



## **Preliminary Close Out Report**

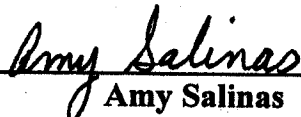
### **Mosley Road Sanitary Landfill Superfund Site Oklahoma City, Oklahoma**

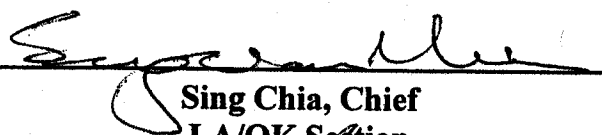
**United States Environmental Protection Agency  
Region 6  
Superfund Division**

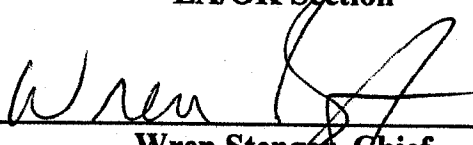
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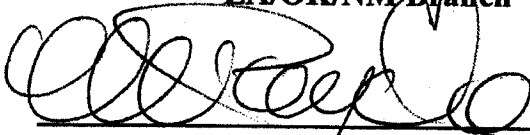
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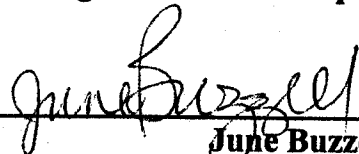
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**Michael Torres**  
**Remedial Project Manager**

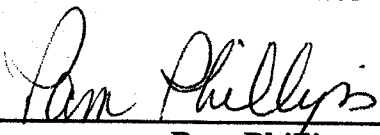
  
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**Amy Salinas**  
**Assistant Regional Counsel**

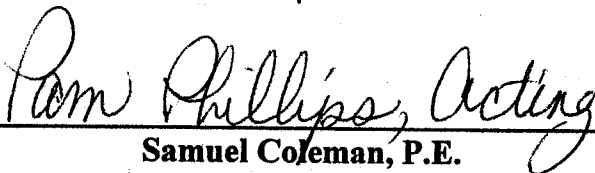
  
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**Sing Chia, Chief**  
**LA/OK Section**

  
\_\_\_\_\_  
**Wren Stenger, Chief**  
**LA/OK/NM Branch**

  
\_\_\_\_\_  
**Mark A. Peycke, Chief**  
**Regional Counsel Superfund Branch**

  
\_\_\_\_\_  
**June Buzzell**  
**Writer/Editor**

  
\_\_\_\_\_  
**Pam Phillips**  
**Deputy Division Director**

  
\_\_\_\_\_  
**Samuel Coleman, P.E.**  
**Division Director**

**PRELIMINARY CLOSE OUT REPORT  
MOSLEY ROAD SANITARY LANDFILL SUPERFUND SITE  
OKLAHOMA CITY, OKLAHOMA**

**I. INTRODUCTION**

This Preliminary Close Out Report (PCOR) documents that the U.S. Environmental Protection Agency (EPA) completed all construction activities for the remedial action (site addressed as one operable unit) at the Mosley Road Sanitary Landfill (MRSL) Superfund Site in accordance with *Close Out Procedures for National Priorities List Sites* (EPA OSWER Directive 9320.2-09A-P, January 2000). The EPA and the Oklahoma Department of Environmental Quality (ODEQ or State) conducted a pre-final inspection on August 3, 2004, and determined that the remedy was constructed in accordance with the remedial design (RD) plans and specifications [Record of Decision (ROD), June 29, 1992]. The potentially responsible parties (PRPs) have completed remedial construction activities necessary to achieve performance standards and site completion.

All site response actions, including remedial actions, were accomplished pursuant to, and in accordance with, the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601 et seq., and consistent with the National Contingency Plan (NCP), 40 CFR Part 300.

**II. SUMMARY OF SITE CONDITIONS**

**Background**

The Mosley Road Sanitary Landfill (MRSL) Site consists of approximately 72 acres in an undeveloped area near the boundary of Oklahoma City and Midwest City, Oklahoma. The site is located between N.E. 23<sup>rd</sup> and N.E. 36<sup>th</sup> Streets at 3300 Mosley Road, Oklahoma City, Oklahoma County, Oklahoma. The East Oak Landfill, which is currently in operation, is located to the west of the site. MRSL is in an undeveloped area on the eastern edge of Oklahoma City. Approximately 900 people live within a 1-mile radius of the site. An elementary school and a nursing home are located within a 1-mile radius from the site. Populated areas surrounding the MRSL include Midwest City to the east, Spencer to the northeast, and Oklahoma City to the west.

The North Canadian River, a major perennial stream, flows from southwest to northeast about 0.5-mile west of the MRSL site. Crutch Creek, a perennial stream tributary to the North Canadian River, flows from south to north near the eastern boundary of the facility. Other surface water bodies near the landfill include North Pond, South Swamp, and an inactive sand and gravel operation. In addition, a small sedimentation pond, referred to as the retention pond, is located in the northeastern corner of the landfill and collects surface runoff from near the pond.

Waste Management of Oklahoma, Inc. (WMO) is the current owner of the MRSL. The MRSL was permitted as a sanitary landfill by the Oklahoma State Department of Health (OSDH)

in June 1973. OSDH authorized the MRSL to accept industrial hazardous wastes, mostly liquids, which contained hazardous constituents. The authorization from the State was the result of the temporary closure of the Royal Hardage Landfill in Criner, Oklahoma, which previously had been accepting these type of wastes. About 1.7 million gallons of mostly liquid industrial hazardous sludge was accepted within a 6-month period at the MRSL. These included industrial sludge, caustic material, plating sludge, acid solutions, oil emulsion, alkaline solutions, solvents, paint sludge, toxaphene, and trichloroethylene. The liquid industrial hazardous waste was deposited in three unlined waste pits at the landfill. Furthermore, the majority of landfill activities occurred at elevations above the pre-existing ground surface. The MRSL was not designed to receive or handle hazardous waste; nonetheless, the hazardous waste was deposited in these three unlined pits. The waste pits were buried beneath up to 80 feet of municipal refuse. The MRSL operated for approximately 16 years prior to reaching its permitted volume capacity and was closed on November 1987. A compacted clay cover was installed over the landfill in 1988.

An EPA site assessment was conducted between November 1986 through November 1990. The site was HRS scored by the EPA on February 6, 1987. On February 21, 1990, the EPA added the MRSL to the National Priorities List (U7-3-194-R6) and registered it in the CERCLIS database as OKD980620868. There were no removal action activities at the site; however, EPA enforcement activities continued in efforts to address the site's contamination issues.

In 1989, EPA identified 35 PRPs for the MRSL site, and on January 12, 1989, EPA-Region 6 (EPA-R6) issued a General Notice Letter for the site. On March 24, 1989, EPA-R6 issued a Special Notice letter regarding Remedial Investigation/Feasibility Study (RI/FS) activities at the MRSL. All PRPs, with the exception of WMO and Mobile Waste Controls, declined the opportunity to participate in the RI/FS for the site. On July 28, 1989, WMO and Mobile Waste Controls signed an Administrative Order on Consent requiring the two companies to undertake RI/FS activities at the MRSL site. Investigative activities began in January 1990, and the FS was completed in August 1991. The RI and FS reports, and the Proposed Plan for the MRSL site were released by EPA to the public on April 8, 1992.

### **Remedial Construction Activities**

On June 29, 1992, the Regional Administrator signed a ROD documenting the remedial action (RA) as one Operable Unit at the MRSL site. The major components of the selected remedy included:

- Enforcing Institutional Controls, such as land use restrictions, site access restrictions, posting of signs, fencing, and restrictions on the extraction and use of groundwater from MRSL wells;

- Restoring groundwater as a potential source of drinking water through the process of natural attenuation;
- Monitoring leachate migration via a groundwater monitoring program and periodic sampling;
- Implementing a landfill gas monitoring system to prevent explosion or inhalation hazards; and
- Repairing and improving the existing cap, and adding a vegetative soil layer to reduce erosion and infiltration.

A Unilateral Administrative Order (UAO) was issued by EPA and the Remedial Design commenced on January 28, 1994. The effective date of the UAO was February 14, 1994. An Order to Proceed was issued to WMO on March 3, 1994, to prepare the Remedial Design Work Plan (RDWP) and Groundwater Monitoring Work Plan (GWMWP). Deed restrictions were filed with the Oklahoma County Clerk on April 1, 1994; and Deed Notices were filed on May 12, 1994. In October 1994, WMO submitted the Landfill Gas Assessment Report for the MRSL site. Furthermore, the RDWP, the GWMWP, and the Health and Safety Plan for Remedial Design was submitted to the EPA by WMO, in November 1994.

On January 5, 1995, EPA issued the Remedial Design Work Plan, Groundwater Monitoring Work Plan, Remedial Design Sampling and Analysis Plan, and Health and Safety Plan for Remedial Design, for ODEQ's concurrence. On January 31, 1995, WMO submitted the Initial Remedial Design Report to EPA, and a Notice of Award was sent to Terracon Consultants to layout the soil boring program and begin monitoring well construction activities. On February 25, 1995, Terracon Consultants, Inc. completed the groundwater monitor well installation and soil boring program. On August 18, 1995, WMO completed the Remedial Design Work Plan.

The Phase I construction activities for the Landfill Gas Management System began on August 24, 1995, and were completed in February 1996. The MRSLs Construction Quality Assurance Plan for Phase I cap improvements was revised and approved in August 1995. The Final Cover Quality Assurance Testing report was submitted to EPA on December 30, 2003. The Quality Assurance/Quality Control documents for Phase II construction activities of the site's gas system and final cap improvements were submitted to the EPA on July 16, 2004. These documents assured that the site's remedy was constructed as designed and is functional.

EPA and ODEQ conducted a pre-final inspection on August 3, 2004, which consisted of a walk-over survey that included a description and schedule for correcting or addressing minor construction contract items by WMO and their contractors. These "punch" list items included inspection of: 1) the site's vegetative cover; 2) the drainage from the top of the landfill; 3) indications of subsidence or erosion; 4) the gas collection system and wells; and 5) adequate plugging and abandonment of a barren well. EPA and ODEQ also reviewed QA/QC construction documents for the groundwater monitoring system and well summaries during the pre-final inspection process, to check the natural attenuation process. Furthermore, a review of

implemented Institutional Controls shows that the filed restrictions and notices have been successful in providing human health and environmental protection at the site.

EPA and ODEQ determined that the following RA activities were constructed and completed according to the ROD's design specifications:

- Implementation of Institutional Controls;

(WMO implemented institutional controls in accordance with the requirements stipulated in the ROD, and filed on April 1, 1994, with the Office of the County Clerk of Oklahoma County identifying land use restrictions, which would be binding on all current and future owners of the property. These restrictions prohibit domestic use of extracted water from on-site wells, installation of groundwater wells on site for uses other than remedial purposes, and use of property for residential or agricultural purposes.

WMO also filed a deed notice on May 12, 1994, with the Register of Deeds of the County Clerk's office. The deed notice informs prospective purchasers and users of the property that institutional controls including land use restrictions, access restrictions, posting of signs, and restrictions to groundwater use are in place, identifies remediation actions that will take place, identifies the hazardous substances at the site, and identifies activities that could result in exposure.)

- Implementation of an adequate groundwater monitoring program, which ensures restoration of groundwater through the natural attenuation process;
- Construction of a serviceable landfill gas monitoring system;
- Restoration and improvements of the pre-existing cap; and
- Addition of a vegetative cover to reduce erosion and infiltration.

There is no community interest at this site, and no reuse is currently planned for the site.

### **III. DEMONSTRATION OF QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) FROM CLEANUP ACTIVITIES**

The EPA and ODEQ reviewed the remedial action contract and construction plans for compliance with quality assurance and quality control (QA/QC) protocols. Construction activities at the MRSL were determined to be consistent with the ROD, RD plans and specifications, and RD/RA statement of work issued to the PRP's remediation or construction contractor.

The PRP construction contractor adhered to the approved construction quality control plan (CQCP). The CQCP incorporated all EPA and State requirements. All confirmatory inspections, independent testing, audits, and evaluations of materials and workmanship were

performed in accordance with the construction drawings, technical specifications, and CQAP. Construction quality assurance was performed by an independent firm retained by the PRP. The EPA RPM and State environmental regulators visited the site approximately twice per month during construction activities to review and oversee construction progress and evaluate and review QA/QC results and activities. Deviations or non-adherence to QA/QC protocols, drawings, or specifications were properly documented and resolved.

The Quality Assurance Project Plan incorporated all EPA and State QA/QC procedures and protocols. The EPA analytical methods were used for all confirmation and monitoring samples during RA activities. The EPA and State determined that analytical results are accurate to the degree needed to assure satisfactory performance of the RA.

#### **IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION**

The RA construction activities for the MRS� site are completed. The selected cap repairs and improvements remedy protects human health and the environment by eliminating the direct contact risk and reducing the potential for any contaminants to migrate from the unlined waste pits to the groundwater as a result of precipitation and leachate formation. The upgraded cap will eliminate all threats relating to direct contact with or inhalation of the residual contamination by covering and containing the contaminated soils in place. Furthermore, the implementation and construction of the landfill gas monitoring system will prevent potential explosion or inhalation hazards at the site.

The following table lists the remaining activities to complete the site close out:

<b>TASK</b>	<b>ESTIMATED COMPLETION</b>	<b>RESPONSIBILITY</b>
Complete Punch List	August 3, 2004	EPA/ODEQ
Complete Final Inspection	December 2004	EPA/ODEQ
Determine O&F	December 2004	EPA/ODEQ
Approve RA Report	January 2005	EPA/ODEQ
Complete Final Close Out Report	January 2005	EPA
Deletion from NPL	July 2005	EPA
Five-Year Review	September 2005	EPA

#### **V. SUMMARY OF REMEDIATION COSTS**

The original cost estimate to implement the RA described in the ROD was \$3,100,000 (net present worth). More detailed cost estimate documentation can be found in the feasibility study.

At the time that this Preliminary Close Out Report was prepared, all of the project costs have not yet been reported. Nonetheless, these remediation costs totaled \$3,851,500, to-date. Of these costs, \$1,400,000 was spent on the gas system, and about \$2,000,000 on the landfill cover

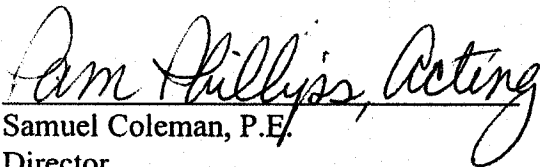
system improvements. Furthermore, about \$165,000 was spent on the construction of a groundwater monitoring system.

## VI. FIVE-YEAR REVIEW

On September 9, 2000, WMO submitted a MRSL Five-Year Review Report for EPA's approval. Data review indicated that the remedy for the MRSL site is protective of human health and the environment. No statistically significant deviations from baseline concentrations occurred during the seven semiannual groundwater sampling events conducted since 1997. The upcoming Five-Year Review is scheduled for completion in September 2005.

Upon completion of this remedy, hazardous substances will remain at the MRSL site above levels that prevent unlimited use and unrestricted exposure. Additional operation and maintenance activities will be needed and the EPA will need to conduct a statutory five-year review pursuant to CERCLA Section 121(c) and as provided in the current guidance on Five-Year Reviews: OSWER Directive 9355.7-03B-P, *Comprehensive Five-Year Review Guidance* (June 2001).

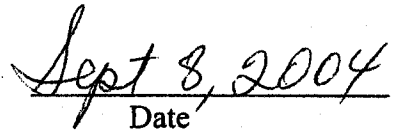
Approved By:



Samuel Coleman, P.E.

Director

Superfund Division

  
Date