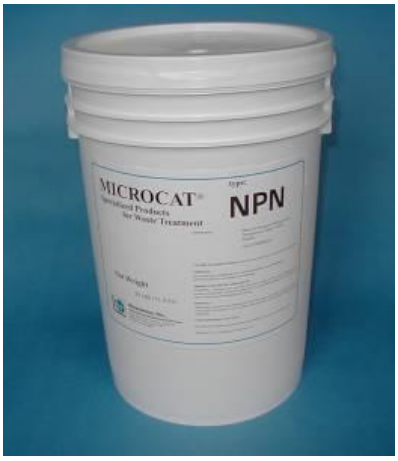
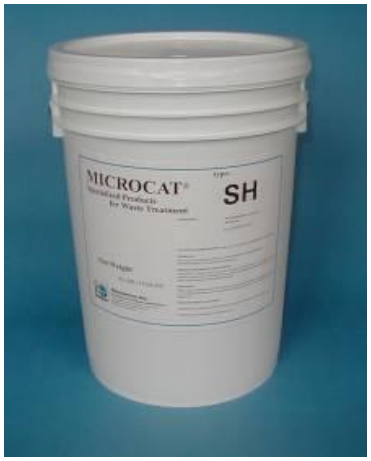
CASE STUDY # 053

BIOFARMING REMEDIATION OF DIESEL FUEL CONTAMINATED SOIL

SUBJECT:
Ex-situ biofarming of soil contaminated with Number 2 diesel fuel from leaking underground tank.

PRODUCT APPLIED: **MICROCAT®-NPN Nutrient Blend**
MICROCAT-SL Biodegradable Wetting Agents
MICROCAT-XBS Petroleum Hydrocarbon Degrader





CONTAMINATED SITE

Number 2 diesel fuel was found leaking into the soil from an underground storage tank. The leaking tank was removed and approximately 35,000 kg (38.5 tons) of contaminated soil was excavated. Overall total petroleum hydrocarbon (TPH) contamination in the soil was estimated at about 1300 mg/kg.

PROCEDURES & OBJECTIVES:

The treatment objective was to reduce the TPH concentration in the contaminated soil to less than 200 mg/kg and reuse the soil as backfill at the former tank location.

PROGRAM:
The contaminated soil was spread out on a plastic liner to a depth of approximately 18 inches. Soil moisture levels were adjusted periodically to maintain levels optimal for biological growth. **MICROCAT-NPN** Nutrient Blend was added to the soil to provide nutrient for bacterial growth.

MICROCAT-SL Biodegradable Wetting Agent was added to enhance solubilization of hydrophobic petroleum hydrocarbons. **MICROCAT-XBS** Petroleum Hydrocarbon Degrader was added to ensure the presence of adequate numbers of petroleum hydrocarbon degrading microbes. The soil was tilled frequently and optimal treatment conditions were maintained for approximately three months.

RESULTS:
After three months, TPH levels in the treated soil were found to be 33 mg/kg (see graph). The treated soil was retained and used for backfill at the former location of the leaking tank.