



Project Summary

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Hydrogeologic Support of Monitored Natural Attenuation at Louisiana Army Ammunition Plant (LAAP)

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Problem Statement: Ground Water at Louisiana Army Ammunition Plant (LAAP) is contaminated with TNT and RDX. This contamination, in the range of parts per billion to parts per million, resulted from munitions production from 1942 through 1989. The source of the contamination was removed from Area P in the mid 1980's and a system of monitoring wells installed to monitor the fate of contamination.

Objective: Assemble a database that will be used to establish multiple lines of evidence for natural attenuation of explosives. These multiple lines of evidence will be used to obtain a Natural Attenuation Record of Decision (ROD) for Area P at LAAP.

Scope: Micropurge techniques are being used to sample a network of 30 monitoring wells. The wells are sampled on a quarterly basis for a total of 2 years. These hydrogeologic data will be used to model the configuration of the contaminant plume and to calculate the total mass of TNT and RDX contamination.



Micropurge sampling techniques being conducted by the Monitored Natural Attenuation Team at the Louisiana Army Ammunition Plant, Minden, Louisiana.

Approach: The hydrogeologic support for Monitored Natural Attenuation involves sampling 30 wells in Area P on a quarterly basis. The water analysis for this sampling effort is being conducted at WES's analytical laboratory using method 8330 (low level) for explosives. Sampling procedures will use standing operating procedures (SOPs) developed and successfully utilized in previous monitoring programs.

Results: WES products include concentration history maps for each well sampled, numerical modeling of the contaminant plume, and contaminant mass calculations.

Summary and Conclusions: As part of two previous research programs (completed December 1998), 18 months of sampling data were collected at LAAP. The research included the sampling of 30 wells at the Area P portion of LAAP. The sampling techniques used followed SOPs developed and utilized successfully at Aberdeen Proving Ground, MD. The current effort is using all existing data and will continue through 2 additional years of monitoring, resulting in a Monitored Natural Attenuation Program with a data base consisting of 5 years of monitoring data. These data will be used to establish multiple lines of evidence (i.e., declining concentrations, static or diminishing plume, and transformation of TNT and RDX) to obtain a Natural Attenuation ROD for environmental restoration at LAAP.