	U	2.2	U	2.7	U	21.4	U	1.1	U
Calcium	-	364		250	J	10,800		3,740		19,700		3,180		50,200		20,000		3,240	
Chromium	30	11	U	3.6	U	35.2		18.5	U	17.5	U	16.3	U	18.2	U	22.6		23.6	U
Cobalt	-	0.67		0.47	U	13.4		8.3		9.6		7.6		6.1		6.7	U	7.8	
Copper	50	70		3.7	U	208		46.8		77.7		123		104		93.1		80.2	
Iron	-	6,450		493	U	80,100		105,000		24,400		47,300		28,800		28,900		15,100	
Lead	63	22.7		3.3	J	556		272		691		243		145		967		387	
Magnesium	-	158		81.5	J	2,670		2,570		5,090		2,660		16,000		3,080		2,670	
Manganese	1600	21.2		10.6	U	523		592		373		280		224		261		183	
Mercury	0.18	0.42		0.057	J	3.7		0.29		0.33		0.89		0.85		1.1		0.093	J
Nickel	30	5.4	U	1.9	U	48.1		27.5		26.4		44		31.4		25.2	U	33.9	
Potassium	-	417		325	J	823		928		1,730		1,270		640		1,130	U	998	
Selenium	3.9	0.71	U	0.56	U	0.54	U	0.37	U	0.61	U	1.6	U	0.51	U	0.64	U	0.87	U
Silver	2	0.35	U	0.14	U	0.8	U	0.76	U	0.62	U	0.53	U	0.59	U	0.65	U	0.81	U
Sodium	-	295	U	237	U	760		699	U	520	U	443	U	432	U	329	J	271	U
Thallium	-	0.28	U	0.45	U	0.43	U	0.3	U	0.49	U	0.42	U	0.41	U	0.51	U	0.51	U
Zinc	109	5.9	U	0.95	U	1,060		157	U	570		508		373		574		196	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-63-46**		**RI-SB-64-13**		**RI-SB-64-57**		**RI-SB-65-13**		**RI-SB-65-57**		**RI-SB-66-24**		**RI-SB-66-24 Dup**		**RI-SB-66-46**		**RI-SB-67-13**	
Sample Date:	**UU-SCG ^{b}**	10/26/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11	
Metals (mg/kg)																			
Aluminum	-	7,760		10,000		5,750		7,670		6,730	J	6,510		6,060		3,630	J	4,990	
Antimony	-	0.21	U	0.59	U	0.92	U	0.52	U	0.46	UJ	0.2	U	0.23	U	0.5	U	0.16	U
Arsenic	13	7.9	U	6	U	6.3	U	4.9	U	4.8	U	4.8	U	9	U	7.7	U	13.2	U
Barium	350	72.6		112		88.1		47.1		53.8	J	219		5,470		131	J	223	
Beryllium	7.2	0.43	U	0.5	U	0.42	U	0.4	U	0.39	U	0.46	U	0.36	U	0.21	U	1.4	U
Cadmium	2.5	3.4	U	2.1	U	0.25	U	0.25	U	0.44	U	2.4	U	1.7	U	0.56	U	25.4	
Calcium	-	13,900		3,010		5,450		8,370		1,540	U	12,600		38,400		1,310	U	64,400	
Chromium	30	22.8	U	16.9		13	U	12.8	U	14.9		13.8	U	31		12.2	U	25.9	
Cobalt	-	6.7		8.3	U	6.1	U	6.7	U	5.1	U	5.5	U	5.3	U	4.1	U	6.4	U
Copper	50	28.2	U	32.2		76.3		16.2		67.9	J	14.2		20.1		49.2	J	83.5	
Iron	-	13,700		16,700		9,120		13,200		16,200		12,900		12,000		6,980	J	7,030	
Lead	63	258		139		254		54.2	U	204	J	323		9,270		265	J	197	
Magnesium	-	4,260		2,600		2,350		2,390		2,470	J	2,790		3,060		974	J	6,990	
Manganese	1600	180		195		71.2		192		113	J	196		178		46.6	J	148	
Mercury	0.18	0.13		0.51		1.3		3.7		0.21		0.28		0.24		1.1		0.24	
Nickel	30	28.8		27.1		15.8	U	25.9		20.4		13.9	U	13.9	U	14.8	U	12.7	U
Potassium	-	1,350		1,390		975		1,040		1,230	J	717		1,020		688	J	472	
Selenium	3.9	0.48	U	0.98	U	1.3	U	0.74	U	0.62	U	0.87	U	1.4	U	2.4	UJ	2.3	U
Silver	2	0.49	U	23.5		0.5	U	0.12	U	0.12	U	0.11	U	0.13	U	0.1	U	0.36	U
Sodium	-	408	U	982	U	414	U	411	U	387	U	401	U	495	U	172	U	298	U
Thallium	-	0.39	U	0.47	U	0.39	U	0.39	U	0.37	U	0.36	U	0.42	U	0.33	U	0.28	U
Zinc	109	80.6		102		172		101		284		184		666		73.3	J	232	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-67-35**		**RI-SB-68-13**		**RI-SB-68-35**		**RI-SB-69-02**		**RI-SB-69-35**		**RI-SB-70-02**		**RI-SB-70-46**		**RI-SB-71-13**		**RI-SB-71-35**	
Sample Date:	**UU-SCG [b]**	10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11		10/28/11	
Metals (mg/kg)																			
Aluminum	-	7,510		6,740		1,900		6,650		2,980		8,390		1,870		8,320		9,430	
Antimony	-	0.18	U	23.3	U	3.4	U	0.29	U	5.2	U	0.42	U	0.2	U	0.2	U	0.22	U
Arsenic	13	7.9	U	3.9	U	8.9	U	4.1	U	118	U	2.7	U	2.1	U	5.6	U	6.8	U
Barium	350	232		269		1,070		36.9		50.1		46.5		12.3	U	54.3	U	83.2	
Beryllium	7.2	0.58	U	0.18	U	0.24	U	0.39	U	0.26	U	0.14	U	0.93	U	0.44	U	0.68	U
Cadmium	2.5	0.65	U	18.8		0.59	U	0.33	U	7.2	U	0.21	U	3.7	U	0.23	U	3.2	U
Calcium	-	24,100		153,000		1,480	U	1,440	U	43,200		16,700		864	U	1,590	U	3,460	
Chromium	30	12.2	U	4.9	U	7.9	U	13.9	U	17.1		1.3	U	12.8	U	21.1		18.6	
Cobalt	-	5.5	U	14.7	U	1.8	U	5.7	U	19.1		22.4		3	U	8	U	10.6	U
Copper	50	937		140		18.1		18		123		167		40.3		22.8		70	
Iron	-	8,830		22,600		4,830		12,600		206,000		34,400		4,720		16,700		25,000	
Lead	63	410		127		1,680		46.1	U	120		6.3	U	46.1	U	53	U	103	
Magnesium	-	2,280		6,240		105	U	1,840		6,420		7,370		602	U	3,530		2,840	
Manganese	1600	231		309		39.1		135		256		317		55.9		266		316	
Mercury	0.18	0.96		0.1	J	1.8		0.59		0.099	J	0.0033	J	0.071	J	0.82		1.9	
Nickel	30	16.4		9.9	U	4.7	U	21.5		43.2		9.5	U	13.9	U	41.4		23	
Potassium	-	800		1,240		674		845		369		1,610		159		1,470		1,020	
Selenium	3.9	2	U	0.85	U	5.2	U	0.89	U	97.1	U	0.5	U	0.62	U	0.45	U	1.3	U
Silver	2	1.1	U	0.097	U	0.18	U	0.17	U	1.6	U	0.42	U	0.12	U	0.12	U	0.13	U
Sodium	-	373	U	418	U	297	U	278	U	1,210	U	556	U	193	U	192	U	425	U
Thallium	-	0.32	U	0.31	U	0.56	U	0.53	U	4.5	U	0.34	U	0.37	U	0.36	U	0.4	U
Zinc	109	230		114		17		33.6		96		51.3		150		60.3		93.1	

Table 7

Metals Detected in Site Soils
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**RI-SB-72-02**		**RI-SB-72-46**		**RI-SB-73-13**		**RI-SB-73-46**		**RI-SB-74-02**		**RI-SB-74-24**		**RI-SB-75-02**		**RI-SB-75-24**		**RI-SB-76-02**		**RI-SB-76-24**	
Sample Date:	**UU-SCG ^{b}**	10/28/11		10/28/11		10/28/11		10/28/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11		11/1/11	
Metals (mg/kg)																					
Aluminum	-	7,560		4,930		7,220		8,940		3,980		4,680		7,040		6,740	R	5,470		12,900	
Antimony	-	0.46	U	0.32	U	0.17	U	0.17	U	0.2	U	0.42	J	0.16	U	2.7		0.73		0.34	J
Arsenic	13	8.1	U	6	U	5.2	U	4	U	3.1	U	6.9	U	6.8	U	18.8	U	7.6	UR	14	U
Barium	350	163		68.8	U	88.8		48.9		72.4		68.3		134		593		82.1		122	
Beryllium	7.2	0.61	U	0.12	U	0.43	U	0.66	U	0.27	U	0.52	U	0.42		0.49	U	0.32	UR	0.87	U
Cadmium	2.5	6.8	U	0.82	U	1.9	U	0.19	U	3.8	U	2.2	U	5.9	U	4.5	U	10.6	U	32	
Calcium	-	7,080		369,000		6,100		5,210		896		5,130		13,900	U	8,490		2,940		5,010	
Chromium	30	20.2		6.2	U	22		22.6		13.8		17.1		16.4		32.5		13.1		32.3	
Cobalt	-	8.5	U	1.9	U	9.5	U	9.6	U	5.4	U	6.3	U	7.1	U	8.4	U	4.5	U	12.5	U
Copper	50	88.1		49		59.4		21.4		17.7		103		51.8		152		70.9		93.4	
Iron	-	18,100		5,920		15,400		13,200		9,400		16,300		15,300		41,100		16,800		30,500	
Lead	63	366		516		732		72.2		209		161		303		1,000		242		632	
Magnesium	-	3,250		7,190		2,980		3,450		1,500		1,840		3,320		1,920		2,250		2,810	
Manganese	1600	270		191		180		431		51.2		265		233		475		174		370	
Mercury	0.18	6		1.2		3		0.34		0.13		0.082	J	10.5		0.026		1.7		0.62	
Nickel	30	40.9		4.3	U	36.7		52.2		19.6	U	24.9	U	29	U	39	U	17	U	34	U
Potassium	-	1,050		624		1,440		1,080		792	U	913	U	1,090	U	871	U	840	U	1,040	U
Selenium	3.9	0.91	U	0.98	U	0.8	U	0.56	U	0.46	U	0.72	U	0.37	U	2	U	0.45	U	0.51	U
Silver	2	0.46	U	3	U	0.098	U	0.096	U	2.6	U	0.73	U	0.38	U	0.85	U	0.46	U	0.52	U
Sodium	-	381	U	2,510	U	328	U	321	U	197	U	304	U	215	J	367	J	192	U	476	
Thallium	-	0.36	U	0.58	U	0.31	U	0.3	U	0.37	U	0.58	U	0.3	U	0.54	U	0.36	U	0.41	U
Zinc	109	363		41.1		137		43.9		159		223		213		860		284		301	

Table 8

Tar Composite Sample Results
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		UU-SCG[b]	Tar Seep Composite	
Sample Date:			11/10/11	

SVOCs (ug/kg)				
2-Methylnaphthalene		-	339,000	
2-Methylphenol(o-Cresol)		330	10,400	
3&4-Methylphenol(m&p Cresol)		-	23,600	
3,3'-Dichlorobenzidine		-	1,100	UJ
Acenaphthene		20000	1,040,000	
Acenaphthylene		100000	23,600	
Anthracene		100000	1,010,000	
Benzo(a)anthracene		1000	944,000	
Benzo(a)pyrene		1000	592,000	
Benzo(b)fluoranthene		1000	970,000	
Benzo(g,h,i)perylene		100000	508,000	
Benzo(k)fluoranthene		800	305,000	
Biphenyl (Diphenyl)		-	128,000	
bis(2-Ethylhexyl)phthalate		-	381	UJ
Butylbenzylphthalate		-	309	UJ
Carbazole		-	294,000	
Chrysene		1000	1,010,000	
Dibenz(a,h)anthracene		330	125,000	
Dibenzofuran		7000	797,000	
Di-n-octylphthalate		-	390	UJ
Fluoranthene		100000	3,640,000	
Fluorene		30000	839,000	
Indeno(1,2,3-cd)pyrene		500	386,000	
Naphthalene		12000	2,170,000	
Phenanthrene		100000	4,830,000	
Phenol		330	24,800	
Pyrene		100000	2,350,000	

VOCs (ug/kg)				
Benzene		60	3,240	
Ethylbenzene		1000	3,750	
Isopropylbenzene (Cumene)		-	1,490	J
m&p-Xylene		-	6,110	
Methyl acetate		-	2,030	UJ
Methylcyclohexane		-	1,750	J
Methylene Chloride		50	733	J
o-Xylene		-	2,870	
Toluene		700	2,030	J
Xylene (Total)		260	8,980	

Table 8

Tar Composite Sample Results
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:			Tar Seep Composite	
Sample Date:		**UU-SCG [b]**	11/10/11	
Metals (mg/kg)				
Aluminum		-	1,480	
Antimony		-	0.33	J
Barium		350	96.2	
Calcium		-	5,220	
Cobalt		-	2.6	
Iron		-	4,080	
Lead		63	3,350	
Manganese		1600	63.1	
Mercury		0.18	0.24	
Vanadium		-	7.4	
Zinc		109	81.6	
Pesticides (ug/kg)				
4,4'-DDE		3.3	82.7	J
Dieldrin		5	105	J
Endosulfan II		2400	125	J
Endrin		14	149	J
Endrin aldehyde		-	74.6	J
Endrin ketone		-	91	J
gamma-Chlordane		-	107	J
Heptachlor		42	77.8	

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater

b/ NYCRR Part 375-6.8(a) Soil Cleanup Objectives;

c/ Data Qualifiers:
- U ~ Indicates the compound was analyzed for, but not detected.
- J = estimated concentration.
- R = Data Rejected due to quality control issues, refer to Appendix B.

d/ Sample and duplicate.

Table 9

Pre-Sampling Groundwater Purge Records
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

									Sampling Parameters					
Well ID	Sample Date	Depth to Water (ft)	Total Depth (ft)	Estimated Water Volume (ft)	Purge Start Time (h:m)	Sample Time (h:m)	Sampling Method	Well Volume	pH	Dissolved Oxygen (mg/L)	Temp (°C)	Turbidity (NTU)	Specific Conductance (mS/cm)	Comments
MW-01	12-Apr	5.46	21.90	16.44	17:00	17:45	Standard purge	0	7.09	5.81	12.96	15.6	1.27	duplicate sample (MW-201) collected here
								1	6.78	5.81	12.85	10.2	1.33	
								2	7.36	5.77	13.45	9.9	0.99	
								3	7.35	3.11	14	7.8	1.28	
MW-02	12-Apr	5.02	13.93	8.91	16:20	16:45	Standard purge	0	7.59	3.85	14.94	0.00	0.84	
								1	7.25	3.75	14.62	278.00	0.85	
								2	7.03	2.77	14.16	50.80	0.85	
								3	6.95	0.87	12.95	7.80	1.28	
MW-03	10-Apr	3.64	11.75	8.11	14:30	14:45	Standard purge	0	6.96	6.92	13.52	0.40	1.81	purged dry during sampling; let recharge before continuing
								1	7.10	4.00	13.57	2.10	1.89	
								2	7.12	4.30	13.73	0.00	1.96	
								3	6.85	1.90	13.64	0.00	1.90	
MW-04	10-Apr	5.06	21.50	16.44	8:30	9:45	Standard purge	0	5.91	4.29	12.90	60.50	1.53	
								1	7.00	5.54	13.66	82.40	1.37	
								2	6.47	6.29	13.66	47.50	1.36	
								3	7.09	5.43	13.83	32.80	1.34	
MW-05	10-Apr	5.01	16.92	11.91	14:45	15:10	Standard purge	0	7.27	6.08	13.83	341.00	2.82	sheen on water surface
								1	7.00	3.31	13.71	18.20	2.00	
								2	7.09	7.07	13.4	5.20	1.88	
								3	6.85	6.51	13.64	0.00	1.90	
MW-06	10-Apr	6.38	22.60	16.22	16:15	16:45	Standard purge	0	7.88	5.43	12.73	15.30	1.80	
								1	7.06	7.13	12.52	8.00	1.82	
								2	6.67	6.00	12.47	4.00	1.84	
								3	6.90	6.15	12.44	2.60	1.82	
MW-07	11-Apr	7.89	16.90	9.01	16:23	16:50	Standard purge	0	7.13	6.87	12.08	1.10	1.23	
								1	7.20	1.47	11.97	0.00	1.47	
								2	7.05	6.10	11.81	1.10	1.50	
								3	7.07	6.45	11.83	3.00	1.01	
MW-08	10-Apr	4.04	12.14	8.10	13:10	13:45	Standard purge	0	7.04	3.30	14.37	0.00	1.43	
								1	7.06	2.83	13.71	18.30	0.83	
								2	6.84	5.28	13.13	7.20	0.78	
								3	6.91	6.00	13.02	0.70	0.78	

Table 9

Pre-Sampling Groundwater Purge Records
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

									Sampling Parameters					
Well ID	Sample Date	Depth to Water (ft)	Total Depth (ft)	Estimated Water Volume (ft)	Purge Start Time (h:m)	Sample Time (h:m)	Sampling Method	Well Volume	pH	Dissolved Oxygen (mg/L)	Temp (°C)	Turbidity (NTU)	Specific Conductance (mS/cm)	Comments
MW-09	10-Apr	8.10	23.55	15.45	10:10	11:15	Standard purge	0	6.52	9.33	15.27	2.00	1.43	
								1	6.56	3.23	15.97	5.10	1.35	
								2	6.78	6.12	16.44	98.5	1.35	
								3	6.80	3.77	16.12	49.5	1.38	
MW-10	10-Apr	5.01	13.01	8.00	11:20	11:45	Standard purge	0	8.14	5.91	14.71	36.70	0.52	
								1	7.08	3.95	14.31	16.20	0.46	
								2	7.01	4.11	13.38	1.30	0.45	
								3	6.91	6.72	12.77	0.00	0.50	
EW-2	12-Apr	5.59	14.50	8.91	8:00	8:30	Bailer	0	7.46	3.88	12.36	3.10	0.66	brown substance on water surface
								1	7.09	4.93	12.40	65.30	0.66	
								2	6.77	6.15	10.64	185.00	0.63	
								3	6.94	4.68	12.07	179.00	0.63	
EW-6	12-Apr	6.03	15.50	9.47	9:00	13:33	Bailer	0	7.20	3.59	12.50	53.30	1.33	brown substance on water surface; dry after 2nd volume
								1	7.29	9.52	12.15	650.00	1.34	
								2	7.35	6.11	11.94	800.00	1.32	
EW-18	12-Apr	5.83	16.46	10.63	9:30	13:55	Bailer	0	7.48	7.19	12.51	457.00	1.11	purged dry after 2nd volume
								1	6.83	3.18	12.83	800.00	1.09	
								2	6.96	3.85	13.37	800.00	1.14	
EW-29	12-Apr	5.66	12.81	7.15	10:36	14:50	Bailer	0	7.31	0.65	12.29	800.00	0.77	purged dry after 1st volume
								1	7.25	3.14	11.99	800.00	0.79	
EW-36	12-Apr	5.59	14.02	8.43	10:07	14:30	Bailer	0	6.99	2.45	12.33	85.20	0.63	
								1	7.05	8.82	11.4	800.00	0.63	
								2	6.92	18.2	11.04	800.00	0.62	
								3	6.98	6.40	12.44	717.00	0.63	
EW-42	12-Apr	3.89	15.00	11.11	10:55	14:40	Bailer	0	7.07	4.9	12.29	800.00	1.02	TD estimated; purging stopped due to tar-like substance in well

a/ pump rate for purged April wells 150 mL/min

Table 10

VOCs Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**EW-18**		**EW-2**		**EW-29**		**EW-36**		**EW-42**		**EW-6**		**MW-01**		**MW-01 Dup**		**MW-02**		**MW-03**		**MW-04**	
Sample Date:	**GA-SGVs**[b]	4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/10/12		4/10/12	
VOCs (ug/l)																							
1,2-Dichlorobenzene	-	0.23	U	0.61	J	0.23	U	0.23	U	2.2		0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
1,2-Dichloropropane	1	0.23	U	0.23	U	0.23	U	0.23	U	0.3	J	1.5		0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
1,3-Dichlorobenzene	3	0.26	U	0.26	U	0.26	U	0.26	U	0.64	J	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
1,4-Dichlorobenzene	3	0.17	U	0.48	J	0.17	U	0.17	U	0.99	J	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
2-Butanone (MEK)	-	8.1	J	4.7	J	1.1	U	1.1	U	20.4		22.2		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
2-Hexanone	*50*	0.34	U	2	J	0.34	U	0.34	U	7.3	J	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
4-Methyl-2-pentanone (MIBK)	-	1.4	J	0.29	U	0.29	U	0.29	U	3.7	J	15.4		0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
Acetone	*50*	15.5	U	11.6	U	10	U	2.6	U	43.3		279		2.6	U	2.6	U	2.6	U	2.8	J	13.6	U
Benzene	1	0.73	J	2.3		0.065	U	0.22	J	10.5		18.7		0.065	U	0.065	U	1.4		767		20.7	
Carbon disulfide	-	0.39	J	0.18	U	0.2	J	0.18	U	0.18	U	1.5		0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
Chlorobenzene	*5*	0.12	U	0.58	J	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Cyclohexane	-	0.24	U	2.6	J	0.24	U	0.24	U	0.28	J	0.4	J	0.24	U	0.24	U	0.24	U	2.9	J	4.2	J
Ethylbenzene	5	29.3		0.12	U	0.12	U	0.79	J	55.9		160		2		2.2		33.4		49.7		12.8	
Isopropylbenzene (Cumene)	-	5		2.3		1.1		1.4		686	J	104		4.1		3.5		7.7		4.5		1,280	J
m&p-Xylene	-	672		26		0.21	U	3.5		95.2		2,680		281		279		720		73.1		10.3	
Methylcyclohexane	-	0.39	J	0.24	U	0.24	U	0.37	J	0.25	J	1.2	J	0.24	U	0.24	U	0.24	U	2.7	J	0.24	U
Methyl-tert-butyl ether	-	1		0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.21	J	0.19	U
o-Xylene	-	63.5		0.1	U	0.1	U	1.5		25.3		325		0.1	U	0.1	U	40.2		31.1		7.4	
Styrene	*5*	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	1.6		0.18	U
Toluene	5	21.6		0.25	J	0.11	U	0.19	J	40.3		572		0.11	U	0.11	U	1.7		9.3		10.4	
Trichlorofluoromethane	-	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Xylene (Total)	5	736		26		0.31	U	5		121		3,010		281		279		761		104		17.7	

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
d/ Sample and duplicate.

50	GA Groundwater Guidance Value
50	GA Groundwater Standard

Table 10

VOCs Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**MW-05**		**MW-06**		**MW-07**		**MW-08**		**MW-09**		**MW-10**	
Sample Date:	**GA-SGVs**^{b}	4/10/12		4/10/12		4/11/12		4/10/12		4/10/12		4/10/12	
VOCs (ug/l)													
1,2-Dichlorobenzene	-	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
1,2-Dichloropropane	1	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
1,3-Dichlorobenzene	3	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
1,4-Dichlorobenzene	3	0.17	U	0.17	U	0.17	U	0.33	J	0.17	U	0.17	U
2-Butanone (MEK)	-	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
2-Hexanone	*50*	0.34	U	0.36	J	0.34	U	0.34	U	0.34	U	0.34	U
4-Methyl-2-pentanone (MIBK)	-	0.29	U	0.29	U	0.29	U	0.29	U	0.34	J	0.29	U
Acetone	*50*	2.6	U	2.6	U	2.6	U	2.6	U	10	U	2.6	U
Benzene	1	66.7		0.065	U	0.065	U	0.065	U	0.065	U	0.065	U
Carbon disulfide	-	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
Chlorobenzene	*5*	0.12	U	0.12	U	0.12	U	1.2		0.12	U	0.12	U
Cyclohexane	-	0.35	J	0.24	U	0.24	U	1.2	J	0.24	U	0.24	U
Ethylbenzene	5	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Isopropylbenzene (Cumene)	-	0.12	U	0.12	U	0.12	U	1.4		4.2		0.12	U
m&p-Xylene	-	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U
Methylcyclohexane	-	0.49	J	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U
Methyl-tert-butyl ether	-	0.19	U	1.1		0.56	J	0.19	U	0.24	J	0.19	U
o-Xylene	-	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Styrene	*5*	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
Toluene	5	0.41	J	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Trichlorofluoromethane	-	0.19	U	NA	NA	0.19	U	0.19	U	0.19	U	0.19	U
Xylene (Total)	5	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U

Table 11

SVOCs Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**EW-18**		**EW-2**		**EW-29**		**EW-36**		**EW-42**		**EW-6**		**MW-01**		**MW-01 Dup**		**MW-02**		**MW-03**	
Sample Date:	**GA-SGVs^b**	4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/10/12	
SVOCs (ug/l)																					
1-Methylnaphthalene	-	0.28	UR	0.28	U	0.25	U	9.2		2.1		2.7	U	0.29	UR	0.27	U	6.2		40.7	
2-Methylnaphthalene	-	0.32	UR	0.32	U	0.29	U	1.9		2.3		3	U	0.33	UR	0.31	U	3.5		27.3	
4-Chloroaniline	5	0.17	UR	0.17	U	0.15	U	0.18	U	0.15	U	1.6	U	0.17	UR	0.16	U	0.17	U	1.5	U
Acenaphthene	*20*	0.31	UR	0.31	U	6.3		43.7		6.3		2.9	U	0.32	UR	0.3	U	24.8		35.4	
Acetophenone	-	0.31	UR	0.3	U	0.27	U	0.33	U	0.27	U	2.9	U	0.31	UR	0.3	U	0.31	U	0.28	U
Anthracene	*50*	0.24	UR	0.24	U	1.9		8.5		4.4		2.3	UJ	0.24	UR	0.23	U	2.7		2.2	U
Benzaldehyde	-	1.2	UR	1.2	UJ	1.1	UJ	1.3	UJ	1.1	UJ	11.2	UJ	1.2	UR	1.2	UJ	1.2	UJ	1.1	U
Benzo(a)anthracene	-	0.27	UR	0.27	U	10.5	J	2	J	7.3	J	2.6	UJ	0.28	UR	0.26	UJ	0.27	U	2.5	U
Benzo(a)pyrene	-	0.3	UR	0.3	U	12	J	1.7	J	6.6	J	2.8	UJ	0.3	UR	0.29	UJ	0.3	U	2.7	U
Benzo(b)fluoranthene	*0.002*	0.23	UR	1.8		16.8	J	2.5	J	10.2	J	2.1	UJ	0.23	UR	0.22	UJ	0.23	U	2.1	U
Benzo(k)fluoranthene	*0.002*	0.3	UR	0.3	U	5.7	J	1.1	J	4.7	J	2.8	UJ	0.3	UR	0.29	UJ	0.3	U	2.7	U
Biphenyl (Diphenyl)	-	0.3	UR	0.3	U	0.27	U	0.32	U	0.27	U	2.8	U	0.31	UR	0.29	U	0.3	U	6.3	
bis(2-Chloroisopropyl) ether	-	4.6	J	2.7	U	12		0.29	U	0.47	U	2.5	U	0.27	UR	0.26	U	0.27	U	2.5	U
bis(2-Ethylhexyl)phthalate	5	0.52	UR	2.4	U	0.45	U	0.55	U	3.5	U	4.9	UJ	0.52	UR	0.5	U	0.52	U	4.7	U
Carbazole	-	0.27	UR	0.27	U	0.24	U	0.29	U	2.8		2.6	UJ	0.28	UR	0.26	U	8.9		31.2	
Chrysene	*0.002*	0.27	UR	0.27	U	10.5		2.3		7.3		2.6	UJ	0.28	UR	0.26	U	0.27	U	2.5	U
Dibenzofuran	-	0.3	UR	0.29	U	0.26	U	5		2.4		2.8	U	0.3	UR	0.29	U	6.9		14.1	
Fluoranthene	*50*	0.26	UR	0.26	U	24.4		20.3		20.8		2.4	UJ	0.26	UR	0.25	U	4.5		2.4	U
Fluorene	*50*	0.24	UR	0.24	U	4.1		24.6		4.6		2.3	U	0.25	UR	0.24	U	8.8		2.2	U
Indeno(1,2,3-cd)pyrene	-	0.57	UR	0.57	UJ	5.2	J	0.61	UJ	0.5	UJ	5.4	UJ	0.58	UR	0.55	UJ	0.57	UJ	5.2	U
Naphthalene	*10*	0.28	UR	0.28	U	1.1		14.1		9.9		98.8		0.28	UR	0.27	U	19.8		1,130	
Phenanthrene	*50*	0.27	UR	0.27	U	2.4		23.9		23.8		2.5	UJ	0.27	UR	0.26	U	16.3		2.5	U
Phenol	1	0.31	UR	0.31	U	0.27	U	1.4		0.27	U	9,230		0.31	U	0.3	U	0.31	U	2.8	UR
Pyrene	*50*	0.33	UR	0.33	U	29.5	J	17.7		17.9		3.1	UJ	0.33	UR	0.32	U	4.4		3	U

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
d/ Sample and duplicate.

50	GA Groundwater Guidance Value
50	GA Groundwater Standard

Table 11

SVOCs Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**MW-04**		**MW-05**		**MW-06**		**MW-07**		**MW-08**		**MW-09**		**MW-10**	
Sample Date:	**GA-SGVs^b**	4/10/12		4/10/12		4/10/12		4/11/12		4/10/12		4/10/12		4/10/12	
SVOCs (ug/l)															
1-Methylnaphthalene	-	2.7		0.25	U	0.26	U	0.27	U	0.25	U	2.5	UR	0.26	U
2-Methylnaphthalene	-	2.8		0.29	U	0.3	U	0.31	U	0.29	U	2.9	UR	0.3	U
4-Chloroaniline	5	0.15	UJ	0.15	UJ	0.16	UJ	0.16	U	0.15	UJ	1.5	UR	0.15	UJ
Acenaphthene	*20*	7		0.28	U	0.29	U	0.29	U	2.8		2.8	UR	4.6	
Acetophenone	-	5.1		0.27	U	0.28	U	0.29	U	0.27	U	1.7	J	0.28	U
Anthracene	*50*	0.22	U	0.22	U	0.22	U	0.23	U	0.22	U	2.2	UR	0.22	U
Benzaldehyde	-	1.1	UJ	1.1	UJ	1.1	UJ	1.1	UJ	1.1	UJ	1.1	UR	1.1	UJ
Benzo(a)anthracene	-	0.25	U	0.24	U	0.25	U	0.26	U	0.24	U	2.5	UR	0.25	U
Benzo(a)pyrene	-	0.27	U	0.27	U	0.28	U	0.28	U	0.27	U	2.7	UR	0.27	U
Benzo(b)fluoranthene	*0.002*	0.21	U	0.2	U	0.21	U	0.22	U	0.2	U	2.1	UR	0.21	U
Benzo(k)fluoranthene	*0.002*	0.27	U	0.27	U	0.28	U	0.28	U	0.27	U	2.7	UR	0.27	U
Biphenyl (Diphenyl)	-	0.28	U	0.27	U	0.28	U	0.29	U	0.27	U	0.27	UR	0.28	U
bis(2-Chloroisopropyl) ether	-	0.25	U	0.24	U	2.7		0.25	U	21.4		2.4	UR	0.25	U
bis(2-Ethylhexyl)phthalate	5	0.47	U	0.46	U	0.48	U	0.49	U	2.4		4.6	UR	0.47	U
Carbazole	-	5.8		0.24	U	0.25	U	0.26	U	0.24	U	0.25	UR	0.25	U
Chrysene	*0.002*	0.25	U	0.24	U	0.25	U	0.26	U	0.24	U	2.5	UR	0.25	U
Dibenzofuran	-	0.27	U	0.26	U	0.27	U	0.28	U	0.26	U	2.7	UR	0.27	U
Fluoranthene	*50*	0.24	U	0.23	U	0.24	U	0.24	U	0.23	U	2.3	UR	0.24	U
Fluorene	*50*	1.3		0.22	U	0.23	U	0.23	U	0.22	U	2.2	UR	0.22	U
Indeno(1,2,3-cd)pyrene	-	0.53	U	0.51	U	0.53	U	0.54	UJ	0.51	U	5.2	UR	0.53	U
Naphthalene	*10*	19.3		0.25	U	1.8		4.4		0.25	U	2.5	UR	0.25	U
Phenanthrene	*50*	0.25	U	0.24	U	0.25	U	0.26	U	0.24	U	2.4	UR	0.25	U
Phenol	1	0.29	U	1.4		0.29	U	0.29	UR	0.41	J	2.8	UR	0.29	U
Pyrene	*50*	0.3	U	0.29	U	0.3	U	0.31	U	0.29	U	2.9	UR	0.3	U

Table 12

Metals Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		EW-18		EW-2		EW-29		EW-36		EW-42		EW-6		MW-01		MW-01 Dup		MW-02		MW-03		MW-04	
Sample Date:	**GA-SGVs**[b]	4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/10/12		4/10/12	
Metals (ug/l)																							
Aluminum	-	64,000		1,270		50,000	R	7,470	R	80,000	R	2,680		45.5	J	46	J	92.7	J	110		1,440	
Antimony	3	7.8		3.3	U	11.3	R	3.3	UR	12.6	R	3.3	U	3.3	U	3.3	U	3.3	U	6	U	3.3	U
Arsenic	25	126		120		130		51.6		135		76.8		12.6	U	8.2	U	3.6	U	67.1		16.5	J
Barium	1000	1,300		267		1,500		345		1,680		642		690		684		172		99.6		42.1	
Beryllium	*3*	3		0.24	U	2.6		1	U	4.1		0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U
Cadmium	5	10.5		5.4		40.7		1.3	U	36.2		10		1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Calcium	-	236,000		110,000		188,000		109,000		395,000		198,000		204,000		202,000		153,000		120,000		91,900	
Chromium	50	188		14.2		184		16.5		181		7.7		1.6	J	5	U	1.8	J	1.4	J	4.5	J
Cobalt	-	52.9		5	U	57.3		5	U	47.3		5.2		1.6	U	5	U	1.6	U	1.6	U	1.6	U
Copper	200	461		14,100		8,080		36.4		35,700		9.6		2	U	2	U	2	U	2	U	23	J
Iron	300	161,000		24,900		162,000		21,700		152,000		20,800		40,400		39,700		8,020		11,800		13,700	
Lead	25	2,910		135		5,760		109		3,380		579		3.2	U	3.2	U	11.2		3.2	U	3.2	U
Magnesium	*35000*	30,400		7,540		23,800		9,350		37,000		25,100		18,200		18,000		10,700		14,300		11,100	
Manganese	300	1,550		706		1,450		1,100		2,180		391		1,080		1,070		1,280		696		640	
Mercury	0.7	109		23.4		18.9		0.53		14.7		0.81		0.028	U	0.028	U	0.05	U	0.028	U	0.028	U
Nickel	100	165		15.6		1,060		27.4		197		23.3		1.4	U	1.5	J	8.5	J	10	U	3.7	J
Potassium	-	33,300		7,660		19,000		15,700		32,300		54,100		26,600		26,400		11,900	J	13,600		20,600	J
Selenium	10	16.1		3.3	U	6.7	R	3.6	R	3.3	UR	3.3	U	8	U	3.3	U	3.3	U	3.3	U	3.3	U
Silver	50	4	J	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Sodium	20000	31,800		15,000		30,700		18,500		88,500		44,600		51,100		50,500		31,800		277,000		177,000	
Vanadium	-	168		30.9		123		18.9		209		10.6		1.8	U	1.8	U	1.8	U	1.8	U	5.7	
Zinc	*2000*	2,630		1,670		19,600		105		3,310		197		1.4	U	1.4	U	6.6	J	14		7	J
Aluminum, Dissolved	-	173		50	U	71.2	R	148	R	66.3	R	92.8		8.7	UR	8.7	UR	8.7	UR	50	U	106	
Antimony, Dissolved	3	3.3	U	3.3	U	3.3	UR	6	R	10.8	R	3.3	U	3.3	UR	4.3	R	3.3	UR	3.3	U	3.3	U
Arsenic, Dissolved	25	9.4		22.9		3.6	U	9.8		16.7		42.8		3.6	U	3.6	U	3.6	U	22.5		6.8	U
Barium, Dissolved	1000	219		71.9		236		217		200		75.4		396		394		118		80.6		6.8	J
Calcium, Dissolved	-	186,000		104,000		145,000		108,000		122,000		192,000		192,000		195,000		149,000		119,000		89,400	
Cobalt, Dissolved	-	2.6	J	1.6	U	2.6	J	1.6	U	1.6	U	2.8	J	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Copper, Dissolved	200	2	U	58.6		9.7		2	U	2.1	J	2	U	2	U	2	U	2	U	2	U	2	U
Iron, Dissolved	300	4,470		1,790		809		728		870		1,060		1,930		1,900		1,040		816		1,360	
Lead, Dissolved	25	6.5		3.2	U	16.2		3.2	U	6.6		18.8		3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
Magnesium, Dissolved	*35000*	13,100		7,110		11,600		7,320		11,800		24,300		18,100		18,200		10,700		14,400		10,800	
Manganese, Dissolved	300	624		633		329		940		426		292		1,010		1,040		1,250		675		534	
Mercury, Dissolved	0.7	0.06	J	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U
Nickel, Dissolved	100	8.2	J	3.9	J	79.3		10	U	10	U	14.6		10	U	10	U	10	U	1.4	U	1.4	U
Potassium, Dissolved	-	26,300		7,680		11,300		13,900		18,000		55,200		29,200		29,300		12,700		14,500		20,700	J
Selenium, Dissolved	10	3.3	U	3.3	U	3.3	UR	3.3	UR	7.1	R	3.3	U	3.3	UR	3.3	UR	3.3	UR	3.3	U	3.3	U
Sodium, Dissolved	20000	32,600		15,600		27,300		17,800		76,200		47,000		51,800		51,900		30,500		288,000		185,000	
Vanadium, Dissolved	-	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	2	J	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Zinc, Dissolved	*2000*	22.2		142		374		14.3		10	U	14.8		10	U	10	U	10	U	2.4	J	10	U

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
d/ Sample and duplicate.

50	GA Groundwater Guidance Value
50	GA Groundwater Standard

Table 12

Metals Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**MW-05**		**MW-06**		**MW-07**		**MW-08**		**MW-09**		**MW-10**	
Sample Date:	**GA-SGVs**[b]	4/10/12		4/10/12		4/11/12		4/10/12		4/10/12		4/10/12	
Metals (ug/l)													
Aluminum	-	86.4		54.4		50	U	114		66.2		50	U
Antimony	3	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Arsenic	25	62.3		8.8		44.7		15.9		10.9		8	U
Barium	1000	170		722		2,390		168		411		130	
Beryllium	*3*	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U
Cadmium	5	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	3	U
Calcium	-	170,000		264,000		193,000		107,000		163,000		106,000	
Chromium	50	0.9	U	0.9	U	0.9	U	0.9	U	1.4	J	0.9	U
Cobalt	-	1.6	U	1.6	U	5	U	1.6	U	5	U	1.6	U
Copper	200	2	U	2	U	2	U	2	U	44.6		2	U
Iron	300	23,600		49,000		29,800		18,200		36,800		4,650	
Lead	25	7.1		3.2	U	3.2	U	3.2	U	10.6		3.2	U
Magnesium	*35000*	18,400		20,600		23,900		9,200		14,200		6,090	
Manganese	300	1,640		746		720		612		1,120		250	
Mercury	0.7	0.028	U	0.028	U	0.028	U	0.2	U	0.1	J	0.028	U
Nickel	100	1.4	U	1.4	U	4.3	J	3.4	J	3.6	J	3.5	J
Potassium	-	15,300		26,200		47,200		13,600		46,200		5,940	
Selenium	10	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Silver	50	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Sodium	20000	208,000		84,700		64,100		27,500		47,600		7,840	
Vanadium	-	1.8	U	8.7		3.3	J	3	J	1.8	U	1.8	U
Zinc	*2000*	30.6		1.4	U	1.4	U	10	U	15.4		34.8	
Aluminum, Dissolved	-	33.4	J	44.8	J	31.7	J	50	U	30.4	J	50	U
Antimony, Dissolved	3	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Arsenic, Dissolved	25	11.8		3.6	U	12.1		5.7		3.6	U	3.7	J
Barium, Dissolved	1000	92		434		1,510		100		204		118	U
Calcium, Dissolved	-	166,000		260,000		187,000		105,000		160,000		105,000	
Cobalt, Dissolved	-	1.6	U	1.6	U	2	J	1.6	U	1.6	U	1.6	U
Copper, Dissolved	200	2	U	2	U	2	U	2	U	2	U	2.1	J
Iron, Dissolved	300	1,530		3,760		2,910		3,610		2,060		554	
Lead, Dissolved	25	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
Magnesium, Dissolved	*35000*	18,400		21,000		23,500		9,100		14,300		6,050	
Manganese, Dissolved	300	1,600		752		713		597		1,100		254	
Mercury, Dissolved	0.7	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U
Nickel, Dissolved	100	1.4	U	1.4	U	4.5	J	2.3	J	2.8	J	2.6	J
Potassium, Dissolved	-	15,700		27,200		47,600		14,200		47,400		6,210	
Selenium, Dissolved	10	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Sodium, Dissolved	20000	217,000		88,900		66,000		28,400		49,300		8,220	
Vanadium, Dissolved	-	1.8	U	4.7	J	1.8	U	1.8	U	1.8	U	1.8	U
Zinc, Dissolved	*2000*	14.4		3.3	J	2.9	J	3.5	J	6	J	43.3	

Table 13

Pesticides and PCBs Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		EW-18		EW-2		EW-29		EW-36		EW-42		EW-6		MW-01		MW-01 Dup		MW-02		MW-03		MW-04	
Sample Date:	**GA-SGVs**^{b}	4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/12/12		4/10/12		4/10/12	
Pesticides (ug/l)																							
4,4'-DDD	-	0.004	U	0.0077	U	0.0043	J	0.0037	U	0.033	J	0.018	U	0.02	J	0.014	J	0.004	U	0.018	U	0.011	J
4,4'-DDE	-	0.0025	U	0.0048	U	0.0021	U	0.0023	U	0.034	J	0.011	U	0.0048	U	0.0052	U	0.0025	U	0.011	U	0.041	J
4,4'-DDT	-	0.0039	U	0.024	J	0.0033	U	0.0036	U	0.0036	U	0.018	U	0.0076	U	0.0081	U	0.019	J	0.02	J	0.0037	U
Aldrin	-	0.0018	U	0.037	J	0.0015	U	0.0016	U	0.0016	U	0.0082	U	0.0034	U	0.0037	U	0.0018	U	0.031	J	0.0017	U
alpha-BHC	-	0.0028	U	0.0055	U	0.0024	U	0.0026	U	0.0026	U	0.013	U	0.0055	U	0.0059	U	0.068		0.013	U	0.0027	U
alpha-Chlordane	0.05	0.0017	U	0.0032	U	0.0014	U	0.0015	U	0.0015	U	0.047	J	0.0032	U	0.0034	U	0.0016	U	0.0076	U	0.0016	U
beta-BHC	-	0.004	U	0.054	J	0.0034	U	0.0037	U	0.026	J	0.018	U	0.0078	U	0.0083	U	0.0064	J	0.25		0.0038	U
delta-BHC	-	0.019	J	0.0066	U	0.0076	J	0.017	J	0.015	J	0.056	J	0.0067	U	0.0071	U	0.02	J	0.041	J	0.0033	U
Dieldrin	0.004	0.011	J	0.052	J	0.0095	J	0.019	J	0.043	J	0.015	U	0.0062	U	0.0066	U	0.036	J	0.015	U	0.003	U
Endosulfan I	-	0.0025	U	0.0048	U	0.0075	J	0.0023	U	0.017	J	0.011	U	0.015	J	0.0062	J	0.022	J	0.011	U	0.018	J
Endosulfan II	-	0.0043	U	0.013	J	0.0036	U	0.0039	U	0.033	J	0.02	U	0.0083	U	0.0088	U	0.0042	U	0.019	U	0.004	U
Endosulfan sulfate	-	0.0032	U	0.0061	U	0.0027	U	0.0067	J	0.003	U	0.015	U	0.0062	U	0.0066	U	0.0032	U	0.015	U	0.003	U
Endrin aldehyde	5	0.0044	U	0.0084	U	0.0037	U	0.004	U	0.03	J	0.02	U	0.0085	U	0.0091	U	0.0044	U	0.02	U	0.0042	U
Endrin ketone	5	0.005	U	0.0095	U	0.0042	U	0.0046	U	0.049	J	0.14	J	0.0097	U	0.01	U	0.0049	U	0.023	U	0.03	J
gamma-BHC (Lindane)	-	0.0032	U	0.0061	U	0.0096	J	0.034		0.016	J	0.078	J	0.0062	U	0.0066	U	0.025	J	0.015	U	0.003	U
gamma-Chlordane	0.05	0.0042	J	0.0059	U	0.0088	J	0.0085	J	0.0029	U	0.085	J	0.015	J	0.011	J	0.01	J	0.014	U	0.013	J
Heptachlor	0.04	0.003	U	0.097		0.005	J	0.0027	U	0.0027	U	0.023	J	0.0057	U	0.0061	U	0.0029	U	0.014	U	0.0055	J
Heptachlor epoxide	0.03	0.0055	J	0.19		0.0011	U	0.0012	U	0.0063	J	0.034	J	0.0057	J	0.0027	U	0.015	J	0.0059	U	0.0012	U
Methoxychlor	35	0.027	U	0.053	U	0.023	U	0.025	U	0.21	J	0.13	U	0.053	U	0.057	U	0.027	U	0.13	U	0.026	U
PCBs (ug/l)																							
Aroclor 1221	0.09	0.11	U	0.1	U	0.09	U	0.098	U	0.098	U	0.097	U	0.1	U	0.11	U	0.11	U	0.097	U	0.1	U
Aroclor 1248	0.09	0.028	U	1.5		0.023	U	0.025	U	0.026	U	1.6		0.027	U	0.029	U	0.027	U	0.025	U	0.026	U

a/ ID = identification; µg/kg = micrograms per kilogram; VOCs = volatile organic compounds; NA = Not Analyzed
SVOCs = semivolatile organic compounds; Pest = Pesticides; PCBs = polychlorinated biphenyls; GW=groundwater
b/ NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations
c/ Data Qualifiers:
U ~ Indicates the compound was analyzed for, but not detected.
J = estimated concentration.
d/ Sample and duplicate.

50	GA Groundwater Guidance Value
50	GA Groundwater Standard

Table 13

Pesticides and PCBs Detected in Groundwater
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Sample ID:		**MW-05**		**MW-06**		**MW-07**		**MW-08**		**MW-09**		**MW-10**	
Sample Date:	**GA-SGVs[b]**	4/10/12		4/10/12		4/11/12		4/10/12		4/10/12		4/10/12	
Pesticides (ug/l)													
4,4'-DDD	-	0.0037	U	0.0039	U	0.0074	U	0.0038	J	0.0037	U	0.0037	U
4,4'-DDE	-	0.0023	U	0.0024	U	0.0046	U	0.0023	U	0.011	J	0.0023	U
4,4'-DDT	-	0.0035	U	0.0038	U	0.0072	U	0.0036	U	0.0036	U	0.0036	U
Aldrin	-	0.0016	U	0.0017	U	0.013	J	0.0016	U	0.0016	U	0.0016	U
alpha-BHC	-	0.0026	U	0.0027	U	0.0052	U	0.0026	U	0.0026	U	0.02	J
alpha-Chlordane	0.05	0.0015	U	0.0016	U	0.0073	J	0.0024	J	0.0015	U	0.0015	U
beta-BHC	-	0.011	J	0.0039	U	0.0074	U	0.013	J	0.0037	U	0.0037	U
delta-BHC	-	0.0031	U	0.013	J	0.036	J	0.0032	U	0.0033	J	0.0032	U
Dieldrin	0.004	0.0029	U	0.0031	U	0.0059	U	0.0029	U	0.003	U	0.0029	U
Endosulfan I	-	0.0023	U	0.0024	U	0.0046	U	0.0064	J	0.0023	U	0.0042	J
Endosulfan II	-	0.0039	U	0.0041	U	0.0078	U	0.0039	U	0.004	U	0.0039	U
Endosulfan sulfate	-	0.0029	U	0.0031	U	0.0059	U	0.0029	U	0.003	U	0.0029	U
Endrin aldehyde	5	0.0062	J	0.013	J	0.008	U	0.004	U	0.0041	U	0.004	U
Endrin ketone	5	0.0045	U	0.0048	U	0.0091	U	0.0046	U	0.0046	U	0.0046	U
gamma-BHC (Lindane)	-	0.0029	U	0.0045	J	0.46		0.0059	J	0.003	U	0.0029	U
gamma-Chlordane	0.05	0.0028	U	0.003	U	0.01	J	0.02	J	0.0084	J	0.0028	U
Heptachlor	0.04	0.0027	U	0.0029	U	0.024	J	0.0027	U	0.019	J	0.0027	U
Heptachlor epoxide	0.03	0.0014	J	0.0013	U	0.0024	U	0.0073	J	0.0043	J	0.0012	U
Methoxychlor	35	0.025	U	0.027	U	0.05	U	0.025	U	0.025	U	0.025	U
PCBs (ug/l)													
Aroclor 1221	0.09	0.096	U	0.1	U	108	J	0.097	U	0.098	U	0.097	U
Aroclor 1248	0.09	0.025	U	0.027	U	0.51	U	0.025	U	0.026	U	0.025	U

Table 14

VOCs Detected in Sub-Slab Soil Vapor
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Parameter	RI-SV-01		RI-SV-01 Dup		RI-SV-02		RI-SV-03		RI-SV-04		RI-SV-05		RI-SV-06	
	11/15/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011	
	12:35		12:05		13:01		13:19		13:38		13:47		13:55	
1,2,4-Trimethylbenzene	16.4		172.5		108.7		67.6	U	67.6	U	67.6	U	17.9	
2-Butanone (MEK)	53.3		68.1	U	40.6	U	40.6	U	40.6	U	40.6	U	98.0	
Acetone	150.6	J	352.6		152.7		240.5		628.1		92.2		71.0	
Benzene	5.3		73.8	U	44.0	U	44.0	U	44.0	U	44.0	U	3.0	
Carbon disulfide	64.0		123.7		42.9	U	71.3		149.7		42.9	U	40.1	
Chloroform	3.7		112.8	U	67.2	U	67.2	U	67.2	U	67.2	U	3.6	U
Cyclohexane	91.0		208.1		57.9		181.7		47.4	U	47.4	U	8.8	
Ethylbenzene	6.0		100.3	U	59.7	U	59.7	U	59.7	U	59.7	U	6.0	
m&p-Xylene	14.1		200.6	U	119.5	U	119.5	U	119.5	U	119.5	U	11.1	
Methylene Chloride	141.7		80.2	U	47.8	U	47.8	U	47.8	U	140.7		161.5	
n-Heptane	21.3		94.7	U	56.4	U	56.4	U	56.4	U	56.4	U	3.2	
n-Hexane	86.9		81.4	U	48.5	U	63.4		48.5	U	48.5	U	62.4	
Propylene	102.2	J	392.5		23.7	U	23.7	U	23.7	U	23.7	U	1.3	U
Tetrahydrofuran	2.0	U	68.1	U	88.4	J	40.6	U	40.6	U	40.6	U	32.8	J
Toluene	15.6		87.0	U	51.9	U	51.9	U	51.9	U	51.9	U	20.7	

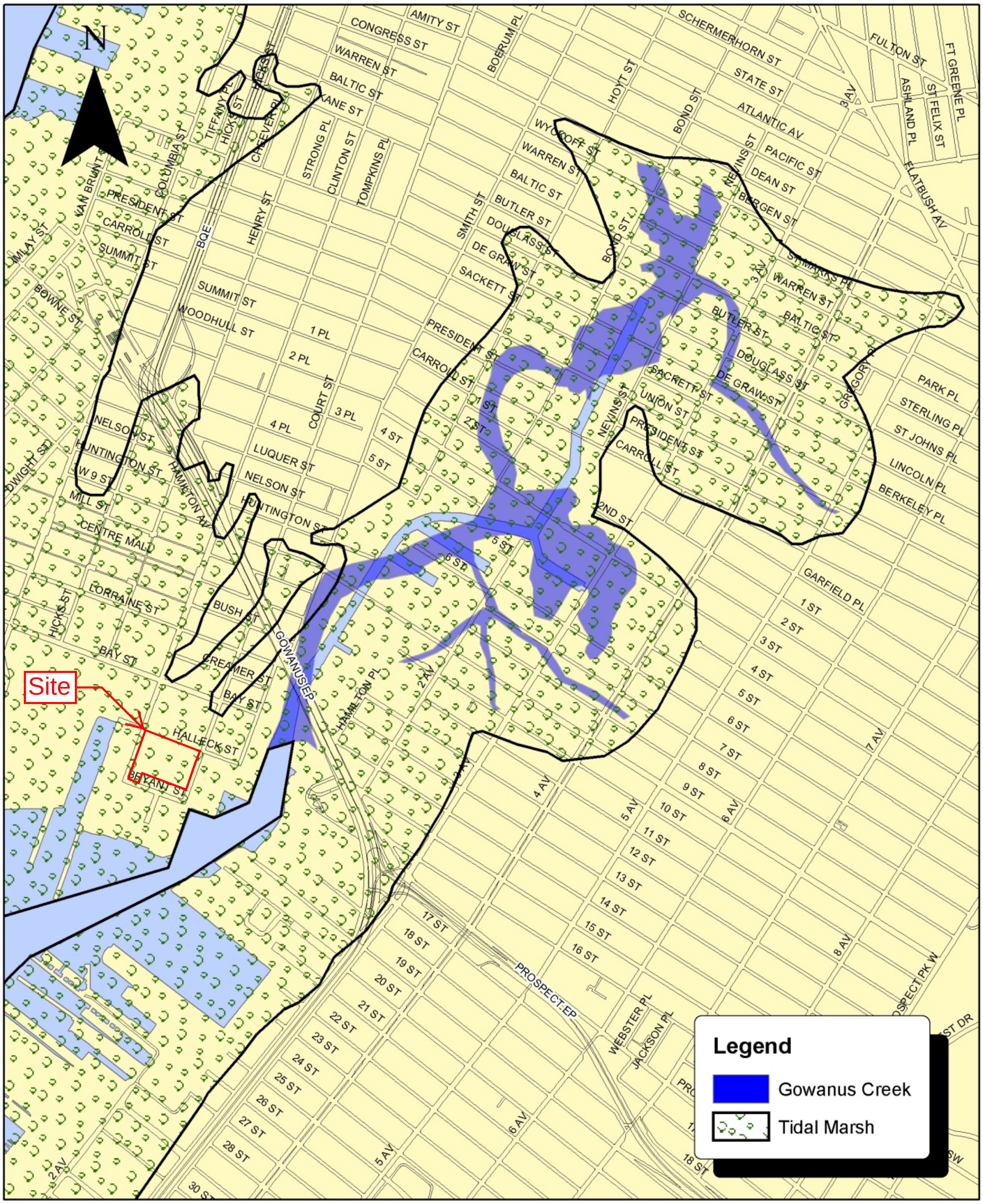
Notes:
U - Compound not detected at the detection limit identified
J - Compound concentration is estimated

Table 15

Monitoring Well Numbering Cross-Reference
Chemtura Corporation
688-700 Court Street
Brooklyn, New York

Former Monitoring Well Number	New Monitoring Well Number	Comments
688-700 Court Street Site Remedial Investigation – Monitoring Wells		
MW-18	MW-01	Well was found in good condition, developed, and sampled.
MW-19	MW-02	Well was found damaged beyond repair. Replacement well was installed nearby.
MW-16	MW-03	Well was found in good condition, developed, and sampled.
New Well Location	MW-04	New well installed as part of the planned RI work.
MW-17	MW-05	Well could not be located during the RI. Replacement well was installed nearby.
New Well Location	MW-06	New well installed as part of the planned RI work.
MW-13	MW-07	Well was found in good condition, developed, and sampled.
MW-9	MW-08	Well was found in good condition, developed, and sampled.
New Well Location	MW-09	New well installed as part of the planned RI work.
MW-4	MW-10	Well was found in good condition, developed, and sampled.

Appendix A – Gowanus Canal Construction Maps (Included in electronic copy only – See enclosed CD)



Source: Gowanus Canal 201 Facilities Plan- Volume 2

New York City
Department of Environmental Protection

Gowanus Canal Waterbody/Watershed Facility Plan

Gowanus Creek Prior to Construction of Gowanus Canal

FIGURE 2-1

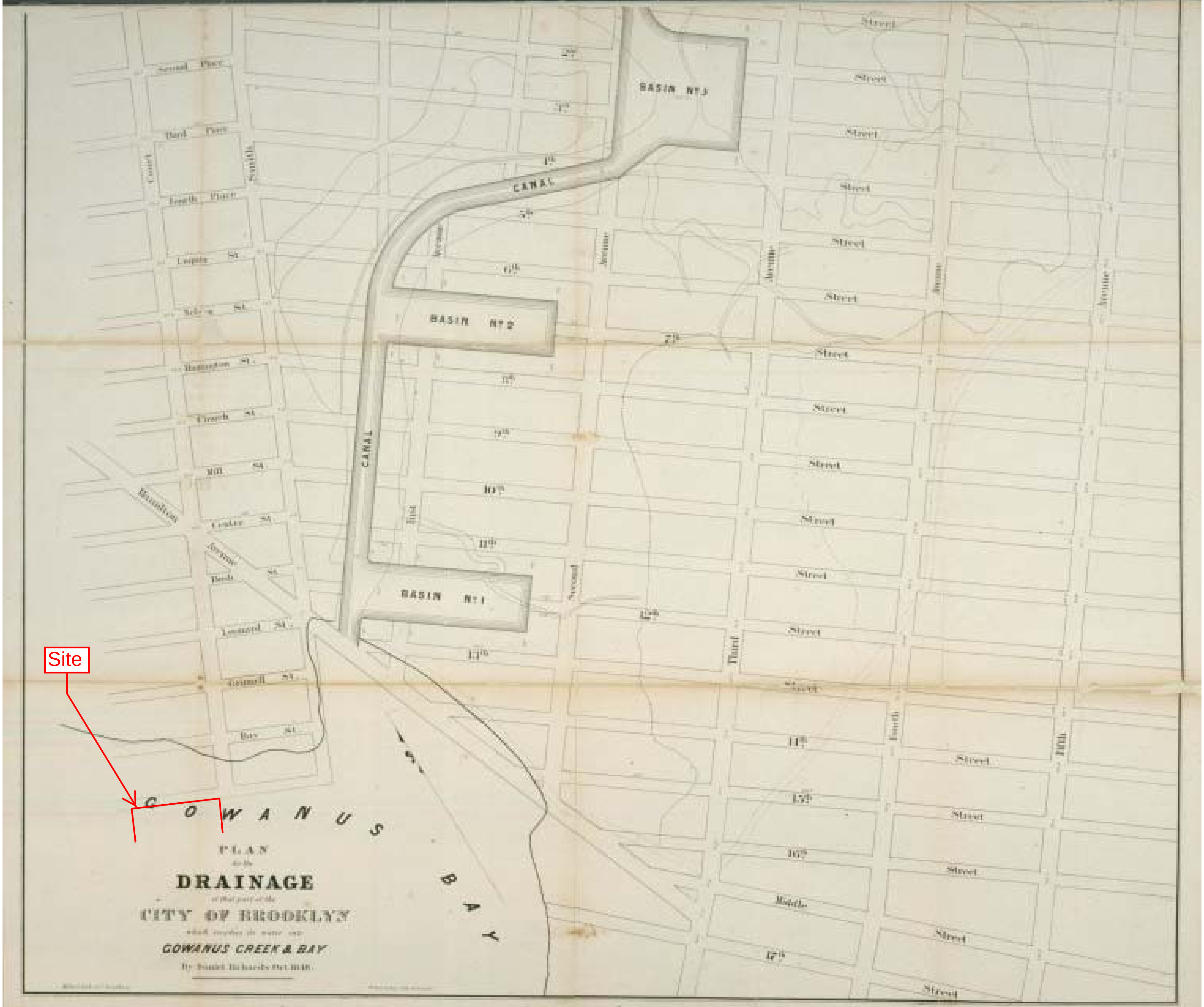
\\PERSEUS\PROJ\USARMYCORPSOFENGINEE\395863GOWANUS\GIS\MAPFILES\MISC\HISTORICWETLANDS.MXD JGOULD 10/6/2010 08:14:00

Note:

1. Source of Historic Boundaries is Hunter Research, Inc., Raber Associates, and Northern Ecological Associates, Inc. Final Report, National Register of Historic Places Eligibility Evaluation and Cultural Resources Assessment for the Gowanus Canal, Borough of Brooklyn, Kings County, New York, in Connection with the Proposed Ecosystem Restoration Study. Prepared for U.S. Army Corps of Engineers, New York District, May 2004 (Revised December 2004).
2. The edges of Historic Ponds, Creeks and Marsh (shown as dashed lines) represent the edges of historical source maps.

FIGURE 1-2
Original Gowanus Creek and Wetland Complex
Gowanus Canal Remedial Investigation
Brooklyn, New York

CH2MHILL

Site
BASIN No 3
BASIN No 2
BASIN No 1
CANAL
CANAL
Second Place
Third Place
Fourth Place
Court
Smith
Luquer St.
Nelson St.
Huntington St.
Church St.
Mill St.
Centre St.
Hamilton
Avenue
Bush
St.
Lorraine St.
Grinnell St.
Bay St.
2nd
3rd
4th
5th
6th
7th
8th
9th
10th
11th
12th
13th
14th
15th
16th
17th
Street
Avenue
Second
Third
Fourth
Fifth
Middle
GOWANUS BAY
PLAN
for the
DRAINAGE
of that part of the
CITY OF BROOKLYN
which empties its water into
GOWANUS CREEK & BAY
By Daniel Richards Oct. 1848.

Appendix B – Soil Boring Logs and Well Construction Summaries

(Included in electronic copy only – See enclosed CD)

Boring Log: E-12

Project: Crompton Corporation

Project No.: 138756

Location: Brooklyn, NY

Completion Date: September 19, 2003

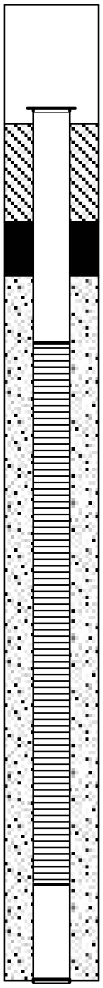
Surface Elevation (feet AMSL*): Not Determined

TOC Elevation (feet AMSL*): Not Determined

Total Depth (feet): 18

Borehole Diameter (inches): 10.25

Sample Data					Subsurface Profile		
Depth	**Sample Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Construction**
						Ground Surface	
0						*Concrete*	
						Not Sampled	
2							
4							
6							
8							
10	1	0.0	2 1 1 1	25	▥	*Silt with Sand (SM)*	
12	2	0.0	2 2 10 4	0		*No Recovery*	
14	3	0.0	2 1 1 2	50	▦	*Silt with Gravel (GM)*	
					▨	*Clay with Silt (CL)*	
16							
18						Boring Terminated	
20							



Geologist(s): Erin M. Huntley

Subcontractor: Uni-Tech Drilling Company

Driller/ Operator: Jim Evans

Method: **HSA** ☑ **Geoprobe** ☐ **ID(inches):** **Rotosonic** ☐

** AMSL= Above mean sea level*

Boring Log:* *E-14

Project: Crompton Corporation

Project No.: 138756

Location: Brooklyn, NY

Completion Date: September 18, 2003

Surface Elevation (feet AMSL*): Not Determined

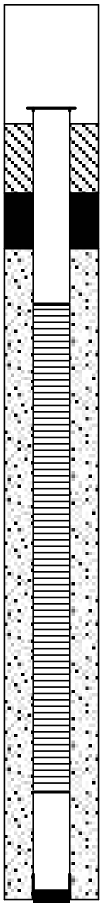
TOC Elevation (feet AMSL*): Not Determined

Total Depth (feet): 16.5

Borehole Diameter (inches): 10.25

Sample Data					Subsurface Profile	
Depth	**Sample Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
0						Ground Surface
						Concrete
						Not Sampled
2						
4						
6						
8						
10	1	458	3 1 2 2	25		***Sand with Silt (SM)*** Very dark gray (2.5Y 3/1) medium-grained sand with silt; loose; moist; vinyl odor.
12	2	50.7	2 2 2 2	25		***Sand with Silt (SM)*** Very dark gray (2.5Y 3/1) coarse-grained sand with silt and clay, wood, trace gravel; loose; moist; odor.
14	3	23	1 1 1 1	100		***Gravel with Silt (GM)*** Very dark gray (2.5Y 3/1) coarse-grained sand with silt, many/some gravel; very loose; moist; odor.
16						***Clay with Silt (CL)*** Black (2.5YR 2.5/1) silty clay; plastic; soft; massive; wet; odor.
						Boring Terminated
18						
20						

Well Construction



Geologist(s): Erin M. Huntley

Subcontractor: Uni-Tech Drilling Company

Driller/ Operator: Jim Evans

Method: **HSA** ☑ **Geoprobe** ☐ **ID(inches):** 6.25 **Rotosonic** ☐

** AMSL= Above mean sea level*

***Boring Log:** E-18*

Project: Crompton Corporation

Project No.: 138756

Location: Brooklyn, NY

Completion Date: September 10, 2003

Surface Elevation (feet AMSL*): Not Determined

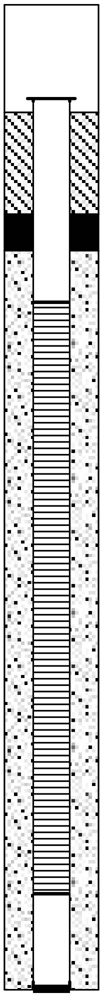
TOC Elevation (feet AMSL*): Not Determined

Total Depth (feet): 20

Borehole Diameter (inches): 10.25

Sample Data					Subsurface Profile	
Depth	**Sample Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0						***Concrete***
						Not Sampled
10	1	2.1	1 1 0 1	25		***Sand with Gravel (SP)*** Brown (10YR 4/3) to Black (10YR 2/1) fine to medium grained sand, some gravel, little ceramics; loose; dry; faint vinyl odor.
12	2	2.2	0 0 0 0	25		***Sand with Silt (SM)*** Black (10YR 2/1) medium-grained sand, some silt, little gravel, brick, ceramics; loose to medium dense; wet; faint vinyl odor.
14	3	0.0	0 0 0 0	0		***No Recovery***
16	4	0.0	0 0 3 1	25		***Sand with Silt (SM)*** Very dark gray (10YR 3/1) fine to medium-grained sand, some silt, trace shell debris; medium dense; wet; faint vinyl odor.
						Silt with Clay (ML) Black (10YR 2/1) silt, some clay, little fine-grained sand; micaceous; soft; moist; faint vinyl odor.
20						Boring Terminated
22						

Well Construction



Geologist(s): David P. Bouchard / Jerome D. McSorley

Subcontractor: Uni-Tech Drilling Company

Driller/ Operator: Rich Eastlack

Method: **HSA** ☑ **Geoprobe** ☐ **ID(inches):** **Rotosonic** ☐

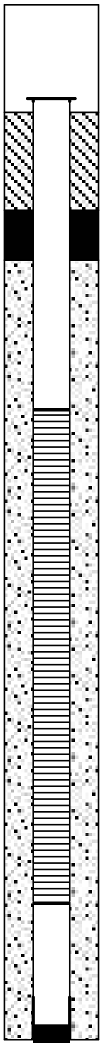
** AMSL= Above mean sea level*

Boring Log: E-20

Project: Crompton Corporation
Project No.: 138756
Location: Brooklyn, NY
Completion Date: September 23, 2003

Surface Elevation (feet AMSL*): Not Determined
TOC Elevation (feet AMSL*): Not Determined
Total Depth (feet): 21
Borehole Diameter (inches): 10.25

Sample Data					Subsurface Profile		
Depth	**Sample Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Construction**
0						Ground Surface ***Concrete*** ***Not Sampled***	
10	1	64.9	9 4 4 2	50		***Sand with Silt and Gravel (GM)*** Very dark gray (10YR 3/1) fine to medium-grained sand, some gravel, little silt, wood; medium dense; moist; strong vinyl-type odor.	
12	2	44.9	2 2 2 1	75		***Sand with Silt and Gravel (GM)*** Very dark gray (10YR 3/1) fine to medium-grained sand, some gravel, little silt, wood; medium dense; wet; strong vinyl-type odor.	
14	3	7.6	1 2 2 2	25		***Sand with Silt and Gravel (GM)*** Very dark gray (10YR 3/1) fine to medium-grained sand, some gravel, little silt, wood, glass, shells; medium dense; wet; strong vinyl-type odor.	
16	4	0.0	2 2 4 3	75		***Sand with Silt and Gravel (GM)*** Very dark gray (10YR 3/1) fine to medium-grained sand, some gravel, little silt, wood, glass, shells; medium dense; wet; mild vinyl-type odor.	
18	5	3.4	0 0 0 0	75		***Sand with Silt and Gravel (GM)*** Gray (10YR 5/1) toVery dark gray (10YR 3/1) fine to medium-grained sand, some gravel, brick, little silt, shells; dense; wet; strong vinyl-type odor.	
20						***Silt with Clay (ML)*** Black (10YR 2/1) silt, some clay, trace gravel, shells, mica; soft; moist; moderate vinyl-type odor.	
22						Boring Terminated	



Geologist(s): Jerome D. McSorley
Subcontractor: Uni-Tech Drilling Company
Driller/ Operator: Rich Eastlack

Method: **HSA** ☑ **Geoprobe** ☐ **ID(inches):** 6.25 **Rotosonic** ☐

** AMSL= Above mean sea level*

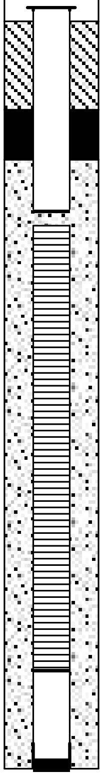
Boring Log: E-28

Project: Crompton Corporation
Project No.: 138756
Location: Brooklyn, NY
Completion Date: September 25, 2003

Surface Elevation (feet AMSL*): Not Determined
TOC Elevation (feet AMSL*): Not Determined
Total Depth (feet): 17.33
Borehole Diameter (inches): 10.25

Sample Data					Subsurface Profile
Depth	**Sample Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Description**
0					Ground Surface ***Concrete*** ***Not Sampled***
2					
4					
6					
8					
10	1	2.3	1 1 2 2	50	***Sand with Silt (SM)*** Very dark gray (2.5Y 3/1) fine to medium-grained sand with silt, trace gravel; loose; wet; odor.
12	2	2.3	2 2 2 2	25	***Sand with Silt (SM)*** Gray (2.5Y 5/1) very coarse-grained sand with silt and clay, shells, loose, moist, odor. ***Same As Above***
14	3	24.4	2 2 2 1	100	***Silt with Clay (ML)*** Silt and clay with wood and leather pieces. ***Clay with Silt (CL)*** Very dark gray (2.5Y 3/1) to black (2.5Y 2.5/1) silty clay; plastic; soft; wet.
16					Boring Terminated
18					
20					
22					

Well Construction



Geologist(s): Erin M. Huntley
Subcontractor: Uni-Tech Drilling Company
Driller/ Operator: Jim Evans

Method: HSA ☑ Geoprobe ☐
ID(inches): 6.25 Rotosonic ☐

** AMSL= Above mean sea level*

Boring Log: E-29

Project: Crompton Corporation
Project No.: 138756
Location: Brooklyn, NY
Completion Date: September 23, 2003

Surface Elevation (feet AMSL*): Not Determined
TOC Elevation (feet AMSL*): Not Determined
Total Depth (feet): 18
Borehole Diameter (inches): 10.25

Sample Data

Depth	Sample Interval	PID/OVM (ppm)	Blow Count	% Recovery
0	1	0.0	3 5 5 4	50
2	2	0.0	4 6 6 4	50
4	3	0.0	4 3 2 1	50
6	4	0.0	1 1 1 1	25
8	5	0.0	1 1 1 1	50
10	6	0.0	2 1 1 1	50
12	7	0.0	3 4 4 7	50
14	8	0.2		25
16				
18				
20				
22				

Subsurface Profile

Lithology | **Description** | **Well Construction**

Ground Surface

Concrete

Sand (SP)
Very dark grayish-brown (10YR 3/2) fine to medium-grained sand, little gravel, trace brick, glass; medium dense; dry becoming moist at 5.0 feet BGS.

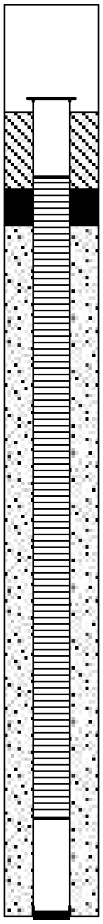
Sand with Gravel (SP)
Black (10YR 2/1) fine to medium-grained sand, some gravel, little brick, coal; loose; dry.

Sand (SP)
Very dark grayish-brown (10YR 3/2) fine to medium-grained sand, little gravel, trace brick, glass, concrete; loose to medium dense; wet.

Sand with Gravel (SP)
Very dark grayish-brown (10YR 3/2) to black (10YR 2/1) fine to coarse-grained sand, little to some coarse gravel, little brick, glass, wood; medium dense; wet; wood fragment and black silt in cutting shoe.

Sand with Silt (SM)
Dark gray (10YR 4/1) fine-grained sand, some silt; medium dense to dense; moist; faint gasoline odor.

Boring Terminated



Geologist(s): David P. Bouchard
Subcontractor: Uni-Tech Drilling Company
Driller/ Operator: Mike Shepherd

Method: **HSA** ☑ **Geoprobe** ☐ **Rotosonic** ☐
ID(inches): 6.25

** AMSL= Above mean sea level*

Boring Log:* *E-41

Project: Crompton Corporation

Project No.: 138756

Location: Brooklyn, NY

Completion Date: September 16, 2003

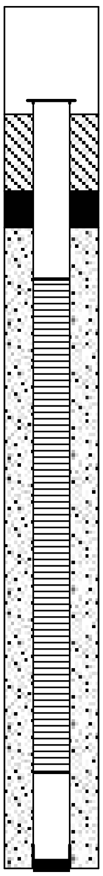
Surface Elevation (feet AMSL*): Not Determined

TOC Elevation (feet AMSL*): Not Determined

Total Depth (feet): 17.5

Borehole Diameter (inches): 10.25

Sample Data					Subsurface Profile		
Depth	**Sample Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Construction**
0						Ground Surface	
						Concrete	
2 4 6						***Not Sampled***	
8	1	45.9	1 0 5 2	50	░	***Sand (SP)*** Very dark grayish-brown (10YR 3/2) fine to medium-grained sand, trace to little gravel, trace brick; medium dense; moist becoming wet between 8.5 and 10 feet BGS; faint petroleum odor.	
10	2	91.8	1 2 1 2	50	░	***Same As Above***	
12	3	24.7	1 2 2 4	50	░	***Same As Above*** Trace ceramics, wood.	
14	4	8.7		100	░	***Same As Above*** Little to some shell hash between 14.9 and 15 feet BGS.	
16					▥	***Silt with Clay (ML)*** Very dark gray (10YR 3/1) to black (10YR 2/1) silt, some clay, trace fine-grained sand; dense; moist; faint odor.	
18 20 22						Boring Terminated	



Geologist(s): David P. Bouchard

Subcontractor: Uni-Tech Drilling Company

Driller/ Operator: Mike Shepherd

Method: **HSA** ☑ **Geoprobe** ☐ **Rotosonic** ☐

ID(inches): 6.25

** AMSL= Above mean sea level*

Boring Log: I-1

Project: Crompton Corporation
Project No.: 138756
Location: Brooklyn, NY
Completion Date: August 27, 2002

Surface Elevation (feet AMSL*): Not Determined
TOC Elevation (feet AMSL*):
Total Depth (feet): 17
Borehole Diameter (inches): 8.25

Sample Data

Depth	Sample Interval	PID/OVM (ppm)	Blow Count	% Recovery
0				
2	1	382	9 12 10 12	75
4	2	326	9 15 8 6	50
6	3	233	16 18 5 11	12
8	4	314	5 8 8 6	75
10	5	303	4 5 5 6	50
12	6	301	3 2 1 2	25
14	7	158	3 2 3 3	12
16	8	229	9 6 9 7	75
18				
20				

Subsurface Profile

Lithology | **Description** | **Well Construction**

Ground Surface

Concrete

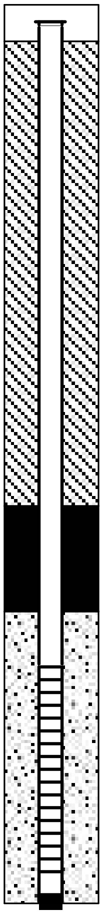
Sand (SP)
Grayish-brown to black fine to medium-grained sand, little silt, trace to little gravel, trace brick, glass, coal, cinders; loose to medium dense; dry; strong vinyl-like odor.

Sand (SP)
Grayish-black to black fine to coarse-grained sand, little to some gravel, little silt; dense; wet; very strong vinyl-like odor; possible separate phase liquid (brownish oil-like substance) in sampler.

Sand with Gravel (SP)
Black fine to coarse-grained sand and fine gravel, trace wood, rope, plastic, porcelain especially between 16.6 and 16.8 feet bgs; loose to medium dense; wet; very strong vinyl-like odor; separate phase liquid visible in sampler.

Silt (ML)
Black silt, some clay, trace organic material; medium dense; moist; very strong vinyl-like odor.

Boring Terminated



Geologist(s): David P. Bouchard
Subcontractor: SMC Environmental
Driller/ Operator: Eugene Galeski

Method: **HSA** ☑ **Geoprobe** ☐ **ID(inches):** 4.25 **Rotosonic** ☐

** AMSL= Above mean sea level*

Boring Log: I-24

Project: Crompton Corporation
Surface Elevation (feet AMSL*): Not Determined

Project No.: 138756
TOC Elevation (feet AMSL*): Not Determined

Location: Brooklyn, NY
Total Depth (feet): 16

Completion Date: September 25, 2003
Borehole Diameter (inches): 8.25

Sample Data

Depth	Sample Interval	PID/OVM (ppm)	Blow Count	% Recovery
0	1	0.0	3 2 2 1	0
2	2	52.5	5 6 7 5	50
4	3	64.2	3 3 7 5	75
6	4	112	3 5 5 4	100
8	5	137	2 3 3 3	75
10	6	156	3 5 3 2	100
12	7	95.4	1 2 2 2	75
14	8	37.4		75
16				
18				
20				
22				

Subsurface Profile

Lithology

Description

Ground Surface

Concrete

No Recovery
Concrete in cutting shoe.

Sand (SP)
Black (10YR 2/1) fine to medium-grained sand, some brick; loose; moist; faint solvent odor.

Sand (SP)
Black (10YR 2/1) fine to medium-grained sand, trace to little gravel, brick, wood; medium dense; moist becoming wet between 5.5 and 6.0 feet BGS; faint solvent odor.

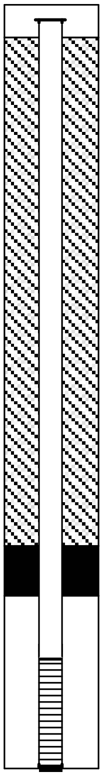
Sand with Silt (SM)
Dark gratish-brown (10YR 4/2) to black (10YR 2/1) fine to medium-grained sand, some silt, trace to little gravel, brick, wood; medium dense to dense; wet; faint to moderate vinyl/solvent odor; seperate phase black liquid in spoon from 8 to 12 feet BGS.

Sand with Gravel (SP)
Black (10YR 2/1) fine to coarse-grained sand, little to some gravel, trace brick, glass, paper; medium dense; wet; moderate solvent odor; seperate phase liquid in spoon from 12 to 14 feet BGS.

Sand with Silt (SM)
Black (10YR 2/1) fine-grained sand, some silt, little clay, trace shell material; medium dense; moist; faint solvent odor.

Boring Terminated

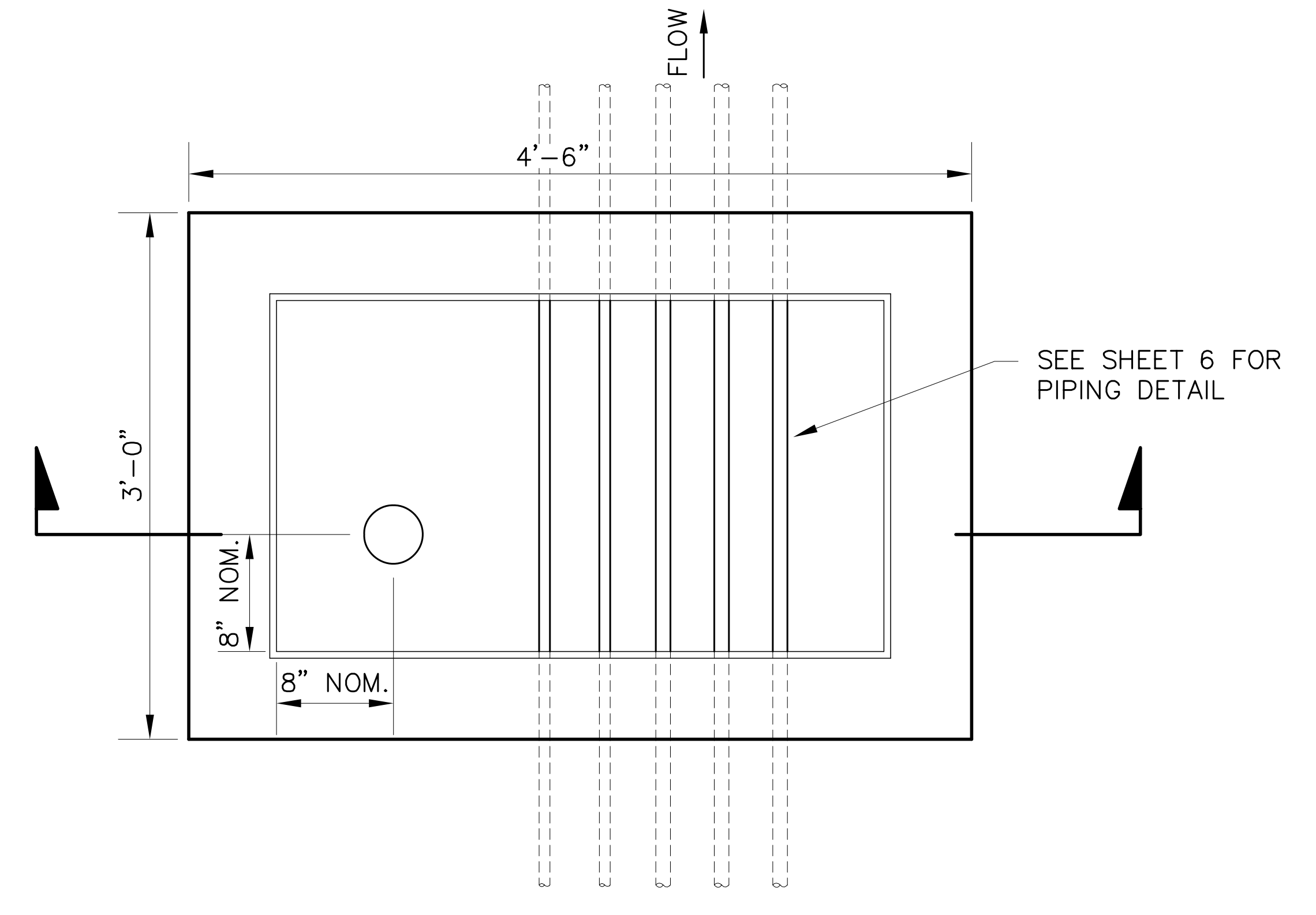
Well Construction



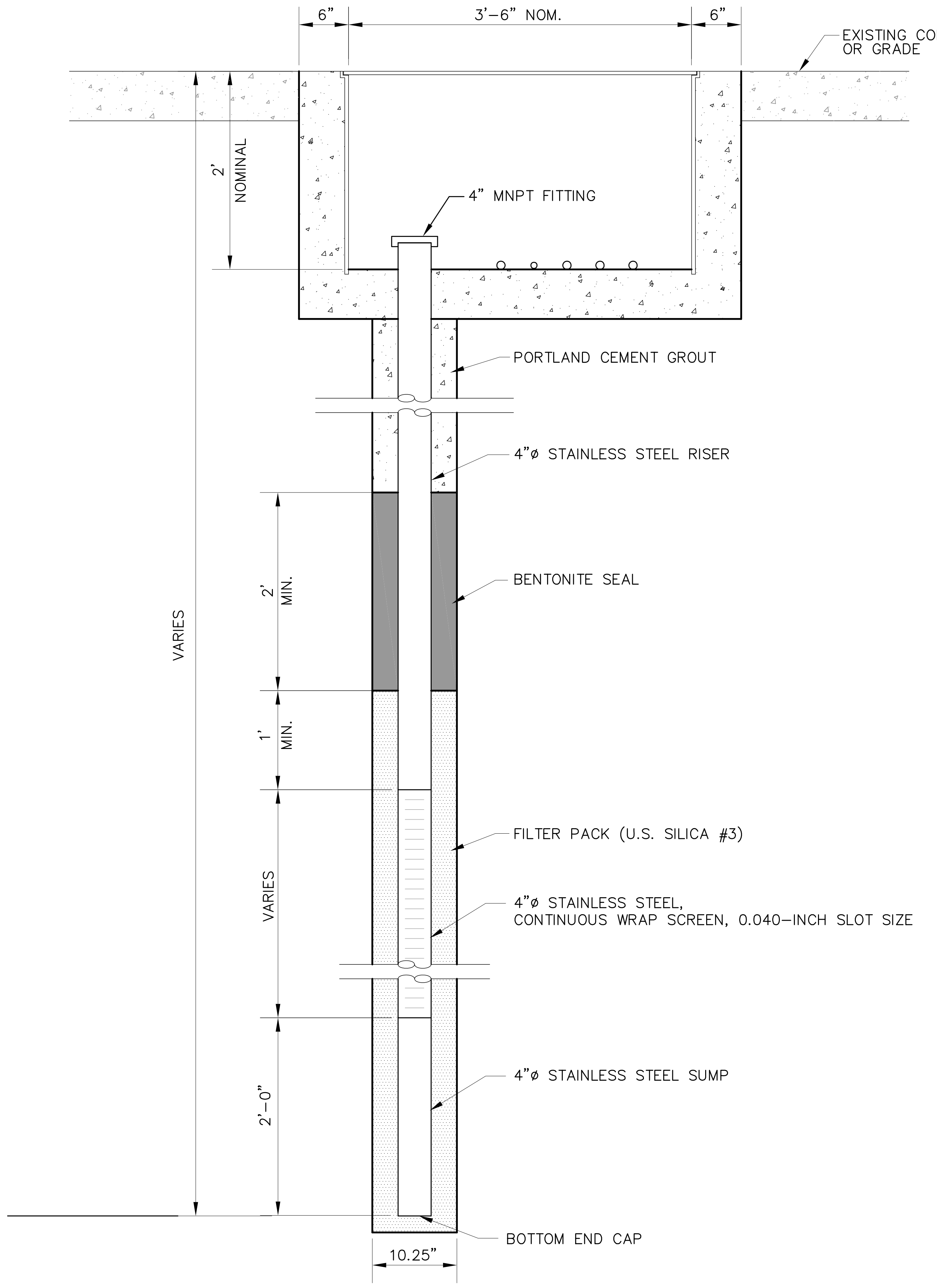
Geologist(s): David P. Bouchard
Subcontractor: Uni-Tech Drilling Company
Driller/ Operator: Mike Shepherd

Method: **HSA** ☑ **Geoprobe** ☐ **Rotosonic** ☐
ID(inches): 4.25

** AMSL= Above mean sea level*



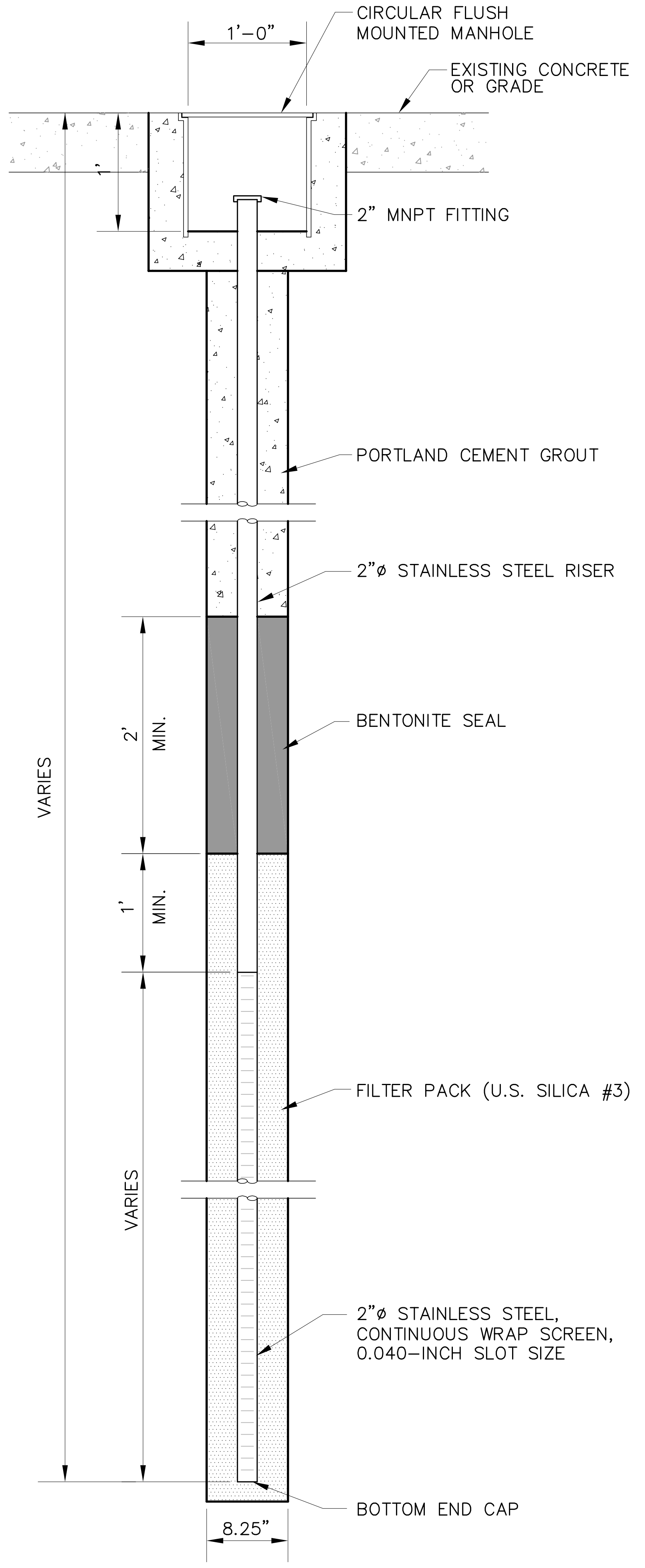
PLAN



SECTION

EXTRACTION WELL INSTALLATION DETAIL (TYPICAL)

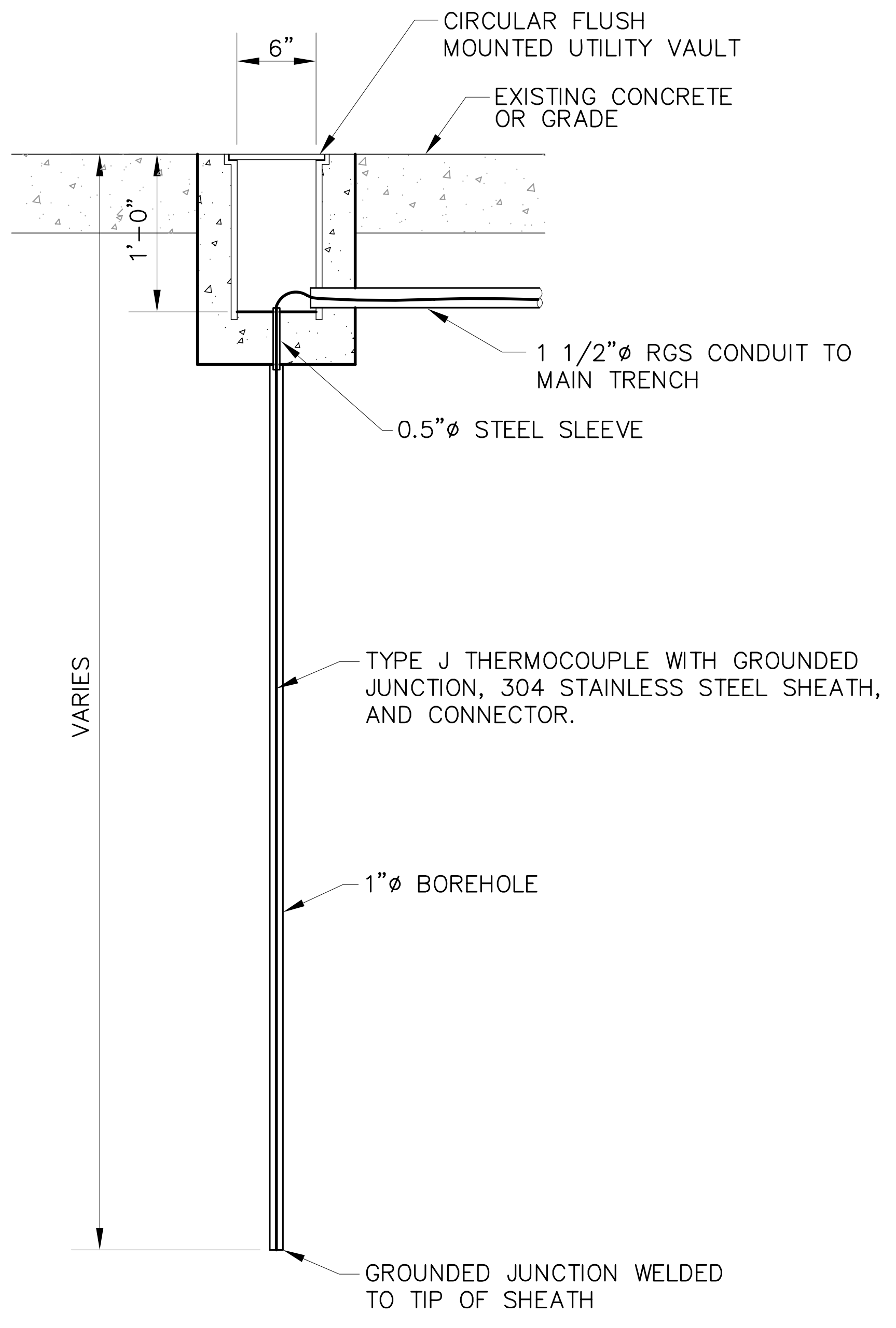
SCALE: 1"=1'-0"



SECTION

STEAM INJECTION WELL INSTALLATION DETAIL (TYPICAL)

SCALE: 1"=1'-0"



SECTION

THERMOCOUPLE DETAIL (TYPICAL)

SCALE: 1"=1'-0"

Extraction Wells

Well ID	Total Depth (feet)	Screen Length (feet)	Screen Interval (Feet bgs)
E-1	17.50	10.0	5.5 - 15.50
E-2	17.50	10.0	5.5 - 15.50
E-3	18.17	8.5	7.7 - 16.17
E-4	16.50	8.5	6.0 - 14.50
E-5	18.17	10.0	6.2 - 16.17
E-6	18.00	10.0	6.0 - 16.00
E-7	18.17	8.5	7.7 - 16.17
E-8	18.17	10.0	6.2 - 16.17
E-9	18.17	10.0	6.2 - 16.17
E-10	18.17	10.0	6.2 - 16.17
E-11	17.17	10.0	5.2 - 15.17
E-12	18.00	10.0	6.0 - 16.00
E-13	17.70	10.0	5.7 - 15.70
E-14	16.50	9.0	5.5 - 14.50
E-15	18.25	10.0	6.3 - 16.25
E-16	19.00	11.0	6.0 - 17.00
E-17	18.00	11.0	5.0 - 16.00
E-18	19.75	12.0	5.8 - 17.75
E-19	18.20	10.0	6.2 - 16.20
E-20	21.00	12.0	7.0 - 19.00
E-21	17.50	10.0	5.5 - 15.50
E-22	17.00	10.0	5.0 - 15.00
E-23	18.00	10.0	6.0 - 16.00
E-24	18.25	11.0	5.3 - 16.25
E-25	18.00	10.0	6.0 - 16.00
E-26	18.00	11.0	5.0 - 16.00
E-27	19.00	11.0	6.0 - 17.00
E-28	17.33	9.0	6.3 - 15.33
E-29	18.50	13.0	3.5 - 16.50
E-30	17.50	10.0	7.5 - 17.50
E-31	20.17	10.0	8.2 - 18.17
E-32	19.00	10.0	7.0 - 17.00
E-33	19.50	11.0	6.5 - 17.50
E-34	18.25	10.0	6.3 - 16.25
E-35	17.25	9.5	6.0 - 15.50
E-36	16.50	9.0	5.5 - 14.50
E-37	14.17	6.0	6.2 - 12.17
E-38	14.00	6.0	6.0 - 12.00
E-39	14.00	6.0	6.0 - 12.00
E-40	13.75	6.0	5.8 - 11.75
E-41	17.50	10.0	5.5 - 15.50
E-42	15.00	7.5	5.5 - 13.00
E-43	15.00	7.5	5.5 - 13.00
E-44	14.00	7.0	5.0 - 12.00

Injection Wells

Well ID	Total Depth (feet)	Screen Length (feet)	Screen Interval (Feet bgs)
I-1	15.08	2.5	12.6 - 15.08
I-2	15.67	2.5	13.2 - 15.67
I-3	15.33	2.5	12.8 - 15.33
I-4	16.50	2.5	14.0 - 16.50
I-5	16.00	2.5	13.5 - 16.00
I-6	15.58	2.5	13.1 - 15.58
I-7	15.00	2.5	12.5 - 15.00
I-8	18.00	2.5	15.5 - 18.00
I-9	15.00	2.5	12.5 - 15.00
I-10	15.50	2.5	13.0 - 15.50
I-11	15.00	2.5	12.5 - 15.00
I-12	15.50	2.5	13.0 - 15.50
I-13	15.00	2.5	12.5 - 15.00
I-14	15.75	2.5	13.3 - 15.75
I-15	14.67	2.5	12.2 - 14.67
I-16	15.25	2.5	12.8 - 15.25
I-17	15.50	2.5	13.0 - 15.50
I-18	15.50	2.5	13.0 - 15.50
I-19	16.08	2.5	13.6 - 16.08
I-20	16.58	2.5	14.1 - 16.58
I-21	18.17	2.5	15.7 - 18.17
I-22	16.50	2.5	14.0 - 16.50
I-23	17.00	2.5	14.5 - 17.00
I-24	15.50	2.5	13.0 - 15.50
I-25	15.25	2.5	12.8 - 15.25
I-26	15.50	2.5	13.0 - 15.50
I-27	16.00	2.5	13.5 - 16.00
I-28	14.30	2.5	11.8 - 14.30
I-29	16.00	2.5	13.5 - 16.00
I-30	15.50	2.5	13.0 - 15.50
I-31	15.50	2.5	13.0 - 15.50
I-32	14.50	2.5	12.0 - 14.50
I-33	17.50	2.5	15.0 - 17.50
I-34	15.50	2.5	13.0 - 15.50
I-35	17.50	2.5	15.0 - 17.50
I-36	16.50	2.5	14.0 - 16.50
I-37	16.00	2.5	13.5 - 16.00
I-38	17.00	2.5	14.5 - 17.00
I-39	17.67	2.5	15.2 - 17.67
I-40	15.00	2.5	12.5 - 15.00
I-41	16.30	2.5	13.8 - 16.30
I-42	12.58	2.5	10.1 - 12.58
I-43	12.58	2.5	10.1 - 12.58
I-44	12.58	2.5	10.1 - 12.58
I-45	13.50	2.5	11.0 - 13.50
I-46	13.50	2.5	11.0 - 13.50
I-47	7.50	2.5	5.0 - 7.50

Thermocouples

Well ID	Total Depth (feet)
T-1	10.00
T-2	10.00
T-3	10.00
T-4	10.00
T-5	10.00
T-6	10.00
T-7	11.00
T-8	10.00
T-9	10.00
T-10	10.00
T-11	10.00
T-12	8.00

NOTES:

1. EXTRACTION WELLS WERE CONSTRUCTED USING TYPE 304 STAINLESS STEEL WELL CASING AND SCREEN. WELL CASINGS ARE 4-INCH DIAMETER STAINLESS STEEL WITH ASTM FLUSH THREADS. WELL SCREENS ARE 4-INCH DIAMETER STAINLESS STEEL, CONTINUOUS WRAP SCREEN WITH 0.04" SLOT SIZE AND ASTM FLUSH THREADS. CEMENT GROUT USED FOR WELL INSTALLATION IS ABLE TO RESIST HIGH TEMPERATURES ASSOCIATED WITH THE STEAM INJECTION PROCESS. THIS INCLUDED THE ADDITION OF 30 TO 60 PERCENT BY WEIGHT OF QUARTZ SILICA OR SILICA FLOUR TO THE CEMENT FOR TEMPERATURE STABILITY AND THE ADDITION OF SODIUM CHLORIDE TO ALLOW THE CEMENT TO EXPAND LINEARLY WITH TEMPERATURE.
2. STEAM INJECTION WELLS WERE CONSTRUCTED USING TYPE 304 STAINLESS STEEL WELL CASING AND SCREEN. WELL CASINGS ARE 2-INCH DIAMETER STAINLESS STEEL WITH ASTM FLUSH THREADS. WELL SCREENS ARE 2-INCH DIAMETER, TYPE 304 STAINLESS STEEL, CONTINUOUS WRAP SCREENS WITH 0.04" SLOT SIZE AND ASTM FLUSH THREADS.
3. THERMOCOUPLES WERE INSTALLED BY DRILLING A 1-INCH DIAMETER BOREHOLE AND INSERTING THE THERMOCOUPLE TO THE DESIGNATED DEPTH AS DETERMINED BY THE ENGINEER. THERMOCOUPLES ARE A TYPE J WITH GROUNDED JUNCTION, 304 STAINLESS STEEL SHEATH, AND CONNECTOR. THERMOCOUPLE INTERFACES WITH PROGRAMMABLE LOGIC CONTROLLER (PLC).
4. ALL WELLS WERE SEALED TO THE CONCRETE VAULT USING A HYDRATED BENTONITE PELLET SEAL FOLLOWED BY PORTLAND CEMENT CONCRETE GROUT DESCRIBED IN NOTE 1. BENTONITE AND GROUT SEALS WERE PLACED TO THE DIMENSIONS INDICATED ON THIS SHEET.
5. STEAM INJECTION WELLHEADS WILL CONSIST OF APPROPRIATE FITTINGS, A PRESSURE GAGE, AND A STEAM MASS FLOW INDICATOR. THE WELLHEADS WILL BE CONNECTED IN ACTIVE ZONES USING FLEXIBLE STEAM HOSE.
6. SEE SHEET 6 FOR WELLHEAD DETAILS.

0 1'-0" 2'-0" 3'-0"
SCALE IN FEET

REVISIONS

REV	DESCRIPTION		
1	Revised:	Chkd:	Appr:
2	Revised:	Chkd:	Appr:
3	Revised:	Chkd:	Appr:

SEAL

DATE

DRAWN BY	EGC
CHECKED	JS
APPROVED	TMM

PROPERTY OF ESC ENGINEERING OF NEW YORK, P.C. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF ESC ENGINEERING OF NEW YORK, P.C.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IT IS A VIOLATION OF STATE LAW FOR ANY PERSONS, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY.

WELL CONSTRUCTION DETAILS
AS-BUILT

CROMPTON CORPORATION
688-700 COURT STREET
BROOKLYN, NEW YORK

PREPARED FOR
CROMPTON CORPORATION

ESC
ENGINEERING OF
NEW YORK, P.C.
9 ALBANY STREET
CAZENOVIA, NEW YORK 13035
(315) 655-3900

SHEET 7

Drawing Number
13875660

Boring Log: A-10

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
						Well-Graded Sand (SW) Brown fine sand with gravel; moist.
2		12.3		25		
4						***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; some red brick fragments; petrol odor; wet at 7.5' bgs.
6		25		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: A-11

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		1200		90		**Concrete** Concrete **Silty Sand (SM)** Black fine-grained silty sand; some gravel and red brick fragments from 3-6' bgs; petrol odor and sheen.
4		500		100		
6 8		NR		25		**Well-Graded Sand with Gravel (SW)** Black gravelly sand; non-aqueous product; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: A-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determir

Total Depth (feet): 12

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
		0		50	▒	***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; moist; petrol odor from 3'-6' bgs.
2					▒	
4	☒	200		90	▒	
6	☒	NR		10	▒	
8					▒	
	☒				▒	***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; some organics; petrol odor/sheen, wet at 9.0' bgs
10		NR		10	▒	
12						Bottom of Boring at 12 feet
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: A-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2	☒	200		40		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; few organics; red brick fragments from 3'-6' bgs; petrol odor.
4	☒	450		50		
6 8	☒	200		75		***Well-Graded Gravel with Sand (GW)*** Black sandy gravel; few organics; petrol odor/sheen; wet at 7' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: A-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		0		10		***Well-Graded Sand (SW)*** Black fine sand; some gravel; red brick fragments; moist.
4						***Well-Graded Sand (SW)*** Dark brown to black sand; little clay; little gravel; wet at 7' bgs.
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: A-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
						Well-Graded Sand with Gravel (SW) Black gravelly fine sand; trace clay; moist from 0.5-7' bgs; petrol odor and wet from 7'-8' bgs.
2		< 5		25		
4						
6		58		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: ***B-11***

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▩	***Concrete***
2	☒	1000		25	▨	***Lean Clay with Gravel (CL)*** Black gravelly clay fill; wet from 3-6' bgs.
4	☒	1100		50	▨	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
						Well-Graded Sand (SW) Brown fine sand; little clay and gravel; petrol odor; slight sheen; moist.
2		183		75		
						Well-Graded Sand with Gravel (SW) Brown to black gravelly sand; petrol odor/sheen; wet at 5' bgs.
4						
6		450		75		
8						Bottom of Boring at 6 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-12d

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 18
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black fine-grained sand; some gravel; petroleum odor; trace gravel from 8 to 12 feet bgs; moist; becoming wet from 7 to 18 feet bgs.
2		700		50		
4						
6		2700		100		
8						
10		192		75		
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: ***B-12d***

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 18
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
16		82		75		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; trace gravel from 8 to 12 feet bgs; moist; becoming wet from 7 to 18 feet bgs. *(continued)*
18						Bottom of Boring at 18 feet
20						
22						
24						
26						
28						
30						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	500		50	▨	**Concrete** **Well-Graded Sand (SW)** Brown to black fine sand; with gravel; petrol odor; moist.
4	☒	700		100	▨	
6 8	☒	400		75	▨	**Well-Graded Sand with Gravel (SW)** Brown to black gravelly sand; some wood fragments; free product; petrol odor/sheen; wet at 7.0' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-17

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		37.7		50		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		17.4		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		64		50		***Fill*** Brown to black fine-grained sand; few clay; some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		21		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		21		60		***Fill*** Brown to black fine-grained sand; few clay; some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		4		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		4		60		***Fill*** Brown to black fine-grained sand; some gravel; some clay; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		96		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		5		60		***Fill*** Brown to black fine-grained sand; few clay; few organics; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		368		60		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: B-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▩	***Concrete***
	☒	5		75	▒	***Well-Graded Sand (SW)*** Brown fine sand; trace clay; few gravel; red brick fragments; wet at 5.5' bgs.
2					▒	
4	☒	250		100	▒	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *B-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		0		50		***Well-Graded Sand (SW)*** Brown fine sand; some gravel; some organics; red brick fragments; moist; petrol odor/sheen from 3'-6' bgs.
4		215		75		
6 8		115		75		***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; petrol odor/sheen; wet at 8.5' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	1200		95		***Concrete*** ***Well-Graded Sand with Gravel (SW)*** Black gravelly sand fill; odor, petroleum sheen; wet from 3-6' bgs
4	☒	1200		75		
6 8	☒	1100		75		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	**Concrete**
2	☒	500		60	▨	**Well-Graded Sand (SW)** Brown to black fine sand; with gravel; some wood fragments from 0'-3' bgs; petrol odor/sheen; some organics from 6'-9'; non-aqueous product from 6'-9'. wet at 8.5' bgs
4	☒	1000		100	▨	
6					▨	
8	☒	900		90	▨	
10						Bottom of Boring at 9 feet
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
2		8		60		***Fill*** Brown to black fine-grained sand; few gravel; trace glass; brick; and concrete; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		4		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	***Concrete*** Concrete
2		256		50		***Fill*** Brown to black fine-grained sand; some organics; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		54				
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-6

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	***Concrete*** Concrete
2		120		50		***Fill*** Brown to black fine-grained sand; some organics; some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		46		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	***Concrete*** Concrete
2		340		50		***Fill*** Brown to black fine-grained sand; some gravel and red brick; few clay; few organics; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		51		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		5		75		***Concrete*** ***Well-Graded Sand (SW)*** Brown fine sand; some organics; some fines; trace gravel; red brick fragments; moist.
4		300		75		***Well-Graded Sand with Gravel (SW)*** Brown to black to gray gravelly sand; petrol odor/sheen; wet at 7.5' bgs.
6 8		100		50		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: C-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2	☒	700	- - - -	50		***Well-Graded Sand (SW)*** Dark brown fine sand; few clay; little gravel; moist.
4	☒	100	- - - -	100		***Well-Graded Sand (SW)*** Brown fine sand; some black to gray gravel; some organics; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-1

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–0.5	☒				▨	***Concrete***
0.5–4 (2)	☒	0		50	▒	***Well-Graded Sand (SW)*** Brown fine sand; some gravel (gravel content increases with depth); wet at 7.5' bgs.
4–8 (6)	☒	NR		NR	▒	
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-10

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2	☒	375		75		***Well-Graded Sand (SW)*** Black fine sand; some gravel; trace clay; petrol odor; wet at 5' bgs.
4	☒	200		75		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
2	☒	1100		75	▨	**Concrete** **Well-Graded Sand with Gravel (SW)** Black and brown gravelly sand; odor.
4	☒	900		50	▨	
6 8	☒	300		20	▨	**Silty Gravel (GM)** Gray silty gravel.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–0.5	☒	30		50	▩	***Concrete***
0.5–3					▒	***Well-Graded Sand (SW)*** Brown fine sand; few gravel and clay; petrol odor; sheen from 3'-6' bgs; wet at 7.5' bgs.
3–6	☒	40		75	▒	
6–9	☒	60		100	▒	
9						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		200		25		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; petrol odor; moist.
2						
4		450		75		
6						***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; some wood fragments and other construction fill; petrol odor/sheen; wet at 8.5' bgs
		600		75		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-14

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▩	**Concrete**
2	☒	200		50	▨	**Well-Graded Sand (SW)** Brown to black fine sand; some gravel; some red brick fragments from 3'-6' bgs; petrol odor; moist.
4	☒	180		40	▨	
6 8	☒	120		100	▨	**Well-Graded Sand with Gravel (SW)** Black gravelly sand and brown fine sand; some organics; some clay; petrol odor/sheen; wet at 8' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-15

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		100		75		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel, red brick fragments; petrol odor; moist.
2						
4						
		< 5		80		
6						
		450		50		
8						
						Well-Graded Sand with Gravel (SW) Black gravelly sand; some organics; petrol odor/sheen; wet at 8.5' bgs.
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-19

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		0		50		***Fill*** Brown fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		0		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-2

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒					***Concrete***
						Well-Graded Sand (SW) Brown to black sand; little gravel (increasing gravel content with depth); red brick fragments from 0.5-4' bgs; wet at 7.5' bgs.
2		0		75		
4	☒					
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-3

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		36		50		***Well-Graded Sand (SW)*** Brown to black fine sand; trace clay; little gravel; moist.
4						
6		96		75		***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; wet at 7' bgs.
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
	☒				░	***Well-Graded Sand (SW)*** Gray to Brown sand; some gravel; wet at 7' bgs.
2	☒	0		50	░	
4	☒				░	
6	☒	0		50	░	
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
					░	***Well-Graded Sand (SW)*** Brown to black fine sand; trace clay; trace gravel; moist.
2		250		50	░	
4	☒				░	***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; petrol odor; wet at 7' bgs.
6		20		90	░	
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0						***Concrete***
2	☒	0		50	▨	***Well-Graded Sand (SW)*** Brown fine sand; some gravel; trace red brick fragments; moist.
4						
6	☒	30		70	▨	***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; petrol odor; wet at 7.5' bgs.
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 17, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	**Concrete** Concrete
2		1240		75		**Fill** Brown to black fine-grained sand; trace gravel; few red brick; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1140		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Cab

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		>2000		75		***Well-Graded Sand (SW)*** Brown fine sand; few gravel; petrol odor/sheen; moist.
4						
6		200		75		***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; petrol odor; wet at 7.5' bgs.
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: D-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
2	☒	700		50	▨	***Well-Graded Sand (SW)*** Brown to black fine sand; few clay; little gravel; petrol odor; wet at 5.5' bgs.
4	☒	100		100	▨	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-1

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
2	☒	0		50	░	***Well-Graded Sand (SW)*** Brown to greenish brown sand; some gravel; red brick fragmenets; moist.
4	☒	0		50	░	***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-11

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete***
	☒	550		70	▨	***Well-Graded Sand with Gravel (SW)*** Dark brown gravelly sand; wet from 3-6' bgs.
2						
4	☒	400		80	▨	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–3	X	< 5		75		***Concrete*** (0–0.5) ***Well-Graded Sand with Silt (SW-SM)*** Brown to black silty sand; with gravel and red brick fragments from 3'-6'; wet at 6'bgs.
3–6	X	10		75		
6–9	X	30		75		***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; petrol odor; wet.
9						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-14

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		< 5		90		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; red brick fragments; some concrete from 3'-6' bgs; moist from 0.5-8.5 bgs; wet at 8.5' bgs.
2						
4		10		50		
6						
		10		25		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-15

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		< 5		60		***Well-Graded Sand (SW)*** Brown fine sand; some gravel; trace fines; petrol odor; moist.
4		5		75		
6 8		< 5		50		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; little organics; petrol odor; wet at 8' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-2

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		260		50		***Well-Graded Sand (SW)*** Brown fine sand; little gravel; trace clay; moist.
4		15		50		***Well-Graded Sand (SW)*** Black fine sand; red brick fragments; some gravel fill; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-22

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		1.3		50	▨	***Concrete*** Concrete
4						***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
6		13.3		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-24

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black fine-grained sand; few gravel; petroleum odor; moist; some gravel from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		2.4		75		
4						
6				50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-3

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		1000		75		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; little clay; petrol odor; wet at 5.5' bgs.
4		150		75		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	**Concrete**
2	☒	1075		50	░	**Well-Graded Sand (SW)** Brown to black fine sand; some gravel; petrol odor; moist.
4	☒	>2000		75	░	**Well-Graded Sand with Gravel (SW)** Gray to black gravelly sand; trace clay; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		100		50		***Well-Graded Sand (SW)*** Black fine sand; some clay; little gravel; red brick fragmenets; petrol odor; moist.
4						***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; trace clay; strange odor; sheen; wet at 7.5' bgs.
6		40		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-6

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete***
2	☒	250		50	▨	***Well-Graded Sand (SW)*** Black fine sand; trace clay; trace gravel; moist.
4						
6	☒	300		50	▨	***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; wet at 7.5' bgs.
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: E-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
2	☒	1300		75		***Concrete*** ***Silty Sand (SM)*** Brown/black silty sand; few gravel; some clay noted at 6' bgs; petrol odor throughout.
4	☒	250		75		
6 8	☒	1100		75		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand fill; petrol odor; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-1

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		0		50		***Well-Graded Sand (SW)*** Brown fine sand; some gravel; red brick fragments; few clay; moist.
4		10		50		
6		NR		5		***Well-Graded Sand with Gravel (SW)*** Gray gravelly sand; little clay; wet at 8.5' bgs.
8						
10						Bottom of Boring at 9 feet
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▩	***Concrete***
	☒	600		50	▒	***Well-Graded Sand with Gravel (SW)*** Black gravelly sand fill; wet from 3-9' bgs.
2					▒	
4	☒	900		50	▒	
6	☒	100		90	▒	
8					▒	
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
	☒	< 5		50		***Well-Graded Sand with Silt (SW-SM)*** Brown to black silty sand; with gravel; petrol odor, red brick fragments from 3'-6'; wet at 5.5' bgs.
2						
4	☒	15		50		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-14

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2		6		75		***Well-Graded Sand (SW)*** Brown fine sand; some gravel; some fines; moist.
4		20		50		
6 8		9		75		***Well-Graded Gravel with Sand (GW)*** Black and gray gravel with sand; petrol odor; wet at 8.5' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *F-15

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–3	X	< 5		75		***Concrete*** (0–0.5) ***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; red brick fragments; moist; trace clay from 3'-6' bgs.
3–6	X	100		100		
6–9	X	600		50		***Well-Graded Sand (SW)*** Black gravelly sand; some organics; petrol odor; wet at 7.5' bgs.
9						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-2

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
	☒	600		50		***Well-Graded Sand (SW)*** Black gravelly sand; red brick fragments; few fines; petrol odor; wet at 5.5' bgs.
2						
4	☒	30		50		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-20

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▩	***Concrete*** Concrete
2		.2		50		***Fill*** Brown fine-grained sand; some gravel and brick; petroleum odor; moist; becoming wet from 4 feet bgs.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-23

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black fine-grained sand; few gravel; petroleum odor; moist; some gravel from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		.6		50		
4						
6		6.2		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-3

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
2	☒	300		75	▨	***Well-Graded Sand (SW)*** Black fine sand; few gravel; trace clay; petrol odor (burnt odor); moist.
4	☒	50		75	▨	***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; petrol odor; wet from 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-4

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 30, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		50		75		***Well-Graded Sand (SW)*** Black fine sand; little clay; little gravel; red brick fragments; petrol odor; slight sheen; moist.
4		<5		50		***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; trace clay; petrol odor; wet at 5.5' bgs.
6 8 10 12 14						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-5

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
						Well-Graded Sand (SW) Black fine sand; some gravel; petrol odor; moist.
2		1300		50		
4						***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; trace clay; strange petrol odor; slight sheen; wet at 7.5' bgs.
6		600		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: F-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▧	***Concrete***
2	☒	620		50	▨	***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; little clay; moist; petrol odor.
4					▨	***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; odd petrol odor (earthy); wet at 7.5' bgs.
6	☒	120		75	▨	
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *F-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–0.5					▨	***Concrete***
0.5–3	☒	1280		50	▥	***Silty Sand (SM)*** Brown/black silty fine-grained sand; some gravel; petrol odor.
3–6	☒	1420		80	▥	
6–9	☒	1380		75	░	***Well-Graded Sand with Gravel (SW)*** Black/gray/green gravelly sand; petrol odor and sheen noted; wet.
9						Bottom of Boring at 9 feet

Depth scale: 2, 4, 6, 8, 10, 12, 14

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-1

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
	☒				▨	***Concrete***
2	☒	8		50	▒	***Well-Graded Sand (SW)*** Brown fine sand; some gravel; trace clay; moist.
4	☒	0		50	▒	***Well-Graded Sand with Gravel (SW)*** Brown gravelly sand; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-10

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	850		75		***Concrete*** ***Silty Sand (SM)*** Brown fine-grained silty sand; little black and green gravel.
4	☒	1150		75		
6 8	☒	400		75		***Well-Graded Sand with Gravel (SW)*** Black and green gravelly sand with product; odor and sheen noted.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▩	***Concrete***
2	☒	1000		40	▨	***Gravelly Lean Clay with Sand (CL)*** Dark brown to black gravelly clay with sand; tar-like; petrol odor and sheen from 3-6' bgs; moist to wet from 3-9' bgs.
4	☒	1200		90	▨	
6 8	☒	100		90	▨	
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		< 5		60		***Well-Graded Sand with Silt (SW-SM)*** Dark brown to black silty sand; with gravel; petrol odor; wet at 6' bgs.
2						
4						
		30		90		
6						
		35		75		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-14

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		0		50		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; moist; petrol odor from 3'-6' bgs.
4		0		75		
6						
8		NR		25		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; some organics; petrol odor; wet at 8.5' bgs.
10						Bottom of Boring at 9 feet
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-2

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
2	☒	250		50	▨	***Well-Graded Sand (SW)*** Brown fine sand; some gravel and clay; red brick fragments; wet at 5.5' bgs.
4	☒	<5		50	▨	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-23

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description Ground Surface
2		.2		50		
4						
6		0		75		
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-3

Project: Chemtura Corp
Surface Elevation (feet AMSL*): Not Determined
Project No.: 131435
Total Depth (feet): 6
Location: Brooklyn NY
Borehole Diameter (inches): 2
Completion Date: October 31, 2007

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒	1500		75	▨	***Concrete***
2					▨	***Well-Graded Sand (SW)*** Black sand; some gravel; some clay; few organics; wood at 1' bgs; strong fuel odor; moist.
4	☒	600		75	▨	***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; fill; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete***
2	☒	1300		50	▨	***Well-Graded Sand (SW)*** Brown to black fine sand with gravel; little fines; petrol odor; moist.
4	☒	30		75	▨	***Well-Graded Sand (SW)*** Gray to black gravelly sand; fill; petrol odor; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		>2000		75		***Well-Graded Sand (SW)*** Brown to black fine sand; little to some gravel; trace clay; petrol odor; wet at 7.5' bgs.
4						
6		500		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-6

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 29, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–0.5						***Concrete***
0.5–4	0–4	300		75		***Well-Graded Sand (SW)*** Black fine sand; little gravel; petrol odor; moist.
4–8	4–8	<5		75		***Well-Graded Sand with Gravel (SW)*** Black gravelly fine sand; wet at 7.5' bgs.
8						Bottom of Boring at 8 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete***
2	☒	1300		75	▒	***Well-Graded Sand (SW)*** Brown to black fine-grained sand; some gravel; petrol odor throughout; free product and tar noted at 6' bgs; sheen visible at 9' bgs; wet at 9' bgs.
4	☒	1600		50	▒	
6 8	☒	1000		60	▒	
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determir

Total Depth (feet): 12

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
		1380		80		**Concrete** **Silty Sand (SM)** Dark brown to black silty sand; some gravel; strong petrol odor throughout; wet at 12' bgs.
2						
4		1500		75		
6						
		800		10		
8						
10						
		NR		30		
12						Bottom of Boring at 12 feet
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *G-8d

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 18
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data

Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery
2		1175		25
4				
6		720	- - - -	
8				
10		300	- - - -	
12				
14			- -	

Subsurface Profile

Lithology	Description
	Ground Surface
▨	***Concrete*** Concrete
	Fill Brown to black fine-grained sand; trace gravel; petroleum odor; moist.
	Fill Gravely sand, wet.

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-8d

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 18
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
		82	- -			***Fill*** Gravely sand, wet. *(continued)*
16						
18						Bottom of Boring at 18 feet
20						
22						
24						
26						
28						
30						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: G-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	240		60	▨	**Concrete** **Well-Graded Sand (SW)** Brown fine-grained sand; few gravel; petrol odor throughout; sheen noted at 6' bgs; non-aqueous product present from 6-9' bgs.
4	☒	1480		75	▨	
6 8	☒	500		75	▨	
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-1

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
	☒	0		75	▒	***Well-Graded Sand (SW)*** Brown to black gravelly sand; some clay; petrol odor from 3'-6' bgs; wet at 5.5' bgs.
2	☒				▒	
4	☒	<5		75	▒	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-11

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		1600		70		***Well-Graded Sand with Gravel (SW)*** Black to brown gravelly sand; petrol odor and sheen.
2						
4						
		700		60		
6						
		300		25		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒					***Concrete***
2	☒	2.5		50		***Well-Graded Sand with Silt (SW-SM)*** Brown silty sand with gravel; green tinted soil noted from 6-9' bgs; wet at 9' bgs.
4	☒	29		60		
6 8	☒	100		40		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-14

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description Ground Surface
2		0		50		**Concrete** **Well-Graded Sand (SW)** Brown to black fine sand; some gravel; little clay; moist.
4		0		75		
6 8		30		25		**Fat Clay (CH)** Brown high plasticity clay; moist. **Well-Graded Sand with Gravel (SW)** Gray to black gravelly sand; non-aqueous product; wet at 8' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-18

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0					▨	***Concrete*** Concrete
2		0		50		***Fill*** Black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 4 feet bgs.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-2

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
2	☒	200		50	▨	***Well-Graded Sand (SW)*** Brown fine sand; some gravel; red brick fragments; petrol odor; moist.
4	☒	<5		75	▨	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-23

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					**Subsurface Profile**	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		1.7		75		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1.9		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-24

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		3.7		100		***Fill*** Black fine-grained sand; few gravel; petroleum odor; moist..
					▨	***Concrete*** Concrete
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-3

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		600		75		***Well-Graded Sand (SW)*** Brown to black fine sand; trace gravel; few clay; moist; petrol odor.
2						
						Well-Graded Sand with Gravel (SW) Gray to black gravelly sand; some organics; petrol odor; wet at 5.5' bgs.
4		200		75		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		1200		50		***Well-Graded Sand (SW)*** Brown to black fine-grained sand; some gravel; odor noted at 6' bgs.
2						
4		800		100		
6						***Well-Graded Sand with Gravel (SW)*** Black to gray gravelly sand; petrol odor; wet.
		400		60		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-5

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		> 2000		60		***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; petrol odor; red brick fragments.
2						
4						
		> 2000		100		
6						***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; petrol odor/sheen; wet at 8.5' bgs
		> 2000		40		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
	☒				▨	***Concrete***
2	☒	> 2000		60	▒	***Well-Graded Sand (SW)*** Brown to black sand; with gravel; petrol odor; wet at 8.5' bgs.
4	☒	> 2000		40	▒	
6 8	☒	> 2000		20	▒	
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒	600		80	▨	***Concrete*** ***Well-Graded Sand (SW)*** Brown fine-grained sand; few gravel; few clays; odor.
2						
4	☒	1900		90	▨	***Well-Graded Sand with Gravel (SW)*** Yellowish-brown to reddish brown gravelly sand; petrol odor noted throughout; sheen visible at 9' bgs; wet at 9' bgs.
6						
8	☒	1100		80	▨	
10						Bottom of Boring at 9 feet
12						
14						

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Luke

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2	☒	1300		30		***Well-Graded Sand (SW)*** Brown to black fine-grained sand; few gravel; little clay; petrol odor throughout; bright green fiberous wood material noted from 3-6' bgs; sheen noted at 6' bgs.
4	☒	1300		90		
6 8	☒	400		80		***Well-Graded Gravel with Sand (GW)*** Black sandy gravel; petrol odor and sheen; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: H-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
	☒	1400		50	░	***Well-Graded Sand (SW)*** Brown to black fine-grained sand; little gravel fill; petrol odor; sheen noted at 9' bgs.
2	☒				░	
4	☒	1200		80	░	
6	☒				░	
	☒	800		50	░	
8	☒				░	
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-1

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				Concrete	***Concrete***
2	☒	0		75	Well-Graded Sand (SW)	***Well-Graded Sand (SW)*** Brown to black fine sand; some gravel; little clay; moist; petrol odor.
4	☒	0		75	Well-Graded Sand with Gravel (SW)	***Well-Graded Sand with Gravel (SW)*** Brown to gray gravelly sand; wet at 5.5' bgs.
6 8 10 12 14						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-10

WSP

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determir

Total Depth (feet): 12

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–3 (2)		900		20		***Concrete*** ***Well-Graded Sand (SW)*** Brown fine-grained sand with gravel; petrol odor throughout; some clay noted from 3-6' bgs; moist at 9' bgs.
3–6 (4, 6)		1800		50		
6–9 (8)		700		100		
9–12 (10, 12)		20		20		***Well-Graded Gravel with Sand (GW)*** Black sandy gravel; petrol odor; wet.
12–15 (14)						Bottom of Boring at 12 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		500		60		***Well-Graded Sand with Gravel (SW)*** Black to green gravelly sand; wet from 6-9' bgs.
2						
4						
		300		60		
6						
		50		70		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒				▨	***Concrete***
2	☒	20		75	▨	***Well-Graded Sand with Silt (SW-SM)*** Black silty sand with gravel; wet at 9' bgs
4	☒	10		30	▨	
6 8	☒	35		40	▨	
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-14

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data

Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery
		0		75
2				
4				
		0		75
6				
		760		75
8				
10				
12				
14				

Subsurface Profile

Lithology | **Description**

Ground Surface

Concrete

Well-Graded Sand (SW)
Brown to black fine sand; some gravel; moist.

Gravelly Lean Clay (CL)
Gray clay with gravel; wet at 8.5' bgs.

Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-15

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 26, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	0		75	▩ ▨	***Concrete*** ***Well-Graded Sand (SW)*** Brown fine sand; trace fines and gravels; moist.
4	☒	5		75	▨	
6 8	☒	30		50	▨	***Well-Graded Sand with Gravel (SW)*** Brown sand with gravel; trace clay; petrol odor; wet at 8.5 bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-2

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–0.5	☒				▨	**Concrete**
0.5–3	☒	32		50	▒	***Well-Graded Sand with Gravel (SW)*** Brown to black sand with gravel; some clay; petrol odor; wet at 5.5' bgs.
3–6	☒	13		75	▒	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-23

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		1.5		75		***Fill*** Brown to black fine-grained sand; little green gravel; some red brick; petroleum odor; moist; some gravel from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		2.5		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-3

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	**Concrete**
2	☒	1200		50	▒	**Well-Graded Sand (SW)** Brown to black sand; some gravel; little fines; petrol odor; moist.
4	☒	600		75	▒	**Well-Graded Sand with Gravel (SW)** Black gravelly sand; little fines; petrol odor; free product; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-3d

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determir
Total Depth (feet): 18
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black fine-grained sand; trace gravel; petroleum odor; moist; becoming gravely sand from 7 to 17.5 feet bgs; becoming wet from 7 to 18 feet bgs.
2						
4						
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-3d

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determir

Total Depth (feet): 18

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
16						***Fill*** Brown to black fine-grained sand; trace gravel; petroleum odor; moist; becoming gravely sand from 7 to 17.5 feet bgs; becoming wet from 7 to 18 feet bgs. *(continued)*
18					▨	***Clay*** Black clay, wet. Bottom of Boring at 18 feet
20						
22						
24						
26						
28						
30						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2		1200		50		***Well-Graded Sand (SW)*** Gray to brown fine-grained sand; some gravel; red brick fragments noted from 3-6' bgs; moist at 3' bgs; wet at 9' bgs.
4		800		100		
6 8		400		60		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		400		10		***Concrete*** ***Well-Graded Sand with Silt (SW-SM)*** Brown/Black silty sand; some gravel; petrol odor/sheen
4		600		50		
6 8		1100		25		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand, petrol odor/sheen. Wet at 8.5' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Concrete
2	☒	1400		60		***Well-Graded Sand (SW)*** Dark brown sand; with gravel; red brick fragments; petrol odor.
4	☒	1100		50		
6 8	☒	600		30		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; some gray gravel; trace clay; petrol odor/sheen. Wet at 8' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		1400		50		***Concrete*** ***Well-Graded Sand (SW)*** Brown to balck sand; some gravel and clay; petrol odor at 3' bgs.
4		900		50		
6 8		200		25		***Well-Graded Gravel with Sand (GW)*** Black sandy gravel; petrol odor and sheen; wet.
10 12 14						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-8

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	1010		50		***Concrete*** ***Well-Graded Sand (SW)*** Brown to black fine-grained sand; some gravel; red brick fragments; petrol odor.
4	☒	1300		75		
6 8	☒	500		40		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand fill; petrol odor and sheen; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: I-9

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2		40		70		***Well-Graded Sand (SW)*** Brown fine-grained sand; some gravel; some clay; slight petrol odor; moist.
4		400		90		***Sandy Lean Clay (CL)*** Brown to gray to black sandy clay with gravel; some red brick fragments; petrol odor; moist.
6 8		120		50		***Well-Graded Gravel with Sand (GW)*** Brown sandy gravel; petrol odor and sheen; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-1

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		0		50		***Well-Graded Sand (SW)*** Brown to black sand; some gravel; little clay; red brick fragments; moist.
2						
4		0		50		
6						***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; wet at 8' bgs.
		15		50		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-10

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒					***Concrete***
2	☒	60		50		***Well-Graded Sand with Gravel (SW)*** Brown to black fine-grained gravelly sand; some brick fragments; appears to be fill material; petrol odor; moist.
4	☒	100		75		***Well-Graded Sand (SW)*** Brown to black fine-grained sand; some gravel; petrol odor and sheen.
6 8	☒	1200		75		
10						Bottom of Boring at 9 feet
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-11

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		100		50		***Gravelly Silt with Sand (ML)*** Black gravelly silt with sand; petrol odor, sheen; wet from 3-6' bgs.
4		800		100		
6 8		100		100		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determir

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		100		25		***Well-Graded Sand with Silt and Gravel (SW-SM)*** Black silty sand with gravel; petrol odor noted at 3' bgs; wet at 6' bgs.
2						
4		100		25		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

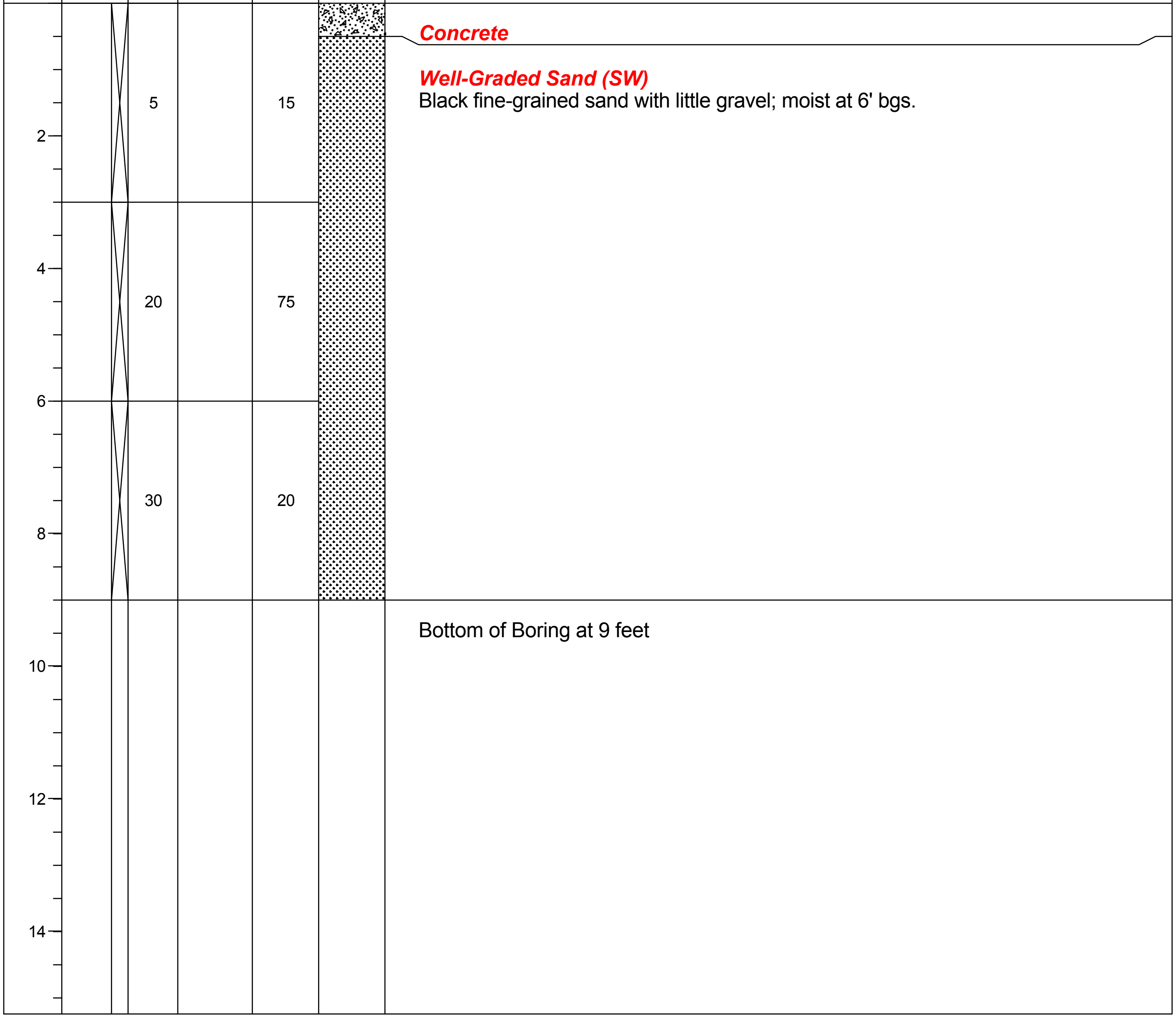
Boring Log: J-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
		5		15		***Concrete***
		20		75		***Well-Graded Sand (SW)*** Black fine-grained sand with little gravel; moist at 6' bgs.
		30		20		
						Bottom of Boring at 9 feet



Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: *J-14*

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2	☒	5		50	▨	***Well-Graded Sand with Gravel (SW)*** Dark brown sand; gravel from 3-6' bgs; wet at 6' bgs.
4	☒	150		50	▨	
6 8	☒	30		25	▨	
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-15

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
0–0.5					▨	***Concrete***
0.5–3	☒	13		60	▨	***Well-Graded Sand with Silt (SW-SM)*** Dark brown silty sand with gravel.
3–6	☒	12		50	▨	***Fat Clay (CH)*** Black to gray clay; some gravel, high plasticity; wet
6–9	☒	500		20	▨	***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; strong petrol odor
9						Bottom of Boring at 9 feet

Depth scale: 2, 4, 6, 8, 10, 12, 14

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-16

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
		11		30		***Silty Sand (SM)*** Brown silty sand; some gravel; petrol odor noted at 3' bgs; some clay from 3-6' bgs; some organics (wood) noted at 9' bgs; very sticky (tar like) from 6-9' bgs.
2						
4						
		8		50		
6						
		23		15		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-2

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		23		75		***Well-Graded Sand (SW)*** Yellowish brown to dark brown fine sand; some gravel; moist.
4		36		50		***Well-Graded Sand with Gravel (SW)*** Gray to brown gravelly sand; very wet at 8.5' bgs.
6 8		NR		50		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-20

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		4.1		60		***Fill*** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 6 to 8 feet bgs.
4						
6		3.0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *J-22

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
2		.1		50		***Fill*** Brown to black fine-grained sand; few gravel and brick; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		1.3		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-24

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
2		12.8		25		
4						
6		8.5		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-25

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 4
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2				25		***Fill*** Black fine-grained sand; few gravel; petroleum odor; moist.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: *J-3*

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–0.5	☒				▨	***Concrete***
0.5–3	☒	200		75	░	***Well-Graded Sand (SW)*** Brown to black sand; some gravel; red brick fragments; wet at 5.5' bgs.
3–6	☒	600		50	░	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		85		20		***Well-Graded Sand (SW)*** Brown to black fine-grained sand; some clay; some gravel; petrol odor.
2						
4		900		60		
6						***Well-Graded Gravel (GW)*** Black to gray gravel with sand; some organics - wood; petrol odor.
		120		60		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-5

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2		40		30		***Well-Graded Sand (SW)*** Brown find sand; some clay; some gravel; trace red brick fragments
4		80		80		
6		140		50		***Well-Graded Gravel (GW)*** Blacy and gray gravel fill; with sand, petrol odor/sheen. wet at 8.5' bgs.
8						
10						Bottom of Boring at 9 feet
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-6

Project: Chemtura Corp
Surface Elevation (feet AMSL*): Not Determined
Project No.: 131435
Total Depth (feet): 9
Location: Brooklyn NY
Borehole Diameter (inches): 2
Completion Date: October 25, 2007

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	15		50		***Concrete*** ***Well-Graded Sand (SW)*** Brown fine sand with gravel; some clay; red brick fragments; petrol odor
4	☒	420		60		***Well-Graded Sand with Gravel (SW)*** Brown and black gravelly sand; trace black silt; red brick fragments; petrol odor/sheen; wet at 8.5' bgs
6 8	☒	1000		10		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-7

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
		50		75		***Silty Sand (SM)*** Brown to black silty fine-grained sand; brick fragments noted at 3' bgs; some wood noted at 6' bgs; petrol odor from 3-6' bgs.
2						
4						
		30		90		
6						
						Well-Graded Gravel with Sand (GW) Black gravel with sand; petrol odor.
		200		60		
8						
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: J-8

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▓	***Concrete***
2	☒	133		100	▥	***Silty Sand (SM)*** Dark brown fine-grained silty sand; little medium-grained gravel; moist.
4	☒	300		80	▨	***Sandy Lean Clay (CL)*** Brown sandy clay with silt; some gravel; petrol odor.
6 8	☒	1300		60	░	***Well-Graded Sand with Gravel (SW)*** Black gravelly sandy; some fines; non-aqueous product noted; petrol odor and sheen; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: ***J-9***

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▩	***Concrete***
	☒	66		50	▒	***Well-Graded Sand (SW)*** Brown to black fine-grained sand; some gravel; red brick fragments; petrol odor and sheen; moist.
2					▒	
4	☒	430		75	▒	
6					▒	
	☒	250		50	▒	
8					▒	
						Bottom of Boring at 9 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-1

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					**Subsurface Profile**	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–3		50	- - - -	75		***Concrete*** ***Well-Graded Sand (SW)*** Brown to black sand; some gravel; little clay; petrol odor; wet at 5.5' bgs
3–6		16	- - - -	50		
6						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

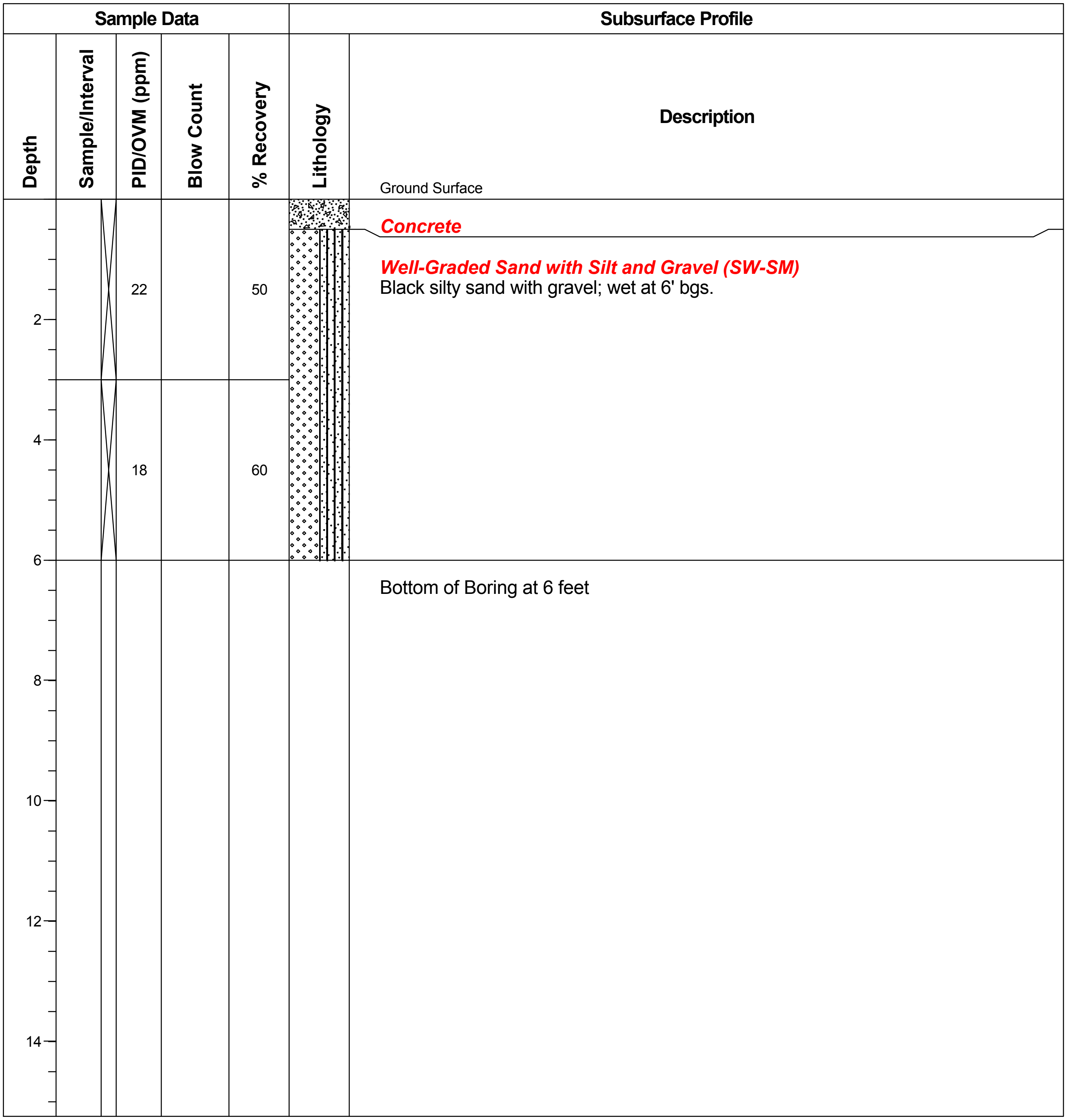
Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*



Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery
0–3	☒	22		50
3–6	☒	18		60

Concrete

Well-Graded Sand with Silt and Gravel (SW-SM)
Black silty sand with gravel; wet at 6' bgs.

Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-14

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 23, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		27		20		***Well-Graded Sand with Silt (SW-SM)*** Dark Brown Silty Sand with gravel; petrol odor; wet from 6-9' bgs.
4		21		25		
6 8		5		50		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-15

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
		39		40		***Concrete*** ***Well-Graded Sand with Silt (SW-SM)*** Brown silty fine sand, trace clay, little medium grained gravel, moist, petrol odor; wet at 8.5' bgs.
		1200		40		
		100		50		
						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-16

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 24, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2	☒	15		75		**Silty Sand (SM)** Brown silty fine-grained sand; trace clay; little medium-grained gravel; petrol odor; moist at 3' bgs.
4	☒	14		15		
6 8	☒	13		20		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-17

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	**Concrete** Concrete
2				50		**Fill** Brown to black fine-grained sand; some gravel; petroleum odor; moist.
4						
6				50		
8						**Fill** Gravely sand, wet.
10				50		
12						Bottom of Boring at 8 feet
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-2

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
2	☒	200	- - - -	50	▨ ░	***Concrete*** ***Well-Graded Sand with Gravel (SW)*** Brown to Black gravelly sand; little clay; petrol odor; moist at 5.5' bgs.
4	☒	100	- - - -	75		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-22

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		7.4		75		***Fill*** Black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		.2		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-24

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		2.4		25		***Fill*** Black fine-grained sand; some gravel; petroleum odor; moist.
4						***Fill*** Gravely sand, becoming wet from 7 to 8 feet bgs.
6		4.5		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-25

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		79		75		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		240		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *K-3

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
		100		75		***Concrete*** ***Well-Graded Sand (SW)*** Brown fine sand; some gravel; red brick fragments from 0.5-3' bgs; some organics; petrol odor; wet at 5.5' bgs.
2						
4		1000		75		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

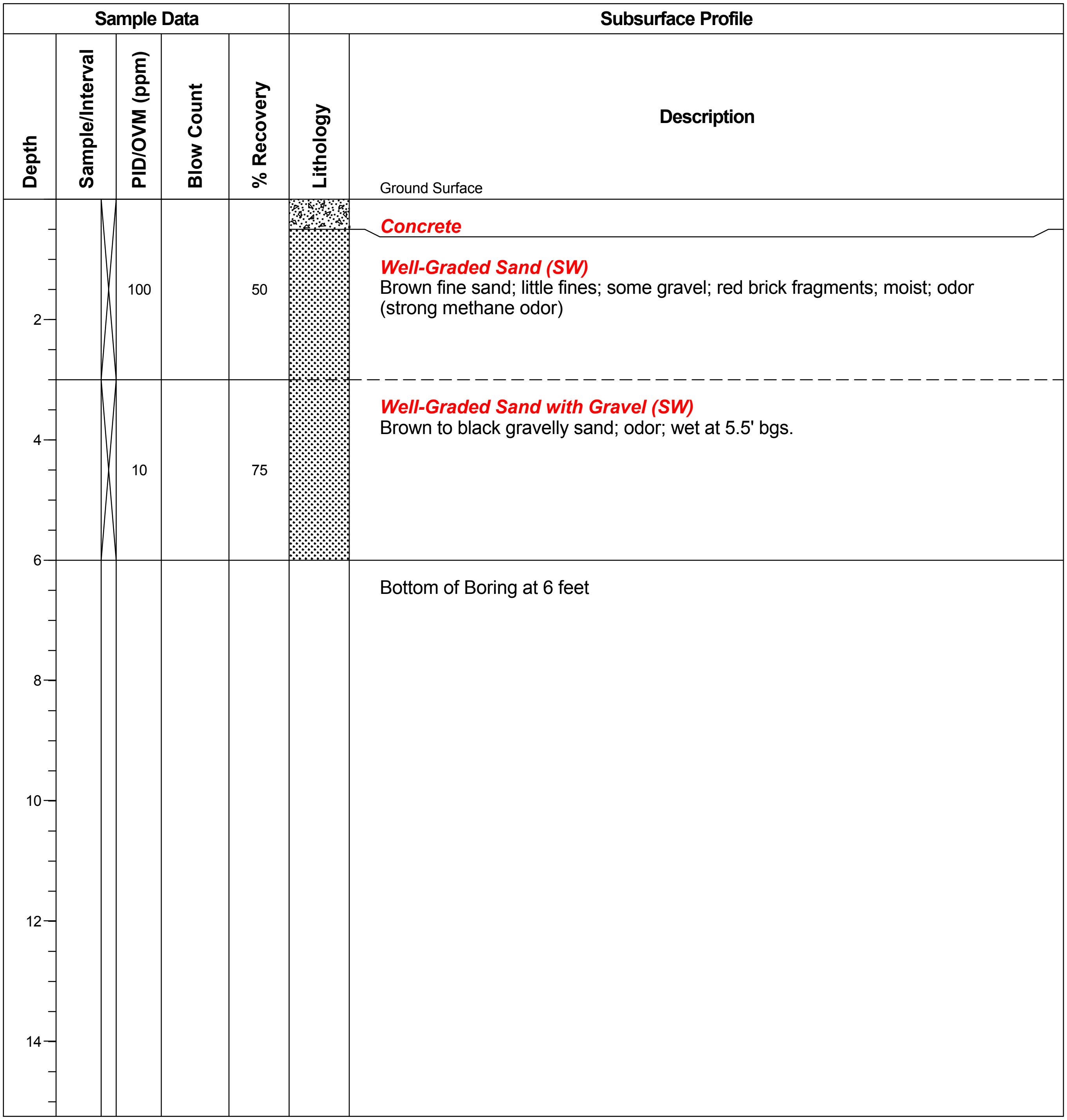
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*



Concrete

Well-Graded Sand (SW)
Brown fine sand; little fines; some gravel; red brick fragments; moist; odor (strong methane odor)

Well-Graded Sand with Gravel (SW)
Brown to black gravelly sand; odor; wet at 5.5' bgs.

Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-5

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 17, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	***Concrete*** Concrete
2		1600		75		***Fill*** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming sandy gravel from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		460		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 17, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		593		50		***Fill*** Brown to black fine-grained sand; some gravel and red brick; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		760		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-7

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 17, 2008

Surface Elevation (feet AMSL*): Not Determir
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		204		70		***Fill*** Brown to black fine-grained sand; some gravel and red brick; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; free product; becoming wet from 7 to 8 feet bgs.
4						
6		1070		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: K-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 25, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
2	☒	0		0	▨	**Concrete**
4	☒	900		75	░	**Well-Graded Sand (SW)** Black fine-grained sand; some gravel; little fines; petrol odor and sheen; wet.
6 8	☒	2000		80	░	**Well-Graded Sand with Gravel (SW)** Black gravelly sand fill; free product; petrol odor and sheen; wet.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-1

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	☒					***Concrete***
2	☒	>5	- - - -	100		***Well-Graded Sand (SW)*** Black sand; some gravel; few clay; wet at 8.5' bgs
4	☒	>5	- - - -	75		
6 8		>5	- - - -	50		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-10

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▩	***Concrete***
2	☒	130	- - - -	75	▒	***Well-Graded Sand (SW)*** Brown to black sand; some gravel; few clay; trace tar; red brick fragments; petrol odor; some organics from 3'-6' bgs; wet at 5.5' bgs.
4	☒	60	- - - -	25	▒	
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		100	- - - -	50		**Well-Graded Sand with Gravel (SW)** Brown to black gravelly sand; red brick fragments; petrol odor; non-aqueous product from 3'-6' bgs; wet at 5.5' bgs.
4		600	- - - -	75		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 17, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		625		50		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1119		1119		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-2

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 9
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete***
2		70	- - - -	75	▨	***Well-Graded Sand (SW)*** Brown fine sand; few clay; some gravel; petrol odor; moist.
4		20	- - - -	50	▨	
6 8		16	- - - -	25	▨	***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; little clay; wet at 8.5' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *L-22

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
2		0		100	▨	***Concrete*** Concrete
4						***Fill*** Black fine-grained sand; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
6		8.9		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-24

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		4.9		10		***Fill*** Black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		4.7		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-25

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 24, 2008

Surface Elevation (feet AMSL*): Not Determir

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	**Concrete** Concrete
2		180		75		**Fill** Black fine-grained sand; some gravel and brick; petroleum odor; moist; some gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		205		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Cab

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-3

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Concrete
2	☒	<5	- - - -	50		**Well-Graded Sand (SW)** Brown to black sand; few clay; soem gravel; few organics from 3'-6' bgs; wet at 5.5' bgs.
4	☒	<5	- - - -	50		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		85	- - - -	75		***Concrete*** ***Well-Graded Sand (SW)*** Brown to black sand; some gravel; little clay; slight petrol odor; moist.
4		<5	- - - -	50		***Well-Graded Sand with Gravel (SW)*** Brown gravelly sand; wet at 6.5' bgs.
6 8		0	- - - -	25		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-5

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	NR	- - - -	NR		***Concrete*** ***Well-Graded Sand (SW)*** Brown to black sand; little gravel; trace clay; moist.
4 6	☒	85	- - - -	50		***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; little clay; wet at 5.5' bgs.
8 10 12 14						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-6

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		90	- - - -	75		***Well-Graded Sand (SW)*** Brown sand; some gravel; trace clay; wet.
4		60	- - - -	50		***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; petrol odor; sheen; non-aqueous product; wet.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log:* *L-7

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	155	- - - -	75		***Concrete*** ***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; few organics; trace clay; moist.
4 6	☒	65	- - - -	75		***Well-Graded Sand (SW)*** Brown fine sand; some gravel; trace clay; free product; petrol odor; wet at 5.5' bgs.
8 10 12 14						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		50	- - - -	50		***Well-Graded Sand with Gravel (SW)*** Greenish brown sand with gravel; few clay; trace organics; moist.
4		50	- - - -	50		***Well-Graded Sand (SW)*** Brown fine sand; some gravel; free product; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: L-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 3

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		NR	- - - -	50		***Well-Graded Sand (SW)*** Brown to black sand; some gravel; red brick fragmeents; trace clay; moist; wet at bottom.
4 6 8 10 12 14						Bottom of Boring at 3 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-1

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: October 31, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	☒	>5	- - - -	50		***Concrete*** ***Well-Graded Sand (SW)*** Brown to black sand; some gravel; few clay; slight petrol odor; wet at 8.5' bgs.
4	☒	>5	- - - -	75		
6 8	☒	>5	- - - -	10		
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-10

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Concrete
2		<5	- - -	75		***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; trace organics; petrol odor from 3'-6' bgs; wet at 5.5' bgs.
4		100	- - - -	25		
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: ***M-10d***

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 18

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		650		75		***Fill*** Brown to black fine-grained sand; few gravel and red brick; petroleum odor; moist; some gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs; trace gravel from 12 to 18 feet bgs.
4						
6		260		50		
8						
10		430		20		
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-10d

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 18

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
16		260		100		***Fill*** Brown to black fine-grained sand; few gravel and red brick; petroleum odor; moist; some gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs; trace gravel from 12 to 18 feet bgs. *(continued)*
18						Bottom of Boring at 18 feet
20						
22						
24						
26						
28						
30						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-11

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data

Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery
2		10	- - - -	50
4 6		120	- - - -	50
8 10 12 14				

Subsurface Profile

Lithology	Description
	Ground Surface
▨	***Concrete***
▨	***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; little organics; petrol odor; free product from 3'-6' bgs; wet at 5.5' bgs.
	Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 17, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 12

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	**Concrete** Concrete
2		410		75		**Fill** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1600		75		
8						
10						
12						Bottom of Boring at 12 feet
14						

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Cab

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-16

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete Concrete
						Fill Brown to black fine-grained sand; few gravel and red brick; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
2		1172		75		
4						
6		86		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-19

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 19, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		1170		75		***Fill*** Brown to black fine-grained sand; few gravel and red brick; trace clay; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		170		170		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					**Subsurface Profile**	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		1070		75		***Fill*** Brown to black fine-grained sand; trace brick gravel; petroleum odor; moist; some gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		120		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Cab

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete***
2	☒	5	- - - -	25	▒	***Well-Graded Sand (SW)*** Brown to black sand; little gravel; trace clay; moist.
4	☒	110	- - - -	50	▒	***Well-Graded Sand with Gravel (SW)*** Gray to black gravelly sand; trace clays; few organics; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: *M-6*

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 6
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▩	***Concrete***
2	☒	30	- - - -	75	▨	***Well-Graded Sand (SW)*** Brown fine sand; some gravel; red brick fragments; some organics/wood; little tar; moist; petrol odor
4	☒	200	- - - -	75	▨	***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; trace clay; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete***
2	☒	10	- - - -	75	▨	***Well-Graded Sand with Gravel (SW)*** Brown to black gravelly sand; some red brick fragments from 3'-6' bgs; wet at 5.5' bgs.
4	☒	30	- - - -	75	▨	
6 8 10 12 14						Bottom of Boring at 6 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		<5	- - - -	50		***Concrete*** ***Well-Graded Sand with Gravel (SW)*** Brown fine sand with gravel; few clay; petrol odor; moist.
4		<5	- - - -	75		
6 8		130	- - - -	50		***Well-Graded Sand with Gravel (SW)*** Bown to black gravelly sand; free product; wet at 8.5' bgs.
10 12 14						Bottom of Boring at 9 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: M-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: November 1, 2007

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete
2		<5	- - - -	50		***Well-Graded Sand (SW)*** Brown sand; some gravel; few clay; red brick fragments; moist.
4		30	- - - -	50		***Well-Graded Sand with Gravel (SW)*** Black gravelly sand; few clay; free products; petrol odor; wet at 5.5' bgs.
6						Bottom of Boring at 6 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Luke
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-10

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
0–4		2.1		75		*Fill* Brown to black fine-grained sand; some clay; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4–8		790		100		
8						Bottom of Boring at 8 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Fill Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		59		75		
4						
6		1880		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
						Fill Brown fine-grained sand; few organics; few gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		.6		50		
4						
6		26.8		25		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-3

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		0		100		***Fill*** Brown fine-grained sand; trace gravel; trace clay; moist.
4						***Fill*** Black to brown gravelly sand; some fines; moist; becoming wet from 5 to 8 feet bgs.
6		0		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Cab

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-4

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Fill Brown to black fine-grained sand; trace gravel; petroleum odor; moist; becoming gravely sand from 7.5 to 8 feet bgs; becoming wet from 7.5 to 8 feet bgs.
2		0		100		
4						
6		.5		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–4		1.5		100		***Fill*** Brown to black fine-grained sand; few organics; trace gravel; petroleum odor; tar from 5 feet bgs; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4–8		465		100		
8						Bottom of Boring at 8 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-6

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Fill Brown to black fine-grained sand; little gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		5.8		100		
4						
6		125		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		.5		50		***Fill*** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming gravely sand from 6 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		340		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-8

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
2		1.8		75		***Fill*** Brown fine-grained sand; few gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		365		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: N-9

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
2		37		75		**Fill** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming gravely sand from 6 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1860		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-10

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
2				50		***Fill*** Brown fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1645		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-11

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Fill Brown fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		12.5		50		
4						
6		654		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-12

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		63		75		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1435		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: ***O-3***

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Fill Brown to black fine-grained sand; some clay; trace gravel; moist; becoming wet from 6 to 8 feet bgs.
2		0		100		
4						
6		0		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-4

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		0		100		*Fill* Brown to black fine-grained sand; trace gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		11.7		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-5

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
0–4		180		75		**Fill** Brown to black fine-grained sand; few organics; trace gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4–8		15		100		
8						Bottom of Boring at 8 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: ***O-6***

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description Ground Surface
0–4		0		75		***Fill*** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming gravely sand from 6 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4–8		16.8		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
2		16		100		***Fill*** Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		1260		25		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Fill Brown fine-grained sand; trace gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		34		50		
4						
6		1180		25		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: O-9

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 22, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Fill Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming gravely sand from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
2		1.3		50		
4						
6		1820		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: P-10

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
2		0		100		***Fill*** Brown to black sandy gravel; few fines; moist; becoming wet from 3 to 4 feet bgs.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: P-11

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Fill Brown to black sandy gravel; few fines; moist; becoming wet from 3 to 4 feet bgs.
2		2.7		100		
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: P-6

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 4
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
0–4		0		30		***Fill*** Brown gravelly clay with sand; moist; becoming wet from 3 to 4 feet bgs.
4–15						Bottom of Boring at 4 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: P-7

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					**Subsurface Profile**	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
0–4 (2)		0		50		***Fill*** Black to brown gravelly sand; few fines; moist; becoming wet from 3 to 4 feet bgs.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: P-8

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 4

Borehole Diameter (inches): 2

*AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description Ground Surface
0–3		2.9		100		**Fill** Brown peat; moist.
3–4						**Fill** Black to brown gravelly sand; some fines; moist; becoming wet from 3 to 4 feet bgs.
4						Bottom of Boring at 4 feet

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: P-9

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 4
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2		0		100		**Fill** Brown peat; moist.
						Fill Black to brown gravelly clay; trace gravel; moist; becoming wet from 3 to 4 feet bgs.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: R-22

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black fine-grained sand; some gravel; petroleum odor; moist; becoming wet from 7 feet bgs.
2		23.5		50		
4						
		2.3		25		
6						
						Bottom of Boring at 7 feet
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: T-24

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
2		2.3		50		***Fill*** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		1.5		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: U-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		0		75		***Fill*** Brown to black sand; little fines: trace gravel; moist; becoming wet at 5 feet bgs.
4		0		100		
						Bottom of Boring at 5 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: U-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 4
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
2		0		75		***Fill*** Gray gravelly clay with sand; moist.
						Fill Brown sand; trace fines; becoming wet at 4 feet bgs.
4						Bottom of Boring at 4 feet
6						
8						
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: V-12

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
					▨	***Concrete*** Concrete
2		380		50		***Fill*** Brown to black fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		670		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: V-13

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		0		100		***Fill*** Gray gravelly clay with sand; wood chips; glass; moist; becoming wet from 5 to 8 feet bgs.
4						
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: V-22

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		0.4		100		***Fill*** Brown to black fine-grained sand; trace clay; trace gravel; moist; becoming wet from 7 to 8 feet bgs.
4						
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: V-23

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
2		0		100		***Fill*** Brown to black fine-grained sand; trace clay; trace gravel; moist; becoming wet from 6 to 8 feet bgs.
4						
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: W-12

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		1200		100		***Fill*** Black fine-grained sand; trace fines; trace gravel; petroleum odor; moist; becoming wet from 6 to 8 feet bgs.
4						
6		1000		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: W-13

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
					▨	***Concrete*** Concrete
2		420		100		***Fill*** Brown to black fine-grained sand; trace clay; trace gravel; moist; becoming wet from 5 to 8 feet bgs.
4						
6		600		100		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: W-2

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 18, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	**Concrete** Concrete
2		127		50		**Fill** Brown to black fine-grained sand; few to some gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		1.2		50		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: W-22

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 23, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	**Concrete** Concrete
2		1.2		75		**Fill** Brown to black fine-grained sand; few gravel; petroleum odor; moist; some gravel from 7 to 8 feet bgs; becoming wet from 7 to 8 feet bgs.
4						
6		3.1		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: W-23

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

AMSL = Above mean sea level

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
0–4		0		75	▨	**Concrete** Concrete **Fill** Brown to black fine-grained sand with clay; trace gravel; moist; becoming wet from 6 to 8 feet bgs.
4–8		0		50		
8						Bottom of Boring at 8 feet

Geologist(s): Steven Dawson

Subcontractor: Zebra Environmental Corporation

Driller/Operator: Cab

Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: X-20

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: September 16, 2008

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
2		120		50		***Fill*** Brown fine-grained sand; few gravel; petroleum odor; moist; becoming wet from 7 to 8 feet bgs.
4						
6		340		30		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: *X-22*

Project: Chemtura Corp
Project No.: 131435
Location: Brooklyn NY
Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined
Total Depth (feet): 8
Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black sandy clay; trace gravel; moist; becoming wet from 6 to 8 feet bgs.
2		0.5		100		
4						
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: X-23

Project: Chemtura Corp

Project No.: 131435

Location: Brooklyn NY

Completion Date: May 12, 2009

Surface Elevation (feet AMSL*): Not Determined

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
					▨	***Concrete*** Concrete
						Fill Brown to black fine-grained sand with clay; trace gravel; moist; becoming wet from 6 to 8 feet bgs.
2		2		75		
4						
6		0		75		
8						Bottom of Boring at 8 feet
10						
12						
14						

Geologist(s): Steven Dawson
Subcontractor: Zebra Environmental Corporation
Driller/Operator: Cab
Method: Direct Push

WSP Environment & Energy
11190 Sunrise Valley Drive Suite 300
Reston, VA 20191
703-709-6500

Boring Log: EW-02

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

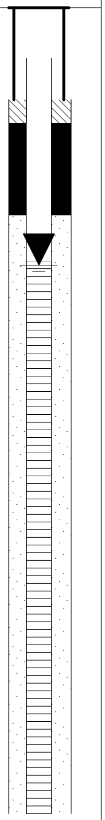
Surface Elevation (feet AMSL*): 10.59

TOC Elevation (feet AMSL*): 9.46

Total Depth (feet): 17.5

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5 10 15						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
20 25						Bottom of Boring at 17.5 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-04

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

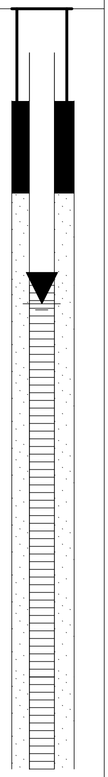
Surface Elevation (feet AMSL*): 11.26

TOC Elevation (feet AMSL*): 10.31

Total Depth (feet): 16.5

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
0–16.5						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
16.5–25						Bottom of Boring at 16.5 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

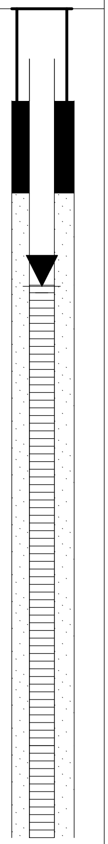
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log:* *EW-06

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 11.08
TOC Elevation (feet AMSL*): 10.00
Total Depth (feet): 18
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					**Subsurface Profile**		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5 10 15						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
20 25						Bottom of Boring at 18 feet	

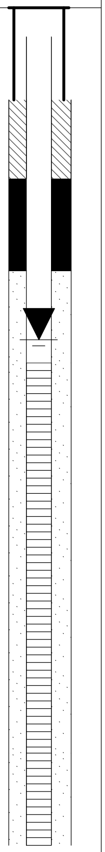
Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log:* *EW-07

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 11.47
TOC Elevation (feet AMSL*): 10.85
Total Depth (feet): 18.17
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
5							
10							
15							
						Bottom of Boring at 18.17 feet	
20							
25							

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-13

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

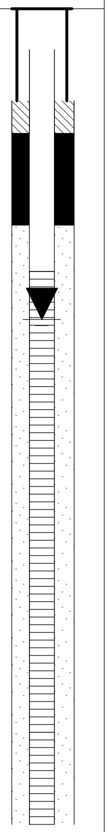
Surface Elevation (feet AMSL*): 11.15

TOC Elevation (feet AMSL*): 10.26

Total Depth (feet): 17.7

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature.	
5							
10						The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
15							
						Bottom of Boring at 17.7 feet	
20							
25							

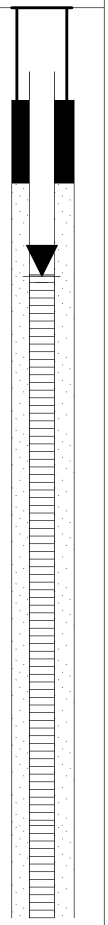
Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-18

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 10.99
TOC Elevation (feet AMSL*): 9.60
Total Depth (feet): 19.75
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

Sample Data					**Subsurface Profile**		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5 10 15						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
20 25						Bottom of Boring at 19.75 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-19

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

Surface Elevation (feet AMSL*): 10.98

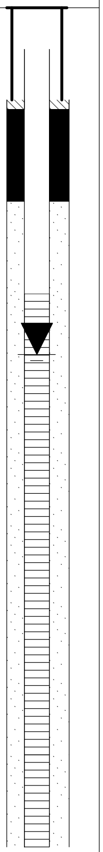
TOC Elevation (feet AMSL*): 10.08

Total Depth (feet): 18.2

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					**Subsurface Profile**		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
5 10 15						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
20 25						Bottom of Boring at 18.2 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-27

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

Surface Elevation (feet AMSL*): 10.38

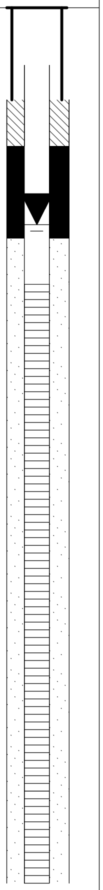
TOC Elevation (feet AMSL*): 9.14

Total Depth (feet): 19

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
0–19						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
19–25						Bottom of Boring at 19 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-29

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

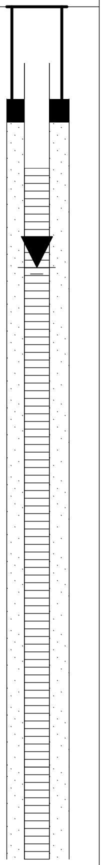
Surface Elevation (feet AMSL*): 11.19

TOC Elevation (feet AMSL*): 9.97

Total Depth (feet): 18.5

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
5 10 15						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
20 25						Bottom of Boring at 18.5 feet	

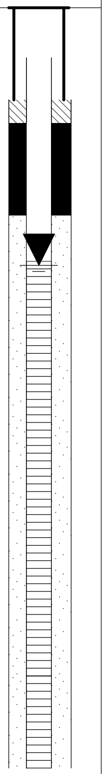
Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-36

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 10.91
TOC Elevation (feet AMSL*): 9.83
Total Depth (feet): 16.5
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5 10 15						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
20 25						Bottom of Boring at 16.5 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

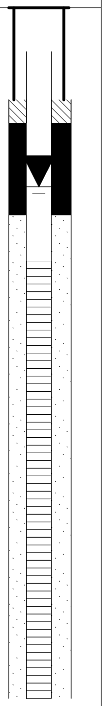
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: EW-42

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 9.35
TOC Elevation (feet AMSL*): 8.40
Total Depth (feet): 15
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					**Subsurface Profile**		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
5 10						Lithology not recorded. Extraction well constructed using type 304 stainless steel well casing and screen. Well casings are 4-inch diameter stainless steel with ASTM flush threads. Well screens are 4-inch diameter stainless steel, continuous wrap screen with 0.04" slot size and ASTM flush threads. Cement grout used for well installation is able to resist high temperatures associated with the steam injection process. This included the addition of 30 to 60 percent by weight of quartz silica or silica flour to the cement for temperature stability and the addition of sodium chloride to allow the cement to expand linearly with temperature. The well was sealed to the concrete vault using hydrated bentonite pellet seal followed by portland cement concrete grout.	
15 20 25						Bottom of Boring at 15 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

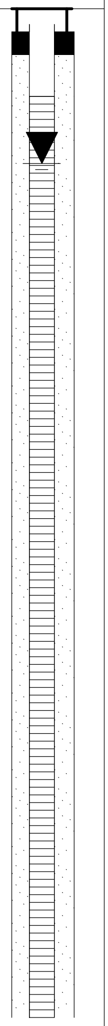
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: MW-01

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date: November 4, 201

Surface Elevation (feet AMSL*): 9.16
TOC Elevation (feet AMSL*): 8.82
Total Depth (feet): 21.9
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
5							
10							
15							
20							
						Bottom of Boring at 21.9 feet	
25							



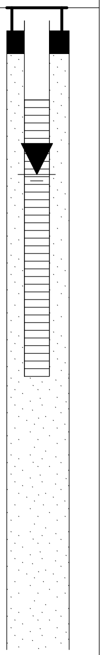
Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: MW-02

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 8.92
TOC Elevation (feet AMSL*): 8.64
Total Depth (feet): 13.93
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

Sample Data					**Subsurface Profile**		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5							
10							
						Bottom of Boring at 13.93 feet	
15							
20							
25							

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: ***MW-03***

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date: November 11, 2011

Surface Elevation (feet AMSL*): 7.75

TOC Elevation (feet AMSL*): 7.57

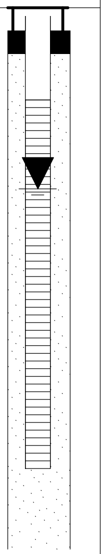
Total Depth (feet): 11.75

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
5							
10							
						Bottom of Boring at 11.75 feet	
15							
20							
25							



Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

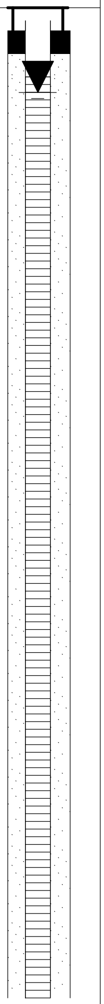
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: MW-04

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date: November 7, 201

Surface Elevation (feet AMSL*): 7.13
TOC Elevation (feet AMSL*): 6.90
Total Depth (feet): 21.5
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5							
10							
15							
20							
						Bottom of Boring at 21.5 feet	
25							

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

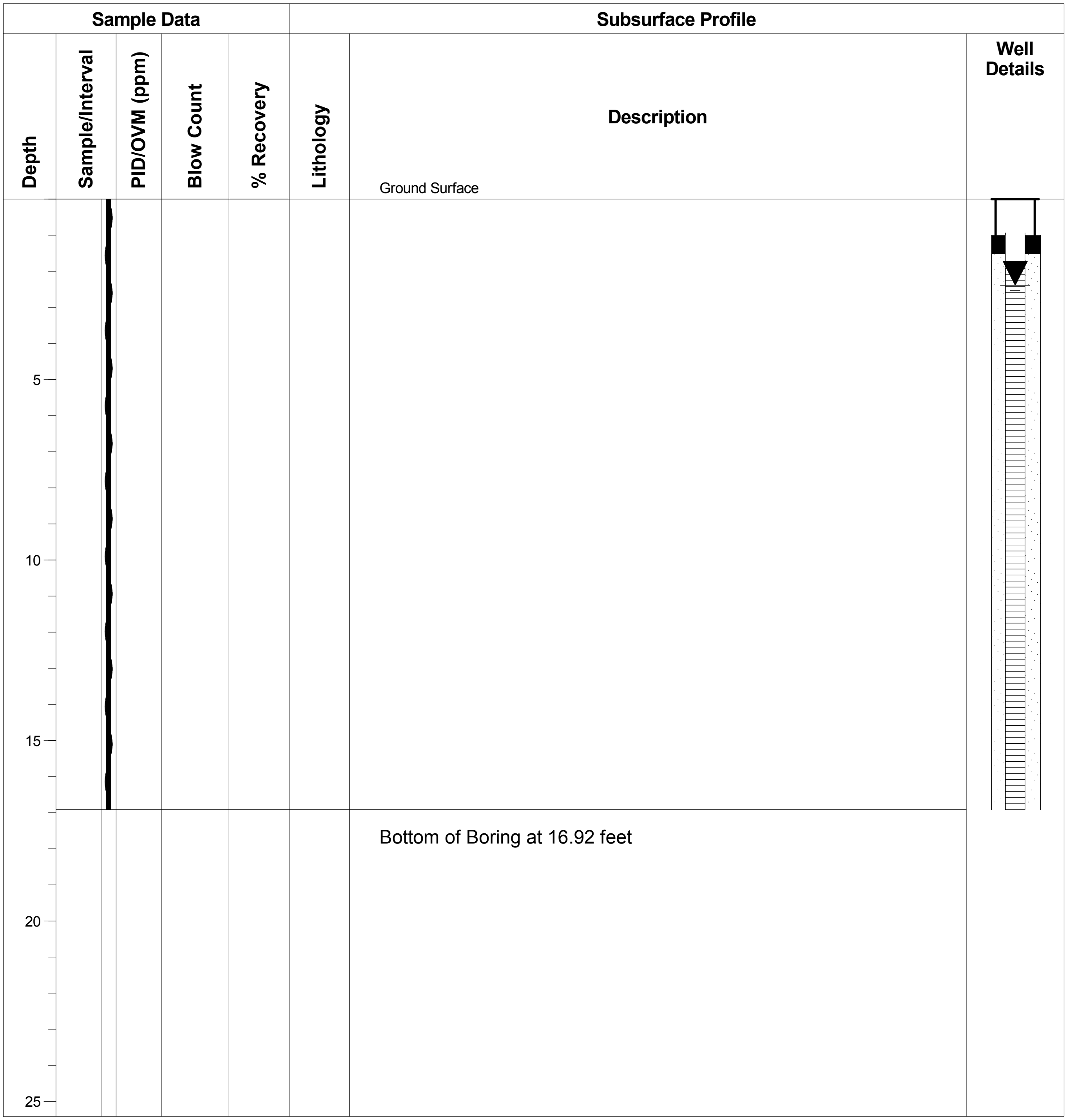
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: MW-05

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date: March 12, 2012

Surface Elevation (feet AMSL*): 7.50
TOC Elevation (feet AMSL*): 6.58
Total Depth (feet): 16.92
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.



Bottom of Boring at 16.92 feet

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

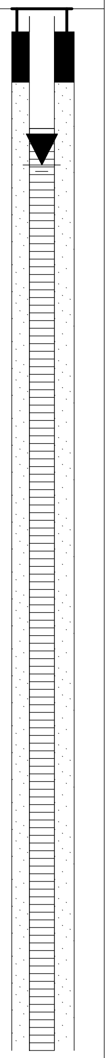
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: MW-06

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date: March 13, 2012

Surface Elevation (feet AMSL*): 9.94
TOC Elevation (feet AMSL*): 9.77
Total Depth (feet): 22.6
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5 10 15 20							
25						Bottom of Boring at 22.6 feet	



Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

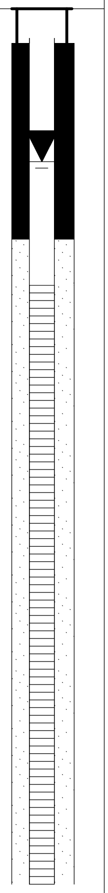
Boring Log: MW-07

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date: March 14, 2012

Surface Elevation (feet AMSL*): 11.85
TOC Elevation (feet AMSL*): 11.21
Total Depth (feet): 19
Borehole diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
5							
10							
15							
20						Bottom of Boring at 19 feet	
25							



Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

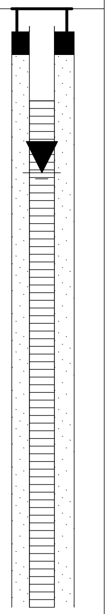
WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: ***MW-08***

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date: March 14, 2012

Surface Elevation (feet AMSL*): 7.98
TOC Elevation (feet AMSL*): 7.60
Total Depth (feet): 13
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
5							
10							
						Bottom of Boring at 13 feet	
15							
20							
25							

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: MW-09

Project: Crompton Corporation

Project No.: 26247

Location: Brooklyn, New York

Completion Date:

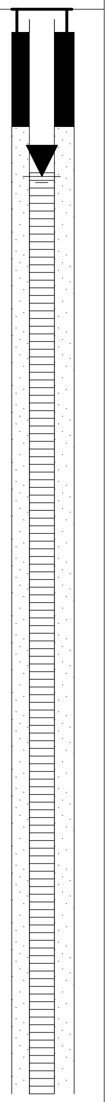
Surface Elevation (feet AMSL*): 11.95

TOC Elevation (feet AMSL*): 11.73

Total Depth (feet): 23.55

Borehole diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface	**Well Details**
							
5							
10							
15							
20							
25						Bottom of Boring at 23.55 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Boring Log: *MW-10*

Project: Crompton Corporation
Project No.: 26247
Location: Brooklyn, New York
Completion Date:

Surface Elevation (feet AMSL*): 9.55
TOC Elevation (feet AMSL*): 9.53
Total Depth (feet): 13.01
Borehole diameter (inches): 2
**AMSL = Above mean sea level*

WSP Engineering of New York, P.C.

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
						Bottom of Boring at 13.01 feet	

Geologist(s): Robert Wallace
Subcontractor: Trinity
Driller/Operator:
Method:

WSP Engineering of New York, P.C.
2360 Sweet Home Rd, Suite 3
Amherst, New York 14228
(716) 691-5232

Appendix C – NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Soil Vapor/Indoor Air Matrix 1 and 2

(Included in electronic copy only – See enclosed CD)

c. All appropriate air samples are collected. However, the indoor air quality questionnaire and building inventory forms are filled out incompletely or incorrectly. The contribution of indoor sources cannot be evaluated.

When the source(s) of volatile chemicals to indoor air cannot be identified with confidence, resampling is typically recommended with corrections made as appropriate. For example, using the three scenarios presented above:

a. resampling occurs after interferences are removed;

b. concurrent indoor air, outdoor air and sub-slab vapor samples are collected; and

c. an indoor air quality questionnaire and building inventory form is filled out completely and correctly when samples are collected.

Notes: See notes presented in Section 3.3.2.

3.3.4 Outdoor air

Outdoor air sampling results are primarily used to evaluate the extent to which outdoor air may be contributing to the levels of volatile chemicals detected in indoor air. However, people are also exposed to the outdoor air and the outdoor air results are indicative of outdoor air conditions. As such, outdoor air results are also reviewed to determine whether outdoor air conditions present a potential concern that requires further investigation.

As discussed in Sections 1.4 and 3.2.3, volatile chemicals may be present in outdoor air due to emissions from automobiles, lawn mowers, oil storage tanks, gasoline stations, and dry cleaners or other commercial and industrial facilities. To determine what extent, if any, outdoor air is affecting indoor air quality, indoor air results are compared to outdoor air results. To determine whether outdoor air conditions present a potential concern that requires further investigation, the State looks at the data set as a whole and considers the following:

a. background concentrations of volatile chemicals in outdoor air;

b. the NYSDOH's guidelines for volatile chemicals in air [Table 3.1];

c. human health risks (i.e., cancer and non-cancer health effects) associated with exposure to the volatile chemical in air; and

d. the factors described in Section 3.2.

3.4 Decision matrices

3.4.1 Overview

Decision matrices are risk management tools, developed by the NYSDOH in conjunction with other agencies, to provide guidance on a case-by-case basis about actions that should be taken to address current and potential exposures related to soil vapor intrusion. The matrices are intended to be used when evaluating the results from buildings with full slab foundations. The matrices encapsulate the data evaluation processes and actions recommended to address exposures discussed in Sections 3.3.2 and 3.3.3. The general format of a decision matrix is shown in Table 3.2.

Table 3.2 General format of a decision matrix

	Indoor Air Concentration of Volatile Chemical (mcg/m³)		
Sub-slab Vapor Concentration of Volatile Chemical (mcg/m³)	Concentration Range 1	Concentration Range 2	Concentration Range 3
Concentration Range 1	ACTION	ACTION	ACTION
Concentration Range 2	ACTION	ACTION	ACTION
Concentration Range 3	ACTION	ACTION	ACTION

Indoor air and sub-slab vapor concentration ranges in a matrix are selected based on a number of considerations in addition to health risks. For example, factors that are considered when selecting the ranges include, but are not limited to, the following:

a. human health risks (i.e., cancer and non-cancer health effects) associated with exposure to the volatile chemical in air;

b. the NYSDOH's guidelines for volatile chemicals in air [Table 3.1];

c. background concentrations of volatile chemicals in air [Section 3.2.4];

d. analytical capabilities currently available; and

e. attenuation factors (i.e., the ratio of indoor air to sub-slab vapor concentrations).

3.4.2 Matrices

The NYSDOH has developed two matrices, which are included at the end of Section 3.4, to use as tools in making decisions when soil vapor may be entering buildings. The first decision matrix was originally developed for TCE and the second for PCE. As summarized in Table 3.3, four chemicals have been assigned to the two matrices to date.

Table 3.3 Volatile chemicals and their decision matrices

Chemical	**Soil Vapor/Indoor Air Matrix***
Carbon tetrachloride	Matrix 1
Tetrachloroethene (PCE)	Matrix 2
1,1,1-Trichloroethane (1,1,1-TCA)	Matrix 2
Trichloroethene (TCE)	Matrix 1

*The decision matrices are available at the end of Section 3.4.

Because the matrices are risk management tools and consider a number of factors, the NYSDOH intends to assign chemicals to one of these two matrices, if possible. For example, if a chemical other than those already assigned to a matrix is identified as a chemical of concern during a soil vapor intrusion investigation, assignment of that chemical into one of the existing decision matrices will be considered by the NYSDOH. Factors that will be considered in assigning a chemical to a matrix include, but are not limited to, the following:

a. human health risks, including such factors as a chemical's ability to cause cancer, reproductive, developmental, liver, kidney, nervous system, immune system or other effects, in animals and humans and the doses that may cause those effects;

b. the data gaps in its toxicologic database;

c. background concentrations of volatile chemicals in indoor air [Section 3.2.4]; and

d. analytical capabilities currently available.

If the NYSDOH determines that the assignment of the chemical into an existing matrix is inappropriate, then the NYSDOH will either modify an existing matrix or develop a new matrix.

To use the matrices appropriately as a tool in the decision-making process, the following should be considered:

a. The matrices are generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

b. Indoor air concentrations detected in samples collected from the building's basement or, if the building has a slab-on-grade foundation, from the building's lowest occupied living space should be used.

c. Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

d. When current exposures are attributed to sources other than vapor intrusion, the agencies should be provided documentation(e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix and to support assessment and follow-up by the agencies.

3.4.3 Description of recommended actions

Actions recommended in the matrix are based on the relationship between sub-slab vapor concentrations and corresponding indoor air concentrations. They are intended to address both potential and current human exposures and include the following:

a. *No further action*

When the volatile chemical is not detected in the indoor air sample and the concentration detected in the corresponding sub-slab vapor sample is not expected to substantially affect indoor air quality.

b. *Take reasonable and practical actions to identify source(s) and reduce exposures*

The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile chemical-containing products in places where people do not spend much time, such as a garage or shed). Resampling may also be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

d. *Monitor*

Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is appropriate to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be appropriate to determine whether existing building conditions (e.g., positive pressure HVAC systems) are maintaining the desired mitigation endpoint and to determine whether changes are appropriate.

The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions.

e. *Mitigate*

Mitigation is appropriate to minimize current or potential exposures associated with soil vapor intrusion. Methods to mitigate exposures related to soil vapor intrusion are described in Section 4.

f. *Monitor / Mitigate*

Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

Soil Vapor / Indoor Air Matrix 1

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg / m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg / m^3)	< 0.25	0.25 to < 1	1 to < 5.0	5.0 and above
< 5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
5 to < 50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
50 to < 250	9. MONITOR	10. MONITOR / MITIGATE	11. MITIGATE	12. MITIGATE
250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 1

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 0.25 microgram per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended for buildings with full slab foundations, and 1 microgram per cubic meter for buildings with less than a full slab foundation.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.

Soil Vapor / Indoor Air Matrix 2

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg / m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg / m^3)	< 3	3 to < 30	30 to < 100	100 and above
< 100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
100 to < 1,000	5. MONITOR	6. MONITOR / MITIGATE	7. MITIGATE	8. MITIGATE
1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 2

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 3 micrograms per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.

FIGURE 1

INNER or PILOT HOLE

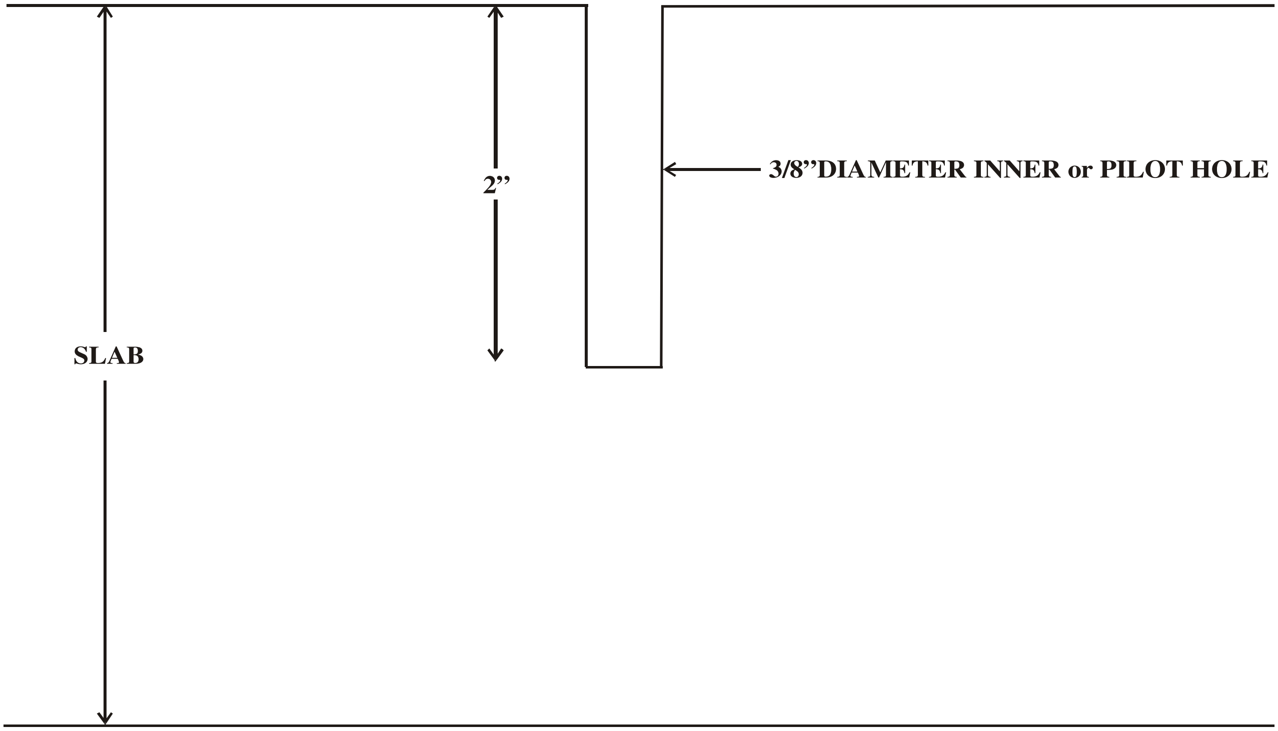


FIGURE 2

OUTER HOLE

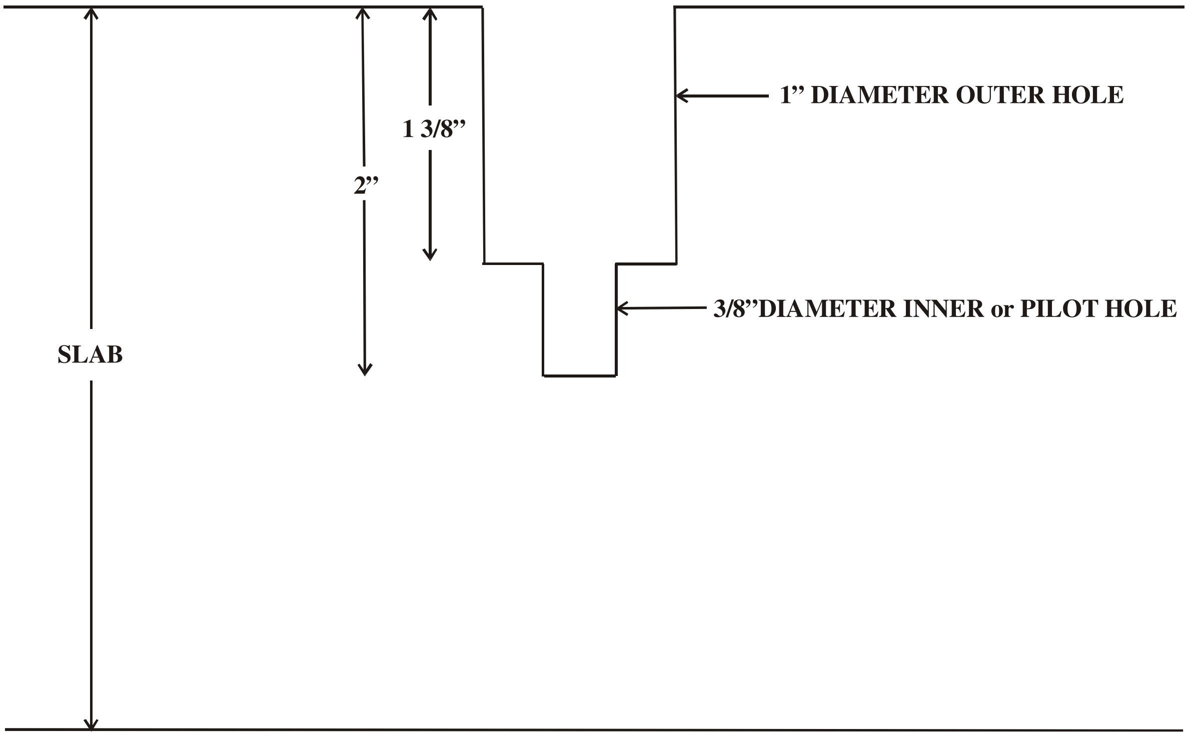


FIGURE 3

COMPLETED HOLE PRIOR to PROBE INSTALLATION

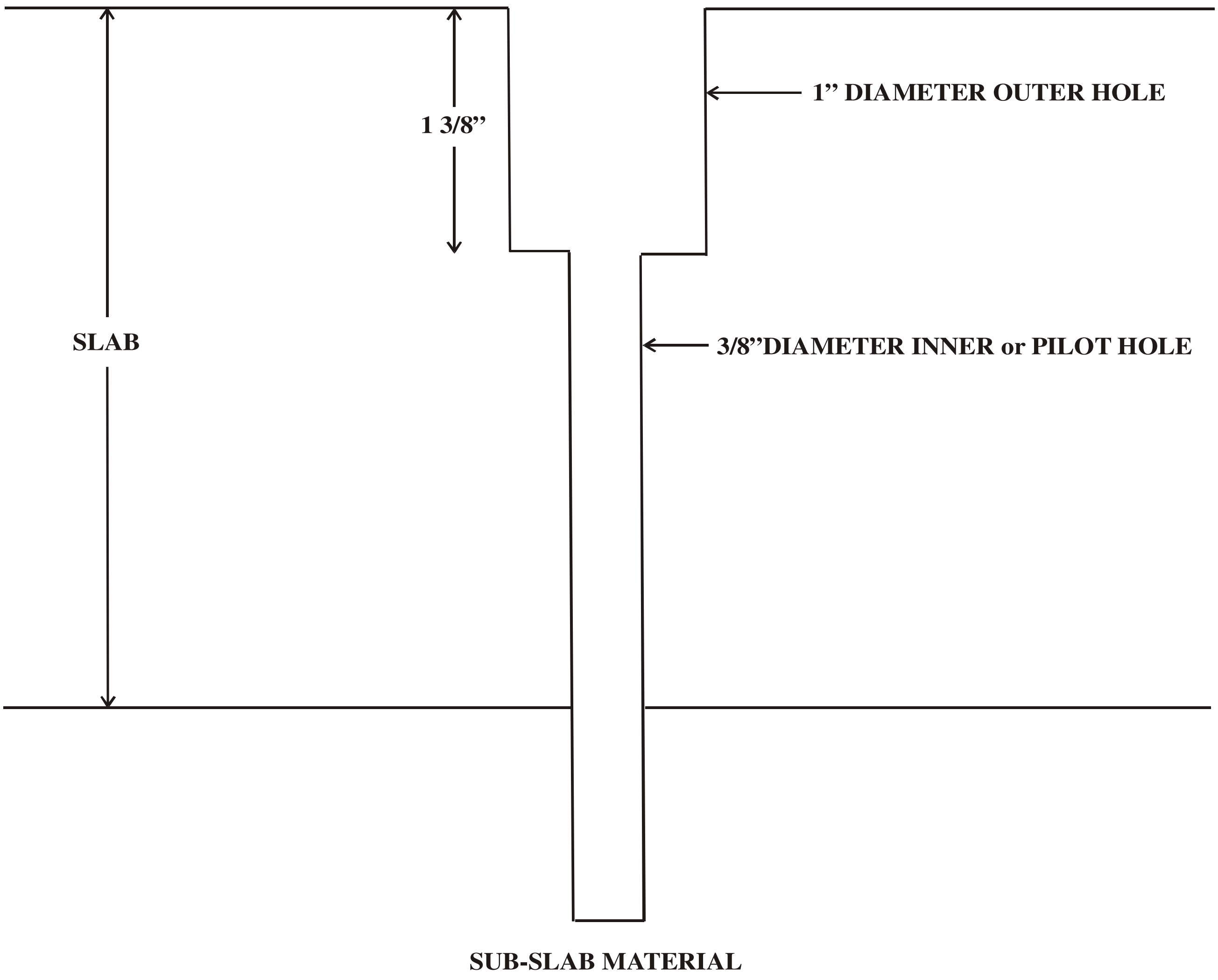


FIGURE 4

SOIL GAS PROBE INSTALLED

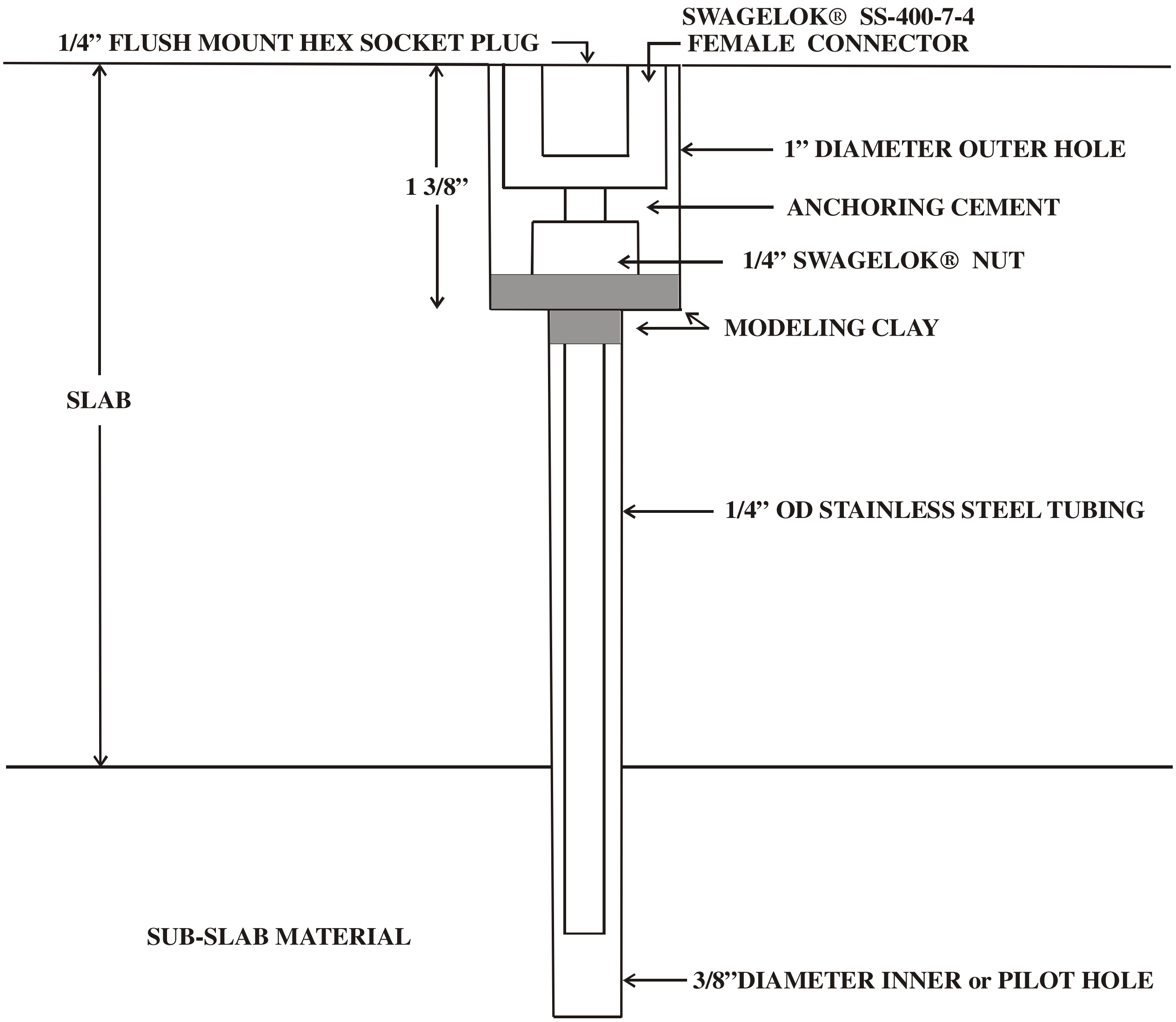
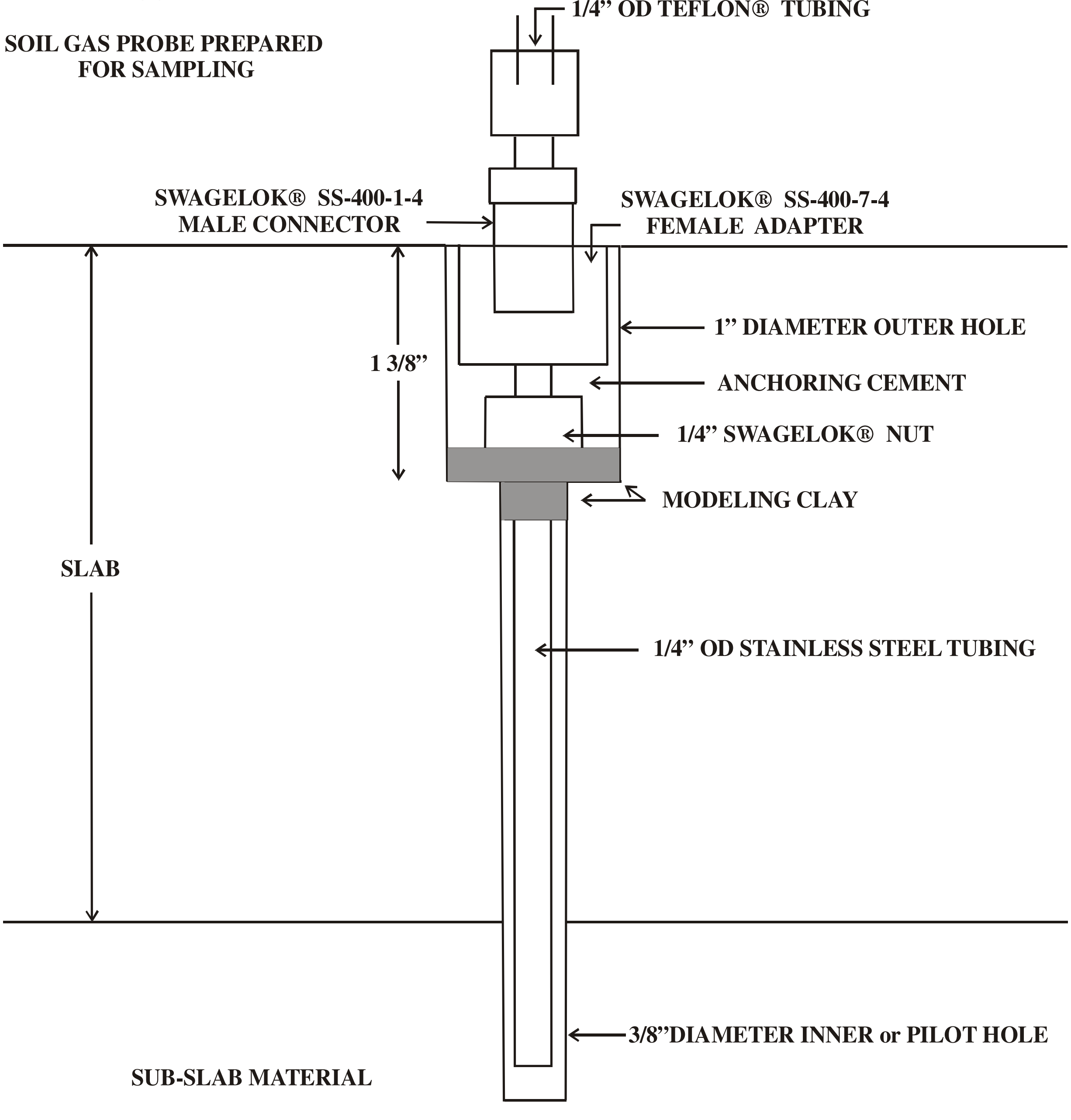


FIGURE 5

SOIL GAS PROBE PREPARED FOR SAMPLING



Appendix D – Data Validation Summary Reports
(Included in electronic copy only – See enclosed CD)

Data Validation Report

SDG#	3056667
Validation Report Date	May 29, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
10/25/11	12P-02	3056667001	Solid	X
10/25/11	12P-01	3056667002	Solid	X
10/25/11	12P-12	3056667003	Solid	X
10/25/11	12P-23	3056667004	Solid	X
10/25/11	12P-34	3056667005	Solid	X
10/25/11	12P-45	3056667006	Solid	X
10/25/11	5P-02	3056667007	Solid	X
10/25/11	5P-01	3056667008	Solid	X
10/25/11	5P-12	3056667009	Solid	X
10/25/11	5P-23	3056667010	Solid	X
10/25/11	5P-34	3056667011	Solid	X
10/25/11	5P-45	3056667012	Solid	X
10/25/11	5P-56	3056667013	Solid	X
10/25/11	2D-45	3056667032	Solid	X
10/25/11	12O-02	3056667033	Solid	X
10/25/11	12O-01	3056667034	Solid	X
10/25/11	12O-12	3056667035	Solid	X
10/25/11	12O-23	3056667036	Solid	X
10/25/11	12O-34	3056667037	Solid	X
10/25/11	12O-45	3056667038	Solid	X
10/25/11	12D-12	3056667041	Solid	X
10/25/11	3O-02	3056667042	Solid	X
10/25/11	3O-01	3056667043	Solid	X
10/25/11	3O-12	3056667044	Solid	X
10/25/11	3O-23	3056667045	Solid	X
10/25/11	3O-34	3056667046	Solid	X
10/25/11	3O-45	3056667047	Solid	X
10/25/11	3O-56	3056667048	Solid	X
10/25/11	2N-02	3056667049	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
10/25/11	2N-01	3056667050	Solid	X
10/25/11	2N-12	3056667051	Solid	X
10/25/11	2N-23	3056667052	Solid	X
10/25/11	4P-02	3056667014	Solid	X
10/25/11	4P-01	3056667015	Solid	X
10/25/11	4P-12	3056667016	Solid	X
10/25/11	4P-23	3056667017	Solid	X
10/25/11	4P-34	3056667018	Solid	X
10/25/11	4P-45	3056667019	Solid	X
10/25/11	3P-02	3056667020	Solid	X
10/25/11	3P-01	3056667021	Solid	X
10/25/11	3P-12	3056667022	Solid	X
10/25/11	3P-23	3056667023	Solid	X
10/25/11	3P-34	3056667024	Solid	X
10/25/11	3P-45	3056667025	Solid	X
10/25/11	2P-02	3056667026	Solid	X
10/25/11	2P-01	3056667027	Solid	X
10/25/11	2P-12	3056667028	Solid	X
10/25/11	2P-23	3056667029	Solid	X
10/25/11	2P-34	3056667030	Solid	X
10/25/11	2P-45	3056667031	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 50 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* - Data Completeness
- Holding Times
- Calibration (Initial and Continuing)

* - Blanks

* - System Monitoring Compounds (Surrogate Spikes)

* - Matrix Spike/Matrix Spike Duplicates

* - Laboratory Control Sample (LCS)

* - Target Compound Identification

- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

Several samples were place on hold as per client request. These samples were extracted 70 days after sample collection. The samples were refrigerated from the time of collection to extraction. The validator used professional judgment to not reject the sample results because Aroclors are not subject to loss through volatilization or biological degradation. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

4P-02
4P-34
3P-12
2P-02
2P-34
4P-01
4P-45
3P-23
2P-01
2P-45
4P-12
3P-02
3P-34
2P-12
4P-23
3P-01
3P-45
2P-23

2. Calibration

The continuing calibration for PCB 1260 exceeded the 25% difference criteria on 11/13/11 at 1735 on column RTX-5. In the following samples, positive results were qualified as estimated “J.”

12O-34
12O-45

3. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The relative percent difference (RPD) between columns exceeded 50% for PCB 1254 in samples 2P-34 and 4P-02. The positive results for 1254 were qualified as estimated, “J.”

2P-34
4P-02

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for samples 5P-56, 12O-02, 2N-02, and 2N-01 due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate

Samples 12O-45 and 12O-02 were used as MS/MSDs. No recoveries were reported for these samples due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Laboratory control samples were analyzed. Recoveries were acceptable.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the samples noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	**Samples**
1X	3O-01, 3O-12, 3O-23
10X	12P-23, 12O-45
25X	5P-56
200X	12O-02, 2N-02
500X	2N-01

Field Duplicates

Calculated RPD for positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
2P-45	2D-45		
ND	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Validator Date

Data Validation Report

SDG#	3056732
Validation Report Date	September 21, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	Metals Hg
10/27/11	RI-SB-57-02	3056732001	Solid	X	X	X	X
10/27/11	RI-SB-57-46	3056732002	Solid	X	X	X	X
10/27/11	RI-SB-48-02	3056732003	Solid	X	X	X	X
10/27/11	RI-SB-48-46	3056732004	Solid	X	X	X	X
10/27/11	RI-SB-40-02	3056732005	Solid	X	X	X	X
10/27/11	RI-SB-40-57	3056732006	Solid	X	X	X	X
10/27/11	RI-SB-32-02	3056732007	Solid	X	X	X	X
10/27/11	RI-SB-32-57	3056732008	Solid	X	X	X	X
10/27/11	RI-SB-31-02	3056732009	Solid	X	X	X	X
10/27/11	RI-SB-31-46	3056732010	Solid	X	X	X	X
10/27/11	RI-SB-30-02	3056732011	Solid	X	X	X	X
10/27/11	RI-SB-30-46	3056732012	Solid	X	X	X	X
10/27/11	RI-SB-39-02	3056732013	Solid	X	X	X	X
10/27/11	RI-SB-39-57	3056732014	Solid	X	X	X	X
10/27/11	RI-SB-21-02	3056732015	Solid	X	X	X	X
10/27/11	RI-SB-21-46	3056732016	Solid	X	X	X	X
10/27/11	RI-SB-20-02	3056732017	Solid	X	X	X	X
10/27/11	RI-SB-20-46	3056732018	Solid	X	X	X	X
10/27/11	RI-SB-2D-02	3056732019	Solid	X	X	X	X
10/27/11	Trip Blank	3056732022	Aqueous	X			

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 19 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
• Calibration (Initial and Continuing)
• Blanks
• System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
• Internal Standards
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The pesticide findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
• Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
*	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-57-02 RI-SB-57-46 RI-SB-48-02 RI-SB-48-46
RI-SB-40-02 RI-SB-40-57 RI-SB-32-02 RI-SB-32-57
RI-SB-31-02 RI-SB-31-46 RI-SB-30-02 RI-SB-30-46
RI-SB-39-02 RI-SB-39-57 RI-SB-21-02 RI-SB-21-46
RI-SB-20-02 RI-SB-20-46 RI-SB-2D-02 Trip Blank

Continuing calibration percent differences (%Ds) for tirchlrotrifluoromethane and chloroethane exceeded the 25% quality control limit on 11/2/11. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, "UJ" and "J."

RI-SB-57-02 RI-SB-57-46 RI-SB-32-57 RI-SB-31-02
RI-SB-31-46 RI-SB-21-02 RI-SB-20-02 RI-SB-20-46

The continuing calibration %D for cyclohexane exceeded the 25% quality control limit on 11/4/11. In the following samples, nondetected and positive results for cyclohexane were qualified as estimated, “UJ” and “J.”

RI-SB-48-02 RI-SB-48-46 RI-SB-40-02 RI-SB-30-02
RI-SB-30-46 RI-SB-39-02 RI-SB-21-46 RI-SB-2D-02

2. System Monitoring Compounds

Recovery of the surrogate 4-bromofluorobenzene fell below the lower quality control limit in several samples. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

RI-SB-20-02 RI-SB-2D-02

Recovery of the surrogate toluene-d8 exceeded below the upper quality control limit in several samples. In the following samples, positive results were qualified as estimated “J.”

RI-SB-32-57 RI-SB-31-02 RI-SB-31-46 RI-SB-48-02
RI-SB-40-02 RI-SB-40-57 RI-SB-32-02 RI-SB-30-02
RI-SB-21-46

3. Blanks

The laboratory method blanks and/or trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	2.27	22.7	Results < Action Level U
	Chloromethane	0.79	3.95	No qualifiers

4. Laboratory Control Sample Results

Recoveries of acetone and 2-butanone exceeded the upper quality control limit in LCS 362384. In the following samples, positive results for acetone and 2-butanone were qualified as estimated “J.”

RI-SB-57-02 RI-SB-57-46 RI-SB-32-57 RI-SB-31-02
RI-SB-31-46 RI-SB-39-57 RI-SB-21-02 RI-SB-20-02
RI-SB-20-46 Trip Blank

Recoveries of 1,1-dichloroethene, chloroethane, methylene chloride, and trans-1,2-dichloroethene fell below the lowerquality control limit in LCS 364202. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated “UJ” and “J.”

RI-SB-48-02 RI-SB-48-46 RI-SB-40-02 RI-SB-40-57
RI-SB-32-02 RI-SB-30-02 RI-SB-30-46 RI-SB-39-02
RI-SB-21-46 RI-SB-2D-02

5. Internal Standard Results

Recovery of the internal standard 1,4-dichlorobenzene-d4 exceeded the 200% quality control limit in sample RI-SB-2D-02. Positive results associated with this standard were qualified as estimated, “J.”

RI-SB-2D-02

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

7. Calibration

A continuing calibration %Ds exceeded the 25% quality control limit for 4-chloroaniline. In the following samples, nondetected results for the aforementioned compound were qualified as estimated, “UJ.”

RI-SB-57-02 RI-SB-57-46 RI-SB-48-02 RI-SB-48-46
RI-SB-40-02 RI-SB-40-57 RI-SB-32-02 RI-SB-32-57
RI-SB-31-02 RI-SB-31-46 RI-SB-30-02 RI-SB-30-46
RI-SB-39-02 RI-SB-39-57 RI-SB-21-02 RI-SB-21-46
RI-SB-20-02 RI-SB-20-46 RI-SB-2D-02

8. Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the -50% quality control limit in several samples. In the following samples, nondetected and positive results associated with this standard were qualified as estimated “UJ” and “J.”

RI-SB-57-02 RI-SB-40-57

Recoveries of the internal standards perylene-d12 and chrysene-d5 fell below the -50% quality control limit in several samples. In the following samples, nondetected and positive results associated with these standards were qualified as estimated “UJ” and “J.”

RI-SB-32-57 RI-SB-40-02

9. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

PESTICIDES

10. Blanks

The laboratory method blanks exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 3056732	g-Chlordane	0.07	0.35	Results < Action Level U
MB 363509	d-BHC	0.31	1.55	Results < Action Level U
	Endrin ketone	0.17	0.85	Results < Action Level U
	g-Chlordane	0.09	0.45	Results < Action Level U

11. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	**Qualifier**	**Parameter**
RI-SB-57-02	U	Heptachlor, Endosulfan I, Dieldrin
	J	4,4’-DDE, 4,4’-DDT
RI-SB-57-46	U	g-BHC, Heptachlor epoxide, Endosulfan I, Endosulfan II, Endrin ketone,
	J	Dieldrin
RI-SB-48-02	U	Endrin, Endosulfan II, Methoxychlor, Endrin aldehyde, a-Chlordane
	J	Endosulfan sulfate
RI-SB-48-46	U	g-BHC, Endrin, Endosulfan II, Endrin aldehyde, g-Chlordane
	J	Dieldrin, 4,4’-DDT, Endrin ketone
RI-SB-40-02	U	Heptachlor epoxide, Endosulfan sulfate
	J	b-BHC
RI-SB-40-57	U	g-BHC, 4,4’-DDE, 4,4’-DDT
	J	Endosulfan sulfate
RI-SB-32-02	U	g-BHC, 4,4’-DDE, Methoxychlor, Endrin ketone, Endrin aldehyde
	J	Heptachlor, Endrin, 4,4’-DDD, Endosulfan sulfate, 4,4’-DDT

Sample	Qualifier	Parameter
RI-SB-32-57	U	g-BHC, 4,4'-DDE, Endrin, 4,4'-DDT
	J	4,4'-DDD
RI-SB-31-02	U	Endosulfan I, Dieldrin, Endrin, Methoxychlor
	J	b-BHC, g-BHC
RI-SB-31-46	U	g-BHC, Endosulfan I, Dieldrin, Endrin, 4,4'-DDT, Methoxychlor
RI-SB-30-02	U	Dieldrin, 4,4'-DDT
	J	4,4'-DDE, Endrin ketone
RI-SB-30-46	U	g-BHC, Dieldrin, Endosulfan II, 4,4'-DDT, Endrin aldehyde
	J	b-BHC, Heptachlor, 4,4'-DDE, Endrin ketone
RI-SB-39-02	U	b-BHC, Heptachlor epoxide, a-Chlordane
	J	Dieldrin, Endosulfan II, Endrin ketone
RI-SB-39-57	U	b-BHC, Heptachlor, Dieldrin, 4,4'-DDE, Endrin, Endosulfan sulfate, Endrin ketone, Endrin aldehyde
	J	4,4'-DDT
RI-SB-21-02	U	Heptachlor epoxide, Dieldrin
	J	g-BHC, Endosulfan I, Methoxychlor
RI-SB-21-46	U	b-BHC, Endosulfan I, Dieldrin, Methoxychlor
	J	g-BHC, Endrin aldehyde
RI-SB-20-02	J	4,4'-DDT
	J	4,4'-DDT
RI-SB-20-46	U	Endosulfan sulfate

INORGANIC COMPOUNDS

12. Spike Results

Recoveries of antimony, arsenic, barium, chromium, copper, nickel, potassium, sodium, and vanadium fell outside the quality control limits for RI-SB-20-46 MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated "J" and "UJ."

RI-SB-20-46

13. Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for the laboratory duplicate of RI-SB-20-46. In the original sample, positive results were qualified as estimated "J."

RI-SB-20-46

14. ICP Serial Dilution

Eighteen elements failed to meet the 10% quality control limit for the serial dilution of RI-SB-20-46. The elements are listed on the accompanying worksheets. Positive results for these elements were qualified as estimated "J."

SC-SB-13-24

15. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
MB 363317	Mercury	0.104	0.52	U results < blank level
ICB/CCBs	Aluminum	7.7	385	U results < blank level
	Antimony	0.66	33	U results < blank level
	Arsenic	2.6	130	U results < blank level
	Barium	0.036	1.8	U results < blank level
	Beryllium	0.22	11	U results < blank level
	Cadmium	0.35	17.5	U results < blank level
	Calcium	24	1200	U results < blank level
	Chromium	1.46	73	U results < blank level
	Cobalt	0.65	32.5	U results < blank level
	Copper	0.89	44.5	U results < blank level
	Iron	27.9	1395	U results < blank level
	Lead	1.2	60	U results < blank level
	Magnesium	18.8	940	U results < blank level
	Manganese	1.5	75	U results < blank level
	Nickel	0.76	38	U results < blank level
	Potassium	9.4	470	U results < blank level
	Selenium	4.3	215	U results < blank level
	Silver	0.5	25	U results < blank level
	Sodium	66.6	3330	U results < blank level
	Thallium	2.3	115	U results < blank level
	Vanadium	0.36	18	U results < blank level
	Zinc	3.7	185	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

16. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

<u>NOTES</u>

VOLATILE ORGANIC COMPOUNDS

Matrix Spike/Matrix Spike Duplicate Results

Recoveries and relative percent differences were outside the quality control limits for RI-SB-2D-02. The sample was previously qualified due to low surrogate recoveries. Therefore, no further qualifiers were assigned on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameters
Ri-SB-57-02	50X	Isopropylbenzene, o-xylene, m&p-xylene
	500X	Toluene
RI-SB-57-46	5000X	Toluene
RI-SB-48-02	500X	Bromochloromethane, cyclohexane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, dichlorodifluoromethane, 1,4-dioxane, isopropylbenzene, methyl acetate, methylcyclohexane , 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, trichlorotrifluoromethane, m&p-xylene
RI-SB-48-46	500X	Bromochloromethane, cyclohexane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, dichlorodifluoromethane, 1,4-dioxane, isopropylbenzene, methyl acetate, methylcyclohexane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, trichlorotrifluoromethane, 1,1,2-trichlorotrifluoroethane
RI-SB-40-57	50X	Isopropylbenzene, toluene
RI-SB-32-02	500X	Bromochloromethane, cyclohexane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, dichlorodifluoromethane, 1,4-dioxane, isopropylbenzene, methyl acetate, methylcyclohexane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, trichlorotrifluoromethane, 1,1,2-trichlorotrifluoroethane, m&p-xylene, toluene
RI-SB-32-57	50X	o-Xylene, m&p-xylene
	500X	Toluene
RI-SB-31-46	50X	m&p-Xylene
RI-SB-30-02	50X	All Parameters
RI-SB-30-46	50X	All Parameters
RI-SB-39-02	50X	All Parameters
RI-SB-39-57	500X	All Parameters
RI-SB-21-46	500X	Bromochloromethane, cyclohexane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, dichlorodifluoromethane, 1,4-dioxane, isopropylbenzene, methyl acetate, methylcyclohexane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, trichlorotrifluoromethane, 1,1,2-trichlorotrifluoroethane, m&p-xylene, o-xylene, toluene
RI-SB-2D-02	50X	1,2-Dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1,2,2-tetrachloroethane

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-20-02	RI-SB-2D-02		
110 J	94.5 J	Acetone	15%
17.5 J	19.2 J	2-Butanone	-9%
2.4 J	3.1 J	Carbon Disulfide	-25%
5.8 J	ND	Ethylbenzene	--
12.9 J	ND	Isopropylbenzene	--
2 J	1.6 J	Methylcyclohexane	22%
4.1 J	1.4 J	Methylene chloride	98%
31.5 J	ND	Toluene	--
96.2 J	5.3 J	Xylene (Total)	179%
84.5 J	2 J	m&p-Xylene	191%
11.6 J	3.4 J	o-Xylene	109%

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE ORGANIC COMPOUNDS

System Monitoring Compounds

Surrogate recoveries were not reported for several samples. No qualifiers were assigned on this basis since the noncompliance was due to the necessary dilution of the sample extracts prior to analysis.

RI-SB-57-46
RI-SB-39-02
RI-SB-48-02
RI-SB-39-57
RI-SB-32-02
RI-SB-21-02
Ri-SB-31-46
RI-SB-21-46

Surrogate recoveries were outside the quality control limits for several samples. No data were qualified on this basis since only one surrogate per fraction was noncompliant.

RI-SB-57-02
RI-SB-30-46
RI-SB-48-46
RI-SB-40-02
RI-SB-32-57

Matrix Spike/Matrix Spike Duplicate Results

Recoveries and/or relative percent differences exceeded the upper quality control limit for RI-SB-20-46 MS/MSD. No positive results were reported for the affected compounds. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameters
RI-SB-57-02	10X	Bis(2-ethylhexyl)phthalate, phenol
RI-SB-57-46	10X	All Parameters
	100X	Phenol
RI-SB-48-02	10X	All Parameters
	500X	Phenol
RI-SB-40-02	10X	Naphthalene, phenol
RI-SB-40-57	10X	Phenol
RI-SB-32-02	10X	All Parameters
RI-SB-32-57	10X	Bis(2-ethylhexyl)phthalate, naphthalene, phenol
RI-SB-31-46	10X	All Parameters
	20X	Phenol
RI-SB-39-02	10X	All Parameters
	500X	Phenol
RI-SB-39-57	10X	All Parameters
RI-SB-21-02	10X	All Parameters
RI-SB-21-46	10X	All Parameters
RI-SB-20-02	10X	Phenol

PESTICIDES

System Monitoring Compounds

Surrogate recoveries were not reported in several samples. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data were not qualified on this basis.

RI-SB-31-46 RI-SB-21-46 RI-SB-20-46

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
2X	RI-SB-40-57
5X	RI-SB-31-02, RI-SB-30-02, RI-SB-30-46, RI-SB-20-02
10X	RI-SB-57-02, RI-SB-48-02, RI-SB-48-46, RI-SB-40-02, RI-SB-32-02, RI-SB-39-02, RI-SB-39-57, RI-SB-21-02, RI-SB-20-46
20X	RI-SB-57-46, RI-SB-32-57
50X	RI-SB-31-46, RI-SB-21-46

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-20-02	RI-SB-2D-02		
0.75 J	ND	4,4’-DDT	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Samples	DF	Parameters
RI-SB-57-02	10X	Copper, iron, lead
	100X	Zinc
RI-SB-57-46	10X	Calcium
	5X	Mercury
RI-SB-48-46	10X	Lead
RI-SB-39-02	10X	Barium, cadmium
	40X	Mercury
RI-SB-48-46	2.5X	Mercury
RI-SB-40-02	2X	Mercury
RI-SB-40-57	5X	Mercury
RI-SB-32-02	20X	Mercury
RI-SB-32-57	2.5X	Mercury
RI-SB-31-02	5X	Mercury
RI-SB-21-02	100X	Mercury
RI-SB-21-46	10X	Mercury
RI-SB-20-46	5X	Mercury

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-20-02	RI-SB-2D-02		
5490 J	6830	Aluminum	21.75%
ND	ND	Antimony	--
ND	ND	Arsenic	--
62.4	85.6	Barium	31.35%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
7020	3060	Calcium	78.57%
ND	ND	Chromium	--
ND	ND	Cobalt	--
ND	ND	Copper	--
10400	11400	Iron	9.17%
2100	1960	Lead	6.9%
2180	3130	Magnesium	35.78%
3180	91.5	Manganese	188%
140	ND	Nickel	--
ND	1210	Potassium	--
912	ND	Selenium	--
ND	ND	Silver	--
ND	ND	Sodium	--
ND	ND	Thallium	--
ND	22.4	Vanadium	--
ND	ND	Zinc	--
ND	ND	Mercury	--

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3056775
Validation Report Date	October 26, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	Metals Hg
10/28/11	RI-SB-73-13	3056775001	Solid	X	X	X	X
10/28/11	RI-SB-73-46	3056775002	Solid	X	X	X	X
10/28/11	RI-SB-72-02	3056775003	Solid	X	X	X	X
10/28/11	RI-SB-72-46	3056775004	Solid	X	X	X	X
10/28/11	RI-SB-71-13	3056775005	Solid	X	X	X	X
10/28/11	RI-SB-71-35	3056775006	Solid	X	X	X	X
10/28/11	RI-SB-70-02	3056775007	Solid	X	X	X	X
10/28/11	RI-SB-70-46	3056775008	Solid	X	X	X	X
10/28/11	RI-SB-69-02	3056775009	Solid	X	X	X	X
10/28/11	RI-SB-69-35	3056775010	Solid	X	X	X	X
10/28/11	RI-SB-68-13	3056775011	Solid	X	X	X	X
10/28/11	RI-SB-68-35	3056775012	Solid	X	X	X	X
10/28/11	RI-SB-67-13	3056775013	Solid	X	X	X	X
10/28/11	RI-SB-67-35	3056775014	Solid	X	X	X	X
10/28/11	RI-SB-66-24	3056775015	Solid	X	X	X	X
10/28/11	RI-SB-66-46	3056775016	Solid	X	X	X	X
10/28/11	RI-SB-3D-24	3056775017	Solid	X	X	X	X
10/28/11	RI-SB-65-13	3056775020	Solid	X	X	X	X
10/28/11	RI-SB-65-57	3056775021	Solid	X	X	X	X
10/28/11	RI-SB-64-13	3056775022	Solid	X	X	X	X
10/28/11	RI-SB-64-57	3056775023	Solid	X	X	X	X
10/28/11	RI-SB-56-02	3056775024	Solid	X	X	X	X
10/28/11	RI-SB-56-46	3056775025	Solid	X	X	X	X
10/28/11	RI-SB-55-13	3056775026	Solid	X	X	X	X
10/28/11	RI-SB-55-35	3056775027	Solid	X	X	X	X
10/28/11	Trip Blank	3056775028	Aqueous	X			

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 25 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
• Calibration (Initial and Continuing)
• Blanks
• System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
• Laboratory Control Samples
* • Internal Standards
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance
* Criteria were met for this evaluation item.

The pesticide findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
• Blanks
* • System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance
* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-73-13 RI-SB-73-46 RI-SB-72-02 RI-SB-72-46
RI-SB-71-13 RI-SB-71-35 RI-SB-70-02 RI-SB-70-46
RI-SB-69-02 RI-SB-69-35 RI-SB-68-13 RI-SB-68-35
RI-SB-67-13 RI-SB-67-35 RI-SB-66-24 RI-SB-66-46
RI-SB-3D-24 RI-SB-65-13 RI-SB-65-57 RI-SB-64-13
RI-SB-64-57 RI-SB-56-02 RI-SB-56-46 RI-SB-55-13
RI-SB-55-35 Trip Blank

A continuing calibration percent difference (%D) for methyl acetate exceeded the 25% quality control limit on 11/10 and 11/11. In the following samples, nondetected results for the aforementioned compound were qualified as estimated, "UJ."

RI-SB-73-13 RI-SB-73-46 RI-SB-72-02 RI-SB-71-35
RI-SB-70-02 RI-SB-65-13 RI-SB-65-57 RI-SB-64-13
RI-SB-64-57 RI-SB-56-46 RI-SB-55-13 RI-SB-55-35

Continuing calibration %Ds for 1,1,2-trichlorotrifluoroethane, acetone, and 2-butanone exceeded the 25% quality control limit on 11/9/11. In the following sample, positive and nondetected results for the aforementioned compounds were qualified as estimated, “J” and “UJ.”

Trip Blank

2. Blanks

The laboratory method blanks and trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	7.4	74	Results < Action Level U
	Carbon disulfide	0.22	1.1	Results < Action Level U
	Methylene chloride	0.25	2.5	Results < Action Level U
MB 365946	Methylene chloride	1.3	13	Results < Action Level U
MB 365394	Carbon disulfide	0.35	1.75	Results < Action Level U

3. System Monitoring Compounds

Recovery of the surrogate 1,2-dichloroethane-d4 fell below the lower quality control limit in sample RI-SB-56-02. In the following samples, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-56-02

4. Laboratory Control Sample Results

Recovery of methylene chloride and trans-1,2-dichloroethene fell below the lower quality control limit in LCS 366348. In the following samples, the positive and nondetected results for the aforementioned compounds were qualified as estimated “J” and “UJ.”

RI-SB-73-13
RI-SB-70-02
RI-SB-64-57
RI-SB-73-46
RI-SB-65-13
RI-SB-56-46
RI-SB-72-02
RI-SB-65-57
RI-SB-55-13
RI-SB-71-35
RI-SB-64-13
RI-SB-55-35

5. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of 1,1-dichloroethene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, bromodichloromethane, bromomethane, chloroethane, and trans-1,2-dichloroethene were outside the quality control limits for RI-SB-66-46 MS/MSD. In the unspiked sample, positive and nondetected results for the aforementioned compounds were qualified as estimated “J” and “UJ.”

RI-SB-66-46

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

7. System Monitoring Compounds

Recovery of the surrogates phenol-d6 and 2,4,6-tribromophenol fell below 10% in sample RI-SB-69-35. For this sample, nondetected acid fraction results were rejected "UR" and positive results were qualified as estimated "J."

RI-SB-69-35

Recovery of the surrogates 2-fluorophenol and 2,4,6-tribromophenol fell below 10% in sample RI-SB-67-13. For this sample, nondetected acid fraction results were rejected "UR" and positive results were qualified as estimated "J."

RI-SB-67-13

The validator was not able to verify surrogate recovery calculations for several samples. Validator recoveries were markedly different from the reported laboratory result for several samples. Qualifiers were assigned based on the validator calculated recoveries.

Sample	Surrogate	Calculated %R	Reported %R	Qualifiers
RI-SB-66-24	Terphenyl-d14	8%	130%	UR/J base/neutral fraction results
RI-SB-66-46	Nitrobenzene-d5	4%	81%	UR/J base/neutral fraction results
RI-SB-56-02	2,4,6-Tribromophenol	2.5%	89%	UR/J acid fraction results
	Terphenyl-d14	9%	99%	UR/J base/neutral fraction results
RI-SB-56-46	Terphenyl-d14	3.5%	106%	UR/J base/neutral fraction results

8. Calibration

Continuing calibration %Ds exceeded the 25% quality control limit for 4-chloroaniline on 11/9, 11/10, and 11/11. In the following samples, nondetected results for 4-chloroaniline were qualified as estimated, "UJ."

RI-SB-73-13 RI-SB-73-46 RI-SB-72-02 RI-SB-72-46
RI-SB-71-13 RI-SB-71-35 RI-SB-70-02 RI-SB-70-46
RI-SB-69-02 RI-SB-69-35 RI-SB-68-13 RI-SB-68-35
RI-SB-67-13 RI-SB-67-35 RI-SB-66-46 RI-SB-3D-24
RI-SB-65-13 RI-SB-65-57 RI-SB-64-13 RI-SB-64-57
RI-SB-56-02 RI-SB-56-46 RI-SB-55-13 RI-SB-55-35

9. Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the lower quality control limit for sample RI-SB-66-24. Positive and nondetected results associated with this standard were qualified as estimated “J” and “UJ.”

RI-SB-66-24

10. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

PESTICIDES

11. Holding Times

Several samples were analyzed outside the 40 holding time from extraction to analysis. In the following samples, nondetected results for g-Chlordane were qualified as estimated, “UJ.”

RI-SB-70-46 RI-SB-69-02

12. Blanks

The laboratory method blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 363509	d-BHC	0.31	1.55	Results < Action Level U
	Endrin ketone	0.17	0.85	Results < Action Level U
	g-Chlordane	0.09	0.45	Results < Action Level U
MB 364270	g-Chlordane	0.11	0.55	Results < Action Level U

13. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of a-Chlordane, Heptachlor, Heptachlor epoxide, Methoxychlor were outside the quality control limits for RI-SB-66-46 MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-66-46

14. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated "J." Compounds with RPDs greater than 90% were qualified as nondetected "U" at the reporting limit or rejected "R" if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-73-13	J	4,4'-DDT%
RI-SB-73-46	U	Heptachlor epoxide, Endosulfan sulfate
	J	a-Chlordane
RI-SB-72-02	U	Heptachlor, Heptachlor epoxide, Dieldrin, Methoxychlor, Endrin ketone, g-Chlordane
	J	Endosulfan II
RI-SB-72-46	U	Dieldrin, g-Chlordane
	J	Methoxychlor
RI-SB-71-13	U	Methoxychlor, g-Chlordane
	J	Dieldrin, Endosulfan sulfate
RI-SB-71-35	U	Dieldrin, Methoxychlor, Endrin ketone
	J	Endosulfan sulfate
RI-SB-70-02	U	Heptachlor epoxide, Dieldrin, 4,4'-DDD
	J	Endosulfan I, g-Chlordane
RI-SB-70-46	U	g-BHC, 4,4'-DDT, Methoxychlor, Endrin ketone
	J	Dieldrin, 4,4'-DDD, Endosulfane sulfate
RI-SB-69-02	U	Dieldrin, 4,4'-DDT, g-Chlordane
	J	4,4'-DDD, Endrin aldehyde
RI-SB-69-35	U	Heptachlor epoxide, Endrin
	J	a-Chlordane
RI-SB-68-13	U	4,4'-DDT, a-Chlordane
RI-SB-68-35	U	d-BHC
	J	Methoxychlor
	R	4,4'-DDT
RI-SB-67-13	U	g-BHC, Heptachlor, 4,4'-DDE
	J	4,4'-DDT
	R	d-BHC
RI-SB-67-35	U	b-BHC, 4,4'-DDT
	J	Endosulfan sulfate
RI-SB-66-24	U	g-BHC, Endosulfan I, Dieldrin, 4,4'-DDT
	J	4,4'-DDE, 4,4'-DDD
	R	Heptachlor, Endosulfan II, a-Chlordane, g-Chlordane
RI-SB-66-46	U	g-BHC, Heptachlor
	J	Endosulfan sulfate
	R	4,4'-DDE
RI-SB-3D-24	U	g-Chlordane
	J	Endrin aldehyde
	R	g-BHC, Heptachlor, Endosulfan I, Dieldrin, Endosulfan II
RI-SB-65-13	U	Endosulfan sulfate

Sample	Qualifier	Parameter
RI-SB-65-57	U	d-BHC, Heptachlor, 4,4'-DDT
	R	Endosulfan I
RI-SB-64-13	U	a-Chlordane
	J	Endosulfan I, 4,4'-DDD
RI-SB-56-02	U	Heptachlor, Heptachlor epoxide, 4,4'-DDD
RI-SB-56-46	U	Heptachlor, Endosulfan I, Endrin aldehyde
	J	Endosulfan sulfate
RI-SB-55-13	U	g-BHC, g-Chlordane
	J	Endrin, a-Chlordane
RI-SB-55-35	U	g-BHC, Endosulfan sulfate, 4,4'-DDT, a-Chlordane, g-Chlordane
	J	Dieldrin, Endosulfan II

INORGANIC COMPOUNDS

15. Spike Results

Recoveries of antimony, barium, copper, magnesium, manganese, potassium, and zinc fell outside the quality control limits for RI-SB-66-46 MS/MSD. In the unspiked sample, nondetected and positive results for the aforementioned elements were qualified as estimated "UJ" and "J."

RI-SB-66-46

Recoveries of antimony, barium, copper, manganese, and potassium fell outside the quality control limits for RI-SB-65-57 MS/MSD. In the unspiked sample, nondetected and positive results for the aforementioned elements were qualified as estimated "UJ" and "J."

RI-SB-65-57

16. Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for aluminum, barium, iron, lead, magnesium, manganese, potassium, and zinc for RI-SB-66-46/DUP. In the field sample, positive results were qualified as estimated, "J."

RI-SB-66-46

RPDs exceeded the upper quality control limit for aluminum, copper, lead, and magnesium, for RI-SB-65-57/DUP. In the field sample, positive results were qualified as estimated, "J."

RI-SB-65-57

17. Serial Dilution

RPDs exceeded the 10% quality control limit for iron, magnesium, manganese, and zinc for the serial dilution of RI-SB-66-46. Positive results for these elements were qualified as estimated "J" in the field sample.

18. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
MB 364433	Iron	2.5	12.5	U results < blank level
	Potassium	10.1	50.5	U results < blank level
MB 364442	Arsenic	0.26	1.3	U results < blank level
	Iron	4	20	U results < blank level
	Selenium	0.63	3.15	U results < blank level
ICB/CCB	Aluminum	12.6	630	U results < blank level
	Antimony	1.2	60	U results < blank level
	Arsenic	3.5	175	U results < blank level
	Barium	0.48	24	U results < blank level
	Beryllium	0.15	7.5	U results < blank level
	Cadmium	0.13	6.5	U results < blank level
	Calcium	45.4	2270	U results < blank level
	Chromium	0.23	11.5	U results < blank level
	Cobalt	0.2	10	U results < blank level
	Iron	43.5	2175	U results < blank level
	Lead	1.1	55	U results < blank level
	Magnesium	12.8	640	U results < blank level
	Manganese	0.53	26.5	U results < blank level
	Nickel	0.25	12.5	U results < blank level
	Selenium	3.5	175	U results < blank level
	Silver	0.11	5.5	U results < blank level
	Sodium	95.8	4790	U results < blank level
	Thallium	0.79	39.5	U results < blank level
	Vanadium	0.53	26.5	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

19. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Data Completeness

Sample form 1s did not list the correct target compound list in the laboratory’s original submission. The forms were revised and resubmitted. The revised form 1 for sample RI-SB-56-02 did not contain the correct target compound list. The laboratory was asked to provide a revised form 1 for this sample.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	**Samples**
50X	RI-SB-70-46, RI-SB-69-02, RI-SB-69-35, RI-SB-68-13, RI-SB-68-35, RI-SB-67-35, RI-SB-66-24, RI-SB-66-46, RI-SB-3D-24, RI-SB-65-13, RI-SB-65-57, RI-SB-56-02, RI-SB-56-46, RI-SB-55-13

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-66-24	RI-SB-3D-24		
54.2 J	126	1,2-Dichlorobenzene	-80%
65.5 J	163	1,4-Dichlorobenzene	-85%
113 J	152	Isopropylbenzene	-29%
141 J	166	Methylcyclohexane	-16%
282 J	411	Xylene (Total)	-37%
282 J	411	m&p-Xylene	-37%
ND	123	Cyclohexane	--

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

Sample form 1s did not contain the target compounds requested by the client. The laboratory revised the form 1s; however, the revised form 1s left off several compounds and the laboratory had to resubmit the compounds a third time.

Matrix Spike/Matrix Spike Duplicate Results

Sample RI-SB-66-46 was used for the MS/MSD. The laboratory reported a short list of compounds instead of the full target compound list. This is noted for completeness only. Data were not qualified on this basis.

Recoveries of 2,4-dinitrophenol and pentachlorophenol were outside the quality control limits for RI-SB-65-57 MS/MSD. The compounds were not detected in the unspiked sample. Data were not qualified on this basis.

Laboratory Control Sample Results

The laboratory reported a short list of compounds instead of the full target compound list for the LCS. This is noted for completeness only. Data were not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-73-13	2X	Fluoranthene, phenanthrene
RI-SB-69-02	10X	Phenol
RI-SB-69-35	10X	Phenol
RI-SB-68-35	2X	Phenol
RI-SB-67-13	10X	Benzaldehyde, phenol
RI-SB-67-35	10X	Phenol
RI-SB-66-24	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene, pyrene
RI-SB-3D-24	10X	Benzo(a)anthracene, benzo(b)fluoranthene, chrysene, fluoranthene, pyrene
RI-SB-64-57	2X	Phenol
RI-SB-55-13	10X	Benzo(a)anthracene, benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-66-24	RI-SB-3D-24		
1080	301	Acenaphthene	113%
1440	ND	Acenaphthylene	--
4850	907	Anthracene	137%
32800	6860	Benzo(a)anthracene	131%
28500	5030	Benzo(a)pyrene	140%
35700	9070	Benzo(b)fluoranthene	119%
15900	3760	Benzo(g,h,i)perylene	123%
14100	3090	Benzo(k)fluoranthene	128%
2320	405	Carbazole	141%
33100	7350	Chyrsene	127%
2740	1170	Dibenz(a,h)anthracene	80%
ND	223 J	3,3'-Dichlorobenzidine	--
718	ND	Dibenzofuran	--
57300	10400	Fluoranthene	139%
1610	408	Fluorene	119%
19200	4010	Indeno(1,2,3-c,d)pyrene	131%
320	ND	2-Methylnaphthalene	--
419	ND	Naphthalene	--
21700	4710	Phenanthrene	129%
55900	12700	Pyrene	126%

ND – Non-detect; -- RPD calculated for positive results only.

PESTICIDES

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameters	**DF**	**Samples**
All Parameters	5X	RI-SB-72-02, RI-SB-71-35, RI-SB-70-46, RI-SB-69-02, RI-SB-68-35, RI-SB-67-13, RI-SB-67-35
All Parameters	10X	RI-SB-71-13, RI-SB-68-13, RI-SB-66-46, RI-SB-3D-24, RI-SB-65-57, RI-SB-64-57, RI-SB-56-46, RI-SB-55-35
All Parameters	20X	RI-SB-73-13, RI-SB73-46, RI-SB-66-24, RI-SB-65-13, RI-SB-64-13, RI-SB-56-02, RI-SB-55-13
g-Chlordane	50X	RI-SB-70-46, RI-SB-69-02, RI-SB-3D-24

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-66-24	RI-SB-3D-24		
98 J	ND	4,4'-DDD	--
138 J	189 J	4,4'-DDE	-31%
90.9	ND	Endosulfan sulfate	--
55.4 J	74.7 J	Endrin aldehyde	-30%
228 R	69.2	a-Chlordane	--
ND	35.2	Endrin ketone	--
ND	33.7	Heptachlor epoxide	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target elements. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameters	**DF**	**Samples**
Calcium	10X	RI-SB-72-46, RI-SB-67-13, RI-SB-68-13
Calcium, Iron	10X	RI-SB-69-35
Barium, Lead	10X	RI-SB-3D-24
Mercury	2X	RI-SB-69-02, RI-SB-64-13
Mercury	2.5X	RI-SB-72-46, RI-SB-71-13, RI-SB-68-35, RI-SB-67-35, RI-SB-66-46, RI-SB-64-57
Mercury	5X	RI-SB-71-35
Mercury	10X	RI-SB-73-13, RI-SB-65-13
Mercury	20X	RI-SB-72-02
Mercury	100X	RI-SB-55-35

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-66-24	RI-SB-3D-24		
6510	6060	Aluminum	7.16%
ND	ND	Antimony	--
ND	ND	Arsenic	--
219	5470	Barium	-184.60%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
12600	38400	Calcium	-101.18%
ND	31	Chromium	--
ND	ND	Cobalt	--
14.2	20.1	Coper	-34.40%
12900	12000	Iron	7.23%
323	9270	Lead	-186.53%
2790	3060	Magnesium	-9.23%
196	178	Manganese	9.63%
ND	ND	Nickel	--
717	1020	Potassium	-34.89%
ND	ND	Selenium	--
ND	ND	Silver	--
ND	ND	Sodium	--
ND	ND	Thallium	--
ND	ND	Vanadium	--
184	666	Zinc	-113.41%
0.28	0.24	Mercury	15.38%

ND – Non-detect; -- RPD calculated for positive results only.

Validator ____________________ Date ____________

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3056791
Validation Report Date	October 24, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 8082A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Polychlorinated Biphenyls (PCBs), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	PCB	Metals Hg
10/25/11	2N-34	3056791001	Solid				X	
10/25/11	2N-45	3056791002	Solid				X	
10/25/11	2N-56	3056791003	Solid				X	
10/25/11	20-02	3056791004	Solid				X	
10/25/11	20-01	3056791005	Solid				X	
10/25/11	20-12	3056791006	Solid				X	
10/25/11	20-23	3056791007	Solid				X	
10/25/11	20-34	3056791008	Solid				X	
10/25/11	20-45	3056791009	Solid				X	
10/26/11	RI-SB-52-02	3056791010	Solid	X	X	X		X
10/26/11	RI-SB-52-24	3056791011	Solid	X	X	X		X
10/26/11	RI-SB-51-02	3056791012	Solid	X	X	X		X
10/26/11	RI-SB-51-24	3056791013	Solid	X	X	X		X
10/26/11	RI-SB-50-02	3056791014	Solid	X	X	X		X
10/26/11	RI-SB-50-57	3056791015	Solid	X	X	X		X
10/26/11	RI-SB-49-02	3056791016	Solid	X	X	X		X
10/26/11	RI-SB-49-57	3056791017	Solid	X	X	X		X
10/26/11	RI-SB-63-02	3056791018	Solid	X	X	X		X
10/26/11	RI-SB-63-46	3056791019	Solid	X	X	X		X
10/26/11	RI-SB-61-13	3056791020	Solid	X	X	X		X
10/26/11	RI-SB-61-57	3056791021	Solid	X	X	X		X
10/26/11	RI-SB-60-13	3056791022	Solid	X	X	X		X
10/26/11	RI-SB-60-57	3056791023	Solid	X	X	X		X
10/26/11	RI-SB-D	3056791024	Solid	X	X	X		X
10/26/11	RI-SB-59-02	3056791025	Solid	X	X	X		X
10/26/11	RI-SB-59-56	3056791026	Solid	X	X	X		X
10/25/11	Trip Blank	3056791029	Aqueous	X				

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 26 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
• Calibration (Initial and Continuing)
• Blanks
* • System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
• Internal Standards
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The PCB and pesticide findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
• System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
* • Target Compound Identification
* • Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	•	Data Completeness
*	•	Holding Times
*	•	Calibration (Initial and Continuing)
	•	Blanks
*	•	ICP Interference Check samples (ICS)
*	•	Laboratory Control Sample (LCS)
	•	Duplicate Sample Analysis
	•	Spike Sample Analysis
NA	•	Graphite Furnace Atomic Absorption (GFAA) QC
	•	ICP Serial Dilution
*	•	Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

<u>FINDINGS</u>

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-52-02 RI-SB-52-24 RI-SB-51-02 RI-SB-51-24
RI-SB-50-02 RI-SB-50-57 RI-SB-49-02 RI-SB-49-57
RI-SB-63-02 RI-SB-63-46 RI-SB-61-13 RI-SB-61-57
RI-SB-60-13 RI-SB-60-57 RI-SB-D RI-SB-59-02
RI-SB-59-56 Trip Blank

Continuing calibration percent differences (%Ds) for chloroethane and methyl acetate exceeded the 25% quality control limit on 11/8/11. In the following samples, nondetected results for the aforementioned compounds were qualified as estimated, "UJ."

RI-SB-52-02 RI-SB-52-24 RI-SB-51-02 RI-SB-51-24
RI-SB-50-02 RI-SB-50-57 RI-SB-49-02 RI-SB-49-57
RI-SB-63-02 RI-SB-63-46 RI-SB-60-13 RI-SB-60-57
RI-SB-59-02 RI-SB-59-56 Trip Blank

Continuing calibration %Ds for dichlorodifluoromethane, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene exceeded the 25% quality control limit on 11/9/11. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, "UJ" and "J."

RI-SB-61-13 RI-SB-61-57 RI-SB-D

2. Blanks

The trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	3.2	32	Results < Action Level U
	1,1,1-Trichloroethene	0.26	1.3	Results < Action Level U

3. Laboratory Control Sample Results

Recovery of 2-butanone exceeded the upper quality control limit in LCS 365275. In the following samples, positive results for 2-butanone were qualified as estimated "J."

RI-SB-51-02 RI-SB-51-24 RI-SB-49-57 RI-SB-63-46

4. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of the majority of compounds in RI-SB-59-56 MS/MSD fell outside the quality control limits (see worksheet for complete list). In the unspiked sample, positive and nondetected results for the noncompliant compounds were qualified as estimated "J" and "UJ."

RI-SB-59-56

5. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

6. System Monitoring Compounds

Recovery of the surrogates terphenyl-d14 and phenol-d6 fell below 10% in sample RI-SB-49-02. Nondetected results were rejected "UR" and positive results were qualified as estimated "J".

RI-SB-49-02

Recovery of the surrogate phenol-d6 fell below 10% in several samples. In the following samples, acid fraction compounds, nondetected results were rejected “UR” and positive results were qualified as estimated “J.”

RI-SB-60-13 RI_SB-59-02

Recovery of the surrogate phenol-d6 exceeded the upper quality control limit in sample RI-SB-D. Positive results for acid fraction compounds were qualified as estimated, “J.”

RI-SB-D

7. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of bis(2-chloroethyl)ether and hexachlorocyclopentadiene fell below 10% in RI-SB-59-56 MS and/or MSD. In the unspiked sample, nondetected results for the aforementioned compounds were rejected “UR.”

Recoveries of 2-nitrophenol, 3-nitroaniline, 4-chloroaniline, 4-nitroaniline, 4-nitrophenol, bis(2-chloroethoxy)methane, n-nitroso-di-n-propylamine, naphthalene, and nitrobenzene fell outside the quality control limits for RI-SB-59-56 MS and/or MSD. In the unspiked sample, nondetected and positive results for the aforementioned compounds were qualified as estimated “UJ” and “J.”

8. Calibration

Continuing calibration %Ds exceeded the 25% quality control limit for 4-chloroaniline on 11/8, 11/9, and 11/10. In the following samples, nondetected results for 4-chloroaniline were qualified as estimated, “UJ.”

RI-SB-59-56 RI-SB-60-13 RI-SB-52-02 RI-SB-51-02
RI-SB-49-02 RI-SB-63-02 RI-SB-61-13 RI-SB-63-46
RI-SB-61-57 RI-SB-50-02 RI-SB-59-02 RI-SB-54-24

9. Internal Standard Results

Recovery of the internal standards chrysene-d12 and perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with these standards were qualified as estimated “J” and “UJ.”

RI-SB-60-57 RI-SB-50-02 RI-SB-59-02

Recovery of the internal standard perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with the standard were qualified as estimated “J” and “UJ.”

RI-SB-50-02 10X RI-SB-59-02 10X RI-SB-60-13 10X RI-SB-51-02
RI-SB-49-02 RI-SB-63-02 RI-SB-61-13

10. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

PESTICIDES

1. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of 4,4’-DDE, Aldrin, Endrin, and Methoxychlor fell below 10% in RI-SB-59-56 MS and/or MSD. In the unspiked sample, nondetected results for these compounds were rejected “UR.”

RI-SB-59-56

Recovery of Lindane fell outside the quality control limits in RI-SB-59-56 MS/MSD. In the unspiked sample, the positive result for Lindane was qualified as estimated, “J.”

RI-SB-59-56

2. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-52-02	U	Heptachlor, g-Chlordane
	R	Dieldrin
RI-SB-52-24	U	Dieldrin
RI-SB-51-02	J	d-BHC, 4,4'-DDD, Endrin aldehyde
	U	Lindane, 4,4'-DDT, a-Chlordane, g-Chlordane
	R	Heptachlor, Dieldrin
RI-SB-51-24	U	Heptachlor epoxide, 4,4'-DDD, Methoxychlor, g-Chlordane
RI-SB-50-02	U	Heptachlor, g-Chlordane
	J	Dieldrin, 4,4'-DDD
RI-SB-50-57	U	Methoxychlor
RI-SB-49-02	U	Lindane, Heptachlor epoxide, Dieldrin, g-Chlordane
	J	4,4'-DDD, Endosulfan sulfate, Methoxychlor, Endrin ketone, a-Chlordane
RI-SB-63-02	U	Heptachlor, Methoxychlor, g-Chlordane

Sample	Qualifier	Parameter
	J	Endrin ketone
RI-SB-63-46	U	Lindane, Heptachlor epoxide, Endrin ketone, a-Chlordane, g-Chlordane
	J	Endosulfan II, Endosulfan sulfate, Endrin aldehyde
RI-SB-61-13	U	4,4'-DDT, a-Chlordane, g-Chlordane
	J	Endrin
RI-SB-61-57	U	Endosulfan II, 4,4'-DDT, a-Chlordane, g-Chlordane
RI-SB-60-13	U	Heptachlor, Endosulfan I, Endosulfan sulfate, g-Chlordane
	J	Endosulfan II, Methoxychlor
RI-SB-60-57	U	Heptachlor, Dieldrin, 4,4'-DDD, Endrin ketone, Endrin aldehyde, g-Chlordane
	J	Endosulfan II, 4,4'-DDT
RI-SB-D	U	Lindane, Endosulfan sulfate, g-Chlordane
	J	Endosulfan I, 4,4'-DDD, Endrin aldehyde
RI-SB-59-02	U	Lindane, 4,4'-DDT, g-Chlordane
	J	Endosulfan sulfate
RI-SB-59-56	U	4,4'-DDE, Endrin, a-Chlordane, g-Chlordane
	J	Dieldrin, Endosulfan sulfate, Endrin aldehyde
	R	b-BHC

POLYCHLORINATED BIPHENYLS

3. System Monitoring Compounds

Recovery of the surrogate tetrachloro-m-xylene and decachlorobiphenyl fell below the 30% quality control limit in sample 20-01. Nondetected results were qualified as estimated, “UJ.”

20-01

4. Matrix Spike/Matrix Spike Duplicate Results

Recovery of the Aroclor 1248 fell below the lower quality control limit for 20-01 MS/MSD. In the unspiked sample, nondetected results were qualified as estimated, “UJ.”

20-01

INORGANIC COMPOUNDS

5. Spike Results

Recoveries of aluminum, antimony, barium, calcium, lead, magnesium, potassium, and mercury fell outside the quality control limits for RI-SB-59-56 MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-59-56

6. Duplicate Results

A relative percent difference (RPD) exceeded the upper quality control limit for the laboratory duplicate of RI-SB-59-56. In the original sample, the positive result for barium was qualified as estimated “J.”

RI-SB-59-56

7. ICP Serial Dilution

Lead and potassium failed to meet the 10% quality control limit for the serial dilution of RI-SB-59-56. Positive results for these elements were qualified as estimated “J.”

RI-SB-59-56

8. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Aluminum	7.7	385	U results < blank level
	Antimony	0.49	24.5	U results < blank level
	Arsenic	2.6	130	U results < blank level
	Barium	0.3	15	U results < blank level
	Beryllium	0.32	16	U results < blank level
	Cadmium	0.27	13.5	U results < blank level
	Calcium	1.6	80	U results < blank level
	Chromium	0.45	22.5	U results < blank level
	Copper	0.68	34	U results < blank level
	Iron	27.9	1395	U results < blank level
	Manganese	0.36	18	U results < blank level
	Nickel	0.37	18.5	U results < blank level
	Selenium	3.2	160	U results < blank level
	Silver	0.5	25	U results < blank level
	Sodium	14	700	U results < blank level
	Thallium	2.1	105	U results < blank level
	Vanadium	0.32	16	U results < blank level
	Zinc	3.7	185	U results < blank level
MB	Potassium	12.4	62	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

9. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
50X	RI-SB-50-02, RI-SB-50-57, RI-SB-49-02, RI-SB-60-13, RI-SB-60-57, RI-SB-59-02, RI-SB-59-56

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-60-13	RI-SB-D		
4710	582	Isopropylbenzene	--
62 J	ND	Methylcyclohexane	--
104	19.7 J	Toluene	136%
149	35.9 J	Xylene (Total)	122%
149	31.3 J	m&p-Xylene	131%
ND	406	Acetone	--
ND	2.5 J	Benzene	--
ND	5.6 J	Carbon disulfide	--
ND	127	2-Hexanone	--
ND	7.8 J	Methylene chloride	--
ND	4.7 J	o-Xylene	--

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE COMPOUNDS

Data Completeness

The original data package did not contain the correct target compound list requested by the client. The package was resubmitted; however, the resubmitted form 1s did not list all the target compounds requested by the client. The form 1s were edited by the laboratory and submitted a third time. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-52-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
RI-SB-51-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
RI-SB-50-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene, pyrene
RI-SB-49-02	10X	Phenol
RI-SB-63-02	10X	Phenol
RI-SB-63-46	10X	Fluoranthene, phenol, pyrene
RI-SB-61-13	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
RI-SB-61-57	2X	Naphthalene, phenanthrene
RI-SB-60-13	10X	2-Chlorophenol, bis(2-chloroisopropyl)ether
	100X	Phenol
RI-SB-60-57	10X	Phenol
RI-SB-D	10X	2-Chlorophenol, bis(2-chloroisopropyl)ether
	100X	Phenol
RI-SB-59-02	10X	Benzo(b)fluoranthene,chrysene, fluoranthene, phenanthrene, phenol, pyrene
RI-SB-59-06	10X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-60-13	RI-SB-D		
325	ND	Anthracene	--
1990	ND	Benzo(a)anthracene	--
1930	ND	Benzo(a)pyrene	--
2630	343	Benzo(b)fluoranthene	154%
1080	ND	Benzo(g,h,i)perylene	--
771	ND	Benzo(k)fluoranthene	--
12500	9850	2-Chlorophenol	24%
1940	355	Chrysene	138%
327	ND	Dibenzo(a,h)anthracene	--
3080	455	Fluoranthene	149%
1100	ND	Indeno(1,2,3-c,d)pyrene	--
1870	579	Phenanthrene	105%
76500	80500	Phenol	-5%
4250	426	Pyrene	164%
2060	412	2,4,6-Trichlorophenol	133%
20700	16000	Bis(2-chloroisopropyl)ether	26%

ND – Non-detect; -- RPD calculated for positive results only.

PESTICIDES

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-52-02	10X	All Parameters
	20X	g-Chlordane
RI-SB-51-02	20X	All Parameters
	100X	a-Chlordane, g-Chlordane
RI-SB-50-02	20X	All Parameters
RI-SB-49-02	20X	All Parameters
RI-SB-63-02	10X	All Parameters
RI-SB-63-46	10X	All Parameters
	50X	a-Chlordane, g-Chlordane
RI-SB-61-13	20X	All Parameters
	50X	a-Chlordane, g-Chlordane
RI-SB-61-57	20X	All Parameters
RI-SB-60-13	10X	All Parameters
	50X	g-Chlordane
RI-SB-60-57	5X	All Parameters
RI-SB-D	10X	All Parameters
RI-SB-59-02	20X	All Parameters
RI-SB-59-56	10X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-60-13	RI-SB-D		
ND	18 J	4,4'-DDD	--
88	12.1 J	4,4'-DDT	152%
ND	3.3 J	Endosulfan I	--
ND	13.1 J	Endrin aldehyde	--
52	14.8 J	Endrin ketone	111%
20.4 J	ND	Endosulfan II	--
38.7 J	ND	Methoxychlor	--

ND – Non-detect; -- RPD calculated for positive results only.

POLYCHLORINATED BIPHENYLS

Field Duplicates

No field duplicates were included for this parameter. Data were not qualified on this basis.

Compound Quantitation

All samples were analyzed and reported at a 5X dilution factor due to the presence of target parameters and/or matrix interferences. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Samples	DF	Parameters
RI-SB-52-02	2.5X	Mercury
RI-SB-51-02	5X	Mercury
RI-SB-51-24	2X	Mercury
RI-SB-50-02	10X	Mercury
RI-SB-61-13	2X	Mercury
RI-SB-61-57	2X	Mercury
	10X	Calcium
RI-SB-60-13	10X	Mercury
RI-SB-D	10X	Iron

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-60-13	RI-SB-D		
7030	6230	Aluminum	12.07%
ND	ND	Antimony	--
ND	ND	Arsenic	--
146	64	Barium	78.10%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
10800	3740	Calcium	97.11%
35.2	ND	Chromium	--
13.4	8.3	Cobalt	47.00%
208	46.8	Coper	126.53%
80100	105000	Iron	-26.90%
556	272	Lead	68.60%
2670	2570	Magnesium	3.82%
523	592	Manganese	-12.38%
48.1	24.7	Nickel	64.29%
823	928	Potassium	-11.99%
ND	ND	Selenium	--
ND	ND	Silver	--
760	ND	Sodium	--
ND	ND	Thallium	--
39.3	ND	Vanadium	--
1060	ND	Zinc	--
3.7	0.29	Mercury	170.93%

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3056870
Validation Report Date	November 16, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	Metals Hg
10/31/11	RI-SB-54-02	3056870001	Solid	X	X	X	X
10/31/11	RI-SB-54-24	3056870002	Solid	X	X	X	X
10/31/11	RI-SB-53-02	3056870003	Solid	X	X	X	X
10/31/11	RI-SB-53-24	3056870004	Solid	X	X	X	X
10/31/11	RI-SB-43-02	3056870005	Solid	X	X	X	X
10/31/11	RI-SB-43-24	3056870006	Solid	X	X	X	X
10/31/11	RI-SB-35-02	3056870007	Solid	X	X	X	X
10/31/11	RI-SB-35-24	3056870008	Solid	X	X	X	X
10/31/11	RI-SB-27-02	3056870009	Solid	X	X	X	X
10/31/11	RI-SB-27-35	3056870010	Solid	X	X	X	X
10/31/11	RI-SB-18-02	3056870011	Solid	X	X	X	X
10/31/11	RI-SB-18-35	3056870012	Solid	X	X	X	X
10/31/11	RI-SB/MW-01-02	3056870013	Solid	X	X	X	X
10/31/11	RI-SB/MW-01-24	3056870014	Solid	X	X	X	X
10/31/11	RI-SB-11-02	3056870017	Solid	X	X	X	X
10/31/11	RI-SB-11-24	3056870018	Solid	X	X	X	X
10/31/11	RI-SB-4D-02	3056870019	Solid	X	X	X	X
10/31/11	RI-SB-19-02	3056870020	Solid	X	X	X	X
10/31/11	RI-SB-19-24	3056870021	Solid	X	X	X	X
10/31/11	RI-SB-28-02	3056870022	Solid	X	X	X	X
10/31/11	RI-SB-28-24	3056870023	Solid	X	X	X	X
10/31/11	RI-SB-37-02	3056870024	Solid	X	X	X	X
10/31/11	RI-SB-37-24	3056870025	Solid	X	X	X	X
10/31/11	RI-SB-36-02	3056870026	Solid	X	X	X	X
10/31/11	RI-SB-36-24	3056870027	Solid	X	X	X	X
10/31/11	RI-SB-44-02	3056870028	Solid	X	X	X	X
10/31/11	RI-SB-44-24	3056870029	Solid	X	X	X	X
10/31/11	Trip Blank	3056870030	Aqueous	X			

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 27 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
• Calibration (Initial and Continuing)
• Blanks
• System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
• Internal Standards
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The pesticide findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
• System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
• Laboratory Control Samples
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-54-02	RI-SB-54-24	RI-SB-53-02	RI-SB-53-24
RI-SB-43-02	RI-SB-43-24	RI-SB-35-02	RI-SB-35-24
RI-SB-27-02	RI-SB-27-35	RI-SB-18-02	RI-SB-18-35
RI-SB/MW-01-02	RI-SB/MW-01-24	RI-SB-11-02	RI-SB-11-24
RI-SB-4D-02	RI-SB-19-02	RI-SB-19-24	RI-SB-28-02
RI-SB-28-24	RI-SB-37-02	RI-SB-37-24	RI-SB-36-02
RI-SB-36-24	RI-SB-44-02	RI-SB-44-24	Trip Blank

Continuing calibration percent differences (%Ds) for dichlorodifluoromethane, 1,2-dibromo-3-chloropropane, and 1,2,4-trichlorobenzene exceeded the 25% quality control limit on 11/11/11. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, “UJ” and “J.”

RI-SB-54-02
RI-SB-54-24
RI-SB-53-02
RI-SB-53-24
RI-SB-43-02
RI-SB-43-24
RI-SB-35-02
RI-SB-35-24
RI-SB-27-02
RI-SB-18-35
RI-SB/MW-01-02
RI-SB-11-02
RI-SB-11-24
RI-SB-4D-02
RI-SB-19-02
RI-SB-19-24
RI-SB-28-02

A continuing calibration %D for dichlorodifluoromethane exceeded the 25% quality control limit on 11/13/11. In the following samples, nondetected and positive results for the aforementioned compound was qualified as estimated, “UJ” and “J.”

RI-SB-27-35
RI-SB/MW-01-24
RI-SB-37-02
RI-SB-44-24
RI-SB-18-02
RI-SB-28-24
RI-SB-37-24
RI-SB-36-02
RI-SB-36-24
RI-SB-44-02

Continuing calibration %Ds for 1,1,2-trichlorotrifluoroethane, acetone, and 2-butanone exceeded the 25% quality control limit on 11/9/11. In the following sample, nondetected and positive results for the aforementioned compounds were qualified as estimated, “UJ” and “J.”

Trip Blank

2. System Monitoring Compounds

Recovery of toluene-d8 or 4-bromofluorobenzene exceeded the upper quality control limit in several samples. In the following samples, positive results were qualified as estimated “J.”

RI-SB-53-02
RI-SB/MW-01-02
RI-SB-11-02
RI-SB-4D-02
RI-SB/MW-01-24
RI-SB-44-24

3. Blanks

The trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	4.7	47	Results < Action Level U
	Carbon disulfide	0.22	1.1	Results < Action Level U
	Chloromethane	1.7	8.5	Results < Action Level U

The aqueous method blank had positive results for carbon disulfide and methylene chloride. No qualifiers were assigned to the trip blank on this basis. This is noted for completeness only.

4. Laboratory Control Sample Results

Recovery of acetone exceeded the upper quality control limit in LCSs 366542 and 367080. In the following samples, positive results for acetone were qualified as estimated “J.”

RI-SB-54-02 RI-SB-54-24 RI-SB-53-02 RI-SB-53-24
RI-SB-43-24 RI-SB-35-02 RI-SB-35-24 RI-SB-27-02
RI-SB-27-35 RI-SB-18-35 RI-SB/MW-01-02 RI-SB-11-02
RI-SB-11-24 RI-SB-4D-02 RI-SB-19-24 RI-SB-44-24

5. Internal Standard Results

Recovery of the internal standard 1,4-dichlorobenzene-d4 fell below the 50% quality control limit in several samples. In the following samples, nondetected and positive results associated with this standard were qualified as estimated, “UJ” and “J.”

RI-SB-53-24 RI-SB/MW-01-02 RI-SB-11-02 RI-SB-4D-02
RI-SB/MW-01-24 RI-SB-44-24

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

7. System Monitoring Compounds

Recovery of one or more acid fraction surrogates fell below 10% in one sample. In the following sample, nondetected acid fraction results were rejected “UR” and positive acid fraction results were qualified as estimated “J”.

RI-SB-36-34

8. Calibration

A continuing calibration %D exceeded the 25% quality control limit for 4-chloroaniline on 11/11/11. In the following samples, nondetected and positive results for the aforementioned compound were qualified as estimated, “UJ” and “J.”

RI-SB-54-02 RI-SB-54-24 RI-SB-53-02 RI-SB-53-24
RI-SB-35-02 RI-SB-35-24

A continuing calibration %D exceeded the 25% quality control limit for nitrobenzene on 11/20/11. In the following samples, nondetected and positive results for the aforementioned compound were qualified as estimated, “UJ” and “J.”

RI-SB-28-02 RI-SB-36-02

9. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene, phenanthrene, and pyrene fell below the lower quality control limit in RI-SB/MW-01-24 MS/MSD. Positive results for these compounds were qualified as estimated "J."

RI-SB/MW-01-24

10. Internal Standard Results

Recovery of the internal standards chrysene-d12 and perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with these standards were qualified as estimated "J" and "UJ."

RI-SB-18-02
RI-SB/MW-01-02
RI-SB-11-24
RI-SB-19-02
RI-SB-19-24
RI-SB-44-24

Recovery of the internal standard perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with the standard were qualified as estimated "J" and "UJ."

RI-SB-54-02
RI-SB-53-02
RI-SB-27-02
RI-SB-11-02
RI-SB-4D-02
RI-SB-44-02

11. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

PESTICIDES

12. Holding Time

Several samples were analyzed for a-Chlordane and g-Chlordane outside the 40 day holding time from extraction to analysis. The nondetected results for a-Chlordane and g-Chlordane were qualified as estimated, "UJ."

RI-SB-53-02
RI-SB-27-02
RI-SB-11-02

Sample RI-SB-28-02 was analyzed for Hepatchlor epoxide outside the 40 day holding time from extraction to analysis. The positive result for Heptachlor epoxide was qualified as estimated, "J."

RI-SB-28-02

Sample RI-SB-36-02 was analyzed outside the 40 day holding time from extraction to analysis. Positive and nondetected results were qualified as estimated, "J" and "UJ."

RI-SB-36-02

13. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of 4,4’-DDT, Endosulfan II, Endosulfan sulfate, g-Chlordane, and Heptachlor fell below the lower quality control limit in RI-SB/MW-01-24 MS and/or MSD. In the unspiked sample, nondetected and positive results for these compounds were qualified as estimated “UJ” and “J.”

RI-SB/MW-01-24

14. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-54-02	U	d-BHC, Methoxychlor, g-Chlordane
	J	4,4'-DDT
RI-SB-54-24	U	g-Chlordane
	J	Heptachlor epoxide, 4,4'-DDT
RI-SB-53-02	U	4,4'-DDT, a-Chlordane, g-Chlordane
	J	Endrin
RI-SB-53-24	U	g-Chlordane
RI-SB-43-02	U	Heptachlor, Endosulfan II, a-Chlordane, g-Chlordane
RI-SB-35-02	U	Heptachlor, a-Chlordane, g-Chlordane
	J	4,4'-DDE, Methoxychlor
RI-SB-27-02	U	4,4'-DDE, 4,4'-DDT, a-Chlordane, g-Chlordane
RI-SB-27-35	U	4,4'-DDT, g-Chlordane
	J	4,4'-DDD
RI-SB-18-02	U	Heptachlor, Endosulfan I
	J	Dieldrin
RI-SB/MW-01-02	U	Endosulfan I, Endosulfan II, a-Chlordane, g-Chlordane
RI-SB/MW-01-24	U	Heptachlor, Endosulfan II, a-Chlordane, g-Chlordane
	J	Endrin aldehyde
RI-SB-11-02	U	4,4'-DDT, g-Chlordane
	J	Endosulfan II, Endrin aldehyde
RI-SB-11-24	U	a-Chlordane
	J	Dieldrin, Endrin, Endosulfan sulfate
RI-SB-4D-02	U	4,4'-DDE, a-Chlordane
RI-SB-19-02	J	4,4'-DDE
RI-SB-19-24	U	Endosulfan I, g-Chlordane
	J	4,4'-DDE

Sample	Qualifier	Parameter
RI-SB-28-02	U	Endosulfan II
	J	Heptachlor, 4,4'-DDE, Heptachlor epoxide, a-Chlordane
	R	b-BHC
RI-SB-28-24	U	Endrin ketone, a-Chlordane
	J	Heptachlor, 4,4'-DDE, 4,4'-DDD
RI-SB-37-02	U	Dieldrin, a-Chlordane, g-Chlordane
	J	Endrin, Endosulfan sulfate
RI-SB-37-24	U	b-BHC
	J	Heptachlor, Dieldrin, 4,4'-DDE, a-Chlordane
	R	g-BHC
RI-SB-36-02	U	g-BHC, Endosulfan I, Dieldrin, Endrin aldehyde
	J	Heptachlor epoxide
RI-SB-36-24	U	g-BHC, Dieldrin
	J	Endosulfan I
RI-SB-44-02	U	Dieldrin, a-Chlordane
RI-SB-44-24	U	Endosulfan I, a-Chlordane
	J	Dieldrin

INORGANIC COMPOUNDS

15. Spike Results

Recoveries of antimony, calcium, copper, lead, magnesium, manganese, potassium, vanadium, zinc, and mercury fell outside the quality control limits for RI-SB/MW-01-24MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB/MW-01-24

Recoveries of antimony, barium, lead, potassium, zinc, and mercury fell outside the quality control limits for RI-SB-19-24 MS. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-19-24

16. Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for the laboratory duplicate of RI-SB/MW-01-24. In the original sample, positive results for aluminum, calcium, copper, iron, lead, magnesium, potassium, and zinc were qualified as estimated “J.”

RI-SB/MW-01-24

RPDs exceeded the upper quality control limit for the laboratory duplicate of RI-SB-19-24. In the original sample, the positive result for mercury was qualified as estimated “J.”

RI-SB-19-24

17. ICP Serial Dilution

Zinc, iron, manganese, and potassium failed to meet the 10% quality control limit for the serial dilution of RI-SB/MW-01-24. Positive results for this element were qualified as estimated "J."

RI-SB/MW-01-24

18. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Aluminum	22.3	1115	U results < blank level
	Antimony	0.51	25.5	U results < blank level
	Arsenic	4.8	240	U results < blank level
	Barium	0.44	22	U results < blank level
	Beryllium	0.14	7	U results < blank level
	Cadmium	0.22	11	U results < blank level
	Calcium	23.1	1155	U results < blank level
	Chromium	0.33	16.5	U results < blank level
	Cobalt	0.56	28	U results < blank level
	Iron	54.1	2705	U results < blank level
	Lead	0.81	40.5	U results < blank level
	Magnesium	32.5	1625	U results < blank level
	Manganese	0.46	23	U results < blank level
	Nickel	0.33	16.5	U results < blank level
	Selenium	1.6	80	U results < blank level
	Silver	0.49	24.5	U results < blank level
	Thallium	2.4	120	U results < blank level
	Zinc	0.19	9.5	U results < blank level
MB	Potassium	13.2	66	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

19. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Data Completeness

Total xylene was listed on the sample form 1s but did not appear on the analytical result summary. The compound was transcribed onto the analytical result summary by the validator. This is noted for completeness only. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

The laboratory did not calculate recoveries and relative percent differences for the matrix spike/matrix spike duplicate. The information was requested from the laboratory but was not delivered. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-18-02	50X	All Parameters
RI-SB-19-02	50X	All Parameters
RI-SB-28-02	50X	All Parameters
	500X	m&p-Xylene
RI-SB-28-24	50X	All Parameters
RI-SB-37-02	50X	m&p-Xylene
RI-SB-37-24	50X	All Parameters
	500X	m&p-Xylene
RI-SB-36-02	50X	All Parameters
RI-SB-36-24	50X	All Parameters
RI-SB-44-02	50X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-11-02	RI-SB-4D-02		
215	166	Acetone	26%
33	30.2	2-Butanone	9%
4.2	4.6	Carbon disulfide	-9%
2.8 J	ND	Chloroform	--
1.6 J	1.6 J	Cyclohexane	0%
5.2	3.6 J	Isopropylbenzene	36%
3.1 J	3.5 J	Methylcyclohexane	-12%
13.9	8.4	Methylene chloride	49%
74.4	13.5	Toluene	139%
4.6	ND	m&p-Xylene	--

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE COMPOUNDS

Data Completeness

The original data package did not contain the correct target compound list requested by the client. The package was resubmitted; however, the resubmitted form 1s did not list all the target compounds requested by the client. The form 1s were edited by the laboratory and submitted a third time. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries were not reported for samples RI-SB-28-02 and RI-SB-36-02. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

The MS/MSD did not contain all the target compounds. This is noted for completeness only. Data are not qualified on this basis.

Laboratory Control Sample Results

The LCS did not contain all the target compounds. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	**DF**	**Parameter**
RI-SB-54-02	2X	Pyrene
RI-SB-53-02	10X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, chrysene, dibenzofuran, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene
	100X	Fluoranthene, phenanthrene, pyrene
RI-SB-27-02	10X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, chrysene, dibenzofuran, fluorene, indeno(1,2,3-c,d)pyrene
	100X	Fluoranthene, phenanthrene, pyrene
RI-SB-27-35	10X	Naphthalene
RI-SB/MW-01-02	10X	Benzo(b)fluoranthene, fluoranthene, phenanthrene, pyrene
RI-SB-11-02	10X	Benzo(a)anthracene, benzo(b)fluoranthene, chyrsene, fluoranthene, phenanthrene, pyrene
RI-SB-4D-02	10X	Anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chyrsene, fluoranthene, phenanthrene, pyrene
RI-SB-19-02	10X	Bis(2-ethylhexyl)phthalate, fluoranthene, phenanthrene, pyrene
RI-SB-19-24	10X	Anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluorene, indeno(1,2,3-c,d)pyrene
	100X	Fluoranthene, phenanthrene, pyrene
RI-SB-28-02	10X	All Parameters
	100X	Anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chyrsene, fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene, pyrene
RI-SB-36-02	10X	All Parameters
	100X	Acetophenone, atrazine, benzaldehyde, biphenyl, caprolactam, carbazole, 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorobenzene
RI-SB-36-24	10X	Butylbenzylphthalate
RI-SB-44-02	10X	Bis(2-ethylhexyl)phthalate, phenol, pyrene
RI-SB-44-24	10X	Butylbenzylphthalate, bis(2-ethylhexyl)phthalate, phenol, pyrene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-11-02	RI-SB-4D-02		
861	2390	Acenaphthene	-94%
455	804	Acenaphthylene	-55%
3090	5490	Anthracene	-56%
7030	10800	Benzo(a)anthracene	-42%
4710	8980	Benzo(a)pyrene	-62%
7790	12200	Benzo(b)fluoranthene	-44%
1810	2330	Benzo(g,h,i)perylene	-25%
4090	5410	Benzo(k)fluoranthene	-28%
788	2270	Carbazole	-97%
7080	10900	Chrysene	-42%
414	725	Dibenz(a,h)anthracene	-55%
739	1970	Dibenzofuran	-91%
15500	24400	Fluoranthene	-45%
1020	2630	Fluorene	-88%
1790	2300	Indeno(1,2,3-c,d)pyrene	-25%
373	906	2-Methylnaphthalene	-83%
898	1800	Naphthalene	-67%
8980	22500	Phenanthrene	-86%
1690	1610	Phenol	5%
18200	26900	Pyrene	-39%

ND – Non-detect; -- RPD calculated for positive results only.

PESTICIDES

Blanks

g-Chlordane was detected in method blanks MB 364270 and MB 364510. No positive results were reported for g-Chlordane in the associated samples. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries were not reported for samples RI-SB-43-24, RI-SB-36-02, and RI-SB-36-24. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameter	DF	Samples
All Parameters	5X	RI-SB-53-24, RI-SB-35-02, RI-SB-27-35, RI-SB-18-35, RI-SB-37-02, RI-SB-37-24,
All Parameters	10X	RI-SB-54-02, RI-SB-43-24, RI-SB-35-24, RI-SB-11-24, RI-SB-19-02, RI-SB-19-24, RI-SB-44-24
All Parameters	20X	RI-SB-53-02, RI-SB-43-02, RI-SB-27-02, RI-SB-18-02, RI-SB/MW-01-02, RI-SB/MW-01-24, RI-SB-11-02, RI-SB-4D-02, RI-SB-28-02, RI-SB-44-02
All Parameters	500X	RI-SB-36-24
All Parameters	10000X	RI-SB-11-02
Heptachlor epoxide	50X	RI-SB-28-02
a-Chlordane, g-Chlordane	50X	RI-SB-53-02, RI-SB-27-02
	100X	RI-SB-11-02

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-11-02	RI-SB-4D-02		
28.1 J	ND	Endosulfan II	--
66	20 J	Endosulfan sulfate	107%
19.2 J	6.3 J	Endrin	101%
35.8 J	ND	Endrin aldehyde	--
ND	5.0 J	4,4'-DDT	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameters	DF	Samples
Mercury	2X	RI-SB-53-02, RI-SB-43-02, RI-SB-43-24, RI-SB-35-02, RI-SB-27-02, RI-SB-27-35, RI-SB/MW-01-02, RI-SB-11-24, RI-SB-4D-02,
Mercury	2.5X	RI-SB-11-02, RI-SB-44-02
Mercury	5X	RI-SB-54-02, RI-SB-18-02,

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-11-02	RI-SB-4D-02		
6660	6650	Aluminum	0.15%
ND	ND	Antimony	--
ND	ND	Arsenic	--
90.2	72.3	Barium	22.03%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
4910	14300	Calcium	-97.76%
ND	ND	Chromium	--
ND	ND	Cobalt	--
49.1	94.6	Coper	-63.33%
11000	13400	Iron	-19.67%
253	173	Lead	37.56%
2460	4420	Magnesium	-56.98%
124	296	Manganese	-81.90%
ND	21.2	Nickel	--
997	981	Potassium	1.62%
ND	ND	Selenium	--
ND	ND	Silver	--
161 J	190 J	Sodium	-16.52%
ND	ND	Thallium	--
22.5	20.8	Vanadium	7.85%
102	101	Zinc	0.99%
1.1	0.66	Mercury	50.00%

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

Data Validation Report

SDG#	3056928
Validation Report Date	November 11, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	Metals Hg
11/01/11	RI-SB-47-02	3056928001	Solid	X	X	X	X
11/01/11	RI-SB-47-24	3056928002	Solid	X	X	X	X
11/01/11	RI-SB-46-02	3056928003	Solid	X	X	X	X
11/01/11	RI-SB-46-24	3056928004	Solid	X	X	X	X
11/01/11	RI-SB-45-02	3056928005	Solid	X	X	X	X
11/01/11	RI-SB-45-24	3056928006	Solid	X	X	X	X
11/01/11	RI-SB-38-02	3056928007	Solid	X	X	X	X
11/01/11	RI-SB-38-24	3056928008	Solid	X	X	X	X
11/01/11	RI-SB-29-02	3056928009	Solid	X	X	X	X
11/01/11	RI-SB-29-24	3056928010	Solid	X	X	X	X
11/01/11	RI-SB-5D-02	3056928011	Solid	X	X	X	X
11/01/11	RI-SB-12-02	3056928012	Solid	X	X	X	X
11/01/11	RI-SB-12-24	3056928013	Solid	X	X	X	X
11/01/11	RI-SB-13-02	3056928014	Solid	X	X	X	X
11/01/11	RI-SB-13-35	3056928015	Solid	X	X	X	X
11/01/11	RI-SB-14-02	3056928018	Solid	X	X	X	X
11/01/11	RI-SB-14-24	3056928019	Solid	X	X	X	X
11/01/11	RI-SB-23-02	3056928020	Solid	X	X	X	X
11/01/11	RI-SB-23-24	3056928021	Solid	X	X	X	X
11/01/11	RI-SB-62-02	3056928022	Solid	X	X	X	X
11/01/11	RI-SB-76-02	3056928023	Solid	X	X	X	X
11/01/11	RI-SB-76-24	3056928024	Solid	X	X	X	X
11/01/11	RI-SB-74-02	3056928025	Solid	X	X	X	X
11/01/11	RI-SB-74-24	3056928026	Solid	X	X	X	X
11/01/11	RI-SB-75-02	3056928027	Solid	X	X	X	X
11/01/11	RI-SB-75-24	3056928028	Solid	X	X	X	X
11/01/11	Trip Blank	3056928029	Aqueous	X			

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 26 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
	• Calibration (Initial and Continuing)
	• Blanks
	• System Monitoring Compounds (Surrogate Spikes)
	• Matrix Spike/Matrix Spike Duplicates
*	• Laboratory Control Samples
	• Internal Standards
*	• Target Compound Identification
	• Compound Quantification and Reported Contract Quantitation Limits
*	• System Performance

 * Criteria were met for this evaluation item.

The pesticide findings are based upon the assessment of the following:

*	• Data Completeness
	• Holding Times
*	• Calibration (Initial and Continuing)
*	• Blanks
	• System Monitoring Compounds (Surrogate Spikes)
	• Matrix Spike/Matrix Spike Duplicates
	• Laboratory Control Samples
*	• Target Compound Identification
	• Compound Quantification and Reported Contract Quantitation Limits
*	• System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-47-02
RI-SB-47-24
RI-SB-46-02
RI-SB-46-24
RI-SB-45-02
RI-SB-45-24
RI-SB-38-02
RI-SB-38-24
RI-SB-29-02
RI-SB-29-24
RI-SB-5D-02
RI-SB-12-02
RI-SB-12-24
RI-SB-13-02
RI-SB-13-35
RI-SB-14-02
RI-SB-14-24
RI-SB-23-02
RI-SB-23-24
RI-SB-62-02
RI-SB-76-02
RI-SB-76-24
RI-SB-74-02
RI-SB-74-24
RI-SB-75-02
RI-SB-75-24
Trip Blank

A continuing calibration percent difference (%D) for dichlorodifluoromethane exceeded the 25% quality control limit on 11/13/11. In the following samples, nondetected results for the aforementioned compound was qualified as estimated, "UJ."

RI-SB-47-02
RI-SB-47-24
RI-SB-46-02
RI-SB-46-24
RI-SB-45-02
RI-SB-45-24
RI-SB-38-02
RI-SB-38-24

Continuing calibration %Ds for methyl acetate and 1,2-dibromo-3-chloropropane exceeded the 25% quality control limit on 11/14/11. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, "UJ" and "J."

RI-SB-29-02
RI-SB-29-24
RI-SB-5D-02
RI-SB-12-02
RI-SB-12-24
RI-SB-13-02
RI-SB-13-35
RI-SB-14-02
RI-SB-14-24
RI-SB-23-02
RI-SB-23-24
RI-SB-62-02
RI-SB-76-02
RI-SB-76-24
RI-SB-74-02
RI-SB-74-24
RI-SB-75-02
RI-SB-75-24

Continuing calibration %Ds for 1,1,2-trichlorotrifluoroethane and 2-butanone exceeded the 25% quality control limit on 11/9/11. In the following sample, nondetected results for the aforementioned compounds were qualified as estimated, "UJ."

Trip Blank

2. System Monitoring Compounds

Recovery of toluene-d8 exceeded the upper quality control limit in several samples. In the following samples, positive results were qualified as estimated "J."

RI-SB-38-24
RI-SB-23-02

Recovery of 4-bromofluorobenzene exceeded the upper quality control limit in several samples. In the following samples, positive results were qualified as estimated "J."

RI-SB-14-02
RI-SB-74-02

3. Blanks

The trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	3.1	31	Results < Action Level U
	Chloromethane	1.8	9	Results < Action Level U
	Methylene chloride	0.21	2.1	Results < Action Level U

4. Laboratory Control Sample Results

Recovery of acetone exceeded the upper quality control limit in LCS 365395. In the following sample, the positive result for acetone was qualified as estimated "J."

Trip Blank

5. Matrix Spike/Matrix Spike Duplicate Results

In RI-SB-13-35 MS/MSD, recoveries of the 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, bromomethane, cis-1,3-dichloropropene, isopropylbenzene, m&p-xylene, styrene, toluene, trans-1,2-dichloroethene, trans-1,3-dichloropropene, and xylene (total) fell outside the quality control limits. In the unspiked sample, positive and nondetected results for the noncompliant compounds were qualified as estimated "J" and "UJ."

RI-SB-13-35

In RI-SB-13-35 MS/MSD, recoveries of methylene chloride fell below 10%. In the unspiked sample, the nondetected result for methylene chloride was rejected, "UR."

RI-SB-13-35

6. Internal Standard Results

Recovery of the internal standard 1,4-dichlorobenzene-d4 fell below the 50% quality control limit in sample RI-SB-14-02. Nondetected and positive results associated with this standard were qualified as estimated, "UJ" and "J."

RI-SB-14-02

7. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

8. System Monitoring Compounds

Recovery of one or more acid fraction surrogates fell below 10% in several samples. In the following samples, nondetected acid fraction results were rejected "UR" and positive acid fraction results were qualified as estimated "J".

RI-SB-38-24 RI-SB-29-02 RI-SB-5D-02 RI-SB-74-24
RI-SB-75-24

Recovery of one or more base/neutral fraction surrogates fell below 10% in several samples. In the following samples, nondetected base/neutral fraction results were rejected "UR" and positive base/neutral fraction results were qualified as estimated "J".

RI-SB-14-24 RI-SB-75-02

Recovery of one or more base/neutral and acid fraction surrogates fell below 10% in several samples. In the following samples, nondetected results were rejected “UR” and positive results were qualified as estimated “J”.

RI-SB-47-02
RI-SB-23-24
RI-SB-76-02
RI-SB-74-24

9. Calibration

Continuing calibration %Ds exceeded the 25% quality control limit for dibenzo(a,h)anthracene and benzo(g,h,i)perylene on 11/28/11. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, “UJ” and “J.”

RI-SB-47-02
RI-SB-47-24
RI-SB-46-02
RI-SB-46-24
RI-SB-45-02
RI-SB-45-24
RI-SB-38-02
RI-SB-38-24
RI-SB-29-02
RI-SB-29-24
RI-SB-5D-02
RI-SB-12-02
RI-SB-12-24
RI-SB-13-02
RI-SB-13-35
RI-SB-14-02
RI-SB-14-24
RI-SB-23-02
RI-SB-23-24

Continuing calibration %Ds exceeded the 25% quality control limit for n-nitroso-di-n-propylamine, 4-nitrophenol, and benzaldehyde on 11/16/11. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, “UJ” and “J.”

RI-SB-23-24
RI-SB-62-02
RI-SB-76-02
RI-SB-76-24
RI-SB-74-24
RI-SB-75-02
RI-SB-75-24

A continuing calibration %D exceeded the 25% quality control limit for nitrobenzene on 11/30/11. In the following sample, the positive result for nitrobenzene was qualified as estimated, “J.”

RI-SB-23-02

10. Internal Standard Results

Recovery of the internal standards chrysene-d12 and perylene-d12 fell below the 50% quality control limit in one sample. In the following sample, positive and nondetected results associated with these standards were qualified as estimated “J” and “UJ.”

RI-SB-74-24 100X

Recovery of the internal standard perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with the standard were qualified as estimated “J” and “UJ.”

RI-SB-74-24
RI-SB-75-24
RI-SB-14-24

Recovery of the internal standard chrysene-d12 fell below the 50% quality control limit in one sample. In the following sample, positive and nondetected results associated with these standards were qualified as estimated "J" and "UJ."

RI-SB-23-24 20X

11. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

PESTICIDES

12. Holding Time

Sample RI-SB-14-24 was analyzed for g-Chlordane outside the 40 day holding time from extraction to analysis. The nondetected result for g-Chlordane was qualified as estimated, "UJ."

RI-SB-14-24

13. System Monitoring Compounds

Recovery of the surrogate tetrachloro-m-xylene exceeded the upper quality control limit in sample RI-SB-75-24. Positive results for sample RI-SB-75-24 were qualified as estimated, "J."

RI-SB-75-24

14. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of 4,4'-DDT, Aldrin, Dieldrin, Endosulfan I, Endosulfan II, Lindane, g-Chlordane, Heptachlor, and Methoxychlor fell below the lower quality control limit in RI-SB-13-35 MS and/or MSD. In the unspiked sample, nondetected and positive results for these compounds were qualified as estimated "UJ" and "J."

RI-SB-13-35

15. Laboratory Control Sample Results

Recoveries of 4,4'-DDT, Methoxychlor, Endosulfan sulfate, and Heptachlor fell below the lower quality control limit for LCS 367088. In the following samples, nondetected and positive results were qualified as estimated, "UJ" and "J."

RI-SB-23-02
RI-SB-76-24
RI-SB-75-24
RI-SB-23-24
RI-SB-74-02
RI-SB-62-02
RI-SB-74-24
RI-SB-76-02
RI-SB-75-02

Recovery of Endrin aldehyde fell below 10% for LCS 367088. In the following samples, nondetected were rejected “UR” and positive results were qualified as estimated “J.”

RI-SB-23-02
RI-SB-23-24
RI-SB-62-02
RI-SB-76-02
RI-SB-76-24
RI-SB-74-02
RI-SB-74-24
RI-SB-75-02
RI-SB-75-24

16. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-47-02	U	d-BHC, Lindane, Endosulfan sulfate, 4,4'-DDT, Endrin aldehyde, a-Chlordane, g-Chlordane
RI-SB-47-24	U	Methoxychlor, g-Chlordane
RI-SB-46-02	U	Dieldrin, g-Chlordane
	J	Lindane, 4,4'-DDT, Endrin aldehyde
RI-SB-46-24	U	Lindane, 4,4'-DDD, Endrin aldehyde, g-Chlordane
	J	Heptachlor epoxide, Endosulfan I, Endosulfan sulfate
RI-SB-45-02	U	Endosulfan I, Endosulfan sulfate, g-Chlordane
	J	Heptachlor, Dieldrin
RI-SB-45-24	U	4,4'-DDE, Endrin, g-Chlordane
RI-SB-38-02	U	Heptachlor epoxide, Methoxychlor, g-Chlordane
	J	4,4'-DDT
RI-SB-38-24	U	b-BHC, d-BHC, Heptachlor, Heptachlor epoxide, 4,4'-DDE, 4,4'-DDT, g-Chlordane
	J	Lindane, Endosulfan I, Endosulfan II, Endrin aldehyde
RI-SB-29-02	U	Endosulfan I, Endrin, Endosulfan II, Endrin ketone
	J	4,4'-DDT
RI-SB-29-24	U	Lindane, Methoxychlor
	J	Endrin ketone
RI-SB-5D-02	U	d-BHC, Endosulfan I, Endrin, Endrin ketone
	J	4,4'-DDT
RI-SB-12-02	U	Lindane, Endosulfan sulfate, g-Chlordane
RI-SB-12-24	U	Endrin ketone
RI-SB-13-02	U	d-BHC, Endosulfan I, g-Chlordane
	J	Lindane, Dieldrin, Endosulfan II, Methoxychlor
RI-SB-13-35	U	Lindane, Dieldrin, Endosulfan II, g-Chlordane
	J	Heptachlor, Endosulfan I

Sample	Qualifier	Parameter
RI-SB-14-02	U	Heptachlor
	J	4,4'-DDT, g-Chlordane
RI-SB-14-24	U	Lindane, Heptachlor epoxide, Endosulfan II, 4,4'-DDD, g-Chlordane
	J	Endrin, Endosulfan sulfate
RI-SB-23-02	U	Lindane, Heptachlor, Methoxychlor, g-Chlordane
	J	4,4'-DDT
RI-SB-23-24	U	d-BHC, Lindane, Heptachlor, 4,4'-DDT, g-Chlordane
	J	Endrin aldehyde, a-Chlordane,
RI-SB-62-02	U	g-Chlordane
	J	Endrin, Endosulfan sulfate, Endrin aldehyde
	R	a-Chlordane
RI-SB-76-02	U	Heptachlor, Endosulfan sulfate, g-Chlordane
	J	Endrin, a-Chlordane
RI-SB-76-24	U	Heptachlor, 4,4'-DDD, g-Chlordane, Endosulfan II, 4,4'-DDT, Methoxychlor
	J	Endosulfan sulfate
RI-SB-74-02	U	Endosulfan I, 4,4'-DDD, a-Chlordane, g-Chlordane
	J	Dieldrin
	R	d-BHC, Lindande, Heptachlor
RI-SB-74-24	U	Lindane, Endosulfan I, 4,4'-DDT, g-Chlordane
	J	Endosulfan sulfate
	R	Heptachlor, a-Chlordane
RI-SB-75-02	U	Heptachlor, Endosulfan sulfate, a-Chlordane, g-Chlordane
	J	Endosulfan I
RI-SB-75-24	U	d-BHC, Heptachlor, Methoxychlor, Endrin ketone, Endrin aldehyde, g-Chlordane
	J	b-BHC, Endosulfan I
	R	a-Chlordane

INORGANIC COMPOUNDS

17. Spike Results

Recoveries of antimony, barium, copper, manganese, vanadium, and zinc fell outside the quality control limits for RI-SB-13-35 MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-13-35

Recoveries of barium, calcium, lead, manganese, sodium, and zinc fell outside the quality control limits for RI-SB-23-24 MS. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-23-24

18. Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for the laboratory duplicate of RI-SB-13-35. In the original sample, positive results for calcium, copper, and lead were qualified as estimated "J."

RI-SB-13-35

RPDs exceeded the upper quality control limit for the laboratory duplicate of RI-SB-23-24. In the original sample, positive results for aluminum, barium, calcium, copper, iron, lead, manganese, and vanadium were qualified as estimated "J."

RI-SB-23-24

19. ICP Serial Dilution

Zinc failed to meet the 10% quality control limit for the serial dilution of RI-SB-13-35. Positive results for this element were qualified as estimated "J."

RI-SB-13-35

20. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Aluminum	5.5	275	U results < blank level
	Arsenic	0.68	34	U results < blank level
	Barium	0.067	3.35	U results < blank level
	Beryllium	0.019	0.95	U results < blank level
	Cadmium	0.53	26.5	U results < blank level
	Chromium	0.16	8	U results < blank level
	Cobalt	0.19	9.5	U results < blank level
	Copper	0.054	2.7	U results < blank level
	Iron	8.9	445	U results < blank level
	Lead	1.2	60	U results < blank level
	Nickel	0.57	28.5	U results < blank level
	Potassium	22.3	1115	U results < blank level
	Selenium	1.2	60	U results < blank level
	Silver	0.077	3.85	U results < blank level
	Thallium	2	100	U results < blank level
	Vanadium	0.13	6.5	U results < blank level
	Zinc	0.78	39	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

21. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Data Completeness

The compound isopropylbenzene was missing from several samples. This is noted for completeness only. No action was taken on this basis.

RI-SB-76-02 RI-SB-76-24 RI-SB-74-02 RI-SB-74-24
RI-SB-75-24

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-38-24	500X	Ethylbenzene, o-xylene
	5000X	m&p-Xylene, xylene (total)
RI-SB-23-02	500X	m&p-Xylene, o-xylene, xylene (total)
RI-SB-23-24	500X	m&p-Xylene, xylene (total)
RI-SB-76-02	500X	m&p-Xylene, xylene (total)
RI-SB-74-02	500X	m&p-Xylene, xylene (total), ethylbenzene
RI-SB-75-24	500X	Ethylbenzene
RI-SB-47-02	50X	All Parameters
RI-SB-47-24	50X	All Parameters
RI-SB-46-02	50X	All Parameters
RI-SB-46-24	50X	All Parameters
RI-SB-45-02	50X	All Parameters
RI-SB-45-24	50X	All Parameters
RI-SB-38-02	50X	All Parameters
RI-SB-38-24	50X	All Parameters
RI-SB-29-02	50X	All Parameters
RI-SB-29-24	50X	All Parameters
RI-SB-5D-02	50X	All Parameters

Sample	**DF**	**Parameter**
RI-SB-12-02	50X	All Parameters
RI-SB-13-35	50X	All Parameters
RI-SB-23-02	50X	All Parameters
RI-SB-23-24	50X	All Parameters
RI-SB-76-02	50X	All Parameters
RI-SB-76-24	50X	All Parameters
RI-SB-74-02	50X	All Parameters
RI-SB-74-24	50X	All Parameters
RI-SB-75-24	50X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-29-02	RI-SB-5D-02		
116 J	117 J	Ethylbenzene	-1%
166	ND	Isopropylbenzene	--
6420	7730	Xylene (Total)	-19%
6180	7420	m&p-Xylene	-18%
235	304	o-Xylene	-26%

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE COMPOUNDS

Data Completeness

The original data package did not contain the correct target compound list requested by the client. The package was resubmitted; however, the resubmitted form 1s did not list all the target compounds requested by the client. The form 1s were edited by the laboratory and submitted a third time. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries were not reported for samples RI-SB-23-02 and RI-SB-74-02. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

Relative percent differences exceeded the upper quality control limit for RI-SB-13-35 MS/MSD. Recoveries were compliant; therefore, data are not qualified on this basis.

The MS/MSD did not contain all the target compounds. This is noted for completeness only. Data are not qualified on this basis.

Laboratory Control Sample Results

The LCS did not contain all the target compounds. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-47-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, naphthalene, phenanthrene, phenol, pyrene
	100X	Bis(2-ethylhexyl)phthalate
RI-SB-47-24	10X	Bis(2-ethylhexyl)phthalate
RI-SB-46-02	10X	Benzo(b)fluoranthene, fluoranthene, pyrene
RI-SB-45-02	20X	Bis(2-ethylhexyl)phthalate
RI-SB-38-02	10X	2,4-Dimethylphenol
RI-SB-14-02	10X	Anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, naphthalene, phenanthrene, pyrene
RI-SB-23-24	20X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, phenol, pyrene
RI-SB-62-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
RI-SB-76-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, naphthalene, phenanthrene, pyrene
RI-SB-76-24	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, phenol, pyrene
RI-SB-74-02	10X	All Parameters
	100X	Acetephenone, naphthalene
RI-SB-74-24	10X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, carbazole, chrysene, dibenzofuran, fluorene, 2-methylnaphthalene, naphthalene, phenol
	100X	Acetophenone, fluoranthene, phenanthrene, pyrene
RI-SB-75-02	10X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene

Sample	**DF**	**Parameter**
RI-SB-75-24	10X	Benzo(b)fluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, fluoranthene, phenanthrene, pyrene
RI-SB-23-02	10X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-29-02	RI-SB-5D-02		
187 J	ND	Anthracene	--
633	738	Fluoranthene	15%
340	244 J	2-Methylnaphthalene	33%
3070	1950	Naphthalene	45%
1350	1330	Phenanthrene	1%
972	784	Pyrene	21%

ND – Non-detect; -- RPD calculated for positive results only.

PESTICIDES

Blanks

g-Chlordane was detected in method blanks MB 367087 and MB 365386. No positive results were reported for g-Chlordane in the associated samples. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries were not reported for samples RI-SB-46-02, RI-SB-46-24, and RI-SB-14-24. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-47-02	20X	All Parameters
RI-SB-47-24	10X	All Parameters
RI-SB-46-02	50X	All Parameters
RI-SB-46-24	50X	All Parameters
RI-SB-45-02	10X	All Parameters
RI-SB-45-24	5X	All Parameters
RI-SB-38-02	20X	All Parameters
RI-SB-38-24	5X	All Parameters
RI-SB-12-02	5X	All Parameters
RI-SB-12-24	20X	All Parameters
RI-SB-13-35	20X	All Parameters
RI-SB-14-02	10X	All Parameters
	100X	g-Chlordane
RI-SB-23-02	20X	All Parameters
RI-SB-23-24	20X	All Parameters
RI-SB-62-02	20X	All Parameters
RI-SB-76-02	20X	All Parameters
RI-SB-76-24	20X	All Parameters
RI-SB-74-02	20X	All Parameters
RI-SB-74-24	20X	All Parameters
	100X	g-Chlordane
RI-SB-75-02	20X	All Parameters
RI-SB-75-24	20X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-29-02	RI-SB-5D-02		
8.2	6.8	Lindane	19%
1.5 J	2.6 J	4,4'-DDT	-54%
1.6 J	1.4 J	Dieldrin	13%
0.7 J	0.71 J	Endrin aldehyde	-1%
10.2	8.7	Heptachlor	16%

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Samples	DF	Parameters
RI-SB-46-02	2X	Mercury
RI-SB-46-24	2X	Mercury
RI-SB-45-24	2X	Mercury
RI-SB-38-02	2.5X	Mercury
RI-SB-12-24	10X	Mercury
RI-SB-13-35	10X	Mercury
RI-SB-14-02	5X	Mercury
RI-SB-23-02	2X	Mercury
RI-SB-23-24	5X	Mercury
RI-SB-62-02	2.5X	Mercury
RI-SB-76-02	5X	Mercury
RI-SB-76-24	2X	Mercury
Ri-SB-75-02	40X	Mercury
RI-SB-75-24	10X	Mercury

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-29-02	RI-SB-5D-02		
7920	6650	Aluminum	17.43%
0.32 J	0.25 J	Antimony	24.56%
ND	ND	Arsenic	--
90.6	68.9	Barium	27.21%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
12900	10300	Calcium	22.41%
ND	ND	Chromium	--
24.7	21.3	Cobalt	14.78%
274	264	Copper	3.72%
41700	35400	Iron	16.34%
ND	ND	Lead	--
6720	5550	Magnesium	19.07%
494	415	Manganese	17.38%
ND	ND	Nickel	--
1850	1490	Potassium	21.56%
ND	ND	Selenium	--
ND	ND	Silver	--
500	409	Sodium	20.02%
ND	ND	Thallium	--
118	103	Vanadium	13.57%
63.7	55.5	Zinc	13.76%
ND	ND	Mercury	--

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3057003
Validation Report Date	November 28, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	Metals Hg
11/02/11	RI-SB-34-02	3057003001	Solid	X	X	X	X
11/02/11	RI-SB-34-24	3057003002	Solid	X	X	X	X
11/02/11	RI-SB-42-02	3057003003	Solid	X	X	X	X
11/02/11	RI-SB-42-24	3057003004	Solid	X	X	X	X
11/02/11	RI-SB-41-02	3057003005	Solid	X	X	X	X
11/02/11	RI-SB-41-24	3057003006	Solid	X	X	X	X
11/02/11	RI-SB-15-02	3057003007	Solid	X	X	X	X
11/02/11	RI-SB-15-24	3057003008	Solid	X	X	X	X
11/02/11	RI-SB-16-02	3057003009	Solid	X	X	X	X
11/02/11	RI-SB-16-24	3057003010	Solid	X	X	X	X
11/02/11	RI-SB-33-02	3057003011	Solid	X	X	X	X
11/02/11	RI-SB-33-24	3057003012	Solid	X	X	X	X
11/02/11	RI-SB-22-02	3057003013	Solid	X	X	X	X
11/02/11	RI-SB-22-24	3057003014	Solid	X	X	X	X
11/02/11	RI-SB-25-02	3057003015	Solid	X	X	X	X
11/02/11	RI-SB-25-35	3057003016	Solid	X	X	X	X
11/02/11	RI-SB-6D-02	3057003017	Solid	X	X	X	X
11/02/11	RI-SB-17-02	3057003020	Solid	X	X	X	X
11/02/11	RI-SB-17-24	3057003021	Solid	X	X	X	X
11/02/11	RI-SB-24-02	3057003022	Solid	X	X	X	X
11/02/11	RI-SB-24-24	3057003023	Solid	X	X	X	X
11/02/11	RI-SB-33B-02	3057003024	Solid	X	X	X	X
11/02/11	RI-SB-33B-24	3057003025	Solid	X	X	X	X
11/02/11	RI-SB-26-02	3057003026	Solid	X	X	X	X
11/02/11	RI-SB-26-24	3057003027	Solid	X	X	X	X
11/02/11	Trip Blank	3057003028	Aqueous	X			

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 25 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- Calibration (Initial and Continuing)
- Blanks
- System Monitoring Compounds (Surrogate Spikes)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Internal Standards
- * Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

The pesticide findings are based upon the assessment of the following:

- * Data Completeness
- Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Samples
- * Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-34-02	RI-SB-34-24	RI-SB-42-02	RI-SB-42-24
RI-SB-41-02	RI-SB-41-24	RI-SB-15-02	RI-SB-15-24
RI-SB-16-02	RI-SB-16-24	RI-SB-33-02	RI-SB-33-24
RI-SB-22-02	RI-SB-22-24	RI-SB-25-02	RI-SB-25-35
RI-SB-6D-02	RI-SB-17-02	RI-SB-17-24	RI-SB-24-02
RI-SB-24-24	RI-SB-33B-02	RI-SB-33B-24	RI-SB-26-02
RI-SB-26-24	Trip Blank		

Continuing calibration percent differences (%Ds) for bromomethane, chloroethane, and dichlorodifluoromethane exceeded the 25% quality control limit on 11/1/11. In the following sample, nondetected and positive results for the aforementioned compounds were qualified as estimated, "UJ" and "J."

RI-SB-25-35

A continuing calibration %D for dichlorodifluoromethane exceeded the 25% quality control limit on 11/15/11. In the following samples, nondetected and positive results for the aforementioned compound was qualified as estimated, “UJ” and “J.”

RI-SB-34-02
RI-SB-34-24
RI-SB-42-02
RI-SB-42-24
RI-SB-41-02
RI-SB-41-24
RI-SB-15-02
RI-SB-15-24
RI-SB-16-02
RI-SB-16-24
RI-SB-22-24
RI-SB-25-02
RI-SB-6D-02
RI-SB-17-02
RI-SB-17-24
RI-SB-24-02
RI-SB-24-24
RI-SB-33B-02
RI-SB-33B-24

A continuing calibration %D for acetone exceeded the 25% quality control limit on 11/16/11. In the following samples, nondetected and positive results for the aforementioned compound was qualified as estimated, “UJ” and “J.”

RI-SB-33-02
RI-SB-33-24
RI-SB-22-02
RI-SB-26-02
RI-SB-26-24

Continuing calibration %Ds for 1,1,2-trichlorotrifluoroethane, acetone, and 2-butanone exceeded the 25% quality control limit on 11/9/11. In the following sample, nondetected and positive results for the aforementioned compounds were qualified as estimated, “UJ” and “J.”

Trip Blank

2. System Monitoring Compounds

Recovery of toluene-d8 or 4-bromofluorobenzene exceeded the upper quality control limit in several samples. In the following samples, positive results were qualified as estimated “J.”

RI-SB-42-02
RI-SB-15-02
RI-SB-16-02
RI-SB-16-24
RI-SB-24-02
RI-SB-33B-02
RI-SB-22-02

3. Blanks

The trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	4.8	48	Results < Action Level U
	Carbon disulfide	0.22	1.1	Results < Action Level U
	Methylene chloride	0.23	2.3	Results < Action Level U
MB 368746	Methylene chloride	1.5	15	Results < Action Level U
MB 369749	Acetone	5.3	53	Results < Action Level U
	Methylene chloride	2	20	Results < Action Level U

The aqueous method blank had a positive result for carbon disulfide. No qualifiers were assigned to the trip blank on this basis. This is noted for completeness only.

4. Laboratory Control Sample Results

Recovery of acetone exceeded the upper quality control limit in LCSs 368402, 368747, and 369750. In the following samples, positive results for acetone were qualified as estimated “J.”

RI-SB-34-02
RI-SB-34-24
RI-SB-42-02
RI-SB-42-24
RI-SB-41-02
RI-SB-41-24
RI-SB-15-02
RI-SB-15-24
RI-SB-16-02
RI-SB-16-24
RI-SB-33-02
RI-SB-33-24
RI-SB-22-02
RI-SB-22-24
RI-SB-25-02
RI-SB-25-35
RI-SB-6D-02
RI-SB-17-02
RI-SB-17-24
RI-SB-24-02
RI-SB-24-24
RI-SB-33B-02
RI-SB-33B-24
RI-SB-26-02
RI-SB-26-24

5. Internal Standard Results

Recovery of the internal standard 1,4-dichlorobenzene-d4 fell below the 50% quality control limit in several samples. In the following samples, nondetected and positive results associated with this standard were qualified as estimated, “UJ” and “J.”

RI-SB-41-02
RI-SB-24-02
RI-SB-33B-02

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

7. Calibration

Continuing calibration %Ds exceeded the 25% quality control limit for nitrobenzene on 11/20/11 and 11/23/11. In the following samples, nondetected and positive results for the aforementioned compound were qualified as estimated, “UJ” and “J.”

RI-SB-34-02
RI-SB-34-24
RI-SB-42-02
RI-SB-42-24
RI-SB-41-24
RI-SB-22-24
RI-SB-25-02
RI-SB-6D-02
RI-SB-17-02

Continuing calibration %Ds exceeded the 25% quality control limit for nitrobenzene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene, and benzo(g,h,i)perylene on 11/21/11. In the following samples, nondetected and positive results for the aforementioned compound were qualified as estimated, “UJ” and “J.”

RI-SB-41-02
RI-SB-33-24
RI-SB-25-35

Continuing calibration %Ds exceeded the 25% quality control limit for dibenz(a,h)anthracene and benzo(g,h,i)perylene on 11/28/11. In the following samples, nondetected and positive results for the aforementioned compound were qualified as estimated, “UJ” and “J.”

RI-SB-15-02
RI-SB-15-24
RI-SB-16-02
RI-SB-16-24
RI-SB-33-02
RI-SB-22-02
RI-SB-25-02

8. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of 2,4-dinitrophenol and hexachlorocyclopentadiene fell below the lower quality control limit in RI-SB-25-35 MS/MSD. In the unspiked sample, nondetected results for the aforementioned compounds were qualified as estimated “UJ”.

RI-SB-25-35

9. Laboratory Control Sample Results

Recoveries of 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, bis(2-chloroethyl)ether, hexachlorocyclopentadiene, and hexachloroethane fell below the lower quality control limit in LCS 367410. In the following samples, nondetected and positive results for these compounds were qualified as estimated “UJ” and “J.”

RI-SB-34-02
RI-SB-34-24
RI-SB-42-02
RI-SB-42-24
RI-SB-41-02
RI-SB-41-24
RI-SB-15-02
RI-SB-15-24
RI-SB-16-02
RI-SB-16-24
RI-SB-33-02
RI-SB-33-24
RI-SB-22-02
RI-SB-22-24
RI-SB-25-02
RI-SB-25-35
RI-SB-6D-02
RI-SB-17-02

Recovery of benzo(k)fluoranthene exceeded the upper quality control limit in LCS 367410. In the following samples, positive results for this compound were qualified as estimated “J.”

RI-SB-34-02
RI-SB-34-24
RI-SB-42-02
RI-SB-42-24
RI-SB-41-02
RI-SB-41-24
RI-SB-15-02
RI-SB-15-24
RI-SB-16-02
RI-SB-16-24
RI-SB-33-02
RI-SB-33-24
RI-SB-22-02
RI-SB-22-24
RI-SB-25-02
RI-SB-25-35
RI-SB-6D-02
RI-SB-17-02

10. Internal Standard Results

Recovery of the internal standards chrysene-d12 and perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with these standards were qualified as estimated “J” and “UJ.”

RI-SB-33B-02
RI-SB-41-24

Recovery of the internal standard perylene-d12 fell below the 50% quality control limit in several samples. In the following samples, positive and nondetected results associated with the standard were qualified as estimated “J” and “UJ.”

RI-SB-33B-02
RI-SB-34-24
RI-SB-22-24
RI-SB-25-02

11. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

PESTICIDES

12. Holding Time

Several samples were analyzed outside the 40 day holding time from extraction to analysis. In the following samples, nondetected and positive results were qualified as estimated, “UJ” and “J.”

RI-SB-16-02
RI-SB-16-24
RI-SB-33-02
RI-SB-33-24
RI-SB-22-02
RI-SB-22-24
RI-SB-25-02
RI-SB-25-35
RI-SB-6D-02
RI-SB-17-02
RI-SB-17-24
RI-SB-24-02
RI-SB-24-24
RI-SB-33B-02
RI-SB-33B-24
RI-SB-26-02
RI-SB-26-24

13. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-34-02	U	Lindane, 4,4'-DDE
	J	Aldrin, Endosulfan II, Methoxychlor, Endrin ketone, Endrin aldehyde
RI-SB-34-24	U	b-BHC, Endrin aldehyde
	J	Endosulfan sulfate, 4,4'-DDT, Endrin ketone
RI-SB-42-02	U	Dieldrin, 4,4'-DDD, g-Chlordane
	J	Endosulfan II, Endosulfan sulfate
RI-SB-42-24	U	Heptachlor, Dieldrin, g-Chlordane, d-BHC
	J	Endosulfan II
RI-SB-41-02	U	Heptachlor, Dieldrin, g-Chlordane, Endosulfan sulfate, d-BHC
	J	Endrin aldehyde
RI-SB-41-24	U	Lindane, Heptachlor epoxide, Dieldrin, g-Chlordane
	J	Endosulfan II, 4,4'-DDD, Methoxychlor
	R	Endosulfan sulfate
RI-SB-15-02	U	Lindane, Heptachlor epoxide, Dieldrin, Endrin aldehyde, g-Chlordane
	J	4,4'-DDD
RI-SB-15-24	U	Lindane, Dieldrin
	J	4,4'-DDT, Methoxychlor, Endrin aldehyde
RI-SB-16-02	U	Heptachlor epoxide, Endosulfan I, Endrin, Endosulfan II, 4,4'-DDD, Endrin aldehyde, g-Chlordane
	J	Heptachlor
RI-SB-16-24	U	Endosulfan II, 4,4'-DDD, Endrin ketone, Endrin aldehyde
	J	Dieldrin, 4,4'-DDT
RI-SB-33-02	U	Heptachlor, Dieldrin, Endrin ketone, Endrin aldehyde, g-Chlordane
	J	b-BHC, Endosulfan I, Endosulfan sulfate
RI-SB-33-24	U	Methoxychlor, g-Chlordane
RI-SB-22-02	U	4,4'-DDT, Endrin ketone, g-Chlordane
	J	Endosulfan I, Endosulfan sulfate, Endrin aldehyde
RI-SB-22-24	U	g-Chlordane
RI-SB-25-02	U	Lindane, Heptachlor, Heptachlor epoxide, Endosulfan II, 4,4'-DDD, Methoxychlor, a-Chlordane
RI-SB-25-35	U	Dieldrin, 4,4'-DDD, Endosulfan sulfate, 4,4'-DDT, Endrin aldehyde
	J	d-BHC
RI-SB-6D-02	U	Lindane, Heptachlor, Endosulfan II, Endrin aldehyde, a-Chlordane, g-Chlordane
	J	4,4'-DDT
RI-SB-17-02	U	Lindane, Heptachlor, Heptachlor epoxide, Methoxychlor, a-Chlordane
	J	Endosulfan sulfate, g-Chlordane
RI-SB-17-24	J	g-Chlordane
RI-SB-24-02	U	Heptachlor epoxide, Dieldrin, Methoxychlor, g-Chlordane, Endosulfan I
	J	4,4'-DDD
RI-SB-24-24	U	g-Chlordane

Sample	Qualifier	Parameter
RI-SB-33B-02	U	Lindane, Endosulfan II, 4,4'-DDT, Methoxychlor, a-Chlordane
	J	Dieldrin, Endosulfan sulfate, g-Chlordane
RI-SB-33B-24	U	Lindane, Heptachlor, Dieldrin, Endosulfan II, 4,4'-DDT
	R	a-Chlordane
RI-SB-26-02	U	4,4'-DDD

INORGANIC COMPOUNDS

14. Spike Results

Recoveries of antimony, barium, magnesium, potassium, zinc, and mercury fell outside the quality control limits for RI-SB-25-35 MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-25-35

Recoveries of antimony, barium, copper, potassium, selenium, sodium, and zinc fell outside the quality control limits for RI-SB-17-24 MS. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-17-24

15. Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for the laboratory duplicate of RI-SB-17-24. In the original sample, positive results for barium, calcium, and iron were qualified as estimated “J.”

RI-SB-17-24

16. ICP Serial Dilution

Potassium failed to meet the 10% quality control limit for the serial dilution of RI-SB-25-35. The positive result for this element was qualified as estimated “J.”

RI-SB-25-35

17. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Aluminum	14.1	705	U results < blank level
	Antimony	0.86	43	U results < blank level
	Arsenic	2.4	120	U results < blank level
	Barium	0.45	22.5	U results < blank level
	Beryllium	0.059	2.95	U results < blank level
	Calcium	21.5	1075	U results < blank level
	Chromium	0.036	1.8	U results < blank level
	Cobalt	0.82	41	U results < blank level
	Copper	0.76	38	U results < blank level
	Iron	62.9	3145	U results < blank level
	Lead	2.9	145	U results < blank level
	Magnesium	5.1	255	U results < blank level
	Manganese	1.4	70	U results < blank level
	Nickel	0.21	10.5	U results < blank level
	Selenium	0.95	47.5	U results < blank level
	Silver	0.29	14.5	U results < blank level
	Thallium	1.8	90	U results < blank level
	Vanadium	0.22	11	U results < blank level
	Zinc	0.78	39	U results < blank level
MB	Potassium	6.2	31	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

18. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

<u>NOTES</u>

VOLATILE ORGANIC COMPOUNDS

Matrix Spike/Matrix Spike Duplicate Results

The laboratory did not calculate recoveries and relative percent differences for the matrix spike/matrix spike duplicate. The information was requested from the laboratory but was not delivered. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-41-24	50X	All Parameters
RI-SB-15-02	50X	All Parameters
	500X	Xylene (total), m&p-xylene
RI-SB-15-24	50X	All Parameters
	500X	Ethylbenzene, toluene, xylene (total), m&p-xylene
RI-SB-16-02	50X	All Parameters
	5000X	Xylene (total), m&p-xylene
RI-SB-16-24	50X	All Parameters
	500X	Ethylbenzene
	5000X	Xylene (total), m&p-xylene
RI-SB-33-02	50X	All Parameters
RI-SB-33-24	50X	All Parameters
RI-SB-22-02	50X	All Parameters
	500X	Xylene (total), m&p-xylene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-25-02	RI-SB-6D-02		
58.6	ND	Acetone	--
2 J	ND	Chloroform	--
3.6 J	2.5 J	Isopropylbenzene	36%
31	8.5	Methylene chloride	114%
189	159	Toluene	17%
16.1	11	Xylene (total)	38%
12.9	8.2	m&p-Xylene	45%
3.3 J	2.8 J	o-Xylene	16%

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE COMPOUNDS

Data Completeness

The original data package did not contain the correct target compound list requested by the client. The package was resubmitted; however, the resubmitted form 1s did not list all the target compounds requested by the client. The form 1s were edited by the laboratory and submitted a third time. This is noted for completeness only. Data are not qualified on this basis.

Bis(2-chloroisopropyl)ether was listed on the sample form 1s but did not appear on the analytical result summary. The compound was transcribed onto the analytical result summary by the validator. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries were not reported for samples RI-SB-15-02, RI-SB-15-24, RI-SB-16-02, RI-SB-16-24, RI-SB-33-02, and RI-SB-22-02. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-42-24	10X	Anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
RI-SB-15-02	10X	All Parameters
RI-SB-15-24	10X	All Parameters
RI-SB-16-02	10X	All Parameters
RI-SB-16-24	10X	All Parameters
RI-SB-33-02	10X	All Parameters
RI-SB-22-02	10X	All Parameters
RI-SB-25-02	10X	Benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
RI-SB-33B-02	10X	Anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, benzo(k)fluoranthene, indeno(1,2,3-c,d)pyrene
	100X	Fluoranthene, phenanthrene, pyrene
RI-SB-33B-24	10X	Acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, dibenz(a,h)anthracene, dibenzofuran, fluorene, indeno(1,2,3-c,d)pyrene
	100X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-25-02	RI-SB-6D-02		
1650	ND	Acenaphthene	--
2960	316	Anthracene	161%
5400	942	Benzo(a)anthracene	141%
5450	1080	Benzo(a)pyrene	134%
6630	1280	Benzo(b)fluoranthene	135%
1190	916	Benzo(g,h,i)perylene	26%
3370	409	Benzo(k)fluoranthene	157%
1700	252	Carbazole	148%
6520	1060	Chrysene	144%
1040	ND	Dibenzofuran	--
13200	1710	Fluoranthene	154%
1330	ND	Fluorene	--
1120	827	Indeno(1,2,3-c,d)pyrene	30%
448	299	2-Methylnaphthalene	40%
1400	1940	Naphthalene	-32%
14700	1400	Phenanthrene	165%
480	ND	Phenol	--
14600	1500	Pyrene	163%

ND – Non-detect; -- RPD calculated for positive results only.

PESTICIDES

Blanks

Endrin ketone was detected in method blanks MB 367403. No positive results were reported for Endrin ketone in the associated samples. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries were not reported for samples RI-SB-22-02, RI-SB-22-24, and RI-SB-33B-24. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameter	DF	Samples
All Parameters	5X	RI-SB-41-02, RI-SB-41-24, RI-SB-33-24, RI-SB-6D-02, RI-SB-17-02, RI-SB-17-24, RI-SB-24-02, RI-SB-26-02
All Parameters	20X	RI-SB-15-02, RI-SB-1524, RI-SB-16-02, RI-SB-16-24, RI-SB-33-02, RI-SB-25-02, RI-SB-33B-02
All Parameters	50X	RI-SB-22-24, RI-SB-33B-24
All Parameters	100X	RI-SB-22-02

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-25-02	RI-SB-6D-02		
14.6 J	ND	g-Chlordane	--
37.7 J	8.9 J	Endosulfan sulfate	124%
ND	3.1 J	4,4'-DDT	--
ND	1.6 J	Endosulfan I	--
ND	5.1 J	Heptachlor epoxide	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameters	DF	Samples
Mercury	2X	RI-SB-34-02, RI-SB-42-02, RI-SB-41-24, RI-SB-33-02, RI-SB-33-24, RI-SB-24-02, RI-SB-33B-24, RI-SB-26-02
Mercury	2.5X	RI-SB-22-02
Mercury	5X	RI-SB-41-02, RI-SB-15-02, RI-SB-15-24, RI-SB-16-02, RI-SB-16-24, RI-SB-25-02, RI-SB-6D-02, RI-SB-17-02
Lead	10X	RI-SB-34-02
Mercury	200X	RI-SB-22-24

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-25-02	RI-SB-6D-02		
6390	6220	Aluminum	2.70%
ND	ND	Antimony	--
ND	ND	Arsenic	--
793	90.4	Barium	159.07%
ND	ND	Beryllium	--
22.8	9.2	Cadmium	85.00%
16100	16500	Calcium	-2.45%
29.2	15.2	Chromium	63.06%
ND	ND	Cobalt	--
249	ND	Copper	--
13100	10700	Iron	20.17%
325	197	Lead	49.04%
2260	2560	Magnesium	-12.45%
185	172	Manganese	7.28%
24.3	24.8	Nickel	-2.04%
1160	939	Potassium	21.06%
ND	ND	Selenium	--
ND	ND	Silver	--
295	284	Sodium	3.80%
ND	ND	Thallium	--
17.6	17.2	Vanadium	2.30%
911	119	Zinc	153.79%
1.2	1.9	Mercury	-45.16%

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3057115 and 3059712
Validation Report Date	November 10, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 8082A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Polychlorinated Biphenyls (PCBs), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC SVOC	PEST	PCB	Metals Hg
11/03/11	RI-SB-28-02	3057115001	Solid	X	X		X
11/03/11	RI-SB-44-24	3057115002	Solid	X	X		X
11/03/11	RI-SB/MW-03-02	3057115003	Solid	X	X		X
11/03/11	RI-SB/MW-03-24	3057115004	Solid	X	X		X
11/03/11	26U-02	3057115036	Solid			X	
11/03/11	26U-01	3057115037	Solid			X	
11/03/11	23U-12	3057115038	Solid			X	
11/03/11	26U-23	3057115039	Solid			X	
11/03/11	23U-34	3057115040	Solid			X	
11/03/11	26U-45	3057115041	Solid			X	
11/03/11	26U-56	3057115042	Solid			X	
11/03/11	26U-67	3057115043	Solid			X	
11/03/11	26D-01	3057115044	Solid			X	
11/03/11	26V-02	3057115047	Solid			X	
11/03/11	26V-01	3057115048	Solid			X	
11/03/11	26V-12	3057115049	Solid			X	
11/03/11	26V-23	3057115050	Solid			X	
11/03/11	26V-34	3057115051	Solid			X	
11/03/11	26V-45	3057115052	Solid			X	
11/03/11	26V-56	3057115053	Solid			X	
11/03/11	26V-67	3057115054	Solid			X	
11/03/11	26D-12	3057115055	Solid			X	
11/03/11	26W-02	3057115058	Solid			X	
11/03/11	26W-01	3057115059	Solid			X	
11/03/11	26W-12	3057115060	Solid			X	
11/03/11	26W-23	3057115061	Solid			X	

Sample Date	Sample ID	Lab ID	Matrix	VOC SVOC	PEST	PCB	Metals Hg
11/03/11	26W-34	3057115062	Solid			X	
11/03/11	26W-45	3057115063	Solid			X	
11/03/11	26W-56	3057115064	Solid			X	
11/03/11	26W-67	3057115065	Solid			X	
11/03/11	26D-23	3057115066	Solid			X	
11/03/11	26X-02	3057115067	Solid			X	
11/03/11	26X-01	3057115068	Solid			X	
11/03/11	26X-12	3057115069	Solid			X	
11/03/11	26X-23	3057115070	Solid			X	
11/03/11	26X-34	3057115071	Solid			X	
11/03/11	26X-45	3057115072	Solid			X	
11/03/11	26X-56	3057115073	Solid			X	
11/03/11	26X-67	3057115074	Solid			X	
11/03/11	RI-SB-06-02	3057115077	Solid	X	X		X
11/03/11	RI-SB-06-24	3057115078	Solid	X	X		X
11/03/11	RI-SB-05-02	3057115079	Solid	X	X		X
11/03/11	RI-SB-05-24	3057115080	Solid	X	X		X
11/03/11	Trip Blank	3057115081	Aqueous	X			
11/03/11	27X-02	3057115005	Solid			X	
11/03/11	27X-01	3057115006	Solid			X	
11/03/11	27X-12	3057115007	Solid			X	
11/03/11	27X-23	3057115008	Solid			X	
11/03/11	27X-34	3057115009	Solid			X	
11/03/11	27X-45	3057115010	Solid			X	
11/03/11	27X-56	3057115011	Solid			X	
11/03/11	27W-02	3057115012	Solid			X	
11/03/11	27W-01	3057115013	Solid			X	
11/03/11	27W-12	3057115014	Solid			X	
11/03/11	27W-23	3057115015	Solid			X	
11/03/11	27W-34	3057115016	Solid			X	
11/03/11	27W-45	3057115017	Solid			X	
11/03/11	27W-56	3057115018	Solid			X	
11/03/11	27W-67	3057115019	Solid			X	
11/03/11	27V-02	3057115020	Solid			X	
11/03/11	27V-01	3057115021	Solid			X	
11/03/11	27V-12	3057115022	Solid			X	
11/03/11	27V-23	3057115023	Solid			X	
11/03/11	27V-34	3057115024	Solid			X	
11/03/11	27V-45	3057115025	Solid			X	
11/03/11	27V-56	3057115026	Solid			X	
11/03/11	27V-67	3057115027	Solid			X	
11/03/11	27U-02	3057115028	Solid			X	
11/03/11	27U-01	3057115029	Solid			X	
11/03/11	27U-12	3057115030	Solid			X	
11/03/11	27U-23	3057115031	Solid			X	
11/03/11	27U-34	3057115032	Solid			X	
11/03/11	27U-45	3057115033	Solid			X	

Sample Date	Sample ID	Lab ID	Matrix	VOC SVOC	PEST	PCB	Metals Hg
11/03/11	27U-56	3057115034	Solid			X	
11/03/11	27U-67	3057115035	Solid			X	

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 74 solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- Calibration (Initial and Continuing)
- Blanks
- System Monitoring Compounds (Surrogate Spikes)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Internal Standards
- * Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

The PCB and pesticide findings are based upon the assessment of the following:

- * Data Completeness
- Holding Times
- * Calibration (Initial and Continuing)
- Blanks
- System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Samples
- * Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	Data Completeness
*	Holding Times
*	Calibration (Initial and Continuing)
	Blanks
*	ICP Interference Check samples (ICS)
*	Laboratory Control Sample (LCS)
	Duplicate Sample Analysis
	Spike Sample Analysis
NA	Graphite Furnace Atomic Absorption (GFAA) QC
	ICP Serial Dilution
*	Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-28-02 RI-SB-44-24 RI-SB/MW-03-02 RI-SB/MW-03-24
RI-SB-06-02 RI-SB-06-24 RI-SB-05-02 RI-SB-05-24
Trip Blank

Continuing calibration percent differences (%Ds) for dichlrodifluoromethane, 1,1,2-trichloroethane, and methyl acetate exceeded the 25% quality control limit on 11/10/11. In the following sample, nondetected results for the aforementioned compounds were qualified as estimated, "UJ."

Trip Blank

The continuing calibration %D for acetone exceeded the 25% quality control limit on 11/14/11. In the following samples, positive results for acetone were qualified as estimated, "J."

RI-SB-28-02 RI-SB-44-24 RI-SB/MW-03-02 RI-SB/MW-03-24
RI-SB-06-24

2. System Monitoring Compounds

Recovery of the surrogate 4-bromofluorobenzene exceeded the upper quality control limit in RI-SB/MW-03-24. Positive results were qualified as estimated "J."

RI-SB/MW-03-24

3. Blanks

The trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	3.9	39	Results < Action Level U
	Chloromethane	1.3	6.5	Results < Action Level U
	Carbon disulfide	0.28	1.4	Results < Action Level U

4. Laboratory Control Sample Results

Recovery of acetone exceeded the upper quality control limit in LCS 366989. In the following samples, positive results for acetone were qualified as estimated "J."

RI-SB-28-02 RI-SB-44-24 RI-SB/MW-03-02 RI-SB/MW-03-24
RI-SB-06-24

5. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of the majority of compounds in RI-SB-06-02 MS/MSD fell below the lower quality control limit (see worksheet for complete list). Recovery of acetone fell below the 10% quality control limit in the MSD. The nondetected result for acetone was rejected "UR." Positive and nondetected results for the remaining noncompliant compounds were qualified as estimated "J" and "UJ."

RI-SB-06-02

6. Internal Standard Results

Recovery of the internal standard 1,4-dichlorobenzene-d4 fell below the 50% quality control limit for RI-SB/MW-03-02. Nondetected and positive results associated with this internal standard were qualified as estimated "UJ" and "J."

RI-SB/MW-03-02

7. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

8. System Monitoring Compounds

Recovery of four out of six surrogates fell below 10% in RI-SB-28-02. Nondetected results were rejected “UR.” Positive results were qualified as estimated “J.”

RI-SB-28-02

9. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

PESTICIDES

10. Holding Time

Samples were analyzed 50 days after extraction. The holding time limit for sample extracts is 40 days. In the following samples, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-28-02
RI-SB-06-02
RI-SB-44-24
RI-SB-06-24
RI-SB/MW-03-02
RI-SB-05-02
RI-SB/MW-03-24
RI-SB-05-24

11. Calibration

A continuing calibration %D exceeded the 25% quality control limit for endosulfan sulfate on 01/05/12. In the following samples, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-28-02
RI-SB-06-02
RI-SB-44-24
RI-SB-06-24
RI-SB/MW-03-02
RI-SB-05-02
RI-SB/MW-03-24
RI-SB-05-24

12. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-28-02	U	Heptachlor, g-Chlordane
RI-SB-44-24	U	g-Chlordane
RI-SB/MW-03-02	U	Heptachlor, Heptachlor epoxide, 4,4'-DDT, Methoxychlor, a-Chlordane, g-Chlordane
	J	Diledrin, 4,4'-DDD
RI-SB/MW-03-24	U	g-Chlordane
	J	Endosulfan I
RI-SB-06-02	U	g-Chlordane
	J	b-BHC, 4,4'-DDT
RI-SB-06-24	J	Endosulfan sulfate, g-Chlordane
RI-SB-05-24	J	g-Chlordane

POLYCHLORINATED BIPHENYLS

13. Holding Time

Samples were extracted 62 to 67 days after sample collection. The samples were stored at less than 6°C. Since aroclors are not subject to loss due to volatilization or degradation, the validator elected to not reject the data despite the exceedance of the 14 day holding time criteria. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

27X-02
27X-01
27X-12
27X-23
27X-34
27X-45
27X-56
27W-02
27W-01
27W-12
27W-23
27W-34
27W-45
27W-56
27W-67
27V-02
27V-01
27V-12
27V-23
27V-34
27V-45
27V-56
27V-67
27U-02
27U-01
27U-12
27U-23
27U-34
27U-45
27U-56
27U-67

14. System Monitoring Compounds

Recovery of the surrogate tetrachloro-m-xylene fell below the 30% quality control limit in sample 26V-34. Nondetected results were qualified as estimated, “UJ.”

26V-34

15. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
26U-23	J	Aroclor 1248
26V-12	J	Aroclor 1248
27V-12	J	Aroclor 1248
27X-01	J	Aroclor 1254

INORGANIC COMPOUNDS

16. Spike Results

Recoveries of barium, calcium, copper, lead, manganese, and thallium fell outside the quality control limits for RI-SB-28-02 MS/MSD. In the unspiked sample, positive and nondetected results were qualified as estimated “J” and “UJ.”

RI-SB-28-02

17. Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for the laboratory duplicate of RI-SB-28-02. In the original sample, positive results for barium, calcium, copper, iron, lead, magnesium, zinc, and mercury were qualified as estimated “J.”

RI-SB-28-02

18. ICP Serial Dilution

Iron, magnesium, zinc, and mercury failed to meet the 10% quality control limit for the serial dilution of RI-SB-28-02. Positive results for these elements were qualified as estimated “J.”

RI-SB-28-02

19. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Aluminum	17.1	855	U results < blank level
	Antimony	1.5	75	U results < blank level
	Arsenic	3	150	U results < blank level
	Barium	0.033	1.65	U results < blank level
	Beryllium	0.12	6	U results < blank level
	Cadmium	0.24	12	U results < blank level
	Calcium	4.7	235	U results < blank level
	Chromium	0.077	3.85	U results < blank level
	Cobalt	0.13	6.5	U results < blank level
	Copper	1.1	55	U results < blank level
	Iron	18.6	930	U results < blank level
	Lead	0.52	26	U results < blank level
	Magnesium	1.3	65	U results < blank level
	Manganese	0.4	20	U results < blank level
	Nickel	0.4	20	U results < blank level
	Potassium	2.4	120	U results < blank level
	Selenium	6.4	320	U results < blank level
	Sodium	112	5600	U results < blank level
	Thallium	1.7	85	U results < blank level
	Vanadium	0.47	23.5	U results < blank level
	Zinc	0.72	36	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

20. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Compound Quantitation

Sample RI-SB-28-02 was re-analyzed at a 50X dilution factor due to the presence of target analytes. Positive results for xylene (total) and m&p-xylene were reported from this dilution. This accounts for the elevated reporting limits for these compounds. Data are not qualified on this basis.

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

Sample form 1s did not list the target compounds requested by the client. The data package was revised by the laboratory; however, the revision for the semivolatiles did not contain all the target compounds requested. The forms 1s were revised a second time and resubmitted by the laboratory.

Compound Quantitation

Sample RI-SB/MW-03-02 was re-analyzed at a 10X dilution factor due to the presence of target analytes. Positive results for fluoranthene and pyrene were reported from this dilution. This accounts for the elevated reporting limits for these compounds. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

Recovery of benzo(b)flouranthene exceeded the upper quality control limit for RI-SB-05-24 MS. The compound was not detected in the unspiked sample. Data are not qualified on this basis.

Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the lower quality control limit in RI-SB-28-02. Results associated with this standard were previously qualified due to surrogate recovery. No further qualifiers were assigned on this basis.

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

PESTICIDES

System Monitoring Compounds

Surrogate recoveries were not reported in several samples. The noncompliances were due to the necessary dilution of the sample extracts prior to analysis. Data were not qualified on this basis.

RI-SB-28-02	RI-SB/MW-03-02	RI-SB/MW-03-24	RI-SB-06-02
RI-SB-06-24			

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
5X	RI-SB-44-24, RI-SB-06-24, RI-SB-05-02
20X	RI-SB-05-24
50X	RI-SB/MW-03-02, RI-SB/MW-03-24
100X	RI-SB-28-02, RI-SB-06-02

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

POLYCHLORINATED BIPHENYLS

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
26U-01	26D-01		
1060	1100	Aroclor 1254	4%

Sample ID	Duplicate ID	Parameter	PRD
26V-12	26D-12		
40.8J	ND	Aroclor 1248	--

ND – Non-detect; -- RPD calculated for positive results only.

Sample ID	Duplicate ID	Parameter	PRD
26W-23	26D-23		
ND	ND	Aroclors	--

ND – Non-detect; -- RPD calculated for positive results only.

Compound Quantitation

All samples were analyzed and reported at a 5X dilution factor due to the presence of target parameters and/or matrix interferences. This accounts for the elevated reporting limits for these samples. Several samples were analyzed at dilution factors greater than 5X. Data are not qualified on this basis.

Samples	DF	Parameters
26U-01	10X	Aroclors
26D-01	10X	Aroclors
26U-02	100X	Aroclors

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Samples	DF	Parameters
RI-SB-28-02	5X	Mercury
RI-SB-44-24	5X	Mercury

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

____________________________ _____________

Validator Date

Data Validation Report

SDG#	3057151
Validation Report Date	October 25, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 8082A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Polychlorinated Biphenyls (PCBs), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PEST	PCB	Metals Hg
11/04/11	RI-SB-03-02	3057151001	Solid	X	X	X	X	X
11/04/11	RI-SB-03-24	3057151002	Solid	X	X	X	X	X
11/04/11	RI-SB/MW-04-02	3057151003	Solid	X	X	X	X	X
11/04/11	RI-SB/MW-04-24	3057151004	Solid	X	X	X	X	X
11/04/11	RI-SB-7D-02	3057151005	Solid	X	X	X	X	X
11/04/11	Trip Blank	3057151008	Aqueous	X				

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of five solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
	• Calibration (Initial and Continuing)
	• Blanks
*	• System Monitoring Compounds (Surrogate Spikes)
	• Matrix Spike/Matrix Spike Duplicates
	• Laboratory Control Samples
*	• Internal Standards
*	• Target Compound Identification
	• Compound Quantification and Reported Contract Quantitation Limits
*	• System Performance

* Criteria were met for this evaluation item.

The PCB and pesticide findings are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• System Monitoring Compounds (Surrogate Spikes)
*	• Matrix Spike/Matrix Spike Duplicates
*	• Laboratory Control Samples
*	• Target Compound Identification
	• Compound Quantification and Reported Contract Quantitation Limits
*	• System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

RI-SB-03-02
RI-SB-03-24
RI-SB/MW-04-02
RI-SB/MW-04-24
RI-SB-7D-02
Trip Blank

A continuing calibration percent difference (%D) for methyl acetate exceeded the 25% quality control limit on 11/21/11. In the following sample, the nondetected result for the aforementioned compound was qualified as estimated, "UJ."

RI-SB-03-24

Continuing calibration %Ds for methyl acetate, 1,1,2-trichlorotrifluoroethane, and dichlorodifluoromethane exceeded the 25% quality control limit on 11/10/11. In the following sample, nondetected results for the aforementioned compounds were qualified as estimated, "UJ."

Trip Blank

Continuing calibration %Ds for dichlorodifluoromethane, bromomethane, and chloroethane exceeded the 25% quality control limit on 11/18/11. In the following samples, nondetected results for the aforementioned compounds were qualified as estimated, "UJ."

RI-SB-03-02
RI-SB/MW-04-02
RI-SB/MW-04-24
RI-SB-7D-02

2. Blanks

The laboratory method blank and trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Acetone	2.9	29	Results < Action Level U
	Carbon disulfide	0.28	1.4	Results < Action Level U
	Chloromethane	1.4	7.0	Results < Action Level U
MB 369749	Acetone	5.3	53	Results < Action Level U
	Methylene chloride	2.0	20	Results < Action Level U

3. Laboratory Control Sample Results

Recovery of acetone exceeded the upper quality control limit in LCS 369750. In the following sample, the positive result for acetone was qualified as estimated “J.”

RI-SB-7D-02

Recoveries of 1,1-dichloroethene, 2-butanone, and acetone were outside the quality control limit in LCS 370324. In the following sample, positive and nondetected results for the aforementioned compounds were qualified as estimated “J” and “UJ.”

RI-SB-03-24

4. Matrix Spike/Matrix Spike Duplicate Results

Recoveries of 1,1-dichloroethene, isopropylbenzene, and trichlorofluoromethane were outside the quality control limits for RI-SB-03-24 MS/MSD. In the unspiked sample, positive and nondetected results for the aforementioned compounds were qualified as estimated “J” and “UJ.”

RI-SB-03-24

5. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

All technical parameters were met. No qualifiers were assigned to the data.

PESTICIDES

6. Blanks

The laboratory method blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 369386	d-BHC	0.19	0.95	Results < Action Level U
	Endrin ketone	0.097	0.485	Results < Action Level U
	g-Chlordane	0.15	0.75	Results < Action Level U

7. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
RI-SB-03-02	U	Endosulfan I
	J	Endosulfan sulfate, Endrin ketone, g-Chlordane
RI-SB-03-24	U	Lindane, g-Chlordane
RI-SB/MW-04-02	U	Heptachlor, Endrin ketone
	J	Heptachlor epoxide, 4,4’-DDE, Endrin, Endosulfan II, a-Chlordane
	R	Dieldrin, Endosulfan sulfate, Endrin aldehyde
RI-SB/MW-04-24	U	Dieldrin, a-Chlordane, g-Chlordane
RI-SB-7D-02	U	Heptachlor, Dieldrin, 4,4’-DDT, Methoxychlor, Endrin aldehyde
	R	Heptachlor epoxide
	R	b-BHC

POLYCHLORINATED BIPHENYLS

All technical parameters were met. No qualifiers were assigned to the data.

INORGANIC COMPOUNDS

8. Spike Results

Recovery of antimony fell below the lower quality control limit for RI-SB-03-24 MS/MSD. In the unspiked sample, the nondetected result for antimony was qualified as estimated “UJ.”

RI-SB-03-24

9. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Aluminum	40.6	2030	U results < blank level
	Antimony	1.5	75	U results < blank level
	Arsenic	3.9	195	U results < blank level
	Barium	0.51	25.5	U results < blank level
	Beryllium	0.28	14	U results < blank level
	Cadmium	0.44	22	U results < blank level
	Calcium	32.2	1610	U results < blank level
	Chromium	0.1	5	U results < blank level
	Cobalt	0.13	6.5	U results < blank level
	Copper	1.1	55	U results < blank level
	Iron	67.1	3355	U results < blank level
	Lead	0.59	29.5	U results < blank level
	Magnesium	6.7	335	U results < blank level
	Manganese	3	150	U results < blank level
	Nickel	0.86	43	U results < blank level
	Potassium	25.8	1290	U results < blank level
	Selenium	6.3	315	U results < blank level
	Silver	0.086	4.3	U results < blank level
	Sodium	112	5600	U results < blank level
	Thallium	1.7	85	U results < blank level
	Vanadium	0.5	25	U results < blank level
	Zinc	1.5	75	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

10. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Matrix Spike/Matrix Spike Duplicate Results

The laboratory spiked and analyzed a MS/MSD using RI-SB-03-24; however, the laboratory did not report the percent recoveries and relative percent differences. The laboratory was able to provide the requested information. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
50X	RI-SB/MW-04-02, RI-SB/MW-04-24

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-03-02	RI-SB-7D-02		
ND	65 J	Acetone	--
ND	6.1 J	2-Butanone	--
ND	1.1 J	2-Hexanone	--

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

Sample form 1s did not contain the target compounds requested by the client. The laboratory revised the form 1s; however, the revised form 1s left off several compounds and did not correspond to the analyses from the first package. For example, sample RI-SB/MW-04-02 was reported at a 10X and 100X dilution factor in the original package, and was reported at a 1X and 10X dilution factor in the second. Sample RI-SB/MW-04-02 was correctly reported at a 10X and 100X dilution factor in the third package and had the correct target compound list.

System Monitoring Compounds

Surrogate recoveries were not reported for sample RI-SB/MW-04-02. The noncompliances were due to the necessary dilution of the sample extract prior to analysis. Data were not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

Sample RI-SB-03-24 was used for the MS/MSD. The laboratory reported a short list of compounds instead of the full target compound list. This is noted for completeness only. Data were not qualified on this basis.

Laboratory Control Sample Results

The laboratory reported a short list of compounds instead of the full target compound list for the LCS. This is noted for completeness only. Data were not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB/MW-04-02	10X	All Parameters
	100X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, fluoranthene, phenanthrene, pyrene
RI-SB-7D-02	10X	Fluoranthene, phenanthrene, pyrene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-03-02	RI-SB-7D-02		
ND	748	Acenaphthene	--
358	1580	Anthracene	-126%
1570	3170	Benzo(a)anthracene	-68%
1090	2320	Benzo(a)pyrene	-72%
1110	3570	Benzo(b)fluoranthene	-105%
507	920	Benzo(g,h,i)perylene	-58%
515	1190	Benzo(k)fluoranthene	-79%
1520	2890	Chrysene	-62%
ND	622	Fluorene	--
2330	ND	Fluoranthene	--
404	953	Indeno(1,2,3-c,d)pyrene	-81%
1630	ND	Phenanthrene	--
3490	ND	Pyrene	--

ND – Non-detect; -- RPD calculated for positive results only.

PESTICIDES

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameter
RI-SB-03-02	5X	All Parameters
RI-SB/MW-04-02	20X	All Parameters
	200X	b-BHC, g-Chlordane
RI-SB-7D-02	20X	All Parameters

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-03-02	RI-SB-7D-02		
1 J	ND	g-Chlordane	--
3.8 J	51.3 J	Endosulfan sulfate	172%
2.1 J	28.2 J	Endrin ketone	172%
ND	15.8 J	4,4'-DDD	--

ND – Non-detect; -- RPD calculated for positive results only.

POLYCHLORINATED BIPHENYLS

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-03-02	RI-SB-7D-02		
ND	ND	Aroclors	--

ND – Non-detect; -- RPD calculated for positive results only.

Compound Quantitation

All samples were analyzed and reported at a 5X dilution factor due to the presence of target parameters and/or matrix interferences. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

INORGANIC COMPOUNDS

Compound Quantitation

Sample RI-SB/MW-04-02 was analyzed and reported at a 2X dilution factor due to the presence of mercury. This accounts for the elevated reporting limits for this sample. Data are not qualified on this basis.

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
RI-SB-03-02	RI-SB-7D-02		
8500	8100	Aluminum	4.82%
ND	ND	Antimony	--
ND	ND	Arsenic	--
34.3	35.2	Barium	-2.59%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
ND	NS	Calcium	--
15.4	14.6	Chromium	5.33%
ND	ND	Cobalt	--
ND	ND	Copper	--
14600	13500	Iron	7.83%
43.1	ND	Lead	--
3720	3070	Magnesium	19.15%
ND	ND	Manganese	--
ND	ND	Nickel	--
ND	ND	Potassium	--
ND	ND	Selenium	--
ND	ND	Silver	--
ND	ND	Sodium	--
ND	ND	Thallium	--
ND	ND	Vanadium	--
ND	ND	Zinc	--
0.098 J	0.095 J	Mercury	3.11%

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

Data Validation Report

SDG#	3057567
Validation Report Date	October 12, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8082, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC	SVOC	PCB	Metals Hg
11/12/11	SC-SB-10-02	3057567001	Solid	X	X	X	X
11/12/11	SC-SB-10-24	3057567002	Solid	X	X	X	X
11/12/11	SC-SB-13-02	3057567003	Solid	X	X	X	X
11/12/11	SC-SB-13-24	3057567004	Solid	X	X	X	X
11/12/11	RI-SB-8D-02	3057567007	Solid	X	X		X
11/12/11	SC-SB/MW-03-02	3057567008	Solid	X	X	X	X
11/12/11	SC-SB/MW-03-24	3057567009	Solid	X	X	X	X
11/12/11	SC-SB/MW-01-02	3057567010	Solid	X	X	X	X
11/12/11	SC-SB/MW-01-24	3057567011	Solid	X	X	X	X
11/12/11	SC-SB/MW-04-02	3057567012	Solid	X	X	X	X
11/12/11	SC-SB/MW-04-24	3057567013	Solid	X	X	X	X
11/12/11	RI-SB-04-02	3057567014	Solid	X	X		X
11/12/11	RI-SB-04-24	3057567015	Solid	X	X		X
11/12/11	RI-SB-016-02	3057567016	Solid	X	X		X
11/12/11	RI-SB-016-24	3057567017	Solid	X	X		X
11/12/11	RI-SB-01-02	3057567018	Solid	X	X		X
11/12/11	RI-SB-01-24	3057567019	Solid	X	X		X
11/12/11	Tar Seep Composite	3057567020	Solid	X	X	X	X
11/12/11	RI-SB-02-02	3057567021	Solid	X	X		X
11/12/11	RI-SB-02-24	3057567022	Solid	X	X		X

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 20 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
• Blanks
• System Monitoring Compounds (Surrogate Spikes)
• Matrix Spike/Matrix Spike Duplicates
• Laboratory Control Samples
• Internal Standards
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	• Data Completeness
*	• Holding Times
*	• Calibration (Initial and Continuing)
	• Blanks
*	• ICP Interference Check samples (ICS)
*	• Laboratory Control Sample (LCS)
*	• Duplicate Sample Analysis
	• Spike Sample Analysis
NA	• Graphite Furnace Atomic Absorption (GFAA) QC
	• ICP Serial Dilution
*	• Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

SC-SB-10-02	SC-SB-10-24	SC-SB-13-02	SC-SB-13-24
RI-SB-8D-02	SC-SB/MW-03-02	SC-SB/MW-03-24	SC-SB/MW-01-02
SC-SB/MW-01-24	SC-SB/MW-04-02	SC-SB/MW-04-24	RI-SB-04-02
RI-SB-04-24	RI-SB-016-02	RI-SB-016-24	RI-SB-01-02
RI-SB-01-24	Tar Seep Composite	RI-SB-02-02	RI-SB-02-24

Continuing calibration percent differences (%Ds) for methyl acetate exceeded the 25% quality control limit on 11/21-23/11. In the following samples, nondetected results for methyl acetate were qualified as estimated, "UJ."

SC-SB-10-02	SC-SB-10-24	SC-SB-13-02	SC-SB-13-24
RI-SB-8D-02	SC-SB/MW-03-02	SC-SB/MW-03-24	SC-SB/MW-01-02
SC-SB/MW-01-24	SC-SB/MW-04-02	SC-SB/MW-04-24	RI-SB-04-02
RI-SB-04-24	RI-SB-016-02	RI-SB-016-24	RI-SB-01-02
RI-SB-01-24	Tar Seep Composite	RI-SB-02-02	RI-SB-02-24

The continuing calibration %D for 4-methyl-2-pentanone exceeded the 25% quality control limit on 11/23/11. In the following samples, nondetected results for 4-methyl-2-pentanone were qualified as estimated, “UJ.”

RI-SB-04-24 RI-SB-016-24 RI-SB-01-02 RI-SB-01-24
Tar Seep Composite RI-SB-02-24

2. Laboratory Control Sample Results

Recoveries of acetone and 2-butanone exceeded the upper quality control limit in LCS 370324. In the following samples, positive results for acetone and 2-butanone were qualified as estimated “J.”

SC-SB/MW-03-24 RI-SB-04-02

3. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

4. Calibration

A continuing calibration %D exceeded the 25% quality control limit on 11/30/11 for nitrobenzene. In the following samples, nondetected results for the aforementioned compound were qualified as estimated, “UJ.”

SC-SB-10-02 SC-SB-10-24

A continuing calibration %D exceeded the 25% quality control limit on 12/3/11 for benzo(g,h,i)perylene. In the following samples, nondetected and positive results for the aforementioned compound were qualified as estimated, “UJ” and “J.”

SC-SB-10-02 100X SC-SB-13-24 SC-SB/MW-03-02 SC-SB/MW-03-24
RI-SB-016-24 RI-SB-01-24

5. Matrix Spike/Matrix Spike Duplicate Results

Recovery of 4-nitrophenol fell below the lower quality control limit for SC-SB-10-02 MS/MSD. The nondetected result for the aforementioned compound in the unspiked sample were qualified as estimated, “UJ.”

SC-SB-10-02

Recovery of 2,4-dinitrophenol fell below the lower quality control limit for SC-SB-13-24 MS/MSD. The nondetected result for the aforementioned compound in the unspiked sample were qualified as estimated, “UJ.”

SC-SB-13-24

Recovery of 2,3,4,6-tetrachlorophenol fell below 10% for SC-SB-13-24 MS/MSD. The nondetected result for the aforementioned compound in the unspiked sample was rejected, “UR.”

SC-SB-13-24

6. Laboratory Control Sample

Recoveries of 2,3,4,6-tetrachlorophenol and acetophenone fell below 10% for LCS 370113. In the following samples, nondetected results for the aforementioned compounds were rejected, “UR.”

SC-SB-10-02 SC-SB-10-24

7. Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the -50% quality control limit in several samples. In the following samples, nondetected and positive results associated with this standard were qualified as estimated “UJ” and “J.”

SC-SB-10-02 10X SC-SB-10-02 100X SC-SB/MW-03-24 RI-SB-016-02

Recoveries of the internal standards perylene-d12 and chrysene-d5 fell below the -50% quality control limit in several samples. In the following samples, nondetected and positive results associated with these standards were qualified as estimated “UJ” and “J.”

SC-SB/MW-01-02 10X SC-SB/MW-04-02 10X RI-SB-02-02 10X
Tar Seep Composite 10X RI-SB-8D-02

8. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

POLYCHLORINATED BIPHENYLS

9. Holding Times

One sample was extracted 30 days after sample collection. In the following sample, nondetected results were qualified as estimated “UJ.”

SC-SB-10-02

10. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

INORGANIC COMPOUNDS

11. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCB **	Aluminum	16.5	825	U results < blank level
	Barium	1.3	65	U results < blank level
	Beryllium	0.15	7.5	U results < blank level
	Cadmium	0.37	18.5	U results < blank level
	Calcium	24.9	1245	U results < blank level
	Cobalt	0.52	26	U results < blank level
	Iron	25.4	1270	U results < blank level
	Lead	0.96	48	U results < blank level
	Manganese	0.6	30	U results < blank level
	Silver	0.34	17	U results < blank level
	Thallium	2	100	U results < blank level
	Vanadium	0.4	20	U results < blank level
	Zinc	0.18	9	U results < blank level
MB 371481**	Copper	0.18	0.9	U results < blank level
	Potassium	30	150	U results < blank level
ICB/CCB	Aluminum	16.9	845	U results < blank level
	Arsenic	3.5	175	U results < blank level
	Barium	1	50	U results < blank level
	Beryllium	0.13	6.5	U results < blank level
	Cadmium	0.41	20.5	U results < blank level
	Calcium	31.3	1565	U results < blank level
	Chromium	0.56	28	U results < blank level
	Copper	2.6	130	U results < blank level
	Iron	30.9	1545	U results < blank level
	Magnesium	27.3	1365	U results < blank level
	Manganese	0.92	46	U results < blank level
	Nickel	0.87	43.5	U results < blank level
	Potassium	9.7	485	U results < blank level
	Selenium	2.1	105	U results < blank level
	Silver	0.27	13.5	U results < blank level
	Sodium	268	13400	U results < blank level
	thallium	3.4	170	U results < blank level
	Vanadium	0.0083	0.415	U results < blank level
	Zinc	1	50	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms.

**Apply to samples RI-SB-02-02 and RI-SB-02-24

12. Spike Results

Recoveries of antimony and potassium fell outside the 75-125% quality control limit for SC-SB-13-24 MS/MSD. Positive and nondetected results for the aforementioned parameters were qualified as estaimated "J" and "UJ." in the unspiked sample.

SC-SB-13-24

13. ICP Serial Dilution

Mercury and potassium failed to meet the 10% quality control limit for the serial dilution of SC-SB-13-24. Positive results for these paramenters were qualified as estimated "J."

SC-SB-13-24

14. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Matrix Spike/Matrix Spike Duplicate Results

Recoveries and relative percent differences were not calculated for SC-SB-13-02 MS/MSD. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
500X	SC-SB/MW-01-02, SC-SB/MW-01-24, Tar Seep Composite
50X	SC-SB/MW-04-02, SC-SB/MW-04-24, RI-SB-04-24, RI-SB-01-24
	RI-SB-02-24

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
SC-SB-13-02	RI-SB-8D-02		
ND	ND	Volatiles	--

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

Sample form 1s did not list all the compounds requested by the client. The laboratory submitted a revised data package. The revised form 1s did not list the target compound bis(2-chloroisopropyl)ether. This accounts for the lack of analytical results for bis(2-chloroisopropyl)ether. As per client instruction, no further action was taken on this basis.

System Monitoring Compounds

Recovery of the surrogate nitrobenzene-d5 exceeded the upper quality control limit for SC-SB/MW-01-24 10X. No data were qualified on this basis since only one fractional surrogate was noncompliant.

Recovery of the surrogate terphenyl-d14 exceeded the upper quality control limit for Tar Seep Composite 10X. No data were qualified on this basis since only one fractional surrogate was noncompliant.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameters
SC-SB-10-02	10X	Acenaphthene, anthracene, benzo(k)fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene
	100X	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, carbazole, chrysene, fluoranthene
RI-SB-8D-02	10X	Anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, chrysene, fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene, pyrene
SC-SB/MW-01-02	10X	All Parameters
	100X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, chrysene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, 2-methylnaphthalene, naphthalene, pyrene
	200X	Phenanthrene
SC-SB/MW-01-24	10X	All Parameters
	100X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, 2-methylnaphthalene, naphthalene, pyrene
SC-SB/MW-04-02	10X	All Parameters
	20X	Fluoranthene
SC-SB.MW-04-24	10X	All Parameters
	100X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzofuran, fluorene, indeno(1,2,3-c,d)pyrene, 2-methylnaphthalene, naphthalene
	1000X	Fluoranthene, phenanthrene, pyrene
RI-SB-04-02	10X	All Parameters
	20X	Fluoranthene
RI-SB-016-02	10X	Benzo(a)pyrene, benzo(b)fluoranthene, pyrene
RI-SB-01-02	10X	Benzo(a)anthracene, benzo(b)fluoranthene, chrysene, fluoranthene, phenanthrene, pyrene
Tar Seep Composite	10X	All Parameters
	100X	Benzo(a)pyrene, benzo(g,h,i)perylene, benzo(k)fluoranthene, biphenyl, carbazole, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, 2-methylnaphthalene
	1000X	Acenaphthene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, dibenzofuran, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene
RI-SB-02-02	10X	All Parameters
	20X	Flouranthene, phenanthrene, pyrene
RI-SB-02-24	10X	Benzo(b)fluoranthene, fluoranthene, phenanthrene, pyrene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
SC-SB-13-02	RI-SB-8D-02		
284	3600	Acenaphthene	-171%
452	6460	Anthracene	-174%
1670	18600	Benzo(a)anthracene	-167%
1450	17800	Benzo(a)pyrene	-170%
1590	22000	Benzo(b)fluoranthene	-173%
1240	13200	Benzo(g,h,i)perylene	-166%
688	8800	Benzo(k)fluoranthene	-171%
ND	3090	Carbazole	--
1710	18900	Chrysene	-167%
ND	520	Dibenzo(a,h)anthracene	--
ND	1580	Dibenzofuran	--
3400	42000	Fluoranthene	-170%
ND	1850	Fluorene	--
1020	10600	Indeno(1,2,3-c,d)pyrene	-165%
ND	672	2-Methylnaphthalene	--
ND	1540	Naphthalene	--
2510	31700	Phenanthrene	-171%
3330	36400	Pyrene	-166%

ND – Non-detect; -- RPD calculated for positive results only.

POLYCHLORINATED BIPHENYLS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes and/or matrix interferences. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
100X	SC-SB-10-02
20X	SC-SB/MW-01-02, Tar Seep Composite
5X	SC-SB-10-24, SC-SB-13-02, SC-SB-13-24, SC-SB/MW-03-02
	SC-SB/MW-03-24, SC-SB/MW-01-24, SC-SB/MW-04-02
	SC-SB/MW-04-24

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
SC-SB-13-02	RI-SB-8D-02		
ND	Not Analyzed	Aroclors	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Parameters	**DF**	**Samples**
Lead	10X	Tar Seep Composite
Mercury	5X	SC-SB-10-02, SC-SB/MW-04-02, SC-SB/MW-04-24, RI-SB-016-02RI-SB-01-02
Mercury	2X	RI-SB-04-24, RI-SB-016-24
Mercury	2.5X	RI-SB-02-02

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
SC-SB-13-02	RI-SB-8D-02		
6600	6690	Aluminum	-1.35%
ND	ND	Antimony	--
ND	ND	Arsenic	--
ND	ND	Barium	--
ND	ND	Beryllium	--
ND	ND	Cadmium	--
2060	1680	Calcium	20.32%
ND	ND	Chromium	--
3.6	3.5	Cobalt	2.82%
ND	ND	Copper	--
11700	12600	Iron	-7.41%
11.5	37.1	Lead	-105.35%
2910	2770	Magnesium	4.93%
77.4	84.5	Manganese	-8.77%
ND	ND	Nickel	--
1310	1300	Potassium	0.77%
ND	ND	Selenium	--
ND	ND	Silver	--
ND	ND	Sodium	--
ND	ND	Thallium	--
14	14.8	Vanadium	-5.56%
ND	ND	Zinc	--
0.095	0.089	Mercury	6.52%

ND – Non-detect; -- RPD calculated for positive results only.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3057871
Validation Report Date	July 26, 2011
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment and Energy
Project Name	Chemtura, Brooklyn, NY
Laboratory	Pace Analytical Services
Method(s) Utilized	EPA TO-15
Analytical Fraction	VOCs

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	Matrix	VOC
11/15/11	RI-SV-01	305787001	Air	X
11/15/11	RI-SV-02	305787002	Air	X
11/15/11	RI-SV-03	305787003	Air	X
11/15/11	RI-SV-04	305787004	Air	X
11/15/11	RI-SV-05	305787005	Air	X
11/15/11	RI-SV-06	305787006	Air	X
11/15/11	RI-SV-D	305787007	Air	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set consists of seven air samples. These samples were analyzed for the parameters as provided in the table above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC findings are based upon the assessment of the following:

*	Data Completeness
*	Holding Times
	Calibration (Initial and Continuing)
*	Blanks
NA	System Monitoring Compounds (Surrogate Spikes)
NA	Matrix Spike/Matrix Spike Duplicates
*	Laboratory Control Sample
*	Internal Standards
*	Target Compound Identification
	Compound Quantification and Reported Contract Quantitation Limits
*	System Performance

* Criteria were met for this evaluation item; NA - Not Applicable

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration second source verification standards exceeded the 150% quality control limit for tetrahydrofuran on 11/20/11 and 11/30/11. In the following samples, positive results for tetrahydrofuran were qualified as estimated, "J."

RI-SV-02 RI-SV-06

Continuing calibration percent differences (%Ds) for 1,2-dichloroebenzene exceeded the 50% quality control limit on 11/29/11 and 12/1/11. In the following samples, nondetected and positive results were qualified as estimated, "UJ" and "J."

RI-SV-01 RI-SV-02 RI-SV-03 RI-SV-04
RI-SV-05 RI-SV-06 RI-SV-D

2. Compound Quantitation

Positive results for acetone and propylene exceeded the instruments linear calibration range in sample RI-SV-01. Positive results for the aforementioned compounds were qualified as estimated, "J."

RI-SV-01

NOTES

VOLATILE ORGANIC COMPOUNDS

Data Completeness

Neither a target compound list nor required reporting limits were provided for validation. Validation included a review of only the compounds provided on the Form 1's. Data are not qualified on this basis.

The form 1s for sample RI-SV-01 and method blank 1106535 did not include reporting limits. The laboratory was asked to amend the form 1s to include the missing information. The laboratory did not comply within 30 days; therefore, the validator amended the form 1 for sample RI-SV-01 by hand. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Sample

A matrix spike/matrix spike duplicate was not included in this sample set. Laboratory control samples were included with the analysis. No action was required on this basis.

Field Duplicate

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
RI-SV-01	RI-SV-D		
64.5	151	Acetone	-80.3%
1.7	ND	Benzene	--
18.4	ND	2-Butanone	--
20.9	40.4	Carbon Disulfide	-63.6%
0.77	ND	Chloroform	--
26.9	61.5	Cyclohexane	-78.3%
1.4	ND	Ethylbenzene	--
5.3	ND	n-Heptane	--
25.1	ND	n-Hexane	--
41.5	ND	Methylene chloride	--
60.4	232	Propylene	-117.4%
4.2	ND	Toluene	--
3.4	35.7	1,2,4-Trimethylbenzene	-165.2%
3.3	ND	m&p-Xylene	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Data Reviewer

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3065260
Validation Report Date	May 30, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/15/12	12Y-01	306526008	Solid	X
03/15/12	12Y-12	306526009	Solid	X
03/15/12	1D-12	306526010	Solid	X
03/15/12	12-23	306526011	Solid	X
03/15/12	12Y-34	306526012	Solid	X
03/15/12	12Y-45	306526015	Solid	X
03/15/12	12Y-56	306526016	Solid	X
03/15/12	12Y-67	306526017	Solid	X
03/15/12	11Y-01	306526018	Solid	X
03/15/12	11Y-12	306526019	Solid	X
03/15/12	11Y-23	306526020	Solid	X
03/15/12	11Y-34	306526021	Solid	X
03/15/12	11Y-45	306526022	Solid	X
03/15/12	11Y-56	306526023	Solid	X
03/15/12	11Y-67	306526024	Solid	X
03/15/12	10Y-01	306526025	Solid	X
03/15/12	10Y-12	306526026	Solid	X
03/15/12	10Y-23	306526027	Solid	X
03/15/12	10Y-34	306526028	Solid	X
03/15/12	10Y-45	306526031	Solid	X
03/15/12	10Y-56	306526032	Solid	X
03/15/12	10Y-67	306526033	Solid	X
03/15/12	2D-67	306526034	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 23 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
• Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for samples 11Y-56, 10Y-56, 10Y-67, and 2D-67 due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the sample noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	**Samples**
20X	12Y-56
50X	11Y-56
500X	10Y-56, 2D-67
250X	10Y-67

Field Duplicates

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
12Y-12	1D-12		
ND	ND	PCBs	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
10Y-67	2D-67		
28600	119000	PCB 1248	122

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065261
Validation Report Date	June 8, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/15/12	9Y-01	306526101	Solid	X
03/15/12	9Y-12	306526102	Solid	X
03/15/12	9Y-23	306526103	Solid	X
03/15/12	9Y-34	306526104	Solid	X
03/15/12	9Y-45	306526105	Solid	X
03/15/12	9Y-56	306526106	Solid	X
03/15/12	9Y-67	306526107	Solid	X
03/15/12	8Y-01	306526108	Solid	X
03/15/12	8Y-12	306526109	Solid	X
03/15/12	8Y-23	306526110	Solid	X
03/15/12	8Y-34	306526111	Solid	X
03/15/12	8Y-45	306526112	Solid	X
03/15/12	8Y-56	306526113	Solid	X
03/15/12	7Y-01	306526114	Solid	X
03/15/12	7Y-12	306526115	Solid	X
03/15/12	7Y-23	306526116	Solid	X
03/15/12	7Y-34	306526117	Solid	X
03/15/12	7Y-45	306526120	Solid	X
03/15/12	3D-45	306526121	Solid	X
03/15/12	7Y-56	306526122	Solid	X
03/15/12	7Y-67	306526123	Solid	X
03/15/12	6Y-01	306526124	Solid	X
03/15/12	6Y-12	306526125	Solid	X
03/15/12	6Y-23	306526126	Solid	X
03/15/12	6Y-34	306526127	Solid	X
03/15/12	6Y-45	306526128	Solid	X
03/15/12	6Y-56	306526131	Solid	X
03/15/12	6Y-67	306526132	Solid	X
03/15/12	5Y-01	306526131	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/15/12	5Y-12	306526132	Solid	X
03/15/12	5Y-23	306526133	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 31 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:
* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
* • Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

All technical parameters were met. No data were qualified.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for several samples due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

9Y-45
9Y-56
8Y-34
8Y-45
8Y-56
7Y-23
7Y-34
7Y-45
3D-45
7Y-56
6Y-34
6Y-45
6Y-56

Matrix Spike/Matrix Spike Duplicate Results

Recoveries were not reported for 7Y-34 MS/MSD due to the necessary dilution of the sample extract prior to analysis. Laboratory control samples were analyzed and were compliant. Data are not qualified on this basis.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the samples noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	Samples
10X	9Y-67
25X	7Y-34
50X	8Y-45, 8Y-56, 7Y-23, 6Y-56
100X	8Y-34
250X	9Y-45, 7Y-56
500X	9Y-56, 7Y-45, 3D-45, 6Y-34, 6Y-45

Field Duplicates

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
7Y-45	3D-45		
96400	72500	PCB 1248	28%

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065264
Validation Report Date	May 30, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/15/12	5Y-34	306526401	Solid	X
03/15/12	5Y-45	306526402	Solid	X
03/15/12	5Y-56	306526403	Solid	X
03/15/12	5Y-67	306526404	Solid	X
03/15/12	4Y-01	306526405	Solid	X
03/15/12	4D-01	306526406	Solid	X
03/15/12	4Y-12	306526407	Solid	X
03/15/12	4Y-23	306526408	Solid	X
03/15/12	4Y-34	306526409	Solid	X
03/15/12	4Y-45	306526410	Solid	X
03/15/12	4Y-56	306526411	Solid	X
03/15/12	4Y-67	306526412	Solid	X
03/15/12	3Y-01	306526415	Solid	X
03/15/12	3Y-12	306526416	Solid	X
03/15/12	3Y-23	306526417	Solid	X
03/15/12	3Y-34	306526418	Solid	X
03/15/12	3Y-45	306526419	Solid	X
03/15/12	3Y-56	306526420	Solid	X
03/15/12	3Y-67	306526421	Solid	X
03/15/12	2Y-01	306526422	Solid	X
03/15/12	2Y-12	306526423	Solid	X
03/15/12	2Y-23	306526424	Solid	X
03/15/12	2Y-34	306526425	Solid	X
03/15/12	2Y-45	306526426	Solid	X
03/15/12	2Y-56	306526427	Solid	X
03/15/12	2Y-67	306526428	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 26 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- * Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

All technical parameters were met. No qualifiers were assigned to the data.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for sample 5Y-56 due to the necessary dilution of the sample extract prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the sample noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	**Samples**
50X	5Y-56

Field Duplicates

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
4Y-01	4D-01		
ND	ND	PCBs	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3065567
Validation Report Date	October 12, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW-846 8260B, 8270C, 8081A, 8082A, 6010, 7471A, ASTM D2974-87
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides (Pest), Polychlorinated Biphenyls (PCBs), Metals, Mercury (Hg), Percent Moisture (%M)

Samples/Matrix:

Sample Date	Sample ID	Lab ID	Matrix	VOC SVOC	PEST	PCB	Metals Hg
03/19/12	12Z-VOC-02	3065567001	Solid	X	X	X	X
03/19/12	12Z-VOC-57	3065567002	Solid	X	X	X	X
03/19/12	Trip Blank	3065567003	Aqueous	X			

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of two solid field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

*	Data Completeness
	Holding Times
	Calibration (Initial and Continuing)
	Blanks
*	System Monitoring Compounds (Surrogate Spikes)
*	Matrix Spike/Matrix Spike Duplicates
*	Laboratory Control Samples
*	Internal Standards
*	Target Compound Identification
	Compound Quantification and Reported Contract Quantitation Limits
*	System Performance

* Criteria were met for this evaluation item.

The PCB and pesticide findings are based upon the assessment of the following:

*	Data Completeness
	Holding Times
*	Calibration (Initial and Continuing)
*	Blanks
*	System Monitoring Compounds (Surrogate Spikes)
	Matrix Spike/Matrix Spike Duplicates
*	Laboratory Control Samples
*	Target Compound Identification
	Compound Quantification and Reported Contract Quantitation Limits
*	System Performance

* Criteria were met for this evaluation item.

The inorganic findings are based upon the assessment of the following:

*	Data Completeness
*	Holding Times
*	Calibration (Initial and Continuing)
	Blanks
*	ICP Interference Check samples (ICS)
*	Laboratory Control Sample (LCS)
*	Duplicate Sample Analysis
*	Spike Sample Analysis
NA	Graphite Furnace Atomic Absorption (GFAA) QC
	ICP Serial Dilution
*	Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration average relative response factors for 1,4-dioxane fell below the 0.05 quality control limit. In the following samples, nondetected results for 1,4-dioxane were rejected "UR."

12Z-VOC-02	12Z-VOC-57	Trip Blank

Continuing calibration percent differences (%Ds) for dichlorodifluoromethane, bromomethane, trichlorofluoromethane, acetone, and 2-butanone exceeded the 25% quality control limit. In the following samples, nondetected and positive results for the aforementioned compounds were qualified as estimated, "UJ" and "J."

12Z-VOC-02	12Z-VOC-57

2. Blanks

The trip blank exhibited contamination for the following compounds:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
Trip Blank	Chloromethane	0.53	5.3	Results < Action Level U

3. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

4. Holding Time

Samples were extracted 16 and 21 days after sample collection. In the following samples, positive and nondetected results were qualified as estimated "J" and "UJ."

12Z-VOC-02	12Z-VOC-57

5. Calibration

Continuing calibration percent differences (%Ds) for benzaldehyde exceeded the 25% quality control limit. In the following samples, nondetected results for benzaldehyde were qualified as estimated, “UJ.”

12Z-VOC-02 12Z-VOC-57

6. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

PESTICIDES

7. Holding Time

Samples were extracted 21 days after sample collection. In the following samples, positive and nondetected results were qualified as estimated “J” and “UJ.”

12Z-VOC-02 12Z-VOC-57

8. Matrix Spike/Matrix Spike Duplicate

Recoveries of 4,4’-DDE, 4,4’-DDE, and Dieldrin exceeded the upper quality control limits in 12Z-VOC-02 MS/MSD. Recoveries of Methoxychlor fell below 10%. In the unspiked sample, positive results for the aforementioned compounds were qualified as estimated “J.”

12Z-VOC-57

9. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The National Functional Guidelines do not list specific criteria for the relative percent difference (RPD) between columns. Method SW-846 specifies a 45% RPD limit. For the purposes of validation compounds with RPDs less than 45% were not qualified. Compounds with RPDs between 46% and 90% were qualified as estimated “J.” Compounds with RPDs greater than 90% were qualified as nondetected “U” at the reporting limit or rejected “R” if the positive result was greater than the reporting limit. In the following samples, positive results were qualified as indicated based on RPD between columns.

Sample	Qualifier	Parameter
12Z-VOC-02	J	Heptachlor epoxide, Methoxychlor, Endrin ketone
	U	Endosulfan sulfate
12Z-VOC-57	J	Endosulfan I, a-Chlordane
	U	Endosulfan sulfate, 4,4’-DDT, g-Chlordane

POLYCHLORINATED BIPHENYLS

10. Holding Time

Samples were extracted 121 days after sample collection. The samples were stored at less than 6°C. Since aroclors are not subject to loss due to volatilization or degradation, the validator elected to not reject the data despite the exceedance of the 14 day holding time criteria. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

12Z-VOC-02	12Z-VOC-57

11. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

INORGANIC COMPOUNDS

12. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb/ppm)*	Action Level (ppm)	Action
ICB/CCBs	Mercury	0.01	0.05	U results < blank level
	Aluminum	13.3	665	U results < blank level
	Antimony	1.3	65	U results < blank level
	Arsenic	2.2	110	U results < blank level
	Barium	0.37	18.5	U results < blank level
	Beryllium	0.11	5.5	U results < blank level
	Cadmium	0.21	10.5	U results < blank level
	Calcium	111	5550	U results < blank level
	Chromium	1.8	90	U results < blank level
	Cobalt	0.75	37.5	U results < blank level
	Iron	31.4	1570	U results < blank level
	Lead	1.3	65	U results < blank level
	Magnesium	32.8	1640	U results < blank level
	Manganese	3.4	170	U results < blank level
	Nickel	0.76	38	U results < blank level
	Silver	0.073	3.65	U results < blank level
	Sodium	52.4	2620	U results < blank level
	Vanadium	0.39	19.5	U results < blank level
	Zinc	0.42	21	U results < blank level
MB	Potassium	15.7	78.5	U results < blank level

*ICB/CCB maximum concentrations are listed in ppbs. PB maximum concentrations are listed in ppms. All Action Levels are in ppms.

13. ICP Serial Dilution

Potassium and selenium failed to meet the 10% quality control limit for the serial dilution of 12Z-VOC-02. Positive results for these elements were qualified as estimated “J.”

12Z-VOC-02

14. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

VOLATILE ORGANIC COMPOUNDS

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included for this parameter. A laboratory control sample was analyzed and was compliant. Data are not qualified on this basis.

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

SEMIVOLATILE ORGANIC COMPOUNDS

Calibration

An initial calibration relative standard deviation (%RSD) exceeded the 30% quality control limit for benzaldehyde. Sample results were qualified as estimated due to holding time exceedance and continuing calibration %Ds. No further qualifiers were assigned on this basis.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included for this parameter. A laboratory control sample was analyzed and was compliant. Data are not qualified on this basis.

Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the lower quality control limit in 12Z-VOC-02. Results associated with this standard were previously qualified due to holding time exceedance. No further qualifiers were assigned on this basis.

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

PESTICIDES

Blanks

g-Chlordane was detected in the laboratory method blank. The compound was not detected in the associated samples. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

DF	Samples
20X	12Z-VOC-02
10X	12Z-VOC-57

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

POLYCHLORINATED BIPHENYLS

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included for this parameter. A laboratory control sample was analyzed and was compliant. Data are not qualified on this basis.

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

Compound Quantitation

All samples were analyzed and reported at a 5X dilution factor due to the presence of target parameters and/or matrix interferences. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

INORGANIC COMPOUNDS

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target parameters. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Samples	DF	Parameters
12Z-VOC-02	2.5X	Mercury
12Z-VOC-57	10X	Mercury

Field Duplicates

No field duplicates were included for this parameter. Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065632
Validation Report Date	May 30, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/21/12	1O-01	3065632001	Solid	X
03/21/12	1O-12	3065632002	Solid	X
03/21/12	1O-23	3065632003	Solid	X
03/21/12	1O-34	3065632004	Solid	X
03/21/12	1O-45	3065632005	Solid	X
03/21/12	1O-56	3065632006	Solid	X
03/21/12	14D-45	3065632009	Solid	X
03/21/12	1O-67	3065632010	Solid	X
03/21/12	IN-01	3065632011	Solid	X
03/21/12	IN-12	3065632012	Solid	X
03/21/12	IN-23	3065632013	Solid	X
03/21/12	IN-34	3065632014	Solid	X
03/21/12	IN-45	3065632015	Solid	X
03/21/12	IN-56	3065632016	Solid	X
03/21/12	IN-67	3065632017	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 15 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
* • Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance
* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

All technical parameters were met. No qualifiers were assigned to the data.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Compound Quantitation

All samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
1O-45	14D-45		
ND	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065691
Validation Report Date	July 13, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/19/12	12Z-02	3065691001	Solid	X
03/19/12	11Z-02	3065691002	Solid	X
03/19/12	10Z-02	3065691003	Solid	X
03/19/12	9Z-02	3065691004	Solid	X
03/19/12	8Z-02	3065691005	Solid	X
03/19/12	7Z-02	3065691006	Solid	X
03/19/12	6Z-02	3065691007	Solid	X
03/19/12	5Z-02	3065691008	Solid	X
03/19/12	12Z-01	3065691012	Solid	X
03/19/12	12Z-12	3065691013	Solid	X
03/19/12	12Z-23	3065691014	Solid	X
03/19/12	12Z-34	3065691015	Solid	X
03/19/12	12Z-45	3065691016	Solid	X
03/19/12	12Z-56	3065691017	Solid	X
03/19/12	12Z-67	3065691018	Solid	X
03/19/12	5D-67	3065691021	Solid	X
03/19/12	11Z-01	3065691022	Solid	X
03/19/12	11Z-12	3065691023	Solid	X
03/19/12	11Z-23	3065691024	Solid	X
03/19/12	11Z-34	3065691025	Solid	X
03/19/12	11Z-45	3065691026	Solid	X
03/19/12	11Z-56	3065691027	Solid	X
03/19/12	11Z-67	3065691028	Solid	X
03/19/12	10Z-01	3065691029	Solid	X
03/19/12	10Z-12	3065691030	Solid	X
03/19/12	10Z-23	3065691031	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY consists of 26 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

Samples were extracted 57 to 60 days after sample collection. The samples were stored at less than 6°C. Since aroclors are not subject to loss due to volatilization or degradation, the validator elected to not reject the data despite the exceedance of the 14 day holding time criteria. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

12Z-02
11Z-02
10Z-02
9Z-02
8Z-02
7Z-02
6Z-02
5Z-02
12Z-01
12Z-12
12Z-23
12Z-34
11Z-01
11Z-12
11Z-23
11Z-34
11Z-45
11Z-56
11Z-67
10Z-01
10Z-12
10Z-23

2. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The relative percent difference (RPD) between columns exceeded 50% for PCB 1254 in sample 8Z-02. The positive result for 1254 was qualified as estimated, “J.”

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Compound Quantitation

All samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. .

Sample ID	Duplicate ID	Parameter	RPD
12Z-67	5D-67		
ND	63.2 J	Aroclor 1254	--

--   - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065692
Validation Report Date	July 16, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/19/12	8Z-34	3065692001	Solid	X
03/19/12	8Z-45	3065692002	Solid	X
03/19/12	8Z-56	3065692003	Solid	X
03/19/12	8Z-67	3065692004	Solid	X
03/19/12	7Z-01	3065692005	Solid	X
03/19/12	7Z-12	3065692006	Solid	X
03/19/12	7Z-23	3065692007	Solid	X
03/19/12	7Z-34	3065692008	Solid	X
03/19/12	7Z-45	3065692009	Solid	X
03/19/12	7Z-56	3065692010	Solid	X
03/19/12	7Z-67	3065692011	Solid	X
03/19/12	7D-56	3065692014	Solid	X
03/19/12	6Z-01	3065692015	Solid	X
03/19/12	6Z-12	3065692016	Solid	X
03/19/12	6Z-23	3065692017	Solid	X
03/19/12	10Z-34	3065692018	Solid	X
03/19/12	10Z-45	3065692019	Solid	X
03/19/12	10Z-56	3065692020	Solid	X
03/19/12	10Z-67	3065692021	Solid	X
03/19/12	6D-12	3065692024	Solid	X
03/19/12	9Z-01	3065692025	Solid	X
03/19/12	9Z-12	3065692026	Solid	X
03/19/12	9Z-23	3065692027	Solid	X
03/19/12	9Z-34	3065692028	Solid	X
03/19/12	9Z-45	3065692029	Solid	X
03/19/12	9Z-56	3065692030	Solid	X
03/19/12	9Z-67	3065692031	Solid	X
03/19/12	8Z-01	3065692032	Solid	X
03/19/12	8Z-12	3065692033	Solid	X
03/19/12	8Z-23	3065692034	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY consists of 30 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
• Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

Samples were extracted 62 to 67 days after sample collection. The samples were stored at less than 6°C. Since aroclors are not subject to loss due to volatilization or degradation, the validator elected to not reject the data despite the exceedance of the 14 day holding time criteria. In the following samples, nondetected and positive results were qualified as estimated "UJ" and "J."

8Z-34
8Z-45
8Z-56
8Z-67
7Z-01
7Z-12
7Z-23
7Z-34
7Z-45
7Z-56
7Z-67
7D-56
6Z-01
6Z-12
6Z-23
10Z-34
10Z-45
10Z-56
10Z-67
6D-12
9Z-01
9Z-12
9Z-23
9Z-34
9Z-45
9Z-56
9Z-67
8Z-01
8Z-12
8Z-23

2. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for samples 8Z-56, 8Z-67, 7Z-56,7Z-67, 7D-56, 10Z-56, 10Z-67, and 9Z-67 due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the samples noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	**Samples**
100X	7Z-56, 10Z-56
250X	7D-56
500X	8Z-56, 8Z-67, 7Z-67, 10Z-67, 9Z-67

Field Duplicates

Calculated RPD for positive results only. Sample 10Z-12 was part of sample delivery group 3065691.

Sample ID	Duplicate ID	Parameter	RPD
7Z-56	7D-56		
21800	47600	Aroclor 1248	74%

Sample ID	Duplicate ID	Parameter	RPD
10Z-12	6D-12		
ND	87.7	Aroclor 1254	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065694
Validation Report Date	July 26, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/19/12	6Z-34	3065694001	Solid	X
03/19/12	6Z-45	3065694002	Solid	X
03/19/12	6Z-56	3065694003	Solid	X
03/19/12	6Z-67	3065694004	Solid	X
03/19/12	5Z-01	3065694005	Solid	X
03/19/12	5Z-12	3065694006	Solid	X
03/19/12	5Z-23	3065694007	Solid	X
03/19/12	5Z-34	3065694008	Solid	X
03/19/12	5Z-45	3065694009	Solid	X
03/19/12	5Z-56	3065694010	Solid	X
03/19/12	5Z-67	3065694011	Solid	X
03/19/12	4Z-12	3065694013	Solid	X
03/19/12	8D-45	3065694021	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY consists of 13 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
• System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
* • Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

Samples were extracted 62 days after sample collection. The samples were stored at less than 6°C. Since aroclors are not subject to loss due to volatilization or degradation, the validator elected to not reject the data despite the exceedance of the 14 day holding time criteria. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

6Z-34
6Z-45
6Z-56
6Z-57
5Z-01
5Z-12
5Z-23
5Z-34
5Z-45
5Z-56
5Z-67
4Z-12
8D-45

2. System Monitoring Compounds

Recovery of the surrogate decachlorobiphenyl (DCB) fell below the 30% quality control limit for sample 5Z-12 (20%). Nondetected results were qualified as estimated, “UJ.”

5Z-12

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for samples 6Z-67 and 5Z-67 due to the necessary dilution of the sample extracts prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the samples noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	**Samples**
500X	6Z-67 and 5Z-67

Field Duplicates

Calculated RPD for positive results only. Sample 4Z-45 was not included in this sample delivery group. RPDs were not calculated.

Sample ID	Duplicate ID	Parameter	RPD
4Z-45	8D-45		
Not Available	ND	Aroclors	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065710
Validation Report Date	June 4, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/19/12	28U-01	3065710003	Solid	X
03/19/12	28U-12	3065710004	Solid	X
03/19/12	28U-34	3065710005	Solid	X
03/19/12	28U-45	3065710006	Solid	X
03/19/12	28U-56	3065710007	Solid	X
03/19/12	28U-67	306571008	Solid	X
03/19/12	28V-01	306571009	Solid	X
03/19/12	28V-12	3065710010	Solid	X
03/19/12	28V-23	3065710011	Solid	X
03/19/12	28V-34	3065710012	Solid	X
03/19/12	28V-45	3065710013	Solid	X
03/19/12	28V-56	3065710014	Solid	X
03/19/12	28V-67	3065710015	Solid	X
03/19/12	9D-45	3065710018	Solid	X
03/19/12	28W-01	3065710019	Solid	X
03/19/12	28W-12	3065710020	Solid	X
03/19/12	28W-23	3065710021	Solid	X
03/19/12	28W-34	3065710022	Solid	X
03/19/12	28W-45	3065710023	Solid	X
03/19/12	28W-56	3065710024	Solid	X
03/19/12	28U-01	3065710003	Solid	X
03/19/12	28U-12	3065710004	Solid	X
03/19/12	28W-67	3065710025	Solid	X
03/19/12	28X-01	3065710026	Solid	X
03/19/12	28X-12	3065710027	Solid	X
03/19/12	28X-23	3065710028	Solid	X
03/19/12	28X-34	3065710029	Solid	X
03/19/12	28X-45	3065710030	Solid	X
03/19/12	28X-56	3065710031	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/19/12	28X-67	3065710032	Solid	X
03/19/12	27A-01	3065710033	Solid	X
03/19/12	27A-12	3065710034	Solid	X
03/19/12	27A-23	3065710035	Solid	X
03/19/12	27A-34	3065710036	Solid	X
03/19/12	27A-45	3065710037	Solid	X
03/19/12	27A-56	3065710038	Solid	X
03/19/12	27A-67	3065710039	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 37 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

*	• Data Completeness
	• Holding Times
*	• Calibration (Initial and Continuing)
*	• Blanks
	• System Monitoring Compounds (Surrogate Spikes)
*	• Matrix Spike/Matrix Spike Duplicates
*	• Laboratory Control Sample (LCS)
*	• Target Compound Identification
	• Compound Quantitation and Reported Contract Quantitation Limits
*	• System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

One sample was extracted 21 days after sample collection. In the following sample, nondetected results were qualified as estimated “UJ.”

28X-34

2. System Monitoring Compounds

Recoveries for one or more surrogates fell below the 30% quality control limit in several samples. In the following samples, nondetected results were qualified as estimated “UJ.”

28X-34	28X-23

3. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Matrix Spike/Matrix Spike Duplicate Results

Relative percent differences (RPDs) exceeded the upper quality control limit for PCB 1248 for 28V-56 and 27A-23 MS/MSDs. PCB 1248 was not detected in the unspiked samples. Data are not qualified on this basis.

Compound Quantitation

All samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
28V-46	9D-45		
ND	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Sample ID	Duplicate ID	Parameter	RPD
27A-56	10D-56		
ND	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3065712
Validation Report Date	May 23, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/19/12	26A-01	3065712001	Solid	X
03/19/12	26A-12	3065712002	Solid	X
03/19/12	26A-23	3065712003	Solid	X
03/19/12	26A-34	3065712004	Solid	X
03/19/12	26A-45	3065712005	Solid	X
03/19/12	26A-56	3065712006	Solid	X
03/19/12	26A-67	3065712007	Solid	X
03/20/12	27T-01	3065712015	Solid	X
03/20/12	27T-12	3065712016	Solid	X
03/20/12	27T-23	3065712017	Solid	X
03/20/12	27T-34	3065712018	Solid	X
03/20/12	27T-45	3065712019	Solid	X
03/20/12	27T-56	3065712020	Solid	X
03/20/12	27T-67	3065712021	Solid	X
03/20/12	26T-01	3065712022	Solid	X
03/20/12	26T-12	3065712023	Solid	X
03/20/12	26T-23	3065712024	Solid	X
03/20/12	26T-34	3065712025	Solid	X
03/20/12	26T-45	3065712026	Solid	X
03/20/12	26T-56	3065712027	Solid	X
03/20/12	26T-67	3065712028	Solid	X
03/20/12	11D-34	3065712031	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 22 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
• Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

Several samples were extracted 16 days after sample collection. In the following samples, nondetected results were qualified as estimated "UJ."

26A-01
26A-12
26A-23
26A-34
26A-45

2. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Compound Quantitation

All samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only.

Sample ID	Duplicate ID	Parameter	RPD
26T-34	11D-34		
ND	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065713
Validation Report Date	May 24, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/20/12	26S-23	3065713001	Solid	X
03/20/12	26S-34	3065713002	Solid	X
03/20/12	26S-45	3065713003	Solid	X
03/20/12	26S-56	3065713004	Solid	X
03/20/12	26S-67	3065713005	Solid	X
03/20/12	14P-01	3065713006	Solid	X
03/20/12	12D-45	3065713022	Solid	X
03/20/12	13O-01	3065713023	Solid	X
03/20/12	13O-12	3065713024	Solid	X
03/20/12	13O-23	3065713025	Solid	X
03/20/12	13O-34	3065713026	Solid	X
03/20/12	13O-45	3065713027	Solid	X
03/20/12	13O-56	3065713028	Solid	X
03/20/12	13O-67	3065713029	Solid	X
03/20/12	13P-01	3065713030	Solid	X
03/20/12	13P-12	3065713031	Solid	X
03/20/12	13P-23	3065713032	Solid	X
03/20/12	13P-34	3065713033	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 18 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- * Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

One sample was extracted 22 days after sample collection. In the following sample, nondetected results were qualified as estimated “UJ.”

13O-23

2. Compound Quantitation

The relative percent difference (RPD) between columns exceeded 50% for PCB 1254 in sample 13P-01. The positive result for 1254 was qualified as estimated, “J.”

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Compound Quantitation

All samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. Sample 14O-45 was not included with this SDG. No results were available for this sample.

Sample ID	Duplicate ID	Parameter	RPD
14O-45	12D-45		
Not Available	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

Data Validation Report

SDG#	3065714
Validation Report Date	May 25, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/20/12	13P-45	3065714001	Solid	X
03/20/12	13P-56	3065714002	Solid	X
03/20/12	13P-67	3065714003	Solid	X
03/20/12	13D-45	3065714013	Solid	X
03/20/12	1P-01	3065714021	Solid	X
03/20/12	1P-12	3065714022	Solid	X
03/20/12	1P-23	3065714023	Solid	X
03/20/12	1P-34	3065714024	Solid	X
03/20/12	1P-45	3065714025	Solid	X
03/20/12	1P-56	3065714026	Solid	X
03/20/12	1P-67	3065714027	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY consists of 11 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
• Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
• Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Holding Times

Samples were extracted one day after sample collection. In the following samples, nondetected and positive results were qualified as estimated "UJ" and "J."

13P-45 13P-56 13P-67 13D-45
1P-01 1P-12 1P-23 1P-34
1P-45 1P-56 1P-67

2. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Compound Quantitation

All samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. Sample 25N-45 was not analyzed per client instructions. Therefore, RPD could not be calculated for the field duplicate 13D-45.

Sample ID	Duplicate ID	Parameter	RPD
25N-45	13D-45		
Not Analyzed	ND	PCBS	--

-- - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3065948
Validation Report Date	July 27, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/23/12	12U-VOC-57	3065948001	Solid	X
03/23/12	12U-01	3065948002	Solid	X
03/23/12	12U-12	3065948003	Solid	X
03/23/12	12U-23	3065948004	Solid	X
03/23/12	12U-34	3065948005	Solid	X
03/23/12	12U-45	3065948006	Solid	X
03/23/12	12U-56	3065948007	Solid	X
03/23/12	12U-67	3065948008	Solid	X
03/23/12	11U-01	3065948019	Solid	X
03/23/12	11U-12	3065948020	Solid	X
03/23/12	11U-23	3065948021	Solid	X
03/23/12	11U-34	3065948022	Solid	X
03/23/12	11U-45	3065948023	Solid	X
03/23/12	11U-56	3065948024	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY consists of 14 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

System Monitoring Compounds

Surrogate recoveries were not reported for sample 11U-23 due to the necessary dilution of the sample extract prior to analysis. Data are not qualified on this basis.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference with the exception of the samples noted below. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Dilution	Samples
100X	11U-23

Field Duplicates

No field duplicates were included in this sample delivery group. Data are not qualified on this basis.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3065949
Validation Report Date	July 27, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
03/23/12	13T-12	3065949002	Solid	X
03/23/12	13T-23	3065949003	Solid	X
03/23/12	13U-01	3065949008	Solid	X
03/23/12	13U-12	3065949009	Solid	X
03/23/12	13U-23	3065949010	Solid	X
03/23/12	13U-34	3065949011	Solid	X
03/23/12	13U-45	3065949014	Solid	X
03/23/12	13U-56	3065949015	Solid	X
03/23/12	13U-67	3065949016	Solid	X
03/23/12	15D-56	3065949017	Solid	X
03/23/12	12T-45	3065949022	Solid	X
03/23/12	12U-VOC-02	3065949025	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY consists of 12 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

The laboratory raw quantitation reports for the initial calibrations did not document all the peaks used during the quantitation and identification process. The laboratory was asked to provide detailed quantitation reports for all PCBs with positive results so that the data could be validated.

Compound Quantitation

Samples in this sample delivery group (SDG) were analyzed and reported at a 5X dilution factor due to matrix interference. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. .

Sample ID	Duplicate ID	Parameter	RPD
13U-56	15D-56		
ND	ND	Aroclors	--

--   - RPD not calculated because at least one sample result was not detected (ND).

Data are not qualified on this basis.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3067347
Validation Report Date	October 13, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8260B, 8270C, 8082, 6010B, 7471
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Metals, Dissolved Metals, Mercury (Hg), Dissolved Mercury

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	VOCs	SVOC	PCBs	Metals/ Diss. Metals	Hg/ Diss. Hg
04/10/12	MW-04	3067347001	Aqueous	X	X	X	X	X
04/10/12	MW-09	3067347002	Aqueous	X	X	X	X	X
04/10/12	MW-10	3067347003	Aqueous	X	X	X	X	X
04/10/12	MW-08	3067347004	Aqueous	X	X	X	X	X
04/10/12	MW-03	3067347005	Aqueous	X	X	X	X	X
04/10/12	MW-05	3067347006	Aqueous	X	X	X	X	X
04/10/12	MW-06	3067347007	Aqueous	X	X	X	X	X
04/11/12	MW-107	3067347008	Aqueous	X	X	X	X	X
04/11/12	MW-108	3067347009	Aqueous	X	X	X	X	X
04/11/12	MW-109	3067347010	Aqueous	X	X	X	X	X
04/11/12	MW-208	3067347011	Aqueous	X	X	X	X	X
04/11/12	MW-110	3067347012	Aqueous	X	X	X	X	X
04/11/12	MW-102	3067347013	Aqueous	X	X	X	X	X
04/11/12	MW-103	3067347014	Aqueous	X	X	X	X	X
04/11/12	MW-101	3067347015	Aqueous	X	X	X	X	X
04/11/12	MW-104	3067347016	Aqueous	X	X	X	X	X
04/11/12	MW-07	3067347017	Aqueous	X	X	X	X	X
04/12/12	EW-2	3067347018	Aqueous	X	X	X	X	X
04/12/12	EW-6	3067347019	Aqueous	X	X	X	X	X
04/12/12	EW-18	3067347020	Aqueous	X	X	X	X	X
04/12/12	EW-36	3067347021	Aqueous	X	X	X	X	X
04/12/12	EW-42	3067347022	Aqueous	X	X	X	X	X
04/12/12	EW-29	3067347023	Aqueous	X	X	X	X	X
04/10/12	Trip Blank	3067347025	Aqueous	X				

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 23 aqueous field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- Calibration (Initial and Continuing)
- Blanks
- System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Samples
- Internal Standards
- * Target Compound Identification
- Compound Quantification and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

*	•	Data Completeness
*	•	Holding Times
*	•	Calibration (Initial and Continuing)
	•	Blanks
*	•	ICP Interference Check samples (ICS)
*	•	Laboratory Control Sample (LCS)
*	•	Duplicate Sample Analysis
*	•	Spike Sample Analysis
NA	•	Graphite Furnace Atomic Absorption (GFAA) QC
	•	ICP Serial Dilution
*	•	Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

<u>FINDINGS</u>

VOLATILE ORGANIC COMPOUNDS

1. Calibration

Initial calibration percent relative standard deviations (%RSD) fell below the 0.05 quality control limit for 1,4-dioxane. In the following samples, nondetected results for 1,4-dioxane were rejected, “UR.”

MW-04
MW-03
MW-108
MW-102
MW-07
EW-36
MW-09
MW-05
MW-109
MW-103
EW-2
EW-42
MW-10
MW-06
MW-208
MW-101
EW-6
EW-29
MW-08
MW-107
MW-110
MW-104
EW-18
Trip Blank

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit for bromomethane and dichlorodifluoromethane. In the following samples, positive and nondetected results were qualified as estimated, “J” and “UJ.”

MW-10
MW-08
MW-05
MW-03
MW-04
MW-09

A continuing calibration %D exceeded the 25% quality control limit for bromomethane. In the following samples, positive and nondetected results were qualified as estimated, “J” and “UJ.”

MW-06
MW-208
MW-101
EW-6
EW-29
MW-107
MW-110
MW-104
EW-18
Trip Blank
MW-108
MW-102
MW-07
EW-36
MW-109
MW-103
EW-2
EW-42

2. Blanks

The laboratory method blanks exhibited contamination for the following compound:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 430465	1,2,3-Trichlorobenzene	0.64	3.2	No qualifiers
	1,4-Dioxane	72.2	361	No qualifiers
	Acetone	7.9	39.5	Results < Action Level U
MB 430980	1,2,3-Trichlorobenzene	0.62	3.1	Results < Action Level U
	1,2,4-Trichlorobenzene	0.48	2.4	Results < Action Level U
	1,4-Dioxane	71.8	359	No qualifiers
	Acetone	6.1	30.5	Results < Action Level U

3. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

4. System Monitoring Compounds

Recovery of the surrogates 2-fluorobiphenyl, phenol-d6, and 2-fluorophenol fell below the 10% quality control limit in sample MW-09. Positive results were qualified as estimated, “J.” Nondetected results were rejected, “UR.”

MW-09

Recovery of the surrogates phenol-d6 and 2-fluorophenol fell below the 10% quality control limit in sample MW-03. Positive acid fraction results were qualified as estimated, “J.” Nondetected acid fraction results were rejected, “UR.”

MW-03

Recovery of the surrogate phenol-d6 fell below the 10% quality control limit in sample MW-07. Nondetected acid fraction results were rejected, “UR.”

MW-07

Recovery of the surrogates nitrobenzene-d5, phenol-d6, and 2-fluorophenol fell below the 10% quality control limit in sample EW-18. Positive results were qualified as estimated, “J.” Nondetected results were rejected, “UR.”

EW-18

5. Blanks

The laboratory method blank exhibited contamination for the following compound:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 430803	Benzo(g,h,i)perylene	3.7	18.5	Results < Action Level U
	Bis(2-ethylhexyl)phthalate	1.1	5.5	Results < Action Level U

6. Calibration

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit for benzaldehyde. In the following samples nondetected results were qualified as estimated, “UJ.”

MW-04
MW-09
MW-10
MW-08
MW-03
MW-05
MW-06
MW-107
MW-108
MW-109
MW-208
MW-110
MW-102
MW-103
MW-101
MW-104
MW-07
EW-2
EW-6
EW-18
EW-36
EW-42
EW-29

A continuing calibration %D exceeded the 25% quality control limit for 4-chloroaniline. In the following samples nondetected results were qualified as estimated “UJ.”

MW-04
MW-09
MW-10
MW-08
MW-03
MW-05
MW-06
MW-107
MW-108
MW-109

Continuing calibration %Ds exceeded the 25% quality control limit for 4-nitroaniline, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, and benzo(g,h,i)perylene. In the following samples, nondetected and positive results were qualified as estimated “UJ” and “J.”

MW-208
MW-110
MW-101
MW-104
MW-07
EW-2
EW-18
EW-36
EW-42
EW-29
MW-102 10X

7. Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the 50% quality control limit in several samples. Nondetected and positive results associated with this internal standard were qualified as estimated “UJ” and “J.”

MW-101
EW-36
EW-42
EW-29
MW-103 100X

Recoveries of the internal standards chrysene-d12 and perylene-d12 fell below the 50% quality control limit in several samples. Nondetected and positive results associated with these internal standards were qualified as estimated “UJ” and “J.”

MW-104
MW-104 2X
MW-104 20X
EW-2 10X
EW-36 2X
EW-42 2X
EW-29 2X

Recoveries of the internal standards acenaphthene-d8 (1523%) and phenanthrene-d5 (3%) outside the 50-20% quality control limit in sample MW-09. Positive results associated with acenaphthene-d8 and pheanthrene-d5 were qualified as estimated “J.” Nondetected results associated with phenanthrene-d5 were rejected, “UR.”

MW-09

Recovery of the internal standard naphthalene-d8 fell below the 50% quality control limit in sample MW-03. Nondetected and positive results associated with this internal standard were qualified as estimated “UJ” and “J.”

MW-03

Recoveries of the internal standards phenanthrene-d5 and perylene-d12 fell below the 50% quality control limit in sample EW-18. Nondetected and positive results associated with these internal standards were qualified as estimated “UJ” and “J.”

EW-18

8. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

POLYCHLORINATED BIPHENYLS

9. Holding Times

Several samples were extracted outside the 7 day holding time from collection to extraction. In the following samples, positive and nondetected results were qualified as estimated “J” and “UJ.”

MW-108
MW-109
MW-208
MW-110
MW-102
MW-103
MW-101
MW-104
MW-107

10. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The relative percent difference between columns exceeded 50% for Aroclor 1121 in sample MW-07 (114%). The positive result for Aroclor 1221 was qualified as estimated, “J.”

MW-07

INORGANIC COMPOUNDS

11. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 430652	Aluminum	14	70	Result <Action Level, U
ICB/CCB 30ICP1	Arsenic	2	10	Result <Action Level, U
	Barium	0.46	2.3	Result <Action Level, U
	Beryllium	0.28	1.4	Result <Action Level, U
	Calcium	22.6	113	Result <Action Level, U
	Chromium	0.65	3.25	Result <Action Level, U
	Cobalt	0.85	4.25	Result <Action Level, U
	Iron	22.1	110.5	Result <Action Level, U
	Magnesium	9.3	46.5	Result <Action Level, U
	Manganese	0.8	4	Result <Action Level, U
	Nickel	0.78	3.9	Result <Action Level, U
	Potassium	9.6	48	Result <Action Level, U
	Silver	0.63	3.15	Result <Action Level, U
	Sodium	67.5	337.5	Result <Action Level, U
	Zinc	0.68	3.4	Result <Action Level, U
ICB/CCB 30ICP2	Aluminum	12.6	63	Result <Action Level, U
	Antimony	1.5	7.5	Result <Action Level, U
	Arsenic	1.7	8.5	Result <Action Level, U
	Barium	0.088	0.44	Result <Action Level, U
	Beryllium	0.038	0.19	Result <Action Level, U
	Cadmium	0.34	1.7	Result <Action Level, U
	Calcium	32.4	162	Result <Action Level, U
	Cobalt	0.58	2.9	Result <Action Level, U
	Copper	0.34	1.7	Result <Action Level, U
	Iron	24.8	124	Result <Action Level, U
	Lead	0.94	4.7	Result <Action Level, U
	Magnesium	24.8	124	Result <Action Level, U
	Manganese	0.82	4.1	Result <Action Level, U
	Nickel	0.39	1.95	Result <Action Level, U
	Selenium	3.5	17.5	Result <Action Level, U
	Silver	0.26	1.3	Result <Action Level, U

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
	Thallium	0.39	1.95	Result <Action Level, U
	Vanadium	0.37	1.85	Result <Action Level, U
	Zinc	1.3	6.5	Result <Action Level, U
ICB/CCB	Mercury	0.01	0.05	Result <Action Level, U
ICB/CCB 30ICP1	Arsenic, Dissolved	1.8	9	Result <Action Level, U
	Barium, Dissolved	0.12	0.6	Result <Action Level, U
	Beryllium, Dissolved	0.39	1.95	Result <Action Level, U
	Cadmium, Dissolved	0.78	3.9	Result <Action Level, U
	Calcium, Dissolved	4	20	Result <Action Level, U
	Chromium, Dissolved	0.22	1.1	Result <Action Level, U
	Cobalt, Dissolved	0.24	1.2	Result <Action Level, U
	Iron, Dissolved	5.3	26.5	Result <Action Level, U
	Lead, Dissolved	3.2	16	Result <Action Level, U
	Magnesium, Dissolved	2.4	12	Result <Action Level, U
	Manganese, Dissolved	0.14	0.7	Result <Action Level, U
	Nickel, Dissolved	3.6	18	Result <Action Level, U
	Potassium, Dissolved	16.2	81	Result <Action Level, U
	Silver, Dissolved	1.7	8.5	Result <Action Level, U
	Sodium, Dissolved	218	1090	Result <Action Level, U
	Vanadium, Dissolved	0.78	3.9	Result <Action Level, U
	Zinc, Dissolved	1.2	6	Result <Action Level, U
MB-432971	Beryllium, Dissolved	0.28	1.4	Result <Action Level, U
	Zinc, Dissolved	2.7	13.5	Result <Action Level, U
ICB/CCB 30ICP2	Aluminum, Dissolved	5.7	28.5	Result <Action Level, U
	Arsenic, Dissolved	4.2	21	Result <Action Level, U
	Barium, Dissolved	0.19	0.95	Result <Action Level, U
	Beryllium, Dissolved	0.044	0.22	Result <Action Level, U
	Calcium, Dissolved	16.1	80.5	Result <Action Level, U
	Chromium, Dissolved	0.31	1.55	Result <Action Level, U
	Cobalt, Dissolved	0.067	0.335	Result <Action Level, U
	Iron, Dissolved	9.8	49	Result <Action Level, U
	Lead, Dissolved	0.58	2.9	Result <Action Level, U
	Magnesium, Dissolved	7.1	35.5	Result <Action Level, U
	Manganese, Dissolved	0.59	2.95	Result <Action Level, U
	Selenium, Dissolved	1.1	5.5	Result <Action Level, U
	Sodium, Dissolved	114	570	Result <Action Level, U
	Vanadium, Dissolved	0.15	0.75	Result <Action Level, U
	Zinc, Dissolved	0.47	2.35	Result <Action Level, U

Results of MB-432971 and 30ICP1 ICB/CCB (total and dissolved) apply to the following samples only:

EW-36	EW-42	EW-29

12. Serial Dilution

Arsenic, chromium, copper, nickel, potassium, and zinc failed to meet the 10% quality control limit for the serial dilution of MW-04. Positive results for these parameters were qualified as estimated “J.”

MW-04

Potassium failed to meet the 10% quality control limit for the serial dilution of MW-04 dissolved. Positive results for these parameters were qualified as estimated “J.”

MW-04, dissolved

13. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

The laboratory did not include aluminum, antimony, selenium, and thallium on the initial calibration verification (ICV), continuing calibration verification (CCV), initial calibration blank (ICB), continuing calibration blank (CCB), contract recovery detection limit (CRDL), and serial dilution forms. In the following samples, positive and nondetected results for these parameters were rejected, “R” and “UR” for both total and dissolved metals.

EW-36	EW-36, dissolved	EW-29	EW-29, dissolved
EW-42	EW-42, dissolved		

NOTES

VOLATILE ORGANIC COMPOUNDS

Laboratory Control Sample Results

Recoveries of methyl acetate exceeded the upper quality control limit. The compound was not detected in the associated samples. Data are not qualified on this basis.

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-108	MW-208		
0.46 J	0.33 J	Benzene	33%
0.3 J	0.23 J	Toluene	26%

ND – Non-detect; -- RPD calculated for positive results only.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	DF	Parameters
MW-03	20X	Benzene
MW-102	20X	Benzene, ethylbenzene
EW-6	20X	Toluene, xylene (total), m&p-xylene

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

The original form 1s did not include all the target compounds requested by the client. The laboratory resubmitted the form 1s with the correct target compound list. However, the laboratory also included four compounds (azobenzene, benzoic acid, 1-methylnaphthalene, and N-nitrosodimethylamine) not on the target compound list. These compounds were removed from the form 1s. This is noted form completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Recovery of all surrogates fell below the lower quality control limit in samples MW-102 and EW-6. Data were not qualified on this basis since the noncompliances were due to the necessary dilution of the sample extracts prior to analysis. This is noted for completeness only.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included with this sample delivery group. This is noted for completeness only. Data are not qualified on this basis.

Compound Quantitation

Several samples were analyzed and reported at various dilution factors due to the presence of target analytes. This accounts for the elevated reporting limits for these samples. Data are not qualified on this basis.

Sample	**DF**	**Parameters**
MW-09	1X	Acetophenone, atrazine, benzaldehyde, biphenyl, caprolactam, carbazole, 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol
	10X	All other parameters
MW-03	1X	Acetophenone, atrazine, benzaldehyde, biphenyl, caprolactam, 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol
	10X	All other parameters
	100X	Naphthalene
MW-102	10X	All Parameters
	500X	Naphthalene
MW-103	10X	Acenaphthlyene, dibenzofuran, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, phenanthrene
	100X	Naphthalene
MW-101	10X	Acenaphthlyene, carbazole, dibenzofuran, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, phenanthrene
	200X	Naphthalene
MW-104	2X	Acenapthene
	20X	Naphthalene
EW-2	10X	Bis(2-chloroisopropyl)ether
EW-6	10X	All Parameters
	1000X	Phenol
EW-36	2X	Acenaphthene, fluorine
EW-42	2X	Bis(2-chloroisopropyl)ether, phenanthrene
EW-29	2X	Fluoranthene, pyrene

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-108	MW-208		
3.5	3.6	Acenaphthene	3%
2.3	1.5	Carbazole	42%
1.4	1.3	Dibenzofuran	7%
1.4	1.3	Fluorene	7%
1.2	1.2	1-Methylnaphthalene	0%
1.4	1.4	2-Methylnaphthalene	0%
10.7	10.1	Naphthalene	6%
4.2	3.7	Phenanthrene	13%

POLYCHLORINATED BIPHENYLS

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included with this sample delivery group. This is noted for completeness only. Data are not qualified on this basis.

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-108	MW-208		
ND	ND	Aroclors	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-108	MW-208		
ND	ND	Aluminum	--
ND	ND	Antimony	--
9.9	ND	Arsenic	--
330	323	Barium	2.14%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
232000	228000	Calcium	1.74%
ND	ND	Chromium	--
ND	ND	Cobalt	--
ND	ND	Copper	--
15200	14900	Iron	1.99%
ND	ND	Lead	--
24900	24300	Magnesium	2.44%
1540	1500	Manganese	2.63%
4.9 J	4.5 J	Nickel	8.51%
11800	11500	Potassium	2.58%
ND	ND	Selenium	--
ND	ND	Silver	--
76400	74800	Sodium	2.12%
ND	ND	Thallium	--
ND	ND	Vanadium	--
ND	ND	Zinc	--
ND	ND	Mercury	--

ND – Non-detect; -- RPD calculated for positive results only.

Sample ID	Duplicate ID	Parameter	PRD
MW-108	MW-208		
41.5 J	36 J	Aluminum, Dissolved	14.19%
ND	ND	Antimony, Dissolved	--
5.7	ND	Arsenic, Dissolved	--
235	232	Barium, Dissolved	1.28%
ND	ND	Beryllium, Dissolved	--
ND	ND	Cadmium, Dissolved	--
231000	228000	Calcium, Dissolved	1.31%
ND	ND	Chromium, Dissolved	--
ND	ND	Cobalt, Dissolved	--
ND	ND	Copper, Dissolved	--
1260	1420	Iron, Dissolved	-11.94%
ND	ND	Lead, Dissolved	--
25100	24600	Magnesium, Dissolved	2.01%
1560	1530	Manganese, Dissolved	1.94%
4.4 J	4 J	Nickel, Dissolved	9.52%
12300	12100	Potassium, Dissolved	1.64%
ND	ND	Selenium, Dissolved	--
ND	ND	Silver, Dissolved	--
80200	78800	Sodium, Dissolved	1.76%
ND	ND	Thallium, Dissolved	--
ND	ND	Vanadium, Dissolved	--
4.1 J	2.4 J	Zinc, Dissolved	52.31%
ND	ND	Mercury, Dissolved	--

ND – Non-detect; -- RPD calculated for positive results only.

Validator ____________________________ Date ________________

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	3067495
Validation Report Date	October 13, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Pace Analytical Services
Method(s) Utilized	SW 846 8260B, 8270C, 8082, 6010B, 7471
Analytical Fraction	Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Metals, Dissolved Metals, Mercury (Hg), Dissolved Mercury

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	VOCs	SVOC	PCBs	Metals/ Diss. Metals	Hg/ Diss. Hg
04/12/12	MW-02	3067495001	Aqueous	X	X	X	X	X
04/12/12	MW-01	3067495002	Aqueous	X	X	X	X	X
04/12/12	MW-201	3067495003	Aqueous	X	X	X	X	X
04/12/12	Trip Blank	3067495004	Aqueous	X				

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of three aqueous field samples and one trip blank. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The VOC and SVOC findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
• Calibration (Initial and Continuing)
• Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Samples
• Internal Standards
* • Target Compound Identification
• Compound Quantification and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
* • Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

The inorganic findings including general chemistry are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
• Blanks
* • ICP Interference Check samples (ICS)
* • Laboratory Control Sample (LCS)
* • Duplicate Sample Analysis
* • Spike Sample Analysis
NA • Graphite Furnace Atomic Absorption (GFAA) QC
• ICP Serial Dilution
* • Field Duplicate Sample

* Criteria were met for this evaluation item.
NA – Not applicable for this sample delivery group

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

VOLATILE ORGANIC COMPOUNDS

1. Calibration

An initial calibration percent relative standard deviation (%RSD) fell below the 0.05 quality control limit for 1,4-dioxane. In the following samples, nondetected results for 1,4-dioxane were rejected, "UR."

MW-02	MW-01	MW-201	Trip Blank

A continuing calibration percent difference (%D) exceeded the 25% quality control limit for bromomethane. In the following samples, positive and nondetected results were qualified as estimated, "J" and "UJ."

MW-02	MW-01	MW-201	Trip Blank

2. Blanks

The laboratory method blank and trip blank exhibited contamination for the following compound:

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 431504	Bromomethane	0.76	3.8	Result <Action Level, U
Trip Blank	Bromomethane	0.7	3.5	Result <Action Level, U

3. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

SEMIVOLATILE ORGANIC COMPOUNDS

4. System Monitoring Compounds

Recovery of the surrogate 2-fluorobiphenyl fell below the 10% quality control limit in sample MW-01. Nondetected results for base and neutral compounds were rejected, "UR."

MW-01

5. Calibration

An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for benzaldehyde. In the following samples nondetected results were qualified as estimated, "UJ."

MW-02 MW-01 MW-201

Continuing calibration %Ds exceeded the 25% quality control limit for 4-nitroaniline, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, and benzo(g,h,i)perylene. In the following samples nondetected and positive results were qualified as estimated "UJ" and "J."

MW-02 MW-01 MW-201

6. Internal Standard Results

Recovery of the internal standard perylene-d12 fell below the 50% quality control limit in sample MW-201. Nondetected results associated with this internal standard were qualified as estimated "UJ."

MW-201

7. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

POLYCHLORINATED BIPHENYLS

All technical parameters were met. No qualifiers were assigned to the data.

INORGANIC COMPOUNDS

8. Blank Results

The ICB, preparation blank and/or CCB exhibited maximum concentration for the following elements.

Blank	Compound	Maximum Concentration (ppb)	Action Level (ppb)	Action
MB 431575	Calcium	25.6	128	Result <Action Level, U
MB 432971	Beryllium, Dissolved	0.28	1.4	Result <Action Level, U
	Zinc, Dissolved	2.7	13.5	Result <Action Level, U
ICB/CCB	Aluminum	5.1	25.5	Result <Action Level, U
	Arsenic	2.7	13.5	Result <Action Level, U
	Barium	0.3	1.5	Result <Action Level, U
	Beryllium	0.078	0.39	Result <Action Level, U
	Calcium	16.1	80.5	Result <Action Level, U
	Chromium	0.21	1.05	Result <Action Level, U
	Cobalt	0.41	2.05	Result <Action Level, U
	Iron	6	30	Result <Action Level, U
	Lead	0.75	3.75	Result <Action Level, U
	Magnesium	9.6	48	Result <Action Level, U
	Manganese	0.53	2.65	Result <Action Level, U
	Selenium	2.4	12	Result <Action Level, U
	Silver	0.29	1.45	Result <Action Level, U
	Sodium	140	700	Result <Action Level, U
	Vanadium	0.17	0.85	Result <Action Level, U
	Zinc	0.52	2.6	Result <Action Level, U
ICB/CCB	Mercury	0.01	0.05	Result <Action Level, U
ICB/CCB dis	Arsenic, Dissolved	1.8	9	Result <Action Level, U
	Barium, Dissolved	0.14	0.7	Result <Action Level, U
	Beryllium, Dissolved	0.39	1.95	Result <Action Level, U
	Cadium, Dissolved	0.78	3.9	Result <Action Level, U
	Calcium, Dissolved	4	20	Result <Action Level, U
	Chromium, Dissolved	0.22	1.1	Result <Action Level, U
	Cobalt, Dissolved	0.24	1.2	Result <Action Level, U
	Iron, Dissolved	5.3	26.5	Result <Action Level, U
	Lead, Dissolved	3.2	16	Result <Action Level, U
	Magnesium, Dissolved	2.4	12	Result <Action Level, U
	Manganese, Dissolved	0.068	0.34	Result <Action Level, U
	Nickel, Dissolved	3.6	18	Result <Action Level, U
	Potassium, Dissolved	16.2	81	Result <Action Level, U
	Silver, Dissolved	1.7	8.5	Result <Action Level, U
	Sodium, Dissolved	218	1090	Result <Action Level, U
	Vanadium, Dissolved	0.78	3.9	Result <Action Level, U
	Zinc, Dissolved	1.2	6	Result <Action Level, U

9. Serial Dilution

Aluminum, chromium, nickel, potassium, and zinc failed to meet the 10% quality control limit for the serial dilution of MW-02. Positive results for these parameters were qualified as estimated "J."

MW-02

10. Compound Quantitation

Positive results less than the reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

The laboratory did not include aluminum, antimony, selenium, and thallium on the initial calibration verification (ICV), continuing calibration verification (CCV), initial calibration blank (ICB), continuing calibration blank (CCB), contract recovery detection limit (CRDL), and serial dilution forms. In the following samples, positive and nondetected results for these parameters were rejected, "R" and "UR."

MW-02, Dissolved MW-01, Dissolved MW-201, Dissolved

NOTES

VOLATILE ORGANIC COMPOUNDS

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included with this sample delivery group. This is noted for completeness only. Data are not qualified on this basis.

Laboratory Control Sample Results

Recovery of methyl acetate exceeded the upper quality control limit. The compound was not detected in the associated samples. Data are not qualified on this basis.

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-01	MW-201		
2.0	2.2	Ethylbenzene	10%
4.1	3.5	Isopropylbenzene	16%
281	279	Xylene, total	1%
281	279	m&p-Xylene	1%

ND – Non-detect; -- RPD calculated for positive results only.

SEMIVOLATILE ORGANIC COMPOUNDS

Data Completeness

The original form 1s did not include all the target compounds requested by the client. The laboratory resubmitted the form 1s with the correct target compound list. However, the laboratory also included four compounds (azobenzene, benzoic acid, 1-methylnaphthalene, and N-nitrosodimethylamine) not on the target compound list. These compounds were removed from the form 1s. This is noted form completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Recovery of 2-fluorobiphenyl fell below the lower quality control limit in samples MW-201. Data were not qualified on this basis since only one fractional surrogate was noncompliant. This is noted for completeness only.

Blanks

Benzo(g,h,i)perylene and bis(2-ethylhexyl)phthalate were detected in the laboratory method blank. The compounds were not detected in the associated samples. This is noted for completeness only. Data are not qualified on this basis.

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included with this sample delivery group. This is noted for completeness only. Data are not qualified on this basis.

Internal Sample Results

Recoveries on the internal standards acenapthene-d8 and perylene-d12 were outside the 50-200% quality control limit for MW-01. Data were not qualified on this basis since associated results were rejected due to noncompliant surrogate recovery as noted previously.

Recovery of acenapthene-d8 exceeded the 200% quality control limit in sample MW-201. No positive results were associated with this standard. Data are not qualified on this basis.

Compound Quantitation

Sample MW-02 was re-analyzed at a 2X dilution factor due to the presence of acenaphthene above the linear calibration range. This accounts for the elevated reporting limits for this parameter. Data are not qualified on this basis.

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-01	MW-201		
ND	ND	Semivolatiles	--

ND – Non-detect; -- RPD calculated for positive results only.

POLYCHLORINATED BIPHENYLS

Matrix Spike/Matrix Spike Duplicate Results

A MS/MSD was not included with this sample delivery group. This is noted for completeness only. Data are not qualified on this basis.

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-01	MW-201		
ND	ND	Aroclors	--

ND – Non-detect; -- RPD calculated for positive results only.

INORGANIC COMPOUNDS

Field Duplicates

Relative percent differences calculated on positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	PRD
MW-01	MW-201		
45.5 J	46 J	Aluminum	-1.09%
ND	ND	Antimony	--
ND	ND	Arsenic	--
690	684	Barium	0.87%
ND	ND	Beryllium	--
ND	ND	Cadmium	--
204000	202000	Calcium	0.99%
1.6 J	ND	Chromium	--
ND	ND	Cobalt	--
ND	ND	Coper	--
40400	39700	Iron	1.75%
ND	ND	Lead	--
18200	18000	Magnesium	1.10%
1080	1070	Manganese	0.93%
ND	1.5 J	Nickel	--
26600	26400	Potassium	0.75%
ND	ND	Selenium	--
ND	ND	Silver	--
51100	50500	Sodium	1.18%
ND	ND	Thallium	--
ND	ND	Vanadium	--
ND	ND	Zinc	--
ND	ND	Mercury	--

ND – Non-detect; -- RPD calculated for positive results only.

Sample ID	Duplicate ID	Parameter	PRD
MW-01	MW-201		
UR	UR	Aluminum, Dissolved	--
UR	4.3 R	Antimony, Dissolved	--
ND	ND	Arsenic, Dissolved	--
396	394	Barium, Dissolved	0.51%
ND	ND	Beryllium, Dissolved	--
ND	ND	Cadmium, Dissolved	--
192000	195000	Calcium, Dissolved	-1.55%
ND	ND	Chromium, Dissolved	--
ND	ND	Cobalt, Dissolved	--
ND	ND	Copper, Dissolved	--
1930	1900	Iron, Dissolved	1.57%
ND	ND	Lead, Dissolved	--
18100	18200	Magnesium, Dissolved	-0.55%
1010	1040	Manganese, Dissolved	-2.93%
ND	ND	Nickel, Dissolved	--
29200	29300	Potassium, Dissolved	-0.34%
UR	UR	Selenium, Dissolved	--
ND	ND	Silver, Dissolved	--
51800	51900	Sodium, Dissolved	-0.19%
UR	UR	Thallium, Dissolved	--
ND	ND	Vanadium, Dissolved	--
ND	ND	Zinc, Dissolved	--
ND	ND	Mercury, Dissolved	--

ND – Non-detect; -- RPD calculated for positive results only.

___________________________ ________________

Validator Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	MC13496
Validation Report Date	November 3, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Accutest
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
10/25/11	12P-02	3056667001	Solid	X
10/25/11	12P-01	3056667002	Solid	X
10/25/11	12P-12	3056667003	Solid	X
10/25/11	12P-23	3056667004	Solid	X
10/25/11	12P-34	3056667005	Solid	X
10/25/11	12P-45	3056667006	Solid	X
10/25/11	5P-02	3056667007	Solid	X
10/25/11	5P-01	3056667008	Solid	X
10/25/11	5P-12	3056667009	Solid	X
10/25/11	5P-23	3056667010	Solid	X
10/25/11	5P-34	3056667011	Solid	X
10/25/11	5P-45	3056667012	Solid	X
10/25/11	5P-56	3056667013	Solid	X
10/25/11	2D-45	3056667032	Solid	X
10/25/11	12O-02	3056667033	Solid	X
10/25/11	12O-01	3056667034	Solid	X
10/25/11	12O-12	3056667035	Solid	X
10/25/11	12O-23	3056667036	Solid	X
10/25/11	12O-34	3056667037	Solid	X
10/25/11	12O-45	3056667038	Solid	X
10/25/11	12D-12	3056667041	Solid	X
10/25/11	3O-02	3056667042	Solid	X
10/25/11	3O-01	3056667043	Solid	X
10/25/11	3O-12	3056667044	Solid	X
10/25/11	3O-23	3056667045	Solid	X
10/25/11	3O-34	3056667046	Solid	X
10/25/11	3O-45	3056667047	Solid	X
10/25/11	3O-56	3056667048	Solid	X
10/25/11	2N-02	3056667049	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/27/12	FARFIELD 1-01	MC13496-1	Solid	X
08/27/12	FARFIELD 1-12	MC13496-2	Solid	X
08/27/12	FARFIELD 1-23	MC13496-3	Solid	X
08/27/12	FARFIELD 1-34	MC13496-4	Solid	X
08/27/12	FARFIELD 1-45	MC13496-5	Solid	X
08/27/12	FARFIELD 1-56	MC13496-6	Solid	X
08/27/12	FARFIELD 1-67	MC13496-7	Solid	X
08/27/12	FARFIELD 1-78	MC13496-8	Solid	X
08/27/12	FARFIELD 1-89	MC13496-9	Solid	X
08/27/12	12ZC-01	MC13496-10	Solid	X
08/27/12	12ZC-12	MC13496-11	Solid	X
08/27/12	12ZC-23	MC13496-12	Solid	X
08/27/12	12ZC-34	MC13496-13	Solid	X
08/27/12	12ZC-45	MC13496-14	Solid	X
08/27/12	12ZC-56	MC13496-15	Solid	X
08/27/12	12ZC-67	MC13496-16	Solid	X
08/27/12	12ZC-78	MC13496-17	Solid	X
08/27/12	12ZC-89	MC13496-18	Solid	X
08/27/12	10ZC-01	MC13496-19	Solid	X
08/27/12	10ZC-12	MC13496-20	Solid	X
08/27/12	10ZC-23	MC13496-21	Solid	X
08/27/12	10ZC-34	MC13496-22	Solid	X
08/27/12	10ZC-45	MC13496-23	Solid	X
08/27/12	10ZC-56	MC13496-24	Solid	X
08/27/12	10ZC-67	MC13496-25	Solid	X
08/27/12	10ZC-78	MC13496-26	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 55 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
• Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

Several sample results were flagged by the laboratory as estimated due to matrix interference. In the following samples, positive results for Aroclor 1260 were qualified as estimated "J."

FARFIELD 2-12 FARFIELD 1-02 FARFIELD 3-02

NOTES

POLYCHLORINATED BIPHENYLS

Data Completeness

Several form 1s were mislabeled as Fairfield. The forms were amended by the validator. This is noted for completeness only. Data are not qualified on this basis.

System Monitoring Compounds

Surrogate recoveries for decachlorobiphenyl exceeded the upper quality control limit on one analytical column in several samples. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
10ZC-45	1D-45		
ND	ND	PCBs	--
74.7	73.9	%Solids	1%

-- - RPD not calculated because at least one sample result was not detected (ND).

Validator

Date

ECT.CON INC.

Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	MC13496A
Validation Report Date	November 3, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Accutest
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/27/12	2ZA-02	MC13496-66A	Solid	X
08/27/12	12ZA-02	MC13496-71A	Solid	X
08/27/12	3ZB-02	MC13496-72A	Solid	X
08/27/12	5ZB-02	MC13496-73A	Solid	X
08/27/12	7ZB-02	MC13496-74A	Solid	X
08/27/12	9ZB-02	MC13496-75A	Solid	X
08/27/12	11ZB-02	MC13496-76A	Solid	X
08/27/12	2ZB-02	MC13496-77A	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of eight solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
* • System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
- • Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

Several sample results were flagged by the laboratory as estimated due to matrix interference. In the following samples, positive results for Aroclor 1260 were qualified as estimated "J."

2ZA-02 2Z-02

NOTES

POLYCHLORINATED BIPHENYLS

Field Duplicates

No field duplicates were included in this sample delivery group. Data are not qualified on this basis.

Validator

Date

ECT.CON INC.
Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	MC13538
Validation Report Date	November 3, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Accutest
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/28/12	8ZC-01	MC13538-1	Solid	X
08/28/12	8ZC-12	MC13538-2	Solid	X
08/28/12	8ZC-23	MC13538-3	Solid	X
08/28/12	8ZC-34	MC13538-4	Solid	X
08/28/12	8ZC-45	MC13538-5	Solid	X
08/28/12	8ZC-56	MC13538-6	Solid	X
08/28/12	8ZC-67	MC13538-7	Solid	X
08/28/12	8ZC-78	MC13538-8	Solid	X
08/28/12	8ZC-89	MC13538-9	Solid	X
08/28/12	2D-01	MC13538-10	Solid	X
08/28/12	6ZC-01	MC13538-11	Solid	X
08/28/12	06ZC-12	MC13538-12	Solid	X
08/28/12	06ZC-23	MC13538-13	Solid	X
08/28/12	06ZC-34	MC13538-14	Solid	X
08/28/12	06ZC-45	MC13538-15	Solid	X
08/28/12	06ZC-56	MC13538-16	Solid	X
08/28/12	06ZC-67	MC13538-17	Solid	X
08/28/12	06ZC-78	MC13538-18	Solid	X
08/28/12	06ZC-89	MC13538-19	Solid	X
08/28/12	3D-34	MC13538-20	Solid	X
08/28/12	4ZC-01	MC13538-21	Solid	X
08/28/12	4ZC-12	MC13538-22	Solid	X
08/28/12	4ZC-23	MC13538-23	Solid	X
08/28/12	4ZC-34	MC13538-24	Solid	X
08/28/12	4ZC-45	MC13538-25	Solid	X
08/28/12	4ZC-56	MC13538-26	Solid	X
08/28/12	4ZC-67	MC13538-27	Solid	X
08/28/12	4ZC-78	MC13538-28	Solid	X
08/28/12	4ZC-89	MC13538-29	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/28/12	4Z-01	MC13538-105	Solid	X
08/28/12	4Z-12	MC13538-106	Solid	X
08/28/12	4Z-23	MC13538-107	Solid	X
08/28/12	4Z-34	MC13538-108	Solid	X
08/28/12	4Z-45	MC13538-109	Solid	X
08/28/12	4Z-56	MC13538-110	Solid	X
08/28/12	4Z-67	MC13538-111	Solid	X
08/28/12	4Z-78	MC13538-112	Solid	X
08/28/12	4Z-89	MC13538-113	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 38 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- * System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

Several sample results were flagged by the laboratory as estimated due to matrix interference. In the following samples, positive results for Aroclor 1260 were qualified as estimated “J.”

8ZC-12 8ZC-23 2D-01 6ZC-01

NOTES

POLYCHLORINATED BIPHENYLS

System Monitoring Compounds

Surrogate recoveries for decachlorobiphenyl exceeded the upper quality control limit on one analytical column in several samples. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Recovery of tetrachloro-m-xylene fell below the lower quality control limit on one analytical column in sample 4ZC-56. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Compound Quantitation

Sample 4Z-89 was re-analyzed at a 100X dilution factor due to the presence of Aroclor 1248 above the instrument’s linear calibration range. This accounts for the elevated reporting of this compound. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
8ZC-01	2D-01		
61.8 J	58.2 J	Aroclor 1254	6%
ND	29.9 J	Aroclor 1260	--
77.9	83.9	%Solids	7%

-- - RPD not calculated because at least one sample result was not detected (ND).

Calculated RPD for positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
06ZC-34	3D-34		
ND	ND	Aroclors	--
85.9	83.8	%Solids	2%

-- - RPD not calculated because at least one sample result was not detected (ND).

Validator

Date

ECT.CON INC.

Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	MC13538A
Validation Report Date	November 7, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Accutest
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/28/12	7ZB-01	MC13538-35A	Solid	X
08/28/12	7ZB-12	MC13538-36A	Solid	X
08/28/12	7ZB-23	MC13538-37A	Solid	X
08/28/12	7ZB-34	MC13538-38A	Solid	X
08/28/12	7ZB-45	MC13538-39A	Solid	X
08/28/12	7ZB-56	MC13538-40A	Solid	X
08/28/12	5ZB-23	MC13538-41A	Solid	X
08/28/12	5ZB-34	MC13538-42A	Solid	X
08/28/12	5ZB-45	MC13538-43A	Solid	X
08/28/12	5ZB-56	MC13538-44A	Solid	X
08/28/12	5ZB-67	MC13538-45A	Solid	X
08/28/12	5ZB-78	MC13538-46A	Solid	X
08/28/12	5ZB-89	MC13538-47A	Solid	X
08/28/12	5ZB-01	MC13538-62A	Solid	X
08/28/12	5ZB-12	MC13538-63A	Solid	X
08/28/12	3ZB-01	MC13538-64A	Solid	X
08/28/12	3ZB-12	MC13538-65A	Solid	X
08/28/12	3ZB-23	MC13538-66A	Solid	X
08/28/12	3ZB-34	MC13538-67A	Solid	X
08/28/12	3ZB-45	MC13538-68A	Solid	X
08/28/12	3ZB-56	MC13538-69A	Solid	X
08/28/12	3ZB-67	MC13538-70A	Solid	X
08/28/12	3ZB-78	MC13538-71A	Solid	X
08/28/12	3ZB-89	MC13538-72A	Solid	X
08/28/12	4D-45	MC13538-73A	Solid	X
08/28/12	4ZA-01	MC13538-74A	Solid	X
08/28/12	2ZA-01	MC13538-75A	Solid	X
08/28/12	2ZA-12	MC13538-76A	Solid	X
08/28/12	2ZA-23	MC13538-77A	Solid	X
08/28/12	2ZA-34	MC13538-78A	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/28/12	2ZA-45	MC13538-79A	Solid	X
08/28/12	2ZA-56	MC13538-80A	Solid	X
08/28/12	2ZA-67	MC13538-81A	Solid	X
08/28/12	2ZA-78	MC13538-82A	Solid	X
08/28/12	11D-45	MC13538-83A	Solid	X
08/28/12	10D-45	MC13538-84A	Solid	X
08/28/12	2Z-01	MC13538-85A	Solid	X
08/28/12	2Z-12	MC13538-86A	Solid	X
08/28/12	2Z-23	MC13538-87A	Solid	X
08/28/12	2Z-34	MC13538-88A	Solid	X
08/28/12	2Z-45	MC13538-89A	Solid	X
08/28/12	2Z-56	MC13538-90A	Solid	X
08/28/12	2Z-67	MC13538-91A	Solid	X
08/28/12	2Z-78	MC13538-92A	Solid	X
08/28/12	11ZB-67	MC13538-93A	Solid	X
08/28/12	11ZB-78	MC13538-94A	Solid	X
08/28/12	11ZB-89	MC13538-95A	Solid	X
08/28/12	9ZB-01	MC13538-96A	Solid	X
08/28/12	9ZB-12	MC13538-97A	Solid	X
08/28/12	9ZB-23	MC13538-98A	Solid	X
08/28/12	9ZB-34	MC13538-99A	Solid	X
08/28/12	9ZB-45	MC13538-100A	Solid	X
08/28/12	9ZB-56	MC13538-101A	Solid	X
08/28/12	9ZB-67	MC13538-102A	Solid	X
08/28/12	9ZB-78	MC13538-103A	Solid	X
08/28/12	9ZB-89	MC13538-104A	Solid	X
08/28/12	9D-12	MC13538-120A	Solid	X
08/28/12	12ZA-34	MC13538-127A	Solid	X
08/28/12	12ZA-45	MC13538-128A	Solid	X
08/28/12	12ZA-56	MC13538-129A	Solid	X
08/28/12	12ZA-67	MC13538-130A	Solid	X
08/28/12	12ZA-78	MC13538-131A	Solid	X
08/28/12	12ZA-89	MC13538-132A	Solid	X
08/28/12	11ZB-01	MC13538-133A	Solid	X
08/28/12	11ZB-12	MC13538-134A	Solid	X
08/28/12	11ZB-23	MC13538-135A	Solid	X
08/28/12	11ZB-34	MC13538-136A	Solid	X
08/28/12	11ZB-45	MC13538-137A	Solid	X
08/28/12	11ZB-56	MC13538-138A	Solid	X
08/28/12	7ZB-67	MC13538-139A	Solid	X
08/28/12	7ZB-78	MC13538-140A	Solid	X
08/28/12	7ZB-89	MC13538-141A	Solid	X
08/28/12	12ZA-01	MC13538-158A	Solid	X
08/28/12	12ZA-12	MC13538-159A	Solid	X
08/28/12	12ZA-23	MC13538-160A	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 75 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

- * Data Completeness
- * Holding Times
- * Calibration (Initial and Continuing)
- * Blanks
- System Monitoring Compounds (Surrogate Spikes)
- * Matrix Spike/Matrix Spike Duplicates
- * Laboratory Control Sample (LCS)
- * Target Compound Identification
- Compound Quantitation and Reported Contract Quantitation Limits
- * System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. System Monitoring Compounds

Recovery of two or more surrogates fell below the 30% quality control limit in several samples. In the following samples, nondetected results were qualified as estimated, "UJ."

3ZB-67 2Z-23 2Z-56

2. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated "J" due to uncertainty near the detection limit.

Several sample results were flagged by the laboratory as estimated due to matrix interference. In the following samples, positive results for Aroclor 1260 were qualified as estimated "J."

7ZB-01	7ZB-12	9ZB-01	11ZB-01

NOTES

POLYCHLORINATED BIPHENYLS

Holding Times

Samples 11D-45, 2Z-23, and 2Z-56 were extracted 27-29 days after sample collection. The reviewer elected not to qualify samples on this basis since PCBs are not subject to volatilization or degradation. This is noted for completeness only.

System Monitoring Compounds

Surrogate recoveries for decachlorobiphenyl exceeded the upper quality control limit on one analytical column in several samples. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Recovery of tetrachloro-m-xylene fell below the lower quality control limit on one analytical column in several samples. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
2ZA-45	11D-45		
ND	ND	Aroclors	--
89.2	91.3	%Solids	2%

-- - RPD not calculated because at least one sample result was not detected (ND).

Sample ID	Duplicate ID	Parameter	RPD
3ZB-45	4D-45		
ND	ND	Aroclors	--
89.2	88.6	%Solids	1%

-- - RPD not calculated because at least one sample result was not detected (ND).

Sample ID	Duplicate ID	Parameter	RPD
9ZB-12	9D-12		
ND	ND	Aroclors	--
90.5	87.5	%Solids	3%

-- - RPD not calculated because at least one sample result was not detected (ND).

Sample 3Z-45 was not present in the data package. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
3Z-45	10D-45		
--	ND	Aroclors	--
--	88.6	%Solids	--

-- - RPD not calculated because at least one sample result was not detected (ND).

__________________________ ________________

Validator Date

ECT.CON INC.

Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	MC13687
Validation Report Date	November 7, 2012
Validation Guidance	USEPA CLP National Functional Guidelines for Data Review
Client Name	WSP Environment & Energy
Project Name	Chemtura, Brooklyn NY
Laboratory	Accutest
Method(s) Utilized	SW 846 8082
Analytical Fraction	Polychlorinated Biphenyls (PCBs)

Samples/ Matrix:

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/30/12	10U-01	MC13687-1	Solid	X
08/30/12	10U-12	MC13687-2	Solid	X
08/30/12	10U-23	MC13687-3	Solid	X
08/30/12	10U-34	MC13687-4	Solid	X
08/30/12	10U-45	MC13687-5	Solid	X
08/30/12	10U-56	MC13687-6	Solid	X
08/31/12	10T-01	MC13687-7	Solid	X
08/31/12	10T-12	MC13687-8	Solid	X
08/31/12	10T-23	MC13687-9	Solid	X
08/31/12	10T-34	MC13687-10	Solid	X
08/31/12	10T-45	MC13687-11	Solid	X
08/31/12	10T-56	MC13687-12	Solid	X
08/31/12	13D-12	MC13687-13	Solid	X
08/31/12	10S-01	MC13687-14	Solid	X
08/31/12	10S-12	MC13687-15	Solid	X
08/31/12	10S-23	MC13687-16	Solid	X
08/31/12	10S-34	MC13687-17	Solid	X
08/31/12	10S-45	MC13687-18	Solid	X
08/31/12	10S-56	MC13687-19	Solid	X
08/31/12	11S-01	MC13687-20	Solid	X
08/31/12	11S-12	MC13687-21	Solid	X
08/31/12	11S-23	MC13687-22	Solid	X
08/31/12	11S-34	MC13687-23	Solid	X
08/31/12	11S-45	MC13687-24	Solid	X
08/31/12	11S-56	MC13687-25	Solid	X
08/31/12	12S-01	MC13687-26	Solid	X
08/31/12	12S-12	MC13687-27	Solid	X
08/31/12	12S-23	MC13687-28	Solid	X
08/31/12	12S-34	MC13687-29	Solid	X
08/31/12	12S-45	MC13687-30	Solid	X

Sample Date	Sample ID	Laboratory ID	Matrix	PCBs
08/31/12	12S-56	MC13687-31	Solid	X
08/31/12	14D-23	MC13687-32	Solid	X
08/31/12	13S-01	MC13687-33	Solid	X
08/31/12	13S-12	MC13687-34	Solid	X
08/31/12	12S-23	MC13687-35	Solid	X
08/31/12	13S-34	MC13687-36	Solid	X
08/31/12	13S-45	MC13687-37	Solid	X
08/31/12	13S-56	MC13687-38	Solid	X
08/31/12	14S-01	MC13687-39	Solid	X
08/31/12	14S-12	MC13687-40	Solid	X
08/31/12	14S-23	MC13687-41	Solid	X
08/31/12	14S-34	MC13687-42	Solid	X
08/31/12	14S-45	MC13687-43	Solid	X
08/31/12	14S-56	MC13687-44	Solid	X
08/31/12	14T-01	MC13687-45	Solid	X
08/31/12	14T-12	MC13687-46	Solid	X
08/31/12	14T-23	MC13687-47	Solid	X
08/31/12	14T-34	MC13687-48	Solid	X
08/31/12	14T-45	MC13687-49	Solid	X
08/31/12	14T-56	MC13687-50	Solid	X
08/31/12	15D-34	MC13687-51	Solid	X
08/31/12	14U-01	MC13687-52	Solid	X
08/31/12	14U-12	MC13687-53	Solid	X
08/31/12	14U-23	MC13687-54	Solid	X
08/31/12	14U-34	MC13687-55	Solid	X
08/31/12	14U-45	MC13687-56	Solid	X
08/31/12	14U-56	MC13687-57	Solid	X

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. Laboratory calculations have been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form 1s or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form 1s for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for the Chemtura, Brooklyn NY site consists of 57 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct.

The PCB findings are based upon the assessment of the following:

* • Data Completeness
* • Holding Times
* • Calibration (Initial and Continuing)
* • Blanks
• System Monitoring Compounds (Surrogate Spikes)
* • Matrix Spike/Matrix Spike Duplicates
* • Laboratory Control Sample (LCS)
* • Target Compound Identification
• Compound Quantitation and Reported Contract Quantitation Limits
* • System Performance

* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

POLYCHLORINATED BIPHENYLS

1. Compound Quantitation

Positive results less than the required reporting limit were qualified as estimated “J” due to uncertainty near the detection limit.

One sample result was flagged by the laboratory as estimated due to matrix interference. In the following sample, the positive result for Aroclor 1260 was qualified as estimated “J.”

10U-12

Several sample results were flagged by the laboratory as estimated due to matrix interference. In the following samples, positive results for Aroclor 1254 were qualified as estimated “J.”

10U-23 14T-01

NOTES

POLYCHLORINATED BIPHENYLS

System Monitoring Compounds

Surrogate recoveries for decachlorobiphenyl exceeded the upper quality control limit on one analytical column in several samples. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Recovery of tetrachloro-m-xylene fell below the lower quality control limit on one analytical column in several samples. The remaining three surrogate recoveries were compliant. Data are not qualified on this basis.

Compound Qunatitation

Sample 11S-34 was re-analyzed at a 10X dilution factor due to the presence of Aroclor 1248 above the instrument's linear calibration range. The positive result for Aroclor 1248 only was reported from the 10X dilution. Data are not qualified on this basis.

Samples 12S-45, 13S-45, and 13S-56 were re-analyzed at a 10X dilution factor due to the presence of Aroclor 1248 above the instrument's linear calibration range. The positive result for Aroclor 1248 only was reported from the 5X dilutions. Data are not qualified on this basis.

Field Duplicates

Calculated RPD for positive results only. Data are not qualified on this basis.

Sample ID	Duplicate ID	Parameter	RPD
10T-12	13D-12		
ND	ND	Aroclors	--
95.8	96.1	%Solids	0.3%

-- - RPD not calculated because at least one sample result was not detected (ND).

Sample ID	Duplicate ID	Parameter	RPD
13S-23	14D-23		
ND	ND	Aroclors	--
93.4	88.8	%Solids	5%

-- - RPD not calculated because at least one sample result was not detected (ND).

Sample ID	Duplicate ID	Parameter	RPD
14T-34	15D-34		
ND	ND	Aroclors	--
88.2	87.4	%Solids	1%

-- - RPD not calculated because at least one sample result was not detected (ND).

Validator ____________________ Date ____________

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228

Tel: (716) 691-5232
Fax: (716) 608-1387
www.wspenvironmental.com

WSP USA Corp.
2360 Sweet Home Road, Suite 3
Amherst, New York 14228

Tel: (716) 691-5232
Fax: (716) 608-1387
www.wspenvironmental.com

UNITED
BY OUR
DIFFERENCE