



BEYOND ETHANOL: PHASE I ENVIRONMENTAL BEST PRACTICES BRING SECOND- GENERATION BIOFUELS TO MARKET

The push to find new and better ways to produce more and better renewable sources of energy is on. From energy security to climate change to public demand, the time for renewables has arrived. But creating and bringing renewable energy to where it is needed presents multiple challenges for developers.

Take the work of a biofuels firm that had developed a proprietary emulsification process to stabilize oil-based feedstocks. The company planned to produce second-generation biofuels from a variety of resources including waste vegetable oil, animal fats and emerging feedstocks, such as algae and the drought-resistant jatropha species of plants. But first, they needed to build a production plant in the United States near the East Coast industrial markets they expected to serve.

The firm found a site in Baltimore, Maryland, but learned that its prior use for industrial manufacturing

for more than a century had left it in the Maryland Voluntary Cleanup Program and an adjacent site was a federally listed Superfund site. To overcome this barrier and avoid environmental liability for past site activities required the biofuels firm to fully understand the property's existing environmental conditions.

HDR was brought in to perform a Phase I Environmental Site Assessment. With an in-house Phase I Best Practices Team, HDR was able to quickly pull together the best qualified staff resources. The HDR hazardous materials team reviewed site history, regulatory files and liability issues associated with hazardous waste sites in Maryland.

The result was a Phase I Environment Site Assessment Report that identified current and historic site conditions and recommended mitigation actions if plant construction created subsurface disturbances to soil and groundwater resources. In response to the HDR report, the biofuels firm was able to identify contamination onsite and incorporate into its lease protections against environmental liability. This allowed the client to select a site that fit their needs while also protecting themselves against environmental liability.

In February 2009, the firm announced that its initial 5-million-gallon-per-year biofuel plant was complete with contracts in place for its renewable biofuel product. The plant was built to allow for expansion to accommodate production of up to 50 million gallons of biofuel per year as the market grows. □

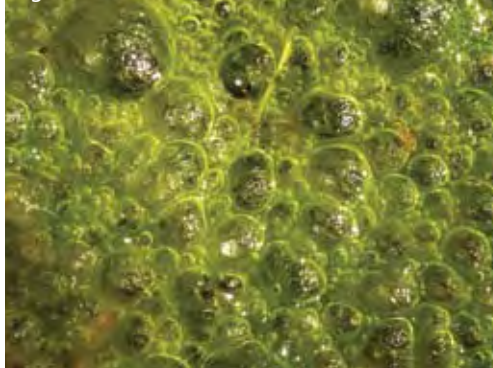
HDR provides service to the major corn-to-ethanol capacity in the U.S.—a technology that eliminates significant imported oil consumption. Biofuels that do not compete with food supplies and create more net-renewable energy are needed. HDR is already working in second-generation biofuels by helping our clients procure the best facility sites while controlling risks and costs.

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Wasted oils and fats



Algae



Drought-resistant jatropha plants

