



## **Preliminary Close Out Report**


**Lee Acres Landfill Superfund Site  
Farmington, New Mexico**

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

**August 2005**

PRELIMINARY CLOSEOUT REPORT  
LEE ACRES LANDFILL SUPERFUND SITE

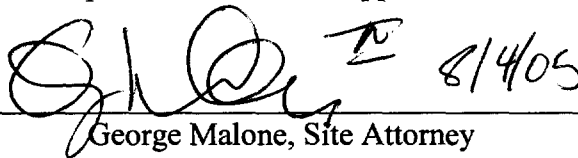
CONCURRENCE PAGE

 8/3/05

Sairam Appaji, Remedial Project Manager  
Superfund Technical Support Team

 8/3/05

Donald H. Williams, Team Leader  
Superfund Technical Support Team

 8/4/05

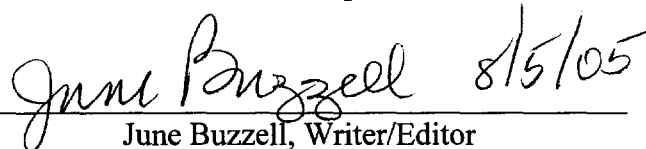
George Malone, Site Attorney  
Office of Regional Counsel



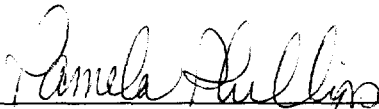
Mark Peycke, Chief  
Superfund Branch, Office of Regional Counsel

 8/5/05

Wren Stenger, Chief  
LA/OK/NM Branch, Superfund Division

 8/5/05

June Buzzell, Writer/Editor  
Superfund Division



Pam Phillips, Deputy Director  
Superfund Division

## **I. Introduction**

The U.S. Environmental Protection Agency (EPA) has completed this Preliminary Close Out Report for the Lee Acres Landfill Superfund Site in accordance with the Close Out Procedures for National Priorities List Sites, OSWER Directive 9320.2 - 09A-P, and in recognition of the completion of all construction activity associated with the site. 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.

Construction activities at the Site began in October 2004 and ended in April 2005. The EPA conducted the final inspection on April 26, 2005. Also present during the inspection were representatives from the Bureau of Land Management (BLM). The EPA has determined that the remedy has been constructed in accordance with the remedial design plans and specifications, and no further response action is anticipated.

## **II. Summary of Site Conditions**

### **Background**

The Lee Acres Landfill Site is located approximately 4.5 miles east of Farmington, New Mexico, on federal land managed by BLM. In May 1962, San Juan County leased 20 acres and in 1980 another 40 acres from BLM. Initially, the county operated at this site as a municipal solid waste landfill but in 1980 began to accept liquid waste. Containment berms were built and lagoons were established in the northwest and southwest quadrants of the landfill. These lagoons are referred to as "northern lagoon" and "southern lagoon" respectively. The county operated the landfill until 1993.

In 1985, the northern lagoon berm breached during routine maintenance activities and released liquid contents and hydrogen sulfide gas. The release was mitigated on-site by the New Mexico Environment Department and the landfill closed to waste disposal. A preliminary investigation was performed by BLM in 1988 and the EPA placed the Site on the National Priorities List (NPL) in 1990.

The primary concern for remediation of the soils in the landfill is the potential for the leaching of the residual contamination from the landfill soils into the ground water. The primary concern for the ground water pathway is potential migration offsite and ingestion of manganese, nickel, and chlorinated volatile organic compounds (VOCs) that are present in the ground water at the Site. These contaminants pose a potential risk to human health because the EPA's Hazard Index (HI) for non-carcinogenic risk greater than 1 and the concentrations of some chlorinated solvents exceed the federal maximum concentration limits (MCLs). The MCLs are considered Applicable and/or Relevant and Appropriate Requirements (ARARs) for the Site. The concentrations of some of the chlorinated solvents at this Site exceed the ARARs. Table 1 presents the contaminants

of concern, highest detected concentrations, most recent concentrations, and Site cleanup levels. Modeling has not been conducted to determine the expected time for monitored natural attenuation (MNA) to achieve cleanup levels. Ten years of monitoring data has indicated decreasing concentrations of the contaminants and decreasing plume size. Once the remedy is complete BLM will begin monitoring the wells on a quarterly basis for two years to evaluate the effectiveness of the remedy. If monitoring data indicate a long-term trend of significantly increasing contaminant concentrations, then an evaluation of the remedy performance will be conducted to determine the cause and appropriate corrective actions will be taken.

**TABLE 1**

<b>Contaminant Of Concern</b>	<b>Site Historic Maximum Concentration (µg/L)</b>	<b>2004 Maximum Concentration (µg/L)</b>	<b>SDWA MCL (µg/L)</b>	<b>NMWQCC Standards (µg/L)</b>	<b>Cleanup Levels (µg/L)</b>
Manganese	6335	4900	50 <sup>1</sup>	200	346 <sup>2</sup>
Nickel	12,500	2500	NA	200	200
1,2- <i>cis</i> -Dichloroethene	77	1.7	70	NA	70
1,2- <i>trans</i> -Dichloroethene	120	ND	100	NA	100
Tetrachloroethylene	10	1.6	5	20	5
Trichloroethylene	11	0.8	5	100	5
Vinyl Chloride	3.1	ND	2	1	1

<sup>1</sup>Secondary Maximum Contaminant Level

<sup>2</sup>Background Level

### **Pre Remedial Activities**

In 1997, a pilot project designed by Sandia National Laboratories to test the effectiveness of the proposed capillary barrier cap was implemented on a portion of the Site. After more than three years of monitoring and evaluation the capillary barrier cap project proved to be successful. Based on the success of the test the capillary barrier with institutional controls was the selected remedy for the Site.

## **Remedial Construction Activities**

On June 24, 2004 the EPA and the Department of Interior (DOI) concurrently signed a Record of Decision (ROD) selecting a capillary barrier as the remedy. The major components of this remedy are:

- Landfill cover (capillary barrier cover) with lysimeters;
- Surface water run-on and run-off controls;
- Monitored natural attenuation of ground water and
- Institutional Controls, in the form of withdrawal of Site by BLM, and implemented through the District Resource Management Plan/Final Environmental Impact Statement.

EPA and the DOI signed an Inter Agency Agreement (IAG) on June 22, 2004 that facilitated the process of signing the ROD and the remedy construction. BLM submitted a Remedial Design (RD) Work Plan to the EPA in July 2004. As part of the remedy construction the San Juan County proposed to extend County Road 5569 through a portion of the Site. BLM initiated remedial construction activities at the Site in October 2004 as per the schedule in the RD and completed all major activities in April 2005. On April 26, 2005, EPA conducted a final inspection and developed a list of outstanding items. The RA activities were performed according to the design specifications set forth in the 2004 RD package. The remedial construction consisted of the following major activities:

1. Closure and capping of landfill area.
2. Realignment of County Road 5569 through a portion of the Site. A fence isolates the highway from the capped areas of the landfill.
3. Storm water run-on and run-off controls along the perimeter of the capped areas.

The capillary barrier cap covers approximately sixty acres of the former landfill area.

BLM has withdrawn a total of 134.68 acres of public land surrounding and including the landfill, from settlement, sale, location, and entry as described in the Public Land Order No. 7234 (62 Fed. Reg. 2177, January 15, 1997). The withdrawal is in effect until January 15, 2047, unless the Secretary of the DOI determines it needs to be extended. In the ROD, BLM states that the withdrawn land will not be used in a way that results in an unacceptable risk to human health or the environment in the current and foreseeable future. The withdrawal does not prohibit all activities on the withdrawn land. The activities not prohibited by the withdrawal, however, are at BLM's discretion, and BLM may choose whether or not to authorize these activities and may dictate the circumstances under which they may occur. Further, BLM states that it will exercise its discretion to prohibit any activities that could disturb the integrity of the containment system and to prohibit the drilling of ground water wells for any purpose other than monitoring connected with the remedial action at the Site.

The IAG outlines EPA's authority to monitor the Site until cleanup is achieved. DOI is bound by the agreement to keep EPA informed of all activities at the Site relating to the remedial action until final cleanup is achieved.

BLM will continue to monitor ground water to ensure effectiveness of the capillary barrier cap and natural attenuation remedy.

### **III. Demonstration of Cleanup Activity Quality Assurance and Quality Control**

The EPA and BLM's contractor reviewed the remedial design and construction for compliance with quality assurance and quality control (QA/QC) protocols. Construction activities at the site were determined to be consistent with the ROD, the RD plans, construction specifications and the RD/RA statement of work.

The construction quality assurance plan incorporated all EPA and State requirements. Confirmatory inspections, independent testing, audits, and evaluations of materials and workmanship were performed in accordance with the construction drawings, technical specification and plans. The contractor for BLM, which maintained a constant onsite presence, performed construction quality assurance and has documented on a daily basis Construction Quality Control in a report. The EPA Remedial Project Manager and State regulators visited the site during construction activities to review construction progress and evaluate and review the results of QA/QC activities. Deviations or non-adherence to QA/QC protocols, drawings, or specifications were properly documented and resolved.

### **IV. Activities and Schedule for Site Completion**

The following activities will be completed according to the following schedule:

<b>Activities</b>	<b>Estimated Completion</b>	<b>Responsible Organization</b>
Fence Cap Area	9/30/2005	BLM
Seed Cap Area	9/30/2005	BLM
Complete Interim RA Report	7/30/2005	BLM
Approve Interim RA Report	8/31/2005	EPA/NMED
Install New Monitor Well	9/30/2005	BLM
Begin O&M	10/1/2005	BLM
Complete First Five-Year Review	9/30/2010	BLM

## V. Summary Of Remediation Costs

The original cost estimate to implement the remedial action described in the ROD was as follows:

### *Soil Remedy*

Capillary Barrier: \$1.2 million

O&M: \$ 300,000

### *Ground Water Remedy*

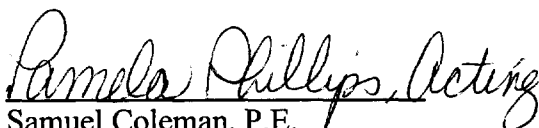
O&M Cost: 267,000

Other Costs: 32,000

At the time this Preliminary Closeout Report was prepared, the total money spent so far for the capillary barrier construction was \$ 712,000.

## VI. Five-Year Review

Hazardous substances will remain at the Site above levels that allow unlimited use and unrestricted exposure after the completion of the remedial action. Pursuant to the IAG, CERCLA section 121 (c) and as provided in the current guidance on Five-Year Reviews: OSWER Directive 9355.702A, Supplemental Five-Year Review Guidance, July 26, 1994, and the Second Supplemental Five-Year Review Guidance, December 21, 1995, BLM must conduct statutory five-year review. EPA is not responsible for conducting five-year reviews at Federal facility NPL sites. However, EPA's final remedy selection authority at Federal facility NPL sites requires that EPA retain final authority to make protectiveness determinations. Accordingly, EPA will either concur with any protectiveness determinations to ensure protection of human health and the environment, consistent with EPA's statutory and regulatory authorities or EPA may provide independent findings. The first Five-Year Review Report will be completed prior to September 2010.

  
Samuel Coleman, P.E.  
Director, Superfund Division  
U.S. EPA, Region 6

8/11/05  
Date

## References

1. Record of Decision for the Lee Acres Landfill Superfund Site, Farmington, New Mexico, U. S. EPA, Region 6, Dallas, Texas, May 2004.
2. Remedial Design/Remedial Action Work Plan, Bureau of Land Management, Farmington, New Mexico, July 2004.
3. Lee Acres Landfill Cover System, Preliminary/Interim Quality Control Report, Geomat, Inc., Farmington, NM, July 11, 2005.
4. Close Out Procedure for National Priorities List Sites, Office of Emergency and Remedial Response, U. S. EPA, January 2000.