



Preliminary Close Out Report

**Fruit Avenue Plume
Superfund Site
Albuquerque, New Mexico**

**United States Environmental
Protection Agency
Region 6**

Superfund Division

Approved 12/5/2006



Concurrence page

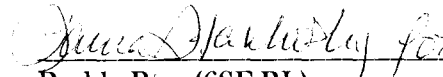
CONCURRENCE PAGE FOR THE
PRELIMINARY CLOSE OUT REPORT

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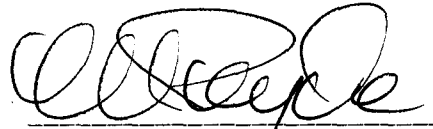
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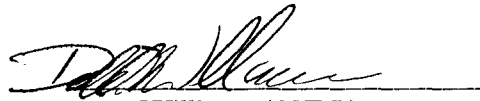
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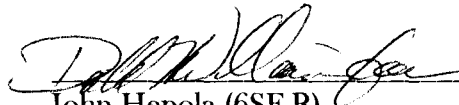
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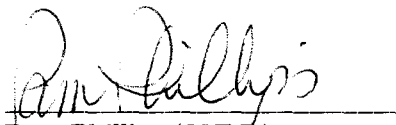
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I. INTRODUCTION

This Preliminary Close Out Report (PCOR) documents that the U.S. Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED or State) have completed response actions for all Operable Units (OUs) of the Fruit Avenue Plume (FAP or Site) Superfund site in Albuquerque, Bernalillo County, New Mexico, in accordance with "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016, OSWER Directive 9320.2-09A-P (January 2000) and the Addendum to Policy for "Close Out Procedures for National Priorities List Sites," OSWER 9320.2-13 (December 2005). The EPA and the State conducted a final inspection on December 13, 2005, and determined that the contractor constructed the remedy in accordance with the remedial design plans and specifications.

II. SUMMARY OF SITE CONDITIONS

Background

The FAP site is located in downtown Albuquerque, Bernalillo County, New Mexico, in the central portion of the Albuquerque Basin. The site coordinates are Latitude 35° 5' 21" North, and Longitude 106° 38' 40" West in Township 10N, Range 3E. The site elevation varies from 4,950 feet above mean sea level to 5,005 feet above mean sea level, and slopes from the east down toward the Rio Grande River to the west. The Rio Grande is located just over one mile west of the site. Martineztown, one of the oldest neighborhoods in Albuquerque, dating back to the 1800s, is located to the east.

The site can be divided based on the ground water plume configuration into the primary or western plume area in the main downtown portion of Albuquerque (generally west of the Burlington Northern Santa Fe (BNSF) railroad tracks) and the eastern down gradient dissolved plume area (generally east of the BNSF railroad tracks).

The Site (Comprehensive Environmental Response, Compensation, and Liability Information System [CERCLIS] No. NMD986668911) is identified on the National Priorities List (NPL). The Site includes a plume of chlorinated solvents in ground water that lies under the downtown area of Albuquerque, New Mexico. The primary ground water contaminants within the plume include Trichloroethene (TCE), Tetrachloroethene (PCE), cis-1,2-Dichloroethene (DCE) and trans-1,2-DCE. The Site was once occupied by Elite Cleaners, and earlier, by the Albuquerque Industrial Center.

From 1924 to 1973, several companies (Sunshine Laundry, Elite Cleaners, and American Linen Corporation) conducted laundry and/or dry cleaning operations on the Site near the corner of 3rd Street and Roma Avenue. In 1973, the buildings used by those companies were demolished and replaced with a paved parking area (location of the current Wells Fargo Bank parking lot) as part of an urban development plan. The City of Albuquerque (City) first discovered chlorinated

solvent contamination in the ground water near the Site in April 1989. This happened during a routine inspection of the Coca-Cola Bottling Plant water supply well located at 205 Marquette Avenue, NE. In addition, the City removed two Underground Storage Tanks (UST): a 300-gallon tank, and a 1,500-gallon tank—from the former Elite Cleaners/Sunshine Laundry Facility property in November 1989.

The City and the NMED conducted several investigations between 1989 and 1999 to determine the source of the contamination. The EPA proposed the site to the National Priorities List (NPL) on July 22, 1999 and added it to the final list on October 23, 1999. Installation and sampling of more than 100 ground water monitoring wells have been conducted as part of previous investigations at the Site by the NMED prior to listing. The EPA and the NMED have also sampled other accessible wells near the Site, including various production wells and environmental monitoring wells.

The current nature and extent of the ground water contamination plume at the Site was discussed in an EPA document entitled "Third Quarter 2005 Ground Water Sampling Event Summary," dated December 15, 2005. That report presented the following conclusions:

- Analytical results generally confirm the nature, extent, and magnitude of chlorinated solvent contamination previously identified for most areas of the Site.
- The western and central portions of the plume are located within the anticipated capture zone of the ground water extraction system. A recent Natural Attenuation Evaluation report, dated December 2005, has shown that PCE, TCE, and DCE concentrations in the eastern part of the plume should naturally attenuate to concentration levels below Maximum Contaminant Levels before they can migrate to the nearest down gradient receptor well.

Remedy Selection

After conducting a remedial investigation (RI) and feasibility study (FS), and after considering community and State comments on the proposed plan, the EPA signed the Record of Decision (ROD) on September 27, 2001. Upon further investigations, the ROD was revised by an Explanation of Significant Differences (ESD) on September 18, 2006. This action was prompted by findings of additional investigations conducted by the EPA, and the State, that uncovered that some components of the original remedy are no longer necessary. The State of New Mexico and the City of Albuquerque, concurred with the ESD after a community meeting held on August 31, 2006. The major components of the remedy as modified, include:

- Extraction, treatment, and re-injection of ground water, contaminated with chlorinated solvents,
- Implementation of ground water use restrictions until restoration of the ground water plume, and

- Annual ground water monitoring to assess the extent of contamination and risks to human health.

Components of the remedy that were removed as no longer necessary include:

- Hot spot treatment,
- Soil vapor extraction, and
- Placement of a order requiring that the asphalt cap be kept over the former source area until remediation goals are met.

Remedial Construction Activities

The remedial action objectives are to prevent human ingestion of, inhalation of, or dermal contact with ground water that contains concentrations of PCE above 5 micrograms per liter ($\mu\text{g/L}$). Health-based performance standards specified in the ROD for the ground water are: PCE, above 5 $\mu\text{g/L}$; TCE above 5 $\mu\text{g/L}$; cis-1,2-DCE above 70 $\mu\text{g/L}$; and trans-1,2-DCE above 100 $\mu\text{g/L}$. The selected remedy eliminates the principal threat posed by the site by reducing the concentrations of contaminants through treatment, thereby reducing the potential for exposure to solvents detected in the ground water.

The EPA completed the remedial design in August 2003 using the EPA Region 6 Response Action Contract (RAC) and the contractor CH2M Hill. Implementation of the remedy commenced in October 2003. In December 2003, a work stoppage order was issued to reevaluate the cost and direction of the Remedial Action (RA). Based on cost and uncertainty with regard to the extent of contamination, the EPA decided to implement a phased approach starting with a scaled-down pump-and-treat system. A revised design was prepared and completed in September 2004. Construction commenced in August 2004, and the system began full time operations in October 2005. The EPA and the NMED have completed construction of the remedy as planned and no additional areas of contamination were identified. These RA activities were performed according to specifications set forth in the remedial design.

For extraction and treatment of contaminated ground water, construction of an Air Stripper Treatment Plant (ASTP) was completed on the Site in January 2005. Refinements to the system were completed in October 2005, including the addition of an acid pretreatment system. The ASTP pumps water from a single extraction well at about 80 gallons per minute, treats the water, and then re-injects the water to the subsurface via three injection wells (at two locations). The ASTP has been running nearly full-time since November 2005. A startup status report has been prepared and the report concluded that the system is functioning properly.

For the implementation of ground water use restrictions until remediation goals for the ground water are met, the New Mexico Office of the State Engineer has issued a prohibition on the use of existing wells and a prohibition of drilling new wells within the boundaries of the Fruit Avenue Plume Superfund Site. Currently no unacceptable risks from exposure to the air, surface

soils, and subsoils have been identified limiting the use of the Site; however, ground water contamination does not allow for unlimited use and unrestricted exposure. The State Engineers Office has placed a prohibition on the use of ground water in the area of the Site until these goals are met. This is enforceable under the New Mexico Administrative Code (NMAC), Title 19, Chapter 25, Part 9 "Prohibition on use of surface water and ground water in designated areas". The EPA and the State are conducting semiannual, annual and biannual ground water monitoring activities on a select number of wells. As cleanup progresses and the plume is reduced, areas that achieve cleanup objectives could be used to support revisions to area maps showing the ground water plume and ground water prohibition. Also, findings of the ground water monitoring program and the Five-Year Review could support further changes to the remedy and the prohibition.

To address the annual ground water monitoring to assess the extent of contamination and risks to human health, the EPA and the NMED have conducted semiannual ground water monitoring since November 2004. Following an evaluation of ground water data from three sampling events, EPA and NMED concluded that the ground water plume is relatively stable and that future sampling would continue to occur for a selected number of wells on an annual, semiannual, and biannual basis. The last ground water monitoring sampling event took place in August 2006.

Remaining activities to be completed by the EPA contractor include periodic adjustments and/or modifications to the constructed remedy to maintain optimum performance, back flushing, and redevelopment of wells and other adjustments that are considered minimal in nature.

No cleanup activities using EPA removal authority were conducted at this site.

In response to a comment made at the August 31, 2006, community meeting, the EPA and the NMED will work with the community in evaluating and supporting future redevelopment efforts in the area of the treatment plant and its vicinity. Because the site is a ground water plume, redevelopment potential for surface properties may increase as the size of the ground water plume decreases.

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

The Quality Assurance/Quality Control (QA/QC) program for this remedy was conducted in accordance with the FAP Site Quality Assurance Project Plan (QAPP) prepared by the RA contractor for this Site. The EPA is the lead for remediation at this Site and the NMED is the support agency. Contracts were awarded by the EPA using the Response Action Contract with the NMED assistance providing routine oversight for the construction activities.

The performance of the activities described in the Remedial Design (RD) plan and the Site Sampling and Analysis Plan (SAP) resulted in the demonstration of the treatment facilities capacity to achieve the cleanup levels. These plans provided a system to identify and monitor general areas of contamination. Air monitoring was conducted during the RA construction activities and the operation of the treatment system in accordance with procedures and activities established in the Air Monitoring Plan to demonstrate compliance with the air quality standards at the site work area and site boundaries.

In summary, the construction QA/QC plans for this site were implemented throughout the construction of the remedy. Implementation of these plans will continue during the long term operation of the remedy.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

All Site construction activities have been completed.

The following activities remain or were completed for the FAP Site:

<u>Task</u>	<u>Estimated Completion</u>	<u>Responsible Organization</u>
Interim RA	05/03/2006 (Completed)	EPA
ESD	09/18/2006 (Completed)	EPA
Approve PCOR	11/30/2006	EPA
Construction Completion	11/30/2006	EPA
Determine Remedy is O&F	05/31/2007	EPA/State
Five-Year Review	11/30/2011	EPA
LTRA	05/31/2017	EPA
O&M Start	05/31/2017	State
Approve Final Close Out Report (FCOR)	To be determined	EPA/State
Deletion from NPL	To be determined	EPA/State

V. SUMMARY OF OPERATION AND MAINTENANCE (O&M)

The EPA and the NMED continue operation of the ASTP as a Long Term Response Action Program (LTRA) that can extend for up to ten years. Other future activities include conducting Five-Year Reviews and semiannual sampling events to monitor the behavior of the plume and the effectiveness of the treatment system. Remedy optimization will also be considered after the system has been in operation 3-4 years.

VI. SUMMARY OF REMEDIATION COSTS

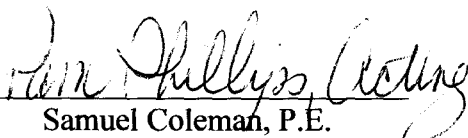
As of September, 2006, Superfund has spent over \$15 million dollars in the investigation and remediation of the FAP Site (this figure includes investigation, laboratory, and EPA indirect costs).

The original cost estimate to implement the RA described in the ROD was \$ 7.1 million (capital cost and O&M cost). Based on cost and the uncertainty with regard to the extent of contamination, the EPA decided to implement a phased approach starting with a scaled-down pump-and-treat system. This phased RA approach resulted in an approximate construction cost of \$6 million, as of December 2005 (No RAC contractor fees and New Mexico Gross Receipts Tax (NMGRT) are included in this figure).

LTRA activities conducted as part of O&M during the first ten years are estimated at \$700,000 per year. These costs are above the previously estimated cost of \$255,000 presented in the 2001 ROD and reflect the need for a more aggressive O&M program to address the corrosive nature of ground water in the Site area. Ground water sampling events are estimated at \$50,000 per event and the continuation of Five-Year reviews to be conducted by the EPA are estimated at \$50,000 every five years. Through a Superfund State Contract the State of New Mexico has contributed 10% of the cost for construction and LTRA activities at the Site.

VII. FIVE-YEAR REVIEWS

Upon completion of this remedy, no hazardous substances will remain on-site above levels that prevent unlimited use and unrestricted exposure. However, because this remedy will require greater than five years to achieve these levels, pursuant to CERCLA section 121 (c) and as provided in "Comprehensive Five-Year Review Guidance," OSWER Directive 9355.7-03B-P (June 2001), EPA must conduct a policy Five-Year Review. Therefore, the Five-Year Review will be completed prior to five years after the signature date of this document.

By: 
Samuel Coleman, P.E.
Director
Superfund Division

Date: 12/5/2006

CITY OF ALBUQUERQUE



Environmental Health Department

Alfredo Robert Santistevan, Director

November 17, 2006

received
11-27-06

Mr. Samuel J. Coleman, P.E.
Director, Superfund Division
United States Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: Preliminary Close Out Report for Fruit Avenue Superfund Site, Albuquerque, New Mexico

Environmental
Health
Department

Dear Mr. Coleman:

P.O. Box 1293

This serves as a letter of concurrence for the Preliminary Close Out Report (PCOR), dated October 20, 2006, prepared by the United States Environmental Protection Agency Region 6 Superfund Division. The PCOR is being issued to document completion of construction of the remedial action system at the Fruit Avenue Plume (FAP) site.

Albuquerque

The City of Albuquerque Environmental Health Department (AEHD) concurs with the PCOR. The City of Albuquerque looks forward to continuing to work with the EPA and NMED on the continued clean-up of the FAP.

New Mexico 87103

Sincerely,

www.cabq.gov

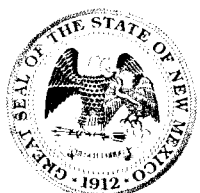
Alfredo Robert Santistevan
Director

cc: Mary Lou Leonard, Associate Director, City of Albuquerque Environmental Health Department
Bartolome J. Canellas, Region 6 EPA
Dana Bahar, NMED Superfund Oversight Section
Ralph Gruebel, Manager, Environmental Services Division, City of Albuquerque Environmental Health Department
Sabino Rivera, NMED Superfund Oversight Section
Eileen Shannon, City of Albuquerque Environmental Health Department
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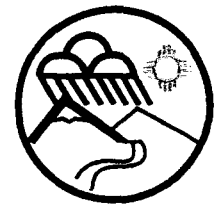
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John Hepala



BILL RICHARDSON
GOVERNOR

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RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

November 30, 2006

Mr. Samuel J. Coleman
Director, Superfund Division
United States Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

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SUPERFUND DIV
ENVIRONMENTAL PROTECTION AGENCY

RE: Preliminary Closeout Report for the Fruit Avenue Plume Superfund Site, Albuquerque, New Mexico (CERCLIS ID No. NMD98668911)

Dear Mr. Coleman:

The New Mexico Environment Department (NMED) has reviewed the draft Preliminary Closeout Report (PCOR) dated November 2006 for the Fruit Avenue Plume Superfund Site (Site) located in Albuquerque, New Mexico. The Environmental Protection Agency (EPA) and NMED have completed response actions for all Operable Units at the Site. The EPA and NMED have conducted a final inspection of the air stripper treatment building on December 13, 2005 and determined that the contractor constructed the remedy in accordance with the remedial design plans and specifications. Therefore, the NMED concurs with the EPA and the City of Albuquerque that the completion of construction activities has occurred at the Site.

NMED understands that a remedy becomes "operational and functional" either one year after construction is complete or when the remedy is determined concurrently by EPA and the state to be functioning properly and is performed as designed, which ever is earlier. EPA may grant extensions to the one-year period, as appropriate.



212572

Mr. Samuel Coleman
Page 2 of 2
November 30, 2006

NMED appreciates the continued supportive working relationship with EPA and looks forward to the clean up of the Fruit Avenue Plume Superfund Site. If you have any questions, please call me at (505) 827-2855, or Sabino Rivera of my staff at (505) 827-0387.

Sincerely,



Ron Curry
Secretary

RC:sr

cc: Buddy Parr, EPA, Team Leader
Bartoleme J. Canellas, EPA Remedial Project Manager
Alfredo Robert Santistevan, Director, City of Albuquerque Environmental Health Division
Mary Lou Leonard, Associate Director, City of Albuquerque Environmental Health Division
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