GEOPHYSICAL AND GEOTECHNICAL SERVICES

SIGMA CHEMICAL COMPANY HEADQUARTERS

ST. LOUIS, MISSOURI

Location: *Laclede Town Site*
St. Louis, Missouri

Owner/Client: *Sigma Chemical Company*

Project Managers: *Philip A. Jozwiak, P.E.*
(Geotechnical Services)
Douglas W. Lambert, R.G.
(Geophysical Services)

Project Description:

Geotechnology, Inc., provided geophysical, environmental and preliminary geotechnical investigation services at this 14-acre Brownfield site located in midtown St. Louis, Missouri. Sigma Chemical Company was developing the property for their new corporate headquarters. The site was formerly occupied by numerous residential structures and industrial facilities, including gasoline service stations, a dry cleaner and a hospital. Rubble fill covered most of the site. It was important to identify contaminated soils or groundwater, if present, in order to obtain financial assistance through Missouri's Brownfields Program.

Geotechnology, Inc., conducted a magnetic gradient survey over four acres of the site in order to locate suspected underground storage tanks. The survey was conducted using a Geometrics G858G Magnetic Gradiometer. Based on the anomalies disclosed by the magnetic gradient data, underground storage tanks (USTs) were suspected at five locations. The locations of some of the geotechnical borings were then adjusted to confirm suspected UST locations. Samples from borings adjacent to suspected UST locations were screened using a Microtip photoionization detector to determine the presence of subsurface contamination. Contamination, presumably related to USTs, was identified within samples associated with some of the anomalies detected in the geophysical survey.

In addition to confirming buried tank locations, the purpose of the subsurface exploration was to evaluate the feasibility of foundation schemes for locating buildings having moderate column loads. Borings were continuously sampled with 2-inch I.D. split spoon samplers to approximately 16-feet, or auger refusal if shallower. Additional subsurface exploration work was conducted at locations within the footprints of the proposed buildings to evaluate strength parameters of the soils and rock, as well as to more accurately define the nature and extent of the rubble fill material.