

# Environmental Technology Solutions



## RESULTS

- >> CALIBRE has restored contaminated groundwater containing a variety of chemicals including diesel fuel, tetrachloroethylene, trichloroethylene, vinyl chloride, arsenic, explosives, and Stoddard's Solvent.
- >> CALIBRE has treated and/or removed soil contaminated with a variety of hazardous chemicals including heavy petroleum products, arsenic, heavy metals, solvents, and polychlorinated biphenyls (PCBs). We routinely apply soil vapor extraction for volatile contaminants while excavating less volatile residues or applying cover materials for containment.
- >> CALIBRE has capped, monitored, and removed landfills containing hazardous materials. Industrial wastes and municipal refuse.
- >> CALIBRE has remediated contaminated sediments including such contaminants as PCBs and metals.

**The restoration of environmental resources to eliminate unacceptable risks arising from physical or chemical hazards can be costly and time consuming challenges to the development and use of real property. The time and resources required are often a critical impediment to property redevelopment plans when remedial actions are required to reduce the overall risk posed to redevelopment and future use of the site. The latter is achieved through rapid and accurate characterization and mitigation of the risk through the site restoration process.**

### >> *Project Experience*

CALIBRE Systems, Inc. (CALIBRE) personnel have worked on and completed a wide range of complex characterization and remediation projects for Federal, State, and industrial clients throughout the U.S. and internationally. We have an outstanding record of completing these projects within specified schedules and budgets. Our experience ranges from investigation and remediation projects dealing with a wide range of contaminants (volatile organic compounds, metals, hydrocarbon fuels, polychlorinated biphenyls, explosives) to a complete suite of environmental media posing physical and/or chemical risks. Our staff have completed a number of full-scale bioremediation projects to address contaminated groundwater to successfully close the sites to regulatory standards.

In-situ treatment projects related to fuels have included biosparging and application of oxygen releasing compounds using

both vertical and horizontal wells. Projects related to solvents have addressed the entire family of chlorinated ethylenes involving bench-scale through full-scale applications of such technologies as in-situ chemical oxidation, enhanced reductive dechlorination using our Sugar Waste Enhanced Environmental Treatment (SWEETS<sup>SM</sup>) technology, air sparging, and recirculating wells. Testing related to explosives has demonstrated effective bioremediation of perchlorate. The CALIBRE approach is based on development of a conceptual site model early in the project, strict adherence to the Data Quality Objectives process, application of streamlining techniques such as uncertainty management, and preparation of a performance model that is used to help set stakeholder expectations and interpret monitoring data. This approach has been demonstrated repeatedly to save money, expedite closure, and reduce conflict among affected parties.

A list of representative projects is provided for work conducted in each of the following categories

- Remediation of volatile organic compounds (VOCs) in soil and groundwater
- Remediation of metals in soil and groundwater
- Remediation of fuel contamination in soil and groundwater
- Remediation of explosives in soil and groundwater
- Evaluation of remedial options for sediments
- Strategy development and design for closure and property transfer

Summaries of completed projects in the following categories are available upon request.

Project	SOURCE						MEDIA			CONTAMINANT				
	Air Force	Army	Aerospace	Other	Landfills	Mining waste	Soil	Groundwater	Sediments	VOC	Fuel	Metals	PCB	Explosives
1. Juanita Village Plume Remediation				•			•	•		•	•			
2. Boeing EMF CERCLA Site			•				•	•	•	•				
3. Caselton Tailings (NV), EE/CA						•	•					•		
4. Modesto Steam Laundry and Cleaners				•			•	•		•				
5. In Situ Hexavalent Chromium Reduction				•						•		•		
6. National Parks Mine Assessment (nationwide)						•	•		•			•		
7. West Van Buren Plume (AZ)			•	•				•		•		•		
8. Boomsnub Plating Site				•			•	•		•		•		
9. Camp Bonneville		•			•		•	•		•				•
10. Zuni Mtn. (NM) Mine Closure						•	•					•		
11. Merit Truck Stop				•			•	•			•			
12. West Central Phoenix North Plume (AZ)				•			•	•		•				
13. Army Environmental Command		•			•			•	•	•	•	•	•	•
14. East Fort Baker Sediments and Soil		•					•		•		•	•		
15. Duwamish Waterway			•						•				•	
16. Fort Irwin		•			•	•	•				•	•		
17. Air Force Active & BRAC	•				•		•			•	•			
18. Payson PCE Site (AZ)				•			•	•		•				
19. Hytec Gravel Quarry and Bordeaux dump				•	•	•	•	•		•		•		
20. CenterPoint Mill Site Redevelopment							•				•	•		
21. Fox Avenue Solvent Site				•			•	•		•	•			
22. Olympic View Landfill				•	•			•		•	•			
23. National Parks, Mine Closure, (western US)						•	•					•		
24. BOC Gases				•			•	•		•				
25. Iron King Mine and Smelter (AZ)				•	•	•	•		•			•		
26. Boeing Renton			•				•	•		•	•			
27. Phoenix Metro Mine Closure (AZ)						•	•					•		

Table 1 provides a profile of the nature of representative remedial action projects CALIBRE has performed in recent years. Individual project summaries are available upon request.

### ABOUT CALIBRE

CALIBRE Systems, Inc. is an employee-owned management consulting and information technology solutions company supporting government and industry. CALIBRE is committed to the success of our clients and delivers enduring solutions that solve management, technology, and program challenges.

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