

Latex Pond Remediation Converts Waste to Backfill for Parking Lot
Location: Northern Georgia
Client: Major Carpet Manufacturer Contract
Amount: \$530,000

PROBLEM

Remtech Engineers was engaged to close three latex ponds. Concern was expressed by the client that the latex may contain hazardous chemicals.

SOLUTION

Remtech conducted a site characterization of the SBR Latex in the ponds that confirmed that a potential for HSRA chemicals over reporting triggers may be present.

Analysis of bench-scale chemically fixed and aerated latex waste samples did not contain hazardous chemicals indicating that the heat of hydration of chemical fixation with cement kiln dust and Portland Cement and air stripping was an effective treatment methodology. This treatment methodology removed 99% of phthalates, formaldehyde, and other volatile organic compounds. In addition, the compressive strength of the treated waste was sufficient to be used as a compactible backfill for construction of a parking lot that could be used by the client.

8,000 tons of latex sludge were dewatered and leachates treated with Remtech's mobile treatment system. The 100-gallon per minute treatment system consisted of a 10,000-gallon clarifier followed by a Remtech Low-Profile Air Stripper, diatomaceous earth and activated carbon filters. Over 460,000 gallons of pond leachates were treated below detection limits for volatile and semi-volatile organics and discharged to the City's sanitary sewer system.

Latex sludges were chemically fixed and then placed on inclined dewatering beds and degassed with hot air on biobeds constructed over perforated piping in three foot lifts. The stabilized material was used for backfill for construction of a parking lot. Compaction ratios greater than 90% were achieved. An asphalt cap was used as a final cover.

COST/BENEFITS

Converting potentially hazardous latex wastes insitu into a usable backfill material for construction of a parking lot saved the client several hundred thousand dollars compared to excavation, transport, disposal, and backfill.



Pond Dewatering Operations



Chemical Fixation of Wastes Drives off VOCs



Remtech Leachate Treatment System



Matrix Degassing/Drying Beds