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Re: Remedial Action Report
Study Area 5 – Site 90, 184, and portion of 153 – Former Baldwin Steel
Jersey City, Hudson County, NJ

Dear Interested Parties:

Honeywell is submitting the Remedial Action Report for Study Area 5 – New Jersey City University (NJCU) pursuant to Paragraph 108 (b) (vii) of the Consent Decree Regarding Remediation of the New Jersey City University Redevelopment Area. The report was prepared in accordance with the requirements of the approved RAWP and the Technical Requirements for Site Remediation, specifically N.J.A.C 7:26E-6.7.

Honeywell currently anticipates submittal of the document to the New Jersey Department of Environmental Protection after the 60 day review period.

Honeywell's successful conclusion of this project reflects positively on the close cooperation and support of the University and provides a sound remedial basis for the University to move forward with its campus expansion.

If you have any further questions, please contact me at 973-455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Encl: Remedial Action Report for Study Area 5 – NJCU

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REMEDIAL ACTION REPORT

STUDY AREA 5

FORMER BALDWIN STEEL SITE (NJDEP SITE 090)
FORMER MI HOLDINGS SITE (NJDEP SITE 184)
FORMER MORRIS CANAL SITE (NJDEP SITE 153)

JERSEY CITY, NEW JERSEY

Prepared for:

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EXECUTIVE SUMMARY

This Remedial Action Report (RAR) documents the completion of the remedial action for chromium at the portion of Study Area 5 (SA-5) known as the New Jersey City University Property (NJCU Property or Site). This property is proposed for redevelopment as part of a redevelopment plan known as the West Campus Expansion, which will serve to broaden the physical resources of New Jersey City University (NJCU or University) and provide expanded learning opportunities, especially for Hudson County residents. NJCU plans to redevelop the land into a mixed-use facility consisting of student housing, retail, and other educational facilities. It will also provide attractive retail outlets and market rate housing that is expected to contribute to the revitalization of Jersey City's west side. Honeywell's remediation, consisting of a fully protective remedy, is an important component contributing to this redevelopment moving forward.

This portion of SA-5 includes the following sites:

Site Name	NJDEP Site No.
Former Baldwin Steel	90
Former M.I. Holdings	184
Portion of the Former Morris Canal (153 Northern Segment)	153

The sites are collectively referred to herein as the "Site," and encompass a total of approximately 14 acres located in Jersey City, Hudson County, New Jersey (see **Illustration 1&2 below)** New Jersey Department of Environmental Protection (NJDEP) Sites 90 and 184 are owned by NJCU, while Site 153 is owned by Honeywell.

Illustration 1: Site Locations

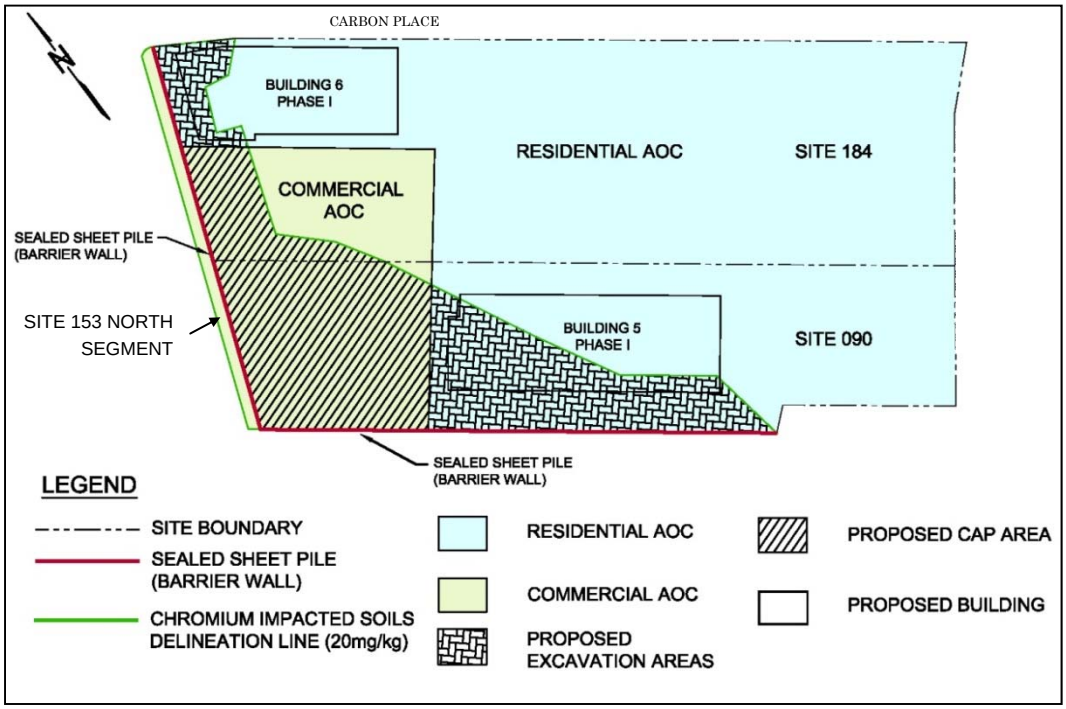

Illustration 2: RAOC and CAOC Development

The remedial approach took into consideration the Chromium Policy and NJCU's redevelopment plan, which includes residential and commercial uses. Honeywell,

following the guidance of the Chromium Policy, selected remedies that address the site uses. The components of the remedial actions for chromium included:

- Excavation of soils containing hexavalent chromium above 20 milligrams per kilogram (mg/kg) to a depth of 20 feet (also referred to as 20/20) or 20 mg/kg, as applicable, in the Residential Area of Concern (RAOC) as per the NJDEP Chromium Policy (Chromium Policy) issued in February 2007. The RAOC extends from the edge of each residential building footprint to the nearest physical feature of the adjoining Commercial Area of Concern (CAOC).
- Additional delineation sampling and remedial action for soils containing hexavalent chromium above 20 mg/kg on the NJCU Property north of the Metro Park Site (Site 173).
- Focused soil excavation in the CAOC to provide clean utility corridors and to coordinate the capping system with proposed Site development features along Route 440.
- Engineering controls for soils exceeding 20 mg/kg in the CAOC. The engineering controls include a capping barrier with impervious geomembrane liner, geocomposite drainage layer, and minimum two feet clean soil cover, or minimum 1-foot clean soil and pavement cover.
- Installation of a hydraulic barrier and backfilled liner system along the southern and western property boundaries of the Site to hydraulically isolate the chromium areas on the Site from the adjacent Home Depot property (Site 117) to the south and to restrict offsite migration to the west.
- Installation of a groundwater extraction system that will only operate if specific triggering criteria are exceeded.
- Implementation of Institutional Controls (Deed Notice) for soils above 20 mg/kg hexavalent chromium and maintenance of existing engineering controls.
- Implementation of post-remediation groundwater monitoring to evaluate chromium concentrations with respect to the NJDEP Ground Water Quality Standards (GWQS) and Institutional Controls for groundwater (CEA).

NJCU has agreed to the deed notice and restrictions associated with the approved remedial approach as indicated in the approved RAWP.

The chromium remediation was conducted by Honeywell in accordance with the requirements of the NJDEP-approved Supplemental Remedial Investigation Report (SRIR), Remedial Action Selection Report (RASR) and Remedial Action Work Plan (RAWP) (July 26, 2007), the Technical Requirements for Site Remediation (TRSR) (New Jersey Administrative Code 7:26E-6) as well as the provisions of the 1993 Administrative Consent Order between Honeywell and the New Jersey Department of Environmental Protection (ACO) and those of the January 2010 Consent Decree regarding Remediation of the NJCU Redevelopment Area (Consent Decree). Working with NJCU, Honeywell has executed a viable and protective remedy to address contamination associated with the historic placement of chromium-containing fill at the Site.

This RAR presents the results of the remedial approach to address chromium contamination as outlined in the NJDEP-approved SRIR/RASR/RAWP dated July 26, 2007. Remedial design documents were submitted to the NJDEP in April 2008. At the time of the April 2008 submission, the NJCU Redevelopment project was behind schedule and had yet to finalize plans on which the final remedial design were contingent upon. The 100% Remedial Design dated June 10, 2010 was submitted to accommodate the final NJCU Redevelopment plans.

The remedial action field activities were initiated on August 9, 2010, and were substantially completed on June 23, 2011. Final completion was reached on February 6, 2012 when the Certificate of Approval was granted by the New Jersey Department of Community Affairs (DCA), Division of Codes and Standards, for electrical service associated with the groundwater extraction system.

Post-remediation monitoring of the groundwater shall be implemented in accordance with the RAWP, and other requirements as identified in the Consent Decree. The shallow groundwater zone, which is the groundwater zone addressed by the RAWP for this Site and the current remedial action, is subject to a regional CEA approved by NJDEP on February 16, 2012 and encompassing Study Areas 5, 6 and 7. The CEA defines the areal extent of chromium impacts in the shallow groundwater zone (fill material, 0 to 20 feet). Similar CEAs were approved by NJDEP on the same day for the intermediate and deep groundwater bearing zones but those are not the subject of work associated with this RAR.

This RAR documents the remedial activities at the Site and addresses impacts associated with chromium-containing fill, referred to as Chromite Ore Processing Residue (COPR). Environmental issues associated with non-chromium contaminants related to other types of historic fill or previous operations on the NJCU Property, will be addressed separately by NJCU as part of the Site preparation phase of the proposed construction. NJCU's remedial activities will be coordinated with the remedy already implemented by Honeywell.

The remedial actions implemented at the Site reflect Honeywell's concerted efforts to produce a remedial approach that coupled remedial action for each part of the Site with the proposed land use. This type of approach is supported by the provisions in the Chromium Policy that allow site use to drive the remedial action, and reflects the result of a productive collaboration between NJCU and Honeywell. The resulting comprehensive approach involved a combination of technologies, excavation in the area proposed for residential use and capping in the part of the Site proposed for commercial use. The remedial approach also provided an added measure of protection for the CAOC by including a groundwater extraction system whose operation is contingent on certain predefined triggering criteria.

The overall remedy is fully protective of human health and the environment and supports the Site redevelopment plan and schedule envisioned by NJCU. The proactive approach reflected in this remedy: 1) was encouraged by New Jersey's Brownfields Legislation, 2) fully met both the spirit and intent of the Chromium Policy, and 3) complied with the New Jersey TRSR.

Based on completion of the remedial actions for chromium as documented in this RAR, Honeywell requests the issuance of a No Further Action (NFA) letter from the NJDEP with respect to chromium impacts in soil at the Site.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This RAR was prepared by AMEC Environment & Infrastructure, Inc. (Amec), formerly MACTEC Engineering and Consulting, Inc. (Mactec), on behalf of Honeywell International Inc. (Honeywell) to document the remedial actions completed at the NJCU Property.

The purpose of this RAR is to provide documentation on the successful execution of remedial action for chromium constituents at Study Area 5 Sites 90, 184 and abutting northern section of Site 153 in Jersey City, New Jersey. A site plan showing key major features of the remedial action is included in the report attachments as **Figure 2**.

This report is submitted to the New Jersey Department of Environmental Protection to address remedial action reporting requirements as specified in the Chromium Policy. Pending NJDEP review of this report, Honeywell requests NJDEP issuance of a No Further Action Letter with respect to chromium impacts in soil at the Site.

1.2 REPORT ORGANIZATION

In compliance with the TRSR, N.J.A.C. 7:26E-6.7, this RAR contains the following sections:

1. *Introduction*. This section contains the purpose and scope, background information, and describes the report organization.
2. *Remediation Criteria*. This section identifies the NJDEP soil cleanup criteria applicable to this remedial action.
3. *Remedial Action Activities*. This section describes the remedial measures implemented between August 9, 2010 and February 6, 2012.
4. *Post-Excavation Confirmation Sampling*. This section describes the post-excavation confirmatory sampling applicability and compliance.
5. *Post-Remediation Operation & Maintenance*. This section describes the post-remediation operation and maintenance program.

6. *Remedial Action Costs*. This section describes the costs incurred executing the remedial measures pursuant to N.J.A.C 7:26E-8.
7. *Conclusion & Recommendations*. This section summarizes the remedial measures and presents conclusions for the disposition of the Site.
8. *References*. This section presents a list of selected references used in preparing this document.
9. *List of Acronyms/Abbreviations*. This section includes a list of acronyms and/or abbreviations used in this document.

1.3 GENERAL HISTORY OF THE SITE

This section presents a Site description and background information for the portion of SA-5 that is referred to herein as the NJCU Property. This Site consists of two sites, Baldwin Steel or NJDEP Site 090, and M.I. Holdings or NJDEP Site 184. In addition to these two sites, the remedial action included remediation of the portion of the Morris Canal Site, NJDEP Site 153, abutting Sites 090 and 184. Sites 090 and 184 are owned by NJCU while the Former Morris Canal Site is owned by Honeywell. See **Figure 1** for a Site Location Map included in the attachments of this report.

The Baldwin Steel and M.I. Holdings Sites, previously defined as the NJCU Property, are located next to each other in the area between Route 440 and West Side Avenue. Surrounding land use in the area is primarily industrial/commercial. Sites adjacent to the NJCU Property include the former Ryerson Steel Site also referred to as NJDEP Site 117 (or Home Depot Site), currently occupied by a retail shopping center, and located immediately south of Baldwin Steel; Route 440 Vehicle Corporation, also known as NJDEP Site 079, currently occupied by a car dealership and located north of M.I. Holdings on the opposite side of Carbon Place and the Former Morris Canal (Site 153) located along the western boundary of the Baldwin Steel and M.I. Holdings Sites, along Route 440; and commercial areas on the opposite side of West Side Avenue to the east.

The operating history for the Baldwin Steel and M.I. Holdings Sites was documented in the Remedial Investigation Report (RIR) dated November 1999 (TetraTech, 1999), as well as the 2007 RAWP for the Site.

1.4 CONTAMINANT OF CONCERN

In accordance with the ACO between Honeywell and NJDEP, Honeywell investigated the Site for chromium impacts. The investigation, initially conducted in 1999 and completed as documented in the 2007 Remedial Investigation Report/ Remedial Action Section Report/Remedial Action Work Plan (RIR/RASR/RAWP), identified the areas exceeding 20 mg/kg of hexavalent chromium.

The remedial actions detailed in prior sections, focused on addressing the chromium impacts at the Site. During the remediation, approximately 14,500 CY of soil material with hexavalent chromium concentrations above 20 mg/kg were removed from the Site. Remaining soil with concentrations above 20 mg/kg within the CAOC was capped with a multilayer liner system. In addition, a hydraulic barrier wall and groundwater extraction system were constructed to prevent migration of impacted groundwater offsite.

2.0 REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) for the remediation were defined in the NJDEP-approved RAWP (Mactec, 2007). The RAOs were established with consideration given to the Site location and present and future land use.

The following criteria were considered for the establishment of RAOs at the Site:

- Protection of the public health and the environment;
- Constructability of remedial actions;
- Consistency of the remedial actions with applicable laws and regulations;
- Potential impacts of the remedial actions on the local community and future property development;
- Prevention of adverse impact to natural resources; and
- Consistency of the remedial actions with the NJDEP Chromium Policy.

Specific RAOs are indicated below.

Soils

- Prevent exposure to soil containing contaminants of concern (COCs) (hexavalent chromium) as per the criteria outlined in the Chromium Policy which is more stringent than NJDEP Soil Cleanup Criteria.
- Remediate chromium-impacted soils considered to be a potential source of groundwater contamination.
- Remove and consolidate soils that may be disturbed by proposed future Site redevelopment activities, and, to the extent feasible, reuse soils onsite within areas proposed for capping.
- Prevent the potential for future exposure to chromium-impacted soils.

Groundwater

- Mitigate the potential for surface water infiltration and leaching of COCs (total and hexavalent chromium) from fill soils (vadose zone) to groundwater.

- Prevent offsite migration of chromium concentrations above the Groundwater Quality Standards (GWQSs).
- Reduce chromium concentrations in groundwater.
- Prevent exposure to groundwater with chromium concentrations above the GWQSs.

It is anticipated that future redevelopment activities will include demolition of the remaining existing pavement and concrete foundations that interfere with redevelopment plans and the construction of buildings, parking structures and other features such as landscaping, roads, and utilities. Remedial actions were evaluated with respect to the remedial action objectives and Site redevelopment plans, specifically proposed buildings and land use in the area of chromium-impacted fill in the western portion of the Site.

Based on the proposed redevelopment use classifications (residential or commercial), NJDEP Chromium Policy, and application of the most stringent use criteria, not withstanding potential differences in the use of certain floors or levels, the Site was divided into the following areas of concern for the purpose of evaluation and development of remedial actions (see **Figure 2** – Remedial Action Summary included in the attachments to this report).

Commercial AOC

A single rectangular area in the southwest portion of the Site will initially be used for parking and consists of roadways and landscaped areas as per NJCU redevelopment plans. NJCU may construct a commercial building in a portion of this CAOC as part of future campus expansions. The full CAOC area is approximately 180,000 square feet and has been capped so as to prevent exposure to soils containing hexavalent chromium concentrations greater than 20 mg/kg. The applied cap consists of linear low density polyethylene (LLDPE) membrane, a geocomposite drainage layer, minimum two feet clean soil cover, or minimum of one foot clean soil and pavement cover. In addition, a hydraulic barrier wall was installed along the southern and western property boundaries.

Residential AOC

The RAOC is also defined in **Figure 2** and consists of all of the area of the Site that is not included in the CAOC. After the completion of Honeywell's chromium

remediation in this area, and in accordance with its West Campus Redevelopment Plan, NJCU intends to construct two residential buildings, Buildings 5 and 6, that will have market rate or student housing on the 2nd floors (and possibly higher floors).

The Building 5 excavation area was approximately 84,000 square feet (including 37,000 square feet of building footprint and surrounding area of 47,000 square feet) and involved the excavation of soils with hexavalent chromium above 20 mg/kg to depths of approximately 20 feet. The Building 6 area excavation represented an area of approximately 18,000 square feet (including 13,700 square feet of building footprint and surrounding area of 4,300 square feet) and involved the excavation of soils with hexavalent chromium above 20 mg/kg to depths to approximately 10 feet.

2.1 IMPLEMENTATION OF REMEDIAL ACTION

Mactec(now Amec) on behalf of Honeywell prepared the plans and specifications for implementation of the remedial action (RA) in accordance with the NJDEP-approved RAWP dated July 2007, the Modified Remedial Design dated April 2008, and the 100% Remedial Design Document submitted to NJDEP in June 2010 (NJDEP June 2010). Mr. Brent O'Dell of Mactec, a Professional Engineer registered in the State of New Jersey, was the Engineer of Record for the design and construction of the RA. Mr. Stuart Bills of Mactec provided daily field oversight and observation of remedial activities. Mactec acted as the General Contractor, and contracted directly with other subcontractors to perform specialty environmental services.

Sevenson Environmental Services, Inc. (Sevenson) was contracted by Mactec on behalf of Honeywell to complete the approved RA. Full time Perimeter Air Monitoring was performed by Emilcott Associates, Inc., while waste manifesting and disposal coordination was conducted by Arecon Ltd. Both were contracted directly by Mactec. Disposal of hazardous soil was contracted directly by Honeywell, and disposed of by US Ecology at their Grandview, Idaho facility. Hazardous sludge from the dewatering system was contracted by Honeywell and disposed of at Clean Earth of New Jersey in Kearny, New Jersey. Disposal of non-hazardous soil and debris was contracted by Honeywell and was disposed of at the New Jersey Meadowlands Commission (NJMC) Keegan Landfill in Kearny, New Jersey and Middlesex County Landfill in East Brunswick, NJ (MCL). Transportation of hazardous soil and debris was provided by Horwith Trucking, LLC of Northampton, Pennsylvania through US Ecology's contract. Transportation for non-hazardous soil

was provided through Honeywell's contract to NJMC and MCL and performed by Rebco Contracting Corp. of Clifton, NJ to NJMC and Veniero Trucking to MCL. The remedial action was implemented by Sevenson from August 9, 2010 through substantial completion in June 23, 2011. Remedial actions at the Site were completed on February 6, 2012 when the Certificate of Approval was granted by the New Jersey Department of Community Affairs (DCA), Division of Codes and Standards, for electrical service for the groundwater extraction system.
Field reports and photographic documentation of the remedial action are included in **Appendix A**. The master schedule of remedial action activities is included in **Appendix K**.

2.1.1 Pre-Remediation Activities

Pre-remediation activities completed by Mactec and Honeywell prior to implementation of the remedial action included:

- Property access agreement with the current site owner and adjacent site owners to conduct remedial action activities.
- Pre-excavation waste classification sampling to allow for direct loading of materials destined for offsite disposal during construction.
- Pre-excavation soil delineation sampling to establish the limits of excavation and serve as post-excavation sampling data.
- Geophysical investigation to determine locations of underground utilities and sub-surface anomalies.
- Geotechnical investigation to support design of a temporary soil retention system (sheet pile shoring).
- Preparation of Remedial Design package (Plans and Specifications) consisting of 49 "D" Sized Drawings and accompanying Specifications.
- Preparation of Remedial Design Report and other accompanying documents (e.g., groundwater modeling report).
- Regulatory Permits and Approvals.
    - Several permits were required to conduct the remedial action work at SA5-NJCU. The table below provides a listing of the permits, purpose, and the current status of the permit.

Table 5 - Permits

Permit	Purpose	Status
Highway Occupancy Permit	Required for relocation of perimeter fence and Jersey Barriers along Rt. 440.	Closed
Flood Hazard Permit	Granted permission to conduct grading activities within the floodplain of the Hackensack River in connection with site remediation activities.	Closed
Soil Erosion and Sediment Control Plan and General Construction Stormwater Permit	Allowed construction of a disturbed area of one acre or larger that complies with Clean Water Act requirements to reduce polluted runoff. Requirements included coverage under the NJ -issued NPDES permit, development and implementation of a Storm Water Pollution Prevention Plan, weekly inspections and documentation of runoff controls, an annual report and notification of regulatory authorities when the site has been stabilized.	Closed
TWA Permit	Allowed the construction and operation of the temporary construction water treatment plant.	Closed
PVSC Authorization to Discharge Construction Waters	Allowed the discharge of construction waters to the sanitary storm system for treatment by the Passaic Valley Sewerage Commission wastewater treatment plant. Monthly monitoring for chromium, metals, organics, and BOD was required.	Closed
TWA, PVSC, and JCMUA Discharge Permits	For operation and discharge of the contingent groundwater extraction system.	Active for future usage if required

See **Appendix N** for permit documentation.

During the operation of the temporary construction water treatment system: monthly compliance sampling was performed to ensure the total amount of chromium discharged did not exceed 5 lbs per day. Monthly sampling was conducted in compliance with the conditions of the Passaic Valley Sewerage Commission (PVSC) discharge permit. During that time, s results ranged from 3.3 lbs/day on 11/3/10 during initial discharge to 0.044 lbs/day on 4/4/11. See **Table 4** for a comprehensive list of sample results and **Appendix F** for PVSC compliance reports.

2.1.2 Health & Safety

Prior to the initiation of the remedial action field activities a Site-specific Health and Safety Plan (HASP) was developed by Sevenson to address implementation of the planned remediation activities. The HASP specified the health and safety procedures and equipment required for the remedial action work activities to minimize the potential for exposure to field personnel and the community, including site control measures, engineering controls and work practices, air monitoring procedures, decontamination and residuals management procedures, and emergency response information.

The HASP included the following measures to minimize potential risks or effects to the public during remediation:

- Installation of temporary eight-foot high chain link fence around the entire outer perimeter of the Site. This fence provided a secure work zone and barrier between the RA work areas and public rights-of-way surrounding the Site;
- Installation of wind screen on the perimeter fence panels assist in the control of dust. The wind screen acted as a wind barrier to inbound and emigrating winds;
- Site control measures the designation of;
    - Support zones for field offices with a physical barrier to work zone;
    - Work zones defined by areas of the Site where active construction activities were performed;
    - Exclusion zones in areas where there was potential for contact with COPR materials with concentrations of 240 mg/kg and greater; and

  - Contamination reduction zones to provide a decontamination and PPE upgrade/downgrade passage way between exclusion zones and work zones

- Decontamination of all trucks used to transport the excavated materials in designated areas prior to exiting the Site;
- Implementation of dust control measures including watering of excavation areas on an as-needed basis to minimize potential dust generation;
- Procedures for handling contaminated materials;
- Real time perimeter air monitoring and daily sampling of dust to ensure compliance with regulated guidelines in place for public health;
- Personal air monitoring and air sampling in the breathing zone during construction activities; and
- Monitoring of work zone for dust by Sevenson's Site Safety Officer.

The minimum PPE for personnel within the construction site included hardhats, high visibility vests, safety glasses, and steel toed boots. Minimum worker personal protective equipment (PPE) within exclusion zones at the Site (i.e., soil excavation area) consisted of hardhat, safety glasses, high visibility vests, Tyvek™ suits, gloves, and steel-toed boots while working in designated exclusion zone areas at the Site (i.e., soil excavation area). Upon leaving the exclusion zone, disposable PPE was placed into containers staged within the contamination reduction zone. Non-disposable PPE was decontaminated in the same area. Disposable PPE was combined with the COPR impacted soils, transported and disposed offsite. Decontamination fluids were processed through the onsite temporary construction water treatment system and subsequently discharged via JCMUA and PVSC discharge permits and agreements.

2.1.3 Personal Air Monitoring Program

During the remedial action a total of 19 personal airborne dust samples were submitted for trivalent and hexavalent chromium analysis by Sevenson to evaluate chromium levels present within worker breathing zones. Personal exposures were evaluated by sampling in accordance with National Institute for Occupational Safety and Health (NIOSH) Method 7300 for chrome III and NIOSH 7600 for chrome IV. The personal samples were collected via portable air sampling pumps that are worn

by workers and were placed on personnel working within the exclusion zone or truck lining sealing area for the outbound hazardous trucks. To evaluate worker exposures, the samples were collected in the personal breathing zone of workers for duration of at least 7 hours from at least one person per work crew in an active work area. In general, samples were collected from those workers and site conditions that represented the highest potential for exposure to trivalent and hexavalent Chromium.

Hexavalent chromium personal air sampling results ranged from 0.032 micrograms per cubic meter (µg/m$^{3)}$ to 0.35 µg/m^3, well below the Occupational Safety & Health Administration (OSHA) Permissible Exposure Limit (PEL) of 500 µg/m^3. In addition to hexavalent chromium, 18 samples were taken for trivalent chromium ranging from 0.0028 to 0.0081 µg/m^3 (OSHA PEL 500 µg/m^3) and 4 samples were taken for mercury ranging from 0.0093 to 0.012 mg/m^3 (OSHA PEL 0.1 mg/m^3). Based on this data, no exposures above OSHA PELs occurred during remedial activities.

2.1.4 Perimeter Air Monitoring Program

As part of the Health and Safety monitoring conducted during remediation, air monitoring within the work zone area and around the perimeter of the Site was implemented in accordance with the Perimeter Air Monitoring Plan (PAMP) dated June 2010 (revised December 2010) that was approved by the NJDEP .

The perimeter air monitoring program was implemented by Emilcott Associates, Inc., on behalf of Honeywell, to ensure that COCs did not become airborne and result in potential exposures to the surrounding public. The COC, potentially found in dust from activities occurring at the site, was hexavalent chromium. In order to assess the potential presence of hexavalent chromium in dust, four perimeter monitoring zones were established to monitor for air-borne dust as a surrogate for hexavalent chromium. The monitoring stations were placed on each side of the site to monitor for fugitive dust as a surrogate for hexavalent chromium; one in each of the four Site boundaries (see **Illustration 3** below); additional temporary stations were used in the proximity of work areas during specific activities as needed. The PAMP also required that confirmation air samples be sent to the laboratory for analysis of hexavalent chromium according to US EPA Methodology for PM-10 sample analysis.

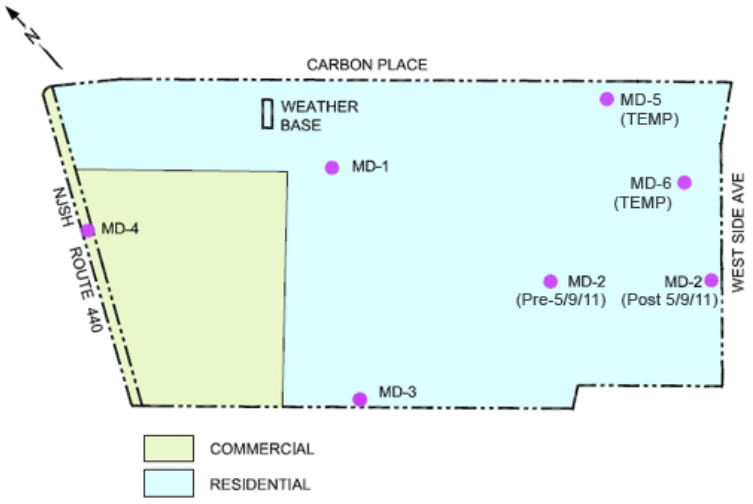

Illustration 3: Perimeter Air Monitoring Locations

Perimeter air monitoring consisted of real-time air monitoring by a dedicated onsite technician for airborne dust against those levels defined in the PAMP. Daily confirmatory samples for hexavalent chromium were collected from one selected downwind station each day of soil disturbance activity.

Samples were collected starting on July 27, 2010 with two weeks of sampling in order to establish a baseline, and subsequently until COPR removal was completed and all intrusive activities finished on June 7, 2011. There were no excursions of the action level for total dust during the period of the monitoring.

Perimeter air sampling results for hexavalent chromium ranged from 0.01 µg/m^3 (non-detect) to 0.057 µg/m^3 (from MD-4 on September 21, 2011). The OSHA PEL for the hexavalent chromium standard (29 CFR 1926.1126) is 5 µg/m^3 as an 8-hour time weighted average (TWA). Daily perimeter air monitoring reports and perimeter sample results are included as **Appendix I**.

2.1.5 Vibration Monitoring

As mentioned in Sections 1.2 and 1.3, the Site is in close proximity to several other sites in the area. As a result, concerns arose about possible vibration induced stress to existing structures or utilities during the sheet pile driving operations. In order to assess this potential impact a vibration monitoring program was put in place and was applied to the following structures commencing on October 10, 2010 before

construction activities until May 16, 2011 in conjunction with demobilization activities:

- Raymour and Flanigan building (Levitz) – south of NJCU Property located on Site 117
- Honda dealership building – north of NJCU Property – Site 79
- 36" diameter concrete encased Bayonne Municipal Utilities Authority (BMUA) force main along New Jersey State Route 440 – force main located within Site 153 running west and adjacent to NJCU Property
- 24" Sewer brick pipe along Carbon Place – North of NJCU

Vibra-Tech was retained by Sevenson to analyze the effects of pile driving vibration on the integrity of the structures and to establish a vibration monitoring program during pile driving activities. Vibra-Tech study suggested that ground vibration induced by construction activities such as pile driving could have two types of effects on the integrity of adjacent structures. First, it could cause structural damage to the structures through excessive vibration. Secondly, excessive vibration could cause soil softening due to increased pore water pressure and shear strain within the surrounding soils.

Based on the results of this study, threshold vibration criteria were recommended for the subject structures. The significance of these threshold criteria was that if the respective levels were reached, the vibration inducing activities would have to cease if, indeed, they were attributable to site activities. The following levels were recommended for each of the respective structures:

- 0.5 in/sec for Raymour and Flanigan building (Levitz);
- 0.5 in/sec for Honda dealership building;
- 1.5 in/sec for 36" diameter BMUA force main along New Jersey State Route 440; and
- 0.7 in/sec for 24" Sewer brick pipe along Carbon Place.

Vibration monitoring continued throughout the duration of the project. Weekly progress reports indicated that vibration on the Site induced by construction activities did not exceed that recommended for the concern structures. No vibration induced damage was reported to adjacent buildings or buried utilities.

Any exceedance of the recommended limits above have been documented and recorded with an explanation for the occurrence. None of the occurrences correlated to onsite activities and generally were a result of sensor malfunctions and unintended sensor manipulation by building tenants.

2.1.6 BMUA Force Main Settlement Monitoring

The force main consists of a 36-inch diameter steel pipe encased in concrete due to its shallow depth from ground surface (approximately 1-2 feet). A series of vertical settlement monitoring points were installed along the 36-inch BMUA force main to track movement of the structure during construction.

The encasement was exposed at the Settlement Monitoring Points in accordance with the site plans shown on Sheets S-300 and S-301 (Sheets 41 and 42 of 49) of the construction drawings. Settlement monitoring points were established along the BMUA force main and displacement monitoring points on the excavation support system (see Section 2.1.8). A stable set of control benchmarks were then established in the viewable proximity of the monitoring points, and away from the disturbance area of the Site.

Settlement monitoring points were recorded biweekly by a licensed surveyor during construction to track movement of the force main. During the five months of monitoring the maximum change in elevation reported was 0.05 feet. This change in elevation, noted near the southwest corner of the Building 6 excavation, was determined to be within the normal operating limits of the pipeline.

2.1.7 Sheet Pile Deflection Monitoring

A series of points were installed along the sheeting to monitor the deflection of the sheeting during excavation activities. Excessive deflection or displacement of the sheeting could potentially cause damage to surrounding features.

The deflection monitoring points were read biweekly by a licensed surveyor during excavation and completed upon backfilling. There were no instances in which displacement readings generated concern. Results can be found in **Appendix P**.

2.1.8 Mobilization & Temporary Facilities

Following contractor selection, Sevenson prepared and submitted to Mactec and Honeywell various plans and submittals, and acquired all necessary construction permits and approvals required for implementation of the remedial action.

On August 9, 2010 Mactec and Sevenson began mobilization of necessary personnel, equipment, and materials to the Site. General site preparation activities included:

- Underground utility markout and geophysical survey (see **Appendix P** for geophysical survey report);
- Establishment of temporary equipment and personnel trailers;
- Installation of traffic control features (Jersey Barriers, traffic signs);
- Required notification and implementation of soil erosion measures in accordance with the approved SESCP;
- Implementation of site clearing activities;
- Partial removal of existing perimeter fence and gate;
- Installation of eight-foot high temporary fencing with green wind/dust screen and Jersey Barriers around the outside perimeter of the remedial action area which abutted Route 440 North, Carbon Place, and adjacent shopping center driveways;
- Establishment of temporary power and telephone service to the temporary office trailers located on north side of the Site and to the temporary construction wastewater treatment plant;
- Implementation of perimeter air monitoring program;
- Establishment of vibration monitoring equipment and building/structure control points;
- Installation of temporary truck scale, tracking pad and decontamination pad, and establishment of staging and stockpiling areas;
- Construction of construction entrances, haul roads and stone ramps;
- Establishment of support zones and work zones;
- Installation of groundwater observation monitoring wells;

- Construction of the temporary wastewater treatment plant;
- Completion of pre-remediation survey to establish baseline limits, elevations, and control points for the proposed excavation by a New Jersey Licensed Land Surveyor (Kennon Surveying); and
- Abandonment of monitoring wells within excavation areas. See **Appendix O** – Well Abandonment Records.

Stormwater and Construction Water Management

Stormwater management and monitoring included separating clean stormwater (water that would not come into contact with potentially impacted areas), from Construction Water which included: potentially impacted groundwater; decontamination water and stormwater which could contact potentially impacted areas.

Stormwater Management

Stormwater Management practices included the following items:

- Construction on asphalt berms to divert stormwater away from excavation areas.
- Multiple stockpile containment areas were constructed to keep clean stormwater from coming into contact with the stockpiles as well as to contain the stormwater within the bermed areas that had come in contact with the stockpiles.

Stormwater that did not contact hazardous soils (including water that was collected from undisturbed areas) and "clean" water from remediated areas was managed with the diversion berms, diverted away from the construction area, and discharged via current stormwater conveyance structures.

Compliance with the approved SESC Plan was also maintained. Daily inspections of the site and erosion controls were performed to ensure that proper stormwater management and soil erosion and sediment control was being maintained. Any maintenance issues were reported immediately to the contractor for immediate repair.

Construction Water Management

Construction Water Management practices included the following items:

- Construction a temporary construction water treatment system that included the following:
  - A 500,000 gallon stormwater settlement tank with associated secondary containment was constructed to provide storage of containment water.
  - Two additional 21,000 gallon Baker Tanks were placed within the temporary construction water treatment area to provide containment and temporary storage of potentially impacted stormwater, groundwater and decontamination water.
  - A Chemical Treatment train that could be activated if chromium effluent concentrations exceed allowable discharge limits.

All groundwater and stormwater on the site that had potentially contacted hazardous soil was contained and treated onsite (in the onsite wastewater treatment plant) prior to discharge to JCMUA/PVSC.

2.1.9 Excavation & Backfill Activities

The excavation limits were based on the remedial design drawings submitted to the NJDEP in June 2010 and included on the Construction Drawings.

Sevenson executed the excavation and backfilling activities by completing the following phases:

- Installation of the excavation support systems / hydraulic barrier;
- Installation and operation of the construction dewatering system;
- Excavation of the RAOC (Building 5 & 6 areas) which included both hazardous, and non–hazardous soil;
- Excavation for utility corridor areas and grading of the Building 7 CAOC;
- Building 7 CAOC cap system installation; and
- Backfill and site restoration activities.

Excavation Support Systems / Hydraulic Barrier Installation

In order to safely perform the excavation work in the northwest (Building 6) and southeast (Building 5) areas of the site to required depths, an excavation sidewall support system was necessary. Mueser Rutledge Consulting Engineers (MRCE) was contracted by Mactec to design the required excavation sidewall support system. Steel sheet pile construction was selected. The type, size and length of the sheet piling, and lateral bracing systems in each area of excavation was based on the structural requirements for the depth of excavation, hydrostatic pressure, soil and surcharge loads. The lateral bracing systems that were employed included: tiebacks, deadman and/or struts depending on the loading and the area that was excavated.

Steel sheets were delivered to the site in welded. The adjoining interlocks of driven welded pairs were sealed for their entire length with a hydrophillic joint sealant applied onsite, in accordance with the remedial design documents.

The sheet pile support system was installed in accordance with the Construction Drawings and specifications with minor field adjustments to account for field conditions. Vibration monitoring was conducted at adjacent utilities and structures to monitor the amount of vibration that was induced in those areas as a result of the sheet pile installation operations. Displacement monitoring was also conducted on the sheet pile support system during excavation and backfilling operations. Any movement of the sheet pile support system recorded during the duration of the project was within acceptable limits.

Approximately 77,500 square feet of sheeting was installed during the remediation. This sheeting remained in place after the completion of the excavation remedies and the majority of it, along the northern Site 117 boundary with Site 90, and along the Site 090/184/153 boundary with Route 440, forms the hydraulic barrier system for the Site. See **Figure 2** for a general layout of the hydraulic barrier. Temporary construction sheeting and shoring was also installed at interior portions of the site to assist in excavating deep soils. Following the completion of remediation activities only the internal bracing was salvaged; the remainder of the excavation sidewall support system(s) were left in place. The interior sheeting similarly remained in place and is instrumental in preventing the recontamination of the excavated areas from any potential groundwater impacts originating under the capped area.

Construction Dewatering System Installation & Operation

Dewatering to facilitate the excavation of the Building 5 and Building 6 areas was required in order to lower the groundwater table. A construction dewatering system, consistent with the construction drawings, was installed and maintained by the contractor. Five pump wells and associated observation wells were installed in the Building 5 excavation and two pump wells in the Building 6 excavation and associated observation wells, with adding additional pump wells occasionally used at the direction of the Engineer (as required) by field conditions. The pump well layout shown on the construction drawings was based on groundwater modeling and addressed constructability and serviceability concerns. Localized sumps were also used as required, during excavation and backfilling activities. Groundwater extraction rates varied from approximately 10 gpm to 110 gpm, depending on site conditions, during excavation activities

The dewatering system delivered the extracted groundwater to a Temporary Construction Water Treatment System. The system provided for 500,000 gallons of water, the settlement of sediment, and removal of solids via filtration using bag filters prior to discharge to the POTW. The Treatment System also included a Chemical Treatment train that could be activated if chromium effluent concentrations exceed allowable discharge limits. Since the chromium concentrations in the effluent were consistently below the allowable discharge limits there was no need to use the chemical treatment system.

Upon completion of excavation and backfill operations, pumping and observation wells were abandoned in accordance with NJDEP well abandonment procedures set forth in NJAC 7:9D. Records of well abandonment can be found in **Appendix O** – Well Abandonment Records.

RAOC (Building 5 & 6) Excavation

Excavation of chromium-containing soils classified as hazardous commenced on October 11, 2010 and was completed on February 21, 2011. The removal of this soil was performed in strict compliance with the 100% remedial design drawings that were submitted to the NJDEP (NJDEP June 2010). The soil was loaded into tri-axle dump trucks and shipped offsite to a rail transfer station, owned by Horwith Trucks, Inc, in Northampton, PA for transport to the contracted disposal facility, US Ecology, Inc., in Grand View, Idaho. Hazardous waste manifests and certificates of disposal are included as **Appendix E**.

A combination of direct loading and onsite soil stockpiling were utilized during the remedial action. The preferred method for offsite transportation and disposal of chromium impacted soils was direct loading to trucks from the point of excavation to minimize stockpiling of soils onsite. There were certain, limited times when stockpiling had to occur, and in those cases, the excavated soils were placed in a secure area located zone within the CAOC, and managed in accordance with the approved SESCP. Soil stockpiles had plastic sheeting liners at grade and plastic sheeting was used to cover the stockpile to minimize air-borne dust and stormwater runoff. Daily inspections of the sheeting liners and plastic sheeting were performed to ensure integrity of the cover.

Soils previously located within the Building 5 RAOC excavation included non-hazardous soils(chromium containing soil with hexavalent concentrations greater than 20 and less than 240 mg/kg), hazardous soils (chromium containing soil with hexavalent concentrations of 240 mg/kg and greater), and reuse soil (soil with hexavalent chromium concentrations of less than 20 mg/kg). (See Building 5 Soil Characterization Plan located in **Appendix C**.) Building 6 RAOC excavations included non-hazardous and hazardous soils. A portion of the Building 6 excavation included an area that was impacted by mercury. The mercury-impacted area was delineated prior to excavation, and removed consistent with NJCU requirements. Initial PDI information seemed to indicate that the meadow mat and organic silt associated with the meadow mat were discontinuous in the area of Building 6. However, during excavation activities, no gaps in the meadow mat were observed within the excavation area. Soil sampling for hexavalent chromium below the meadow mat confirmed that soil underneath the contiguous layer remained uncontaminated (which is consistent with historical findings at SA-7). Therefore the required excavations were only extended to the depth of the meadow mat (elevations ranging from + 0 - 2 mean sea level [MSL]). See Building 6 Soil Characterization Plan located in **Appendix C**.

In order to effectively mitigate dust generation associated with large open excavations, the demolition of existing building foundations and asphalt pavement occurred only as needed in order for the controlled progression of smaller open excavation areas. The excavation of Building 5 and Building 6 occurred simultaneously with work alternating between the two in order to maintain productivity and as allowed by the installation of steel sheet piles. The general

sequence of work began with excavation for tieback installation at Building 5, excavation for bracing installation at Building 6, excavation to maximum unbraced elevations within Building 5, completion of Building 6, then finally completion of Building 5.

Following completion of soil excavation, Kennon Surveying Services (KSS), surveyed the bottom of excavations. Based on the As-Built Survey from KSS, found in **Appendix B**, 34,320 cubic yards (CY) of chrome impacted soil was excavated from Building 5 and 5,251 CY from Building 6.

CAOC (Building 7) Excavation

Excavation of chromium –containing soils classified as hazardous commenced on March 7, 2011 and was completed on April 6, 2011. Similarly to RAOC excavations the demolition of existing building foundations and asphalt pavement occurred only as needed in order for the controlled progression of smaller open excavation areas to effectively mitigate dust generation associated with large open excavations.

The removal of these soils was performed based on pre-planned contours which were developed using numerous soil sample results. The area was re-graded ensuring all hazardous soils would be underneath predetermined cap subgrade elevations. Excess hazardous soils were direct-loaded into tri-axle dump trucks and shipped offsite. Hazardous waste manifests and certificates of disposal are included as **Appendix E**.

Additional focused soil excavation was performed in selected locations to provide clean utility corridors and coordinate the capping system with Site development features, as required by the NJCU redevelopment plans Soils excavated for utility corridors was reused and consolidated underneath the cap where possible with excess soil transported offsite for disposal.

Following completion of hazardous soil excavation KSS surveyed the bottom of hazardous material/top of non-hazardous material interface. Approximately 5,676 CY of chromium impacted soils were removed from the Building 7 area. For the subgrade elevation information refer to As-Built Drawings located in **Appendix B**.

CAOC (Building 7) Cap Liner System Installation

The engineered barrier (cap) for chromium-containing soils was constructed consistent with applicable capping requirements of the Resource Conservation and Recovery Act (RCRA). The cap is designed to prevent direct contact exposure with the contaminated soils and infiltration of surface water. Institutional controls (Deed Notice) which are intended to prevent any unauthorized disturbance of the cap area and thus protect the cap are in place and a Long Term Monitoring and Maintenance Plan will be developed to monitor any unauthorized disturbance of the cap area. See **Appendix Q** for final draft deed notice. See **Appendix Q** for final draft deed notice.

The RCRA-type cap was constructed in accordance with project specifications and includes the following components:

- Base protective layer consisting of non-woven geotextile;
- Impervious linear low density polyethylene (LLDPE) geomembrane liner, minimum 40-mil (0.04 inch) thickness;
- Geo-composite drainage layer;
- Imported engineered clean drainage layer cover soil with a minimum thickness of one foot; and,
- Imported clean backfill material with one-foot thickness in areas where asphalt pavement was installed; and minimum two-foot thickness in areas where landscaping or lawn areas were installed in coordination with NJCU West Campus Redevelopment Plans.

The grading of the cap was adjusted from the 100% design to accommodate utilities anticipated in the final Site development plans and are documented in the project as-built drawings. Final cap grading was designed to direct all surface runoff to the perimeter drains.

Quality assurance/quality control requirements for construction activities were adhered to in strict compliance with the 100% design documents. In addition to Mactec quality control personnel, a liner quality control specialist from Geosyntec was onsite to provide contractor oversight during liner installation. Records for the liner QA/QC testing performed by Geosyntec and others can be found in **Appendix F** – Cap Documentation.

Backfill and Site Restoration

Backfill activities were conducted within the Building 5, Building 6, and Building 7 areas. Backfill operations commenced immediately upon completion of excavation activities within the Building 5 and 6 areas. At the bottom of the excavation within Building 5 and 6, it was necessary to place a bridging lift over the wet soils that may have in order to mitigate possible compaction issues. Within the Building 5 excavation, the bridging lift material consisted of crushed concrete with a maximum sizing requirement of three inches that originated from an existing onsite debris stockpile. The bridging lift material that was placed within the Building 6 excavation consisted of a layer of 16 oz non-woven geotextile fabric and an approximately 12-inch layer of one-and-one-half inch clean stone.

All backfill material that was brought onsite was tested and certified "clean" relative to the NJDEP Technical Requirements pursuant to 7:26E 6.4(b). Clean fill certifications were obtained from suppliers giving the source location and certifying that the soil material was virgin and free of any hazardous material or contaminants.

Materials that were utilized to backfill the Building 5 excavation above the bridging lift included onsite overburden material and common borrow. Onsite overburden material describes the soil with hexavalent chromium concentrations of less than 20 mg/kg whose removal is necessary to facilitate the removal of chromium containing soils. The remainder of the excavation was backfilled with common borrow that was by imported from Armored Aggregates, located in Jersey City, New Jersey. The common borrow is a processed material which is pulverized rock (tunnel rock) obtained during from the tunneling work associated with the New Jersey Transit ARC Tunnel Project. The "tunnel rock" was approved for use by NJDEP and complied with the construction specification for compaction. The material that was used to backfill the Building 6 excavation above the bridging lift was also common borrow provided by Armored Aggregates. Backfill was placed in 12-inch loose lifts and then compacted to at least 95% maximum dry density in accordance with ASTM D698 as per the construction specification. Compaction was verified in the field using a nuclear surface moisture-density gauge in accordance with ASTM D 2922. Compaction test results are located in **Appendix D** – Backfill Documentation. The final six inches of the Building 5 and 6 areas were backfilled with three-quarter inch

clean stone provided by Tilcon, Inc. from their Mount Hope quarry located in Wharton, NJ.

The materials that were used to backfill the Building 7 cap area consisted of cover soil, imported common borrow and topsoil. The cover soil was provided by Maddox Trucking, located in Lake Hopatcong, New Jersey. Cover soils were placed on top of the liner system in compacted lifts to a depth of 12-inches. Imported common borrow provided by Armored Aggregates was placed on top of the cover soil to a compacted depth of 12-inches. Topsoil was placed on the slopes of the Building 7 cap area and was provided by EME located in New Egypt, NJ.

In addition to full suite of testing to meet NJDEP Technical Requirements, all imported material was subject to the requirement of complying with less than 1 mg/kg of hexavalent chromium as required by provisions of the Consent Decree.

Approximately 72,549 tons of common borrow, approximately 2,915 tons of certified clean one-and-one-half inch stone, approximately 477 tons of topsoil, and approximately 830 tons of drainage layer cover soil were provided for the project. Final restoration details are provided in the as-builts, **Appendix B**.

Site restoration activities were performed during the demobilization phase of the project. Site restoration activities included the following:

- Decontamination and demobilization of all construction equipment and surplus materials;
- Decontamination, decommissioning and dismantlement of the construction wastewater treatment system;
- Replacement of the asphalt located at the Route 440 construction entrance;
- Repair of catch basin at the corner of Rt. 440 and Carbon Place;
- Relocation of the jersey barriers and chain-link fence to the property line boundary;
- Removal of temporary office trailers and power/phone service;
- Removal of traffic control features;
- Removal of construction debris;

- Disposal of other non-regulated waste;
- Seeding within the building 7 area; and
- Sweeping of all asphalt areas.

During the initial demobilization, the asphalt parking lot in the CAOC was temporarily covered with clean crushed stone until finalization of the parking lot light pole design and locations were completed by NJCU. With the finalization of the parking lot lighting plans the installation of the light poles and asphalt paving was completed in December 2012.

2.1.10 Modifications and Field Changes to 100% Design

During implementation, encountered unforeseen conditions necessitated minor adjustments to the NJDEP approved RAWP. These items are summarized below and can be found in the Addendum register in **Appendix S**.

- Hydraulic barrier sealant application from factory installation to field installation after QA/QC testing indicated better results from factory installed sealant;
- Modifications in alignment of new sanitary sewer lateral across the site in order to match redevelopment utility plans. This realignment affected the cap sub-grade and sheet pile cutoff elevations;
- Modifications to finish grade elevations in the Building 6 area as per comments from NJDEP on Flood Hazard Permit Application;
- Revised bottom of excavation for building 6 to meadow mat as explained in Residential AOC / Building 6 excavation above;
- Revision to permanent groundwater extraction sump depths to allow for pumps that are required as per the updated groundwater modeling;
- The addition of a geocomposite clay layer in lower elevations of the liner for additional hydraulic barrier effectiveness;
- The installation of two piezometers, one each in Building 5 & 7, to aid in long-term monitoring groundwater elevations;
- Change to underground vault enclosure in lieu of using an above grade structure; and

- Underground concrete vault encasement in lieu of building for contingent groundwater extraction system.

These modifications are consistent with the RAOs for the project.

2.1.11 Other Remedial Actions Performed

As stated earlier, the Residential and Commercial AOC remedies were executed to meet the remedial action objectives identified in the approved RAWP. Honeywell also agreed, pursuant to Consent Decree requirements, to delineate soils in the RAOC to 5 mg/kg hexavalent chromium. Honeywell further agreed to excavate soils exceeding 5 mg/kg within the top 4' of the proposed redevelopment finished grades. These "Greater than 5 Soils," as described in the Consent Decree, encountered during construction of the Site-wide soil remedy were transported offsite as non-hazardous waste (approximately 9,400 of the 66,000 tons) as described in Section 2.1.13 below.

2.1.12 Items Encountered During Remediation Activities

During excavation activities, numerous unforeseen subsurface structures were encountered. This included foundations from previous structures, abandoned utilities, asphalt, and three underground storage tanks (USTs). Descriptions of the three are provided below.

UST in Building 5 Area Excavation

During excavation of the Building 5 area, a 1,000 gallon UST was uncovered at approximate Elevation +10 feet. The property owner, NJCU, was notified upon discovery and was the responsible party for the UST removal.

The tank contained liquid which was tested and identified as leaded gasoline and was disposed of offsite. A NJ Division of Community Affairs (DCA) inspector was onsite to oversee the removal on December 22, 2010. A follow up inspection was performed on January 1, 2011 to inspect the surrounding area and collect sampling results and documentation. No contaminated soil or breaches in the tank were observed by the DCA representative. Copies of the inspection reports and certificates of approval are in **Appendix T** – UST Documentation.

USTs in Residential Areas of Concern Excavations

While performing excavation of soils to fulfill Consent Decree obligations as mentioned in Section 2.1.10 above, two USTs were uncovered at approximately 2.5-feet below ground surface in May 2011. NJCU was notified and, as the property owner, assumed responsibility for the removal of the tanks.

The two USTs were both steel in construction, approximately 500 gallons in size, and were situated end to end in the northeast corner of future Building 3. One tank was empty and the other had water in it with an odor comparable to petroleum. No stained soil was observed. The tanks were removed and staged on and covered by plastic against a concrete wall and on a concrete pad located next to the excavation. The location of each tank was surveyed by Kennon Surveying Services.

2.1.13 Offsite Transportation and Disposal

Hazardous waste disposal activities began on October 18, 2010. All hazardous soils were transported offsite for disposal at US Ecology's Grand View Idaho facility in accordance with all applicable regulations and requirements including USDOT, NJDOT, federal and state waste transporter regulations as well as requirements for containing, labeling, packaging, and transporting soil. Prior to excavation, waste classification sampling was conducted for the soils designated for offsite disposal, in accordance with US Ecology's Waste Acceptance Plan. Samples collected were sent to a laboratory for Toxicity Characteristic Leaching Procedure (TCLP) analysis, in accordance with the US Ecology's waste requirements, and included TCLP analysis for chromium. The final transportation of hazardous soils was completed on June 8, 2011. A complete summary of the Hazardous waste tracking information is provided in **Appendix E**.

Non-hazardous water disposal activities began on October 27, 2010. Water was collected and discharged from the onsite temporary construction water treatment system. Monthly discharge sampling was performed as per requirements of the PVSC discharge permit. Results can be found in **Table 4.** In addition, there were no discharges during rain events and a period of 24 hours afterwards as per conditions of the Jersey City Municipal Authority discharge permit.

All non-hazardous soils were shipped to New Jersey Meadowlands Commission's Keegan Landfill in Kearny, New Jersey (NJMC) or to the Middlesex County Landfill, New Jersey (MCL). Non-hazardous asphalt was recycled offsite at an approved facility and clean concrete recycled was crushed onsite and used as

bridging lift. Waste classification samples were collected and the analytical results submitted to NJMC and MCL to ensure compliance with their waste requirements. A complete summary of the non-hazardous waste tracking information is provided in **Appendix E**. Weights and disposal facilities are summarized in the table below.

Table 6 - Transportation & Disposal Summary

Type	Disposal Facility	Total Weight (Tons)
Hazardous Disposal	US Ecology	26,176
Non-Hazardous Disposal	NJMC	6,003
	MCL	33,752
TOTAL		**65,931**

3,577 gallons of liquid from the construction dewatering sedimentation tanks was transported and disposed of offsite at Clean Earth of New Jersey located in Kearny, NJ. The waste manifests and certificate of disposal are included with the hazardous waste manifests in **Appendix E**.

2.1.14 Contingent Groundwater Extraction System Installation

To accommodate redevelopment plans and the installation of the contingent groundwater extraction system, the sanitary sewer lateral previously aligned along the south and western edges of the property was realigned to run across the Site. The new sewer lateral runs from the manhole within the driveway of adjacent Site 117, across the eastern edge of the CAOC, to the existing manhole within Carbon Place. The combined sewer was installed as per Jersey City Municipal Utilities Authority standards.

Two sumps and pumps with accompanying electrical conduit and discharge piping were installed in coordination with liner installation and backfill activities within the CAOC. The conduit and piping was installed to the southern property line at the western corner for future connection and installation of the treatment system vault housing on the adjoining property. The design of the groundwater extraction system can be found in **Appendix L**.

At the time of submission of this report, the installation of the contingent groundwater extraction system was performed under an easement obtained by

Honeywell from the current owner of the property subdivision under transaction. Honeywell is in progress of acquiring a subdivision of the property to the south as the installed treatment system housing location in coordination with NJCU west campus development plans.

The installation of the system was performed commencing in November with completion in February 2012. This work was performed in coordination with CAOC parking lot light pole installation on NJCU property. The work entailed excavation and placement of the underground concrete vault encasement which housed the system components, installation of pumps and sensors in the sumps, installation of sensor in the discharge manhole, tie-in to electrical service, testing, and commissioning of the system.

Commissioning of the system was certified by a Professional Engineer responsible for the system design and was completed December 16, 2011. The system was tested using a portable generator with a sufficient supply to replicate permanent service conditions. Final completion was achieved with the receipt of the Certificate of Approval for electrical service from the New Jersey Department of Community Affairs on February 6, 2011 (see **Appendix L** for commissioning and final inspection report and the Certificate of Approval for electrical service).

Since pumps, electrical sensors and wiring may degrade if allowed to remain inactive for an extended period of time; sensor and pump portions of the system have been removed and will be re-installed following a need to implement the contingent groundwater collection system. All permits have been obtained and will remain in place for possible future discharge of the contingent groundwater extraction system.

2.1.15 Sustainability Efforts During Remedial Action

Under Honeywell's stewardship the remediation process was integrated into the overall vision for the Jersey City west side redevelopment by incorporating a sustainable design approach which focused on conservation of natural resources through beneficial reuse, recycling, minimization of ongoing energy consumption and reduction in carbon footprint. Specifically Honeywell's sustainable remediation efforts integrated:

- Use of renewable B-20 Biodiesel in lieu of conventional fossil fuel based petro-diesel in construction equipment,

- Use of Low NOx emission hazardous waste transportation trucks,
- Crushing and recycling of demolition generated clean concrete as clean fill material,
- Beneficial reuse of non-hazardous soils shipped to Middlesex County Landfill as landfill cover, and
- Recycling of demolition generated clean asphalt to a certified recycling facility.

3.0 POST EXCAVATION CONFIRMATION SAMPLING

Honeywell conducted a pre-excavation sampling program to establish the limits of excavation and eliminate the need for post-excavation sampling during excavation as per the approved Remedial Action / Remedial Action Selection Report / Remedial Action Work Plan, 2007. The limits of excavation (both horizontal and vertical) were pre-determined based on pre-excavation sampling and existing RI data as per the approved Chromium Remedy 100% Design Report, 2010. As a result of the pre-excavation sampling, a very limited amount of post-excavation soil sampling was needed.

Pre-excavation side-wall soil samples were taken along the proposed perimeter of the excavation at an average frequency equivalent to post-excavation requirements (i.e., one soil boring per 30 lineal feet of perimeter). Post-excavation soil sample locations are depicted on **Figures 3A, 3B, 3C, 3D and 3E**. The samples were analyzed for hexavalent chromium. This data was used to demarcate the limits of the excavation, and was recorded on the as-built drawing of the remediated area

The horizontal limits of the excavations (approximate perimeter 3,248 feet) were determined by 'clean' sampling results obtained at 117 boring locations (**Figures 3A, 3B, 3C, 3D and 3E**). The resulting sampling frequency (1 sample per 28 feet of excavation perimeter) exceeds the minimum confirmatory sampling frequency specified in the Technical Requirements N.J.A.C. 7:26E-6.4 (1 sample per 30 feet of excavation sidewall).

The vertical limits of the excavation (maximum 20 feet depth) were determined by 'clean' sampling results obtained from one hundred and twenty one (121) boring locations (**Figures 3A, 3B, 3C, 3D and 3E**). The total area designated for removal is approximately 93,663 square feet, which corresponds to a minimum of 104 excavation bottom samples, per the minimum confirmatory sampling frequency specified in the Technical Requirements N.J.A.C. 7:26E-6.4 for excavations (1 sample per 900 square feet of excavation floor). The sampling frequency achieved (1 sample per 774 square feet of excavation floor) exceeds the minimum confirmatory sampling frequency specified in the Technical Requirements. Post-excavation sample results are presented in **Tables 1 and 2**.

4.0 POST REMEDIATION OPERATION & MAINTENANCE

Following completion of the remedial actions, including installation of the groundwater extraction system which is to be operated on a contingent basis, a post-remediation long term monitoring program will be implemented, that is consistent with the approved 2007 RAWP.

The Post-Remediation Long Term Monitoring Plan (LTMP) was developed in June 2011 as per requirements of the Consent Decree, to address the following components of this remedial action:

- Monitor groundwater quality within the remediated areas;
- Monitor contaminant levels down gradient of the hydraulic barrier;
- Monitor the effectiveness and condition of the hydraulic barrier; and
- Monitor the condition of the site cap.

Monitoring of Chromium Levels in Groundwater
A Regional CEA was approved by NJDEP on February 16, 2012 and addresses impacts in the shallow groundwater bearing zone. Additional CEAs were approved on the same day for the intermediate and deep groundwater bearing zones which are not addressed in this RAR. See **Appendix R** for a copy of the Regional CEA.

The groundwater extraction system components include three sentinel wells, two piezometers, two sumps with level sensors, and a subsurface vault which houses the extraction system components. The three sentinel wells (184-MW-04, 184-MW-05, and 184-MW-06) were installed east of the commercial CAOC to monitor groundwater In accordance with the RAWP and LTMP.

In accordance with Paragraph 99(g) of the Consent Decree, and in accordance with the approved RAWP, groundwater levels will be monitored quarterly beginning in March 2012 to ensure that the remedial objectives of the remedy are maintained. The contingency groundwater extraction system will be activated based upon two triggers, hydraulic gradient and groundwater quality. The LTMP focuses on monitoring water levels only. The Contingent Groundwater Pumping Triggers

Document, included in **Appendix L**, identifies the criteria triggering activation of the treatment system, including groundwater gradient and quality.

Following NJDEP review of this RAR for Soils and CEA documentation, it is anticipated that Honeywell will submit an application for a Groundwater Remedial Action Permit for future monitoring and reporting associated with the CEA requirements for the Site.

Certification as to the adequacy of engineering and institutional controls is required to be conducted on a biennial basis (every two years). Biennial Certification Reports for the CEA shall be completed by Honeywell as per requirements of the CEA. The CEA may need to be modified based on future groundwater monitoring data.

Monitoring the Condition of the Site Cap

The Site cap will be inspected quarterly to ensure that it maintains structural and functional integrity. Evidence of settlement, breaching, alteration, obstruction of drainage, etc., will be identified, recorded and evaluated as to its impact on the cap. If needed, appropriate repairs will be made. The LTMP details periodic maintenance activities, such as removal of debris from drains, resurfacing, etc. Quarterly visual inspections will inspect the following at a minimum:

- Chromium remedy integrity;
- Surface grades;
- Differential settlement;
- Disturbance;
- Burrowing animals; and
- Vegetative cover.

Following NJDEP review of this RAR for Soils, it is anticipated that Honeywell will submit an application for a Soil Remedial Action Permit to the NJDEP and that the NJDEP will issue a corresponding permit for future monitoring and reporting.

The post-remediation inspection and monitoring activities will be documented in quarterly and annual reports with biennial certification reports to be submitted to the NJDEP beginning in March 2014.

The LTMP has been resubmitted to the Plaintiffs following response to their initial comments and appropriate revisions made to the document.

5.0 REMEDIAL ACTION COSTS

The total cost incurred by Honeywell for the Soil and Ground Water remedial action at the Site is provided below. (Rounded to the nearest million)

Construction Costs	$	17,000, 000
Soil Disposal	$	8,000,000
Oversight/Construction Management	$	5,000,000
Total Cost	**$**	**30,000,000**

6.0 CONCLUSIONS & RECOMMENDATIONS

The remedial activities conducted from August 2010 to final completion in February 2012 satisfied the requirements for remediation set forth in the NJDEP-approved RAWP (Mactec 2007). The remedial action conformed to the Technical Requirements for Site Remediation, the ACO between NJDEP and Honeywell and the Consent Decree between Honeywell and the Plaintiff Parties.

Chromium-containing soils (those soils exceeding 20 mg/kg hexavalent chromium) were removed as part of the remedial action and the CAOC was capped in conformance with the provisions of the approved RAWP and the 100% Design for the Site. Over 14,500 CY (approximately 26,300 tons) of impacted soil was removed and transported for offsite disposal. In addition, as part of conducting the remediation, approximately 10,400,000 gallons of chromium containing groundwater was extracted as part of the dewatering operations to enable the excavation to occur. This action removed a significant amount of contaminant mass from the Site.

The physical containment separating Site 117 (former Ryerson Steel site) and Site 153 (former Morris Canal Northern Segment) from Site 090 (former Baldwin Steel site) and Site 184 (former M.I. Holdings), the soil remedial actions (soil excavation, capping, dewatering), and the establishment of institutional controls (Regional CEA) have addressed impacted groundwater. It is anticipated that groundwater quality will improve as a result of the significant amount of chromium impacted soil that was removed as part of the soil remedial actions. The hydraulic barrier will restrict any potential offsite migration of hexavalent chromium in groundwater Post-

remediation groundwater sampling is being implemented in accordance with the RAWP dated July 2007 in order to monitor groundwater quality following removal of chromium-impacted soils, and to determine the need for contingent groundwater extraction. Honeywell will submit an addendum to this report detailing groundwater conditions following post-remediation groundwater monitoring.

Based on the results of the remedial action, Honeywell requests the approval of this RAR and, following the approval of the Remedial Action Permit, the issuance of a NFA by NJDEP with respect to chromium for Sites 090/184 and adjacent portion of Site 153.

7.0 REFERENCES

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8.0 LIST OF ACRONYMS & ABBREVIATIONS

ACO	Administrative Consent Order
AOC	Area of Concern
BMUA	Bayonne Municipal Utilities Authority
CAOC	Commercial Area of Concern
CEA	Classification Exception Area
COCs	Contaminant of Concern
COPR	Chromite Ore Processing Residue
CY	Cubic Yards
GWQS	Ground Water Quality Standards
HASP	Health and Safety Plan
µg/m^3	micrograms per cubic meter
mg/kg	milligrams per kilogram
NFA	No Further Action
N.J.A.C.	New Jersey Administrative Code
NJCU	New Jersey City University
NJDEP	New Jersey Department of Environmental Protection
ppm	parts per million
PVSC	Passaic Valley Sewerage Commission
RA	Remedial Action
RAOC	Residential Area of Concern
RAOs	Remedial Action Objectives
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RIR	Remedial Investigation Report
SRIR	Supplemental Remedial Investigation Report
TCLP	Toxicity Characteristic Leaching Procedure

FIGURES

STUDY AREA 5 REMEDIAL ACTION REPORT
FORMER BALDWIN STEEL SITE (NJDEP SITE 090)
FORMER MI HOLDINGS SITE (NJDEP SITE 184)
FORMER MORRIS CANAL SITE (NJDEP SITE 153)
JERSEY CITY, NEW JERSEY

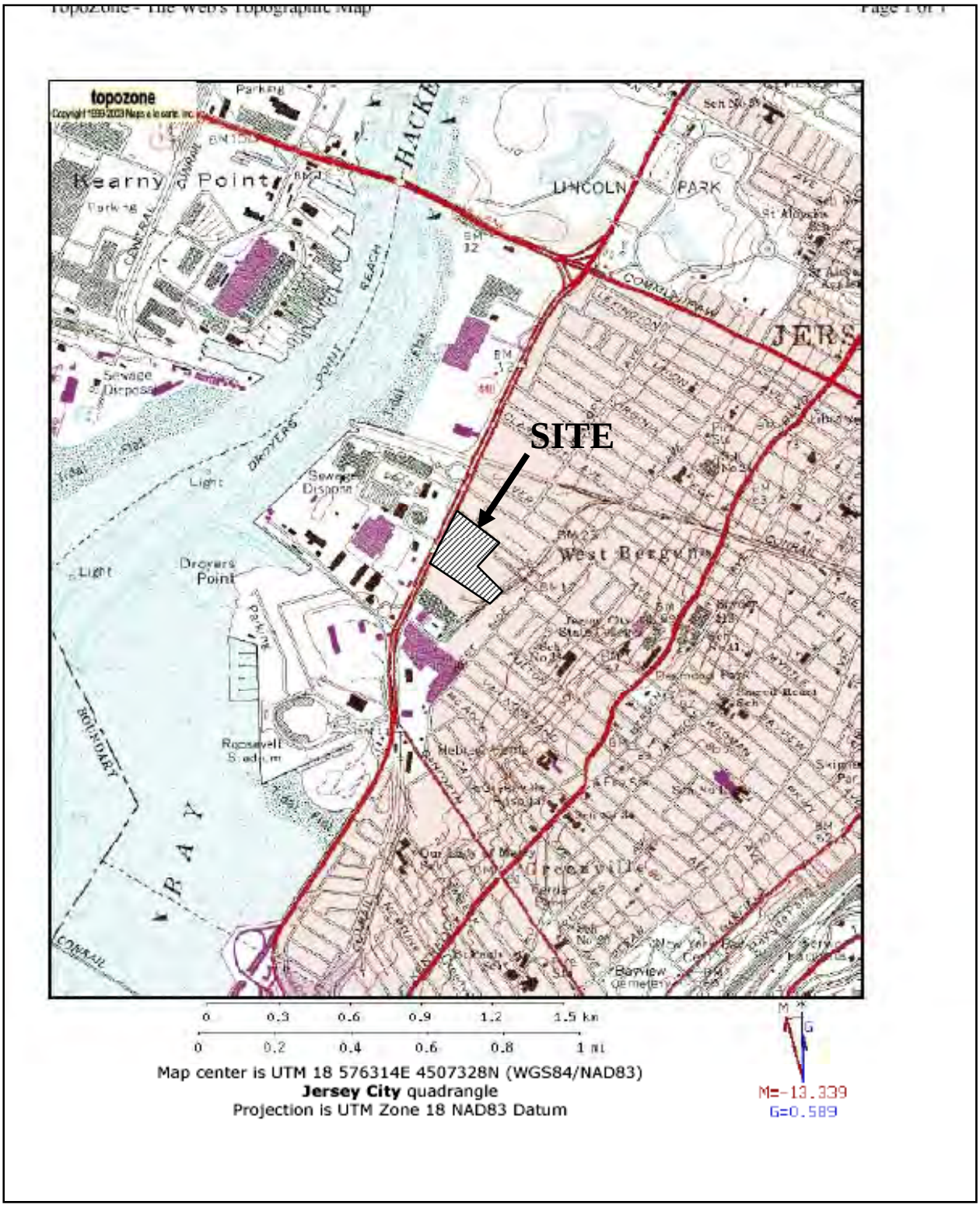

FIGURE 2
SITE LOCATION MAP
STUDY AREA 5 – SITES 090 AND 184
JERSEY CITY, NEW JERSEY

BUILDING 6:
EXCAVATION AREA (17,919 SQ. FT.).
EXCAVATION OF HEX CHROME <20 PPM TO MEADOWMAT
VOLUME APPROX. 5,250 CUBIC YARDS.

CARBON PLACE

BUILDING 6

EXISTING BUILDING

BUILDING 4A

BUILDING 4B.1

BUILDING 1

EXISTING BUILDING

NJCU RESIDENTIAL AREA

BUILDING 4B.2

BUILDING 2

WEST SIDE AVENUE

GROUNDWATER COLLECTION TRENCH

NJCU COMMERCIAL AREA

SA-5 TRENCH SUMP "A"

ROUTE 440 NORTH

SITE 184
SITE 090

GROUNDWATER COLLECTION TRENCH

BUILDING 7

BUILDING 5

BUILDING 3

SITE 153 NORTH

SA-5 TRENCH SUMP "B"

GROUND WATER TREATMENT SYSTEM VAULT

PPORTION OF ADJACENT PROPERTY TO BE SUBDIVIDED AND ACQUIRED

BUILDING 7 / CAP AREA:
CAP AREA (141,000 SQ. FT.).
EXCAVATION AND RELOCATION OF HEX CHROME <20 PPM ABOVE CAP LINER SUBGRADE ELEVATION.

HYDRAULIC BARRIER/ SHEETING (TYP.)

BUILDING 5:
EXCAVATION AREA (84,000 SQ. FT.).
EXCAVATION OF HEX CHROME <20 PPM TO 20 FEET.
VOLUME APPROX. 34,300 CUBIC YARDS.

LEGEND:

- SITE BOUNDARY SA-5 NJCU
- SITE BOUNDARY – SITE 153 NORTH
- SITE 184 / SITE 090 — SITE BOUNDARY – SITE 184 & SITE 090
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- NJCU RESIDENTIAL >5 ppm EXCAVATION AOC TO 4 FEET BELOW FINAL REDEVELOPMENT GRADES
- NJCU RESIDENTIAL >20 ppm EXCAVATION AOC
- NJCU COMMERCIAL AREA
- NJCU COMMERCIAL AOC
- SITE 153 NORTH AOC (NJCU RAWP)
- EXTENT OF CAP
- HYDRAULIC BARRIER
- GROUNDWATER MONITORING SENTINEL WELL
- GROUNDWATER MONITORING PIEZOMETER

0 30 60 120
SCALE IN FEET

SOURCE: HISTORIC SOIL DATA – DRAFT RIR STUDY AREA 5 (TETRA TECH NUS, NOV. 1999), RIR ADDENDUM (TETRA TECH NUS, OCT. 2004).

BASEMAP: PHASE I CONCEPT PLAN, LANGAN 2 MARCH 2007.

UTILITIES NOT SHOWN.

REV.	DATE	STATUS	PRPD BY	CHKD BY

MACTEC PROJECT No. 3480100023
DRAWING: SA–5 NJCU RAR FIGURE 2 – REMEDIAL ACTION SUMMARY

PREPARED/DATE: JMV 11/07/11

CHECKED/DATE: BOD 1/30/12

amec
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2
REMEDIAL ACTION SUMMARY
REMEDIAL ACTION REPORT
SA-5 NJCU SITE 90/184 AND SITE 153 NORTH
JERSEY CITY, NEW JERSEY

LEGEND

- SAMPLE LOCATION
- SIDE SAMPLE LOCATION
- BOTTOM SAMPLE LOCATION
- SIDE/BOTTOM SAMPLE LOCATION
- PROPERTY LINE
- LOT LINE
- EXCAVATION CONTOURS
- LIMIT OF HEVAVALENT CHROMIUM >20 mg/kg
- EXCAVATION DEPTH 20 FEET BELOW GROUND SURFACE

090-PE-27	
Depth (feet)	Hexavalent (mg/kg)
1216	4.5

090-SB-I13	
Depth (feet)	Hexavalent (mg/kg)
0002	2U
0204	2U
0406	3.8
0608	2U
0810	4.5
1012	12.9
1214	11.5
1416	389
1618	17
1820	7.3

090-PE-23	
Depth (feet)	Hexavalent (mg/kg)
0004	2.2
0408	1.3

090-SB-011	
Depth (feet)	Hexavalent (mg/kg)
0002	2.11U
0204	2.17UJ
0406	2.31UJ
0608	2.31UJ
0810	5.4J
1012	14.4J

090-E4-2	
Depth (feet)	Hexavalent (mg/kg)
1820	1.7U

090-PE-28	
Depth (feet)	Hexavalent (mg/kg)
1216	13.4

090-PE-26	
Depth (feet)	Hexavalent (mg/kg)
1216	1.1U

090-E3-2	
Depth (feet)	Hexavalent (mg/kg)
0004	1.0U
0408	3.7
0812	1.3U
1214	1.2U
1820	1.3U

090-PE-29	
Depth (feet)	Hexavalent (mg/kg)
1216	4

090-E3-3	
Depth (feet)	Hexavalent (mg/kg)
1820	1.2U

090-PE-08	
Depth (feet)	Hexavalent (mg/kg)
0002	4.6

090-PE-31	
Depth (feet)	Hexavalent (mg/kg)
1214	9.3
1416	5.9

090-SB-004	
Depth (feet)	Hexavalent (mg/kg)
0002	8.5J
0204	2UJ
0810	2UJ
1214	2UJ
1416	2UJ

090-SB-003	
Depth (feet)	Hexavalent (mg/kg)
0002	5.3J
0204	2UJ
0810	2UJ
1214	91.3J
1416	12.2J

090-PE-09	
Depth (feet)	Hexavalent (mg/kg)
0002	2.1J

090-PE-10	
Depth (feet)	Hexavalent (mg/kg)
0002	2.8J

090-SB-013	
Depth (feet)	Hexavalent (mg/kg)
0002	9.1J
0204	2.42UJ
0406	2.31UJ
0608	2.4UJ
0810	2.48UJ
1012	3.3J

090-PE-34	
Depth (feet)	Hexavalent (mg/kg)
0004	1.1U
0408	1.1U
0812	1.2U

090-PE-12	
Depth (feet)	Hexavalent (mg/kg)
0002	5.8J
1214	1.2UJ

090-PE-36	
Depth (feet)	Hexavalent (mg/kg)
0002	3.2

090-PE-15	
Depth (feet)	Hexavalent (mg/kg)
0002	14.3J

090-PE-16	
Depth (feet)	Hexavalent (mg/kg)
0002	2.4

090-PE-17	
Depth (feet)	Hexavalent (mg/kg)
0002	7

090-PE-18	
Depth (feet)	Hexavalent (mg/kg)
0204	4.5

090-PE-19	
Depth (feet)	Hexavalent (mg/kg)
0204	9

090-PE-42	
Depth (feet)	Hexavalent (mg/kg)
0002	2.4

090-PE-21	
Depth (feet)	Hexavalent (mg/kg)
0204	2.8

090-WC-C2B	
Depth (feet)	Hexavalent (mg/kg)
1214	22.4
1820	1.3

090-WC-C3A	
Depth (feet)	Hexavalent (mg/kg)
1214	52.8
1820	1.9

090-E6-1	
Depth (feet)	Hexavalent (mg/kg)
0204	3.3
0408	6.2
0812	2.2
1618	17.7

090-WC-A4B	
Depth (feet)	Hexavalent (mg/kg)
0608	5.6
1012	6.5

090-PE-32	
Depth (feet)	Hexavalent (mg/kg)
1214	42.3
1416	11.5

090-WC-A5B	
Depth (feet)	Hexavalent (mg/kg)
0406	11.6
0810	5.3

090-WC-A6A	
Depth (feet)	Hexavalent (mg/kg)
0406	4
0810	2

090-SB-022	
Depth (feet)	Hexavalent (mg/kg)
0204	322
0406	32.9
0810	49.1
1012	2.5
1214	2U
1416	4.4

090-WC-C4B	
Depth (feet)	Hexavalent (mg/kg)
1214	1.2
1820	2

090-SB-B10	
Depth (feet)	Hexavalent (mg/kg)
0002	14.4
0406	11.3
0608	5.7
0810	14.4
1012	12.8

090-PE-35	
Depth (feet)	Hexavalent (mg/kg)
0004	1.1U
0408	1.1U
0812	1.2UJ

090-PE-37	
Depth (feet)	Hexavalent (mg/kg)
0002	17.8

090-E9-1	
Depth (feet)	Hexavalent (mg/kg)
0204	1.0U

090-E9-2	
Depth (feet)	Hexavalent (mg/kg)
0204	1.1U

0 20 40 80
SCALE IN FEET

NOTE:
REFER TO LEGEND, ABBREVIATIONS, AND GENERAL NOTES ON SHEET G-002.

COORDINATES FOR LAYOUT SHOWN ARE PROVIDED TO CONTRACTOR IN ELECTRONIC FORMAT IN DRAWING "X-MACTEC-CSP06-CONST PNTS.dwg".

REV.	DATE	STATUS	PRPD BY	CHKD BY
0	02/16/12	ISSUE TO HONEYWELL	DL	AG

AMEC PROJECT No. 3480100023
DRAWING: 3480100023-5200-CMBX3A-00

PREPARED/DATE: STR 09/30/11
CHECKED/DATE: AG 2/16/12

amec
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 3A
POST EXCAVATION SAMPLE RESULTS
STUDY AREA 5
BUILDING 5 SITES 90 & 184
JERSEY CITY, NEW JERSEY

184-SB-A01	
Depth (feet)	Hexavalent (mg/kg)
0002	2UJ
0406	**513J**
0608	**1570J**
0810	**3070J**
1012	2UJ
1214	0.93UJ
1416	2.6J

184-SB-07	
Depth (feet)	Hexavalent (mg/kg)
0002	7.4J
0406	**457J**
0608	**1450J**
0810	**5160J**
1012	2UJ
1214	2UJ
1416	2.8J

184-PE-11	
Depth (feet)	Hexavalent (mg/kg)
0406	1.4U

184-PE-09	
Depth (feet)	Hexavalent (mg/kg)
0810	2.5U

184-PE-08	
Depth (feet)	Hexavalent (mg/kg)
0608	**22**
0810	1.2U

184-SB-12	
Depth (feet)	Hexavalent (mg/kg)
0002	2U
0204	2U
0406	**50.7**
0608	**2580**
0810	2U

184-PE-01	
Depth (feet)	Hexavalent (mg/kg)
0608	2.2
0810	3.1U

184-PE-02	
Depth (feet)	Hexavalent (mg/kg)
0406	2.4U

184-SB-A02	
Depth (feet)	Hexavalent (mg/kg)
0002	**327J**
0406	**499J**
0608	**4830J**
0810	**5310J**
1012	2UJ
1214	1.2
1416	2UJ

184-SB-A03	
Depth (feet)	Hexavalent (mg/kg)
0002	2.7J
0204	**216J**
0406	**8080J**
0608	**655J**
0810	2UJ
1012	2UJ

184-SB-11	
Depth (feet)	Hexavalent (mg/kg)
0002	**25.5**
0204	**4450**
0406	2U
0608	2U
0810	2U

184-PE-03	
Depth (feet)	Hexavalent (mg/kg)
0406	1.5U

184-SB-08	
Depth (feet)	Hexavalent (mg/kg)
0002	2U
0204	2U
0406	**50.1**
0810	2U

184-PE-04	
Depth (feet)	Hexavalent (mg/kg)
0204	1.2UJ

184-PE-14	
Depth (feet)	Hexavalent (mg/kg)
0204	1.2U
0810	1.3U

184-PE-05	
Depth (feet)	Hexavalent (mg/kg)
0204	1.2U

184-PE-06	
Depth (feet)	Hexavalent (mg/kg)
0406	1.7UJ

184-SB-02	
Depth (feet)	Hexavalent (mg/kg)
0002	2UJ
0204	2UJ
0406	2.8J
0608	2UJ
0810	2UJ
1012	2UJ
1214	2UJ
1416	2UJ

184-PE-15	
Depth (feet)	Hexavalent (mg/kg)
0406	1.5U
0608	**52.9**
0810	1.1U

184-PE-07	
Depth (feet)	Hexavalent (mg/kg)
0406	1.3UJ
0608	1.2UJ
0810	1.2U
1214	1.2U
1416	3.7
1618	1.3U
1820	1.3U

184-SB-A05	
Depth (feet)	Hexavalent (mg/kg)
0002	7J
0204	**5350J**
0406	**92.7J**
0608	2UJ
0810	**46.8J**
1012	9.6J

184-SB-06	
Depth (feet)	Hexavalent (mg/kg)
0002	11.4J
0204	4J
0406	2UJ
0608	2UJ
0810	2UJ
1012	2UJ

LEGEND

- SAMPLE LOCATION
- SIDE SAMPLE LOCATION
- BOTTOM SAMPLE LOCATION
- SIDE/BOTTOM SAMPLE LOCATION
- PROPERTY LINE
- LOT LINE
- EXCAVATION CONTOURS
- LIMIT OF HEXAVALENT CHROMIUM >20 mg/kg

0 20 40 80
SCALE IN FEET

NOTE:

REFER TO LEGEND, ABBREVIATIONS, AND GENERAL NOTES ON SHEET G-002.

COORDINATES FOR LAYOUT SHOWN ARE PROVIDED TO CONTRACTOR IN ELECTRONIC FORMAT IN DRAWING "X-MACTEC-CSP06-CONST PNTS.dwg".

REV.	DATE	STATUS	DL PRPD BY	AG CHKD BY
0	02/16/12	ISSUE TO HONEYWELL		

AMEC PROJECT No. 3480100023
DRAWING: 3480100023-5200-CMBX3B-00

PREPARED/DATE: STR 9/30/11
CHECKED/DATE: AG 2/16/12

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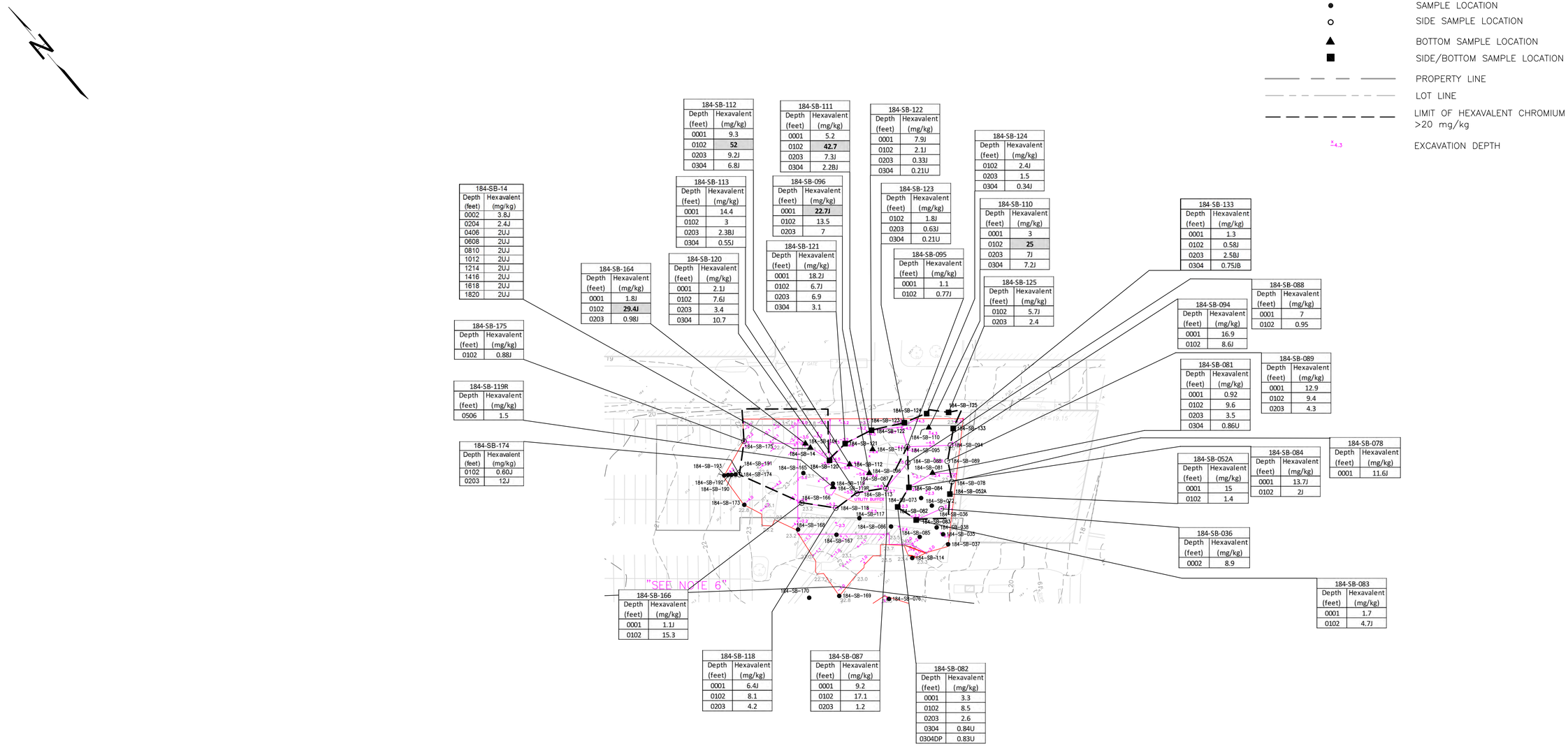
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 3B
POST EXCAVATION SAMPLE RESULTS
STUDY AREA 5
BUILDING 6 SITES 90 & 184
JERSEY CITY, NEW JERSEY



184-SB-14	
Depth (feet)	Hexavalent (mg/kg)
0002	3.8J
0204	2.4J
0406	2UJ
0608	2UJ
0810	2UJ
1012	2UJ
1214	2UJ
1416	2UJ
1618	2UJ
1820	2UJ

184-SB-175	
Depth (feet)	Hexavalent (mg/kg)
0102	0.88J

184-SB-119R	
Depth (feet)	Hexavalent (mg/kg)
0506	1.5

184-SB-174	
Depth (feet)	Hexavalent (mg/kg)
0102	0.60J
0203	12J

184-SB-164	
Depth (feet)	Hexavalent (mg/kg)
0001	1.8J
0102	**29.4J**
0203	0.98J

184-SB-120	
Depth (feet)	Hexavalent (mg/kg)
0001	2.1J
0102	7.6J
0203	3.4
0304	10.7

184-SB-113	
Depth (feet)	Hexavalent (mg/kg)
0001	14.4
0102	3
0203	2.3BJ
0304	0.55J

184-SB-112	
Depth (feet)	Hexavalent (mg/kg)
0001	9.3
0102	**52**
0203	9.2J
0304	6.8J

184-SB-111	
Depth (feet)	Hexavalent (mg/kg)
0001	5.2
0102	**42.7**
0203	7.3J
0304	2.2BJ

184-SB-096	
Depth (feet)	Hexavalent (mg/kg)
0001	**22.7J**
0102	13.5
0203	7

184-SB-121	
Depth (feet)	Hexavalent (mg/kg)
0001	18.2J
0102	6.7J
0203	6.9
0304	3.1

184-SB-122	
Depth (feet)	Hexavalent (mg/kg)
0001	7.9J
0102	2.1J
0203	0.33J
0304	0.21U

184-SB-123	
Depth (feet)	Hexavalent (mg/kg)
0102	1.8J
0203	0.63J
0304	0.21U

184-SB-095	
Depth (feet)	Hexavalent (mg/kg)
0001	1.1
0102	0.77J

184-SB-124	
Depth (feet)	Hexavalent (mg/kg)
0102	2.4J
0203	1.5
0304	0.34J

184-SB-110	
Depth (feet)	Hexavalent (mg/kg)
0001	3
0102	**25**
0203	7J
0304	7.2J

184-SB-125	
Depth (feet)	Hexavalent (mg/kg)
0102	5.7J
0203	2.4

184-SB-133	
Depth (feet)	Hexavalent (mg/kg)
0001	1.3
0102	0.58J
0203	2.58J
0304	0.75JB

184-SB-088	
Depth (feet)	Hexavalent (mg/kg)
0001	7
0102	0.95

184-SB-094	
Depth (feet)	Hexavalent (mg/kg)
0001	16.9
0102	8.6J

184-SB-081	
Depth (feet)	Hexavalent (mg/kg)
0001	0.92
0102	9.6
0203	3.5
0304	0.86U

184-SB-089	
Depth (feet)	Hexavalent (mg/kg)
0001	12.9
0102	9.4
0203	4.3

184-SB-078	
Depth (feet)	Hexavalent (mg/kg)
0001	11.6J

184-SB-052A	
Depth (feet)	Hexavalent (mg/kg)
0001	15
0102	1.4

184-SB-084	
Depth (feet)	Hexavalent (mg/kg)
0001	13.7J
0102	2J

184-SB-036	
Depth (feet)	Hexavalent (mg/kg)
0002	8.9

184-SB-083	
Depth (feet)	Hexavalent (mg/kg)
0001	1.7
0102	4.7J

184-SB-166	
Depth (feet)	Hexavalent (mg/kg)
0001	1.1J
0102	15.3

184-SB-118	
Depth (feet)	Hexavalent (mg/kg)
0001	6.4J
0102	8.1
0203	4.2

184-SB-087	
Depth (feet)	Hexavalent (mg/kg)
0001	9.2
0102	17.1
0203	1.2

184-SB-082	
Depth (feet)	Hexavalent (mg/kg)
0001	3.3
0102	8.5
0203	2.6
0304	0.84U
0304DP	0.83U

REV.	DATE	STATUS	PRPD BY	CHKD BY
0	02/16/12	ISSUE TO HONEYWELL	DL	AG

AMEC PROJECT No. 3480100023
DRAWING: 3480100023-5200-CMBX3C-00

PREPARED/DATE: STR 09/30/11

CHECKED/DATE: AG 2/16/12

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ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 3C
POST EXCAVATION SAMPLE RESULTS
STUDY AREA 5
BUILDING 1 AREA SITES 90 & 184
JERSEY CITY, NEW JERSEY

N

LEGEND

- SAMPLE LOCATION
- SIDE SAMPLE LOCATION
- BOTTOM SAMPLE LOCATION
- SIDE/BOTTOM SAMPLE LOCATION
- PROPERTY LINE
- LOT LINE
- EXCAVATION DEPTH (e.g. 4.3)
- LIMIT OF HEXAVALENT CHROMIUM >20 mg/kg

184-SB-145	
Depth (feet)	Hexavalent (mg/kg)
0001	18.1J
0102	**20.7J**
0203	6.3

184-SB-157	
Depth (feet)	Hexavalent (mg/kg)
0001	1.8
0102	4.9

184-SB-147	
Depth (feet)	Hexavalent (mg/kg)
0001	0.39J
0102	6.2J

184-SB-140	
Depth (feet)	Hexavalent (mg/kg)
0001	18.8J
0102	**45.1J**
0203	17.1

184-SB-146	
Depth (feet)	Hexavalent (mg/kg)
0001	1.4J
0102	12J

184-SB-156	
Depth (feet)	Hexavalent (mg/kg)
0001	1.2
0102	4.2

184-SB-148	
Depth (feet)	Hexavalent (mg/kg)
0001	3.4J

184-SB-155	
Depth (feet)	Hexavalent (mg/kg)
0001	0.65J
0102	4.4

184-SB-131	
Depth (feet)	Hexavalent (mg/kg)
0001	19.7
0102	10.8

184-SB-130	
Depth (feet)	Hexavalent (mg/kg)
0001	**28.8**
0102	7.5

184-SB-149	
Depth (feet)	Hexavalent (mg/kg)
0001	18.4J

184-SB-137	
Depth (feet)	Hexavalent (mg/kg)
0001	**25.9J**
0102	15.5

184-SB-150	
Depth (feet)	Hexavalent (mg/kg)
0001	15.5J

184-SB-151	
Depth (feet)	Hexavalent (mg/kg)
0001	**31J**
0102	8.7

184-SB-136	
Depth (feet)	Hexavalent (mg/kg)
0001	5.2J

184-SB13-PE3	
Depth (feet)	Hexavalent (mg/kg)
0002	2.5U

184-SB13-PE4	
Depth (feet)	Hexavalent (mg/kg)
0002	15.4

184-SB-034	
Depth (feet)	Hexavalent (mg/kg)
0001	1.6
0102	5
0203	4.4
0304	0.97

184-SB13-PE1	
Depth (feet)	Hexavalent (mg/kg)
0002	15

184-SB-144	
Depth (feet)	Hexavalent (mg/kg)
0102	1.3J
0203	4.5

184-SB-126	
Depth (feet)	Hexavalent (mg/kg)
0001	**31.2**
0102	**42.8**
0203	1.4J

184-SB-141	
Depth (feet)	Hexavalent (mg/kg)
0102	1.5J
0203	11.6

184-SB-102	
Depth (feet)	Hexavalent (mg/kg)
0001	0.82U
0102	0.84U

184-SB-139	
Depth (feet)	Hexavalent (mg/kg)
0001	**56.1J**
0102	17.1

184-SB-127	
Depth (feet)	Hexavalent (mg/kg)
0102	1.7
0203	1.4

184-SB-132	
Depth (feet)	Hexavalent (mg/kg)
0001	**41.8**
0102	4.9J

184-SB-093	
Depth (feet)	Hexavalent (mg/kg)
0001	5.8J
0102	8.1

184-SB-057A	
Depth (feet)	Hexavalent (mg/kg)
0001	11.9
0102	2.8

184-SB-043	
Depth (feet)	Hexavalent (mg/kg)
0001	19.6
0102	17.4J

184-SB-152	
Depth (feet)	Hexavalent (mg/kg)
0001	0.91J

184-SB-13	
Depth (feet)	Hexavalent (mg/kg)
0002	**88.4J**
0204	8.7J

184-SB13-PE2	
Depth (feet)	Hexavalent (mg/kg)
0002	6.2

090-SB-169	
Depth (feet)	Hexavalent (mg/kg)
0001	11.2
0102	15.6

090-SB14-PE4	
Depth (feet)	Hexavalent (mg/kg)
0002	6.1

090-SB-F14	
Depth (feet)	Hexavalent (mg/kg)
0002	**22.3**
0204	5
0406	10
0608	2.8

090-SB14-PE3	
Depth (feet)	Hexavalent (mg/kg)
0002	14

090-SB-F12	
Depth (feet)	Hexavalent (mg/kg)
0002	**38.3**
0204	2.3U
0406	5.4
0608	2.4U

090-SB12-PE4	
Depth (feet)	Hexavalent (mg/kg)
0002	6.1

090-SB12-PE1	
Depth (feet)	Hexavalent (mg/kg)
0002	8.2

184-SB-129	
Depth (feet)	Hexavalent (mg/kg)
0102	9.8
0203	1.6J

090-SB-170	
Depth (feet)	Hexavalent (mg/kg)
0001	0.98
0102	4.3

184-SB-070	
Depth (feet)	Hexavalent (mg/kg)
0001	8.4

184-SB-107	
Depth (feet)	Hexavalent (mg/kg)
0001	0.88U
0102	9.3
0203	1.5

184-SB-104	
Depth (feet)	Hexavalent (mg/kg)
0001	16.9
0102	**23.8**
0203	6.6

184-SB-103	
Depth (feet)	Hexavalent (mg/kg)
0001	**20.1J**
0102	18.6
0203	4.4

184-SB-090	
Depth (feet)	Hexavalent (mg/kg)
0001	5.6
0102	7.4J

184-SB-059A	
Depth (feet)	Hexavalent (mg/kg)
0001	12.1
0102	1.5

184-SB-064	
Depth (feet)	Hexavalent (mg/kg)
0001	3.9

184-SB-055A	
Depth (feet)	Hexavalent (mg/kg)
0001	2.6
0102	2.1

184-SB-056A	
Depth (feet)	Hexavalent (mg/kg)
0001	**30.6**
0102	3.7
0102DP	4.8

090-SB-137A	
Depth (feet)	Hexavalent (mg/kg)
0001	1.9

090-SB-139A	
Depth (feet)	Hexavalent (mg/kg)
0001	1.5

090-SB-158	
Depth (feet)	Hexavalent (mg/kg)
0001	8.6J
0102	2.2

090-SB-140A	
Depth (feet)	Hexavalent (mg/kg)
0001	0.85U

090-SB12-PE2	
Depth (feet)	Hexavalent (mg/kg)
0002	3.1

184-SB-106	
Depth (feet)	Hexavalent (mg/kg)
0001	**27.9**
0102	7.1

184-SB-031	
Depth (feet)	Hexavalent (mg/kg)
0001	9.5
0102	10.6
0203	11.1

184-SB-042	
Depth (feet)	Hexavalent (mg/kg)
0001	**25.2**
0102	5.9
0203	10.9
0203DP	6.9

090-SB-200	
Depth (feet)	Hexavalent (mg/kg)
0203	1.2

090-SB-123	
Depth (feet)	Hexavalent (mg/kg)
0001	16.8

090-SB12-PE3	
Depth (feet)	Hexavalent (mg/kg)
0002	16

184-SB-105	
Depth (feet)	Hexavalent (mg/kg)
0001	15.7J
0102	2.5J
0203	2.6
0203DP	2.9

184-SB-041	
Depth (feet)	Hexavalent (mg/kg)
0001	**108J**
0102	**35.4J**
0203	1.1

090-SB-122	
Depth (feet)	Hexavalent (mg/kg)
0001	1.6

090-SB-119	
Depth (feet)	Hexavalent (mg/kg)
0001	**99.9J**
0102	1.4
0203	1.3

184-SB-080	
Depth (feet)	Hexavalent (mg/kg)
0001	11.6
0102	1.9
0203	0.84

090-SB-155	
Depth (feet)	Hexavalent (mg/kg)
0001	5.5
0102	0.86U
0203	2.9

0 20 40 80
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
0	02/16/12	ISSUE TO HONEYWELL	DL	AG

AMEC PROJECT No. 3480100023
DRAWING: 3480100023-5200-CMBX3D-00

PREPARED/DATE: STR 09/30/11
CHECKED/DATE: AG 2/16/12

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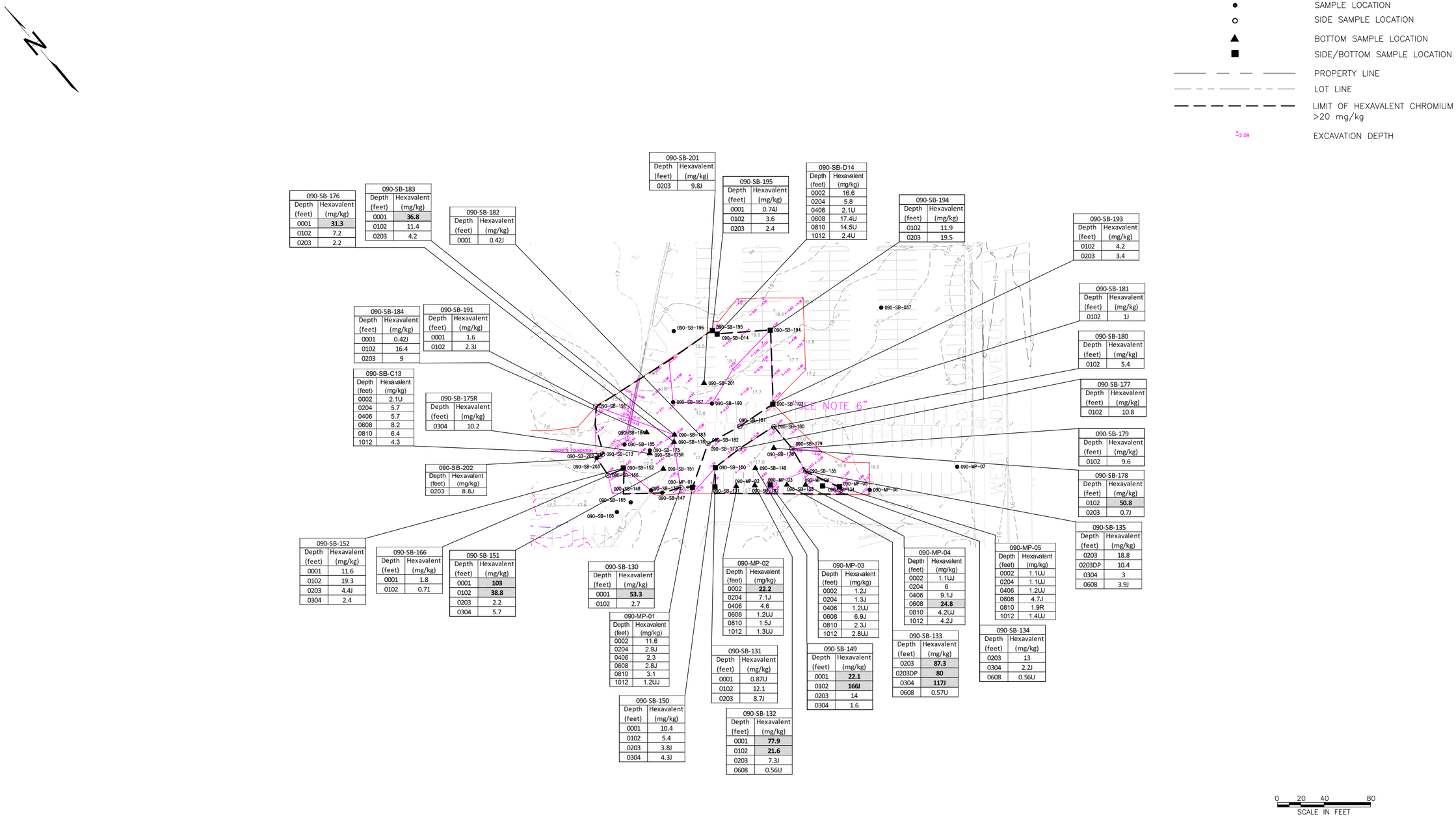
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 3D
POST EXCAVATION SAMPLE RESULTS
STUDY AREA 5
BUILDING 2 SITES 90 & 184
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 5\SITE 90 & 184 NJ\CIVIL\DGU EXCAVATION\excavation chemboxes\current drawings\POST EXCAVATION SAMPLE 3480100023-5200-CMBX3D-00.dwg Fri, 17 Feb 2012 - 9:56am david.hech Layout: FIGURE 3D



REV.	DATE	STATUS	PRPD BY	CHKD BY
0	02/16/12	ISSUE TO HONEYWELL	DL	AG

AMEC PROJECT No. 3480100023
DRAWING: 3480100023-5200-CMBX3E-00

PREPARED/DATE: STR 09/30/11

CHECKED/DATE: AG 2/16/12

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ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 3E
POST EXCAVATION SAMPLE RESULTS
STUDY AREA 5
BUILDING 3 AREA SITES 90 & 184
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 5\SITE 90 & 184 NJCU\NJCU EXCAVATION\excavation chembox\current drawings\POST EXCAVATION SAMPLE 3480100023-5200-CMBX3E-00.dwg Thu, 16 Feb 2012 - 4:32pm david.leech Layout: FIGURE 3E

TABLES

STUDY AREA 5 REMEDIAL ACTION REPORT
FORMER BALDWIN STEEL SITE (NJDEP SITE 090)
FORMER MI HOLDINGS SITE (NJDEP SITE 184)
FORMER MORRIS CANAL SITE (NJDEP SITE 153)
JERSEY CITY, NEW JERSEY

TABLE 1B-1
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 5

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
090-E3-2	1214	1.2U	X	
090-E3-3	1820	1.2U	X	X
090-E4-2	1820	1.7U	X	X
090-E6-1	1618	17.7		X
090-E9-1	0204	1.0U	X	
090-E9-2	0204	1.1U	X	
090-PE-08	0002	4.6	X	
090-PE-09	0002	2.1J	X	
090-PE-10	0002	2.8J	X	
090-PE-12	0002	5.8J	X	
090-PE-12	1214	1.2UJ		
090-PE-15	0002	14.3J	X	
090-PE-16	0002	2.4	X	
090-PE-17	0002	7	X	
090-PE-18	0204	4.5	X	
090-PE-19	0204	9	X	
090-PE-21	0204	2.8	X	
090-PE-23	0004	2.2	X	
090-PE-23	0408	1.3		X
090-PE-26	1216	1.1U	X	
090-PE-27	1216	4.5	X	X
090-PE-28	1216	13.4		X
090-PE-29	1216	4		X
090-PE-31	1416	5.9		X
090-PE-32	1416	11.5		X
090-PE-34	0812	1.2U	X	
090-PE-35	0812	1.2UJ	X	
090-PE-36	0002	3.2	X	
090-PE-37	0002	17.8	X	
090-PE-42	0002	2.4	X	
090-SB-003	1416	12.2J		X
090-SB-004	0002	8.5J	X	
090-SB-004	0204	2UJ		
090-SB-004	0810	2UJ		
090-SB-004	1214	2UJ		
090-SB-004	1416	2UJ		
090-SB-011	0002	2.11U	X	
090-SB-011	0204	2.17UJ		
090-SB-011	0406	2.31UJ		
090-SB-011	0608	2.31UJ		
090-SB-011	0810	5.4J		
090-SB-011	1012	14.4J		X
090-SB-013	0002	9.1J	X	
090-SB-013	0204	2.42UJ		
090-SB-013	0406	2.31UJ		
090-SB-013	0608	2.4UJ		
090-SB-013	0810	2.48UJ		
090-SB-013	1012	3.3J		

TABLE 1B-1
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 5

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
090-SB-022	1416	4.4		X
090-SB-B10	1012	12.8		X
090-SB-I13	1618	17		X
090-WC-A4B	1012	6.5		X
090-WC-A5B	0810	5.3		X
090-WC-A6A	0810	2		X
090-WC-C2B	1820	1.3		X
090-WC-C3A	1820	1.9		X
090-WC-C4B	1214	1.2	X	
		Total Soil Samples	**27**	**19**

Excavation Bottom Area (SF)	**16,772**
Excavation Perimeter (ft)	**822**
Total Sidewall Soil Samples /LF	**30**
Total Bottom Soil Samples /SF	**883**

Notes:
U = Compound was not detected. The Practical Quantitation Limit for Hexavalent Chromium is 2 mg/kg.
J = Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Prepared by: TG
Checked by: US

TABLE 1B-2
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 6

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
184-PE-01	0608	2.2	X	
184-PE-01	0810	3.1U		X
184-PE-02	0406	2.4U	X	
184-PE-03	0406	1.5U	X	
184-PE-04	0204	1.2UJ	X	
184-PE-05	0204	1.2U	X	
184-PE-06	0406	1.7UJ	X	
184-PE-07	0406	1.3UJ	X	
184-PE-07	0608	1.2UJ		
184-PE-07	0810	1.2U		X
184-PE-08	0810	1.2U		X
184-PE-09	0810	2.5U		X
184-PE-11	0406	1.4U	X	
184-PE-14	0810	1.3U		X
184-PE-15	0810	1.1U		X
184-SB-A01	1012	2UJ		X
184-SB-A02	1012	2UJ		X
184-SB-A03	0810	2UJ		X
184-SB-A05	1012	9.6J		X
184-SB-02	0002	2UJ	X	
184-SB-02	0204	2UJ		
184-SB-02	0406	2.8J		
184-SB-02	0608	2UJ		
184-SB-02	0810	2UJ		X
184-SB-06	0002	11.4J	X	
184-SB-06	0204	4J		
184-SB-06	0406	2UJ		
184-SB-06	0608	2UJ		
184-SB-06	0810	2UJ		X
184-SB-07	1012	2UJ		X
184-SB-08	0810	2U		X
184-SB-11	0810	2U		X
184-SB-12	0810	2U		X
		Total Soil Samples	**10**	**16**

Excavation Bottom Area (SF)	**14,085**
Excavation Perimeter (ft)	**300**
Total Sidewall Soil Samples /LF	**30**
Total Bottom Soil Samples /SF	**880**

Notes:
U = Compound was not detected. The Practical Quantitation Limit for Hexavalent Chromium is 2 mg/kg.
J = Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Prepared by: TG
Checked by: US

TABLE 1B-3
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 1

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
184-SB-14	0204	2.4J		X
184-SB-036	0002	8.9	X	
184-SB-052A	0001	15	X	
184-SB-052A	0102	1.4		X
184-SB-078	0001	11.6J	X	
184-SB-081	0102	9.6		X
184-SB-082	0001	3.3	X	
184-SB-082	0102	8.5		X
184-SB-083	0001	1.7	X	
184-SB-083	0102	4.7J		X
184-SB-084	0001	13.7J	X	
184-SB-084	0102	2J		X
184-SB-087	0203	1.2	X	
184-SB-088	0102	0.95	X	
184-SB-089	0001	12.9	X	
184-SB-094	0102	8.6J	X	
184-SB-095	0102	0.77J	X	
184-SB-096	0203	7		X
184-SB-110	0304	7.2J		X
184-SB-111	0304	2.2BJ		X
184-SB-112	0304	6.8J		X
184-SB-113	0304	0.55J	X	
184-SB-118	0203	4.2	X	
184-SB-119R	0506	1.5		X
184-SB-120	0203	3.4	X	
184-SB-120	0304	10.7		X
184-SB-121	0203	6.9	X	
184-SB-121	0304	3.1		X
184-SB-122	0203	0.33J	X	
184-SB-122	0304	0.21U		X
184-SB-123	0203	0.63J	X	
184-SB-123	0304	0.21U		X
184-SB-124	0102	2.4J	X	
184-SB-124	0203	1.5		X
184-SB-125	0102	5.7J	X	
184-SB-125	0203	2.4		X
184-SB-133	0203	2.5BJ	X	
184-SB-133	0304	0.75JB		X

TABLE 1B-3
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 1

184-SB-164	0203	0.98J		X
184-SB-166	0102	15.3	X	
184-SB-174	0203	12J	X	
184-SB-175	0102	0.88J	X	
		Total Soil Samples	**23**	**19**

Excavation Bottom Area (SF)	**8,432**
Excavation Perimeter (ft)	**539.6**
Total Sidewall Soil Samples /LF	**23**
Total Bottom Soil Samples /SF	**444**

Notes:
U = Compound was not detected. The Practical Quantitation Limit for Hexavalent Chromium is 2 mg/kg.
J = Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Prepared by: TG
Checked by: US

TABLE 1B-4
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 2

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
090-SB12-PE1	0002	8.2	X	
090-SB12-PE2	0002	3.1	X	
090-SB12-PE3	0002	16	X	
090-SB12-PE4	0002	6.1	X	
090-SB-119	0102	1.4		X
090-SB-122	0001	1.6	X	
090-SB-123	0001	16.8		X
090-SB-137A	0001	1.9	X	
090-SB-139A	0001	1.5	X	
090-SB-140A	0001	0.85U	X	
090-SB14-PE3	0002	14	X	
090-SB14-PE4	0002	6.1	X	
090-SB-155	0001	5.5	X	
090-SB-155	0203	2.9		X
090-SB-158	0001	8.6J	X	
090-SB-169	0001	11.2	X	
090-SB-169	0102	15.6		X
090-SB-170	0001	0.98	X	
090-SB-170	0102	4.3		X
090-SB-200	0203	1.2		X
090-SB-F12	0204	2.3U		X
090-SB-F14	0204	5		X
184-SB13-PE1	0002	15		X
184-SB13-PE2	0002	6.2	X	
184-SB13-PE3	0002	2.5U	X	
184-SB13-PE4	0002	15.4	X	
184-SB-13	0204	8.7J		X
184-SB-031	0001	9.5	X	
184-SB-034	0102	5	X	
184-SB-034	0203	4.4		X
184-SB-041	0203	1.1		X
184-SB-042	0102	5.9		X
184-SB-043	0001	19.6	X	
184-SB-055A	0001	2.6	X	
184-SB-056A	0102	3.7		X
184-SB-057A	0001	11.9	X	
184-SB-059A	0001	12.1	X	
184-SB-064	0001	3.9	X	
184-SB-070	0001	8.4	X	
184-SB-080	0001	11.6	X	
184-SB-090	0001	5.6	X	
184-SB-093	0001	5.8J	X	
184-SB-102	0001	0.82U	X	
184-SB-103	0203	4.4		X
184-SB-104	0203	6.6		X
184-SB-105	0001	15.7J	X	
184-SB-105	0102	2.5J		X
184-SB-106	0102	7.1		X
184-SB-107	0102	9.3	X	
184-SB-107	0203	1.5		X
184-SB-126	0203	1.4J		X
184-SB-127	0102	1.7	X	

TABLE 1B-4
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 2

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
184-SB-127	0203	1.4		X
184-SB-129	0102	9.8	X	
184-SB-129	0203	1.6J		X
184-SB-130	0102	7.5		X
184-SB-131	0102	10.8		X
184-SB-132	0102	4.9J		X
184-SB-136	0001	5.2J	X	
184-SB-137	0102	15.5		X
184-SB-139	0102	17.1		X
184-SB-140	0203	17.1		X
184-SB-141	0102	1.5J	X	
184-SB-141	0203	11.6		X
184-SB-144	0102	1.3J	X	
184-SB-144	0203	4.5		X
184-SB-145	0203	6.3		X
184-SB-146	0102	12J	X	
184-SB-147	0102	6.2J	X	
184-SB-148	0001	3.4J	X	
184-SB-149	0001	18.4J	X	
184-SB-150	0001	15.5J	X	
184-SB-151	0102	8.7		X
184-SB-152	0001	0.91J	X	
184-SB-155	0001	0.65J	X	
184-SB-156	0001	1.2	X	
184-SB-157	0001	1.8	X	
		Total Soil Samples	**45**	**32**

Excavation Bottom Area (SF)	**19,728**
Excavation Perimeter (ft)	**1130**
Total Sidewall Soil Samples /LF	**25**
Total Bottom Soil Samples /SF	**617**

Notes:
U = Compound was not detected. The Practical Quantitation Limit for Hexavalent Chromium is 2 mg/kg.
J = Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Prepared by: TG
Checked by: US

TABLE 1B-5
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 3

Boring Location	Sample Interval (ft-bgs)	Hexavalent (mg/kg)	Sidewall Sample	Bottom Sample
090-MP-01	0002	11.6	X	
090-MP-01	0204	2.9J		X
090-MP-02	0810	1.5J		X
090-MP-03	0608	6.9J	X	
090-MP-03	0810	2.3J		X
090-MP-04	0810	4.2UJ		X
090-MP-05	0608	4.7J	X	X
090-SB-130	0102	2.7	X	
090-SB-131	0102	12.1	X	
090-SB-131	0203	8.7J		X
090-SB-132	0203	7.3J		X
090-SB-133	0608	0.57U		X
090-SB-134	0203	13	X	
090-SB-134	0608	0.56U		X
090-SB-135	0304	3	X	
090-SB-149	0203	14		X
090-SB-150	0102	5.4	X	
090-SB-150	0203	3.8J		X
090-SB-151	0304	5.7		X
090-SB-152	0102	19.3	X	
090-SB-152	0304	2.4		X
090-SB-166	0102	0.71	X	
090-SB-175R	0304	10.2		X
090-SB-176	0102	7.2		X
090-SB-177	0102	10.8	X	
090-SB-178	0203	0.7J		X
090-SB-179	0102	9.6	X	
090-SB-180	0102	5.4	X	
090-SB-181	0102	1J	X	
090-SB-182	0001	0.42J	X	
090-SB-183	0102	11.4		X
090-SB-184	0102	16.4		X
090-SB-191	0102	2.3J	X	
090-SB-193	0102	4.2	X	
090-SB-193	0203	3.4		X
090-SB-194	0102	11.9	X	
090-SB-194	0203	19.5		X
090-SB-195	0102	3.6	X	
090-SB-195	0203	2.4		X

TABLE 1B-5
Post-Excavation Sampling Analytical Results
Study Area 5 Sites 90 and 184
Building Area 3

090-SB-201	0203	9.8J		X
090-SB-202	0203	8.8J	X	
090-SB-C13	0002	2.1U	X	
090-SB-D14	0002	16.6	X	
090-SB-D14	0204	5.8		X
		Total Soil Samples	**22**	**23**

Excavation Bottom Area (SF)	**17,392**
Excavation Perimeter (ft)	**582**
Total Sidewall Soil Samples /LF	**26**
Total Bottom Soil Samples /SF	**756**

Notes:
U = Compound was not detected. The Practical Quantitation Limit for Hexavalent Chromium is 2 mg/kg.
J = Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Prepared by: TG
Checked by: US

TABLE 1B-6
Post-Excavation Sampling Analytical Results
Hexavalent Chromium Sidewall Post-Ex Sample Summary
Study Area 5 Sites 90 and 184

Excavation Area	Perimeter Distance (ft)	Number of samples along sidewall	Soil Samples /LF
Building 1	540	23	23
Building 2	1,130	45	25
Building 3	582	22	26
Building 5	822	27	30
Building 6	300	10	30
Total	**3,374**	**127**	**27**

Prepared by: TG
Checked by: US

TABLE 1B-7
Post-Excavation Sampling Analytical Results
Hexavalent Chromium Bottom Post-Ex Sample Summary
Study Area 5 Sites 90 and 184

Excavation Area	Bottom Area (SF)	Number of samples within excavation area	Soil Samples /SF
Building 1	8,432	19	444
Building 2	19,728	32	617
Building 3	17,392	23	756
Building 5	16,772	19	883
Building 6	14,085	16	880
Total	**76,409**	**109**	**701**

Prepared by: TG
Checked by: US

TABLE 2A
STUDY AREA 5 SITE 090 AND 184
WASTE CLASSIFICATION SOIL SAMPLES

Location	Field Sample ID	Sample Date	Lab Sample ID	Sample Interval	TCLP Chromium (mg/L)	Hexavalent (mg/kg)
090-WCA1	090-WCA1-0004	07/14/2010	JA51507-1C	0-4 ft	11.8	NA
090-WCA1	090-WCA1-0408	07/14/2010	JA51507-2C	0-4 ft	0.16	NA
090-WCA1	090-WCA1-0812	07/14/2010	JA51507-3C	0-4 ft	0.3	NA
090-WCA1	090-WCA1-1216	07/14/2010	JA51507-4C	0-4 ft	1.9	NA
090-WCA1	090-WCA1-1620	07/14/2010	JA51507-5C	0-4 ft	0.63	NA
090-WCA1A	090-WCA1A-0406	07/14/2010	JA51506-1|JA51506-1A	5-5.5 ft	NA	2.1
090-WCA1A	090-WCA1A-0810	07/14/2010	JA51506-2|JA51506-2A	9-9.5 ft	NA	16.5
090-WCA1A3	090-WCA1A3-1216	07/14/2010	JA51507-30C	12-16 ft	1.2	NA
090-WCA1A3	090-WCA1A3-1620	07/14/2010	JA51507-31C	16-20 ft	0.17	NA
090-WCA1B	090-WCA1B-0406	07/14/2010	JA51506-4|JA51506-4A	5-5.5 ft	NA	1.4
090-WCA1B	090-WCA1B-0810	07/14/2010	JA51506-5|JA51506-5A	8.5-9 ft	NA	6.9
090-WCA2	090-WCA2-0004	07/14/2010	JA51507-6C	0-4 ft	4.9	NA
090-WCA2	090-WCA2-0408	07/14/2010	JA51507-7C	0-4 ft	0.12	NA
090-WCA2	090-WCA2-0812	07/14/2010	JA51507-8C	0-4 ft	0.33	NA
090-WCA2	090-WCA2-1216	07/14/2010	JA51507-9C	0-4 ft	0.69	NA
090-WCA2	090-WCA2-1620	07/14/2010	JA51507-10C	0-4 ft	0.088	NA
090-WCA2A	090-WCA2A-0608	07/14/2010	JA51506-7|JA51506-7A	6-6.5 ft	NA	2.7
090-WCA2A	090-WCA2A-1012	07/14/2010	JA51506-8|JA51506-8A	10.5-11 ft	NA	30.7
090-WCA2B	090-WCA2B-0406	07/14/2010	JA51506-10	5.5-6 ft	NA	3
090-WCA2B	090-WCA2B-0608	07/14/2010	JA51506-11	7-7.5 ft	NA	13.8
090-WCA2B	090-WCA2B-0810	07/14/2010	JA51506-12	9.5-10 ft	NA	10.4
090-WCA2B	090-WCA2B-1012	07/14/2010	JA51506-13	11.5-12 ft	NA	15.2
090-WCA2B	090-WCA2B-1214	07/14/2010	JA51506-14	13.5-14 ft	NA	71.7
090-WCA2B	090-WCA2B-1416	07/14/2010	JA51506-15	15.5-16 ft	NA	50.4
090-WCA2B	090-WCA2B-1618	07/14/2010	JA51506-16	17.5-18 ft	NA	7.7
090-WCA2B	090-WCA2B-1820	07/14/2010	JA51506-17	19.5-20 ft	NA	2.4
090-WCA3	090-WCA3-0004	07/14/2010	JA51507-11C	0-4 ft	15.6	NA
090-WCA3	090-WCA3-0408	07/14/2010	JA51507-12C	0-4 ft	0.16	NA
090-WCA3	090-WCA3-0812	07/14/2010	JA51507-13C	0-4 ft	1.5	NA
090-WCA3	090-WCA3-1216	07/14/2010	JA51507-14C	0-4 ft	0.89	NA
090-WCA3	090-WCA3-1620	07/14/2010	JA51507-15C	0-4 ft	0.53	NA
090-WCA3A	090-WCA3A-0608	07/14/2010	JA51506-18|JA51506-18A	7-7.5 ft	NA	13.9
090-WCA3A	090-WCA3A-0810	07/14/2010	JA51506-19|JA51506-19A	9.5-10 ft	NA	88
090-WCA3A4	090-WCA3A4-0412	07/14/2010	JA51507-34C	4-12 ft	0.43	NA
090-WCA3B	090-WCA3B-0608	07/14/2010	JA51506-22|JA51506-22A	6-6.5 ft	NA	7.3
090-WCA3B	090-WCA3B-0810	07/14/2010	JA51506-23|JA51506-23A	8.5-9 ft	NA	78.8
090-WCA4	090-WCA4-0004	07/14/2010	JA51507-16C	0-4 ft	21.2	NA
090-WCA4	090-WCA4-0408	07/14/2010	JA51507-17C	0-4 ft	0.29	NA
090-WCA4	090-WCA4-0812	07/14/2010	JA51507-18C	0-4 ft	0.67	NA
090-WCA4	090-WCA4-1216	07/14/2010	JA51507-19C	0-4 ft	1.1	NA
090-WCA4	090-WCA4-1620	07/14/2010	JA51507-20C	0-4 ft	0.23	NA
090-WCA4A	090-WCA4A-0608	07/14/2010	JA51506-25|JA51506-25A	11.5-12 ft	NA	13.3
090-WCA4A	090-WCA4A-1012	07/14/2010	JA51506-26|JA51506-26A	13.5-14 ft	NA	244
090-WCA4A7	090-WCA4A7-1216	07/14/2010	JA51507-32C	12-16 ft	0.16	NA
090-WCA4A7	090-WCA4A7-1620	07/14/2010	JA51507-33C	16-20 ft	0.061	NA
090-WCA4B	090-WCA4B-0608	07/14/2010	JA51506-28|JA51506-28A	17.5-18 ft	NA	5.6
090-WCA4B	090-WCA4B-1012	07/14/2010	JA51506-29|JA51506-29A	19.5-20 ft	NA	6.5

Prepared by: TG
Checked by:

TABLE 2A
STUDY AREA 5 SITE 090 AND 184
WASTE CLASSIFICATION SOIL SAMPLES

Location	Field Sample ID	Sample Date	Lab Sample ID	Sample Interval	TCLP Chromium (mg/L)	Hexavalent (mg/kg)
090-WCA5	090-WCA5-0004	07/14/2010	JA51507-21C	0-4 ft	2.2	NA
090-WCA5	090-WCA5-0408	07/14/2010	JA51507-22C	0-4 ft	0.39	NA
090-WCA5	090-WCA5-0812	07/14/2010	JA51507-23C	0-4 ft	0.12	NA
090-WCA5	090-WCA5-1216	07/14/2010	JA51507-24C	0-4 ft	0.45	NA
090-WCA5	090-WCA5-1620	07/14/2010	JA51507-25C	0-4 ft	0.043	NA
090-WCA5A	090-WCA5A-0406	07/14/2010	JA51506-31|JA51506-31A	5-5.5 ft	NA	10.5
090-WCA5A	090-WCA5A-0810	07/14/2010	JA51506-32|JA51506-32A	9.5-10 ft	NA	143
090-WCA5B	090-WCA5B-0406	07/14/2010	JA51506-34|JA51506-34A	4.5-5 ft	NA	11.6
090-WCA5B	090-WCA5B-0810	07/14/2010	JA51506-35|JA51506-35A	9-9.5 ft	NA	5.3
090-WCA6	090-WCA6-0408	07/14/2010	JA51507-26C	0-4 ft	0.038	NA
090-WCA6	090-WCA6-0812	07/14/2010	JA51507-27C	0-4 ft	0.039	NA
090-WCA6	090-WCA6-1216	07/14/2010	JA51507-28C	0-4 ft	0.028	NA
090-WCA6	090-WCA6-1620	07/14/2010	JA51507-29C	0-4 ft	0.010U	NA
090-WCA6A	090-WCA6A-0406	07/14/2010	JA51506-37|JA51506-37A	4.5-5 ft	NA	4
090-WCA6A	090-WCA6A-0810	07/14/2010	JA51506-38|JA51506-38A	8.5-9 ft	NA	2
090-WCA6B	090-WCA6B-0406	07/15/2010	JA51506-40|JA51506-40A	4.5-5 ft	NA	1.3
090-WCA6B	090-WCA6B-0810	07/15/2010	JA51506-41|JA51506-41A	11-11.5 ft	NA	2.8
090-WCA7	090-WCA7-0408	07/16/2010	JA51526-15C	4-8 ft	1.6	NA
090-WCA7	090-WCA7-0412	07/16/2010	JA51526-28C		0.67	NA
090-WCA7	090-WCA7-0812	07/16/2010	JA51526-16C	8-12 ft	0.33	NA
090-WCA7	090-WCA7-1216	07/16/2010	JA51526-17C	12-16 ft	0.098	NA
090-WCA7	090-WCA7-1620	07/16/2010	JA51526-18C	16-20 ft	0.013	NA
090-WCA7A	090-WCA7A-0608	07/15/2010	JA51523-1|JA51523-1A	6-6.5 ft	NA	456
090-WCA7A	090-WCA7A-1012	07/15/2010	JA51523-2|JA51523-2A	11.5-12 ft	NA	95.8
090-WCA7A	090-WCA7A-1214	07/15/2010	JA51523-3|JA51523-3A	13.5-14 ft	NA	54.9
090-WCA7B	090-WCA7B-0608	07/15/2010	JA51523-4|JA51523-4A	7.5-8 ft	NA	2.8
090-WCA7B	090-WCA7B-1012	07/15/2010	JA51523-5|JA51523-5A	11.5-12 ft	NA	5.6
090-WCA7B	090-WCA7B-1214	07/15/2010	JA51523-6|JA51523-6A	13.5-14 ft	NA	74.4
090-WCA8	090-WCA8-0004	07/16/2010	JA51526-19C	0-4 ft	1.6	NA
090-WCA8	090-WCA8-0408	07/16/2010	JA51526-20C	4-8 ft	0.54	NA
090-WCA8	090-WCA8-0412	07/16/2010	JA51526-29C		0.47	NA
090-WCA8	090-WCA8-0812	07/16/2010	JA51526-21C	8-12 ft	1.1	NA
090-WCA8	090-WCA8-1216	07/16/2010	JA51526-22C	12-16 ft	1.4	NA
090-WCA8	090-WCA8-1620	07/16/2010	JA51526-23C	16-20 ft	0.24	NA
090-WCB1	090-WCB1-0004	07/16/2010	JA51526-1C	0-4 ft	0.010U	NA
090-WCB1B3	090-WCB1B3-0004	07/16/2010	JA51526-26C		0.3	NA
090-WCB2	090-WCB2-0004	07/16/2010	JA51526-2C	0-4 ft	0.035	NA
090-WCB3	090-WCB3-0004	07/16/2010	JA51526-3C	0-4 ft	0.28	NA
090-WCB4	090-WCB4-0004	07/16/2010	JA51526-4C	0-4 ft	0.069	NA
090-WCB4B6	090-WCB4B6-0004	07/16/2010	JA51526-27C		0.033	NA
090-WCB5	090-WCB5-0004	07/16/2010	JA51526-5C	0-4 ft	0.074	NA
090-WCB6	090-WCB6-0004	07/16/2010	JA51526-6C	0-4 ft	0.16	NA

Prepared by: TG
Checked by:

TABLE 2A
STUDY AREA 5 SITE 090 AND 184
WASTE CLASSIFICATION SOIL SAMPLES

Location	Field Sample ID	Sample Date	Lab Sample ID	Sample Interval	TCLP Chromium (mg/L)	Hexavalent (mg/kg)
090-WCC1	090-WCC1-1216	07/16/2010	JA51526-7C	12-16 ft	0.32	NA
090-WCC1	090-WCC1-1620	07/16/2010	JA51526-11C	16-20 ft	0.29	NA
090-WCC1A	090-WCC1A-1214	07/15/2010	JA51523-7|JA51523-7A	12.5-13 ft	NA	18.3
090-WCC1A	090-WCC1A-1820	07/15/2010	JA51523-8|JA51523-8A	18-18.5 ft	NA	28
090-WCC1B	090-WCC1B-1214	07/15/2010	JA51523-9|JA51523-9A	12.5-13 ft	NA	13.4
090-WCC1B	090-WCC1B-1820	07/15/2010	JA51523-10|JA51523-10A	18-18.5 ft	NA	5.4
090-WCC1C4	090-WCC1C4-1216	07/16/2010	JA51526-24C		0.18	NA
090-WCC1C4	090-WCC1C4-1620	07/16/2010	JA51526-25C		0.11	NA
090-WCC2	090-WCC2-1216	07/16/2010	JA51526-8C	12-16 ft	0.62	NA
090-WCC2	090-WCC2-1620	07/16/2010	JA51526-12C	16-20 ft	0.031	NA
090-WCC2A	090-WCC2A-1214	07/15/2010	JA51523-11|JA51523-11A	12.5-13 ft	NA	62
090-WCC2A	090-WCC2A-1820	07/15/2010	JA51523-12|JA51523-12A	18-18.5 ft	NA	3
090-WCC2B	090-WCC2B-1214	07/15/2010	JA51523-13|JA51523-13A	12.5-13 ft	NA	22.4
090-WCC2B	090-WCC2B-1820	07/15/2010	JA51523-14|JA51523-14A	18-18.5 ft	NA	1.3
090-WCC3	090-WCC3-1216	07/16/2010	JA51526-9C	12-16 ft	0.47	NA
090-WCC3	090-WCC3-1620	07/16/2010	JA51526-13C	16-20 ft	0.03	NA
090-WCC3A	090-WCC3A-1214	07/15/2010	JA51523-15|JA51523-15A	12.5-13 ft	NA	52.8
090-WCC3A	090-WCC3A-1820	07/15/2010	JA51523-16|JA51523-16A	18-18.5 ft	NA	1.9
090-WCC3B	090-WCC3B-1214	07/15/2010	JA51523-17|JA51523-17A	12.5-13 ft	NA	33.3
090-WCC3B	090-WCC3B-1820	07/15/2010	JA51523-18|JA51523-18A	18-18.5 ft	NA	4.3
090-WCC4	090-WCC4-1216	07/16/2010	JA51526-10C	12-16 ft	0.016	NA
090-WCC4	090-WCC4-1620	07/16/2010	JA51526-14C	16-20 ft	0.021	NA
090-WCC4A	090-WCC4A-1214	07/15/2010	JA51523-19|JA51523-19A	12.5-13 ft	NA	178
090-WCC4A	090-WCC4A-1820	07/15/2010	JA51523-20|JA51523-20A	18-18.5 ft	NA	0.82
090-WCC4B	090-WCC4B-1214	07/15/2010	JA51523-21|JA51523-21A	12.5-13 ft	NA	1.2
090-WCC4B	090-WCC4B-1820	07/15/2010	JA51523-22|JA51523-22A	18-18.5 ft	NA	2
184-WCD1	184-WCD1-0004	07/16/2010	JA51525-1C	0-4 ft	NA	9.5J
184-WCD2	184-WCD2-0004	07/16/2010	JA51525-2C	0-4 ft	NA	0.010U

Prepared by: TG
Checked by:

TABLE 2B
STUDY AREA 5 SITES 090 AND 184
WASTE CLASSIFICATION SOIL SAMPLES

Field Sample ID		090-WCA1A3-1216	090-WCA1A3-1620	090-WCA3A4-0412	090-WCA4A7-1216	090-WCA4A7-1620	090-WCA7-0412	090-WCA8-0412	090-WCB1B3-0004	090-WCB4B6-0004	090-WCC1C4-1216	090-WCC1C4-1620
Location		090-WCA1A3	090-WCA1A3	090-WCA3A4	090-WCA4A7	090-WCA4A7	090-WCA7	090-WCA8	090-WCB1B3	090-WCB4B6	090-WCC1C4	090-WCC1C4
Sample Depth		12-16 ft	16-20 ft	4-12 ft	12-16 ft	16-20 ft	4-12 ft	4-12 ft	0-4 ft	0-4 ft	12-16 ft	16-20 ft
Sample Date	Units	07/14/2010	07/14/2010	07/14/2010	07/14/2010	07/14/2010	07/16/2010	07/16/2010	07/16/2010	07/16/2010	07/16/2010	07/16/2010
Sample Delivery Group		JA51507R	JA51507R	JA51507R	JA51507R	JA51507R	JA51526R	JA51526R	JA51526R	JA51526R	JA51526R	JA51526R
Lab Sample ID		JA51507-30C	JA51507-31C	JA51507-34C	JA51507-32C	JA51507-33C	JA51526-28C	JA51526-29C	JA51526-26C	JA51526-27C	JA51526-24C	JA51526-25C
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Parameter Name												
TCLP VOAs												
1,1-DICHLOROETHENE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
1,2-DICHLOROETHANE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
2-BUTANONE	MG/L	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U
BENZENE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
CARBON TETRACHLORIDE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
CHLOROBENZENE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
CHLOROFORM	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0045J	0.0050U	0.0035J	0.0050U	0.0050U
TETRACHLOROETHENE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
TRICHLOROETHENE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
VINYL CHLORIDE	MG/L	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U	0.025U
TCLP SVOAs												
1,4-DICHLOROBENZENE	MG/L	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U
2,4,5-TRICHLOROPHENOL	MG/L	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U
2,4,6-TRICHLOROPHENOL	MG/L	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U
2,4-DINITROTOLUENE	MG/L	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U
2-METHYLPHENOL	MG/L	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U
HEXACHLOROBENZENE	MG/L	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U
HEXACHLOROBUTADIENE	MG/L	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U
HEXACHLOROETHANE	MG/L	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U
NITROBENZENE	MG/L	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U
PENTACHLOROPHENOL	MG/L	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U	0.10U
PYRIDINE	MG/L	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U	0.020U
TCLP METALs												
ARSENIC	MG/L	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U
BARIUM	MG/L	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
CADMIUM	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
CHROMIUM	MG/L	1.2	0.17	0.43	0.16	0.061	0.67	0.47	0.3	0.033	0.18	0.11
LEAD	MG/L	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	1.3	0.50U	0.50U	0.50U
MERCURY	MG/L	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U
REACTIVE CYANIDE	MG/KG	5.9U	5.7U	6.0U	6.1U	5.8U	5.9U	5.6U	5.3U	5.4U	5.9U	5.9U
SELENIUM	MG/L	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U	0.50U
SILVER	MG/L	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U
PCBs												
AROCLOR-1016	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
AROCLOR-1221	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
AROCLOR-1232	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
AROCLOR-1242	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
AROCLOR-1248	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
AROCLOR-1254	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
AROCLOR-1260	MG/KG	0.035U	0.034U	0.035U	0.036U	0.034U	0.035U	0.033U	0.031U	0.031U	0.034U	0.035U
TCLP Pesticides												
CONSTITUENTS OF CHLORDANE	MG/L	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
ENDRIN	MG/L	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U
GAMMA-BHC (LINDANE)	MG/L	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U
HEPTACHLOR	MG/L	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U
HEPTACHLOR EPOXIDE	MG/L	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U
METHOXYCHLOR	MG/L	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U	0.00020U
TOXAPHENE	MG/L	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U

Prepared by: TG
Checked by:

TABLE 3B

SA-5 NJCU (SITE090) BUILDING 6 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-BLDG6-1N	11/19/2010	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.0050	0.005	mg/l
		Chromium	0.018	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.0	2	mg/kg
		Arsenic	2.4	2	mg/kg
		Beryllium	<0.20	0.2	mg/kg
		Cadmium	<0.50	0.5	mg/kg
		Chromium, Hexavalent	3.0	0.41	mg/kg
		Chromium	20.4	1	mg/kg
		Copper	42.2	2.5	mg/kg
		Lead	25	2	mg/kg
		Mercury	1.2	0.061	mg/kg
		Nickel	22.5	4	mg/kg
		Selenium	<2.0	2	mg/kg
		Silver	<0.50	0.5	mg/kg
		Thallium	<1.0	1	mg/kg
		Zinc	43.1	2	mg/kg
		Corrosivity	9.4		std units
090-WC-BLDG6-1S	11/19/2010	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.0050	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2	mg/kg
		Arsenic	<2.1	2	mg/kg
		Beryllium	<0.21	0.2	mg/kg
		Cadmium	<0.52	0.5	mg/kg
		Chromium, Hexavalent	1.1	0.41	mg/kg
		Chromium	43.5	1	mg/kg
		Copper	20.4	2.6	mg/kg
		Lead	11.4	2.1	mg/kg
		Mercury	7	0.33	mg/kg
		Nickel	12.8	4.1	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	<0.52	0.52	mg/kg
		Thallium	<1.0	1	mg/kg
		Zinc	63.8	2.1	mg/kg
		Corrosivity	8.86		std units

Table Notes:

ND - Not Detected
RL - Reporting Limit

TABLE 3C

SA-5 NJCU (SITE090) BUILDING 5 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B5ASP-1	2/4/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	2.9	ug/kg
		2,4,5-T	ND	2.9	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	3.1	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	6.7	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.0	2	mg/kg
		Arsenic	<2.0	2	mg/kg
		Beryllium	<0.20	0.2	mg/kg
		Cadmium	<0.49	0.49	mg/kg
		Chromium, Hexavalent	<0.40	0.4	mg/kg
		Chromium	12	0.98	mg/kg
		Copper	32	2.4	mg/kg
		Lead	10.2	2	mg/kg
		Mercury	0.07	0.031	mg/kg
		Nickel	21.2	3.9	mg/kg
		Selenium	<2.0	2	mg/kg
		Silver	<0.49	0.49	mg/kg
		Thallium	<0.98	0.98	mg/kg
		Zinc	30.5	2	mg/kg
		Corrosivity	8.61		std units

TABLE 3C

SA-5 NJCU (SITE090) BUILDING 5 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B5ASP-2	2/4/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	2.9	ug/kg
		2,4,5-T	ND	2.9	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	1.2	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	1.4	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.0	2	mg/kg
		Arsenic	2.3	2	mg/kg
		Beryllium	0.25	0.2	mg/kg
		Cadmium	<0.49	0.49	mg/kg
		Chromium, Hexavalent	<0.40	0.4	mg/kg
		Chromium	12.1	0.98	mg/kg
		Copper	32.6	2.4	mg/kg
		Lead	10.4	2	mg/kg
		Mercury	0.12	0.031	mg/kg
		Nickel	17.8	3.9	mg/kg
		Selenium	<2.0	2	mg/kg
		Silver	<0.49	0.49	mg/kg
		Thallium	<0.99	0.98	mg/kg
		Zinc	34.6	2	mg/kg
		Corrosivity	8.86		std units

TABLE 3C

SA-5 NJCU (SITE090) BUILDING 5 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B5ASP-3	2/4/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	2.9	ug/kg
		2,4,5-T	ND	2.9	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	7.2	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	6	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	0.26	0.21	mg/kg
		Cadmium	<0.54	0.54	mg/kg
		Chromium, Hexavalent	<0.40	0.4	mg/kg
		Chromium	11.8	1.1	mg/kg
		Copper	27.6	2.7	mg/kg
		Lead	6.6	2.1	mg/kg
		Mercury	0.04	0.033	mg/kg
		Nickel	21.7	4.3	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	<0.54	0.54	mg/kg
		Thallium	<1.1	1.1	mg/kg
		Zinc	28.8	2.1.	mg/kg
		Corrosivity	8.76		std units

TABLE 3C

SA-5 NJCU (SITE090) BUILDING 5 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B5ASP-4	2/4/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	2.9	ug/kg
		2,4,5-T	ND	2.9	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	6.2	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	3.3	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.0	2	mg/kg
		Arsenic	<2.0	2	mg/kg
		Beryllium	<0.20	0.2	mg/kg
		Cadmium	<0.50	0.5	mg/kg
		Chromium, Hexavalent	<0.40	0.4	mg/kg
		Chromium	9.6	0.99	mg/kg
		Copper	29.8	2.5	mg/kg
		Lead	6.2	2	mg/kg
		Mercury	0.07	0.034	mg/kg
		Nickel	18.2	4	mg/kg
		Selenium	<2.0	2	mg/kg
		Silver	<0.50	0.5	mg/kg
		Thallium	<0.99	0.99	mg/kg
		Zinc	28.1	2	mg/kg
		Corrosivity	7.54		std units

TABLE 3C

SA-5 NJCU (SITE090) BUILDING 5 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B5ASP-5	2/4/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	2.9	ug/kg
		2,4,5-T	ND	2.9	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	ND	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	1.5	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	2.3	2.1	mg/kg
		Beryllium	0.3	0.21	mg/kg
		Cadmium	<0.54	0.54	mg/kg
		Chromium, Hexavalent	<0.41	0.41	mg/kg
		Chromium	10.4	1.1	mg/kg
		Copper	34.7	2.7	mg/kg
		Lead	11	2.1	mg/kg
		Mercury	0.14	0.033	mg/kg
		Nickel	18.4	4.3	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	<0.54	0.54	mg/kg
		Thallium	<1.1	1.1	mg/kg
		Zinc	35.2	2.1	mg/kg
		Corrosivity	6.66		std units

TABLE 3C

SA-5 NJCU (SITE090) BUILDING 5 ASPHALT STOCKPILE
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B5ASP-6	2/4/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	14	ug/kg
		2,4,5-TP (Silvex)	ND	2.9	ug/kg
		2,4,5-T	ND	2.9	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	1.5	1.2	ug/kg
		gamma-Chlordane	1.3	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	1.3	1.2	ug/kg
		4,4'-DDE	3.9	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	4.1	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	7.3	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.0	2	mg/kg
		Arsenic	<2.0	2	mg/kg
		Beryllium	<0.20	0.2	mg/kg
		Cadmium	<0.50	0.5	mg/kg
		Chromium, Hexavalent	<0.39	0.39	mg/kg
		Chromium	17.7	1	mg/kg
		Copper	52	2.5	mg/kg
		Lead	9.6	2	mg/kg
		Mercury	<0.033	0.033	mg/kg
		Nickel	28	4	mg/kg
		Selenium	<2.0	2	mg/kg
		Silver	<0.50	0.5	mg/kg
		Thallium	<1.0	1	mg/kg
		Zinc	70.6	2	mg/kg
		Corrosivity	7.6		std units

Table Notes:

ND - Not Detected
RL - Reporting Limit

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-1	2/23/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	3	ug/kg
		2,4,5-T	ND	3	ug/kg
		Aldrin	ND	1.3	ug/kg
		alpha-BHC	ND	1.3	ug/kg
		beta-BHC	ND	1.3	ug/kg
		delta-BHC	ND	1.3	ug/kg
		gamma-BHC (Lindane)	ND	1.3	ug/kg
		alpha-Chlordane	ND	1.3	ug/kg
		gamma-Chlordane	ND	1.3	ug/kg
		Dieldrin	ND	1.3	ug/kg
		4,4'-DDD	ND	1.3	ug/kg
		4,4'-DDE	ND	1.3	ug/kg
		4,4'-DDT	ND	1.3	ug/kg
		Endrin	ND	1.3	ug/kg
		Endosulfan sulfate	ND	1.3	ug/kg
		Endrin aldehyde	ND	1.3	ug/kg
		Endosulfan-I	ND	1.3	ug/kg
		Endosulfan-II	ND	1.3	ug/kg
		Heptachlor	ND	1.3	ug/kg
		Heptachlor epoxide	ND	1.3	ug/kg
		Methoxychlor	ND	1.3	ug/kg
		Endrin ketone	ND	1.3	ug/kg
		Toxaphene	ND	16	ug/kg
		Aroclor-1016	ND	31	ug/kg
		Aroclor-1221	ND	31	ug/kg
		Aroclor-1232	ND	31	ug/kg
		Aroclor-1242	ND	31	ug/kg
		Aroclor-1248	ND	31	ug/kg
		Aroclor-1254	ND	31	ug/kg
		Aroclor-1260	ND	31	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	0.01	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	<0.21	0.21	mg/kg
		Cadmium	<0.52	0.52	mg/kg
		Chromium, Hexavalent	<0.40	0.44	mg/kg
		Chromium	14.5	1	mg/kg
		Copper	287	2.6	mg/kg
		Lead	11.5	2.1	mg/kg
		Mercury	0.36	0.031	mg/kg
		Nickel	27.7	4.1	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	0.59	0.52	mg/kg
		Thallium	<1.0	1	mg/kg
		Zinc	76.6	2.1	mg/kg
		Corrosivity	9.49		std units

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-2	2/23/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	3.1	ug/kg
		2,4,5-T	ND	3.1	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	ND	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	ND	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	31	ug/kg
		Aroclor-1221	ND	31	ug/kg
		Aroclor-1232	ND	31	ug/kg
		Aroclor-1242	ND	31	ug/kg
		Aroclor-1248	ND	31	ug/kg
		Aroclor-1254	ND	31	ug/kg
		Aroclor-1260	ND	31	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.0050	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	<0.21	0.21	mg/kg
		Cadmium	<0.53	0.53	mg/kg
		Chromium, Hexavalent	<0.42	0.42	mg/kg
		Chromium	6.8	1.1	mg/kg
		Copper	52.9	2.6	mg/kg
		Lead	2.4	2.1	mg/kg
		Mercury	0.046	0.036	mg/kg
		Nickel	19.4	4.2	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	<0.53	0.53	mg/kg
		Thallium	<1.1	1.1	mg/kg
		Zinc	22.3	2.1	mg/kg
		Corrosivity	9.17		std units

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-3	2/23/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	3	ug/kg
		2,4,5-T	ND	3	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	ND	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	ND	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.0050	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.0	2	mg/kg
		Arsenic	<2.0	2	mg/kg
		Beryllium	<0.20	0.2	mg/kg
		Cadmium	<0.49	0.49	mg/kg
		Chromium, Hexavalent	<0.41	0.41	mg/kg
		Chromium	22.3	0.99	mg/kg
		Copper	170	2.5	mg/kg
		Lead	4.8	2	mg/kg
		Mercury	0.12	0.032	mg/kg
		Nickel	24.1	3.9	mg/kg
		Selenium	<2.0	2	mg/kg
		Silver	1.1	0.49	mg/kg
		Thallium	<0.99	0.99	mg/kg
		Zinc	26.1	2	mg/kg
		Corrosivity	8.95		std units

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-4	2/23/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	3.1	ug/kg
		2,4,5-T	ND	3.1	ug/kg
		Aldrin	ND	1.3	ug/kg
		alpha-BHC	ND	1.3	ug/kg
		beta-BHC	ND	1.3	ug/kg
		delta-BHC	ND	1.3	ug/kg
		gamma-BHC (Lindane)	ND	1.3	ug/kg
		alpha-Chlordane	ND	1.3	ug/kg
		gamma-Chlordane	ND	1.3	ug/kg
		Dieldrin	ND	1.3	ug/kg
		4,4'-DDD	ND	1.3	ug/kg
		4,4'-DDE	ND	1.3	ug/kg
		4,4'-DDT	ND	1.3	ug/kg
		Endrin	ND	1.3	ug/kg
		Endosulfan sulfate	ND	1.3	ug/kg
		Endrin aldehyde	ND	1.3	ug/kg
		Endosulfan-I	ND	1.3	ug/kg
		Endosulfan-II	ND	1.3	ug/kg
		Heptachlor	ND	1.3	ug/kg
		Heptachlor epoxide	ND	1.3	ug/kg
		Methoxychlor	ND	1.3	ug/kg
		Endrin ketone	ND	1.3	ug/kg
		Toxaphene	ND	16	ug/kg
		Aroclor-1016	ND	31	ug/kg
		Aroclor-1221	ND	31	ug/kg
		Aroclor-1232	ND	31	ug/kg
		Aroclor-1242	ND	31	ug/kg
		Aroclor-1248	ND	31	ug/kg
		Aroclor-1254	ND	31	ug/kg
		Aroclor-1260	ND	31	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	0.0073	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	<0.21	0.21	mg/kg
		Cadmium	<0.52	0.52	mg/kg
		Chromium, Hexavalent	<0.42	0.42	mg/kg
		Chromium	3.9	1	mg/kg
		Copper	40.2	2.6	mg/kg
		Lead	5.3	2.1	mg/kg
		Mercury	1.5	0.0064	mg/kg
		Nickel	11.9	4.1	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	<0.52	0.52	mg/kg
		Thallium	<1.0	1	mg/kg
		Zinc	24.1	2.1	mg/kg
		Corrosivity	8.71		std units

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-5	2/23/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	100	ug/kg
		2,4,5-TP (Silvex)	ND	20	ug/kg
		2,4,5-T	ND	20	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	ND	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	ND	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.50	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.0050	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<1.9	2.1	mg/kg
		Arsenic	<1.9	2.1	mg/kg
		Beryllium	0.21	0.21	mg/kg
		Cadmium	<0.49	0.52	mg/kg
		Chromium, Hexavalent	0.98	0.4	mg/kg
		Chromium	19	1	mg/kg
		Copper	64.7	2.6	mg/kg
		Lead	12.4	2.1	mg/kg
		Mercury	0.12	0.0064	mg/kg
		Nickel	19.1	4.1	mg/kg
		Selenium	<1.9	2.1	mg/kg
		Silver	<0.49	0.52	mg/kg
		Thallium	<0.97	1	mg/kg
		Zinc	20.3	2.1	mg/kg
		Corrosivity	8.66		std units

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-6	2/23/2011	2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	3	ug/kg
		2,4,5-T	ND	3	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	2.3	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	3.5	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	ND	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	0.021	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	0.29	0.21	mg/kg
		Cadmium	<0.53	0.53	mg/kg
		Chromium, Hexavalent	1.3	0.41	mg/kg
		Chromium	95	1.1	mg/kg
		Copper	99.9	2.6	mg/kg
		Lead	41.3	2.1	mg/kg
		Mercury	0.17	0.033	mg/kg
		Nickel	28.4	4.2	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	<0.53	0.53	mg/kg
		Thallium	<1.1	1.1	mg/kg
		Zinc	40	2.1	mg/kg
		Corrosivity	8.99		std units
		2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-7	2/23/2011	Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l
		Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	100	ug/kg
		2,4,5-TP (Silvex)	ND	21	ug/kg
		2,4,5-T	ND	21	ug/kg
		Aldrin	ND	1.2	ug/kg
		alpha-BHC	ND	1.2	ug/kg
		beta-BHC	ND	1.2	ug/kg
		delta-BHC	ND	1.2	ug/kg
		gamma-BHC (Lindane)	ND	1.2	ug/kg
		alpha-Chlordane	ND	1.2	ug/kg
		gamma-Chlordane	ND	1.2	ug/kg
		Dieldrin	ND	1.2	ug/kg
		4,4'-DDD	ND	1.2	ug/kg
		4,4'-DDE	ND	1.2	ug/kg
		4,4'-DDT	ND	1.2	ug/kg
		Endrin	ND	1.2	ug/kg
		Endosulfan sulfate	ND	1.2	ug/kg
		Endrin aldehyde	ND	1.2	ug/kg
		Endosulfan-I	ND	1.2	ug/kg
		Endosulfan-II	ND	1.2	ug/kg
		Heptachlor	ND	1.2	ug/kg
		Heptachlor epoxide	ND	1.2	ug/kg
		Methoxychlor	ND	1.2	ug/kg
		Endrin ketone	ND	1.2	ug/kg
		Toxaphene	ND	15	ug/kg
		Aroclor-1016	ND	30	ug/kg
		Aroclor-1221	ND	30	ug/kg
		Aroclor-1232	ND	30	ug/kg
		Aroclor-1242	ND	30	ug/kg
		Aroclor-1248	ND	30	ug/kg
		Aroclor-1254	ND	30	ug/kg
		Aroclor-1260	ND	30	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	0.34	0.21	mg/kg
		Cadmium	<0.53	0.53	mg/kg
		Chromium, Hexavalent	<0.40	0.4	mg/kg
		Chromium	12.6	1.1	mg/kg
		Copper	167	2.6	mg/kg
		Lead	9.8	2.1	mg/kg
		Mercury	<0.032	0.032	mg/kg
		Nickel	33	4.2	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	1.3	0.53	mg/kg
		Thallium	<1.1	1.1	mg/kg
		Zinc	20.7	2.1	mg/kg
		Corrosivity	10.17		std units
		2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l
		Endrin	ND	0.0002	mg/l
		Heptachlor	ND	0.0002	mg/l
		Heptachlor epoxide	ND	0.0002	mg/l
		Methoxychlor	ND	0.0002	mg/l

TABLE 3D

SA-5 NJCU (SITE090) BUILDING 7 ASPHALT
WASTE CHARACTERIZATION RESULT LIST

Composite Sample ID	Sample Date	Parameter	Result	RL	Units
090-WC-B7ASP-8	2/23/2011	Toxaphene	ND	0.0025	mg/l
		2,4-D	ND	15	ug/kg
		2,4,5-TP (Silvex)	ND	3	ug/kg
		2,4,5-T	ND	3	ug/kg
		Aldrin	ND	1.3	ug/kg
		alpha-BHC	ND	1.3	ug/kg
		beta-BHC	ND	1.3	ug/kg
		delta-BHC	ND	1.3	ug/kg
		gamma-BHC (Lindane)	ND	1.3	ug/kg
		alpha-Chlordane	ND	1.3	ug/kg
		gamma-Chlordane	ND	1.3	ug/kg
		Dieldrin	ND	1.3	ug/kg
		4,4'-DDD	ND	1.3	ug/kg
		4,4'-DDE	ND	1.3	ug/kg
		4,4'-DDT	12.7	1.3	ug/kg
		Endrin	ND	1.3	ug/kg
		Endosulfan sulfate	ND	1.3	ug/kg
		Endrin aldehyde	17	1.3	ug/kg
		Endosulfan-I	ND	1.3	ug/kg
		Endosulfan-II	ND	1.3	ug/kg
		Heptachlor	ND	1.3	ug/kg
		Heptachlor epoxide	ND	1.3	ug/kg
		Methoxychlor	7.4	1.3	ug/kg
		Endrin ketone	ND	1.3	ug/kg
		Toxaphene	ND	16	ug/kg
		Aroclor-1016	ND	31	ug/kg
		Aroclor-1221	ND	31	ug/kg
		Aroclor-1232	ND	31	ug/kg
		Aroclor-1242	ND	31	ug/kg
		Aroclor-1248	ND	31	ug/kg
		Aroclor-1254	ND	31	ug/kg
		Aroclor-1260	ND	31	ug/kg
		Arsenic	<0.5	0.5	mg/l
		Barium	<1.0	1	mg/l
		Cadmium	<0.005	0.005	mg/l
		Chromium	<0.010	0.01	mg/l
		Lead	<0.50	0.5	mg/l
		Mercury	<0.00020	0.0002	mg/l
		Selenium	<0.50	0.5	mg/l
		Silver	<0.010	0.01	mg/l
		Antimony	<2.1	2.1	mg/kg
		Arsenic	<2.1	2.1	mg/kg
		Beryllium	<0.21	0.21	mg/kg
		Cadmium	<0.53	0.53	mg/kg
		Chromium, Hexavalent	0.5	0.43	mg/kg
		Chromium	13.1	1.1	mg/kg
		Copper	142	2.6	mg/kg
		Lead	24.6	2.1	mg/kg
		Mercury	0.067	0.035	mg/kg
		Nickel	26	4.2	mg/kg
		Selenium	<2.1	2.1	mg/kg
		Silver	0.58	0.53	mg/kg
		Thallium	<1.1	1.1	mg/kg
		Zinc	58.9	2.1	mg/kg
		Corrosivity	8.86		std units
		2,4-D	ND	0.005	mg/l
		2,4,5-TP (Silvex)	ND	0.0015	mg/l
		gamma-BHC (Lindane)	ND	0.0002	mg/l
		Chlordane	ND	0.005	mg/l

TABLE 3E

HONEYWELL - SA 5 Site 090, Jersey City, NJ
FRAC TANK / MODU TANK SEDIMENT AND TREATMENT SYSTEM AREA STONE RESULTS

Sample ID:		FTMTS01	TSSTN01
Lab Report ID:		JA77515	JA77515
Date Sampled:		6/3/2011	6/3/2011
Matrix:		Sediment	Stone
GC/MS Volatiles (SW846 8260B)			
Acetone	ug/kg	ND (9.8)	ND (10)
Benzene	ug/kg	ND (0.2)	ND (0.21)
Bromodichloromethane	ug/kg	ND (0.33	ND (0.35)
Bromoform	ug/kg	ND (1.1)	ND (1.2)
Bromomethane	ug/kg	ND (0.58)	ND (0.62)
2-Butanone (MEK)	ug/kg	ND (6.4)	ND (6.4)
Carbon disulfide	ug/kg	1.1	ND (0.31)
Carbon tetrachloride	ug/kg	ND (0.51)	ND (0.54)
Chlorobenzene	ug/kg	ND (0.48)	ND (0.50)
Chloroethane	ug/kg	ND (0.60)	ND (0.64)
Chloroform	ug/kg	ND (0.71)	ND (0.76)
Chloromethane	ug/kg	ND (0.92)	ND (0.98)
Cyclohexane	ug/kg	ND (0.56)	ND (0.59)
1,2-Dibromo-3-chloropropane	ug/kg	ND (2.2)	ND (2.4)
Dibromochloromethane	ug/kg	ND (0.25)	ND (0.26)
1,2-Dibromoethane	ug/kg	ND (0.35)	ND (0.37)
1,2-Dichlorobenzene	ug/kg	ND (0.41)	ND (0.43)
1,3-Dichlorobenzene	ug/kg	ND (0.28)	ND (0.30)
1,4-Dichlorobenzene	ug/kg	ND (0.25)	ND (0.27)
Dichlorodifluoromethane	ug/kg	ND (0.47)	ND (0.50)
1,1-Dichloroethane	ug/kg	ND (0.32)	ND (0.34)
1,2-Dichloroethane	ug/kg	ND (0.27)	ND (0.29)
1,1-Dichloroethene	ug/kg	ND (0.91)	ND (0.96)
cis-1,2-Dichloroethene	ug/kg	ND (0.48)	ND (0.50)
trans-1,2-Dichloroethene	ug/kg	ND (0.63)	ND (0.66)
1,2-Dichloropropane	ug/kg	ND (0.39)	ND (0.42)
cis-1,3-Dichloropropene	ug/kg	ND (0.22)	ND (0.24)
trans-1,3-Dichloropropene	ug/kg	ND (0.5)	ND (0.53)
Ethylbenzene	ug/kg	ND (0.22)	ND (0.23)
Freon 113	ug/kg	ND (1.1)	ND (1.1)
2-Hexanone	ug/kg	ND (3.7)	ND (3.9)
Isopropylbenzene	ug/kg	ND (0.2)	ND (0.21)
Methyl Acetate	ug/kg	ND (3.3)	ND (3.5)
Methylcyclohexane	ug/kg	ND (3.6)	ND (3.8)
Methyl Tert Butyl Ether	ug/kg	ND (0.26)	ND (0.28)
4-Methyl-2-pentanone(MIBK)	ug/kg	ND (3.9)	ND (4.1)
Methylene chloride	ug/kg	ND (0.34)	ND (0.36)
Styrene	ug/kg	ND (0.27)	ND (0.29)
1,1,2,2-Tetrachloroethane	ug/kg	ND (0.26)	ND (0.28)
Tetrachloroethene	ug/kg	ND (0.28)	ND (0.30)
Toluene	ug/kg	ND (0.56)	ND (0.59)
1,2,4-Trichlorobenzene	ug/kg	ND (0.5)	ND (0.53)
1,1,1-Trichloroethane	ug/kg	ND (0.36)	ND (0.38)
1,1,2-Trichloroethane	ug/kg	ND (64)	ND (68)
Trichloroethene	ug/kg	ND (0.37)	ND (0.39)
Trichlorofluoromethane	ug/kg	ND (0.71)	ND (0.76)
Vinyl chloride	ug/kg	ND (0.68)	ND (0.72)
Xylene (total)	ug/kg	ND (0.27)	ND (0.29)
GC/MS Semi-volatiles (SW846 8270C)			
2-Chlorophenol	ug/kg	ND (42)	ND (29)
4-Chloro-3-methyl phenol	ug/kg	ND (41)	ND (28)
2,4-Dichlorophenol	ug/kg	ND (67)	ND (46)
2,4-Dimethylphenol	ug/kg	ND (70)	ND (48)
2,4-Dinitrophenol	ug/kg	ND (51)	ND (35)
4,6-Dinitro-o-cresol	ug/kg	ND (51)	ND (35)
2-Methylphenol	ug/kg	ND (47)	ND (32)

TABLE 3E

HONEYWELL - SA 5 Site 090, Jersey City, NJ
FRAC TANK / MODU TANK SEDIMENT AND TREATMENT SYSTEM AREA STONE RESULTS

Sample ID:		FTMTS01	TSSTN01
Lab Report ID:		JA77515	JA77515
Date Sampled:		6/3/2011	6/3/2011
Matrix:		Sediment	Stone
3&4-Methylphenol	ug/kg	ND (53)	ND (36)
2-Nitrophenol	ug/kg	ND (44)	ND (30)
4-Nitrophenol	ug/kg	ND (70)	ND (48)
Pentachlorophenol	ug/kg	ND (71)	ND (49)
Phenol	ug/kg	ND (43)	ND (30)
2,4,5-Trichlorophenol	ug/kg	ND (48)	ND (33)
2,4,6-Trichlorophenol	ug/kg	ND (39)	ND (27)
Acenaphthene	ug/kg	ND (12)	ND (12)
Acenaphthylene	ug/kg	ND (13)	ND (8.2)
Acetophenone	ug/kg	ND (7.3)	ND (5)
Anthracene	ug/kg	26.7	ND (9.9)
Atrazine	ug/kg	ND (8.2)	ND (5.6)
Benzo(a)anthracene	ug/kg	81.6	ND (9.3)
Benzo(a)pyrene	ug/kg	91.4	ND (8.7)
Benzo(b)fluoranthene	ug/kg	92.5	ND (9.5)
Benzo(g,h,i)perylene	ug/kg	75.3	ND (11)
Benzo(k)fluoranthene	ug/kg	59	ND (11)
4-Bromophenyl phenyl ether	ug/kg	ND (15)	ND (10)
Butyl benzyl phthalate	ug/kg	ND (24)	ND (16)
1,1'-Biphenyl	ug/kg	ND (4.8)	ND (3.3)
Benzaldehyde	ug/kg	ND (9.5)	ND 96.5)
2-Chloronaphthalene	ug/kg	ND (13)	ND (8.8)
4-Chloroaniline	ug/kg	ND (13)	ND (9.1)
Carbazole	ug/kg	ND (19)	ND (13)
Caprolactam	ug/kg	ND (13)	ND (9)
Chrysene	ug/kg	103	ND (9.6)
bis(2-Chloroethoxy)methane	ug/kg	ND (17)	ND (11)
bis(2-Chloroethyl)ether	ug/kg	ND (12)	ND (8.6)
bis(2-Chloroisopropyl)ether	ug/kg	ND (12)	ND (8.4)
4-Chlorophenyl phenyl ether	ug/kg	ND (12)	ND (8.6)
2,4-Dinitrotoluene	ug/kg	ND (18)	ND (12)
2,6-Dinitrotoluene	ug/kg	ND (16)	ND (11)
3,3'-Dichlorobenzidine	ug/kg	ND (11)	ND (7.2)
Dibenzo(a,h)anthracene	ug/kg	19.1	ND (9.7)
Dibenzofuran	ug/kg	ND (12)	ND (8.4)
Di-n-butyl phthalate	ug/kg	ND (9.2)	ND (6.3)
Di-n-octyl phthalate	ug/kg	ND (20)	ND (14)
Diethyl phthalate	ug/kg	ND (14)	ND (9.7)
Dimethyl phthalate	ug/kg	ND (15)	ND (10)
bis(2-Ethylhexyl)phthalate	ug/kg	178	ND (25)
Fluoranthene	ug/kg	163	ND (13)
Fluorene	ug/kg	ND (14)	ND (9.3)
Hexachlorobenzene	ug/kg	ND (13)	ND (9.3)
Hexachlorobutadiene	ug/kg	ND (12)	ND (7.9)
Hexachlorocyclopentadiene	ug/kg	ND (42)	ND (29)
Hexachloroethane	ug/kg	ND (12)	ND (7.9)
Indeno(1,2,3-cd)pyrene	ug/kg	58	ND (9.9)
Isophorone	ug/kg	ND (11)	ND (7.6)
2-Methylnaphthalene	ug/kg	ND (23)	ND (16)
2-Nitroaniline	ug/kg	ND (18)	ND (13)
3-Nitroaniline	ug/kg	ND (17)	ND (11)
4-Nitroaniline	ug/kg	ND (16)	ND (11)
Naphthalene	ug/kg	ND (11)	ND (7.8)
Nitrobenzene	ug/kg	ND (12)	ND (8.2)
N-Nitroso-di-n-propylamine	ug/kg	ND (10)	ND (6.9)
N-Nitrosodiphenylamine	ug/kg	ND (25)	ND (17)
Phenanthrene	ug/kg	83.8	ND (13)

TABLE 3E

HONEYWELL - SA 5 Site 090, Jersey City, NJ
FRAC TANK / MODU TANK SEDIMENT AND TREATMENT SYSTEM AREA STONE RESULTS

Sample ID:		FTMTS01	TSSTN01
Lab Report ID:		JA77515	JA77515
Date Sampled:		6/3/2011	6/3/2011
Matrix:		Sediment	Stone
Pyrene	ug/kg	185	ND (11)
GC/MS Volatiles (SW846 8260B)			
Benzene	mg/l	ND (0.012)	ND (0.012)
2-Butanone (MEK)	mg/l	ND (0.0081)	ND (0.0081)
Carbon tetrachloride	mg/l	ND (0.0013)	ND (0.0013)
Chlorobenzene	mg/l	ND (0.019)	ND (0.019)
Chloroform	mg/l	ND (0.0012)	ND (0.0012)
1,4-Dichlorobenzene	mg/l	ND (0.0014)	ND (0.0014)
1,2-Dichloroethane	mg/l	ND (0.0017)	ND (0.0017)
1,1-Dichloroethene	mg/l	ND (0.0020)	ND (0.0020)
Tetrachloroethene	mg/l	ND (0.0013)	ND (0.0013)
Trichloroethene	mg/l	ND (0.0012)	ND (0.0012)
Vinyl chloride	mg/l	ND (0.022)	ND (0.022)
GC/MS Semi-Volatiles (SW846 8270C)			
2-Methylphenol	mg/l	ND (0.011)	ND (0.011)
3&4-Methylphenol	mg/l	ND (0.01)	ND (0.01)
Pentachlorophenol	mg/l	ND (0.008)	ND (0.008)
2,4,5-Trichlorophenol	mg/l	ND (0.013)	ND (0.013)
2,4,6-Trichlorophenol	mg/l	ND (0.012)	ND (0.012)
1,4-Dichlorobenzene	mg/l	ND (0.0039)	ND (0.0039)
2,4-Dinitrotoluene	mg/l	ND (0.0022)	ND (0.0022)
Hexachlorobenzene	mg/l	ND (0.0037)	ND (0.0037)
Hexachlorobutadiene	mg/l	ND (0.0037)	ND (0.0037)
Hexachloroethane	mg/l	ND (0.0026)	ND (0.0026)
Nitrobenzene	mg/l	ND (0.0025)	ND (0.0025)
Pyridine	mg/l	ND (0.0027)	ND (0.0027)
Herbicide TCLP (SW846 8151, 3510C)			
2,4-D	mg/l	ND (0.0013)	ND (0.0013)
2,4,5-TP (Silvex)	mg/l	ND (0.00018)	ND (0.00018)
Total Herbicide (SW846 8151, 3550B)			
2,4-D	ug/kg	ND (6.0)	ND (4.2)
2,4,5-TP (Silvex)	ug/kg	ND (0.72)	ND (0.50)
2,4,5-T	ug/kg	ND (1.8)	ND (1.3)
Pesticide TCLP (SW846 8081A)			
gamma-BHC (Lindane)	mg/l	ND (0.000011)	ND (0.000011)
Chlordane	mg/l	ND (0.00079)	ND (0.00079)
Endrin	mg/l	ND (0.00031)	ND (0.00031)
Heptachlor	mg/l	ND (0.000020)	ND (0.000020)
Heptachlor epoxide	mg/l	ND (0.000016)	ND (0.000016)
Methoxychlor	mg/l	ND (0.000068)	ND (0.000068)
Toxaphene	mg/l	ND (0.0021)	ND (0.0021)
Pesticide TCL (SW846 8081A, 3545)			
Aldrin	ug/kg	ND (0.43)	ND (0.29)
alpha-BHC	ug/kg	ND (0.64)	ND (0.44)
beta-BHC	ug/kg	ND (0.60)	ND (0.41)
delta-BHC	ug/kg	ND (0.50)	ND (0.34)
gamma-BHC (Lindane)	ug/kg	ND (0.39)	ND (0.27)
alpha-Chlordane	ug/kg	7.8	ND (0.38)
gamma-Chlordane	ug/kg	8.9	ND (0.30)
Dieldrin	ug/kg	ND (0.66)	ND (0.46)
4,4'-DDD	ug/kg	ND (0.44)	ND (0.30)
4,4'-DDE	ug/kg	ND (0.50)	ND (0.35)
4,4'-DDT	ug/kg	ND (0.62)	ND (0.43)
Endrin	ug/kg	ND (0.44)	ND (0.30)
Endosulfan sulfate	ug/kg	ND (0.77)	ND (0.53)
Endrin aldehyde	ug/kg	ND (0.81)	ND (0.56)
Endosulfan-I	ug/kg	ND (0.41)	ND (0.29)

TABLE 3E

HONEYWELL - SA 5 Site 090, Jersey City, NJ
FRAC TANK / MODU TANK SEDIMENT AND TREATMENT SYSTEM AREA STONE RESULTS

Sample ID:		FTMTS01	TSSTN01
Lab Report ID:		JA77515	JA77515
Date Sampled:		6/3/2011	6/3/2011
Matrix:		Sediment	Stone
Endosulfan-II	ug/kg	ND (0.56)	ND (0.39)
Heptachlor	ug/kg	2.1	ND (0.36)
Heptachlor epoxide	ug/kg	ND (0.42)	ND (0.29)
Methoxychlor	ug/kg	ND (0.60)	ND (0.42)
Endrin ketone	ug/kg	ND 0.55)	ND (0.38)
Toxaphene	ug/kg	ND	ND
PCB (SW846 8082)			
Aroclor 1016	ug/kg	ND (11)	ND (7.7)
Aroclor 1221	ug/kg	ND (26)	ND (18)
Aroclor 1232	ug/kg	ND (22)	ND (15)
Aroclor 1242	ug/kg	ND (14)	ND (9.4)
Aroclor 1248	ug/kg	ND (13)	ND (9.0)
Aroclor 1254	ug/kg	ND (20)	ND (14)
Aroclor 1260	ug/kg	ND (14)	ND (9.7)
TCLP Metals Analysis			
Arsenic	mg/l	<0.5	<0.50
Barium	mg/l	1.5	<1.0
Cadmium	mg/l	<0.0050	<0.0050
Chromium	mg/l	1.2	<0.010
Lead	mg/l	<0.50	<0.50
Mercury	mg/l	<0.00020	<0.00020
Selenium	mg/l	<0.50	<0.50
Silver	mg/l	<0.010	<0.010
Total Metals Analysis			
Arsenic	mg/kg	<2.1	<9.7
Barium	mg/kg	84	<97
Cadmium	mg/kg	<0.52	<2.4
Chromium	mg/kg	**444**	16.1
Lead	mg/kg	12.4	<9.7
Mercury	mg/kg	**40.3**	0.48
Selenium	mg/kg	<2.1	<9.7
Silver	mg/kg	<0.52	<2.4
General Chemistry			
Chromium, Hexavalent	mg/kg	**13.6**	<0.41
Corrosivity as pH	su	9.62	9.02
Cyanide Reactivity	mg/kg	<14	<9.4
Ignitability (Flashpoint)	Deg. F	>200	>200
Sulfide Reactivity	mg/kg	<140	<94
NJDEP EPH (SW846 3545)			
EPH (C9-C28)	mg/kg	44.5	ND (4.7)
EPH (>C28-C40)	mg/kg	69.4	ND (4.7)
Total EPH (C9-C40)	mg/kg	114	ND (4.7)

Table Notes:

ND Not Detected

Shaded area represents results above the N
Residential Soil Remediation Standards

TABLE 3F

HONEYWELL - SA 5 Site 090, Jersey City, NJ

Sample ID:		090-WC-STNSP5-1	090-WC-STNSP5-2
Lab Report ID:		JA76323	JA76323
Date Sampled:		5/19/2011	5/19/2011
Matrix:		Stone/Soil	Stone/Soil
GC/MS Volatiles (SW846 8260B)			
Acetone	ug/kg	ND (380)	ND (420)
Benzene	ug/kg	ND (7.5)	ND (8.4)
Bromodichloromethane	ug/kg	ND (13)	ND (14)
Bromoform	ug/kg	ND (43)	ND (48)
Bromomethane	ug/kg	ND (22)	ND (25)
2-Butanone (MEK)	ug/kg	ND (250)	ND (270)
Carbon disulfide	ug/kg	ND (11)	ND (12)
Carbon tetrachloride	ug/kg	ND (20)	ND (22)
Chlorobenzene	ug/kg	ND (18)	ND (20)
Chloroethane	ug/kg	ND (23)	ND (26)
Chloroform	ug/kg	ND (27)	ND (31)
Chloromethane	ug/kg	ND (35)	ND (40)
Cyclohexane	ug/kg	ND (21)	ND (24)
1,2-Dibromo-3-chloropropane	ug/kg	ND (86)	ND (96)
Dibromochloromethane	ug/kg	ND (9.5)	ND (11)
1,2-Dibromoethane	ug/kg	ND (13)	ND (15)
1,2-Dichlorobenzene	ug/kg	ND (16)	ND (18)
1,3-Dichlorobenzene	ug/kg	ND (11)	ND (12)
1,4-Dichlorobenzene	ug/kg	ND (9.6)	ND (11)
Dichlorodifluoromethane	ug/kg	ND (18)	ND (20)
1,1-Dichloroethane	ug/kg	ND (12)	ND (14)
1,2-Dichloroethane	ug/kg	ND (10)	ND (12)
1,1-Dichloroethene	ug/kg	ND (35)	ND (39)
cis-1,2-Dichloroethene	ug/kg	ND (18)	ND (20)
trans-1,2-Dichloroethene	ug/kg	ND (24)	ND (27)
1,2-Dichloropropane	ug/kg	ND (15)	ND (17)
cis-1,3-Dichloropropene	ug/kg	ND (8.6)	ND (9.6)
trans-1,3-Dichloropropene	ug/kg	ND (19)	ND (21)
Ethylbenzene	ug/kg	ND (8.4)	ND (9.4)
Freon 113	ug/kg	ND (41)	ND (46)
2-Hexanone	ug/kg	ND (140)	ND (160)
Isopropylbenzene	ug/kg	ND (7.8)	ND (8.7)
Methyl Acetate	ug/kg	ND (130)	ND (140)
Methylcyclohexane	ug/kg	ND (14)	ND (16)
Methyl Tert Butyl Ether	ug/kg	ND (10)	ND (11)
4-Methyl-2-pentanone(MIBK)	ug/kg	ND (150)	ND (170)
Methylene chloride	ug/kg	ND (13)	ND (15)
Styrene	ug/kg	ND (10)	ND (12)
1,1,2,2-Tetrachloroethane	ug/kg	ND (10)	ND (11)
Tetrachloroethene	ug/kg	ND (11)	ND (12)
Toluene	ug/kg	ND (21)	ND (24)
1,2,4-Trichlorobenzene	ug/kg	ND (19)	ND (22)
1,1,1-Trichloroethane	ug/kg	ND (14)	ND (15)
1,1,2-Trichloroethane	ug/kg	ND (25)	ND (27)
Trichloroethene	ug/kg	ND (14)	ND (16)
Trichlorofluoromethane	ug/kg	ND (27)	ND (31)
Vinyl chloride	ug/kg	ND (26)	ND (29)
Xylene (total)	ug/kg	ND (10)	ND (12)
GC/MS Semi-volatiles (SW846 8270C)			
2-Chlorophenol	ug/kg	ND (30)	ND (30)
4-Chloro-3-methyl phenol	ug/kg	ND (30)	ND (30)
2,4-Dichlorophenol	ug/kg	ND (48)	ND (48)
2,4-Dimethylphenol	ug/kg	ND (50)	ND (50)
2,4-Dinitrophenol	ug/kg	ND (36)	ND (36)
4,6-Dinitro-o-cresol	ug/kg	ND (36)	ND (36)
2-Methylphenol	ug/kg	ND (34)	ND (34)

TABLE 3F

HONEYWELL - SA 5 Site 090, Jersey City, NJ

Sample ID:		090-WC-STNSP5-1	090-WC-STNSP5-2
Lab Report ID:		JA76323	JA76323
Date Sampled:		5/19/2011	5/19/2011
Matrix:		Stone/Soil	Stone/Soil
3&4-Methylphenol	ug/kg	ND (38)	ND (38)
2-Nitrophenol	ug/kg	ND (31)	ND (31)
4-Nitrophenol	ug/kg	ND (50)	ND (50)
Pentachlorophenol	ug/kg	ND (51)	ND (51)
Phenol	ug/kg	ND (31)	ND (31)
2,4,5-Trichlorophenol	ug/kg	ND (34)	ND (34)
2,4,6-Trichlorophenol	ug/kg	ND (28)	ND (28)
Acenaphthene	ug/kg	731	890
Acenaphthylene	ug/kg	53.2	40.4
Acetophenone	ug/kg	ND (5.2)	ND (5.2)
Anthracene	ug/kg	1500	1720
Atrazine	ug/kg	ND (5.8)	ND (5.8)
Benzo(a)anthracene	ug/kg	**1380**	**1390**
Benzo(a)pyrene	ug/kg	**1390**	**1410**
Benzo(b)fluoranthene	ug/kg	**609**	546
Benzo(g,h,i)perylene	ug/kg	1470	1780
Benzo(k)fluoranthene	ug/kg	286	236
4-Bromophenyl phenyl ether	ug/kg	ND (11)	ND (11)
Butyl benzyl phthalate	ug/kg	ND (17)	ND (17)
1,1'-Biphenyl	ug/kg	ND (3.4)	ND (3.4)
Benzaldehyde	ug/kg	ND (6.8)	ND (6.8)
2-Chloronaphthalene	ug/kg	ND (9.2)	ND (9.2)
4-Chloroaniline	ug/kg	ND (9.5)	ND (9.5)
Carbazole	ug/kg	ND (14)	ND (14)
Caprolactam	ug/kg	ND (9.3)	ND (9.3)
Chrysene	ug/kg	1590	1520
bis(2-Chloroethoxy)methane	ug/kg	ND (12)	ND (12)
bis(2-Chloroethyl)ether	ug/kg	ND (8.9)	ND (8.9)
bis(2-Chloroisopropyl)ether	ug/kg	ND (8.8)	ND (8.8)
4-Chlorophenyl phenyl ether	ug/kg	ND (8.9)	ND (8.9)
2,4-Dinitrotoluene	ug/kg	ND (13)	ND (13)
2,6-Dinitrotoluene	ug/kg	ND (11)	ND (11)
3,3'-Dichlorobenzidine	ug/kg	ND (7.5)	ND (7.5)
Dibenzo(a,h)anthracene	ug/kg	255	263
Dibenzofuran	ug/kg	438	497
Di-n-butyl phthalate	ug/kg	ND (6.6)	ND (6.6)
Di-n-octyl phthalate	ug/kg	ND (14)	ND (14)
Diethyl phthalate	ug/kg	ND (10)	ND (10)
Dimethyl phthalate	ug/kg	57.6	58.4
bis(2-Ethylhexyl)phthalate	ug/kg	147	ND (26)
Fluoranthene	ug/kg	1450	1290
Fluorene	ug/kg	1670	1900
Hexachlorobenzene	ug/kg	ND (9.7)	ND (9.7)
Hexachlorobutadiene	ug/kg	ND (8.2)	ND (8.2)
Hexachlorocyclopentadiene	ug/kg	ND (30)	ND (30)
Hexachloroethane	ug/kg	ND (8.2)	ND (8.2)
Indeno(1,2,3-cd)pyrene	ug/kg	518	426
Isophorone	ug/kg	ND (8.0)	ND (8.0)
2-Methylnaphthalene	ug/kg	948	1550
2-Nitroaniline	ug/kg	ND (13)	ND (13)
3-Nitroaniline	ug/kg	ND (12)	ND (12)
4-Nitroaniline	ug/kg	ND (12)	ND (12)
Naphthalene	ug/kg	ND (8.1)	ND (8.1)
Nitrobenzene	ug/kg	ND (8.6)	ND (8.6)
N-Nitroso-di-n-propylamine	ug/kg	ND (7.2)	ND (7.2)
N-Nitrosodiphenylamine	ug/kg	ND (18)	ND (18)
Phenanthrene	ug/kg	7500	7450

TABLE 3F

HONEYWELL - SA 5 Site 090, Jersey City, NJ

Sample ID:		090-WC-STNSP5-1	090-WC-STNSP5-2
Lab Report ID:		**JA76323**	**JA76323**
Date Sampled:		**5/19/2011**	**5/19/2011**
Matrix:		**Stone/Soil**	**Stone/Soil**
Pyrene	ug/kg	13100	13400
GC/MS Volatiles (SW846 8260B)			
Benzene	mg/l	ND (0.0012)	ND (0.0012)
2-Butanone (MEK)	mg/l	ND (0.0081)	ND (0.0081)
Carbon tetrachloride	mg/l	ND (0.0013)	ND (0.0013)
Chlorobenzene	mg/l	ND (0.0019)	ND (0.0019)
Chloroform	mg/l	ND (0.0012)	ND (0.0012)
1,4-Dichlorobenzene	mg/l	ND (0.0014)	ND (0.0014)
1,2-Dichloroethane	mg/l	ND (0.0017)	ND (0.0017)
1,1-Dichloroethene	mg/l	ND (0.0020)	ND (0.0020)
Tetrachloroethene	mg/l	ND (0.0013)	ND (0.0013)
Trichloroethene	mg/l	ND (0.0012)	ND (0.0012)
Vinyl chloride	mg/l	ND (0.0022)	ND (0.0022)
GC/MS Semi-Volatiles (SW846 8270C)			
2-Methylphenol	mg/l	ND (0.011)	ND (0.011)
3&4-Methylphenol	mg/l	ND (0.010)	ND (0.010)
Pentachlorophenol	mg/l	ND (0.0080)	ND (0.0080)
2,4,5-Trichlorophenol	mg/l	ND (0.013)	ND (0.013)
2,4,6-Trichlorophenol	mg/l	ND (0.012)	ND (0.012)
1,4-Dichlorobenzene	mg/l	ND (0.0039)	ND (0.0039)
2,4-Dinitrotoluene	mg/l	ND (0.0022)	ND (0.0022)
Hexachlorobenzene	mg/l	ND (0.0037)	ND (0.0037)
Hexachlorobutadiene	mg/l	ND (0.0037)	ND (0.0037)
Hexachloroethane	mg/l	ND (0.0026)	ND (0.0026)
Nitrobenzene	mg/l	ND (0.0025)	ND (0.0025)
Pyridine	mg/l	ND (0.0027)	ND (0.0027)
Herbicide TCLP (SW846 8151, 3510C)			
2,4-D	mg/l	ND (0.0013)	ND (0.0013)
2,4,5-TP (Silvex)	mg/l	ND (0.00018)	ND (0.00018)
Total Herbicide (SW846 8151, 3550B)			
2,4-D	ug/kg	ND (4.3)	ND (4.3)
2,4,5-TP (Silvex)	ug/kg	ND (0.52)	ND (0.52)
2,4,5-T	ug/kg	ND (1.3)	ND (1.3)
Pesticide TCLP (SW846 8081A)			
gamma-BHC (Lindane)	mg/l	ND (0.000011)	ND (0.000011)
Chlordane	mg/l	ND (0.00079)	ND (0.00079)
Endrin	mg/l	ND (0.000031)	ND (0.000031)
Heptachlor	mg/l	ND (0.000020)	ND (0.000020)
Heptachlor epoxide	mg/l	ND (0.000016)	ND (0.000016)
Methoxychlor	mg/l	ND (0.000068)	ND (0.000068)
Toxaphene	mg/l	ND (0.0021)	ND (0.0021)
Pesticide TCL (SW846 8081A, 3545)			
Aldrin	ug/kg	ND (0.31)	ND (0.30)
alpha-BHC	ug/kg	ND (0.46)	ND (0.46)
beta-BHC	ug/kg	ND (0.43)	ND (0.43)
delta-BHC	ug/kg	ND (0.36)	ND (0.36)
gamma-BHC (Lindane)	ug/kg	ND (0.28)	ND (0.28)
alpha-Chlordane	ug/kg	ND (0.40)	ND (0.40)
gamma-Chlordane	ug/kg	ND (0.31)	ND (0.31)
Dieldrin	ug/kg	2.4	ND (0.47)
4,4'-DDD	ug/kg	ND (0.31)	ND (0.31)
4,4'-DDE	ug/kg	3.8	3.7
4,4'-DDT	ug/kg	ND (0.45)	10.9
Endrin	ug/kg	ND (0.31)	ND (0.31)
Endosulfan sulfate	ug/kg	3.7	ND (0.55)
Endrin aldehyde	ug/kg	22.9	17.8

TABLE 3F

HONEYWELL - SA 5 Site 090, Jersey City, NJ

Sample ID:		090-WC-STNSP5-1	090-WC-STNSP5-2
Lab Report ID:		**JA76323**	**JA76323**
Date Sampled:		**5/19/2011**	**5/19/2011**
Matrix:		**Stone/Soil**	**Stone/Soil**
Endosulfan-I	ug/kg	2	ND (0.30)
Endosulfan-II	ug/kg	7.7	6.3
Heptachlor	ug/kg	ND (0.38)	ND (0.37)
Heptachlor epoxide	ug/kg	ND (0.30)	ND (0.30)
Methoxychlor	ug/kg	ND (0.43)	ND (0.43)
Endrin ketone	ug/kg	17.9	16
Toxaphene	ug/kg	ND	ND
PCB (SW846 8082)			
Aroclor 1016	ug/kg	ND (8.0)	ND (8.0)
Aroclor 1221	ug/kg	ND (19)	ND (19)
Aroclor 1232	ug/kg	ND (16)	ND (16)
Aroclor 1242	ug/kg	ND (9.8)	ND (9.8)
Aroclor 1248	ug/kg	ND (9.3)	ND (9.4)
Aroclor 1254	ug/kg	ND (14)	ND (14)
Aroclor 1260	ug/kg	ND (10)	ND (10)
TCLP Metals Analysis			
Arsenic	mg/l	<0.50	<0.50
Barium	mg/l	<1.0	<1.0
Cadmium	mg/l	<0.0050	<0.0050
Chromium	mg/l	0.13	0.14
Lead	mg/l	<0.50	<0.50
Mercury	mg/l	<0.00020	<0.00020
Selenium	mg/l	<0.50	<0.50
Silver	mg/l	<0.010	<0.010
Total Metals Analysis			
Arsenic	mg/kg	2.9	3.5
Barium	mg/kg	37.3	29.5
Cadmium	mg/kg	<0.54	<0.53
Chromium	mg/kg	270	447
Lead	mg/kg	22.6	24.2
Mercury	mg/kg	0.24	0.19
Selenium	mg/kg	<2.2	<2.1
Silver	mg/kg	<0.54	<0.53
General Chemistry			
Chromium, Hexavalent	mg/kg	**14.0**	**19.9**
Corrosivity as pH	su	8.13	8.26
Cyanide Reactivity	mg/kg	<10	<10
Ignitability (Flashpoint)	Deg. F	>200	>200
Sulfide Reactivity	mg/kg	<100	<100
NJDEP EPH (SW846 3545)			
EPH (C9-C28)	mg/kg	3550	4290
EPH (>C28-C40)	mg/kg	2360	2370
Total EPH (C9-C40)	mg/kg	**5910**	**6650**

Table Notes:

ND Not Detected

Shaded area represents results above the N.
Residential Soil Remediation Standards

Table 4.0

Passaic Valley Sewerage Commission (PVSC) Compliance Sampling:

Date	Sample ID	Analysis	Result (mg/L)	Average Daily Discharge Rate (millions of gallons)	Total Chromium Discharge (lbs/day)
11/3/2010	184 -TW-01-110310	Total Chromium	4.02	0.098620	3.306
11/10/2010	184 -TW-01-111010	Total Chromium	0.868	0.084220	0.610
11/17/2010	184 -TW-01-111710	Total Chromium	0.479	0.057560	0.230
11/24/2010	184 -TW-01-112410	Total Chromium	0.458	0.076760	0.293
12/2/2010	184 -TW-01-120210	Total Chromium	1.11	0.101779	0.942
12/8/2010	184 - TW-01-120810	Total Chromium	0.85	0.057686	0.409
12/15/2010	184 - TW-01-121510	Total Chromium	1.03	0.063734	0.547
12/22/2010	184 - TW-01-122210	Total Chromium	1.03	0.062411	0.536
12/29/2010	184 - TW-01-122910	Total Chromium	1.19	0.047041	0.467
1/5/2011	184 - TW-01-010511	Total Chromium	0.899	0.055207	0.414
2/3/2011	184 - TW-01-020311	Total Chromium	0.911	0.044532	0.338
3/2/2011	184 - TW-01-030211	Total Chromium	0.721	0.068414	0.411
4/4/2011	184 - TW-01-040411	Total Chromium	0.937	0.005680	0.044
5/5/2011	184 - TW-01-050511	Total Chromium	3.18	0.008126	0.216
6/2/2011	184 - TW-01-060211	Total Chromium	0.403	0.014359	0.048