Five-Year Review Report
Preferred Plating Corporation Site
Village of Farmingdale
Suffolk County, New York

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

September 2002

Five-Year Review Summary Form

SITE IDENTIFICATION

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

EPA ID *(from WasteLAN)*: NYD980768774

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

SITE STATUS

NPL status: ■ Final ☐ Deleted ☐ Other (specify) _____

Remediation status (choose all that apply): ☐ Under Construction ■ Constructed ☐ Operating

Multiple OUs?* ■ YES ☐ NO	**Construction completion date:** 09/30/1997

Has site been put into reuse? ☐ YES ☐ NO ■ N/A Continued Use Site

REVIEW STATUS

Lead agency: ■ EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: Dean Maraldo

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

Review period:** 09/30/1997 to 09/03/2002

Date(s) of site inspection: 07/12/2002

Type of review:

☐ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
■ Policy ☐ Regional Discretion

Review number: ■ 1 (first) ☐ 2 (second) ☐ 3 (third) ☐ Other (specify) _____

Triggering action:

☐ Actual RA Onsite Construction at OU #____ ☐ Actual RA Start at OU#____
■ Construction Completion ☐ Previous Five-Year Review Report
☐ Other (specify) _____

Triggering action date *(from WasteLAN)*: 09/30/1997

Does the report include recommendation(s) and follow-up action(s)? ■ yes ☐ no
Is human exposure under control? ■ yes ☐ no
Is contaminated groundwater under control? ■ yes ☐ no
Is the remedy protective of the environment? ■ yes ☐ no

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

I. Introduction

This five-year review was conducted by Dean Maraldo, U.S. Environmental Protection Agency (EPA) Remedial Project Manager (RPM). This 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 ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become part of the site file.

This is the first five-year review for the Preferred Plating Corporation (PPC) site. The triggering action for this policy review is the completion of construction activities on September 30, 1997. Since the remedial action requires more than five years to complete, this five-year review is being conducted as a matter of EPA policy.

This site is being addressed in three phases, addressing the source of contamination and the clean up of the groundwater. Operable Unit 1 (OU1), consists of monitored natural attenuation of groundwater and has been constructed. An annual groundwater monitoring program has been implemented. Operable Unit 2 (OU2), which addressed the source of the groundwater contamination, has been completed. The third operable unit (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 evaluates only OU1.

II. Site Chronology

Table 1, below, summarizes site-related events from discovery to construction completion.

Table 1: Chronology of Site Events

Event	Date
Metal compounds detected in groundwater in the vicinity of PPC	1953
New York State Department of Environmental Conservation issues a Phase 1 Investigation Report, including a hazard ranking score	1984
Site placed on National Priorities List	1986
Record of Decision for groundwater (OU1)	1989
EPA Remedial Design for groundwater	1992
Record of Decision for source control (OU2)	1992
EPA issues Unilateral Administrative Order requiring potentially responsible parties (PRPs) to implement source control remedy	1993
Record of Decision for upgradient sources (OU3)	1993

Event	Date
PRP Remedial Design for source control approved by EPA	1994
PRP Remedial Action for source control started	1994
PRP Remedial Action for source control completed	1994
Post-Decision Proposed Plan for groundwater issued by EPA	1997
EPA amends the Record of Decision for groundwater (OU1), eliminating groundwater extraction and treatment, and implementing monitored natural attenuation/no further action	1997

III. Background

Physical Characteristics

The PPC site is located at 32 Allen Boulevard in Farmingdale, Town of Babylon, Suffolk County, New York. The site, approximately 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, with a few industrial facilities neighboring the property.

The site is at an elevation of approximately 58 feet above mean sea level and is rather 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 (see Figure 1, attached).

The only surface water body in the site vicinity is an unnamed, intermittent tributary to Massapequa Creek. The creek is located 6,000 feet west of the site.

Geology/Hydrogeology

The PPC 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 indicates 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 was 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 PPC 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. Located approximately 2,000 feet west of the site is a junior high school, 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 of the site with an estimated population of 1,000 to 2,000 persons.

In June 1976, PPC declared bankruptcy. Since then, several firms have occupied the Site, none of which conducted similar operations. 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. The site is still actively used commercially.

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 within one mile south, and hydraulically downgradient, of 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) and the groundwater ROD Amendment.

History of Contamination

Groundwater contaminated with heavy metals was detected in the immediate vicinity of the Site as early as June 1953. During that period an inspection of the PPC facility by the Suffolk County Department of Health Services (SCDHS) discovered that the storage pits 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 PPC in an effort to stop discharges to the pits and to institute an on-site treatment system. PPC prepared an engineering report in May 1974 in order to apply for a State Pollutant Discharge Elimination System (SPDES) permit which was issued in June 1975. PPC 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. 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 in October 1984 and was placed on the List 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 was completed by EPA's contractor, Malcolm Pirnie, Inc., to study the contaminant source areas. 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. 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. 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 of the contaminant 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. 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.

Based on this information, EPA issued a No Further Action/Monitored Natural Attenuation ROD Amendment on September 30, 1997. The ROD Amendment addressed the low levels of cadmium still present in the groundwater and required annual groundwater monitoring to demonstrate that the amended remedy remains protective.

Source Control

On September 28, 1992, a source control ROD was signed, which called for the excavation, removal, and off-site treatment and 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 prevention of contaminants leaching into the groundwater and reducing the length of operation of the groundwater remediation.

Upgradient Source

The OU1 RI/FS also indicated contamination in monitoring wells located upgradient of the PPC facility source area. Therefore, a third RI/FS was conducted to address a potential source of groundwater contamination upgradient of the PPC 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 the groundwater quality beneath the PPC Site. The third operable unit (OU3) ROD, signed in September 1993, determined that no remedial action was necessary at the Del Laboratories, Inc. property based, in part, on the fact that prior actions had been taken to address environmental conditions at the Del Laboratories, Inc. facility. This property was found to be not part of the CERCLA release and therefore not part of the PPC site. As a result, the Five-Year Review requirement does not apply to this operable unit.

Remedy Implementation

Groundwater

The 1997 ROD Amendment called for annual groundwater monitoring 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. As a result, the first round of annual groundwater samples were collected in January 1998. Annual groundwater sampling results, including data from pre-ROD Amendment sampling events, are summarized in Tables 2 and 3 (see attached).

Source Control

In June 1993, EPA issued an Administrative Order to the property owners requiring them to implement the OU2 source control remedy. The source control remedial design (RD) was initiated by the property owners through their consultant, Eder Associates, in 1993. EPA approved the RD in April 1994. The remediation, resulting in the removal and off-site disposal of approximately

1,500 tons of contaminated soils and sediments, was performed by Eder Associates, with EPA oversight.

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. The excavated areas were backfilled with certified clean fill. All construction activities associated with OU2 were completed by June 1994 in accordance with OSWER Directive 9320.2-09, "Close Out Procedures for National Priorities List Sites," dated August 1995, and were done in accordance with the OU2 ROD, the approved remedial design, and the Unilateral Administrative Order for RD/RA.

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 costs are limited to groundwater sampling and analysis costs which are approximately $6,000 per year. Annual sampling is conducted by EPA personnel.

Source Control

No O&M costs are associated with the source control operable unit.

V. Progress Since the Last Five-Year Review

This was the first five-year review for the site.

VI. Five-Year Review Process

Administrative Components

The five-year review team consisted of Dean Maraldo (RPM/Hydrogeologist) and Michael Sivak (Risk Assessor) of EPA, and Carl Hoffman of NYSDEC.

Community Involvement

The EPA Community Involvement Coordinator for the PPC Site, Cecilia Echols, published a notice in the Farmingdale Observer, on June 14, 2002, 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. It was also indicated that once the five-year is completed, the results will be made available in the local site repository. In addition, the notice included the RPM's address and telephone number for questions related to the five-year review process or the PPC Site.

Document Review

The documents, data, and information which were reviewed in completing the five-year review are summarized in Table 4 (attached).

Data Review

Regular groundwater monitoring has been conducted at the PPC 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 at the PPC Site. As of the most recent groundwater sampling event in February 2002, 4 of the 8 monitoring wells (wells SP-2, SP-5, SP-6 and SS-6) have levels of contaminants of concern (COCs) above federal and state maximum contaminant levels (MCLs). These wells are located downgradient of the former source areas (see Figure 2, attached). Although levels of COCs, primarily cadmium and chromium, have fluctuated since regular monitoring began in 1993, there is a general decrease in levels across the Site (see Table 2, attached). In fact, prior to implementation of the source control remedial action in 1994, 7 out of the 8 regularly monitored wells had levels of cadmium and/or chromium above MCLs. 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 (see Table 3, attached). Since 1996, VOCs have not been detected in any of the 8 regularly monitored wells above their respective MCL. Therefore, testing of VOCs will no longer be done. Prior to 1996, VOCs had been detected above MCLs in 6 out of the 8 regularly monitored wells.

Site Inspection

A site inspection was performed on July 12, 2002. The following parties were in attendance.

Dean Maraldo, EPA Region II, RPM/Hydrogeologist
Michael Sivak, EPA, Region II, Risk Assessor
Lorenzo Thantu, EPA, Region II, Former Site RPM

Interviews

An interview was conducted with Mike Alexander, the current manager of the auto repair shop on the PPC site, on July 12, 2002. 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 1997 ROD Amendment documented the selection of the No Further Action/Natural Attenuation modified remedy for the Site. The natural attenuation component of the selected 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 Table 4 and analysis of annual groundwater sampling results, it has been concluded that the remedy is functioning as intended by the ROD Amendment.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid?

There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. There have been no changes in the Applicable or Relevant and Appropriate Requirements and no new standards affecting the protectiveness of the remedy.

The annual groundwater monitoring from the past five years found maximum detected concentrations of cadmium and chromium that exceed the current federal MCLs and State Groundwater Standards. The maximum detected concentrations of the two volatile organic contaminants, 1,1,1-trichloroethane and trichloroethene, were less than current federal MCLs and State Groundwater Standards.

EPA compared the maximum concentrations found over the past five years with Preliminary Remediation Goals (PRGs) for Groundwater Consumption under a residential drinking water ingestion scenario (which includes inhalation of volatiles while showering). The comparison uses a ratio method to compare the maximum detected concentrations to the PRGs and then calculate a cancer and noncancer risks associated with that concentration. The exposure assumptions have not changed since the original risk assessment and are consistent with those used in the updated risk calculations. The noncancer toxicity data for 1,1,1-trichloroethane have been revised by EPA since the original assessment was performed. Also, both the cancer and noncancer toxicity data for TCE are under review by EPA. Although the potential impact of the new toxicity values is that the toxicity values used in the calculation of the cancer risks and noncancer hazard quotients (i.e., cancer slope factor and Reference Dose) will result in an increased calculated cancer risk and noncancer hazard quotient, the risks and hazards associated with the maximum concentrations of volatiles detected in the groundwater are within EPA's acceptable levels.

The exposure assumptions used at the time of the remedy included future use of the groundwater as a water supply. Currently there is no potable use of the groundwater. However, consistent with the assumptions at the time of the remedy, if groundwater would be used as a potable supply in the future, the updated risk estimates indicate that the maximum detected concentration of cadmium would exceed the benchmark for noncancer effects. All cancer risks are within or below acceptable levels.

Soil vapor intrusion was evaluated based on the conservative (health protective) assumption that residences are located above the maximum detected concentrations and utilized the health-based criteria developed by EPA. Using the maximum concentrations found at the site for 1,1,1-trichloroethane and TCE, the estimated cancer risks and noncancer hazards are below EPA's benchmarks. Based on this information, further investigation of soil vapor intrusion does not appear to be necessary.

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

No.

Technical Assessment Summary

Based upon the results of the five-year review, is has been concluded that overall groundwater conditions are improving and residents are not being exposed to contaminated groundwater as intended by the 1997 ROD Amendment. Although cadmium and chromium levels, have fluctuated since regular monitoring began in 1993, there is a general decrease in levels across the Site. Levels of VOCs, including 1,1,1 trichloroethane and trichloroethene, have continually decreased since completion of the source control remedial action in 1994. Since 1996, VOCs have not been detected in any of the 8 regularly monitored wells above their respective MCL.

VIII. Recommendations and Follow-up Actions

Table 5, below, summarizes the recommendations and follow-up actions stemming from this 5-year review.

Table 5 - Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Protectiveness of annual groundwater monitoring program	Include downgradient monitoring well DP-8 (see Figure 3, attached) in annual sampling program. Eliminate monitoring wells SP-1 and DP-1. Samples from these wells have not exceeded MCLs for any site COC since 1994.	EPA	EPA	October 2002	N	Y

IX. Protectiveness Statement

The remedy 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 future users of contaminated groundwater and no exposure pathways that could result in unacceptable risks. Long-term protectiveness of the remedial action will be verified by evaluating the results of annual groundwater sampling and analysis.

X. Next Review

The next five-year review for the Preferred Plating Corporation Site should be completed before September 2007, unless final cleanup goals are achieved and site deletion documents do not require any further reviews.

Approved:

George Pavlou, Director
Emergency and Remedial Response Division

Date

List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COCs	Contaminants of Concern
EPA	(United States) Environmental Protection Agency
MCL	Maximum Contaminant Level
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PRPs	Potentially Responsible Parties
PPC	Preferred Plating Corporation site
RA	Remedial Action
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
TCA	1,1,1-trichloroethane
TCE	Trichloroethene
VOCs	Volatile organic compounds

Figure 1

Table 2: Cadmium and Chromium Concentrations Detected from 1993 to 2002											
		Well No.									
		SP-1	DP-1	SP-2	SP-3	SP-4	SP-5	SP-6	DP-6	SS-6	DP-8
Cadmium (µg/l)	Aug-93	ND	ND	**21**	**22**	**10**	**58**	**57**	NS	**123**	NS
	Jul-94	**5**	ND	**29**	**7**	ND	**90**	**136**	**6**	**70**	ND
	Apr-95	ND	ND	ND	ND	ND	**43**	**33**	**6**	**35**	ND
	Aug-96	ND	ND	**24**	**9**	NS	**48**	ND	**60**	**35**	NS
	Jan-98	ND	ND	ND	ND	NS	**23**	**38.2**	ND	**10.2**	NS
	Aug-99	ND	ND	ND	**5.7**	NS	**28.1**	**30.2**	ND	**20.1**	NS
	Jul-00	ND	ND	**14.4**	ND	NS	**59.7**	**75.9**	ND	**77.6**	NS
	Jul-01	ND	ND	**12**	**8**	NS	**76**	**77**	ND	**58**	NS
	Feb-02	ND	ND	**5.1**	4	NS	**6.3**	**22**	ND	**13.5**	NS
Chromium (ug/l)	Aug-93	**53**	ND	**560**	**165**	**89**	**140**	**166**	NS	**263**	NS
	Jul-94	39	23	**1630**	23	**51**	**350**	43	**71**	**125**	ND
	Apr-95	ND	ND	**83**	11	ND	20	14	20	15	ND
	Aug-96	ND	ND	**57**	ND	NS	20	42	20	20	NS
	Jan-98	ND	ND	ND	19.6	NS	16.4	12	45	19.8	NS
	Aug-99	ND	ND	26.2	ND	NS	15.3	28	29.8	31.7	NS
	Jul-00	ND	2.9	32.7	ND	NS	13.5	19	ND	**111**	NS
	Jul-01	ND	ND	**130**	ND	NS	13	30	**552**	**57**	NS
	Feb-02	ND	11	9.3	ND	NS	40.2	**75.4**	47.9	**102**	NS

Bold indicates MCL exceedance for Cadmium (5 µg/l) / Chromium (50 ug/l)
NS = Not Sampled
ND = Not Detected

Table 3: TCA and TCE Concentrations Detected from 1993 to 2002											
		Well No.									
		SP-1	DP-1	SP-2	SP-3	SP-4	SP-5	SP-6	DP-6	SS-6	DP-8
TCA (µg/l)	Aug-93	ND	1.9	1.9	**6.1**	0.4	1.1	**6.6**	NS	**6.5**	NS
	Jul-94	ND	ND	2	ND	ND	**6**	2	3	3	**7**
	Apr-95	ND	**17**	**11**	ND	**11**	ND	ND	ND	ND	ND
	Aug-96	ND	3	3	ND	NS	2	**5**	4	3	NS
	Jan-98	ND	ND	ND	ND	NS	1	2	ND	ND	NS
	Aug-99	ND	ND	ND	ND	NS	ND	2	ND	1	NS
	Jul-00	ND	ND	ND	ND	NS	1	1	ND	ND	NS
	Jul-01	ND	ND	ND	ND	NS	0.6	ND	0.5	1.2	NS
	Feb-02	ND	ND	ND	ND	NS	0.31	0.35	ND	ND	NS
TCE (ug/l)	Aug-93	ND	ND	0.4	3	ND	0.6	1.3	NS	1	NS
	Jul-94	ND	ND	ND	2	ND	2	ND	ND	ND	ND
	Apr-95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aug-96	ND	ND	**19**	ND	NS	2	ND	ND	ND	NS
	Jan-98	ND	ND	ND	ND	NS	ND	ND	ND	ND	NS
	Aug-99	ND	ND	ND	ND	NS	ND	ND	ND	ND	NS
	Jul-00	ND	ND	ND	ND	NS	ND	ND	ND	ND	NS
	Jul-01	ND	ND	ND	ND	NS	0.3	ND	ND	ND	NS
	Feb-02	ND	ND	ND	ND	NS	0.1	ND	ND	ND	NS

Bold indicates MCL exceedance for TCA/TCE (5 µg/l)
NS = Not Sampled
ND = Not Detected

Table 4: Documents, Data, and Information Reviewed in Completing the Five-year Review
• Initial Remedial Investigation/Feasability Study Report, Ebasco Services, June 1989.
• Record of Decision (Groundwater - OU1), EPA, September 22, 1989.
• Remedial Investigation/Feasability Study Report, Malcolm Pirnie, Inc., May 1992.
• Record of Decision (Source Control - OU2), EPA, September 28, 1992.
• Unilateral Administrative Order for RD/RA, June 14, 1993.
• Superfund Support Sampling Inspection Report (August 1993), EPA, December 16, 1993.
• Remedial Action Work Plan (OU2), Eder Associates, April, 1994.
• Remedial Closeout Report, Eder Associates, July 1994.
• Superfund Support Sampling Inspection Report (July 1994), EPA, October 5, 1994.
• Superfund Support Sampling Inspection Report (April 1995), EPA, August 22, 1995.
• Superfund Support Sampling Inspection Report (August 1996), EPA, undated.
• Superfund Proposed Plan (OU1), EPA, July 1997.
• Record of Decision Amendment (OU1), EPA, September 30, 1997.
• Superfund Support Sampling Event Report (January 1998), EPA, April 13, 1998.
• Superfund Support Sampling Event Report (August 1999), EPA, December 21, 1999.
• Superfund Support Sampling Event Report (July 2000), EPA, November 8, 2000.
• Superfund Support Sampling Event Report (July-August 2001), EPA, December 5, 2001.
• Superfund Support Sampling Event Report (February 2002), EPA, June 2002.
• EPA guidance for conducting five-year reviews and other guidance and regulations to determine if any new applicable or relevant and appropriate requirements relating to the protectiveness of the remedy have been developed since EPA issued the RODs.