

# PROJECT FACT SHEET

**CONTRACT TITLE:** Evaluation of the Distribution, Fate, Intrinsic Biodegradation, & Remediation of MTBE in Ground Water

**ID NUMBER:** FEW 0016

**CONTRACTOR:** Lawrence Livermore Nat'l Lab

**B & R CODE:** AC1015/AC1020

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**CONTRACT PERFORMANCE PERIOD:**

07/10/1996 to 07/09/1997

**PROJECT SITE**

**CITY:** Livermore

**STATE:** CA

**CITY:**

**STATE:**

**PROGRAM:** Environmental-Oil

**CITY:**

**STATE:**

**RESEARCH AREA:**

FUNDING (1000'S)	DOE	CONTRACTOR	TOTAL
PRIOR FISCAL YRS	0	0	0
FISCAL YR 1996	198	0	198
FUTURE FUNDS	0	0	0
<b>TOTAL EST'D FUNDS</b>	<b>198</b>	<b>0</b>	<b>198</b>

**OBJECTIVE:** Examine the fate of a recalcitrant fuel oxygenate additive, methyl tert-butyl ether (MTBE) in the subsurface.

**METRICS/PERFORMANCE:**

**Products developed:**

PROJECT FACT SHEET

**PROJECT DESCRIPTION:**

**Background:** Recent review and analysis of hydrocarbon contamination from leaking underground fuel tanks (LUFTs) in California strongly suggests that passive bioremediation has effectively limited and contained the vast majority of fuel hydrocarbon (FHC) plumes (Rice et al 1995a). While passive bioremediation can effectively remediate FHC plumes, several studies indicate that MTBE is not biodegraded as easily as the BTEX compounds (benzene, toluene, ethylbenzene, xylenes), and is more mobile in the subsurface. In addition, the toxicity of MTBE is currently being investigated as a possible carcinogen. Clearly understanding the in situ fate and potential for intrinsic biodegradation of MTBE is essential for deciding among remediation alternatives for MTBE contaminated sites and is required for formulating LUFT corrective-action regulatory guidelines for fuel hydrocarbon (FHC) plumes containing MTBE.

**Work to be performed:** These studies will assess the fate and impact of MTBE contamination to ground water in California and nation-wide. Specifically, this project will examine the spatial extent and impact of MTBE ground water plumes, evaluate whether intrinsic bioattenuation occurs, and examine active remediation alternatives for the treatment of MTBE contaminated ground water. Information concerning the in situ fate and potential for intrinsic bioattenuation of MTBE is needed for formulating LUFT corrective-action regulatory guidelines for fuel hydrocarbon (FHC) plumes containing MTBE and will provide practical guidance for regulatory agencies for deciding among remediation alternatives for MTBE contaminated sites.

**PROJECT STATUS:**

**Current Work:**

**Scheduled Milestones:**

Development and Evaluation of MTBE	08/96
Analytical Protocols	
Site Selection	06/97
Database Construction	09/97
Comprehensive Data Evaluation and Analysis	01/98

**Accomplishments:**

Activity	Start Date	End Date	Status
Site Selection	06/97	06/97	Completed
Database Construction	09/97	09/97	Completed
Development and Evaluation of MTBE	08/96	08/96	Completed
Analytical Protocols			In Progress
Comprehensive Data Evaluation and Analysis			In Progress