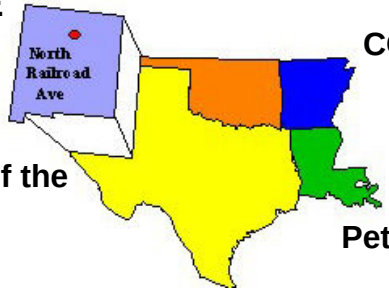
NORTH RAILROAD AVENUE PLUME
(RIO ARRIBA COUNTY) NEW MEXICO
(Within the exterior boundaries of the Santa Clara Indian Reservation)



EPA REGION 6
CONGRESSIONAL DISTRICT 3

Contact:
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EPA ID# NMD986670156
Site ID: 0604299

Updated: December 2009

Current Status

NMED sampled ground water during the end of October and early November as part of their routine annual sampling and part of the remedial action. EPA assisted with the ground water sampling. The preliminary results indicate significant reduction of PCE and its daughter products continue and progress towards site cleanup are advancing well ahead of schedule. EPA and NMED are also preparing for performing a Five Year Review to begin in early January 2010.

NMED continues to operate the remedy with EPA oversight and is demonstrating measurable success in PCE reduction, along with the PCE degradation products. EPA and NMED are currently discussing milestone commitments related toward formal remedy evaluation, continued progression reports that will be sent to Congress. The report will be finalized in Spring 2010.

EPA met with NMED, the City of Espanola, and the Santa Clara Pueblo on May 7, 2009 to discuss the site progress to date, answer any technical questions the City or Pueblo may have related to the project, and to observe the injection of emulsified vegetable oil to stimulate the bioremedial process occurring at the site.

EPA and NMED in coordination with Santa Clara Pueblo and the City of Espanola held a Construction Completion Ceremony at the site on October 14, 2008 to commemorate the completion of the remedy construction and full implementation of the remedy. A Preliminary Close-Out Report was signed by the Director (Acting) of Superfund for Region 6 on June 30, 2008 documenting construction completion of the project remedy to Congress.

EPA signed an Explanation of Significant Differences to the Record of Decision on March 7, 2008, and received concurrence and letters of support from the State of New Mexico, the Santa Clara Pueblo and the City of Espanola.

Based on the highly successful results received during the Field Test Plan, emulsified vegetable oil will be used to remediate the PCE plume and DNAPL contaminant. The Explanation of Significant Differences report identifies emulsified vegetable oil, combined with infused hydrogen gas at the source of the plume makes an excellent substitute for the originally planned SEAR treatment. Based on new information obtained during remedy implementation EPA and NMED determined SEAR treatment was not the best option for remediation the DNAPL and source area of the plume. For more information, please see the ESD report or Fact Sheets mailed to the community at large.

NMED remains in close communication with other State and local authorities regarding the remedial progress achieved to date. EPA and NMED will continue to communicate with local authorities, as requested, in order to help minimize any inconveniences from the Site.

Project Status:

NMED, the state lead on the Remedial Action at the site is currently implementing Enhanced In-Situ Bioremediation treatment. The well installation phase of the remedy was completed November 2005. The two treatment buildings have been erected for the source area and bio-curtain along U.S. Highway 84/285,

and in the deep zone near the Plaza de Espanola area.

Remedy includes the following activities:

- Enhanced In-Situ Bioremediation in the Source Zone (DNAPL), and at high PCE concentration areas (or Hot Spots);
- Enhanced In-Situ Bioremediation of the Dissolved-Phase Plume;
- Semi-Annual Ground Water Quality Monitoring (to assess performance of the remedial actions)

Benefits

- The investigation of the ground water contamination identified the source of contamination, the extent of the ground water contamination, and its potential threat to the public drinking water supply.
- Remediation of the contaminated media will protect the area drinking water supply and the Rio Grande from future chlorinated solvent contamination.
- The site is currently unrestricted from surface landuse activities or redevelopment. Coordination and consultation with NMED should continue to occur however, since NMED is currently undergoing preliminary remedial implementation.

Population Protected and the Volume of Contaminated Media

Population in July 2008: 9,691. Population change since 2000: +0.0%

An estimated 280 million gallons (OR 23,352 POUNDS) of ground water has been contaminated, and based on plume dimensions and average concentrations, an estimated 275 pounds of PCE exists in the dissolved phase. In addition, residual PCE, in the form of a dense non-aqueous phase liquid (DNAPL) in the source area is the principal waste threat at the Site. An estimated 25 gallons (or 300 pounds) of DNAPL acts as a continual source of contamination by slowly dissolving into the ground water as it flows, creating the shallow and deep dissolved phase plume.

PCE has been reduced by greater than 95% throughout the treatment areas. Treatment areas defined as the ~ 200 x 600 foot area in the source area/hotspot and the 600 x 250 ft area at the biocurtain (not throughout the plume). PCE concentrations have been reduced from >29,000 ug/l to <1000 ug/l in the source area and from between 1500 to 3000 ug/l to below 5ug/l through out the hotspot area. Currently, vinyl chloride is the primary contaminant of concern within the treatment areas.

National Priorities Listing (NPL) History

NPL Inclusion Proposal Date:	July 28, 1998
NPL Inclusion Final Date:	January 19, 1999
NPL Deletion Proposal Date:	n/a
NPL Final Deletion Date:	n/a

Site Description

Location: The site is located in Espanola, Rio Arriba County, New Mexico, within the exterior boundary of the Santa Clara Indian Reservation. The Santa Clara Pueblo is located one mile south of the site. The site is located within the central business district of the town of Espanola. This central district includes service businesses, light industrial activities, as well as residential properties, and subsistence farming land.

Population: The 1990 U.S. Census estimated the population of Espanola to be 8,389 people. The Hispanic and Native American community comprise approximately 50% of the population. The Santa Clara Pueblo has a population of 2,400 people.

Setting: The site consists of a contaminated ground water plume extending approximately 58 acres in elliptical shape ¾ miles south of 113 North Railroad Avenue. The release of PCE contamination originated at the Norge Town Laundromat and Dry Cleaning operation.

Photos: Site Pictures 2008

Health Considerations

- There is a potential for elevated health risk levels associated with two types of chlorinated hydrocarbon compounds detected in the ground water including, tetrachloroethylene, trichloroethylene, cis-1, 2-dichloroethylene, and trans-1, 2-dichloroethylene. Pathways of concern are through ingestion, inhalation, or dermal contact with contaminated ground water.
- Tetrachloroethylene is the leading concern at this site because it is most widespread and found in the highest concentrations in ground water.

Record of Decision

Record of Decision Signed: September 27, 2001

The major components of the Selected Remedy include solvent flushing for the DNAPL component of the ground water contamination and in-situ biological treatment for the dissolved contamination. Soil vapor extraction from soil located at the source area is part of the remedy. A restrictive covenant is in place and prohibits the drilling of ground water wells within the affected ground water.

Site Contacts

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NMED Project Manager:	Steve Jetter	505-827-0072
EPA Regional Public Liaison:	Donn R. Walters	214-665-6483 or 1-800-533-3508
Site Repository:	Espanola Public Library	