May 27, 2011

Mr. David K. Harrington, P.E.
Senior Environmental Engineer
Remedial Bureau B
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7016

RE: Records Search Report
72 Anthony St/498 Porter Ave
Brooklyn, NY
Langan Project No.: 170157201

Dear Mr. Harrington:

Langan Engineering and Environmental Services, P. C. (Langan) prepared this Records Search Report, on behalf of the Whitehead Realty Company (Whitehead), for the property located at 72 Anthony Street/498 Porter Avenue in Brooklyn, New York (the “Site”). The Site consists of an active marble and granite distribution warehouse and a City-Wide trucking facility and maintenance shop. The scope of this Records Search Report includes a Site inspection and a review of 16 environmental investigations that were conducted at the Site and surrounding properties. A Site Location Map is included in Figure 1.

Site Background

The Site, located within the Meeker Avenue Plume Trackdown Site in the Greenpoint/East Williamsburg Industrial Area section of Brooklyn, New York, has been used as a bronze foundry operated from the 1960s to approximately 1993 and as a steel door finishing facility by ACME Steel from 1993 to around 2009. ACME Steel was reportedly a generator of F001 waste (spent halogenated solvents used in degreasing) at the Site. The Meeker Avenue Plume Trackdown Site is located within a region of historic petroleum refining and storage operations that occupied a significant portion of the Greenpoint neighborhood. This area is underlain by a petroleum free-phase product plume that originates from a British Petroleum (BP) bulk storage terminal located north of the Site. The location of the Site relative to the Meeker Avenue Plume Trackdown Site is presented in Figure 2.

Investigations conducted by the New York State Department of Environmental Conservation (NYSDEC) and others within the Meeker Avenue Plume Trackdown Site, identified chlorinated
volatile organic compounds (VOCs), including tetrachloroethene (PCE) and trichloroethene (TCE), in soil, soil vapor, and groundwater. In response to these findings, NYSDEC initiated several investigations to identify the source of chlorinated solvents. Based on the findings of these investigations, the NYSDEC identified the Site as a source of PCE and TCE and listed it as a Class 2 Inactive Hazardous Waste Disposal Site in January 2009.

The objective of this Records Search Report is to summarize the available environmental investigations conducted at the Site and surrounding properties, as required pursuant to the Order on Consent between Whitehead and the NYSDEC (dated December 1, 2010, the “Consent Order”), and to prepare a separate Site-Specific Remedial Investigation Work Plan (RIWP) to identify sources of chlorinated VOCs, to the extent they might be present.

The following environmental reports were provided to Langan for review:

Site Reports:

- **Phase I Environmental Site Assessment – Acme Architectural Products, 72 Anthony Street**, prepared by IEC, dated March 30, 1998

Reports for Surrounding Properties:

- **Phase I Environmental Site Assessment – Former Crossing Metal Spinning and Stamping Co. Facility, 117 Lombardy Street**, prepared by Conestoga-Rovers & Associates, dated June 1995
- **Phase I Environmental Site Assessment – Acme Business Group, 115-117 Lombardy Street**, prepared by IEC, dated March 30, 1998
- **Phase II Environmental Site Assessment; Selective Sampling Investigation – Acme Architectural Products, Inc., 115-117 Lombardy Street**, prepared by IEC, dated June 8, 1998
- **Phase I Environmental Site Assessment (ESA) – Acme Architectural Products, 46-60 Anthony Street/95 Lombardy Street, Prepared by IEC, dated March 30, 1998**
- **Phase II Environmental Site Assessment; Selective Sampling Investigation – Acme Architectural Products, Inc, 46-60 Anthony Street, Prepared by IEC, Dated July 8, 1998**
- **Phase I Environmental Site Assessment, Acme Architectural Products, Inc., 513 Porter Avenue, prepared by IEC, dated March 30, 1998**
- **Phase II Environmental Site Assessment; Selective Sampling Investigation, Acme Architectural Products, Inc, 513 Porter Avenue, prepared by IEC, dated July 8, 1998**
- **Phase I Environmental Site Assessment – 157-169 Lombardy Street**, prepared by IEC, dated November 25, 1998
- **Phase II Environmental Site Assessment; Selective Sampling Investigation - 157-169 Lombardy Street, prepared by IEC, dated January 5, 1999**
- **Phase IV Data Summary Report – Site Characterization; Greenpoint/East Williamsburg Industrial Area, prepared by URS Corporation, dated May 2009**

• Phase V Data Summary Report – Site Characterization; Greenpoint/East Williamsburg Industrial Area, prepared by URS Corporation, dated May 2009

• Letter Report – November 2009 Groundwater Sampling Event; Meeker Avenue Plume Trackdown – Greenpoint/East Williamsburg Industrial Area, prepared by URS, dated January 2010

• Chlorinated Solvent Plume – Meeker Avenue, prepared by Zymax Forensics, dated October 29, 2009


SITE INSPECTION SUMMARY

Langan conducted a Site inspection on April 15, 2011. The inspection was limited to the exterior portions of the Site. Inspection of the interior areas was limited due to operations at the active marble and granite warehouse. A summary of the Site inspection is presented below.

The building at 72 Anthony Street is occupied by a decorative granite and marble warehouse. The entrance to the facility was obstructed by stacks of building materials; therefore, an interior inspection was not conducted. Langan inspected the former exterior drum storage area in the northeast corner of the Site. Concrete in former drum storage area was in poor condition; however, visible signs of a release were not identified. A monitoring well (NYSDEC well DEC-016) was observed on the Anthony Street sidewalk immediately northwest of the 72 Anthony Street Building.

The 498 Porter Avenue lot is occupied by the City Wide Trucking Company. This facility consists of a large garage/maintenance shop in the northern portion of the lot. Several trailers were present in the lot at the time of the inspection; however, access to the lot was not available and the inspection was conducted from the sidewalk.

SITE REPORTS

The following is a summary of reports prepared for the Site. Significant environmental findings are presented on Figure 3.
Phase I ESA – Acme Architectural Products, 72 Anthony Street, Prepared by IEC, Dated March 30, 1998

This report was prepared for Acme Architectural Products to understand past and present uses and to identify RECs at the Site and surrounding properties. The Site was historically used as a brass foundry and civilian observation patrol. Site operations at the time of the ESA included office and operational space. The operational space was utilized for the grinding, sanding, and finishing of steel doors. The investigation identified the following RECs:

- Current and historic site use as a steel door finishing facility and historical brass foundry, respectively;
- Two floor drains near a paint storage area with unknown outfall locations were identified as potential injection wells;
- A drain near a chemical drum storage area with unknown outfall areas was identified as a potential injection well;
- An unused and improperly abandoned UST was identified at the Site;
- Dip tanks for degreasing products, including 1,1,1-trichloroethane (1,1,1-TCA) and petroleum distillates, were located in the northeast corner of the building. A floor drain with unknown outfall location was located underneath one dip tank. Evidence of petroleum distillate releases were apparent on the floor around the dip tanks;
- A chemical drum storage area was located to the east of the building. Primers, cutting oils, hydraulic oils, waste water, xylene, waste paints, adhesives, waste degreasers, steam cleaners and waste oil contaminated absorbents were stored in this area. Surficial staining was apparent throughout this area. This drum storage area was used as a chemical transfer station to consolidate chemical waste from all of the surrounding Acme facilities; and
- Several confirmed contamination sources were identified at surrounding properties, including a Hazardous Waste Disposal Site and NYSDEC MOSF associated with several Spills at an adjacent Brooklyn Union Gas facility bound by Lombardy Street, Vandervoort Avenue, Maspeth Avenue, and Newtown Creek.
- The Site was a small quantity generator of hazardous waste. The type of waste generated is unknown;
- Portable chemical storage containers were observed throughout the building; and
- A paint room and paint storage room were identified in the center of the building. The floor of the paint room was significantly stained by painting operations. Floor drains were observed in the paint storage room.
Based on the findings of the Phase I ESA, IEC recommended that a Phase II ESI be completed to investigate RECs; however, a Phase II report was not available for review.

**SURROUNDING PROPERTIES**

The following are summaries of reports prepared for surrounding properties. Significant environmental findings from the surrounding properties are presented on Figure 4.

**115-117 Lombardy Street**

The property located at 115-117 Lombardy Street is identified as Block 2819, Lot 25 and adjoins the Site to the west (cross-gradient), across Porter Avenue. The following reports were prepared for this property:

*Phase I Environmental Site Assessment – Former Crossing Metal Spinning and Stamping Co. Facility, 117 Lombardy Street, prepared by Conestoga-Rovers & Associates, dated June 1995*

This report was prepared for Masco Corporation to understand past and present uses and to identify RECs at the site and surrounding properties. The site was historically used as a steel storage, an office partition manufacturing, and a cabinet manufacturing facility. This Phase I ESA identified the following RECs:

- Historical use of the property for industrial purposes since at least 1907, including steel storage and cabinet making facilities;
- Historical use of adjacent properties since 1933 for paint and varnish companies, foundries, a gasoline tank at a private residence, and an oil compounding facility;
- Waste storage in 55-gallon drums and 5-gallon buckets; and
- Stained concrete surfaces in the loading dock area;

*Phase I Environmental Site Assessment – Acme Business Group, 115-117 Lombardy Street, Prepared by IEC, Dated March 30, 1998*

This report was prepared by IEC for Acme Architectural Products to understand past and present uses and to identify RECs at the site and surrounding properties. The site was historically used as a steel storage, office record storage, metal working, and cabinet manufacturing facility. This Phase I ESA identified the following RECs associated with 115-117 Lombardy Street:

- Historical use of the property and/or surrounding properties for industrial purposes since at least 1907, including foundries, metal plating facilities, and various manufacturing facilities;
Two floor drains and several potential former floor drains with unknown outfall locations were identified in the building. The historic industrial use of the property has created the potential for the drains to be a source of organic and inorganic contaminants;

- Chemical storage in 55-gallon drums in the site building;
- A solvent-based laminating operation near the eastern portion of the building; and
- Several confirmed contamination sources were identified at surrounding properties including a Hazardous Waste Disposal Site and NYSDEC Major Oil Storage Facilities (MOSF) associated with several petroleum releases at a large Brooklyn Union Gas Co. (BUG) facility south of the site and bound by Lombardy Street, Vandervoort Avenue, Maspeth Avenue, and Newtown Creek.

**Phase II Environmental Site Assessment; Selective Sampling Investigation – Acme Architectural Products, Inc., 115-117 Lombardy Street, Prepared by IEC, Dated June 8, 1998**

This Investigation was conducted on behalf of Acme Architectural Products to determine whether RECs identified in the Phase I ESA have impacted the environmental quality of the property. The investigation consisted of a geophysical survey and collection and analysis of one soil sample. The following is a summary of the Phase II results:

- The geophysical survey confirmed that a floor drain in the southwestern portion of the property discharges directly into sub-surface soil and is considered an underground injection well. A second floor drain was confirmed to discharge to the sewer; and
- One soil sample collected from the base of the injection well contained concentrations of xylenes and several metals, including cadmium, chromium, lead, mercury, and silver, at concentrations greater than applicable state standards.

With the exception of shallow soil at the base of one floor drain, none of the potential sources of chlorinated VOCs (i.e., historic use, solvent-based laminating operations in the eastern portion of the building, chemical storage, and stained concrete surfaces) were investigated.

**46-60 Anthony Street/95 Lombardy Street Site**

This property adjoins the Site to the west across Porter Avenue. The following is a summary of environmental reports that have been prepared for this property:

**Phase I Environmental Site Assessment (ESA) – Acme Architectural Products, 46-60 Anthony Street/95 Lombardy Street, Prepared by IEC, dated March 30, 1998**

This report was prepared for Acme Architectural Products to understand past and present uses and to identify recognized environmental conditions (RECs) at the site and surrounding
properties. The site was historically used for iron works, metal shearing, and finishing operations. Site operations at the time of the ESA included office and operational space. The operational space was utilized for the machining, finishing, and storage of materials and products used in the manufacture of doors and knock down frames. The ESA identified the following RECs:

- Historical and current Site use as for iron working, metal fabrication, shearing and finishing operations and a painting facility;
- Numerous floor drains with unknown outfall locations were identified as potential injection wells. Based on the historic use of the property, it was inferred that these floor drains are potential sources of organic and inorganic contaminants;
- Several confirmed contamination sources were identified at surrounding properties including a Hazardous Waste Disposal Site and NYSDEC Major Oil Storage Facilities associated with several petroleum releases at a large Brooklyn Union Gas Co. facility south of the site and bound by Lombardy Street, Vandervoort Avenue, Maspeth Avenue, and Newtown Creek;
- An active fuel oil UST, a potential former underground storage tank (UST), and petroleum-impacted soil were located in the western portion of the building;
- A UST used as a dip tank storing degreasing products was located in the northwest corner of the site;
- Two aboveground storage tanks (ASTs) were observed in the western portion of the building: one was used as part of a recirculating phosphate wash to remove oil from materials, and the other was used to recirculate rinse water to remove phosphate residue; and
- Regulated waste (i.e., waste paint, waste oil, waste degreaser and waster water precipitate) that was generated at the property was transported and stored in the drum storage area at 72 Anthony Street.

Phase II Environmental Site Assessment; Selective Sampling Investigation – Acme Architectural Products, Inc, 46-60 Anthony Street, Prepared by IEC, Dated July 8, 1998

This Investigation was conducted on behalf of Acme Architectural Products to determine whether RECs identified in the Phase I ESA have impacted the environmental quality of the property. The investigation consisted of a geophysical survey and collection and analysis of one soil sample. The following is a summary of the Phase II results:
A geophysical survey performed at the site confirmed that one floor drain in the northern portion of the building discharges directly to sub-surface soil and is classified as an underground injection well.

A soil sample collected from the base of the floor drain contained the metals cadmium and chromium at concentrations greater than applicable state standards.

With the exception of shallow soil at the base of one floor drain, none of the potential sources of chlorinated VOCs (i.e., several floor drains, a UST dip tank, and historic use) were investigated during this limited Phase II.

513 Porter Avenue

The property located at 513 Porter Avenue is located approximately 80 feet northwest of the Site across from the intersection of Porter Avenue and Anthony Street. This property is located down-gradient from the Site. The following reports have been prepared for this property:


This report was prepared for Acme Architectural Products to understand past and present uses and to identify RECs at the site and surrounding properties. The property was historically occupied by Acme Steel Products Co. and DFH Novelty Furniture Co., Inc. and used for manufacturing, painting, woodworking, storage and office space. The Phase I ESA identified the following RECs related to 513 Porter Avenue:

- Two floor drains with unknown outfall locations were identified in the building. The historic industrial use of the property has created the potential for the drains to be a source of organic and inorganic contaminants;
- A historic 2,000-gallon fuel oil UST that was reportedly abandoned-in-place in 1991 was located in the northern portion of the building;
- A UST used as a primer dip tank for painting steel buckets was located in the western part of the property;
- An AST used to store phosphate waste water was located in the building;
- Chemical storage throughout the building, including 55-gallon drums of primer, waste oil, petroleum distillates, wastewater, and phosphoric acid, and small containers of 1,1,1-TCA, floor adhesives, waste oil, cutting oil, safety solvent containing TCE, 1,1,1-TCA, and PCE, primer reducer, and lubricating oils.
- Historical use of the property for furniture manufacturing, including finishing operations; and
• Several confirmed contamination sources were identified at surrounding properties including a Hazardous Waste Disposal Site and NYSDEC Major Oil Storage Facilities associated with several petroleum releases at a large Brooklyn Union Gas Co. facility southeast of the site.

Phase II Environmental Site Assessment; Selective Sampling Investigation, Acme Architectural Products, Inc, 513 Porter Avenue, Prepared by IEC, Dated July 8, 1998.

This Investigation was conducted on behalf of Acme Architectural Products to determine whether RECs identified in the Phase I ESA have impacted the environmental quality of the property. The investigation consisted of a geophysical survey and collection and analysis of one soil sample. The following is a summary of the Phase II results:

• The geophysical survey confirmed that a floor drain in the northwestern portion of the property discharged directly into sub-surface soil and was classified as an underground injection well. A second drain, located in a bathroom in the center of the property, was determined to discharge to the sewer;

• The results of a soil sample collected at the base of the injection well identified the VOCs toluene and xylenes and the semi-volatile organic compound (SVOC) 2-methylnaphthalene at concentrations significantly greater than applicable state standards; and

• After the abandoned-in-place 2,000-gallon fuel oil UST passed a pressure test, its contents were removed and disposed of, and the UST was filled with sand.

With the exception of shallow soil at the base of one floor drain, none of the potential sources of chlorinated VOCs (i.e., historic use, UST used as a primer dip tank, and chemical storage, including solvents that contained PCE, TCE, and 1,1,1-TCA) were investigated during this limited Phase II.

157-169 Lombardy Avenue

The property at 157-169 Lombardy Avenue adjoins the Site to the east (cross-gradient). The following is a summary of reports prepared for 157-169 Lombardy Avenue:

Phase I Environmental Site Assessment – 157-169 Lombardy Street, Prepared by IEC, Dated November 25, 1998

This report was prepared for Acme Architectural Products to understand past and present uses and to identify RECs at the site and surrounding properties. The site was historically used for
manufacturing purposes, including barrel manufacturing and a metal works. This Phase I ESA identified the following RECs:

- A gasoline UST, without closure documentation, was located in the southern portion of the property in 1951;
- The northwestern portion of the property consisted of a chemical consolidation, transfer and storage area. The area consisted of several 55-gallon drums and smaller containers of primers, cutting oils, hydraulic oils, waste water, xylenes, waste paints, adhesives, waste degreasers, and waste oil-contaminated absorbents and was used to consolidate chemicals from the various Acme facilities in the area. The chemical consolidation, transfer, and storage area extended onto the western adjoining property (i.e., the Site). Significant petroleum-chemical staining was observed on soil throughout the storage area; and
- Several confirmed contamination sources were identified at surrounding properties including a Hazardous Waste Disposal Site and NYSDEC Major Oil Storage Facilities associated with several petroleum releases at a large Brooklyn Union Gas Co. facility south of the site.

Phase II Environmental Site Assessment; Selective Sampling Investigation - 157-169 Lombardy Street, Prepared by IEC, Dated January 5, 1999

This Investigation was conducted on behalf of Acme Architectural Products to determine whether RECs identified in the Phase I ESA have impacted the environmental quality of the property. The investigation consisted of a geophysical survey and three soil borings in the vicinity of the gasoline UST. The following is a summary of the Phase II results:

- The geophysical survey did not identify anomalies consistent with a UST; however, an area of disturbed soil in the location of the former UST was documented, indicating that the UST was removed and the area backfilled.
- Soil sample analytical results indicated that soil in the vicinity of the former gasoline UST was not impacted by historic petroleum releases.

None of the potential sources of chlorinated VOCs (i.e., the chemical consolidation, transfer, and storage area and historic use) were investigated during this Phase II.

Meeker Avenue Plume Trackdown – Greenpoint/East Williamsburg Industrial Area

The Meeker Avenue Plume Trackdown Site investigation area is located in a region of historic petroleum refining and storage operations that occupied a significant portion of the Greenpoint
area. This study area straddles the Brooklyn-Queens Expressway and extends southwest to northeast from Kingsland Avenue to the Newtown Creek. Northern borders of the study area include Meserole Avenue, Norman Avenue, and Bridgewater Street. The main southern border of the study area is Lombardy Street, with the exception of two blocks between Morgan and Porter Avenues, where the area extends to Division Place and Withers Street. The Site is located within the Meeker Avenue Plume Trackdown Site. The extent of the Meeker Avenue Plume Trackdown Site is presented on Figure 2.

While investigating the extent of a known petroleum plume originating from the BP Terminal (located north of the Site), chlorinated solvents, including PCE and TCE, were detected in soil, soil vapor, and groundwater. In response to these findings, the NYSDEC initiated several investigations to identify the source of chlorinated solvents. Six investigation reports, including five prepared by the URS Corporation and one prepared by Zymax Forensics, were reviewed. The following is a summary of these reports:

*Phase IV Data Summary Report – Site Characterization; Greenpoint/East Williamsburg Industrial Area, prepared by URS Corporation, dated May 2009*

The Phase IV Data Summary Report includes summaries of the Phase I, II, and III investigations. The following summary describes the findings of the Phase I, II, and III investigations, as reported in the Phase IV Report, that are relevant to the Site:

**Summary of Phase I Findings**

The Phase I field investigation was conducted from May 7 through July 10, 2007 and was primarily focused on locations that were identified as potential historic sources of PCE and/or TCE. The following is a summary of the Phase I investigation findings that are relevant to the Site:

- There was no soil vapor data available for the Site; however, elevated concentrations of PCE and TCE were detected in soil vapor in the sidewalk of the adjoining property to the west (cross-gradient) of the Site. Based on the findings of the Phase I soil vapor investigation, PCE concentrations were extrapolated beneath the Site and range from >100 micrograms per cubic meter (µg/m³) to about 50 µg/m³ (Phase IV Data Summary Report Figures 3 and 4);

- A PCE concentration of 220 milligrams per kilogram (mg/kg) was detected in shallow soil (5-6 feet bgs) underneath the sidewalk fronting the north side of the Site. The soil sample location is adjacent to the former chemical consolidation, transfer, and storage area; and
- PCE and TCE were detected in groundwater at concentrations greater than Class GA groundwater standards. The highest PCE concentrations (5,700 micrograms per liter [µg/L]) were detected at the Site, coinciding with elevated PCE concentrations in soil (i.e., the former chemical consolidation, transfer, and storage area). The highest TCE concentrations identified during the Phase I investigation were detected at the adjoining property to the west at 46 Anthony Street/95 Lombardy Street (Phase IV Data Summary Report Figures 5 and 6).

Summary of Phase II Findings

The Phase II field investigation was conducted from November 5 through December 27, 2007 and was primarily focused on investigating and delineating the extent of impacted soil vapor, soil, and/or groundwater at locations where elevated PCE and/or TCE concentrations were detected during the Phase I investigation. The following is a summary of the Phase II investigation findings that are relevant to the Site:

- There is no soil vapor data available for the Site;
- Analytical results of soil samples indicated that a shallow source of PCE-impacted soil exists in the vicinity of the northeastern corner of the Site (i.e., the former chemical consolidation, transfer, and storage area); and
- Based on the groundwater sampling results, PCE concentrations up to 6,100 µg/L and TCE concentrations up to 82 mg/L were detected at the Site. The most impacted groundwater location coincides with the former chemical consolidation, transfer, and storage area. Elevated concentrations of PCE and TCE were also detected at the adjoining properties to the east and west. (Phase IV Data Summary Report Figures 9 and 10).

Summary of Phase III Findings

The Phase III field investigation was conducted from May 5 through July 24, 2008. The objective of the Phase III investigation was to fill any data gaps concerning the horizontal extent of soil vapor at three of the five source areas identified during the Phase I and II investigations; determine if impacted soil exists at one potential source area; determine the horizontal extent of impacted shallow groundwater at four of the five potential source areas; and to assess the vertical extent of impacted groundwater at each of the five potential source areas. The following is a summary of the Phase III investigation findings that are relevant to the Site:

- There is no soil vapor data available for the Site;
The Phase III groundwater investigation results have identified four sources of dissolved phase chlorinated solvents in shallow groundwater, including the Site, the adjoining property to the west (cross-gradient) of the Site at 46 Anthony Street/95 Lombardy Street, and the former Klink Cosmo Cleaners located at 368 Richardson Street, to the south and up-gradient of the Site (Phase IV Data Summary Report Figures 13 and 14);

- A potential source of chlorinated solvents was identified at 171 Lombardy Street, across from Varick Street and to the east of the Site. This facility was utilized during the 1930s for lacquer storage and as a manufacturer of powdered soap from the early 1950s to 1989. Insufficient information was available to positively identify 171 Lombardy Street as a source of chlorinated VOCs; however, significant PCE and TCE contamination is present in both deep and shallow groundwater.

- The results of the Phase III investigation indicate that deeper groundwater at the Site has been impacted; however, the vertical extent of impacted groundwater was not determined.

The objective of the Phase IV Investigation was to determine the following:

- The horizontal extent of the dissolved phase plume originating near 171 Lombardy Street, located to the east and cross-gradient of the Site;

- Whether the dissolved phase chlorinated solvent plume that was identified down-gradient of a light manufacturing facility at 126 Cherry Street (down-gradient of the Site) is associated with the dissolved phase plume at 171 Lombardy Street;

- The impact of dissolved phase chlorinated solvents to deeper groundwater; and

- The horizontal extent of chlorinated solvent-impacted deep groundwater.

The Phase IV field investigation was conducted from November 3 through December 8, 2008. The following is a summary of the Phase IV investigation findings that are relevant to the Site:

- The source of PCE and TCE that originates near 171 Lombardy Street has also impacted deep and shallow groundwater at the City of New York Department of Sanitation property at the intersection of Varick Avenue and Cherry Street. Based on the extrapolated extent of the plume, as plotted in the Phase IV report, this source has also impacted shallow and deep groundwater at the Site;

- PCE and TCE degradation products were detected in shallow groundwater down-gradient of the Site in wells that coincide with the boundary of the petroleum plume that originates from the BP terminal. These degradation products are likely caused by an oxygen-deficient environment caused by the petroleum plume;
• Groundwater data obtained at locations down-gradient of the Site during the Phase IV investigation suggest that there are multiple shallow sources of PCE and TCE that contribute to the deep groundwater zone; and

• Based on the results of the Phase IV field work, the Site and the adjoining property to the west (46 Anthony Street/95 Lombardy Street) were listed as NYSDEC Class 2 Inactive Hazardous Waste Disposal Sites in January 2009.


This Soil Vapor Intrusion Data Summary Report was prepared to summarize the second round of soil vapor intrusion (SVI) sampling that was performed in the ACME Steel (i.e., the Site)/Klink Cosmo and the Spic and Span Outreach Areas. This sampling was performed to assess the potential for vapor intrusion into residences within each outreach area. The location of the ACME Steel/Klink Cosmo Outreach Area is presented on Figure 4. Indoor air and sub-slab analytical results were compared to Matrix I and 2 in the New York State Department of Health (NYSDOH) soil Vapor Intrusion, dated October 2006 (NYSDOH Guidance). Based on the comparison to the NYSDOH Guidance, there were three residences with PCE and/or TCE concentrations that fell under the “Mitigate” category and two locations that fell under the “Monitor” category. However, it is unclear whether these residences are located within the ACME Steel/Klink Cosmo or the Spic and Span Outreach Areas.

Phase V Data Summary Report – Site Characterization; Greenpoint/East Williamsburg Industrial Area, Prepared by URS Corporation, Dated May 2009

The Phase V investigation primarily focused on areas north of Meeker Avenue, approximately 750 feet, or more, northwest of the Site. Results of the Phase V investigation did not provide additional information directly relevant to the Site.

Chlorinated Solvent Plume – Meeker Avenue, Prepared by Zymax Forensics, Dated October 29, 2009

Carbon and hydrogen isotope ratio analysis of dissolved chlorinated solvents was performed on samples collected from eight monitoring wells adjacent to the Site or adjacent to nearby
properties in September 2009. The objective of the isotope analysis was to determine whether the chlorinated solvent plumes at the Site and adjoining properties are from different sources and, conversely, to determine whether the chlorinated solvent plumes are from the same source. Based on the carbon isotope ratios, Zymax concluded that chlorinated solvents at the Site are from a different source than those identified at the adjoining property to the west of the Site (46 Anthony Street/95 Lombardy Street).


This letter report includes a summary of groundwater samples collected from 20 monitoring wells within the vicinity of the Klink Cosmo Cleaners, the closest being approximately 200 feet southwest of the Site. The wells were sampled to further investigate a PCE plume that originates at the Klink Cosmo Cleaners. Groundwater flow direction was determined to be north, northeast (towards the Site). The results of this investigation suggest that the extent of PCE and TCE plume that originates from the Klink Cosmo Cleaners may have coalesced with the plume originating at the Site.


This report summarizes the results of groundwater split samples collected between URS, the NYSDEC’s consultant, and ACME Architectural Products. Groundwater samples were collected from seven wells at the Site and surrounding properties. Samples were analyzed for compound specific stable isotope analysis (CSIA) of cis-1,2-dichloroethene (cis-1,2 DCE), PCE, and TCE. The objective of this investigation was to differentiate sources of PCE and TCE impacts. The following is a summary of the results that are relevant to the Site:

- The forensics laboratory used for this investigation concluded that PCE contamination in wells at the Site is from a common source. URS did not confirm this conclusion but agreed that it was possible based on data gathered during previous investigations;
- The forensic laboratory concluded that PCE in groundwater at a property to the southwest (up-gradient) of the Site is related to a source common to that detected in groundwater at the Site; however, URS rejected this conclusion; and
- The forensic laboratory concluded that PCE contamination in groundwater upgradient of the Site is from a unique source and distinctly different than the other wells sampled. This conclusion was supported by URS.
CONCLUSIONS AND RECOMMENDATIONS

Based on observations made during a Site inspection and our review of the environmental investigations conducted at the Site and surrounding properties, Langan concludes the following:

- The Site appears to be a source of PCE and TCE in soil, soil vapor, and groundwater. Possible sources of TCE and PCE at the Site include the former chemical consolidation, transfer and storage area at the northeast corner of the Site, floor drains, and a dip tank used during the historic ACME operations;
- Historic operations at the adjoining properties to the west (46 Anthony Street/95 Lombardy Street), south (157 Lombardy Street), and east (171 Lombardy Street) are potential sources of TCE and PCE at the Site; and
- The PCE/TCE plume associated with the former Klink Cosmo Cleaners may have coalesced with the plume originating at the Site.

The information obtained during this Records Search Report is sufficient to prepare a RIWP to investigate the source of chlorinated VOCs. The RIWP will include soil, soil vapor, and groundwater sampling concentrated in the possible source areas outlined above.
Please feel free to contact the undersigned with any questions regarding the findings presented in this report.

Sincerely,
Langan Engineering and Environmental Services, P.C

Michael D. Burke, LEED AP
Senior Project Manager

Joel Landes, PE
Vice President/Senior Associate

Enclosures:

Figure 1 – Site Location Map
Figure 2 – Meeker Plume Trackdown Study Area
Figure 3 – Site Environmental Conditions Map
Figure 4 – Surrounding Environmental Conditions Map
Attachment A – Reviewed Reports (on CD)
Attachment B – Photo Log