



LOCKHEED MARTIN MISSILES AND FIRE CONTROL

CHLORINATED SOLVENT TURNKEY REMEDIATION
Orlando, Florida

PROJECT HIGHLIGHTS

CLIENT PROFILE

Lockheed Martin Missiles and Fire Control (MFC) is one of five Lockheed Martin Corporation business areas. MFC is a recognized designer, developer, and manufacturer of precision engagement aerospace and defense systems for the United States and allied militaries. MFC develops, manufactures, and supports advanced combat, missile, rocket, and manned and unmanned systems for military customers including the U.S. Army, Navy, Air Force, and Marine Corps as well as NASA and dozens of foreign allies.

PROJECT OVERVIEW

The firm provided all aspects of contamination assessment, design, permitting, regulatory coordination, and construction associated with a site impacted with chlorinated solvent constituents. The project involved characterization of over 10 contaminant source areas associated with a former manufacturing facility, finite-level source area refinement, groundwater treatment system design, sheet pile design, wetland reconstruction, deep soil excavation and dewatering, site restoration, and alternative site closures for inorganic and petroleum-impacted media.

CHALLENGES

- Coordination of project objectives and concurrence with multiple client, federal, and state agency personnel with a variety of goals.
- Potential for hazardous soils.
- Precipitation management for large volume of excavated soil.

THE MSE GROUP APPROACH

Using a phased approach, the project team evaluated various assessment and remedial options at this site. The preliminary remediation technology considered for this site was electrical resistive heating. The team recommended additional refinement at the primary source area to provide finite-level contaminant mass partitioning and to further evaluate removal as the primary remedy. Additional studies indicated that 99 percent of the total mass was located in a 0.2-acre/30-foot-deep area, indicating that targeted excavation could reduce time and resource costs to achieve site closure. The firm completed turnkey assessment, design, permitting, and construction of the project in less than 6 months. Passive bio-augmentation was used to facilitate long-term dissolved phase contamination mitigation.

ACCOMPLISHMENTS

- Realized over \$1 million in savings compared to technologies and engineering estimates proposed by others.
- Reduced project completion schedule by more than 2 years from alternative remediation technologies.
- Nominated for quality award from Florida Sterling Award Council.
- Won Lockheed Martin Corporation's national award for quality.

AREAS OF EXPERTISE

- Natural resources planning, permitting, and restoration
- Contamination assessment and remediation
- Risk assessment
- Engineering design (multiple disciplines)
- Construction



Field staff used direct push technology (DPT) to evaluate chlorinated solvent mass partitioning at finite intervals in the subsurface.

This project won a national quality award for Lockheed Martin based on application of six-sigma principals, cost savings, and schedule streamlining.



Primary remedy included dewatering and excavating over 30 feet below land surface.