First Five-Year Review Report
For

Popile, Inc. Site
Union County
El Dorado, Arkansas

September 2006

Prepared By
USACE
For
United States Environmental Protection Agency
Region 6, Dallas, Texas

209753

FIRST FIVE-YEAR REVIEW
Popile, Inc.
ARD008052508
Union County, Arkansas

This memorandum documents EPA's approval of the Popile First Five-Year Review Report prepared by Materials Management Group, Inc. (MMG) under contract with USACE-NOD and on behalf of EPA.

Summary of Five-Year Review Findings

Popile, Inc. was a wood preservation facility where wood treatment processes and waste management (use of surface impoundments) resulted in soil, groundwater, surface water, and sediment contamination. Removal actions were conducted in the early 1990's, and excavated sludge and contaminated soil were stabilized using rice hulls and fly ash and disposed of onsite in two clay-lined holding cells. A 1993 ROD had called for control of the shallow groundwater contaminants to reduce or eliminate the threat of impacting Bayou de Lotoure to the east and northeast of the contaminant plume. A threat to the deeper drinking water aquifer was also identified as a part of the 1993 ROD. The aim of the remedy was restoration of the shallow aquifer to potential future beneficial use as well as reducing the threat to Bayou de Lotoure by a pump and treat system.

By 1997 it was recognized that the subsurface groundwater flow was not properly characterized. A SCAP study by USACE in conjunction with detailed boring, monitor wells and sampling established that the contaminant plume was confined to the shallow Cockfield aquifer and the main deeper aquifer was separated from the shallow aquifer by thick shale. Moreover there was no threat of the shallow aquifer containing the Pentachlorophenol (PCP) plume to discharge into Bayou De Lotoure downgradient and east of the old impoundments. A groundwater model with better defined subsurface hydrology from the USACE investigation showed that the contaminant plume in the shallow aquifer was static for past 40 years and will remain static for the next 50 years. Based on these findings, an Amended ROD in 2001 recommended groundwater monitoring for the contaminants of concern and implementation of engineering and institutional controls. The engineering controls included a small cap north of the plume, fencing, warning signs, erosion controls, etc. The findings from three years of groundwater monitoring indicate that the contamination plume is static. This conforms to the modeling prediction of static plume for the next 50 years. Also, sampling results indicate that the area downgradient of the plume east of the railroad tracks is free of the contaminants of concern. The engineering controls are regularly inspected and repairs have been made when necessary. Institutional controls (land use restrictions) have not yet been implemented. However, for the past five years, the objectives of a deed restriction , e.g. no use of shallow groundwater , no excavation activities onsite, and no drilling in to the shallow groundwater, have effectively been met by means of a fence with locked gates and warning signs. Thus the land use restriction of the ICs has effectively been met by the engineering controls. EPA and ADEQ are currently working to have the landowners sign the deed restriction to implement the ICs.

Actions Needed
No major deficiencies were noted. To ensure future protectiveness in the long term, institutional controls will be implemented by deed restrictions as soon as possible.

Determinations

I have determined that the remedy for the Popile Inc. site is protective of human health and the environment and will remain so provided the action items identified in the First Five-Year Review Report are addressed as described above.

for Sam Coleman

9-26-06

Samuel Coleman, P.E.
Director
Superfund Division
U.S. Environmental Protection Agency, Region 6

Date

CONCURRENCES

FIRST FIVE-YEAR REVIEW

For the

Popile Inc. Site

9/14/06

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9-26-06

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Deputy Director, Superfund Division

Five-Year Review Report

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List of Acronyms

ACL	Alternate Concentration Limit
ADEQ	Arkansas Department of Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
EPA	Environmental Protection Agency
IC	Institutional Control
GW	Groundwater
LIF	Laser-induced Fluorescence
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MMG	Materials Management Group, Inc.
NA	Not Analyzed
NCP	National Contingency Plan
NOD	New Orleans District
NPL	National Priorities List
NR	Not Reported
O&M	Operations & Maintenance
OU	Operable Unit
PAHs	Polycyclic Aromatic Hydrocarbons
PCP	Pentachlorophenol
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SCAPS	Site Characterization and Analysis Penetrometer System
SVOCs	Semi-Volatile Organic Compounds
TBC	To-Be Considered
USACE	U.S. Army Corps of Engineers

Executive Summary

The Amended Record of Decision (ROD), signed in September 2001, provided new remedial action objectives for the Popile Inc. Superfund Site. The 1993 ROD had called for control of the shallow groundwater contaminants to reduce or eliminate the threat of impacting the deeper drinking water aquifer and discharge of the contaminant plume into Bayou de Lotoure. The shallow aquifer was to be restored to potential future beneficial use by a pump and treat system. A site investigation by USACE to characterize the shallow aquifer by means of SCAP and extensive boring, monitor wells and subsurface sampling established that the contaminant plume was static and immediate downgradient areas of the contaminant plume were clean. The result of the site investigation was confirmed by a groundwater model of the shallow aquifer. Since the groundwater modeling study confirmed the results of the site investigation by USACE, i.e. the contamination plume is static (and unlikely to impact the deeper aquifer or Bayou de Lotoure), the EPA determined that groundwater monitoring for the contaminants of concern and the implementation of engineering and institutional controls is adequate for the protection of public health. Therefore, the Amended ROD called for a five-year groundwater monitoring and engineering maintenance program. Three years of this program have been implemented. The results indicate that the groundwater contamination plume is static (as predicted by the modeling study), natural attenuation is taking place at the site, and engineering controls are being maintained. The site remedy is functioning as expected. The only issue is that institutional controls (land use restrictions) have not been implemented, and it is recommended that this be done soon.

Because the remedial actions at Popile Inc. Superfund Site are protective, the Site is protective of human health and the environment.

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Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Popile Inc.		
EPA ID: ARD008052508		
Region: 6	**State: AR**	**City/County: El Dorado/Union**

SITE STATUS	
NPL status: x **Final** Deleted Other (specify)	
Remediation status (choose all that apply): Under Construction x **Operating** Complete	
Multiple OUs?* YES x **NO**	**Construction completion date:** 9_ /28 /2001
Has site been put into reuse? YES x **NO**	

REVIEW STATUS	
Lead agency: x **EPA** State Tribe Other Federal Agency ____________________	
Author name: Shawn Ghose M.S.,P.E.	
Author title: Remedial Project Manager	**Author affiliation: EPA Region 6**
Review period:** _08_ / _21_ / _2006_ to _09 / _15 / _2006_	
Date(s) of site inspection: _09 / _06_ / _2006	
Type of review: x **Post-SARA** Pre-SARA NPL-Removal only Non-NPL Remedial Action Site NPL State/Tribe-lead Regional Discretion	
Review number: x**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 x **Other – 1st review – based on 2001 ROD Amendment**	
Triggering action date: _09_ / 28 / _2001__	
Due date ***(five years after triggering action date)*****:** _09_ / 28 / _2006_	

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

Five-Year Review Summary Form, cont'd.

Issues:

Institutional controls (ICs) (land use restrictions) are in the process of being implemented. Implementation of ICs will make the remedy be protective in the future.

Engineering Controls: The small cap and monitor wells constructed during and prior to ROD Amendment in conjunction with locked gates and sign has in effect satisfied the land use restriction objective e.g. no drilling into shallow aquifer. No excavation onsite and no use of the shallow water, recommended in the ROD Amendment have been satisfied for the past five years.

Recommendations and Follow-up Actions:

Implement institutional controls. EPA and ADEQ are currently working on having the appropriate state agency get the landowners at the Popile Superfund Site to sign deed restrictions to prohibit drilling into the shallow aquifer or the use of the shallow aquifer, and to prohibit excavating onsite with the exception of utilities where absolutely necessary.

Protectiveness Statement(s):

Because the remedial actions at Popile Inc. Superfund site are protective, the site is protective of human health and the environment for the past five years.

Other Comments:

Not applicable

Five-Year Review Report

I. Introduction

The purpose of this five-year review is to determine whether the site remedy for the Popile Inc. Superfund Site is protective of human health and the environment. The remedy for the Popile Site involved groundwater monitoring and maintenance of engineering controls, as well as implementation of institutional controls (land use restrictions) including an Operations and Maintenance Plan that monitors the effectiveness of the institutional controls. The methods, findings, and conclusions of the five-year review are documented in the Five-Year Review Report. The report also highlights any issues identified, and recommendations for further management. The Environmental Protection Agency (EPA) is responsible for conducting the five-year review 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 judgment of the President that action is appropriate at such site 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) 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 U.S. Environmental Protection Agency (EPA) Region 6 has conducted a five-year review of the remedial actions implemented at the Popile Inc. Site in El Dorado, Arkansas. This review was conducted from August 2006 through September 2006. This report documents the results of the review. Materials Management Group, Inc, (MMG), under contract to the U.S. Army Corps of Engineers (USACE) – New Orleans District (NOD), has provided analysis in support of the five-year review.

This is the first five-year review for the Popile Inc. Site following preparation of the Amended Record of Decision (ROD). The triggering action for this review is the date of the Amended ROD, as shown in EPA's WasteLAN database: September 2001. The Amended ROD indicated alternate concentration limits (ACLs) to replace the remedial goals identified in the original ROD (1993). However, the associated Technical Impracticability Waiver recognized that reaching the ACLs as well as the remedial goals for site contaminant levels was infeasible; therefore there are no action levels at the site. Therefore, contaminants were left onsite above typical standards (e.g. MCLs, etc.) and a review is necessary to ensure that the remedy involving groundwater monitoring and maintenance of engineering and institutional controls is protective of human health and the environment.

II. Site Chronology

Important site events and the relevant dates are summarized in the following table. It is important to note that this table is not necessarily comprehensive of all site events.

Table 1: Chronology of Site Events

Event	Date
RCRA closure of site impoundments	1984
Initial discovery of the problem (EPA site assessment)	1989
Pre-NPL responses (removal actions)	1990, 1991
NPL listing	1992
RI/FS complete	1992
ROD signature	1993
USACE Phase I SCAPS investigation	1997
USACE Phase II and GW modeling study	1998
Amended ROD	September 2001
First Year GW Monitoring	January & November 2004
Second Year GW Monitoring	April 2005
Third Year GW Monitoring	May 2006
First Five-Year Review	September 2006

III. Background

The site is a 41-acre property located ¾ mile south of El Dorado in Union County, Arkansas. South West Avenue (also Southfield Road), the Ouachita Railroad, Bayou de Loutre, and a forested highland area border the site. Although the area is rural residential/commercial, no homes are located along the site perimeter. There is no proposed future use of the subject site at the time of this review. Previous site uses include oil field and storage operations, and wood preservation operations. The first wood treatment facility (El Dorado Creosote Company) began operations at the site in 1947. Property ownership was transferred to El Dorado Pole and Piling Company in 1958. It was during these wood treatment operations that surface impoundments were constructed to store process wastewater and sludge. Over time, a sludge pit and additional process impoundments were added. In the 1970's surface pits were used for part of the plant's waste treatment processes. Wood treatment operations at the site stopped in July 1982. In September of 1982, Popile Inc. purchased 7.5 acres of the site, including the surface impoundments (El Ark Industries purchased the remaining 34 acres). The impoundments and pits were closed under the Resource Conservation and Recovery Act (RCRA) in 1984.

In 1989, the EPA conducted a site assessment and determined that contamination from pentachlorophenol (PCP) and creosote compounds had leaked from the impoundments. The contaminated media included surface and subsurface soils, groundwater, surface water, and sediments. The EPA conducted a Removal Action in 1990 and 1991 to address the releases from the impoundments; this consisted of excavation of sludge and contaminated soils from the impoundment areas. The excavated material was stabilized using rice hulls and fly ash, and disposed of onsite in two clay-lined holding cells. The excavated areas were backfilled with clean soil, and drainage ditches and other erosion controls were constructed. Approximately 500,000 gallons of contaminated water was pumped from trenches, treated, and discharged into adjacent Bayou de Loutre.

Following the removal action, exposure to groundwater contamination was the primary health threat for the site.

IV. Remedial Actions

The EPA proposed the site for the National Priorities List (NPL) in February 1992, and the site was listed in October 1992. Following the Remedial Investigation/Feasibility Study (RI/FS) conducted in 1992, the EPA issued a ROD in 1993. The 1993 ROD specified the in-situ treatment of contaminated groundwater, extraction and offsite disposal of free phase PCP and creosote, and "onsite biological land treatment" of contaminated soil and sludge. However, the EPA concluded that the 1992 RI/FS did not adequately characterize subsurface conditions in order to implement the ROD. Therefore, a more detailed site investigation was conducted by the USACE under contract to the EPA.

The USACE investigation included two components, a Phase I Site Characterization and Analysis Penetrometer System (SCAPS), completed in 1997, and a Phase II Groundwater Investigation and Modeling investigation, completed in 1998. The SCAPS investigation evaluated in-situ geophysical soil properties while detecting contamination with laser-induced fluorescence (LIF) technology. The Phase II investigation defined the shallow subsurface geology and hydrology by extensive boring, monitor wells and sampling of the monitor wells.

The results of the Phase I (SCAPS) and Phase II investigations indicated that the majority of PCP and polycyclic aromatic hydrocarbon (PAH) contamination is contained within the outlines of the old impoundments, within the upper 30 feet of the shallow aquifer. Because of its higher than PAH water solubility, PCP was the only contaminant of concern (COC) with a spatially distributed contamination plume; concentrations of the other COCs (PAHs) dropped off sharply away from the contamination source (due to low solubilities). Based on the PCP plume, dissolved phase groundwater contamination is limited to 160 feet from the contamination source (process impoundments). The modeling investigation indicates that the PCP plume has remained more or less immobile over the past 40 years, and based on biodegradation from aerobic (and possibly anaerobic) organisms and adsorption to natural carbon in the shallow aquifer, the plume is likely to remain static for the next 50 years. Figures illustrating the modeling study results are included in Appendix A.

Based on the results of these investigations, the EPA developed an Amended ROD in September 2001. The 1993 ROD had called for control of the shallow groundwater contaminants to reduce or eliminate the threat of impacting the deeper drinking water aquifer and discharge of the shallow groundwater contaminant plume into the Bayou de Lotoure located in the downgradient direction. The 1993 ROD recommended a pump and treat system to restore the shallow aquifer to potential future beneficial use. The site investigation between 1997 and 1999 indicted that the contaminant plume was static and the contaminants of concern were absent in the immediate downgradient direction of the contaminant plume. Groundwater modeling of the shallow aquifer indicated the contamination plume is static (and unlikely to impact the deeper aquifer or move towards Bayou de Lotoure). The EPA determined that groundwater monitoring for the contaminants of concern and the implementation of engineering and institutional controls is adequate for the protection of public health.

Currently, the first three years of the five-year groundwater monitoring and engineering maintenance program have been implemented (conducted in 2004, 2005, and 2006). The results from the groundwater monitoring have supported the modeling study, indicating that the contamination plume is stable and not migrating offsite. In addition, groundwater monitoring included evaluation of natural attenuation at the site; the results indicate biodegradation of the contaminants is taking place. The engineering controls (fencing, erosion controls, etc.) have been maintained to ensure protection of public health; site repairs have been necessary on two occasions. To date, only the institutional controls involving land use restrictions have not been implemented. The costs of site maintenance (groundwater monitoring and engineering maintenance) are summarized below.

Table 2: Annual System Operations/O&M Costs

Dates		Total Cost rounded to nearest $1,000
From	To	
January 2004	December 2004	$138,000.00
January 2005	December 2005	$45,000.00
January 2006	September 2006	$44,000.00

V. Progress Since the Last Review

This is the first five-year review.

VI. Five-Year Review Process

The five-year review process is described in the following paragraphs.

Administrative Components
At the start of the five-year review, potentially interested parties were notified. These included the Arkansas Department of Environmental Quality (ADEQ) and the USACE, as well as various offices of the EPA. The schedule for the five-year review was from August 2006 to September 15, 2006.

Community Notification and Involvement
There are no community groups interested in activity associated with this site; therefore, no groups were notified. However, during the interview process, the Mayor of El Dorado as well as representatives from the facility neighboring the site were notified of the review and interviewed for their opinions.

Document Review
Various documents were reviewed during the five-year review. The documents reviewed are listed in Appendix E. These included the Amended ROD, the Technical Impracticability Waiver, the 1998 Phase II Groundwater Investigation and Modeling study (Morrison Knudsen), the 1999 Groundwater Model Study of Natural Attenuation (Morrison Knudsen) and the Groundwater Monitoring and

Site Inspection/Repair Reports for the completed three years of monitoring and maintenance. Remedial action objectives and discussions regarding action levels and alternate concentration limits (ACLs) were identified from the Amended ROD and Technical Impracticability Waiver.

<u>Data Review</u>
The data reviewed were the results from the three years of groundwater monitoring, conducted in January 2004, November 2004, April 2005, and May 2006. The results from these sampling events are summarized below.

January 2004
A series of 11 monitoring wells were sampled for analysis of the contaminants of concern. These included wells upgradient of the contamination plume, wells within the source area, and wells downgradient of the plume (or sentry wells). In addition wells were sampled to assess whether the soil holding cells were impacting groundwater. The results indicated J-flagged data only (no contaminants were detected above the reporting limit, only the concentrations were estimated between the method detection limit (MDL) and reporting limit) in the upgradient well sampled. These included two SVOCs (phthalates), phenol, and naphthalene. PCP was not detected. The monitoring wells sampled within the dissolved phase plume indicated the presence of various PAHs and phenols, including naphthalene and PCP. Phase product was also observed in two of these wells. Phenol and trichlorophenol were also detected and/or estimated (J-data) in these monitoring wells. The downgradient monitoring wells sampled indicated low levels of PAHs and phenols (including phenol) (mostly J-flagged data). PCP was not detected in these wells. The monitoring wells sampled associated with the soil holding cells indicated low levels of PAHs and phenols, mostly J-flagged data. PCP and naphthalene were not detected in these monitoring wells.

Additionally, natural attenuation parameters were evaluated. The results suggest that biodegradation is taking place, especially within the plume area. The results of the following parameters suggest evidence of natural attenuation: dissolved oxygen, oxidation-reduction potential, nitrate, nitrite, sulfate, sulfide, carbon dioxide, dissolved hydrogen, methane, total organic carbon, and chloride.

November 2004
A series of 15 monitoring wells were sampled during this event, also including upgradient, source, downgradient/sentry, and soil cell wells. The results from the upgradient wells indicated various PAHs (about 50 percent J-flagged data). PCP was not detected; naphthalene was detected in one location. The monitoring wells sampled within the contamination plume indicated the presence of PAHs, with phenols present at much lower levels (these concentrations were mostly J-flagged). Naphthalene was present at much higher concentrations than PCP. In addition, PCP was not detected in all of the wells. These samples were all diluted due to high concentrations of target analytes; therefore, the reporting

limits were elevated. The phase product present in two of the monitoring wells was also characterized. The downgradient monitoring wells sampled indicated low level PAHs and phenols (mostly J-flagged data). Two of the samples required dilution. The highest concentrations were in the diluted samples. PCP was not detected in any of these monitoring wells. The monitoring wells associated with the soil holding cells contained low levels of PAHs (mostly J-flagged data). Naphthalene was detected in one location only (although not above the reporting limit – at a J-flagged concentration). PCP was not detected in these monitoring wells.

Additionally, natural attenuation parameters were evaluated. The results suggest that biodegradation is taking place, especially within the plume area. The results of the following parameters suggest evidence of natural attenuation: dissolved oxygen, oxidation-reduction potential, nitrate, ferric iron, ferrous iron, sulfate, sulfide, carbon dioxide, dissolved hydrogen, methane, total organic carbon, and chloride.

April 2005

Fifteen monitoring wells were sampled to represent the upgradient, source, downgradient, and soil cell conditions. The upgradient monitoring wells sampled indicated J-flagged data only. The J-flagged data included various PAHs (including naphthalene). PCP was not detected. The monitoring wells sampled within the dissolved phase plume indicated the presence of various PAHs and phenols, including naphthalene and PCP. These samples were again diluted due to high concentrations of target analytes, resulting in elevated reporting limits. While naphthalene was detected in all three monitoring wells, PCP was only detected in two locations. Naphthalene concentrations were much higher than PCP concentrations. In addition, 2,4-dimethylphenol, 2-methylphenol, 4-methylphenol, and phenol were detected and/or estimated (J-data) in two locations. The downgradient monitoring wells sampled indicated low levels of PAHs, SVOCs (phthalates and benzyl alcohol), and phenols (including 2,4-dimethylphenol and 2-methylphenol) (mostly J-flagged data). Two of the samples were diluted, resulting in elevated reporting limits. PCP was not detected in any of these wells. The monitoring wells sampled associated with the soil holding cells indicated low levels of PAHs and other SVOCs (no phenols), all J-flagged data. PCP was not detected in these monitoring wells. Naphthalene was detected at J-flagged (estimated) concentrations below the reporting limit.

Additionally, natural attenuation parameters were evaluated. The results suggest that biodegradation is taking place, especially within the plume area. The results of the following parameters suggest evidence of natural attenuation: dissolved oxygen, oxidation-reduction potential, sulfate, carbon dioxide, total alkalinity, dissolved hydrogen, methane, total organic carbon, and chloride.

May 2006

The analytical results from the first two years of groundwater monitoring indicated that COC concentrations were static and/or declining in the upgradient and source area monitoring wells. Therefore, the third year of sampling focused on the downgradient/sentry wells and the soil holding cell wells. Eleven monitoring wells were sampled in these areas. The downgradient monitoring wells sampled indicated low levels of PAHs, SVOCs (phthalates and benzyl alcohol), and phenols (including 2,4-dimethylphenol and 2-methylphenol) (mostly J-flagged data for all contaminants). Two of the samples were diluted for analysis, resulting in elevated reporting limits (these sample locations required dilution in previous years as well). Only di-n-butyl phthalate, 2,4-dimethylphenol, and naphthalene were detected above the reporting limit. PCP was not detected or estimated to be present in any of these wells. The monitoring wells sampled associated with the soil holding cells indicated low levels of PAHs and other SVOCs (no phenols), mostly J-flagged data (a few PAHs were detected just above the reporting limits). PCP and naphthalene were not detected in these monitoring wells.

Additionally, natural attenuation parameters were evaluated. The results suggest that biodegradation is taking place at the site. The results of the following parameters suggest evidence of natural attenuation: dissolved oxygen, oxidation-reduction potential, sulfate, sulfide, dissolved hydrogen, methane, total organic carbon, and chloride.

The analytical results from these four sampling events are summarized in Tables 3, 4, 5, and 6. In addition, Table 7 summarizes the changes in COC concentrations from the previous Phase II investigation and over the course of the three years of groundwater monitoring. Based on the results, no changes to the remaining two years of monitoring are recommended.

Table 3: Summary of January 2004 Sampling Event Results

Parameter	Analysis Results (ug/L)															
	Upgradient	Source				Downgradient								Soil Cells		
	MW-24	**MW-33**	**MW-41**	**MW-41a**	**MW-41QA**	**MW-04**	**MW-28**	**MW-37**	**MW-37a**	**MW-37QA**	**MW-27**	**MW-27EB**	**MW-40**	**MW-10**	**MW-12**	**PZ-09**
Well Depth (ft)	**31.4**	**34.1**	**32.64**	**32.64**	**32.64**	**16**	**36.56**	**31.55**	**31.55**	**31.55**	**29.82**	**29.82**	**31.95**	**19.19**	**18.4**	**13.4**
Screened Interval (ft)	**20-30**	**23-33**	**20-30**	**20-30**	**20-30**	**5-15**	**25-35**	**20-30**	**20-30**	**20-30**	**23-28**	**23-28**	**20-30**	**7-17**	**7-17**	**12.5-15**
Acenaphthene	<5.0	93J	370	320	360	6.8	0.068J	<5.0	<5.0	<10	0.36J	<5.0	<10	<5.0	<5.0	<5.0
Acenaphthylene	<5.0	<100	<200	<200	8.5J	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Anthracene	<5.0	<100	59J	44J	32	<5.0	0.056J	<5.0	<5.0	<10	0.12J	<5.0	<10	<5.0	0.081J	0.09J
Benzo (a) Anthracene	<0.09	<18	40	25J	10	<0.9	<0.09	<0.09	<0.09	<10	0.085J	<0.36	<1.8	<0.09	<0.09	<0.09
Benzo (a) Pyrene	<0.09	<18	<36	<36	2.9J	<0.9	<0.090	<0.09	<0.09	<10	<0.09	<0.36	<1.8	<0.09	<0.09	<0.09
Benzo (b) Fluroanthene	<0.09	<18	<36	<36	4.3J	<0.9	<0.090	<0.09	<0.09	<10	<0.09	<0.36	<1.8	<0.09	<0.09	<0.09
Benzo (k) Fluroanthene	<0.9	<100	<200	<200	2.4J	<5.0	<0.9	<0.9	<0.9	<10	<0.9	<2.0	<10	<0.9	<0.9	<0.9
Benzo (g,h,i,)Perylene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Benzoic Acid	<50	<100	<200	<200	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0.22J	<50
Benzyl Alcohol	<50	<100	<200	<200	<10	<50	<50	<50	<50	<10	<50	<50	<50	<50	0.10J	<50
Bis (2-Chloroethoxy)-Methane	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Bis (2-Chloroethyl)-Ether	<0.13	<26	<52	<52	<10	<1.3	<0.13	<0.13	<0.13	<10	<0.13	<0.52	<2.6	<0.13	<0.13	<0.13
Bis (2-Chloroisopropyl)-Ether	<1.0	<100	<200	<200	<10	<5.0	<1.0	<1.0	<1.0	<10	<1.0	<2.0	<10	<1.0	<1.0	<1.0
Bis (2-ethylhexyl)-Phthalate	1.0J	<100	<200	<200	<10	<5.0	0.54J	0.38J	0.79J	1.1J	0.89J	78	<10	0.88J	4.9	0.78J
4-Bromophenyl Phenylether	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Butyl Benzyl Phthalate	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
4-Chloro-3-Methylphenol	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
4-Chloroaniline	<20	<100	<200	<200	<10	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20
2-Chloronaphthalene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
2-Chlorophenol	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
4-Chlorophenylphenyl-Ether	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Chrysene	<5.0	<100	35J	20J	8.7J	<5.0	<5.0	<5.0	<5.0	<10	0.06J	<5.0	<10	<5.0	<5.0	<5.0
Di-n-Butylphthalate	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	1.9J	<5.0
Di-n-Octylphthalate	<5.0	<100	<200	<200	<10	<5.0	0.082J	0.13J	<5.0	<10	<5.0	<5.0	<10	0.29J	<5.0	<5.0
Dibenzo (a,h) Anthracene	<0.09	<18	<36	<36	<10	<0.9	<0.09	<0.09	<0.09	<10	<0.09	<0.36	<1.8	<0.09	<0.09	<0.09
Dibenzofuran	<5.0	40J	250	230	200	3.0J	0.065J	<5.0	<5.0	<10	0.21J	<5.0	<10	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
3,3'-Dichlorobenzidine	<1.0	<100	<200	<200	<50	<5.0	<1.0	<1.0	<1.0	<50	<1.0	<2.0	<10	<1.0	<1.0	<1.0
2,4-Dichlorophenol	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Diethylphthalate	0.074J	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	0.047J	<5.0	<10	0.06J	0.29J	0.19J

Parameter	Analysis Results (ug/L)															
	Upgradient	**Source**				**Downgradient**								**Soil Cells**		
	MW-24	**MW-33**	**MW-41**	**MW-41a**	**MW-41QA**	**MW-04**	**MW-28**	**MW-37**	**MW-37a**	**MW-37QA**	**MW-27**	**MW-27EB**	**MW-40**	**MW-10**	**MW-12**	**PZ-09**
Well Depth (ft)	**31.4**	**34.1**	**32.64**	**32.64**	**32.64**	**16**	**36.56**	**31.55**	**31.55**	**31.55**	**29.82**	**29.82**	**31.95**	**19.19**	**18.4**	**13.4**
Screened Interval (ft)	**20-30**	**23-33**	**20-30**	**20-30**	**20-30**	**5-15**	**25-35**	**20-30**	**20-30**	**20-30**	**23-28**	**23-28**	**20-30**	**7-17**	**7-17**	**12.5-15**
Dimethylphthalate	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
2,4-Dimethylphenol	<5.0	1600	1700	1800	1200	<5.0	<5.0	<5.0	<5.0	<10	0.36J	<5.0	290	<5.0	<5.0	<5.0
4,6-Dinitro-2-Methylphenol	<20	<100	<200	<200	<50	<20	<20	<20	<20	<50	<20	<20	<20	<20	<20	<20
2,4-Dinitrophenol	<20	<100	<200	<200	<50	<20	<20	<20	<20	<50	<20	<20	<20	<20	<20	<20
2,4-Dinitrotoluene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
2,6-Dinitrotoluene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Fluoranthene	<5.0	<100	310	210	84	<5.0	0.084J	<5.0	<5.0	<10	0.46J	<5.0	<10	<5.0	0.061J	0.076J
Fluorene	<5.0	38J	290	240	190	3.0J	0.056J	<5.0	<5.0	<10	0.27J	<5.0	<10	<5.0	<5.0	0.044J
Hexachlorobenzene	<0.1	<20	<40	<40	<10	<1.0	<0.1	<0.1	<0.1	<10	<0.1	<2.0	<2.0	<0.1	<0.1	<0.1
Hexachlorobutadiene	<0.8	<100	<200	<200	<10	<5.0	<0.8	<0.8	<0.8	<10	<0.8	<2.0	<10	<0.8	<0.8	<0.8
Hexachlorocyclopentadiene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Hexachloroethane	<4.0	<100	<200	<200	<10	<5.0	<4.0	<4.0	<4.0	<10	<4.0	<4.0	<10	<4.0	<4.0	<4.0
Indeno (1,2,3-cd) Pyrene	<0.09	<18	<36	<36	<10	<0.9	<0.09	<0.09	<0.09	<10	<0.09	<0.36	<1.8	<0.09	<0.09	<0.09
Isophorone	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
2-Methylnaphthalene	<5.0	240	480	400	410	9	<5.0	<5.0	<5.0	<10	0.7J	<5.0	<10	<5.0	<5.0	<5.0
2-Methylphenol	<5.0	61J	450	470	670	<5.0	<5.0	<5.0	<5.0	<10	0.042J	<5.0	56	<5.0	<5.0	<5.0
4-Methylphenol	<5.0	95J	620	620	840	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	0.08J	<5.0
N-Nitrosodi-n-Propylamine	<1.0	<100	<200	<200	<10	<5.0	<1.0	<1.0	<1.0	<10	<1.0	<2.0	<10	<1.0	<1.0	<1.0
N-Nitroso-di-Phenylamine	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
Naphthalene	0.088J	4400	5800	5900	4800	160	0.069J	<5.0	<5.0	3.7J	15	<5.0	2.0J	<5.0	<5.0	<5.0
2-Nitroaniline	<1.0	<100	<200	<200	<10	<5.0	<1.0	<1.0	<1.0	<10	<1.0	<2.0	<10	<1.0	<1.0	<1.0
3-Nitroaniline	<20	<100	<200	<200	<10	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20
4-Nitroaniline	<20	<100	<200	<200	<10	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20
Nitrobenzene	<3.0	<100	<200	<200	<10	<5.0	<3.0	<3.0	<3.0	<10	<3.0	<3.0	<10	<3.0	<3.0	<3.0
2-Nitrophenol	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
4-Nitrophenol	<20	<100	<200	<200	<50	<20	<20	<20	<20	<50	<20	<20	<20	<20	<20	<20
Pentachlorophenol	<0.5	<100	38J	37J	200	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<2.0	<10	<0.5	<0.50	<0.5
Phenanthrene	<5.0	14J	820	560	340	1.1J	<5.0	<5.0	<5.0	<10	0.96J	<5.0	<10	<5.0	0.21J	<5.0
Phenol	0.053J	7.5J	48J	46J	190	<5.0	0.036J	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	0.24J	<5.0
Pyrene	<5.0	<100	160J	110J	49	<5.0	0.051J	<5.0	<5.0	<10	0.27J	<5.0	<10	<5.0	<5.0	0.065J
1,2,4-Trichlorobenzene	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0
2,4,5-Trichlorophenol	<50	<100	<200	<200	12J	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2,4,6-Trichlorophenol	<5.0	<100	<200	<200	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0

J = estimated concentration (between MDL and reporting limit)

< = less than specified reporting limit

Table 4: Summary of November 2004 Sampling Event Results

Parameter	Analysis Result (ug/l)																							
	Upgradient		Source						Downgradient													Soil Cells		
	MW-08	MW-24	MW-31	MW-31 prod	MW-33	MW-41	MW-42	MW-42 prod	MW-04	MW-05	MW-27	MW-27 QA	MW-27 EB	MW-28	MW-37	MW-37a	MW-39	MW-40	MW-40a	MW-40 QA	MW-PZ02	PZ-09	MW-10	MW-12
Well Depth (ft)	**16.21**	**31.4**	**34.36**	**34.36**	**34.1**	**32.64**	**32.62**	**32.62**	**16**	**25.83**	**29.82**	**29.82**	**28.82**	**36.56**	**31.55**	**31.55**	**32.09**	**31.95**	**31.95**	**31.95**	**32.85**	**13.4**	**19.19**	**18.4**
Screened Interval (ft)	**9-14**	**20-30**	**29.5-32**	**29.5-32**	**23-33**	**20-30**	**22-32**	**22-32**	**5-15**	**14-24**	**23-28**	**23-28**	**23-28**	**25-35**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**22-32**	**12.5-15**	**7-17**	**7-17**
Acenaphthene	0.042	<5.0	390000	24000	85J	200	1400000	28000	2.4J	<5.0	0.069J	<10	<5.0	0.059J	<5.0	<5.0	<5.0	<24	<24	<10	5.2J	0.056J	<5.0	0.055J
Acenaphthylene	<5.0	<5.0	1100	<1300	<99	<95	3500	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Anthracene	0.13	<5.0	100000	6900	<99	15J	370000	6600	<5.0	<5.0	0.11J	<10	<5.0	0.059J	<5.0	<5.0	<5.0	<24	<24	<10	<19	0.25J	<5.0	0.25J
Benzo (a) Anthracene	<0.09	<0.09	86000	3600	<99	<95	270000	3600	<1.0	<0.09	0.051J	<10	<0.09	<0.09	<0.09	<0.09	<0.09	<24	<24	<10	<19	<0.09	<0.09	<0.09
Benzo (a) Pyrene	<0.09	<0.09	21000	1300	<99	<95	67000	1300	<1.0	<0.09	<0.09	<10	<0.09	<0.09	<0.09	<0.09	<0.09	<24	<24	<10	<19	<0.09	<0.09	<0.09
Benzo (b) Fluroanthene	<0.09	<0.09	32000	1600	<99	<95	79000	1600	<1.0	<0.09	<0.09	<10	<0.09	<0.09	<0.09	<0.09	<0.09	<24	<24	<10	<19	<0.09	<0.09	<0.09
Benzo (k) Fluroanthene	<0.9	<0.9	13000	<1300	<99	<95	66000	<1300	<1.0	<0.9	<0.9	<10	<0.9	<0.9	<0.9	<0.9	<0.9	<24	<24	<10	<19	<0.9	<0.9	<0.9
Benzo (g,h,i,)Perylene	<5.0	<5.0	3800	<1300	<99	<95	12000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Benzoic Acid	0.13	<50	<29000	<1300	<99	<95	<95000	<1300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0.12J
Benzyl Alcohol	<50	<50	<29000	<1300	<99	<95	<95000	<1300	<50	<50	<50	<10	<50	<50	<50	<50	<50	<50	<50	<10	<50	<50	<50	<50
Bis (2-Chloroethoxy)-Methane	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Bis (2-Chloroethyl)-Ether	<0.13	<0.13	<29000	<1300	<99	<95	<95000	<1300	<1.0	<0.13	<0.13	<10	<0.13	<0.13	<0.13	<0.13	<0.13	<24	<24	<10	<19	<0.13	<0.13	<0.13
Bis (2-Chloroisopropyl)-Ether	<1.0	<1.0	<29000	<1300	<99	<95	<95000	<1300	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<24	<24	<10	<19	<1.0	<1.0	<1.0
Bis (2-ethylhexyl)-Phthalate	4.6	0.40J	<29000	<1300	<99	<95	<95000	<1300	<4.0	0.23	11	<10	0.78J	0.24J	0.42J	0.31J	0.55J	<24	<24	<10	<19	0.31J	0.31J	7.6
4-Bromophenyl Phenylether	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Butyl Benzyl Phthalate	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	0.27J	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	0.39J
4-Chloro-3-Methylphenol	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
4-Chloroaniline	<20	<20	<29000	<1300	<99	<95	<95000	<1300	<20	<20	<20	<10	<20	<20	<20	<20	<20	<24	<24	<10	<20	<20	<20	<20
2-Chloronaphthalene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
2-Chlorophenol	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
4-Chlorophenylphenyl-Ether	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Chrysene	0.037	<5.0	70000	3900	<99	95	220000	3800	<5.0	<5.0	0.049J	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Di-n-Butylphthalate	<5.0	4.3J	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	9.7	<10	7.8	<5.0	6.1	8.1	6.0	<24	<24	<10	<19	<5.0	<5.0	4.3J
Di-n-Octylphthalate	0.086	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	0.091J
Dibenzo (a,h) Anthracene	<0.09	<0.09	<29000	<1300	<99	<95	<95000	<1300	<1.0	<0.09	<0.09	<10	<0.09	<0.09	<0.09	<0.09	<0.09	<24	<24	<10	<19	<0.09	<0.09	<0.09
Dibenzofuran	0.053	<5.0	280000	15000	41J	130	1100000	18000	1.1J	<5.0	0.11J	<10	<5.0	0.056J	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<29000	<1300	<99	<95	<95000	<1300	<1.0	<1.0	<1.0	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<24	<24	<50	<19	<1.0	<1.0	<1.0
2,4-Dichlorophenol	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Diethylphthalate	0.14	0.081J	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Dimethylphthalate	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
2,4-Dimethylphenol	<5.0	<5.0	<29000	<1300	1200	1800	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	390	390	180	290	<5.0	<5.0	0.093J
4,6-Dinitro-2-Methylphenol	<20	<20	<29000	<1300	<99	<95	<95000	<1300	<20	<20	<20	<50	<20	<20	<20	<20	<20	<24	<24	<50	<20	<20	<20	<20
2,4-Dinitrophenol	<20	<20	<29000	<1300	<99	<95	<95000	<1300	<20	<20	<20	<50	<20	<20	<20	<20	<20	<24	<24	<50	<20	<20	<20	<20
2,4-Dinitrotoluene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
2,6-Dinitrotoluene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Fluoranthene	0.33	0.029J	530000	26000	<99	18J	1600000	24000	<5.0	<5.0	0.36J	<10	<5.0	0.073J	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Fluorene	0.13	<5.0	330000	19000	33J	100	1200000	22000	0.97J	<5.0	0.13J	<10	<5.0	0.045J	<5.0	<5.0	<5.0	<24	<24	<10	<19	0.09J	<5.0	0.053J
Hexachlorobenzene	<0.10	<0.10	<29000	<1300	<99	<95	<95000	<1300	<1.0	<0.10	<0.10	<10	<0.10	<0.10	<0.10	<0.10	<0.10	<24	<24	<10	<19	<0.10	<0.10	<0.10
Hexachlorobutadiene	<0.80	<0.80	<29000	<1300	<99	<95	<95000	<1300	<1.0	<0.80	<0.80	<10	<0.80	<0.80	<0.80	<0.80	<0.80	<24	<24	<10	<19	<0.80	<0.80	<0.80

Parameter	Analysis Result (ug/l)																							
	Upgradient		Source						Downgradient													Soil Cells		
	MW-08	MW-24	MW-31	MW-31 prod	MW-33	MW-41	MW-42	MW-42 prod	MW-04	MW-05	MW-27	MW-27 QA	MW-27 EB	MW-28	MW-37	MW-37a	MW-39	MW-40	MW-40a	MW-40 QA	MW-PZ02	PZ-09	MW-10	MW-12
Well Depth (ft)	**16.21**	**31.4**	**34.36**	**34.36**	**34.1**	**32.64**	**32.62**	**32.62**	**16**	**25.83**	**29.82**	**29.82**	**28.82**	**36.56**	**31.55**	**31.55**	**32.09**	**31.95**	**31.95**	**31.95**	**32.85**	**13.4**	**19.19**	**18.4**
Screened Interval (ft)	**9-14**	**20-30**	**29.5-32**	**29.5-32**	**23-33**	**20-30**	**22-32**	**22-32**	**5-15**	**14-24**	**23-28**	**23-28**	**23-28**	**25-35**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**22-32**	**12.5-15**	**7-17**	**7-17**
Hexachlorocyclopentadiene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Hexachloroethane	<4.0	<4.0	<29000	<1300	<99	<95	<95000	<1300	<4.0	<4.0	<4.0	<10	<4.0	<4.0	<4.0	<4.0	<4.0	<24	<24	<10	<19	<4.0	<4.0	<4.0
Indeno (1,2,3-cd) Pyrene	<0.09	<0.09	5100	<1300	<99	<95	13000	<1300	<1.0	<0.09	<0.09	<10	<0.09	<0.09	<0.09	<0.09	<0.09	<24	<24	<10	<19	<0.09	<0.09	<0.09
Isophorone	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
2-Methylnaphthalene	<5.0	<5.0	320000	14000	200	270	1500000	24000	0.37J	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	14J	<5.0	<5.0	0.053J
2-Methylphenol	<5.0	<5.0	<29000	<1300	48J	590	<95000	<1300	<5.0	<5.0	0.085J	<10	<5.0	<5.0	<5.0	<5.0	<5.0	70	77	56	<19	<5.0	<5.0	<5.0
4-Methylphenol	<5.0	<5.0	<29000	<1300	74J	550	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	0.23J
N-Nitrosodi-n-Propylamine	<1.0	<1.0	<29000	<1300	<99	<95	<95000	<1300	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<24	<24	<10	<19	<1.0	<1.0	<1.0
N-Nitroso-di-Phenylamine	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Naphthalene	0.21	<5.0	1400000	70000	3400	4700	5100000	86000	28	0.13	0.12J	<10	<5.0	0.075J	<5.0	<5.0	<5.0	<24	1.9J	<10	700	<5.0	<5.0	0.53J
2-Nitroaniline	<1.0	<1.0	<29000	<1300	<99	<95	<95000	<1300	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<24	<24	<10	<19	<1.0	<1.0	<1.0
3-Nitroaniline	<20	<20	<29000	<1300	<99	<95	<95000	<1300	<20	<20	<20	<10	<20	<20	<20	<20	<20	<24	<24	<10	<20	<20	<20	<20
4-Nitroaniline	<20	<20	<29000	<1300	<99	<95	<95000	<1300	<20	<20	<20	<10	<20	<20	<20	<20	<20	<24	<24	<10	<20	<20	<20	<20
Nitrobenzene	<3.0	<3.0	<29000	<1300	<99	<95	<95000	<1300	<3.0	<3.0	<3.0	<10	<3.0	<3.0	<3.0	<3.0	<3.0	<24	<24	<10	<19	<3.0	<3.0	<3.0
2-Nitrophenol	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
4-Nitrophenol	<20	<20	<29000	<1300	<99	<95	<95000	<1300	<20	<20	<20	<50	<20	<20	<20	<20	<20	<24	<24	<50	<20	<20	<20	<20
Pentachlorophenol	<0.50	<0.50	11000	<1300	<99	24J	37000	<1300	<1.0	<0.50	<0.50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<24	<24	<50	<19	<0.50	<0.50	<0.50
Phenanthrene	0.76	<5.0	1200000	56000	14J	150	3700000	54000	0.40J	<5.0	0.78J	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	0.06J
Phenol	<5.0	<5.0	<29000	<1300	<99	27J	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
Pyrene	0.23	<5.0	340000	19000	<99	11J	1100000	18000	<5.0	<5.0	0.31J	<10	<5.0	0.059J	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0
2,4,5-Trichlorophenol	<50	<50	<29000	<1300	<99	<95	<95000	<1300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<24	<24	<50	<50	<50	<50	<50
2,4,6-Trichlorophenol	<5.0	<5.0	<29000	<1300	<99	<95	<95000	<1300	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<24	<24	<10	<19	<5.0	<5.0	<5.0

J = estimated concentration (between MDL and reporting limit)

< = less than specified reporting limit

Table 5: Summary of April 2005 Sampling Event Results

Parameter	Analysis Result (ug/l)																				
	Upgradient		Source			Downgradient													Soil Cells		
	MW-08	MW-24	MW-31	MW-33	MW-41	MW-05	MW-27	MW-27 QA	MW-28	MW-37	MW-37a	MW-39	MW-40	MW-40a	MW-40 QA	MW-PZ02	MW-PZ02 a	MW-PZ02 EB	PZ-09	MW-10	MW-12
Well Depth (ft)	**16.21**	**31.4**	**34.36**	**34.1**	**32.64**	**25.83**	**29.82**	**29.82**	**36.56**	**31.55**	**31.55**	**32.09**	**31.95**	**31.95**	**31.95**	**32.85**	**32.85**	**32.85**	**13.4**	**19.19**	**18.4**
Screened Interval (ft)	**9-14**	**20-30**	**29.5-32**	**23-33**	**20-30**	**14-24**	**23-28**	**23-28**	**25-35**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**22-32**	**22-32**	**22-32**	**12.5-15**	**7-17**	**7-17**
Acenaphthene	0.59J	0.65J	110000	280	190	0.51J	0.56J	<9.8	0.54J	0.50J	0.50J	0.50J	<10	<10	<9.8	35	56	0.94J	0.66J	0.52J	0.59J
Acenaphthylene	<5.0	<5.0	3400J	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	0.02J	<5.0	0.017J
Anthracene	0.093 J	0.15J	32000	<250	9.4J	0.041J	0.13J	<9.8	0.066J	0.03J	0.024J	0.19J	<10	<10	<9.8	<25	<48	0.12J	0.27J	0.039J	0.40J
Benzo (a) Anthracene	<0.09	<0.09	29000	<45	<18	<0.09	<0.09	<9.8	<0.09	<0.09	<0.09	<0.09	<1.8	<1.8	<9.8	<4.5	<9.0	<0.09	<0.09	<0.09	<0.09
Benzo (a) Pyrene	<0.09	<0.09	8300	<45	<18	<0.09	<0.09	<9.8	<0.09	<0.09	<0.09	<0.09	<1.8	<1.8	<9.8	<4.5	<9.0	<0.09	<0.09	<0.09	<0.09
Benzo (b) Fluroanthene	<0.09	<0.09	8800	<45	<18	<0.09	<0.09	<9.8	<0.09	<0.09	<0.09	<0.09	<1.8	<1.8	<9.8	<4.5	<9.0	<0.09	<0.09	<0.09	<0.09
Benzo (k) Fluroanthene	<0.9	<0.9	8300J	<250	<96	<0.9	<0.9	<9.8	<0.9	<0.9	<0.9	<0.9	<10	<10	<9.8	<4.5	<48	<0.9	<0.9	<0.9	<0.9
Benzo (g,h,i,)Perylene	<5.0	<5.0	1200J	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Benzoic Acid	<50	<50	<12000	<250	<96	<50	<50	<49	<50	<50	<50	<50	<50	<50	<49	<50	<50	<50	1.3J	<50	1.4J
Benzyl Alcohol	<50	<50	<12000	<250	<96	<50	<50	<9.8	<50	<50	<50	<50	<50	<50	18	<50	<50	<50	<50	<50	0.67J
Bis (2-Chloroethoxy)-Methane	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Bis (2-Chloroethyl)-Ether	<0.13	<0.13	<3300	<65	<26	<0.13	<0.13	<9.8	<0.13	<0.13	<0.13	<0.13	<10	<10	<9.8	<6.5	<13	<0.13	<0.13	<0.13	<0.13
Bis (2-Chloroisopropyl)-Ether	<1.0	<1.0	<12000	<250	<96	<1.0	<1.0	<9.8	<1.0	<1.0	<1.0	<1.0	<10	<10	<9.8	<25	<48	<1.0	<1.0	<1.0	<1.0
Bis (2-ethylhexyl)-Phthalate	<4.0	<4.0	<12000	<250	<96	<4.0	<4.0	<9.8	<4.0	2.3J	<4.0	<4.0	<10	<10	<9.8	<25	<48	<4.0	<4.0	<4.0	<4.0
4-Bromophenyl Phenylether	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Butyl Benzyl Phthalate	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
4-Chloro-3-Methylphenol	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
4-Chloroaniline	<20	<20	<12000	<250	<96	<20	<20	<9.8	<20	<20	<20	<20	<20	<20	<9.8	<25	<48	<20	<20	<20	<20
2-Chloronaphthalene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
2-Chlorophenol	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
4-Chlorophenylphenyl-Ether	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Chrysene	<5.0	<5.0	25000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Di-n-Butylphthalate	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	2.1J	<5.0	<5.0	1.1J	<10	<10	0.23JB	<25	<48	0.87J	4.0J	4.7J	<5.0
Di-n-Octylphthalate	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Dibenzo (a,h) Anthracene	<0.09	<0.09	<2300	<45	<18	<0.09	<0.09	<9.8	<0.09	<0.09	<0.09	<0.09	<1.8	<1.8	<9.8	<4.5	<9.0	<0.09	<0.09	<0.09	<0.09
Dibenzofuran	0.15J	0.21J	93000	48J	100	0.084J	0.16J	<9.8	0.14J	0.079J	0.066J	<5.0	<10	<10	<9.8	5.3J	5.2J	0.56J	0.21J	0.11J	0.17J
1,2-Dichlorobenzene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<12000	<250	<96	<1.0	<1.0	<49	<1.0	<1.0	<1.0	<1.0	<10	<10	<49	<5.0	<48	<1.0	<1.0	<1.0	<1.0
2,4-Dichlorophenol	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Diethylphthalate	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Dimethylphthalate	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
2,4-Dimethylphenol	<5.0	<5.0	<12000	1800	1900	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	370	330	290	260	330	<5.0	<5.0	<5.0	<5.0
4,6-Dinitro-2-Methylphenol	<20	<20	<12000	<250	<96	<20	<20	<49	<20	<20	<20	<20	<20	<20	<49	<25	<48	<20	<20	<20	<20
2,4-Dinitrophenol	<20	<20	<12000	<250	<96	<20	<20	<49	<20	<20	<20	<20	<20	<20	<49	<25	<48	<20	<20	<20	<20
2,4-Dinitrotoluene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
2,6-Dinitrotoluene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Fluoranthene	0.29J	0.57J	170000	<250	13J	0.14J	0.40J	0.31J	0.23J	0.15J	0.14J	0.15J	<10	<10	<9.8	<25	<48	0.34J	0.30J	0.27J	0.33J
Fluorene	0.21J	0.30J	100000	35J	76J	0.099J	0.22J	<9.8	0.14J	0.079J	0.074J	0.094J	<10	<10	<9.8	4.7J	5.1J	0.61J	0.33J	0.14J	0.30J
Hexachlorobenzene	<0.10	<0.10	<2500	<50	<20	<0.10	<0.10	<9.8	<0.10	<0.10	<0.10	<0.10	<2.0	<2.0	<9.8	<5.0	<10	<0.10	<0.10	<0.10	<0.10

Parameter	Analysis Result (ug/l)																				
	Upgradient		Source			Downgradient													Soil Cells		
	MW-08	MW-24	MW-31	MW-33	MW-41	MW-05	MW-27	MW-27 QA	MW-28	MW-37	MW-37a	MW-39	MW-40	MW-40a	MW-40 QA	MW-PZ02	MW-PZ02 a	MW-PZ02 EB	PZ-09	MW-10	MW-12
Well Depth (ft)	**16.21**	**31.4**	**34.36**	**34.1**	**32.64**	**25.83**	**29.82**	**29.82**	**36.56**	**31.55**	**31.55**	**32.09**	**31.95**	**31.95**	**31.95**	**32.85**	**32.85**	**32.85**	**13.4**	**19.19**	**18.4**
Screened Interval (ft)	**9-14**	**20-30**	**29.5-32**	**23-33**	**20-30**	**14-24**	**23-28**	**23-28**	**25-35**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**22-32**	**22-32**	**22-32**	**12.5-15**	**7-17**	**7-17**
Hexachlorobutadiene	<0.80	<0.80	<12000	<250	<96	<0.80	<0.80	<9.8	<0.80	<0.80	<0.80	<0.80	<10	<10	<9.8	<20	<48	<0.80	<0.80	<0.80	<0.80
Hexachlorocyclopentadiene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Hexachloroethane	<4.0	<4.0	<12000	<250	<96	<4.0	<4.0	<9.8	<4.0	<4.0	<4.0	<4.0	<10	<10	<9.8	<25	<48	<4.0	<4.0	<4.0	<4.0
Indeno (1,2,3-cd) Pyrene	<0.09	<0.09	7300	<45	<18	<0.09	<0.09	<9.8	<0.09	<0.09	<0.09	<0.09	<1.8	<1.8	<9.8	<4.5	<9.0	<0.09	<0.09	<0.09	<0.09
Isophorone	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	0.096 J	0.17J	110000	230J	220	0.072J	0.085 J	<9.8	0.077J	0.05J	0.048J	0.072J	<10	<10	<9.8	30	35J	0.44J	0.12J	0.076J	0.10J
2-Methylphenol	<5.0	<5.0	<12000	<250	430	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	36	33	42	<25	<48	<5.0	<5.0	<5.0	<5.0
4-Methylphenol	<5.0	<5.0	<12000	<250	450	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
N-Nitrosodi-n-Propylamine	<1.0	<1.0	<12000	<250	<96	<1.0	<1.0	<9.8	<1.0	<1.0	<1.0	<1.0	<10	<10	<9.8	<25	<48	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-Phenylamine	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Naphthalene	0.32J	0.39J	470000	4200	3800	<5.0	0.28J	<9.8	0.19J	0.18J	0.17J	0.40J	3.3J	2.9J	3.9J	770	980	2.0J	0.52J	0.23J	0.25J
2-Nitroaniline	<1.0	<1.0	<12000	<250	<96	<1.0	<1.0	<9.8	<1.0	<1.0	<1.0	<1.0	<10	<10	<9.8	<25	<48	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	<20	<20	<12000	<250	<96	<20	<20	<9.8	<20	<20	<20	<20	<20	<20	<9.8	<25	<48	<20	<20	<20	<20
4-Nitroaniline	<20	<20	<12000	<250	<96	<20	<20	<9.8	<20	<20	<20	<20	<20	<20	<9.8	<25	<48	<20	<20	<20	<20
Nitrobenzene	<3.0	<3.0	<12000	<250	<96	<3.0	<3.0	<9.8	<3.0	<3.0	<3.0	<3.0	<10	<10	<9.8	<25	<48	<3.0	<3.0	<3.0	<3.0
2-Nitrophenol	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
4-Nitrophenol	<20	<20	<12000	<250	<96	<20	<20	<9.8	<20	<20	<20	<20	<20	<20	<9.8	<25	<48	<20	<20	<20	<20
Pentachlorophenol	<0.50	<0.50	17000	<250	100	<0.50	<0.50	<49	<0.50	<0.50	<0.50	<0.50	<10	<10	<49	<10	<48	<0.50	<0.50	<0.50	<0.50
Phenanthrene	0.83J	1.1J	390000	19J	120	0.34J	0.94J	0.81J	0.35J	0.32J	0.26J	0.30J	<10	<10	0.25J	<25	<48	1.7J	0.81J	0.55J	0.72J
Phenol	<5.0	<5.0	<12000	<250	38J	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
Pyrene	0.32J	0.45J	98000	<250	38J	0.24J	0.39J	0.25J	0.30J	0.26J	0.25J	0.25J	<10	<10	<9.8	<25	<48	0.37J	0.39J	0.32J	0.38J
1,2,4-Trichlorobenzene	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0
2,4,5-Trichlorophenol	<50	<50	<12000	<250	<96	<50	<50	<49	<50	<50	<50	<50	<50	<50	<49	<50	<48	<50	<50	<50	<50
2,4,6-Trichlorophenol	<5.0	<5.0	<12000	<250	<96	<5.0	<5.0	<9.8	<5.0	<5.0	<5.0	<5.0	<10	<10	<9.8	<25	<48	<5.0	<5.0	<5.0	<5.0

J = estimated concentration (between MDL and reporting limit)

< = less than specified reporting limit

Table 6: Summary of May 2006 Sampling Event Results

Parameter	Analysis Result (ug/l)															
	Near Source/Downgradient										Downgradient/Sentry			Soil Cells		
	MW-PZ02	MW-PZ02-EB	MW-27	MW-27-QA	MW-37	MW-37a	MW-39	MW-40	MW-40a	MW-40-QA	MW-05	MW-28	MW-32	MW-10	MW-12	PZ-09
Well Depth (ft)	**32.85**	**32.85**	**29.82**	**29.82**	**31.55**	**31.55**	**32.09**	**31.95**	**31.95**	**31.95**	**25.83**	**36.56**	**30**	**19.19**	**18.4**	**13.3**
Screened Interval (ft)	**22-32**	**22-32**	**23-28**	**23-28**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**14-24**	**25-35**	**20-30**	**7-17**	**7-17**	**12.5-15**
Acenaphthene	27J	<5.0	0.18J	<9.3	<5.0	<5.0	0.22J	<100	<100	<9.3	010J	0.10J	<5.0	0.17J	0.14J	0.23J
Acenaphthylene	<200	0.21J	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Anthracene	<200	<5.0	0.12J	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	0.095J	<5.0	0.079J	0.46J	0.44J
Benzo (a) Anthracene	<3.6	<0.09	<0.09	<9.3	<0.09	<0.09	<0.09	<1.8	<1.8	<9.3	<0.09	<0.09	<0.09	0.10	0.088J	0.33
Benzo (a) Pyrene	<3.6	<0.09	<0.09	<9.3	<0.09	<0.09	<0.09	<1.8	<1.8	<9.3	<0.09	<0.09	<0.09	0.11	0.083J	0.36
Benzo (b) Fluroanthene	<3.6	<0.09	<0.09	<9.3	<0.09	<0.09	<0.09	<1.8	<1.8	<9.3	<0.09	<0.09	<0.09	0.12	0.098	0.30
Benzo (k) Fluroanthene	<36	<0.9	<0.9	<9.3	<0.9	<0.9	<0.9	<18	<18	<9.3	<0.9	<0.9	<0.9	0.074J	0.093J	0.25J
Benzo (g,h,i,)Perylene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	0.079J	0.087J	0.30J
Benzoic Acid	<2000	<50	<50	<47	<50	<50	<50	<1000	<1000	<47	<50	<50	<50	<50	<50	<50
Benzyl Alcohol	<2000	<50	<50	0.78JB	<50	<50	<50	<1000	<1000	<9.3	<50	0.29J	<50	<50	<50	<50
4-Bromophenyl Phenylether	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Butyl Benzyl Phthalate	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Chloro-3-Methylphenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Chloroaniline	<800	<20	<20	<9.3	<20	<20	<20	<400	<400	<9.3	<20	<20	<20	<20	<20	<20
Bis (2-Chloroethoxy)-Methane	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bis (2-Chloroethyl)-Ether	<5.2	<0.13	<0.13	<9.3	<0.13	<0.13	<0.13	<2.6	<2.6	<9.3	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Bis (2-Chloroisopropyl)-Ether	<40	<1.0	<1.0	<9.3	<1.0	<1.0	<1.0	<20	<20	<9.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chloronaphthalene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Chlorophenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Chlorophenylphenyl-Ether	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chrysene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	0.19J	0.056J	0.40J
Dibenzo (a,h) Anthracene	<3.6	<0.09	<0.09	<9.3	<0.09	<0.09	<0.09	<1.8	<1.8	<9.3	<0.09	<0.09	<0.09	0.081J	0.12	0.37
Dibenzofuran	7.2J	<5.0	0.15J	<9.3	0.073J	0.075J	0.11J	<100	<100	<9.3	0.052J	0.085J	<5.0	0.12J	0.10J	0.18J
Di-n-Butylphthalate	<200	6.8	<5.0	<9.3	7.1	4.2J	5.3	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	0.20J	0.11J	0.14J
1,4-Dichlorobenzene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
3,3'-Dichlorobenzidine	<40	<1.0	<1.0	<9.3	<1.0	<1.0	<1.0	<20	<20	<9.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dichlorophenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Diethylphthalate	<200	<5.0	4.4J	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,4-Dimethylphenol	250	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	320	320	280	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dimethylphthalate	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	0.22J
4,6-Dinitro-2-Methylphenol	<800	<20	<20	<19	<20	<20	<20	<400	<400	<19	<20	<20	<20	<20	<20	<20
2,4-Dinitrophenol	<800	<20	<20	<47	<20	<20	<20	<400	<400	<47	<20	<20	<20	<20	<20	<20
2,4-Dinitrotoluene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,6-Dinitrotoluene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-Octylphthalate	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	0.28J
Bis (2-ethylhexyl)-Phthalate	<160	0.52J	<4.0	1.4JB	<4.0	<4.0	<4.0	<80	<80	4.0JB	<4.0	0.86J	<4.0	<4.0	<4.0	0.58J
Fluoranthene	<200	<5.0	0.31J	0.29J	<5.0	<5.0	<5.0	<100	<100	<9.3	0.060J	0.34J	0.063J	0.18J	0.16J	0.20J
Fluorene	8.2J	<5.0	0.20J	0.21J	0.081J	0.082J	0.11J	<100	<100	<9.3	0.064J	0.067J	0.061J	0.15J	0.15J	0.25J
Hexachlorobenzene	<4.0	<0.10	<0.10	<9.3	<0.10	<0.10	<0.10	<2.0	<2.0	<9.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hexachlorobutadiene	<32	<0.80	<0.80	<9.3	<0.80	<0.80	<0.80	<16	<16	<9.3	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Hexachlorocyclopentadiene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hexachloroethane	<160	<4.0	<4.0	<9.3	<4.0	<4.0	<4.0	<80	<80	<9.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Indeno (1,2,3-cd) Pyrene	<3.6	<0.090	<0.090	<9.3	<0.090	<0.090	<0.090	<1.8	<1.8	<9.3	<0.090	<0.090	<0.090	<0.090	0.12	0.32
Isophorone	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	42J	<5.0	<5.0	<9.3	<5.0	<5.0	0.20J	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	0.089J

Parameter	Analysis Result (ug/l)															
	Near Source/Downgradient										Downgradient/Sentry			Soil Cells		
	MW-PZ02	MW-PZ02-EB	MW-27	MW-27-QA	MW-37	MW-37a	MW-39	MW-40	MW-40a	MW-40-QA	MW-05	MW-28	MW-32	MW-10	MW-12	PZ-09
Well Depth (ft)	**32.85**	**32.85**	**29.82**	**29.82**	**31.55**	**31.55**	**32.09**	**31.95**	**31.95**	**31.95**	**25.83**	**36.56**	**30**	**19.19**	**18.4**	**13.3**
Screened Interval (ft)	**22-32**	**22-32**	**23-28**	**23-28**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**20-30**	**14-24**	**25-35**	**20-30**	**7-17**	**7-17**	**12.5-15**
2-Methylphenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	11J	<100	7.4J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methylphenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Naphthalene	860	<5.0	<5.0	0.13J	<5.0	<5.0	4.0J	3.0J	3.5J	4.7J	0.70J	<5.0	<5.0	<5.0	<5.0	<5.0
2-Nitroaniline	<40	<1.0	<1.0	<9.3	<1.0	<1.0	<1.0	<20	<20	<9.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	<800	<20	<20	<9.3	<20	<20	<20	<400	<400	<9.3	<20	<20	<20	<20	<20	<20
4-Nitroaniline	<800	<20	<20	<9.3	<20	<20	<20	<400	<400	<9.3	<20	<20	<20	<20	<20	<20
Nitrobenzene	<120	<3.0	<3.0	<9.3	<3.0	<3.0	<3.0	<60	<60	<9.3	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
4-Nitrophenol	<800	<20	<20	<9.3	<20	<20	<20	<400	<400	<9.3	<20	<20	<20	<20	<20	<20
2-Nitrophenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
N-Nitroso-di-Phenylamine	<40	<1.0	<1.0	<9.3	<1.0	<1.0	<1.0	<20	<20	<9.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodi-n-Propylamine	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Pentachlorophenol	<20	<0.50	<0.50	<9.3	<0.50	<0.50	<0.50	<10	<10	<9.3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Phenanthrene	1.4J	<5.0	0.76J	0.67J	0.17J	0.17J	0.20J	<100	<100	0.16J	0.16J	0.12J	0.13J	0.39J	0.25J	0.42J
Phenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Pyrene	<200	<5.0	0.25J	0.19J	<5.0	<5.0	<5.0	<100	<100	<9.3	0.057J	0.23J	<5.0	0.14J	0.10J	0.18J
1,2,4-Trichlorobenzene	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,4,5-Trichlorophenol	<2000	<50	<50	<9.3	<50	<50	<50	<1000	<1000	<9.3	<50	<50	<50	<50	<50	<50
2,4,6-Trichlorophenol	<200	<5.0	<5.0	<9.3	<5.0	<5.0	<5.0	<100	<100	<9.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

J = estimated concentration (between MDL and reporting limit)

< = less than specified reporting limit

Table 7: Comparison of Phase II Groundwater Investigation Results and Groundwater Monitoring Program Results

Monitoring Well	**Phase II Result (ug/l)**		**January 2004 Result (ug/l)**		**November 2004 (ug/l)**		**April 2005 (ug/l)**		**May 2006 (ug/l)**	
	PCP	Naphthalene	PCP	Naphthalene	PCP	Naphthalene	PCP	Naphthalene	PCP	Naphthalene
Soil Cells*										
MW-12	NR	NR	<0.5	<5.0	<0.5	0.53J	<0.5	0.25J	<0.5	<5.0
PZ-09	NR	NR	<0.5	<5.0	<0.5	<5.0	<0.5	0.52J	<0.5	<5.0
MW-10	NR	NR	<0.5	<5.0	<0.5	<5.0	<0.5	0.23J	<0.5	<5.0
Upgradient**										
MW-08	NR	NR	NA	NA	<0.5	0.21	<0.5	0.32J	NA	NA
MW-24	NR	NR	<0.5	0.088J	<0.5	<5.0	<0.5	0.39J	NA	NA
Source Plume										
MW-42	150	7400	NA	NA	37000	5100000	NA	NA	NA	NA
MW-33	3	2600	<100	4400	<99	3400	<250	4200	NA	NA
MW-31	590	2600	NA	NA	11000	1400000	17000	470000	NA	NA
MW-41	99J	970	38J	5800	24J	4700	100	3800	NA	NA
Downgradient Plume										
MW-40	<1.0	<20	<10	2.0J	<24	<24	<10	3.3J	<10	3.0J
MW-37	NR	NR	<0.5	<5.0	<0.5	<5.0	<0.5	0.18J	<0.5	<5.0
MW-39	NR	NR	NA	NA	<0.5	<5.0	<0.5	0.40J	<0.5	4.0J
MW-27	14J	220	<0.5	15	<0.5	0.12J	<0.5	0.28J	<0.5	<5.0/0.13J
Sentry										
MW-04	NR	NR	<5.0	160	<1.0	28	NA	NA	NA	NA
MW-05	NR	NR	NA	NA	<0.5	0.13	<0.5	<5.0	<0.5	0.70J
MW-PZ02	<1.0	<20	NA	NA	<19	700	<10	770/980***	<20	860
MW-28	NR	27	<0.5	0.069J	<0.5	0.075J	<0.5	0.19J	<0.5	<5.0
MW-32			NA	NA	NA	NA	NA	NA	<0.5	<5.0

NR = not reported – there are no reported results (including reporting limits) for these monitoring wells.
NA = not analyzed
*These monitoring wells can be used to monitor the soil cells as well as for upgradient monitoring.
**These monitoring wells can be used for upgradient monitoring of the dissolved phase plume as well as to monitor the soil cells.
***Two samples were collected at different times from MW-PZ02; both results are reported here.

Site Inspection
Four site inspections have been conducted, one during each year of the groundwater monitoring and engineering maintenance program, as well as one over the course of this five-year review. The scope and procedures for each inspection were the same: walk the site to observe all site features and engineering controls, photograph notable features, and complete a site inspection checklist. Each site inspection is described below.

January 2004
The first site inspection subsequent to the Amended ROD was conducted from January 19-22, 2004 by USACE contractor MMG. Only MMG personnel attended the inspection. The inspection revealed the following issues:
- The site was overgrown with vegetation.
- Site maps conflicted with actual monitoring well locations.
- Trash and debris littered several areas.
- The access road was eroded in one area.
- Many monitoring wells needed maintenance or repair including minor painting, bollard replacement, concrete pad repair, vault box repair, permanent labels, adequate locks, and plugging and abandonment (or replacement).
- The fence was compromised in several areas due to trees as well as vandalism.
- No signs indicating “no trespassing” were in place.
- There were eroded areas on the slopes of the holding cells. In addition, many culverts and trenches contained debris that prevented adequate site drainage.

These issues were addressed during site repair activities in November 2004.

April 2005
The second site inspection was conducted from April 27-28, 2005 by USACE contractor MMG. Only MMG personnel attended the inspection. The inspection revealed the following issues:
- The vault box lid was damaged at one monitoring well.
- The riser was broken at one monitoring well.
- A 40-ft section of fence was damaged due to land clearing activities at the adjacent property.
- Vegetation and small trees were growing along the fence.
- One eroded area and one slide (slope instability) were observed on one of the holding cells.

These issues were addressed during the site activities in May 2006.

May 2006
The third site inspection was conducted from May 22-24, 2006 by USACE

contractor MMG. Only MMG personnel attended the inspection. The inspection revealed that there were no items/areas requiring repairs and therefore no issues with engineering controls at the site.

September 2006
The most recent site inspection was conducted September 5, 2006. The inspection revealed that there are currently no issues with engineering controls at the site. Repairs conducted in May 2006 were holding up. The only item of concern was that workers conducting recent work on the right of way area cut the lock on the rear gate and left the gate open upon completion of work at the site. A copy of the Site Inspection Checklist is included in Appendix C.

Interviews
Several individuals were interviewed as part of the five-year review. These included representatives from EPA Region 6 (Remedial Project Manager) and ADEQ (Engineer Supervisor), the Mayor of El Dorado, and representatives from neighboring facilities. The interviews are summarized below. Copies of the interview documentation are included in Appendix B.

EPA Region 6
Mr. Shawn Ghose, Remedial Project Manager, EPA Region 6, 9/6/06, Site
The interview revealed that there have been no problems with the site. The remedy is functioning as expected, and O&M have been successful to date. There have been no community concerns regarding the site. The institutional controls have been put in place in accordance with typical IC practices; however, deed restrictions need to be finalized.

ADEQ
Mr. Kin Siew, Engineer Supervisor, ADEQ, 9/6/06, Site
Overall, the project is going well. ADEQ has been kept informed of site activities and status, and there have been no complaints or violations. The only issue is that institutional controls (deed restrictions) have not been implemented; the only recommendation is to implement these IC's as soon as possible.

Mayor of El Dorado, Arkansas
Mr. Bobby Beard, Mayor, City of El Dorado, 9/6/06, City Hall
There have been no problems with the site. Site progress has been documented with media coverage. There are no known land use restrictions in the area.

Nearest Neighbors
Mr. Paul Leon Gibat, Director or Operations/Compliance, Lee's Trucking/Residential neighbor, 9/6/06, Interview at business
There have been no problems or concerns with the site. Not aware of land use restrictions.

Mr. Danny Parker, Owner, Parker Pallet & Services, 9/6/06, Phone interview

There have been no problems with the site, although he did not feel informed about the site. He was not aware it was a Superfund site and has moved his business to another location. Not aware of land use restrictions.

VII. Technical Assessment

The technical assessment section of the five-year review involves asking three questions. The questions and their answers are discussed below.

Question A: Is the remedy functioning as intended by the decision documents?
Yes, the remedy is functioning as expected based on the Amended ROD. The following sections provide further explanation.

Remedial Action Performance
The remedial action involved monitoring to ensure that the groundwater contamination plume remained static and did not migrate, as well as maintaining engineering controls at the site. Three years of groundwater sampling and analysis have indicated that the plume is static and has not migrated, and furthermore, natural attenuation is occurring at the site. Additionally, a few repairs have been made to engineering controls, but overall they have been and continue to be protective of public health. Therefore, the remedial action is performing as expected, and containment has been effective.

System Operations/O&M
System operations have been consistent and manageable. There have been no changes in costs that suggest remedy problems. In fact, the cost per sampling event has decreased over the past three years.

Opportunities for Optimization
Based on the analytical results, opportunities to reduce cost by reducing the sampling effort (based on consistent results) arose and were realized. In addition, the changes to the sampling program allowed for focusing on the primary area of the concern: downgradient of the contamination plume.

Early Indicators of Potential Issues
There have been no indications through analytical results or maintenance of engineering controls that suggest protectiveness may be at risk.

Implementation of Institutional Controls and Other Measures
Access controls including fencing and warning signs are in place to prevent exposure. Institutional controls such as land use/deed restrictions are not in place; these should be implemented as soon as possible. There are no immediate threats at the site, therefore no other action (such as removals) are necessary to protect public health.

<u>Question B</u>: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?
Yes, all risk assessment data, cleanup levels and RAOs are still valid.
The following sections provide further explanation.

Changes in Standards and TBCs (To-Be Considered)
There are no new standards in place that affect the protectiveness of the remedy for the Popile Inc. site. The Amended ROD and associated Technical Impracticability Waiver eliminated the use of cleanup or action levels. Therefore, the site remedy and protectiveness are not driven by standards.

Changes in Exposure Pathways
Land use has not changed at or near the site. Exposure routes and receptors (human or ecological) have not changed to affect the remedy's protectiveness. New contaminants or sources of contamination have not been identified. There are no unanticipated toxic byproducts of the remedy. Any changes in physical site conditions (such as erosion) have been identified during the site inspections and repaired as soon as possible; there have been no changes significant enough to affect the protectiveness of the remedy.

Changes in Toxicity and Other Contaminant Characteristics
Toxicity factors associated with the contaminants of concern have not changed to affect the remedy's protectiveness. Furthermore, contaminant characteristics have not changed in any way that could affect the protectiveness of the remedy.

Changes in Risk Assessment Methods
Standard risk assessment methodologies have not changed in any way to alter the protectiveness of the remedy.

Expected Progress Towards Meeting RAOs
The contamination plume is behaving as predicted by the groundwater modeling study (the plume is static and is not migrating). The engineering maintenance program is ensuring that site access and other engineering controls are upheld. The institutional controls need to be implemented. Overall, the remedy is progressing as expected.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?
No, there has been no new information questioning the effectiveness of the remedy.

Other Information
There are no newly identified ecological risks. There have been no impacts from natural disasters. There has been no new information that may affect the protectiveness of the remedy. However, it has been reiterated during this five-year review process that the institutional controls involving land use restrictions need to be put in place.

Technical Assessment Summary
The three questions of the technical assessment were answered yes, yes, and no:

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

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

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?
No

The groundwater contamination plume is static, the engineering controls are being maintained, land use has not changed at or near the site, and no wells have been drilled (other than for monitoring at the site) in the area to anyone's knowledge. This information supports the statement that the remedy is protective.

VIII. Issues

All aspects of the Amended ROD have been effectively implemented; however, it is still necessary to implement the institutional controls in the form of land use restrictions. This is the only issue identified during this five-year review. This issue may affect future protectiveness by making the remedy more protective.

Table 8: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Institutional controls (IC) – (land use restrictions)	N	Y

IX. Recommendations and Follow-up Actions

The recommendations and follow-up actions are summarized in the following table.

Table 9: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
IC	Implement land use restrictions	EPA Region 6, ADEQ, local government	EPA	September 2007	N	Y

X. Protectiveness Statement

Because the remedial actions at Popile Inc. Superfund site are protective, the site is protective of human health and the environment. Groundwater monitoring data indicates that the plume is static and is not migrating offsite. This supports the groundwater modeling study that suggested the plume will remain static for at least the next 50 years. Furthermore, the analytical results indicate that natural attenuation is occurring onsite and reducing the level of contamination within the plume. Engineering controls including fencing and warning signs and landfill (holding cell) caps are being maintained. The results of this five-year review indicate that the remedy stated in the Amended ROD is functioning as required.

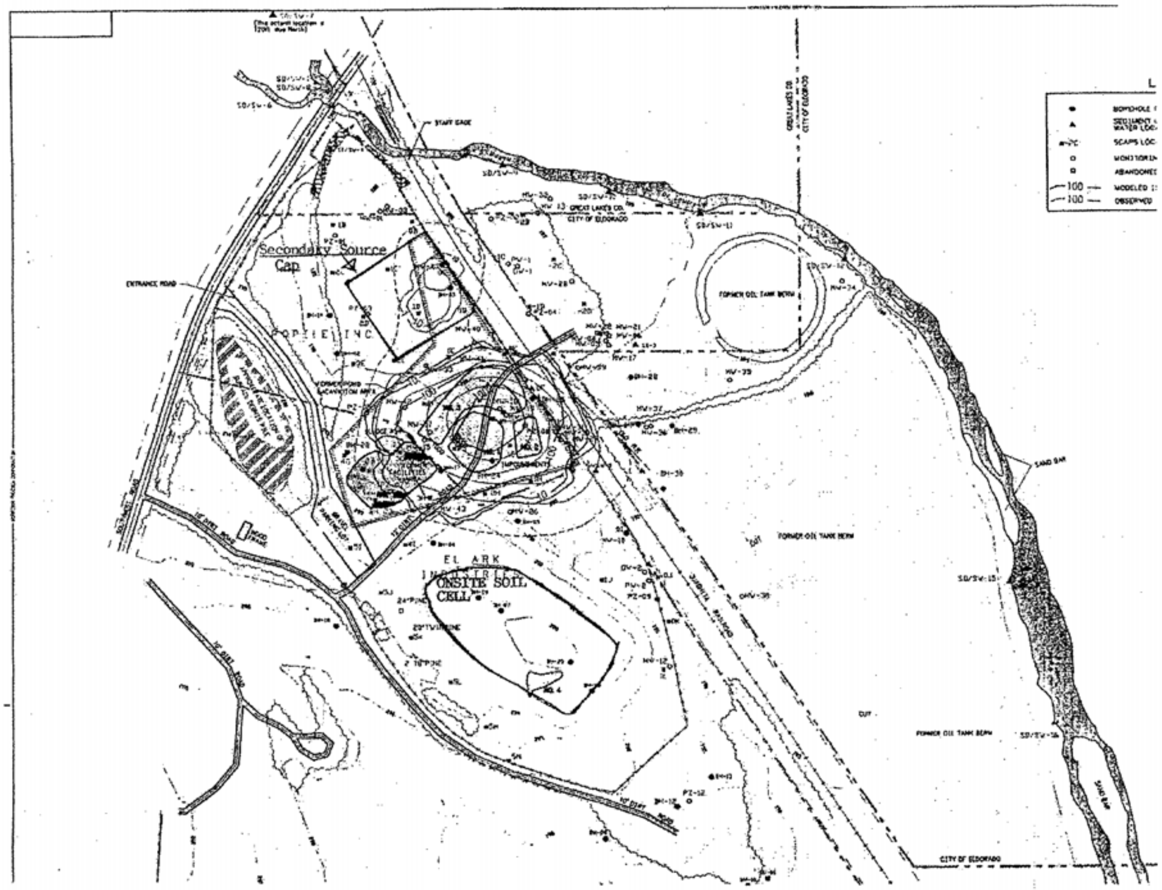
XI. Next Review

Another five-year review will be conducted subsequent to completion of the current review. The report for that review will be due on September 28, 2011. This review will evaluate the remaining two years of groundwater monitoring data, maintenance of the engineering controls, and whether implementation of institutional controls (land use restrictions) has occurred.

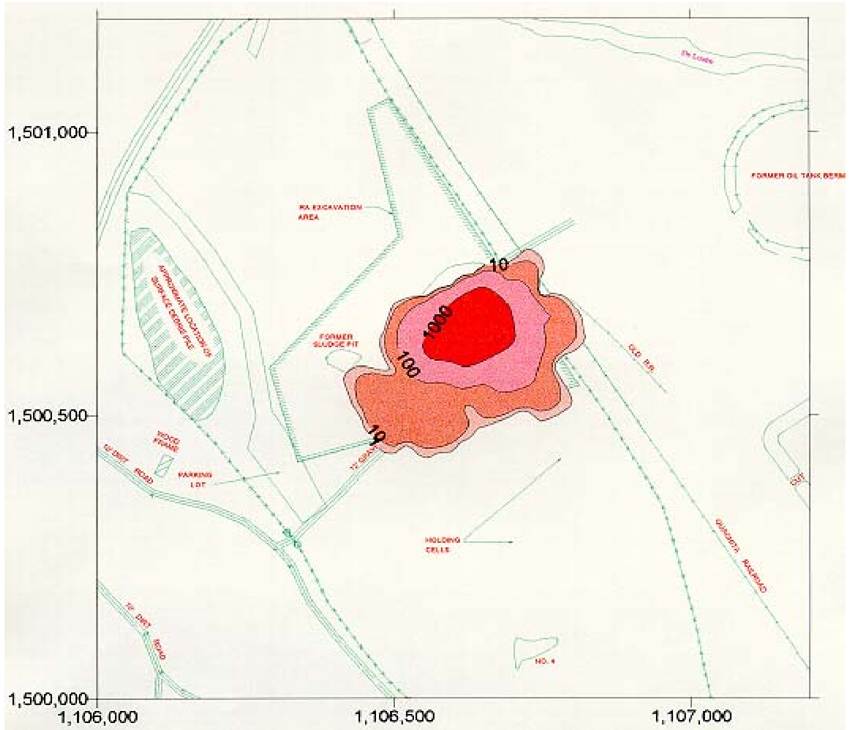
Appendix A: Maps and Entrance Photo

Popile Inc. Superfund Site Location Map

FIGURE 6   SECONDARY CAP



Year 1958



Year 1978

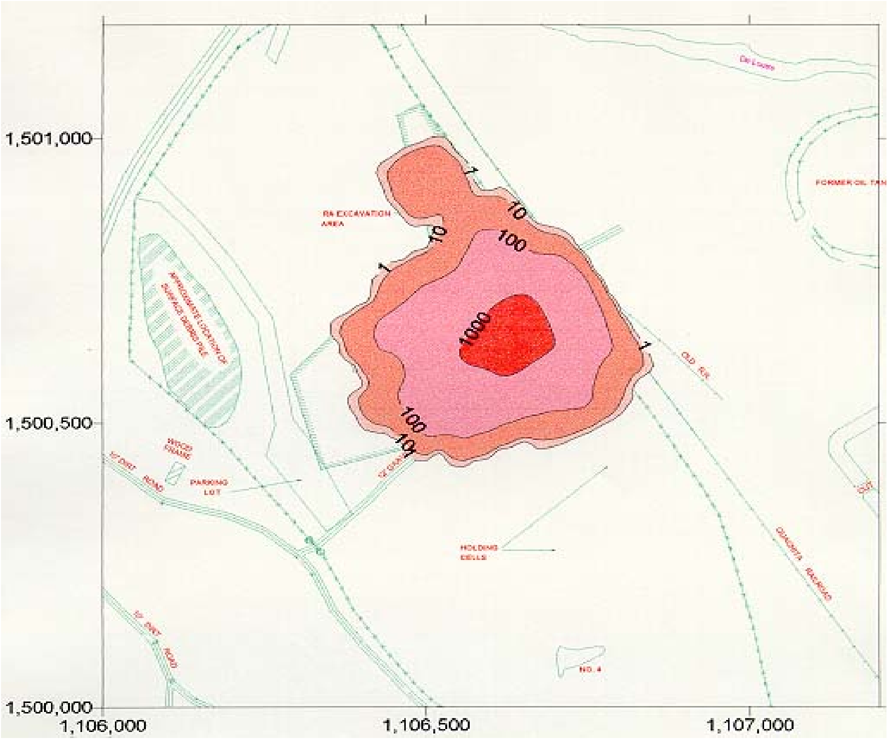
PCP plume in ppb with time

Year 1998

Year 2018

PCP plume in ppb with time

Year 2048



PCP Plume in ppb with time

Front entrance with warning signs
Camera facing south

Appendix B: Interview Documentation

INTERVIEW DOCUMENTATION FORM

The following is a list of individuals interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Bobby Beard	Mayor	City of El Dorado	09/06/06
Paul Leon Gibat	Director - Operations/ Compliance	Lee's Trucking, Inc.	09/06/06
Danny Parker	Owner	Parker Pallet & Services	09/06/06
Kin W. Siew	Engineer Supervisor	Arkansas DEQ	09/06/06
Shawn Ghose	Project Manager	USEPA	09/06/06

INTERVIEW RECORD

Site Name: Popile Inc. Superfund Site	**EPA ID No.:** ARD008052508	
Subject: Five-Year Review	**Time**: 0910	**Date:** 09/06/06
Type: Visit **Location of Visit:** At Mayor's Office	Incoming Outgoing	

Contact Made By:

Name: C. Paul Lo	**Title:** Project Manager	**Organization:** MMG, Inc.

Individual Contacted:

Name: Bobby Beard	**Title:** Mayor	**Organization:** City of El Dorado
Telephone No: 870-862-7911 **Fax No**: 870-881-4164 **E-Mail Address:** mayor@eldoradoar.org	**Street Address:** 204 N.W. Ave **City, State, Zip:** El Dorado, Arkansas, 71730	

Summary Of Conversation

See attached interview form

INTERVIEW RECORD

Site Name: Popile Inc. Superfund Site	**EPA ID No.:** ARD008052508	
Subject: Five-Year Review	**Time:** 1005	**Date:** 09/06/06
Type: Visit **Location of Visit:** At Lee's Trucking Office	Incoming Outgoing	

Contact Made By:

Name: C. Paul Lo	**Title:** Project Manager	**Organization:** MMG, Inc.

Individual Contacted:

Name: Paul Leon Gibat	**Title:** Director Operation/Compliance	**Organization:** Lee's Trucking Inc.
Telephone No: 870-862-5477 **Fax No:** 870-862-1946 **E-Mail Address:** pgibat@leestrucking.com	**Street Address:** 2054 S. Field Rd. **City, State, Zip:** El Dorado, Arkansas, 71730	

Summary Of Conversation

See attached interview form

INTERVIEW RECORD

Site Name: Popile Inc. Superfund Site	**EPA ID No.:** ARD008052508	
Subject: Five-Year Review	**Time:** 1045	**Date:** 09/06/06
Type: Phone Call **Location of Visit:**	Incoming Outgoing	

Contact Made By:

Name: C. Paul Lo	**Title:** Project Manager	**Organization:** MMG, Inc.

Individual Contacted:

Name: Danny Parker	**Title:** Owner	**Organization:** Parker Pallet & Services
Telephone No: 870-814-0155 **Fax No:** **E-Mail Address:**	**Street Address:** * **City, State, Zip:**	

Summary Of Conversation

* Mr. Parker did not provide his address.

See attached interview form

INTERVIEW RECORD

Site Name: Popile Inc. Superfund Site	**EPA ID No.:** ARD008052508	
Subject: Five-Year Review	**Time:** 1220	**Date:** 09/06/06
Type: Visit **Location of Visit:** At Popile Superfund Site	Incoming Outgoing	

Contact Made By:

Name: C. Paul Lo	**Title:** Project Manager	**Organization:** MMG, Inc.

Individual Contacted:

Name: Kin W. Siew	**Title:** Engineer Supervisor	**Organization:** Arkansas DEQ

Telephone No: 501-682-0855 **Fax No:** 501-682-0565 **E-Mail Address:** siew@adeq.state.ar.us	**Street Address:** 8001 National Drive **City, State, Zip:** Little Rock, Arkansas 72219-8913

Summary Of Conversation

See attached interview form

INTERVIEW RECORD

Site Name: Popile Inc. Superfund Site		**EPA ID No.:** ARD008052508
Subject: Five-Year Review	**Time:** 1245	**Date**: 09/06/06
Type: Visit **Location of Visit:** At Popile Superfund Site	Incoming Outgoing	

Contact Made By:

Name: C. Paul Lo	**Title:** Project Manager	**Organization:** MMG, Inc.

Individual Contacted:

Name: Shawn Ghose	**Title:** Project Manager	**Organization:** USEPA
Telephone No: 214-665-6782 **Fax No:** 214-665-6660 **E-Mail Address:** ghose.shawn@epa.gov	**Street Address:** 1445 Ross Ave. (6SF-AP) **City, State, Zip:** Dallas, Texas 75202-2733	

Summary Of Conversation

See attached interview form

Popile Inc. Superfund Site
El Dorado, Arkansas
Five-Year Review

Interview – Local Authorities/Nearest neighbor(s)

Name: **Bobby Beard** Company: **City of El Dorado**

Date Completed: 09/06/06

Interviewer: C. Paul Lo

What is your overall impression of this project?

The USEPA has conducted a superb job to remediate the site. It was very low-key and quiet. No problem associated with this project.

What effects have site operations had on the surrounding community?

Not to his knowledge. Good to see the site has been cleaned up.

Are you aware of any community concerns regarding the site or its operation and administration? (Details)

No.

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from the local authorities? (Details)

No.

Are you aware of any land use/deed restrictions in the area associated with the site and protection of public health?

No.

Do you feel well informed about the site's activities and progress?

Yes. Good media coverage by local newspaper.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

No.

Popile Inc. Superfund Site
El Dorado, Arkansas
Five-Year Review

Interview – Nearest neighbor(s)

Name: **Paul Leon Gibat** Company: **Lee's Trucking Inc.**

Date Completed: 09/06/06

Interviewer: C. Paul Lo

What is your overall impression of this project?

The project has no impact to his company and him personally. He lived two houses down the street. The whole project was going well.

What effects have site operations had on the surrounding community?

Not to his knowledge. No impact in the past five years.

Are you aware of any community concerns regarding the site or its operation and administration? (Details)

No.

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from the local authorities? (Details)

No.

Are you aware of any land use/deed restrictions in the area associated with the site and protection of public health?

No.

Do you feel well informed about the site's activities and progress?

Yes. .

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

Not at this moment.

Popile Inc. Superfund Site
El Dorado, Arkansas
Five-Year Review

Interview – Nearest neighbor(s)

Name: **Danny Parker** Company: **Parker Pallet & Services**

Date Completed: 09/06/06

Interviewer: C. Paul Lo

What is your overall impression of this project?

He was not aware of the site history until his friend mentioned to him. He is no longer utilizing the pallet storage facility next to the Popile site. He moved his company to Industrial Lane.

What effects have site operations had on the surrounding community?

Not to his knowledge.

Are you aware of any community concerns regarding the site or its operation and administration? (Details)

No.

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from the local authorities? (Details)

No.

Are you aware of any land use/deed restrictions in the area associated with the site and protection of public health?

No.

Do you feel well informed about the site's activities and progress?

No. He was not aware the Popile site was a Superfund site.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

No.

Popile Inc. Superfund Site
El Dorado, Arkansas
Five-Year Review

Interview – Arkansas Department of Environmental Quality

Name: Kin Siew Title: Engineer Supervisor

Date Completed: 09/06/06

Interviewer: C. Paul Lo

What is your overall impression of this project?
The project is going well. Need to implement Institutional Control (IC), e.g. deed restriction.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, what was the purpose and result.
Yes. When EPA showed up and during sampling.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details.

No.

Do you feel well informed about the site's activities and progress?

Yes

Have there been any changes in State laws that may affect the protectiveness of the remedy for the site (affecting the engineering or institutional controls)?

No. EPA needs to implement IC.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines since start up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy?

No. Everything is going fine.

Are you aware of any community concerns regarding the site or its operation and administration?

No.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

EPA needs to implement IC as soon as possible.

Popile Inc. Superfund Site
El Dorado, Arkansas
Five-Year Review

Interview – USEPA Region 6

Name: Shawn Ghose Title: Remedial Project Manager

Date Completed: 09/06/06

Interviewer: C. Paul Lo

What is your overall impression of this project?
The project is going well. The plume is static with signs of natural decay. Nothing is going out of control.

Is the remedy functioning as expected?
Yes. Monitoring of groundwater down gradient showed no contamination.

Monitoring data shows the plume is stable and not migrating offsite, and the engineering controls to limit site access and prevent release (fencing, signs, erosion control, etc.) are being maintained. What is the status of the institutional controls? Have land use restrictions been put in place? If not, is there a plan to implement them?
Yes. The IC has been in place in accordance with the IC practices. However, this cannot happen immediately. The landowner has not signed the deed restriction at this time. There is a third party that acquired part of this property. We need to get the land use restrictions finalized.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines since start up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy?

No. O&M and sampling were successful for the last three years.

Have there been any unexpected O&M difficulties or costs at the site since start up or in the last five years?

No. Fund was available through the remainder of RA contract for the USACE.

Have there been opportunities to optimize O&M or sampling events? Any resultant or desired cost savings or improved efficiency?
The O&M and sampling were optimized for this site.

Are you aware of any community concerns regarding the site or its operation and administration?

No. When EPA conducted the public notice 5-years ago, no one showed up.

Do you have any comments, suggestions, or recommendations regarding the project?

Need to put in Deed restriction. Need to turn this site for reuse.

Appendix C: Site Inspection Checklist

Site Inspection Checklist

Popile Inc. Superfund Site
El Dorado, Arkansas

Purpose

This Site Inspection Checklist outlines the inspection areas and items required under the Engineering Maintenance (EM) Plan (dated December 2003) for the Popile Inc. Superfund Site. The EM Plan has been implemented as part of the groundwater monitoring program at the site under the September 2001 Amended Record of Decision. The site inspections should include four main areas: monitoring wells/piezometers, erosion controls, site access/security controls, and general site observations.

Site Information

Date of Inspection ___09/05/06___________________________

Inspector(s) ___C. Paul Lo, Richard Encalade_________________________

Weather Conditions/Temperature __Cloudy/mid-80's__ ______________________

I. Monitoring Wells/Piezometers

☒	Properly secured/locked	☒	Functioning	☒	Good condition
☐	Needs Maintenance/Repair	☒	Vault Box Inspected		
☒	All required wells located	☐	Repair indicated on map		

Comments (specify monitoring wells requiring repair)

____

____

II. Erosion Controls

☒ Channels/trenches (Check: clear of debris? Adequate drainage?)

☒ Culverts (Check: clear of debris?)

☐ Vegetation (Check: signs of stress? Eroded areas?)

Comments____

____

____

II. Erosion Controls continued

☒ Landfill/Holding Cells: (Check for each of the following conditions)

- **Settlement (Low Spots)**

☒ Settlement not evident ☐ Settlement indicated on map

Measurements (if applicable)____

Comments____

____

____

- **Cracks**

☒ Cracking not evident ☐ Cracking indicated on map

Measurements (if applicable)____

Comments____

____

____

- **Erosion**

☒ Erosion not evident ☐ Eroded areas indicated on map

Measurements (if applicable)____

Comments_____Please refer to Appendices A and B_______________________________

____

- **Holes**

☒ Holes not evident ☐ Locations of holes indicated on map

Measurements (if applicable)____

Comments____

____

____

- **Bulges**

☒ Bulging not evident ☐ Bulging indicated on map

Measurements (if applicable)____

Comments____

- **Vegetative Cover**

☒ Grass ☒ Cover properly established ☒ No signs of stress

☒ Trees or shrubs – indicate size and location on site map

Comments____See Attachment C________________________________

- **Water Damage/Wet Areas**

☒ Water damage/wet areas not evident

If water damage evident, specify below:

☐ Wet areas ☐ Location(s) indicated on map

Measurements____

☐ Ponding ☐ Location(s) indicated on map

Measurements____

☐ Seeps ☐ Location(s) indicated on map

Measurements____

☐ Soft subgrade ☐ Location(s) indicated on map

Measurements____

Comments____

- **Slope Instability**

☐ Slides ☐ Location(s) indicated on map ☒ Slides not evident

Measurements____

Comments____

____

____

III. Site Access/Security Controls

Fencing

☐ Damaged ☐ Location(s) indicated on map ☒ Damage not evident

☒ Gates secured

Comments_____The lock at the rear gate was cut, presumably by the workers working on the right of way. A different lock was placed on the gate. The gate was left opened when the inspectors arrived.____

Signs

☒ In place ☐ Vandalism ☐ Location(s) indicated on map

Comments____

____

____

IV. General Site Conditions and Observations

Roads

☐ Damaged ☐ Location(s) indicated on map ☒ Good condition

Comments____

____

____

Other Site Features

Comments____

____

____

Vandalism
☒ Not evident ☐ Indicated on map

Comments____

Land Use Changes Offsite
☐ Yes ☒ No ☐ N/A ☐ Evidence of deed restriction violation

Comments____

Land Use Changes Offsite
☐ Yes ☒ No ☐ N/A

Comments____

Adequacy of Engineering Maintenance
The implementation and scope of maintenance procedures for the current and long-term protectiveness of the remedy are effective and functioning as designed.
☒ Yes ☐ No

Comments____

Early Indicators of Potential Remedy Problems
Indicate issues and/or observations such as unexpected changes in the cost or scope of maintenance or a high frequency of unscheduled repairs, suggesting that the protectiveness of the remedy may be compromised in the future.
☐ Applicable ☒ Not applicable

Comments____

Opportunities for Improvement
List alternatives for improvement in monitoring tasks or the operation of the remedy.
☐ Applicable ☒ Not applicable

Comments____

Previous Inspection
Have all issues and problems from the previous inspection been resolved?

☒ Yes ☐ No

Comments____

Appendix A

The 2005 site inspection report indicated an eroded area to the side of the landfill cell. In May 2006, the eroded area was back filled with dirt and re-seeded. Photo 1 taken in May 2006 and Photo 2 in September 2006.

Photo 1. The eroded area was backfilled with dirt and re-seeded. Picture taken facing west in May 2006.

Photo 2. The eroded area. Picture taken facing west in September 2006.

Appendix B

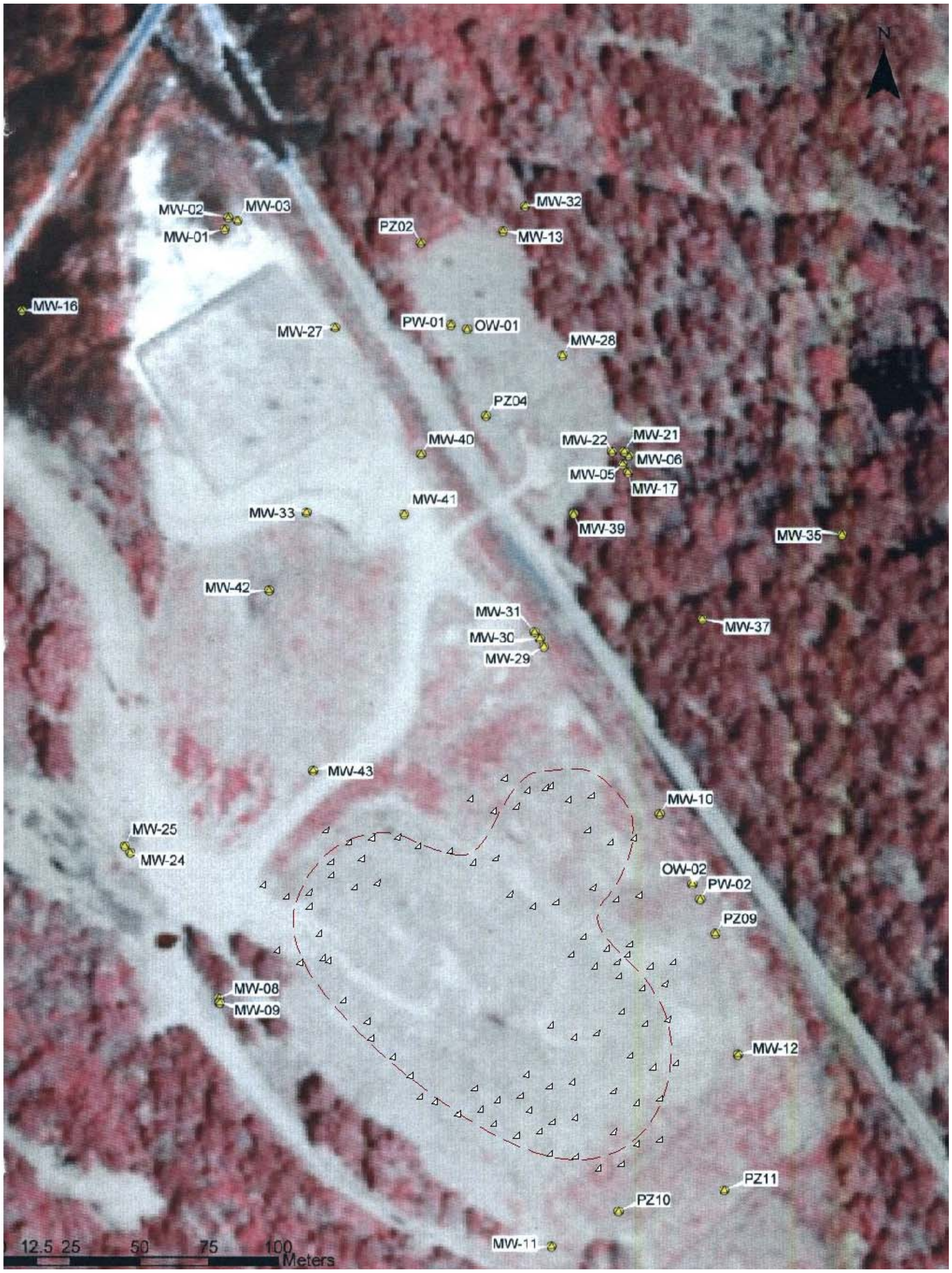
Based on the 2005 site inspection, on the southeast side on top of the landfill there was an eroded area (14' x 40') where topsoil had washed off and only clay was visible at the surface. During the May 2006 investigation, the grass was coming back very well. Additional grass seed was planted. Please see Photos 3 and 4 below.

Photo 3. Eroded area on top of landfill cell. Picture taken facing east in May 2006.

Photo 4. Eroded area on top of landfill cell. Picture taken facing east in September 2006.

Appendix C

The majority of trees on top the landfill cell are pine trees. The heights of the trees range from 3 ft to 15 ft. The diameter of the tree trunks ranges from 2 – 5 inches. Please refer the following map for the approximate location(s).



Appendix D: Additional Site Photographs

Photograph #1

Sign of Popile Superfund Site
Camera facing south

Photograph #2

Front entrance with warning signs
Camera facing south

Photograph #3

MW24 and MW25 along western fence line
Camera facing northwest

Photograph #4

MW40 along eastern fence line
Camera facing east

Photograph #5

PZ10 along southern fence line
Camera facing south

Photograph #6

Clay-lined holding cell
Camera facing north

Photograph #7

Clay-lined holding cell
Camera facing west

Photograph #8

Parking and staging area
Camera facing north

Photograph #9

Access road in the middle of site
Camera facing west

Photograph #10

Low area in the middle of the site
Camera facing northwest

Photograph #11

Growth of vegetation at previously eroded area
Camera facing southeast

Appendix E: List of Documents Reviewed

Amended Record of Decision, September 2001 – EPA Region 6

Technical Impracticability Waiver, September 2001 – EPA Region 6

Phase II Groundwater Study and Modeling Investigation, 1998 – Morrison Knudsen

Groundwater Model Study of Natural Attenuation, 1999 – Morrison Knudsen

Final Work Plans Addenda and EM Plan, December 2003 – MMG

Interim Groundwater Report, Groundwater Monitoring Program, February 2004 – MMG

Final Groundwater Summary Report – Year One, Groundwater Monitoring Program, January 2005 – MMG

Final Groundwater Summary Report – Year Two, Groundwater Monitoring Program, July 2005 – MMG

Final Groundwater Summary Report – Year 3, Groundwater Monitoring Program, July 2006 – MMG

Site Inspection Report, February 2004 – MMG

Final Site Repair Activities Report, November 2004 – MMG

Site Inspection Report– Year 2, May 2005 – MMG

Site Inspection / Repairs Report– Year, June 2006 – MMG