

Environmental Investigation & Remediation

Former Manufacturing Company, France

HRP Associates, Inc. (HRP) was retained by a large manufacturing corporation to assist with the divestiture of one of their plants in La Ferte Bernard, France. The property is situated in an area of mixed residential and industrial/commercial use with a complex layered stratigraphy consisting of sand, silty clay, sandy clay, and weathered chalk.

Site investigations, including the collection of soil samples and installation of ground water monitor wells, identified two groundwater contaminant plumes originating from three solvent release areas on the property. Soil concentrations at each of these areas indicated the potential presence of dense non-aqueous phase liquids (DNAPL) extending below the water table, and penetrating both the silty and sandy clay layers. A health risk assessment (HRA) was conducted to determine if these release areas posed a potential health risk for the site or down gradient properties, and assess whether or not remediation of the release areas or control of the groundwater plumes would be necessary.



The HRA included;

- Soil vapor sampling in the identified source areas and above portions of the plumes to evaluate the distribution and temporal changes of VOC concentrations in soil gas,
- A groundwater pumping test and monitor well slug testing to support modeling of groundwater flow at the property and predict contaminant transport rates, and
- Discussion with the DREAL, the local regulatory agency, to obtain agency concurrence with the HRA.

The results of the HRA and groundwater modeling were used to establish appropriate risk-based target concentrations and remedial goals for site soil. Established target concentrations were determined on the basis of future industrial/commercial use and with the general local policy for water use as requested by the DREAL. The results of the contaminant plume modeling indicated that the plumes are no longer increasing in overall size and are generally restricted to the property. Therefore, it was determined that no active remediation or control of the groundwater plume was warranted.

FIRM

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VALUE

\$900,000

■ *Site investigations, including the collection of soil samples and installation of ground water monitor wells, identified two groundwater contaminant plumes originating from three solvent release areas on the property*

■ *HRP worked closely with the client and the local agency to develop a remediation strategy*

■ *A conceptual remediation approach was developed to achieve the goals established by the HRA as supported by the groundwater contaminant modeling*

continued

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continued

HRP worked closely with the client to develop a remediation strategy that would successfully:

- Remediate soils to established target concentrations across all impacted stratified layers,
- Complete soil remediation in a reasonable timeframe to facilitate the future sale of the property, and
- Limit the duration of groundwater monitoring at the site.

A conceptual remediation approach was developed to achieve the goals established by the HRA as supported by the groundwater contaminant modeling. This approach includes;

- Focused source area soil remediation using a combination of shallow soil excavation and in-situ thermal desorption (ISTD) treatment of deeper impacted soil, and
- Two years of groundwater monitoring to meet the DREALs minimum requirements and confirm the results of the model.

It is expected that these remedial actions will result in further stabilization and further reduction of the overall extent of the plumes by removing the source(s) of the contamination. This strategy has been presented to the DREAL and they have indicated their general agreement with the approach.