

**MULTI-STATE EVALUATION OF
AN EXPEDITED SITE CHARACTERIZATION TECHNOLOGY:
SITE CHARACTERIZATION AND ANALYSIS PENETROMETER SYSTEM
LASER-INDUCED FLUORESCENCE
(SCAPS-LIF)
MAY 1996**

***WESTERN GOVERNORS' ASSOCIATION DOIT INITIATIVE
INTERSTATE TECHNOLOGY AND REGULATORY COOPERATION WORKGROUP
CONE PENETROMETER TASK GROUP REPORT***

This report was prepared by the Cone Penetrometer Site Characterization Technology Task Group established through Interstate Technology and Regulatory Cooperation Work Group as part of the DOIT Initiative. Task Group members responsible for the preparation of this report include:

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EXECUTIVE SUMMARY

A series of different sensors are currently being developed for deployment with cone penetrometer systems which offer the potential to more rapidly and efficiently characterize hazardous waste sites. One such system, the Site Characterization and Analysis Penetrometer System Laser-Induced Fluorescence (SCAPS-LIF) technology provides real-time in-situ detection of total petroleum hydrocarbon contamination both above and below the water table. The Cone Penetrometer Site Characterization Technology Task Group was established by the Interstate Technology and Regulatory Cooperation (ITRC) work group to facilitate interstate acceptance of the SCAPS-LIF and other cone-penetrometer-based site characterization technologies. Task Group members were given the opportunity to participate in Cal/EPA's hazardous waste environmental technology certification evaluation process. The certification evaluation process included examination of the applicable research and technical literature, data from previous field studies and two field demonstrations of the SCAPS-LIF technology. The field demonstrations were conducted in conjunction with the U.S. EPA Consortium for Site Characterization Technology and followed the general performance evaluation protocol guidance established for that program. In addition to witnessing the field demonstrations and reviewing the results, members also had the opportunity to review and effect changes in the proposed work plan for the second field demonstration at Albuquerque.

The Cal/EPA certification process and the protocols and results of the field demonstrations were investigated by the Cone Penetrometer Site Characterization Technology Task Group with regard to potential application and acceptance of the technology in their respective states. The approaches, policies and practices of state regulatory agencies toward acceptance of the evaluation protocol and data were investigated. Key issues relating to data acceptance and application for the SCAPS-LIF technology in the respective states are discussed.

Based on their participation in this project, all Task Group members accepted the technical merits of the SCAPS-LIF technology, and have obtained or are pursuing formal acceptance of the SCAPS-LIF technology from their respective state agencies. Further, the Task Group recommends that the ITRC membership states consider and pursue acceptance of the technology in these states based on the results of this effort.