

# NPL Site Narrative for Moses Lake Wellfield Contamination

## MOSES LAKE WELLFIELD CONTAMINATION Moses Lake, Washington

**Conditions at Proposal (July 29, 1991):** The City of Moses Lake is in Grant County in central Washington. On February 16, 1988, the Washington State Department of Health (WDOH) sampled eight Moses Lake municipal wells as part of a routine sampling effort. The samples were analyzed for volatile organic compounds (VOCs). Two of the wells contained trichloroethene (TCE) above EPA's Maximum Contaminant Level established under the Safe Drinking Water Act. On April 4, 1988, and May 23, 1988, WDOH resampled the municipal wells and confirmed the presence of TCE at high concentrations (up to 9.1 µg/L). In mid-December, the Washington Department of Ecology (WDOE), in an independent study in the Moses Lake area, detected levels up to 12 µg/L in some of the municipal wells. The two contaminated wells are part of a blended system that provides drinking water to 5,000 people. Other area residents depend on private wells.

WDOH and WDOE sampling only roughly defined the areal and vertical extent of TCE contamination. Based on these preliminary results, EPA conducted a study to identify the potential source or sources of TCE ground water contamination in the Moses Lake area. During a review of nearby Larson Air Force Base (LAFB) maps, discussions with former LAFB employees, and meetings with City and Port of Moses Lake personnel, EPA identified a number of potential sources, including but not limited to, a variety of former LAFB operations and disposal facilities, the City of Moses Lake municipal waste treatment plant, an infiltration area for the LAFB storm sewer system, and a burn pit currently used by the Big Bend Community College Fire Training School.

To identify potential sources, EPA performed the following activities: (1) inventoried many businesses near LAFB and surveyed solvent usage; (2) collected and reviewed historical data regarding the two primary operators at LAFB, the Boeing Corp. and the Army Corps of Engineers (COE); (3) analyzed historical aerial photographs through the EPA Environmental Monitoring Systems Laboratory; (4) collected 92 soil gas samples from the shallow subsurface along a series of transects crossing the study area (including the potential sources previously identified); (5) collected 62 ground water samples from a number of wells throughout the study area and analyzed for VOCs, selected ions, and other water quality parameters; and (6) collected geophysical data of the subsurface in the area of one municipal well.

EPA's study of potential sources indicates that the area has a long history of operations that could have generated waste TCE solvents, but no specific source area was identified by the techniques employed. The complexity of the local hydrogeology greatly complicated attempts to correlate the available ground water sampling data to specific portions of the several aquifers underlying the site. In addition, the information generated during the soil gas and geophysical studies was limited because ground water in the Moses Lake area is so deep -- several hundred feet in some cases.

**Status (October 1992):** Various government agencies are taking an active role in addressing problems related to the contaminated ground water at the site, including: (1) EPA is gathering information to support the search for potentially responsible parties (PRPs) and is coordinating community relations activities, (2)

COE is conducting an investigation near the former LAFB to identify possible sources of contamination, (3) the City of Moses Lake is managing the water system and modifying municipal wells to provide residents with drinking water that meets Federal standards, and (4) WDOH is pursuing enforcement actions against a private water supplier whose wells showed TCE levels above the Federal standard during recent sampling.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at [ATSDR - ToxFAQs](http://www.atsdr.cdc.gov/toxfaqs/index.asp) (<http://www.atsdr.cdc.gov/toxfaqs/index.asp>) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.