



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

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RUSSELL J. HARDING, Director

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

September 29, 1999

Mr. William Muno, Director
Superfund Division
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (S-6J)
Chicago, Illinois 60604-3507

Dear Mr. Muno:

Attached for your signature is the Adams Plating Company's Five-Year Review Report that was prepared by the Michigan Department of Environmental Quality's (MDEQ) staff. The United States Environmental Protection Agency's (U.S. EPA's) remedial project manager, Mr. Steven Padovani, has completed his review of the report and requested that we finalize the report.

The Five-Year Review Report includes the following recommendations:

1. A recommendation for continued groundwater monitoring by the Adams Plating Company to evaluate the effectiveness of the completed remedy.
2. Semi-annual evaluations by the MDEQ to ensure that the Adams Plating building and neighboring warehouse remain intact to ensure that the buildings continue to function as caps over contaminated soils believed to exist under both buildings.

One additional recommendation proposed by the MDEQ, but deleted from the Five-Year Review Report at Mr. Padovani's request, is that the U.S. EPA resume the necessary activities to obtain a deed restriction on the warehouse property. This action would help ensure the long-term protectiveness of the remedy as required under § 121 of the Comprehensive Environmental Response, Compensation, and Liability Act and § 300.430(e)(9)(iii)(C) of the National Contingency Plan.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Claudia S. Kerbawy".

Claudia Kerbawy, Chief
Superfund Section
Environmental Response Division
517-335-3397

Attachment

cc: Mr. Steven Padovani, U.S. EPA
Mr. Mitch Adelman, MDEQ/Adams Plating Site File: O1
Ms. Sally Beebe, MDEQ

**FIVE-YEAR REVIEW REPORT
ADAMS PLATING COMPANY SUPERFUND SITE
LANSING, INGHAM COUNTY, MICHIGAN
September 1999**

I. INTRODUCTION

Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by SARA and Section 300.430(f)(4)(ii) of the National Contingency Plan, require that if a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the action shall be reviewed no less often than every five years after initiation of the selected remedial action. The purpose of a statutory five-year review is to evaluate whether a completed remedial action remains protective of human health and the environment. This review focuses on the protectiveness of the completed remedial action at the Adams Plating Company (APC) Superfund site located in Lansing Township, Michigan.

The United States Environmental Protection Agency (U.S. EPA) has established a three-tier approach to conducting Five-Year Reviews, the most basic of which provides a minimum protectiveness evaluation (Level 1 review). The U.S. EPA contemplates that a Level 1 review will be appropriate in all but a relatively few cases where site-specific considerations suggest otherwise. The second and third levels (Level II and Level III) of review are intended to provide the flexibility to respond to varying site-specific considerations, employing further analysis. Site-specific considerations, including the nature of the response action, the status of on-site response activities, and the proximity to populated areas and sensitive environmental areas determine the level of review for a given site. A Level I review is being conducted for the APC Superfund site.

The U.S. EPA has conducted the remedial action at the site in accordance with the Record of Decision (ROD) signed in September 1993, and the Explanation of Significant Differences (ESD), signed in September 1994. After completion of the remedial action as described in Section IV, contaminated soils are assumed to exist under the APC building and a warehouse to the south of APC on neighboring property. A deed restriction has been recorded with the Ingham County Register of Deeds for the APC property to restrict uses that may pose an unacceptable risk. No deed restrictions exist for the warehouse property.

II. SITE HISTORY AND CONDITIONS

Background

The APC site is located at 521 Rosemary Street in Lansing Township, Ingham County, Michigan. The site is approximately one acre in size and is located in the eastern half of the northwest quarter of the northeast quarter of Section 18, Township 4 North, Range 2 West. Figure 1 depicts the location of the APC site. The APC is an active electroplating operation consisting of a one-story building that houses the office, plating process lines, and wastewater pretreatment system.

Regionally, the site lies near the center of a one-mile radius bend of the Grand River. The river lies about 1 mile north, 1.25 miles south and 2 miles east of the APC site. No perennial surface water bodies or wetlands are present on or near the APC site. The nearest water body is a small pond located approximately 3,000 feet southwest of the APC site. The population density is approximately 1,800 people per square mile around the APC site. A densely populated mix of commercial, industrial, and residential properties characterizes the area surrounding the site. Large commercial and public properties within a half-mile radius of the APC site include: automobile plant operations, a cemetery, several schools, three local parks, a golf course, and a hospital. The block on which the APC site is located contains numerous small businesses and private residences. The nearest private dwelling is within 25 feet of the APC site. General Motors Oldsmobile Production and Assembly Plant #2 lie to the east directly across the street.

Summary of the Remedial Investigation/Feasibility Study (RI/FS)

In March of 1993, a RI/FS was completed for the site. The purpose was to determine the nature and extent of contamination and potential exposure pathways from surface soils, subsurface soils, groundwater, surface water, and basement water. The findings of the RI/FS indicated the following:

SOIL

Elevated concentrations of chromium, copper, and nickel were found in soil samples from the site. The maximum chromium concentration initially detected was 6,976 mg/kg. The maximum concentrations for copper and nickel were 1,810 and 880 mg/kg, respectively. Several volatile organic compounds were also detected at high concentrations, including 1,1-DCA (maximum concentration at 5,300 µg/kg); 1-TCA (maximum concentration at 5,300 µg/kg); chloromethane (maximum concentration at 4,200 µg/kg); 2-butanone (maximum concentration at

4,200 µg/kg); and MEK (maximum concentration at 4,200 µg/kg). The U.S. EPA identified the contaminated soils as posing potential unacceptable risks to human health. Potential exposure routes included ingestion, dermal contact and inhalation of contaminated soils at the APC site by residents, trespassers, and construction workers. Remediation of contaminated soils under buildings was determined by the U.S. EPA to be unnecessary because building foundations act as a cap and significantly reduce potential exposure to contaminated soils.

GROUNDWATER

Groundwater contamination was detected at the APC site in excess of the state's cleanup criteria at that time (Michigan's Type B cleanup criteria established pursuant to the Environmental Response Act, 1982 PA 307, as amended). Since the groundwater was not found in useable quantities or quality and a connection to a drinking water aquifer was not established, it was deemed inappropriate to remediate the groundwater.

SURFACE WATER/BASEMENT WATER

Surface water samples were collected from man-made groundwater collection systems and puddles, rather than natural surface water bodies. The highest concentration of chromium in a surface water sample (21,500 µg/l) was collected from a sump on APC property designated the "green water drum." The highest concentration of chromium detected in a water sample from a nearby residential basement was 7,960 µg/l. Low concentrations of copper, nickel, and zinc were also detected in the water samples. Because the water was not used for drinking water purposes and did not pose an unacceptable risk by other exposure routes, no remediation was necessary.

III. REMEDIAL OBJECTIVES

The following remedial objectives were identified in the July 1993 Feasibility Study Report for the APC site:

- Prevent residents and trespassers from being exposed to contaminated soils through ingestion.
- Prevent residents and trespassers from being exposed to contaminated soils through dermal contact.
- Prevent residents and trespassers from being exposed to contaminated soils through inhalation of particles.

IV. SUMMARY OF RESPONSE ACTIONS

The response actions for the APC site focused on remediation of the contaminated soils and included the following components:

- Excavation of contaminated soils and off-site disposal in a Michigan Act 641/Resource Conservation and Recovery Act Subtitle D landfill.
- Collection and treatment of water from excavation/dewatering activities.
- Replacement of the excavated soil with clean fill and the installation of vertical barriers to reduce the potential for recontamination of the fill.
- If necessary, land use restrictions including deed restrictions on installation of wells and excavation of contaminated soils.
- Groundwater monitoring to evaluate the effectiveness of the soil remediation and to monitor for continuing sources of contamination.

The following modifications were made to the ROD in the September 28, 1994 ESD:

- Two additional structures (garage and shed) needed to be removed due to their proximity to the excavation.
- Cleanup standards were updated to 33.5 mg/kg for chromium and 5.8 mg/kg for arsenic based on post-ROD background sampling results.
- Excavation proceeded to the maximum depth of ten feet without a requirement to conduct verification sampling of the excavation floor, which might have allowed excavation to terminate above the ten foot depth, as long as performance standards were met.
- Samples were not analyzed for hexavalent chromium since performance standards for total chromium were achieved.
- Soils were excavated laterally until background cleanup levels were achieved or a building foundation was encountered.

Construction began in August 1994, and construction activities were completed at the APC site in October 1994. A total of 6,888 cubic yards of contaminated soil were removed and disposed of at an approved landfill. A geocomposite liner was installed as a vertical barrier and the area was backfilled with a silty clay material.

Based on background data collection, cleanup standards for chromium and arsenic were established. The values were 33.5 mg/kg for chromium and 5.8 mg/kg for arsenic. Figure 2 depicts the soil excavation area, sampling locations, and results. During the initial soil verification sampling, all but nine of the analytical results were below the cleanup standards for chromium. Those results that were above standards triggered additional excavation until standards were met in subsequent samples or until a building foundation was encountered.

All arsenic concentration levels were below cleanup standards except for three samples. One sample value of 6.4 mg/kg was judged by both the U.S. EPA and the MDEQ to be acceptable due to the fact that it was retrieved from a native clay with a typical background concentration of 6.3 mg/kg of arsenic. To achieve cleanup standards for the other two samples, excavation was continued an additional 20 feet to the west and was terminated when standards were met. Excess human health risks due to contaminated soils were eliminated when the soils were removed for off-site disposal.

V. SUMMARY OF SITE VISITS

The ongoing groundwater monitoring events are being conducted by a contractor retained by the APC. The most recent visit to the site made by the MDEQ was during the last sampling event conducted in April 1999. Both the APC building and warehouse remain intact.

VI. AREAS OF NONCOMPLIANCE

The remedy selected in the ROD has been implemented and remains functional, operational, and effective. The soil source area contamination has been removed from the APC site to ensure the protection of human health. No deed restriction or other institutional control prohibits the warehouse owner from exposing contaminated soil beneath the warehouse, so the future protectiveness of the remedy is in question. The MDEQ sent a letter to the warehouse owner on October 29, 1998 explaining their obligations to notify future prospective purchasers under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, with regard to the contamination likely to exist under the building.

VII. RECOMMENDATIONS/TECHNOLOGY

The MDEQ recommends the following:

1. APC should continue to monitor the groundwater to evaluate the effectiveness of the completed remedy.
2. Semi-annual evaluations should be completed to ensure that the APC building and the warehouse south of APC are maintained and not demolished due to the likelihood that contaminated soils remain in these two areas.

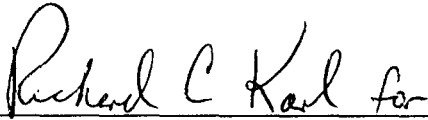
VIII. STATEMENT OF PROTECTIVENESS

Continuous sampling of the APC site groundwater monitoring well system has been occurring over the last five years. The data collected indicates that remaining contaminant levels have not significantly increased, and in some cases have decreased. However, a trend analysis has not yet been completed, but will likely be done within the next year.

Concentrations of hazardous substances in the groundwater are not generally increasing. This indicates that the remedial action performed in 1994 continues to provide adequate protection of human health and the environment.

IX. NEXT REVIEW

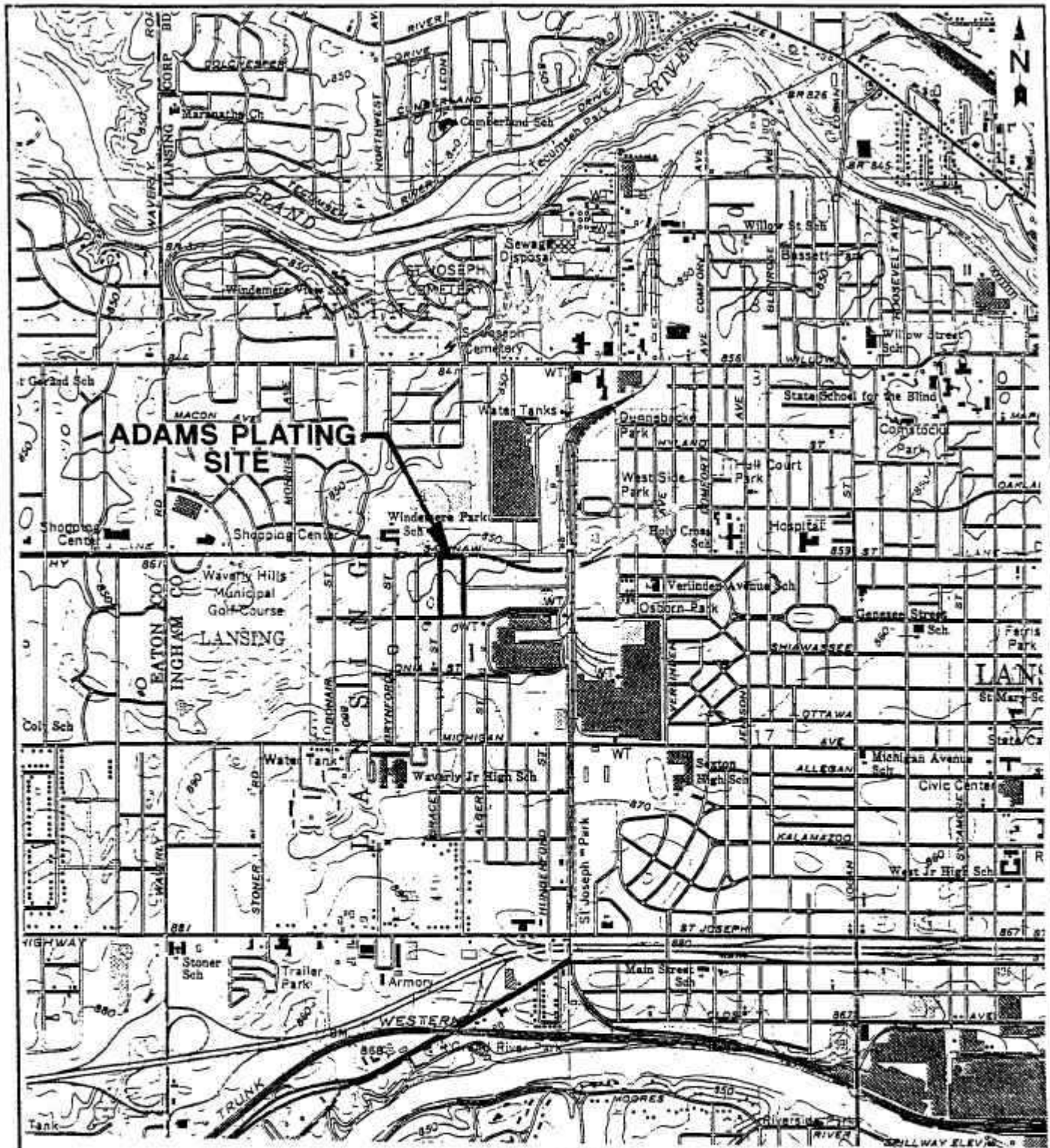
It is likely that hazardous substances, pollutants, or contaminants will be present at the APC site in the year 2004, therefore, the MDEQ or the U.S. EPA will conduct another Five-Year Review for the APC site at that time.



William E. Munro, Director
Superfund Division
U.S. EPA

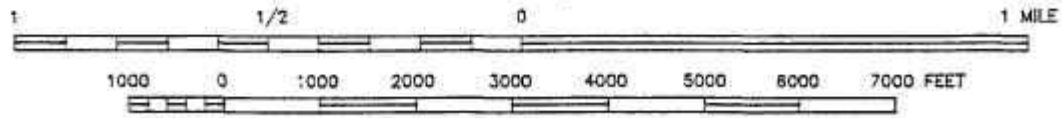
10-7-99

Date



ADAMS PLATING SITE

SCALE 1:24,000



SCALE: 1" = 2,000'



ADAMS PLATING COMPANY
LANSING, MICHIGAN

FIGURE 1
SITE LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

ADAMSPL1.DWG - 05/27/94 - M.B. 030-0063RD

SOURCE: MODIFIED FROM USGS,
LANSING NORTH, MICHIGAN, QUADRANGLE, 1973 AND
LANSING SOUTH, MICHIGAN, QUADRANGLE, 1973

