

Five-Year Review Report

Second Five-Year Review Report
For
The Tenth Street Dump/Junkyard Superfund Site
Oklahoma City
Oklahoma, Oklahoma
OKD980620967

July 2006

PREPARED BY:

U.S. Environmental Protection Agency
Region 6
Dallas, Texas

and

Oklahoma Department of Environmental Quality
Oklahoma City, Oklahoma

Second Five-Year Review
For
The Tenth Street Dump/Junkyard Superfund Site
OKD980620967
Oklahoma City, Oklahoma County, Oklahoma

This memorandum documents the United States Environmental Protection Agency's (EPA's) performance, determinations, and approval of the Tenth Street Dump/Junkyard Superfund Site (site) second five-year review under Section 121(c) of the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), 42 United States Code (USC) §9621(c), as provided in the attached Second Five-Year Review Report prepared by Oklahoma Department of Environmental Quality and the EPA.

Summary of Five-Year Review Findings

The second five-year review for this site indicates that the current site conditions are protective of human health and the environment. This assessment has been made based on a review of data available for the site, a site inspection, technical evaluation, and interviews.

The short-term protectiveness of the remedy is not affected. In May 2006, the Oklahoma Department of Environmental Quality (DEQ) placed a notice on the deed for the site. The deed notice is intended as an institutional control to provide notification of the site conditions and remedial actions and to restrict the uses of the land at the site and minimize potential exposure to contaminants.

Actions Needed

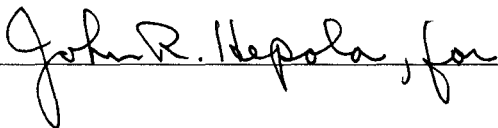
To address the findings during the second five-year review, several recommendations and follow-up actions have been identified for the site. Periodic site inspections should occur to insure the deed notice is functioning as intended. It is recommended that the five (5) monitoring wells be plugged because the 8 year monitoring program has shown that there are no PCB's in the ground water. Operations and maintenance of the cap, namely mowing, should continue.

Determinations

I have determined that the remedy for the Tenth Street Superfund Site is protective of human health and the environment in the short term, and will continue to be protective so long as the action items identified in the Five-Year Review Report are addressed as described above.

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

Date



7/28/06

CONCURRENCES

SECOND FIVE-YEAR REVIEW
Tenth Street Dump/Junkyard Superfund Site
EPA ID# OKD980620967

By: Bartolomé J. Cañellas Date: 7/18/2006
Bartolomé J. Cañellas, U.S. EPA
Remedial Project Manager

By: Gloria Moran Date: 7/18/2006
Gloria Moran, U.S. EPA
Assistant Regional Counsel

By: Mark Peycke Date: 07/27/06
Mark Peycke, U.S. EPA
Chief, Superfund Branch, Office of Regional Counsel

By: Sing Chia Date: 7-28-06
Sing Chia, U.S. EPA
Chief, Louisiana/Oklahoma Program Management Section

By: Wren Stenger Date: 7-28-06
Wren Stenger, U.S. EPA
Chief, Louisiana/New Mexico/Oklahoma Branch

for By: John R. Hepola Date: 7/28/06
Pam Phillips, U.S. EPA
Deputy Director, Superfund Division

Table of Contents

List of Acronyms6
Executive Summary7
Five-Year Review Summary Form8

I. Introduction10

II. Site Chronology.....12

III. Background.....13
Physical Characteristics13
Land and Resource Use13
History of Contamination13
Initial Response13
Basis for Taking Action.....14

IV. Remedial Actions.....15
Remedy Selection16
Remedy Implementation.....17
System Operations/Operation and Maintenance (O&M)18

V. Progress Since the Last Five-Year Review19

VI. Five-Year Review Process.....20
Administrative Components20
Community Involvement20
Document Review20
Data Review.....20
Site Inspection21
Interviews21

VII. Technical Assessment21
Question A: Is the remedy functioning as intended by the
decision documents?.....22
Question B: Are the exposure assumptions, toxicity data,
cleanup levels, and remedial action objectives (RAOs) used at the
time of the remedy still valid?22
Question C: Has any other information come to light that could
call into question the protectiveness of the remedy?23
Technical Assessment Summary23

VIII. Issues.....23

IX. Recommendations and Follow-up Actions.....23

X. Protectiveness Statement(s).....24

XI. Next Review.....24

Tables

Table 1 - Chronology of Site Events.....12
Table 2 - Feasibility Study Alternatives Summary.....15
Table 3 - Initial PCB Results for Groundwater Monitoring18
Table 3 - Annual System Operations/O&M Costs19
Table 4 - Issues23
Table 5 - Recommendations and Follow-Up Actions.....24

Appendix

- Appendix 1 - Site Location Maps
- Appendix 2 - List of Documents Used in the Review
- Appendix 3 - Photographs
- Appendix 4 - Site Inspection Checklist
- Appendix 5 - Interviews
- Appendix 6 – Community Involvement, DEQ Press Release (5/23/2006)

List of Acronyms

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 also known as Superfund: Amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA).
CFR	Code of Federal Regulations
DEQ	Oklahoma Department Of Environmental Quality
EPA	United States Environmental Protection Agency
FS	Feasibility study
FR	Federal Register
IAG	Interagency Agreement
NCP	National Oil and Hazardous Substances Contingency Plan
NPL	National Priorities List: A list of sites identified for remediation under CERCLA.
O&M	Operation and maintenance
OSWER	Office of Solid Waste and Emergency Response
PCBs	Polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
RD	Remedial design
RI/FS	Remedial investigation/ feasibility study
ROD	Record of Decision: Documents selection of cost-effective Superfund financed remedy.
SARA	Superfund Amendments and Reauthorization Act of 1986. (See CERCLA.)
SWDA	Solid Waste Disposal Act
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineer
WasteLAN	The Regional database related to CERCLIS

Executive Summary

Pursuant to Section 121(c) of the Comprehensive Environmental Response, Compensation & Liability Act (“CERCLA” or “Superfund”), 42 United States Code (USC) §9621(c), the second five-year review of the remedy in place has been completed for the Tenth Street Dump/Junkyard Superfund Site (“site” or “Tenth Street site”) located in Oklahoma County, Oklahoma.. The results of the five-year review indicate that the remedy is protective of human health and the environment in the short-term. No deficiencies were noted that currently impact the short-term protectiveness of the remedy, although issues were identified that require further action to ensure the continued long-term protectiveness of the remedy.

Under the statutory requirements of Section 121(c) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), P. L. 99-499, and the subordinate provisions of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) 300.430(f)(4)(ii), performance of five-year reviews are required for sites where hazardous substances remain on site above levels that allow for unlimited use and unrestricted exposure. This situation applies to the Tenth Street site. The U. S. Environmental Protection Agency (EPA) and the Oklahoma Department of Environmental Quality completed the first five-year review at the Tenth Street site in September 2001.

The remedy implemented at the Tenth Street Superfund Site in Oklahoma City, Oklahoma, and completed in January 4, 1996 is protective of human health and the environment. Protection of the ground water has been verified by regular ground water sampling and analysis of the five monitoring wells. This sampling revealed that there are no detectable levels of PCBs in the groundwater. It is recommended that the ground water detection monitoring be discontinued and that the five monitoring wells be plugged.

The trigger for the first five-year review was the actual start of construction on August 28, 1995. This is the second five-year review.

Five-Year Review Summary Form

<i>SITE IDENTIFICATION</i>		
Site name (from WasteLAN): Tenth Street Dump/Junkyard Superfund Site		
EPA ID (from WasteLAN): OKD980620967		
Region: 6	State: Oklahoma	City/County: Oklahoma City/Oklahoma County
<i>SITE STATUS</i>		
NPL status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs?* <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion date: 01 / 07/ 1997	
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
<i>REVIEW STATUS</i>		
Lead agency: <input checked="" type="checkbox"/> EPA <input checked="" type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency _____		
Author name: Oklahoma Department of Environmental Quality and EPA, Region 6		
Author title: Dennis L. Datin	Author affiliation: Oklahoma DEQ	
Review period:** April 2006 to June 2006		
Date(s) of site inspection: 05 / 16 / 2006 and 05/17/2006		
Type of review: <div style="text-align: center; margin-top: 5px;"> <input checked="" type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion </div>		
Review number: <input type="checkbox"/> 1 (first) <input checked="" type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify) _____		
Triggering action: <input type="checkbox"/> Actual RA Onsite Construction at OU # ____ <input type="checkbox"/> Actual RA Start at OU# ____ <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify)		
Triggering action date (from WasteLAN): September 2001		
Due date (five years after triggering action date): September 2006		

Five-Year Review Summary Form, cont'd.

Issues: The second five-year review for this site indicates that the remedial actions set forth in the decision documents for this site continue to be implemented as intended by the decision documents. This assessment has been made based on a review of data available for the site, a site inspection, and technical evaluation. The site inspection revealed some minor issues that do not alter the protectiveness statement but that do require some action. These issues include: the 5 year ground water monitoring is maintained though the results indicate that there are no PCBs in the groundwater; on a small portion of the fence on the east side, a post is bent and the fence fabric is not attached; the warning sign from the front gate is missing; and small trees are starting to grow along the fenceline.

Recommendations and Follow-up Actions: To address the issues identified during the second five-year review, the following recommendations are made: discontinue ground water detection monitoring and plug all monitoring wells; repair the damaged fence post and reattach the fence fabric; replace the warning sign; and eliminate trees along the fenceline.

Protectiveness Statement(s): The remedy implemented at the Tenth Street Superfund Site in Oklahoma City, Oklahoma, and completed on January 4, 1996 is protective of human health and the environment. Protection of the ground water has been verified by ground water detection monitoring of the five monitoring wells. This monitoring revealed that there are no detectable levels of PCBs in the groundwater.

Second Five-Year Review Report Tenth Street Dump/Junkyard Superfund Site

The United States Environmental Protection Agency (EPA) Region 6 and the Oklahoma Department of Environmental Quality (ODEQ) conducted a second five-year review of the remedial action implemented at the Tenth Street Dump/Junkyard Superfund Site (“site” or “Tenth Street site”), located in Oklahoma County, Oklahoma, for the period between September 2001 (when the first five-year review was completed) and May 2006. The purpose of a five-year review is to determine whether the remedy at a site remains protective of human health and the environment, and to document the methods, findings, and conclusions of the five-year review in a report. Five-Year Review Reports identify issues found during the review, if any, and make recommendations to address the issues. This Second Five-Year Review Report documents the results of the review for the Tenth Street Superfund site, conducted in accordance with EPA guidance on five-year reviews.

EPA guidance on conducting five-year reviews is provided by Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-03B-P, *Comprehensive Five-Year Review Guidance*. EPA and ODEQ personnel followed the guidance provided in this OSWER directive in conducting the five-year review performed for the Tenth Street site.

I. Introduction

The purpose of a five-year review is to determine whether the remedy at the Tenth Street site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them. EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA § 121 (c), as amended, states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such 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 review, and any actions taken as a result of such reviews.

The NCP part 300.430(f)(4)(ii) of the Code of Federal Regulations (CFR) 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 Oklahoma Department of Environmental Quality (DEQ) conducted the second five-year review of the remedy implemented at the Tenth Street Superfund Site in Oklahoma City, Oklahoma. This review was conducted by the DEQ Project Manager for the site. This report documents the results of the review.

This is the second five-year review for the Tenth Street Superfund site. The triggering action for this statutory review is the date of the start of the remedial action, which was August 28, 1995 and the date of the first five-year review which was September 2001. In accordance with the EPA five-year review guidance, the five-year review for the Tenth Street site is being conducted because the implemented remedial action resulted in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure. The second review for the Tenth Street Superfund Site must be completed by September 2006.

II. Site Chronology

Table 1: Chronology of Site Events

EVENTS	DATES
North Canadian River channelized and levees built, removing the meander loop, which crossed through the Site. Site was operated as a municipal landfill.	1951 – 1954
No activity noted at the Site.	1954 – 1959
Site was operated as a salvage yard.	1959 – 1985
EPA inspected the Site, finding drums, which were bulging, corroded and/or leaking.	1983
EPA sampled soils and drums and posted warning signs at the Site.	1984 – 1985
EPA Region VI Regional Administrator approved a removal action to fence and cap the Site.	Aug 16, 1985
Phase I removal action conducted by Region VI Emergency Response Clean Up Service contractor to decontaminate and relocate automobiles, spare parts, the office building and tire repair machine shop.	Sep 12-27, 1985
Phase II removal action conducted to level, temporary cap placed, and seeded Site; installed fencing; and disposed of 20 drums.	Dec 9, 1985 - Apr 10, 1987
Site proposed for the National Priorities List (52 FR 2492).	January, 1987
Site added to the National Priorities List (52 FR 27620).	July, 1987
Field investigation conducted for Remedial Investigation Report.	April, 1989
Feasibility Study Report published.	July, 1990
Record of Decision (ROD) issued requiring chemical treatment of the PCB-contaminated soil.	Sep 27, 1990
Feasibility Study Report Addendum published.	April 1993
Public Notice announced Amended Proposed Plan.	July 13, 1993
Amended ROD (including responses to comments from public) issued requiring capping of contaminated soil meeting technical requirements for caps under the Toxic Substances Control Act (TSCA) 40 CFR 761.75 (b) (1) and (2).	Sep 30, 1993
EPA issued Interagency Agreement No. DW96950179-01-0 to the USCOE to perform remedial design.	May 11, 1994
EPA issued Interagency Agreement No. DW96950200-01-0 to the USCOE to perform remedial action.	Sep 28, 1994
Final Remedial Design completed.	January, 1995
O & M Plan	May 1995
Awarded Contract DACW56-95-C-0027 for construction of the remedial action to Abatement Systems, Inc.	Apr 26, 1995
Notice To Proceed issued.	May 31, 1995
Remediation activities at the Site began.	Aug 28, 1995
Pre-final inspection conducted with determination that remedial action construction activities were substantially complete, except turfing.	Jan 4, 1996
4-Month Warranty Inspection	Apr 30, 1996
EPA Issued Preliminary Close-Out Report	Jun 11, 1996
8-month Warranty Inspection	Sep 18, 1996
Final Inspection	January, 1997
Operational and Functional Determination	January, 1997
The site was deleted from the NPL	November 21, 2000
First five-year review completed	August 2001

III. Background

Physical Characteristics

The Site is located in an industrial and residential area in northeast Oklahoma City, Oklahoma (Section 31, Township 12 North, Range 2 West). The Site is located on the south side of Tenth Street between Bryant Avenue and the North Canadian River and covers approximately 3.5 acres (Figure 1). One residence is located adjacent to the west side of the Site. Residential subdivisions are located approximately one block to the north and approximately one block to the west of the Site.

Aerial photos show that in 1951 a meander loop of the North Canadian River cut almost directly through the Site, making the Site subject to a 100-year flood. Between 1951 and 1954, the river was channelized and levees were constructed on both sides of the river.

Land and Resource Use

The site is in an area of mixed residential and industrial land use, and is surrounded on three sides by active automobile salvage yards. In the September 27, 1990 Record of Decision, EPA indicates an industrial land use to this site. The site is currently not being used. The site is owned by a private land owner.

Although insufficient information exists to classify the alluvial aquifer at the site, EPA believes the appropriate classification is Class II, a potential drinking water supply. The aquifer is not contaminated with PCBs, meets primary drinking water standards, does not exceed 10,000 ppm total dissolved solids, and probably yields more than 150 gallons per day. No users of the alluvial aquifer have been identified; all known water supply wells in the immediate area are probably completed in the Garber-Wellington.

History of Contamination

The Site, including the cutoff meander loop, was operated as a municipal landfill between 1951 and 1954. No activity at the Site was noted between 1954 and 1959. Beginning in 1959, Mr. Raymond Cobb leased the Site from Mr. Sullivan Scott and used the Site as a salvage yard, accepting materials such as tires, solvents, and transformers. The dielectric fluids from the transformers contained Polychlorinated Biphenyls (PCBs). The fluids were drained from the transformers, then transferred to barrels and sold. During the recovery process, substantial quantities of oil were spilled onto the ground. Mr. Cobb continued this operation until his death in 1979, when Mr. Rolling Fulbright began operating the Site as Deadeye's Salvage Yard, an automobile salvage yard.

Sampling by the EPA in 1984 and 1985 identified PCB concentrations up to 39,000 parts per million (ppm) in the soil.

Initial Response Actions

After reviewing the data, EPA determined that the contaminants posed a potential health threat. The Regional Administrator authorized a removal action in an Action Memorandum dated August 23, 1985. EPA began the removal action for the Site in September 1985 to address direct human contact threats and the potential for offsite migration of contaminants.

The removal action was successfully completed in April 1987. The removal action consisted of:

- Removing and disposing of the electrical equipment and drums containing hazardous substances;
- Decontaminating and relocating of automobiles and other salvage material;
- Consolidation of contaminated soils to the center of the Site;
- Grading of the Site for effective drainage,
- Installation of a temporary synthetic liner and clay cap; and
- Erection of a security fence around the Site.

The Site was proposed for the National Priorities List (NPL) in January 1987 (52 FR 2492) and placed on the NPL in July 1987 (52 FR 27620).

Basis for Taking Action

The purpose of the response actions conducted at the Tenth Street site was to protect public health and welfare and the environment from releases or threatened releases of hazardous substances from the site.

The EPA initiated a Remedial Investigation/Feasibility Study (RI/FS) in 1989. The RI determined the types and amounts of contaminants present at the Site and discovered the extent of contamination. The RI indicated that PCBs were the contaminants of concern at the Site, and were limited to surface and subsurface soils at the Site. The predominant PCB species present was Aroclor 1260.

The groundwater table at the site ranged from about 1151.7 Mean Sea Level (MSL) to about 1150.0 MSL. Contaminated soil at its deepest point onsite was approximately 3 feet above the water table. No PCBs or other compounds were detected in groundwater samples taken during the RI. In addition, surface water samples were collected during the RI and no contaminants attributable to the Site were detected.

Human Health and Environmental Impacts

The human health risk assessment conducted during the Remedial Investigation (RI) indicated that carcinogenic risks posed by the site were attributed to PCB contamination in the soil. The average lifetime carcinogenic risk from direct contact with soil, based on the average concentration of PCBs in soil was estimated to be 3.8×10^{-5} excess cancer incident.

The environmental risks associated with contaminants at the site were reported during the RI to be non-measurable or minimal. Surface waste samples collected showed no organic chemicals related to the site. In addition biota samples collected indicated that the North Canadian River, downstream from the site, contained more individual and species than upstream.

During 1987, the U. S. Fish and Wildlife Service of the Department of the Interior conducted a Preliminary Natural Resource Survey and granted a release from natural resource damages.

Feasibility Study

The Feasibility Study (FS) developed and evaluated a range of alternatives to remediate the soil contamination. A total of 5 alternatives were considered after a screening process. Table 1 below lists the alternatives considered.

Table 2. **Feasibility Study Alternatives Summary, Tenth Street Superfund Site, Oklahoma City, Oklahoma**

Alt. Number	Alternative Description	Capital Cost	Annual O & M cost	Present Worth Cost	Implementation Time
1	No Action	\$ 2,500	\$ 11,800	\$ 184,200	30 years for O& M
3	Excavation and Off-site Disposal	\$ 4,037,000	\$ 0	\$ 4,037,000	3 months
4	Excavation, Onsite-Chemical Treatment and Disposal Onsite	\$ 4,044,000	\$ 0	\$ 4,044,000	6-9 months
5	Excavation, Onsite Thermal Treatment, and Disposal Onsite	\$ 4,406,000	\$ 0	\$ 4,406,000	6-9 months
6	Excavation and Offsite Thermal Treatment	\$17,829,000	\$ 0	\$ 17,829,000	3 months

Note: Alternative 2 was screened out prior to the detailed evaluation of alternatives because the site was in a flood plain and because the alternative would not satisfy the preference for treatment expressed in SARA, (ROD, September 27, 1990).

IV. Remedial Actions

Remedial Action Objectives

Based upon the concentration and risk of PCBs, the Site was determined to pose a principal threat because of the potential for direct contact with the contaminated soil and the soil's potential impact on groundwater. The scope of the response action was to address the principal threat at the Site by preventing current or future exposure to the contaminated soil through treatment and/or containment, and reducing or controlling the potential migration of contaminants from the soil to groundwater.

Remedy Selection

A proposed plan for the Site was issued in August 1990, presenting the preferred alternative of chemical dechlorination of the contaminated soil. The EPA Regional Administrator for Region 6 signed a Record of Decision (ROD) on September 27, 1990. In the ROD, EPA selected Alternative 4 - Excavation, Onsite Chemical Treatment and Disposal Onsite, as the

remedy for the Tenth Street Superfund Site. As noted in the ROD in the "Statement of Basis and Purpose", the State of Oklahoma (State) did not support the original remedy selected in the ROD.

The major components of the Selected Remedy included:

- Removal of the existing red clay cover and the visqueen plastic liner placed during the removal action;
- Excavation of an estimated 7,500 cubic yards of PCB contaminated soil with concentrations of 25 ppm and higher;
- Chemical treatment of the excavated contaminated oil by a chemical dechlorination process meeting the Toxic Substances Control Act (TSCA) PCB alternative treatment requirements;
- Backfill the treated soil in the excavated area; and
- Grade the site for effective drainage and establish vegetative cover.

During the Remedial Design (RD) phase of the onsite chemical treatment remedy, the EPA became aware of problems with the implementation of this process at other Superfund sites. Problems that were experienced included: low production rates; severe odor problems during the treatment process in the soil after treatment; "soupy" (wet) physical condition of the treated soil and the ensuing need for stabilization before placement back on the ground as backfill; soil volume increases of 100% during treatment, causing space problems for backfilling on the site; and leaching of residual reagent from the soil following treatment.

In addition to the technical problems related to chemical dechlorination experienced at other Superfund sites, onsite treatment of the contaminated soil was further complicated as the result of construction debris and other types of solid waste that had been dumped at the Tenth Street Site previous to the PCB spills. The contaminated soil from PCBs became mixed with the solid waste. The materials handling problems from such a mixture greatly complicated the treatment remedy. Projected construction costs were also greatly increasing. As a result, EPA re-evaluated the remedial alternatives at the Site.

ROD Amendment

On September 30, 1993, the EPA Regional Administrator for Region 6 signed an Amended ROD, with State concurrence. The amended remedy addressed approximately 9,800 cubic yards of soil contaminated with PCBs at or above 25 ppm. The objective of the amended remedy was the same as the original ROD, which was to protect human health and the environment by preventing current or future exposure to the contaminated soil through treatment and/or containment, and reducing or controlling the potential migration of contaminants from the soil to groundwater. The major components of the selected remedy as reflected in the Amended ROD included:

- Excavation and placement of contaminated soil from the roadway right-of-way on the south side of N.E. Tenth Street onto the existing cap;
- Allowing the Oklahoma Department of Transportation's widening of Tenth Street to cover contaminated soil in the roadway right-of-way on the North side of N.E. Tenth Street;

- Construction of a new cap meeting the technical requirements for caps under the Toxic Substances Control Act (TSCA), 40 CFR Section 761.75 (b)(1) and (2); and
- Maintenance of the cap and ground water monitoring.

The revised remedy of capping the waste does not satisfy the statutory preference for treatment as a principal element of the remedy. But the EPA, with concurrence from the State of Oklahoma, determined that this alternative was protective of human health and the environment, complied with Federal and State requirements that are applicable or relevant and appropriate, was cost effective compared to equally protective alternatives that utilized permanent solutions and alternative treatment technologies to the maximum extent practicable.

Remedy Implementation

The EPA entered into an Interagency Agreement (IAG) with the U.S. Army Corp of Engineers (USACE) (Tulsa District) to perform the remedial design and the remedial action.

The USACE initiated the remedial action contract on May 31, 1995, and the actual remedial action construction activities at the Site began on August 28, 1995. The major components of the remedial action included:

- * Drum sampling and disposal.
- * Overdrilling and grouting of existing monitoring wells.
- * Excavation and relocation of PCB-contaminated soil from the perimeter of the Site.
- * Soil sampling of the walls and bottom of the excavated area for PCBs.
- * Placement, grading and compaction of random fill to grade Site at the required foundation elevation.
- * Installation and development of three down-gradient ground water monitoring wells.
- * Placement of 3-foot thick clay barrier layer.
- * Placement of geomembrane, drainage net, and geotextile.
- * Installation of perimeter drain system.
- * Placement of cover soil and topsoil layers.
- * Monitoring well sampling.
- * Installation of new fence around the Site.
- * Establishment of turf on the cap.

During the remedial action activities, 2 feet of additional excavation was needed in an area which was determined to exceed the PCB cleanup standard after the initial excavation sampling. This additional 275 cubic yards of excavation and the additional testing required added an additional \$17,825 to the original estimated costs.

At the conclusion of the remedial action, approximately 4,655 cubic yards (cy³) of soil with the concentrations of PCBs greater than 25 ppm had been excavated from the north and west perimeter and the south corner of the perimeter of the Site. These soils were then spread in the area where the existing cap, along with the remainder of the waste (from the Removal Action in 1987), was located. This area was then capped, spigged and fertilized. A new fence was also installed around the Site.

The remedial action contractor obtained samples from the 5 monitoring wells (3 new downgradient wells which are MW3A, MW 4A, and MW 5A and 2 existing upgradient wells which are M-1 and M-2) and analyzed them for PCBs. All analyses showed non-detectable levels of PCBs, indicating that no PCBs are leaching into the groundwater and migrating offsite. The results of the analyses are shown in Table 2 below.

**TABLE 3. INITIAL PCB RESULTS FOR GROUNDWATER MONITORING
1996 SAMPLING
(µg/l)**

Analyte	M-1	M-2	MW 3A	MW 4A	MW 5A
Arochlor 1016	< 10.0	< 10.0	< 0.5	< 0.5	< 0.5
Arochlor 1221	< 10.0	< 10.0	< 0.5	< 0.5	< 0.5
Arochlor 1232	< 10.0	< 10.0	< 0.5	< 0.5	< 0.5
Arochlor 1242	< 10.0	< 10.0	< 0.5	< 0.5	< 0.5
Arochlor 1248	< 10.0	< 10.0	< 0.5	< 0.5	< 0.5
Arochlor 1254	< 20.0	< 20.0	< 0.5	< 0.5	< 0.5
Arochlor 1260	< 20.0	< 20.0	< 0.5	< 0.5	< 0.5

NOTE: The MCL for PCBs is 0.5 µg/l.
The remedial action was completed on January 4, 1996.

Operation and Maintenance

The initial Operations and Maintenance plan had the cap inspected once a month or immediately following a heavy rainfall event for the first six months and then every six months thereafter. Groundwater monitoring occurred once every year. An annual report was to be developed following receipt of laboratory data from the monitoring well sampling. From the results of the sampling over several years (see Table 4), it has been determined that there is no need to continue sampling of the wells. Therefore, it is recommended that the five monitoring wells be plugged this year.

In January 1997, the State of Oklahoma began inspection, maintenance, and monitoring activities in accordance with the approved O&M Plan issued May 1995. The ground water monitoring wells at the Site were sampled annually at the beginning of O&M. Monitoring consists of sampling 5 monitoring wells, 2 up gradient and 3 down gradient, to verify that PCBs from this Site are not contaminating the ground water. Additionally, the grass on the cap was mowed three times the first year and twice the second year and third years and then will be mowed only once a year for several years. The mowing of the grass cover was changed in 2004 to once again mowing three times per year. More frequent mowing is easier than mowing once

per year. The cap is inspected for damage on regular basis. Repairs from erosion or other damage will be made as necessary by the State. To date, no repairs of the cap have been needed.

Table 3: Annual System Operations/O&M Costs

Dates		Total Cost rounded to nearest \$1000
From	To	
July 1, 1997	June 30, 1998	1800
July 1, 1998	June 30, 1999	1800
July 1, 1999	June 30, 2000	1600
July 1, 2000	June 30, 2001	1650
July 1, 2001	June 30, 2002	600
July 1, 2002	June 30, 2003	1500
July 1, 2003	June 30, 2004	600
July 1, 2004	June 30, 2005	1950
July 1, 2005	June 30, 2006	900

V. Progress Since the Last Five-Year Review

Since the first five-year review was conducted in August, 2001, the mowing of the grass cover was changed to mowing three times per year from once per year, locks were placed on the monitoring wells, a deed notice was prepared and filed in the land records, and ground water detection monitoring was changed from once per year to every two years.

VI. Five-Year Review Process

Administrative Components

The five-year review team consisted of Dennis L. Datin of the DEQ. The review was conducted from April 2006 to July 2006. The tasks for the five-year review included:

1. Review of existing sampling data up to September 2005,
2. Inspection of the site on May 16, 2006,
3. A press release stating that a five-year review was underway, and
4. Preparation of the five-year review report.

Community Involvement

The community was notified on May 23, 2006 that a five-year review was being conducted. A copy of the Press Release issued by the ODEQ is provided as an attachment to this report.

Upon signature, the Second Five-Year Review Report will be placed in the information repositories for the site, both local to the site and at the EPA Region 6 office in Dallas, Texas. A notice will then be published in the local newspaper to summarize the findings of the review and announce the availability of the report at the information repositories.

Documents Review

The following documents were reviewed to complete this five-year review. These documents included:

- The first five-year review, September 2001 and
- Groundwater Assessment reports, 1996-2005.

Data Review

Prior to the completion of the remedial action, ground water sampling was conducted as part of the confirmation sampling (See Table 2 in Remedy Implementation Section). The O& M plan also required ground water sampling once a year. Table 4 below summarizes the results of the annual ground water sampling. No PCBs were detected in the groundwater between 1996 and September 2004. In the first Five-year Review, it was decided that the monitoring could be modified to once every two years instead of once every year because the PCBs being below the MCLs.

TABLE 4. ANNUAL PCB RESULTS FOR GROUNDWATER MONITORING, 1997-2004
(µg/l)

ANALYTE	M1S	M2S	MW3AS	MW4AS	MW5AS
Total PCBs in Water September 1997	< 0.300	< 0.300	< 0.300	< 0.300	< 0.300
Total PCBs in Water September 1998	< 0.220	< 0.300	< 0.300	< 0.300	< 0.300
Total PCBs in Water September 1999	N	N	N	N	N
Total PCBs in Water September 2000	N	N	N	N	N
Total PCBs in Water September 2002	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019
Total PCBs in Water September 2004	<0.190	<0.190	<0.190	<0.190	<0.190

NOTE 1: N = No PCBs detected and confirmed.

NOTE 2: The sampling method used is EPA Method 608.

Site Inspection

Dennis L. Datin and Kelly Dixon of the ODEQ conducted a site inspection on May 16, 2006. The visual inspection revealed that the site cap cover is sound and that the vegetative cover is adequate. The fence was in good shape except for one post on the east side that was bent at an approximate 45 degree angle toward the west. The groundwater monitoring wells are located outside of the fenced area. Some of the protective bollards at some of the wells are gone. The wells themselves were in good condition.

Interviews

On May 18, 2006 Gayla Scott, whose father lives next to the site, was interviewed. She had no problems with the remedy but had concerns about the stigma of owning part of a superfund site and wondered how that would affect the selling of the property. She would like for the address of her father's house to be taken out of the documentation concerning the location of the site. The deed notice was revised to use the metes and bounds description of the property for the site and does not use the house address of this adjacent landowner.

On May 18, 2006 Robbie Kienzie of the Oklahoma City Planning Department was interviewed. She had no problems with the site.

VII. Technical Assessment

An overall assessment of the remedy implemented at the Site was conducted to confirm that the selected remedy is operating according to the ROD expectations and is still protective of human health and the environment. The assessment was used to primarily answer the following questions:

- Is the remedy functioning as intended by the decision documents?

- Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?
- Has any other information come into light that could call into question the protectiveness of the remedy?

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

The decision document for the Tenth Street site is the September 30, 1993 amended ROD. All activities at the Site were consistent with the ROD, as amended, and with the RD and RA statements of work issued to the USCOE for design and construction of the remedy.

All contaminated soil with more than 25 ppm PCBs was placed under a clay barrier layer with a geo-membrane liner. Infiltration of precipitation is retarded because of this liner, thereby reducing the possibility of leaching of the contaminants into the ground water. The inspection and maintenance of the cap according to the O & M plan insures that cap's integrity remains in place.

Sampling of the ground water has revealed that no PCBs are present, which supports the protectiveness of the remedy.

The health and safety plan for the site is adequate. Access control to the site is adequate with the chain link fence in good condition and locks are on the gates. The performance of the remedial action continues as originally planned.

The operation and maintenance of the site is easily accomplished with mowing to control the grass taking place usually in September of each year. The groundwater sampling usually occurs in September of each year. The cost of mowing the site is about \$1050 per year. Since the ground water has shown the PCBs to be below the MCLs, the plugging of the wells is recommended.

Since the site has been closed, there have been no changes in the effectiveness of the remedy and the remedy is functioning adequately. There have been no changes in land use of the surrounding areas since the remedy began.

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

The baseline risk assessment conducted during the 1990 RI/FS and a second risk assessment conducted in March 1993 for the amended ROD was based on an exposure scenario for an industrial worker.

Current and future land uses are expected to remain industrial onsite and residential offsite. Although no formal land use plan was obtained from the City of Oklahoma, land use patterns in the immediate vicinity of the site are consistent with these designations, and consequently are consistent with the assumptions in the ROD.

The MCL for PCBs in the groundwater is 0.5 µg/l. The remedial action complies with all applicable and relevant and appropriate requirements (ARARs). These include the EPA and DEQ rules and regulations.

Because the cap is functional and no PCBs were found in the groundwater, no risk recalculation/assessment was necessary for this site.

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

The type of other information that might call into question the protectiveness of the remedy include potential future land use changes in the vicinity of the site or other expected changes in site conditions or exposure pathways. A request was made by a landowner whether the site could be used to store junk vehicles at this location. The deed notice requires DEQ approval before any use can occur on the cap. Any use like this would require additional protective cover material. No other information has come to light as part of this second five-year review for the site that would call into question the protectiveness of the site remedy. Although the site is in the 100-year flood plain, the USACE has confirmed that current controls, such as levees, are still protective. This demonstrates that the cap will not be impacted from a 100-year flood.

Technical Assessment Summary

The technical assessment, based on the data review, site inspection, and technical evaluation indicates that the remedial actions selected for the site continue to be implemented as intended by the decision document.

VIII. Issues

Table 7: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Fence on the east side of the site had one post that was bent	N	N
Protective bollards at some of the monitor wells are gone	N	N
Sign was not on the site fence	N	N
Small trees along the fence line	N	N

IX. Recommendations and Follow-up Actions

Table 8: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Bent Post	Straighten post	DEQ	EPA	September 2006	N	N
Monitor Wells	Plug wells	DEQ	EPA	September 2006	N	N
Protective Bollards	Plug wells	DEQ	EPA	September 2006	N	N
Sign	Replace Sign	DEQ	EPA	September 2006	N	N

X. Protectiveness Statement

The remedy implemented at the Tenth Street Superfund Site in Oklahoma City, Oklahoma, is protective of human health and the environment. Protection of the ground water has been verified by the regularly ground water sampling of the five monitoring wells, in which this sampling has revealed that there are no detectable levels of PCBs in the groundwater.

XI. Next Review

The next five-year review, the third for the site, will be due on September 2011, which is 5 years from the date of this report.

List of Documents Reviewed

U. S. Environmental Protection Agency, Tenth Street Superfund Site Feasibility Study Report, EPA Region 6, July 1990.

U. S. Environmental Protection Agency, Tenth Street Superfund Site Feasibility Study Report Addendum, EPA Region 6, April 1993.

U. S. Environmental Protection Agency, Tenth Street Dump, Record of Decision, EPA Region 6, September 1990.

U. S. Environmental Protection Agency, Tenth Street Site, Amended Record of Decision, EPA Region 6, September 1993.

U.S. Army Corps of Engineers, Tulsa District, 10th Street Superfund Site Final Design Analysis, June 1995.

U.S. Army Corps of Engineers, Tulsa District, 10th Street Superfund Site Construction Specifications and Plans, January 1995.

U.S. Army Corps of Engineers, Tulsa District, Tenth Street Superfund Site Preliminary Close Out Report -Draft, February 1996.

U. S. Environmental Protection Agency, Comprehensive Five-Year Review Guidance, (OSWER No. 9355.7-03B-P or EPA 540-R-01-007), June 2001.

U. S. Environmental Protection Agency and the Oklahoma Department of Environmental Quality, First Five-Year Review Report for Tenth Street Superfund Site, September 2001.

Oklahoma Department of Environmental Quality, Ground water data, 1997 – 2004.

APPENDIX 1
Site Location Maps

000152

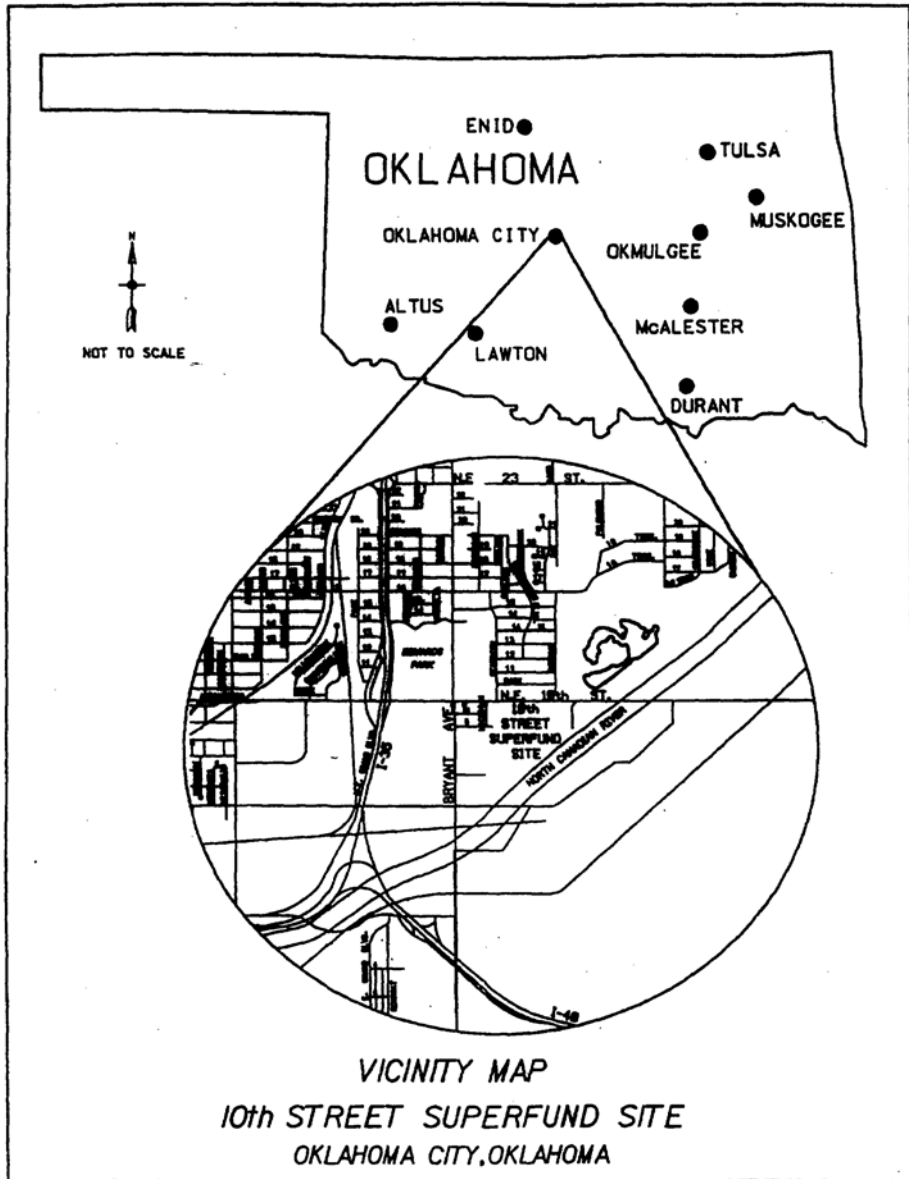


Figure 1



APPENDIX 2

List of Documents Used in the Review

U. S. Environmental Protection Agency, Tenth Street Superfund Site Feasibility Study Report, EPA Region 6, July 1990.

U. S. Environmental Protection Agency, Tenth Street Superfund Site Feasibility Study Report Addendum, EPA Region 6, April 1993.

U. S. Environmental Protection Agency, Tenth Street Dump, Record of Decision, EPA Region 6, September 1990.

U. S. Environmental Protection Agency, Tenth Street Site, Amended Record of Decision, EPA Region 6, September 1993.

U.S. Army Corps of Engineers, Tulsa District, 10th Street Superfund Site Final Design Analysis, June 1995.

U.S. Army Corps of Engineers, Tulsa District, 10th Street Superfund Site Construction Specifications and Plans, January 1995.

U.S. Army Corps of Engineers, Tulsa District, Tenth Street Superfund Site Preliminary Close Out Report -Draft, February 1996.

U. S. Environmental Protection Agency, Comprehensive Five-Year Review Guidance, (OSWER No. 9355.7-03B-P or EPA 540-R-01-007), June 2001.

U. S. Environmental Protection Agency and the Oklahoma Department of Environmental Quality, First Five-Year Review Report for Tenth Street Superfund Site, September 2001.

Oklahoma Department of Environmental Quality, Ground water data, 1997 – 2004.

APPENDIX 3

Site Photographs



Photo 1. Tenth Street Superfund site vegetative cover.



Photo 2. Monitoring well for the Tenth Street Superfund site.



Photo 3. Bent post in the fence on the East side of the Tenth Street Superfund site.

APENDIX 4

Site Inspection Checklist

Site Inspection Checklist

I. SITE INFORMATION													
Site name: Tenth Street Superfund Site	Date of inspection: May 16, 2006												
Location and Region: Oklahoma City, OK Region 6	EPA ID: OKD980620967												
Agency, office, or company leading the five-year review: Oklahoma DEQ	Weather/temperature: Clear/68 F												
Remedy Includes: (Check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other Ground water Sampling </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls </td> </tr> </table>		<input checked="" type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other Ground water Sampling	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls										
<input checked="" type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other Ground water Sampling	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls												
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached													
II. INTERVIEWS (Check all that apply)													
1. O&M site manager _____ <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 40%; text-align: center;">Name</td> <td style="width: 30%; text-align: center;">Title</td> <td style="width: 30%; text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____</td> </tr> <tr> <td colspan="3">Problems, suggestions; <input type="checkbox"/> Report attached _____</td> </tr> <tr> <td colspan="3">_____</td> </tr> </table>		Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____			Problems, suggestions; <input type="checkbox"/> Report attached _____			_____		
Name	Title	Date											
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____													
Problems, suggestions; <input type="checkbox"/> Report attached _____													

2. O&M staff _____ <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 40%; text-align: center;">Name</td> <td style="width: 30%; text-align: center;">Title</td> <td style="width: 30%; text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____</td> </tr> <tr> <td colspan="3">Problems, suggestions; <input type="checkbox"/> Report attached _____</td> </tr> <tr> <td colspan="3">_____</td> </tr> </table>		Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____			Problems, suggestions; <input type="checkbox"/> Report attached _____			_____		
Name	Title	Date											
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____													
Problems, suggestions; <input type="checkbox"/> Report attached _____													

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency _____
Contact _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____
Name Title Date Phone no.
Problems; suggestions; Report attached _____

4. **Other interviews** (optional) Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents <input checked="" type="checkbox"/> O&M manual <input type="checkbox"/> As-built drawings <input type="checkbox"/> Maintenance logs Remarks _____ _____	<input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A
2.	Site-Specific Health and Safety Plan <input type="checkbox"/> Contingency plan/emergency response plan Remarks _____ _____	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> N/A <input type="checkbox"/> N/A
3.	O&M and OSHA Training Records Remarks _____ _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
4.	Permits and Service Agreements <input type="checkbox"/> Air discharge permit <input type="checkbox"/> Effluent discharge <input type="checkbox"/> Waste disposal, POTW <input type="checkbox"/> Other permits _____ Remarks _____ _____	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A
5.	Gas Generation Records Remarks _____ _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> N/A
6.	Settlement Monument Records Remarks _____ _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> N/A
7.	Groundwater Monitoring Records Remarks _____ _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
8.	Leachate Extraction Records Remarks _____ _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> N/A
9.	Discharge Compliance Records <input type="checkbox"/> Air <input type="checkbox"/> Water (effluent) Remarks _____ _____	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> N/A <input type="checkbox"/> N/A
10.	Daily Access/Security Logs Remarks _____ _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> N/A

IV. O&M COSTS

1.	O&M Organization	<input checked="" type="checkbox"/> State in-house <input type="checkbox"/> PRP in-house <input type="checkbox"/> Federal Facility in-house <input type="checkbox"/> Other _____	<input type="checkbox"/> Contractor for State <input type="checkbox"/> Contractor for PRP <input type="checkbox"/> Contractor for Federal Facility
2.	O&M Cost Records	<input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input type="checkbox"/> Funding mechanism/agreement in place Original O&M cost estimate _____ <input type="checkbox"/> Breakdown attached	
Total annual cost by year for review period if available			
	From _____ To _____	_____	<input type="checkbox"/> Breakdown attached
	Date Date	Total cost	
	From _____ To _____	_____	<input type="checkbox"/> Breakdown attached
	Date Date	Total cost	
	From _____ To _____	_____	<input type="checkbox"/> Breakdown attached
	Date Date	Total cost	
	From _____ To _____	_____	<input type="checkbox"/> Breakdown attached
	Date Date	Total cost	
3.	Unanticipated or Unusually High O&M Costs During Review Period	Describe costs and reasons: _____	

V. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Fencing			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
Remarks _____			

B. Other Access Restrictions			
1.	Signs and other security measures	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
Remarks _____			

C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
	Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Type of monitoring (<i>e.g.</i> , self-reporting, drive by) _____		
	Frequency _____		
	Responsible party/agency _____		
	Contact _____		
	Name	Title	Date Phone no.
	Reporting is up-to-date <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
	Reports are verified by the lead agency <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
	Specific requirements in deed or decision documents have been met <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
	Violations have been reported <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
	Other problems or suggestions: <input type="checkbox"/> Report attached		

2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
	Remarks _____		

D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
	Remarks _____		

2.	Land use changes on site	G N/A	
	Remarks _____		

3.	Land use changes off site	G N/A	
	Remarks _____		

VI. GENERAL SITE CONDITIONS			
	A. Roads	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
	Remarks _____		

B. Other Site Conditions			
Remarks _____ _____ _____ _____ _____			
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (Low spots) Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input type="checkbox"/> Settlement not evident
2.	Cracks Lengths _____ Widths _____ Depths _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
3.	Erosion Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> Erosion not evident
4.	Holes Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> Holes not evident
5.	Vegetative Cover <input checked="" type="checkbox"/> Grass <input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks _____		
6.	Alternative Cover (armored rock, concrete, etc.) <input checked="" type="checkbox"/> N/A Remarks _____		
7.	Bulges Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Height _____	<input checked="" type="checkbox"/> Bulges not evident
8.	Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks _____	<input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map	Areal extent _____ Areal extent _____ Areal extent _____ Areal extent _____

9.	Slope Instability	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
	Areal extent _____			
	Remarks _____			

B. Benches				
	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A		
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)				
1.	Flows Bypass Bench		G Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
	Remarks _____			

2.	Bench Breached		G Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
	Remarks _____			

3.	Bench Overtopped		G Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
	Remarks _____			

C. Letdown Channels				
	<input checked="" type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A		
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)				
1.	Settlement		G Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement
	Areal extent _____		Depth _____	
	Remarks _____			

2.	Material Degradation		G Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation
	Material type _____		Areal extent _____	
	Remarks _____			

3.	Erosion		G Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion
	Areal extent _____		Depth _____	
	Remarks _____			

4.	Undercutting		G Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting
	Areal extent _____		Depth _____	
	Remarks _____			

5.	Obstructions	Type _____		<input checked="" type="checkbox"/> No obstructions
	G Location shown on site map		Areal extent _____	
	Size _____			
	Remarks _____			

6.	Excessive Vegetative Growth		Type _____	
	<input checked="" type="checkbox"/> No evidence of excessive growth			
	G Vegetation in channels does not obstruct flow			
	G Location shown on site map		Areal extent _____	
	Remarks _____			

D. Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Vents	<input type="checkbox"/> Active <input type="checkbox"/> Passive	
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance
	<input checked="" type="checkbox"/> N/A		
	Remarks _____		
2.	Gas Monitoring Probes		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A
	Remarks _____		
3.	Monitoring Wells (within surface area of landfill)		
	<input checked="" type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
	Remarks _____		
4.	Leachate Extraction Wells		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A
	Remarks _____		
5.	Settlement Monuments	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed <input checked="" type="checkbox"/> N/A
	Remarks _____		
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	Gas Treatment Facilities		
	<input type="checkbox"/> Flaring	<input type="checkbox"/> Thermal destruction	<input type="checkbox"/> Collection for reuse
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs Maintenance	
	Remarks _____		
2.	Gas Collection Wells, Manifolds and Piping		
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs Maintenance	
	Remarks _____		
3.	Gas Monitoring Facilities (<i>e.g.</i> , gas monitoring of adjacent homes or buildings)		
	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> N/A
	Remarks _____		
F. Cover Drainage Layer <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Outlet Pipes Inspected	<input checked="" type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks _____		
2.	Outlet Rock Inspected	<input checked="" type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks _____		
G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			

1.	Siltation	Areal extent _____	Depth _____	■ N/A
	G Siltation not evident			
	Remarks _____			
2.	Erosion	Areal extent _____	Depth _____	
	G Erosion not evident			
	Remarks _____			
3.	Outlet Works	G Functioning	■ N/A	
	Remarks _____			
4.	Dam	G Functioning	■ N/A	
	Remarks _____			
H. Retaining Walls		G Applicable	■ N/A	
1.	Deformations	G Location shown on site map	G Deformation not evident	
	Horizontal displacement _____	Vertical displacement _____		
	Rotational displacement _____			
	Remarks _____			
2.	Degradation	G Location shown on site map	G Degradation not evident	
	Remarks _____			
I. Perimeter Ditches/Off-Site Discharge		G Applicable	■ N/A	
1.	Siltation	G Location shown on site map	G Siltation not evident	
	Areal extent _____	Depth _____		
	Remarks _____			
2.	Vegetative Growth	G Location shown on site map	■ N/A	
	G Vegetation does not impede flow			
	Areal extent _____	Type _____		
	Remarks _____			
3.	Erosion	G Location shown on site map	■ Erosion not evident	
	Areal extent _____	Depth _____		
	Remarks _____			
4.	Discharge Structure	G Functioning	■ N/A	
	Remarks _____			
VIII. VERTICAL BARRIER WALLS		G Applicable	■ N/A	
1.	Settlement	G Location shown on site map	G Settlement not evident	
	Areal extent _____	Depth _____		
	Remarks _____			

2.	Performance Monitoring	Type of monitoring _____ <input type="checkbox"/> Performance not monitored Frequency _____ <input type="checkbox"/> Evidence of breaching Head differential _____ Remarks _____ _____
C. Treatment System		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
1.	Treatment Train (Check components that apply)	<input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent) _____ <input type="checkbox"/> Others _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually _____ <input type="checkbox"/> Quantity of surface water treated annually _____ Remarks _____ _____
2.	Electrical Enclosures and Panels (properly rated and functional)	<input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Tanks, Vaults, Storage Vessels	<input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance Remarks _____ _____
4.	Discharge Structure and Appurtenances	<input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
5.	Treatment Building(s)	<input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks _____ _____
6.	Monitoring Wells (pump and treatment remedy)	<input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____
D. Monitoring Data		
1.	Monitoring Data	<input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality
2.	Monitoring data suggests:	<input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining
D. Monitored Natural Attenuation		

1.	<p>Monitoring Wells (natural attenuation remedy)</p> <p>G Properly secured/locked G Functioning G Routinely sampled G Good condition</p> <p>G All required wells located G Needs Maintenance ■ N/A</p> <p>Remarks _____</p> <p>_____</p>
X. OTHER REMEDIES	
Not Applicable	
XI. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy
The remedy is operating as planned. No significant issues noted during the site inspection.	
B.	Adequacy of O&M
O&M procedures are being implemented in accordance with the plan, and appear to be adequate.	
C.	Early Indicators of Potential Remedy Problems
No significant issues noted during the site inspection.	
D.	Opportunities for Optimization
Because the ground water data shows non detects for the PCBs, plugging of the ground water wells will be done.	

APPENDIX 5

Site Interviews

INTERVIEW RECORD		
Site Name: Tenth Street Superfund Site		EPA ID No.: OKD980620967
Subject: Five-Year Review		Time: Date:
Contact Made By:		
Name: Dennis L. Datin	Title: Engineer	Organization: DEQ
Individual Contacted:		
Name: Robbie Kienzle	Title: Urban Redevelopment Specialist	Organization: Office of Economic Development OKC Planning Department
Telephone No: (405) 297-1740 Fax No: (405) 297-1631 E-Mail Address: robbie.kienzle@okc.gov		Street Address: 420 W. Main, 9th Floor City, State, Zip: Oklahoma City, OK 73102
Summary Of Conversation		
<p>1. What is your overall impression of the project? (general sentiment) <u>Okay</u></p> <p>2. Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give purpose and results. <u>Yes, such as possible reuse of the site.</u></p> <p>3. Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? <u>If so, please give details of the events and results of the responses. No</u></p> <p>4. Do you feel well informed about the site's activities and progress? <u>Yes</u></p> <p>5. Do you have any comments, suggestions, or recommendations regarding the site's management or operation? <u>She says it would have been better to have removed the waste from the site and will glad for the deed notice to be placed on the site.</u></p>		

INTERVIEW RECORD		
Site Name: Tenth Street Superfund Site		EPA ID No.: OKD980620967
Subject: Five-Year Review		Time: Date:
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing
Location of Visit:		
Contact Made By:		
Name: Dennis L. Datin	Title: Engineer	Organization: DEQ
Individual Contacted:		
Name: Gayla Scott	Title: Neighbor	Organization:
Telephone No: 405-843-1565 x4 Fax No: E-Mail Address:	Street Address: 5613 NW 103 rd Place City, State, Zip: Oklahoma City, OK 73162	
Summary Of Conversation		
<p>1. What is your overall impression of the project? (general sentiment) <u>Okay</u></p> <p>2. What effects have site operations had on the surrounding community? <u>The stigma of the site being a superfund site and how that effects the selling of the site.</u></p> <p>3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details. <u>No</u></p> <p>4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details. <u>Some cars in the area have been stolen.</u></p> <p>5. Do you feel well informed about the site's activities and progress? <u>Yes</u></p> <p>6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation? <u>She would like for the address of the site not be same as her fathers house which is right next to the site.</u></p>		

APPENDIX 6

Community Involvement

DEQ Press Release (5/23/2006)

Sent: Tuesday, May 23, 2006 9:26 AM

To: Black Chronicle (E-mail); Capitol Hill Beacon (E-mail); Edmond Sun (E-mail); KFOR TV (E-mail); KKNG/KTLR/ KTUZ Radio (E-mail); KOCO TV (E-mail); KOKH TV (E-mail); KOMA/KRXO Radio (E-mail); KTOK AM Radio (E-mail); KWTV TV (E-mail); Norman Transcript (E-mail); OETA TV (E-mail); Oklahoma County Newspapers (E-mail); Oklahoma Gazette (E-mail); The Journal Record (E-mail)

Subject: DEQ Press Release: 5 year Review for 10th Street Superfund Site

News Release

Picture (Metafile)

707 North Robinson, P.O. Box 1677, Oklahoma City, Oklahoma 73101-1677

For Immediate Release: May 23, 2006

Contact: Monty Elder, (405)702-1017

Five-Year Review for the Tenth Street Superfund Site

The Oklahoma Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA) began conducting a five-year review of the Tenth Street Superfund Site earlier this month. The purpose of this review is to determine whether the site remedy remains protective of human health and the environment as well as to document the methods, findings, and conclusions of the five-year review in a report. The report will be available to the public in September. This will be the second Five-Year Review for the site. Five Year Reviews of remedies at Superfund sites are required when waste is left in place; in this case, waste was consolidated and capped onsite.

The Tenth Street Superfund Site is located in Oklahoma City, Oklahoma. The Site was used as a municipal landfill from 1951 to 1954. The Site was then used as a salvage yard from 1959 to 1979, accepting materials such as tires, solvents, and transformers. Sampling by the EPA in 1984 and 1985 identified elevated polychlorinated biphenyl (PCB) concentrations in the soil. After reviewing the data, EPA determined that the contaminants posed a potential health threat. In 1985 EPA placed a temporary cover on the contaminated soil to address direct human contact threats and the potential for offsite migration of contaminants. The Site was proposed for the National Priorities List (NPL) in January 1987 (52 FR 2492) and placed on the NPL in July 1987 (52 FR 27620).

Following a Remedial Investigation/Feasibility Study, EPA signed a Record of Decision (ROD) on September 27, 1990. The ROD is a legally binding decision document that directs the remedy for the site. The ROD was amended in 1993 to change the remedy from soil washing to capping. The objective of the amended remedy was the same as the original ROD, to protect human health and the environment by preventing current or future exposure to the contaminated soil through treatment and/or containment, and reducing or controlling the potential migration of contaminants from the soil to groundwater. The selected remedy was to place the contaminated soil under a new cap and to monitor the ground water for PCBs.

The remedial action was completed on January 4, 1996. Since that time the State of Oklahoma has been performing operations and maintenance at the site, which included mowing and sampling of the ground water.

