



## Operations & Maintenance Services

**Situation** | **Non-operational  
Groundwater  
Remediation System**

**Location** | **Houston, TX**

In the 1990s, a multi-national company that produces oil tools was faced with a remediation challenge at one of its manufacturing plants in Houston, Texas. Groundwater beneath the site was contaminated with several volatile organic compounds associated with the manufacturing process. Once the facility became inactive, the company installed nine groundwater recovery wells and constructed an elaborate treatment system with a two-stage air stripping unit to collect and treat the groundwater. Recently, the company approached PREMO and indicated that operational costs for the system had soared and the level of service provided by the company's present consultant was unacceptable. In fact, the system was not even operational at the time Premo was approached and the company risked enforcement action. PREMO was given the opportunity to propose Operations & Maintenance (O&M) services on the recovery wells and treatment system and demonstrate that substantial cost savings could be realized while maintaining discharge compliance.

PREMO immediately assessed the entire treatment system and recovery wells to identify defective equipment and recommended various system upgrades necessary to restore the treatment plant's operation. Within two weeks of taking over the O&M responsibilities, PREMO's technicians had identified all defective equipment, secured optimal pricing from equipment vendors, ordered the replacement equipment, and made repairs necessary to restore operation of the treatment system. Faulty equipment included pumps, float switches, Process Logic Controllers (PLCs), and electrical and piping systems. Several upgrades were also made to the system, including the installation of additional recovery wells and pumps, as well as cleaning of equalization tanks and air stripping towers. In addition, PREMO developed a computerized Discharge Monitoring Report (DMR) to minimize the time required for monthly report preparation.

## Results

To date, PREMO's monthly O&M costs have consistently come in at 60 to 70 percent of what the company was formerly spending on routine O&M for the system. In addition, unlike former conditions at the site, the current system has been in continuous operation, so monthly samples and inspections can be collected on schedule to demonstrate compliance with NPDES permit limits. The introduction of PREMO's site management plan has:

- Controlled O&M costs associated with recovery and treatment operations;
- Replaced defective equipment to ensure continuous operation of the treatment system;
- Upgraded equipment with technologically superior, cost-effective, efficient systems;
- Maintained an effective inspection program to identify system problems at early stages;
- Taken advantage of bulk discounts from equipment vendors and passed those savings on to the client;
- Reduced travel and labor costs by performing multiple tasks during site visits; and,
- Maintained compliance with NPDES permitting requirements.