

# PROJECT PROFILE

## HYDROGEOLOGIC CHARACTERIZATION FOR COAL TAR WASTE REMEDIATION

At the site of a former manufactured gas plant known to contain coal tar wastes, D'Appolonia was retained by the owner to develop and implement a site exploration program for assessing the local hydrogeology and ground water conditions in site subsurface soils and bedrock.

A field exploration program to obtain samples and to install monitoring wells and piezometers at the site was developed and implemented by D'Appolonia with particular attention given to minimizing the potential for cross contamination from wastes and non-aqueous phase liquids (NAPLs) known to be present in the site soils. The results of the exploration program were evaluated in conjunction with data from geologic mapping of rock outcrops at the site. The mapping was performed for the purpose of assessing site hydrogeology and identifying the potential for horizontal and vertical migration of ground water contaminants at the site.

Based upon the results of the site exploration program and characterization of site conditions, a preliminary assessment of remediation technologies applicable for the removal of coal tar wastes, contaminated soil, and ground water was performed. Remediation technologies evaluated as part of this study included the following:



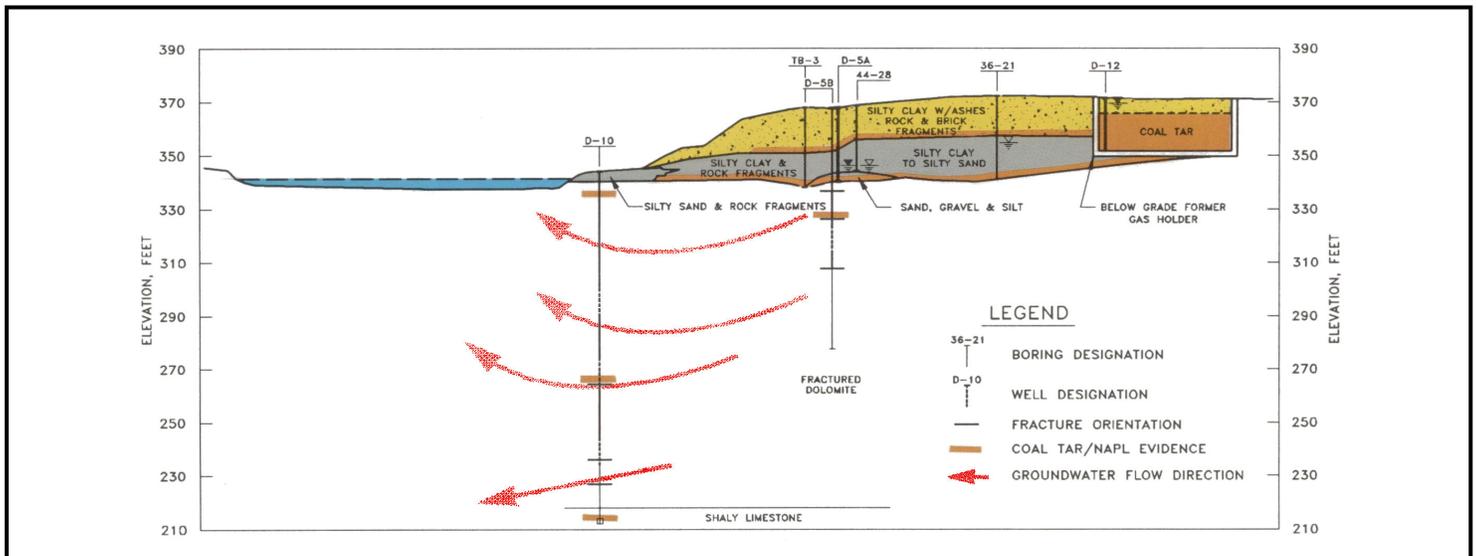
Monitoring of VOC vapors with a photoionization meter during subsurface exploration.

- Containment systems such as caps, slurry walls, and formation grouting;
- Collection systems such as extraction wells and gravity (horizontal) drains; and
- Excavation and removal of selected zones of contamination.

D'Appolonia also evaluated treatment technologies for volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbon (PAH) contamina-

tion, including bioremediation, soil flushing and venting, and ground water collection and treatment.

These technologies were evaluated relative to their applicability to site conditions, and recommendations were provided to the owner for implementation. A combination containment and collection system with synthetic barrier walls was subsequently employed at the site. D'Appolonia provided consulting services relative to hydrogeologic issues during the site remediation and construction activities.



Schematic cross section showing contaminant migration from source area.