AECOM Environment

Prepared for:
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Allison Park, PA

Prepared by:
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Piscataway, NJ
April 2012

Preliminary Assessment Report
Hudson County Chromate Site 202
Pacific Ave & New Jersey Turnpike, Exit 14C
Jersey City, Hudson County, New Jersey

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1.0 Introduction

This Preliminary Assessment ("PA") Report has been prepared by AECOM on behalf of PPG Industries, Inc. ("PPG") with regard to Hudson County Chromate ("HCC") Site 202 ("Site"). The preparation of this PA was requested by the New Jersey Department of Environmental Protection ("NJDEP") to assess the potential for Areas of Concern ("AOCs") at Site 202 *specifically related to Chromate Chemical Processing Waste ("CCPW") and/or the presence of CCPW-impacted material*.

AECOM's visual inspections of Site 202 were conducted on May 25, 2011 and December 14, 2011. Photographs of Site conditions at the time of the inspections are provided in **Appendix A**.

According to NJDEP, Site 202 includes the entirety of Jersey City Tax Block 2033, Lot 13, and is approximately 3.5 acres in size (**Figure 1**). The footprint of HCC Site 202 lies within the NJ Transit Hudson-Bergen Light Rail Car (LRC) Maintenance Facility complex, which is comprised of separate tax Lots and Blocks surrounding Site 202 **(Figure 2)**, The New Jersey Environmental Management System ("NJEMS") identification ("ID") for the Site is 80625 and the Site Remediation Preferred Identification (SRP-ID) number is G000044583. According to the Jersey City Tax Assessor, the street address for the Site is Pacific Ave & New Jersey Turnpike, Exit 14C, Jersey City, New Jersey.

Known aliases for the Site include:

- Caven Point Realty;
- 20 Caven Point Ave, Jersey City NJ 07304
- 100 Pacific, Jersey City NJ 07305
- NJDEP Orphan Site #2; and
- Communipaw Shop and Yard
- NJ Transit property Parcel Number 205
- NJ Transit Light Rail Maintenance Facility
- Jersey City Parcel ID Block 2033, Lot 7 (Old Lot Number)

The Site was included in the NJDEP's May 2, 2005 approval of an electronic Remedial Action Report ("e-RAR"), (dated October 2004), for soil remedial actions at the Site conducted by BEM Systems, Inc. ("BEM") on behalf of NJ Transit. The remedial action ("RA") was performed in accordance with the Memorandum of Agreement (MOA) dated 20 April, 1992, between NJ Transit and the NJDEP for the Hudson-Bergen Light Rail Transit System (H-BLRTS) project.

In summary, based on the findings as presented in this PA Report, current AOCs related to the presence of CCPW or CCPW-impacted materials have not been identified, and no further action ("NFA") is proposed with regard to further CCPW investigation by PPG at Site 202.

1.1 Resources Utilized

During the conduct of this PA, a number of sources of historical information were evaluated. A listing of the resources used to compile the site history is provided below:

Name of Resource	Date of document reviewed	Appendix #
Sanborn Maps	Various	Appendix B
Historic Topographic Maps	Various	Appendix B
Historic Aerial Photographs	Various	Appendix B
EDR City Directory Abstract	November 23, 2009	Appendix B
EDR Chain of Title Report	October 26, 2011	Appendix B
New Jersey Transit Hudson-Bergen Light Rail Transit System Remedial Investigation/Remedial Alternatives Analysis, Group 1 – Gateway to Mill Creek - Volume I, prepared by BEM Systems, Inc., Florham Park, NJ	May 1996	Not Included
NJDEP Data Miner Results	October 2011	Appendix C
NJ Transit Parcel 205 – Analytical Results Summary and Excavation Limits (included as Figure in Letter to Richard Feinberg (AECOM) from BEM Systems regarding PPG Hudson County Chrome Sites 202, 203 and 204, dated April 29, 2010)	April 29, 2010	Appendix D
Memorandum to Michael McCabe regarding PPG Industries, Inc. – Hudson County Chromate Sites 202,203 and 204, prepared by AECOM dated January 24, 2011	January 24, 2011	Appendix E
NJDEP Correspondence to NJ Transit dated May 2, 2005 regarding NJDEP electronic Remedial Action Report (e-RAR) Approval for Hudson Bergen Light Rail Transit System – MOS1	May 2, 2005	Appendix E

Hudson-Bergen Light Rail Transit System Minimal Operational System – 1 Project, electronic Remedial Action report (e-RAR), Volume I, prepared for NJDEP/NJ Transit by BEM Systems, Inc.[1]	October 2004	Appendix F
NJDEP Preliminary Assessment Form and Certifications		Appendix G

[1] Note that PPG/AECOM has been unable to obtain a complete copy of the e-RAR from either BEM Systems or NJ Transit; only excerpted portions of the report have been provided to PPG/AECOM for review

2.0 Site Setting and Historical Information

2.1 Site Setting

Site 202 is situated in a mixed use area of Jersey City that includes industrial and commercial properties. The footprint of the 3.5-acre Site lies within the larger NJ Transit Hudson-Bergen LRC Maintenance Facility Complex ("Complex"), which consists of an additional 32.5-acres surrounding the Site. The footprint of Site 202 includes interior portions of the current Main NJ Transit LRC Maintenance Shop Building, and adjacent exterior areas the west including sections of light rail line, asphalt paved roadway and a portion of the storm water retention basin located at the far west side of the Site (**Figures 2 & 3)**.

The Complex is bound to the east by a vacant lot adjoining an unpaved lot that appears to have some office buildings and truck trailers/containers. Caven Point Avenue runs from South to North of the facility w. The North side of the Complex is bound by paved parking lots and Caven Point Avenue. To the west of the Complex is the former Jersey City automobile impounding yard, which currently is an unpaved lot that appears to be a semi-active rail car staging area, and has some warehouse structures.

Located within the Complex, the Site is bound by paved parking areas to the north, light rail tracks and a rail car storage building to the east and south, and a stormwater detention basin to the west (see **Figure 2**).

Based on results of previous environmental investigations[2] on and near the Site, geology consists of disturbed and undisrupted soils and fill material overlying bedrock. Fill materials have been characterized as composed of chiefly sand, gravel and silt with varying amounts of cinders, coals, ash, concrete, brick fragments, wood, railroad ballast, plastic and assorted debris.

Depth to groundwater reportedly ranges from 1 to 8 feet below ground surface ("bgs"). Groundwater flow patterns on the Site in general flow north to south, which follows the local topography – sloping gently towards the Hudson River.

According to the USGS Topographic Map of the area (Jersey City, 2011), and verified by field observations, there are no significant water bodies located within ½-mile of the Site. Based on a review of NJDEP geographic information system ("GIS") information obtained through I-Map NJ on May 27, 2011, no public or community groundwater wells were identified within 1,000-feet of the property. Groundwater at the Site is classified by NJDEP as Class IIA. The Hackensack River is located approximately 2.5-miles to the west, and the Hudson River is approximately 1-mile to the East of Site 202. The latitude/longitude coordinates for the center of the Site are 40.707652, -74.063697.

[2] New Jersey Transit Hudson-Bergen Light Rail System – Remedial Investigation/Remedial Alternatives analysis, Group 1 Gateway to Mill Creek, Volume I, prepared by BEM Systems, Inc., Florham Park, NJ

2.2 Site History

In accordance with N.J.A.C. 7:26E-3.1(c)1i, a narrative description of the past industrial/ commercial operation(s) conducted on site by each owner and operator is provided below.

2.2.1 Summary of Ownership and Operations

The EDR Chain of Title Report provides the ownership of the Site starting from 1944, which shows the Site was a part of the property owned by Snead & Company – Iron Foundry ("Snead & Company"). Based on the information provided in the Sanborn Maps, Snead & Company was the owner of the property from as early as 1911. In August 1944 the property was transferred to Joseph Langer and Fannie Langer, partners trading as Terminal Warehouse. The property was then transferred to Terminal Warehouse of New Jersey, Inc. in 1945, which continued occupancy until 1982. The property was then transferred to Rudolf Bass, Inc. in 1982 and as per the Chain of Title report, the property was transferred to NJ Transit in 1997.

It should be noted that the meets and bounds of HCC Site 202 are inclusive of parts of both the former Snead & Company's Iron Foundry building and the former Terminal Warehouse of NJ building.

The following table presents AECOM's understanding of the ownership and operational history of the Site.

Name of Property Owner	From	To
Snead & Company – Iron Foundry	*Prior to 1911*	*1944*
Joseph Langer and Fannie Langer (partners trading as Terminal Warehouse)	*1944*	*1945*
Terminal Warehouse of New Jersey	*1945*	*1982*
Rudolph Bass, Inc.	*1982*	*1997*
NJ Transit Corporation	*4/22/1997*	*Present*

2.2.2 Sanborn Map Review

AECOM requested a Certified Sanborn Map Report for the Site, which was provided by Environmental Data Resources, Inc. ("EDR"). Maps were provided for various years from 1896 through 2006. Copies of the Sanborn Maps are provided in **Appendix B**. A summary of information obtained from AECOM's review of the maps is provided below.

The 1896 Sanborn Map indicates the Site was an empty lot with no development. A rail line is shown on the map that passes through the eastern boundary of the Site, connecting the Hudson-Bergen Light Rail (HBLTR) to the Central Railroad of New Jersey. The rail line connection is depicted to connect the North and the South extensions of the transit paths.

The 1911 Sanborn Map indicates the Site was still an empty lot. Two sets of rail lines identified as Lehigh Valley Rail Road running in the east and west direction is shown passing through the Site.

Immediate north of the Site is a rectangular structure identified as “The Snead and Co. – Iron Foundry”. The rail line on the east boundary of the Site is still shown.

The 1951 Sanborn Map depicts the Site as a vacant lot. However, the Snead and Co. – Iron Foundry structure on the immediate north of the Site is shown as “Terminal Warehouse Corporation of NJ” which includes a triangular property south of this structure. It is AECOM understands that the triangular property is the former Rudolph Bass property (BEM, 1996).

Sanborn Maps from 1979, 1989, 1990, 1993, 1994, 1995 depicts the western part of the Site as an empty lot and its east portion a part of the former Rudolph Bass property. The Terminal Warehouse Corporation of NJ building is not shown on the map, and which is assumed to be demolished prior to 1979. All the previously described rail lines continue to be depicted on these maps.

The Sanborn Maps of 1999, 2001, 2002, 2003, 2005 and 2006 depicts a building which is partially located on the eastern portion of the Site, and which is depicted as the property of NJ Transit. No further details are given in the Sanborn Maps regarding the building due to refused access by the NJ Transit. The western portion of the Site, however, remains to be an empty lot with multiple rail lines existing on it and the Caven Point Avenue passing through it.

2.2.3 Historical Topographic Map Review

AECOM requested a Historic Topographic Map Report for the Site, which was provided by EDR. Maps were provided for various years from 1891, 1900, 1905, 1947, 1955, 1967, and 1981. Copies of the Topographic Maps are provided in **Appendix B**. A summary of information obtained from AECOM’s review of the maps is provided below.

The 1891 Topographic map depicts the area of Jersey City near the Site as sparsely developed. The Newark & New York Railroad line is visible adjacent and north east of the Site. To the south of the Site is the Central Rail Road of NJ.

The 1900 through 1981 Topographic Maps depict the Site and surrounding area similarly to the 1891 map, except that the railroad line adjacent and south of the Site is labeled as Central Railroad of New Jersey with Lehigh Valley Rail Road also running along with it. The 1981 Topographic map depicts the area of Jersey City near the Site as more developed.

2.2.4 Aerial Photograph Review

AECOM requested an Aerial Photo Decade Package for the Site, which was provided by EDR (**Appendix B**). Aerial coverage provided for the Site by EDR included the years 1943, 1953, 1966, 1976, 1985 and 2006.

In summary, a review of aerial photographs indicates that the property was an empty lot since (at least) 1940. The first development on the north-east portion of the Site footprint is visible in the 1953 aerial photograph. In the following years, the Site is visible in all aerial photos improved with multi-story structures, which occupy most of the Site footprint. Clusters of buildings have been present to the north of the Site and railroad tracks along the south side of the property are visible in all aerial photographs, unchanged since 1943. In summary, based on a review of all available historic reference materials, the southern side of the property has been developed and utilized as railroad line since at least the early 1900’s.

2.2.5 Current Operations

Based on the results of a Title and Deed search, the 3.5 acre property is currently owned by the New Jersey Transit Corporation. The overall complex consists of an LRC Maintenance Shop Building, LRC Service Building, Operations Control Center (OCC) Building, LRC Storage Barn, access roadways, parking areas and vegetated storm water detention basins.

The Site 202 footprint extends to interior portions of the LRC Service Building, which is used for daily inspection, cleaning and washing of the LRC vehicles. During the site inspection, concrete lined service pits were observed in this area of the building, which are situated below the grade-level concrete floor at a depth of approximately 8-feet. These pits are used to access the underside of the rail cars during routine maintenance and inspection activities. Rail cars are also washed in an automatic washing station located inside the northeast corner of the Service Building.

2.2.6 Present and Past Production Processes

Based on the findings of this PA, no historical operations are known to have occurred at the Site that would be associated with the use or placement of CCPW, or CCPW-impacted material at the property, and no documentation regarding the placement of CCPW or CCPW-impacted material at the Site was found.

No current industrial operations or production processes were observed at the time of site inspection.

The presence of rail lines was observed in the historical documents reviewed since at least 1896. The area was utilized as a rail center that remained active through the 1940's The Snead & Company Iron Foundry operated at the Site from sometime around 1911 to sometime before 1951. No detailed information regarding production processes were available for review during the conduct of this PA.

2.3 Raw Materials, Products, Formulations, Hazardous Substances and Wastes

There was no specific information with regard to historic manufacturing processes, or types of raw materials utilized for past operations available for review in the historic records reviewed for the Site.

In general, based upon the historic industry types, hazardous substances utilized for site operations likely included a variety of petroleum products (gasoline, diesel fuel, heating oil, lubricants and hydraulic fluids), paints, coal and coal combustion by-products, solvents and degreasers, plating chemicals, processed metals, and hazardous waste generated as spent raw materials.

Currently, hazardous substances utilized for the LRC Service Building include petroleum products, non-chlorinated cleaners and degreasers and soaps/detergents/wastewater treatment chemicals associated with the LRC car wash.

2.4 Wastewater Discharges

No information regarding wastewater discharges for current and/or past industrial operations was found during the conduction of this PA.

Currently, sanitary waste, and treated wastewater from the LRC carwash, is discharged to the Jersey City Municipal Utilities Authority.

2.5 Storm Water Discharges

Storm water falling on impervious surfaces on the Site is collected by storm drains and discharged to the retention basin located at the east end of the site.

2.6 Previous Environmental Investigations and Remedial Activities

The NJ Transit acquired the Site as a part of the development of the Hudson-Bergen Light Rail Transit (HBLRT). A soil sampling program was designed and implemented on the Site and other neighboring parcels (termed as Group 1) and samples were collected from test pits and borings. The sampling design was executed between January 1993 and January 1995, following the NJDEP approved sampling, analysis protocol. Samples were collected from multiple depths within the borings, and sample depths varied based on the proposed construction in corresponding areas. While all samples were analyzed for the USEPA Target Compound List/Target Analyte List (TCL/TAL) parameters, some samples were analyzed for Chromium VI and Total Petroleum Hydrocarbons (TPCH), based upon historic use of the parcel and/or known contamination, and field observations. All soil sample analytical results were compared to the most stringent NJDEP Soil Cleanup Criteria (SCC).

Specific to HCC Site 202, two of the samples exceeded the NJDEP NRDCSCC for Chromium VI, and were termed as the "hot spots". The sample locations and the exceedances are illustrated in Appendix D and on Figure 3. The following table presents the sample ID with the associated Chromium VI concentrations that exceed the former CrSCC value.

Boring ID	Contaminant of Concern	Depth of Contaminant of Concern	Analytical Result (mg/kg)	Former CrSCC (mg/kg)	Current CrSCC (mg/kg)
G01-B77A	Hexavalent Chromium	0' – 1.5'	12.8	10	20
G01-B13A	Hexavalent Chromium	0' – 2'	23.3	10	20

According to information included in the e-RAR prepared by BEM (**Appendix F**), the area where these soil samples were collected (defined by BEM as a "hot-spot") was excavated, and the materials transported off-site for disposal. A total of 12.2 cubic yards of material were excavated from the area surrounding boring G01-B77A and 8.3 cubic yards of material were excavated from the area surrounding boring G01-B13A. Both of these excavations were completed on August 7, 1997. Post-excavation sampling was completed to verify that the remediation had been successfully conducted. Post-excavation Cr^{+6} concentrations ranged from not detected ("ND") to 4.4 mg/kg, well below the current Chromium VI Site Cleanup Criteria (CrSCC). None of the post-excavation samples exceeded the former 10 mg/kg or the current 20 mg/kg CrSCC.

BEM did not report visual evidence of the presence CCPW during soil sampling or remediation activities.

Upon completion of remedial activities, BEM, on behalf of NJ Transit, submitted electronic Remedial Action Reports ("e-RAR") to NJDEP for Group 1 sites. NJDEP approved the e-RAR for Group 1 on May 2, 2005.

Additional details regarding all boring locations and sampling results cited above are presented in an AECOM Memorandum to Michael McCabe dated January 24, 2011 (**Appendix E**).

2.7 Site Visit and Local Records Search

AECOM's visual inspections of Site 202 were conducted on May 25, 2011 and December 14, 2011. A photo log of the areas inspected during the site visits is presented in **Appendix A**.

AECOM also conducted a review of local government agency records after submitting FOIA requests to the various local agencies. AECOM visited the Jersey City Municipal Authority, Tax Assessor, Construction Department, Engineering, Planning, and Health Departments. Records available for review at these agencies are referenced throughout this PA.

2.8 Areas of Concern

The Area of Concern ("AOC") Checklist has been completed, and is included in the NJDEP Preliminary Assessment/Site Investigation Form provided in **Appendix G**. A summary description of historic and current AOC is provided below. **Figure 4** depicts the location of the AOC.

2.8.1 Historic AOC

This scope of this Preliminary Assessment was limited to the area within the boundaries of Site 202 (Block 2033, Lot 13), which is situated within the larger NJT Light Rail Maintenance Complex that was developed after HCC Site 202 had been identified. This PA focused on the presence of historic AOC (listed below) that may potentially have been associated with CCPW or CCPW impacted material, or which may otherwise account for the presence of soil impacts identified and remediated prior to development of the Complex.

2.8.1.1 Shop and Yard East

According to BEM's May 1996 RI, the Shop and Yard study area consists of active industrial and warehouse facility as well as vacant land and wetland areas within an area of approximately 36 acres. This area was divided into the "Shop and Yard East" and Shop and Yard West" areas. Site 202 essentially lies within the bounds of Shop and Yard East area, and extends towards south east. A former rail track identified as "West Side Industrial Track" was a rectangular shaped building used as a warehouse (Rudolph Bass Property). The area also consisted of a poorly paved lot adjacent to the Rudolph Bass property and was the former City of Jersey automobile impounding yard.

As reported in BEM's 1996 RI, Hexavalent chromium was found in soils near the Shop and Yard East area in samples collected in 1993 and 1995. Those soils were remediated during the 2004 remedial action **(see Figure 3)**, as reported in the e-RAR. Based upon these findings, and the fact that this AOC is not specifically related CCPW and/or the presence of CCPW-impacted material, No Further Action for this AOC is proposed.

2.8.1.2 Former Foundry Area

The former Snead and Co. Iron Works facility was located within the current Site footprint. In general, the contaminants related to the operations and processes of an iron foundry (melting of metal) can be a source of lead and other metals. In addition, operations like combustion of coke (used as fuel for melting) may also generate contaminants such as polycyclic aromatic hydrocarbons, lead and arsenic in the furnace waste.

Based upon these findings, and the fact that this AOC is not specifically related to CCPW and/or the presence of CCPW-impacted material, No Further Action for this AOC is proposed.

2.8.1.3 Historic Rail Car Repair and Maintenance

In summary, based on a review of all available historic reference materials, the southern side of the Complex, and this general area of Jersey City have been developed with railroad line since at least the late 1800's. The southern side of the Complex had been a rail yard since at least 1896.

The 1911 Sanborn Map indicates two rail spurs running near what are now the northern and western edges of Site 202. Currently, the Site is partially occupied by the NJ Transit building which serves as a repair and maintenance facility for light rail cars.

The presence of environmental contaminants along railroad corridors is typically associated with residual impacts from railroad use and industrial uses along the corridor. Types of contaminants can include: wood treating chemicals including creosote (railroad ties), oil, gasoline, diesel fuel, cleaning solvents and detergents (spills or leaks), herbicides, fossil fuel combustion products (SVOC's), PCB's leaked from older transformers and capacitors used in train controls and electric generation, and a variety of residual metals.

Previous environmental investigations conducted by BEM on behalf of NJ Transit included soil sample collection sitewide. Based on analytical results, soil remedial actions were conducted wherever contaminants exceeded NJDEP restricted use Soil Cleanup Criteria applicable at the time. Where contaminants remained above the most stringent cleanup criteria, administrative measures (Deed Notices) were put into place to ensure these issues were managed appropriately in the future.

Based upon these findings, and the fact that this AOC is not specifically related to CCPW and/or the presence of CCPW-impacted material, No Further Action for this AOC is proposed.

2.8.2 Current AOC

To the extent they were observed within the boundaries of HCC Site 202 during the Site inspection, current AOC associated with ongoing NJT operations (not related to the potential presence of CCPW) are briefly discussed below.

Although no obvious impacts associated with these current AOC were observed during the site inspection, a more thorough review of these AOC may be warranted as part of any future PA activities.

2.8.2.1 Aboveground Storage Tank (AST)

A diesel fuel storage tank is located inside a large emergency generator, which is situated outside at the southwest corner of the maintenance building. No staining or visible evidence of leaks or releases was observed associated with the generator or associated AST.

2.8.2.2 Chemical Storage Cabinets / Hazardous Materials Storage Areas

Numerous metal chemical storage cabinets are located throughout interior areas of the maintenance facility, and are used for storage of lubricants, cleaning chemicals, paints, etc. associated with rail car maintenance activities. The cabinets are situated on concrete floor, which was observed to be in good condition. No indication of spills or releases was noted.

2.8.2.3 Drainage Swale and Culvert

Storm water collected from paved areas of the Complex drains to a large, vegetated retention basin located at southwest end of the Site/Complex. A variety of debris, including plastics, bottles, cans, wood and miscellaneous garbage was observed in the basin at the time of the site inspection. No visual indication (staining, discoloration, stressed vegetation) or other signs of releases (e.g. odors) of hazardous materials was observed during the site inspection.

2.8.2.4 Floor Drain Collection System / Sumps and Pits

A floor drain collection system was observed throughout interior areas of the maintenance building, which collects wash water and other non-hazardous liquids from the concrete maintenance pits and other areas of concrete flooring inside the building. No indication of staining or odors was noted associated with the drains observed during the site inspection. Sumps are used to remove water that accumulates in the subsurface maintenance pits. All liquids collected in sumps and floor drains is discharged to the municipal sanitary sewer system.

2.8.2.5 Rail Car Inspection, Maintenance and Storage

Light rail cars are inspected, serviced and washed inside the maintenance building. Inspections of the underside of the cars are conducted via numerous concrete lined inspection pits located beneath the rail tracks in inside the building. The pits observed seemed to be integral and in good condition. No indications of past releases were noted.

Figures

Appendix A

Site Photographs

Appendix B

Historic Data

Appendix C

NJDEP Data Miner Results

Appendix D

NJ Transit Parcel 205 – Analytical Results Summary

Appendix E

AECOM Memo to Michael McCabe – January 24, 2011

Appendix F

Excerpts from e-RAR

Appendix G

NJDEP PA Form and Certifications