

SECOND FIVE-YEAR REVIEW REPORT

FOR THE

**RSR CORPORATION SUPERFUND SITE
DALLAS, DALLAS COUNTY, TEXAS**

September 2010



PREPARED BY:

**United States Environmental Protection Agency
Region 6
Dallas, Texas**



618482

**SECOND FIVE-YEAR REVIEW REPORT
RSR CORPORATION SUPERFUND SITE
EPA ID No. TXD079348397
DALLAS, DALLAS COUNTY, TEXAS**

This memorandum documents the performance by the U.S. Environmental Protection Agency (EPA) of the RSR Corporation Superfund Site Second Five-Year Review Report under Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 United States Code § 9621(c).

The RSR Corporation Superfund Site (Site) is located in the City of Dallas, Dallas County, Texas and encompasses approximately 13.6 square miles. Approximately 17,000 residents live within the Site. The Site was divided by EPA into five Operable Units (OUs) for the purpose of conducting response actions. The following are the designations for the OUs:

- OU 1 consists of residential properties located at the Site.
- OU 2 consists of a property owned by the Dallas Housing Authority (DHA), including single and multi-family housing units.
- OU 3 is divided into Sites 1, 3, and 4 where slag and battery chips from smelting and battery breaking operations were disposed.
- OU 4 is the former smelter facility located at the southeastern corner of the intersection of Singleton Boulevard and Westmoreland Road.
- OU 5 is divided into Subareas 1, 2, 3, and 4 and consists of a former battery breaking facility and other industrial tracts of land. Site 2 of OU 3 was consolidated into OU 5.

Arsenic, lead, antimony and cadmium were identified at constituents of concern. EPA signed five Records of Decision (RODs) for the Site. Provided below are the details:

The RODs for OU 1 and OU 2 determined that the emergency removal action at OU 1 and the removal action by the DHA at OU 2 were completed and no further response or Remedial Action (RA) was necessary.

The ROD for OU 3 was signed on September 20, 1997, and consisted of the following elements:

Site 1

- Excavation and removal of slag, battery chips, and metals contaminated soils exceeding action levels to a depth of two feet;
- Excavation and removal of sediments in the intermittent creek exceeding action levels;
- Backfilling and re-grading of excavated areas using clean soil;
- Offsite disposal of excavated materials (soil, sediment, battery chips, and slag) in an appropriate landfill based on the results of testing to determine if the material is hazardous (as defined by 40 CFR 261);

- No action was recommended for shallow groundwater; and,
- An institutional control in the form of deed notices or restrictions.

Site 3

- Containment (2-foot protective soil cap) of the southern portion and isolated areas of the northern cell of the West Davis landfill where there is exposed slag, battery chips, and metals contaminated soils that exceed action levels;
- Annual monitoring of surface water at four locations and groundwater at four monitor wells for a period of five years;
- Annual inspection of the capped areas;
- No action was recommended for shallow groundwater; and,
- An institutional control in the form of deed notices or restrictions.

Site 4

- Containment (2-foot protective soil cap) of areas within the Nomas and West Dallas landfills where there is exposed slag, battery chips, and metals contaminated soils that exceed action levels;
- Excavation of areas of surficial contamination where action levels are exceeded in Jaycee Park and placement under the protective cover in the West Dallas Landfill (non-hazardous materials) or transported and disposed of offsite (hazardous materials);
- Annual monitoring of surface water at two locations and groundwater at three monitor wells for a period of five years;
- No action was recommended for shallow groundwater; and,
- An institutional control in the form of deed notices or restrictions (EPA, 1997b).

The ROD for OU 4 was signed on February 28, 1996, to address the cleanup of principal and low-level threat contamination present at the smelter facility that posed a risk through direct contact, ingestion, and/or inhalation and to prevent further migration of contaminants to offsite areas. Elements of OU 4 included the facility buildings and structures, the smelter stack, equipment, and soils (EPA, 1996).

The remedy described in the 1996 ROD for OU 4 consisted of the following elements:

- Removal, treatment, and disposal of residual materials estimated at a volume of 540 cubic yards;
- Demolition and decontamination of approximately 190,000 square feet of buildings, structures, and equipment, including concrete pavement floors and connected drains and sumps (and associated sediments), and plug and properly abandon remaining open conduits that are not removed;

- Disposal of all building debris (estimated at 8,900 cubic yards) offsite at appropriate landfill facilities;
- Demolition of the smelter stack and disposal offsite at a RCRA Subtitle C (hazardous waste) landfill (estimated at 1,300 cubic yards);
- Excavation of 13,500 cubic yards of contaminated soil and/or battery chips and lead slag that exceed action levels and disposal offsite (up to one foot beneath pavements and up to two feet in the unpaved northeast area); and,
- Cap and/or backfill the areal extent of the Site with two feet of clean soil.

The ROD for OU 5 was signed on April 3, 1997, to address the cleanup of low-level threat contamination present at the battery wrecking facility and other Site industrial property that posed a risk through direct contact, ingestion, and/or inhalation and to prevent further migration of contaminants to offsite areas. Elements of OU 5 included the facility buildings and structures, a surface impoundment, a former landfill, the slag burial area/other soils, and storm water runoff and sediments (EPA, 1997a).

The remedy described in the 1997 ROD for OU 5 consisted of the following elements:

- Decontamination of the former battery wrecking building and the vehicle maintenance building (estimated at 60,600 square feet);
- Demolition of the former battery wrecking building using conventional methods and offsite disposal of debris (estimated 55,800 square feet);
- Evaluate existing cap on the former surface impoundment. Upgrade or replace as necessary in order to complete RCRA closure (estimated 45,000 square feet); and,
- Cap the former landfill in accordance with applicable landfill closure requirements (estimated 503,000 square feet).

As an alternate component to address the former landfill to promote future redevelopment options:

- Re-grade the former landfill area in order to support an asphalt or concrete surface cover;
- Cap the slag burial area/other soils areas that exceed action levels (estimated 1,480,000 square feet) with two feet of clean backfill and re-vegetated with native grasses; and,
- No action was recommended for the shallow groundwater at OUs 4 and 5.

The selected remedies for OUs 3 and 5 (Subareas 2, 3, and 4) were implemented through a Consent Decree agreed to in 2003 between the EPA, the State of Texas, RSR Corporation, and its subsidiaries. The Consent Decree required RSR Corporation and its subsidiaries to implement the Remedial Design (RD) and RA for each OU. The selected remedy for OU 4 was implemented through a Consent Decree between EPA and a group of seven Potentially Responsible Parties (PRPs) agreed to in 1998. The Consent Decree required the PRPs to implement the RD/RA for OU 4. EPA completed the RD/RA for OU 5 Subarea 1.

RA at OU 4 was completed in December 2001, at OU 3 in August 2004, and at OU 5 in September 2004.

The first five-year review was conducted in 2005 (EPA, 2005c).

During the second five-year reviews, several issues described below were identified. Those impacting the PRPs have been communicated to them.

Summary of Second Five-Year Review Findings

- **Deed notices should be placed on the properties for OU 3 Sites 1, 3, and 4.** By June 2010, deed recordation had been entered for 21 of the 29 properties, and EPA was actively pursuing recordation for the remaining properties. The deed notices should, at a minimum, identify the areas where contaminants remain, require future site owners to maintain the integrity of the remedies, require that no future site activities result in failure of the remedy components, restrict land use as appropriate, and require EPA review and concurrence for any future site development. A date should be specified for the deed restriction notices to be filed on the respective properties, and EPA and TCEQ should be allowed the opportunity to review and comment on the deed restriction notices prior to filing such notices with the Dallas County Recordation Office.
- **Maintenance at OU 4 and OU 5 Subarea 1.** The results of the site inspections indicated that the cover vegetation has not been mowed recently. Groundwater monitoring data for OU 5 Subarea 1 was unavailable. In accordance with the Consent Order between EPA and Murmur Corporation, EPA should arrange for conducting site maintenance and collecting of groundwater data at Subarea 1 of OU 5.
- **Monitor erosion activities at OU 3 Site 3.** The erosion caused by beaver activities in the area should be repaired to maintain the protectiveness of the cover.
- **Monitor erosion at OU 5 Subarea 2.** The erosion downhill from the top of the cover should be repaired to maintain remedy protectiveness.
- **Development of the property at OU 3 Site 1.** A permanent wrought iron fence and clearing of brush at OU 3 Site 1 were observed on November 19, 2009, during site inspection. EPA will ensure that the site redevelopment does not affect the protectiveness of the selected remedy.

Based on the information available during the second five year review, the selected remedies for the Site are considered protective of human health and the environment. The remedies are functioning as intended in the RODs for OU 3 dated September 20, 1997, OU 4 dated February 28, 1996, and OU 5 dated April 3, 1997.

In order for remedies to remain protective, the issues listed above should be addressed within one year.

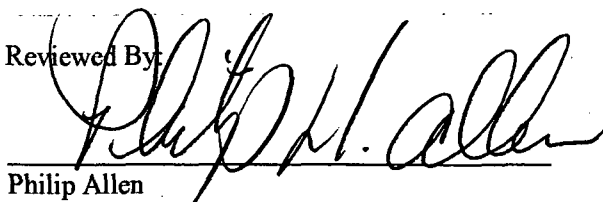
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SECOND FIVE-YEAR REVIEW REPORT
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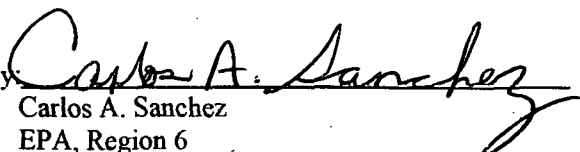
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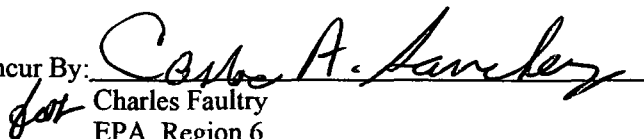
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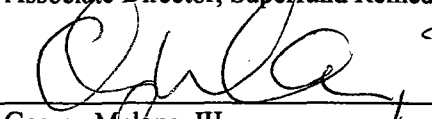
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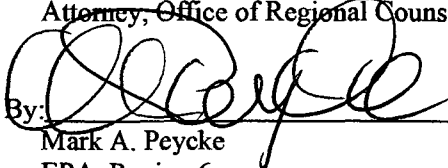
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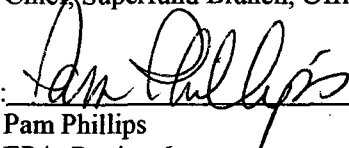
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LIST OF ACRONYMS

ACM	Asbestos containing materials
ARAR	Applicable or Relevant and Appropriate Requirement
AOC	Administrative Order on Consent
bgs	Below ground surface
BHHRA	Baseline Human Health Risk Assessment
CDC	Center for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DHA	Dallas Housing Authority
EA	EA Engineering, Science, and Technology, Inc.
EPA	U.S. Environmental Protection Agency
ERA	Ecological Risk Assessment
FS	Feasibility study
ft	Feet
HI	Hazard Index
IEUBK	Integrated Exposure Uptake Biokinetic model
µg/dl	Microgram(s) per deciliter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and maintenance
OU	Operable unit
PCB	Polychlorinated by-phenyls
ppm	Parts per million
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial action objective
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
Site	RSR Corporation Superfund Site
TBC	To Be Considered

TCEQ
TNRCC

Texas Commission on Environmental Quality
Texas Natural Resources Conservation Commission

UCS
UST

United States Code
Underground storage tank

EXECUTIVE SUMMARY

Pursuant to Section 121(c) of the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), 42 United States Code (USC) § 9621(c), the second five-year review of the remedy in place at the RSR Corporation Superfund Site (Site) located in Dallas, Dallas County, Texas, was completed in July 2010. The results of the five-year review indicate that the completed remedies are currently protective of human health and the environment. Overall, the Remedial Actions (RAs) performed appear to be functioning as designed, and the Site has been maintained appropriately. No deficiencies were noted that currently impact the protectiveness of the remedies, although several issues were identified that require further action to ensure the continued protectiveness of the remedies.

Remediation of the Site has been handled through an emergency removal action, a removal action completed by the Dallas Housing Authority (DHA), a non-time critical removal action, and three RAs. The emergency removal action and DHA removal action was conducted to address imminent threats of releases of hazardous substances to the environment. These actions resulted in the remediation of lead contaminated soils in residential areas of the Site and on DHA property used for residential purposes. The non-time critical removal action resulted in the removal of waste drums, waste piles, and laboratory chemicals stored at OUs 4 and 5.

Through the RAs defined by the Records of Decision (RODs), contaminated buildings, structures, and equipment at the Site were addressed through decontamination, demolition, and offsite disposal or recycling. Contaminated soils were either excavated and disposed of offsite or excavated and consolidated in other contaminated areas of the Site and placed under clay covers. A former landfill and buried slag area at the Site were placed under a clay covers. The cover over a closed surface impoundment was also upgraded. Groundwater monitoring was to be conducted at the former surface impoundment to ensure that contamination of the underlying groundwater does not occur.

Under the statutory requirements of Section 121(c) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act, P. L. 99-499, and the subordinate provisions of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 Code of Federal Regulations 300.430(f) (4) (ii), performance of five-year reviews are required for sites hazardous substances remain onsite above levels that allow for unrestricted use and unrestricted exposure. Such are the factual circumstances at the Site.

Operations and Maintenance (O&M) activities for OUs 3 and 5 at the Site have continued. O&M activities include inspection and maintenance of the clay soil covers, inspection and maintenance of the

former landfill, inspection and maintenance of the buried slag area, and inspection and maintenance of the former surface impoundment. Groundwater monitoring was to be conducted at the former surface impoundment. O&M activities for OU 3 and OU 5 Subarea 2 were conducted by RSR Corporation. In accordance with the Administrative Order on Consent (AOC) between EPA and Murmur, Murmur was relieved of liability for site maintenance due to Murmur's lack of financial viability.

During the second five-year review, several issues as described below were identified. These issues presently do not affect the protectiveness of the remedies for the Site. However, these issues must be corrected to ensure long-term effectiveness of the selected remedies. The PRPs have been informed of the issues requiring action of them.

Summary of Second Five-Year Review Findings

- **Deed notices should be placed on the properties for OU 3 Sites 1, 3, and 4.** By June 2010, deed recordation had been entered for 21 of the 29 properties, and EPA was actively pursuing recordation for the remaining properties. The deed notices should, at a minimum, identify the areas where contaminants remain, require future site owners to maintain the integrity of the remedies, require that no future site activities result in failure of the remedy components, restrict land use as appropriate, and require EPA review and concurrence for any future site development. A date should be specified for the deed restriction notices to be filed on the respective properties, and EPA and TCEQ should be allowed the opportunity to review and comment on the deed restriction notices prior to filing such notices with the Dallas County Recordation Office.
- **Maintenance at OU 4 and OU 5 Subarea 1.** The results of the site inspections indicated that the cover vegetation has not been mowed recently. Groundwater monitoring data for OU 5 Subarea 1 was unavailable. In accordance with the Consent Order between EPA and Murmur Corporation, EPA should arrange for conducting site maintenance and collecting of groundwater data at Subarea 1 of OU 5.
- **Monitor erosion activities at OU 3 Site 3.** The erosion caused by beaver activities in the area should be repaired to maintain the protectiveness of the cover.

Monitor erosion at OU 5 Subarea 2. The erosion downhill from the top of the cover should be repaired to maintain remedy protectiveness.
- **Development of the property at OU 3 Site 1.** A permanent wrought iron fence and clearing of brush at OU 3 Site 1 were observed on November 19, 2009, during site inspection. EPA will ensure that the site redevelopment does not affect the protectiveness of the selected remedy.

Based on the information available during the second five year review, the selected remedies for the Site are considered protective of human health and the environment. The remedies are functioning as intended in the RODs for OU 3 dated September 20, 1997, OU 4 dated February 28, 1996, and OU 5 dated April 3, 1997.

In order for remedies to remain protective, the issues listed above should be addressed within one year.

Five-Year Review Summary Form**SITE IDENTIFICATION**

Site Name (from WasteLAN): RSR Corporation Superfund Site

EPA ID (from WasteLAN): TXD079348397

Region: 6

State: Texas

City/County: Dallas, Dallas County

SITE STATUSNPL Status: ☒ Final ☐ Deleted ☐ Other (specify) _____

Remediation Status (choose all that apply):

☐ Under Construction ☐ Operating☒ CompleteMultiple OUs?* ☒ YES ☐ NO

Construction Completion Dates:

OU 3 - August 2004

OU 4 - October 2001

OU 5 Subareas 2, 3, and 4 - October 2003

OU 5 Subarea 1 - July 2004

Has site been put into reuse? ☒ YES ☐ NO

During a site inspection on November 19, 2009, active clearing of brush and a permanent wrought iron fence were observed at OU 3 Site 1.

REVIEW STATUSReviewing Agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author Name: Philip Allen

Author Title: Remedial Project Manager

Author Affiliation: EPA Region 6

Review Period:** 2005 - 2010

Date(s) of Site Inspection: May 11, 2010; June 11, 2010

Type of Review:

☒ Statutory☐ Policy☐ Post-SARA☐ Pre-SARA☐ NPL-Removal only☐ Non-NPL Remedial Action Site☐ NPL State/Tribe-lead☐ Regional DiscretionReview Number: ☐ 1 (first) ☒ 2 (second) ☐ 3 (third) ☐ Other (specify) _____

Triggering Action:

☒ Actual RA On-site Construction at OU 4☐ Actual RA Start☐ Construction Completion☐ Previous Five-Year Review Report☐ Other (specify) _____

Triggering Action Date (from WasteLAN): September 2000

Due Date (Five Years After Triggering Action Date): September 2010

* "OU" refers to operable unit.

** The review period refers to the period during which the five-year review was conducted.

Five-Year Review Summary Form (Continued)

Issues:

- **Deed notices should be placed on the properties for OU 3 Sites 1, 3, and 4.** By June 2010, deed recordation had been entered for 21 of the 29 properties, and EPA was actively pursuing recordation for the remaining properties. The deed notices should, at a minimum, identify the areas where contaminants remain, require future site owners to maintain the integrity of the remedies, require that no future site activities result in failure of the remedy components, restrict land use as appropriate, and require EPA review and concurrence for any future site development. A date should be specified for the deed restriction notices to be filed on the respective properties, and EPA and TCEQ should be allowed the opportunity to review and comment on the deed restriction notices prior to filing such notices with the Dallas County Recordation Office.
- **Maintenance at OU 4 and OU 5 Subarea 1.** The results of the site inspections indicated that the cover vegetation has not been mowed recently. Groundwater monitoring data for OU 5 Subarea 1 was unavailable. In accordance with the Consent Order between EPA and Murmur Corporation, EPA should arrange for conducting site maintenance and collecting of groundwater data at Subarea 1 of OU 5.
- **Monitor erosion activities at OU 3 Site 3.** The erosion caused by beaver activities in the area should be repaired to maintain the protectiveness of the cover.
- **Monitor erosion at OU 5 Subarea 2.** The erosion downhill from the top of the cover should be repaired to maintain remedy protectiveness.
- **Fencing at OU 4 should be repaired.** The results of the site inspection indicated that the fencing needs repairs to restrict unauthorized access to the site.
- **Development of the property at OU 3 Site 1.** A permanent wrought iron fence and clearing of brush at OU 3 Site 1 were observed on November 19, 2009, during site inspection. EPA should ensure that the site redevelopment does not affect the protectiveness of the selected remedy.

Protectiveness Statement:

Based on the information available during the second five year review, the selected remedies for the Site are considered protective of human health and the environment. The remedies are functioning as intended in the RODs for OU 3 dated September 20, 1997, OU 4 dated February 28, 1996, and OU 5 dated April 3, 1997.

In order for remedies to remain protective, the issues listed above should be addressed within one year.

1.0 INTRODUCTION

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 United States Code (USC) §9601 *et seq.* and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) 300 *et seq.*, call for five-year reviews of certain CERCLA RAs. EPA policy also calls for a five-year review of RAs in some other cases. The statutory requirement to conduct a five-year review was added to CERCLA as part of the Superfund Amendments and Reauthorization Act of 1986 (SARA), P.L. 99-499. The EPA classifies each five-year review as either 'statutory' or 'policy' depending on whether it is being required by statute or is being conducted as a matter of policy. The second five-year review for the RSR Site is a statutory review.

As specified by CERCLA and the NCP, statutory reviews are required for sites where, after RAs are complete, hazardous substances, pollutants, or contaminants will remain onsite at levels that will not allow for unrestricted use or unrestricted exposure. Statutory reviews are required at such sites if the Record of Decision (ROD) was signed on or after the effective date of SARA. CERCLA §121(c), as amended, 42 USC §9621(c), states:

If the President selects an RA that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such RA no less often than each five years after the initiation of such RA to assure that human health and the environment are being protected by the RA being implemented.

The implementing provisions of the NCP, as set forth in the CFR, state at 40 CFR 300.430(f) (4) (ii):

If a RA 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 RA.

The five-year review for the RSR Site is required by statute because the RODs for the Site (OU 3, 4, and 5) were signed on September 30, 1997, February 28, 1996, and April 3, 1997 respectively. Each ROD was signed after the effective date of SARA. A five-year review is required for the RAs implemented at OUs 3, 4, and 5 because materials remain onsite at each OU above levels that allow for unlimited use and unrestricted exposure. A five-year review is not required for the RAs implemented at OUs 1 and 2. This is the second five-year review for the RSR Site. The triggering action for the five-year review at the RSR Site is the date of the start of the RA for OU 4 at the Site (September 2000).

2.0 SITE CHRONOLOGY

Table 1 presents a chronology of significant events for the RSR Corporation Superfund Site.

3.0 BACKGROUND

This section describes the physical setting of the Site, including a description of the land use, resource use, and environmental setting. This section also describes the history of contamination associated with the Site, the initial response actions taken at the Site, and the basis for each of the initial response actions. RAs performed subsequent to the initial response actions at the Site are described in Section 4.

3.1 PHYSICAL CHARACTERISTICS

The RSR Corporation Superfund Site is located in the City of Dallas, Dallas County, Texas, in the north central portion of the state (see Figure 1 of Attachment A for a site location map). The RSR Site encompasses an area of approximately 13.6 square miles in west Dallas, and approximately 17,000 residents live within the Site. The RSR Site was divided by EPA into five OUs for purposes of conducting the various response actions at the Site. OU 1 is the private residential properties located at the Site. Property owned by the Dallas Housing Authority (DHA), including single and multi-family housing units, is designated as OU 2. OU 3 consists of three separate sites (Sites 1, 3, and 4) where waste slag and battery chips from smelting and battery breaking operations were disposed. OU 4 is the former smelter facility, located at the southeast corner of the intersection of Singleton Boulevard and Westmoreland Road. The former battery breaking facility and other industrial tracts of land (divided into Subareas 1, 2, 3, and 4) comprise OU 5. The contamination at the Site resulted from past activities associated with secondary lead smelting operations and the disposal of waste slag and battery chips at the various OUs (EPA, 1997b and 2004).

OU 3 consists of three separate sites (Sites 1, 3, and 4) where waste slag and battery chips were disposed (see Figure 1 of Attachment A for the location of each site). Site 2 of OU 3 was consolidated into OU 5. Site 1, also known as the Westmoreland Road Property, is approximately 50 acres in size. Site 1 is located on the west side of Westmoreland Road in the 1000 block. Surface dumping of waste slag, battery chips, and other material (mainly municipal debris) occurred at Site 1. Site 3, also known as the Walton Walker Property, is approximately 130 acres in size. Site 3 is located northwest of the Walton Walker Boulevard (Loop 12) and Davis Street Intersection. The City of Dallas leased this property and operated three (3) sanitary landfills from the mid-1960s through the early 1980s. Waste slag, battery chips, and battery casings were disposed on the surface at Site 3. Site 4, also known as the Claibourne

Boulevard Property, is approximately 60 acres in size. Site 4 is located at the northern terminus of Claibourne Boulevard, and includes the nearby Jaycee Park. The City of Dallas leased this property and operated four (4) sanitary landfills from the 1950s through the mid-1970s. Waste slag and battery chips were present on the surface of portions of Site 4 (EPA, 1997b and 2004).

OU 4 is the former smelter facility and contained the former smelter building, 300-foot (ft) concrete stack, and other associated site buildings (see Figure 1 Attachment A for the location of OU 4). OU 4 is 6.5 acres in size and is located at the southeast corner of the intersection of Singleton Boulevard and Westmoreland Road (EPA, 1996). No structures remain on OU 4, and within the last 5 years the property was being leased by the property owner (Murmur Corporation [Murmur]) to a construction company working on the road project to widen Westmoreland Road near the site. By May 2010, it was no longer in use.

OU 5 is four Subareas (identified as 1, 2, 3, and 4) located on the west side of Westmoreland Road, across from the former smelter facility (OU 4). OU 5 consists of the former battery wrecking facility and other industrial land associated with the smelter facility. A capped landfill area is present on Subarea 2. A closed surface impoundment, the former Vehicle Maintenance Facility, a buried slag disposal area, and remaining building foundations are present on Subarea 1 (EPA, 2004).

The RSR Site is located on the margin between the Blackland Prairie and the Eastern Cross-Timbers physiographic provinces. The overall Site topography is characterized by low, flat to gently undulating surfaces. Most of the RSR Site is located within the floodplain terrace of the Trinity River, with the northern and western edges being bounded by the Trinity River Levee. A portion of the western area of the site is located within the flood plain of Mountain Creek. The Trinity River and its tributaries are the major surface water bodies at the site. Smaller drainage systems flowing through the site eventually discharge to the Trinity River. All segments of the Trinity River are designated for recreational use, but none of the river segments are specified for domestic water supply (EPA, 1996; 1997a; and 1997b).

In the area of the RSR Site, the predominant geologic units are of the Upper Cretaceous age. The geologic formations include the Austin Chalk Formation, Eagle Ford Shale Formation, Woodbine Formation, Grayson Marl, and the Main Street Limestone Formation (in descending order). Quaternary Alluvial deposits are also present across the Site. OU 3, Site 1 is underlain by, approximately 20 to 25 ft of weathered Austin Chalk. OU 3, Site 3 is underlain by 26 to 66 ft of alluvium lying unconformably over the Eagle Ford Shale. OU 3, Site 4 is underlain by 12 to 37 ft of alluvium lying unconformably over the Eagle Ford Shale. At OUs 4 and 5, the bottom of the surface expression of the contact between the

Eagle Ford Shale and the overlying Austin Chalk is present, and the full thickness of the Eagle Ford Shale is present. Quaternary Alluvium is present at both OUs at thicknesses ranging from a few feet up to 37 feet, and the Eagle Ford Shale was encountered at both OUs below the Quaternary Alluvium (EPA, 1996; 1997a; and 1997b).

In the Dallas area, the two major aquifers are the Woodbine Group, a minor aquifer, and the Trinity Group, a major aquifer. Both aquifers supply water for municipal, domestic, industrial, and irrigation uses in the north-central portion of Texas. Residents at the Site get their water supply from the City of Dallas water system, which is supplied by surface reservoirs located many miles from the site. In the area of the site, the depth to the Woodbine Aquifer is between 200 and 250 feet below ground surface (bgs). The Trinity Group Aquifer, comprised of Lower Cretaceous age formations, is encountered at depths of 1,300 to 1,500 ft bgs (for the Paluxy Formation) and 2,500 ft bgs (for the Twin Mountains Formation) in the area of the RSR Site. The primary source of recharge to both the Woodbine and Trinity Group Aquifers is direct precipitation on the outcrop. No primary recharge areas (outcrops) for either aquifer are located within 10 miles of the RSR Site. The Quaternary Alluvium deposits in the vicinity of the Site contain small amounts of groundwater. These deposits are not classified as a minor or major aquifer, and the shallow groundwater encountered at the site is not generally considered a water supply aquifer. This is due primarily to the low yield of the alluvial deposits and the slightly saline water quality. The alluvial deposits are not thought to be hydraulically connected to the deeper Woodbine aquifer due the presence of the 300-ft thick Eagle Ford Shale (considered to be an aquitard) beneath the site. At OUs 3, 4, and 5, groundwater is generally encountered at depths between 5 and 10 ft of ground surface (EPA, 1996; 1997a; and 1997b).

3.2 LAND AND RESOURCE USE

Land use in the RSR Site area includes a mixture of industrial, commercial, and residential uses. Zoning at each OU unit varies. OU 3, Site 1 is currently zoned for light industrial and multi-family use. Site 1 is currently vacant property. An electrical substation is located on the south end of Site 1. OU 3, Site 3 is zoned for agricultural and light industrial use. The southern end of Site 3 is currently vacant property. The northern end of Site 3 contains several closed landfills. OU 3, Site 4 is currently zoned for residential use. EPA and the Texas Commission on Environmental Quality (TCEQ) are working with the City of Dallas to change the zoning to non-residential uses. Site 4 is currently vacant property (EPA, 1997b).

OU 4 is currently zoned for industrial/manufacturing uses. The ROD states that the reasonable expected future use of the site is commercial/industrial (EPA, 1996). Within the past 5 years, the property was

being leased to a construction company to support road construction activities on Westmoreland Road. By May 2010, it was no longer in use.

OU 5 is currently zone for industrial/manufacturing uses. The ROD states that the reasonable expected future use of the site is commercial/industrial (EPA, 1997a). OU 5 is currently not being used.

3.3 HISTORY OF CONTAMINATION

Secondary lead smelting operations (OU 4) and the associated battery wrecking operation (OU 5) at the RSR site began in approximately 1934. The lead smelter and battery wrecking facility were operated from that time until 1971 by Murph Metals, Incorporated (Inc.) or its predecessors. In 1971, RSR Corporation acquired the lead smelter and battery wrecking facilities and operated the site under the Murph Metals name until 1984. The smelter facility and battery wrecking facility (OU4 and OU 5 Subarea 1) were acquired by Murmur in 1984 (EPA, 2004).

The smelting operation at the RSR Site used lead scrap and lead from used car batteries as the basic inputs to the smelting process. The batteries were first disassembled at the battery wrecking facility using hammer mills. The hammer milling process broke the batteries down into small pieces (battery chips), that were then sent to the smelter facility across the street. The smelter facility produced soft pure lead and specialty alloys. As part of the process, alloy elements such as antimony, arsenic, and cadmium were added as necessary to produce the final desired product. Slag, made up of oxidized impurities and lead, was the primary byproduct of the smelting process. Some slag and battery chips were reprocessed. The slag and battery chips that were not reprocessed were considered waste materials requiring disposal (EPA, 2004).

Portions of Site 1 of OU 3 were used for the surface dumping of waste slag and battery chips. In addition, municipal debris was also disposed of at Site 1. Site 3 of OU 3 was leased by the property owners to the City of Dallas, which operated three sanitary landfills (the Dahlstrom, TXI, and West Davis landfills) from approximately 1964 through 1982. The northern landfill area (Dahlstrom landfill) was redeveloped after the landfill closed and is now the site of an auto salvage yard. The TXI and West Davis landfills have not been redeveloped. Waste slag and battery chips were also present on the surface at Site 3. Site 4 of OU 3 was used as a sand and gravel mining area prior to about 1956. The City of Dallas leased this land, starting in the mid-1950s, and operated four sanitary landfills (the Nomas, West Dallas landfills) through the mid-1970s. In the late 1950s, the Dallas Park Board purchased the property that is now Jaycee Park. The area was brought up to grade through landfilling, and by 1964, a park, baseball field,

and recreation center had been built. After landfilling ceased, the property was released back to the owner. The property was subdivided, and some of the lots were sold. However, the area was never redeveloped. Waste slag and battery chips, as well as municipal debris, were present on the ground surface at the Nomas and West Dallas landfills (EPA, 1997b).

OU 4 was the location of the smelter facility. The facility consisted of the smelter facility, smelter stack, warehouses, repair shops, a laboratory, offices, storage facilities, docks, a gas station, and employee lunch and locker rooms. In addition, four underground storage tanks (USTs) were known to be present at the smelter facility at the time the ROD was signed (EPA, 1996).

OU 5 was the location of the battery wrecking facility (Subarea 1) and a former landfill (Subarea 2). Located within Subarea 1 was the battery wrecking facility building, a vehicle maintenance building, two USTs, a former surface impoundment, and a waste slag burial area. The surface impoundment was used to contain, neutralize, and settle wastewater and waste byproducts from the battery crushing operation. The surface impoundment was originally addressed as part of a Resource Conservation and Recovery Act (RCRA) closure action conducted in 1988 and 1989 by Murmur. The surface impoundment was closed by backfilling with soil stabilized with cement kiln dust. A four to six foot thick clay cap was then constructed over the impoundment. During 1994 Remedial Investigation (RI) activities, erosion gullies were noted on the cap, but the cap was determined to be intact and stable. A slag burial area was also identified as part of the 1988 RCRA closure activities. Portions of the slag burial area were present under existing pavement at Subarea 1. A landfill was identified at Subarea 2 based on a review of historical aerial photographs. No records, permits, or other documents regarding the landfill were located. Based on the RI, the surface of the landfill was covered with a two to three-ft thick clay layer. Below the clay layer, the landfill contained waste ground and shredded automobile parts, battery casings, slag, white powder, and metal fragments (EPA, 1997a).

In 1983, the City of Dallas decided not to renew the smelter facility's operating permit. The decision was based on the facility's past operational practices and a change in the City's zoning ordinances. As a result, smelting operations ceased and the smelter closed in 1984. The facility has not operated since that time. Contamination at the RSR Site resulted from the approximately 50 years of secondary lead smelting that occurred at the Site. Contamination resulted from the fallout of air emissions from the RSR smelter stack. Lead slag and battery casing chips were used in residential driveways and yards as fill material. Also, waste slag and battery chips were disposed of on the surface in several disposal areas across the Site (EPA, 1995a).

3.4 INITIAL RESPONSE

On May 10, 1993, the EPA proposed the RSR Site for inclusion on the National Priorities List (NPL). The Site was finalized on the NPL on September 29, 1995 (EPA, 2005). The EPA, the State of Texas, and the City of Dallas took various initial actions to respond to the human health and environmental risks posed by contamination at the RSR Site. These initial actions occurred prior to the EPA signing RODs for the various OUs at the Site. The following paragraphs describe the initial actions undertaken to address the RSR Site.

OU 1

The City of Dallas and the Texas Air Control Board (now a part of the TCEQ) brought a lawsuit against RSR Corporation in 1983. As a result of the lawsuit, the court ordered RSR Corporation to take corrective measures at the smelter, which included the installation of stack emission controls to reduce fugitive emissions. Also, RSR Corporation was required to fund a cleanup of the residential community within one-half mile of the smelter. This cleanup was funded by RSR Corporation and directed by a court-appointed special master, and the cleanup occurred in 1984 and 1985. The cleanup required the removal of soils in residential areas that exceeded a lead concentration of 1,000 parts per million (ppm) a depth of six inches, replacement with clean fill, and covering with sod. In addition, soils in contaminated public play areas, day care centers, and gardens were removed to depths of between 12 and 18 inches and replaced with washed sand or clean soil. This cleanup exceeded recommendations made by the Centers for Disease Control (CDC) and was considered protective at the time (EPA, 1995a).

In 1991, the Texas Natural Resources Conservation Commission (TNRCC, now the TCEQ) began receiving complaints from residents in the west Dallas area about residual slag piles and battery chips allegedly originating from the RSR facility. As a result, the TNRCC requested that the EPA re-evaluate the clean-up activities conducted in 1984 and 1985. EPA began soil sampling activities at the RSR Site in August 1991. The sampling results indicated that the areas cleaned up in 1984 and 1985 had not become re-contaminated and did not require additional clean-up. However, the results did indicate that contamination existed in other areas near the smelter and in areas where battery chips were used as fill (EPA, 1995a).

On October 24, 1991, the EPA issued an Action Memorandum authorizing the completion of a removal action to address contamination of residential and high risk areas (schools, parks, and a recreation facility) impacted by air deposition of contaminants from the RSR smelter stack (EPA, 1991). This removal

action was known as the Phase I Removal Action. The EPA established clean-up levels for the removal action at 500 ppm lead, 20 ppm arsenic, and 30 ppm cadmium. The objective of the removal action was to eliminate the threat to human health from ingestion, inhalation, and direct contact with soils contaminated with lead, arsenic, and cadmium. The EPA conducted excavation of contaminated soils and restoration of excavated areas. As a result of the Phase I Removal Action, two elementary schools, two church play areas, two parks, one children's recreational facility, and 211 residential properties were cleaned-up. The clean-up resulted in the removal and offsite disposal of approximately 22,900 cubic yards of non-hazardous soils and approximately 6,400 cubic yards of hazardous soils. The hazardous soils were treated prior to disposal, and all soils were disposed of at permitted landfills. The Phase I Removal Action was completed in June 1993 (EPA, 1995b).

The TNRCC conducted house-to-house surveys at the site from July 1992 through February 1993. The purpose of the surveys was to identify properties where contamination was present as a result of the use of battery chips as fill material (primarily in driveways). As a result of these surveys, the EPA conducted a Phase II Removal Action at the RSR Site to address these areas of contamination. The EPA used the same cleanup levels established for the Phase I Removal Action to complete the Phase II Removal Action. The Phase II Removal Action commenced in June 1993 and was completed in June 1994. As a result of the Phase II Removal Action, 202 residential properties were cleaned-up. The clean-up resulted in the removal and offsite disposal of approximately 13,800 cubic yards of non-hazardous soils and approximately 1,400 cubic yards of hazardous soils. The hazardous soils were treated prior to disposal, and all soils were disposed of at permitted landfills (EPA, 1995b).

As a result of the Phase I and Phase II Removal Action, the EPA cleaned-up contamination at 420 properties. The EPA only sampled and cleaned-up properties where access was granted. Several properties declined to grant EPA access for either sampling or removal activities. At these locations, the EPA did not perform removal associated activities on properties where access was declined (EPA, 1995b).

The EPA also completed a RI, Baseline Human Health Risk Assessment (BHHRA), and an Ecological Risk Assessment (ERA) for OUs 1. Based on the RI, BHHRA, and ERA, the EPA determined that:

- OU 1 was contaminated through airborne deposition from the smelter facility and the use of chips as fill material;
- The primary exposure pathway of site contaminants was through soil;

- Based on a residential exposure scenario, the non-cancer hazard index (HI used to evaluate non-cancer related health effects to contaminants) for both children and adults were less than the EPA threshold of one. The excess lifetime cancer risk to both children and adults was within the EPA acceptable range of between 1×10^{-6} and 1×10^{-4} ;
- Results using the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead indicated that less than one percent of the child population exposed to lead in soils at the site would have blood lead levels greater than the CDC recommended value of 10 micrograms per deciliter ($\mu\text{g/dl}$);
- Based on a commercial exposure scenario, the non-cancer HI for workers was less than the EPA threshold of one. The excess lifetime cancer risk to workers was within the EPA acceptable range of between 1×10^{-6} and 1×10^{-4} ;
- The screening level ERA indicated that site soils did not pose a significant risk to the environment; and,
- The removal actions reduced exposure risks to below levels of concern and provided long-term protection by eliminating the sources of contamination (thus removing human and environmental exposure pathways).

As a result of these findings, the EPA signed a ROD on May 9, 1995, that stated no further action was necessary to address protection of human health and the environment for OU 1. Also, the ROD stated that, because hazardous substances would not remain at OU 1 above health-based levels, a five-year review was not required (EPA, 1995a).

OU 2

OU 2 is an area encompassing approximately 460 acres within the RSR Site. OU 2 is comprised of public multi-family housing units, schools, parks, recreation facilities, and a day care center. The OU 2 property is owned and operated by the DHA. On August 9, 1993, the EPA entered into an Administrative Order on Consent (AOC) with DHA. Under the AOC requirements, DHA agreed to conduct a RI/Feasibility Study (FS), demolition, and removal activities on its property (EPA, 1995b).

The results of the RI, BHHRA, and ERA conducted for OU 2 indicated that:

- OU 2 was contaminated through airborne deposition from the smelter facility;
- The primary exposure pathway of site contaminants was through soil;
- Based on a residential exposure scenario, the non-cancer HI for both children and adults were less than the EPA threshold of one. The excess lifetime cancer risk to both children and adults was within the EPA acceptable range of between 1×10^{-6} and 1×10^{-4} ;

- Results using the IEUBK model for lead indicated that no children exposed to lead in soils at the site would have blood lead levels greater than the CDC recommended value of 10 micrograms per deciliter (µg/dl). There were some variations between the modeled results and actual measured results, but actual measured blood-lead concentrations in children at OU 2 were not high enough to require medical evaluation or intervention based on the CDC's criteria; and,
- The screening level ERA indicated that site soils did not pose a significant risk to the environment (EPA, 1995b).

Under the AOC, DHA was required to conduct a removal action at OU 2 in the same manner as the removal action conducted at OU 1. Contaminated soils were to be excavated and removed using the same clean-up levels (500 ppm lead, 20 ppm arsenic, and 30 ppm cadmium). DHA conducted the removal action from July 1994 through March 10, 1995. Approximately 24,000 cubic yards of soil were excavated and disposed of at offsite hazardous and non-hazardous permitted landfills. Excavated areas were backfilled, graded, and hydro seeded to promote grass growth and reduce erosion potential. In addition, the DHA demolished 167 buildings at OU 2. The demolition debris was also disposed of at offsite permitted hazardous and non-hazardous waste landfills. All DHA conducted removal activities at OU 2 were conducted with EPA and TNRCC approval and oversight (EPA, 1995b).

At the completion of the DHA removal action, the EPA determined that the activities conducted to clean-up OU 2 had addressed risks associated with OU 2 and provided overall protection of human health and the environment. On May 9, 1995, the EPA signed a ROD for OU 2 that stated no further action was necessary to ensure protection of human health and the environment. Also, the ROD stated that, because hazardous substances would not remain at OU 2 above health-based levels, a five-year review was not required (EPA, 1995b).

OU 3

EPA served notices to several Potentially Responsible Parties (PRPs) for the RSR Site, providing them with the opportunity to perform or finance the RI/FS for OU 3. No PRPs agreed to perform or finance the RI/FS, and as a result, the EPA conducted the RI/FS for OU 3. The EPA initiated the RI for OU 3 in 1993. Through the RI, BHHRA, and ERA conducted for OU 3, the EPA determined that soils and sediments at Sites 1, 3, and 4 posed a risk to human health due to arsenic, lead, and antimony contamination. The possible risks to aquatic and terrestrial receptors were generally minimal, and no ecological cleanup criteria were developed. The groundwater, although contaminated, was not a source or potential source of drinking water due to its low yield and slightly saline quality (EPA, 1997b).

OU 4 and OU 5

EPA served notices to several PRPs for the RSR Site, providing them with the opportunity to perform or finance the RI/FS for OUs 4 and 5. No PRPs agreed to perform or finance the RI/FS, and as a result, the EPA conducted the RI/FS for OUs 4 and 5. The EPA initiated the RI for OUs 4 and 5 in the spring of 1994. During the RI for OUs 4 and 5, approximately 500 waste drums, 73 uncontained residual waste/debris piles, and approximately 50 laboratory containers were found at OUs 4 and 5. These materials were identified as an immediate concern that needed to be addressed by EPA (EPA, 1997b).

On December 22, 1994, the EPA issued an Action Memorandum authorizing the performance of a non-time critical removal action to address the waste materials discovered at OUs 4 and 5 (EPA, 1994). The non-time critical removal action commenced on May 30, 1995 and was completed on July 14, 1995. As a result of this action, more than 600 drums of waste material and 60 containers of waste laboratory chemicals were removed and disposed of offsite. The removal of approximately 90 waste debris piles and the drums resulted in approximately 740 cubic yards of hazardous wastes being sent offsite for treatment and disposal. Approximately 20 cubic yards of non-hazardous debris was disposed of offsite. 1,700 gallons of hazardous liquids were shipped offsite to an incineration facility, and 15,500 gallons of accumulated storm water and monitor well purge and development water were permitted and discharged to the sanitary sewer system. An additional 110 gallons of liquids were disposed of as non-hazardous wastes. Twenty two lab packs of chemicals were incinerated at an offsite facility, and one box of medical waste was incinerated at an offsite medical waste incineration facility. Finally, 11 gas cylinders and 8 lead/acid batteries were sent offsite for recycling (CH2M HILL, 1995).

Through the RI, BHHRA, and ERA completed for OU 4, the EPA concluded that incidental ingestion of soil and residual contaminated materials contributed the greatest percentage to the overall risk to human health posed by OU 4 contamination. Arsenic was attributed with the majority of the cancer and non-cancer risk. However, cadmium and antimony were also determined to contribute to the non-cancer risk. The ERA determined that OU 4 did pose risks to onsite ecological receptors. The EPA identified arsenic, cadmium, and lead contaminated dust and residual materials present on and within site buildings, structures, the smelter stack, and equipment as a principal threat (due to high toxicity and/or high mobility). Contaminated soils in the unpaved northeast area of the facility and subsurface soils under paved areas were deemed to be low-level threats (due to low to medium toxicity and low mobility) (EPA, 1996).

Through the RI, BHHRA, and ERA completed for OU 5, the EPA concluded that incidental inhalation and ingestion of soil and dust contributed the greatest percentage to the overall risk to human health posed by OU 5 contamination. Arsenic was attributed with the majority of the cancer risk. Cadmium was attributed with the majority of the non-cancer risk. The ERA determined that OU 5 did pose risks to onsite ecological receptors through soil. No principal threat wastes were found to be present at OU 5.

Contaminated materials in the former surface impoundment, former landfill, the slag burial area, dust in site buildings, and contaminated soils were deemed to be low-level threats. The groundwater, although contaminated, was not a source or potential source of drinking water due to its low yield and slightly saline quality (EPA, 1997a).

3.5 BASIS FOR TAKING ACTION

The purpose of the response actions conducted at the RSR Site was to protect public health and welfare and the environment from releases or threatened releases of hazardous substances from the Site. RAs taken at the Site were deemed necessary based on the results of the various site investigations, the BHHRAs, and ERAs conducted for the RSR Site. For OU 3, Site 1, exposure of children and adults due to soil ingestion, inhalation of dusts, and dermal contact resulted in exposures to excess cancer risks between 1×10^{-3} and 1.0×10^{-4} . The non-cancer HI exceeded one for children, adults, trespassers, and site workers. For OU 3, Site 4, Jaycee Park, the non-cancer HI for children exposed to soil exceeded one. At all sites at OU3, lead concentrations in soil resulted in unacceptable risk of lead exposure (more than five percent of each population exhibiting elevated blood-lead levels), and hazard indices for children and adults of 1.1 and 193.5, respectively (well above the EPA recommended index of 1). For OU 4, exposures to site contamination resulted in excess cancer risks of between 4×10^{-2} and 5×10^{-5} and non-cancer HI values between 1.7 and 340 for each population evaluated (adult and child trespassers, onsite process workers, and onsite non-process workers). At OU 5, exposures to site contamination resulted in excess cancer risks of between 4×10^{-4} and 8×10^{-9} and non-cancer HI values between 0.001 and 10 for the various exposure scenarios evaluated. At OU 4, the modeling predicted that both onsite process and non-process workers would have blood-lead levels above the permissible levels (EPA 1996; 1997a; and 1997b).

4.0 REMEDIAL ACTIONS

This section provides a description of the remedy objectives, selection, and implementation for OU 3 (waste slag and battery chip disposal areas), OU 4 (smelter facility), and OU 5 (battery wrecking facility and other industrial properties) at the Site. It also describes the ongoing Operation and Maintenance

(O&M) activities performed and overall progress made at the Site in the period since the RA for OU 4 began. Two additional OUs have been designated at the Site: OU 1 (residential areas) and OU 2 (DHA property). Both OUs 1 and 2 were addressed through removal actions. EPA signed RODs for both OUs 1 and 2 on May 9, 1995, which stated that no further action was necessary (EPA, 1995a and 1995b).

4.1 REMEDY OBJECTIVES

The EPA signed the ROD and for OU 3 of the Site on September 20, 1997. The specific Remedial Action Objectives (RAOs) for OU 3 RA, as provided in the ROD, were:

- Minimize exposure to lead, arsenic, and antimony present in the slag piles/landfills by direct contact inhalation, and ingestion; and,
- Reduce the potential for migration of these contaminants (EPA, 1997b).

In order to achieve the RAOs, the OU 3 ROD established remediation goals (referred to as RA goals or action levels in the ROD) for contaminated site soils and sediments. The RA goals for OU 3 soils and sediments are provided in Table 2 (EPA, 1997b).

The EPA signed the ROD and for OU 4 of the Site on February 28, 1996. The specific RAOs for OU 4 RA, as provided in the ROD, were:

- Minimize exposure to lead, arsenic, antimony, and cadmium present in the buildings, structures, smelter stack, equipment, and soils by direct contact, inhalation, and ingestion; and,
- Reduce the potential for migration of these contaminants (EPA, 1996).

In order to achieve the RAOs, the OU 4 ROD established remediation goals (referred to as RA goals or action levels in the ROD) for contaminated site buildings, structures, the smelter stack, equipment, and soils. The RA goals for OU 4 buildings, structures, the smelter stack, equipment, and soils are provided in Table 2 (EPA, 1996).

The EPA signed the ROD and for OU 5 of the Site on April 3, 1997. The specific RAOs for OU 5 RA, as provided in the ROD, were:

- Minimize exposure to lead, arsenic, and antimony present in the former surface impoundment, former landfill, buildings and structures, and slag burial area/other soils by direct contact, inhalation, and ingestion; and,
- Reduce the potential for migration of these contaminants (EPA, 1997a).

In order to achieve the RAOs, the OU 5 ROD established remediation goals (referred to as RA goals or action levels in the ROD) for the former surface impoundment, former landfill, buildings and structures, and slag burial area/other soils. The RA goals for OU 5 former surface impoundment, former landfill, buildings and structures, and slag burial area/other soils are provided in Table 2. In addition, the ROD for OU 5 established a RA level for storm water runoff and sediments to manage and control offsite migration through these pathways during remediation. The RA goal established by the OU 5 ROD for storm water runoff and sediments was to meet federal storm water requirements and federal and State RCRA closure and disposal requirements for sediments (EPA, 1997a).

4.2 REMEDY SELECTION

EPA has signed five RODs for the Site. The OU 1 ROD pertained to contaminated soils present in residential areas of the Site, and the OU 2 ROD pertained to contaminated soils and buildings present at the DHA property. The OU 3 ROD addressed the soil and sediment contamination present at three separate waste disposal areas located within the Site. The OU 4 ROD addressed the principal and low-level threats posed by contamination present at the smelter facility. Finally, the OU 5 ROD addressed low-level threats due to contamination present at the battery wrecking facility and other associated industrial properties located across Westmoreland Road from the smelter facility.

The Site was also addressed through other response actions (an Emergency Removal Action conducted for OU 1, the removal action conducted by the DHA under the AOC for OU 2, and the non-time critical Removal Action conducted at OUs 4 and 5) as described in Section 3.4. The RODs for OU 1 and OU 2 determined that response actions were completed at each OU and that no further response or RA was necessary (EPA, 1995a and 1995b).

The ROD for OU 3 was signed on September 20, 1997, to address the cleanup of lead, arsenic, and antimony contaminated soils and sediments that posed a risk through direct contact, ingestion, and/or inhalation and to prevent further migration of contaminants to offsite areas. Elements of OU 3 included three separate sites where waste slag and battery chips had been disposed of on the surface (EPA,

The remedy described in the 1997 ROD for OU 3 consisted of the following elements:

Site 1

- Excavation and removal of slag, battery chips, and metals contaminated soils exceeding action levels to a depth of 2 feet;
- Excavation and removal of sediments in the intermittent creek exceeding action levels;

- Backfilling and re-grading of excavated areas using clean soil;
- Offsite disposal of excavated materials (soil, sediment, battery chips, and slag) in an appropriate landfill based on the results of testing to determine if the material is hazardous (as defined by 40 CFR 261);
- No action was recommended for shallow groundwater; and,
- An institutional control in the form of deed notices or restrictions.

Site 3

- Containment (protective soil cap) of the southern portion and isolated areas of the northern cell of the West Davis landfill where there is exposed slag, battery chips, and metals contaminated soils that exceed action levels;
- Annual monitoring of surface water at four locations and groundwater at four monitor wells for a period of five years;
- Annual inspection of the capped areas;
- No action was recommended for shallow groundwater; and,
- An institutional control in the form of deed notices or restrictions.

Site 4

- Containment (protective soil cap) of areas within the Nomas and West Dallas landfills where there is exposed slag, battery chips, and metals contaminated soils that exceed action levels;
- Excavation of areas of surficial contamination where action levels are exceeded in Jaycee Park and placement under the protective cover in the West Dallas Landfill (non-hazardous materials) or transported and disposed of offsite (hazardous materials);
- Annual monitoring of surface water at two locations and groundwater at three monitor wells for a period of five years;
- No action was recommended for shallow groundwater; and,
- An institutional control in the form of deed notices or restrictions (EPA, 1997b).

The ROD for OU 4 was signed on February 28, 1996, to address the cleanup of principal and low-level threat contamination present at the smelter facility that posed a risk through direct contact, ingestion, and/or inhalation and to prevent further migration of contaminants to offsite areas. Elements of OU 4 included the facility buildings and structures, the smelter stack, equipment, and soils (EPA, 1996).

The remedy described in the 1996 ROD for OU 4 consisted of the following elements:

- Removal, treatment, and disposal of residual materials estimated at a volume of 540 cubic yards;
- Demolition and decontamination of approximately 190,000 square ft of buildings, structures, and equipment, including concrete pavement floors and connected drains and sumps (and associated sediments), plug and properly abandon remaining open conduits that are not removed;
- Disposal of all building debris (estimated at 8,900 cubic yards) offsite at appropriate landfill facilities;
- Demolition of the smelter stack and disposal offsite at a RCRA Subtitle C (hazardous waste) landfill (estimated at 1,300 cubic yards);
- Excavation of 13,500 cubic yards of contaminated soil and/or battery chips and lead slag that exceed action levels and disposal offsite (up to 1 ft beneath pavements and up to two ft in the unpaved northeast area);
- Cap and/or backfill the areal extent of the Site with 2 ft of clean soil; and,
- As a common element to each alternative evaluated in the ROD, the existing perimeter fence would be repaired, and storm water and air monitoring would be conducted during the RA (EPA, 1996).

The ROD for OU 5 was signed on April 3, 1997, to address the cleanup of low-level threat contamination present at the battery wrecking facility and other Site industrial property that posed a risk through direct contact, ingestion, and/or inhalation and to prevent further migration of contaminants to offsite areas. Elements of OU 5 included the facility buildings and structures, a surface impoundment, a former landfill, the slag burial area/other soils, and storm water runoff and sediments (EPA, 1997a).

The remedy described in the 1997 ROD for OU 5 consisted of the following elements:

- Decontamination of the former battery wrecking building and the vehicle maintenance building (estimated at 60,600 square ft);
- Demolition of the former battery wrecking building using conventional methods and offsite disposal of debris (estimated 55,800 square ft);
- Evaluate existing cap on the former surface impoundment. Upgrade or replace as necessary in order to complete RCRA closure (estimated 45,000 square ft); and
- Cap the former landfill in accordance with applicable landfill closure requirements (estimated 503,000 square ft).

As an alternate component to address the former landfill to promote future redevelopment options:

- Re-grade the former landfill area in order to support an asphalt or concrete surface cover;
- Cap the slag burial area/other soils areas that exceed action levels (estimated 1,480,000 square ft) with 2 ft of clean backfill and re-vegetated with native grasses;
- No action was recommended for the shallow groundwater at OUs 4 and 5; and,
- As a common element to each alternative evaluated in the ROD, the existing perimeter fence would be repaired, short-term groundwater monitoring would be conducted, long-term groundwater monitoring would be conducted for the former landfill, and storm water and air monitoring would be conducted during the RA (EPA, 1997a).

4.3 REMEDY IMPLEMENTATION

The selected remedies for the RSR Corporation Superfund Site for OUs 3 and 5 (Subareas 2, 3, and 4) were implemented through a Consent Decree agreed to in 2003 between the EPA, the State of Texas, RSR Corporation, and its subsidiaries. The Consent Decree required RSR Corporation and its subsidiaries to implement the RD and RA for each OU. The selected remedy for OU 4 was implemented through a Consent Decree between EPA and a group of seven PRPs agreed to in 1998. The Consent Decree required the PRPs to implement the RD/RA for OU 4. EPA completed the RD/RA for OU 5 Subarea 1. Implementation of the ROD selected remedies for each OU is further described in the following paragraphs.

OU 3

RSR Corporation contracted ENTACT to perform the RA construction activities for OU 3. Mobilization for the RA construction occurred in February 2004, and major construction activities were completed in September 2004. The EPA and TCEQ conducted the final inspection for OU 3 on September 14, 2004. Based on the final inspection, all RA construction activities were determined to be completed (ENTACT, 2004c).

RA construction activities for OU 3 began with mobilization of contractor personnel and equipment to the site. The mobilization activities included the following:

- Establishing support facilities;
- Establishing work zones at each site;
- Setting up site-security (including fencing);
- Installation or implementation of temporary erosion, sedimentation, storm water, and dust suppression controls;
- Construction of temporary access roads;
- Surface preparation (including removal of excess vegetation and debris removal); Surveying and establishing a coordinate grid system at each site; and,
- Locating utilities (ENTACT, 2004c).

RA construction for OU 3 began at Site 4 in February 2004. Locations where soil concentrations exceeded the Site 4 action levels, as identified in the ROD were first field located by a surveyor. A grid system was established to perform sampling and identify the extent of the area where soil contaminant concentrations exceeded the action levels. Based on the sample results, grid locations where soil concentrations for lead and/or arsenic exceeded the Site 4 action levels were covered with a two-ft thick soil cover. The soil cover consisted of a minimum 20 inches of clay, four inches of topsoil, and vegetation consisting of native grasses. Storm water and erosion controls were left in place until the vegetation was established over a minimum of 70 percent of the area (ENTACT, 2004c).

In May 2004, an investigation was conducted at the Jaycee Park to assess whether soil concentrations for lead, arsenic, and antimony exceeded the action levels established in the ROD for the park. Soil samples were collected for both field screening and analysis at an offsite laboratory. The analytical results indicated that the concentrations of lead, arsenic, and antimony in soils at the park did not exceed the action levels. The EPA concurred with this conclusion, and it was determined that no RA was required at the Jaycee Park. Figure 4 of Attachment A shows the work area addressed by the RA at OU 3, Site 4 (ENTACT, 2004c).

RA construction for OU 3 proceeded to Site 1 in April 2004. Locations where soil concentrations exceeded the Site 1 action levels and areas of visible slag and battery chips, as identified in the ROD were first field located by a surveyor. Due to the presence of large accumulations of visible slag and battery chips on the sloped surface of Site 1, eight investigative trenches were installed to determine visual extent

of contamination. The trenches were installed to depths ranging from 5 to 30 ft bgs. Battery chips, slag, and decayed municipal solid waste were observed in each trench, and it was determined that Site 1 was the location of a former unidentified landfill (ENTACT, 2004c).

After trenching activities were complete, remediation activities at Site 1 continued. Construction activities at Site 1 were divided between two general areas (southern, main area and northern, remote area). In southern area, a grid system was established around the visual limits of the former landfill to further define the extent of contaminated soils exceeded the action levels for Site 1. Field screening was then conducted to determine which grids required remediation. Contaminated soils and visible accumulations of slag and battery chips were then excavated. Excavation was considered complete when field screening results indicated that lead soil concentrations were below 2,000 mg/kg (50 mg/kg in Jaycee Park) and arsenic soil concentrations were below 32.7 mg/kg (20 mg/kg in Jaycee Park) or a depth of two ft bgs was reached. Post-excavation confirmation samples were collected from areas where excavation depths were less than 2 ft bgs and sent to an offsite laboratory for analysis to ensure that the action levels had been achieved. Each excavated area was then backfilled with clean soil to a maximum of 20 inches, and then 4 inches of topsoil was placed on top. The backfill was graded and compacted to tie the cover into existing site grades and to promote drainage. In transition areas, additional soil was added when necessary to bring the site to final grade and prevent the ponding of water. The site was then seeded to establish vegetation and storm water and erosion controls were left in place until the vegetation was established over a minimum of 70 percent of the area (ENTACT, 2004c).

In the northern remote area, locations where soil concentrations exceeded the Site 1 action levels, as identified in the ROD, were field located by a surveyor. A grid system was then established to perform sampling and identify the extent of the area where soil contaminant concentrations exceeded the action levels. Based on the sample results, grid locations where soil concentrations for lead and/or arsenic exceeded the Site 1 action levels were then excavated to depths of between 6 inches and 3.5 ft. Excavation was considered complete when field screening results indicated that lead and/or arsenic were below the field screening concentration numbers or all visible slag and battery chips were removed. Post-excavation confirmation samples were collected from areas where excavation depths were less than 2 ft bgs and sent to an offsite laboratory for analysis to ensure that the action levels had been achieved. The excavated areas were then backfilled with soil and graded as necessary to promote drainage and match surrounding natural ground levels. Figure 2 of Attachment A shows the work area addressed by the RA at OU 3, Site 1 (ENTACT, 2004c).

Soils excavated from Site 1 were staged temporarily at the site. Sampling was conducted to classify the soils as a Texas Class 1 or Class 2 non-hazardous industrial waste. Soils exceeding the Class 1 levels were stabilized at the site to meet the criteria for a Class 2 non-hazardous industrial waste.

Approximately 2,160 cubic yards of material required stabilization. The soils were then disposed of at an offsite landfill permitted to accept Class 2 non-hazardous industrial waste (approximately 7,416 cubic yards) (ENTACT, 2004c).

RA construction for OU 3 began at Site 3 in June 2004. Locations where soil concentrations exceeded the Site 3 action levels and areas of visible slag and battery chips, as identified in the ROD were first field located by a surveyor. A grid system was established to perform sampling and identify the extent of the area where soil contaminant concentrations exceeded the action levels. Contaminated soils and surface deposits of slag and battery chips on City of Dallas property, within the TXU Energy Right-of-Way, and within 100 ft of Davis Street were excavated. In these areas, grid locations where soil concentrations for lead and/or arsenic exceeded the Site 3 action levels were excavated to depths of between 1 and 2 ft. Excavation was considered complete when field screening results indicated that lead and/or arsenic were below the field screening concentration numbers or all visible slag and battery chips were removed. Post-excavation confirmation samples were collected from the bottom of each excavation sent to an offsite laboratory for analysis to ensure that the action levels had been achieved. The excavated areas were then backfilled with soil and graded as necessary to promote drainage and match surrounding natural ground levels (ENTACT, 2004c).

The excavated soils at Site 3 were taken to portions of Site 3 where a soil cover was to be installed for consolidation. The excavated material was spread out and compacted to the elevations required to promote drainage and prevent ponding. A soil cover consisting of a minimum 20 inches of clay, 4 inches of topsoil, and vegetation consisting of native grasses, was then placed over the consolidation areas and other areas of Site 3 requiring remediation. Storm water and erosion controls were left in place until the vegetation was established over a minimum of 70 percent of the area. Figure 3 of Attachment A shows the work area addressed by the RA at OU 3, Site 1 (ENTACT, 2004c).

OU 4

RSR Corporation contracted ENTACT to perform the RA construction activities for OU 4. Mobilization for the RA construction occurred in October 2000, and major construction activities were completed in October 2001. The EPA conducted the final inspection for OU 4 on November 6, 2001. Based on the final inspection, all RA construction activities were determined to be completed (ENTACT, 2001).

RA construction activities for OU 4 began with mobilization of contractor personnel and equipment to the site. The mobilization activities included the following:

- Establishing support facilities and air monitoring system;
- Establishing work zones at each site;
- Setting up site-security (including fencing);
- Installation or implementation of temporary erosion, sedimentation, storm water, and dust suppression controls;
- Identification of hazardous materials; and,
- Locating utilities (ENTACT, 2001).

The RA construction activities for OU 4 included decontamination of buildings, structures, and equipment, asbestos abatement, demolition of site buildings and structures, removal of concrete foundations and pavement, excavation of contaminated soils, monitoring well abandonment, and site restoration activities. During the RA, dust suppression measures were implemented at all times to contain airborne emissions of contaminants. Also, air monitoring was conducted onsite and near the site to ensure that construction activities were not resulting in offsite impacts from airborne contaminants (ENTACT, 2001).

Decontamination of buildings and equipment was the first activity performed during the RA. The decontamination procedures were designed to meet required standards for scrap metal recycling or disposal purposes for non-recyclable materials. During decontamination, wash water was allowed to accumulate in low areas of the site and reused either for decontamination purposes or for dust suppression. Over-spray of clean surfaces was controlled using polyethylene sheeting. Cracks in floors were sealed and floor drains and sumps were blocked to prevent seepage of the wash water into underlying areas or the site piping system. Testing was conducted to ensure the adequacy of the decontamination procedures and to ensure components met the treatment standards for hazardous debris. A total of 1,088 tons of steel were sent offsite for recycling. Miscellaneous wood, brick, and concrete materials, totaling approximately 915 cubic yards, were disposed of as Class 1 non-hazardous waste at an offsite permitted landfill, and approximately 2,137 cubic yards of construction debris were disposed of as Class 2 non-hazardous waste at an offsite permitted landfill (ENTACT, 2001).

Prior to demolition activities, polychlorinated-biphenyls (PCB) containing light ballasts, fluorescent, bulbs, and non-friable asbestos containing materials (ACM) were removed from the site. The PCB-containing light ballasts and fluorescent light bulbs were transported to an offsite facility for

recycling. The non-friable ACM was transported offsite and disposed of at a permitted landfill (ENTACT, 2001).

Building demolition began in October 2000. Prior to demolition, utilities were located and abandoned. Debris and sediments were removed from the storm sewer, and the storm and sanitary sewers were abandoned. All site buildings were demolished and the resultant debris removed from the site. During demolition activities, dust suppression procedures were conducted to prevent airborne contaminant emissions. The demolition debris was segregated into metal and non-metal categories. Testing was performed to characterize the materials for disposal. The metal debris was decontaminated and sent offsite for recycling. The non-metal debris was disposed of as Class 2 non-hazardous waste at an offsite permitted landfill. The smelter stack, constructed with an interior brick liner and exterior concrete shell, was demolished by removing the inner brick liner and then demolishing the outer concrete shell. The brick liner material was decontaminated and disposed of as Class 2 non-hazardous waste at an offsite permitted landfill. The outer concrete shell was disposed of at an offsite concrete recycling facility. As structures were demolished, the concrete slabs were also removed. Concrete foundations that extended into the subsurface soils were removed to 1 ft below the top of the existing slab. All concrete was tested to characterize the material as non-hazardous, and the disposed of at an offsite concrete recycling facility (ENTACT, 2001).

Contaminated soils that exceeded the Site action levels or contained visible battery chips or slag were removed through excavation. The excavations occurred to depths of 1 ft bgs in areas of the Site covered with pavement and to 2 ft bgs in the unpaved northeast corner of the Site. Excavation occurred by sampling 50 ft by 50 ft grids placed over the entire site to determine areas where excavation was required. After excavation, the removed soils were tested to characterize the materials for stabilization or disposal purposes. Soils that did not meet the Class 2 non-hazardous waste criteria were stabilized, and all excavated soils were then disposed of at an offsite permitted landfill as Class 2 non-hazardous waste.

Existing OU 4 monitor wells were abandoned during the RA construction. Seven monitor wells were abandoned by filling the well casing with bentonite chips up to 2 ft bgs. The upper 2 feet were then filled with cement up to ground surface to complete the abandonment (ENTACT, 2001).

After excavation was completed, the excavated areas were backfilled with clay fill. Each excavation was filled in eight inch lifts and compacted. Once the excavations were brought up to grade, the entire site was covered with six inches of top soil. The topsoil was then graded to promote drainage and seeded to

establish vegetation for erosion control (ENTACT, 2001). Figure 5 of Attachment A shows the layout of OU 4 prior to RA construction. As a result of the RA, all site features were removed and/or covered.

OU 5

The RA for OU 5 Subarea I was completed by the EPA. The EPA contracted with CH2M HILL to perform the RA construction activities for OU 5 Subarea 1. Mobilization for the RA occurred in January 2004, and major construction activities were completed in July 2004. The EPA and TCEQ conducted the final inspection for OU 5 Subarea 1 on August 3, 2004. Based on the final inspection, all RA construction activities were determined to be completed (CH2M HILL, 2004a). Figure 6 of Attachment A shows the location of OU 5 Subarea 1.

RA construction activities for OU 5 Subarea 1 began with mobilization of contractor personnel and equipment to the site. The mobilization activities included the following:

- Establishing support facilities and air monitoring system;
- Temporary placement of orange safety fencing over openings in the existing site fence;
- Setting up site-security (including fencing);
- Clearing, grubbing, stripping, and grading the former surface impoundment and buried slag areas; and,
- Testing potential backfill materials for use at the site (CH2M HILL, 2004a).

The battery wrecking facility was decontaminated prior to demolition. Initially, a dry decontamination procedure was employed, but this proved to be time-consuming. A wet decontamination procedure was implemented using hot pressure washers. Decontamination fluids were collected and transferred to storage tanks staged at the Site. During decontamination, external pieces of metal siding from the east and north sides of the building were removed and decontaminated at the same time (CH2M HILL, 2004a).

After decontamination of the building, demolition of the battery wrecking facility began. Large debris from the building was placed into dumpsters. Equipment associated with a former wastewater treatment plant was demolished, steel sumps were removed and backfilled, a concrete tank was demolished, and non-support metal was cut-off the building. The concrete slab was then patched, drains plugged, and protruding rebar and bolts cut-off flush with the floor. The concrete building slab was then decontaminated. Sumps in the floor and the basin/former loading dock were cleaned, drainage holes were punched in the bottoms, and then the areas were backfilled with clay. Concrete pads and walls inside the

battery wrecking facility were broken up and removed from the building. Finally, the building structure was demolished. Approximately 245 tons of steel and metal sheeting and 923 tons of concrete, and lights were shipped offsite and recycled from the battery wrecking facility. Excess debris, such as general refuse, light poles, metal, concrete, and piping were removed from the site as a housekeeping effort at the request of EPA (CH2M HILL, 2004a).

Construction activities for the vehicle maintenance facility included decontamination of the building and excavation of the soils surrounding the building. Wet decontamination procedures were used to decontaminate the building. The building was then inspected and found to meet the requirements for a clean debris surface. Soils contaminated with lead and/or arsenic above the OU 5 action levels or containing visible slag were removed from the area around the vehicle maintenance building. Due to the presence of large pieces of slag in the soils around the vehicle maintenance building, planned excavation depths were increased from 6 inches to 2 ft. In a few areas, the excavations were completed to only 1.5 ft. Slag materials were also removed from the fence line north of the vehicle maintenance building, but no excavation was conducted in this area. The excavated materials were moved to the buried slag area for disposal. The excavations were backfilled with clay fill and a six inch topsoil cover (CH2M HILL, 2004a).

Prior to work on the former surface impoundment, an investigation was conducted to evaluate the thickness of the existing cap. Based on the investigation, it was determined that a sufficient 2 ft thick cap existed over most of the former surface impoundment. One location in the southern area of the cap required additional clay. Construction work for the former surface impoundment included re-grading the cap around its perimeter to achieve a three-to-one (horizontal-to-vertical) slope, increasing the cap thickness in one area, and re-vegetating the cap. Geotextile and bedding rock were placed along the west toe of the former surface impoundment. A 6 inch topsoil cover was placed on top of the clay cap, and the cap was then re-vegetated (CH2M HILL, 2004a).

Soil sampling was performed in areas of concern identified during the RD to delineate the areas where lead and/or arsenic concentrations exceeded the OU 5 action levels. Each area was divided into 50 ft by 50 ft grids for sampling. Based on the sample results, it was determined that 21 grid areas required excavation. Sampling was also conducted along the drainage swale at the site, and 1 grid location was identified that required excavation. Each grid was excavated to depths of 6 or 12 inches (based on the sampling results) and backfilled with clay material the same day. Each excavated area was then fertilized and seeded to establish vegetation. Some excavations were not completed as planned. Several areas were

determined to include portions of the former surface impoundment, and excavation was adjusted so as not to disturb the clay cap. Concrete walls and slabs were encountered in 4 areas, and the excavations proceeded to the tops of footings and up to the faces of the walls. The concrete was left in place and soil backfill placed around it. Only sediments were removed from a drainage swale and along a railroad track embankment due to unstable slopes. The excavated soils were taken to the buried slag area for disposal (CH2M HILL, 2004a).

Two USTs were located at OU 5 Subarea 1. Liquids in the tanks were removed and transported offsite for disposal. Prior to removing the USTs, the tanks were uncovered with shovels in order to remove the associated piping. Stained soils, hydrocarbon odors, and intact and broken batteries were discovered during this initial excavation, and hand digging by shovel was stopped. The tanks were uncovered, cleaned and decontaminated, and removed from the excavations. The tanks were transported offsite for disposal. The excavations and stockpiled soils were then sampled. The stockpiled soils did not meet TCEQ criteria for placement back into the excavations. The soil was therefore spread out in a six inch thick layer on high-density polyethylene sheeting and fertilizer added to promote bioremediation. Testing conducted after 5 days indicated that the soils met TCEQ criteria, and the soils were placed back into the excavation (CH2M HILL, 2004a).

The truck tipping scale was also addressed during the OU 5 Subarea 1 RA. During demolition of the truck tipping scale, a hydraulic oil tank and two hydraulic rams were discovered. Approximately 6,000 gallons of mixed water and oil were found in a 10-foot deep sump. The water and oil were removed and sent offsite for disposal. The waste oil tank was decontaminated and demolished. Solids and sludge were removed from the tipping scale sump, and the walls were cleaned. Solids and water left in the bottom of the sump were solidified with dry mix concrete and Portland cement. The hydraulic rams were left in the sump. The tipping scale and the sump were then backfilled with common clay. The sediments and sludges were tested, and based on lead results, were determined to be hazardous waste. These materials, along with waste personal protective equipment and absorbents, were disposed of as hazardous waste (CH2M HILL, 2004a).

Approximately 185,000 gallons of decontamination water and accumulated rainwater were stored onsite in nine tanks. The water was tested in order to receive a discharge permit from the City of Dallas to discharge the water to the sanitary sewer. A permit was issued, and the water was discharge to the City of Dallas sanitary sewer through a manhole located onsite. The tanks were decontaminated, and the accumulated sediments were placed in the buried slag area for disposal (CH2M HILL, 2004a).

The buried slag area construction activities included capping the buried slag area and scraping the area to the west up to the road and/or creek bank. The area west of the buried slag area was scraped to depths between 2 and 4 inches to remove large accumulations of battery chips. The scraped material was placed in the buried slag area. The area was then re-graded to promote drainage, and topsoil was placed on top. The materials placed in the buried slag area included soils excavated from other portions of the site, sediments from the former loading dock, site sumps, the scrape area west of the buried slag area and near the USTs, sediments from the water tanks, and materials removed from near the vehicle maintenance facility. An 18-inch thick clay cap was placed on top of the buried slag area and covered with 6 inches of topsoil. The buried slag area was then re-vegetated. Riprap protection was placed on the northern bank of the drainage swale adjacent to the buried slag area, and on select portions of the southern bank. This work was done to repair areas of erosion and reduce the potential for future erosion into the buried waste in the buried slag area (CH2M HILL, 2004a). Figure 7 of Attachment A shows OU 5 Subarea 1 after completion of the RA construction activities.

RSR Corporation contracted ENTACT to perform the RA construction activities for OU 5 Subareas 2, 3, and 4. Mobilization for the RA construction occurred in June 2003, and major construction activities were completed in October 2003. The EPA and TCEQ conducted the final inspection for OU 5 Subareas 2, 3, and 4 on October 20, 2003. Based on the final inspection, all RA construction activities were determined to be completed (ENTACT, 2004a). Figure 8 of Attachment A shows the locations of Subareas 2, 3, and 4 at OU 5.

RA construction activities for OU 5, Subareas 2, 3, and 4 began with mobilization of contractor personnel and equipment to the site. The mobilization activities included the following:

- Establishing support facilities
- Establishing work zones at each site;
- Setting up site-security (including fencing);
- Installation or implementation of temporary erosion, sedimentation, storm water, and dust suppression controls;
- Installation of air monitoring and meteorological monitoring stations;

- Construction of temporary access roads;
- Surface preparation (including removal of excess vegetation and debris removal); Surveying and establishing a coordinate grid system; and,
- Locating utilities (ENTACT, 2004a).

RA construction activities at OU 5, Subareas 2, 3, and 4 began in June 2003. The first activity completed was verification of the limits of the former landfill located at Subarea 2. The limits of the former landfill, as depicted in the ROD, were first identified by a surveyor. A total of 21 investigative trenches were then completed along the surveyed limits of the landfill. The trenches were installed to depths of 5 ft bgs.

Trenching started at approximately 5 to 10 ft from the surveyed landfill boundary and extended outward until no more landfilled material was observed visually in the trenches. The field verified limits of the former landfill were then resurveyed (ENTACT, 2004a). The location of the former landfill at OU 5 Subarea 2 is shown in Figure 9 of Attachment A.

At OU 5, Subarea 2, a grid system was established to perform sampling and identify the extent of the area outside the identified limits of the former landfill where soil contaminant concentrations exceeded the action levels. Field screening of each grid was conducted, and the grids at OU 5 Subarea 2 requiring remediation were identified. Remediation of contaminated soils was addressed through excavation and consolidation within the former landfill area, by expanding the landfill cover for grids located near the landfill, or by installing a cover (similar to the one constructed over the landfill) over the areas of contaminated soils (ENTACT, 2004a).

The former landfill and nearby impacted grids were covered with 24 inches of clean clay. The clay was placed in 9-inch lifts and compacted to meet density requirements. The landfill cover was graded and tied into the existing site grades to promote drainage and prevent the ponding of water. A 3-inch layer of topsoil was then placed on top of the former landfill cover and seeded to establish vegetation consisting of native grasses. Storm water and erosion controls were left in place until the vegetation was established over a minimum of 70 percent of the area. A similar cover was constructed over contaminated soil areas in the northern portion of OU 5, Subarea 2. Additional material was added to un-impacted areas of OU 5 Subarea 2 to bring the Site to final grade, promote drainage, and prevent ponding of water. Field screening identified 4 remote grids that required remediation. These grids were excavated to a depth of 1 foot bgs. The excavated soils were consolidated in the former landfill area and placed under the final cover. Confirmation sampling was performed at each excavated area to ensure that the actions had been achieved. Each excavation was backfilled with clay, graded, and topsoil added. Each area was then

seeded to establish vegetation (ENTACT, 2004a). Figure 10 of Attachment A shows the areas of OU 5 Subarea 2 that were either excavated or placed under the final soil cover.

At OU 5 Subarea 3, a surveyor was used to locate the sample point, identified in the ROD, where lead and arsenic concentrations exceeded the action levels. A test pit to six (6) ft bgs was installed to investigate and verify the presence of contamination exceeding the action levels. The test pit was sampled at the surface and at two ft intervals to the bottom of the pit. The samples field screened to evaluate if lead or arsenic concentrations exceeded the field screening values. Arsenic exceeded the field screening value in the surface sample only. Nine 50 ft by 50 ft grids were established around the test pit and sampled to identify the extent of the potentially contaminated soils. Field screening results indicated that 3 grids exceeded the XRF field screening values of 1,381 ppm for lead, 23 ppm for arsenic, and 596 ppm for antimony. These grids were therefore sampled again, and the samples were sent to an offsite laboratory for confirmation analysis. These sample results indicated that lead and arsenic concentrations did not exceed the action levels. Based on these results, and with EPA confirmation, it was determined that remediation was not required for OU 5 Subarea 3 (ENTACT, 2004a).

An investigation was conducted at OU 5 Subarea 4 to identify areas where soil lead and arsenic concentrations exceeded the Site action levels. In addition to the originally defined Subarea 4 (identified in the RA Completion Report as Subarea 4a), RSR Corporation voluntarily addressed two adjacent properties as part of the OU 5 remediation (identified as Subareas 4b and 4c). A 50 ft by 50 ft grid area was established at Subarea 4a, and 100 ft by 100 ft grids were established at Subareas 4b and 4c. Exploratory test pits were then dug at each grid for the collection and field screening of samples. In addition, samples were collected for confirmation analysis at an offsite laboratory where the field screening results were above the field screening values but below the Site action levels. Samples were not collected from test pits where the field screening results indicated lead and/or arsenic concentrations above the action levels. Based on the analytical and field screening results, grids that exceeded the Site action levels were excavated. Excavation depths ranged from 0.25 to 0.66 ft bgs. Confirmation sampling was conducted to ensure that the action levels were achieved at each excavated area. The excavated soils were transported to the former landfill at OU 5 Subarea 2 and placed under the final cover. Each excavated area was backfilled with topsoil and seeded to establish vegetation consisting of native grasses. Storm water and erosion controls were left in place until the vegetation was established over a minimum of 70 percent of the area (ENTACT, 2004a). The remediated areas at OU 5 Subarea 4 are shown on Figure 10 of Attachment A.

4.4 OPERATIONS AND MAINTENANCE

RSR Corporation was responsible for O&M activities conducted for the OU 3 and OU 5 Subareas 2, 3, and 4 remedies. Murmur and EPA agreed that Murmur is no longer responsible for O&M at Subarea 1 of OU 5, but no other arrangements have been made. The ROD did not require any O&M activities for the remedy completed at OU 4.

O&M Plans were developed by ENTACT that specifies the general O&M activities to be conducted at OU 3 and OU5 Subareas 2, 3, and 4 of the RSR Site (ENTACT, 2003, and ENTACT, 2004b).

CH2M HILL prepared the O&M Plan that specifies the O&M activities for the remedy completed at OU 5 Subarea 1 (CH2M HILL, 2004b).

The completed remedy for OU 3 does not include any active components that require on-going operation. O&M activities for OU 3 include inspection and maintenance of the soil covers at the three sites. The O&M Manual states that inspections of the soil covers at each site will be conducted annually. The soil covers are to be inspected for signs of erosion, subsidence, areas lacking vegetation, animal burrows, and other conditions that might affect the integrity of the soil covers. The O&M Plan stipulates that corrective actions would be implemented to repair/correct noted deficiencies that present significant risk to the integrity of the covers. The only required maintenance activities include mowing, watering, and reseeding on an as-needed basis. The O&M Plan states that deed restrictions, in the form of a deed notice, were required for all three sites. The deed notice are to include the locations of the soil covers present at each site, include a restriction requiring that the soil cover must be maintained during future uses, and a restriction requiring review and approval of the EPA for any future development. The O&M Plan states that the deed notices would have to be placed on the property for each site by the property owner under the direction of the EPA (ENTACT, 2004b).

The completed remedy for OU 5 Subareas 2, 3, and 4 does not include any active components that require on-going operation. The O&M Plan indicates that O&M activities are not required for Subareas 3 and 4. O&M activities for Subarea 2 include inspection and maintenance of the former landfill and north area soil covers. The O&M Manual states that inspections of the soil covers would be conducted quarterly for the first year and annually thereafter. The soil covers are to be inspected for signs of erosion, subsidence, areas lacking vegetation, animal burrows, and other conditions that might affect the integrity of the soil covers. The O&M Plan stipulates that corrective actions would be implemented to repair/correct noted deficiencies that present significant risk to the integrity of the covers. The only required maintenance

activities include mowing, watering, and reseeding on an as-needed basis. The fence around Subarea 2 would also be inspected and maintained to restrict access to the site. (ENTACT, 2004b).

The completed remedy for OU 5 Subarea 1 does not include any active components that require on-going operation. O&M activities for Subarea 1 include inspection and maintenance of the covers over the buried slag area and former surface impoundment, the excavated/scraped areas, the drainage swale along the southern property boundary, the vehicle maintenance facility parking lot, and the site monitor wells. Groundwater sampling at the former surface impoundment is also required for a period of 5 years.

The O&M Manual states that inspections would be conducted quarterly for the first year and annually thereafter. The soil covers are to be inspected for signs of erosion, subsidence, areas lacking vegetation, animal burrows, and other conditions that might affect the integrity of the soil covers. The site would also be inspected for indications of erosion or excessive sedimentation in site drainage ditches, and the vehicle maintenance facility parking lot would be inspected to verify the integrity of the surface. The fence around Subarea 1 would also be inspected and maintained to restrict access to the site. The O&M Plan stipulates that corrective actions would be implemented to repair/correct noted deficiencies. The only required maintenance activity included mowing of the site on a monthly basis during the growing season to maintain the vegetation at less than 6 inches in height (CH2M HILL, 2004b).

The groundwater sampling plan is contained as a part of the O&M Manual for Subarea 1. It specifies the locations to be sampled, numbers and types of samples to be collected, and the quality assurance/quality control requirements. The plan specifies the groundwater monitoring will be performed on an annual basis to monitor lead and arsenic concentrations in the groundwater at the former surface impoundment. The monitoring is to be conducted as a closure requirement for the former surface impoundment (CH2M HILL, 2004b). The results of a 2004 groundwater monitoring sampling event were addressed in the first five year review (EPA, 2005c). No further results are available.

4.5 PROGRESS SINCE COMPLETION OF REMEDIAL ACTION

There are no active operating components for the RAs conducted at OUs 3, 4, and 5. For OU 3, all contamination was either disposed of offsite or placed under clean soil covers. At OU 4, all site buildings and equipment were decontaminated and demolished, and the resultant debris was removed from the site and disposed or recycled. Contaminated soils to depths of one or two feet were removed from the site and disposed, and the site was placed under a clean soil cover. At OU 5, Subarea 1, the cover over the former surface impoundment was upgraded. The battery wrecking facility was decontaminated and demolished,

and the resultant debris was removed from the site and disposed or recycled. The vehicle maintenance facility was decontaminated. Contaminated soils, battery chips, and slag were consolidated in the buried slag area and placed under a clean soil cover. Site drainage was also improved to promote storm water runoff and to protect the soil covers. For OU 5 Subarea 2, contaminated soils and the former landfill were placed under a clean soil cover. Contaminated soils at Subarea 4 were excavated and placed under the clean soil cover at Subarea 2 (ENTACT, 2001; ENTACT, 2004a; ENTACT, 2004c; and CH2M HILL, 2004a).

OUs 3 and 5 are currently in the O&M phase. O&M was not required by the ROD for OU 4. O&M activities include maintenance and inspections. Also, groundwater sampling at the former surface impoundment is required at OU 5 Subarea 1. No additional monitoring is required as a part of O&M. One annual groundwater sampling event has been conducted since completion of the RA (CH2M HILL, 2004c), the results of which were presented in the First Five Year Review Report. No further data are available.

5.0 PROGRESS SINCE THE PREVIOUS FIVE-YEAR REVIEW

The First Five-Year Review Report was completed in September 2005. This Second Five-Year Review Report evaluates remedy effectiveness between 2005 and 2010. During the period of the second five-year review, RSR conducted scheduled O&M activities at OU 5 Subarea 2 and OU 3 Sites 1, 3, and 4. Additionally repairs were done by RSR to repair erosion rills and repair fencing. Deed notices have been filed for 21 properties of OU 3; progress has been made with four additional property owners; and RSR is working with TCEQ to have deed notices filed under 30 TAC 350.111 for the properties abandoned by the remaining two OU 3 property owners. In addition, deed notices have been filed at OU 4 and Subarea 1 of OU 5. Finally, EPA issued a Ready-for-Reuse determination for the Site. The following are the events that occurred during the second five-year review period as listed in chronological order:

- In accordance with the Operation and Maintenance Plans, RSR conducted site maintenance at OU 5 Subarea 2 and OU 3 Sites 1, 3, and 4 on an annual basis. The post-remediation inspection was conducted by ENTACT on behalf of RSR on an annual basis.
- On February 2, 2005, Bickel and Brewer Attorney and Counselors, of behalf of RSR and Quemetco sent a letter to the EPA. The Notice of Obligations to Successors-In-Title was provided on behalf of RSR and Quemetco to the EPA in accordance with Paragraph 11 of the Consent Decree for Civil Action No. 3-01 CV 0924-D, U.S. District Court for Northern District of Texas, Dallas Division, filed July 21, 2003. The notice stated that 1) the Property is part of OU 5 of the RSR Corporation Superfund Site; 2) the Consent Decree was entered by the Court on July 21, 2003; 3) the EPA selected a remedy for OU 5 on April 3, 1997; 4) potentially responsible parties entered into the Consent Decree requiring implementation of the remedy; and 5) each

Owner Settling Defendant and Successor-In-Title is obligated to provide access to the Property under the terms of the Consent Decree. The document contained Exhibit A with the legal description of and relevant documentation to each property at OU 5 Subareas 2, 3, and 4 of the Consent Order (Michael S. Gardner, Bickel and Brewer Attorney and Counselors [MGBBAC] 2005).

- On July 7, 2005, ENTACT on behalf of RSR conducted a post-remediation action inspection (ENTACT 2005b).

The following conditions were noted in the report for Subarea 2 of OU 5:

- Slight damage to the fence from a tree limb in the southwest corner. Required action included removal of the tree limb.
- Regional drought caused cracking in surface soil throughout the cover.
- Erosion rills were observed near the southwest corner of the area in an uncontaminated area. No exposed material was visible. Required action included repair of the southwest corner.
- Loss of vegetation due to drought.

The following conditions were noted in the report for Site 3 of OU 3:

- Minor erosion rills observed on the north and south sides of the Monzon property cover. Adjacent property to the south (junk yard) may be pumping water onto the Monzon property, as evidenced by polyvinyl chloride/steel piping at the time of inspection. A small gully developed on the TXI property cover, possibly due to a beaver crossing from the adjacent pond. Required action included repair of the cover.
- Some loss of vegetation due to drought.

The following conditions were noted in the report for Site 4 of OU 3:

- Minor erosion rills on the south side of the cover.
- Some loss off vegetation due to drought.

The following conditions were noted in the report for Site 1 of OU 3:

- Severe erosion rills on the slope cover in the vicinity of the storm water outfall.
- Some loss of vegetation due to drought.
- On August 1, 2005, EPA issued a Ready-for-Reuse determination for the Site (EPA, 2005b). The letter transmitted a certification of Ready-for-Reuse Determination for the RSR Corporation Superfund Site. The letter stipulated that the determination will remain valid as long as the

requirement and limitations specified in the Record of Decision (ROD) and Remedial Action (RA) Report are met.

- On September 28, 2005, EPA and Murmur entered into a final Administrative Order of Consent (AOC) with EPA.
- On December 14, 2005, ENTACT on behalf of RSR conducted a post-remediation action inspection (ENTACT, 2005c).

The following conditions were noted in the report for Subarea 2 of OU 5:

- A thick vegetative cover was present on the west slope.
- The tree limb that caused some damage to the fencing was removed on December 13, 2005.
- Regional drought caused cracking in surface soil throughout the cover.
- On December 13, 2005, riprap was placed in the southwest corner of the cover to repair the erosion observed during the previous inspection.

The following conditions were noted in the report for Site 1 of OU 3:

- Severe erosion rills on the slope cover in the vicinity of the storm water outfall were repaired on December 13, 2005. The berm and outfall area were filled with riprap. Erosion was raked out and erosion blankets installed.
- Some loss of vegetation due to drought.

The following conditions were noted in the report for Site 3 of OU 3:

- Minor erosion rills observed on the north and south sides of the Monzon property cover. Adjacent property to the south (junk yard) may be pumping water onto the Monzon property, as evidenced by polyvinyl chloride/steel piping at the time of inspection. A small gully developed on the TXI property cover, possibly due to a beaver crossing from the adjacent pond. Required action included repair of the cover.
- Some loss of vegetation due to drought.

The following conditions were noted in the report for Site 4 of OU 3:

- Minor erosion rills on the south side of the cover were raked on December 13 2005.
- Some loss of vegetation due to drought.
- On January 10, 2006, EPA issued a final effective date letter for the September 28, 2005, AOC between EPA and Murmur.
- On February 2 and 8, 2006, as evidenced by two letters issued by Murmur, Murmur paid EPA \$278,273.00 per the September 28, 2005, AOC. The funds were deposited in a special account

designed to address maintenance issues for OU 4 and Subarea 1 of OU 5, RSR Site properties owned by Murmur.

- On March 29, 2006, a deed notice/restrictive covenant at OU 4 that was executed by Murmur was filed with the Dallas County Clerk's Office, pursuant to the terms of the September 28, 2005, AOC between Murmur and EPA.
- On March 29, 2006, a deed notice/restrictive covenant at Subarea 1 of OU 5 that was executed by Murmur was filed with the Dallas County Clerk's Office, pursuant to the terms of the September 28, 2005, AOC between Murmur and EPA.
- On April 25, 2006, EPA sent a letter to RSR Corporation (EPA, 200 2006). The letter stated that EPA understood that institutional controls in the form of a deed notice or deed restriction were not placed for OU 3. The letter formally requested that RSR Corporation work with the property owners to place deed restrictions on those areas of the property where hazardous materials remain on site above health based levels. EPA would need to review a draft of any deed restriction and a copy of the deed restriction should be sent to EPA for records.
- On May 1, 2006, Notice of Federal Lien Release was filed by EPA per the September 28, 2005, AOC between EPA and Murmur.
- On July 31, 2006, ENTACT on behalf of RSR conducted a post-remediation action inspection (ENTACT, 2006).

The following conditions were noted in the report for Site 1 of the OU 3:

- The riprap area that was previously repaired has the riprap sloughed to the bottom. The problem was corrected on November 13, 2005, by re-grading and placing riprap. The riprap at the top of the slope was then grouted in-place and a grout lip were added to the top of the riprap to prevent undercutting of the rip rap during stormwater discharge events.
- The repairs of top of the slope from the south to the stormwater outfall area and the associated erosion rills were found acceptable.
- Desiccation soil cracks were noted and found acceptable.
- Some loss of vegetation due to drought.
- On April 13, 2007, Bickel & Brewer Attorney and Counselors on behalf of RSR Corporation sent a facsimile to the EPA (MGBBAC 2007). The letter was a follow up on a conversation between Mr. Malone of EPA and Farooq Tayab regarding the situation with the institutional controls at the site. RSR had made a good faith effort to secure cooperation of TXI, Irma Monzon, and Mark Calabria in the lodging of institutional controls on properties owned by these parties. RSR prepared the requisite deed restriction, conferred with Carlos Sanchez regarding the adequacy of the instruments, and forwarded the same to these entities via certified mail on October 18, 2006.
- On October 16, 2007, ENTACT on behalf of RSR conducted a post-remediation action inspection (ENTACT, 2007).

At Subarea 2 of OU 5 erosion rills near the southwest corner of the cover in a transition area near the fenceline were noted. The previously placed rip rap used to repair the original north erosion rill had sloughed underneath the fenceline. It appeared that no consolidated soil was exposed. The south erosion rill did not undercut the fence at the time of inspection; however, the fill was about one foot deep and would eventually require repair.

At Site 1 of OU 3, the previously repaired erosion areas were acceptable and no unacceptable conditions were noted.

At Site 3 of OU 3 minor erosion rills on the north and south sides of Monzon property cover. Some of the rills were due to a pipe discharge from the adjacent property to the south. A drainage channel had been excavated along the south side of the Monzon property cover for the adjacent property to the south. Bricks, cement, and other debris were exposed. The gate providing access to TXI property had been opened and the chain cut. No dumping was observed on the subject areas. An existing rill on the south side of the TXI cover (thought to have been caused by a beaver slide) had eroded slightly further.

At Site 4 of OU 3 the vegetation was thick and well established and no erosion rills were observed.

- On September 26, 2008, deed notice was filed for OU 3 by Adbritain Realty, LLC (current property owner) at property formerly owned by Mark Calabria.
- On November 18, 2008, ENTACT on behalf of RSR conducted a post-remediation action inspection (ENTACT, 2008).

The following conditions were noted in the report for Subarea 2 of OU 5:

- The site was accessible through two open sections in the fence on the north side near the stormwater drainage area on the northeast side and railroad tracks.
- The east entrance gate lock could not be opened with the provided key.
- The south erosion rill (a previous watch area) had undercut the fence. Erosion at the northwest portion of the subarea is beginning to undercut the fence.
- Mr. Philip Allen of EPA Region 6, who attended the inspection, indicated that the observed erosion areas should be considered watch areas and no corrective actions were required at that time.

At Site 1 of OU 3 the previously repaired erosion areas were acceptable.

The following conditions were noted in the report for Site 3 of OU 3:

- Minor erosion rills were observed on the north and south sides of the Monzon property cover. No change from previous inspections was noted. An existing rill on the north/south sides of the TXI cover (thought to have been caused by a beaver slide) was observed as noted during previous inspections; no change in rill conditions was noted between the inspections.

- An erosion rill was observed at the northeastern corner of the cover to the west of the power lines. This area slopes to the north towards the water body and directs run-off from the surrounding area. Mr. Philip Allen of EPA Region 6 stated that this area should be a watch area for future inspections. Upon further research, this particular area was not remediated or disturbed during the OU 3 remedial action. Therefore, no further action was warranted by RSR.

At Site 4 of OU 3 no erosion rills were observed, and vegetation was thick and well established.

- On November 19, 2009, ENTACT on behalf of RSR conducted a post-remediation action inspection (ENTACT 2009).

The following conditions were noted in the report for Subarea 2 of OU 5:

- The site was accessible through two open sections in the fence on the north side near the stormwater drainage area on the northeast side and railroad tracks. There was no change observed from the previous inspection.
- No changes were observed in the south erosion rill, a watch area from the previous inspection. A new erosion rill (#4) was noted to the south of the south erosion rill (#3).
- Mr. Homer Hine, RSR, and Mr. Philip Allen, EPA Region 6, attended the inspection. Mr. Allen stated that the observed areas should be considered watch areas and no corrective actions were required at that time.

The following conditions were noted in the report for Site 1 of OU 3:

- The previously repaired erosion areas were acceptable.
- The area to the west of Site 1 slope appeared to be in the process of redevelopment. Active clearing of brush was being performed by others during the site inspection. A permanent wrought iron fence had been installed by others along Mockingbird Lane.
- Mr. Homer Hine, RSR, and Mr. Philip Allen, EPA Region 6, attended the inspection.

The following conditions were noted in the report for Site 3 of OU 3:

- Minor erosion rills were observed on the north and south sides of the Monzon property cover. No change from previous inspections. An existing rill on the north/south sides of the TXI cover (thought to have been caused by a beaver slide) was observed as noted during previous inspections; however the rill appeared to be slightly deeper and wider. It was considered to remain a watch area for future inspections.
- Mr. Home Hine, RSR, and Mr. Philip Allen, EPA Region 6, attended the inspection.

The following conditions were noted in the report for Site 4 of OU 3:

- No erosion rills were observed.
- Vegetation was thick and well established.

- Horse and four wheel-drive tracks were observed in various locations.
- Mr. Homer Hine, RSR, and Mr. Philip Allen, EPA Region 6, attended the inspection.
- On July 31, 2009, Bickel & Brewer Attorneys and Counselors sent certified letters to the following parties (MGBBAC, 2009a; and 2009b):
 - Es Su Casa Nueva Inv & Mg, regarding the property located at 5900 W. Davis Street, Dallas, Texas 75211-7040; and
 - Khosrow Sadeghian, regarding the properties located at (1) 6035 W. Davis Street, Dallas, Texas 75211-7040; and (2) 5900 W. Davis Street, Dallas, Texas, 75211-7040.

The letters informed the addressees of the requirement to record a deed notice for the properties and provided a draft deed notice for addressee's use. The letter stated that EPA had reviewed and approved the form of the attached deed notice. The addressee was requested to execute the deed notice and file it with the Dallas County Property Recorder's Office.

- On December 10, 2009, Bickel & Brewer Attorneys and Counselors sent a certified letters to the following parties (MGBBAC, 2009c, 2009d, 2009e, 2009f, 2009g, and 2009h):
 - Es Su Casa Nueva Inv & Mgmt, regarding the property located at 5900 W. Davis Street, Dallas, Texas 75211-7040;
 - ExTex LaPorte, LP, regarding the property located at 1000 North Walton Walker Blvd. Dallas, Texas 75211;
 - Khosrow Sadeghian, regarding the properties located at (1) 6035 W. Davis Street, Dallas, Texas 75211-7040 and (2) 5900 W. Davis Street, Dallas, Texas, 75211-7040;
 - Texas Utilities Elec. Co., State and Local Tax Department, regarding the property located 1000 North Walton Boulevard, Dallas, Texas 75211;
 - Trinity Development JV, regarding the property located 1000 North Walton Walker Boulevard, Dallas, Texas 75211; and
 - TXI Operations LP, regarding the property located 1300 North Walton Walker Boulevard, Dallas, Texas 75211.

The letter informed the addressee of the requirement to record a deed notice for the property and provided a draft deed notice for addressee's use. The letter stated that EPA had reviewed and approved the form of the attached deed notice. The addressee was requested to execute the deed notice and file it with the Dallas County Property Recorder's Office.

- On December 14, 2009, Bickel & Brewer Attorneys and Counselors sent certified letters to Amir Ali Rupani, regarding the 17 properties located within OU 3 Site 4, and Irwin Real Estate Company, regarding the properties owned by the addressee and located within OU 3 Site 4 regarding the following properties (MGBBAC 2009i and 2009j):

- 3317 Claibourne Boulevard, Dallas, Texas, 75212;
- 3318 Lapsley Street, Dallas, Texas, 75212;
- 3319 Lapsley Street, Dallas, Texas, 75212;
- 3321 Claibourne Boulevard, Dallas, Texas, 75212;
- 3321 Lapsley Street, Dallas, Texas, 75212;
- 3323 Claibourne Boulevard, Dallas, Texas, 75212;
- 3326 Lapsley Street, Dallas, Texas, 75212;
- 3327 Claibourne Boulevard, Dallas, Texas, 75212;
- 3330 Lapsley Street, Dallas, Texas, 75212;
- 3334 Lapsley Street, Dallas, Texas, 75212;
- 3338 Lapsley Street, Dallas, Texas, 75212;
- 3342 Lapsley Street, Dallas, Texas, 75212;
- 5645 Pueblo Street, Dallas, Texas, 75212;
- 5649 Pueblo Street, Dallas, Texas, 75212;
- 5711 Nomas Street, Dallas, Texas, 75212;
- 5715 Nomas Street, Dallas, Texas, 75212;
- 3207 Lapsley Street, Dallas, Texas, 75212;
- 3211 Lapsley Street, Dallas, Texas, 75212;
- 3215 Lapsley Street, Dallas, Texas, 75212;
- 3219 Lapsley Street, Dallas, Texas, 75212; and
- 3315 Lapsley Street, Dallas, Texas, 75212;

The letter informed the addressee of the requirement to record a deed notice for the properties and provided a draft deed notice for addressee's use. The letter stated that EPA had reviewed and approved the form of the attached deed notice. The addressee was requested to execute the deed notice and file it with the Dallas County Property Recorder's Office.

- On February 25, 2010, the deed notices for the seventeen properties located within OU 3 Site 4 and owned by Mr. Amir Ali Rupani were recorded with the Dallas County Property Recorder's Office.
- On April 1, 2010, the deed notice for Irwin Real Estate property was recorded with the Dallas County Property Recorder's Office.
- On June 10, 2010, ENTACT transmitted an e-mail to EPA stating the status of plugged wells with the site boundary (ENTACT, 2010). The letter detailed plugging of the wells and contained maps and well plugging records. The following is the letter summary:

- OU 5 Subareas 2 and 3, and OU 3 Sites 3 and 4: Twenty-five wells were plugged by a licensed well driller in December 2005, as directed by ENTACT. The plugging reports were provided for monitoring wells 5-G102, 5-G103, 5-G106, and 5-G017.
 - OU 3 Site 1: Well 1A-S083 was removed by ENTACT during the remedial activities. Well 1A-S022 was thought to have been removed during the construction of the TXU substation as it was not there in December 2005.
 - OU 3 Site 3: Well 3D-S073 was removed by ENTACT during the remedial action. Eleven other wells were plugged by the driller, including two wells that may or may not have been RSR's (identified by the driller as wells 3CSunk and 3Dunk on the plugging reports. It was assumed that 3CSunk was an RSR well as there was one "leftover" well in the 3C area that was not accounted for in the plugging reports). Four wells could not be accessed due to adjacent property owners (wells 3A-S006, 3A-S005, 3A-S001, and 3B-S009). The following wells were highlighted on the attached maps and well plugging reports were provided for monitoring wells 3B-S003, 3B-S056, 3C-S006, 3C-S116 (3CSunk), 3C-S117, 3D-S107, 3D-S126, 3D-S127, 3J-S001, 3K-S016, and 3Dunk.
 - OU 3 Site 4: Well 4C-S021 at Site 4 and Wells 4D-S009 and 4D-S063 at Jaycee Park could not be located in the field in December 2005. Ten other wells at Site 4 were plugged by the driller. Plugging reports were provided for monitoring wells 4A-S012, 4A-S030, 4A-S047, 4A-S080, 4B-S001, 4B-S023, 4C-S057, 4C-S110, 4C-S113, and 4C-S117.
 - OU 5 Subareas 2 and 3: Four wells were plugged by the driller.
- On June 14, 2010, Mr. Farooq Tayab reported to Mr. George Malone of EPA in an email (EPA, 2010) that Mr. Rupani and Mr. Irwin had consented to the recordation of deed notices. Notices had been recorded for Mr. Rupani's 17 properties on February 25, 2010, and for the four Irwin properties on April 1, 2010.
 - On June 14, 2010, Bickel & Brewer Attorneys and Counselors, on behalf of RSR Corporation, submitted to EPA the institutional control status report. The report noted that RSR provided to Ms. Luda Voskov, TCEQ Project Manager, a detailed report documenting RSR's attempts to locate the Trinity Development JV. After a diligent effort, RSR was unable to locate an owner or representative of Trinity Development JV. Accordingly, RSR sought the assistance of TCEQ to issue a determination, pursuant to 30 TAC 350.111(f), that the land owner cannot be located. It also noted that RSR provided a similar report documenting RSR's attempts to locate Ms. Irma Monzon, the owner of the Es Su Casa Nueva Investment and Management. After a diligent effort, RSR was unable to locate an owner or representative of Es Su Casa Nueva. Accordingly, RSR sought the assistance of TCEQ to issue a determination, pursuant to 30 TAC 350.111(f), that the land owner cannot be located.
 - On June 29, 2010, RSR and TXI signed an access agreement granting RSR permission to conduct a survey of the TXI property to demarcate area where the soil cap is present. TXI consented to the recordation of a deed notice at its site. RSR began working with TXI's legal counsel to secure such recordation. TXI requested that a metes and bounds survey be conducted to demarcate only that areas of the property where the soil cup is present. TXI agreed to execute the deed notice at the conclusion of the survey, and RSR will proceed to record the same.
 - In June 2010, RSR contacted Mr. Khosrow Sadeghian and made arrangements to discuss the process of recording the deed notice in detail. Mr. Sadeghian requested for RSR to visit the Site with him in

order to evaluate the extent of the survey that would be necessary to establish the metes and bounds of the impacted area. Two properties at the OU 3 are registered in Mr. Sadeghian's name.

- By August 2010, EPA had learned that Ex Tex LaPorte, LP was willing to conduct the metes and bounds survey at RSR's cost, and to limit the deed restriction to those areas where the contamination is buried. As such, progress is being made to secure Ex Tex LaPorte's consent to the recordation of the deed notice upon completion of the survey.
- Also in August 2010, Texas Utilities Electric Co. was contemplating the deed notice recordation for property it owns at OU 3. RSR has informed Texas Utilities Electric about the other land owners' recordation of deed notices.

6.0 FIVE-YEAR REVIEW PROCESS

This section presents the process and findings of the first five-year review. Specifically, this section presents the findings of the document review, data review, applicable or relevant and appropriate requirements (ARARs) review, site inspection, and interviews.

6.1 ADMINISTRATIVE COMPONENTS

This five-year review was led by Mr. Philip Allen, EPA Remedial Project Manager. TCEQ and EA Engineering, Science, and Technology, Inc. (EA), assisted in the review process. TCEQ's representative was Ms. Ludmila Voskov, Project Manager. EA's team members included Mr. Ted Telisak, P.E., Project Manager. EPA notified the site representative, Mr. Homer Hine, RSR, at the start of the five-year review process.

Administrative components included document review, ARARs review, site inspection, and interviews.

6.2 COMMUNITY INVOLVEMENT

A public notice announcing the initiation of the five-year review for the site was published in the local newspapers *Al Dia* and *The Dallas Morning News* on June 30, 2010, and July 1, 2010, respectively (Attachment F).

A public notice will be placed in the local newspaper upon completion of the five-year review process, and local contacts will be notified by letter.

Upon signature, a copy of the Second Five-Year Review Report will be available online at <http://www.epa.gov/superfund/cleanup/postconstruction/5yr.htm> and at U.S EPA Region 6, 1445 Ross Avenue, Dallas, Texas.

6.3 DOCUMENT REVIEW

This five-year review included a review of relevant decision documents, implementation documents, remedy performance documents, O&M documents, and legal documents. Complete references for all the documents reviewed are provided in Attachment B.

6.4 DATA REVIEW

No data were available for this review.

6.5 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENT REVIEW

As part of this five-year review, ARARs identified in the multiple RODs prepared for OUs 3, 4 and 5 were reviewed to determine if any newly promulgated or modified requirements of federal and state environmental laws have significantly changed the protectiveness of the remedies implemented at the Site.

The ARARs and TBCs identified by the ROD for the Site were grouped by OU. These ARARs and TBCs are listed in Table 3. Many of the ARARs identified in Table 3 are no longer applicable based on current site conditions, since those ARARs applied to specific components of the RA that are no longer occurring at the Site. Therefore, as a practical matter, they are no longer applicable to Site remediation. However, should additional construction activities occur, these ARARs may be applicable.

6.5.1 Chemical-Specific Applicable or Relevant and Appropriate Requirements

Chemical-specific ARARs are usually health or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment. No chemical specific ARARs are applicable at this site, since monitoring is not conducted.

No other chemical-specific ARARs were identified during this review.

6.5.2 Location-Specific Applicable or Relevant and Appropriate Requirements

Location-specific ARARs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various Federal regulations include floodplains,

wetlands, and locations where endangered species or historically significant cultural resources are present. No location specific ARARs were identified in the site RODs.

No other changes to this regulation or other location specific ARARs were identified during this review.

6.5.3 Action-Specific Applicable or Relevant and Appropriate Requirements

Action-specific ARARs are usually technology- or activity-based requirements or limitations on actions or conditions involving specific substances. These requirements are triggered by the particular remedial activities that are selected to accomplish the remedy. The RA is complete; therefore, the ARARs applicable to construction are no longer applicable. However, based on the requirements of 40 CFR Part 264, post-closure care of the site is required.

No changes to this regulation or other action specific ARARs were identified during this review.

6.6 SITE INSPECTION

A site inspection was conducted on May 11, 2010, to assess the condition of the site and the effectiveness of measures employed to protect human health and the environment from the contaminants still present at the site. Attendees included: Mr. Philip Allen (Remedial Project Manager, EPA), Mr. Dean Perkins (TCEQ), Mr. Homer Hine (Vice President, RSR), Mr. Greg Dambold (Project Manager, ENTACT), and Mr. Ted Telisak, P.E. (Project Manager, EA). The site inspection checklist is provided in Attachment C, photographs are provided in Attachment D, and interview forms are in Attachment E.

The participating team inspected the soil covers, access and institutional controls of the implemented remedies. The O&M manuals, Site-Specific Health and Safety Plan, and O&M and OSHA training records were readily available and up-to-date. O&M costs are incurred by the PRP. ENTACT is the RSR's contractor performing O&M activities.

The eastern wall fencing of OU 4 was down at the time of inspection and the southern fence was in disrepair. Numerous signs and security measures were present. OU 4 has been used for staging of construction materials in the past; however, at the time of the inspection it was vacant. The City of Dallas reported redevelopment is beginning along I-30 west of Westmoreland Road. It may eventually extend to OU 3 Site 1.

At the time of the site inspection, the soil covers were generally in good condition with well established vegetation. Water damage (50 ft by 1 ft in areal extent) was observed between two ponds of OU 3,

apparently from beaver traffic. The capped area in OU 5 Subarea 1 contained many bushes and small trees and had not mowed for some time, perhaps years. Erosion downhill of the cover toe in OU 5 Subarea 2 was observed to extent approximately 50 square ft up to 1 ft deep.

Overall, the covers were functioning as intended by the remedy. Maintenance was occurring in most locations with the exception of OU 5 Subarea 1 and OU 4 that showed signs of neglect (no recent mowing and no repairs of the fallen fence). No early indications of potential remedy failure were observed. With the exception of the two neglected locations, the current maintenance schedule and scheme were evaluated to be adequate to maintain the remedy.

6.7 SITE INTERVIEWS

In accordance with the requirements of the five-year review process, the EPA conducted interviews to gain additional information about site status. The EPA identified key individuals to be interviewed. Provided below is the list of individuals contacted to provide interviews along with their titles (if known), organizations, and interview dates:

- Ludmila Voskov, Project Manager, TCEQ, June 18, 2010;
- Homer Hine, Vice President Trades Purchasing, RSR Corporation, May 11, 2010;
- Greg Dambold, ENTACT, May 11, 2010; and
- Lori Frauli Trulson, City of Dallas, July 19, 2010.

EPA was unsuccessful in attempts to contact representatives of Murmur Corporation and the West Dallas Chamber of Commerce, who had been interviewed for the previous five-year review. Ms. Voskov, Mr. Hine, Mr. Dambold, and Ms. Trulson answered the interview questions, and their responses are provided in Attachment E. All respondents provided positive responses when asked about the overall impression of the RA conducted at the site. The RA also had a positive impact on the surrounding community as most of the properties are maintained, security is good, and the PRP is proactive. No community concerns regarding the cleanup were noted by respondents. Mr. Hine indicated that trespassing had occurred, and RSR had to repair fences to correct the problem. No problems or difficulties were noted with regards to implementability or required change in O&M procedures. No complaints, violations, or other incidents related to the site that required response by the TCEQ were noted. Annual post-remedial action inspections are conducted with the participation of RSR, ENTACT, and EPA. The cover and fence conditions are inspected and if deficiencies are noted, corrected after discussion with the EPA. Ms. Voskov indicated that TCEQ participates in five-year

review inspections, but would also like to participate in yearly inspections and to receive more information from the EPA Remedial Project Manager regarding the site changing status. The O&M related documents are being maintained at the RSR and ENTACT offices to ensure compliance with the plans. No suggestions, comments, or recommendations were offered regarding the site, site management, and operation.

7.0 TECHNICAL ASSESSMENT

The conclusions presented in this section support the determination that the selected remedy for the Site is currently protective of human health and the environment. Continued O&M of the Site is required to maintain the remedy effectiveness. EPA guidance indicates that to assess the protectiveness of a remedy, three questions (Questions A, B, and C) shall be answered.

7.1 QUESTION A: IS THE REMEDY FUNCTIONING AS INTENDED BY THE DECISION DOCUMENTS?

The results of the site inspection and review of the ARARs and site data indicate that the remedy is functioning as intended by the RODs.

- *Remedial Action Performance*—Based on review of documents, ARARs, and the site inspection, the selected remedy has been completed in accordance with the RODs. Waste removal, capping of the area, maintenance, and institutional controls remain effective in protecting human health and environment. Minor erosion of the vegetative cover on outcrops and swales and damage to the perimeter fencing by beavers were observed during the site inspection. The cap is covered with well established native vegetation that provides soil reinforcement and evapo-transpiration. Perimeter fencing was largely intact with a few areas requiring repairs. Post signs were visible and legible, and the gate was secured. Continued post-remedial action inspections and repairs of the cap and fencing are required to maintain effectiveness of the remedial measures. Groundwater monitoring is required at OU 5 Subarea 1, but no results are available for monitoring after 2004.
- *System Operation and Maintenance*—Presently, O&M includes inspection of the cap cover system, perimeter fencing, and stormwater control measures. Additionally, repair of the cap and stormwater control measure structures, fencing, signage, and mowing of excess vegetation have been implemented on a periodic basis at most locations, with exceptions noted above (Section 6.6). Based on the visual observations of the condition of the facility, it was determined that the present O&M scheme is generally adequate in maintaining the remedial measures, except as noted.
- *Cost of Operation and Maintenance*—RSR is conducting site O&M activities; therefore, EPA does not incur O&M cost at the site.
- *Opportunities for Optimization*—The present O&M scheme is considered generally adequate to maintain the protectiveness of the remedy.

- *Early Indicators of Potential Issue*—Deed notices for some properties within the Site have not been filed with the Dallas Records office. RSR and EPA have made good faith effort to facilitate filing of notices; however, the efforts have not been completely successful yet. Additional efforts are required to implement the measure. For some parts of the Site, maintenance to maintain cover and limit access is required to maintain protectiveness of the implemented remedy.

Implementation of Institutional Controls and Other Measures—Deed notices for some remaining properties within the Site need to be filed with the Records office. Perimeter fencing, gates, and signage need to be maintained to limit unauthorized access to the Site.

7.2 QUESTION B: ARE THE ASSUMPTIONS USED AT THE TIME OF REMEDY SELECTION STILL VALID?

- *Changes in Standards, Newly Promulgated Standards, and To-Be-Considered*—The review of ARARs indicated that no changes in the standards have occurred from the time of remedy implementation to the time of the Second Five-Year Review Report.
- *Changes in Exposure Pathways*—No changes in exposure pathway occurred between the time of remedy implementation and the second five-year review report. Capping of contaminated soil remains effective in limiting human health and ecological exposure to covered contaminated materials. The institutional controls restrict the site access and change in land use.
- *Changes in Toxicity and Other Contaminant Characteristics*—No changes in toxicity and other contaminant characteristics have been identified.
- *Changes in Land Use*—No changes in land use were identified. However, a permanent wrought iron fence and clearing of brush at OU 3 Site 1 were observed on November 19, 2009, during site inspection. EPA will ensure that the site redevelopment does not affect the protectiveness of the selected remedy.
- *New Contaminants and/or Contaminant Sources*—No new contaminants or contaminant sources have been identified.
- *Expected Progress Towards Meeting RAOs*—The remedial objective was to minimize exposure to lead, arsenic, and antimony present in the slag piles/landfills by direct contact inhalation, and ingestion; and, to reduce the potential for migration of these contaminants. The implemented remedy continues functioning as intended and meets the Remedial Action Objectives.

7.3 QUESTION C: HAS ANY OTHER INFORMATION COME TO LIGHT THAT COULD CALL INTO QUESTION THE PROTECTIVENESS OF THE REMEDY?

No other information has come to light as part of this second five-year review for the site that would call into question the protectiveness of the site remedy.

7.4 TECHNICAL ASSESSMENT SUMMARY

After documents and data were reviewed, and the site inspection and interviews were completed, it appears that the remedy is functioning as intended by the RODs. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.

Acceptable erosion and damage to the perimeter fence were observed by the inspection team. It is important to ensure structural integrity of the perimeter fence remains intact. Any breaches in the site perimeter fence could result in unauthorized site access. The cap provides a barrier against exposure to contamination; therefore, an immediate unacceptable exposure risk would not exist. This issue was noted to ensure the use restrictions on the property are followed and the long-term integrity of the cap is maintained. Signs of human trespassing were observed at the site; however, RSR indicated that the fencing was fixed to address the issue. Continued maintenance is required to maintain effectiveness of the remedy.

EPA will continue to monitor the progress of the implementation of the institutional controls at the Site and assess compliance with the institutional controls in place. EPA will also ensure that the O&M needed for Subarea 1 of OU 5 is performed in a manner consistent with the terms of the September 28, 2005 AOC between EPA and Murmur (see Attachment G), and is not inconsistent with NCP.

8.0 INSTITUTIONAL CONTROLS

Institutional controls are generally defined as non-engineered instruments such as administrative and legal tools that do not involve construction or physically changing the site, and that help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use. Institutional controls can be used for many reasons including restriction of site use, modifying behavior, and providing information to individuals. Institutional controls may include easements, covenants, restrictions or other conditions on deeds, and/or groundwater, and/or land use restriction documents (EPA, 2001). The following sections describe the institutional controls implemented at the site, the potential effect of future land use plans on institutional controls, and any plans for changes to site contamination status.

8.1 TYPES OF INSTITUTIONAL CONTROLS IN PLACE AT THE SITE

The following institutional controls are in place at the Site: (1) deed notices and restrictive covenants identifying restrictions and access privileges on the RSR Site properties per the Record of Decisions, Consent Decrees, and Administrative Order on Consent; (2) consent to provide access to the property to maintain the remedy; (3) restriction for the existing land and groundwater use of the site without prior written consent of EPA; (4) notification required to the EPA and the PRPs of the intent to transfer, lease, or sell any ownership interest in the site; and (5) a copy of the signed deed notice filed with the Dallas Recorder's office.

8.2 EFFECT OF FUTURE LAND USE PLANS ON INSTITUTIONAL CONTROLS

The City of Dallas can modify land uses for property within the RSR Site in accordance with its zoning authority. The land use restrictions in place require landowners to submit, for EPA's review and approval, all development plans for the Site. Such EPA review and approval, or disapproval, will ensure that future development does not result in an unreasonable human health or environmental risk at the Site. At this time, no future land uses are contemplated for the site.

8.3 PLANS FOR CHANGES TO SITE CONTAMINATION STATUS

No changes to the status of the contamination at the site are anticipated.

9.0 ISSUES

Based on the second five-year review, it appears that the remedies at the RSR Corporation Superfund Site have been implemented as planned and are functioning in accordance with the requirements stated in the ROD. No deficiencies or concerns with the remedies or O&M procedures were identified for the site.

However, during this second five-year review, the following issues are noted:

- Deed notices should be placed on the remaining properties for OU 3, Sites 1, 3, and 4. Deed notices have been filed with the Dallas County Property Recorder's Office for 21 of 29 OU 3 properties, and EPA is pursuing other owners to have them file deed notices for the remaining properties.
- Maintenance at OU 4 and Subarea 1 of OU 5 should be conducted. The results of the site inspections indicated that the cover vegetation has not been mowed recently. In accordance with the AOC, EPA should arrange for alternative means of conducting site O&M, including groundwater monitoring at OU 5 Subarea 1.

- Repair erosion caused by beaver crossing at TXI property (OU 3 Site 3). The erosion caused by beaver activities in the area should be repaired to maintain the protectiveness of the cover.
- Repair erosion at OU 5 Subarea 2. The erosion downhill from the top of the cover that was observed should be repaired to maintain remedy protectiveness.
- A permanent wrought iron fence and clearing of brush at OU 3 Site 1 were observed on November 19 2009 during site inspection. EPA will ensure that the site redevelopment does not affect the protectiveness of the selected remedy.

The PRP representative was informed during the May 11, 2010, site visit of those items requiring PRP action.

10.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

No deviations from the requirements in the ROD were noted during the review. Based on a review of post-remedial action reports, correspondence letters, the selected remedy remain protective of human health and the environment. Maintenance activities for the site need to continue to maintain protectiveness of the remedy. The following recommendations are provided to address the issues identified during the five-year review process:

- **Deed notices should be placed on the properties for OU 3 Sites 1, 3, and 4.** By June 2010, deed recordation had been entered for 21 of the 29 properties, and EPA was actively pursuing recordation for the remaining properties. The deed notices should, at a minimum, identify the areas where contaminants remain, require future site owners to maintain the integrity of the remedies, require that no future site activities result in failure of the remedy components, restrict land use as appropriate, and require EPA review and concurrence for any future site development. A date should be specified for the deed restriction notices to be filed on the respective properties, and EPA and TCEQ should be allowed the opportunity to review and comment on the deed restriction notices prior to filing such notices with the Dallas County Recordation Office.
- **Maintenance at OU 4 and OU 5 Subarea 1.** The results of the site inspections indicated that the cover vegetation has not been mowed recently. Groundwater monitoring data for OU 5 Subarea 1 was unavailable. In accordance with the Consent Order between EPA and Murmur Corporation, EPA should arrange for conducting site maintenance and collecting of groundwater data at Subarea 1 of OU 5.
- **Monitor erosion activities at OU 3 Site 3.** The erosion caused by beaver activities in the area should be repaired to maintain the protectiveness of the cover.
- **Monitor erosion at OU 5 Subarea 2.** The erosion downhill from the top of the cover should be repaired to maintain remedy protectiveness.

- **Development of the property at OU 3 Site 1.** A permanent wrought iron fence and clearing of brush at OU 3 Site 1 were observed on November 19, 2009, during site inspection. EPA will ensure that the site redevelopment does not affect the protectiveness of the selected remedy.

11.0 PROTECTIVENESS STATEMENT

The remedy at the RSR Corporation Superfund Site remains protective of human health and the environment. However, to ensure long-term protectiveness of human health and the environment, the follow-up actions described in Section 10.0 should be implemented.

12.0 NEXT REVIEW

The RSR Corporation Superfund Site requires subsequent five-year reviews. The next review will be conducted within the next five years, but no later than September 2015.

TABLES

TABLE 1. CHRONOLOGY OF EVENTS
RSR CORPORATION SUPERFUND SITE, DALLAS, DALLAS COUNTY, TEXAS

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Date	Event
1934	Battery wrecking and smelting operations began at the Site by Murph Metals, Inc.
1971	RSR Corporation acquired the Site and continued operations under the name Murph Metals.
1983	The City of Dallas and Texas Air Control Board filed a lawsuit to get RSR Corporation to take corrective measures at the smelter facility and address residential soil contamination at the Site.
May 1984	The smelter and battery wrecking facilities were acquired by Murrum Corporation.
1984	Operations at the RSR Site ceased when the City of Dallas declined to renew the facility's operating permit.
1984 - 1985	An RSR Corporation funded cleanup was conducted at residential yards, public play areas, day care centers, and gardens within a one-half mile radius of the smelter facility.
August 1991	The U.S. Environmental Protection Agency (EPA) began investigating the RSR Site at the request of the Texas Natural Resources Conservation Commission (TNRCC).
October 1991 - June 1994	Emergency Removal Action conducted at 420 residential properties for Operable Unit (OU) 1 to remove contaminated soils.
September 1992 - February 1993	The TNRCC surveyed 6,200 properties as part of OU 1 to determine which properties might contain waste slag or battery chips.
1993	EPA initiated the Remedial Investigation/Feasibility Study (RI/FS) for OU 3.
May 10, 1993	EPA proposed the RSR site for inclusion on the National Priorities List (NPL).
August 9, 1993	EPA signed an Administrative Order on Consent (AOC) with the Dallas Housing Authority (DHA) to conduct the RI and removal action for OU 2.
Spring 1994	EPA initiated the RI/FS for OUs 4 and 5.
July 1994	DHA began building demolition and removal of lead contaminated materials and soils for OU 2.
March 1995	DHA completed cleanup activities for OU 2.
May 9, 1995	EPA signed the RODs for OUs 1 and 2.
May - July 1995	EPA conducted a non-time critical removal action to remove waste drums, waste piles, and waste laboratory chemicals from OU 4.
September 29, 1995	The RSR Corporation Site was finalized on the NPL.
February 28, 1996	EPA signed the ROD for OU 4.
April 1996	The RI/FS for OU 5 was completed.
early 1997	The RI/FS for OU 3 was completed.
spring 1997	Remedial Design (RD) for the OU 4 Remedial Action (RA) was completed.
April 3, 1997	EPA signed the ROD for OU 5.
September 20, 1997	EPA signed the ROD for OU 3.
February 6, 1998	EPA signed a Consent Decree with a group of 7 major generator Potentially Responsible Parties (PRPs) (known as the Customer Group) to conduct the RD/RA for OU 4.
June 22, 2000	The U.S. District Court approved the Consent Decree for OU 4.
September 2000	Construction activities for the OU 4 RA began.
October 2000	EPA and the Texas Commission on Environmental Quality (TCEQ) conducted additional soil sampling at residences and schools based on ongoing community concerns.
October 2001	Construction activities for the OU 4 RA were completed.
November 6, 2001	EPA conducted the final inspection of the RA for OU 4.
November 2001 - January 1, 2002	The EPA sampled an additional 126 residential properties and 6 public schools at the site.
December 2001	The RA for OU 4 was completed.
December 2001	EPA completed the RD for OU 5, Subarea 1.
June 2002	The EPA completed additional remediation activities at 10 residential properties (OU1) as a result of the sampling conducted during 2000 and 2001.
April 15, 2003	EPA, The State of Texas, and the U.S. Department of Justice entered into a Consent Decree with RSR Corporation, whereby RSR Corporation and its subsidiaries agreed to conduct the remaining response actions at the RSR Site (OU 3 and OU 5, Subareas 2, 3, and 4). The Consent Decree also provided for reimbursement of past response costs to the EPA and State of Texas.
June 2003	RSR Corporation began construction activities for OU 5, Subareas 2, 3, and 4.
July 21, 2003	The Consent Decree for OU 3 and OU 5, Subareas 2, 3, and 4 was entered by the court.
October 2003	RSR Corporation completed the RA for OU 5, Subareas 2, 3, and 4. The EPA and TCEQ conducted the Final Inspection of the OU 5, Subareas 2, 3, and 4 RA.
December 16, 2003	Entact on behalf of RSR completed "Final Operation and Maintenance Plan for RSR Corporation Superfund Site Operable Unit No. 5 Subareas 2, 3, and 4". (Document No. 53.1)
January 2004	RSR Corporation began construction activities for the OU 3 RA.
January 2004	EPA began RA construction activities for the OU 5, Subarea 1 RA.
July 2004	RA construction activities for OU 5, Subarea 1 were completed.

TABLE 1. CHRONOLOGY OF EVENTS
RSR CORPORATION SUPERFUND SITE, DALLAS, DALLAS COUNTY, TEXAS

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August 2004	RSR Corporation completed the RA for OU 3.
August 3, 2004	EPA and TCEQ conducted the Final Inspection of the OU 5, Subarea 1 RA.
September 2004	EPA completed the RA for OU 5, Subarea 1.
September 14, 2004	EPA conducted the Final Inspection of the OU 3 RA.
September 28, 2004	EPA issued the Preliminary Close Out Report for the RSR Site.
October 15, 2004	Entact on behalf of RSR completed "Draft Operation and Maintenance Plan for RSR Corporation Superfund Site Operable Unit No. 3 Sites 1, 3 and 4. Revision 1."
November 9, 2004	Entact on behalf of RSR completed "Final Remedial Action Report for RSR Corporation Superfund Site Operable Unit 3 Site 1, 3, and 4." (Document No. 76.1)
February 2, 2005	Gardner, Bickel, and Brewere Attorney and Counselors, on behalf of RSR and Quemetco, transmitted a letter to the EPA with the Notice of Obligations to Successor-In-Title.
February 15, 2005	Entact on behalf of RSR completed "Final Operation and Maintenance Plan for RSR Corporation Superfund Site Operable Unit No. 3 Sites 1, 3, and 4."
July 7, 2005	Entact on behalf of RSR completed a post-remediation action inspection report.
August 1, 2005	EPA sent a letter to RSR containing a certification of Ready to Reuse Determination.
September 28, 2005	EPA and Murmur Corporation entered into a final AOC.
December 13, 2005	Entact on behalf of RSR completed repair activities at OU 5, Subarea 2 and OU 3, Sites 1, 3, and 4.
December 14, 2005	Entact on behalf of RSR completed a post-remediation action inspection report.
January 10, 2006	EPA issued a final effective date letter for the September 28, 2005 AOC between EPA and Murmur.
February 2 and 8, 2006	Murmur paid EPA the amount stipulated in the AOC.
March 29, 2006	Deed notices for OU 4 and Subarea 1 of OU 5 were filed with Dallas County Clerk's Office.
April 25, 2006	EPA sent a letter to RSR requesting that RSR work with the property owners to place deed restrictions.
July 31, 2006	Entact on behalf of RSR completed a post-remediation action inspection report.
April 13, 2007	Bickel & Brewer Attorneys and Counselors on behalf of RSR sent a letter to EPA indicating that RSR's efforts to secure cooperation with TXI, Irma Monzon, and Mark Calabria in the lodging of institutional controls failed.
May 1, 2006	Notice of Federal Lien Release was filed by EPA per AOC between Murmur and EPA.
October 16, 2007	Entact on behalf of RSR completed a post-remediation action inspection report.
September 24, 2008	Ad Britain Realty, LLC executed a deed notice for the Calabrai tract of Site 1 OU 3.
September 26, 2008	The deed notice was filed for OU 3 by Ad Britain Realty, LLC at property formerly owned by Mark Calabria.
November 18, 2008	Entact on behalf of RSR completed a post-remediation action inspection report.
November 19, 2009	Entact on behalf of RSR completed a post-remediation action inspection report.
June 10, 2010	Entact sent e-mail transmission to EPA documenting well plugging at OU 5, Subareas 2 and 3 and OU 3, Sites 1, 3, and 4.
July 31, 2009	Bickel & Brewer Attorneys and Counselors on behalf of RSR sent a letter to Es Su Casa Nueva Investment and Management and Khosrow Sadeghian informing the addressees of the requirement to record a deed notice and providing an EPA-approved draft notice.
December 10, 2009	Bickel & Brewer Attorneys and Counselors on behalf of RSR sent a letter to Es Su Casa Nueva Investment, ExTex LaPorte LP, Khosrow Sadeghian, Texas Utilities Elec. Co., State and Local Tax Department, Trinity Development JV, and TXI Operation LP informing the addressees of the requirement to record a deed notice and providing an EPA-approved draft notice.
December 14, 2009	Bickel & Brewer Attorneys and Counselors on behalf of RSR sent a letter to Amir Ali Rupani and Irwin Real Estate Company informing the addressees of the requirement to record a deed notice and providing an EPA-approved draft notice.
February 25, 2010	The deed notices for the 17 properties within Site 4 of OU 3 owned by Mr. Amir Rupani were recorded with the Dallas County Clerk's Office.
April 1, 2010	The deed notice for Irwin Real Estate property was recorded with the Dallas County Clerk's Office.
June 10, 2010	Entact transmitted an e-mail to EPA stating the status of plugged wells within the site boundary.
June 14, 2010	RSR submitted the institutional control status report to EPA.
June 14, 2010	RSR provided to TCEQ a detail report documenting RSR attempts to locate the Trinity Development JV and Ms. Irma Monzon, the owner of Es Su Casa Nueva Investment and Management.
June 29, 2010	RSR and TXI signed an access agreement granting RSR access the property to conduct a survey.
June 2010	RSR contacted Mr. Sadeghian and made arrangements to discuss the process of recording the deed notice.
June 2010	ExTex LaPorte, LP indicated that it was willing to conduct the site survey to limit the deed restrictions to the impacted areas.
June 2010	Texas Utilities Electric Co. has completed the deed notice recordation.

Table 2. Remedial Action Levels
RSR Corporation Superfund Site, Dallas, Dallas County, Texas

Media	Remedial Action Levels (ppm)			
	Arsenic	Lead	Antimony	Cadmium
OU3				
Site 1, Soils and Sediments	20	500	NA	NA
Site 3, Soils and Sediments	32.7	2,000	NA	NA
Site 4 (excluding Jaycee Park) Soils and Sediments	32.7	2,000	NA	NA
Jaycee Park	20	500	108	NA
OU4				
Buildings, Structures, Smelter Stack, and Equipment	32.7	2,000	818	2,044
Soils	32.7	2,000	NA	NA
OU5				
Surface Impoundment	32.7	2,000	NA	NA
Former Landfill	32.7	2,000	818	NA
Buildings and Structures	32.7	2,000	NA	NA
Slag Burial Area/Other Soils	32.7	2,000	NA	NA
Notes: ppm - parts per million NA - Not applicable				

**Table 3. Applicable, Relevant, and Appropriate Requirements for the
RSR Corporation Superfund Site
Dallas, Dallas County, Texas**

ARAR	Justification	ARAR Currently Applies At Site	Changes in ARAR Currently Applicable to the Site Activities
(OU3)			
Closure Requirements for Municipal Solid Waste Landfill Units That Stop Receiving Waste Prior to October 9, 1991, and Municipal Solid Waste Sites Subchapter J 30 TAC § 330.251	This section establishes specific procedures and requirements for proper closure. Specific requirements are included for: final cover system; final six inches of cover; side slopes of the final cover; and the schedule for submitting design and specifications for the closure. These requirements are applicable to the landfills at OU 3 which stopped receiving wastes prior to the stated deadline. Remedial actions which address cover requirements will need to comply with the provisions of this section.	No	NA
Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background Subchapter S 30 TAC § 335.554	These provisions specify that, to meet Risk Reduction Standard Number 1, closure and/or remediation must meet background levels or practical quantitation limits if the practical quantitation limit exceeds background. These provisions would be relevant and appropriate if Risk Reduction Standard Number 1 were the preferred standard; however, it is unlikely that cleanup goals will be set at background levels.	No	NA
Attainment of Risk Reduction Standard Number 2: Closure/Remediation to Health-Based Standards and Criteria Subchapter S 30 TAC § 335.555	Subsection (a) specifies that the concentration of a contaminant in contaminated media of concern such as groundwater, surface water, air or soil shall not exceed the cleanup levels as defined in § 335.556 (relating to Determination of Cleanup Levels for Risk Reduction Standard Number 3). If the practical quantitation limit and/or background concentration is greater than the cleanup level, the greater of the practical quantitation limit or background shall be used for determining compliance with the requirements of this section.	No	NA
40 CFR 268 Land Disposal Restrictions	40 CFR Part 268 establishes restrictions on land disposal of specific wastes unless treatment standards are met. Applicable to OU 3, if the wastes are removed from the site for subsequent disposal. Metals wastes in soil that are hazardous by toxicity characteristic are exempt from this rule. The Universal Treatment Standards establish concentration limit for 300 regulated constituents in solid regardless of waste type.	No	NA
40 CFR Part 264 Subparts B, C, D, and G Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	Subparts B, C, and D establish minimum standards which define the acceptable management of hazardous waste for owners and operators of facilities that treat, store, or dispose of hazardous waste. Subpart G establishes standards for closure and post-closure care for site design and operation. These requirements are applicable for wastes identified as RCRA hazardous wastes.	Yes	No changes
OSHA Worker Protection 29 CFR 1910.120	Applicable to OU 3 regarding protection of workers at site. (29 CFR 1910.120)	No	No changes
Closure and Remediation Subchapter A 30 TAC § 335.8	These provisions apply to closure and remediation of facilities associated with contamination resulting from unauthorized discharges, either as part of closure or at any time before or after closure. The regulations also apply to remediation areas that are not otherwise designated as a facility but that contain unauthorized discharges of industrial waste or municipal hazardous waste. This citation specifies that, for remediations performed under the State Superfund program, media cleanup levels should be based on future residential land use unless it is demonstrated that an alternative land use is more appropriate.	No	NA
Post Closure Care and Deed Certification for Risk Reduction Standard Number 2 Subchapter S 30 TAC § 335.560	These provisions specify that, upon attainment of Risk Reduction Standard Number 2, a deed recordation be placed in the county using information contained in subsections (1) through (4).	Yes	No changes
Attainment of Risk Reduction Standard Number 3: Closure/Remediation with Controls, Subchapter S, 30 TAC § 335.561	Under Risk Reduction standard Number 3, a remedy must be permanent, or if that is not practicable, achieve the highest degree of long-term effectiveness possible; cost-effective; and achieve media cleanup requirement specified in 30 TAC § 335.563.	Yes	No changes
Remedy Evaluation Factors for Risk Reduction, Standard Number 3, Subchapter S, 30 TAC § 335.562	These provisions outline the evaluation criteria to compare relative effectiveness of potential remedies to achieve the requirements for remedies described in 30 TAC § 335.562.	No	NA
Media Cleanup Requirements for Risk Reduction, Standard Number 3,	This section specifies the requirements for reestablishing cleanup levels for air, surface water, groundwater, and soil, including use of media-specific adjustments.	No	NA
Post closure care not required for Risk Reduction, Standard Number 3, Subchapter S, 30 TAC § 335.564	Where it is determined that neither engineering nor institutional control measures are require, no post closure care responsibilities are necessary however deed recordation is required in accordance with 30 TAC § 335.566.	No	NA
Shipping Requirements for Transporters of Hazardous Waste of Class I Waste, Subchapter A 30 TAC §335.111	Requirements specific to transporters of hazardous or class I wastes regarding manifesting waste shipments. These requirements are applicable to any transporter who transports hazardous of class I wastes offsite from OU 3.	No	NA
Standards Applicable to Transporters of Hazardous Waste Subchapter D 30 TAC § 335.91	This subchapter establishes standards for transporters transporting hazardous waste to offsite storage processing, or disposal facilities. This subchapter does not apply to onsite transportation of hazardous waste by generators or by owners or operators of storage, processing, or disposal facilities.	No	NA
Interim Standards for Owners and Operators of Hazardous Waste Storage, Processing, or Disposal Facilities Subchapter E 30 TAC § 335.111	This subchapter establishes minimum requirements that define the acceptable management of hazardous waste prior to the issuance or denial of a hazardous waste permit and until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.	No	NA
Interim Standards for Owners and Operators of Hazardous Waste Storage, Processing, or Disposal Facilities Subchapter E 30 TAC § 335.111	Adopts 40 CFR Part 265, except as noted, by reference. This includes Subparts B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, W, AA, and BB. These requirements are relevant and appropriate for RCRA hazardous wastes on OU 3 if wastes are left onsite.	No	NA
Stormwater Regulations 40 CFR Parts 122, 125	NPDES permits are addressed relative to stormwater discharges associated with industrial activity. These regulations require the development and implementation of a stormwater pollution prevention plan or a stormwater best management plan. Monitoring and reporting requirements for a variety of facilities are outlined. Runoff from construction activities is an ARAR depending on the nature of the remedial action selected. Relevant and appropriate if stormwater discharge occurs as a result of the remedial action.	No	NA
National (Primary and Secondary) Ambient Air Quality Standards 40 CFR Part 50	The NAAQS specify the maximum concentration of a federally regulated air pollutant in an area resulting from all sources of that pollutant. No new construction or modification of a facility, structure, or installation may emit an amount of any criteria pollutant that will interfere with the attainment of maintenance of a NAAQS.	No	NA

**Table 3. Applicable, Relevant, and Appropriate Requirements for the
RSR Corporation Superfund Site
Dallas, Dallas County, Texas**

ARAR	Justification	ARAR Currently Applies At Site	Changes in ARAR Currently Applicable to the Site Activities
OU4 and 5			
Disposal of Special Wastes 30 TAC § 330.136	Specifies that regulated RACM may be accepted at a Type I or Type I-AE MSWLF provided that the MSWLF facility has been authorized to accept RACM and complies with the provisions of § 330.136.	No	NA
Particulates - Net Ground Level 30 TAC § 111.155	Establishes the net ground level concentration of particulate emissions from any source.	No	NA
National (Primary and Secondary) Ambient Air Quality Standards 40 CFR Part 50	The NAAQS specify the maximum concentration of a federally regulated air pollutant in an area resulting from all sources of that pollutant. No new construction or modification of a facility, structure, or installation may emit an amount of any criteria pollutant that will interfere with the attainment of maintenance of a NAAQS	No	NA
Stormwater Regulations 40 CFR Parts 122, 125	NPDES permits are addressed relative to stormwater discharges associated with industrial activity. These regulations require the development and implementation of a stormwater pollution prevention plan or a stormwater best management plan. Monitoring and reporting requirements for a variety of facilities are outlined. Runoff from construction activities is an ARAR depending on the nature of the remedial action selected. Relevant and appropriate if stormwater discharge occurs as a result of the remedial action.	No	NA
Subparts I and J	Subpart I sets operating and performance standards for container storage of hazardous waste. Subpart J outlines similar standards, but applies to tanks rather than containers. These requirements are relevant and appropriate for RCRA hazardous wastes on OUs 4 and 5 if containers are used for onsite storage of liquids, soil, or other wastes as part of the remedial action.	No	NA
Subparts L and N	Subpart L sets design and operating requirements for the storage or treatment of wastes in piles. If the waste piles are closed with wastes left in place, Subpart L requirements are applicable and must be met. Subpart N establishes construction, design, performance, closure, and operation requirements pertaining in Subtitle C landfills. Subpart L and/or N are relevant and appropriate for RCRA hazardous wastes on OUs 4 and 5 if onsite treatment, storage, or disposal in piles or Subtitle C landfills is included as part of the remedial action.	No	NA
40 CFR Part 264 Subparts B, C, D, and G	Subparts B, C, and D establish minimum standards which define the acceptable management of hazardous waste for owners and operators of facilities that treat, store, or dispose of hazardous waste. Subpart G establishes standards for closure and post-closure care for site design and operation. These requirements are relevant and appropriate for wastes identified as RCRA hazardous wastes.	Yes	No changes
OSHA Worker Protection 40 CFR § 300.38	Applicable to OUs 4 and 5 regarding protection of workers at site. (29 CFR 1910.120)	Yes	No changes
Closure and Remediation 30 TAC Subchapter A § 335.8	These provisions apply to closure and remediation of facilities associated with contamination resulting from unauthorized discharges, either as part of closure or at any time before or after closure. The regulations also apply to remediation areas that are not otherwise designated as a facility but that contain unauthorized discharges of industrial waste or municipal hazardous waste. These requirements are relevant and appropriate for RCRA hazardous wastes on OUs 4 and 5.	Yes	No changes
Subpart S, Risk Reduction Standards 30 TAC 335.551	Establishes procedures to demonstrate compliance with the risk reduction standards for different types of contaminated media such as air, surface water, groundwater, and soil, and for cross-media contamination pathways such as soil-to-groundwater and soil-to-air. Requirements apply to closure and remediation undertaken according to 30 TAC § 335.8. Numeric cleanup values are based on which of the three risk reduction rules are appropriate. These requirements are relevant and appropriate for surface soil on OUs 4 and 5.	Yes	No changes
Subpart S, Risk Reduction Standard No. 3 30 TAC 335.562	Risk Reduction Standard No. 3 specifies that persons shall propose media cleanup levels in accordance with the conditions stated. These requirements are relevant and appropriate for OU 4 and 5 to perform closure or remediation activities. Cleanup levels will be based on the CERCLA risk assessments developed for OUs 4 and 5.	Yes	No changes
Shipping Requirements for Transporters of Hazardous Waste of Class I Waste, Subchapter A 30 TA § 335.11	Requirements specific to transporters of hazardous or class I wastes regarding manifesting waste shipments. These requirements are relevant and appropriate to any transporter who transports hazardous or class I wastes offsite from OUs 4 or 5.	No	NA
Standards Applicable to Transporters of Hazardous Waste Subchapter D 30 TAC § 335.91	This subchapter establishes standards for transporters transporting hazardous waste to offsite storage, processing, or disposal facilities. This subchapter does not apply to onsite transportation of hazardous waste by generators or by owners or operators of storage, processing, or disposal facilities.	No	NA
Standards, 30 TAC Subchapter F § 335.152	Adopts by reference the regulations contained in 40 CFR Part 264.	No	NA
Classification of Specific Industrial Solid Wastes, Subchapter R 30 TAC § 335.508 (1)	Requires that industrial solid waste containing asbestos material identified as Regulated Asbestos Containing Material (RACM), as defined in 40 CFR Part 61, shall be classified as Class I Waste.	No	NA

Source: First Five-Year Review Report for the RSR Corporation Superfund Site Dallas, Dallas County, Texas, CH2M Hill, September 2005.

Notes:

ARAR - Applicable or Relevant and Appropriate Requirements
CERCLA - Comprehensive Response, Compensation, and Liability Act
CFR - Code of Federal Regulations
NAAQS - National Ambient Air Quality Standards
NPDES - National Pollutant Discharge Elimination System
OSHA - Occupation Safety and Health Administration
OU - Operable Unit
RCRA - Resource Conservation and Recovery Act
TAC - Texas Administrative Code

No changes indicates that changes have not been made to an ARAR that are significant enough to call into question the remedy or affect O&M requirements.

TABLE 4

**RECOMMENDATIONS AND FOLLOW-UP ACTIONS
RSR CORPORATION SUPERFUND SITE**

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Follow-up Actions Affect Long-Term Remedy Protectiveness (Yes/No)
Deed Notices have not been placed on 8 properties for OU3, sites 1, 3 and 4.	By June 2010, deed recordation had been entered for 21 of 29 properties. EPA is actively pursuing recordation of the remaining properties.	EPA	EPA	Within the next fiscal year	No
Maintenance at OU 4 and OU 5 Subarea 1 is insufficient.	The site inspection revealed that the cover vegetation at OU 4 and Subarea 1 of OU 5 has not been mowed recently. Also, groundwater sampling has not occurred at Subarea 1 of OU5.	EPA	EPA	Within the next fiscal year	No
Erosion at OU 3 Site 3.	Beavers have been a problem since the RSR site was listed on the NPL. The beaver activities have caused minor erosion of the clay cap of Site 3 of OU 3. Monitoring of these erosion channels should continue.	PRP	EPA	During the next annual inspection.	No
Erosion of cover at Subarea 2 of OU 5.	Repair of this cover should be performed to maintain remedy protectiveness.	PRP	EPA	Within 1 year of submittal of this report	Yes
Development of the property at OU 3 Site 1.	A developer has purchased this property, and plans to develop the land. During the site inspection, the site RPM exchanged information to ensure that development activities will not affect the protectiveness of the remedy.	PRP	EPA	Not Applicable	Yes

ATTACHMENT A - FIGURES



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TECHNOLOGY

RSR CORPORATION SUPERFUND SITE
2010 FIVE YEAR REVIEW REPORT
DALLAS, DALLAS COUNTY, TEXAS

FIGURE 1
OPERATING UNIT LOCATION MAP

PROJECT MGR.	DESIGNED BY	DRAWN BY	CHECKED BY	DATE	PROJECT NO.	REVISION	DRAWING NO.	FIGURE
TT	VVA	VVA	TT		VVV			4

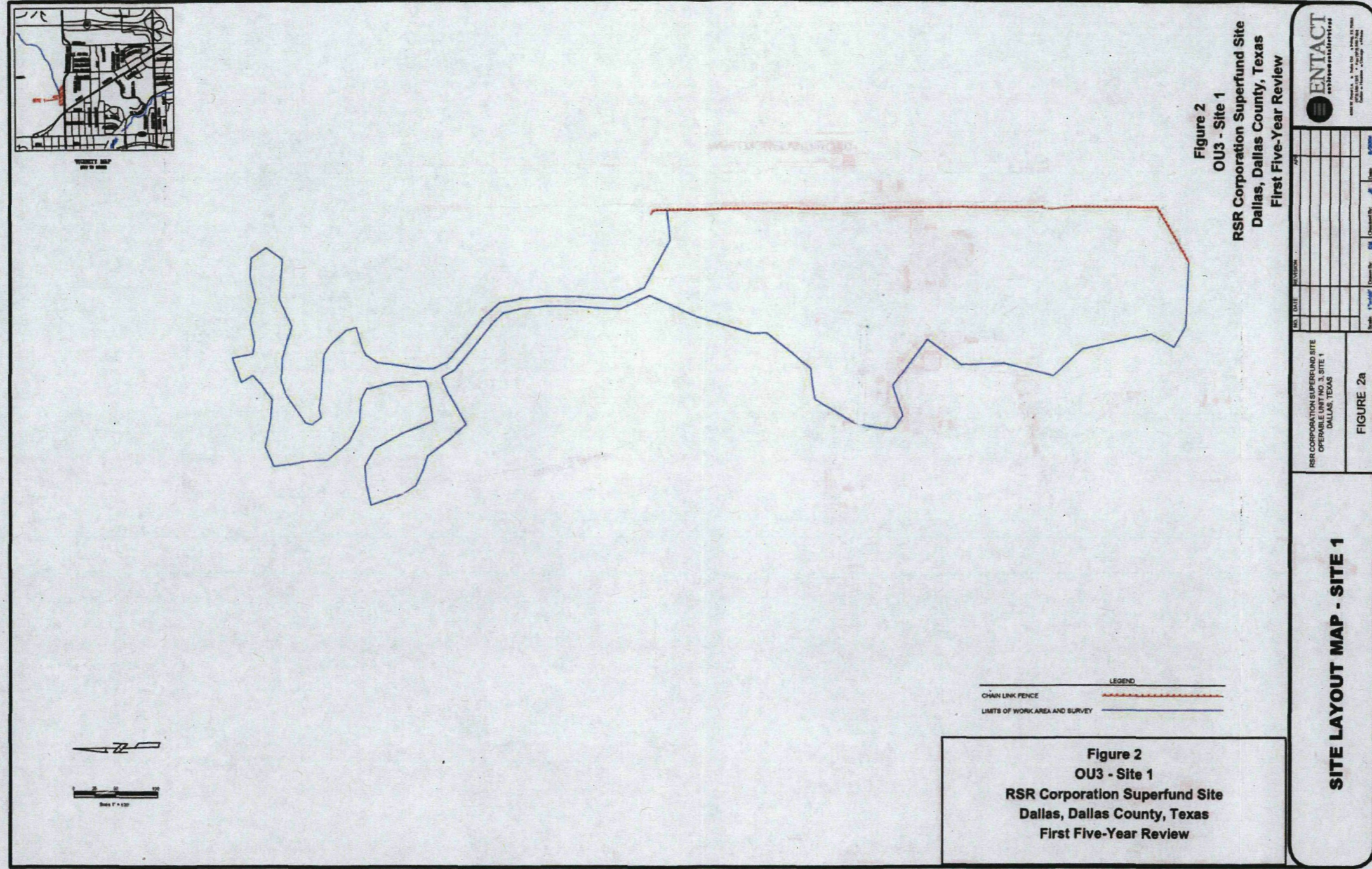


Figure reproduced from ENTACT, 2004c

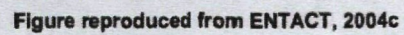


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RSR CORPORATION SUPERFUND SITE
2010 FIVE YEAR REVIEW REPORT
DALLAS, DALLAS COUNTY, TEXAS

FIGURE 2
OU3-SITE 1

PROJECT MGR. TT	DESIGNED BY VM	DRAWN BY AAS	CHECKED BY TT	DATE AS SHOWN	PROJECT NO. 1434254	REVISION -	DRAWING NO. -	FIGURE 2
--------------------	-------------------	-----------------	------------------	------------------	------------------------	---------------	------------------	-------------



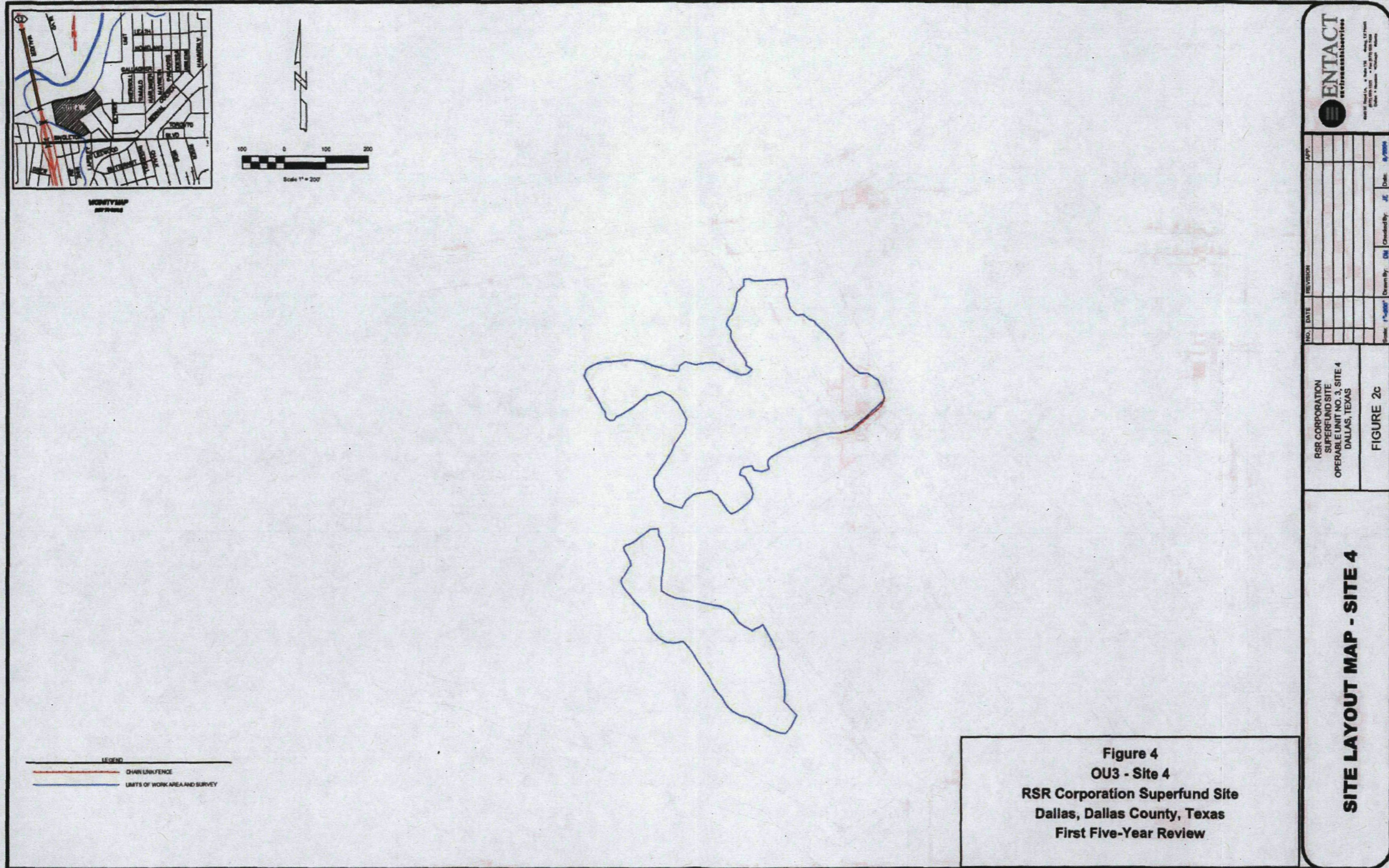



Figure reproduced from ENTACT, 2004c



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FIGURE 4
OU3-SITE 4

PROJECT MGR. II

DESIGNED BY

DRAWN BY
AAC

CHECKED BY **PI**

AS SHOWN

PROJECT NO.
1434254

REVISION

DRAWING NO.

FIGURE 4

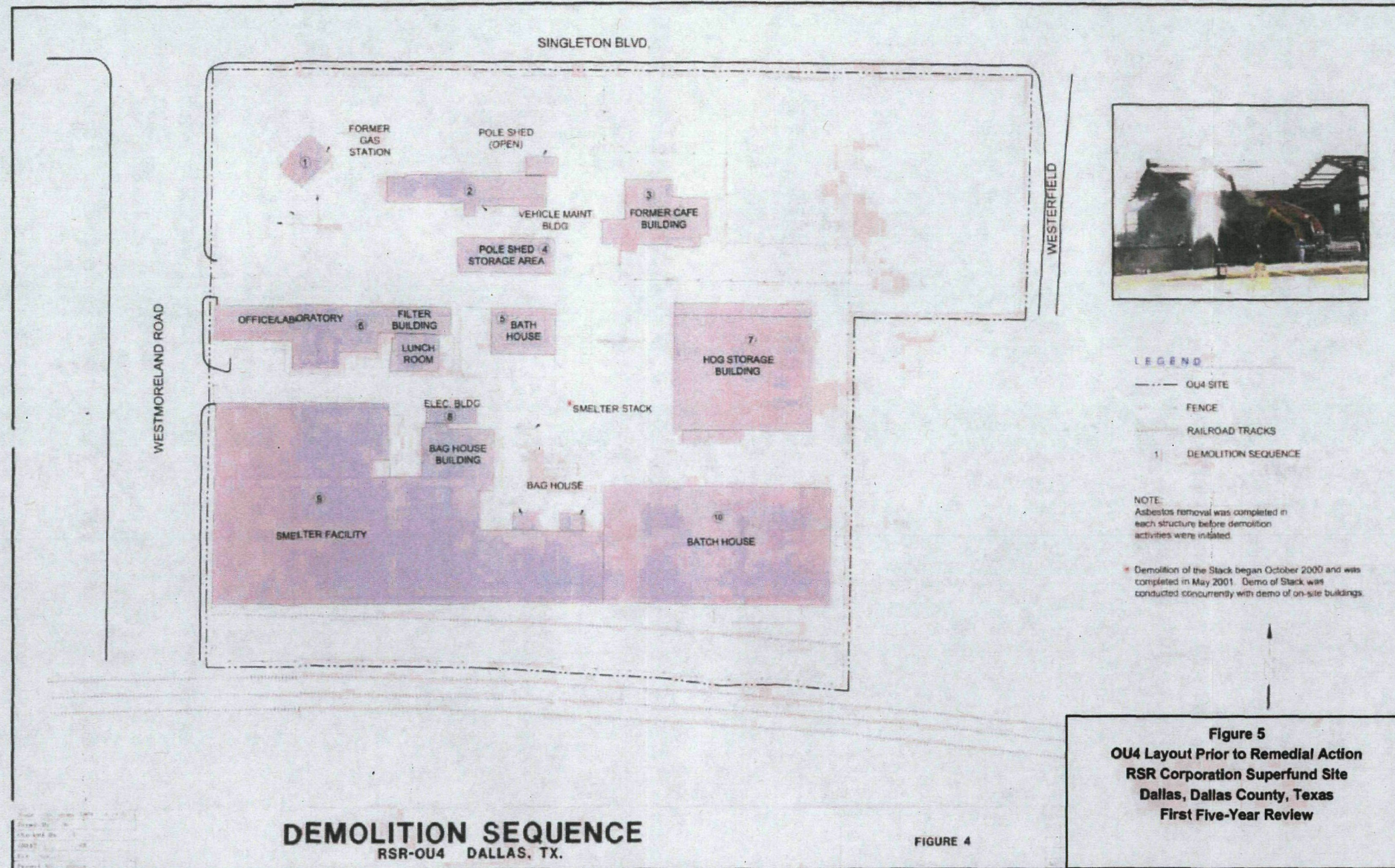


Figure reproduced from ENTACT, 2001



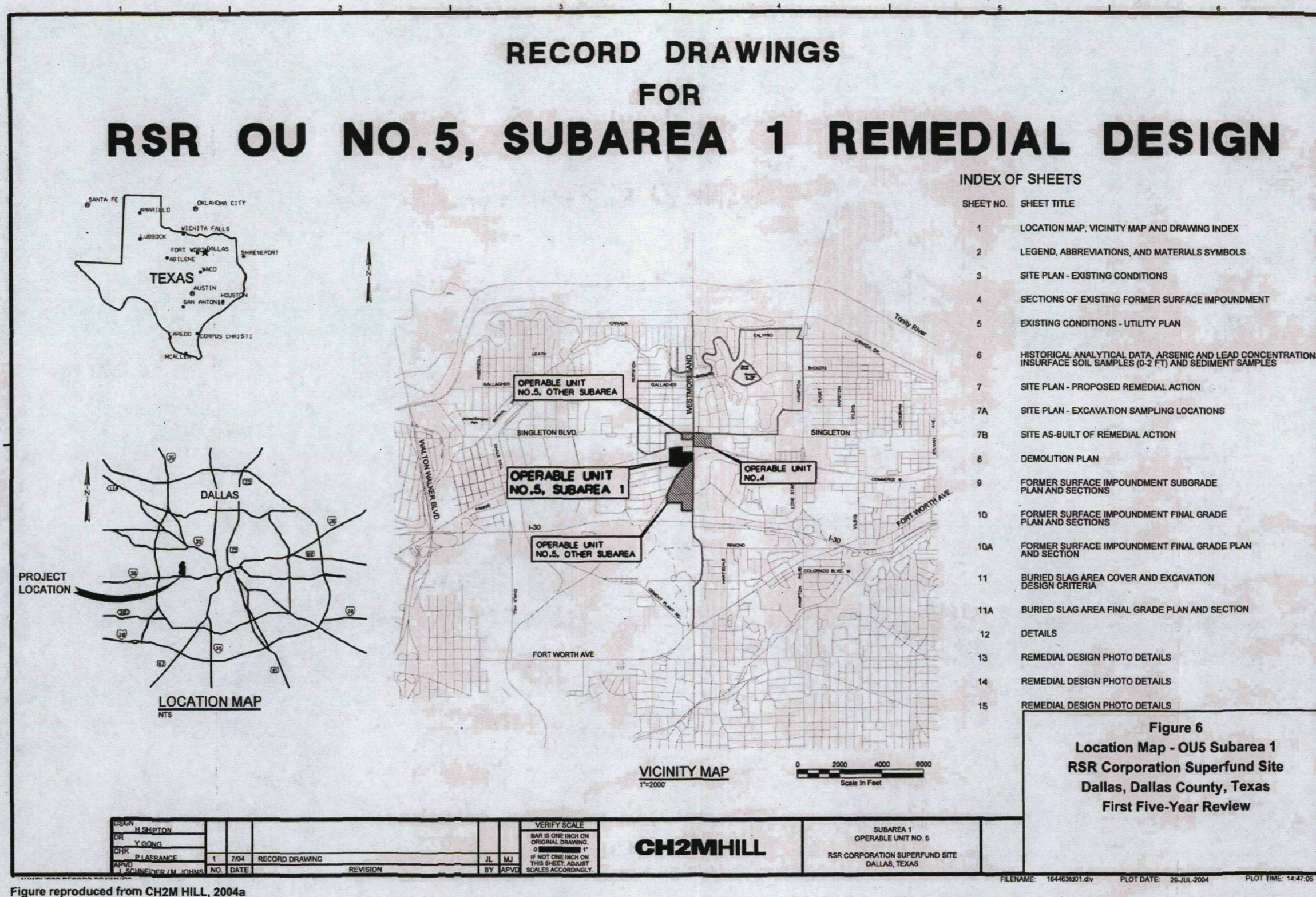
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2010 FIVE YEAR REVIEW REPORT
DALLAS, DALLAS COUNTY, TEXAS**

**FIGURE 5
OU4 LAYOUT PRIOR TO REMEDIAL ACTION**

PROJECT MGR.	DESIGNED BY	DRAWN BY	CHECKED BY	DATE	PROJECT NO.	REVISION	DRAWING NO.	FIGURE
TT	VM	AAS	TT	AS SHOWN	1434254	-	-	5

DRAWING NAME: \\dallasfp\Projects\Federal\epa\vac ii\0058-Texarkana RD\temp_for_RSR\FIG_6.dwg
DATE:07/09/2010 TIME:08:11 DRAWN BY: astreit



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RSR CORPORATION SUPERFUND SITE
2010 FIVE YEAR REVIEW REPORT
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FIGURE 6
OU5 SUBAREA 1 LOCATION

PROJECT MGR.	DESIGNED BY	DRAWN BY	CHECKED BY	DATE	PROJECT NO.	REVISION	DRAWING NO.	FIGURE
TT	VM	AAS	TT	AS SHOWN	1434254	-	-	6

DRAWING NAME: \\dallasfp\Projects\Federal\epa\vac\0058-Texarkana RD\temp_for_RSR\Fig_7.dwg
DATE: 07/09/2010
TIME: 08:14
DRAWN BY: astreit

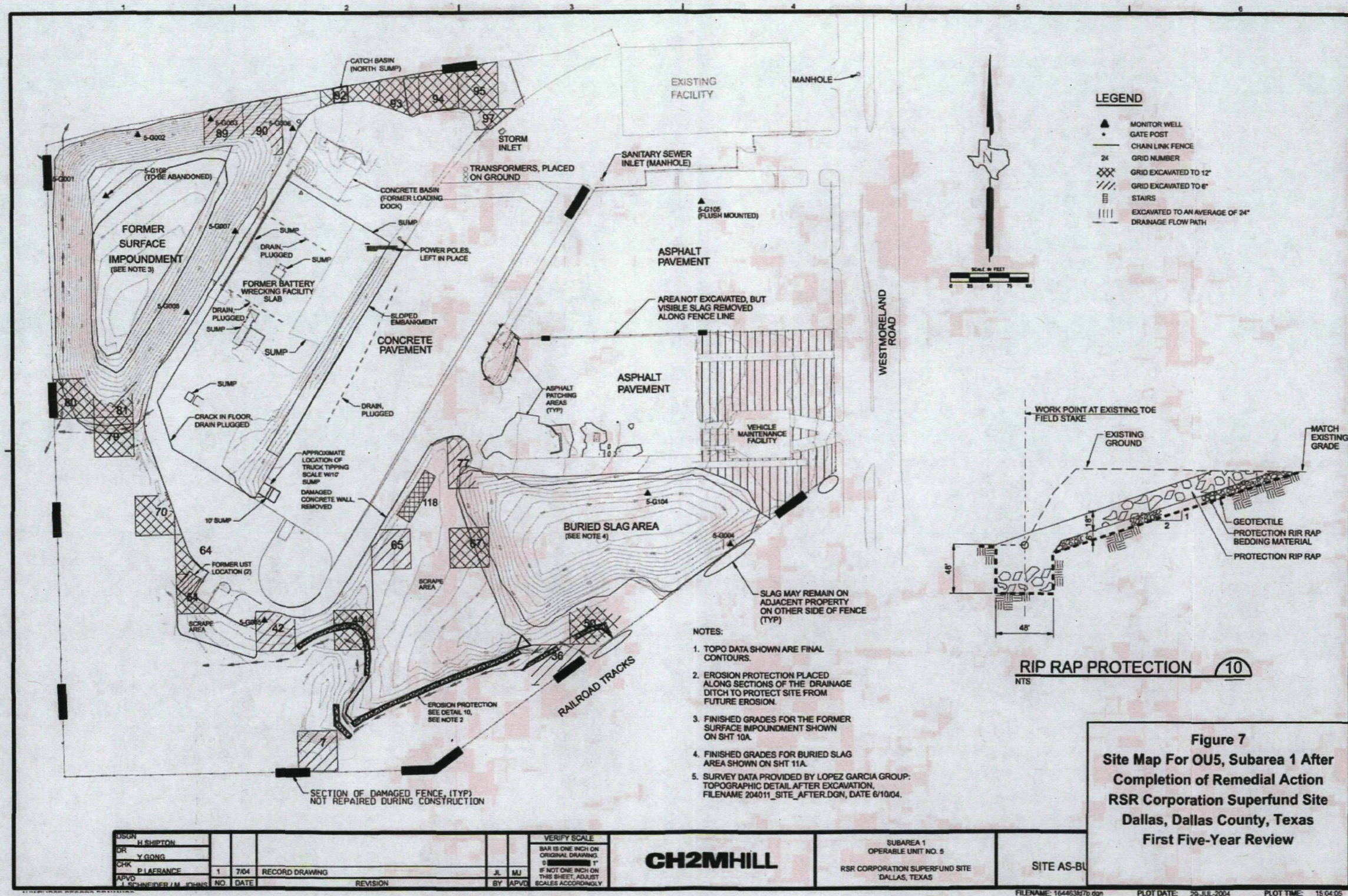


Figure reproduced from CH2M HILL, 2004a

FIGURE 7
OU5 SUBAREA 1

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FIGURE

DRAWING NO.

REVISION

PROJECT NO.

AS SHOWN

CHECKED BY

DATE

DRAWN BY

DESIGNED BY

PROJECT MGR.

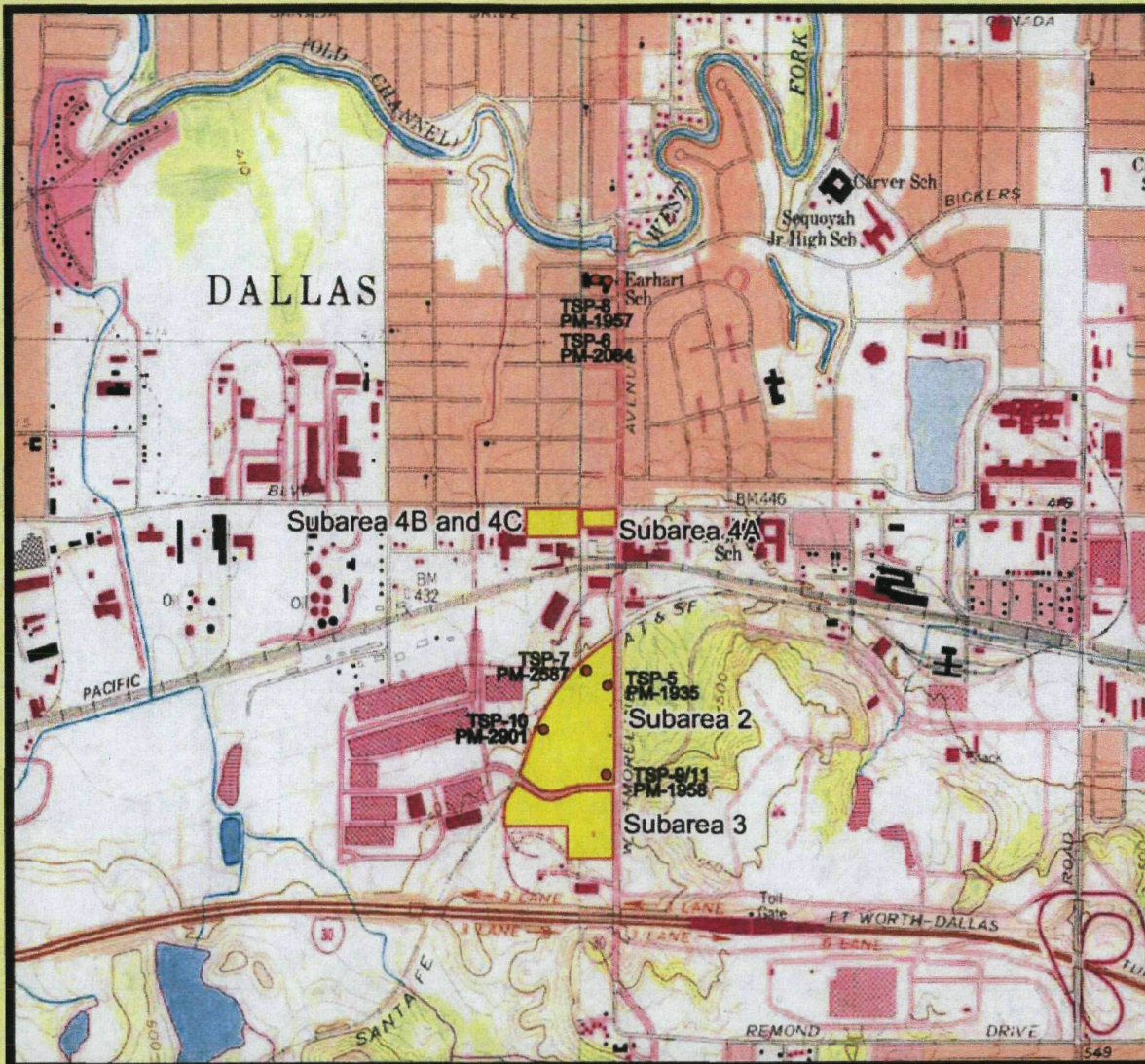
TT

VM

AAS

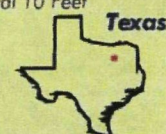
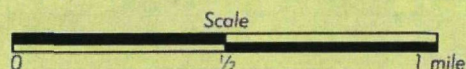
1434254

7



After U.S.G.S. 7.5 Minute Topographic Quadrangle, Oak Cliff, Texas, 1958, Photo Revised 1981, Contour Interval 10 Feet

• Approximate Location of Perimeter Air Monitoring Stations



Quadrangle Location


FIGURE TITLE: Perimeter Air Monitoring Station Location Map		SITE NAME: RSR Superfund Site OU5 Subareas 2, 3 and 4	
DOCUMENT TITLE: Remedial Action Report		Figure 8 Location Map - OU5, Subareas 2, 3, and 4 RSR Corporation Superfund Site Dallas, Dallas County, Texas First Five-Year Review	
 ENTACT 4040 West Royal Lane, Suite 136 Irving, Texas 75063 (972)580-1323	DATE: 12/03		
	SCALE: As Shown		
	PROJECT NO: D959		

Figure reproduced from ENTACT, 2004a

PREPARED FOR:



DESIGNED BY

VM

PROJECT MGR

TT

BY

RSR CORPORATION

DRAWN BY

AAS

CHECKED BY

TT

SCALE

N/A

DATE

AS SHOWN

PROJECT NO

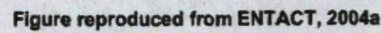
1434254

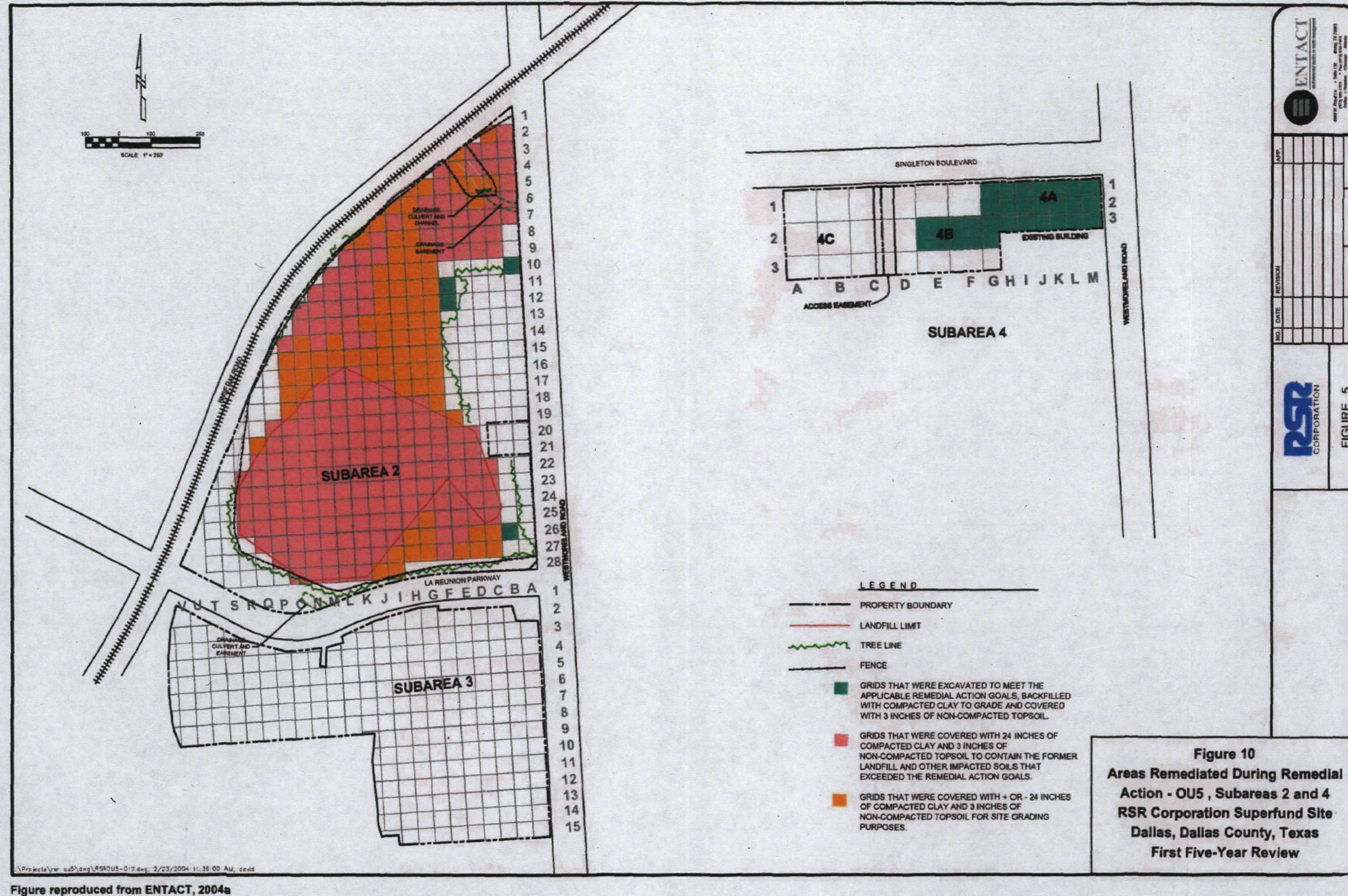
FIGURE

8

RSR CORPORATION SUPERFUND SITE
2010 FIVE YEAR REVIEW REPORT
DALLAS, DALLAS COUNTY, TEXAS

FIGURE 8
LOCATION MAP-OU5, SUBAREAS 2, 3,
AND 4





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RSR CORPORATION SUPERFUND SITE
2010 FIVE YEAR REVIEW REPORT
DALLAS, DALLAS COUNTY, TEXAS

FIGURE 10
OU5 SUBAREAS 2 AND 4

PROJECT MGR. TT
DESIGNED BY VM
DRAWN BY AAS

CHECKED BY TT

DATE AS SHOWN

PROJECT NO. 1434254

REVISION -

DRAWING NO. -

FIGURE 10

ATTACHMENT B – LIST OF REVIEWED DOCUMENTS

Attachment B

List of Documents Reviewed

- CH2M HILL, 1995. *After Action Report, Expedited Response Action, RSR Corporation Superfund Site, Operable Units Nos. 4 and 5*. October 24, 1995.
- CH2M HILL, 2004a. *Final Remedial Action Completion Report, RSR OU5, Subarea 1 Superfund Site, Dallas, Texas*. September 2004.
- CH2M HILL, 2004b. *Operations and Maintenance Plan, RSR Superfund Site, Operable Unit No. 5, Subarea 1, Dallas County, Dallas, Texas*. September 2004.
- CH2M HILL, 2004c. *Annual O&M Inspection Report, RSR Corporation Superfund Site, Operable Unit No. 5, Subarea 1, Dallas County, Dallas, Texas*. December 2004.
- ENTACT, 2001. *RSR OU4 Superfund Site, Final Close-Out Report*. December 7, 2001.
- ENTACT, 2003. *Final Operations and Maintenance Plan, RSR Corporation Superfund Site, Operable Unit No. 5, Subareas 2, 3, and 4, Dallas, Texas*. December 16, 2003.
- ENTACT, 2004a. *Final Remedial Action Report, RSR Corporation Superfund Site, Subareas 2, 3, and 4, Operable Unit No. 5, Dallas, Texas*. February 6, 2004.
- ENTACT, 2004b. *Draft Operation and Maintenance Plan, RSR Corporation Superfund Site, Sites 1, 3, and 4 of Operable Unit 3, Revision 1*. October 15, 2004.
- ENTACT, 2004c. *Final Remedial Action Report, RSR Corporation Superfund Site, Operable Unit 3, Sites 1, 3, and 4, Dallas, Texas*. November 9, 2004.
- ENTACT, 2005a. *Final Operation and Maintenance Plan for RST Corporation Superfund Site Operable Unit No. 3 Sites 1, 3, and 4, Dallas, Texas*. February 2, 2005.
- ENTACT, 2005b. *Post-Remediation Action Inspection Report*. July 7, 2005.
- ENTACT, 2005c. *First Five-Year Review Report for the RSR Corporation Superfund Site, Dallas, Dallas County, Texas*. September 2005.
- ENTACT, 2005d. *Post-Remediation Action Inspection Report*. December 14, 2005.
- ENTACT, 2006. *Post-Remediation Action Inspection Report*. July 31, 2006.
- ENTACT, 2007. *Post-Remediation Action Inspection Report*. October 16, 2007.
- ENTACT, 2008. *Post-Remediation Action Inspection Report*. November 18, 2008.
- ENTACT, 2009. *Post-Remediation Action Inspection Report*. November 19, 2009.
- ENTACT, 2010. *Email Transmittal to U.S. EPA regarding well plugging at RSR Corporation Superfund Site*. June 10, 2010.
- U. S. Environmental Protection Agency, 1991. *Action Memorandum, Request for Removal Action at the*

West Dallas (RSR) Lead Site, Dallas, Dallas County, Texas. October 24, 1991.

- U. S. Environmental Protection Agency, 1992. *Action Memorandum, Request for \$2 Million Exemption and Ceiling Increase for the Removal Action at the West Dallas (RSR) Lead Site, Dallas, Dallas County, Texas.* May 18, 1992.
- U. S. Environmental Protection Agency, 1994. *Action Memorandum, Request for a non-Time Critical Removal Action at the RSR Corporation Superfund Site, Dallas, Dallas County, Texas.* December 22, 1994.
- U. S. Environmental Protection Agency, 1995a. *Record of Decision, RSR Corporation Superfund Site, Operable Unit No. 1— Residential Property, Dallas, Texas.* May 9, 1995.
- U. S. Environmental Protection Agency, 1995b. *Record of Decision, RSR Corporation Superfund Site, Operable Unit No. 2 — DHA Property, Dallas, Texas.* May 9, 1995.
- U. S. Environmental Protection Agency, 1996. *Record of Decision, RSR Corporation Superfund Site, Operable Unit No. 4 — Smelter Facility, Dallas, Texas.* February 28, 1996.
- U. S. Environmental Protection Agency, 1997a. *Record of Decision, RSR Corporation Superfund Site, Operable Unit No. 5, Battery Wrecking Facility and Ground Water Portion of Operable Unit No. 4, Smelter Facility, Dallas, Texas.* April 3, 1997.
- U. S. Environmental Protection Agency, 1997b. *Record of Decision, RSR Corporation Superfund Site, Operable Unit No. 3, Landfills and Slag Piles, Dallas, Texas.* September 30, 1997.
- U.S. Environmental Protection Agency. 2000. *Consent Decree between the United States and the Commercial Metals Limited.* June 21.
- U. S. Environmental Protection Agency, 2001. *Comprehensive Five-Year Review Guidance.* EPA 540-R-01-007. June 2001.
- U.S. Environmental Protection Agency, 2003. *Consent Decree between the United States and Quemetco Metals Limited.* July 21.
- U. S. Environmental Protection Agency, 2004. *Preliminary Close Out Report, RSR Corporation Superfund Site, Dallas, Texas.* September 2004.
- U. S. Environmental Protection Agency, 2005a. *Superfund Site Status Summary, RSR Corp. (Murph Metals).* April 13, 2005.
- U. S. Environmental Protection Agency, 2005b. *Certification of Reuse Determination for RSR Corporation Superfund Site.* August 1, 2005.
- U.S. Environmental Protection Agency. 2005c. *Final Administrative Order of Consent between the United States and Murmur Corporation.* September 28.
- U. S. Environmental Protection Agency, 2006. *Letter to RSR Corporation regarding deed restrictions not being in place for OU 3.* April 25, 2006.
- Michael S. Gardner, Bickel and Brewer Attorney and Counselors, 2005. *Letter of behalf o RSR Corporation and Quemetco to the U.S. EPA Region 6 transmitting the Notice of Obligations to Successors-In-Title.* February 2, 2005.
- Michael S. Gardner, Bickel and Brewer Attorney and Counselors (MGBBAC), 2007. *Facsimile Letter of behalf of RSR Corporation to U.S. EPA Region 6 regarding the inability to secure*

cooperation with TXI, Irma Monzon, and Mark Calabria to file a deed notice restriction for their properties. April 13, 2007.

MGBBAC, 2009a. *Certified Letter to Es Su Casa Nueva Inv & Mg informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the property located at 5900 West Davis Street, Dallas, TX, 75211-7040. July 31, 2009.*

MGBBAC, 2009b. *Certified Letter to Khosrow Sadeghian informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the properties located at (i) 6035 West Davis Street and (ii) 5900 West Davis Street, Dallas, Texas, 75211-7040. July 31, 2009.*

MGBBAC, 2009c. *A Follow up Certified Letter to Es Su Casa Nueva Inv & Mg informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the property located at 5900 West Davis Street, Dallas, TX, 75211-7040. December 10, 2009.*

MGBBAC, 2009d. *A Certified Letter to ExTex LaPorte, LP informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the property located at 1000 North Walton Walker Boulevard, Dallas, TX, 75211-7040. December 10, 2009.*

MGBBAC 2009e. *A follow up Certified Letter to Khosrow Sadeghian informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the properties located at (i) 6035 West Davis Street and (ii) 5900 West Davis Street, Dallas, Texas, 75211-7040. December 10, 2009.*

Michael S. Gardner, Bickel and Brewer Attorney and Counselors, 2009f. *Certified Letter to Texas Utilities Elec. Co., State and Local Tax Department informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the property located 1000 North Walton Walker Boulevard, Dallas, Texas, 75211-7040. December 10, 2009.*

MGBBAC, 2009g. *Certified Letter to Trinity Development JV informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the property located 1000 North Walton Walker Boulevard, Dallas, Texas, 75211-7040. December 10, 2009.*

MGBBAC, 2009h. *Certified Letter to TXI Operations LP informing the property owner of the requirement to record a deed notice for the property and providing a draft deed notice for the property located 1300 North Walton Boulevard, Dallas, Texas, 75211-7040. December 10, 2009.*

MGBBAC, 2009i. *Certified Letter to Amir Ali Rupani informing the property owner of the requirement to record a deed notice for the 17 properties located within Operable Unit No. 3, Site 4. December 14, 2009.*

MGBBAC, 2009j. *Certified Letter to Irwin Real Estate Company informing the property owner of the requirement to record a deed notice for the properties located within Operable Unit No. 3, Site 4. December 14, 2009.*

ATTACHMENT C – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITE VISIT CHECKLIST

I. SITE INFORMATION											
Site Name: RSR Corporation Superfund Site		Date of Inspection: 11 May 2010									
Location and Region: Dallas, Dallas County, TX Region 6		EPA ID: TXD079348397									
Agency, office, or company leading the five-year review: U.S. Environmental Protection Agency, Region 6		Weather/temperature: Clear, Upper 80s									
Remedy Includes: (Check all that apply) <table style="width: 100%; margin-top: 5px;"> <tr> <td><input checked="" type="checkbox"/> Landfill cover/containment</td> <td><input type="checkbox"/> Ground water pump and treatment</td> </tr> <tr> <td><input checked="" type="checkbox"/> Access controls</td> <td><input type="checkbox"/> Surface water collection and treatment</td> </tr> <tr> <td><input checked="" type="checkbox"/> Institutional controls</td> <td><input type="checkbox"/> Other (Monitored natural attenuation)</td> </tr> </table>				<input checked="" type="checkbox"/> Landfill cover/containment	<input type="checkbox"/> Ground water pump and treatment	<input checked="" type="checkbox"/> Access controls	<input type="checkbox"/> Surface water collection and treatment	<input checked="" type="checkbox"/> Institutional controls	<input type="checkbox"/> Other (Monitored natural attenuation)		
<input checked="" type="checkbox"/> Landfill cover/containment	<input type="checkbox"/> Ground water pump and treatment										
<input checked="" type="checkbox"/> Access controls	<input type="checkbox"/> Surface water collection and treatment										
<input checked="" type="checkbox"/> Institutional controls	<input type="checkbox"/> Other (Monitored natural attenuation)										
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached (Figure 2 of report)											
II. INTERVIEWS (Check all that apply)											
1. O&M Site Manager <u>Homer Hine</u> <u>Vice President</u> <u>11 May 2010</u> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> In Person Name Title Date </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Interviewed: <input type="checkbox"/> by mail <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. <u>214-631-6070</u> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Problems, suggestions: <input type="checkbox"/> Report attached </div>											
2. O&M Staff <u>Greg Dambold</u> <u>Project Manager</u> <u>11 May 2010</u> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> In Person Name Title Date </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Interviewed: <input type="checkbox"/> by mail <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. <u>972-580-1323</u> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Problems, suggestions: <input type="checkbox"/> Report attached </div>											
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 <u>TCEQ</u>											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td>Contact <u>Luda Voskov</u></td> <td><u>Project Manager</u></td> <td><u>6-18-2010</u></td> <td><u>(512) 239-6368</u></td> </tr> <tr> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Phone no.</td> </tr> </table>				Contact <u>Luda Voskov</u>	<u>Project Manager</u>	<u>6-18-2010</u>	<u>(512) 239-6368</u>	Name	Title	Date	Phone no.
Contact <u>Luda Voskov</u>	<u>Project Manager</u>	<u>6-18-2010</u>	<u>(512) 239-6368</u>								
Name	Title	Date	Phone no.								
Problems, suggestions: <input checked="" type="checkbox"/> Report attached _____											
Agency _____											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td>Contact _____</td> <td>_____</td> <td>_____</td> <td><u>()</u></td> </tr> <tr> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Phone no.</td> </tr> </table>				Contact _____	_____	_____	<u>()</u>	Name	Title	Date	Phone no.
Contact _____	_____	_____	<u>()</u>								
Name	Title	Date	Phone no.								
Problems, suggestions: <input type="checkbox"/> Report attached _____											

4. Other interviews (optional): ☐ Report attached to Five-Year Review Report

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

- | | | | |
|--|---|--|------------------------------|
| <input checked="" type="checkbox"/> O&M manual (long term monitoring plan) | <input checked="" type="checkbox"/> Readily available | <input checked="" type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
| <input type="checkbox"/> As-built drawings | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Maintenance logs | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input type="checkbox"/> N/A |

Remarks: _____

2. Site-Specific Health and Safety Plan

- | | | | |
|---|--|-------------------------------------|---|
| <input checked="" type="checkbox"/> Readily available | <input checked="" type="checkbox"/> Up to date | <input type="checkbox"/> N/A | |
| <input type="checkbox"/> Contingency plan/emergency response plan | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |

Remarks: _____

3. O&M and OSHA Training Records

- | | | |
|---|--|------------------------------|
| <input checked="" type="checkbox"/> Readily available | <input checked="" type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
|---|--|------------------------------|

Remarks: _____

4. Permits and Service Agreements

- | | | | |
|---|--|-------------------------------------|---|
| <input type="checkbox"/> Air discharge permit | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Effluent discharge | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Waste disposal, POTW | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Other permits _____ | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |

Remarks: _____

5. Gas Generation Records

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
|--|-------------------------------------|---|

6. Settlement Monument Records

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
|--|-------------------------------------|---|

7. Ground Water Monitoring Records

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
|--|-------------------------------------|---|

8. Leachate Extraction Records

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
|--|-------------------------------------|---|

9. Discharge Compliance Records

- | | | | |
|---|--|-------------------------------------|---|
| <input type="checkbox"/> Air | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Water (effluent) | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |

Remarks: _____

10. Daily Access/Security Logs

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
|--|-------------------------------------|---|

Remarks: _____

IV. O&M COSTS

1. O&M Organization

- ☐ State in-house ☐ Contractor for State ☐ PRP in-house
☒ Contractor for PRP ☐ Other _____

2. O&M Cost Records

- ☐ Readily available ☐ Up to date ☐ Funding mechanism/agreement in place
☐ Original O&M cost estimate ☐ Breakdown attached

Total annual cost by year for review period, if available

<u>Date</u>	<u>Date</u>	<u>Total Cost</u>		
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached
From _____	to _____	_____	-	<input type="checkbox"/> Breakdown attached

3. Unanticipated or Unusually High O&M Costs During Review Period

_____ None _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

- 1. Fencing damaged** ☒ Location shown on site map ☐ Gates secured ☐ N/A

Remarks: East wall of 0U-4 has fallen down.

B. Other Access Restrictions

- 1. Signs and other security measures** ☐ Location shown on site map ☐ N/A

Remarks: Numerous locations.

C. Institutional Controls**1. Implementation and enforcement**

Site conditions imply ICs not properly implemented

☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced

☐ Yes ☒ No ☐ N/AType of monitoring (e.g., self-reporting, drive by) PRP self-supporting in cooperation with EPAFrequency Annual inspections, additional visits when needed.Responsible party/agency RSR CorporationContact Homer Hine

Vice President

11 May 2010

214-631-6070

Name

Title

Date

Phone no.

Reporting is up-to-date

☒ Yes ☐ No ☐ N/A

Reports are verified by the lead agency

☒ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met

☒ Yes ☐ No ☐ N/A

Violations have been reported

☒ Yes ☐ No ☐ N/AOther problems or suggestions: ☐ Report attached**2. Adequacy**☐ ICs are adequate☒ ICs are inadequate☐ N/ARemarks: Action has been taken to establish deed restrictions, but it may not be complete**D. General****1. Vandalism/trespassing**☐ Location shown on site map☐ No vandalism evidentRemarks: RSR routinely repairs vandalism, reports it to EPA**2. Land use changes onsite**☐ N/ARemarks: OU-4 had been used as a construction staging area in recent years, but it is not being used now.**3. Land use changes offsite**☐ N/ARemarks: City of Dallas reports redevelopment is beginning along I-30 west of Westmoreland. It may eventually extend to OU-3 Site 1.**VI. GENERAL SITE CONDITIONS****A. Roads**☐ Applicable☒ N/A**1. Roads damaged**☐ Location shown on site map☐ Roads adequate☐ 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)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident	
Areal extent _____	Depth _____		
Remarks: _____			
2. Cracks	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Cracking not evident	
Lengths <u>Variable</u>	Widths _____	Depths _____	
Remarks: <u>Desiccation cracks at many locations, common in dry times.</u>			
3. Erosion OU-5 Subarea 2	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident	
Areal extent <u>About 50 square feet</u>	Depth <u>Up to 1 foot</u>		
Remarks: <u>Erosion is downhill from the edge of the cover, but should be repaired before it progresses uphill to the covered area. PRP agrees.</u>			
4. Holes	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Holes not evident	
Areal extent _____	Depth _____		
Remarks: _____			
5. Vegetative Cover	<input checked="" type="checkbox"/> Grass	<input checked="" type="checkbox"/> Cover properly established	<input type="checkbox"/> No signs of stress
<input checked="" type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram)			
Remarks: <u>Capped area on east side of OU-5 Subarea 1 has many bushes and small trees, indicating it has not been mowed for some time.</u>			
6. Alternative Cover (armored rock, concrete, etc.)	<input checked="" type="checkbox"/> N/A		
Remarks: _____			
7. Bulges	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident	
Areal extent _____	Depth _____		
Remarks: _____			
8. Wet Areas/Water Damage	<input type="checkbox"/> Wet areas/water damage not evident		
<input type="checkbox"/> Wet areas	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Areal extent <u>50'X 2'</u>	
<input type="checkbox"/> Ponding	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Areal extent _____	
<input type="checkbox"/> Seeps	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Areal extent _____	
<input type="checkbox"/> Soft subgrade	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Areal extent _____	
Remarks: <u>Damaged cover between 2 ponds at OU-3 Area 3, apparently from beaver traffic</u>			
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	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay Remarks: _____ _____
2. Bench Breached	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay Remarks: _____ _____
3. Bench Overtopped	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay Remarks: _____ _____
C. Letdown Channels <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A (Channel lined with erosion control mats, rip rap, 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	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of settlement Areal extent _____ Depth _____ Remarks: _____ _____
2. Material Degradation	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of degradation Material type _____ Areal extent _____ Remarks: _____ _____
3. Erosion	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of erosion Areal extent _____ Depth _____ Remarks: _____ _____
4. Undercutting	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of undercutting Areal extent _____ Depth _____ Remarks: _____ _____
5. Obstructions Type _____	<input type="checkbox"/> No obstructions <input type="checkbox"/> Location shown on site map Areal extent _____ Size _____ Remarks: _____ _____
6. Excessive Vegetative Growth Type _____	<input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> 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"/> Properly secured/locked	<input type="checkbox"/> Active	<input type="checkbox"/> Functioning	<input type="checkbox"/> Passive	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
<input type="checkbox"/> Evidence of leakage at penetration			<input type="checkbox"/> Needs O&M	<input 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 O&M	<input type="checkbox"/> N/A		
Remarks: _____					
3. Monitoring Wells (within surface area of landfill)					
<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs O&M	<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 O&M	<input type="checkbox"/> N/A		
Remarks: _____					
5. Settlement Monuments					
<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed	<input 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 O&M				
Remarks: _____					
2. Gas Collection Wells, Manifolds, and Piping					
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M				
Remarks: _____					
3. Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)					
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	<input type="checkbox"/> N/A			
Remarks: _____					
F. Cover Drainage Layer				<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Outlet Pipes Inspected					
<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A				
Remarks: _____					
2. Outlet Rock Inspected					
<input 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 <input type="checkbox"/> N/A Remarks: _____	Areal extent _____ <input type="checkbox"/> Siltation not evident	Size _____
2. Erosion <input type="checkbox"/> Erosion not evident Remarks: _____	Areal extent _____	Depth _____
3. Outlet Works <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____		
4. Dam <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____		
H. Retaining Walls <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1. Deformations <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Deformation not evident Horizontal displacement _____ Vertical displacement _____ Rotational displacement _____ Remarks: _____		
2. Degradation <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Degradation not evident Remarks: _____		
I. Perimeter Ditches/Off-Site Discharge <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1. Siltation <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Siltation not evident Areal extent _____ Depth _____ Remarks: _____		
2. Vegetative Growth <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A <input type="checkbox"/> Vegetation does not impede flow Areal extent _____ Type _____ Remarks: _____		
3. Erosion <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident Areal extent _____ Depth _____ Remarks: _____		
4. Discharge Structure <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____		

VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1. Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> 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: _____			
IX. GROUND WATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
A. Ground Water Extraction Wells, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1. Pumps, Wellhead Plumbing, and Electrical			
<input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs O&M <input type="checkbox"/> N/A			
Remarks: _____			
2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances			
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M			
Remarks: _____			
3. Spare Parts and Equipment			
<input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided			
Remarks: _____			
B. Surface Water Collection Structures, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1. Collection Structures, Pumps, and Electrical			
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M			
Remarks: _____			
2. Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances			
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M			
Remarks: _____			
3. Spare Parts and Equipment			
<input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided			
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 absorbers <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 O&M <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 ground water 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 O&M 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 O&M Remarks: _____ _____		
4. Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M 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 O&M <input type="checkbox"/> N/A Remarks: _____ _____ _____		
D. Monitored Natural Attenuation <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1. Monitoring Wells (Natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled (quarterly) <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs O&M <input type="checkbox"/> N/A Remarks: _____ _____		

X. OTHER REMEDIES

If there are remedies applied at the site that are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Covers over contaminants to interrupt exposure pathways are functioning as intended.

B. Adequacy of O&M

Maintenance is occurring in most locations. OU-5 Subarea 1 and OU-4 show signs of neglect (no recent mowing; no repair of fences).

C. Early Indicators of Potential Remedy Failure

None.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

None.

INSPECTION TEAM ROSTER

Name	Organization	Title
Philip Allen	EPA	Task Order Monitor
Homer Hine	RSR Corporation	Vice President
Greg Dambold	Entact Environmental Services	
Dean Perkins	TCEQ	
Ted Telisak	EA Engineering	Project Manager

ATTACHMENT D – SITE INSPECTION PHOTOGRAPHS

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 1
Description: Northeast part of cover.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 2
Direction: East



Photograph No. 2
Description: North central part of cover.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 2
Direction: East

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 3
Description: Central part of cover.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 2
Direction: Southeast



Photograph No. 4
Description: Letdown channel at west fence line, showing erosion.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 2
Direction: West

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 5
Description: Letdown channel, west edge of property.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 2
Direction: West



Photograph No. 6
Description: South central part of cover.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 2
Direction: Northeast

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 7
Description: North end of cover.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 1
Direction: South



Photograph No. 8
Description: Central part of cover, west edge.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 1
Direction: South

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 9

Description: Drainage way below letdown channel,
central part of cover, west edge.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 3 Site 1

Direction: West



Photograph No. 10

Description: Drainage way below letdown channel,
central part of cover, west edge.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 3 Site 1

Direction: Northeast

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 11

Description: Drainage way below letdown channel,
central part of cover, west edge.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 3 Site 1

Direction: East



Photograph No. 12

Description: South end of covered area.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 3 Site 3

Direction: North

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 13
Description: North end of covered area,
showing path worn by beavers.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 3
Direction: South



Photograph No. 14
Description: Northwestern part of covered area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 3
Direction: West

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 15
Description: Northwestern part of covered area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 3
Direction: East



Photograph No. 16
Description: North end of covered area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 3
Direction: South

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 17
Description: Covered area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 4
Direction: Southwest



Photograph No. 18
Description: Covered area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 4
Direction: East

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 19
Description: Covered area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 3 Site 4
Direction: North



Photograph No. 20
Description: East entry, near north end.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 1
Direction: Southwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 21
Description: Vehicle maintenance building at east center of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 1
Direction: East



Photograph No. 22
Description: Buried slag area (soil cap at Southeast part of Site).
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 1
Direction: Southeast

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 23

Description: Buried slag area (soil cap at Southeast part of Site).

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 5 Subarea 1

Direction: Northeast



Photograph No. 24

Description: Slab at former battery wrecking facility,
with surface impoundment area beyond.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 5 Subarea 1

Direction: Northwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 25

Description: Slab at former battery wrecking facility,
with surface impoundment area beyond.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 5 Subarea 1

Direction: Southeast



Photograph No. 26

Description: Monitoring well 5-G002 at north end
of surface impoundment area.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 5 Subarea 1

Direction: Northwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 27
Description: West edge of surface impoundment area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 1
Direction: North



Photograph No. 28
Description: South edge of surface impoundment area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 1
Direction: Southeast

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 29
Description: West edge of surface impoundment area.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 1
Direction: North



Photograph No. 30
Description: South edge of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: Northeast

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 31
Description: South edge of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: North



Photograph No. 32
Description: Fence at southwest corner.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: NE

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 33
Description: South edge of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: East



Photograph No. 34
Description: Fence between Site and electrical substation.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: West

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 35
Description: East fence, fallen over.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: North



Photograph No. 36
Description: East fence, fallen over.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: South

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 37

Description: East and central parts of Site, with Murrum facility beyond, across Westmoreland Road.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: West



Photograph No. 38

Description: Fence at southeast corner of Site, near railroad.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: Northwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 39
Description: Ruts at southeast corner of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: Northwest



Photograph No. 40
Description: Unlocked gate at southeast corner of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: Southwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 41

Description: Fence at southeast corner of Site, near railroad.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: Northwest



Photograph No. 42

Description: North fence line.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: West

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 43
Description: East fence line, at northeast corner.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: Southwest



Photograph No. 44
Description: Northeast corner of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: South

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 45

Description: Northwest corner of Site, at intersection of
Westmoreland Road and Singleton Boulevard,
showing "For Sale" sign.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: South



Photograph No. 46

Description: Northeast corner of Subarea 4.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 5 Subarea 4

Direction: Southwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 47
Description: Center of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: South



Photograph No. 48
Description: Center of Site.
Date: May 11, 2010

Site: RSR Corporation Superfund Site
OU 4
Direction: Southeast

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 49

Description: Manhole at the center of Site.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: Southeast



Photograph No. 50

Description: Manhole at center of site, showing vegetation
restored after industrial use of Site.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: Northwest

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 51

Description: Slope at east center of Site.

Date: May 11, 2010

Site: RSR Corporation Superfund Site

OU 4

Direction: South



Photograph No. 52

Description: East end of Site.

Date: June 11, 2010

Site: RSR Corporation Superfund Site

OU 5 Subarea 4C

Direction: East

Site Inspection Photographs
RSR Corporation Superfund Site Second Five-Year Review



Photograph No. 53
Description: Center of Subarea 4B
Date: June 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 4B
Direction: Southwest



Photograph No. 54
Description: View of Site from east edge.
Date: June 11, 2010

Site: RSR Corporation Superfund Site
OU 5 Subarea 4A
Direction: West

ATTACHMENT E – INTERVIEW RECORDS

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY		
Site Name: RSR Corporation Superfund Site	EPA ID No.: TXD079348397	
Location: Dallas, Dallas County, TX	Date: 11 May 2010	
Contact Made By:		
Name: Philip Allen	Title: Remediation Project Manager	Organization: U.S. EPA
Telephone No.: 214-665-8516 E-Mail: Allen.Philip@epamail.epa.gov	Street Address: 1455 Ross Avenue, Suite 1200 City, State, Zip: Dallas, Texas 75202	
Name: Ted Telisak	Title: Project Manager	Organization: EA Engineering
Telephone No.: 972-315-3922 E-Mail: ttelisak@eaest.com	Street Address: 405 S. Highway 121, Bldg C, Suite 100 City, State, Zip: Lewisville, TX 75067	
Individual Contacted:		
Name: Ludmila Voskov	Title: Project manager	Organization: TCEQ
Telephone No.: 512-239-6368 E-Mail Address: lvoskov@tceq.state.tx.us	Street Address: Bldg D , 12100 Park 35 Circle City, State, Zip: Austin, TX 78753	
Survey Questions		
<p><i>The purpose of the five-year review is to evaluate the implementation and performance of the remedy, and to confirm that human health and the environment continue to be protected by the remedial actions that have been performed at the site. This interview is being conducted as a part of the second five-year review for the RSR Corporation Superfund Site. The period covered by this five-year review is from the completion of the first five-year review in September 2005 to the current completion of this review.</i></p> <p>1. What is your overall impression of the remedial action work conducted at the site?</p> <p><i>Very good.</i></p> <p>2. From your perspective, what effect have remedial operations at the site had on the surrounding community?</p> <p><i>In the TCEQ opinion they have a positive impact. The grass is mowed, security is good, and the PRP is proactive.</i></p>		

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY		
Site Name:	RSR Corporation Superfund Site	EPA ID No.: TXD079348397
Location:	Dallas, Dallas County, TX	Date: 11 May 2010
<p>Survey Questions (Continued)</p> <p>3. Are you aware of any community concerns regarding the cleanup at the site or the operation and administration of the remediation?</p> <p><i>No.</i></p> <p>4. Are you aware of any events, incidents, or activities that have occurred at the site, such as dumping, vandalism, trespassing, or emergency response from local authorities? If so please provide details.</p> <p><i>No.</i></p> <p>5. Have there been any routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so please describe the purpose and results.</p> <p><i>TCEQ participates in the 5-year reviews, but not the annual inspections by EPA and the PRP.</i></p> <p>6. Have there been any complaints, violations, or other incidents related to the site that required a response by your office? If so, please give details of the events and results of the responses.</p> <p><i>Not aware of any inquiries.</i></p> <p>7. Do you feel well-informed about the site's activities and progress?</p> <p><i>The TCEQ project manager needs to be involved in the annual site visits or inspection and be more informed about the site redevelopment status.</i></p> <p>8. Do you have any comments, suggestions, or recommendations regarding the site, its management or operation?</p> <p><i>The TCEQ project manager will need more information related to the site changing status from the EPA project manager.</i></p>		

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY		
Site Name: RSR Corporation Superfund Site	EPA ID No.: TXD079348397	
Location: Dallas, Dallas County, TX	Date: 11 May 2010	
Contact Made By:		
Name: Philip Allen	Title: Remediation Project Manager	Organization: U.S. EPA
Telephone No.: 214-665-8516 E-Mail: Allen.Philip@epamail.epa.gov	Street Address: 1455 Ross Avenue, Suite 1200 City, State, Zip: Dallas, Texas 75202	
Name: Ted Telisak	Title: Project Manager	Organization: EA Engineering
Telephone No.: 972-315-3922 E-Mail: ttelisak@eaest.com	Street Address: 405 S. Highway 121, Bldg C, Suite 100 City, State, Zip: Lewisville, TX 75067	
Individual Contacted:		
Name: Greg Dambold	Title:	Organization: Entact
Telephone No.: 972-580-1323 E-Mail Address:	Street Address: City, State, Zip:	
Survey Questions		
<p><i>The purpose of the five-year review is to evaluate the implementation and performance of the remedy, and to confirm that human health and the environment continue to be protected by the remedial actions that have been performed at the site. This interview is being conducted as a part of the second five-year review for the RSR Corporation Superfund Site. The period covered by this five-year review is from the completion of the first five-year review in September 2005 to the current completion of this review.</i></p> <p>1. What is your overall impression of the remedial action work conducted at the site?</p> <p><i>The vegetation looks great, and the engineering measures appear to have worked.</i></p> <p>2. From your perspective, what effect have remedial operations at the site had on the surrounding community?</p> <p><i>It appears to have had a positive impact. The areas are less blighted.</i></p>		

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY

Site Name: RSR Corporation Superfund Site

EPA ID No.: TXD079348397

Location: Dallas, Dallas County, TX

Date: 11 May 2010

Survey Questions (Continued)

3. Are you aware of any community concerns regarding the cleanup at the site or the operation and administration of the remediation?

No.

4. Are you aware of any events, incidents, or activities that have occurred at the site, such as dumping, vandalism, trespassing, or emergency response from local authorities? If so please provide details.

No.

5. Have there been any problems or difficulties encountered which impacted implementability, or required a change in O&M procedures ?

Not that I'm aware of.

6. Please describe the current O&M staff activities, and the date of the current O&M plan. Are any updates to the O&M plan needed or anticipated?

We inspect for fence and erosion problems. No updates needed that I'm aware of.

7. Where are operations-related documents maintained (including Health and Safety Plans, Operations and Maintenance Plans, and other waste management/contingency plans)? What procedures are in place to ensure compliance with these plans?

At RSR and Entact offices. Entact attends the yearly inspections.

8. Do you have any comments, suggestions, or recommendations regarding the site, its management or operation?

No.

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY		
Site Name: RSR Corporation Superfund Site	EPA ID No.: TXD079348397	
Location: Dallas, Dallas County, TX	Date: 19 July 2010	
Contact Made By:		
Name: Philip Allen	Title: Remediation Project Manager	Organization: U.S. EPA
Telephone No.: 214-665-8516 E-Mail: Allen.Philip@epamail.epa.gov	Street Address: 1455 Ross Avenue, Suite 1200 City, State, Zip: Dallas, Texas 75202	
Name: Ted Telisak	Title: Project Manager	Organization: EA Engineering
Telephone No.: 972-315-3922 E-Mail: ttelisak@eaest.com	Street Address: 405 S. Highway 121, Bldg C, Suite 100 City, State, Zip: Lewisville, TX 75067	
Individual Contacted:		
Name: Lori Frauli Trulson	Title: Sr. Environmental Coordinator	Organization: City of Dallas Office of Environmental Quality
Telephone No.: 214-671-8967 E-Mail Address: lori.trulson@dallascityhall.com	Street Address: Dallas City Hall 1500 Marilla Street, Room L2F South City, State, Zip: Dallas, TX 75201	
<p align="center">Survey Questions</p> <p><i>The purpose of the five-year review is to evaluate the implementation and performance of the remedy, and to confirm that human health and the environment continue to be protected by the remedial actions that have been performed at the site. This interview is being conducted as a part of the second five-year review for the RSR Corporation Superfund Site. The period covered by this five-year review is from the completion of the first five-year review in September 2005 to the current completion of this review.</i></p> <p>1. What is your overall impression of the remedial action work conducted at the site?</p> <p><i>Generally thorough. EPA did a sufficient clean-up.</i></p> <p>2. From your perspective, what effect have remedial operations at the site had on the surrounding community?</p> <p><i>Mixed. Some think of it as clean and not limiting development, but some people remain concerned about health risks even though EPA has concluded that the risks have been adequately addressed.</i></p>		

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY

Site Name: RSR Corporation Superfund Site

EPA ID No.: TXD079348397

Location: Dallas, Dallas County, TX

Date: 19 July 2010

3. Are you aware of any community concerns regarding the cleanup at the site or the operation and administration of the remediation?

See #2. Some small percentage of people still have concerns. Community concerns seem to have been decreasing in recent years.

4. Have there been any routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so please describe the purpose and results.

When there are City of Dallas property acquisitions in this site's footprint, we may sample soil. We don't do site inspections.

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

Yes. If I need information, I go to EPA's website for fact sheets or I call a contact at EPA.

6. Do you have any comments, suggestions, or recommendations regarding the site, its management or operation?

If EPA hears of any big problems, changes, or concerns, please keep the City informed.

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY		
Site Name: RSR Corporation Superfund Site	EPA ID No.: TXD079348397	
Location: Dallas, Dallas County, TX	Date: 11 May 2010	
Contact Made By:		
Name: Philip Allen	Title: Remediation Project Manager	Organization: U.S. EPA
Telephone No.: 214-665-8516 E-Mail: Allen.Philip@epamail.epa.gov	Street Address: 1455 Ross Avenue, Suite 1200 City, State, Zip: Dallas, Texas 75202	
Name: Ted Telisak	Title: Project Manager	Organization: EA Engineering
Telephone No.: 972-315-3922 E-Mail: ttelisak@eaest.com	Street Address: 405 S. Highway 121, Bldg C, Suite 100 City, State, Zip: Lewisville, TX 75067	
Individual Contacted:		
Name: Homer Hine	Title: VP Trades Purchasing	Organization: RSR Corporation
Telephone No.: 214-631-6070 E-Mail Address:	Street Address: City, State, Zip: 2777 Stemmons Fwy., Ste. 1800 Dallas, TX 75207	
Survey Questions		
<p><i>The purpose of the five-year review is to evaluate the implementation and performance of the remedy, and to confirm that human health and the environment continue to be protected by the remedial actions that have been performed at the site. This interview is being conducted as a part of the second five-year review for the RSR Corporation Superfund Site. The period covered by this five-year review is from the completion of the first five-year review in August 2005 to the current completion of this review.</i></p> <p>1. What is your overall impression of the remedial action work conducted at the site?</p> <p><i>It serves the purpose for which it was designed, which is to protect human health and the environment.</i></p> <p>2. From your perspective, what effect have remedial operations at the site had on the surrounding community?</p> <p><i>We keep our properties maintained. We haven't had any complaints, and we've had inquiries about buying property for development.</i></p>		

SUPERFUND FIVE-YEAR REVIEW SITE SURVEY

Site Name: RSR Corporation Superfund Site

EPA ID No.: TXD079348397

Location: Dallas, Dallas County, TX

Date: 11 May 2010

Survey Questions (Continued)

3. Are you aware of any community concerns regarding the cleanup at the site or the operation and administration of the remediation?

No.

4. Are you aware of any events, incidents, or activities that have occurred at the site, such as dumping, vandalism, trespassing, or emergency response from local authorities? If so please provide details.

We've had trespassers on RSR property and we've had to repair fences.

5. Have there been any problems or difficulties encountered which impacted implementability, or required a change in O&M procedures?

No.

6. Please describe the current O&M staff activities, and the date of the current O&M plan. Are any updates to the O&M plan needed or anticipated?

Still following original O&M plan. We do annual inspections with EPA and the state(TCEQ) is invited, too. We note anything that may affect the covered areas. At other times, if we identify repairs needed immediately, we inform EPA and discuss them during inspection.

7. Do you have any comments, suggestions, or recommendations regarding the site, its management or operation?

No.

ATTACHMENT F – PUBLIC NOTICE

BERNARD HODES GROUP

220 East 42nd Street, 15th Floor, New York, NY 10017

PROOF OF INSERTION

Client: CH2MHILL

Publication: DALLAS AL DIA

Insertion Dates: Wed, Jun 30, 2010

IN75604

75604



Región 6 de la U.S. EPA Inicia su Segunda Revisión de Cinco Años de la Remediación del Sitio RSR Smelter junio del 2010



La Agencia de Protección Ambiental de los EEUU (EPA, por sus siglas en inglés) está llevando a cabo su segunda revisión de cinco años para el Sitio Superfund RSR Corporation ubicado en Dallas, Condado de Dallas, Texas. Esta revisión evaluará si la remediación continua protegiendo la salud humana y el ambiente.

El sitio RSR Corporation se localiza en el oeste de Dallas y tiene un tamaño aproximado de 13.6 millas cuadradas. La contaminación del sitio RSR proviene de la operación de una instalación secundaria de extracción de plomo que estuvo en funcionamiento por 50 años. Específicamente, la contaminación de RSR fue provocada por emisiones de aire pasadas desde una pila de extracción, residentes utilizaron los escombros de plomo y pedazos de recubrimiento de baterías como material de relleno en las entradas a sus casas y en sus patios, incluyendo dos áreas de disposición que fueron operadas como vertederos municipales.

A inicios del 1992, la EPA llevó a cabo una acción de respuesta de emergencia extensa en las áreas residenciales que rodean la extractora para remover el riesgo para los residentes que presenta el suelo contaminado y el material de relleno que se usó en los patios de residencias. La EPA y la compañía que estuvo involucrada en la desmantelación de la antigua instalación de extracción iniciaron las actividades de demolición en octubre del 2002. La EPA estableció requisitos estrictos de monitoreo de aire y fiscalizó de muy de cerca estas actividades.

La primera revisión de cinco años se completó el 29 de septiembre del 2005. El resultado de la primera revisión de cinco años determinó que la remediación protegió la salud humana y el ambiente, y continuará protegiendo siempre y cuando se lleven a cabo ciertas acciones, que incluyen el cumplimiento con los Controles Institucionales para mantener la integridad de las cubiertas y las tapas protectoras del suelo. Actualmente se está llevando a cabo esta revisión de cinco años que se espera se complete el 25 de septiembre del 2010 siguiendo el cronograma planificado.

Cuando se complete la segunda revisión de cinco años, los resultados estarán a disposición del público en el repositorio de información del sitio:

Dallas Public Library – West Dallas Branch
2332 Singleton Blvd.
Dallas, TX 75212

Los resultados también están disponibles en la página de Internet de la EPA:
http://www.epa.gov/earth/r6/6sf/6sf-5_year_reviews.htm.

Para obtener más información comuníquese con Philip Allen, EPA Gerente de Remediación del Sitio, o con Beverly Negri, Coordinadora de Participación Comunitaria de la Región 6 de la EPA llamando al 1.800.533.3508 (número de llamada gratis).

BERNARD HODES GROUP

220 E. 42 Street New York, NY 10017
(212) 999-9117

PROOF OF INSERTION

CLIENT: CH2MHILL

PUBLICATION: DALLAS MORNING NEWS

DATE: JULY, 1, 2010

IN

75599

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Description:
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Insertion Number: 1508470
Size: 6.75 x 3.5
Color Type: B&W

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dallasnews.com

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6B Thursday, July 1, 2010 C

REGION

dallasnews.com

The Dallas Morning News

DEAF-KIDS

Program began with one sandwich

Meatloaf's centers have offered after-school tutoring to over 1,000 in its 20 years

By ANNE K. KYLE
Staff Writer

"Real success is not measured by the number of people who come to the program," said...

It's the success of 200...

Spending in the only language...

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At 10:30 a.m. on Tuesday, July 1, 2010, during the 20th-anniversary celebration for the first day after school lunch program, the event was held at Our Lady of the Sacred Heart Church in Eastern, Texas. Many children were present, and the event was a success.

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ATTACHMENT G – MURMUR CORPORATION AOC



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JAN 10 2006

VIA CERTIFIED MAIL - RETURN RECEIPT #7001 0360 0003 6676 5367

Homer J. Kirby, President
Murmur Corporation
P.O. Box 224566
Dallas, Texas 75222 - 4566

Re: RSR Corporation Superfund Site, Dallas, Texas

Dear Mr. Kirby:

On November 30, 2005, the thirty (30) day comment period on the proposed settlement of the RSR Corporation Superfund Site expired. During that time-frame, the Environmental Protection Agency ("EPA") did not receive written comments on the proposed settlement, which EPA and the Department of Justice ("DOJ") previously approved. As such, the settlement is final.

Under Paragraph 60 of the final Administrative Order on Consent ("AOC"), EPA Docket Number 06-03-05, the date of this letter is the effective date for the AOC. Consistent with the terms and conditions provided in the enclosed AOC, the Reimbursement of Response Costs Section requires payment thirty (30) days from the effective date, or the date of this letter.

It has been a pleasure working with you, and I would like to thank you for making this settlement a success. If you have any questions please feel free to contact Barbara Aldridge at 214-665-2712, or me at 214-665-8030.

Sincerely yours

George Malone, III
Assistant Regional Counsel

Enclosure

cc: Sam Blesi, USDOJ
Albert Bronson, Texas Office of Attorney General
Rob Norris, TCEQ
Josh Sparks, Guaranty Bank
Gary L. Masters, Advancial Credit Union



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823887

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF:	§	ADMINISTRATIVE ORDER
	§	ON CONSENT
	§	
RSR CORPORATION SUPERFUND SITE	§	U.S. EPA Region 6
DALLAS, TEXAS	§	
	§	CERCLA Docket No. 6-03-05
MURMUR CORPORATION, AND	§	PROCEEDING UNDER SECTION
MURMUR LEASING CORP.,	§	122(h)(1) OF CERCLA
SETTLING PARTIES	§	42 U.S.C. § 9622(h)(1)

I. JURISDICTION

1. This Agreement is entered into pursuant to the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA") by Section 122(a), and (h)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9622 (a) and (h)(1), which authority has been delegated to the Regional Administrators of the EPA by EPA Delegation No. 14-14-D and further delegated to the Director, Superfund Division by R6-14-14-D (June 8, 2001). This Agreement is also entered into pursuant to the authority of the Attorney General of the United States to compromise and settle claims of the United States, which authority, in the circumstances of this settlement, has been delegated to the Chief of the Environmental Enforcement Section, Environment and Natural Resources Division, U.S. Department of Justice ("DOJ").

2. This Agreement is made and entered into by EPA and Murmur Corporation and Murmur Leasing Corporation ("Settling Parties"). Settling Parties consent to and will not contest the authority of the United States to enter into this Agreement or to implement or enforce its terms.

II. BACKGROUND

3. This Agreement concerns the RSR Corporation Superfund ("Site") located in Dallas, Texas. EPA alleges that the Site is a facility as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

4. In response to the release or threatened release of hazardous substances at or from the Site, EPA has undertaken and will undertake future response actions at the Site pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604.

5. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 29, 1995, 60 Fed. Reg. 50453.

6. The Site is an approximately 13.6 square mile area located in the city of Dallas, Texas. A secondary lead smelter located near the center of the Site operated from the early 1930s until it permanently ceased operation in 1984. Releases of hazardous substances, including, but not limited to, lead, cadmium, and arsenic, have occurred and may continue to occur at and from the smelter properties, from prior smelter and related operations, from prior air emissions from the smelter stack, from the use of battery chips and/or lead slag as fill in residential yards and driveways, and from the prior disposal of smelter material and byproducts at various locations at the Site.

7. Because of the large size of the Site, EPA has divided the Site into five Operable Units ("OUs"). OU No. 1 consists of privately owned residential properties and residential high risk areas (such as schools, churches, and day care centers) and is bounded on the north and east by the Trinity River, on the south by Ft. Worth Avenue and Davis Avenue, and on the west by State Highway Loop 12 ("Walton Walker Blvd.") and the Trinity River levee. OU No. 2 is an area owned by the Dallas Housing Authority for public residential housing and is bounded by Westmoreland Road to the west, Hampton Road to the east, Canada Drive to the north and Singleton Boulevard to the south. OU No. 3 consists of three distinct properties where smelter material and by-products were disposed, two of which are former City of Dallas landfills and one that was a lead slag and battery chip disposal area. OU No. 4 is the location of the former secondary lead smelter and support facilities located on the southeast side of the intersection of Westmoreland Road and Singleton Blvd. OU No. 5 is located across the street on the southwest side of the intersection of Westmoreland Road and Singleton Blvd., and is the location of former battery breaking and other activities associated with the secondary smelting activities.

8. As a result of the release or threatened release of hazardous substances, EPA and the State, as well as private parties, have undertaken response actions, as that term is defined in Section 101(25) of CERCLA, 42 U. S.C. § 9601(25), at or in connection with the Site. EPA and/or private parties will undertake response actions at the Site in the future.

9. As a result of a lawsuit brought by the City of Dallas and the Texas Air Control Board against RSR Corporation and a related company, Murph Metals, Inc. ("Murph") in 1983, RSR Corporation and Murph were required by court order to fund a cleanup of the residential community within one-half mile of the smelter. As a result, RSR Corporation and Murph entered into a CERCLA Administrative Order on Consent with EPA to perform and fund the cleanup. The cleanup was performed from 1984 through 1985 and required the removal and offsite disposal of soils in residential areas and public areas and day care centers located within the one-half mile boundary. The cleanup action conducted from 1984 through 1985 was based in part on recommendations made by the Center for Disease Control ("CDC") and was considered a protective and appropriate action at that time.

10. Concerns about lead contamination in the residential areas within OU Nos. 1 and 2 near the smelter re-emerged in 1991 when the Texas Commission on Environmental Quality ("TCEQ"), formerly known as the Texas Natural Resource Conservation Commission and, prior to that, as the Texas Water Commission, began receiving complaints from area residents about residual slag piles and battery chips allegedly originating from the smelter. The TCEQ requested that EPA re-evaluate the situation. Also in 1991, the CDC announced it was lowering its threshold level of concern for lead levels in children's blood. EPA soil sampling conducted in 1991 indicated that although particular residential areas addressed in the earlier cleanup did not require further action, other contaminated areas within OU No. 1 and 2 needed further response actions. Consequently, EPA initiated a removal action in OU No. 1 that resulted in the removal and offsite disposal of soils at 420 residential and residential high risk areas. On October 31, 1991, EPA and the Settling Parties entered into an Administrative Order on Consent, which allowed EPA to conduct removal activities on the Settling Parties property. The removal activities included the storage and consolidation of equipment and contaminated soil and debris.

11. Concurrent with this removal action begun at OU No. 1 in the 1990s, EPA conducted a remedial investigation and human health and ecological risk assessments to determine the nature and extent of contamination at the residential locations in OU No. 1. Based on the completion of the removal action at OU No. 1, the results of the studies, and after taking public comment, on May 9, 1995, EPA issued a remedial action Record of Decision ("ROD") for OU No. 1. The ROD for OU No. 1 set forth EPA's finding that no further CERCLA response action was necessary at residential and residential high risk (day care centers, etc.) locations in OU No. 1 to protect human health and the environment.

12. On August 9, 1993, EPA and the Dallas Housing Authority ("DHA") entered into a CERCLA Administrative Order on Consent ("AOC"). Under the AOC DHA performed (with the oversight and approval of EPA) a remedial investigation at OU No. 2, and conducted a removal action of contaminated soils and a demolition of approximately 167 buildings located on the southwest portion of OU No. 2. The AOC specified that DHA perform the removal and demolition activities in the same manner and in accordance with the Action Memoranda for EPA's removal action in OU No. 1. Concurrent with DHA's activities, EPA performed human health and ecological risk assessments. Based on the completion of the removal and demolition activities and the results of the remedial investigation and risk assessments for OU No. 2, EPA issued a ROD for OU No. 2 on May 9, 1995. The ROD for OU No. 2 set forth EPA's finding that no further CERCLA response action was necessary at OU No. 2 to protect human health and the environment.

13. On July 3, 1997, EPA published a Proposed Plan for OU No. 3 setting forth EPA's recommendation for remedial action at OU No. 3. This OU was composed of three distinct properties where smelter slag and battery chips were deposited, two of which were former City of Dallas landfills (referred to in the Proposed Plan as Sites 3 and 4), and one that was a lead slag and battery chip disposal area (referred to in the Proposed Plan as Site 1). After review and

response to public comments, on September 30, 1997, EPA issued a ROD for OU No. 3 setting forth EPA's remedial action decision for OU No. 3. EPA's selected remedial action for Site 1 of OU No. 3 generally included excavation and removal of slag, battery chips, and metals--contaminated soils and sediments exceeding cleanup goals, and disposal of the excavated material in an appropriate landfill off site. EPA's selected remedial action for Site 3 of OU No. 3 generally included containment of portions of the landfill where exposed slag, battery chips, and metals-contaminated soil exceeding cleanup goals were present. EPA's selected remedial action for Site 4 of OU No. 3 generally included containment of portions of the landfill where exposed slag, battery chips, or metals-contaminated soil exceeding cleanup goals were present; removal of surface contamination in Jaycee Park; placement of non-hazardous material in the contained area of Site 4; and disposal of hazardous material off site.

14. On December 22, 1994, EPA signed an Action Memorandum for the conduct of a non-time critical removal action at OU Nos. 4 and 5. EPA based its decision on an Engineering Evaluation/Cost Analysis Report issued for public notice and comment on September 16, 1994. EPA conducted the removal action at OU Nos. 4 and 5 from May 1995 to July 1995. The action included the removal of 600 drums of waste material, 90 debris piles, and 60 laboratory containers present inside and outside of the structures and buildings at OU Nos. 4 and 5.

15. On May 10, 1995, EPA published a Proposed Plan for OU No. 4 setting forth EPA's recommendation for remedial action at OU No. 4, the former smelter facility. After review and response to public comments, on February 28, 1996, EPA issued a ROD for OU No. 4 setting forth EPA's remedial action decision for OU No. 4. EPA's selected remedial action for OU No. 4 generally included the demolition and decontamination of all buildings, structures, and pavements located on OU No. 4; appropriate disposal of the demolition debris; excavation of up to two feet of soils in the unpaved area and one foot under the paved area contaminated in excess of cleanup action levels; and backfilling excavated areas of the site with two feet of clean soil. Remedial action activities commenced in October 2000, and construction completion occurred in October 2001.

16. On June 18, 1996, EPA published a Proposed Plan for OU No. 5 setting forth EPA's recommendation for remedial action at OU No. 5. After review and response to public comments, on April 3, 1997, EPA issued a ROD for OU No. 5 setting forth EPA's remedial action decision for OU No. 5. EPA's selected remedial action for OU No. 5 generally included the decontamination of buildings present at OU No. 5; the demolition of the former battery wrecking building and off-site disposal of the resulting debris; and containment of the areas with contaminated soils. The remedial action work started in June 2004, and concluded with a final inspection on September 14, 2004.

17. EPA prepared Administrative Records for the final remedial decisions issued for the Site. Per certified EPA cost documentation, EPA incurred Past Response Costs at or in connection with the RSR Site in the total amount of \$33,479,975.65, through June 30, 2002.

18. On May 29, 1998, the United States filed a Complaint in United States of America v. Commercial Metals Company, et al., Civil Action No. 3-98CV1265-X (N.D. Tex.), alleging there were releases or threatened releases of hazardous substances at the RSR Site; asserting the defendants ("Commercial Metals Defendants") were jointly and severally liable under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607; requesting that the defendants perform response actions at the RSR Site; and seeking the reimbursement of response costs incurred by the United States in connection with the RSR Site. Simultaneous with the filing of the Complaint, the United States also lodged a Consent Decree with the Court which ultimately resolved the claims against the Commercial Metals Defendants. On May 29, 1998, the State of Texas filed a complaint in State of Texas v. Commercial Metals Company, et al., Civil Action No. 3-98CV1259-X (N.D. Tex.) ("the State Action") alleging there were releases or threatened releases of hazardous substances at the RSR Site; asserting the defendants in the State Action were jointly and severally liable under Section 107 of CERCLA, 42 U.S.C. § 9607; and seeking the reimbursement of response costs incurred by the State in connection with the RSR Site. Simultaneous with the filing of the Complaint, the State also lodged a consent Decree with the Court which resolved the claims against the defendants in the State Action.

19. On September 21, 1999, the United States filed a Complaint in United States of America v. Eagle-Picher Industries, Inc., and Exide Corporation, Civil Action No. 3-99CV2140-T (N.D. Tex.), alleging there was releases or threatened releases of hazardous substances at the RSR Site; asserting that Eagle-Picher Industries, Inc. ("Eagle-Picher") and Exide Corporation ("Exide") were jointly and severally liable under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607; requesting the defendants to perform response actions at the RSR Site; and seeking the reimbursement of response costs incurred by the United States in connection with the RSR Site. Simultaneous with the filing of the Complaint, the United States also lodged Consent Decrees with the Court which ultimately resolved the claims against Eagle-Picher and Exide. The Consent Decree with Eagle-Picher in United States of America v. Eagle-Picher Industries, Inc., and Exide Corporation, Civil Action No. 399CV2140-T (N.D. Tex.), was entered on January 25, 2000. Under the terms of the Consent Decree with Eagle-Picher, the United States has an Allowed General Unsecured Claim for the RSR Site in the amount of \$2, 100,000. Eagle-Picher will make payments and distributions in accordance with Eagle-Picher's confirmed plan of reorganization and consistent with its Bankruptcy Settlement Agreement. Under the terms of the Consent Decree with Exide in United States of America v. Eagle-Picher Industries, Inc., and Exide Corporation, Civil Action No. 3-99CV2140-T (N.D. Tex.), Exide agreed to pay the United States \$450,000.

20. The Consent Decree with the Commercial Metals Defendants in United States of America v. Commercial Metals Company, et al., Civil Action No. 3-98CV1265-X (N.D. Tex.), was entered on June 21, 2000. Under the terms of the Consent Decree, the Commercial Metals Defendants agreed to perform the remedial action for OU No. 4 of the RSR Site, and reimburse the United States for certain oversight costs. In October 2000, the Commercial Metals Defendants commenced remedial action activities. Field construction activities were completed in October 2001. The remedial action final inspection was conducted on November 6, 2001, and

the Remedial Action Report was approved by EPA on December 20, 2001. The Consent Decree with the defendants in the State Action was entered on December 14, 1998. Under the terms of the Consent Decree, the defendants in the State Action paid the State of Texas \$250,000 in Past Response Costs.

Another Consent Decree was also entered for the RSR Corporation Superfund Site. A Consent Decree between the United States, the State of Texas, and Quemetco Metals Limited, Inc., ("RSR Corporation Defendants") et al., Civil Action No. 3-01CV0924-D (N.D. Tex.), was entered on July 21, 2003. The Consent Decree required the RSR Corporation Defendants to conduct nearly all of the remaining remedial action for OU No. 3, and Subareas 2, 3, and 4 of OU No. 5. The remedial action work started in June 2004, and concluded with a final inspection on September 14, 2004. Per the Consent Decree, the RSR Corporation Defendants work obligations were valued at \$11,600,000. The Consent Decree also required the RSR Corporation Defendants to reimburse the United States EPA a total of \$13,250,000, plus interest in response costs. The State of Texas reimbursement totals \$870,000, plus interest.

21. Settling Parties have made available to the United States, privileged and confidential information concerning its financial position; its financial resources; its property and other asset ownership; and its insurance contracts; and warrants that such information was true and correct at the time it was provided. The United States has substantially relied on this information in entering into this Order.

22. Settling Parties currently own portions of the Site, including all or portions of OU 4 and OU 5 (in particular Subarea 1), where hazardous substances have been deposited, stored, disposed of, placed, or otherwise come to be located. Settling Parties have owned these portions of the Site since May 26, 1984. The property is currently zoned to include commercial and light industrial uses.

23. In performing response actions at the Site, EPA incurred response costs consistent with Paragraph 17 of this Order, and may incur additional response costs in the future.

24. EPA alleges that Settling Parties are responsible parties pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and are jointly and severally liable for response costs incurred and which may be incurred at the Site.

25. EPA has reviewed the recent Financial Information submitted by Settling Parties to determine whether Settling Parties are financially able to pay response costs incurred and to be incurred at the Site. Based upon this Financial Information, EPA has determined that Settling Parties have no financial resources to pay response costs beyond that which is contained in Settling Parties' financial assurance trust fund established in 1988 pursuant to an Agreed Final Judgment in *State of Texas v. Murmur Corp. et al.* (Dist. Ct., Dallas County, No. 85-14661-F). The Settling Parties have no other means of paying the amount specified in this Agreement except by transfer of this trust fund in the amount specified in section VI (Reimbursement of

Response Costs) to EPA. The State of Texas consents to the transfer of the proceeds of this fund to EPA.

26. EPA and Settling Parties recognize that this Agreement has been negotiated in good faith and that this Agreement is entered into without the admission or adjudication of any issue of fact or law. The actions undertaken by Settling Parties in accordance with this Agreement do not constitute an admission of any liability. Settling Parties do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Agreement, the validity of the facts or allegations contained in this Section.

III. PARTIES BOUND

27. This Agreement shall be binding upon EPA and upon Settling Parties and their successors and assigns. Any change in ownership or corporate or other legal status of Settling Parties, including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Settling Parties' responsibilities under this Agreement. Each signatory to this Agreement certifies that he or she is authorized to enter into the terms and conditions of this Agreement and to bind legally the party represented by him or her.

IV. STATEMENT OF PURPOSE

28. By entering into this Agreement, the mutual objective of the Parties is to avoid difficult and prolonged litigation by allowing Settling Party to make a cash payment to resolve its alleged civil liability under Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for injunctive relief with regard to the Site and for response costs incurred and to be incurred at or in connection with the Site, subject to the reservations of rights included in Section IX (Reservations of Rights by EPA). In addition, the Settling Parties agree to utilize best efforts to implement land use controls, including deed restrictions filed with the Dallas County Clerk or Deputy County Clerk, necessary to ensure the protectiveness of the remedies in place for property owned by the Settling Parties. The Respondent shall notify EPA within fifteen (15) days of filing deed restrictions with the Dallas County Clerk or Deputy County Clerk Recording Division.

V. DEFINITIONS

29. Unless otherwise expressly provided herein, terms used in this Agreement which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Agreement or in any appendix attached hereto, the following definitions shall apply:

a. "Agreement" shall mean this Agreement and any attached appendices. In the event of conflict between this Agreement and any appendix, the Agreement shall control.

b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, *et seq.*

c. "Day" shall mean a calendar day. In computing any period of time under this Agreement, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

d. "EPA" shall mean the United States Environmental Protection Agency and any successor departments, agencies, or instrumentalities of the United States.

e. "Financial Information" shall mean those financial documents identified in Appendix A.

f. "Interest" shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

g. "Paragraph" shall mean a portion of this Agreement identified by an arabic numeral or a lower case letter.

h. "Parties" shall mean EPA and Settling Parties.

i. "Property" shall mean that portion of the Site that is owned by Settling Parties as of January 2005. The Property consists of three separate tracts, of which Tract 1 is the old RSR Corporation Smelter, Tract 2 is the present location of the Murrum Corporation, and Tract 3 is the old battery breaking area previously operated by the RSR Corporation. Tract 1 is separated from Tracts 2, and 3 by Westmoreland Road. Tract 1 lies on the southeast corner of Singleton Boulevard and Westmoreland Road. Tracts 2 and Tract 3 are located on the southwest corner of Singleton Boulevard and Westmoreland Road. Tract 1 is more particularly described in the John C. Reed Survey, Abstract No. 1186, Dallas County, and is located in the City of Dallas, Texas, Block 7224. Tract 2 is more particularly described in the Thacker V. Griffin Survey, Abstract No. 511, Dallas County, and is located in the City of Dallas, Texas, Block 7223. Tract 3 is more particularly described in the Thacker V. Griffin Survey, Abstract No. 511, Dallas County, and is located in the City of Dallas, Texas, Block 7219.

j. "Section" shall mean a portion of this Agreement identified by a roman numeral.

k. "Settling Parties" shall mean Murrum Corporation and Murrum Leasing Corporation.

l. "Site" shall mean the RSR Corporation Superfund site located in Dallas, Texas.

m. "United States" shall mean the United States of America, including its departments, agencies, and instrumentalities.

VI. REIMBURSEMENT OF RESPONSE COSTS

30. Within 30 days of the effective date of this Agreement as defined by Paragraph 59, Settling Parties shall pay to the EPA Hazardous Substance Superfund \$278,273.00. The above payment originates from the Settling Parties post-closure trust (clean-up trust fund) set forth in the January 11, 1988, Agreed Final Judgment, *State of Texas v. Murmur Corp. et. al.* (Dist. Ct., Dallas County, No. 85-14661-F). The \$278,273.00 will contribute to the cleanup and maintenance of the Site, and result in the dissolution of the Settling Parties clean-up trust fund. Payment shall be made by Electronic Funds Transfer ("EFT") in accordance with current EFT procedures to be provided to Settling Parties by EPA Region 6 and shall be accompanied by a statement identifying the name and address of Settling Parties, the Site name, the EPA Region and Site/Spill ID # 7K/6R, and the EPA docket number for this action.

At the time of payment, Settling Parties shall also send notice that such payment has been made to:

Chief, Cost Recovery Section (6SF-AC)
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave.
Dallas, TX 75202-2733

31. The total amount to be paid pursuant to Paragraph 30 shall be deposited in the existing RSR Corporation Superfund Site Special Account (Special Account 066S) within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site. Any balance remaining in the RSR Corporation Superfund Site Special Account (Special Account 066S) shall be transferred by EPA to the EPA Hazardous Substance Superfund.

VII. INSTITUTIONAL CONTROLS

32. The Settling Parties agree to utilize best efforts to assign and implement land and shallow groundwater use controls, including deed restrictions filed with the Dallas County Clerk or Deputy County Clerk, necessary to ensure the protectiveness of the remedies in place for property owned by the Settling Parties. The land and shallow groundwater use controls include the prohibition of the Settling Parties from taking any action (e.g., invasive digging, unsafe site development or drilling) that would disturb the shallow groundwater or cap in place on the Settling Parties property. The Settling Defendants shall file/record a deed notice, which includes the land use controls identified herein, with the Dallas County Clerk or Deputy County Clerk Recording Division, State of Texas. The deed notice shall also include the settlement agreement CERCLA Docket Number, the date of the settlement agreement, the responsible EPA Regional Office, and the parties to the settlement agreement. The deed notice shall also specify that the property is part of the remedy selected for the RSR Corporation Superfund Site, Operable Unit No. 4 and Subarea 1 of Operable Unit No. 5, and the property is subject to the land use restrictions provided in this settlement agreement.

Within fifteen (15) days from the effective date of this settlement agreement, the Settling Defendants shall submit to EPA for review and approval, a deed notice to be filed/recorded with the Dallas County Clerk or Deputy County Clerk Recording Division, State of Texas, which shall provide notice to all successors-in-title that the property is part of remedy selected for the RSR Corporation Superfund Site, Operable Unit No. 4 and Subarea 1 of Operable Unit No. 5, and the property is subject to the shallow groundwater and land use restrictions provided in this settlement agreement. The Settling Defendants shall file/record the deed notice within ten (10) days after EPA approves the notice. The Settling Defendants shall provide EPA a certified copy of the recorded deed notice within ten (10) days of recording such notice.

VIII. FAILURE TO COMPLY WITH AGREEMENT

33. If Settling Parties fail to make any payments under Paragraphs 30 and 31 by the required due dates, interest shall continue to accrue on the unpaid balance through the date of payment.

34. If any amounts due under Paragraphs 30 and 31 are not paid by the required dates, Settling Parties shall be in violation of this Agreement and shall pay, as a stipulated penalty, in addition to the Interest required by Paragraph 30, \$5,000 per violation per day that such payment is late.

35. Stipulated penalties are due and payable within thirty (30) days of the date of demand for payment of the penalties. All payments under this Paragraph shall be identified as "stipulated penalties" and shall be made by certified or cashier's check made payable to "EPA Hazardous Substance Superfund." The check, or a letter accompanying the check, shall reference the name and address of Settling Parties, the Site name, the EPA Region and Site/Spill ID #7K/6R, and the EPA docket number for this action, and shall be sent to:

EPA Superfund-RSR Corporation Superfund Site (066S)
Superfund Accounting
P.O. Box 371099M
Pittsburgh, Pennsylvania 15251
ATTN: COLLECTION OFFICER FOR SUPERFUND

At the time of each payment, Settling Parties shall also send notice that such payment has been made to:

Chief, Cost Recovery Section (6SF-AC)
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave.
Dallas, TX 75202-2733

36. Penalties shall accrue as provided above regardless of whether EPA has notified

Settling Parties of the violation or made a demand for payment but need only be paid upon demand. All penalties shall begin to accrue on the day after payment is due and shall continue to accrue through the date of payment. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Agreement.

37. In addition to the Interest and Stipulated Penalty payments required by this Section and any other remedies or sanctions available to the United States by virtue of Settling Parties' failure to comply with the requirements of this Agreement, if Settling Parties fail or refuse to comply with any term or condition of this Agreement, it shall be subject to enforcement action pursuant to Section 122(h)(3) of CERCLA, 42 U.S.C. § 9622(h)(3). If the United States brings an action to enforce this Agreement, Settling Parties shall reimburse the United States for all costs of such action, including, but not limited to, costs of attorneys.

38. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive payment of any portion of the stipulated penalties that have accrued pursuant to this Agreement. Settling Parties' payment of stipulated penalties shall not excuse Settling Parties from payments as required by Paragraph 30 or from performance of any other requirements of this Agreement.

IX. COVENANT NOT TO SUE BY EPA

39. Except as specifically provided in Section X ("Reservations of Rights by EPA"), EPA covenants not to sue or to take administrative action against Settling Parties pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), with regard to the Site. With respect to present and future liability, this covenant shall take effect upon receipt by EPA of all amounts required by Section VI ("Reimbursement of Response Costs") and any amount due under Section VIII ("Failure to Comply with Agreement"). This covenant not to sue is conditioned upon the satisfactory performance by Settling Parties of their obligations under this Agreement. This covenant not to sue is also conditioned upon the veracity and completeness of the Financial Information provided to EPA by Settling Parties. If the Financial Information is subsequently determined by EPA to be false or, in any material respect, inaccurate, Settling Parties shall forfeit all payments made pursuant to this Agreement, and the covenant not to sue shall be null and void. Such forfeiture shall not constitute liquidated damages and shall not in any way foreclose EPA's right to pursue any other causes of action arising from Settling Parties' false or materially inaccurate information. This covenant not to sue extends only to Settling Parties and does not extend to any other person.

In addition, subject to the Reservation of Rights in Section X of this Agreement, EPA agrees to remove the lien it may have on the Settling Parties property. EPA will remove any CERCLA Section 107(l), 42 U.S.C. § 9607(l), lien it may have on the Settling Parties property as defined herein, only upon the Settling Parties payment of the amount specified in Section VI, Reimbursement of Response Costs, of this Agreement.

X. RESERVATIONS OF RIGHTS BY EPA

40. EPA reserves, and this Agreement is without prejudice to, all rights against Settling Parties with respect to all matters not expressly included within the Covenant Not to Sue by EPA in Paragraph 39. Notwithstanding any other provision of this Agreement, EPA specifically reserves all rights against Settling Parties with respect to:

- a. Liability for failure of the Settling Parties to meet a requirement of this Agreement;
- b. Criminal liability;
- c. Liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- d. Liability, based upon operation of the Site, or upon the transportation, treatment, storage, or disposal, or the arrangement for the transportation, treatment, storage, or disposal, of a hazardous substance or a solid waste at or in connection with the Site, after signature of this Agreement by Settling Parties;
- e. Liability arising from the past, present, or future disposal, release or threat of release of a hazardous substance, pollutant, or contaminant outside of the Site; and
- f. Liability for failure of the Settling Parties to implement land use controls to ensure the protectiveness of the remedies in place for property owned by the Settling Parties.

41. Notwithstanding any other provision of this Agreement, EPA reserves, and this Agreement is without prejudice to, the right to reinstitute or reopen this action or to commence a new action seeking relief other than as provided in this Agreement if the Financial Information provided by Settling Parties or the financial certification made by Settling Party in Paragraph 56(d) is false or, in an material respect, inaccurate.

42. Nothing in this Agreement is intended to be nor shall it be construed as a release, covenant not to sue, or compromise of any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which EPA may have against any person, firm, corporation, or other entity not a signatory to this Agreement.

XI. COVENANT NOT TO SUE BY SETTLING PARTIES

43. Settling Parties agree not to assert any claims or causes of action against the United States, its contractors, or its employees, with respect to the Site or this Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claims arising out of response activities at the Site; and

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Site.

44. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. 300.700(d).

45. Settling Parties agree not to assert any claims or causes of action that it may have for all matters relating to the Site, including for contribution, against any other person.

XII. EFFECT OF SETTLEMENT/CONTRIBUTION PROTECTION

46. Except as provided in Paragraph 45, nothing in this Agreement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Agreement. EPA reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action that it may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto.

47. The Parties agree that Settling Parties are entitled, as of the effective date of this Agreement, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Agreement. The "matters addressed" in this Agreement are all response actions taken or to be taken and all response costs incurred or to be incurred, at or in connection with the Site, by the United States or any other person.

48. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Parties shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, *res judicata*, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been addressed in this Agreement, provided, however, that nothing in this Paragraph affects the enforcement of the covenant not to sue set forth in Paragraph 43.

XIII. SITE ACCESS

49. Commencing upon the effective date of this Agreement, Settling Parties agree to provide EPA and its representatives and contractors access at all reasonable times to the Site and to any other property owned or controlled by Settling Parties to which access is determined by EPA to be required for the implementation of this Agreement, or for the purpose of conducting any response activity related to the Site, including but not limited to:

- a. Monitoring, investigation, removal, remedial or other activities at the Site;
- b. Verifying any data or information submitted to EPA;
- c. Conducting investigations relating to contamination at or near the Site;
- d. Obtaining samples;
- e. Assessing the need for, planning, or implementing response actions at or near the Site; and
- f. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Parties or its agents, consistent with Section XIV (Access to Information).

50. Notwithstanding any provision of this Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA and any other applicable statutes or regulations.

XIV. ACCESS TO INFORMATION

51. Settling Parties shall provide to EPA, upon request, copies of all documents and information within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Site.

52. Confidential Business Information and Privileged Documents.

a. Settling Parties may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be accorded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified

Settling Parties that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to Settling Parties.

b. Settling Parties may assert that certain documents or information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Parties asserts such a privilege in lieu of providing documents or information, it shall provide EPA with the following: (1) the title of the document or information; (2) the date of the document or information; (3) the name and title of the author of the document or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document or information; and (6) the privilege asserted. However, no documents or information created or generated pursuant to the requirements of this or any other judicial or administrative settlement with the United States shall be withheld on the grounds that they are privileged. If a claim of privilege applies only to a portion of a document or information, the document or information shall be provided to EPA in redacted form to mask the privileged portion only. Settling Parties shall retain all documents or information that it claims to be privileged until EPA has had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in Settling Parties' favor.

53. No claim of confidentiality shall be made with respect to any data, including but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XV. RETENTION OF RECORDS

54. For twenty (20) years subsequent to the effective date of this Agreement, Settling Party shall preserve and retain all documents or information now in its possession or control, or which come into its possession or control, that relate in any manner to response actions taken at the Site or to the liability of any person for response actions or response costs at or in connection with the Site, regardless of any corporate retention policy to the contrary.

55. After the conclusion of the document retention period in the preceding paragraph, Settling Parties shall notify EPA at least ninety (90) days prior to the destruction of any such documents or information, and, upon request by EPA, Settling Parties shall deliver any such documents or information to EPA. Settling Parties may assert that certain documents or information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Parties assert such a privilege, it shall provide EPA with the following: (1) the title of the document or information; (2) the date of the document or information; (3) the name and title of the author of the document or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document or information; and (6) the privilege asserted. However, no documents or information created or generated pursuant to the requirements of this or any other judicial or administrative settlement with the United States

shall be withheld on the grounds that they are privileged. If a claim of privilege applies only to a portion of a document or information, the document or information shall be provided to EPA in redacted form to mask the privileged portion only. Settling Parties shall retain all documents or information that it claims to be privileged until EPA has had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in Settling Parties' favor.

XVI. CERTIFICATION

56. By signing this Agreement, Settling Parties certify that, to the best of its knowledge and belief, it has:

a. conducted a thorough, comprehensive, good faith search for documents or information, and has fully and accurately disclosed to EPA, all documents or information currently in its possession, or in the possession of its officers, directors, employees, contractors or agents, which relates in any way to the ownership, operation or control of the Site, or to the ownership, possession, generation, treatment, transportation, storage, or disposal of a hazardous substance, pollutant, or contaminant at or in connection with the Site;

b. not altered, mutilated, discarded, destroyed, or otherwise disposed of any documents or information relating to its potential liability regarding the Site after notification of potential liability or the filing of a suit against it regarding the Site;

c. fully complied with any and all EPA requests for documents or information regarding the Site and Settling Parties' financial circumstances pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e); and

d. submitted to EPA Financial Information that fairly, accurately, and materially sets forth its financial circumstances, and that those circumstances have not materially changed between the time the Financial Information was submitted to EPA and the time Settling Parties execute this Agreement.

XVII. NOTICES AND SUBMISSIONS

57. Whenever, under the terms of this Agreement, notice is required to be given or a document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Party in writing. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of this Agreement with respect to EPA and Settling Parties.

As to EPA:

Chief, Cost Recovery Section, 6SF-AC
United States Environmental Protection Agency
1445 Ross Ave.
Dallas, TX 75202

As to Settling Parties:

Homer Kirby, President
Murmur Corporation
P.O. Box 224566
Dallas, Texas 75222-4566

Homer Kirby, President
Murmur Leasing Corporation
P.O. Box 224566
Dallas, Texas 75222-4566

XVIII. INTEGRATION/APPENDICES

58. This Agreement and its appendices constitute the final, complete, and exclusive agreement and understanding between the Parties with respect to the settlement embodied in this Agreement. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Agreement. The following appendices are attached to and incorporated into this Agreement:

Appendix A is a list of the financial documents submitted to EPA by Settling Parties.

XIX. PUBLIC COMMENT

59. This Agreement shall be subject to a public comment period of not less than thirty (30) days pursuant to Section 122(i) of CERCLA, 42 U.S.C. § 9622(i). In accordance with Section 122(i)(3) of CERCLA, the United States may modify or withdraw its consent to this Agreement if comments received disclose facts or considerations which indicate that this Agreement is inappropriate, improper, or inadequate.

XX. EFFECTIVE DATE

60. The effective date of this Agreement shall be the date upon which EPA issues written notice that the public comment period pursuant to Paragraph 59 has closed and that comments received, if any, do not require modification of or withdrawal by the United States

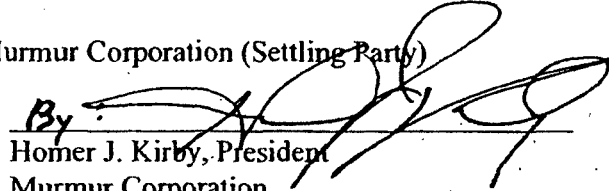
from this Agreement. EPA shall provide the Settling Parties with a copy of the written notice described in this paragraph.

The Undersigned Party enters into this Administrative Order on Consent, CERCLA Docket No. 6-03-05, in the matter of RSR Corporation Superfund Site.

The undersigned representative of the Settling Parties certifies that he is fully authorized to enter into the terms and conditions of this Order and to bind the party he represents to this document.

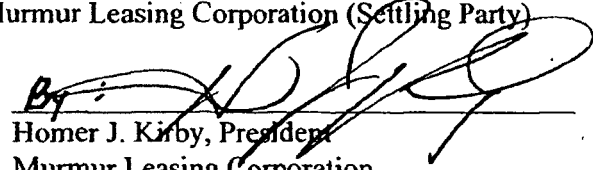
Agreed this 15th day of SEPT. 2005.

For: Murmur Corporation (Settling Party)

By: 
Homer J. Kirby, President
Murmur Corporation
P.O. Box 224566
Dallas, Texas 75222-4566

Agreed this 15th day of SEPT. 2005.

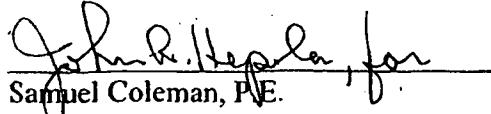
For: Murmur Leasing Corporation (Settling Party)

By: 
Homer J. Kirby, President
Murmur Leasing Corporation
P.O. Box 224566
Dallas, Texas 75222-4566

The Undersigned Party enters into this Administrative Order on Consent, CERCLA Docket No. 6-03-05, in the matter of RSR Corporation Superfund Site.

It is so ORDERED and AGREED this 28 day of SEPTEMBER 2005.

For: United States Environmental Protection Agency


Samuel Coleman, P.E.
Superfund Division Director, Region 6
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202 - 2733

Appendix A
Financial Documents Submitted by Settling Parties

MURMUR
C O R P O R A T I O N

12 OCT. 04

VIA FAX TO: 214.665.6460

George Malone, III, Esq.
Office of Regional Counsel
U.S.E.P.A. - Region 6
Dallas, TX.

Re: RSR Corp. Superfund Site, Dallas, TX.

Per your request today, enclosed, copy of most recent statements
from Advancial and Guaranty reflecting at least \$278,273. in
Murmur's Trust Accounts.



Homer Kirby

MESSAGE IS THREE (3) PAGES INCLUDING THIS PAGE.

OCT 13 2004



ADVANCIAL

1845 Woodall Rodgers Fwy., Ste. 1308
Dallas, TX 75201-2260
Forwarding Service Requested

STATEMENT

STATEMENT DATE
09-30-04

3

MURNUR CORP TRUST
PO BOX 224566
DALLAS TX 75222-4566



6026/4332

Account 54539

Page 1 of 1

IMPORTANT INFORMATION REGARDING CHECKING ACCOUNTS

CHECK 21 LAW EFFECTIVE OCTOBER 28, 2004

Check 21 will reduce the amount of time it takes for a check to clear your account from days to hours. You cannot rely on "float" anymore so it is important to consider whether or not you need to change your checking habits to avoid potential fees due to insufficient balances.

For more information on Check 21, please contact us or log onto www.advancial.org.

Share 1 Regular Share

Eff date	Post	Transaction Description	Amount	Balance
08-31-04		Previous Balance		145703.85
08-30-04		Deposit Dividend	385.62	146089.47
		Annual Percentage Yield Earned 1.05% for 92 Days		
09-30-04		New Balance		146089.47

DIVIDENDS DECLARED FOR THIS STATEMENT ARE AS FOLLOWS			YIELD	RATE
REGULAR SHARES	\$ 100.00	AND GREATER	1.05%	1.05%
SHARE DRAFT	.01	AND GREATER	0.51%	0.51%
IRA SHARES	25.00	AND GREATER	1.26%	1.25%

** IF YOU HAVE AN IRA, THIS STATEMENT REFLECTS YOUR FAIR MARKET VALUE. **

214 880 0111 800 322 2709

214 890 9561

www.advancial.org

NCUA





**MONEY MARKET ACCOUNT
STATEMENT OF ACCOUNT ACTIVITY**

Page 1 of 1
1030

Account Number 5-5014864
08-12-04 to 09-13-04

MURMUR CORPORATION
CONSOLIDATED FEDERAL BANK TRUSTEE
PO BOX 224566
DALLAS TX 75222-4566

*Call Money Line for 24-Hour Account Information and
Customer Service Inquiries 1-800-288-8822*

Summary of your MONEY MARKET ACCOUNT

Beginning balance	\$ 132,065.37	Days in period	33
Deposits	+ .00	APY Earned/Period	1.00%
Other credits	+ .00	Interest Earned/Period	\$ 119.08
Interest paid	+ 119.08	Interest paid YTD	\$ 924.55
Other withdrawals	- .00	Minimum Balance/Period	\$ 132,065
Account fees	- .00	Avg Daily Balance/Per	\$ 132,068
Service charges	- .00		
Ending balance	\$ 132,184.45		

Guaranty Bank News

*Tell your friend about Guaranty Bank and if they open a new
checking account you both get a free gift! Visit Guaranty or
call 1-800-288-8822 today. Member FDIC.*

Deposits and Other Credits:

Date	\$ Amount	Description
09-13	119.08	Interest paid

Deposits:	\$.00
Other credits:	\$.00
Interest paid:	\$ 119.08
Total:	\$ 119.08

Daily Balance:

Date	\$ Amount	Date	\$ Amount	Date	\$ Amount
08-11	132,065.37	09-13	132,184.45		

Interest Rate Summary

Required Balance	0	2,000	10,000	50,000
Effective 08-11-04	0.500%	0.750%	1.000%	1.000%

U.S. Income Tax Return for an S Corporation

Do not file this form unless the corporation has timely filed
Form 2553 to elect to be an S corporation.
See separate instructions.

OMB No. 1545-0130

2003

For calendar year 2003, or tax year beginning , 2003, and ending

A Effective date of election as an S corporation 01/01/01	Use the IRS label. Otherwise, print or type.	Name MURMUR CORPORATION	C Employer identification number 75-1783662
B Business code number (see instructions) 332110		Number, street, and room or suite no. (If a P.O. box, see instructions) 2823 N WESTMORELAND	D Date incorporated 09/28/81
		City or town State ZIP code DALLAS TX 75212-4828	E Total assets (see instructions) \$ 1,464,164.

F Check applicable boxes: (1) ☐ Initial return (2) ☐ Final return (3) ☐ Name change (4) ☐ Address change (5) ☐ Amended return
G Enter number of shareholders in the corporation at end of the tax year **1**

Caution: Include only trade or business income and expenses on lines 1a through 21. See the instructions for more information.

INCOME	1 a Gross receipts or sales 1,259,058.	b Less returns and allowances 15,282.	c Bal 1,243,776.	
	2 Cost of goods sold (Schedule A, line 8)		2 940,902.	
	3 Gross profit. Subtract line 2 from line 1c		3 302,874.	
	4 Net gain (loss) from Form 4797, Part II, line 18 (attach Form 4797)		4	
	5 Other income (loss) (attach schedule) See Other Income (Loss)		5 3,178.	
	6 Total income (loss). Add lines 3 through 5		6 306,052.	
DEDUCTIONS	7 Compensation of officers		7 87,772.	
	8 Salaries and wages (less employment credits)		8 94,750.	
	9 Repairs and maintenance		9 365.	
	10 Bad debts		10	
	11 Rents		11	
	12 Taxes and licenses		12 17,943.	
	13 Interest		13 16,184.	
	14 a Depreciation (Attach Form 4562)	14a 5,639.		
	b Depreciation claimed on Schedule A and elsewhere on return	14b 4,436.		
	c Subtract line 14b from line 14a		14c 1,203.	
	15 Depletion (Do not deduct oil and gas depletion.)		15	
SEE INSTRUCTIONS	16 Advertising		16	
	17 Pension, profit-sharing, etc., plans		17	
	18 Employee benefit programs		18 4,850.	
	19 Other deductions (attach schedule) See Other Deductions		19 48,819.	
	20 Total deductions. Add the amounts shown in the far right column for lines 7 through 19		20 271,886.	
	21 Ordinary income (loss) from trade or business activities. Subtract line 20 from line 6		21 34,166.	
	TAX AND PAYMENTS	22 Tax: a Excess net passive income tax (attach schedule)	22a	
		b Tax from Schedule D (Form 1120S)	22b	
		c Add lines 22a and 22b (see instructions for additional taxes)		22c
		23 Payments: a 2003 estimated tax payments and amount applied from 2002 return	23a	
		b Tax deposited with Form 7004	23b	
	c Credit for Federal tax paid on fuels (attach Form 4136)	23c		
	d Add lines 23a through 23c		23d	
24 Estimated tax penalty (See instructions). Check if Form 2220 is attached		24		
25 Tax due. If line 23d is smaller than the total of lines 22c and 24, enter amount owed		25		
26 Overpayment. If line 23d is larger than the total of lines 22c and 24, enter amount overpaid		26		
27 Enter amount of line 26 you want: Credited to 2004 estimated tax Refunded		27		

Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Signature of officer **06 FEB 04** President

May the IRS discuss this return with the preparer shown below (see instructions)?

☒ Yes ☐ No

Paid Preparer's Use Only

Preparer's signature **Garland Head Jr. CPA PC** Date **2/5/04** Check if self-employed ☒
Firm's name (or yours if self-employed), address, and ZIP code **5447 Glenwick Ln. Dallas TX 75209**
Preparer's SSN or PTIN **460-54-4939** EIN **75-2691987** Phone no. **(214) 357-5008**

BAA For Paperwork Reduction Act Notice, see separate instructions.

SPSA0112 08/20/03 Form 1120S (2003)

COPY

Schedule A Cost of Goods Sold (see instructions)

1	Inventory at beginning of year	1	70,967.
2	Purchases	2	625,673.
3	Cost of labor	3	120,857.
4	Additional section 263A costs (attach schedule)	4	
5	Other costs (attach schedule) See Schedule A, Other Costs	5	202,960.
6	Total. Add lines 1 through 5	6	1,020,457.
7	Inventory at end of year	7	79,555.
8	Cost of goods sold. Subtract line 7 from line 6. Enter here and on page 1, line 2	8	940,902.

9a Check all methods used for valuing closing inventory:

- (i) ☒ Cost as described in Regulations section 1.471-3
 (ii) ☐ Lower of cost or market as described in Regulations section 1.471-4
 (iii) ☐ Other (specify method used and attach explanation) _____

b Check if there was a writedown of subnormal goods as described in Regulations section 1.471-2(c) ☐c Check if the LIFO inventory method was adopted this tax year for any goods (if checked, attach Form 970) ☐d If the LIFO inventory method was used for this tax year, enter percentage (or amounts) of closing inventory computed under LIFO **9d** ☐e If property is produced or acquired for resale, do the rules of Section 263A apply to the corporation? ☐ Yes ☒ Nof Was there any change in determining quantities, cost, or valuations between opening and closing inventory? If 'Yes,' attach explanation ☐ Yes ☒ No**Schedule B Other Information** (see instructions)

	Yes	No
1 Check method of accounting: (a) <input type="checkbox"/> Cash (b) <input checked="" type="checkbox"/> Accrual (c) <input type="checkbox"/> Other (specify) _____		
2 See the instructions and enter the: (a) Business activity <u>Fabrication</u> (b) Product or service <u>Metal Products</u>		
3 At the end of the tax year, did the corporation own, directly or indirectly, 50% or more of the voting stock of a domestic corporation? (For rules of attribution, see section 267(c).) If 'Yes,' attach a schedule showing: (a) name, address, and employer identification number and (b) percentage owned.		X
4 Was the corporation a member of a controlled group subject to the provisions of section 1561?		X
5 Check this box if the corporation has filed or is required to file Form 8264, Application for Registration of a Tax Shelter <input type="checkbox"/>		
6 Check this box if the corporation issued publicly offered debt instruments with original issue discount. If checked, the corporation may have to file Form 8281, Information Return for Publicly Offered Original Issue Discount Instruments. <input type="checkbox"/>		
7 If the corporation: (a) was a C corporation before it elected to be an S corporation or the corporation acquired an asset with a basis determined by reference to its basis (or the basis of any other property) in the hands of a C corporation and (b) has net unrealized built-in gain (defined in section 1374(d)(1)) in excess of the net recognized built-in gain from prior years, enter the net unrealized built-in gain reduced by net recognized built-in gain from prior years _____ \$		
8 Check this box if the corporation had accumulated earnings and profits at the close of the tax year <input type="checkbox"/>		
9 Are the corporation's total receipts (see instructions) for the tax year and its total assets at the end of the tax year less than \$250,000? If 'Yes,' the corporation is not required to complete Schedules L and M-1		X

Note: If the corporation had assets or operated a business in a foreign country or U.S. possession, it may be required to attach Schedule N (Form 1120), Foreign Operations of U.S. Corporations, to this return. See Schedule N for details.

Schedule K Shareholders' Shares of Income, Credits, Deductions, etc

	(a) Pro rata share items	(b) Total amount
1 Ordinary income (loss) from trade or business activities (page 1, line 21)	1	34,166.
2 Net income (loss) from rental real estate activities (attach Form 8825)	2	
3a Gross income from other rental activities	3a	
b Expenses from other rental activities (attach schedule)	3b	
c Net income (loss) from other rental activities. Subtract line 3b from line 3a	3c	
4 Portfolio income (loss):		
a Interest income	4a	582.
b Dividends: (1) Qualified dividends (2) Total ordinary dividends	4b (2)	
c Royalty income	4c	
d Net short-term capital gain (loss): (1) Post-May 5, 2003 (2) Entire year	4d (2)	
e Net long-term capital gain (loss): (1) Post-May 5, 2003 (2) Entire year	4e (2)	
f Other portfolio income (loss) (attach schedule)	4f	
5 Net section 1231 gain (loss) (attach Form 4797): (a) Post-May 5, 2003 (b) Entire year	5(b)	
6 Other income (loss) (attach schedule)	6	

Schedule K Shareholders' Shares of Income, Credits, Deductions, etc. (continued)

	(a) Pro rata share items	(b) Total amount	
Deductions	7 Charitable contributions (attach schedule)	7	
	8 Section 179 expense deduction (attach Form 4562)	8	
	9 Deductions related to portfolio income (loss) (itemize)	9	
	10 Other deductions (attach schedule)	10	
Investment Interest	11a Interest expense on investment debts	11a	
	b (1) Investment income included on lines 4a, 4b(2), 4c, and 4f on page 2	11b (1) 582.	
	(2) Investment expenses included on line 9 above	11b (2)	
Credits	12a Credit for alcohol used as a fuel (attach Form 6478)	12a	
	b Low-income housing credit:		
	(1) From partnerships to which section 42(j)(5) applies	12b (1)	
	(2) Other than on line 12b(1)	12b (2)	
	c Qualified rehabilitation expenditures related to rental real estate activities (attach Form 3468)	12c	
	d Credits (other than credits shown on lines 12b and 12c) related to rental real estate activities	12d	
	e Credits related to other rental activities	12e	
	13 Other credits	13	
	Adjustments and Tax Preference Items	14a Depreciation adjustment on property placed in service after 1986	14a -1,350.
		b Adjusted gain or loss	14b
c Depletion (other than oil and gas)		14c	
d (1) Gross income from oil, gas, or geothermal properties		14d (1)	
(2) Deductions allocable to oil, gas, or geothermal properties		14d (2)	
e Other adjustments and tax preference items (attach schedule)		14e	
Foreign Taxes	15a Name of foreign country or U.S. possession ▶		
	b Gross income from all sources	15b	
	c Gross income sourced at shareholder level	15c	
	d Foreign gross income sourced at corporate level:		
	(1) Passive	15d (1)	
	(2) Listed categories (attach schedule)	15d (2)	
	(3) General limitation	15d (3)	
	e Deductions allocated and apportioned at shareholder level:		
	(1) Interest expense	15e (1)	
	(2) Other	15e (2)	
	f Deductions allocated and apportioned at corporate level to foreign source income:		
	(1) Passive	15f (1)	
	(2) Listed categories (attach schedule)	15f (2)	
	(3) General limitation	15f (3)	
g Total foreign taxes (check one): ▶ <input type="checkbox"/> Paid <input type="checkbox"/> Accrued	15g		
h Reduction in taxes available for credit (attach schedule)	15h		
Other	16 Section 59(e)(2) expenditures: a Type ▶	b Amount ▶ 16b	
	17 Tax-exempt interest income	17	
	18 Other tax-exempt income	18	
	19 Nondeductible expenses	19 17,352.	
	20 Total property distributions (including cash) other than dividends reported on line 22 below	20	
	21 Other items and amounts required to be reported separately to shareholders (attach schedule)		
	22 Total dividend distributions paid from accumulated earnings and profits	22	
	23 Income (loss). (Required only if Schedule M-1 must be completed.) Combine lines 1 through 6 in column (b). From the result, subtract the sum of lines 7 through 11a, 15g, and 16b	23 34,748.	

BAA

Form 1120S (2003)

Note: The corporation is not required to complete Schedules L and M-1 if question 9 of Schedule B is answered 'Yes'.

Schedule L Balance Sheets per Books		Beginning of tax year		End of tax year	
Assets		(a)	(b)	(c)	(d)
1	Cash		117,833.		104,582.
2a	Trade notes and accounts receivable	47,746.		58,635.	
b	Less allowance for bad debts		47,746.		58,635.
3	Inventories		70,967.		79,555.
4	U.S. government obligations				
5	Tax-exempt securities				
6	Other current assets (attach schedule)				
7	Loans to shareholders				
8	Mortgage and real estate loans				
9	Other investments (attach schedule)				
10a	Buildings and other depreciable assets	421,919.		413,869.	
b	Less accumulated depreciation	210,793.	211,126.	215,665.	198,204.
11a	Depletable assets				
b	Less accumulated depletion				
12	Land (net of any amortization)		740,215.		740,215.
13a	Intangible assets (amortizable only)				
b	Less accumulated amortization				
14	Other assets (attach schedule) Ln 14, St.		279,757.		282,973.
15	Total assets		1,467,644.		1,464,164.
Liabilities and Shareholders' Equity					
16	Accounts payable		-414.		-264.
17	Mortgages, notes, bonds payable in less than 1 year				
18	Other current liabilities (attach sch)				
19	Loans from shareholders		337,187.		353,187.
20	Mortgages, notes, bonds payable in 1 year or more		1,489,284.		1,487,263.
21	Other liabilities (attach schedule)				
22	Capital stock		1,000.		1,000.
23	Additional paid-in capital				
24	Retained earnings		-359,413.		-377,022.
25	Adjustments to shareholders' equity (att sch)				
26	Less cost of treasury stock				
27	Total liabilities and shareholders' equity		1,467,644.		1,464,164.

Schedule M-1 Reconciliation of Income (Loss) per Books with Income (Loss) per Return

1	Net income (loss) per books	-17,609.	5	Income recorded on books this year not included on Schedule K, lines 1 through 6 (itemize):	
2	Income included on Schedule K, lines 1 through 6, not recorded on books this year (itemize):		a	Tax-exempt interest \$	
3	Expenses recorded on books this year not included on Schedule K, lines 1 through 11a, 15g, and 16b (itemize):		6	Deductions included on Schedule K, lines 1 through 11a, 15g, and 16b, not charged against book income this year (itemize):	
a	Depreciation \$		a	Depreciation \$	767.
b	Travel and entertainment \$	480.	See Sch M-1, Line 6		228.
See Sch M-1, Line 3	52,872.	53,352.	7	Add lines 5 and 6	995.
4	Add lines 1 through 3	35,743.	8	Income (loss) (Schedule K, ln 23). Ln 4 less ln 7	34,748.

Schedule M-2 Analysis of Accumulated Adjustments Account, Other Adjustments Account, and Shareholders' Undistributed Taxable Income Previously Taxed (see instructions)

	(a) Accumulated adjustments account	(b) Other adjustments account	(c) Shareholders' undistributed taxable income previously taxed
1	Balance at beginning of tax year	-72,491.	
2	Ordinary income from page 1, line 21	34,166.	
3	Other additions See Schedule M-2, Other Additions	582.	
4	Loss from page 1, line 21		
5	Other reductions See Schedule M-2, Other Reductions	17,352.	
6	Combine lines 1 through 5	-55,095.	
7	Distributions other than dividend distributions		
8	Balance at end of tax year. Subtract line 7 from line 6	-55,095.	

Form 4562

Department of the Treasury
Internal Revenue ServiceDepreciation and Amortization
(Including Information on Listed Property)See separate instructions.
Attach to your tax return.

OMB No. 1545-0172

2003

67

Name(s) shown on return

MURMUR CORPORATION

Identifying number

75-1783662

Business or activity to which this form relates

Form 1120S Line 21

Part I Election To Expense Certain Property Under Section 179

Note: If you have any listed property, complete Part V before you complete Part I.

1	Maximum amount. See instructions for a higher limit for certain businesses	1	\$100,000
2	Total cost of section 179 property placed in service (see instructions)	2	
3	Threshold cost of section 179 property before reduction in limitation	3	\$400,000
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see instructions	5	
6	(a) Description of property	(b) Cost (business use only)	(c) Elected cost
7	Listed property. Enter the amount from line 29	7	
8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	
9	Tentative deduction. Enter the smaller of line 5 or line 8	9	
10	Carryover of disallowed deduction from line 13 of your 2002 Form 4562	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5 (see instrs)	11	
12	Section 179 expense deduction. Add lines 9 and 10, but do not enter more than line 11	12	
13	Carryover of disallowed deduction to 2004. Add lines 9 and 10, less line 12	13	

Note: Do not use Part II or Part III below for listed property. Instead, use Part V.

Part II Special Depreciation Allowance and Other Depreciation (Do not include listed property.)

14	Special depreciation allowance for qualified property (other than listed property) placed in service during the tax year (see instructions)	14	
15	Property subject to section 168(f)(1) election (see instructions)	15	
16	Other depreciation (including ACRS) (see instructions)	16	

Part III MACRS Depreciation (Do not include listed property.) (See instructions)**Section A**

17	MACRS deductions for assets placed in service in tax years beginning before 2003	17	3,831
18	If you are electing under section 168(i)(4) to group any assets placed in service during the tax year into one or more general asset accounts, check here <input type="checkbox"/>		

Section B — Assets Placed in Service During 2003 Tax Year Using the General Depreciation System

(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only — see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
19a 3-year property						
b 5-year property						
c 7-year property						
d 10-year property						
e 15-year property						
f 20-year property						
g 25-year property			25 yrs		S/L	
h Residential rental property			27.5 yrs	MM	S/L	
i Nonresidential real property			27.5 yrs	MM	S/L	
			39 yrs	MM	S/L	

Section C — Assets Placed in Service During 2003 Tax Year Using the Alternative Depreciation System

20a Class life					S/L	
b 12-year			12 yrs		S/L	
c 40-year			40 yrs	MM	S/L	

Part IV Summary (see instructions)

21	Listed property. Enter amount from line 28	21	1,808
22	Total. Add amounts from line 12, lines 14 through 17, lines 19 and 20 in column (g), and line 21. Enter here and on the appropriate lines of your return. Partnerships and S corporations — see instructions	22	5,639
23	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	23	

BAA For Paperwork Reduction Act Notice, see instructions.

FD120812 10/28/03

Form 4562 (2003)

Part V Listed Property (Include automobiles, certain other vehicles, cellular telephones, certain computers, and property used for entertainment, recreation, or amusement.)

Note: For any vehicle for which you are using the standard mileage rate or deducting lease expense, complete only 24a, 24b, columns (a) through (c) of Section A, all of Section B, and Section C if applicable.

Section A – Depreciation and Other Information (Caution: See instructions for limits for passenger automobiles.)

24a Do you have evidence to support the business/investment use claimed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								24b If 'Yes,' is the evidence written? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
(a) Type of property (list vehicles first)	(b) Date placed in service	(c) Business/investment use percentage	(d) Cost or other basis	(e) Basis for depreciation (business/investment use only)	(f) Recovery period	(g) Method/Convention	(h) Depreciation deduction	(i) Elected section 179 cost	
25 Special depreciation allowance for qualified listed property placed in service during the tax year and used more than 50% in a qualified business use (see instructions)								25	
26 Property used more than 50% in a qualified business use (see instructions):									
2000 CHEV P/U TRUCK	11/22/99	100.00	19,220.	19,220.	5.00	200DB/HY	1,775.		
1996 SEC 170 FAX	09/01/96	100.00	433.	0.	7.00	200DB/HY	0.		
1999 TELEPHONES	06/01/99	100.00	385.	385.	7.00	200DB/HY	33.		
27 Property used 50% or less in a qualified business use (see instructions):									
28 Add amounts in column (h), lines 25 through 27. Enter here and on line 21, page 1:								28	
29 Add amounts in column (i), line 26. Enter here and on line 7, page 1:								29	

Section B – Information on Use of Vehicles

Complete this section for vehicles used by a sole proprietor, partner, or other 'more than 5% owner,' or related person. If you provided vehicles to your employees, first answer the questions in Section C to see if you meet an exception to completing this section for those vehicles.

	(a) Vehicle 1		(b) Vehicle 2		(c) Vehicle 3		(d) Vehicle 4		(e) Vehicle 5		(f) Vehicle 6	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
30 Total business/investment miles driven during the year (do not include commuting miles – see instructions)												
31 Total commuting miles driven during the year												
32 Total other personal (noncommuting) miles driven												
33 Total miles driven during the year. Add lines 30 through 32												
34 Was the vehicle available for personal use during off-duty hours?												
35 Was the vehicle used primarily by a more than 5% owner or related person?												
36 Is another vehicle available for personal use?												

Section C – Questions for Employers Who Provide Vehicles for Use by Their Employees

Answer these questions to determine if you meet an exception to completing Section B for vehicles used by employees who are not more than 5% owners or related persons (see instructions).

	Yes	No
37 Do you maintain a written policy statement that prohibits all personal use of vehicles, including commuting, by your employees?		
38 Do you maintain a written policy statement that prohibits personal use of vehicles, except commuting, by your employees? See instructions for vehicles used by corporate officers, directors, or 1% or more owners		
39 Do you treat all use of vehicles by employees as personal use?		
40 Do you provide more than five vehicles to your employees, obtain information from your employees about the use of the vehicles, and retain the information received?		
41 Do you meet the requirements concerning qualified automobile demonstration use? (see instructions)		

Note: If your answer to 37, 38, 39, 40, or 41 is 'Yes,' do not complete Section B for the covered vehicles.

Part VI Amortization

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
42 Amortization of costs that begins during your 2003 tax year (see instructions):					
43 Amortization of costs that began before your 2003 tax year					43
44 Total. Add amounts in column (f). See instructions for where to report					44

Schedule K-1
(Form 1120S)

Shareholder's Share of Income, Credits, Deductions, etc

OMB No. 1545-0130

2003

Department of the Treasury
Internal Revenue Service

beginning , 2003, and ending

► See separate instructions.
For calendar year 2003 or tax year

Shareholder's identifying number ► 369-24-4330

Shareholder's name, address, and ZIP code

Homer J Kirby
4829 N O'Connor Rd #264
Irving, TX 75062

Corporation's identifying number ► 75-1783662

Corporation's name, address, and ZIP code

MURMUR CORPORATION
2823 N WESTMORELAND
DALLAS, TX 75212-4828

- A Shareholder's percentage of stock ownership for tax year (see instructions for Schedule K-1) ► 100.00000 %
B Internal Revenue Service Center where corporation filed its return ► Ogden, UT 84201-0013
C Tax shelter registration number (see instructions for Schedule K-1) ►
D Check applicable boxes: (1) ☐ Final K-1 (2) ☐ Amended K-1

(a) Pro Rata share items		(b) Amount	(c) Form 1040 filers enter the amount in column (b) on:
Income (Loss)	1 Ordinary income (loss) from trade or business activities	1 34,166.	See the Shareholder's Instructions for Schedule K-1 (Form 1120S).
	2 Net income (loss) from rental real estate activities	2	
	3 Net income (loss) from other rental activities	3	
	4 Portfolio income (loss):		
	a Interest income	4a 582.	Form 1040, line 8a
	b(1) Qualified dividends	4b(1)	Form 1040, line 9b
	(2) Total ordinary dividends	4b(2)	Form 1040, line 9a
	c Royalty income	4c	Schedule E, Part I, line 4
	d(1) Net short-term capital gain (loss) (post-May 5, 2003)	4d(1)	Schedule D, line 5, col (g)
	(2) Net short-term capital gain (loss) (entire year)	4d(2)	Schedule D, line 5, col (f)
	e(1) Net long-term capital gain (loss) (post-May 5, 2003)	4e(1)	Schedule D, line 12, col (g)
	(2) Net long-term capital gain (loss) (entire year)	4e(2)	Schedule D, line 12, col (f)
	f Other portfolio income (loss) (attach schedule)	4f	(Enter on applicable line of return.)
Deductions	5a Net section 1231 gain (loss) (post-May 5, 2003)	5a	See Shareholder's Instructions for Schedule K-1 (Form 1120S).
	b Net section 1231 gain (loss) (entire year)	5b	
	6 Other income (loss) (attach schedule)	6	(Enter on applicable line of return.)
	7 Charitable contributions (attach schedule)	7	Schedule A, line 15 or 16
Investment Interest	8 Section 179 expense deduction	8	See Shareholder's Instructions for Schedule K-1 (Form 1120S).
	9 Deductions related to portfolio income (loss) (attach schedule)	9	
	10 Other deductions (attach schedule)	10	
Credits	11a Interest expense on investment debts	11a	Form 4952, line 1
	b(1) Investment income included on lines 4a, 4b(2), 4c, and 4f above	11b(1) 582.	See Shareholder's Instructions for Schedule K-1 (Form 1120S).
	(2) Investment expenses included on line 9 above	11b(2)	
	12a Credit for alcohol used as fuel	12a	Form 478, line 10
	b Low-income housing credit:		Form 8586, line 5
	(1) From section 42(j)(5) partnerships	12b(1)	
	(2) Other than on line 12b(1)	12b(2)	
	c Qualified rehabilitation expenditures related to rental real estate activities	12c	See the Shareholder's Instructions for Schedule K-1 (Form 1120S).
	d Credits (other than credits shown on lines 12b and 12c) related to rental real estate activities	12d	
	e Credits related to other rental activities	12e	
	13 Other credits	13	

BAA For Paperwork Reduction Act Notice, see the Instructions for Form 1120S.

Schedule K-1 (Form 1120S) 2003

	(a) Pro rata share items	(b) Amount	(c) Form 1040 filers enter the amount in column (b) on:
Adjustments and Tax Preference Items	14a Depreciation adjustment on property placed in service after 1986	14a -1,350.	See Shareholder's Instructions for Schedule K-1 (Form 1120S) and Instructions for Form 6251
	b Adjusted gain or loss	14b	
	c Depletion (other than oil and gas)	14c	
	d (1) Gross income from oil, gas, or geothermal properties	14d(1)	
	(2) Deductions allocable to oil, gas, or geothermal properties	14d(2)	
	e Other adjustments and tax preference items (attach sch)	14e	
Foreign Taxes	15a Name of foreign country or U.S. possession		Form 1116, Part I
	b Gross income from all sources	15b	
	c Gross income sourced at shareholder level	15c	
	d Foreign gross income sourced at corporate level:		
	(1) Passive	15d(1)	
	(2) Listed categories (attach schedule)	15d(2)	
	(3) General limitation	15d(3)	
	e Deductions allocated and apportioned at shareholder level:		
	(1) Interest expense	15e(1)	
	(2) Other	15e(2)	
	f Deductions allocated and apportioned at corporate level to foreign source income:		
	(1) Passive	15f(1)	
Other	(2) Listed categories (attach schedule)	15f(2)	Form 1116, Part II
	(3) General limitation	15f(3)	
	g Total foreign taxes (check one): <input type="checkbox"/> Paid <input type="checkbox"/> Accrued	15g	
	h Reduction in taxes available for credit (attach schedule)	15h	
	16 Section 59(e)(2) expenditures: a Type	16b	
	b Amount	16b	
	17 Tax-exempt interest income	17	
	18 Other tax-exempt income	18	
	19 Nondeductible expenses	19 17,352.	
	20 Property distributions (including cash) other than dividend distributions reported to you on Form 1099-DIV	20	
Supplemental Information	21 Amount of loan repayments for 'Loans from Shareholders'	21	Form 8611, line 8
	22 Recapture of low-income housing credit:		
	a From section 42(j)(5) partnerships	22a	
	b Other than on line 22a	22b	
Supplemental Information	23 Supplemental information required to be reported separately to each shareholder (attach additional schedules if more space is needed):		

Form 1120S, Page 1, Line 5
Other Income (Loss)

EPA Trust Agreement Income	3,178.
Total	<u>3,178.</u>

Form 1120S, Page 1, Line 19
Other Deductions

Sales Commissions	27,672.
Telephone	3,359.
Auto	1,655.
Dues and Subscriptions	774.
Legal	185.
Office and Postage	1,630.
Utilities	265.
Accounting	3,735.
Computer Supplies	633.
Contract Labor	633.
Theft Loss	4,852.
Equipment Rental	1,017.
MEALS AND ENTERTAINMENT (50%)	481.
Pest Control	103.
Enviromental	1,825.
Total	<u>48,819.</u>

Form 1120S, Page 2, Schedule A, Line 5
Schedule A, Other Costs

Freight	82,188.
Automotive	4,326.
Lab	1,952.
Repairs and Maintenance	27,285.
Shop Supplies	10,034.
Small Tools	1,529.
Uniforms	6,708.
Utilities	49,118.
Waste Hauling	1,923.
Payroll Taxes	10,183.
Other	
Medical Expenses	3,278.
DEPRECIATION	4,436.
Total	<u>202,960.</u>

Other Assets:
1120S, Schedule L, Line 14

Other Assets:	Beginning of tax year	End of tax year
ENVIROMENTAL TRUST DEPOSITS	273,027.	276,243.
OTHER DEPOSITS	6,730.	6,730.

Other Assets:
1120S, Schedule L, Line 14

Continued

Other Assets:	Beginning of tax year	End of tax year
Total	<u>279,757.</u>	<u>282,973.</u>

Form 1120S, Page 4, Schedule M-1, Line 3
Sch M-1, Line 3

BOOK VALUE OF THEFT LOSS	<u>5,906.</u>
ACCRUED INTEREST	<u>10,966.</u>
ACCRUED SALARIES	<u>36,000.</u>
Total	<u>52,872.</u>

Form 1120S, Page 4, Schedule M-1, Line 6
Sch M-1, Line 6

ACCRUED PAYROLL TAXES	<u>228.</u>
Total	<u>228.</u>

Form 1120S, Page 4, Schedule M-2, Line 3
Schedule M-2, Other Additions

INTEREST INCOME	<u>582.</u>
Total	<u>582.</u>

Form 1120S, Page 4, Schedule M-2, Line 5
Schedule M-2, Other Reductions

MEALS AND ENTERTAINMENT	<u>480.</u>	
BOOK VALUE OF THEFT LOSS	<u>5,906.</u>	
ACCRUED INTEREST	<u>10,966.</u>	
Total	<u>17,352.</u>	

Supporting Statement of:

Form 1120S p1-2/Payroll Taxes

Description	Amount
Total Payroll Taxes	24,535.
Less: Payroll Taxes in Cost of Sales	-10,183.
Total	<u>14,352.</u>