Project Updates

Massachusetts
ET-DSP™ system operation is complete at the Silresim Chemical Corporation Superfund Site in Lowell, MA under subcontract to Nobis Engineering, Inc. Approximately 88,000 lbs of chlorinated volatile organic compounds were removed from the subsurface based on caustic usage.

Connecticut
Construction and installation of the wellfield and treatment system at the Pharmacia and Upjohn Company LLC, North Haven Site has been completed. System start-up and shake-down is in progress and remediation operations are anticipated to commence in April. Operations are anticipated to continue into Fall 2012.

Florida

Cleanup Intensifies at Former Upjohn Site

TerraTherm is completing construction of a sophisticated In Situ Thermal Remediation (ISTR) pilot study under contract to Pfizer Inc., the world’s largest research-based pharmaceutical company. In 2003 Pfizer became responsible for the former Upjohn chemical manufacturing facility in North Haven, CT, which had ceased operations in 1993. USEPA and the State of Connecticut’s acceptance in 2010 of the Corrective Measures Study set the stage for implementation of ISTR as part of a site wide remedy to treat Dense Non-Aqueous Phase Liquid (DNAPL) and DNAPL-impacted soil/wastewater treatment residuals (WWTR) within portions of the site. The approved remedy included conducting a pilot test prior to full-scale ISTR design and implementation to support: (1) selection of the full-scale treatment temperature (i.e., 100°C, 325°C, or an intermediate temperature); (2) evaluation of different materials of construction; and (3) optimization of the design for full-scale ISTR including the aboveground vapor treatment process. The ISTR pilot study is also intended to complete ISTR treatment of one of the DNAPL Subareas.

The pilot program will use thermal wells to heat, vaporize and
Procurement and construction efforts continue for the thermal remediation of a chlorinated plume. In situ thermal remediation is being implemented as a supplemental action to the primary site remedy, which consists of groundwater recovery and treatment. Operations are expected to start Q3 2012.

New Jersey
Procurement and construction efforts are ongoing at a three acre ISTD project site in New Jersey. Thermal operations are expected to begin in Q4 2012.

Da Nang Vietnam
The U.S. Agency for International Development (USAID) has awarded TerraTherm, Inc. a thermal remediation design contract for cleanup of dioxin-contaminated soil and sediment at the Da Nang Airport in Vietnam. See the full article at USAID Award.

Learn More about TerraTherm Projects

See more updates in each issue of Think Thermal

See You There!
Here is a sampling of conferences and meetings we'll be attending. We hope to see you there! Please let us know if you are attending and if you would like to pre-arrange some time to discuss your projects or talk with one of our leaders or technical team members.

The thermal wellfield includes 36 heater wells; 15 multi-phase extraction (MPE) wells; 4 shallow horizontal vapor extraction wells; temperature monitoring arrays and pressure monitoring
points. DNAPL chemical vapors, expected to consist predominantly of VOCs and lower boiling SVOCs, will be extracted from the subsurface under vacuum, and from beneath an insulating vapor cap, and then routed to a vapor treatment system consisting of a thermal oxidizer, with back-up granular activated carbon. Vapors from the oxidizer will additionally be treated through a caustic scrubber prior to being emitted to the atmosphere in compliance with USEPA and CTDEEP air emissions standards.

Extracted groundwater, liquid condensate that accumulates in the wellfield piping manifold and moisture separator, and the blowdown stream from the scrubber, will be transferred to a phase separator designed to separate NAPL from water. NAPL, if present, will be collected in drums for off-site disposal (at an approved off-site RCRA and TSCA waste disposal facility). The effluent water will be discharged to the existing Groundwater Treatment Facility located at the Site for treatment prior to discharge, in accordance with a CTDEEP NPDES permit.

Pfizer's overall plan for the site, which would revitalize the land into a mixed-use property, is projected at $150 million in costs over five to eight years. "We're looking to optimize that timeframe and shorten it," Downey said recently to the North Haven Citizen, a local newspaper. "The east side would become an ecological preserve that would fill most of the site. On the western side we see 17 acres that could become commercial development. We wouldn't develop it ourselves, but instead work with interested developers. One thing that is really key for us is that we really want to make this a valuable asset not only to the town of North Haven, but also to the Quinnipiac River corridor as well." TerraTherm is excited to be a major contractor for this important cleanup effort.

TerraTherm Receives Environmental Business Journal Award at Annual Conference

At this year's Environmental Industry Summit held in San Diego, California March 14-16, John Bierschenk, TerraTherm President and CEO, received the Small Firms Bronze Award for Outstanding Business Achievement in the Environmental Industry in 2011.

About TerraTherm

TerraTherm, Inc. is a worldwide leader in the development and implementation of in situ thermal remediation of source zones and hazardous waste. We design, build and
operate projects from concept to closure, using In Situ Thermal Desorption (ISTD), Steam Enhanced Extraction (SEE) and Resistance Heating.

Worldwide service is conducted from company headquarters in Fitchburg, MA, and offices in Bakersfield CA, Denver CO, Houston TX, Truckee CA, and Baltimore MD as well as licensees including Krüger A/S (Denmark, Sweden, Norway, Finland, The Netherlands, Belgium, Italy and Poland), Provectus Group Ltd (UK), SheGoTec Japan, Inc. (Japan), and Thermal Cleaning Technologies, Inc. (Israel).

For more information, visit us at www.terratherm.com

Pictured here from left to right is Arthur Mabbett, President of Mabbett & Associates; Gary Lester, CEO of Eco Analysts, Inc., John Bierschenk, President and CEO of TerraTherm, Inc.; and Grant Ferrier, President and Chief Editor of Environmental Business International.

The Environmental Industry Summit is a national three-day learning event bringing together professionals from the environmental industry. Environmental industry executives and analysts were able to gain valuable perspectives on today's envirmental industry.

**Get To Know Us**

**TerraTherm Welcomes Senior Process Engineer Stephen McInerney**

Steve McInerney, P.E.

TerraTherm is proud to announce the addition of engineering expert, Stephen McInerney, P.E. With 25 years of process engineering expertise, he is a great addition to our current team of engineers.

Steve has developed and commercialized a High Temperature Thermal Desorption process for contaminated soils, sediments, and industrial wastes. He has specialized in remediation and industrial waste water treatment system design and construction and has served as operations manager and lead engineer for a nationwide portfolio of 40+ active remediation sites.

Steve holds a BS in Chemical Engineering from UMass Lowell.