

Completed Pollution Prevention Project Case Study

United States Department of Energy
Office of Environmental Management
Fact Sheet

Microbes Help Clean Up Oil Spills

Los Alamos National Laboratory

Original Problem

Heavy equipment occasionally leaked oil onto the ground at job sites around the Laboratory. The oil and dirt were removed from these sites and disposed of as New Mexico Special Waste. The Laboratory wanted a way to reliably reduce the amount of this waste that was generated each year.

The Project Solution

Oil Sponge is a mixture of fine soil and microbes that digest oil. Oil Sponge was mixed with water and oil-contaminated soil in large metal bins at the Facilities Department. Initially the soil had over 40,000ppm of oil. After about six weeks of daily mixing to enhance aeration, the soil contained less than 1ppm of oil.

Value of Improvement

Since the oil in the contaminated soil could be removed so completely by the bacteria in the Oil Sponge, the soil no longer met the criteria for NM Special Waste. Instead of being treated as waste, the cleaned soil can be used to fill holes or act as base fill for parking lots. Less waste storage space is required, and approximately \$15,000 in waste disposal costs are avoided per year.

Lifecycle Waste Reduction	
Lifecycle Waste Reduction	~2500kg /year
Commencement Date	2002
Project Useful Life (Years)	Indefinite



DOE Monetary Benefits

Total Project Cost	NA
Lifecycle Savings	~\$15,000 / year
Return on Investment	NA

Benefits At-A-Glance

- The facilities department no longer generates any NM Special Waste.
- Approximately \$15,000 in disposal costs is avoided, and the cleaned soil can be used for productive purposes.
- There is more storage space available now that drums of NM Special Waste are not present.

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	Summary Data
Priority Area:	Waste Minimization Projects
Project Type:	Process Improvement
Total Project Cost:	NA
Lifecycle Savings:	~\$15,000 per year in avoided waste disposal.
Implementing Group:	JCNNM
Benefiting Group:	JCNNM
Useful Life Years:	Indefinite
Return on Investment:	NA
Lifecycle Waste Reduction:	~2500kg of oil-contaminated soil annually
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LA-UR-02-7680	