

## MEMORANDUM

**TO:** Hudson County Chromate Waste Sites Mailing List

**FROM:** Len Romino, Assistant Director  
Responsible Party Remediation Element  
Site Remediation Program  
New Jersey Department of Environmental Protection

**SUBJECT:** Hudson County Chromate Update #34

The following is a summary of significant developments that have occurred between January 2008 and March 2009 regarding the Hudson County Chromate Waste Sites.

### Honeywell, Inc.

Allied Signal executed an administrative consent order with the State of New Jersey on June 17, 1993 for 22 Chromium Contaminated sites in Jersey City and Bayonne City. Since that time, Allied Signal purchased the assets and liabilities of Honeywell, Inc. and the company subsequently took the Honeywell name.

#### **Study Area 1: College Tower Apartments NJDEP Site 154**

- Biennial Certification for CEA - under review

#### **Study Area 3: Communipaw Jug NJDEP Site 071**

- RI Report and Remedial Action Selection Report - under review

#### **Study Area 4: Foodtown NJDEP Site 155**

- Remedial Action Design and Perimeter Air Monitoring Plan - under review

#### **Study Area 5:**

#### **New Jersey City University NJDEP Sites 90, 153 and 184,**

- Remedial Action Design - under review

#### **Route 440 Vehicle Corp. NJDEP Site 79**

- Remedial Action Work Plan - under review

**Former Ryerson Steel (Home Depot) NJDEP Site 117**

- Biennial Certification for Engineering and Institutional Controls - under review
- Deep Overburden Source Treatment Work Plan - under review

**Study Area 6 North: Jersey City Properties (JCIA/JCIA Well Site) NJDEP Sites 087/088**

- Non-Chromium Remedial Action Work Plan - under review
- Non-Chromium Remedial Investigation Work Plan - under review
- Remedial Action Work Plan - reviewed and approved

**Study Area 6 South: Kellogg Street Sites (Degan Oil NJDEP Site 073, Roosevelt Bowling Lanes NJDEP Site 124, Delphic Consolidated NJDEP Site 125, Old Dominion NJDEP Site 134, ABF Trucking NJDEP Site 140)**

- Pilot Test Work Plan - under review
- Remedial Investigation Work Plan Addendum - review and approved
- Remedial Action Work Plan - reviewed and approved
- Permit by Rule for Pilot Study (Site 124) - reviewed and approved

**Study Area 7 (Roosevelt Drive In NJDEP Site 115, Trader Horn NJDEP Site 120, and Clean Machine Car Wash NJDEP Site 157):**

Pursuant to a Federal Court Order, Honeywell is proceeding with investigation and remediation activities at Study Area 7. The excavation activities consist of removal of Chromite Ore Processing Residue (COPR) and chromium-impacted soils to depths of 15-20 feet throughout the entire 34-acre site, a total volume of approximately 1.2 million tons. Excavated material is being transported to off-site treatment, storage and disposal facilities and the excavation areas are being backfilled with clean fill. Nearly one million tons of COPR has been excavated to date. The remedial actions are anticipated to be complete by early 2010.

Sediments immediately off the Study Area 7 bulkhead containing relatively high levels of total chromium will be dredged and disposed of off-site. Honeywell will cap sediments where the concentration of total chromium exceeds 370 mg/kg in the top 12 inches of sediment. The sediment remedy is being designed and remedy implementation is anticipated to be in 2011.

Honeywell has completed investigations of the nature and extent of deep overburden and bedrock ground water plumes. The recommended remedy was approved by a court order dated October 6, 2006. That order requires Honeywell to construct and operate the recommended deep overburden and bedrock pump/treat system. The installation of the conveyance system and modifications to Honeywell's wastewater treatment facility are complete and the operation of the wells began in December 2008.

## **PPG Industries, Incorporated**

**Group 1** - Chrome Site # 156: This is a residential site with two apartment towers. Chromate fill is located between and along parts of the two (2) buildings. No signs of chromate material have been observed in the walls or other building material. Contaminant delineation and other remedial investigation work are largely complete and a remedial action work plan (RAWP) was submitted in July 2006. The cleanup (excavation) was to be coordinated with construction of a parking garage between the buildings. The RAWP was under Department review but withdrawn in September 2007 due to a sale of the property. Recent discussion of site plans with the new owner has resulted in reactivation of the existing RAWP. It is still under review.

**Groups 2,3,4,5** - Chrome Site #s 002,003,004,005, 008, 016 (portion), 066, 112, and 112A: Site #s 002, 003, 004, 005, 008, 066 and 112 are part of the Liberty National Golf Course and other development site, which was constructed in part at a former petroleum terminal, known as the Tankport or Ultramar Site. The chromate material was in the tank farm berms. Soil remedial action (RA), which includes institutional and engineering controls, is complete and no further action approval (NFA) for soils was issued in August 2004. Ground water contaminated with oil byproducts (from the former petroleum terminal) is contained by a slurry wall. Ground water within the containment area is pumped and treated. Data reportedly show that chromium is not a significant ground water issue. A Classification Exception Area for ground water has been proposed, but not yet approved. RA Operations and Maintenance (O & M) monitoring is ongoing for both soils and ground water, although the O&M plan needs NJDEP review.

**Chrome Site # 016:** For Site 016, only a small portion was remediated and included in the Liberty National site. The August 2004 NFA approval only includes the portion incorporated into Liberty National. An adjacent water way, the "Claremont Ditch" was also remediated by removing sediment and lining the ditch. RA O & M monitoring for the portion of the site in Liberty National is ongoing for both soils and ground water, although the O&M plan needs NJDEP review. The remainder of the site not included in Liberty National still needs remedial investigation (RI)/RA. A RI Report was submitted in 1993 and reviewed and discussed, but the work was not finalized. Shallow chromate contamination around the Levy and Son Warehouse building, an active business, is addressed with an interim remedial measure (IRM) in the form of asphalt paving along a portion of one side of the building.

In 2008, a RA work plan (RAWP) was approved and work initiated for the excavation of chromate material in two (2) areas where the warehouse owner is constructing loading docks. This work is ongoing.

**Chrome Site # 112A:** For Site 112A, some chromate material was excavated and consolidated with the material from adjacent Site 112. Site 112A was then capped and surrounded with a slurry wall. Existing ground water monitoring data reportedly show no ground water concerns. RA O&M monitoring is ongoing for both soils and ground water, although the O&M plan needs NJDEP review.

**Group 7** - Chrome Site #114 (Garfield Avenue): This is the location of the former chromate chemical production facility for which PPG is the responsible party. Initial phases of on-site remedial investigation (RI) work were completed and a RI report (RIR) was received in March 2006. Significant soil and ground water contamination is present. A RI work plan (RIWP) for off-site work, including contaminant delineation where contamination extends from the site, was submitted in September 2006. This is for surrounding and adjacent properties, primarily to the southwest. These chrome sites are #s 121 (Garfield Auto Parts), 132 (Town and Country Linen Warehouse), 133 (Ross Wax), 135 (Vitarroz), 137 (Rudolph Bass), and 143 (Talarico Auto Parts). The RIR and RIWP are under NJDEP review but off-site RI work is underway with preliminary NJDEP comments. Some laboratory or bench scale soil treatability studies were conducted, but the results were not yet submitted. A feasibility study work plan, part of the treatment evaluation, was reviewed, but not approved. A revised FSWP has not yet been submitted.

An interim remedial measure (IRM) work plan, primarily plans for some soil excavation in an area with some of the highest contaminant levels, was submitted in July 2006. This would remove some of the higher contaminant levels and allow evaluation of factors that would need to be considered in larger scale excavation to be evaluated. The work plan was reviewed by NJDEP in December 2006 but the proposal was withdrawn in September 2007 over air/dust control and monitoring issues.

The site is presently fenced and patrolled by guards. A portion is capped by a temporary liner (consisting of a layer of plastic and gravel for dust control) and former building foundations. There is also an IRM for storm water/ground water seepage previously impacted by chromate waste. This water is collected in sumps, containerized and shipped off-site for disposal/treatment.

**Group 6 & 8 & 9**- Chrome Site #s 121, 132, 133, 135, 137, 143: Site 121 is an active business with interim remedial measures (IRMs) in the form of patching of an existing parking lot; Site 132 is a currently vacant building with an IRM in the form of paving (parking lot); Site 133 is a vacant warehouse with IRMs in the form of wall coverings, replacement of small portions of flooring and epoxy sealing of cracks in flooring; Site 135 is an active business; Site 137 is an active business with IRMs in the form of wall coverings, paving, soil liner and a dry well; Site 143 is an active business with an IRM in the form of a plastic liner and gravel cover. A remedial investigation (RI) work plan for these sites was submitted and is under NJDEP review. PPG is presently conducting work based on preliminary NJDEP comments. The RI work (contaminant delineation) is related to the Garfield Avenue site RI work.

**Group 11** - Chrome site #147 (Hartz Mountain Site, Weehawken Township): Remedial action, which is primarily capping, is complete but a deed notice still needs to be finalized. A small portion of the site was recently purchased as part of the adjacent Port Imperial South residential/commercial development site (Chromate Site # 191).

**Group 12** - Chrome site #s 063 & 065: Site #063, Baldwin Oil and Commodities, is a former solvents blending and distribution facility, which included a small tank farm. Buildings associated with the former solvent blending and distribution operation were demolished in 1999 and the site is presently an undeveloped lot. Some chromate remedial action was conducted when the buildings were demolished. The foundations were removed and chromate-contaminated soil was excavated to the water table within the building footprint. As a further interim remedial measure (IRM), the excavation was lined with plastic and then filled with clean fill and gravel. As shown by post-excavation soil sampling, there is chromate contamination under the liner area. Other areas also have an IRM in the form of plastic and soil cover. In addition to the chromate, there is also some contamination from the solvent blending operation. This site is directly adjacent to Site # 065. Remedial investigation (RI) work is needed. .

Site #065, Burma Road, is presently an undeveloped lot with and IRM in the form of plastic and soil cover. Given its location directly adjacent to Site # 063, contaminant conditions are likely similar to the Baldwin Oil site. RI work is needed.

**Group 13** - Chrome site #146: This site has an interim remedial measure in the form of paving. Remedial investigation work is still needed.

**Chrome site # 191** - Port Imperial South: This former railroad terminal and industrial site is being converted to residential development with some commercial establishments. Remedial investigation (RI) work is mostly complete. Significant remedial action (RA) work is also complete, but additional RA is ongoing as development continues. RI/RA work included non-chromate areas of concern, including petroleum above and below ground tanks, spill areas and transformers which were excavated and removed. Most of the site is also on historic fill.

The chromate RA includes two cap areas, one to the north and one to the south. The area to the north includes two (2) separate areas, one (1) under the Brownstones at Port Imperial (Brownstones) residential development and (1) one under an adjacent parking lot. Work at the Brownstones is largely complete, although some deed notice issues must be finalized. A RA work plan (RAWP) proposing excavation and off-site treatment/disposal was submitted in May 2007 for the parking lot area. This was revised and then approved in November 2008. RA is currently ongoing.

A park was constructed above the chromate area to the south. As part of the park construction, some chromate material was excavated in the winter and spring of 2006. The remaining chromate was capped.

### **Droyer's Point (Site #119)**

The Droyer's Point site is a 300+-townhouse development. K. Hovnanian has completed construction of the townhouses and received a soils-only NFA in January 2006.

### **Occidental Chemical**

Occidental Chemical Corporation executed an Administrative Consent Order with the State of New Jersey on April 17, 1990 for 40 Chromium-contaminated sites in Kearny Town, Seacaucus Town and Newark City.

Site 113 (Diamond Shamrock) and Site 116 (Standard Chlorine) - An Interim Response Action Work Plan was submitted to the Department in May 2007. This work plan was approved in February 2008 after several revisions. Work is anticipated to begin in early 2010.

The following reports were submitted to the NJDEP in the past calendar year and are still under review:

**Site 48 (Clinton Cartage)** - Biennial Certification Report for Classification Exception Area

**Site 40 (Pen Horn Creek)** - Biennial Certification Report for Deed Notice and Engineering Controls

**Site 46 (Jenkins Enterprises)** - Biennial Certification Report for Classification Exception Area

**Site 41 (St. Johnsbury Trucking Terminal)** - Interim Remedial Measure Report for Demolition

**Site 61 (Turco Industrial Area)** - Interim Remedial Measure Report

**Site 210 (Ace Trucking)** - Remedial Action Report for AOC #1

**Site 50 (Janatex Company)** - Interim Remedial Measure Work Plan

**Site 113 (Diamond Site)** - Interim Remedial Measure Report for Stormwater Pipe

**Site 47 (Goldies Auto Parts)** - Focused Feasibility Study

**Site 113 (Diamond Site)** - Revised RI Report

The following documents were reviewed and approved:

**Site 41 (St. Johnsbury Trucking Terminal)** - Demolition Work Plan

**Site 113 (Diamond Site)** - Amtrak Horizontal Drilling Work Plan

**Site 113 (Diamond Site)** - IRM Work Plan for sealing a Storm Water Pipe

**Site 113 (Diamond Site)** - Porewater Sampling Work Plan

On August 2, 2008 the three chromium responsible parties (Occidental, Honeywell and PPG) submitted a revised research report on a Method Comparison Study (MCS) to present the findings and conclusions of a comprehensive year-long study that was principally intended to determine the merits/demerits of Method 6800 for Cr(IV) quantitation. NJDEP review of this report was completed on January 22, 2009. While the NJDEP is not in total agreement with some of the responsible parties' responses/revisions, the NJDEP comments do not have a substantive impact on the substance and conclusions of the report.

## **July 2, 1993 Allied Signal Directive Sites and Orphan Sites Groups 1 & 2**

The Preliminary Site Characterization (PSC) soil investigations have been completed at all twenty-three (23) sites in the Allied Directive group. These sites are numbered 007, 015, 019, 067, 068, 069, 070, 091, 092, 093, 094, 097, 098, 099, 100, 101, 130, 165, 172, 175, 178, 183 and 185. All of the PSC analytical data from these investigations have been validated. The results and recommendations will be presented in the PSC Remedial Investigation (RI) reports. Monitor wells have been installed at sites 007, 015, 019, 068, 070, 091, 092, 093, 094, 099, 100, 101, 130, 165, 172, 175, 183 and 185. All building inspections have been completed (19 sites). PSC surface water and sediment sampling has been completed at sites 015, 068, 091 and 165. Initial PSC soil sampling has been completed at all twenty-three (23) sites under the Allied Directive category. PSC Remedial Investigation Reports have been completed for sites numbered 015, 067, 091, 094, 165, 172, 175, 178, 183 & 185. The Final Site Characterization (FSC) proposal was received from the contractor during May 2002.

NJDEP is undertaking a Remedial Investigation, Remedial Alternatives Evaluation (RAE) and a Design to support an IRM for what is collectively referred to as the "Gateway Sites" that includes Chrome site #s 68, 69, 70, 71 and 130. As part of the RAE an innovative technology Pilot Study was conducted to determine the viability of on-site treatment. A report has been submitted to NJDEP for review

Removal actions were initiated at three sites: Site 175 (Morris Canal No. 2); Site 165 (Tempesta); and, Site 15 (Liberty State Park).

#15 - NJDEP conducted an IRM addressing source removal of hexavalent chrome contaminated soils and removed 28,000 tons of material for off-site disposal. Subsequent restoration activities included construction of a 3-acre open-water pond and a 4-acre "wet meadow" with installation of indigenous vegetation. No detectable hexavalent chrome was present in post-removal ground water sampling. Removal and construction activities are complete. NJDEP is conducting Operations and Maintenance (O&M) and plans to turn O&M over to the Park.

#165 - NJDEP conducted an IRM addressing source removal of hexavalent chrome-contaminated soils and removed 6,800 tons of material for off-site disposal. Post excavation site samples indicate the hexavalent chromium source has been removed. No detectable hexavalent chromate was present in post removal ground water sampling. Future action to address ground water and non- chromate contamination may be undertaken to determine final site status.

#175 - NJDEP conducted an IRM addressing source hexavalent chrome contaminated soils. No actionable levels of hexavalent chrome were detected. Future action may be undertaken to determine final site status.

The Orphan 1 group of sites consists of fourteen chromium sites. Preliminary and Final Site Characterization investigations were conducted at all Orphan 1 sites except for site 139. The following is a status of each of the ten sites.

**Site 017 (Exxon Station):** Confirmed hexavalent chromium along curb and underneath pavement. NJDEP extended sampling across street during FSC and found nothing. No further sampling is needed. Final FSC Report completed October 2004. Department of Transportation (DOT) has notified NJDEP that this site will be included in DOT's road improvement project for the Route 1&9 corridor. Currently DOT and DEP have a Memorandum of Understanding (MOU) that outlines how DOT should handle contaminants at DEP known contaminated sites.

**Site 020 (NJ Turnpike Property):** Hexavalent chromium confirmed throughout site. Exceedances of ground water quality standards for total chromium found. Installation and sampling of additional upgradient monitor wells will be conducted early 2006. Final FSC report delayed until additional ground water data is evaluated.

**Site 021 (NJ Turnpike Property):** Contains visible surface chromate slag with no confirmed hexavalent/total chromium hits. Final PSC Report issued in June 2001.

**Site 077 (Eighth Street):** Hexavalent chromium found underneath commercial building during PSC. FSC fieldwork to further delineate site contamination completed during summer of 2002. Final FSC Report was completed in January 2004.

**Site 086 (Nicholas Trucking):** NJDEP conducted an IRM addressing source removal of hexavalent chrome contaminated source soils and removed 3,200 tons of material for off-site disposal. Post excavation site samples indicate hexavalent chrome has been removed. Ground water analysis and future action to address ground water and non-chromate contamination may be undertaken to determine final site status.

**Site 138 (Bayonne Sewage Treatment Plant):** Only one hit of hexavalent chromium found at 10-15 ft. during the PSC. NJDEP agreed to do no further sampling since the chromium exceedances were marginally above the NRDSCC and located along a subsurface sewer line.

**Site 139 (IMTT):** Large active chemical storage facility. NJDEP conducted in-house surface sampling effort confirming widespread chromium contamination during November 2001.

**Site 150 (Coastal Oil):** PSC fieldwork completed during Summer of 2002. Hexavalent chromium was found along oil pipeline gallery. Widespread free phase oil product was discovered during PSC soil boring work. This situation was reported to NJDEP's Hotline for case assignment. Final FSC Report was issued in September 2003. No further action anticipated at this site except for recommendations that a deed notice be placed on this site.

**Site 152 (Kenrich Petrochemicals):** PSC fieldwork conducted during the Spring of 2002. No hexavalent chromium discovered. Widespread free phase oil product

discovered during the soil boring work. The situation was reported to NJDEP's Hotline for case assignment. Final PSC was issued in February 2003.

**Site 162 (Conrail Spur):** Final PSC Report issued August 2000. No hexavalent chromium found.

**Site 174 (Collins Park):** Only one hexavalent chromium hit discovered at approximately 5-7 ft. depth. NJDEP conducted additional FSC work during the Summer of 2002 and confirmed that hexavalent chromium is limited to one location. Final FSC Report issued in October 2003. This location is currently under an impermeable liner and asphalt.

**Site 177 (Bayonne Municipal Lot):** PSC fieldwork during the Summer of 2002 did not find any hexavalent chromium contamination onsite. High levels of petroleum hydrocarbon were detected in two soil borings. This was reported to NJDEP's Hotline for case assignment. A FSC Report was issued in September 2003.

**Site 180 (Eastern Oil):** Hexavalent chromium found along Jersey City sewer line. FSC fieldwork during Spring/Summer of 2002 confirmed that hexavalent chromium contamination is limited to immediate area around sewer line. Draft RI report submitted May 2005.

**Site 186 (JM Towing):** PSC fieldwork discovered hexavalent chromium found underneath IRM liner and under hardtop. FSC fieldwork completed during Spring of 2002 confirmed that the hexavalent chromium is limited to the area underneath the IRM. The Final FSC Report was issued in November 2003.

The Orphan 2 group of sites consists of fifteen sites. The phase 2 field investigations for Sites 192, and 206 were completed during January 2004. The draft RI reports were received in June 2004 and are currently being reviewed by NJDEP.

### **General Chromium Site Status**

Attached is the Chromite Ore Processing Residue Sites Status table, which summarizes the phase of all known chromium sites, sorted by responsible party. A copy of the updated Chrome Sites list is attached.

### **Additional Sources of Information:**

Additional information regarding chromium can be found at the following web sites or by calling Mindy Mumford, NJDEP Site Remediation Program's Office of Community Relations, at (609) 777-1976 or (800) 253-5647.

<http://www.nj.gov/dep/srp/siteinfo/chrome/>

<http://www.nj.gov/dep/dsr/chromium/>

# Chromate Chemical Production Waste Sites Status March 1, 2009

Organization	Active Sites RI or RA Phase	NFA <sup>a</sup>	Total Sites
Honeywell	19	3 <sup>c</sup>	22
Occidental Chemical	23	17	40
PPG Industries	14	47	61
Exxon	2	0	2
Developer/Owner	3	3	6
<b>Sub-Total Responsible Party</b>	61	70	131
Allied Directive	23	1 <sup>b</sup>	24
NJDEP	0	1	1
NJDEP Orphan Site #1	14	0	14
NJDEP Orphan Site #2	15	0	15
<b>Sub-Total Publicly Funded</b>	52	2	54
<b><u>SUBTOTAL</u></b>	113	72	185
<b>Sites Investigated and Not Contaminated</b>	0	0	27
<b><u>TOTAL</u></b>	113	72	212

- A. Sites Cleaned-Up with "**Entire Site - No Further Action (NFA-E) Determinations**" (37 Residential and 35 Non-Residential). Approximately 39% of all confirmed Hudson County Chromium Sites have been investigated and cleaned-up.
- B. Chromium Site #119 received a Soil only NFA, but Ground Water must still be addressed.
- C. Chromium Site #117 received a Soil only NFA, but Ground Water must still be addressed and possibly reevaluate the soil remedy.