

## U.S. EPA Remedial Action Contract

Texas, Arkansas, Louisiana, and Arizona

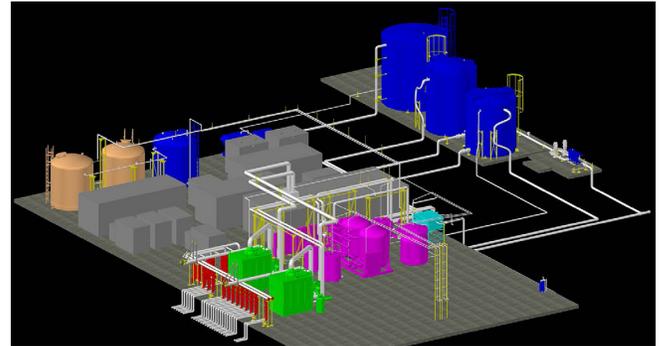
### Client

U.S. Environmental Protection Agency (EPA)

### Highlights

- ◆ Completed tasks at 17 Superfund Sites in four states
- ◆ Site characterization using TRIAD-based innovative technologies
- ◆ Remedial designs transforming wastes into recycled products
- ◆ Groundwater modeling supporting system optimization from modeling reduced system costs
- ◆ Remedial designs focused on minimizing future O&M costs

DBS&A has been supporting the U.S. Environmental Protection Agency (EPA) on the Region 6 Remedial Action Contract (RAC) since 2005. Since that time, DBS&A has performed all technical scope items associated with the Remedial Investigation/Feasibility Study (RI/FS) process at Superfund sites that are being funded by the federal government. This includes plan preparation, field services, modeling, remedial design, and reporting on 17 Superfund sites in Region 6 and one site in Region 9.



Isometric plan of treatment plant, State Road 114 Superfund site.

### Remedial Investigation, Design, Modeling, and Field Support, State Road 114 Superfund Site, Levelland, Texas

DBS&A has been actively involved on this project since 2000. Initially under contract to the Texas Commission on Environmental Quality, DBS&A performed the RI that included installing 36 monitor wells in the three uppermost water-bearing zones at the site and surrounding neighborhoods, aquifer testing, and groundwater modeling.

Since 2005, DBS&A has focused on the remedial design and remedial action at the site. DBS&A provided the engineer and geologist of record for the remedial design. The site remedy includes a network of 21 groundwater extraction wells and 124 soil vapor extraction wells. In addition to standard treatment of groundwater via air stripping, soil vapors have been treated via the C-3 technology that cryogenically compresses and condenses the vapors into a waste oil product. To date, more than 350,000 gallons of waste oil recovered from the vadose zone have been sold to recyclers. This was the largest application of this technology in the United States.

### Remedial Investigation, Sandy Beach Superfund Site Azle, Texas

DBS&A has been working on the Sandy Beach Site since its inclusion on the National Priorities List in 2006 as a result of the detection of chlorinated hydrocarbon (PCE) in supply wells. After working closely with the EPA and the prime contractor in developing the conceptual site model, DBS&A proposed the deployment of



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passive soil gas samplers based on a review of aerial photographs that subsequently confirmed the source of contamination. Other innovative technologies deployed include using continuous multi-channel tubing (CMT) wells where each well has seven screen intervals, thus minimizing drilling costs.

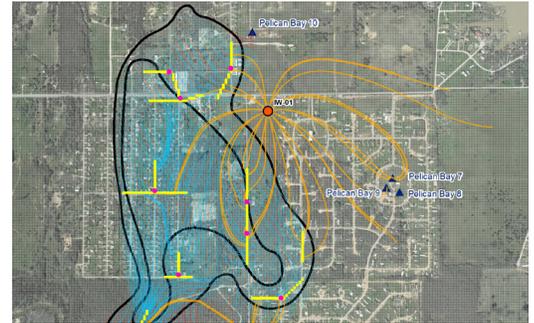
DBS&A continued to provide technical support throughout the RI and FS. This included the development of the groundwater flow model that has been used for remedial design. Recent changes to the model included simulating horizontal extraction wells that will help to address access issues that continue to plague the site.

### **Expert Support Services, Chevron Mining Inc. Superfund Site, Questa, New Mexico**

DBS&A serves as a technical expert on vadose zone hydrology and landfill cover design at the Chevron Mining Inc. Superfund site in Questa, New Mexico. Part of the remedy set forth in the record of decision includes covering tailings ponds with an evapotranspiration cover. Our services have included: 1) reviewing all design documents and project deliverables pertaining to the remedy; 2) attending technical meetings; 3) providing recommendations regarding the materials being used for the cover; 4) performing site visits and working with the potentially responsible party's consultants in developing a field testing strategy; and 5) performing soil testing at the DBS&A Soil Testing and Research Laboratory. This project is ongoing, with material testing and design likely to continue throughout 2014.

### **Remedial Investigation, Iron King Mine, Dewey-Humboldt, Arizona**

DBS&A supported the prime contractor at the Iron King Mine Superfund site from the initial site walk-through to the remedial investigation and through preparation of the RI report. The primary contaminant of concern driving the investigation is arsenic in surface soils, although various heavy metals and inorganic compounds (e.g. sulfate) above standard have impacted the groundwater. For this project DBS&A attended the initial site walk-through and worked on developing the initial conceptual site model and planning documents. DBS&A later performed geologic mapping of the site and performed Geoprobe™ sampling of tailing piles and ponds.



Groundwater monitoring used to emulate horizontal extraction wells, Sandy Beach.



DBS&A serves as a technical expert at the Chevron Mining Superfund site.



Tailings outwash, Iron King Mine.

