

Update to the May 2010 Health Exposure Study Recommendation

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Purpose of this Report

The former court-appointed Site Administrator for the cleanup of designated PPG chromium waste sites in Hudson County, New Jersey, W. Michael McCabe, prepared and submitted to the Superior Court of New Jersey, Hudson County, a Health Exposure Study Recommendation dated May 2010 (the “*McCabe Report*”). The McCabe Report recommended the initiation of a comprehensive “Community Health Exposure Prevention and Testing Program” consisting of various components.

The purpose of this Report is to communicate to the public the status of the implementation of the recommendations of the McCabe Report. This Report will also make recommendations for future activities at the PPG chromium cleanup sites designed to continue to help protect the health and safety of residents living in close proximity to these sites.

Background

On June 26, 2009, a Partial Consent Judgment (the “*Consent Judgment*”) was entered with the Superior Court of New Jersey. The Consent Judgment bound the New Jersey Department of Environmental Protection (“*NJDEP*”), PPG Industries, Inc. (“*PPG*”), and the City of Jersey City to work together to remediate the remaining 20 chromium sites in Hudson County for which PPG is responsible. The settlement incorporated into the Consent Judgment was designed to remediate the soils, groundwater and sources of contamination at the PPG Sites as “expeditiously as possible.”²

To help meet this objective, the Consent Judgment required the establishment of the position of an independent Site Administrator with oversight responsibilities. The responsibilities vested in the Site Administrator include developing a judicially enforceable master schedule, facilitating parties’ progress in meeting master schedule milestones, hiring an independent technical consultant, maintaining regular communications with community representatives and communicating community concerns to the parties to the Consent Judgment.

W. Michael McCabe was appointed Site Administrator by court order in July 2009. Mr. McCabe served as Site Administrator until January 2016 when Ronald J. Riccio assumed the position. Mr. Riccio was appointed Site Administrator on December 12, 2015 by the Superior Court of New Jersey, Chancery Division, Hudson County. Mr. Riccio was reappointed to the position of Site Administrator by Consent Order entered by the Court on December 26, 2017 for

¹ Mr. Riccio is Counsel and Mr. Ray is a Partner with the law firm of McElroy, Deusch, Mulvaney & Carpenter, LLP. Their biographies can be viewed on the Chromium Cleanup Partnership web site at www.chromiumcleanup.com.

² Partial Consent Judgment Concerning the PPG Sites (Civil Action No.: HUD-C-77-05), June 26, 2009 (the “Consent Judgment”), Section V, Paragraph 8.

a two-year term commencing on January 4, 2018.

As part of the duties and responsibilities of the Site Administrator, a provision was included in the Consent Judgment requiring the Site Administrator to:

Review previous and ongoing health studies concerning the health impacts of chromium in Hudson County and consult with experts in the field and, if necessary, to recommend a protocol for a future medical study (health exposure study), that would monitor the people living within the vicinity of the Garfield Avenue Site to ascertain chromium exposure risks....³

It was on this basis that Site Administrator McCabe prepared the McCabe Report and submitted it to the Court by letter dated June 28, 2010. The McCabe Report included an extensive review of existing health study literature and research which formed the foundation for the recommendations in the McCabe Report, centered upon potential exposures to hexavalent chromium and, in particular, the use of chromate chemical production waste (“CCPW”) as construction fill material.

CCPW

The reader of this Report is referred to the McCabe Report, which contains an extensive description of CCPW and its potential health exposure threats. In summary, CCPW is a by-product generated from the production of sodium dichromate. CCPW contains hexavalent chromium. CCPW has been found at residential, commercial and industrial locations throughout Hudson County. Chromate waste from the sodium dichromate production facilities in Hudson County was used as fill in preparation for building foundations, roadway construction, filling of wetlands, sewer construction and other construction and development projects. Chromate contamination has been found in a variety of places, including the walls and floors of buildings, interior and exterior building surfaces, surfaces of driveways and parking lots and in the surface and subsurface of unpaved areas.

Recommendations of the McCabe Report

As required by the terms of the Consent Judgment, before deciding whether to recommend “a health exposure study for the residents living in the vicinity of Garfield Avenue,” Site Administrator McCabe reviewed relevant health study data and considered the opinions of health and science experts.⁴ McCabe evaluated this information “in the context of protecting the public’s health from potential exposures related to the remediation of the Garfield Avenue Site.”⁵

After conducting a thorough review of scientific studies, expert opinions and other available data and information, Site Administrator McCabe recommended a Community Health Exposure Prevention and Testing Program that “would protect the health and ensure the safety of

³ Consent Judgment, Section XVI, Paragraph 49 (g).

⁴ McCabe Report, Article IV.

⁵ Id.

residents living near the Garfield Avenue Site.”⁶ Site Administrator McCabe’s recommended program consisted of the following three components: (1) a comprehensive Air Monitoring Program to ensure the protection of the surrounding community during the remediation of the Garfield Avenue Site, (2) an accompanying health exposure program to determine whether the community is being exposed to hexavalent chromium related to the site cleanup, and (3) a mapping project using results from the Residential Inspection Program established by the Consent Judgment to outline areas of soil contamination, if detected.⁷

The details of the Community Health Exposure Prevention and Testing Program recommended by Site Administrator McCabe and the actions taken to date to implement those recommendations are outlined below.

A. AIR MONITORING PROGRAM

1. The McCabe Report Recommendations for an Air Monitoring Program.

The McCabe Report recognized that the activities associated with the excavation and removal or treatment of CCPW and CCPW-impacted materials from the Garfield Avenue Site⁸ resulted in the generation of work site dust. In order to ensure that the health and safety of off-site residents was being protected during these activities, the McCabe Report called for continuous on-site and perimeter monitoring of ambient air. The McCabe Report also recommended that “the data generated will be independently reviewed and made available in an open and transparent manner.”⁹

The Air Monitoring Program described in the McCabe Report was required to include the following:¹⁰

⁶ Id.

⁷ Site Administrator McCabe also recommended that the parties to the Consent Judgment undertake promotion activities to encourage community participation in the second phase of a household dust study being funded mainly by NJDEP through its Division of Science and Research (the “Phase II Dust Study”). The Phase II Dust Study was conducted by the Department of Environmental and Occupational Medicine, Center for Environmental Exposure and Disease, Rutgers Robert Wood Johnson Medical School, Environmental and Occupational Health Sciences Institute (“EOHSI”) and other participants. The Phase II Dust Study was completed and the study results were compiled in a paper published in the Journal of Exposure Science and Environmental Epidemiology (2015), 1–7, entitled, “A post-remediation assessment in Jersey City of the association of hexavalent chromium in house dust and urinary chromium in children.” This paper concluded, in part, as follows:

In contrast to our findings in pre-remediation studies of Cr exposure in Jersey City, there no longer appears to be an association between Cr+6 in house dust and Cr in the urine of children in the same homes. The urine chromium levels are lower than in the pre-remediation period. Consistent with our more recent findings, this appears to be associated with the remediation of chromium waste sites in Jersey City and to reflect the reduction of Cr+6 exposure in Jersey City to New Jersey urban background levels. In the larger context, this study serves to cap the series of studies of exposure to chromium waste in Jersey City....

⁸ The “Garfield Avenue Site” is described in the Consent Judgment as “a chrome production facility [that] was operated at and/or near 880 Garfield Avenue, Jersey City, Hudson County, New Jersey.”

⁹ McCabe Report, Article IV, Section A.

¹⁰ These components and other requirements were set forth in an “Air Monitoring Plan” that had been reviewed and approved by NJDEP.

- Measures to control CCPW-containing dust and potential hexavalent chromium exposure to off-site residents;
- Establish an Action Level for total particulates and a risk-based concentration goal for hexavalent chromium for monitoring in the exclusion (work) zone and at the site perimeter;
- Continuously monitor and document airborne particulate and hexavalent chromium levels at on-site locations and at the fenceline (perimeter);
- Establish baseline conditions prior to remedial activities;
- Generate data to confirm successful dust control, as well as evaluate the need to initiate actions to mitigate dust generation in real-time as the excavation proceeds;
- Require program activity and data review by an independent Technical Consultant;¹¹
- Post air monitoring data on the www.chromiumcleanup.com website.

The McCabe Report considered a key component of the Air Monitoring Program to be the development of a risk-based concentration limit for hexavalent chromium in order to protect residents from exposure to hexavalent chromium during remedial activities. The McCabe Report recommended that the risk-based hexavalent chromium concentration limit in ambient air be calculated using a cancer risk methodology (representing the cumulative average risk over the 5-year duration of the remediation project). Because hexavalent chromium cannot be measured in real-time, a surrogate real-time Action Level for total particulates (PM10) was also recommended to be calculated. The real-time total particulate concentrations in the Exclusion (Work) Zone was to be averaged every five minutes in order to provide site personnel ample time to evaluate dust sources, employ dust control procedures or, when necessary, cease operations in order to prevent off-site exposures to elevated levels of contaminants.

2. Implementation of the Air Monitoring Program since Publication of the McCabe Report.

As recommended in the McCabe Report and required by NJDEP regulations, a comprehensive Air Monitoring Program was implemented during the remediation work at the PPG Sites to ensure that off-site residents were protected from potential hexavalent chromium exposure. A key element of the Air Monitoring Program was the development of an *Air Monitoring Workplan for Ground Intrusion Activities at the Garfield Avenue Site in Jersey City, New Jersey* (the “**Air Monitoring Plan**”),¹² which set forth the requirements for performing and documenting continuous air monitoring of airborne particulates and hexavalent chromium levels at on-site locations and at the site perimeter fenceline. The Air Monitoring Plan was reviewed by the Independent Technical Consultant and approved by NJDEP. Any subsequent modifications to the Air Monitoring Plan that were required due to changing conditions as the remediation

¹¹ The Consent Judgment requires the Site Administrator to retain an Independent Technical Consultant. Weston Solutions, Inc. has served as the Independent Technical Consultant since being selected to serve in that capacity in October 2009. The Independent Technical Consultant provides technical support to NJDEP, provides NJDEP with written comments on technical submittals, answers questions from, and meets and confers with, PPG, DEP, and the Site Administrator regarding submittals, and attends and participates in community or public meetings to discuss proposed remedial measures at the PPG Sites.

¹² The referenced Workplan was originally approved by the Independent Technical Consultant and NJDEP in 2010 and later modified in April 2012.

work progressed were documented in individual Air Monitoring Plan Amendments. All Air Monitoring Plan Amendments were also reviewed by the Independent Technical Consultant and approved by NJDEP prior to their implementation.

To ensure the protection of off-site residents from exposure to airborne hexavalent chromium during the remediation activities, a site-specific Acceptable Air Concentration (“AAC”) limit for hexavalent chromium was developed in coordination with the NJDEP. The AAC for hexavalent chromium in air was calculated as a time-weighted average over the duration of the remediation project. For the Garfield Avenue Site, the AAC was established as 49 nanograms per cubic meter of air over the project duration at the site perimeter fenceline, which is considered to be protective of human health based on NJDEP criteria. In addition to establishing the site-specific AAC and because hexavalent chromium concentrations in air cannot be measured in real-time, a surrogate real-time Action Level of 333 micrograms per cubic meter for total particulates less than 10 micrometers in size (“*PM10*”) was calculated based on actual hexavalent chromium concentrations in site soils. The Air Monitoring Plan established the hexavalent chromium AAC and the *PM10* Action Level and presented the basis for their calculation.

Prior to the initiation of remediation activities, a robust perimeter air monitoring system consisting of multiple fixed and portable air monitoring stations was installed at the Garfield Avenue Site to confirm that safe conditions were maintained during intrusive site activities. The air monitoring system consisted of two tiers of protective monitoring. The first tier, which served as an early warning indicator to prevent dust from reaching the site perimeter, consisted of the performance of air monitoring at on-site exclusion zone areas with portable monitors encircling the areas of work. The second tier consisted of air monitoring at multiple fixed and portable stations located at the perimeter fenceline of the site. The air monitoring stations facilitated the collection of real-time air samples for *PM10* and also integrated air samples (over a period of 8 hours, 24 hours or 72 hours) for the laboratory analysis of *PM10* and hexavalent chromium in air. Baseline air monitoring of the site was performed for a period of 5 consecutive days preceding the startup of excavation/construction activities to quantify the pre-existing levels of *PM10* and hexavalent chromium at the site.

As the remediation work progressed, all real-time *PM10* data from the exclusion zone and perimeter stations were continuously telemetered to a central air monitoring station located at the site and evaluated by site air technicians against the particulate Action Level to confirm levels were within safe limits. Furthermore, the *PM10* Action Level was compared to real-time particulate measurements as an early warning sign to step-up dust suppression measures in the immediate work area or cease operations, if necessary, to evaluate and implement immediate corrective actions. Rolling averages of the hexavalent chromium concentration results from the analytical laboratory were compared to the established AAC, and trend analyses performed, to evaluate the on-going effectiveness of the Air Monitoring Program and dust control measures implemented during the construction activities. Weekly and monthly reports summarizing the program-to-date air results were submitted by PPG for review by the Independent Technical Consultant to confirm that: (i) the objectives set forth in the Air Monitoring Program were being met, and (ii) the site dust control measures were successful in maintaining *PM10* and hexavalent chromium levels below the Action Level and AAC, respectively. These air results were also

uploaded on a regular basis to the Chromium Cleanup Partnership web site (www.chromiumcleanup.com) for public viewing.

Overall, the PM10 results obtained to date indicate that the dust control measures instituted during the intrusive activities at the PPG Sites have been so effective that the average PM10 concentrations measured during the intrusive work are very close to the concentrations measured during the baseline monitoring period. As further indication of the Air Monitoring Program's effectiveness, the integrated hexavalent chromium sampling and analysis performed during the remediation activities show that the program-to-date average airborne hexavalent chromium concentrations are significantly less than the AAC. These results confirm continuing compliance with the AAC established in the Air Monitoring Plan and the protectiveness of the dust control measures implemented at the site to protect public safety.

It is recommended that the Air Monitoring Program continue at the PPG Sites during remedial activities and that the data generated from the Program continue to be uploaded to the Chromium Cleanup Partnership web site. In addition, all data generated from the Program and any future modifications to the Air Monitoring Plan that are required due to changing conditions as the remediation work progresses will be reviewed by the Independent Technical Consultant and approved by NJDEP.

B. COMMUNITY HEALTH EXPOSURE TESTING PROGRAM

1. McCabe Report Recommendations for a Health Exposure Testing Program.

In addition to the Air Monitoring Program, the McCabe Report recommended health exposure testing for residents in order to evaluate whether the community was being exposed to hexavalent chromium related to the remedial activities. The McCabe Report noted that blood testing was being offered to respond to community concerns about potential exposures during remediation rather than being prescribed because of concerns about past exposures. The McCabe Report called for sampling of area residents' blood before, during and after cleanup activities to evaluate whether increases of hexavalent chromium above levels of concern were observed. The voluntary program was made open to all residents living in the area from the Garfield Avenue Site west to Ocean Avenue, south to Bayview Avenue and north to Bramhall Avenue (the "*Study Area*").

The McCabe Report recommended that the program consist of:

- An initial screening for chromium level in red blood cells (blood screening) to be completed before any remedial excavation activities are initiated at the Garfield Avenue Site in order to establish a baseline for comparison purposes;
- Semi-annual blood screenings throughout the period of land-disturbing remedial activities;
- Physical examinations for evidence of medical conditions that indicate a recent exposure to hexavalent chromium, if red blood cell sampling results are elevated above a level of concern;
- Data management and integration of participant blood data with environmental exposure studies data; and

- Protections for participant privacy.

2. Implementation of the Health Exposure Testing Program since Publication of the McCabe Report.

In June 2010, Site Administrator McCabe contracted with the Environmental and Occupational Health Sciences Institute (“*EOHSI*”) at the Rutgers School of Public Health to perform the health exposure study. A new contract was entered between Site Administrator Riccio and EOHSI in January 2016 to complete the study.

The results of the study were summarized in a report by EOHSI dated December 6, 2016, entitled “Results of the Blood Monitoring Program at the Garfield Avenue Chromium (VI) Remediation Sites” (the “*EOHSI Report*”).¹³ The EOHSI Report noted that the blood monitoring program was implemented as planned in the McCabe Report, but with one modification after consultation between Site Administrator McCabe and environmental health scientists at EOHSI, who conducted the blood monitoring program, i.e., that blood sampling would be performed annually, instead of semi-annually. Sampling periods were selected to coincide with active remediation (soil removal).

The EOHSI Report confirmed that the multiple and overlapping measures to prevent human exposure to chromium during PPG’s soil cleanup activities at the Garfield Avenue sites had been effective. Blood samples collected from 28 residents living in the Study Area in June and July 2016 showed no detectable levels of chromium. Furthermore, results from the six previous rounds, including the initial testing in 2010, did not find any evidence of an increase in the blood chromium levels of the Study Area participants, despite digging up and hauling away approximately 1 million tons of chromium contaminated soil and debris.

The protective measures implemented at the cleanup sites include best management practices such as:

- Setting stringent limits on airborne dust and chromium;
- Monitoring air quality 24/7;
- Water misting work areas to suppress dust;
- Spraying surfaces with dust suppression materials;
- Pressure-washing trucks in a protected area before exiting site; and
- Covering open excavations and stockpiles when not being worked.

To determine baseline blood chromium concentrations, blood samples were collected by EOHSI from community volunteers living in the Study Area established under the blood monitoring program before the excavation began in July 2010. As planned in the blood monitoring program, samples were then collected annually, including 2016, the final year of the study. Under program guidelines, samples were collected and analyzed by an independent laboratory.

Dr. Robert J. Laumbach, the author of the EOHSI Report, said in the report that the

¹³ The EOHSI Report can be found on the Chromium Cleanup Partnership web site at www.chromiumcleanup.com.

results from the six-year study “support the conclusion that the work practices, dust suppression activities and the air monitoring program for controlling potential exposures to Chromium(VI) during the site remediation activities provided effective protection for residents in the Study Area.”

Based upon the conclusions drawn in the EOHSI Report, the recommendation of Site Administrator McCabe for a health testing program in the Study Area has been satisfactorily implemented. No further health testing activities are planned at this time.

C. RESIDENTIAL INSPECTION PROGRAM

1. McCabe Report Recommendations for a Residential Inspection Program.

The McCabe Report recommended a project to map the results from the Residential Inspection Program established pursuant to the Consent Judgment¹⁴ to outline areas of CCPW contamination, if detected. The Report noted that: “The information collected through site sampling is of great value in determining the extent of CCPW contamination within the Garfield Avenue Site community.”¹⁵ The McCabe Report recommended that a “Residential Inspection Program Results Mapping Project” be developed to “share sampling results through location maps and public reports in order to provide the broader community with an accurate picture of residential contamination conditions.”¹⁶ Finally, the McCabe Report recommended that information gathered in the Program be shared with the public through website postings and newsletters, as appropriate.¹⁷

As required by the Consent Judgment, the McCabe Report noted that residents living within the following prescribed areas were eligible to request an inspection under the Program: (i) 400 feet of the property lines or the edge of CCPW remediation (whichever is greater in distance) of a PPG Site, or (ii) in the area from the Garfield Avenue Site west to Ocean Avenue, south to Bayview Avenue and north to Bramhall Avenue ((i) and (ii) are collectively referred to herein as the “**Program Area**”). Daycare centers, schools and playgrounds within the Program Area were also considered eligible. The Site Administrator was required pursuant to the Consent Judgment to establish a hot-line call number that residents living in the Program Area could call if the resident suspected the presence of CCPW in or on their property.¹⁸ The stated intention of the Residential Inspection Program as described by Site Administrator McCabe was that “both CCPW on the Garfield Avenue Site and residual CCPW on surrounding residential properties will be removed, thereby helping protect the community’s health.”¹⁹

¹⁴ The Consent Judgment required that the inspection, testing and, if required, remediation of residential properties within the specified study area be given the “highest priority” of the Site Administrator in scheduling of the site remediation work. The Consent Judgment also required the Site Administrator to “direct that an inspection and, if needed, any testing, at the real property be undertaken by qualified professionals retained by PPG, and PPG shall undertake the appropriate remedial measures, in the event there exists elevated levels of CCPW on the real property.” Consent Judgment, Section XX, Paragraph 61.

¹⁵ McCabe Report, Section VII, C. 1.

¹⁶ Id. at Section VII, C. 2.

¹⁷ In light of concerns expressed by property owners participating in the Residential Inspection Program over public dissemination of specific information about their properties, the parties to the Consent Judgment have exercised discretion in the level of detail included in web site postings and newsletters that address the Program.

¹⁸ Consent Judgment, Section XX, Paragraph 61.

¹⁹ McCabe Report, Section VII, C. 1.

2. Implementation of the Residential Inspection Program since Publication of the McCabe Report.

At the request of the Site Administrator, and with the input of NJDEP, the City of Jersey City and the Independent Technical Consultant, PPG compiled a Residential Site Inspection Work Plan dated February 2010 (the “*RSIWP*”). The RSIWP governs the inspection, sampling and, if required, remediation of eligible residential sites.²⁰ The inspection process at each residence was designed to consist of a historical records review to determine if there was any record of the placement of CCPW on the property and an on-site physical inspection to look for visible signs of CCPW. The RSIWP procedures also called for the collection of soil samples which were analyzed for hexavalent chromium under two scenarios: (i) if visible signs of CCPW were observed, or (ii) visible signs of CCPW were not observed, but collection of samples were requested by the property owner. On-site inspections and soil sample collection were performed by AECOM (PPG’s consultant). One or more representatives of the Independent Technical Consultant retained by the Site Administrator participated in the site inspections and observed the collection of the soil samples and remediation activities, where required. The flow diagram below summarizes the critical steps of the Program.



Beginning in early 2010, property owners in the Program Area were advised of the Residential Inspection Program by notifications in the Site Administrator’s newsletters which were mailed to local residents, including property owners in the Program Area, by announcements at a number of public meetings chaired by the Site Administrator and by postings to the Chromium Cleanup Partnership web site. Throughout the Program, communications were also made with certain residents by letters mailed via certified and regular mail to their residences (including, in some instances, multiple mailings).

²⁰ Eligibility is based upon the residential site being located in the Program Area, as defined in this Report.

Seventy-six (76) residents who were eligible to participate in the Program used the hot-line or otherwise communicated with the Site Administrator or the parties to the Consent Judgment expressing interest in the Program. As of the date of this Report, soil sampling was completed on 29 residential properties who requested participation in the Program.

All inspection, sampling and remediation activities were undertaken by PPG and its consultants, but with the oversight of the Independent Technical Consultant. Twenty-two (22) of the 29 sites that were sampled were determined not to have hexavalent chromium present above applicable cleanup criteria, i.e., the New Jersey Direct Contact Soil Clean-up Criterion of 20 milligrams per kilograms (mg/kg). All sample results were reviewed by the Independent Technical Consultant before a determination was made that remediation of those 22 sites was not required.

Of the 29 properties that were sampled, individual samples from seven (7) properties exceeded the 20 mg/kg criterion. Soil removal actions are either in process or were completed by PPG²¹ at these 7 properties where samples exceeded this criterion. These remedial activities are (or will be) documented in final written reports that were (or will be) reviewed by the Independent Technical Consultant.

Of the original 76 eligible residents who expressed interest in the Program, forty-seven (47) of those residents either did not respond to efforts to complete the various steps in the Program or they indicated that they did not desire to proceed with the Program. Beginning in 2016, after being appointed Site Administrator, Site Administrator Riccio made numerous attempts (in addition to prior efforts) to communicate with these 47 residents, including multiple mailings by both certified mail and regular mail. No further communications with these residents is contemplated at this time.

It is important to note that no historical records were found indicating that CCPW was disposed of on any of the residential properties that were inspected. In addition, based on the site inspections conducted by PPG's consultants and the Independent Technical Consultant, no evidence of the presence of CCPW was observed at the inspected properties. The absence of CCPW at each of the residential properties is documented in written reports reviewed by the Independent Technical Consultant. Those reports also include photographs documenting observations made during the site inspections. Where sampling was performed, the written reports contain detailed boring logs of the soils retrieved during sampling, including notations related to the presence or absence of CCPW as well as photo-documentation of the soils retrieved during sampling.

As noted above, the McCabe Report recommended that a "Residential Inspection Program Results Mapping Project" be developed to "share sampling results through location maps and public reports in order to provide the broader community with an accurate picture of residential contamination conditions." As noted in this Report, CCPW was not identified at any

²¹ Pursuant to the terms of the Consent Judgment, PPG is required to investigate and remediate CCPW at the residential sites and not hexavalent chromium that does not result from the presence of CCPW. (Consent Judgment, Section XX, Paragraph 61). Therefore, PPG's remediation activities at the referenced residential sites was done on a voluntary basis.

of the 29 sites that were inspected, including during the soil sampling activities at those 29 sites. Therefore, CCPW cannot be mapped for the sites that were studied. As also noted in this Report, hexavalent chromium was identified at several sites at levels that exceeded the applicable cleanup criteria. The Independent Technical Consultant prepared a map that shows those locations. The map illustrates that the hexavalent chromium exceedances are sporadic in terms of their locations. No firm conclusions can be drawn from these findings.

Over the past eight years, the existence of and eligibility for entry into the Residential Inspection Program has been widely communicated to residents in the Program Area through the various means mentioned in this Report. All eligible residents who requested entry into the Program had a historical records review performed for the property. If requested by the resident, their properties were inspected, sampled and, where sample results exceeded applicable NJDEP criteria for hexavalent chromium, remediated. It is recommended that the Residential Inspection Program be discontinued, unless good cause exists to reopen the Program on a case-by-case basis with respect to residents located in the Program Area.

CONCLUSIONS AND RECOMMENDATIONS

The recommendations of the McCabe Report that called for a comprehensive Air Monitoring Program, a health exposure study and a mapping project using results from the Residential Inspection Program have been successfully implemented. This Report recommends the following:

Air Monitoring Program: This Program shall continue at the PPG Sites during remedial activities. All data generated from the Program shall continue to be uploaded to the Chromium Cleanup Partnership web site. In addition, all such data and any future modifications to the Air Monitoring Plan that are required due to changing conditions at the PPG Sites will be reviewed by the Independent Technical Consultant and approved by NJDEP.

Health Exposure Testing: No further health testing activities are planned at this time.

Residential Inspection Program: It is recommended that this Program be discontinued, unless good cause exists to reopen the Program on a case-by-case basis with respect to residents located in the Program Area.

This Report will be posted on the Chromium Cleanup Partnership web site, will be supplied to the Court with the Site Administrator's next Progress Report and will be summarized in the next Newsletter circulated to the public.