

# Environmental Restoration Project



## ER Site No. 187: TA-I Sanitary Sewer Lines

ADS: 1302

Operable Unit: Technical Area I

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### Site History

The sanitary sewer system was constructed between 1948 and 1950. The sanitary line has been expanded and modified several times since then. The majority of the system is comprised of vitrified clay pipe ranging in diameter from 2 to 8 in. The system is designed to collect sanitary and industrial discharges from the buildings in Technical Area (TA)-I for treatment at the Albuquerque municipal wastewater treatment plant. It currently carries approximately 1 million gal/day of which approximately 60 percent is industrial waste; the remaining 40 percent is sanitary effluent.

For approximately 40 years, sanitary sewer system discharges included waste from photographic and printing shops, laboratories, and semiconductor processing, integrated circuit manufacturing, and plating facilities. The general nature of TA-I activities as a research and development laboratory provided a scenario for use of a multitude of chemicals in generally small quantities.

Employee interviews noted that during the 1950s, 1960s, and 1970s it was common laboratory practice to handle all hazardous and radioactive wastes in separate receptacles. Wastes deposited in these containers were disposed of at the [Chemical Waste](#) or [Radioactive Waste](#) Landfills located in TA-III. If organic compounds were disposed of in sewer line drains, the releases would have been in very small quantities, such as a 1 to 3 mL organic compound rinse to clean a circuit board. When the acid waste line ([ER Site 226](#)) was abandoned in the mid- to late-1960s, the portion of the line north of I Street was integrated into the sanitary sewer system. Any industrial discharges that had been routed to the northern portion of the acid waste line and that were not discontinued at that time became part of the sanitary system effluent.

The sanitary sewer system was listed as ER Site 187 in the Comprehensive Environmental Assessment and Response Program (CEARP) Phase I Report because deterioration of the sanitary sewer system had been noted during the interviews conducted for the preparation of that report. Some system deterioration was assumed to be a result of normal use; other deterioration

was attributed to industrial waste discharges. For example, a line was corroded between the northeast corner of Building 894 and the northwest corner of Building 870, possibly because of acid discharges from Building 870. Based on a verbal agreement between SNL/NM ER Project Management Office and the Environmental Protection Agency (EPA) Region 6, the ER site is limited to those portions of the system where breaks in the lines have been identified and potential contaminants of concern (COCs) have been detected.

Additional site history information and compilation of data that have been collected at this site are provided in the TA-I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan, submitted in February 1995.

## Constituents of Concern

The potential COCs identified for this site during its history include:

Radionuclides,  
Metals,  
Volatile organic compounds (VOCs),  
Semivolatile organic compounds (SVOCs), and  
Polychlorinated biphenyls (PCBs).

## Current Hazards

There are no surface contaminants of concern at this site. Possible contaminants associated with this site are greater than a foot below the ground surface. There are several contaminants in the subsurface; those that contributed to the non-radiological risk were manganese, nickel and benzene. However, based on the concentrations of these contaminants found to date, an assessment of the risk under an industrial land-use setting indicates that this site does not have a significant potential to affect human health. There were slightly elevated levels of Pu 238, Pu 239/240, and tritium; however, total effective dose equivalent was less than that allowed for a residential-use setting.

## Current Status of Work

The TA-I RFI Work Plan was delivered to the EPA for review in February 1995. Field activities outlined in the work plan began in April 1995. The surface and near-surface site characterization investigations were completed in June 1995. Site characterization included collection of near-surface (2-16 ft) soil samples to assess the potential for contaminated soils at this site.

Based upon the analysis of soil samples collected near the sanitary sewer system, a No Further Action (NFA) proposal, based on a risk-assessment justification, was prepared and submitted to the New Mexico Environment Department (NMED) in May 1997.

NMED reviewed the NFA and returned a Request for Supplemental Information (RSI) in March 1998. SNL responded to the RSI in June 1998. NMED requested that additional sampling be

done to further determine the nature and extent of contamination. NMED also requested additional sampling at Sites 96 and 226. Because of the close proximity of these sites to Site 187, and because the nature of contamination was similar, it was decided to combine further sampling at these sites to reduce the amount of sampling needed.

In September 2001, SNL met with NMED to specifically define what additional sampling should be done at Sites 96, 187 and 226. A Sample and Analysis Plan (SAP) was completed in November 2001 to document the results of the discussions. SNL agreed to collect soil samples at 21 locations, 3 of which were originally sample locations for Site 187. The remaining 18 were planned to be taken at locations offset from the original sample locations. The constituents the samples were to be analyzed for varied but included VOCs, SVOCs, RCRA metals, isotopic plutonium and tritium.

All but 1 of the soil samples defined in the SAP to be collected near original sample locations were collected in May 2002; the sample that was not collected was on Air Force property, and, with the consent of NMED, was left uncollected.

## **Future Work Planned**

The final response to the NMED's March 1998 RSI request will be completed. The response will include a summary of the recent sampling results and a revised risk assessment.

## **Waste Volume Estimated/Generated**

A small amount of waste was generated as a result of characterization sampling conducted for the RFI.

**Information for ER Site 187 was last updated Jan 21, 2003**