



THIRD FIVE-YEAR REVIEW REPORT
Industrial Lane Superfund Site
Williams Township
Northampton County
Pennsylvania
September 2008

Prepared by:
U.S. Environmental Protection Agency
Region III
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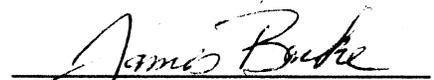

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Executive Summary

The remedy for the Industrial Lane Superfund Site (Site) in Williams Township, Northampton County, Pennsylvania consists of two Records of Decision (RODs) and one Explanation of Significant Difference (ESD). The Superfund Site includes the old unlined portion of the Chrin Landfill which is still an active landfill.

The 1986 ROD focused on the private well users in the vicinity of the Site (OU1). The selected remedial action was to provide a Public Drinking Water Supply to residents affected by groundwater contaminated from the Site.

The 1991 ROD addressed contaminated groundwater at the Site and the potential for continued release of contaminants posed by the unlined portion of the old landfill Areas 1, 2 and 3 (OU2). Presently, the landfill is an active facility permitted by the Pennsylvania Department of Environmental Protection (PADEP) and is known as the Chrin Landfill. The selected remedial action consisted of proper closure of the inactive unlined portion of the landfill, extraction, treatment, and discharge of groundwater to the Lehigh River; and long-term monitoring of groundwater quality and the landfill closure.

An ESD was issued in December 1996 which revised the OU2 portion of the remedy. The ESD revised the cap requirements to allow the unlined, inactive portion of the old landfill to be covered with a soil cap rather than a synthetic membrane cap. This decision was based on Pennsylvania Municipal Waste Management Regulations Section 273.234 and the date of the last waste disposal. The ESD provided for other possible discharge locations of the treated water as long as the post treatment discharge permit requirements were met. In addition, the ESD revised the groundwater clean-up goals from "background" concentrations to the Maximum Contaminant Levels (MCLs).

The assessment of this Five-Year Review found that each of the remedial actions was constructed in accordance with the Records of Decisions and the Explanation of Significant Differences. The remedy is functioning as designed.

The remedy for OU1 is protective of human health and the environment. All homes affected by the Site groundwater contamination have been connected to the public water supply.

A protectiveness determination for OU2 (Closure of the Unlined Landfill and Groundwater Remediation) cannot be made at this time until further information on the vapor intrusion pathway and the presence of 1,4 dioxane and lead in groundwater is obtained. It is expected that the information will take approximately 12 months at which time a protectiveness determination will be made.

GPRM Measure Review

As part of this Five-Year Review the GPRM (Government Performance Results Act) Measures have also been reviewed. The GPRM Measures and their current status are provided as follows:

Environmental Indicators

Human Health: HEUC = Current Human Exposure Under Control

Groundwater Migration: GMUC = Groundwater Migration Under Control

As a result of this Five-Year Review, EPA anticipates changing the environmental indicator from HEUC to HEID until a protectiveness determination is made.

Sitewide RAU: The Site has not achieved SWRAU because the Institutional Controls have not been implemented.

Five-Year Review Summary Form

Site Identification		
Industrial Lane Superfund Site		
EPA ID: PAD908508493		
Region: 3	State: PA	City/County Williams Twp/Northampton
Site Status		
NPL status : * Final Deleted Other (specify)		
Remediation status: Under Construction * Operating * Complete		
Multiple OUs? * Yes No	Construction Completion date: June 29, 1999	
Has site been put into reuse? *Yes No		
Review Status		
Lead Agency: * EPA State Tribe Other Federal Agency		
Author name: Roy Schrock		
Author title: Remedial Project Manager	Author affiliation: US EPA, Region 3	
Review period: 04/30/2008 to 09/29/2008		
Date of Site inspection: 8/22/2008		
Type of review: * Post-SARA Pre-SARA NPL-Removal only Non-NPL Remedial Action-site NPL State/Tribe-lead Regional Discretion		
Review number : 1 (first) 2(second) *3 (third) Other (specify)		
Triggering action: Actual RA On-site Construction Actual RA Start at OU 1 Construction Completion * Previous Five-Year Review Report Other (specify)		
Triggering action date: 09/29/2003		
Due date (five years after previous Five-Year Review date): 09/29/2008		

Five-Year Review Summary Form, cont'd.

Issues:

The initial analysis for vapor intrusion was inconclusive due to the presence of cleaning compounds in the home.

Institutional Controls restricting access to portions of the aquifer which remain above cleanup levels have not been implemented.

1,4-dioxane, a solvent stabilizer, has not been analyzed for in groundwater samples.

Lead concentrations in groundwater samples should be monitored and reviewed for potential risk.

Recommendations:

Additional data will be collected to determine if vapor intrusion from groundwater contaminants is an issue of concern.

Institutional Controls should be evaluated based on the current size and concentration of the plume and implemented where necessary.

Add 1,4-dioxane to the list of chemical parameters to confirm this chemical is not of concern at the Site.

Re-sample monitoring wells for lead to confirm that this compound is not of concern at the Site.

Protectiveness Statement:

The remedy for OU1 is protective of human health and the environment. All homes affected by the Site groundwater contamination have been connected to the public water supply.

A protectiveness determination for OU2 (Closure of the Unlined Landfill and Groundwater Remediation) cannot be made at this time until further information on the vapor intrusion pathway and the presence of 1,4-dioxane and lead in groundwater is obtained. It is expected that the information will take approximately 12 months at which time a protectiveness determination will be made.

**U.S. Environmental Protection Agency
Region III
Hazardous Site Cleanup Division
Second Five-Year Review
Industrial Lane Site
(EPA # ID PAD980508493)
Williams Township, Northampton County, Pennsylvania**

I. Introduction

The purpose of the Five-Year Review is to determine whether the remedy at the Industrial Lane Site located in Williams Township, Northampton County, Pennsylvania is protective of human health and the environment. The methods, findings and conclusions of this review are documented in this Five-Year Review report. In addition, this Five-Year Review report identifies issues, if any, found during the review and will identify recommendations to address them. This document will become a part of the Site file and the Administrative Record file.

The Agency is preparing this Five-Year Review report pursuant to CERCLA § 121 and the National Contingency Plan (NCP). CERCLA § 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such sites in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The Agency interpreted this requirement further in the NCP; 40 CFR § 300.430(f)(4)(ii) which states:

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 lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The United States Environmental Protection Agency (EPA), Region 3, conducted this Five-Year Review of the remedy implemented at the Industrial Lane Superfund Site (Site) in Williams Township, Northampton County, Pennsylvania. This review was conducted for the entire site by the Remedial Project Manager (RPM) from April 2007 through September 2008. This report documents the results of the review.

II. Site Chronology

Table 1: Chronology of Site Events

Date	Event
1961	Chrin Landfill began accepting wastes
1983	Groundwater contamination was detected in local wells
September 21, 1984	The Site was placed on the National Priorities List (NPL)
September 29, 1986	EPA issued a ROD for Operable Unit 1 (OU1) for Public Drinking Water Supply
1986	Waste Disposal in unlined portion of Chrin Landfill ceased
1986	PADEP issued a permit allowing 10-acre extension which included a liner and leachate collection system
June 15, 1989	Remedial Action (RA) for OU1 Public Water Supply completed
March 29, 1991	EPA issued ROD for Operable Unit 2 (OU2) for landfill closure and groundwater extraction, treatment and discharge
1993	Closure of the unlined portion of the Chrin Landfill was completed.
May 27, 1993	PADEP allows 25 acre expansion of Chrin landfill
March 11, 1996	PADEP approves high wall expansion totaling 53.4 acres
August 2, 1996	The RD for OU2 groundwater treatment system was completed
December 5, 1996	EPA issued ESD for soil cap, discharge location and groundwater clean-up standards
June 10, 1997	EPA issued the First Five-Year Review for the Site
June 29, 1999	Preliminary Close Out Report was signed Construction for OU2 was completed and operation began
January 5, 2000	PADEP approves expansion to approximately 71 acres
September 29, 2003	EPA issued Second Five-Year Review
May 1, 2005	NPDES Discharge Permit Re-Issued

This is the Third Five-Year Review for the Industrial Lane Superfund Site. The triggering action for this review is the date of the previous Five-Year Review which was signed on September 29, 2003. The Five-Year Review is required because hazardous substances, pollutants, or contaminants will remain at the Site above levels that allow for unlimited use and unrestricted exposure.

III. Background

Physical Characteristics

The Industrial Lane Site (Site) is located in Williams Township, Northampton County, Pennsylvania. Although the Site is listed as Industrial Lane on the NPL, the Site is actually located on Industrial Drive. Figure 1 shows the location of the Site.

The Site includes the inactive, unlined portion of the Chrin Landfill, which encompasses approximately 30-acres, and the adjacent areas under which contaminated groundwater was detected at the time of the RI/FS.

The Site borders on the city limits of Easton, Pennsylvania and is located approximately 15-miles east of Allentown. The Lehigh River and the Lehigh Canal are located to the northwest of the Site. The communities of Glendon Borough and Lucy's Crossing are located west and southwest of the Site, respectively. Review of 2000 Census Data indicates that approximately 5,802 people currently live within 1-mile of the Site.

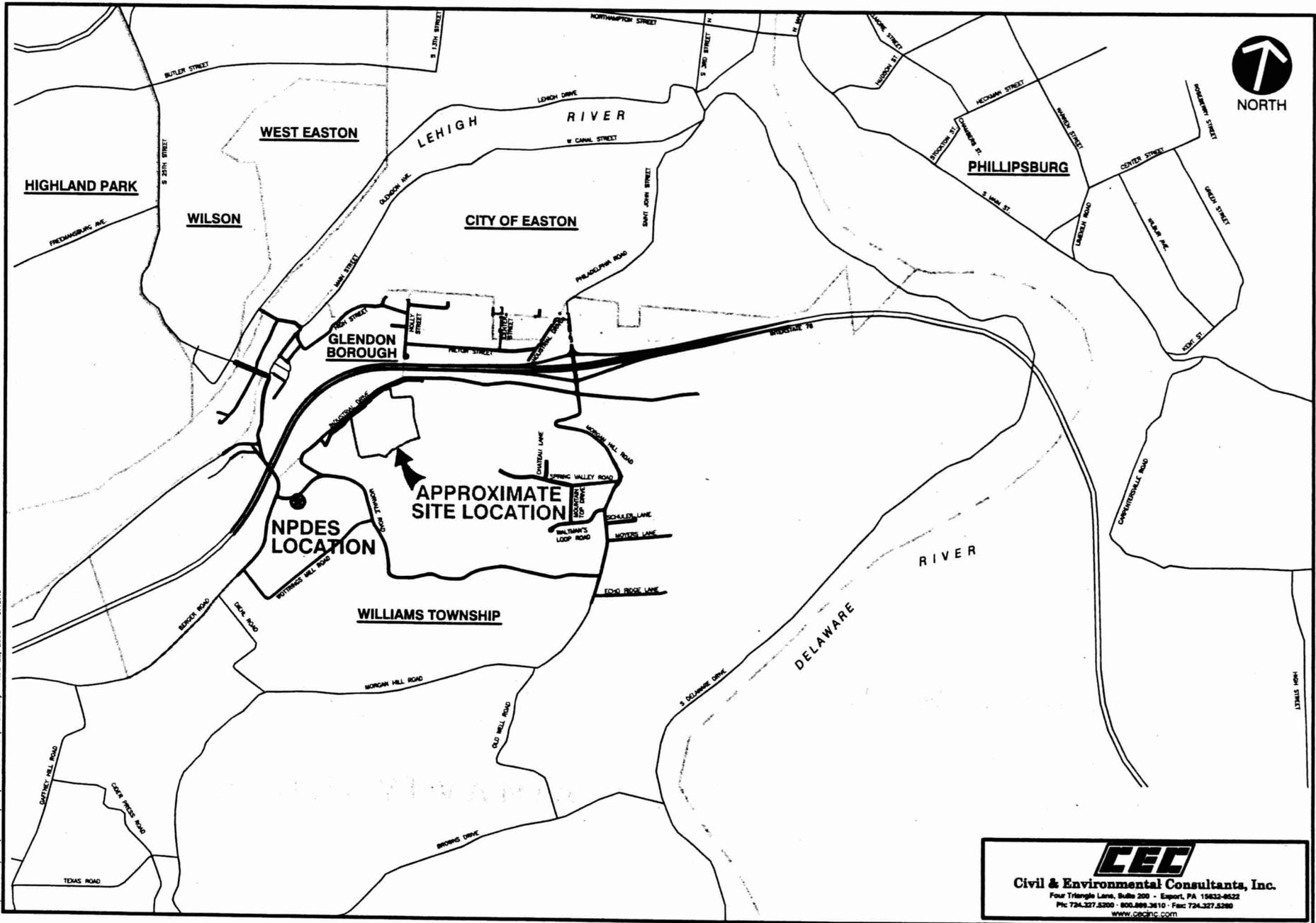
The Site is located in an area of highly weathered and structurally deformed rocks of the Cambrian/Precambrian era. In addition, a portion of the Site rests upon the trace of a thrust plane known as the Musconetcong Fault.

Land and Resource Use

The Chrin Landfill began operations in 1961. The 30-acre unlined portion of the landfill accepted wastes until 1986. In 1986, the Pennsylvania Department of Environmental Resources (PADER) - currently referred to as the Pennsylvania Department of Environmental Protection (PADEP) issued a permit allowing several expansions of the Chrin Landfill. The disposal and support facility currently totals 108 permitted acres. The landfill continues to accept wastes.

Land use in the vicinity of the Chrin Landfill includes various active, inactive, and abandoned industrial facilities.

**FIGURE 1
SITE LOCATION MAP**



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CEC
Civil & Environmental Consultants, Inc.
 Four Triangle Lane, Suite 200 - Export, PA 15633-0522
 Ph: 724.327.5200 - 800.899.3810 - Fax: 724.327.5280
www.cecinc.com

Residents in the local communities of Glendon Borough and Lucy's Crossing have historically used local groundwater for potable purposes. At the time of preparation of the 1986 ROD, residents of Glendon Borough and Lucy's Crossing were using private wells. A public water system currently now exists which supplies potable water to all residents who had been impacted by contaminants from the Site in Glendon Borough and Lucy's Crossing.

Groundwater flow throughout the area is, in general, is toward the southwest and governed by the topography. The Lehigh River acts as base level for this groundwater system, which flows primarily under water-table conditions. Depth to groundwater throughout the area varies from about 18 feet to greater than 200 feet below ground surface.

History of Contamination

A Remedial Investigation (RI) was completed for the Site on September 29, 1986. During the RI, a review of available historical photographs and additional documentation was conducted. The investigation concluded that industrial activities have been present in the area of Industrial Drive before the development of the Chrin Landfill. The most notable include: the Pennsalt Industrial Complex, which operated during the early 1890's; the Glendon Iron Works, which operated between 1844 and 1896; and limited iron extraction activities which occurred between 1840 and 1890.

Industrial activities were observed on 1947 aerial photographs to the north and northeast of the Chrin Landfill property. The observed industrial activities correspond to the present day locations of Easton Car and Construction, Specialty Products, and Dynatherm, Incorporated.

The Site remained undeveloped and slightly wooded until 1958 when the Site was purchased by Charles Chrin. The Chrin Landfill began operating in 1961 and gradually expanded. In 1975, PADEP issued a permit for the landfill as a natural renovation sanitary landfill that was approved to receive municipal solid waste. No liner was required, and industrial wastes were not to be accepted without prior PADEP approval. By 1980, the landfill had expanded to 30 acres. Disposal of wastes in this unlined area ceased in 1986.

Groundwater contamination was detected in local wells in 1983. In 1984, the Site was placed on the NPL. The NPL listing was based on a Hazard Ranking System report prepared primarily for the Chrin Landfill.

In addition to the Chrin Landfill, other potential groundwater contamination sources were located

in the area. These include historical mining operations, active and abandoned industrial facilities, and privately owned septic systems.

Initial Response

As indicated above, groundwater contamination was detected in local wells in 1983. In 1984, the Site was placed on the NPL.

Basis for Taking Action

1986 Remedial Investigation

In 1986 EPA conducted a Remedial Investigation (RI) to evaluate the nature and extent of Site contamination and develop a remedial strategy. During the course of the RI, historical records and sampling data were reviewed and an extensive subsurface investigation was performed in the vicinity of the Site. The RI revealed that local groundwater was contaminated with low levels of volatile organic compounds (VOCs). The groundwater contamination identified was widely scattered throughout the RI study area, and no continuously contaminated plume could be identified. Potential receptors of groundwater contamination were residents of Glendon and Lucy's Crossing who used private wells for potable supply.

During the RI, trichloroethene, chloroform, and benzene were identified in three private residential wells (one in Glendon Borough and two in Lucy's Crossing). The carcinogenic risk identified in the RI was at or above acceptable EPA's acceptable target values.

1991 Focused Feasibility Study

In 1991 EPA conducted a Focused Feasibility Study (FFS) to evaluate potential remedial alternatives that could be implemented to protect the public health as well as the environment from exposure risks associated with local contaminated groundwater.

The FFS utilized the following reports: the Remedial Investigation (RI) dated 1986, Groundwater Validation Study (GV Study), performed by Ebasco Services Inc. for EPA, dated 1989, PADEP groundwater data collected during 1988 and 1989 and Applied Geotechnical and Environmental Services Corporation (AGES) groundwater data from 1989.

The FFS concluded that volatile organic compounds (VOCs) are the principal contaminants detected in groundwater. The 1991 OU2 ROD concluded that VOC contamination is most prominent in the area located immediately downgradient of the unlined portion of the landfill.

The following VOCs were detected in one or more monitoring wells at concentrations exceeding current or proposed primary MCLs: vinyl chloride; methylene chloride; trans-1,2-dichloroethene; cis-1,2-dichloroethene; 1, 2-dichloroethane; carbon tetrachloride; trichloroethene; benzene; tetrachloroethene; Chlorobenzene; and 1,1-dichloroethene. All of the VOCs listed above were also detected in leachate samples collected from the Chrin Brothers Landfill. The GV Study results indicate that tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, and 1, 1-dichloroethane were the most frequently detected VOCs reported for Area C wells.

VOCs noted in southern area of the landfill suggest that sources in addition to the landfill were potentially contributing to VOC levels. Areas downgradient from the landfill were impacted and the focus of the public water supply Remedial Action for OU1.

Risk assessment investigations discussed in the FFS indicate that carcinogenic risk levels for a theoretical human receptor exposed to VOC contamination in the groundwater immediately downgradient of the Chrin Landfill is $7.6E-04$ which exceeds EPA's acceptable risk level of $1E-04$. Carcinogenic risk associated with VOC contamination in other areas adjoining and surrounding the Chrin Landfill are generally less than $1E-04$. Principle VOCs contributing to risk include; vinyl chloride, 1,1-dichloroethane, methylene chloride, carbon tetrachloride, chloroform, benzene, and 1,2-dichloroethane.

Adverse noncarcinogenic health effects were predicted for the adult routinely exposed to VOC concentrations in the groundwater. However VOC and semivolatile concentrations indicate that organic concentrations are not high enough to produce hazard quotients (HQ) or hazard index (HI) exceeding unity (1.0). Conversely, the HI's are exceeded when noncarcinogenic risk is evaluated for a child who is routinely exposed to VOC concentrations in the groundwater immediately downgradient and within the vicinity of the Chrin landfill.

An evaluation of VOC concentrations detected in private wells during the 1986 RI located in Glendon Borough and Lucy's Crossing indicate that the excess lifetime cancer risk associated with exposure (ingestion and inhalation) to contaminated groundwater would be $2E-05$.

In summary, the NCP indicates that for known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between $1E-04$ to $1E-06$. Carcinogenic risk levels identified in the downgradient residential communities exceed these risk levels and were identified in association with the Site.

IV. Remedial Actions

A. 1986 ROD 1 Operable Unit 1 (OU 1) Public Water Line Extension

The 1986 ROD (signed September 29, 1986) focused on the remedial alternatives for private well users in the vicinity of the Site (OU1). The selected remedial action was Alternate Drinking Water Supply. At the time of the 1986 ROD, the Easton Suburban Water Company had existing curb service in Glendon Borough and Lucy's Crossing. The remedy proposed connecting all homes with wells containing Site contaminants in the communities of concern to the public water supply. The objective of this remedial action was to reduce the threat to human health in these two communities from the ingestion and inhalation of contaminated ground water that existed in the immediate vicinity of the landfill.

Costs for this OU1 were approximately \$153,000.00

B. 1991 ROD 2 Operable Unit 2 (OU 2) Landfill Closure, Extraction, Treatment and Discharge of Groundwater to the Lehigh River

On March 29, 1991, EPA issued a second ROD. This 1991 ROD addressed contaminated groundwater at the Site and the low-level threat posed by the unlined portion of the Chrin Landfill (OU2). The selected remedial action consisted of proper closure of the unlined portion of the Chrin Landfill; extraction, treatment, and discharge of Groundwater to the Lehigh River; and long-term monitoring of the groundwater quality and the landfill closure.

The objectives of this remedial action were to eliminate the threat to the environment from continuing contamination of the groundwater by chemicals disposed of in the landfill, and to restore the ground water to beneficial use

The estimated costs for OU2 (Alternative 3A) were \$12,775,000.00. The actual costs for OU2 were paid by the Responsible Parties (RPs).

Chrin Landfill

PADEP notified the owner/operator of the Chrin Landfill in a letter dated November 23, 1990, that the unlined landfill area must be closed according to Chapters 271 and 273 of the PA Municipal Waste Management Regulations.

Groundwater

The 1991 ROD selected groundwater extraction, treatment and discharge to the Lehigh River as the remedy for groundwater contamination at the site. The ROD required that the area of groundwater attainment to be at and beyond the boundary of the unlined landfill and throughout the contaminant plume. The 1991 ROD indicates that the groundwater extraction, treatment, and discharge remedy would require at least 45 years of implementation, during which time the performance of the groundwater extraction, treatment and discharge system would be monitored and adjustments can be made to the system as necessary. The ROD indicates that the goal of the selected groundwater remedy is to achieve background levels for the Chemicals of Concern (as specified in the ROD).

In order to restore the aquifer to background levels, the groundwater treatment system would operate until groundwater contaminant levels reach Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs), SDWA Nonzero Maximum Contaminant Level Goals (MCLGs), or background levels, whichever are lower.

The 1991 ROD selected the option to discharge the treated water to the Lehigh River and the National Pollutant Discharge elimination System (NPDES) discharge requirements for industrial wastewater facilities was required.

C. 1996 ESD for 1991 ROD 2 Operable Unit 2

On December 5, 1996, EPA issued an Explanation of Significant Differences (ESD). An ESD was necessary to make a significant change the selected remedy during the RD/RA process. The 1996 ESD addressed the landfill cap, the discharge point for treated groundwater and the groundwater cleanup standards for the Site.

Landfill Cap

The 1991 ROD specified that the unlined portion of the Chrin Landfill should be closed in accordance with the requirements of Chapters 271 and 273 of the PA Municipal Waste Management Regulations. Section 273.234 of these regulations required that an impermeable cap of clay or synthetic membrane be placed over the entire surface of any applicable landfill closed after April 9, 1988. The ROD specified these requirements in anticipation that the landfill owner/operator would continue adding wastes to the unlined portion of the landfill after the issuance of the 1991 ROD. However, after the issuance of the 1991 ROD, the owner/operator of the landfill decided not to add additional wastes to the unlined portion of the landfill. Since the unlined portion of the landfill had stopped accepting waste in 1986, the landfill closure was subject

to "abatement regulations" (Section 273.287), applicable to landfills closed before to April 9, 1988, rather than the 1991 ROD "closure regulations" (Section 273.234). As part of the 1986 permit allowing an expansion of the landfill, a synthetic membrane cap was constructed over approximately 25 acres of the old the inactive, unlined portion of the landfill. The remaining portion of the old landfill was closed with a soil cover over the sides of the landfill. This complied with the abatement regulations set forth in Section 273.287. This Remedial Action was completed in 1993.

In a letter dated November 15, 1995, the landfill owner/operator requested that EPA revise the ROD for OU2 to require that the landfill cap meet the abatement regulations (Section 273.287) rather than the closure regulations (Section 273.234). In a letter dated January 25, 1996, from James E. Kunkle of PADEP, to Gregory Ham of EPA, PADEP concurred with this proposed revision. This change was reflected in the 1996 ESD.

Discharge of Treated Ground-water

In a letter dated November 15, 1995, the landfill owner/operator requested that EPA revise the ROD for OU2 to allow the NPDES discharge of treated groundwater to other locations besides the Lehigh River, provided that such locations were approved by PADEP and the owner/operator of the landfill obtained a valid discharge permit from PADEP under the NPDES program. This change was reflected in the 1996 ESD.

Site-Specific Groundwater Cleanup Standards

After the issuance of the 1991 ROD, the PA General Assembly enacted the PA Land Recycling and Environmental Remediation Standards Act (Act 2), which became effective on July 18, 1995. Act 2 allows several alternatives for setting cleanup standards for contaminated ground water. One alternative is to use human health based standards, rather than background levels. In a letter dated November 15, 1995, the owner/operator of the Chrin Landfill requested that EPA revise the cleanup standards in the ROD for OU2 to reflect standards that would be allowed under PA Act 2. In a letter dated January 25, 1996, from Mr. James E. Kunkle of PADEP, to Gregory Ham of EPA, PADEP concurred with the proposed change. As a result, the groundwater cleanup standards for the Site were revised to be the MCLs or non-zero MCLGs. These changes were reflected in the 1996 ESD and are shown in Table 2 of this document.

Remedy Implementation

The remedial actions at the Site were completed by EPA and the Responsible Parties (RPs).

The OU1 Selected Remedy has been implemented as follows:

Alternate Drinking Water Supply to Residents of Glendon Borough and Lucy's Crossing

The connection of residential homes to water mains belonging to the Easton City Suburban Water Authority began in April 1987, and was completed by EPA on June 15, 1989. EPA's contractor was Roy F. Weston (Weston), and Weston subcontracted out the actual construction to M.F. Ronca & Sons. Seven hundred and ten feet (710') of water line was installed during the RA. Ten residences in Glendon Borough and fifteen residences in Lucy's Crossing were connected to the public water supply. These residences were allowed to keep their wells for use as non-potable sources (car washing and lawn watering). The water lines were turned over to the local water authority upon completion.

The Selected Remedy for OU2 of the 1991 ROD as modified by the 1996 ESD have been implemented as follows:

Landfill Closure (Cap)

The landfill operator, the Chrin Brothers, Inc. (Chrin), was responsible for designing and implementing this remedy, under the oversight of the Commonwealth of PA and EPA. In September 1993, Chrin initiated construction of a cap over the unlined portion of the landfill. The cap consisted of a geosynthetic layer covered with a vegetated soil cover over the top of the landfill, and a vegetated soil cover over the sides of the landfill. The construction of the landfill cap was completed in October 1993.

Groundwater Treatment System

Chrin submitted a design for the groundwater treatment system on May 10, 1996. After a review of this plan, EPA approved the design on August 2, 1996. After the issuance of the ESD discussed above, and other discussion regarding the remedy, Chrin submitted a letter committing to the construction of the remaining portions of the remedy on January 27, 1998.

The remedy for the groundwater treatment system included the following elements:

- Three Groundwater extraction wells
- Groundwater level monitoring system
- Perforated tray air stripper
- Continuous backwash sand filters
- Inclined plate gravity settler
- Flow meters at critical areas of the groundwater treatment system

The three extraction wells to be used for this system were existing wells that were fitted with piping and electrical controls to allow use as extraction wells. The ESD permitted the treated water to be discharged into a tributary of the Lehigh Canal instead of to the river directly, as called for in the 1991 ROD. The NPDES permit requirements were issued by PADEP at this time.

An EPA Remedial Project Manager (RPM) visited the Site on April 21, 1999, and observed that the major components of the groundwater treatment system were in place and were operating. During a follow-up inspection on June 14, 1999, all three extraction wells were observed to be pumping, and the groundwater treatment system was extracting groundwater at a rate of 65 gallons per minute.

The Site achieved construction completion status when the Preliminary Close Out Report was signed on June 29, 1999. Review of this document reveals that activities remaining to be completed at that time included the installation of the automated ground water level monitoring system, and the periodic adjustments and/or modifications to the constructed remedy to maintain optimum performance and sufficient capture of contaminated groundwater.

D. System Operation/Operation and Maintenance

The Groundwater Sampling and Analysis Plan - Abatement Zone (dated November 30, 1993; Second Revision March 1998) required that reports pertaining to the ground water remedy at the Site were to be submitted annually to PADEP and EPA. The reports were to contain an analysis of ground water quality at the Site and the overall effectiveness of the remedy at the Site. The Groundwater Abatement Zone Report, dated July 15, 2008 contains the history of the analytical results for the abatement wells and the six additional wells sampled in August 2007.

The discharge monitoring reports (DMR) are also submitted to PADEP and EPA on a quarterly basis. A review of the historical records show the only violation of the effluent standards was in August 2004 for Methylene Chloride at 0.0099 mg/l which was above the 0.002 mg/l requirement.

V. Progress Since the Last Five-Year Review

This is the third Five-Year Review for the Site. A brief description of the previous Five-Year Reviews follows:

The First Five-Year Review was completed on June 10, 1997. It concluded that the groundwater treatment system needed to be implemented to address groundwater contamination at the Site. The First Five-Year Review also indicated that groundwater monitoring at the Site would need to be continued to monitor the effectiveness of the groundwater treatment system. The First Five-Year Review indicates that the remedy for the Site was not protective of human health and the environment, because the groundwater treatment system was not in place. The document indicated that once the groundwater treatment system was in place, the remedy would be protective.

The Second Five-Year Review noted three issues. EPA had not been receiving or reviewing the annual reports documenting the effectiveness of the groundwater treatment system. These documents have since been provided to EPA and the most recent from 2006 and 2007 were reviewed for the current third Five-Year Review report. These reports include all the historical sampling events up to the most recent taken in the spring of 2008.

Based on a June 2000 report prepared by Roy F Weston on behalf of EPA, Chrin Brothers Inc. was notified that the capture zone established by the groundwater extraction system was smaller than envisioned as part of the remedial design and that compounds of concern may move off-site. At the time of Second Five-Year Review, EPA recommended that a new capture efficiency report should be prepared. A new capture zone analysis for the groundwater extraction system was not completed. However, the contractor for Chrin submitted a report in September of 2003 which responded to EPA's concerns that the contaminated groundwater plume was not captured by the current pumping rates. The 2003 report reviewed groundwater elevation data but did not recommend any change in the pumping rates. Throughout this period, Chrin's contractor continued to sample monitoring wells and provided EPA and PADEP with concentration and well data. Based on the August 2007 data, the size and concentrations of the contaminate plume has decreased significantly from the time of the 2000 Roy F. Weston report which concluded that the capture zone analysis was insufficient. The current data reviewed and presented in this Five-Year Review confirm that the groundwater extraction system is helping to restore the aquifer by decreasing the size of the plume and concentrations in the plume. Therefore, EPA believes that the progress of the groundwater remediation is progressing as expected by the OU2 remedy selected and will not require a new capture zone analysis report at this time.

The second Five-Year Review also noted that there were no institutional controls on the use of groundwater in the residential areas downgradient of the extraction well, network. At this time, the

size and concentrations of the contaminated groundwater plume do not extend to the Borough of Glendon and the need for institutional controls will be re-evaluated.

IV. Five Year Review Process and Findings

A. Community Involvement

Community Involvement began with discussions in technical progress meetings with the operators of the Chrin Landfill. Since the Superfund portion of the Site is actually part of the active landfill, there has been local interest in any activities related to the Site. EPA received several calls about the Five-Year Review during the summer of 2008, even before EPA placed the announcement in the local newspaper on August 17, 2008. A few of the local residents requested a copy of the Roy F. Weston 2000 report, referred to in the last Five-Year Review which concluded that the groundwater extraction wells were not adequately capturing the contaminated groundwater plume. A copy of this report was forwarded to the residents. The local residents also wanted to review a copy of the Chrin Landfill Operator's response to the capture zone analysis and portions of that report were also forwarded to the residents. EPA received one e-mail in response to the Five-Year Review announcement. The commentor requested that The EPA continue to oversee operations at the Site and not to delete the Site from the National Priorities List.

As part of the Five-Year Review, EPA contacted the local municipalities and met with the local officials to discuss the Site, the Superfund process and some of the findings of the data review. For the Industrial Lane Site, EPA met with Glendon Borough and local officials from Williams Township. The issues discussed in these meetings are reviewed below in the Interview Section.

B. Document Review

This review included relevant documents in the Administrative Record, the 2000 Capture Zone Evaluation Report prepared by Roy F. Weston which was reviewed for the Second Five-Year Review and four new documents prepared since the Second Five-Year Review.

1. A letter Report dated June 30, 2000 to US EPA Remedial Project Manager, Greg Ham from Roy F. Weston Inc. regarding the capture zone analysis for the groundwater extraction system initiated in 1999. (This was originally reviewed for the Second Five Year Review)
2. Groundwater Abatement Zone Report (dated September 30, 2003), Chrin Brothers Sanitary Landfill, Williams Township, Northampton County, Pennsylvania. Prepared for Chrin Brothers Inc., Easton, Pennsylvania. Prepared by Civil and Environmental Consultants Inc. Export, Pennsylvania. CEC Project 230837.

2. Groundwater Abatement Zone Report (dated November 2006), Chrin Brothers Sanitary Landfill, Williams Township, Northampton County, Pennsylvania. Prepared for Chrin Brothers Inc., Easton, Pennsylvania. Prepared by Civil and Environmental Consultants Inc. Four Triangle Lane, Suite 200. Export, Pennsylvania, 15632. CEC Project 061-869.
4. Groundwater Abatement Zone Report (dated July 2008), Chrin Brothers Sanitary Landfill, Williams Township, Northampton County, Pennsylvania. Prepared for Chrin Brothers Inc., Easton, Pennsylvania. Prepared by Civil and Environmental Consultants Inc. Four Triangle Lane, Suite 200. Export, Pennsylvania, 15632. CEC Project 072-142
5. Addendum to the July 15, 2008 Groundwater Abatement Zone Report (dated August 14, 2008), Soil Vapor and Indoor Air Sampling, Chrin Brothers Sanitary Landfill, Williams Township, Northampton County, Pennsylvania. CEC Project 072142.

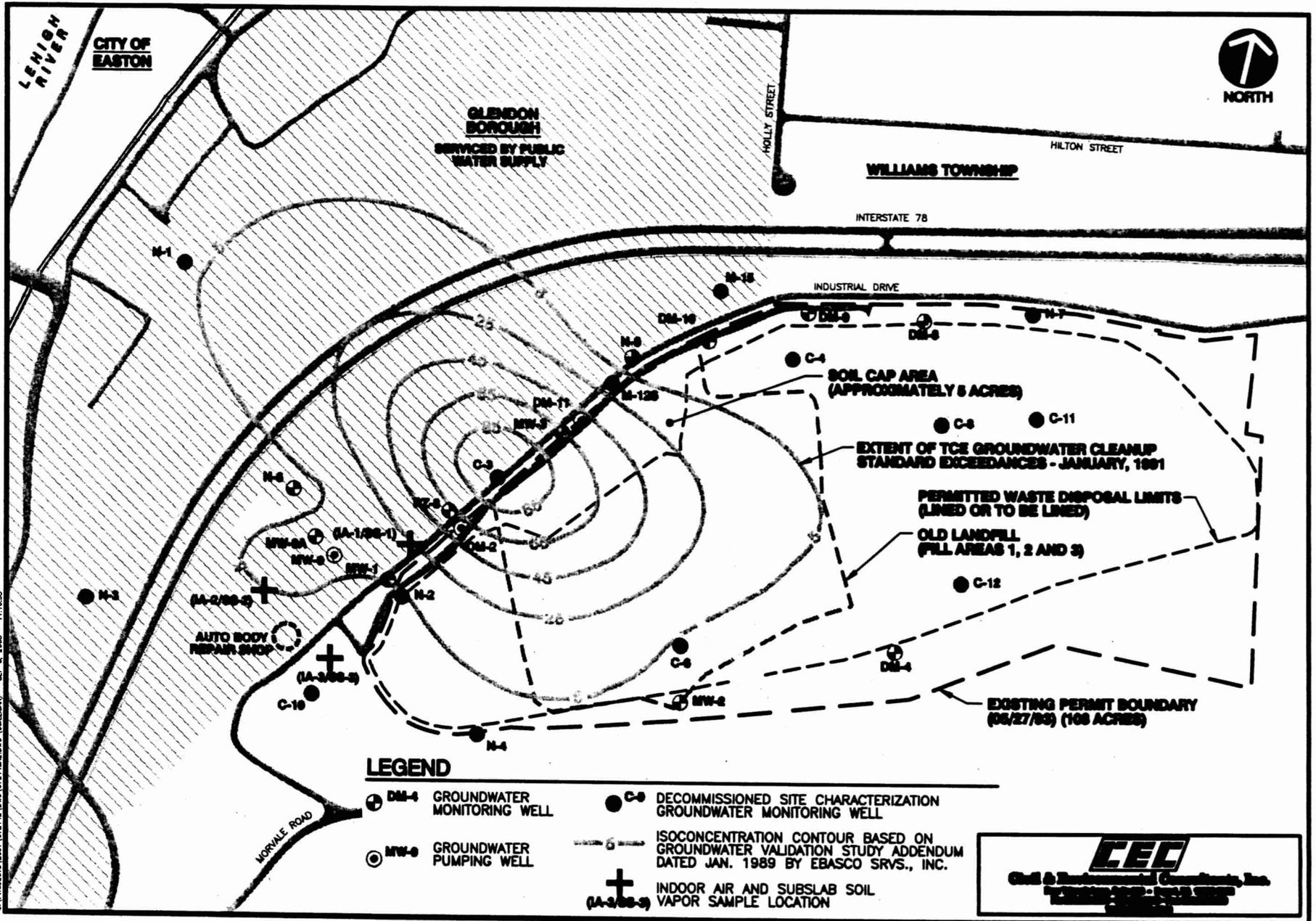
C. Review of Groundwater Monitoring Data

From 1986 through 2008 the Responsible Parties monitored nine wells on a quarterly basis and PADEP conducted split sampling on an annual basis to monitor compliance with the PADEP Waste Management Permit Requirements. The analytical results are used by EPA to assess the progress of the remediation. For the sampling event in August 2007, sampling included the nine abatement well locations and an additional six monitoring wells which comprised all the existing monitoring wells that could be found. EPA and PADEP requested the operator of the landfill to shut down the extraction well network for two weeks so that the water table could stabilize for the August 2007 Non-Pumping sampling event. The landfill operator accommodated EPA's request and the analytical data is included in the following Figures 2, 3, 4 and 5 as well as the July 2008 report.

The results show a decrease in most compounds in the monitoring and extraction wells located at the base of the old, unlined landfill and immediately downgradient of the soil capped portion of the landfill.

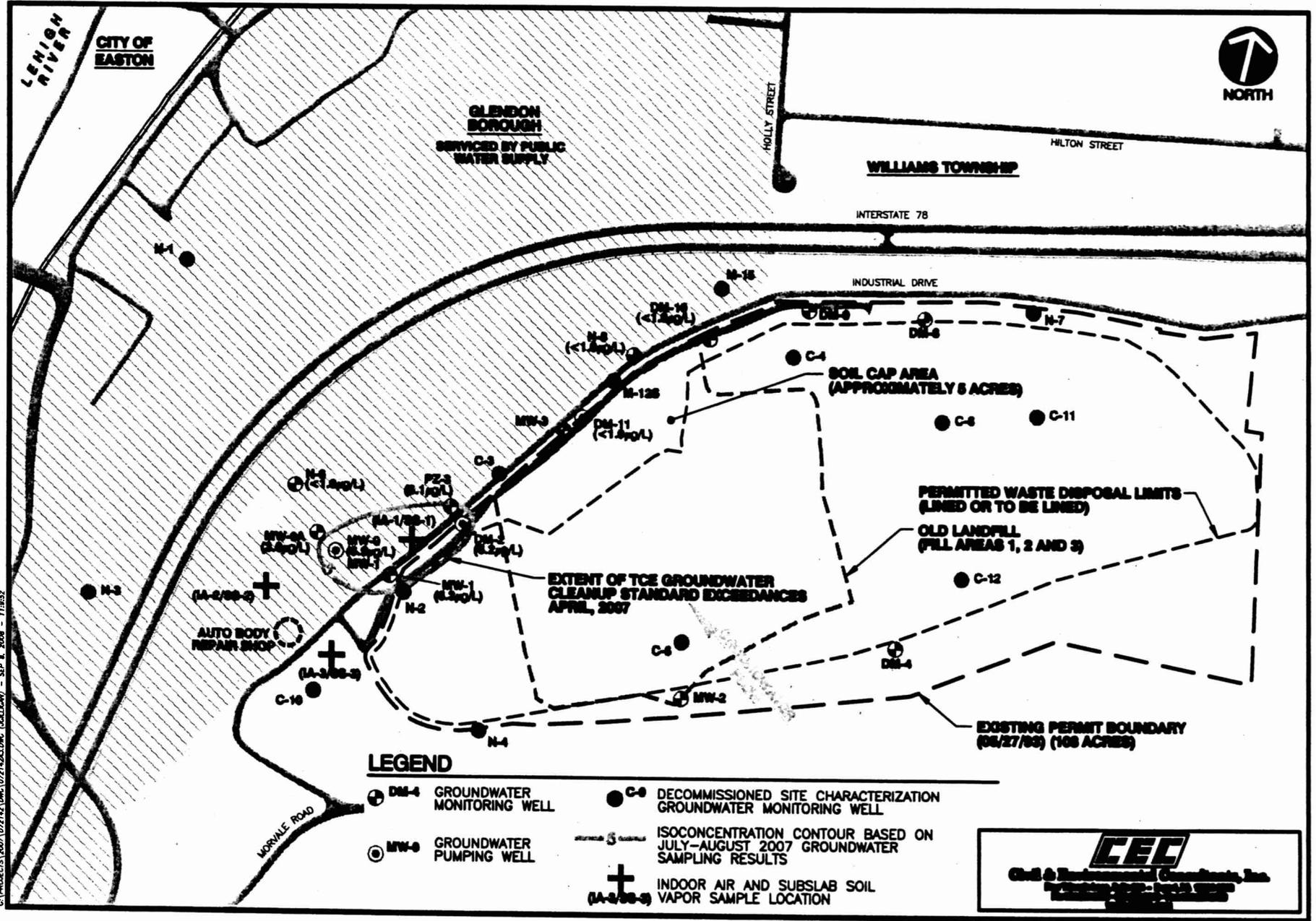
Figures 2 and 3 show concentration contours of the Trichloroethene (TCE) from the earlier sampling event in 1991 and the sampling event in August 2007. The figures show a substantial decrease in the area and concentrations of the contaminant plume. Concentrations have decreased from approximately 100 microgram per liter (ug/l) to current levels at approximately 7 ug/l. The highest TCE concentration now is in well MW9 at 6.9 ug/l.

FIGURE 2
1989 TRICHLORETHENE CONCENTRATION



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FIGURE 3
2007 TRICHLORETHENE CONCENTRATIONS



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- LEGEND**
- ⊕ DM-4 GROUNDWATER MONITORING WELL
 - ⊕ MW-6 GROUNDWATER PUMPING WELL
 - C-6 DECOMMISSIONED SITE CHARACTERIZATION GROUNDWATER MONITORING WELL
 - 5' ISOCONCENTRATION CONTOUR BASED ON JULY-AUGUST 2007 GROUNDWATER SAMPLING RESULTS
 - ⊕ (A-2/88-2) INDOOR AIR AND SUBSLAB SOIL VAPOR SAMPLE LOCATION

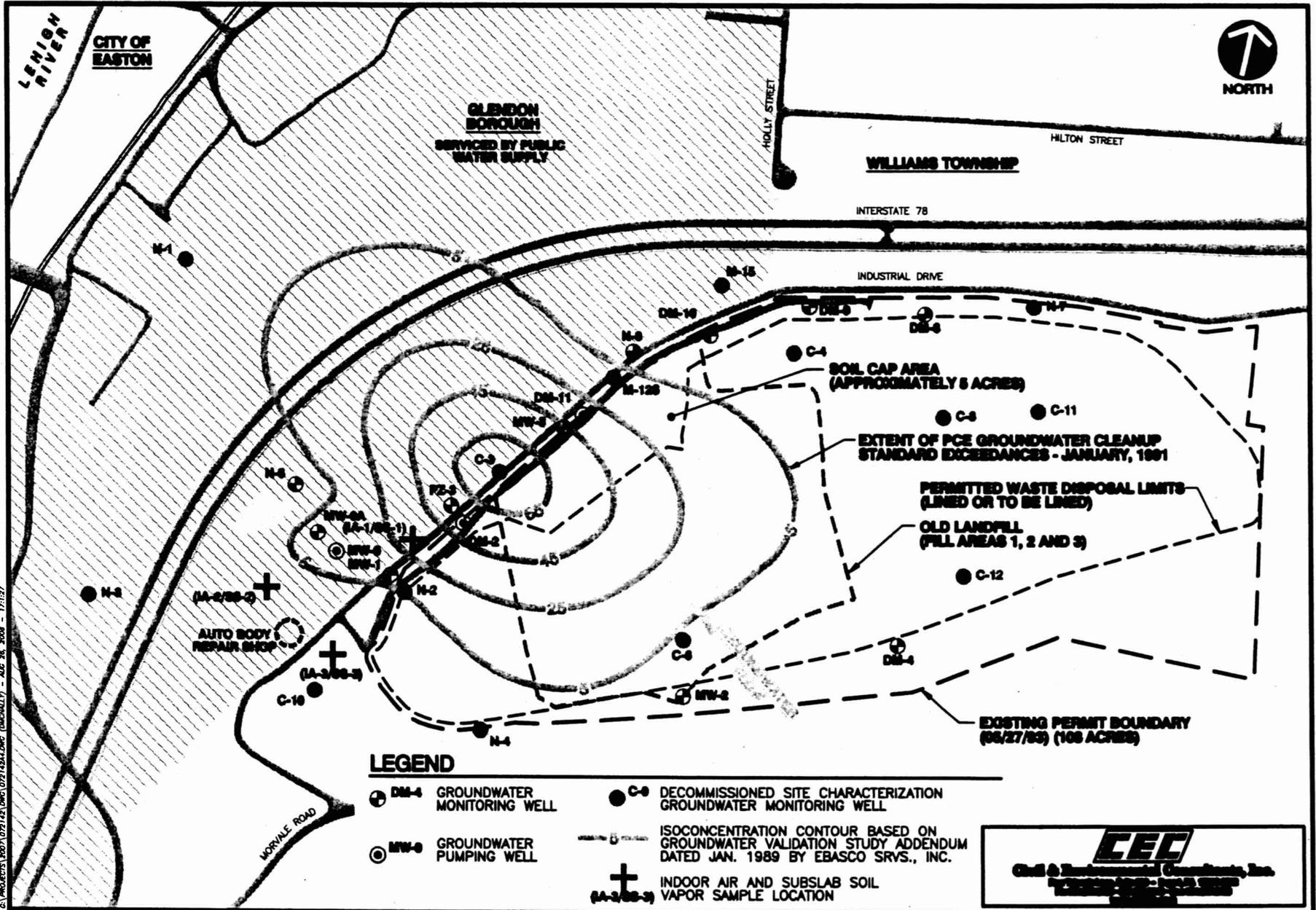


Figures 4 and 5 show the same type of concentration contours for Tetrachloroethene (PCE) from the 1991 sampling data and the August 2007 sampling data. Similar changes in the size of the contaminant plume are observed with the highest concentration of PCE detected in well MW 1 at 7.8 ug/l.

These highest detected concentrations observed in these two monitoring wells are very close to the required performance standards of MCL concentrations of 5 ug/l for TCE and PCE. A complete list of the current concentration and well locations is provided in Table 2 and the Groundwater Abatement Zone Report. Dated July 15, 2008 contains the history of the analytical results for the abatement wells and the six additional wells sampled in August 2007.

Vapor intrusion is a potential exposure pathway that environmental agencies have recently begun to explore. As part of EPA's review of the groundwater data the potential for groundwater contaminants to volatilize to the ground surface and possibly enter buildings as air vapors was evaluated. EPA has identified contaminants that may create a vapor intrusion at the Industrial Lane Site. The RP's evaluation of vapor intrusion was conducted on December 12, 2007 in two occupied dwellings and a former scale house located on the Chrin property. Results from the air analysis indicated that there were some potential compounds in one of the dwellings which may indicate a problem. However, the compounds detected may actually be related to cleaning products. Based on the initial sampling, plans to re-analyze indoor air samples in the structures on the Chrin property and include an outdoor ambient air sample are underway.

FIGURE 4
1989 TETRACHLOROETHENE CONCENTRATIONS



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FIGURE 5
2007 TETRACHLOROETHENE CONCENTRATIONS

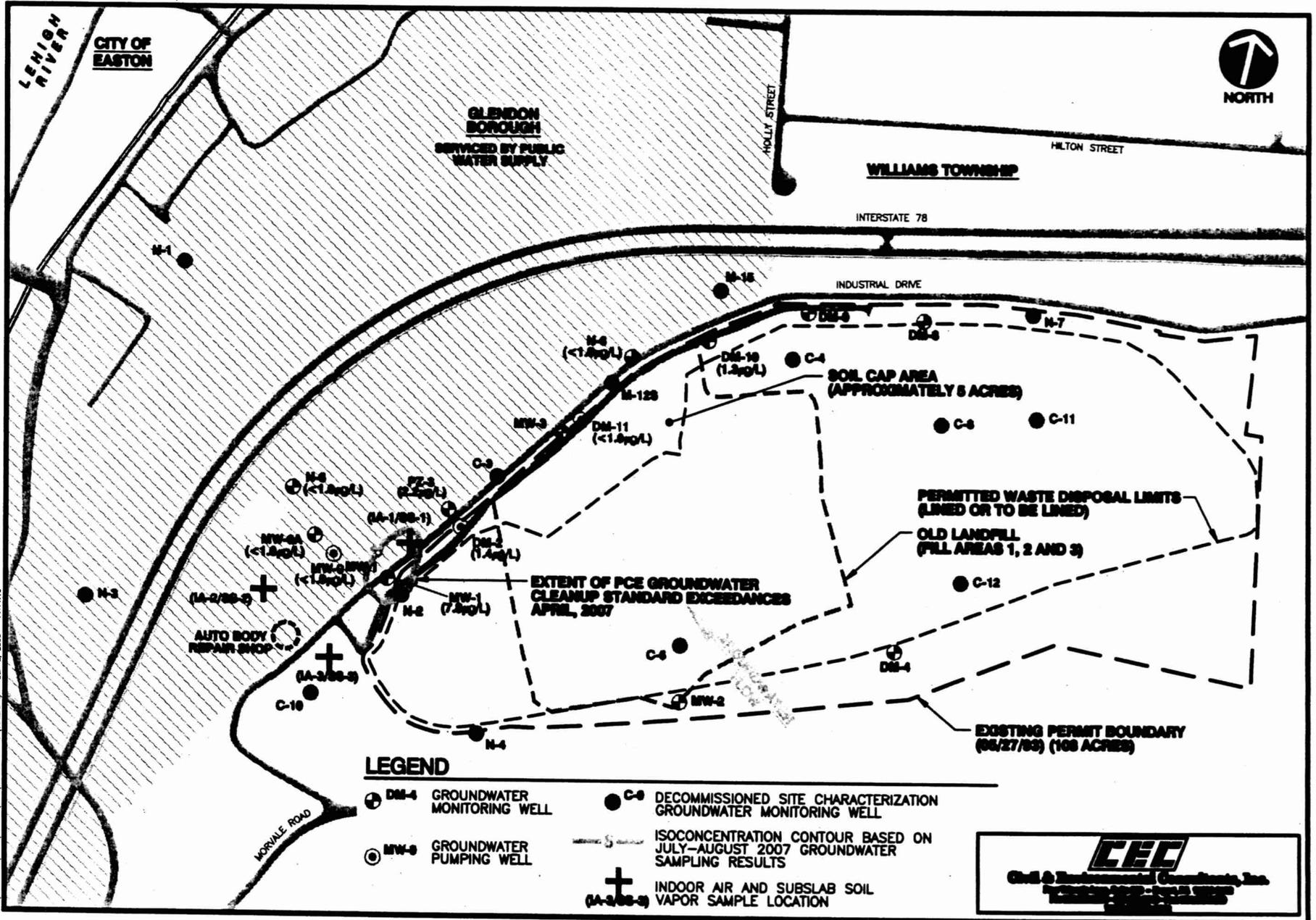


TABLE 2

Maximum Concentration Summary
 2007 Non-Pumping Sampling Event

Contaminant	Clean up levels (MCL)	Highest 2008 concentrations
Vinyl Chloride	2 ug/l	1.2 ug/l
Methylene Chloride	5 ug/l	3.1 ug/l
1,1-Dichloroethane	27 ug/l	1.9 ug/l
trans-1,2-Dichloroethene	100 ug/l	<1.0 ug/l
cis-1,2-Dichloroethene	70 ug/l	8.5 ug/l
Chloroform	100 ug/l	<1.0 ug/l
1,2-Dichloroethane	5 ug/l	1.7 ug/l
1,1,1-Trichloroethane	200 ug/l	4.4 ug/l
Carbon Tetrachloride	5 ug/l	<1.0 ug/l
1,2-Dichloropropane	5 ug/l	1.7 ug/l
Benzene	5 ug/l	1.2 ug/l
Tetrachloroethene	5 ug/l	7.8 ug/l
1,4-Dichlorobenzene	75 ug/l	7.4 ug/l
Chlorobenzene	100 ug/l	7.8 ug/l
1,1-Dichloroethene	7 ug/l	1.9 ug/l
Trichloroethene	5 ug/l	6.9 ug/l

D. Site Inspection

A Site Inspection meeting was held for the Industrial Lane Superfund Site at the Chrin Landfill offices on August 22, 2008. The meeting was attended by Roy Schrock, Vance Evans, and John Epps from US EPA, Ron Schock from PADEP, Greg Chrin and Corey Rosenburger from the Chrin Landfill and Rob Dlugos from CEC, Chrin's contractor.

We discussed the purpose of the meeting to conduct the Site Inspection as part of the Five-Year Review process and to discuss the current issues and resolve questions about historical activities. The first issue discussed was the changes and implementation of the OU2 requirement for closure of the landfill. After reviewing the ROD and the ESD, it was concluded that the requirement for the geosynthetic, impermeable cover had been placed over approximately 25 acres of the old unlined landfill Areas 1, 2 and 3. The area was covered as part of the 1986 permitted expansion of the landfill. The remaining five acre portion of the landfill was covered with soil and vegetated as required by the abatement regulations which were applicable to landfills closed before April 1988.

The 2000 Roy F. Weston Report prepared on behalf of EPA which reviewed the capture zone analysis of the extraction well system was discussed. In the last Five-Year Review, one of the recommendations was to perform a new capture zone analysis and the report stated that the operator, Chrin Landfill would respond to the capture zone analysis report. The Five-Year Review Team discussed that although a new capture zone analysis had not been performed, the monitoring indicates the contaminated groundwater plume has significantly decreased without a new analysis. After the meeting, EPA reviewed some of the previous submittals and realized that the September 2003, CEC report did actually respond to the Roy F Weston report by reviewing groundwater levels before, during and after the extraction well network was operating. Based on an analysis of current data, the plume is contained on the Chrin property and the contaminant concentrations are approaching MCLs. Currently, the plume appears to be effectively captured and no additional capture zone analysis is necessary.

Chrin discussed their interest in deleting the Site from the Superfund National Priorities list and EPA responded that it would be willing to review the issue and would evaluate the possibility of deleting the Site. However, the most important criteria for deleting the Site would be achieving the clean up goals required by the ESD which are the MCLs (Table 2) throughout the plume area. The contaminant concentration in the "non-pumping" sampling event in August 2007 was the lowest concentrations recorded and that these reported concentrations are very close to the MCL standards but the clean up goals have not been met at the time of this Five-Year Review. The possibility of

turning off the extraction well network if the clean up goals were met and the possibilities that the remedy could be changed to a Monitored Natural Attenuation remedy were discussed by the team. However, both of these options are premature at this time.

The team also discussed that multiple groups in the vicinity of the Site have been requesting information from the EPA and PADEP regarding both the Superfund portion of the Site and current operations of the landfill. This community interest was generated because Chrin is currently working with the local municipality, Williams Township, on the designation of the site as a Solid Waste Zoning District and the construction of a Materials Recovery Facility offering recycling services. The community is also concerned about future expansion of the landfill which could be extended vertically on top of the existing landfill. Chrin has also proposed using methane gas from the landfill as an alternative energy source for an industrial/commercial business park.

Following the meeting and discussions in the office, the group toured the facility and located the existing monitoring and background wells, the soil covered portion of the old unlined landfill, the treatment system and general locations where vapor intrusion analysis had been performed. Based on the inspection for this Five-Year Review, EPA found that the OU2 remedial action was constructed in accordance with the Records of Decision and an Explanation of Significant Differences and that the remedy is functioning as designed.

E. Local Interviews

An interview was conducted with the Council President, Thomas Hodge, for Glendon Borough on September 5, 2008 as part of the Five-Year Review process. The meeting was held in the Borough office and EPA's remedial project manager, Roy Schrock and PADEP's site manager, Ron Schock met with Mr. Hodge. The current size and contamination levels of the groundwater plume and the residential public water supply hook ups in the Borough were discussed. Mr. Hodge expressed that the Borough did not have any concerns about the Chrin Landfill activities and that the old unlined portion of the landfill which is the Superfund portion of the Site did not raise any concerns from residents that he recalled. When the public water supply was discussed, Mr. Hodge indicated that there were still some residents who had private wells for non-drinking water use. The limited sampling conducted for vapor intrusion at the Site was also discussed and the possibility of additional sampling in the Borough.

A second interview was conducted at the Williams Township office on September 5, 2008. EPA's remedial project manager, Roy Schrock and PADEP's site manager, Ron Schock also met with several representatives of the Township. Deborah Patterson, Township Manager, Dave Chismar and David Harte, P.E. Township Engineers, Brian Monahan, Esq., Township Solicitor, Rich Adams, Zoning Officer and Fred Mebies, Township Supervisor attended. EPA's contractor, Sandy Loane from Chenega Integrated Systems, LLC, was also present. The meeting was set up as part of the Five-Year Review process so EPA could determine if the Township had any concerns or questions about the Site.

The meeting covered a variety of topics related to the Superfund portion of the site and the current Chrin Landfill activities. The Township had concerns regarding the deletion of the Site from the National Priorities List (NPL) and if the deletion would change EPA's oversight. EPA informed the Township that Site deletion depends on meeting the groundwater cleanup standards and that the current concentrations have not yet met the goals. As far as the oversight is concerned, EPA would still continue to review Site activities and oversight of the Superfund Site even if the Site were deleted from the NPL. If the clean up standards were met the operator could discontinue the treatment as long as they continued to monitor the groundwater. However, it is EPA's understanding that the operators would want to continue the pumping because they use some of the treated water for dust control on the landfill.

The Township inquired about the NPDES discharge permit and questioned EPA's role in the process. EPA required treatment of the extracted groundwater and required the operator to meet PADEP NPDES program discharge requirements. EPA reviews the monthly Discharge Monitoring Reports and compliance with the standards set in the permit. The Township also asked if EPA sampled the discharge location to determine if there were any negative impacts on the surface water. The permit does not require sampling at the discharge location, but for this Site, PADEP sampled the discharge location in 1997 prior to the NPDES discharge and PADEP will likely sample this location in the future.

EPA discussed the potential of vapor intrusion in residences and buildings on the Chrin Landfill and that EPA's conclusion from the 2007 sampling results were inconclusive and should be updated in the next year.

EPA shared the figures of the groundwater concentration contours showing the size and concentration of the TCE plume in 1991 and the current size and concentrations based on the 2007 sampling. The figures showed a decrease from approximately 100 ug/l in 1991 to approximately

7 ug/l in 2007. EPA concludes that the pump and treat system is effective in removing contaminants and shrinking the plume. EPA pointed out the location of the extraction wells (DW-11, PZ-3 and MW-9) located at the northern side of the landfill.

The Township asked if the closure of the landfill and the cover placed on the old landfill areas 1, 2 and 3 changed the size of the contaminated groundwater plume. This same issue came up in the site inspection meeting and it is generally agreed that the non-permeable geosynthetic cover reduces the amount of water entering the old fill areas and decreased the size of the affected area.

The Township also asked about the groundwater flow and if there was any potential for the residential areas south of the landfill to be impacted by groundwater contamination. EPA explained that groundwater flows toward the north west and that the direction was away from the neighborhood in question. EPA also identified monitoring wells located at the southern edge of the fill in between the landfill and the residences. Subsequent to the meeting EPA reviewed the data for wells MW-2 and DM-4 and verified that contaminants are not moving toward the residential neighborhood.

Potential for Reuse of the Site

The Site is currently used by Chrin Brothers Inc. as municipal sanitary waste landfill and is expected to remain in use for the next several years. Chrin will continue discussions with Williams Township on use of the property and the potential for future expansions of the landfill to increase capacity. If any expansion involves the unlined portion of the Superfund Site, EPA will assist PADEP in the review.

VII. Technical Assessment

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

OU1 - Waterline Extension

Yes, the remedy for OU1 is functioning as intended by the OU1 ROD. All homes affected by the Site that were using wells to supply potable water were connected to the existing public water supply line as intended by the 1986 ROD. Homeowners were allowed to keep their wells open, if desired, to provide water for non-potable uses such as car washing and lawn watering.

OU2 - Closure of the Unlined Landfill and Groundwater Remediation

Yes, based on a review of decision documents, O&M documents, groundwater monitoring results, and the site inspection, at this time the OU2 groundwater remedy appears to be functioning as intended by the 1991 ROD and 1996 ESD. Groundwater contaminant concentrations are decreasing but have not yet achieved MCL standards.

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

Changes in Standards and To Be Considered

Have standards identified in the ROD been revised, and does this call into question the protectiveness of the remedy? Do newly promulgated standards call into question the protectiveness of the remedy? Have TBCs used in selecting cleanup levels at the site change, and could this affect the protectiveness of the remedy?

The 1996 ESD cites MCLs for methylene-chloride (5 ug/l) and chloroform (100 ug/l). MCL's are no longer available for these contaminants. This does not affect the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

Has land use or expected land use on or near the site changed?

No, local land use remains a mixture of residential and commercial land use. The Site is still located within a municipal sanitary waste landfill.

Have human health or ecological routes of exposure or receptor been newly identified or changed in a way that could affect the protectiveness of the remedy? Are there newly identified contaminants or contaminant sources? Are there unanticipated toxic byproducts of the remedy not previously addressed by the decision documents? Have physical site conditions or the understanding of these conditions changed in a way that could affect the protectiveness of the remedy?

The only major new route of concern at this Site would be vapor intrusion into buildings. Recently, EPA has become aware that vapors from subsurface VOC contamination can infiltrate buildings located on or near the groundwater or soil contamination. According to Table 2 (2007 Non-Pumping Sampling Event), several contaminants have the potential to create vapor intrusion into buildings located above or immediately adjacent to contaminated groundwater.

EPA's evaluation of the potential for vapor intrusion was conducted in two occupied dwellings and a former scale house located on the Chrin property. These locations were determined to be dwellings where vapor intrusion had the most potential to occur. Results from the air analysis were inconclusive. Therefore, EPA will re-evaluate these locations again in the near future.

EPA has recently determined that sites with VOCs sometimes have 1,4-dioxane present. This can be of concern since, unlike VOCs, 1,4-dioxane is not removed by air stripping and carbon filtration. 1,4-dioxane can also travel ahead of a VOC groundwater plume. The VOC most closely associated with 1,4-dioxane is 1,1,1-trichloroethane, which has historically been detected at the Industrial Lane Site. Therefore, sampling for this contaminant is highly recommended to confirm that this chemical is not of concern at the site.

Changes in Toxicity and Other Contaminants Characteristics

Have toxicity factors for contaminants of concern at the site changed in a way that could affect the protectiveness of the remedy? Have other contaminants characteristics changed in a way that could affect the protectiveness of the remedy?

Of the toxicity changes, some have increased while others have decreased, making it impossible to generalize about whether the risks would be higher or lower if recalculated today. However, it is important to note, the increase in the number of available inhalation toxicity values suggest that there would be an increase in risk from inhalation of VOCs during showering and through vapor intrusion since inhalation toxicity values were limited in the 1986 RI-risk assessment.

In addition, lead is no longer evaluated assuming non-cancer threshold affects and is now evaluated using the Integrated Exposure Biokinetic Update Model (IEUBK) where blood lead level population predictions are used to assess risk. It is recommended that lead analysis be included, in at least one monitoring round, to determine if current concentrations exceed EPA's action level of 15 ug/l.

Toxicity values may change again in the coming years, and protectiveness is best assessed at the time when it is believed that groundwater cleanup has been achieved. Therefore, it is recommended that a full scan analysis and risk assessment be performed when groundwater standards are achieved to ensure that no remaining chemicals pose unacceptable risks that were not identified in the 1986 and 1991 RODs.

Changes in Risk Assessment Methods

Have standardized risk assessment methodologies changed in a way that could affect the protectiveness of the remedy?

There have been significant changes in EPA's risk assessment guidance since 1986. These include changes in dermal guidance, inhalation methodologies, exposure factors, and a change in the way early-life exposure is assessed for vinyl chloride.

A simple risk assessment on groundwater from on-site monitoring wells was performed using the concentrations provided within Table 2 (2007 Non-Pumping Sampling Event) along with updated risk guidance. As expected, this assessment shows that at the current reported concentrations, lifetime residential cancer risk ($1.3E-04$) exceeds EPA's cancer range ($1E-04$ to $1E-06$) and non-cancer risk is below EPA's benchmark (0.25) of 1.0. It is important to note, 1.0 ug/l was used as the detected concentration for contaminants that were reported as less than 1.0 ug/l. Final determination as to whether performance standards are protective should be assessed when performance standards have been achieved to determine the long-term protectiveness of the remedy.

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

As part of EPA's review of the groundwater data, the Five-Year Review also evaluates the potential for groundwater contaminants to volatilize to the ground surface and possibly enter dwellings as air vapors. EPA has identified contaminants that may create a vapor intrusion at the Industrial Lane Site. EPA's evaluation of the potential for vapor intrusion was conducted in two occupied dwellings and a former scale house located on the Chrin property. Results from the air analysis were inconclusive. Therefore, data will be collected to determine if vapor intrusion from groundwater is an issue of concern. Because the additional data is necessary to determine protectiveness, EPA believes the protectiveness determination should be deferred.

VIII. Issues

Table 3

Issue	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
The initial analysis for vapor intrusion was inconclusive due to the presence of cleaning compounds in the home.	Unknown	Unknown
Institutional Controls restricting access to portions of the aquifer which remain above cleanup levels have not been implemented.	N	Y
1,4-dioxane, a solvent stabilizer has not been analyzed for in groundwater samples.	Unknown	Unknown
Lead concentrations in groundwater samples should be monitored and reviewed for potential risk.	Unknown	Unknown

IX. Recommendations and Follow-Up Actions

Table 4

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N) Current	Affects Protectiveness (Y/N) Future
The initial analysis for vapor intrusion was inconclusive due to the presence of cleaning compounds in the home.	Additional data will be collected to determine if vapor intrusion from groundwater contaminants is an issue of concern.	RP	EPA and PADEP	9/30/2009	Unknown	Unknown
Institutional Controls restricting access to portions of the aquifer which remain above cleanup levels have not been implemented.	Institutional Controls should be evaluated based on the current size and concentration of the plume and implemented where necessary.	RP	EPA and PADEP	9/30/2010	N	Y
1,4-dioxane, a solvent stabilizer, has not been analyzed for in groundwater samples.	Add 1,4-dioxane to the list of chemical parameters to confirm this chemical is not of concern at the Site.	RP	EPA and PADEP	9/30/2009	Unknown	Unknown
Monitored lead and review for potential risk.	Re -sample for lead to confirm this compound is not of concern at the Site.	RP	EPA and PADEP	9/30/2009	Unknown	Unknown

X. Statement on Protectiveness

The remedy for OU1 is protective of human health and the environment. All homes affected by the Site groundwater contamination have been connected to the public water supply.

A protectiveness determination for OU2 (Closure of the Unlined Landfill and Groundwater Remediation) cannot be made at this time until further information on the vapor intrusion pathway and the presence of 1,4-dioxane and lead in groundwater is obtained. It is expected that the information will take approximately 12 months at which time a protectiveness determination will be made.

XI. Next Five-Year Review

Since the Site conditions do not allow for unlimited use or unrestricted exposure under current conditions for groundwater, the next Five-Year review for the Industrial Lane Superfund Site is required five years from the date of this review.

ATTACHMENT 1

List of Acronyms

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
ESD	Explanation of Significant Differences
ICs	Institutional Controls
MCLs	Maximum Contaminant Levels
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
OUs	Operable Units
PADEP	Pennsylvania Department of Environmental Protection
PCOR	Preliminary Closeout Report
RA	Remedial Action
RI/FS	Remedial Investigation and Feasibility Study
ROD	Record of Decision
RP	Responsible Party
SDWA	Safe Drinking Water Act
VOC	Volatile Organic Compound