Five-Year Review Report

for

Preferred Plating Superfund Site

Farmingdale

Suffolk County, New York

August 2007

PREPARED BY:

U.S. Environmental Protection Agency
Region II
New York, New York

Five-Year Review Report

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List of Acronyms

bgs	below ground surface
COC	Contaminant(s) of Concern
EPA	United States Environmental Protection Agency
MCLs	Maximum Contaminant Levels
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
OU	Operable Unit
PCOR	Preliminary Site Close-Out Report
ppb	Parts Per Billion
ppm	Parts Per Million
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objective
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SCDHS	Suffolk County Department of Health Services
SPDES	State Pollutant Discharge Elimination System
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This is the second five-year review for the Preferred Plating Superfund Site. This site is located in Farmingdale, Suffolk County, New York. The implemented remedy protects human health and the environment. Long-term protectiveness will be achieved when groundwater contaminants are below drinking water standards; until then, progress towards this remedial action objective is being verified by evaluating the results of annual groundwater sampling and analysis.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Preferred Plating Site

EPA ID *(from WasteLAN)*: NYD980768774

Region: 2	**State: NY**	**City/County: Farmingdale, Suffolk County**

SITE STATUS

NPL status: O Final G Deleted G Other (specify) _____

Remediation status (choose all that apply): G Under Construction O Operating G Complete

Multiple OUs?* O YES G NO	**Construction completion date:** 09/30/1997

Has site been put into reuse? G YES G NO O N/A

REVIEW STATUS

Lead agency: O EPA G State G Tribe G Other Federal Agency _____

Author name: Mark Dannenberg

Author title: Remedial Project Manager	**Author affiliation: USEPA**

Review period: 09/2002 to 08/2007

Date(s) of site inspection: 05/03/2007

Type of review:
O Post-SARA G Pre-SARA G NPL-Removal only
G Non-NPL Remedial Action Site G NPL State/Tribe-lead
G Regional Discretion O Policy

Review number: G 1 (first) O 2 (second) G 3 (third) G Other (specify) _____

Triggering action:
G Actual RA Onsite Construction at OU #____ G Actual RA Start at OU#____
G Construction Completion
O Previous Five-Year Review Report
G Other (specify)

Triggering action date *(from WasteLAN)*: 09/30/2002

Due date *(five years after triggering action date)*: 09/30/2007

Does the report include recommendation(s) and follow-up action(s)? G yes O no
Is the remedy protective of the environment? O yes G no G not yet determined

* ["OU" refers to operable unit.]

Five-Year Review Summary Form (continued)

Issues, Recommendations, and Follow-Up Actions

This report did not identify any issue or make any recommendation for the protection of public health and/or the environment which was not included or anticipated by the decision documents.

Protectiveness Statement

The remedy for the Preferred Plating site protects human health and the environment. There are no site-related exposure pathways that could result in unacceptable risks and none expected. The remedy for the Preferred Plating Site is expected to render the site suitable for unlimited use with unrestricted exposures. In the interim, the site is protective of human health and the environment because there are no current or anticipated near-term future users of contaminated groundwater and no exposure pathways that could result in unacceptable risks.

Preferred Plating Site
Farmingdale, New York
Second Five-Year Review

I. Introduction

This five-year review was conducted in accordance with the Comprehensive Five-Year Review Guidance, OSWER Directive 9355.7-03B-P (June 2001). The purpose of a five-year review is to assure that implemented remedies protect public health and the environment and function as intended by the decision documents. This document will become part of the site file.

The U.S. Environmental Protection Agency (EPA), Region II, conducted this review of the remedies implemented at the Preferred Plating Superfund Site (the site) in Farmingdale, New York. This review was conducted by the Remedial Project Manager (RPM) for the site. This is the second five-year review for the site. The triggering action for this review is the issuance of the first five-year review for the site which was issued on September 30, 2002.

This site is being addressed in three phases (or Operable Units) addressing the source of contamination, the remediation of the groundwater, and the investigation of other sources of groundwater contamination upgradient of the site. Operable Unit 1 (OU1), consists of groundwater monitoring and natural attenuation of contaminants in groundwater. An annual groundwater monitoring program has been and will continue to be implemented. Operable Unit 2 (OU2), which has been completed, addressed the source of the groundwater contamination, namely, the contaminated soil and sediment. Operable Unit 3 (OU3) found that no further action was necessary at the upgradient Del Laboratories, Inc. facility. The OU2 and OU3 remedies leave no hazardous substances from this CERCLA release remaining on-site above health-based levels; therefore, the five-year review requirement does not apply to these operable units. This five-year review considers all three operable units (OUs), but only evalutes the protectiveness of OU1.

II. Site Chronology

See Table 1, below, for summary of chronology of events at the Site.

Table 1: Chronology of Site Events

Site Event	Date
New York State Department of Environmental Conservation issues a Phase 1 Investigation Report, including a hazard ranking score	Sept., 1984
Site placed on National Priorities List	June, 1986
Record of Decision for groundwater (OU1)	Sept. 22, 1989
EPA Remedial Design for groundwater	March, 1992
Record of Decision for source control (OU2)	Sept. 28, 1992
EPA issues Unilateral Administrative Order requiring potentially responsible parties (PRPs) to implement source control remedy	June, 1993
Record of Decision for Upgradient Sources (OU3)	Sept., 1993
Source Control Remedy (OU2) completed	June, 1994
ROD Amendment for OU1	Sept. 30, 1997
First 5-Year Review Report	Sept. 30, 2002

III. Background

Physical Characteristics

The Preferred Plating Corp. site is located at 32 Allen Boulevard in Farmingdale, Town of Babylon, Suffolk County, New York. The site is less than one acre in size, is situated in a light industrial area one mile east of the Nassau-Suffolk County line. The site is located east of Route 110 and south of the Long Island Railroad (see Figures 1 and 2, attached). A few industrial facilities neighbor the property. The surrounding businesses and residences are serviced by public water.

The site is at an elevation of approximately 58 feet above mean sea level and is relatively flat, sloping slightly from the north to the south. The majority of the site is covered by pavement and the existing building. The only remaining unpaved areas on-site are two grassed areas in the front of the site and a gravel and grass strip located along the west side of the building.

The only surface water body in the vicinity of the site is an unnamed, intermittent tributary to Massapequa Creek. Massapequa Creek is located 6,000 feet west of the site and is not considered to be impacted by the site.

Geology/Hydrogeology

The Preferred Plating Corp. site is underlain by approximately 1,500 feet of unconsolidated glacial and Coastal Plain sediments which overlie igneous and metamorphic rocks of Precambrian age. The sediments dip generally to the southeast. The uppermost unconsolidated unit, which is Pleistocene in age, consists chiefly of glacial outwash sediments. The glacial sediments constitute the Upper Glacial Aquifer in Long Island. The Pleistocene sediments are underlain by the Magothy Formation, a water-bearing geologic unit designated as the Magothy Aquifer. Fill material, consisting mostly of reworked natural soil and sediments, is present in some areas of the site at limited depths.

Groundwater throughout the area may be found in both the unconsolidated Upper Glacial and Magothy aquifers. The Upper Glacial Aquifer is the first water-bearing unit below the site and is approximately 90 feet thick. The Magothy Aquifer, which ranges from 1,000 to 2,000 feet in thickness in Nassau County, lies directly below the Upper Glacial Aquifer at the site.

Historic water level survey data indicate that the depth to the water table ranges from about 12 to 18 feet below ground surface. The direction of flow is generally to the south-southeast. Results of groundwater aquifer tests indicate that the groundwater velocity is between 1 and 5 feet per day, and that a good hydraulic continuity exists between the Upper Glacial and Magothy aquifers in the area.

Land and Resource Use

The Preferred Plating Corp. site is located in a light industrial/commercial zone. The nearest industrial facility is located 15 feet from the site, while the proximity of the nearest residential population center is less than 1,000 feet from the site. A middle school is located approximately 2,000 feet west of the site, and Republic Airport is located one-half mile to the north-northeast. The north side of the site is bounded by a wooded area, while the south side is bordered by Allen Boulevard. A United States Army facility is situated approximately 500 feet south of the site. Approximately 250 to 500 residential dwellings are located within a quarter of a mile radius of the site with an estimated population of 1,000 to 2,000 persons. Approximately 12,000 people live within a 1 mile radius of the site.

The Preferred Plating Corp. operated a metal plating and metal finishing business at the site from 1951 to 1976. The company cleaned, degreased, plated, and surface finished metal parts. Chemicals such as metal salts, acids, and organic solvents were used in the facility. The used solutions and wastewater were discharged to on-site wastewater holding tanks (or storage pits). Sanitary wastewater was discharged to on-site leaching pits.

In June 1976, Preferred Plating Corp. declared bankruptcy. Since then, several firms have occupied the Site, none of which conducted similar operations to the Preferred Plating Corp. In 1982, the original building was extended to the north by 200 feet, and the four waste storage pits were filled and covered by the newly constructed extension. A wastewater connection was made to the regional sanitary sewer in 1982 and no other discharge points exist. The site is still actively used commercially and is currently occupied by an auto body shop.

Most of the homes and businesses in the vicinity of the site are served by a public water supply from the East Farmingdale Water District. The nearest public supply well field is about one mile south-southeast of the site and is in the general direction of groundwater flow from the site.

General land use and drinking water sources in the vicinity of the site have not changed since the signing of the source control Record of Decision (ROD) for OU2 and the groundwater ROD

Amendment for OU1.

History of Contamination

Groundwater contaminated with heavy metals was detected in the immediate vicinity of the Site as early as June 1953. An inspection of the Preferred Plating Corp. facility by the Suffolk County Department of Health Services (SCDHS) discovered that the storage pits used at the Preferred Plating Corp. were cracked and leaking. Samples taken from the pits revealed the major contaminants to be heavy metals. From 1953 to 1976, SCDHS instituted numerous legal actions against Preferred Plating Corp. in an effort to stop discharges to the pits and to institute an on-site treatment system. Preferred Plating Corp. prepared an engineering report in May 1974 in order to apply for a State Pollutant Discharge Elimination System (SPDES) permit, which was subsequently issued in June 1975. Preferred Plating Corp. claims to have chemically treated the wastewater in the pits and have had the waste material removed from the Site, but no documentation supporting these assertions exists, and, therefore, these claims cannot be verified. The facility was never in full compliance with the terms and conditions outlined in the SPDES permit.

Initial Response

In September 1984, the New York State Department of Environmental Conservation (NYSDEC) issued a Phase I Investigation Report which summarized past investigations and included a Hazard Ranking System score for the Site. Based on that score, the Site was proposed for inclusion on the National Priorities List of hazardous waste sites (NPL) in October 1984 and was placed on the NPL in June 1986.

Basis for Taking Action

From June 1987 to June 1989, Ebasco Services, Inc., EPA's contractor, conducted the initial remedial investigation and feasibility study (RI/FS) of the Site. The study detected heavy metals, including chromium and cadmium, and chlorinated organics in the groundwater underlying the Site; however, it did not completely identify the source and the extent of contamination within the soils underlying the former waste storage pits. Therefore, the remedy which resulted from the first operable unit study (OU1) focused only on the treatment of the contaminated groundwater.

In 1992, a source control RI/FS for OU2 was completed by EPA's contractor, Malcolm Pirnie, Inc. The RI concluded that groundwater contamination at the site was attributed to soil contamination surrounding the former waste storage pits, former sanitary leaching pool, and the former steam condensate leaching pool.

IV. Remedial Actions

Remedy Selection

Groundwater

On September 22, 1989, a ROD was signed to address the groundwater contamination. The major components of that remedy included extraction of the contaminated groundwater, treatment of heavy metals and chlorinated organics, and reinjection of the treated groundwater into the aquifer. The design for this treatment system was completed in March 1992. The construction of the groundwater treatment system was postponed while EPA completed its investigation (associated

with OU2) of the contaminant source areas. This investigation resulted in the issuance of a ROD for OU2 which required the excavation and off-site disposal of contaminated soils and sediments from the source areas.

In July 1997, EPA issued a Proposed Post-Decision Plan for OU1 stating that the extraction and treatment of groundwater was no longer necessary to ensure the protection of human health and the environment. The Proposed Post-Decision Plan was issued as a result of significant changes in site conditions since the issuance of the 1989 ROD. In the years preceding the issuance of the Proposed Post-Decision Plan, groundwater sampling results indicated a significant decrease in concentrations of the primary contaminants of concern, cadmium and chromium. The decline was most directly attributable to the removal of the on-site source (which was performed in accordance with the ROD for OU2). Better sampling techniques which minimized the turbidity of the groundwater also resulted in providing a more accurate measurement of contamination. At the time the Proposed Post-Decision Plan was issued, only cadmium exceeded both its federal and State drinking water standards. Chromium did not exceed either the federal or state drinking water standard of 100 ppb, but slightly exceeded the state groundwater quality standard of 50 ppb. 1,1,1-trichloroethane (TCA), the only organic contaminant consistently detected throughout the sampling activities, was not detected above federal or state standards in any of the samples collected following the removal of the on-site sources.

Based on this information, EPA issued a ROD Amendment on September 30, 1997, modifying the original OU1 ROD. The two major components of the modification to the selected remedy are: elimination of the groundwater extraction and treatment system, and implementation of an annual groundwater monitoring program to ensure that the remedy remains protective of human health and the environment. The modified remedy addressed the low levels of cadmium still present in the groundwater and relies on natural attenuation processes to reduce contaminant levels, particularly cadmium, in the groundwater. The annual groundwater monitoring program was instituted to evaluate the effectiveness of the natural attenuation processes and to demonstrate that the amended remedy remains protective.

Source Control

On September 28, 1992, a source control ROD (for OU2) was signed, which called for the excavation, removal, and off-site disposal of the contaminated soils and sediments associated with the former waste storage pits, former sanitary leaching pool, and the former steam condensate leaching pool. The objectives of this action were to remove the contaminated soil from the site, prevent contaminants from leaching into the groundwater and reduce the length of operation of the groundwater remediation.

Upgradient Source

The OU1 R1/FS also reflected contamination in monitoring wells located upgradient of the Preferred Plating Corp. facility source area. Therefore, a third RI/FS (associated with OU3) was conducted to address a potential source of groundwater contamination upgradient of the Preferred Plating Corp. facility. The upgradient property owner, Del Laboratories, Inc., initiated an RI/FS in September 1990, pursuant to an Administrative Order on Consent, to determine if its operations had impacted groundwater quality. The OU3 ROD, signed in September 1993, determined that no remedial action was necessary at the Del Laboratories, Inc. property based, in part, on previous cleanup activites performed at this facility. The Del Laboratories, Inc. property was not part of the CERCLA release and therefore not part of the Preferred Plating Corp. site. As a result, the Five-Year Review requirement does not apply to this operable unit.

Remedy Implementation

Groundwater

The 1997 ROD Amendment for OU1 required that annual groundwater monitoring be performed to demonstrate that the amended remedy remains protective. The groundwater monitoring wells included in the annual monitoring program were installed prior to issuance of the ROD Amendment, so no additional design or construction activities were required. The most recent groundwater sampling was performed in January 2007. Sampling data from the January 2007 sampling event reflects chromium levels of 65 ug/L in Monitoring Well SP-2 and 100 ug/L in Monitoring Well SS-6, both of which exceed the groundwater cleanup level for chromium, which is 50 ug/L based on the New York State Standard (6NYC R-703). Table 2, below, summarizes annual groundwater sampling results and includes data from monitoring performed prior to the ROD Amendment. The groundwater cleanup level for cadmium is based on the federal Maximum Contaminant Level (MCL) which is 5.0 ug/L. Groundwater concentrations greater than the MCL are shown in **bold** print.

Table 2: Groundwater Monitoring Data

Sampling Date	Monitoring Well (data is in units of ug/L of cadmium)						
	SP-2	SP-3	SP-5	SP-6	DP-6	SS-6	DP-8
Aug. 1988	**79.3**	**84.5**	**399**	**365**	**23.1**	**211**	--
Sept. 1988	**28.5**	**28.5**	**348**	**180**	--	**224**	--
July 1994	**29**	**7**	**90**	**136**	**6**	**70**	--
Aug. 1999	ND	**5.7**	**28.1**	**30.2**	ND	**20.1**	NS
Jul. 2000	**14.4**	ND	**59.7**	**75.9**	ND	**77.6**	NS
Jul. 2001	**12**	**8**	**76**	**77**	ND	**58**	NS
Feb. 2002	**5.1**	4	**6.3**	**22**	1.4	**13.5**	NS
Oct. 2002	3.0	3.6	**20**	**36.0**	ND	**17.0**	NS
Dec. 2003	--	**5.4**	**47.8**	**192**	3.6	**42.5**	0.62
Jan. 2005	**10.6/9.5***	2.7	**13.2**	**67.1**	0.78	**14.9**	NS
July 2005	**7.3**	3.6	**32.8**	**172/195***	1.5	**56.7**	--
Dec. 2005	**9.8**	5.0	**27.3**	**161/133***	4.1	**38.4**	--
Jan. 2007	**5.4**	3.0	**37**	**350**	--	**19**	--

* split sample

Source Control

In June 1993, EPA issued an Administrative Order to the property owners requiring them to implement the OU2 source control remedy. Their consultant, Eder Associates, prepared the source control remedial design in 1993 and the EPA approved it in April 1994. The remedial action, performed by Eder Associates with EPA oversight, resulted in the removal and off-site disposal of

approximately 1,500 tons of contaminated soils and sediments.

As defined by the RI/FS soil sampling program, the remedial action included the excavation of contaminated soil from within, around and beneath the former waste storage pit area, the former sanitary leaching pool, and the former steam condensate leaching pool and line. The excavations, which were accomplished using sheet piles, were completed to a depth of 16 feet below grade (down to the water table). All excavated areas were backfilled with certified clean fill. All construction activities associated with OU2 were completed by June 1994 in accordance with the OU2 ROD, the approved remedial design, and the Unilateral Administrative Order for Remedial Design/Remedial Action (RD/RA) issued by the EPA.

Again, because this remedy did not result in hazardous substances remaining on-site above health-based levels, the five-year review requirement does not apply to this operable unit.

Operation and Maintenance

Groundwater
Operations and maintenance (O&M) costs are limited to groundwater sampling and analysis costs which amount to approximately $6,000 per year. Annual sampling and analyses are conducted by EPA personnel.

Source Control
As the source control remedial action was completed in 1994, no O&M costs are associated with the source control operable unit.

Institutional Controls

None of the site-related Operable Unit remedies included institutional controls. Even though the reasonably anticipated future land use was commerical, the soils were cleaned to levels to protect groundwater. Therefore, the soil cleanup meets a standard of unlimited use without restriction. The groundwater remedial action objective was to meet drinking water standards. When that objective is met, the groundwater will meet a standard of unlimited use without restriction. Consequently, there were no institutional controls identified in the decision documents.

There does not appear to be any reasonably anticipated use of the groundwater during the period of remediation. The period of remediation does not extend indefinitely into the future and public water supplies are readily available and required to be used by local ordinance. In addition, New York State law restricts to a large degree the future use of groundwater at this site. New York Environmental Conservation Law Section 15-527 provides that on Long Island (which includes Suffolk County), "No person or public corporation shall hereafter install or operate any new or additional wells...to withdraw water from underground sources for any purpose or purposes whatsoever where the installed pumping capacity of any such new well or wells singularly or in the aggregate, or the total installed pumping capacity of old and new wells on or for use on one property, is in excess of forty-five gallons a minute without a permit pursuant to this title." Furthermore, the New York Sanitary Code (Title 10 of the New York Code of Rules and Regulations Section 5-2.4) states that "No person shall construct or abandon any water well unless a permit has first been secured from the permit issuing official." These insitutional controls are not part of the site remedy, but provide extra layers of protection during the period of remediation.

V. Progress since the Last Five-Year Review

This was the second five-year review for the site. Remedial Actions (implementing the groundwater monitoring program) have continued as groundwater cleanup objectives have not yet been achieved. The first five-year review suggested that monitoring include monitoring well DP-8 and eliminate monitoring wells SP-1 and DP-1. These adjustments in the monitoring program have been made. Additional suggestions are contained in Table 3 in Section VIII of this report.

VI. Five-Year Review Process

Administrative Components

The five-year review team consisted of Mark Dannenberg (Remedial Project Manager), Robert Alvey (Hydrogeologist) and Charles Nace (Risk Assessor) of EPA.

Community Involvement

The EPA Community Involvement Coordinator for the Preferred Plating Corp. Site, Cecilia Echols, published a notice in the *Farmingdale Observer*, on August 3, 2007, notifying the community of the initiation of the five-year review process. The notice indicated that EPA would be conducting a five-year review of the remedy for the site to ensure that the implemented remedy remains protective of public health and the environment. The notice also indicated that the results of the five-year review will be made available in the local site repository located at the West Babylon Library, 221 Route 109, West Babylon, New York. In addition, the notice included the RPM's address and telephone number for questions related to the five-year review process or the Preferred Plating Corp. Site.

Document Review

The documents, data, and information which were reviewed in conjunction with the five-year review are summarized in the Bibliography in Section XI of this report.

Data Review

Regular groundwater monitoring has been conducted at the site since 1993. Since 1998, groundwater monitoring has been conducted on an annual basis in eight shallow and intermediate wells in the unconsolidated Upper Glacial Aquifer. As of the most recent groundwater sampling event in January 2007, four out of the seven monitoring wells tested reflected cadmium levels in excess of the federal Maximum Contaminant Level (MCL). Specifically, groundwater data collected from monitoring wells SP-2, SP-5, SP-6 and SS-6 have levels of cadmium above MCL. These wells are located downgradient of the former source areas (see Figure 3, attached). Although cadmium and chromium levels have fluctuated since regular monitoring began in 1993, there is a general decrease in levels across the site. This is reflected in Table 2 of this report. In fact, prior to implementation of the source control remedial action in 1994, seven out of the eight regularly monitored wells had levels of cadmium and/or chromium above MCLs. Furthermore, cadmium concentrations in all but one of the monitoring wells (monitoring well SP-6) have decreased significantly after implementing the source control remedy. As such, it was concluded that the excavation and off-site disposal of contaminated soils/sediments from the source area, completed in May 1994, significantly reduced the potential for contamination of the groundwater, as evidenced by the decrease in contaminant concentrations in the underlying groundwater. However, more recent groundwater monitoring data (e.g., 2005, 2006, and 2007) reflect increasing concentrations of cadmium at monitoring well SP-6. The EPA intends to perform additional investigatory activities to locate any residual levels of

cadmium and/or chromium that may act as a continuing source of groundwater contamination.

Levels of volatile organic compounds (VOCs), including 1,1,1 trichloroethane and trichloroethene, have continually decreased since completion of the source control remedial action in 1994. Prior to 1996, VOCs had been detected above MCLs in six out of the eight regularly monitored wells. Since 1996, VOCs have not been detected in any of the eight regularly monitored wells above their respective MCL. Therefore, testing of VOCs is no longer conducted.

Site Inspection

A site inspection was performed on May 3, 2007. The following parties were in attendance.
Mark Dannenberg, EPA Region II, Remedial Project Manager
Robert Alvey, EPA Region II, Hydrogeologist
Charles Nace, EPA, Region II, Risk Assessor
Steven Lattenhauer, T.J.A. Auto Collision

The inspection included a full tour of the site and an examination of the groundwater monitoring well network. There were no significant changes in site or groundwater use that would affect the remedial action objectives or suggest the need for any institutional controls during the period of remediation.

Interviews

An interview was conducted with Steve Lattenhauer, an employee of the auto body shop on the Preferred Plating Corp. site, on May 3, 2007. No significant problems or concerns regarding the site were identified during the interview.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The remedy identified in the 1989 Record of Decision for OU1 called for groundwater extraction and treatment. After contaminated soils were excavated and removed from the site in 1994,contaminant levels in the groundwater decreased significantly. As a result, EPA issued a ROD Amendment in 1997 which modified the original groundwater remedy to natural attenuation and groundwater monitoring. The natural attenuation component of the modified remedy addressed the low levels of cadmium and chromium still present in the groundwater and required annual groundwater monitoring to demonstrate that the amended remedy remains protective. The residents are not being exposed to contaminated groundwater and there are no current or anticipated future users of the groundwater on the Site. Based upon the review of the documents summarized in Section XI of this report, analysis of annual groundwater sampling results, and the site visit conducted on May 3, 2007, it has been concluded that the remedy is functioning as intended by the ROD Amendment.

Question B: Are the exposure assumptions (a), toxicity data (b), cleanup levels (c), and remedial action objectives (d) used at the time ofthe remedy still valid?

There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. The annual groundwater monitoring from the past five years found that concentrations of cadmium exceed the current federal MCLs and State Groundwater Standards.

Groundwater monitoring also reflects occasional excursions above the current federal MCL and State Groundwater Standards for chromium. The maximum detected concentrations of the site-related volatile organic compounds were less than current federal MCLs and State Groundwater Standards, and do not pose a risk under current or future anticipated conditions.

Human Health

The exposure assumptions and toxicity data that were used to estimate the potential risks and hazards to human health followed the standard risk assessment paradigm in use at the time. Although specific values for exposure parameters and toxicity data may have changed since the time the risk assessment was completed, the process that was used is still valid. In addition, the amended ROD for OU1 contained an updated risk assessment for potential groundwater exposure and the results indicated that the risks and hazards were within or below acceptable USEPA criteria. The cleanup levels that were used for the groundwater are based on the lower of the federal or state drinking water standards. These values are still valid. The soil cleanup values that were used were based upon impact to groundwater values and not based upon direct contact values. As impact to groundwater values are derived based upon physical and chemical properties, the cleanup values chosen would still be valid. Based on the data that were reviewed, the remedial action objectives presented in the former RODs are all still valid.

Vapor intrusion was not evaluated in the original risk assessment. The primary contaminants of concern at this site are metals (i.e., cadmium, chromium), which are not volatile and, therefore, are not associated with vapor intrusion. There were two volatile organic compounds detected in the groundwater, benzene at 2.3 µg/l and 1,1-dichloroethane 2.9 µg/l, in the most recent groundwater sampling event. Although these compounds are not considered to be site-related, they were still evaluated for their potential for vapor intrusion. The evaluation consisted of following the flowchart presented in the 2002 USEPA Vapor Intrusion Guidance. Groundwater at the site is located less than 100 feet below the ground surface and there are buildings within 100 feet of the groundwater plume so the groundwater data were screened against values presented in Table 2c of this guidance. Only benzene exceeded the groundwater screening value. Following the guidance mentioned above, if the detected groundwater concentrations do not exceed the screening value by more than 50 times, the likelihood of vapors intruding into buildings is low. The highest detected concentration of benzene was 2.3 µg/l, which is less than 2 times the screening value of 1.4 µg/l. This suggests that vapor intrusion is not likely to be an important transport mechanism for VOCs at the site. The vapor intrusion pathway will be periodically re-evaluated.

Ecological

An ecological risk assessment was conducted during the initial remedial investigation. The findings indicated that there were no adverse ecological impacts due to site-related contaminants. Given that the contaminants in the groundwater do not discharge to any surface water body, and the site is covered by pavement and buildings, there are no impacts to ecological receptors. The exposure assumptions and toxicity values used in the ecological risk evaluation are still valid. In addition the cleanup values and remedial objectives, as they pertain to ecological risk, are still valid.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy

Technical Assessment Summary

Based upon the results of the five-year review, is has been concluded that overall groundwater conditions remain acceptable and residents are not being exposed to contaminated groundwater as intended by the 1997 ROD Amendment. Levels of volatile organic compounds (VOCs), including 1,1,1 trichloroethane and trichloroethene, have significantly decreased since completion of the source control remedial action in 1994. Prior to 1996, VOCs had been detected above MCLs in six out of the eight 8 regularly monitored wells. Since 1996, VOCs have not been detected in any of the 8 regularly monitored wells above their respective MCL. Although cadmium and chromium levels have fluctuated since regular monitoring began in 1993, there is a general decrease in levels across the site. As stated earlier, more recent groundwater monitoring data (from 2006 and 2007) does reflect higher concentrations of cadmium at monitoring well SP-6. The EPA intends to perform additional investigatory activities at the site to verify and locate residual levels of cadmium and/or chromium that may act as a continuing source of groundwater contamination.

VIII. Issues, Recommendations and Follow-up Actions

This report did not identify any issue or make any recommendation for the protection of public health and/or the environment which was not included or anticipated by the decision documents. There is ongoing monitoring associated with this site and there are several comments and suggestions that have come out of this review. See Table 3, below.

Table 3: Comments and Suggestions

Comment	Suggestion	Milestone Date
Elevated levels of cadmium detected in groundwater monitoring well SP-6	Perform investigatory activities to locate possible residual source of cadmium	Dec. 2007
Unidentified and unsecured well was found adjacent to eastside of building	Ensure the integrity of the well cap or arrange to seal well.	Dec. 2007

IX. Protectiveness Statement

The remedy for the Preferred Plating Corp. Site protects human health and the environment. There are no exposure pathways that could result in unacceptable risks and none are expected.

The remedy for the Preferred Plating Site is expected to render the site suitable for unlimited use with unrestricted exposures. In the interim, the site is protective of human health and the environment because there are no current or anticipated near-term future users of contaminated groundwater and no exposure pathways that could result in unacceptable risks.

IX. Protectiveness Statement

The remedy for the Preferred Plating Corp. Site protects human health and the environment. There are no exposure pathways that could result in unacceptable risks and none are expected.

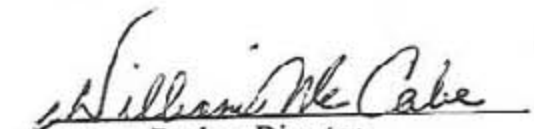
The remedy for the Preferred Plating Site is expected to render the site suitable for unlimited use with unrestricted exposures. In the interim, the site is protective of human health and the environment because there are no current or anticipated near-term future users of contaminated groundwater and no exposure pathways that could result in unacceptable risks.

X. The Next Review

The next Five-Year Review of the Preferred Plating Corp. Site is due before September 2012, five years from the signature date of this review.

Approved by:

Date:



9-28-07

George Pavlou, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency

XI. Bibliography for the Preferred Plating Corp. Superfund Site Five Year Review

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FIGURES 1 and 2: SITE LOCATION MAPS
32 Allen Blvd
Farmingdale, NY 11735

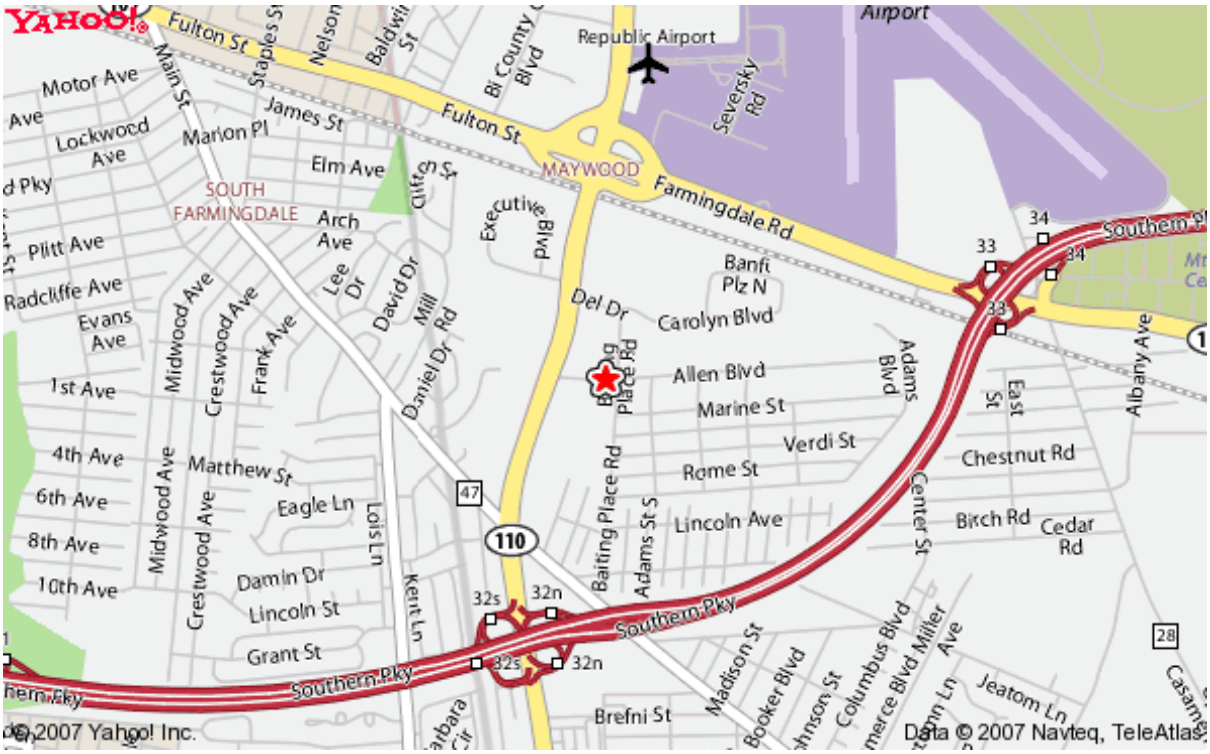

FIGURE 3: PREFERRED PLATING CORP. SITE ILLUSTRATION WITH SAMPLING LOCATIONS