

## ASTSWMO MTBE and Fuel Oxygenates Workgroup Newsletter

### Volume 5, No. 1 – Summer 2002

This is the fourteenth issue in a continuing series of quarterly status reports from the ASTSWMO (Association of State and Territorial Solid Waste Management Officials) MTBE and Fuel Oxygenates Workgroup.

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### The MTBE and Fuel Oxygenates Workgroup

The ASTSWMO LUST Task Force's MTBE and Fuel Oxygenates Workgroup began in early 1997 through the participation of several state representatives in the EPA-sponsored MTBE Task Force that was organized to study the magnitude of the MTBE problem and discuss the experiences and concerns of regulatory agencies and industry. The workgroup is an outgrowth of the ASTSWMO LUST Task Force and includes State and EPA LUST regulatory personnel, the United States Geological Survey, the American Petroleum Institute (API), the Association of California Water Agencies (ACWA), the Lawrence Livermore National Laboratory, the Academic Network for Contaminated Land Research in Europe (ANCORE), and representatives of several environmental consulting firms.

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### Recent Happenings

[Jeff Kuhn - MTBE and Fuel Oxygenates Workgroup](#)

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MTBE and Fuel Oxygenates Workgroup

[A significant gasoline release from a service station in Roselawn, Indiana captured the attention of that community in early 2002 when over one hundred private wells and two public water supplies were found to contain MTBE. One of the impacted wells is the Roselawn Elementary School well, located 1/3 of a mile from the Marathon Service Station, the apparent source of the release. Parents of students attending the school expressed their concerns in public meetings held with the State of Indiana \(see lead article \[this issue\]\(#\)\). According to Craig Schorer, Indiana IDEM, it is not certain what the source of the release of MTBE is since testing failed to find a release at the station. The release may have originated from surface spills or minor releases from the UST systems.](#)

An MTBE release from a Mobil Service Station in Pascoag, Rhode Island contaminated the town's public water supply and necessitated the distribution of bottled water to about 4,000 residents of the village. In response, numerous bills were introduced in the Rhode Island state legislature that would either ban, or phase-out the use of MTBE, or recommend eliminating the 2% oxygen requirement from the Clean Air Act. One lawsuit seeks unspecified damages from ExxonMobil and its affiliates for residents of Pascoag who used bottled water for several months until water was purchased from another municipality. The Pascoag Water District also filed a separate lawsuit, citing the increased cost of supplying water to residents and the expense of eliminating gasoline contamination from the water supply and ground water (see complete story in "MTBE News from the State – Rhode Island").

In other recent news, Lyondell Chemical Company has agreed to pay \$4 million as part of legal settlement in the South Lake Tahoe lawsuit for water contamination caused by MTBE. In April, a jury decided against Lyondell, Shell Oil Company, and Tosco Corporation, and found that Lyondell and Shell "acted maliciously by withholding information about MTBE's hazards." Other companies including ExxonMobil, Atlantic Richfield, and Unocal, have already settled out of court. According to Steven Leifer, a Washington lawyer, the decision is precedent setting in that it is "the first time any jury has ruled that gasoline containing MTBE was a defective product" (see complete story in "MTBE Litigation" below).

It's unfortunate that problems such as those discovered at Roselawn and Pascoag continue to occur across the country, and that MTBE continues to play a large role in the significance of some of these releases. Congressional legislation proposed in the Senate Energy bill may bring about a national ban on MTBE and provide some funding for research on the fate and transport of the other oxygenates. Perhaps provisions in the bill, which would require refiners to triple their use of ethanol by 2012, will decrease the severity and number of MTBE-impacted sites in the US. Ethanol appears to have significant political support and new ethanol plants have opened or are planned in Minnesota, Iowa, Nebraska and other states. However, even with the increased use of ethanol in the nation's gasoline supply, it may be a number of years before we see the benefit of the decreased use of MTBE and similar oxygenates in the form of fewer impacted sites. We hope that relief comes soon to limit the magnitude of problems such as those discovered at Roselawn and Pascoag.

## **RECENT OXYGENATE NEWS**

### **Drinking Water Contamination in Roselawn, Indiana**

By Craig Schroer – Indiana Department of Environmental Management

In February 2002, the Indiana Department of Environmental Management (IDEM) received a complaint from the Newton County Health Department that the drinking water at the Boezeman Marathon gas station smelled like gasoline. Subsequent reconnaissance by the Leaking UST program staff verified the odor complaint in their well and revealed over one hundred private wells and two public water supply wells were located in the immediate vicinity of the gas station, including the Roselawn Elementary School located about 1/3 mile away. Program staff also discovered that beginning in March 2000, MTBE was detected in the school well when the IDEM Drinking Water program began requesting the information. During that period, MTBE concentrations ranged from 32 ppb to 350 ppb.

UST Inspection program staff from IDEM and U.S. EPA conducted a facility inspection. The inspection failed to show a release. The facility has eight USTs totaling 62,000 gallons of storage capacity including gasoline, diesel and kerosene. It is still uncertain whether the contamination on-site is from surface spills or leaks from the UST system.

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This issue of our newsletter is dedicated to the families of the victims of the terrorist attacks on September 11<sup>th</sup>. It seems trite to discuss chemical compounds that have part per billion health concerns at a time when so many have died from senseless acts of terrorism. But environmental responsibility for our society and the health of our citizens – the dangers caused by our own technological advancements, is also critical in sustaining the high quality of life enjoyed by our nation's citizens. Godspeed for the recovery of New York City and Washington, D.C., and all those affected by the tragedies of September 11<sup>th</sup>. ¶

In the world of oxygenates, a judge signed an agreement on August 20, 2001, forcing five major oil companies to clean up sites they own that have been contaminated with MTBE (see "MTBE Litigation"). The agreement was reached as part of a settlement with a San Francisco area environmental group, Communities for a Better Environment (CBE). According to court documents, the U.S. Environmental Protection Agency knew, almost 15 years ago, that the gasoline additive MTBE posed a serious threat to the nation's water supply, yet the agency did not warn Congress. Industry experts knew as well: by 1981, Shell, Exxon and Texaco were informed by employees that MTBE was leaking from their gas stations and had contaminated drinking water in three towns in New Jersey and Maryland. Other document references from the mid-1980's indicate what most of us know now – that MTBE represented a significant groundwater contaminant threat.¶

In August, the State of California Air Resources Board (ARB) filed suit against the Environmental Protection Agency in an effort to block the oxygenate requirement that dictates the use of ... [1]

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IDEM staff attended a meeting at the request of the school board as the story unfolded very quickly. The meeting was a mob scene of about 200 irate and concerned parents and neighbors. They were already angered by poor communication by the school administration regarding a black mold issue in the school the past summer. To add “insult to injury”, parents just received a note sent home by the school by their children regarding the MTBE contamination that the school knew about the situation for two years. The meeting ended with one parent jumping up on a table and saying “Anyone wanting to join me and my attorney in a class action law suit meet me tomorrow in the parking lot...”

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IDEM immediately began testing many of the wells in the area. In all, 41 private wells and 3 public water supply wells were tested. Results from the testing revealed contamination in the Boezeman Marathon well and two other private wells. The Boezeman well had 2,300 ppb benzene, 1,400 ppb toluene and 15 ppb MTBE. The private wells had MTBE at less than 10 ppb. The school also discontinued use of the well for drinking, hand washing and food preparation.

Due to health concerns, IDEM requested assistance from the Indiana State Department of Health. They continue to provide advise regarding the potential effects of MTBE exposure in the school’s drinking water. IDEM has also requested a “Health Consultation” to evaluate potential health effects.

At the same time IDEM staff initiated contact with the owner of the Boezeman Marathon to investigate the release. Boezeman conducted tank and line testing. Still, no leak was found. Between April and May, Boezeman mobilized four times to investigate the release. The first two attempts revealed minimal contamination in the sandy soil and no ground water contamination at the property boundary. Boezeman representatives were elated thinking that they were not the source of the problem at the school.

IDEM requested a third investigation to install nested wells as all of the ground water samples collected to date were at the surface of the ground water. Results showed BTEX and MTBE 10 feet below the surface of the ground water. The surface aquifer in the Kankakee River watershed is a fine sand between 15-50 feet thick. Almost every drinking water well in the area, including over 300 within ½ mile of the gas station are installed in this highly productive aquifer. A fourth investigation off-site in the direction of the ground water gradient and the school’s well revealed BTEX and MTBE between 25 and 50 feet. MTBE was detected in almost every boring and as high as 2,190 ppb.

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Boezeman’s consultant has proposed further investigation at the school. They plan to install several borings around the school well to delineate the plume around the well. In addition, they have agreed to install a treatment system on the school well during the summer while the school is closed. They also plan to conduct some trenching around the UST area with hopes of identifying a leak.

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Ironically, Boezeman continues to take the position that they may not be the source of contamination at the school. They hired a highly reputable law firm and environmental consultant for UST issues as well as a public relations firm.

Some lessons were learned as a result of this incident. IDEM has since created a system for better communicating between the Drinking Water and Remediation programs. The Drinking Water program focuses on regulating the drinking water supply and the contaminants. They do not regulate MTBE. The Remediation program, on the other hand, regulates the source of contamination. Information from testing shows that eight other public water supply wells have shown MTBE one or more times since testing began in early 2000. Of those, one other drinking water supply has significant levels of MTBE. That investigation is underway.

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**For more information contact Craig Schroer at 317/234-0974 or [cschroer@dem.state.in.us](mailto:cschroer@dem.state.in.us)**

Related articles on Roselawn:

**Parents of students angry that officials kept water test secret**

Hundreds of concerned parents recently attended a public meeting to discuss why they were not informed sooner of laboratory test results from 2000 indicating high concentrations of MTBE were present in the drinking water supply for Lincoln Elementary School in Roselawn, Indiana. A sample collected in 2000 was mistakenly entered into the state's database as a non-detectable result. Samples collected in 2001 contained 160 parts per billion MTBE and samples collected in March 2002 contained concentrations of 350 parts per billion. The school is being supplied with bottled water for cooking, cleaning, and handwashing. North Newton Schools Superintendent Louis Lindinger said "We were never notified if there was a danger." The Indiana Department of Environmental Management is collecting water samples from nearby residences and businesses to look for the compound.

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Complete VC Star article of April 5, 2002 can be viewed at

[http://www.insidevc.com/vcs/home/article/0,1375,VCS\\_224\\_1071885,00.html](http://www.insidevc.com/vcs/home/article/0,1375,VCS_224_1071885,00.html)

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**More on NAFTA**

A recent Time Magazine article very clearly articulated the basic premises of the lawsuit filed under NAFTA: Methanex asserts in its lawsuit that U.S. taxpayers should compensate it for \$970 million in profits it would lose as a result of a California MTBE phaseout. "The idea was to protect factories from being taken over in some banana republic," says Segundo Mercado-Llorens, a labor lobbyist. "No one contemplated these provisions would be used to invalidate our environmental laws."

For the complete Time Magazine article by Margot Roosevelt entitled "TOXIC TRADE?," go to:

<http://www.time.com/time/magazine/article/0,9171,1101020325-218330,00.html>

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**Refineries lack unity**

Chairman and CEO of Valero Energy Bill Greehey, during the keynote speech at the National Petrochemical and Refiner's Association's 100<sup>th</sup> annual meeting, stated that US refiners have done a poor job protecting their interest. He called the MTBE issue a "debacle." "Probably the single biggest travesty the federal government has wrought on our industry is the MTBE and ethanol debacle. First the government mandates that we have to put oxygenates in about 30% of the nation's gasoline. We spend hundreds of millions of dollars to comply. Now they say they want to ban MTBE and mandate ethanol. And to add insult to injury, we are now being sued for making the product the federal government required us to make in the first place." He stated that the refining industry does not work together effectively as an industry, but that the ethanol industry has its act together. "Not only does the US government provide them with a 53 ¢/gal tax subsidy that robs our state and federal highway funds of about \$1 billion each year, but the federal government has also imposed a 54 ¢/gal tariff on ethanol imports. Now why in the world is it fair for our government to protect... ethanol interests from imports – but not US refining interests?"

Oxy-Fuel News, 4/1/02

[http://hoovnews.com/fp.asp?layout=displaynews&doc\\_id=NR200204021675.3.1\\_1b140007770a3d79](http://hoovnews.com/fp.asp?layout=displaynews&doc_id=NR200204021675.3.1_1b140007770a3d79)

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**Iowa Senator Grassley Wants to Hold California to Original Phaseout Deadline**

In April, Senator Grassley announced that he planned to introduce legislation that would force California to stick to its 2003 ban on MTBE and make the switch to ethanol. He proposed trying to amend the energy bill with S.A. 3054 "to overrule the governor of California so that they have to start using ethanol on January 1." Governor Davis said the delay in the ban was necessary to avoid a sharp spike in gasoline prices and tight supplies in the nation's most populous state. Grassley wants the federal government to force California to stick to its original ban date because the farming and ethanol industries have already invested about \$1.4 billion to capitalize on California's ethanol needs. As of July 2002, the amendment appears not to have been filed.

Tallahassee Democrat 4/2/02

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<http://www.tallahassee.com/mld/talahassee/news/politics/2984986.htm>  
<http://library.northernlight.com/FC20020408900000167.html?cb=0&dx=1006&sc=0#doc>

### **Senators from New York and California say RFS Mandate is “Anti-Consumer” and will drive up prices**

Senators from California and New York sent a “Dear Colleague” letter on March 21<sup>st</sup>, expressing concern about the renewable fuels provision that was added to the Senate Energy Bill (SB517). The bill includes a tripling in the volume of ethanol in gasoline by 2012, from the 1.7 billion gallons per year currently used to 5 billions of ethanol per year by 2012, and additional increases after that. “Consumers in every state would be forced to pay for ethanol, whether they use it or not. It is the equivalent of a new gas tax. There are a number of estimates of how much this provision would cost. We fear gas prices would rise significantly under the best circumstances and – should there be market disruptions, which are all too likely – the price of gasoline would double.”

The letter states that removing the oxygenate mandate is necessary. “There is no sound public policy reason for mandating the use of ethanol. Furthermore, this ethanol mandate will contribute to market volatility and price spikes, especially since the ethanol industry is highly concentrated within a few large firms located in the Midwest.” “And, as if creating a mandated market for ethanol were not enough, the provision also includes a “renewable fuels safe harbor” clause that gives unprecedented product liability protection against consumers and communities that seek legal redress from the manufacturers and oil companies that produce or utilize defective additives in their gasoline. This is especially troubling in that there appears to be evidence that ethanol and other additives may have environmental problems of their own.”

### **Mixed Reactions to Delay of California MTBE Ban**

There have been mixed reactions to Governor Davis’ decision to delay the California MTBE ban by a year. Some companies were happy to have another year to comply with the ban, others wanted a longer delay, and still others thought that Davis should have stuck with the original ban date. Phillips Petroleum has reduced MTBE usage in California by 80% already. “Now the delay on the MTBE ban has forced us to re-evaluate our ability to continue with this program,” according to company spokesperson Rick Johnson. Phillips had invested millions of dollars in infrastructure to have ethanol shipped in by tanker ship and to put in equipment at its terminals to do the blending.

Kinder Morgan Energy Partners, which transports gasoline in California, was well on its way to meeting the governor’s original deadline when Davis announced the delay, said company spokesperson Rick Rainey. He said the company was modifying its terminals in accordance with the governor’s original mandate. With the ban on MTBE delayed, the company has halted its terminal upgrades. He said there’s too many variables and things up in the air to continue with the investment. He said that refineries that want to produce MTBE-free gasoline before 2004 can’t rely on Kinder Mogan’s terminals for the time being.

A spokesman for Shell Oil Products US, which operates a refinery in Bakersfield, said that if Kinder Morgan was prepared to accommodate the change from MTBE to ethanol by the end of the year, Shell would also make any necessary changes. ChevronTexaco’s intention is to meet the original deadline, however, a company spokesperson said the fact that California uses a common distribution system for transporting petroleum products would make it difficult to meet the deadline. ChevronTexaco has spent four years preparing to meet the original deadline.

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**Deleted:** CBS won an Emmy in September in the Investigative Journalism (segments) category in the annual News and Documentary Emmy Awards for the “60 Minutes” show on MTBE, which aired on January 16, 2000.¶  
*AP Online 9/6/01*¶

#### **¶ Secondary MCL¶**

According to the December 3, 2001 Federal Register, it appears that the secondary MCL for MTBE has been delayed until at least August 2002. ¶

#### **¶ Early Go-Ahead for Winter-Grade Gasoline¶**

Due to the World Trade Center and Pentagon attacks, U.S. Energy Secretary Spencer Abraham announced September 12<sup>th</sup> that the EPA would allow refiners to switch to making winter-blend gasoline several days ahead of the September 15 switchover date. A spokesman for API, Juan Palomo, said, “We believe the intent is to reassure consumers of a stable fuel economy.” Near the end of August, Citgo Petroleum was allowed to switch over to winter-blend gasoline early because of a fire at their Illinois refinery. That refinery was one of only four supplying the Chicago area, and gasoline supplies had risen because of tight supplies. The Pennsylvania Department of Environmental Protection relaxed air pollution standards to help the Pittsburgh area overcome tight gasoline supplies. Refiners and shippers were allowed to begin supplying winter-blend gasoline on September 5<sup>th</sup>, rather than the 15<sup>th</sup>. The move will allow Pittsburgh-area gasoline stations to pump more volatile 9-pound Reid Vapor Pressure (RVP) gasoline instead of the 7.8 pound RVP, which is more difficult and costlier for refiners to make. This change is similar to a US EPA suspension of pollution standards in the Midwest. ¶

<http://www.planetark.org/dailynewsstory.cfm/newsid/12393/story.htm>¶

<http://www.planetark.org/dailynewsstory.cfm/newsid/12191/story.htm>¶

<http://www.jsonline.com/traffic/news/aug01/gas29082801a.asp?format=print>¶

<http://www.sfgate.com/cgi-bin/article.cgi?file=/news/archive/2001/08/29/national0521EDT0493.DTL>¶

<http://www.planetark.org/dailynewsstory.cfm/newsid/12244/story.htm>¶

*Greenwire, August 29, 2001, September 14, 2001*¶

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## INTERNATIONAL FOCUS ON FUEL OXYGENATES

[A number of current international MTBE and fuel oxygenate articles can be accessed from Platt's Global Energy website: http://www.platts.com/features/mtbe/related.shtml](http://www.platts.com/features/mtbe/related.shtml)

### European MTBE firm on blending demand

Traders expect the European and US demand for MTBE in motor fuels to remain firm at current levels in anticipation of the annual switch to summer grade gasoline. Predictions in February of this year were for a continued "strong demand for reformulated gasoline in the U.S. during the summer, which requires some MTBE, and the traditional peak in European consumption during the summer driving months." In February prices for MTBE were trading for between \$285 and \$300 per tonne. The European gasoline market traditionally switches to summer grade fuel on April 1. MTBE is currently the preferred octane enhancer.

One trader indicated that the U.S. would need more MTBE for their blending due to the shutdown of a Valero Energy MTBE production plant in Corpus Christi, Texas. The 18,000 barrel per day (bpd) MTBE plant was closed on February 18th for maintenance work.

*The complete article is entitled "European MTBE firm on blending demand" by Raj Rajendran, LONDON, Feb 26, 2002 (Reuters). (London Newsroom, +44 20 7542 8060, fax +44 20 7542 4453, rajendran.ramasamy@reuters.com) Copyright 2002 Reuters Limited.*

### MTBE Debate For Australia

Recent changes in the Australian Fuel Standards Act prompted significant discussion over the quantity of MTBE that should be allowed in Australian petroleum supplies. The Australian Federal Environment Minister announced on July 15, 2002 that MTBE levels in petroleum sold in Australia would be limited to 1% v/v starting in January 2004. This is in large part due to recognition of concerns over drinking water impacts from the compound in the US and objections raised by environmental groups in Australia.

At present about 70% of liquid fuel used in Australia is locally refined, and MTBE is not added to locally produced petroleum supplies. Some imported fuels contain MTBE at levels of 3 to 7% v/v.

The states of Queensland, South Australia and Western Australia have already implemented bans on MTBE in response to perceived environmental risks.

*The complete article is included in "HealthStream", September 2001 Issue - Cooperative Research Centre for Water Quality and Treatment (CRC).*

## NEW PUBLICATIONS, and STUDIES

### Oxygenates in Gasoline: Environmental Aspects

Edited by ART F. DIAZ, San Jose State University, and DONNA L. DROGOS

This text presents the latest information on mobile, recalcitrant compounds in gasoline and the newly emerging compounds being developed for use in gasoline and other vehicular fuels. The use of some of these compounds has resulted from environmental regulations specifying the addition of oxygenates to gasoline and papers in this volume consider the chemical, geochemical, hydrogeological, and atmospheric behavior of oxygenates. Methods for investigation, detection, and remediation, and the multidisciplinary approaches needed to meet the challenges posed by these compounds are also discussed.

320 pp.; 3 halftones & 54 line illus; 0-8412-3760-3 \$87.50

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I'm against a complete cut and paste of an article without written permission.**European Union publishes final conclusions of risk assessment** ¶  
On December 14<sup>th</sup>, the European Union published the final conclusions of the Risk Assessment and Risk Reduction Strategy, which was conducted under the direction of Finnish authorities. Eventually, the complete risk assessment will be published by the European Chemicals Bureau. The conclusions are available at [http://www.europa.eu.int/eur-lex/en/oj/2001/l\\_31920011204en.html](http://www.europa.eu.int/eur-lex/en/oj/2001/l_31920011204en.html) MTBE was included on a priority list for investigation in 1997. Technical information was provided by industry to the Finnish Environment Institute, the National Product Control Agency for Welfare and Health, and the Finnish Institute of Occupational Health, who then used an approved EU software program to model and calculate the risk. During the first phase of the risk assessment process, all known data of the health and environmental aspects of MTBE, together with the potential for exposure, were evaluated in order to determine the overall risk, and the findings set out in a Risk Assessment Report. In the second phase, in areas where risks were identified, the authorities recommended methods of minimizing those risks. Their recommendations are listed in a separate Risk Reduction Strategy Report, and will be included in future EU legislation. The complete text of both reports will be published by the European Chemicals Bureau. The authors concluded that MTBE was not expected to have any harmful impact on human health or the environment. ¶

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General conclusions: ¶

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2. Nonpoint Source Methyl *tert*-Butyl Ether Movement through the Environment: Ultra-Low Level (ppt) Measurements in California, *B. Ekwurzel, et al.*
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### **Appendices**

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## USGS UPDATE

Poster by Barbara Rowe and others, [“Initial Findings: National Survey of MTBE, Other Ether Oxygenates, and Other VOCs in Community Drinking-Water Sources,”](#) is based on new VOC data for randomly selected community water systems across the United States. The data set provides an understanding of the occurrence and distribution of a wide variety of VOCs in sources of community drinking water. [Open-File Report 01-399 \(2001\)](#)

Fact Sheet (FS-064-01) by Rick Clawges and others, [“National Survey of MTBE and Other VOCs in Community Drinking-Water Sources,”](#) provides a general description of the survey of selected community water systems across the United States. [October 2001](#)

The poster and fact sheet listed above concern a national survey of ether gasoline oxygenates and other VOCs in source waters (rivers, reservoirs, lakes, and ground water) of community water systems. This investigation is being completed for the American Water Works Association Research Foundation by the Metropolitan Water District of Southern California, the Oregon Graduate Institute (OGI), and the US Geological Survey. Additional reports on the findings of this investigation are planned for release in the summer of 2002.

Fact Sheet (FS-089-01) by Mike Moran and others, [“Occurrence and Distribution of Volatile Organic Compounds in Drinking Water Supplied by Community Water Systems in the Northeast and Mid-Atlantic Regions of the United States, 1993-98,”](#) contains a summary of the major findings of this USGS-USEPA study. [December 2001](#)

Fact Sheet (FS-105-01) by John Zogorski and others, [“MTBE and other volatile organic compounds – New findings and implications on the quality of source water used for drinking water supplies”](#) summarizes USGS’s presentation on VOCs at a recent panel in Washington, DC. The panel was held [January 18, 2002](#) and was organized by the Water Environment Federation. [October 2001](#)

MTBE testimony given by Robert Hirsch, Associate Director of Water for the USGS, has recently been posted on the NAWQA VOCs website. The testimony was presented November 1, 2001 to the United States House of Representatives, Committee on Energy and Commerce, Subcommittee on Oversight and Investigations.

<http://water.usgs.gov/nawqa/vocs>

[Click on the link Statement by USGS Associate Director for Water Robert Hirsch before Congressional Subcommittee on Oversight and Investigations, November 1, 2001 – Findings of USGS studies on water-quality issues related to MTBE.](#)

New URL for USGS NAWQA VOC website: <http://water.usgs.gov/nawqa/vocs>  
[United States General Accounting Office, Testimony before the Subcommittee on Environment and Hazardous Materials, Committee on Energy and Commerce, House of Representatives. May 21, 2002. Environmental Protection: MTBE Contamination from Underground Storage Tanks. Statement of John Stephenson](#)  
<http://www.gao.gov/new.items/d02753t.pdf>

## MTBE REMEDIATION RESEARCH

### [CLU-IN website](#)

[EPA’s CLU-IN website lists information regarding MTBE remediation.](#)

**Deleted: Livermore Lab Studies Alternatives to MTBE¶**

Scientists at Lawrence Livermore Laboratory are studying fuel additives in an effort to prevent another MTBE-scale blunder. A team of researchers is studying alternatives to MTBE, specifically ethanol and alkylates, to gauge the potential environmental impacts of a new formula for fuel. David Rice is leading the ethanol team. The group is looking at some techniques to look at the capacity of microbes to degrade gasoline components. Chevron officials shared data with the researchers from an ethanol spill at a fuel terminal in the Pacific Northwest, and the lab team has also been working with researchers at two universities. The state Water resources Control Board and the Energy Department Office are sponsoring the research. Dave Layton, leader of the Health and Ecological Assessment Division of the lab is working on a study of alkylates in fuel. He said that fuel with ethanol would also require more alkylates too, to boost octane and to reduce vapor pressure. The researchers have been studying a fuel mix with 6-10% ethanol and about 30% alkylates. ¶ [Alameda County Newspapers, September 6, 2001¶](#)

**¶ EPA Boutique Fuels Reports Issued¶**

In October 2001, EPA’s Office of Air and Radiation issued “Study of Boutique Fuels and Issues Relating to Transition from Winter to Summer Gasoline” (EPA420-R-01-051). The study was conducted in response to a May 2001 directive contained in the National ... [4]

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**Deleted: USGS Report: MTBE and VOCs in Ground Water in the Boston, Massachusetts Area¶**  
Results of water-quality tests of ... [5]

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**Deleted: “The wells tested were NOT used for drinking purposes,” said Flanagan (the author of the report), “the wells were drilled to test the qualif ... [6]**

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<http://clu-in.org/products/mtbe>

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### **InSitu Oxygen Curtain iSOC™**

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iSOC is a gas infusion mass transfer process capable of delivering ultra-high and cost-efficient concentrations of dissolved oxygen directly into contaminated groundwater. This gas transfer is performed without bubbles. The iSOC device is connected to a standard oxygen cylinder, actively infuses high levels of oxygen into groundwater, while creating no bubbles. A single iSOC, installed in a groundwater monitoring well on an abandoned gas station property in Fredericton, NB, has been operating non-stop for over 8 months. This iSOC has been continuously infusing 50 to 60 PPM of dissolved oxygen into a 4-foot depth of groundwater while using only 5 pounds of oxygen over 200 days. The iSOC has never been removed from the well. The greatly enhanced level of oxygenated groundwater addresses dissolved-phase petroleum hydrocarbon contamination as well as sorbed material in the saturated, capillary fringe, and smear zones. iSOC can create an enhanced O<sub>2</sub> curtain or barrier to prevent contamination migration thus making iSOC Gas inFusion an ideal enhancement to obtain approval for Monitored Natural Attenuation.

- Creation of oxygen barrier at leading edge of contaminant plume
- Source treatment
- Rapid, localized remediation of low-level contamination in existing monitor wells

#### iSOC Advantages:

- iSOC infuses 4 to 10 times more dissolved oxygen than any competitive technology.
- Super saturated—50 to 300 ppm (depending on groundwater characteristics and depth)—infusion results in about two-thirds fewer wells than competitive technologies.
- iSOC, made of stainless steel, can be installed in existing 2-inch monitoring wells.
- With an oxygen feed of <10 cc/min, supersaturation half-lives (decay rate) in excess of a week are possible in a 10 foot open-top column.
- Connected only to a standard oxygen cylinder, there are no blowers, off-gases, pumps, hazardous by-products, or permits.
- iSOC is a cost effective solution to many petroleum hydrocarbon contamination problems, especially clean up to RBCA standards, or as part of a Monitored Natural Attenuation protocol.
- iSOC is small, efficient, predictable, simple, and easy to use.

#### Process Description

The proprietary structured polymer used in iSOC provides enormous surface area for gas transfer. Thus by simply connecting a regulated supply of compressed oxygen to a small diameter flexible tube leading to the iSOC, high levels of super saturated, nascent oxygen transfer takes place in the surrounding groundwater. For example, a regulated iSOC can infuse over a pound of dissolved oxygen per month at a super saturated, bubbleless 70 ppm when the saturated depth is 20 feet, with resultant significantly increased oxygen for bioremediation down-gradient. Once oxygen is introduced into the groundwater, the laws of mass transport generally govern.

For information contact Global Technologies, 4808 Westridge Drive, Fort Collins, CO 80526.  
TEL: (970) 377-1539, FAX: (970) 377-3865, [wsmulica@aol.com](mailto:wsmulica@aol.com)

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### **ISO-GEN from Environmental H<sub>2</sub>O**

The Iso-Gen™ Technology produces stable DO in-situ. It does this by a patented process of electrolysis in a groundwater well that recirculates DO enriched water into the aquifer. It moves water only in recirculation; no water is withdrawn from the aquifer and no handling of water or permitting is required. Iso-Gen™ Technology substantially reduces the time and expense associated with remediating groundwater. Low operating costs and shortened operating time produce significant cost savings. The Iso-Gen™ Power Controller converts the AC input to DC output power, regulates the drive levels of the Cells, DC Circulation Pumps and controls all functions of the system. The timing allows a large range of

treatment times at amperages of up to 5 amps. Up to 4 downhole units can operate from a single Iso-Gen™ Power Controller.

Within the radius of influence, the following observations are typical:

- Changes in the oxidation-reduction potential (to positive)
- Increases in DO (net of microbial DO consumption)
- Large reductions in chemical concentration.

The DO generated by Iso-Gen™ Technology represents a powerful electron acceptor for microbes that degrade the petroleum hydrocarbons, BTEX, MTBE, and other gasoline additives. Reductions in contaminants of concern (COCs) are extraordinary. At the longest active study site, a bulk storage terminal, MTBE has been reduced by 85% over a 8-foot radius from the Iso-Gen™ wells within 270 days. Iso-Gen™ Technology substantially reduces the time and expense associated with remediating groundwater. Operating costs and shortened operating time produce significant cost savings. The Iso-Gen™ Power Controller converts the AC input to DC output power, regulates the drive levels of the Cells, DC Circulation Pumps and controls all functions of the system. The timing allows a large range of treatment times at amperages of up to 5 amps. Up to 4 double units can be operated from a single Iso-Gen™ Power Controller.

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Information and case histories are available at: <http://www.environmentalh2o.com>

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For information call Don Ochs (609-410-6237) or [dochs@environmentalh2o.com](mailto:dochs@environmentalh2o.com), or John Lambie (503-652-6900) [jlambie@environmentalh2o.com](mailto:jlambie@environmentalh2o.com)

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### **HiPox™ from Applied Process Technology, Inc.**

The HiPox™ process, from Applied Process Technology is a continuous, in-line, at pressure advanced process for the destruction of waterborne volatile organic compounds, MTBE, TBA, chlorinated solvents, hydrocarbons, and other contaminants. The process uses ozone and hydrogen peroxide chemistry in an oxidation reactor. The reactants are injected directly into the water stream in precisely controlled ratios and locations, generating hydroxyl radicals, which are powerful oxidizers. These hydroxyl radicals attack the bonds in the organic contaminant molecules, progressively oxidizing these compounds and any resulting intermediate byproducts until the basic atoms ultimately recombine into benign end-products of CO<sub>2</sub>, H<sub>2</sub>O and salts (NaCl, etc.) South Lake Tahoe Public Utility District recently ordered an 800-gpm HiPOX water treatment system for use on the District's Arrowhead Well.

For information see <http://www.aptwater.com>, Tel 925-977-1811, or contact Reid Bowman [rbowman@aptwater.com](mailto:rbowman@aptwater.com)

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### **Matrix Environmental Technologies, Inc. Oxygen Injection Process**

The process uses a pressure-swing adsorption (PSA) oxygen generator to produce high-purity oxygen gas for injection into groundwater. A turnkey oxygen injection system using a PSA oxygen generator was designed for installation in cargo trailers or on steel skids for use at groundwater remediation sites. The PSA process separates oxygen from compressed air using a synthetic zeolite which adsorbs nitrogen at high pressure and desorbs it at low pressure.

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The solubility of oxygen in groundwater is substantially higher with pure oxygen up to 40 mg/L as opposed to air with a typical 10-12 mg/L. Nitrogen, a major component of air, has a higher partial pressure than oxygen which affects the solubility of oxygen in water. The injection of oxygen into groundwater increases both volatilization and biodegradation of contaminants.

The E-DOX™ process involves both oxygen injection and injection of biodegrading bacteria.

Matrix Biotech conducted a pilot project at Port Hueneme, California creating a network of oxygen injection wells and an in-situ biobarrier using Equilon Enterprises (Shell Global Solutions) mixed microbial consortia.

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For further information, see <http://www.matrixbiotech.com/html/o2injection.html>, or call Sean Carter at 716-662-0745, [scarter@matrixbiotech.com](mailto:scarter@matrixbiotech.com)

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### **PhotoCat Treatment Systems from Purifics Environmental Technologies, Inc.**

Purifics' core product, Photo-Cat, is a patented photocatalytic process that detoxifies or purifies water and air of organic contaminants at the source with no generated waste. The Photo-Cat process accepts and treats water with suspended oil, turbidity, high levels of total dissolved solids, metals, and a wide range of organic contaminants at varying concentration ratios. Photo-Cat is a lower cost alternative to treatment with carbon, reverse osmosis, thermal catalytic air treatment, UV/Ozone, UV/Peroxide and air stripping with off-gas treatment.

Purifics provides solutions that meet the following self-imposed treatment goals:

- Provide 100% discharge compliance
- Generate no hazardous waste by-products such as spent carbon
- Offer the lowest life-cycle and O&M cost solutions
- Are automated and can be operated remotely
- Provide equipment that is compact and durable
- Provide equipment that is scaled or adapted to changing requirements

Photocatalytic oxidation and reduction is a flexible remediation technology that destroys organic pollutants in water at ambient temperatures. The technology utilizes an illuminated or light-activated titanium dioxide catalyst. The TiO<sub>2</sub> catalyst uses light energy for activation of the catalyst rather than heat energy. Essentially, the only input to the photocatalytic technology is electric power required to produce light. Unlike photolytic technologies, H<sub>2</sub>O<sub>2</sub> or O<sub>3</sub> is not required to generate hydroxyl radicals.

For additional information, contact Purifics Environmental Technologies Inc. at 519-473-5788, or [info@purifics.com](mailto:info@purifics.com) Case histories for MTBE and TBA treatment can be supplied. <http://www.purifics.com>

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### **KVA C-Sparger™ Oxidation Technology**

The C-Sparger (Criegee Oxidation) System uses microbubbles of encapsulated ozone, introduced directly to groundwater using the KVA C-Sparger System. The microbubbles are introduced through the water and the saturated soil column and react with contaminants to produce harmless by-products. Site results show that the 3-D flow of microfine bubbles increases over time and results in a large effective treatment area. The C-Sparger system uses ozone/air injected periodically in conjunction with a pulsing pump. The KVA process of C-Sparging, in situ air stripping with micro-encapsulated ozone, combines three operations: (1) Fine bubbles with a high surface-to-volume ratio are injected into the saturated zone to extract dissolved MTBE from contaminated groundwater; (2) Ozone contained within the bubble and thin film around the bubble reacts extremely rapidly to decompose the MTBE into simple products, alcohols, acetate and formate; and (3) the Residual oxygen from the reaction encourages bioremediation which consumes the breakdown products and converts them to carbon dioxide and water.

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Further information at: <http://www.kva-equipment.com>, or call toll-free at 1-877-582-3784.

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Additional case history information is available at EPA's Clu-In web-site. <http://clu-in.org/products/mtbe>

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**ISOTEC™ from In-Situ Oxidative Technologies, Inc.**

ISOTEC<sup>SM</sup> specializes in chemical oxidation (chemox) using modified Fenton's reagent, permanganate, hydrogen peroxide or persulfate. The ISOTEC<sup>SM</sup> Process is an in-situ remedial treatment technology that destroys organic contamination through a chemical oxidation (chemox) process. ISOTEC<sup>SM</sup>'s oxidation method utilizes a site-specific delivery system designed to treat organic contaminants within an area of concern. ISOTEC<sup>SM</sup> oxidants and catalysts generate free radicals, which react with the organic contaminants within the subsurface producing innocuous by-products such as carbon dioxide and water (and chloride ions if chlorinated compounds are being treated). A specific stoichiometry is first determined through a laboratory study, with preliminary treatment quantities calculated. Application is tested in the field during a pilot program to determine process efficiency and extent of treatment, which varies depending on the site's subsurface characteristics and the concentration of organics. Based on a successful laboratory study and pilot program, design and implementation of a continued remedial treatment program is proposed.

The ISOTEC<sup>SM</sup> modified Fenton's process consists of injecting proprietary catalysts, mobility control agents, oxidizers and stabilizers into contaminated aquifers or vadose zones. As compared to conventional Fenton's Reagent which requires acidic conditions (pH = 3) the ISOTEC<sup>SM</sup> Process is effective at neutral (pH = 7) conditions. This is an important consideration in full-scale application since acidifying an aquifer is typically impractical. As an effective Fenton-like process, ISOTEC<sup>SM</sup> uses patented reagents designed for neutral subsurface conditions and efficient hydroxyl radical generation as shown below.



Where,

H<sub>2</sub>O<sub>2</sub> = Hydrogen Peroxide

Fe<sup>2+</sup> = Ferrous Ion

Fe<sup>3+</sup> = Ferric Ion

OH· = Hydroxyl Radicals

The ISOTEC<sup>SM</sup> Modified Fenton's Process is superior to other in-situ oxidation technologies for the following reasons:

- Neutral pH conditions (e.g. 5-8 ) are used; therefore, no acidification of the aquifer is required as with other Fenton-based processes.
- Reagents are highly mobile in the subsurface due to the use of chelated organometallic catalysts that resist precipitation and soil adsorption.
- This results in efficient hydroxyl radical generation throughout the plume unlike conventional Fenton's catalysts that are consumed within inches from point of injection.
- Health and safety concerns are minimized due to the use of low concentration of oxidizers ( typically < 12% H<sub>2</sub>O<sub>2</sub> ) and low pressure injection which results in minimal ( < 10<sup>0</sup> ) temperature increase.
- Injected reagents decompose into water, oxygen, and ferric iron leaving no toxic residues.
- Impact to the native microbial population can be controlled and minimized.
- Capital, reagent, operation and maintenance costs are relatively low.
- Fast, efficient and verifiable results in-situ treatment timeframes are typically measured in months as opposed to years.

For more information, see <http://www.ISOTEC-online.com>, or contact David Zervas - Eastern Region.  
E-mail: [Dave.Zervas@ISOTEC-online.com](mailto:Dave.Zervas@ISOTEC-online.com), Phone: (609) 275-8500 ext. 119

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## ETHANOL UPDATE AND WEBLINKS

[Updated Ethanol report from Lawrence Livermore National Laboratory. "Environmental Assessment of the Use of Ethanol as a Fuel Oxygenate: Subsurface Fate and Transport of Gasoline Containing Ethanol." October 2001.](#)

### Executive Summary

1. [Introduction: Increased Use of Ethanol in Gasoline and Potential Ground water impacts](#)
2. [Infiltration and Distribution of Ethanol and Ethanol-Blended Gasolines in the Vadose Zone](#)
3. [Effect of Ethanol and MTBE on BTEX Biodegradation in the Saturated Zone: Kinetic Studies](#)
4. [Effect of Ethanol on Hydrocarbon-Degrading Bacteria in the Saturated Zone: Microbial Ecology Studies](#)
5. [A Finite-Difference-Based Reactive Transport Model Assessment of the Effects of Ethanol Biotransformation on the Lengths of Benzene Plumes from Leaking Underground Fuel Tanks](#)
6. [Evaluation of Storage and Analysis Protocols for Environmental Water Samples Containing Ethanol](#)

### Ethanol tax break poses dilemma for Congress

[The Bush administration recently learned that there was a \\$9 billion hole in the gas-tax revenues that states use to widen highways, build new ones, and make public transportation appealing enough to get motorists off the roads. During the energy crisis of the late 1970's, Congress gave ethanol-based fuel – or gasohol – a tax break to make it competitive with regular gasoline and to reduce dependence on foreign oil. Today the federal tax on regular gas is 18.4 cents a gallon. The tax on ethanol is more than a nickel cheaper – 13.1 cents a gallon. The result of the MTBE phaseout is greater use of the lower-taxed gasohol, which means that less money goes into the federal highway fund. Transportation officials estimate that increased use of ethanol will result in a \\$1.4 billion loss in the road funds for the fiscal year that begins this fall. Because of the resulting drop in federal revenues, Bush wants to cut nearly 30% of the transportation money that California would get next fiscal year – a loss of \\$663 million. Experts estimate that if the proposed requirement to triple the amount of ethanol use by 2012 is passed, the federal highway fund would accrue \\$2.6 billion less each year. Senator Feinstein will try to amend the energy bill to postpone the ethanol mandate for one year, and Senator Inhofe will try to phase out the tax break that ethanol currently enjoys. <http://www.signonsandiego.com/news/nation/20020402-1250-n47104.html> Senate Bill S2678, introduced on June 25<sup>th</sup>, attempts to address some of the Highway Fund problem.](#)

### Ethanol newsletters on the web

Ethanol Report, by the Renewable Fuels Association [http://www.ethanolrfa.org/pubs\\_arch.html](http://www.ethanolrfa.org/pubs_arch.html)  
Governor's Ethanol Coalition – Ethanol Alert <http://www.ethanol-gec.org/ethalert.htm>  
Website of Bryan and Bryan, Inc. with archive of ethanol news stories. <http://www.bbiiethanol.com>

### Renewable Fuels Association Annual report

The annual report of the renewable Fuels Association "Ethanol: Clean Air, Clean Water, Clean Fuel – Industry Outlook 2001" is available online.  
<http://www.ethanolrfa.org/RFAannualreport01.pdf>

### Ethanol Guidebook

"Guidebook for Handling, Storing, and Dispensing Fuel Ethanol," prepared for the U.S. Department of Energy by the Center for Transportation Research, Energy Systems Division, Argonne National Laboratory available online at:  
<http://www.tis.anl.gov:8000/db1/trdc/document/DDD/18.PDF>

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**US Microbiotics, Inc. announces new technologies¶**  
US Microbiotics recently announced that it had successfully completed a test of its groundwater treatment product, *BioRaptor* that demonstrated that soil contaminated by petroleum products including MTBE can be cleaned up quickly. The *Bio-Raptor*™ process is a rugged, mobile soil shredding/screening plant capable of processing up to 500 tons/hour and also includes a multi-angle spray bar for efficiently treating soil. In addition, US Microbiotics also announced that tests of MTBE-specific treatment technology, *MTBEctomy*, have proven to reduce MTBE levels to regulatory requirements within a week after initial treatment. A pilot study using *MTBEctomy*™ demonstrated the efficacy of using microbes to treat MTBE. The technology was successful in treating MTBE, Benzene, Toluene, Ethylbenzene, Xylene (BTX), and gasoline with concentrations over 10,000 parts per billion. Within 5 days after microbial treatment, an independent, state-certified lab validated non-detect levels. According to Thomas Adams, Executive Director of the Oxygenated Fuels Association, "Now in the event of a gasoline spill or a leak, there is yet another cleanup technology to ensure that gasoline and all its constituent parts, including MTBE, are removed quickly and efficiently."¶ (... [7])

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(note change in address – no spaces)¶  
**Not ethanolBrazil Approves Fuel Alcohol Export Policy¶**  
Plans to make Brazil an exporter of fuel alcohol were approved by the Brazilian Council on Sugar and Alcohol. A (... [8])

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**Deleted: Cargill to Boost Ethanol Production, Distribution¶**  
Cargill announced in August that it would increase its ethanol production by 8 million gallons per year, bringing its production to 118 million gallons per year, and that it would form marketing alliances with other ethanol produ (... [9])

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**Oil refiners lobby against ethanol bill¶**  
A group of oil refiners led by Sunoco, Inc. is lobbying against legislation that would require refiners to sell ethanol as 5% of its vehicle-fuel sales by 2016. The legislation, supported by ethanol companies such as Archer Danie (... [10])

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## MTBE NEWS FROM THE STATES

### Delaware

#### Delaware MTBE Drinking Water Standard Becomes Official

On January 8, 2002, Delaware's health officials held a public hearing concerning proposed changes in drinking water regulations.

On May 10, 2002, Delaware's 10 microgram/liter drinking water standard became official as part of revisions to Delaware's "Regulations Governing Public Drinking Water Systems." Delaware's legislature had requested in a House Joint Resolution 77 dated April 2000, that the Division of Public Health promptly establish a drinking water standard for MTBE.

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#### Sampling of Public Wells Near Hazardous Water Sites

The Delaware Department of Natural Resources and Environmental Control, in conjunction with the Delaware Health and Social Services' Division of Public Health have released the preliminary results of a study of public water supplies located near hazardous waste sites. The study found that none of the finished water supplies exceeded federal regulatory standards for drinking water, confirming the effectiveness of water treatment methods in delivering safe drinking water to Delawareans. The study was initiated in 2001 following the discovery of contamination in the Llangollen area of New Castle. The study involved collection of both raw and finished water samples from four New Castle County streams and 39 wells statewide. Water supplies were chosen based on their proximity to federal and state Superfund sites (1 mile radius) and wells screened in unconfined aquifers. A total of 58 samples were analyzed for 167 specific chemical compounds. Of the 167 chemicals, 72 are regulated under the Safe Drinking Water Act and have MCLs enforced by EPA and the DPH Office of Drinking Water. The Department of Public Health evaluated the potential lifetime cancer and adverse health risks associated with consuming water from these sources, using an EPA-accepted method. Two drinking water wells, Bulldozers Saloon in Smyrna and the Mt. Pleasant Trailer Park in Middletown, neither of which receives treatment, slightly exceeded the State of Delaware MCL for MTBE. Results were 12 and 16 ppb, one of which has recently increased to 30 ppb. The trailer park recently installed a deep well to replace several shallow wells (shallow wells were 40-50 feet deep, the deep well is approximately 250 feet deep). The deep well is also contaminated with MTBE. Investigation is underway at a nearby gasoline station with elevated levels of MTBE and VOCs in tank-field monitoring wells, located approximately 500 ft. from trailer park.

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Although 20 water sources exceeded either MCLs or risk-based screening levels in raw or untreated water, all of the finished (treated) water from these systems was found safe to drink. For these systems, the associated cumulative cancer and health risks were determined to be extremely low and in an acceptable range. Some chlorine disinfection by-products were also found in treated water from six sources, both surface and ground water. None of the detected concentrations exceeded federal standards.

DPH is working with the two water supply systems to address their exceedences of the MCL for MTBE. This may include adding treatment to these systems or seeking an alternative water supply, such as installing a deep well. Over the next few months, DNREC's Site Restoration and Investigation Branch will use the results from the raw or untreated water to ensure that people who have private wells in the area where contamination was detected are drinking safe water.

#### Of the 58 samples:

-MTBE and chloroform detected in 21

-Bromoform detected in 19

-PCE detected in 17

-TCE detected in 15

**DNREC press release March 26, 2002**

<http://www.dnrec.state.de.us/DNREC2000/Admin/Press/Story1.asp?PRID=417>  
Wilmington News Journal March 28, 2002, "Most State Water Sources Pass Test: Two of 43 fail recent sampling." <http://www.delawareonline.com/newsjournal/local/2002/03/28moststatewaters.html>

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**USGS Sampling of Community Water Systems in Delaware**

The USGS recently released the results of a study conducted for the Delaware Department of Natural Resources and Environmental Control and the Delaware Geological Survey. The USGS evaluated the concentration and distribution of contaminants in ground water used as a source of drinking water to public supply wells. The study, which included samples of raw water drawn from 30 public water supply wells located throughout the state, demonstrated the vulnerability of shallow public supply wells to contamination. Contaminants were widely detected, but mostly at levels below drinking water or health-based standards. These included chemicals typical of both urbanized settings, such as volatile organic compounds, and agricultural settings, such as pesticides and nitrates.

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The untreated raw water study focused on a select group of widely used chemicals routinely tested for by the USGS's National Ambient Water Quality Assessment Program (NAWQA) program. The approximately 160 chemicals analyzed included 45 pesticides and 13 pesticide-metabolites, 85 volatile organic compounds, 17 inorganic compounds, including nutrients, and radium and radon.

Key findings include widespread detection of low levels of pesticides, particularly pesticide-metabolite compounds (compounds that are degradation by-products of those originally applied), and low levels of volatile organic compounds, particularly MTBE. Nitrate was also widespread, but only one sample exceeded the EPA drinking water standard of 10 mg/l.

According to John Barndt, program manager in the Water Supply Section, "The USGS report shows the need to continue our ground water protection efforts for a resource that is clearly vulnerable. The good news is that the levels of chemicals that have been found are extremely low which indicates that efforts at using best management practices will work."

All public water systems selected for the study use at least one relatively shallow well potentially vulnerable to contaminants released onto the land surface. Age-testing indicated that all of these wells had water that was 20 years or less in the ground, meaning that it had entered via precipitation within the last 20 years.

Water samples were collected between August and November 2000. The study is part of two larger projects – the USGS National Ambient Water Quality Assessment project for the Delmarva Peninsula (DE-MD-VA) and Delaware's Source Water Assessment and Protection Program. The USGS will be evaluating this data further as part of their NAWQA study. The NAWQA study includes a much broader set of samples from monitoring wells and surface water samples.

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**Summary data:**

- VOCs detected in all 30 wells
- Chloroform (28), tetrachloroethylene (20), and MTBE (17) present in at least half of the samples
- 17 MTBE detections
  - Median MTBE 0.2 µg/L
  - Maximum MTBE 12 µg/L
- 1 ETBE detection 0.36 µg/L

MTBE Results:

<u>&lt;0.2 µg/L</u>	<u>13 samples</u>
<u>0.2 to 0.5 µg/L</u>	<u>6 samples</u>
<u>&gt;0.5 to 1.0 µg/L</u>	<u>3 samples</u>
<u>&gt;1.0 to 10 µg/L</u>	<u>6 samples</u>
<u>&gt;10 µg/L</u>	<u>1 sample</u>

Copies of the report are available from the USGS at 302-734-2506. The report will be available on the web in the future at <http://md.water.usgs.gov/>. The report "Occurrence and Distribution of selected Contaminants in Public Drinking-Water Supplies in the Surficial Aquifer in Delaware" is Open File Report 01-327.

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DNREC Press release April 3, 2002.

<http://www.dnrec.state.de.us/DNREC2000/Admin/Press/Story1.asp?PRID=429>

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<http://www.ethanolrfa.org/ereports/er040802.html>

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California

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California delays MTBE ban – On March 15, 2002, California Gray Davis signed an Executive Order delaying the state’s MTBE ban until January 1, 2004. “If I could snap my fingers and make MTBE go away tomorrow, I would.” Stated Gov. Davis. “I am doing it because the federal government refuses to give California the waiver it needs in order to meet the Clean Air Act. We do not need to import 900 million gallons of ethanol.”

Renewable Fuels Association President Bob Dinneen said that “Governor Davis’ about-face on the MTBE phase-out schedule is completely unjustified and places political expediency ahead of safe drinking water. This decision represents a callous breach of faith with California consumers that want MTBE out of their drinking water now, gasoline marketers and refiners that have invested to meet the original deadline, and farmers across the country that have added more than a billion gallons of ethanol capacity to enable the timely transition away from MTBE.”

Davis’ decision was partially based on a report ordered by the state Energy Commission, prepared by Stillwater Associates. The report recommended that the ban be delayed until the end of 2005, and says the phase-out of MTBE could cost California consumers \$1 billion to \$3 billion a year. The report stated that California’s plan to remove MTBE from the gasoline supply could spur fuel shortages and nearly triple the cost of gasoline over the next several years. Removing MTBE now will make the market “increasingly vulnerable to supply disruptions such as refinery outages, and it is likely that price spikes can reach \$4 a gallon.”

<http://www.ethanolrfa.org/ereports/er032202.html>

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<http://www.latimes.com/news/local/la-000013844feb23.story>

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[http://signonsandiego.com/news/business/20020222-999\\_1b22gas.html](http://signonsandiego.com/news/business/20020222-999_1b22gas.html)

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California Energy Commission Final Report: MTBE Phase Out in California. Executive Summary available at [http://www.energy.ca.gov/mtbe/2002-03-14\\_exec\\_summary.html](http://www.energy.ca.gov/mtbe/2002-03-14_exec_summary.html) A link to download the entire report is also at that site.

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[http://www.energy.ca.gov/releases/2002\\_releases/2002-03-15\\_governor\\_mtbe.html](http://www.energy.ca.gov/releases/2002_releases/2002-03-15_governor_mtbe.html)

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[http://www.energy.ca.gov/releases/2002\\_releases/2002-03-15\\_order\\_D-52-02.html](http://www.energy.ca.gov/releases/2002_releases/2002-03-15_order_D-52-02.html)

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<http://www.latimes.com/news/local/politics/cal/la-000019180mar16.story?coll=la%Dnews%2Dpolitics%2Dcalifornia>

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<http://www.planetark.org/dailynewsstory.cfm/newsid/15049/story.htm>

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<http://www.bayarea.com/mid/mercurynews/news/opinion/2879104.htm>

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**EPA Updates Charnock Project Website**

EPA Region 9 has recently updated their Charnock (Santa Monica) MTBE Project website (at [www.epa.gov/region09/charnock](http://www.epa.gov/region09/charnock) ) to include several maps, figures, and photos illustrating progress on investigation and cleanup activities at the site. Historical aerial photos of the Charnock Sub-Basin dating back to 1928 are also posted. The website provides outline summaries of recent regional field investigation and detailed feasibility study analyses performed by potentially responsible parties, and includes complete copies of all EPA enforcement orders for the project. A description of current replacement water sources is provided.

For further information contact Greg Lovato at 213-576-6713 ([lovato.greg@epa.gov](mailto:lovato.greg@epa.gov)) or Steve Linder at 415-972-3369 ([linder.steven@epa.gov](mailto:linder.steven@epa.gov))

**Kinder Morgan Tank Farm**

USEPA inspected the Kinder Morgan tank farm near Rialto-Colton, California and ordered operators to rebuild containment banks, fix deteriorating tank coatings, and make other repairs that would prevent leaks and spills from further contaminating ground water. The tank farm supplies inland areas of California, and stores gasoline that is shipped to Arizona and Las Vegas. The facility can store as much as 63 million gallons of gasoline, diesel, and jet fuel in 47 aboveground storage tanks. The owner was given sixty days to make the repairs or face up to \$11,500 per day per violation in penalties. The tank farm is the source of a plume of MTBE that reaches nearly a mile south of the tank farm, to within a few hundred yards of drinking water wells of the West San Bernadino County Water District. By the end of March, the plume had come within 300 feet of an unused well, and within 900 feet of an in-use well. Kinder Morgan was required to come up with a contingency plan by April 26 to treat or replace and water contaminated by MTBE. The levels of MTBE contamination are below state drinking water standards – 0.78 ppb near the active well and 2.2 ppb near the closer inactive well. Anthony Araiza, general manager of the water district is eager to see how well the pump-and-treat system between the tank farm and the wells will work. Since 1974, there have been 14 spills reported since 1974, totaling about 268,000 gallons of fuel. The Santa Ana Regional Water Quality board has been overseeing the cleanup work since 1993. There have been 133 monitoring wells installed to track the plume, 99 of which are monitored regularly.

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*Los Angeles Times, March 27, 2002*

*Riverside Press Enterprise, March 27, 2002*

*Riverside Press Enterprise, February 22, 2002*

<http://www.pe.com/digitalextra/environment/mtbe/stories/2002-0222-tanks.html>

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**Status Report on Field-Based Research Project – The Enhancer Tracer Tight® test method has been used to evaluate single-walled, double-walled, and hybrid UST systems at randomly selected UST facilities in Sacramento and Yolo Counties. Additionally, spill buckets are being tested hydrostatically. In conjunction with the fieldwork, the leak detection information for each UST facility is being reviewed to determine the effectiveness of current leak detection methods. Sacramento and Yolo Counties are the first of six test areas that are being studied. Sixteen percent of the systems are single-walled UST systems, 26% are hybrid systems (both single-walled and double-walled components), and 58% are double-walled systems. Only 34% of the UST systems passed the Enhanced Tracer Tight test indicating that the UST system was liquid and vapor tight during the test period. A liquid release was found at one of the UST systems tested (1/73 or 1%); the release was from a section of single-walled piping at the connection between rigid fiberglass and flexible pipe, just outside the under-dispenser containment. The flexible piping was used to connect the rigid piping to the dispenser. Data indicated vapor releases at 64% (47/73) of UST systems tested. The data indicate that that the tightness of single-walled and double-walled systems is similar. The majority of tracer detections appeared to be associated with the tank top. The type of vapor recovery system at each facility did not appear to affect whether or not a system passed the test. However, the type of vapor recovery system appears to affect the magnitude of the tracer**

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released into the environment. Releases were larger for the assist systems than for the balance systems. Thirty percent of the spill buckets failed the hydrostatic test, but it is not known whether the failure resulted in leakage into the UST or into the environment. Additional testing is underway in San Diego County and the City of Temecula, and is yet to begin in Mendocino and Humboldt Counties, San Francisco County, Santa Barbara County, and Kern County.

Tracer Research provided written testimony for May 8 Senate Subcommittee hearing. Slides and notes describe the testing and results of the Sacramento and Yolo Counties work. See

[http://www.senate.gov/~epw/Golding\\_050802.pdf](http://www.senate.gov/~epw/Golding_050802.pdf)

<http://www.latimes.com/news/local/la-00017486mar09.story?coll=la%2Dheadlines%2Dcalifornia%2Dmanual>

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One program of a PBS TV series called CaliforniaConnected, aired on May 30, 2002, had a segment of the show called "The MTBE Timebomb." The program included coverage of Tahoe, Santa Monica, and Glennville. The segment is currently available for viewing on the web at

<http://www.californiaconnected.org/segments/2002/05/30/segment1.html>

An email discussion forum followed the program with William Rukeyser of California EPA, Lisa Fernandez-Fasano of EPA, and Steven Linder of EPA Region 9.

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### Indiana

For recent information on the drinking water impacts at the Roselawn site, see the lead article on page 1.

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### New Hampshire

The state of New Hampshire plans to study the extent of MTBE contamination in Paugus Bay to assess the risk to Laconia's water supply. The state's Oil Fund Disbursement Board picked Paugus Bay as one of the most important research projects in the state because of the potential for a significant public health and economic impact to Laconia residents. The Bedrock Bioremediation Center at the University of New Hampshire has been awarded the contract. There has been a general increasing trend of MTBE concentrations in the water in recent years, but the state standard of 13 ppb has not been exceeded. The city draws an average of 2.6 million gallons of water from the bay each day. Nonpoint sources, such as storm water runoff, UST leaks, and recreational activities are all potential routes of MTBE entry into the bay. The incidence of higher MTBE values during the hot summer months may indicate the contribution of recreational watercraft to the contamination.

[http://www4.fosters.com/news2002/may2002/may17\\_02/news/co0517a\\_02.asp](http://www4.fosters.com/news2002/may2002/may17_02/news/co0517a_02.asp)

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A city well in Portsmouth, NH was impacted by MTBE. The well, Madbury #4, will remain offline throughout the summer because of continued contamination. No MTBE has been found in Madbury well #3, well upgradient of the well, so a test well has been drilled between the #3 and #4 wells to try to pinpoint the source of the contamination. The city has spent \$79,000 so far trying to determine the source, but has received \$63,000 from the state to reimburse those costs. "We've taken 175 samples and to date we haven't found even a trace of MTBE other than in that well," said city engineer Dave Allen.

<http://www.seacoastonline.com/news/05182002/news/5189.htm>

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Governor Shaheen vetoed SB 419 regarding notification of groundwater contamination pertaining to MTBE to public water systems and abutting well owners. Current New Hampshire law requires notification to be given if the contamination was detected at a level of 5 ppb or greater. The bill proposed to change the notification level to the 13 ppb drinking water standard. Gov. Shaheen vetoed the bill and simultaneously issued an Executive Order directing the Department of Environmental Services to notify any private well owners or public water suppliers of MTBE contamination discovered over 5 ppb within 500 feet.

<http://www.gencourt.state.nh.us/legislation/2002/sb419.html>

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<http://www.gencourt.state.nh.us/index/indexstatus.asp?exbillno=sb0419&txtsessionyear=2002>

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**New York**

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The Putnam County, New York Health Department is testing drinking water wells located near the Amazon Citgo Station in Lake Carmel after the state Department of Environmental Conservation found high levels of MTBE in a monitoring well at the station. Three homes tested so far have exceeded the state standards, and the oil company is installing filters on the wells. Mid-Valley Oil, which owns the station, paid a \$400,000 fine last year for violating UST regulations at 60 of its stations. One of the impacted wells had 73 parts per billion MTBE, and the other two were around 120 ppb. The allowable state standard is 50 ppb. The state has hand-delivered letters to about 50 of the nearby residents to inform the residents about the situation.

<http://www.thejournalnews.com/newsroom/051502/15mtbe.html>

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**Rhode Island**

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A Pascoag family has asked the state to purchase their house, because they were driven out of their house by benzene vapors from a nearby Mobil station that contaminated the town's wells. A nearby town supplied clean water, but vapors continued to permeate through the foundation of the house, which is the only house directly in the path of the plume. The family bought another home in a nearby town, but they continue to pay the mortgage on their old home. Because of the vapors, realtors consider their home unsellable and worthless. The Rhode Island General Assembly's Joint Committee on Accounts and Claims has taken no action on the request to buy the home, but hasn't eliminated that possibility yet. A bill has been submitted to the committee to purchase the home. If the committee decides to support the appropriation, legislation will be passed by both houses of the General Assembly. The lawyer for the homeowners has mentioned the possibility of a negligence claim against the Department of Environmental Management, because as far back as seven years ago, the DEM had been writing letters to the owner of the gas station asking him to install monitoring wells.

*Woonsocket Call, May 17, 2002.*

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*Article on the Pascoag contamination in LUSTLine Bulletin 40, March 2002. "When MTBE Struck Pascoag...An Abridged Chronicle of the Impact of an MTBE Release in a Rhode Island Village," by Paula-Jean Therrien. See also ASTSWMO MTBE and Fuel Oxygenates Newsletter Fall 2001.*

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**More on Pascoag...**

In the last issue of this newsletter, a chronology of events related to the MTBE impacts to the public water supply for Pascoag, Rhode Island was presented. Since that summary, several new events have occurred. On May 9, 2002, lawsuits were filed in Superior Court on behalf of 28 Burrillville residents and the local water district against ExxonMobil Corporation for the gasoline leak that polluted the village's drinking water. Attorney Marc Bern, of Napoli, Kaiser, and Bern, cited health and environmental risks associated with MTBE, referring to MTBE as "toxic crud." "This is a product liability case. The MTBE should never have been put into the gasoline." One lawsuit seeks unspecified damages from ExxonMobil and its affiliates for residents of the village of Pascoag who had to use bottled water for several months. The Pascoag Water District has filed a separate lawsuit, citing the increased cost of supplying water to residents and the expense of eliminating gasoline contamination from the water supply and ground water. The lawsuit alleges that ExxonMobil intentionally mislead the public about the effects of the gasoline additive MTBE, and continued to use MTBE even though the company knew it was detrimental to the environment. Attorneys for the plaintiffs said they represent 1500 village residents and expect more lawsuits to be filed. About 4000 residents had to use bottled water until new wells from a neighboring water district began providing clean water. Brian Cunha, another of the attorneys, said that they were seeking \$500 million in the Pascoag case. The attorneys would be paid on a contingency-fee basis, meaning that they would take home one-third of whatever the Pascoag Utility District and 28 residents receive.

The Main Street Mobil station, which was the source of the release, closed soon after the spill was discovered in September. The station was owned by Potter Oil, Inc., of Warwick, and Medea LLC, of Wakefield. They filed for Chapter 7 bankruptcy in December.

The ExxonMobil spokesperson had not seen the lawsuits and could not comment, other than to say that the company was committed to phasing down the use of MTBE “as soon as it is technically and economically feasible.” He stated that “This is a distributor-operated and owned store, it’s not an Exxon-owned and operated store.”

On February 25, 2002, Senator Lincoln Chafee held a Senate Field Hearing in Pascoag for the US Senate Committee on Environment and Public Works on Senate Bill 1850 – The Underground Storage Tank (UST) Compliance Act of 2001. The legislation would require the inspection of all tanks every two years, while increasing federal emphasis on training UST operators. See Federal Legislation for additional information about this hearing and a second hearing about the bill in May in Washington.

In May, the US EPA announced that it had set aside \$1 million for the cleanup of the gas station where the leak occurred. The state Department of Environmental Management will continue to oversee the remediation of the Pascoag site. The agency must negotiate a work plan with the EPA before receiving the money. In a news release announcing the grant, the EPA called the Pascoag water contamination one of the “worst cases of its kind in New England.” The DEM has already spent \$1.1 million on the Pascoag site to provide clean drinking water and initiate the clean-up effort. The amount includes \$550,000 of previously awarded federal money that the EPA allowed state officials to redirect toward the Pascoag cleanup last fall. With the additional money, the DEM will remove the source of the Pascoag contamination and set up treatment systems that will lower contamination at the site and stop the flow of contaminated groundwater.

According to Jan Reitsma, Department of Environmental Management Director, “Our experience in Pascoag has made one thing clear: controlling and removing MTBE from the environment is not a simple task. All signs indicate that MTBE is going to be a major problem...and the cost of cleanup is going to be much higher than we thought.”

New Hampshire Public Radio; Broadcast on 5/31/02, about Pascoag  
[http://www.nhpr.org/content/fullmonty\\_view.php/3202/](http://www.nhpr.org/content/fullmonty_view.php/3202/)

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See section on State Legislative Activities for bills introduced in the Rhode Island General Assembly.

Providence Journal <http://www.projo.com>

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5/1/02 Fogarty asks state to buy home with contaminated well

5/7/02 EPA gives \$1M for Pascoag water cleanup

5/8/02 EPA earmarks \$1 million for gasoline cleanup

5/9/02 Lawsuits blame ExxonMobil for Pascoag water contamination

5/10/02 Pascoag going after Exxon

WaterTech Online 5/10/02 Exxon Mobil sued over MTBE contamination

[http://www.watertechonline.cm/news.asp?mode=4&N\\_ID=31374](http://www.watertechonline.cm/news.asp?mode=4&N_ID=31374)

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Citizens for a Healthy Pascoag <http://www.cleanwaterpascoag.org/>

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Rhode Island Global Action Network <http://www.riglobalaction.org/rispark/thirstforprofits.html>

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Office of Environmental Risk Assessment <http://www.healthri.org/environment/risk/mtbe/>

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Rhode Island Dept. of Environmental Management

<http://www.state.ri.us/dem/programs/benviron/waste/pascoag.htm>

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The Law Offices of Brian Cunha and Associates <http://www.briancunha.com/mtbecontamination.html>

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[When MTBE Struck Pascoag.... By Paula-Jean Therrien, RI DEM. LUSTLine, Bull. 40, March 2002, published by NEIWPCC.](#)

## FEDERAL LEGISLATION

[Clean Air Act Issues in the 107<sup>th</sup> Congress, CRS Issue Brief for Congress, Updated April 29, 2002. http://www.house.gov/htbin/crsprodget?/ib/IB10065. See pages 6-8 and 9-14 of the report for a good summary of proposed legislation.](#)

[On April 25, 2002, the Senate passed its version of H.R. 4, a comprehensive energy bill. The bill contains provisions that would ban the use of the gasoline additive MTBE, eliminate the requirement to use MTBE or other oxygenates in reformulated gasoline, authorize additional funding for cleanup of groundwater contaminated by the substance, and require use of ethanol or other renewable fuels in motor vehicles. The House passed its version of H.R. 4, on August 2, 2001, but the bill did not contain provisions modifying the Clean Air Act or requiring the use of ethanol. The Senate has announced the names of the 16 Senators that will work with the House to produce a uniform energy bill. The House has not yet announced its members.](#)

[Also see the following other CRS reports:](#)

[CRS Report 98-290. MTBE in Gasoline: Clean Air and Drinking Water Issues, Updated May 15, 2001, 22 p.](#)

[CRS Report RL30369. Fuel Ethanol: Background and Public Policy Issues, March 22, 2001. 17 pp.](#)

[CRS Report RL30853. Clean Air Act: A Summary of the Act and Its Major Requirements, February 13, 2001. 22 pp.](#)

## PENDING FEDERAL LEGISLATION ON MTBE AND ETHANOL

107<sup>th</sup> Congress

Date Introduced	Bill Number	Sponsors, bill title, description, committee referral
1/3/01	HR20	(Greenwood) A bill to amend Section 211 of the Clean Air Act to modify the provisions regarding the oxygen content of reformulated gasoline and to improve the regulation of the fuel additive, methyl tertiary butyl ether (MTBE) and for other purposes. Section 1: Waiver of oxygen content requirements; Section 2: Control of oxygenates; Section 3: Maintenance of emission control benefits; Section 4: Assurance of adequate fuel supply. Referred to House Committee on Energy and Commerce.
2/6/01	HR454	(Johnson, Illinois) "MTBE Elimination Act." A bill to prohibit the use of, and provide for remediation of water contaminated by, methyl tertiary butyl ether. Referred to House Committee on Energy and Commerce.
2/6/01	S265	(Fitzgerald, Bayh, Brownback, Kohl, and Durbin) "MTBE Elimination Act." A bill to prohibit the use of, and provide for remediation of water contaminated by, methyl tertiary butyl ether. Referred to Committee on Environment and Public Works.
2/8/01	HR532	(Capps, Waxman, Davis) A bill to provide funding for MTBE contamination. Referred to Committee on Energy and Commerce.

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**Public well impacts in California**¶

The San Francisco Chronicle analyzed records from the Water Resources Control Board and the Department of Health Services and found that leaks of MTBE from nearly 1200 UST sites threaten the drinking water supply of millions of Californians. Records show that 1189 UST sites are within 1000 feet of public supply wells or on vulnerable drinking water aquifers. An additional 1729 leaking tank sites farther away from drinking water wells also could be a threat. More than 2500 public drinking water systems that serve 30.5 million people (or 90% of the state's population) have been sampled for MTBE. Of 8311 groundwater sources sampled, 48 contained MTBE. Of the 595 su... [11]

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2/14/01	HR608	(Ganske, Shimkus, Evans, Latham, Weller, Blagojevich, Leach, Costello, Phelps, Ramstad, Upton, Kaptur, LaHood, Boswell, Manzullo, Terry, English, Johnson, Thurman, Ryun, Bereuter, Souder, Simpson, Graves, Osborne, Whitfield, Emerson) :Clean Air and Water Preservation Act of 2001." A bill to amend section 211 of the Clean Air Act to prohibit the use of MTBE, to provide flexibility within the oxygenate requirement of the Environmental Protection Agency's Reformulated Gasoline Program, to promote the use of renewable ethanol, and for other purposes. Referred to Subcommittee on Energy and Air Quality.
3/30/01	S670	(Daschle, Lugar, Johnson) A bill to amend the Clean Air Act to eliminate MTBE from the United States fuel supply and to increase production of ethanol, and for other purposes. Referred to Senate Committee on Environment and Public Works.
5/3/01	HR1695	(Pombo) A bill to amend section 211 of the Clean Air Act to prohibit the use of certain fuel additives. Referred to House Committee on Energy and Commerce.
5/13/01	S892	(Harkin) Clean and Renewable Fuels Act of 2001. A bill to amend the Clean Air Act to phase out the use of methyl tertiary butyl ether in fuels or fuel additives, to promote the use of renewable fuels, and for other purposes. Referred to Senate Committee on Environment and Public Works.
5/15/01	HR1833	(Smith) Gas Tax Fairness Act of 2001. To amend the Internal Revenue Code of 1986 to suspend all motor fuel taxes for 6 months. Referred to House Committee on Ways and Means.
5/24/01	S947	(Feinstein) A bill to amend the Clean Air Act to permit the Governor of a State to waive the oxygen content requirement for reformulated gasoline, and for other purposes. Referred to Committee on Environment and Public Works.
5/24/01	S950	(Smith, Reid) A bill to amend the Clean Air Act to address problems concerning methyl tertiary butyl ether, and for other purposes. Referred to Committee on Environment and Public Works.
5/24/01	HR1999	(Nussle) Ethanol Energy Promotion Act of 2001 - A bill to amend the Clean Air Act to prohibit the use of methyl tertiary butyl ether as a fuel additive, to require Federal vehicles to use ethanol fuel, and for other purposes. Referred to House Committee on Energy and Commerce and House Committee on Ways and Means.
5/25/01	HR2017	(Green) A bill to direct the Administrator of the EPA to conduct a study of the feasibility of developing regional vehicle fuel specifications for the US and of implementing the use of a uniform blend of gasoline in the Midwest region of the US. Referred to House Committee on Energy and Commerce.
6/8/01	S1006	(Hagel) Renewable Fuels for Energy Security Act of 2001. A bill to provide for the energy security of the US and promote environmental quality by enhancing the use of motor vehicle fuels from renewable sources, and for other purposes. Referred to Committee on Energy and Natural Resources.
6/19/01	HR2230	(King) A bill to amend section 211 of the Clean Air Act to prohibit the use of the fuel additive MTBE in gasoline. Referred to the Committee on Energy and Commerce. Referred to Subcommittee on Energy and Air Quality.
6/20/01	HR2249	(Blunt) Gasoline Access and Stabilization Act of 2001. To amend section 211 of the Clean Air Act to require a more uniform formula for gasoline and diesel fuel so that gasoline and diesel fuel manufactured for one region of the country may be transported to

		and sold in other regions of the country, and for other purposes. Referred to House Committee on Energy and Commerce.
6/21/01	HR2270	(Issa) To amend the Clean Air Act to permit the exclusive application of California State regulations regarding reformulated gas in certain areas within the State. Referred to House Committee on Energy and Commerce.
6/26/01	HR2324	(Woolsey) Renewable Energy and Energy Efficiency Act of 2001. To establish a balanced energy program for the United States that unlocks the potential of renewable energy and energy efficiency, and for other purposes. Referred to House Committee on Science and House Committee on Energy.
6/28/01	HR2423	(Thune) Renewable Fuels for Energy Security Act of 2001. To provide for the energy security of the United States and promote environmental quality by enhancing the use of motor vehicle fuels from renewable sources, and for other purposes. Referred to House Committee on Energy and Commerce. Referred to the Subcommittee on Energy and Air Quality.
7/23/01	HR2587	(Tauzin) Energy Advancement and Conservation Act of 2001. To enhance energy conservation, provide for security and diversity in the energy supply for the American people, and for other purposes. Placed on the Union Calendar No. 97
<u>7/27/01</u>	<u>HR4</u>	<u>(Tauzin) SAFE Act of 2001 (Securing America's Future Energy Act of 2001) To enhance energy conservation, research and development, and to provide for security and diversity in the energy supply for the American people, and for other purposes. Placed on Senate Legislative calendar under General Orders. Calendar No. 145.</u>
<u>12/5/01</u>	<u>S1766</u>	<u>(Daschle) Energy Policy Act of 2002 Placed on the calendar in the Senate</u>
<u>12/19/01</u>	<u>S1850</u>	<u>(Chaffe) Underground Storage Tank Compliance Act of 2001. A bill to amend the Solid Waste Disposal Act to bring underground storage tanks into compliance with subtitle I of that Act, to promote cleanup of leaking underground storage tanks, to provide sufficient resources for such compliance and cleanup, and for other purposes.</u>
<u>12/20/01</u>	<u>HR3596</u>	<u>(Ryan) To amend the Clean Air Act requirements relating to gasoline to prevent future supply shortages and price spikes in the gasoline market, and for other purposes. Referred to House committee</u>
<u>6/25/02</u>	<u>S2678</u>	<u>(Baucus and others) Maximum Economic Growth for America Through the Highway Trust Fund Act, or "MEGA Trust Act." A bill to amend the Internal Revenue Code of 1986 to transfer all excise taxes imposed on alcohol fuels to the Highway Trust Fund, and for other purposes. Referred to Committee on Finance.</u>

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Text of proposed legislation can be found at Thomas at <http://thomas.loc.gov/>

### **Comparison of House and Senate Energy Bills with Respect to Transportation Fuels**

<u>S517</u>	<u>HR4</u>
<u>Bans MTBE, state exemptions possible</u>	<u>No provision</u>
<u>Eliminates Clean Air Act 2% Oxygen Mandate</u>	<u>No provision</u>
<u>5 billion gallon renewable fuels mandate by 2012, with bank and trade program</u>	<u>EPA-DOE study of a 15-year renewable fuels mandate with bank and trade program</u>
<u>Prevents air pollution backsliding by strengthening EPA's mobile source toxic rule</u>	<u>No provision</u>
<u>Same</u>	<u>Study requirements leading to the nation's balkanized RFG system</u>
<u>Authorizes \$200 million for MTBE FY'03 cleanup and \$2.5 billion for other related efforts</u>	<u>Authorizes \$200 million for MTBE FY'03 cleanup</u>
<u>No provision</u>	<u>Reduces paperwork on refiners (EPA addressed in Feb. rulemaking)</u>
<u>No provision</u>	<u>More flexibility for refiners prior to 2002 spring transition season (EPA addressed in Feb. rulemaking)</u>
<u>Federal fleets must purchase at least 10% ethanol-blended gasoline</u>	<u>Calls for reduction in petroleum-based fuels used by light-duty government motor fleet</u>

#### Senate Bill 1850

February 25, 2002 - Rhode Island Field Hearing, Pascoag, Rhode Island on S1850. See [http://www.senate.gov/~epw/stm1\\_107.htm](http://www.senate.gov/~epw/stm1_107.htm) for submitted testimony. Witnesses: George Reilly, Pascoag Resident; Michael Wallace, Pascoag Resident; Jan Reitsma, Director, RI DEM; Hon. Scott Rabideau, RI State Representative; Arthur J. DeBlois, III, DB Companies, on behalf of SIGMA and NACS; Jeff Kos, Environmental Council of RI.

May 8, 2002 - Hearing in DC [http://www.senate.gov/~epw/stm1\\_107.htm#05-08-02](http://www.senate.gov/~epw/stm1_107.htm#05-08-02) (testimony), [http://epw.senate.gov/audio-visual\\_media.htm](http://epw.senate.gov/audio-visual_media.htm) for archived webcast.

S1850 would require that all USTs be inspected every two years and if the tanks are found not to be in compliance, EPA or a state could ban delivery of regulated substances into that tank. The bill would also authorize \$200 million for MTBE remediation from leaking USTs.

Testifying were:

Marianne Horinko, Assistant Administrator, OWSER, EPA; John Stephenson, Director, Natural Resources and Environment, U.S. General Accounting Office; Craig Perkins, Director of Environmental and Public Works Management, City of Santa Monica; Grant Cope, U.S. Public Research Interest Group; Kathleen Stiller, ASTSWMO Tanks Subcommittee Chair, DE DNREC, on behalf of ASTSWMO; Arthur J. DeBlois III, DB Companies, Inc., of behalf of Independent Gasoline Marketers of America (SIGMA) and the National Association of Convenience Stores (NACS); Roger Brunner, Zurich North America.

May 21, 2002 - House Environment and Hazardous Materials Subcommittee of the Energy and Commerce Committee aimed at identifying groundwater contamination issues surrounding MTBE. Witness List: The Honorable Ben Grumbles, Deputy Assistant Administrator, Office of Water, USEPA; Mr. John B. Stephenson, Director of Environmental Issues, U.S. Govt. Accounting Office; Mr. Timothy

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Miller, Chief of National Water Quality Assessment Program, U.S. Geological Survey; Ms. Patricia Ellis, Hydrologist, Delaware Underground Storage Tank Branch; Dr. Pamela R.D. Williams, Exponent; Mr. James Jones, President, Board of Directors, South Tahoe Public Utility District; Mr. Craig Perkins, Director of Environmental and Public Works Management, City of Santa Monica.  
For submitted testimony, a link to the archived webcast , and the transcript of the hearing (within 60-90 days) <http://energycommerce.house.gov/107/hearings/05212002Hearing566/hearing.htm>

John Stephenson’s testimony stated that currently, portions of 17 states and the District of Columbia use gasoline containing MTBE to boost the oxygen content of motor fuel and limit air pollution, however, 35 states have found MTBE in groundwater at least 20% of the time they tested for it. “MTBE is being detected nationwide because.... It had been used as an octane enhancer in gasoline in the past and because the pipes and trucks used to carry gasoline throughout the nation have been cross contaminated with the substance.”  
<http://www.planetark.org/dailynewsstory.cfm/newsid/16070/story.htm>

## STATE LEGISLATIVE ACTIVITIES

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### State MTBE Bans

<b>2002</b>	<b>North Carolina, Iowa, Minnesota, Nebraska, South Dakota, Colorado</b>
<b>2003</b>	<b>Connecticut, Michigan</b>
<b>2004</b>	<b>New York, Illinois, Indiana, Kansas, Arizona, California</b>
<b>2005</b>	<b>Ohio</b>
<b>2006</b>	<b>Kentucky</b>

### Connecticut

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Connecticut DEP was expected to issue a report in early February on its plan to meet the Connecticut phase-out date of 10/1/03. The report was expected to request a 2-year extension to the MTBE-deadline, based on experiences incurred with MTBE-free gasoline in Chicago and Milwaukee. At a March hearing, DEP Commissioner Arthur Rocque strongly supported delaying the MTBE phaseout by two years. "While a phase-down of MTBE use is desirable, the current MTBE phase-down of October 1, 2003 is unworkable and could seriously disrupt gasoline price and/or availability."

<http://library.northernlight.com/FD20020318420001612.html?cb=0&dx=1006&sc=0>

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### Kentucky

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Kentucky is the latest state to ban MTBE, with its restriction set to begin January 1, 2006. The bill allows for trace amounts of MTBE to remain (0.5%). The legislation is part of SB 13, a bill designed to promote Kentucky-grown agricultural products. The bill also encourages ethanol use in place of MTBE after January 1, 2004, and encourages that biodiesel fuel use a blend of not less than 2% ethanol. The final bill was passed 90 to 0 by the State House and 38 to 0 by the State Senate.

<http://www.lrc.state.ky.us/2002rsrecord/sb13/bill.doc>

<http://grainnet.com/info/articles.html?type=bn&ID=14932>

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### Missouri

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On the final day of the 2002 legislative session, the Missouri General Assembly passed legislation that will ban MTBE by July 2005, and will promote the increased production and use of ethanol in the state. The Governor is expected to sign the legislation in the near future. The St. Louis area is required to use reformulated gasoline containing either MTBE or ethanol. The requirement to label gasoline pumps dispensing ethanol-blended fuel is also eliminated.

SB1272, HB1750

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### New Jersey

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Bills introduced: AB 940 and SB 699 direct the New Jersey Drinking Water Quality Institute to re-evaluate the maximum contaminant level for MTBE and other substances including arsenic and radium in drinking water. AB 941 prohibits the sale of gasoline containing MTBE, and directs the DEP to seek a waiver from EPA regarding oxygen requirements for the purpose of discontinuing MTBE. Bills have been sent to committee.

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### Ohio

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On May 29<sup>th</sup>, Ohio became the 16<sup>th</sup> state to ban MTBE. Ohio is not required to use reformulated gasoline. The governor signed a bill banning all sales and distribution of MTBE within the state by July 2005. The ban also covers imports of gasoline with more than 0.5 percent MTBE. Neither of the state's two main

gasoline vendors – BP and Marathon – use MTBE in their gasoline. The only way MTBE makes its way into the state is by imported gasoline as an octane enhancer or through pipelines crisscrossing the state. Ohio Rep. Steve Reinhard, one of the authors of the bill, said his main concern of the bill was to prevent MTBE-containing gasoline from traversing the state through pipelines. The bill requires the Ohio EPA to seek an RFG waiver from EPA, allowing the state to manage the future of MTBE in Ohio. The federal government controls interstate commerce. Ohio is within a cluster of states that have also chosen to ban MTBE, Kentucky being the most recent one.

*Clean Air Daily (date unknown)*

*Sub. H.B. 425 <http://www.lbo.state.oh.us>*

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### **Pennsylvania**

The Pennsylvania House of Representatives unanimously passed a bill in November that would ban the sale of gasoline containing MTBE after 2003. The legislation, sponsored by State Rep. Robert W. Godshall, passed 196-0 and will next head to the Senate for a vote. The bill would require the state DEP to issue an annual report on the scope of MTBE contamination statewide. The state House also unanimously passed another bill, which would increase state funding for tank-spill cleanups from \$1 million to \$1.5 million. This bill, sponsored by State Sen. Joe Conti, was introduced because of the greater expense for cleaning up spills containing MTBE. It also requires that DEP must be notified within four hours after a release is discovered, instead of the currently-required 24 hours. The House has approved the bill, and Conti expected that the Senate would review minor changes to his bill and send the bill to Gov. Mark Schweiker for approval.

*House Bill 1918 <http://www.legis.state.pa.us/WU01/LI/BI/BT/2001/0/HB1918P2919.HTM>*

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Conti stated that the phase-out legislation would face a tough challenge. “There is a feeling (among some) that the legislation may be unconstitutional.

Godshall said, “If a lot of gas stations would be checked, there’d be a lot of MTBE pollution. The pollution that’s caused by not necessarily tank spills, but overflows, has been horrendous. Bucks County has been a hotbed for this.” He said “It’s a situation that is rapidly escalating to a crisis level in the five-county region of southeastern Pennsylvania.” Hundreds of people across Bucks and Montgomery counties living with MTBE in their water wells have been forced to drink bottled water and install carbon filter systems in their homes. Others have had their homes hooked up to public water supplies.

Carol Koch, of Buckingham, living near now-closed Exxon and Mobil stations, was happy to hear about the legislation. “Wow! We are living in an area, in what we thought was a nice countrified area. This was the sticky wicket in the thing. Right away, they told us the depreciation of our house was about 25 percent and something we have to disclose to potential buyers.” Her husband was less upbeat. “I think this is a political thing, and they’re playing with our health. You don’t play politics with people’s health.”

*[http://ing.philly.com/content/inquirer/3001/11/21/local\\_news/SMTME21.htm](http://ing.philly.com/content/inquirer/3001/11/21/local_news/SMTME21.htm)*

*[http://www.phillyburbs.com/intellegencerrecord/news/news\\_all/1372201.htm](http://www.phillyburbs.com/intellegencerrecord/news/news_all/1372201.htm)*

*[http://www.phillyburbs.com/intellegencerrecord/news/news\\_all/1319664.htm](http://www.phillyburbs.com/intellegencerrecord/news/news_all/1319664.htm)*

*[http://www.watertechonline.com/News.Asp?mode=4&N\\_id=27418](http://www.watertechonline.com/News.Asp?mode=4&N_id=27418)*

*Harrisburg Morning Call, November 21, 2001.*

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### **Rhode Island**

*Members of the Rhode Island General Assembly introduced a number of bills concerning MTBE within the first month of this year’s legislative session.*

*S2028 An Act relating to Methyl tertiary-Butyl Ether. Directs the Director of DEM to report to the Governor and the Legislature by July 1, 2002, whether the continued use of MTBE is appropriate.*

*Introduced 1/2/02 by Fogerty, Walaska, Paiva-Weed, Kelly, and Goodwin.*

[S2051 Senate Resolution respectfully requesting that the United States Congress remove the requirement in the Clean Air Act for 2% of content by weight oxygenate in reformulated gasoline. Introduced 1/8/02 by Fogarty, Kelly, Paiva-Weed, Walaska, and Celona. Passed on Senate Floor 4/2/02](#)

[S2052 An Act relating to state affairs and government – Dept. of Environmental Management – Elimination of MTBE as a gasoline additive. DEM Director, in conjunction with northeast regional fuels task force to develop and implement a plan to phase-out the use of MTBE by July 1, 2003. Director shall seek a waiver from USEPA for purpose of eliminating MTBE. Department shall undertake an education campaign directed at proper handling of gasoline. Introduced 1/8/02 by Fogarty, Kelly, Paiva-Weed, Celona, and Walaska.](#)

[S2062 An Act relating to state affairs and government – Department of Environmental Management – Elimination of MTBE as a gasoline additive. \(Same as S2052, above\). Introduced 1/8/02 by Blais, Breene, Gibbs, and Sosnowski.](#)

[S2070 An Act relating to state affairs and government – Department of Environmental Management – Elimination of MTBE as a gasoline additive. Same as S2052 and S2062, above\). Introduced 1/9/02 by Walsh, Fogarty, Algieri, Paiva-Weed, and Sosnowski.](#)

[S2122 An Act relating to health and safety. This act would ban MTBE from use in motor fuel. This act would take effect on October 1, 2002.](#)

[S2151 An Act relating to drinking water quality standards for private wells. Director of Health authorized to provide testing for private water supplies, testing for public water supplies, testing for other substances of public health concern such as radon in air, lead in paint and soil, and other indoor air pollutants. The office of private well contamination coordinates state agencies in cases of private well contamination, etc., and establish drinking water standards for private wells. The bill also deals with disclosure requirements for real-estate transactions, private well testing requirements. Introduced 1/16/02 by Blais, Breene, Raptakis, Gibbs, and Algieri. Passed as Sub A on 5/23/02.](#)

[H6636 An act relating to health and safety. This act would prohibit the use of methyl tertiary-butyl ether as an additive in all gasoline sold in the state of Rhode Island. Lowe, Reilly.](#)

[H6928 House Resolution encouraging the Coalition of Northeastern Governors \(CONEG\) to promote a policy of banning the use of MTBE as a gasoline additive in the Northeastern region of the United States. Introduced 1/23/02 by Lewiss, Thompson, and Kennedy.](#)

[H7044 House resolution respectfully urging the Coalition of Northeastern Governors \(CONEG\) to promote a policy banning the use of MTBE as a gasoline additive in the northeastern region of the United States. Scott, Shanley, Garvey, Kennedy, Bierman. Passed in House 4/11/02.](#)

## [MTBE LITIGATION](#)

### [California](#)

[A jury in San Francisco recently held three oil companies liable for the MTBE contamination of wells in South Lake Tahoe. Several other companies had settled with the South Tahoe Public Utility District prior to the trial. The lawsuit was originally filed against 31 oil refiners, fuel distributors and gas stations. Most of the defendants settled out of court, for a total of more than \\$33 million. The first part of the trial lasted five months, and the jury deliberated for a month. Three major companies were found liable on April 15, 2002 for polluting ground water at South Lake Tahoe in a potentially landmark case that turned up industry documents showing that companies knew for years about the dangers of MTBE while still promoting its use. The jury found that MTBE is a defective product. It found that two of the companies, Shell Oil and Lyondell Chemical Co., formerly Arco, were aware of the dangers it posed and used it "with malice." Unlike with the other two companies, the jury was not asked to decide if Tosco acted maliciously. Tosco stopped using MTBE shortly after it learned of the dangers it posed. After the verdict was reached, San Francisco Superior Court Judge Carlos Bea immediately placed a gag order on trial participants.](#)

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**MTBE-ban legislation**¶

*From "Environment & Energy Daily" September 24, 2001, Air Pollution/Water Pollution*¶

Legislation to eliminate the use of methyl tertiary butyl ether (MTBE) in reformulated gasoline (RFG) by 2004 will be marked up Tuesday by the Senate Environment and Public Works Committee. While lawmakers are pushing the bill as a means to clean up the nation's water supplies, ethanol producers are scoffing at the legislation's wide-spread implications and think it has little chance of gaining acceptance in its current form before the full Senate.¶

¶ Sen. Bob Smith (R-N.H.), the Environment Committee's ranking member, introduced S. 950, the Federal Reformulated Fuels Act, in May. A committee minority staffer said Smith hopes to move the bill out of committee Tuesday and have it ready for full Senate debate at some point this year. Last year, a Smith bill, S. 2962, aimed at eliminating MTBE passed out of the committee but did not see floor debate. That bill included a competitive alternative fuels program that allowed for growth in the ethanol industry while also allowing for competition from other sectors such as fuel cells.¶

¶ Under S. 950, states that use RFG would no longer be required to use MTBE or ethanol but would still have to meet strict performance standards for reducing harmful pollution based on regional averages. Addressing the issue of groundwater contamination caused by MTBE, the bill authorizes \$200 million in grants to states for the Environmental Protection Agency's Leaking Underground Storage Tank (LUST) Trust Fund. MTBE contamination led California officials to ban the substance while a number of northeastern states, including New York, Maine and Connecticut, also are considering bans. Smith's bill also authorizes \$200 million over the next five years to boost compliance with the LUST program.¶ The Smith bill also prevents air quality backsliding, thereby preventing the opportunity for a petroleum company that must stop using MTBE to add in its place a substance that may cause more air pollution than MTBE. Environm... [28]

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The trial now moves to the penalty phase where the utility district is seeking actual and punitive damages. The South Tahoe Utility District wants to force the companies to “disgorge” profits made from MTBE manufacturing and sales. During the trial, lawyers for the water district relied on internal industry documents that they said proved the companies knew about MTBE’s threat to water and continued to promote and sell it despite that threat. One Shell internal document that was written in 1992 or 1993 stated that “MTBE plumes are expected to move farther and faster” than benzene, and that because there is more MTBE than benzene, “more concentrated plumes can be expected.” Documents showed that Lyondell conducted taste and odor tests in 1993 showing that the gasoline additive could be detected in water at extremely low concentrations.

The prevalence of MTBE in South Tahoe water supply wells is in large part due to local geologic conditions and the proximity of wells to nearby service stations. "You add all those elements together and it's kind of a recipe for disaster," said Dennis Cocking, a representative of the Tahoe water district. The district estimates the cost of removal of MTBE at \$45 million.

<http://www.mtbecontamination.com/takeaction/part2.asp> Who Knew What and When?

<http://www.planetark.org/avantgo/dailynewsstory.cfm?newsid=15548>

Contra Costa Times, April 16, 2002

<http://www.rgi.com/news/printstory.php?id=9176>

[http://www.waterytechonline.com/news.asp?mode=4&N\\_ID=30153](http://www.waterytechonline.com/news.asp?mode=4&N_ID=30153)

<http://www.tahoedailytribune.com/apps/pbcs.dll/article?Site=TD&Date=20020416&Category=NEWS&ArtNo=204160102&Ref=AR>

<http://latimes.com/news/local/la-000027459apr17.story?coll=la%2Dheadlines%2Dcalifornia>

<http://www.sfgate.com/cgi-bin/article.cgi?f=chronicle/archive/2002/04/17/MN162760.DTL>

<http://www.sacbee.com/content/news/story/2219427p-261323c.html>

<http://www.newsmax.com/archives/articles/2002/4/17/134859.shtml>

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## **UPCOMING FUEL OXYGENATE CONFERENCES**

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### **NGWA - Litigation, Ethics, and Public Awareness Conference**

August 5-7, 2002 Washington, D.C.

<http://www.ngwa.org/education/litconf.html>

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### **NGWA - Northeast FOCUS Conference**

October 3-4, 2002, Burlington, Vermont

<http://www.ngwa.org/pdf/necall.pdf>

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### **ASTSWMO - 2002 State Symposium on Fuel Oxygenates: Analysis, Assessment, and Remediation**

October 21- 22, 2001 at the Key Bridge Marriott, Arlington, VA.

<http://www.astswmo.org>

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### **NGWA/API - Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Conference and Exposition**

November 6-8, 2002, Atlanta, Georgia

<http://www.ngwa.org/pdf/petcfp02.pdf>

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For conference information and to register, visit [www.ngwa.org/education/index.html](http://www.ngwa.org/education/index.html), call

NGWA customer service at (800) 551-7379, or e-mail [customerservice@ngwa.org](mailto:customerservice@ngwa.org).

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**Annual International Conference on Contaminated Soils, Sediments, and Water**

October 21-24, 2002, Amherst, Massachusetts. <http://www.UmassSoils.com>, or contact Denise Leonard at 413-545-1239.

**Mealey's MTBE and USTs Conference.** Nov. 4-5, 2002, Ritz-Carlton Hotel, Marina Del Rey, CA (Los Angeles) 1-800-MEALEYS or [www.MEALEYS.COM](http://www.MEALEYS.COM), or 610-768-0303. All about developments in litigation involving gasoline additives and underground storage tanks. CLE credits, MTBE Resource Handbook – a bound compilation of all conference speaker materials, including case studies, articles, and PowerPoint presentations.

**13<sup>th</sup> Annual West Coast Conference on Contaminated Soil, Sediment and Water.** March 17-20, 2003. Marriott Mission Valley Hotel, San Diego. Brenna Bartall 413-549-5170 or [brenna@aehs.com](mailto:brenna@aehs.com)

**RECENT CONFERENCES**

**12<sup>th</sup> Annual West Coast Conference on Contaminated Soils, Sediments, and Water**  
March 2002, San Diego, CA. For information, call Marc Nascarella at 413-549-5561 or email at [marc@aehs.com](mailto:marc@aehs.com).

**2002 NGWA Conference on MTBE: Assessment, Remediation, and Public Policy, June 6-7, 2002, Orange, CA .** <http://www.ngwa.org/education>

**MTBE Treatment Technology: Design and Implementation**  
February 25-26, Orlando, Florida, sponsored by the National Ground Water Association. <http://www.ngwa.org/education>

**2002 Battelle Conference – Remediation of Recalcitrant Compounds, May 20-23, 2002, Monterey, CA.**

**17<sup>th</sup> Annual International Conference on Contaminated Soils, Sediments, and Water**  
October 22-25, 2001, Amherst, Massachusetts. <http://www.UmassSoils.com>, or contact Denise Leonard at 413-545-1239

**Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation. Conference and Exposition**  
November 13-16, 2001, Houston, Texas. Presented by American Petroleum Institute and National Ground Water Association. <http://www.ngwa.org/education>

**MTBE SOURCE INFORMATION FROM THE WEB**

**Web site available for MTBE research** - "The purpose of this web site is to provide a comprehensive database of recent research concerning the environmental impact of using MTBE and oxygenates in gasoline to aid in environmental management decisions regarding the use of MTBE as a fuel additive." <http://www.mtbeinfo.com>

Literature database covers the following subjects: General information, air quality, water quality, health effects, economics, legislation, remediation/degradation, and soil. Reference lists can be sorted by date, author, type of publication, and source of publication. Each reference contains a short summary, but there are no links to documents on the web.

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Deleted: According to court documents, the U.S. Environmental Protection Agency knew almost 15 years ago that the gasoline additive MTBE posed a serious threat to the nation's water supply, yet the agency did not warn Congress. "The tendency for MTBE to separate from the gasoline mixture into groundwater could lead to widespread drinking water contamination," EPA officials warned in an internal memo dated April 1987. The memo noted that such contamination from underground storage tanks had already occurred in four states. The memo and other documents surfaced as part of a lawsuit filed in San Francisco Superior Court against the nation's largest oil companies that accuses them of engaging in business practices that they knew would lead to widespread contamination of California's groundwater. The oil industry has acknowledged it was aware of MTBE groundwater contamination in the late 1980s. But unsealed documents in the court case show that the companies actually knew of the problem as early as 1981. Also, even though the industry and the EPA knew of the threat that MTBE posed to the environment, no warnings were presented to Congress in 1990 when it debated and passed amendments to the Clean Air Act that, in effect, required millions of gallons of MTBE to be added to the nation's gasoline. The newly disclosed testimony and confidential memos from the oil industry and the EPA were filed under seal in a 1998 suit brought by Communities for a Better Environment, an Oakland environmental group. Judge Stuart Pollak unsealed the documents, which provide a host of new details about industry and the EPA's knowledge of the dangers, in May. In their defense, the oil companies have argued in court that the EPA knew of the dangers of MTBE and that the companies were merely complying with the 1990 federal law. ¶

¶ The EPA first allowed gas refiners to use MTBE in small quantities as an octane booster in 1979 without any comprehensive testing of the chemical's long-term effect on health or the environment. Two years later, at the request of the oil companies, the agency increased the amount of MTBE that could be used to 11 percent. The first effects of the agency's decision surfaced w[... [29]

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**American Water Works Association** - The AWWA has an MTBE resource center on the web. Included are: hot topics, fact sheets, articles and reports, events, AWWA government affairs, AWWA public affairs news releases, and internet resources. <http://www.awwa.org/mtbe/index.html>

**New EPA MTBE website** links all of the various MTBE web pages from OUST, Air, Water, and other federal agencies. <http://www.epa.gov/mtbe/>

**MTBE Bibliography** - An extensive (several hundred references) annotated bibliography, primarily on MTBE remediation is available on the Web at <http://www.mtbelibrary.com>.

**Community Water Supply Information:** Information on community water supply locations is available from the EPA SDWIS database at <http://www.epa.gov/safewater/datab/databse.html> [http://www.epa.gov/enviro/html/sdwis/sdwis\\_query.html](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html)

**Fuels of the Future Website – LLNL**

Includes:

- [Background Information](#)
- [General Information Alternative Fuels and Standards](#)
- [Fuel Infrastructure System](#)
- [HCCI Engines](#)
- [Environmental Fate and Transport Issues](#)
- [Legislation and Policy](#)
- [Potential Research Partners](#)
- [Reference Library](#)
- [Related Links](#)

<http://www-erd.llnl.gov/Fuelsofthefuture>

**How Stuff Works: “How Gasoline Works”**

<http://www.howstuffworks.com/gasoline4.htm>

*Special thanks to the following contributors for this issue: Pat Ellis – Delaware DNREC, Fred McGarry – New Hampshire DES, Craig Schoerer – Indiana DEM and Greg Lavato – EPA Region 9.*

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**Mealey’s MTBE and USTs Conference.** Nov. 4-5, 2002, Ritz-Carlton Hotel, Marina Del Rey, CA (Los Angeles) 1-800-MEALEYS or [www.MEALEYS.COM](http://www.MEALEYS.COM), or 610-768-0303. All about developments in litigation involving gasoline additives and underground storage tanks. CLE credits, MTBE Resource Handbook – a bound compilation of all conference speaker materials, including case studies, articles, and PowerPoint presentations. Special thanks for this issue of the MTBE and Fuel Oxygenates Newsletter:¶  
The ASTSWMO MTBE and Fuel Oxygenates Workgroup gratefully acknowledges contributions to this newsletter from Matt Hageman, KOMEX H2O Science, and Bruce Bauman – American Petroleum Institute (API). The workgroup also thanks Pat Ellis, Fred McGarry, and Bruce Bauman, for editorial assistance provided for this issue of the newsletter. ¶  
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**13<sup>th</sup> Annual West Coast Conference on Contaminated Soil, Sediment and Water.** March 17-20, 2003. Marriott Mission Valley Hotel, San Diego. Brenna Bartall 413-549-5170 or ... [30]

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Chairman and CEO of Valero Energy Bill Greehey, during the keynote spec... [31]

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**Any mention of the initial Tahoe decision in your editorial?**

This issue of our newsletter is dedicated to the families of the victims of the terrorist attacks on September 11<sup>th</sup>. It seems trite to discuss chemical compounds that have part per billion health concerns at a time when so many have died from senseless acts of terrorism. But environmental responsibility for our society and the health of our citizens – the dangers caused by our own technological advancements, is also critical in sustaining the high quality of life enjoyed by our nation's citizens. Godspeed for the recovery of New York City and Washington, D.C., and all those affected by the tragedies of September 11<sup>th</sup>.

In the world of oxygenates, a judge signed an agreement on August 20, 2001, forcing five major oil companies to clean up sites they own that have been contaminated with MTBE (see "MTBE Litigation"). The agreement was reached as part of a settlement with a San Francisco area environmental group, Communities for a Better Environment (CBE). According to court documents, the U.S. Environmental Protection Agency knew, almost 15 years ago, that the gasoline additive MTBE posed a serious threat to the nation's water supply, yet the agency did not warn Congress. Industry experts knew as well: by 1981, Shell, Exxon and Texaco were informed by employees that MTBE was leaking from their gas stations and had contaminated drinking water in three towns in New Jersey and Maryland. Other document references from the mid-1980's indicate what most of us know now – that MTBE represented a significant groundwater contaminant threat.

In August, the State of California Air Resources Board (ARB) filed suit against the Environmental Protection Agency in an effort to block the oxygenate requirement that dictates the use of ethanol due to California's MTBE phase-out. The suit argues that EPA overlooked scientific evidence that California gasoline does not need oxygenates to meet federal pollution reduction standards. California is struggling to find an adequate supply of ethanol to make up the oxygenate deficit once MTBE is completely phased out of California fuels in January 2003 (see "Supplying Ethanol to California" in *Ethanol Update and Weblinks*). In response to the lawsuit, one oil company representative, BP's John Manzoni, indicated he would favor a "national solution" rather than state-by-state policies for federal rules requiring oxygenates in gasoline, and the resulting production of boutique fuels. We agree.

CBS won an Emmy in September in the Investigative Journalism (segments) category in the annual News and Documentary Emmy Awards for the "60 Minutes" show on MTBE, which aired on January 16, 2000.

*AP Online 9/6/01*

**Secondary MCL**

According to the December 3, 2001 Federal Register, it appears that the secondary MCL for MTBE has been delayed until at least August 2002.

**Early Go-Ahead for Winter-Grade Gasoline**

Due to the World Trade Center and Pentagon attacks, U.S. Energy Secretary Spencer Abrahams announced September 12<sup>th</sup> that the EPA would allow refiners to switch to making winter-blend gasoline several days ahead of the September 15 switchover date. A spokesman for API, Juan Palomo, said, "We believe the intent is to reassure consumers of a stable fuel economy." Near the end of August, Citgo Petroleum was allowed to switch over to winter-blend gasoline early

because of a fire at their Illinois refinery. That refinery was one of only four supplying the Chicago area, and gasoline supplies had risen because of tight supplies. The Pennsylvania Department of Environmental Protection relaxed air pollution standards to help the Pittsburgh area overcome tight gasoline supplies. Refiners and shippers were allowed to begin supplying winter-blend gasoline on September 5<sup>th</sup>, rather than the 15<sup>th</sup>. The move will allow Pittsburgh-area gasoline stations to pump more volatile 9-pound Reid Vapor Pressure (RVP) gasoline instead of the 7.8 pound RVP, which is more difficult and costlier for refiners to make. This change is similar to a US EPA suspension of pollution standards in the Midwest.

<http://www.planetark.org/dailynewsstory.cfm/newsid/12393/story.htm>

<http://www.planetark.org/dailynewsstory.cfm/newsid/12191/story.htm>

<http://www.jsonline.com/traffic/news/aug01/gas29082801a.asp?format=print>

[http://www.sfgate.com/cgi-](http://www.sfgate.com/cgi-bin/article.cgi?file=/news/archive/2001/08/29/national0521EDT0493.DTL)

[bin/article.cgi?file=/news/archive/2001/08/29/national0521EDT0493.DTL](http://www.sfgate.com/cgi-bin/article.cgi?file=/news/archive/2001/08/29/national0521EDT0493.DTL)

<http://www.planetark.org/dailynewsstory.cfm/newsid/12244/story.htm>

*Greenwire, August 29, 2001, September 14, 2001*

*St. Paul Pioneer Press (MN), August 29, 2001*

### **EPA Revives TSCA Proposal to Reduce/Ban MTBE**

*Inside EPA* and other sources have indicated that EPA offices have begun to review the previous proposal that never obtained final approval for publication by the Clinton administration and that was subsequently pulled back for additional review by the Bush White House. It is anticipated that it is going to be re-submitted to OMB in mid-October.

### **Komex H2O study on MTBE Remediation Costs**

A study done by California consulting company, Komex H2O, estimates that cleaning up MTBE groundwater contamination will cost at least \$29 billion. According to Matt Hageman, a researcher with Komex and a former science policy advisor with US EPA, "Both policymakers and the (oil) industry need to understand the magnitude of the problem that these numbers represent."

Los Angeles Times, 10/14/01

Jeff – feel free to say more about this study if you want to.

### **I'm against a complete cut and paste of an article without written permission. European Union publishes final conclusions of risk assessment**

On December 14<sup>th</sup>, the European Union published the final conclusions of the Risk Assessment and Risk Reduction Strategy, which was conducted under the direction of Finnish authorities. Eventually, the complete risk assessment will be published by the European Chemicals Bureau. The conclusions are available at [http://www.europa.eu.int/eur-lex/en/oj/2001/1\\_31920011204en.html](http://www.europa.eu.int/eur-lex/en/oj/2001/1_31920011204en.html) MTBE was included on a priority list for investigation in 1997. Technical information was provided by industry to the Finnish Environment Institute, the National Product Control Agency for Welfare and Health, and the Finnish Institute of Occupational Health, who then used an approved EU software program to model and calculate the risk. During the first phase of the risk assessment process, all known data of the health and environmental aspects of MTBE, together with the potential for exposure, were evaluated in order to determine the overall risk, and the findings set out in a Risk Assessment Report. In the second phase, in areas where risks were identified, the authorities recommended methods of minimizing those risks. Their recommendations are listed in a separate Risk Reduction Strategy Report, and will be included in future EU legislation. The complete text of both reports will be published by

the European Chemicals Bureau. The authors concluded that MTBE was not expected to have any harmful impact on human health or the environment.

General conclusions:

*Risks to the aquatic environment* -- Further information and testing is needed because there is a need to adequately characterize the risks to the aquatic ecosystem with regard to the emission of MTBE into surface water. Testing is needed to investigate avoidance behavior in fish and other wildlife to MTBE-contaminated water. The authors concluded that no additional information is needed with regard to the production, blending and processing sites, transport, delivery, or storage sites, and there was no need for risk reduction beyond those measures already in place. The only exception was where there is intermittent release to surface water from terminal site bottom water, to road run-off, and to boating exhaust.

*Risks to micro-organisms in wastewater treatment plants, risks to the atmosphere, risks to the soil, risks to the consumer* -- The authors concluded that no additional information, testing, or risk reduction measures were needed.

*Risks to groundwater* -- The authors accepted that there is a need to limit risks, but felt that measures already in place were adequate. They applied this conclusion to the overall quality of ground water and said that the main risks are from leaking underground storage tanks and from spillage due to overfilling of tanks.

*Risks to human health* -- The authors thought that the major risks came in areas of maintenance of plants and during automotive repair, where, actually, the danger was from long-term exposure to gasoline, rather than to MTBE alone. The main risk was from skin exposure, but they thought that normal precautions were sufficient. For indirect exposure to humans, and keeping in mind concerns for taste and odor of drinking water as a consequence of leaking USTs and spillage, it was thought that measures currently applied were sufficient.

*Overall conclusions on risk reduction* -- For workers, it was felt that the current EU legislation on worker protection is generally adequate to limit risks, but that an investigation should be carried out to examine ways to improve the design and position of fuel filters and pumps in cars to make it easier to minimize contact to fuel during maintenance and repair. For the environment, the authors recommended that monitoring programs should be undertaken in order to permit the early detection of groundwater contaminated by MTBE. They also recommended that the best available technology be applied to the construction and installation of underground storage and distribution facilities at service stations. They recommended particular care in recharge areas, and that technical standards for tank systems should be standardized for the member states. Historical releases in critical areas should be investigated and remediated, if necessary. AST storage tank bottom water should be controlled by permits.

A California consultant, James White, of White Environmental Associates, has used the conclusions of the study as evidence that the MTBE phase-out in California is both unnecessary and economically risky. He stated that the study essentially cleared MTBE of allegations that it poses a significant risk to health or the environment, and that the phase-out becomes even more questionable when considering new statistics compiled by the State of California indicating MTBE detections in drinking water have been largely eradicated.

Hart's European Fuels News, 12/12/01

[http://www.foa.org/newsletter/issue\\_1.htm](http://www.foa.org/newsletter/issue_1.htm)

[http://www.europa.eu.int/eur-lex/en/oj/2001/1\\_31920011204en.html](http://www.europa.eu.int/eur-lex/en/oj/2001/1_31920011204en.html) Commission Recommendations

[http://www.europa.eu.int/eur-lex/en/dat/2001/1\\_31920011204en00300044.pdf](http://www.europa.eu.int/eur-lex/en/dat/2001/1_31920011204en00300044.pdf) Commission Recommendations

[http://biz.yahoo.com/prnews/011213/dcth038\\_1.html](http://biz.yahoo.com/prnews/011213/dcth038_1.html)

**Livermore Lab Studies Alternatives to MTBE**

Scientists at Lawrence Livermore Laboratory are studying fuel additives in an effort to prevent another MTBE-scale blunder. A team of researchers is studying alternatives to MTBE, specifically ethanol and alkylates, to gauge the potential environmental impacts of a new formula for fuel. David Rice is leading the ethanol team. The group is looking at some techniques to look at the capacity of microbes to degrade gasoline components. Chevron officials shared data with the researchers from an ethanol spill at a fuel terminal in the Pacific Northwest, and the lab team has also been working with researchers at two universities. The state Water resources Control Board and the Energy Department Office are sponsoring the research. Dave Layton, leader of the Health and Ecological Assessment Division of the lab is working on a study of alkylates in fuel. He said that fuel with ethanol would also require more alkylates too, to boost octane and to reduce vapor pressure. The researchers have been studying a fuel mix with 6-10% ethanol and about 30% alkylates.

*Alameda County Newspapers, September 6, 2001*

**EPA Boutique Fuels Reports Issued**

In October 2001, EPA's Office of Air and Radiation issued "Study of Boutique Fuels and Issues Relating to Transition from Winter to Summer Gasoline" (EPA420-R-01-051). The study was conducted in response to a May 2001 directive contained in the National Energy Policy Report requiring EPA to "study opportunities to maintain or improve the environmental benefits of state and local "boutique" clean fuel programs while exploring ways to increase the flexibility of the fuels infrastructure..."

Several regulatory changes that can be made in the near term that could help to moderate gasoline price spikes during future transition periods when fuel producers switch from winter- to summer-grade cleaner burning gasoline are identified in the report. EPA identified two issues that need to be addressed. The first is the need for greater flexibility in the process by which fuel marketers make the transition from winter- to summer-grade RFG. The report proposed allowing refiners to begin accepting summer fuel two weeks earlier than usual, on April 15<sup>th</sup>. It also proposed allowing some re-refined gasoline to be classified as RFG. The second issue is the number of state and local boutique fuel programs and the challenges that this presents to the gasoline distribution. EPA is prepared to act quickly on a set of administrative and regulatory issues to address the first issue. The second issue is related to state and local fuel programs where there may be attempt to reduce gasoline costs compared with the federal RFG program, concerns about the oxygenate mandate in the RFG program, or concerns about the use of MTBE in gasoline.

Despite the number of state and local fuel programs, EPA found that the current gasoline production and distribution system is normally able to provide adequate quantities of boutique fuels. As long as there are no disruptions in the supply chain. When there is a disruption, such as with a refinery or pipeline shutdown, it can be difficult to meet demand for boutique fuels. As more states ban the use of MTBE, the problem will become worse.

The report sorts through available long-term options, including two, three, and four-fuel programs, a 49 state federal fuel, California fuel nationwide, and an option that allows for no regional oxygenate requirements. The report admits "EPA is not able to provide a full and complete study of the options for recommendations at this time. Additional study is needed."

EPA's Office of Transportation and Air Quality also issued a Staff White Paper "Study of Unique Fuel Blends ("Boutique Fuels"), Effects on Fuel Supply and Distribution and Potential Improvements" (EPA420-P-01-004), which explores a number of possible approaches that could reduce the number of fuels in the long term.

According to an industry source, "The white paper is old news, poorly researched and not timely. The white paper is an excuse on behalf of some low-level EPA staffers to score some political points by attacking the oxygenate standard." The possibility of repealing the oxygenate standard outright, while adding an alternative clean-air "renewable fuels" requirement, was met with scorn. "It's proof positive that the white paper advances a political agenda and is not a scientific document."

According to Frank O'Donnell, executive director of the Clean Air Trust, the issue is not that simple. He explained that EPA's failure to offer a clear proposal is probably a reflection of the politicking going on among officials at the Energy Department who support oxygenate standards, regulators at EPA who oppose them, and staff at the Agriculture Department who want a stronger ethanol mandate and an MTBE ban.

For the reports and related documents, see <http://www.epa.gov/otaq/fuels.htm#oct2401>

LUSTLine Bulletin 39

Oxygenated Fuels Association statement <http://www.ofa.net>

Greenwire, 10/25/01

Planet Ark 10/25/01 <http://www.planetark.org/avantgo/dailynewsstory.cfm?newsid=12971>

<http://www.jsonline.com/news/metro/oct01/fuels25102401a.asp>

EPA Press Release 10/24/01

### **MTBE Can Blow Breathalyzer test**

According to Timothy Buckley, assistant professor at the Johns Hopkins Bloomberg School of Public Health, "Because MTBE readily partitions from the blood into the breath, there is the potential for interference on breath alcohol analyzers. We studied this and our results showed that MTBE does present a positive interference on the older type analyzers. Workers like gas station attendants and auto mechanics may receive sufficient levels of MTBE to trigger a 0.10 reading on certain breath alcohol analyzers." However, MTBE exposure would only cause a reading that high "in combination with drinking alcohol." Buckley explained "MTBE exposure on its own is not enough to trigger a falso positive reading of 0.10." New Jersey state officials first raised the question of whether MTBE exposure could interfere with the breath alcohol analyzer when they were challenged in a court case in 1995. Dr. Buckley and his colleagues compared the Breathalyzer™ with the Alcotest™ detector. The Breathalyzer™ was developed in the 1950s and uses a visible light detector to determine the presence of alcohol in the breath, while the newer Alcotest™ uses electrochemical and infrared absorption sensors to detect alcohol levels. The newer test was able to detect interference by MTBE and invalidate the test.

[http://dailynews.yahoo.com/h/nm/20011220/sc/life\\_breathalyzer\\_dc1.html](http://dailynews.yahoo.com/h/nm/20011220/sc/life_breathalyzer_dc1.html)

<http://ens-news.com/ens/dec2001/2001L-12-19-09.html>

Study published in Dec. 2001 issue of Forensic Science International

### **USGS Report: MTBE and VOCs in Ground Water in the Boston, Massachusetts Area**

Results of water-quality tests of monitoring wells in newly developed lands of the Greater Boston Metropolitan area, by the U.S. Geological Survey (USGS), show that small amounts of nutrients (such as phosphorus), pesticides, fuel, and other volatile organic compounds are present in the

ground water. Twenty-nine randomly selected areas had shallow monitoring wells drilled to test the quality of sand and gravel aquifers in an area that stretches from southern New Hampshire to southern Massachusetts. The summary results are available in a recently published report by the USGS National Water-quality Assessment Program.

The most frequently detected volatile organic compound--chloroform--was present in 69 percent of the water samples. The second most frequently detected volatile organic compound was Methyl-tert-butyl ether (MTBE), a compound added to gasoline to increase the combustibility of gasoline and reduce carbon monoxide emissions. MTBE was present in 52 percent of the samples but at concentrations below the Massachusetts drinking-water guideline in all but one of the 29 wells.

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"The wells tested were NOT used for drinking purposes," said Flanagan (the author of the report), "the wells were drilled to test the quality of the area's ground water in areas away from long-time urbanization." The 29 wells are located in a variety of suburban areas, such as home lawns, shopping centers, and next to commercial buildings.

The results of this study are available in Water-Resources Investigations Report 01-4042 titled "Shallow ground-water quality in the Boston, Massachusetts Metropolitan area." Copies of the report are available by contacting the USGS, Branch of Information Services, Box 25286, Federal Center, Denver, CO 80225 or at 1-888-ASK-USGS (275-8747).

Press release at <http://nh.water.usgs.gov/WhatsNew/newsreleases/BostonNewsR.htm>  
Report at <http://nh.water.usgs.gov/Publications/WRIR01-4042.pdf>

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### **US Microbiotics, Inc. announces new technologies**

US Microbiotics recently announced that it had successfully completed a test of its groundwater treatment product, *BioRaptor* that demonstrated that soil contaminated by petroleum products including MTBE can be cleaned up quickly. The *Bio-Raptor*™ process is a rugged, mobile soil shredding/screening plant capable of processing up to 500 tons/hour and also includes a multi-angle spray bar for efficiently treating soil. In addition, US Microbiotics also announced that tests of MTBE-specific treatment technology, *MTBEctomy*, have proven to reduce MTBE levels to regulatory requirements within a week after initial treatment. A pilot study using *MTBEctomy*™ demonstrated the efficacy of using microbes to treat MTBE. The technology was successful in treating MTBE, Benzene, Toluene, Ethylbenzene, Xylene (BTX), and gasoline with concentrations over 10,000 parts per billion. Within 5 days after microbial treatment, an independent, state-certified lab validated non-detect levels. According to Thomas Adams, Executive Director of the Oxygenated Fuels Association, "Now in the event of a gasoline spill or a leak, there is yet another cleanup technology to ensure that gasoline and all its constituent parts, including MTBE, are removed quickly and efficiently."

A subsidiary of US Microbiotics is working with several major oil companies with multistate retail service stations impacted with MTBE and TBA to demonstrate the effectiveness of its BIO-GAC technology for dual phase groundwater treatment systems. US Microbiotics

<http://bugsatwork.com>

MTBE Bench Top Performance Study:

<http://bugsatwork.com/XyclonyX/MTBE%20Bench%20Top%20Study.pdf>

<http://www.wateronline.com> 8/13/01

### **Ultraviolet Technology for MTBE Remediation**

Pulsar Environmental Remediation Technologies of Roseville, California has developed a pulsed blackbody ultraviolet technology to degrade BTEX and MTBE. Pulsar conducted a series of tests with continuous flow at approximately 20 gpm through a production size reactor. The data showed that as high as 10,000 ppb MTBE was degraded to 20 ppb or less with approximately 30 seconds of contact time in the PBUV reactor. In most tests, MTBE was removed to the reporting limit of 5 ppb or less. Hydrogen peroxide may enhance oxidation but does not appear to be needed for MTBE removal in the PBUV system. Other AOP technologies usually require an oxidant such as peroxide or ozone in high dosage (e.g. oxidant/MTBE ratio of 10-40 to 1). It appears that energy consumption is approximately 2.5 kwh per 1000 gal of treated water. The PBUV is not affected by high levels of iron and manganese which are common in groundwater and can cause fouling problems in air strippers and activated carbon adsorbers.

*Pollution Equipment News, August 2001.*

*Pulsar Environmental Remediation Technologies. Tel 916-677-1956.*

### **Port Hueneme Cleanup Started in California**

The Naval Facilities Engineering Service and Arizona State University have begun a \$1 million project which uses a "biobarrier" of microorganisms to remediate MTBE. The project is expected to continue for three years and produce design guidelines and a manual that can be used at other sites. The contaminated water will filter through 440 wells of pipes that will pump oxygen and MTBE-eating bacteria into the ground in order to clean up the water. Paul Johnson of ASU is the principal scientist with the project. According to Johnson, "The reason we haven't done all this before is that until recently people believed (MTBE) wouldn't degrade anyway.

*Pollution Online, 8/14/01 and 9/25/01*

### **Phytoremediation of MTBE from a Groundwater Plume**

The feasibility of phytoremediation to both remediate and hydraulically contain a MTBE contaminated groundwater plume was investigated in a 3-phase study that included the following elements: (1) a laboratory bioreactor study that examined the fate and transport of <sup>14</sup>C-radiolabeled MTBE in hybrid poplar trees, (2) a novel approach for a mathematical modeling study that investigated the influence of deep-rooted trees on unsaturated and saturated groundwater flow, and (3) a field study at a Houston site with MTBE-contaminated groundwater where hybrid poplar trees were planted. In the laboratory study, the predominant fate pathway was uptake and evapotranspiration of [<sup>14</sup>C]-MTBE from leaves and stems of poplar cuttings rooted in hydroponic solution. The modeling study demonstrates that photohydraulic containment of MTBE in groundwater by deep-rooted trees can be achieved. The field study demonstrated significant uptake of MTBE-contaminated groundwater by deep-rooted trees via direct measurements in the first three seasons. The use of vegetation may provide a cost-effective in-situ alternative for containment and remediation of MTBE-contaminated groundwater plumes. Sara K. McMillan and Jerald L. Schnoor ; "Phytoremediation of MTBE from a Groundwater Plume," *Environmental Science & Technology*; 2001; 35(6); 1231-1239.

The stuff below is not all ethanol

(note change in address – no spaces)

### **Not ethanol Brazil Approves Fuel Alcohol Export Policy**

Plans to make Brazil an exporter of fuel alcohol were approved by the Brazilian Council on Sugar and Alcohol. A senior minister said "California alone represents a market of three billion liters

per year (of alcohol) as a substitute for MTBE.” Brazilian technical experts are discussing with the government of California and US energy companies how to satisfy the market in 2003.

<http://www.planetark.org/dailynewsstory.cfm?newsid=11778>

### **California Officials Looking at Brazilian Ethanol**

California officials are looking at the possibility of getting ethanol from Brazil, fearful that prices for the product in the Midwest may be too high. According to Pat Perez, manager for the fuels office of the California Energy Commission, “It seems like good business sense to look at all our supply options. The more suppliers you have, the more competitive the market. It’s just, basically, at the discussion stage. No commitments with Brazil.” According to CalEPA secretary Winston Hickox, “Our preference would be that the domestic market would be able to supply our demand for ethanol. But if there’s a problem, we feel that it’s prudent to be thinking of other options.” Bob Dinneen, the president of the Reformulated Fuels Association, said that California should not be worried that the Midwest couldn’t supply enough ethanol. “There is a fear, and it’s a fear based on ignorance.” Lucy Norton, marketing director of the Iowa Corn Growers Association said “It is needless for California to be looking outside of this country. Looking at Brazil is really doing a disservice to California consumers.”

According to Iowa Gov. Tom Vilsack, following a meeting with California Gov. Gray Davis, California has no plans to buy ethanol from Brazil other than from the Midwest. Ultimately, however, it will be critical for petroleum marketers to decide where to purchase ethanol.

According to the Sacramento Bee Capitol Alert, US ethanol-industry representatives scoff at the Brazilian threat, noting that the South American ethanol, while plentiful, faces high transportation costs and a 54-cents-a-gallon tariff. The Brazilians, however, could partly circumvent the tariff by refining their cane somewhere in the Caribbean Basin, such as Costa Rica or Aruba. Among those involved in the talks are representatives of BP Amoco, the nation’s largest buyer of ethanol for processing into fuel.

In Brazil, anhydrous ethanol is used as a 22% supplement in all gasoline sold. Some sugar cane juice is used to produce hydrous alcohol, which is used to fuel Brazil’s fleet of alcohol cars equipped specifically to accommodate the fuel. The sales of alcohol cars are only a small fraction of total car sales in Brazil, despite attractive costs due to tax breaks and the technological advancements that have improved car performance while running on the fuel. High temperatures in some parts of Brazil are best for the alcohol cars. The cars do not run as well in cooler climates.

[http://www.sfgate.com/cgi-](http://www.sfgate.com/cgi-bin/article.cgi?f=/news/archive/2001/08/01/financial0003EDT0012.DTL)

[bin/article.cgi?f=/news/archive/2001/08/01/financial0003EDT0012.DTL](http://www.sfgate.com/cgi-bin/article.cgi?f=/news/archive/2001/08/01/financial0003EDT0012.DTL)

<http://desmoinesregister.com/news/stories/c47800934/15523697.html>

[http://capitolalert.com/news/old/capalert02\\_20010808.html](http://capitolalert.com/news/old/capalert02_20010808.html) (Sacramento Bee)

<http://www.planetark.com/dailynewsstory.cfm?newsid=11914>

### **Supplying Ethanol to California**

More than 90% of California’s MTBE is imported – from Saudi Arabia and Asia. Gulf Coast MTBE supplies about 10% of the demand. The ethanol industry asserts that it will take 22 days to ship ethanol from the Gulf Coast, rather than the 88 days it takes to ship MTBE from Saudi Arabia. The ethanol California currently uses is transported by barge or railcar to the Gulf Coast, then transferred to large ocean vessels that pass through the Panama Canal into the Pacific Ocean. The demand for ethanol will quadruple to 580 million barrels by 2003, cutting into the already tight supply of available ships, rail cars, and terminals. The Jones Act of 1920 requires boats moving between US ports to be built in the US, owned and crewed by US citizens, and registered with an American flag. These requirements, coupled with a 1990 law which accelerated the

retirement schedule for ships, severely limits the number of available vessels. In letters recently submitted to the California Air Resources Board, operators of barges, US flag oceangoing vessels, railroads, and California gasoline terminals pledged that enough shipping and storage capacity existed to meet anticipated ethanol demand, the industry group said.

<http://biz.yahoo.com/rf010716/n16345408.html>

<http://biz.yahoo.com/rf/010726/n26227280.html>

<http://www.planetark.org/dailynewsstory.cfm?newsid=11781>

<http://www.planetark.org/dailynewsstory.cfm?newsid=11596>

*Sacramento Bee 8/31/01*

### **Ethanol Supplies Expected to Meet California Demand**

According to a report released in late August by the California Energy Commission, the U.S. ethanol industry is on track to double its overall capacity by 2005 and is thus expected to be able to meet the expected demand surge in California. The survey questioned 84 companies from the ethanol industry across the U.S. The survey found 44 companies currently producing ethanol and 57 production plants in operation. Looking ahead, the CEC found 44 companies planning projects, 13 new plants under construction, and another 34 plants in the planning stages but not yet under construction. Should all project expansions and additions become reality, the survey said ethanol capacity would surge from 2.2 to 4.4 billion gallons per year by 2005. California's demand is expected to rise four to six times its current level, requiring 660 to 950 million gallons of ethanol per year.

*Greenwire, September 4, 2001*

*Dow Jones News Service 8/31/01*

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### **Cargill to Boost Ethanol Production, Distribution**

Cargill announced in August that it would increase its ethanol production by 8 million gallons per year, bringing its production to 118 million gallons per year, and that it would form marketing alliances with other ethanol producers to meet expected rising demand in California and the Northeast. Cargill manages a fleet of 300 ethanol railcars.

<http://biz.yahoo.com/rf/010810/n10189526.html>

### **Ethanol research center groundbreaking**

Southern Illinois University broke ground in August for a \$20 million ethanol research facility in Edwardsville, where scientists will test new technologies and processes aimed at cutting the costs of producing ethanol.

<http://www.planetark.com/dailynewsstory.cfm/newsid/12179/story.htm>

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### **Oil refiners lobby against ethanol bill**

A group of oil refiners led by Sunoco, Inc. is lobbying against legislation that would require refiners to sell ethanol as 5% of its vehicle-fuel sales by 2016. The legislation, supported by ethanol companies such as Archer Daniels Midland, would save up to 600,000 barrels of oil per day by the year 2011. Nebraska Sen. Chuck Hegal says he plans to add the measure to the energy bill working its way through the Senate. The oil refiners that oppose the bill say that without it they may be able to find cheaper ways to reduce pollution. "To mandate the use of any given fuel product is contrary to the whole issue of a free market," said Joel Maness, senior VP of northeast refining for Sunoco.

<http://detnews.com/2001/autos/0109/04/autos-283609.htm>

*Greenwire, September 4, 2001*

### **Beer and Fish Don't Mix**

The Colorado Division of Wildlife filed suit in August in Jefferson County District Court in Colorado against the Coors Brewing Co. to recover the value of more than 50,000 fish that were killed in August 2000 when the company discharged 77,000 gallons of beer into Clear Creek from its brewery in Golden, Colorado. State law places the value of each fish at \$35, making the total potential fine at least \$1.75 million for the loss of the fish. Division of Wildlife Director Russ George said "We have had good faith and earnest discussions with Coors over the past year about the actual damage to the resource and what steps are appropriate to rectify that damage. Now that it's been a year, we feel it's our duty as the state's wildlife agency to file the complaint to protect Colorado's aquatic resource and recover damages caused by this discharge. We will continue to meet with Coors to discuss this issue." The complaint states that Coors discharged beer into the company's wastewater treatment plant on August 24, 2000, and the solution, which contained yeast, malt, and barley, was so organically strong that the plant stopped operating normally and the beer was released into Clear Creek, where it consumed the available oxygen. The discharge killed fish in 7.4 miles of the creek. State law provides that the Division has the right to recover the value of any wildlife taken unlawfully and has the right to bring civil action against any person doing so. The complaint states that Coors had no authorization to take fish and that the spill was also in violation of the company's permit to discharge treated waste from the plant into the creek.

[http://www.enn.com/news/enn-stories/2001/08/08292001/s\\_44772.asp](http://www.enn.com/news/enn-stories/2001/08/08292001/s_44772.asp)

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### **California**

#### ***Public well impacts in California***

The San Francisco Chronicle analyzed records from the Water Resources Control Board and the Department of Health Services and found that leaks of MTBE from nearly 1200 UST sites threaten the drinking water supply of millions of Californians. Records show that 1189 UST sites are within 1000 feet of public supply wells or on vulnerable drinking water aquifers. An additional 1729 leaking tank sites farther away from drinking water wells also could be a threat. More than 2500 public drinking water systems that serve 30.5 million people (or 90% of the state's population) have been sampled for MTBE. Of 8311 groundwater sources sampled, 48 contained MTBE. Of the 595 surface water sources tested, 26 contained MTBE. The data do not include private wells, which are sampled only if LUST sites are nearby. Anne Happel, of Lawrence Livermore Laboratory, and a member of the EPA Blue Ribbon Panel said "The most important thing the state should be doing is working on prevention and prioritizing cleanup. The regulators should use the data that's being collected to identify the sites that pose the greatest threat, those closest to drinking water wells.

[http://www.sfgate.com/cgi-](http://www.sfgate.com/cgi-bin/article.cgi?file=news/archive/2001/08/27/national0838EDT0512.DTL)

[bin/article.cgi?file=news/archive/2001/08/27/national0838EDT0512.DTL](http://www.sfgate.com/cgi-bin/article.cgi?file=news/archive/2001/08/27/national0838EDT0512.DTL)

<http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2001/08/26/MN118963.DTL>

The public can search for MTBE data and other pollutants by Zip code, city, or county at

<http://www.geotracker.swrcb.ca.gov>

*Greenwire, August 27, 2001*

#### ***Bakersfield refinery plume***

A major MTBE spill at an Equilon Refinery in Bakersfield, California in the 1990's may be spreading

In 1999, Equilon paid \$1.2 million for the Gaslite Mobile Home Park just west of the refinery after well water tested positive for MTBE. More than 200 former Gaslite residents have sued Equilon in Kern County Superior Court, asserting that their exposure to MTBE caused an

assortment of ailments. A November 16 hearing is scheduled. Some portions of the Equilon site have MTBE levels that are 800 times the California drinking water standard. Some nearby residents are upset that Equilon has never contacted them and has never sampled their wells. Other property owners put their faith in the government and industry specialists to keep tabs on the potential danger. State water regulators and refinery officials say that they are on top of the situation. Cameron Smyth, an Equilon spokesman said Equilon is attempting to keep some individual well owners near the plant "in the loop" with periodic visits and conversations, but the company doesn't think it necessary to contact everyone who might be concerned. The company has only talked to residents immediately downgradient of the refinery about the plume of contaminated groundwater. Besides buying out the mobile home park, Equilon has extended public water supply lines past its sales terminal to several businesses. Equilon wanted to inject water into the ground on one property to the northwest of the refinery to push the plume back onto refinery property. The property owner said that he did not want to become "part of a big plumbing experiment," and that the company could put a well on someone else's property. *Bakersfield Californian, September 8, 2001.*

### ***Possible California Phaseout Delay***

California officials and some gasoline producers say they doubt the state can phase out MTBE by the end of 2002 as Governor Davis has ordered, because key infrastructure might not be in place by then. The officials worry that an expanded rail system needed to import large quantities of ethanol from the Midwest will not be in place by the state deadline. Davis is expected to make a decision soon on whether to delay the January 1, 2003 ban on MTBE. "It's a wobbler," said William Rukeyser of CalEPA. "The Cabinet secretaries should be briefing the governor shortly on whether the current timeframe is realistic."

Industry sources are pushing for a two-year delay in the ban, but consider a one-year delay more likely. They say that the infrastructure does not currently exist to make the transition from MTBE to ethanol. The state still hopes for a waiver from the oxygenate requirement.

The Renewable Fuels Association (RFA), which represents ethanol producers, wrote Davis to ask him to stick to the original December 31, 2002 date for ending MTBE use in California. When Davis issued an executive order in March 1999 to phase out MTBE, ethanol producers began building more plants to eventually supply enough ethanol to replace MTBE. "Consequently, the ethanol industry is alarmed by persistent rumors suggesting the state may yet delay the implementation of the MTBE phaseout because of concerns about the potential impact of transitioning from MTBE to ethanol," said RFA president Bob Dinnen.

About 675 million gallons of ethanol will be needed annually for California gasoline. Since Davis' executive order, 10 new plants have opened, increasing production by 550 million gallons, and another 18 plants that will add another 470 million gallons are under construction and scheduled to begin operating before the phaseout deadline. Dinnen warned that "If the California market for which the new ethanol capacity was build does not materialize, that product will be forced to pursue alternative marketplace opportunities, potentially complicating California's ethanol supply situation when the state finally decides to impose the MTBE ban.

State officials and some major gasoline producers say they have serious doubts about whether California can eliminate MTBE by the end of the year. They worry mainly that the expanded rail system needed to import huge volumes of Midwestern-produced ethanol will not be in place on time.

The bulk of MTBE in California gasoline arrives in ocean tenders from Saudi Arabia, Venezuela, and Canada, and is piped from Pacific ports to refineries. Importing huge volumes of ethanol from the Midwestern corn states of Iowa, Illinois, Nebraska, and Minnesota is more involved. According to manufacturers, at least half would arrive by rail. The rest would be shipped by barge down the Mississippi River, to ocean tankers in the Gulf of Mexico that would reach the West Coast through the Panama Canal. State energy officials and some refining executives question whether the construction of new tanker cars and expansion of rail spurs needed for the ethanol conversion will be finished in a year. According to the California Energy Commission, railroad companies would have to add as many as 7000 new or modified tankers to their fleets to accommodate California energy conversion. Ethanol must be blended at distribution terminals, rather than at refineries due to its tendency to take on water. According to CalEPA spokesman Rukeyser, "Practically everybody admits that the terminals are nowhere near ready."

Ethanol industry officials say the California worries are overblown. According to Monte Shaw, a spokesman for the Renewable Fuels Association, "If you can bring in over a billion gallons a year of MTBE from Saudi Arabia and elsewhere, there is no reason to believe we can't bring you less than a billion gallons a year of ethanol."

Sacramento Bee, 12/2/01 <http://www.sacbee.com/content/politics/story/1258006p-1326542c.html> , 12/4/01

Planet Ark, 12/12/01 <http://www.planetark.org/avantgo/daily/newsstory.cfm?newsid=13683>

Yahoo Finance and Reuters, 9/28/01 [http://biz.yahoo.com/rf/010928/n28223255\\_1.html](http://biz.yahoo.com/rf/010928/n28223255_1.html)

Greenwire 12/3/01

### **Delaware**

Delaware's Division of Public Health held a hearing on December 8<sup>th</sup> to discuss proposed changes to the regulations governing public drinking water systems. Among the proposed regulation changes is a proposed MCL for MTBE of 10 parts per billion. The regulation will probably become effective by March.

The Delaware Department of Natural Resources and Environmental Control and the state Division of Public Health have completed a study of public wells near Superfund sites. The tests for nearly 200 chemicals were planned late last year after a large public well was fouled by an industrial solvent leaking from a pair of industrial dumps. EPA detected the solvent during groundwater monitoring at the waste sites. DNREC later proposed testing all public drinking water wells within a mile of known toxic waste sites to make sure similar contamination was not occurring elsewhere. Approximately sixty wells are being sampled statewide. In an internal memo inadvertently posted to the state web site, "MTBE has been detected at relatively low concentrations in a number of New Castle County well systems, in both raw and post-treatment samples." The data is undergoing final review and is expected to be released in mid-January.

Delaware's Sourcewater Assessment and Protection Program committee heard at a hearing on December 5<sup>th</sup> that traces of MTBE were found in half of the shallow unconfined public wells that the USGS tested. Complete results of this study should be available soon.

<http://www.sunspot.net/news/local/midatlantic/bal-ca.gas00dec02.story>

<http://www.delawareonline.com/newsjournal/local/2002/01/07publichearingtu.html>

Wilmington News Journal, 11/17/01

### **Indiana**

Indiana's Interim Committee on Agriculture and Animal Issues met on September 7th to discuss the potential ban or phase out of MTBE.

## New Hampshire

### **Oxygen Flexible Reformulated Gasoline**

The State of New Hampshire adopted a rule that allows the use of “Oxygen Flexible Reformulated Gasoline” in New Hampshire. The gasoline will provide the same air quality benefits as RFG, but without the use of MTBE. The state adopted an interim rule on substitute gasoline in October. In December, the state filed papers with the US EPA that prescribes methods for meeting the standards of RFG without using oxygenates. New Hampshire’s approach seeks to prove pollution reductions can be made without oxygenates in gasoline, rather than ban MTBE outright. It allows the use of those alternatives in order the use of MTBE, rather than to completely disallow it. “We’re saying to oil refiners if you can make gasoline that meets the air quality standards of RFG without using oxygenates, go to it,” said Ken Coulburn, New Hampshire’s head of air quality.

[http://www.des.state.nh.us/ard/relief\\_app.pdf](http://www.des.state.nh.us/ard/relief_app.pdf)

[http://www.des.state.nh.us/ard/rfg\\_optout\\_053001.pdf](http://www.des.state.nh.us/ard/rfg_optout_053001.pdf) Petition to opt out of federal RFG program

[http://www.des.state.nh.us/ard/rfg\\_optout\\_053001.pdf](http://www.des.state.nh.us/ard/rfg_optout_053001.pdf) Study of Reformulated Gasoline (RFG) Distributed Outside of New Hampshire’s Four County Nonattainment Area

<http://www.planetark.org/avantgo/dailynewsstory.cfm?newsid=13729>

[http://www.theunionleader.com/articles\\_show.html?article=6183](http://www.theunionleader.com/articles_show.html?article=6183)

<http://www.state.nh.us/governor/media/102301mtbe.html>

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## Kansas

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Maryland MTBE Task Force - Final Report Recommendations

**General Recommendation #1: The MDE should continue the testing and assessment of wells and water supply systems for MTBE and other oxygenates used by the petroleum industry. Positive test results should result in MDE conducting a source investigation as appropriate.**

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**Maryland's MTBE Task Force met on September 13<sup>th</sup>.**

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House Bill 823, signed by Governor Glendening on May 11, 2000, created an MTBE Task Force consisting of 16 members from various government agencies, the petroleum and ethanol industries, and health related professionals. The Task Force responsibilities were as follows: (1) Determine and assess the environmental and health risks associated with ground and surface water contamination from MTBE; (2) Examine national and regional efforts concerning ground and surface water contamination from MTBE; (3) Recommend a plan to minimize and counteract the environmental and health risks associated with ground and surface water contamination from MTBE; and (4) Explore alternatives to MTBE, including ethanol and oxygenated fuel, which can be used for the purpose of reformulation of gasoline to reduce air toxic emissions and pollutants that form ground level ozone. The Task Force's Preliminary Report, completed in December 2000, addressed items (1) and (2) above. The Final Report provides brief updates to the extensive information presented in the Preliminary Report and an in-depth discussion of items (3) and (4).

**Recommendation #1:** The Maryland Department of the Environment (MDE) should continue the testing and assessment of wells and water supply systems for Methyl Tertiary Butyl Ether (MTBE)

and other oxygenates used by the petroleum industry. Positive test results should result in the MDE

conducting a source investigation as appropriate. Specific steps include:

- Continuing to use the MTBE level of 10 parts per billion (ppb) in water samples at and above which a source investigation is conducted.
- Monitoring the U.S. EPA's drinking water health advisory for MTBE for changes, along with any future standard established for the other oxygenates. The MDE should review U.S. EPA advisories and standards and modify State requirements as appropriate.
- Finalizing a method for testing and analyzing water samples for MTBE, TBA, ETBE, and TAME contamination. (Maryland Department of Health and Mental Hygiene)
- Developing laboratory-testing methods for the determination of DIPE and Ethanol in water samples. (Maryland Department of Health and Mental Hygiene)
- Working with local health departments to expand testing of wells not currently tested in unconfined aquifers. (shallow wells)
- Encouraging local governments to protect drinking water sources through locally adopted siting restrictions.

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**Recommendation #2:** The MDE should enhance the level of inspection and enforcement of underground storage tank (UST) systems and spill prevention programs and control the escape of MTBE and other gasoline constituents through improving technology and operation of UST systems, including the piping and distribution system. Specific steps include:

- Establishing an inspection frequency for UST systems with a goal of once per year.
- Amending regulations as necessary to prohibit petroleum deliveries to UST systems that are not properly registered and do not meet federal or State UST upgrade requirements.
- Working with stakeholders to develop a method for the onsite display of the registration status of the UST systems at all UST facilities.

- Working with industry and the U.S. EPA to establish comprehensive certification and training programs for owners, operators, contractors, and employees who work with petroleum storage tank systems to implement procedures and processes that would minimize leaks and groundwater contamination.

**Recommendation #3:** Maryland should give careful consideration to eventually reducing or phasing out the use of MTBE in gasoline sold in Maryland. Since this is best addressed as a regional multi-state or national issue, specific steps should include:

- Working with other states and stakeholders on a regional (multi-state) approach to address MTBE issues, consistent with current discussions on energy supply. The MDE should consider the option of joining northeast states that may be filing a joint petition to the U.S. EPA to remove their states from the oxygenate requirement in federal law, provided oil companies can supply gasoline to Maryland that maintains current air quality benefits, including no backsliding on air toxics emissions.
- Working with Maryland elected officials to urge the U.S. Congress to develop a national solution to MTBE, which should include repealing the federal Clean Air Act 2 percent oxygen-by-weight mandate and establishing a renewable fuel program. The actual air quality benefits that are currently achieved through the Reformulated Gasoline (RFG) program must be maintained.

**Recommendation #4:** Additional health and energy studies on MTBE, Ethanol, other oxygenates, and alternative gasoline formulations are being conducted by the U.S. Department of Energy, the U.S. EPA, other agencies, and industry. The MDE should review those studies when completed and use conclusions and recommendations to modify MDE policy, if appropriate.

**Recommendation #5:** The MDE should implement, through public-private partnerships, expanded public outreach programs on the proper handling and disposal of gasoline. The programs should include warning the public that improper handling of petroleum products and filling of vehicle tanks and containers could lead to groundwater contamination. In addition, the MDE should require facilities dispensing gasoline to include signage informing the users that the gasoline is oxygenated to reduce air pollution, and any spillage may result in contamination of water resources. These outreach efforts should also include a broad-based program targeting owners and users of private wells on measures to prevent, detect, and treat contaminated water.

**Recommendation #6:** Maryland should provide adequate support to address the impact of MTBE and other oxygenates in gasoline on Maryland's water resources. Specific steps include:

- Providing funding to DHMH laboratories for testing of MTBE, TBA, ETBE, TAME, and Ethanol in water samples.
- Providing resources for a proactive drinking water sampling program.
- Dedicating appropriate resources to enforce all existing statutes and regulations with regard to UST system integrity, maintenance, record keeping, and remediation.
- Working with Maryland's Congressional delegation to expand resources available from the U.S. Congress and EPA.

[http://www.mde.state.md.us/was/pdf/mtbe\\_finalreport.pdf](http://www.mde.state.md.us/was/pdf/mtbe_finalreport.pdf)

[http://www.mde.state.md.us/was/mtbe\\_report.pdf](http://www.mde.state.md.us/was/mtbe_report.pdf) (Preliminary report)

[http://www.mde.state.md.us/press/nr\\_mde-011228.html](http://www.mde.state.md.us/press/nr_mde-011228.html)

## **New York**

**According to New York DEC officials, the water contamination in the Greenbush neighborhood in Hyde Park has set a record for its severity. No other area in the DEC's seven-county Region 3 has so many wells being filtered because of MTBE contamination. Seventy-**

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seven homes in the area now have carbon filters, nearly double the number at the next-most contaminated site, a neighborhood in Fort Montgomery, Orange County, where 40 homes have filters. The DEC believes contamination in the Greenbush area stems from several leaking underground fuel tanks at gasoline stations along Violet Avenue. The DEC will contribute \$1.9 million toward the town's \$3.1 million water project, which will pump clean water to about 220 properties from the Town and City of Poughkeepsie's water system. Paying for the balance has been a concern of town officials and residents, many of whom don't want to pay for a problem they didn't cause. The DEC's contribution is based on the cost of maintaining 75 filters over 10 years, said DEC spokesperson Ellen Stoutenburgh. The DEC plans to recoup its money by going after those responsible for the contamination. The DEC has been installing filters on homes that register MTBE at 10 ppb or more. The DEC normally installs filters on wells with 10 ppb MTBE or more, but in the Greenbush area dropped the limit as an extra precaution because levels were fluctuating greatly. One resident said "They know this stuff fluctuates. This stuff is going to go up, and go down, they know this stuff is moving all around. Knowing this stuff is all around us, it doesn't give you a good feeling."

Poughkeepsie Journal 8/25/01

Toxics Targeting is posting for public review the following information regarding the MTBE contamination in the Greenbush section of Hyde Park:

A map illustrating overall reported MTBE contamination of groundwater and drinking water in the area; individual maps of reported MTBE contamination at four gasoline station locations; a copy of a 1986 NYSDEC memo outlining gasoline spill concerns in the area; a copy of "Preliminary Investigation Report, MTBE Impacted Groundwater in Hyde Park." Available at [http://www.toxicstargeting.com/hyde\\_park/default.htm](http://www.toxicstargeting.com/hyde_park/default.htm)

### Pennsylvania

In 1996 and 1997, the Pennsylvania DEP sent notices to Thomas Wagner telling him that he was due for a certified inspection at his Gulf station in Blue Bell, however, he never responded to those notices and never had the inspections done, even though they were required within 15 days of the first notice. In May 1998, fumes from a gasoline leak caused two explosions at a property near the station, and Wagner was targeted as the responsible party.

Two families were evacuated from their homes after high levels of fumes were found in their houses. After their wells were contaminated, at least 14 homes were hooked up to a public water supply. According to DEP records, as much as 13,000 gallons of gasoline had leaked from his storage tanks between March and May 1998. The station is closed now, but the multi-million-dollar cleanup is just beginning. A faulty leak detection system failed to alert Wagner about the leak.

One of the homeowners who was forced to evacuate his home said "It's a frightening thing when the state is lax about enforcement. I don't fault and individuals (at DEP). It's just that (DEP

employees) are put in a position to do a job (they) can't do." In DEP's southeast region office, which covers Bucks, Montgomery, Chester, Delaware, and Philadelphia counties, the staff has only six inspectors for more than 6,000 underground storage tanks, and relies on third party inspectors certified by the department to check gas stations.

Wagner went uninspected for two years. Two days after the explosion, he told the DEP that his gas station had had a "one-gallon or two-gallon leak." DEP officials took him at his work and told him to take the proper steps to remedy the problem. It wasn't until more than a month later that DEP learned the scope of the leak. Wagner had the leak fixed. A DEP official told residents: "I'm not going to stand up here and tell you that when he said (a one or two gallon leak) that we necessarily believed him. But did we have an idea it was (13000) gallons? No." In mid-May, the DEP asked Wagner to hire a consultant to investigate the spill.

Normally, the DEP would not send a field inspector to a reported release of only a few gallons, unless that person had a history of violations and problems.

The cleanup is expected to cost at least \$5 million. That money will come from the state's Underground Storage Tank Indemnification Fund. DEP has not fined Wagner. He has no assets and no ability to pay fines, according to a DEP spokesperson. She said "This will be worked out after all the litigation."

[http://www.phillyburbs.com/intellegencerrecord/news/news\\_all/1261971.htm](http://www.phillyburbs.com/intellegencerrecord/news/news_all/1261971.htm)

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### Rhode Island

At the beginning of September, the general manager of the Pascoag Utility District sat down to write a letter to his customers: "Do not drink your water." Theodore Garille said "At the time I remember being somewhat ambivalent. On the one hand, I was thinking that if this turned out to be what I was hoping was nothing more than a scare then I was probably going to be severely criticized for overreacting and causing panic. The other side of me was saying that if it is justified I'd rather be criticized. I remember sitting there thinking how can this be? We just put in a brand new well, installed an automated treatment plant and had all the latest and greatest equipment. Everything was going so well. This wasn't supposed to happen."

About 1200 customers of the Pascoag Utility District, comprising about 5000 people, have been unable to drink or use their water since September 1<sup>st</sup>. The Rhode Island Department of Health advised residents to neither drink nor cook with their water, and to limit their shower time because of high MTBE levels. In early September, Rhode Island DEM mobilized it's contractor to conduct a preliminary overburden investigation into possible sources for MTBE contamination in the Pascoag Water District wellfield. The contractor identified two "possible" sources, a Mobil station, and the Burrillville DPW facility. The DEM issued Compliance Orders on September 13, 2001 -- to the DPW to install bedrock monitoring wells, and to the Mobil station to re-test their tanks and lines and to install bedrock monitoring wells. By mid-September, the DEM committed

to fund 90% of construction costs to provide a temporary water connection to the nearby Harrisville water system, and to assist the District in finding additional funding. Tank system determined that the tanks at the Mobil station were currently tight. DEM received EPA approval to reallocate up to \$400,000 to assist the water District with treatment options. Product recovery efforts began at the Mobil station using a vacuum truck, and 5 monitoring wells above bedrock and a recovery well were installed. Bedrock wells were also installed at the site. On September 24<sup>th</sup>, the DEM and Attorney General's office filed a complaint against the owners/operators of the Mobil station for non-compliance with the Order. A hearing was held the following day, and Superior Court upheld the State's request to freeze the assets of the operating corporation of the Mobil station. The operator of the station had the station's three USTs emptied. Monitoring wells were sampled. The Town DPW also installed monitoring wells to identify their contribution to the release, if any. The DEM reviewed the results of tank and line tests and inventory records for the Mobil station.

The investigation at the Mobil confirmed the presence of a release at the station and recommended further investigation. The Court ordered the installation of up to 10 additional bedrock wells. DEM agreed to fund a proposed treatment system for the public wells, subject to Health Department approval. In late October, the environmental consultant notified DEM that it was discontinuing its services due to non-payment by the operators. They refused to release the most recent groundwater monitoring results and removed their remediation equipment at the site without DEM approval. The operator of the station requested that the Court release them from the Court's order for investigation for financial reasons. The DEM and Attorney General asked the Court to find the operators in contempt and to appoint an environmental receiver to assume control over the corporate defendant's finances and manage the investigation and cleanup. At the end of October, the Court agreed to enter the operators of the station into receivership. The Court also ordered the consulting company to submit all information collected during the investigation. The Town completed its investigation at the DPW facility.

At the beginning of November, the Rhode Island Economic Development Corporation issued the first Pascoag Water Assistance Fund load to a business affected by the village's water crisis. The money went to the owners of a donut shop to relieve immediate financial needs caused by the contamination.

The Rhode Island Health Department issued an advisory at the beginning of November, after MTBE levels significantly increased in one of the town wells. The advisory warned residents against using the water to bathe children less than 6 years old. The contaminant levels had gone from 620 ppb to 1100 ppb. The Health department's maximum level is 40 ppb. The health department stated that the level of MTBE in the Pascoag water depends on the amount of water pumped from well number 3. Pascoag is getting its water from two sources: well number 3 and a temporary connection with the Harrisville water district that brings in more than 100,000 gallons of drinkable water per day.

The investigation at the Mobil station confirmed that a substantial release had occurred and that offsite groundwater had significant levels of contamination. The DEM engaged its contractor to continue investigation and remediation. Arrangements are made to begin delivery of 15 gallons per person per month of bottled water to area homes. The delivery of bottled water is funded by the Federal LUST Trust Fund. Monthly deliveries of 60 gallons per household are to be made unless additional water deliveries are approved.

Residents were also able to obtain water from a spigot at the Harrisville fire station and shower facilities were available to residents at the Levy Community Rink in Harrisville and the YMCA buildings in Woonsocket and Smithfield.

The Rhode Island Underground Storage Tank Financial Responsibility Fund Review Board met with DEM in early November to assist with funding to resolve the problem. Initially, money will be used to install and operate a temporary carbon filter system at the wellhead. MTBE concentrations at the wellhead are 1100 ppb. Additional investigation continues to determine the extent of the plume. Pilot testing of a soil vapor extraction began in mid-November. Carbon filters were installed at the wellhead, but bottled water will continue to be provided until the Health Advisory issued by the Dept. of Health is lifted. Twenty-three monitoring wells were sampled by DEM and their contractor, and design of a full scale recovery system began. The pilot scale system will continue to operate until the full-scale system is online.

When interviewed in Mid-November, the water district manager was cautiously relieved that the filtration system was under construction, and the new wells in Harrisville were being installed. "Of course, all these pains and sufferings we've had to deal with pale in comparison to what our people have suffered by not being able to drink their water. Did we do everything right? Not by a long shot. Did the state do everything right? Not by a long shot. But there wasn't much history to go on. There have been other spills, but nothing even comes close to this. Looking back retrospectively it's been hell, but in view of the scope of the contamination I think we were able to expedite the process as best we could and we stayed out in front of the public from day one. Were we perfect? No. Did we try? Yes." When Pascoag does get clean water again, Garille hopes lessons are learned. "We need an autopsy of what happened here. The town, the state and federal governments, the water associations. We all need to look at this retrospectively and learn from it and be prepared if it ever happens again. It would be a shame if we didn't learn anything from this."

By the beginning of December, installation of the full-scale remediation system had begun, consisting of soil vapor extraction, and groundwater and product recovery. This part of the system is to address source removal. The Water District carbon filtration system needed its first carbon change-out. In mid-December, an abandoned gasoline tank, still containing some gasoline, was discovered at the Mobil station. The tank was removed and the remaining product sampled to determine whether it contained MTBE.

The state will provide bottled water to residents until the Harrisville water district completes construction of three new wells by January 1 to provide Pascoag residents with clean water. State and Pascoag Utility District officials are at odds over the need to carbon filter Pascoag's water. Pascoag officials say filtration is needed in conjunction with the new Harrisville wells to reduce MTBE levels to drinking water standards and act as a backup water source in case there are future problems with the Harrisville wells. The State is balking at the filtration cost, saying Pascoag should draw all its water from Harrisville. Governor Almond said "I have difficulty keeping a contaminated well on line when we have another solution (Harrisville wells)." The Water District Commissioner Christopher Titi said We still stand by our position that filtration will provide clean drinking water and should be part of a combined effort with the Harrisville well project."

One Pascoag resident, Robert Monahan developed asthma about the time the contaminated water was discovered. His asthma disappeared when he installed his own well at a cost of \$6000. Strange skin rashes also disappeared when he stopped showering with the water. The Monahans ended up becoming key organizers of Concerned Citizens for a Healthy Pascoag. According to

Manahan, "We're happy that most of this problem is behind us, but the scary thing is not knowing what the long-term effects from the MTBE exposure are going to be and what our health will be like two or three years down the road."

Harrisville officials have vowed not to open the flow of the new wells completed in late December until Pascoag residents agree to merge the two water districts. The two water districts need approval of the ratepayers for the merger. The Pascoag vote was expected in mid-January. The new wells had been in the planning stage for two years. When the water contamination was discovered, the Harrisville Water District expedited the project at a cost of \$200,000.

The state Department of Health is planning on holding a hearing at the end of January to consider revoking the state's approval of the Pascoag water district's wells as a public drinking water source at least until the contamination is cleaned up – a process that could take years.

A \$400,000 grant from EPA and upwards of \$400,000 from the Rhode Island UST Financial Responsibility Fund are the two major chunks of funding intended to mitigate the contamination in the short-term, and additional funding is being sought from the state UST fund. Other possible sources of funding are being investigated. A \$70,000 EPA grant was used to fund home delivery of bottled water.

More than 2000 Pascoag residents exposed to the contaminated water have signed contingent fee agreements with the New York law firm of Napoli, Kaiser and Bern, which is representing Pascoag water users in partnership with Brian Cunha and Associates. The firms are investigating the potential for legal action and will file individual lawsuits against Potter Oil, the owner of the station, and ExxonMobil Corp., if the source of the contamination is indeed the gas station. The Pascoag Utility District has retained its own team of lawyers to investigate potential litigation aimed at those responsible for the contamination.

By early January, Pascoag and at least six other towns have passed resolutions asking the Governor to ban MTBE as a gasoline additive. Pascoag Town Clerk Louise Phaneuf hopes that the Governor will enter into a discussion with other area governors that belong to the Coalition of Northeastern Governors and push for a regional ban on the chemical.

<http://www.state.ri.us/dem/programs/benviron/waste/pascoag.htm> Pascoag Water District Fact Sheets

<http://www.healthri.org/environment/risk/mtbe/mtbe.htm> Rhode Island Dept. of Health

<http://www.woonsocketcall.com> 10/25/01, 10/30/01, 11/11/01, 12/27/01, 12/21/01, 1/3/02, 1/4/02  
Providence Journal 11/4/01, 11/20/01, 12/27/01, 1/8/02

Greenwire 11/5/01

[http://dailynews.yahoo.com/hx/ap/20011111/us/water\\_woes\\_1.html](http://dailynews.yahoo.com/hx/ap/20011111/us/water_woes_1.html)

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### Senators set to mark up MTBE-ban legislation

*From "Environment & Energy Daily" September 24, 2001, Air Pollution/Water Pollution*  
Legislation to eliminate the use of methyl tertiary butyl ether (MTBE) in reformulated gasoline (RFG) by 2004 will be marked up Tuesday by the Senate Environment and Public Works Committee. While lawmakers are pushing the bill as a means to clean up the nation's water supplies, ethanol producers are scoffing at the legislation's wide-spread implications and think it has little chance of gaining acceptance in its current form before the full Senate.

Sen. Bob Smith (R-N.H.), the Environment Committee's ranking member, introduced S. 950, the Federal Reformulated Fuels Act, in May. A committee minority staffer said Smith hopes to move the bill out of committee Tuesday and have it ready for full Senate debate at some point this year. Last year, a Smith bill, S. 2962, aimed at eliminating MTBE passed out of the committee but did not see floor debate. That bill included a competitive alternative fuels program that allowed for growth in the ethanol industry while also allowing for competition from other sectors such as fuel cells.

Under S. 950, states that use RFG would no longer be required to use MTBE or ethanol but would still have to meet strict performance standards for reducing harmful pollution based on regional averages. Addressing the issue of groundwater contamination caused by MTBE, the bill authorizes \$200 million in grants to states for the Environmental Protection Agency's Leaking Underground Storage Tank (LUST) Trust Fund. MTBE contamination led California officials to ban the substance while a number of northeastern states, including New York, Maine and Connecticut, also are considering bans. Smith's bill also authorizes \$200 million over the next five years to boost compliance with the LUST program.

The Smith bill also prevents air quality backsliding, thereby preventing the opportunity for a petroleum company that must stop using MTBE to add in its place a substance that may cause more air pollution than MTBE. Environmental groups support S. 950 for its clean water benefits and its backsliding provision, said Frank O'Donnell, executive director of the Clean Air Trust.

Nonetheless, Monte Shaw, a spokesman for the Renewable Fuels Association, balked at the likelihood S. 950 has of passing out of the Senate in its current form. For one, he said, Senate Majority Leader Tom Daschle (D-S.D.) is likely to have concerns with the bill and would require significant changes before he allowed it on the floor for debate. In light of the terrorist attacks, Shaw claimed S. 950 also brings up the hot-button issue of increasing U.S. dependence on foreign oil. By removing MTBE and restricting ethanol in its place, petroleum is the obvious alternative. With U.S. petroleum producers already tapped, Shaw said the best option would be to import oil from overseas.

Shaw also said eliminating the oxygenate increases air pollution in comparison to the currently available RFG. He added that S. 950 would increase fuel prices by eliminating opportunities for small gasoline marketers, many of whom would no longer be able to compete with major oil companies.

"S. 950 will be dead on arrival if it makes it to the Senate floor," Shaw said. "I'm not spending a lot of time thinking about it."

The EPW minority source acknowledged Friday that S. 950 is "not perfect," adding that Smith welcomes the opportunity for ethanol-backing lawmakers to make their case on the floor. In related events, EPA is not expected to release its report on the nation's balkanized fuel market until mid-October, an agency source said, explaining that the terrorist attacks shifted priorities across EPA. The agency is just beginning to return to the projects it was previously working on, including the fuel report. The Bush administration called for the report as part of its national energy strategy released this spring. This summer, EPA had said it would fast-track its report to assist Congress in its legislative efforts.

**Schedule:** The markup occurred Tuesday, Sept. 25, in 406 Dirksen.

-- Darren Samuelsohn

### **API Requests Elimination of Oxygenate Mandate**

The oil industry says the nation's refiners can produce clean gasoline more cheaply without adding oxygenates like MTBE or ethanol, helping them prevent price spikes and shortages like the one that hit the Midwest last summer. As part of plans to develop a national energy policy, EPA is examining ways to limit the number of different fuel blends required as US pumps. API director Ed Murphy said "Lifting the oxygenate requirement would make the boutique fuel problem much easier to solve. If the EPA is serious about making the nation's supplies more flexible, while still keeping clean-air benefits, they should recommend eliminating the mandate." EPA expects to submit its recommendations in a draft report by October. The API has suggested that the EPA recommend limiting boutique fuels to three of four different evaporation standards, a California clean air standard, and a clean air standard for the rest of the nation – with none requiring an oxygenate. There are currently dozens of different boutique blends.

<http://www.planetark.org/dailynewsstory.cfm/newsid/12015>

### **BP Favors a "National Solution" Rather Than State-by-State Policies**

On August 14<sup>th</sup>, BP's US regional vice-president John Manzoni, said that he favors a "national solution" rather than state-by-state policies for federal rules requiring oxygenates in gasoline. BP plans to phase out MTBE from the gasoline blended at its 265,000 barrel per day refinery in Carson, California, just south of Los Angeles, by the end on this year, one year ahead of the

California MTBE ban. Manzoni added that although a waiver for oxygenate use for California may help BP in the short term, the company favors the formation of a national policy, rather than state-by-state waivers. His remarks came after it was announced that California was suing the US EPA for denying the state's request for an oxygenate waiver.

<http://www.planetark.org/dailynewstory.cfm/newsid/12022/story.htm>

<http://biz.yahoo.com/rf/010814/n14134226.html>

### **Boutique Fuels**

The Energy Task Force Report released by the Bush Administration cites "boutique fuels" as presenting major production and distribution challenges for refiners. "These different requirements sometimes make it difficult, if not impossible, to draw on gasoline supplies from nearby areas or states to meet local needs when the normal supply is disrupted." It recommends that the Administration "study opportunities to maintain or improve the environmental benefits of state and local "boutique" clean fuel programs while exploring ways to increase the flexibility of the fuels distribution infrastructure, improving fungibility, and provide added gasoline market liquidity."

In an interview with USA Today, Christie Whitman said that the EPA is considering limiting states to three or formulas of gasoline instead of the dozen or more currently in use. She emphasized however, that this approach has problems. "It is very much a states' rights issue. Boutique fuels are a result of states making independent decisions about (meeting) their clean-air requirements... That's not to say we wouldn't eventually" cut the number of fuels.

<http://www.usatoday.com/usaonline/20010806/3529299s.htm>

[http://dailynews.yahoo.com/h/nm/20010806/bs/energy\\_gas\\_blends\\_dc\\_1.html](http://dailynews.yahoo.com/h/nm/20010806/bs/energy_gas_blends_dc_1.html)

## **STATE LEGISLATIVE ACTIVITIES**

### **Illinois**

Illinois Governor signed legislation in July that will ban MTBE from use in Illinois in three years. Illinois becomes the 12<sup>th</sup> state to prohibit the use of MTBE following the signing of Governor George Ryan's signing of the MTBE Elimination Act. The legislation bans the use, manufacture or sale of MTBE as a fuel additive and the transportation of fuel containing MTBE in the state. It also directs state regulators to cooperate with EPA to develop improved MTBE groundwater testing methodologies. Governor Ryan said "MTBE is known to contaminate ground water. This law bans its use in Illinois fuel and gives us the opportunity to use more ethanol. We will produce fuel that promotes clean air and does not contaminate our drinking water." In December 2000, Chicago became the first city to ban MTBE, effective at the end of 2001. According to the Renewable Fuels Association, the city was afraid that as other states banned the use of MTBE, MTBE would be driven into markets where it was not currently being used, such as Chicago.

<http://biz.yahoo.com/rf/010724/n24219168.html>

[http://dailynews.yahoo.com/h/ap/20010724/us/illinois\\_mtbe\\_ban\\_2.html](http://dailynews.yahoo.com/h/ap/20010724/us/illinois_mtbe_ban_2.html)

<http://www.state.il.us/gov/press/jul0724mtbe.htm>

<http://www.legis.state.il.us/legisnet92/hbgroups/hb/920hb0171.html>

<http://www.sj-r.com/news/Wednesday/u.htm>

*Clean Water Report, August 27, 2001*

### **Again –I'm against wholesale cut and paste without written permission. Pennsylvania**

The Pennsylvania House of Representatives voted unanimously on November 19<sup>th</sup> to ban the sale of MTBE after 2003. The House also unanimously passed a bill sponsored by State Senator Joe

Conti that would increase state funding for tank-spill cleanups from \$1 million to \$1.5 million due to the high cost of MTBE cleanups. The House added an amendment to Conti's bill that would require gas station owners to notify DEP of gas releases within four hours after they are discovered. The bill previously required notice within 24 hours. Both bills will now move on to the State Senate. According to Robert Godshall, the author of the MTBE ban bill "There's underground water pollution in the Philadelphia area and even as widespread as Lancaster and as far as Tomaqua and Hazleton. It's a carcinogen and highly volatile chemical that, once in drinking water, is very difficult to get out. It keeps getting farther and farther. Even Carol Browner, just before she left office, had asked for the federal government to do away with the mandate to have an oxygenate to be put into gasoline, especially MTBE." Godshall said, "It's a situation that is rapidly escalating to a crisis in the five county region of southeastern Pennsylvania."

Carol Koch, a homeowner in Buckingham, whose home is within sight of a new-closed station, was happy to hear about the legislation. "Wow. We were living in what we thought was a nice countrified area. This was the sticky wicket in the thing. Right away, they told us the depreciation of our house was about 25% and something we have to disclose (to potential buyers). Her husband, Charles, was less upbeat. "I think this is a political thing, and they're playing with our health. You don't play politics with people's health."

State Representative Chuck McIlhinney said Pennsylvania is the 13<sup>th</sup> state to send a message to federal lawmakers and the EPA that the chemical should be removed in all 50 states. "I think it's a rather strong signal."

Philadelphia Inquirer, 11/21/01

The Morning Call (Allentown, PA), 11/21/01

Doylestown Intelligencer 10/4/01, 11/21/01

Greenwire 11/21/01

Water Tech Online, 11/21/01

### **Washington**

The State of Washington has banned the use of MTBE. According to the law, "methyl tertiary-butyl ether may not be intentionally added to any gasoline, motor fuel, or clean fuel produced for sale or use in the state of Washington after December 31, 2003," and that in no event may MTBE be knowingly mixed in gasoline above six-tenths of one percent by volume. The legislation, HB 1015, was approved unanimously by both the Washington House and Senate.

## **MTBE LITIGATION**

### **"Salem Revisited: Updating the MTBE Controversy"**

Article from the law firm of Gardere Wynne Sewell LLP dated October 2000.

<http://www.gardere.com/newsimages/SalemRevisited.pdf>

A version of this paper was published in the March 2001 issue of Journal of Environmental Forensics.

<http://www.idealibrary.com/links/toc/enfo/2/1/0>

From the abstract of the article: "This article provides background information regarding the emerging controversies involving methyl tert -butyl ether (MTBE) and litigation involving leaking underground storage tanks (USTs) in general. It examines (1) the administrative, legislative and litigation history of MTBE in the context of the Clean Air Act and state environmental statutes; (2) the importance of applicable RCRA (Resource Conservation and Recovery Act) deadlines

regarding UST compliance in these cases; (3) the question of MTBE toxicity for personal injury claims; and (4) the scope of damages available in cases filed by plaintiffs who are not physically impacted by contamination. The authors conclude that the MTBE controversy does not appear to be a legitimate public health or environmental crisis, but rather is yet another speculative product of the American legal industry."

Abstracted from the conclusions: "Is the MTBE controversy a real crisis? A real crisis for public health? For environmental protection and safety? Certainly it is a "crisis" according to the media, the class action lawyers, and the zealous federal and state regulators who claim that they will never "trade clean water for clean air." But do the facts about MTBE justify those reports? Do they justify the hyperbole? Do they justify the proud protests of the bureaucrats? The current evidence shows that they do not. The facts, as opposed to the allegations, regarding MTBE demonstrate that MTBE is a valuable product that is unfairly and outrageously maligned. Neither MTBE nor any other gasoline constituent is a pervasive problem in the nation's water supplies. The crisis, plain and simple, is created by the pending and future class action lawsuits which allege — but do not document — nightmarish scenarios, and which seek, through premature class certifications, a "rush to judgment" that precludes a reasoned and measured evaluation of the situation. In truth, class actions are merely a litigation tactic designed to make the controversy large and threatening *in the absence of a large number of documented claimants*. Class actions artificially enhance the significance of a controversy which, by current information, *is not sufficiently significant without certification*. Class certification rules should not be employed to unnecessarily preclude adjudication of individual claims. Those rules are certainly not designed to create "mass" controversies that do not otherwise exist. Moreover, even non-class action plaintiffs' lawyers should be concerned when the class action lawyers "corner the market" and thereby deprive them of pursuing the few claims which justify individual prosecution."

### **California**

#### **Exxon Settlement with South Lake Tahoe Public Utility District**

On August 9, 2001, ExxonMobil Corp. agreed to pay \$12 million for its part in the MTBE contamination or threat to 12 South Lake Tahoe drinking water wells, and Chevron agreed to pay \$10 million. Eight wells have been contaminated with MTBE and four others were shut down because officials feared that continued pumping would cause them to become contaminated. The South Tahoe Public Utility District filed suit in 1998 against 31 defendants — including four major Bay Area refineries — to recoup an estimated \$45 million to \$50 million for cleaning up MTBE plumes that contaminated water supplies and forced the closure of 12 of 34 drinking water wells in the Tahoe Basin. Twenty-five of the original 31 defendants have now settled with the district. The South Tahoe Public Utility District has already received \$6 million from local service station owners (\$1.6 million from Unocal Co., former operator of one of the service stations) and Atlantic Richfield Co. (\$3.25 million from the developer and promoter of MTBE) but district officials plan to continue their legal bid to recover tens of millions of dollars in damages. According to district spokesperson Dennis Cocking "The big boys are still out there and we have every intention of going to court. If the district prevails in court, this will be a groundbreaking case, the first of its type for MTBE. To date, ARCO, Shell, Texaco, Tosco, and Ultramar have refused to pay even after a series of court-ordered mediations. The district wants them to pay for remediation, monitoring, and future well replacements. The Lahontan Regional Water Quality Control Board has spent millions of dollars for small stations that couldn't afford MTBE cleanup. The district blames the petroleum companies for the pollution that contaminated more than a third of its drinking water wells. Replacing those wells, if suitable sites are found, will cost about \$18 million. Jury selection is scheduled to begin September 10 in San Francisco Superior Court on the district's claims against most of the remaining defendants: local station owners, distributors, and several major oil companies. According to attorney Victor Sher, representing the STPUD,

the latest settlement is significant because it holds a major refinery responsible for groundwater contamination from MTBE, even though the direct source was leaking tanks and lines at Tahoe-area service stations. Sher stated that the settlement is significant because it is the first to be issued based on the claim that MTBE-blended gasoline made by a major oil company is a defective product. Most MTBE contamination suits claim liability for leaking underground storage tanks, but this settlement was based solely on the production and marketing of MTBE by Exxon. Exxon operates no gas stations in the Tahoe basin, but its Benicia refinery is one of four major refineries that provided gasoline containing MTBE to the area. According to a Chevron spokesman, Chevron admitted no liability for the district's MTBE problem. "The reason why Chevron settled is to avoid being involved with what promises to be a really difficult and long trial...that could be quite expensive." The trial is expected to last up to six to nine months.

[http://www.sacbee.com/news/news/local03\\_20010810.html](http://www.sacbee.com/news/news/local03_20010810.html) Sacramento Bee, August 10, 2001

<http://www.tahoe.com/tribune/stories.8.10.01/NEWS/1stpub81010Aug6539.html> Tahoe.com, August 10, 2001

[http://www.rgj.com/cgi-bin/printstory.cgi?publish\\_date=20010810&story=997515351](http://www.rgj.com/cgi-bin/printstory.cgi?publish_date=20010810&story=997515351) Reno Gazette-Journal, August 11, 2001

<http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2001/08/11/MN203402.DTL> San Francisco Chronicle, August 11, 2001

*Sacramento Bee, September 11, 2001*

*Associated Press, Sept. 9, 2001*

*Greenwire, August 13, 2001*

### **California Air Resources Board Sues EPA to Block Ethanol Requirement**

On Friday August 10<sup>th</sup>, the state of California filed suit against the Environmental Protection Agency in the 9<sup>th</sup> U.S. Circuit Court of Appeals in San Francisco. California was up against a deadline because it had only 60 days to file a lawsuit after the EPA announced its decision in June. The suit argues that EPA overlooked scientific evidence that California gasoline does not need oxygenates to meet federal pollution reduction standards. The lawsuit calls on the agency to waive rules requiring ethanol to be added to most of the state's gasoline. Governor Gray Davis called EPA's oxygenate mandate "a straightjacket mandate that will drive up gas prices while increasing air pollution. The potential for harm to Californians, both economically and environmentally, leaves me no choice but to fight back with guns blazing." He stated that the mandate was "not based on science but on politics, pure and simple." California produces 5 to 7 million gallons of ethanol a year, but would need an estimated 600 to 900 million gallons to comply with the rules. The state's refiners may have to spend as much as \$1 billion to convert their facilities for ethanol by the January 1, 2003 MTBE-phaseout deadline. State officials have estimated that the cost of retrofitting refineries would add 3 to 5 cents per gallon to the cost of gasoline, but the state Energy Commission estimated that an ethanol supply shortage, caused by a Midwest drought or transportation problems, could trigger price spikes of as much as 50 cents per gallon. Winston Hickox, secretary of CalEPA, said California's ethanol needs could create supply problems and send prices skyrocketing, and would make the state dependent on the Midwest. Representatives of the Natural Resources Defense Council and the Clean Air Trust have also said that requiring ethanol could do more harm than good to California's air. While ethanol blends reduce carbon monoxide levels, they increase levels of oxides of nitrogen. EPA has contended that under the Clean Air Act it lacks the authority to grant the state's waiver request. Frank O'Donnell of the Clean Air Trust stated that "The EPA professional staff is mortified. They realize that it is not good, clean science, but political science." Roland Hwang, a policy analyst with the Natural Resources Defense Council stated "We do not believe subsidizing Midwest corn farmers is a clean air strategy."

O'Donnell earlier released a copy of a draft EPA Notice of Proposed Rulemaking that would have granted, in part, the California request for a waiver of the federal reformulated gasoline program. The rulemaking would have reduced the required year around average oxygen level in federal RFG for California to 1.0 percent by weight, through the end of 2004. The draft document stated that "We conclude that compliance with the 2.0 weight percent oxygen content requirement for RFG would interfere with attainment of the NAAQS for ozone and PM in the RFG areas of the State."

Bob Dinneen, president of the Reformulated Fuels Association make the following statement about the suit; "California's court challenge of the EPA decision to maintain the Clean Air Act oxygen standard is an exercise in futility. The forces attempting to undermine the oxygen standard lost with the Clinton EPA, lost with the Bush EPA, lost in the Congress, and will now lose in federal court. No amount of posturing and rhetoric can change the fact that the science supports maintaining the oxygen standard. The decision to file this lawsuit was based on state politics, not its legal or technical merit. With this lawsuit, the State of California is asking the court to overturn the technical and scientific conclusions of EPA experts. That is something courts have almost never done. This lawsuit will only discourage the very real opportunities for ethanol production within California and inject further uncertainty into the marketplace that hurts California consumers."

On September 17<sup>th</sup>, two pro-ethanol groups offered their support to the EPA's legal efforts to defend the government's decision that in essence forces California to use ethanol in its gasoline. The National Corn Growers and the Renewable Fuels Associations said they filed a motion with the federal court to intervene in EPA's defense. Rick Tolman, the corn group's executive vice president, said the actions will allow them to share industry analysis and research on air pollution. "By intervening...we will have a greater opportunity to discuss strategy with the EPA and maybe strengthen the case."

<http://www.sfgate.com/cgi-bin/article.cgi?file=chronicle/archive/2001/08/13/MN186128.DTL>

San Francisco Chronicle, August 13, 2001

<http://www.sfgate.com/cgi-bin/article.cgi?file=/news/archive/2001/08/12/national2322EDT0571.DTL>

San Francisco Chronicle, August 12, 2001

<http://www0.mercurycenter.com/local/center/eth081301.htm> Mercury News, BayArea.com, August 12, 2001

<http://www.latimes.com/news/local/la-000065782aug13.story?coll=la%2Dheadlines%2Dcalifornia>

Los Angeles Times, August 13, 2001

<http://www.planetark.org/dailynewsstory.cfm/newsid/11986> Planet Ark, August 13, 2001

*Greenwire, August 13, 2001*

<http://www.bbiethanol.com/news/view.cgi?article=308>

<http://www.planetark.org/dailynewsstory.cfm/newsid/12436/story.htm>

### **California Lawsuit May Chill Ethanol Expansion Plans in California**

California's legal challenge of the EPA decision to deny the state a waiver from the federal oxygenate requirement may delay some of the plans to expand ethanol production nationwide. Immediately after EPA announced denial of the waiver, one new ethanol plant began construction, and dozens of projects in the planning stage were given signals to proceed. With California's court challenge of the waiver denial, there is uncertainty again for ethanol's future in California. According to Larry Cunningham a spokesman for Archer Daniels Midland (ADM) "I think the lawsuit could have the effect of delaying expansion plans, but even without the MTBE

in California, there is a growing demand for ethanol.” In addition for gearing up for ethanol sales in California, ADM has been expanding its sales in the Northeast. In California, however, refiners have been reluctant to make the changes necessary to begin blending ethanol until all the legal battles are resolved. Monte Shaw of the Renewable Fuels Association said he expects California Gov. Gray Davis to resolve the uncertainty in the oxygenate question by the end of the year so refiners will have enough time to prepare for the MTBE phaseout. Cal EPA is expected to send a report to Gov. Davis by mid-September with recommendations on how to proceed. Davis could stick with the current plan, postpone the phaseout, sue the Federal government for rejecting the state’s request for a waiver from clean-air rules (California filed suit against EPA on August 10<sup>th</sup>), or lobby Congress for new legislation.

Patrick Fitzgibbon, who’s in charge of overseeing the MTBE phaseout at BP’s Carson refinery, said “Something will need to be built before the end of the year.” Even if modifications are done in time, the switch to ethanol could result in a 6-10% shortfall in gasoline supply because less ethanol has to be used to take the place of MTBE. Refineries are running at nearly full capacity now. Most ethanol is expected to come to California by rail, and “There are today, for all practical purposes, no rail-receiving facilities in California for ethanol,” according to Fitzgibbon.

In an August 15 press release, the Metropolitan Water District of Southern California praised California’s lawsuit against the U.S. EPA. President and CEO Ronald Gastelum said “The longer the federal government forces the petroleum industry to include MTBE in our gasoline, the greater the threat to Southern California’s drinking water quality.”

<http://www.latimes.com/business/printedition/la-000064886aug10.story?coll=la%2Dheadlines%2Dpe%2Dbusiness>

*Greenwire, August 10, 2001, August 20, 2001*

[http://www.mwdh2o.com/mwdh2o/pages/news/press\\_releases/2001-08/MTBESuit.htm](http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2001-08/MTBESuit.htm)

<http://www.mercurycenter.com/local/center/eth081301.htm>

### **Grand Jury in Alameda County, CA Recommends Elimination of MTBE, Speedy Remediation of Sites**

A grand jury investigation in Alameda County has ruled that county supervisors should immediately act to rid the area’s gasoline of MTBE and aggressively treat more than two dozen contaminated sites that threaten local water supplies. The inquiry, sparked by a complaint of leaky gas tanks in downtown Livermore, determined that high costs and too little funding are hindering cleanups. Leaky tanks at a Livermore station went undiscovered for years, creating one of the largest contaminated sites in California. The size of the plume has decreased in recent years, and ground water had been protected by a 40-foot clay layer. The grand jury found that finding money for costly cleanups and “will plague decision makers as MTBE continues to be stored and used as an additive to gasoline.”

*Contra Costa Times, July 24, 2001*

### **Four Major Oil Firms Settle MTBE Cleanup Suit Filed by Communities for a Better Environment.**

#### **S.F. Judge Presses 4 Others to Reach Similar Agreements**

A judge signed an agreement on August 20, 2001, forcing five major oil companies to clean up sites they own that have been contaminated with MTBE. The agreement was reached as part of a settlement with a San Francisco area environmental group, Communities for a Better Environment (CBE). CBE said the companies violated the state’s Unfair Competition Act by using MTBE in such a way that it contaminated groundwater. The group sued under that act in 1998 because the chemical is not on a list for the state’s Safe Drinking Water and Toxic Enforcement Act, which would have allowed the state to force the companies to clean up their

sites. The group sued Shell, Chevron, Texaco, Equilon Enterprises, Unocal, ARCO, Tosco, Exxon and Mobil in 1998. The first five have settled, and are covered under the order. ARCO, Tosco, Exxon and Mobil are still in litigation. Current California law requires companies to clean up any MTBE seeping into the state's groundwater from gas stations, refineries, tank farms and other gasoline storage tanks, but the regulations lack any penalty provisions. So the companies have frequently ignored compliance orders by state and local agencies, according to Drury. Under the new settlement, state agencies will be able to enforce their compliance orders and ask courts to impose penalties of up to \$6,000 per day for cleanup costs. Richard Drury, an attorney for CBE, said "Agency orders will now essentially become orders of the court." He added that if the agencies do not enforce the regulations, then CBE can step in and get court orders against the companies as well. According to Drury, "For the first time, this order puts teeth into the laws that are designed to clean up MTBE contamination. As a result of today's order, for the first time, there will be penalties, there will be consequences if a company fails to clean up the contamination that it caused."

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According to court documents, the U.S. Environmental Protection Agency knew almost 15 years ago that the gasoline additive MTBE posed a serious threat to the nation's water supply, yet the agency did not warn Congress. "The tendency for MTBE to separate from the gasoline mixture into groundwater could lead to widespread drinking water contamination," EPA officials warned in an internal memo dated April 1987. The memo noted that such contamination from underground storage tanks had already occurred in four states. The memo and other documents surfaced as part of a lawsuit filed in San Francisco Superior Court against the nation's largest oil companies that accuses them of engaging in business practices that they knew would lead to widespread contamination of California's groundwater. The oil industry has acknowledged it was aware of MTBE groundwater contamination in the late 1980s. But unsealed documents in the court case show that the companies actually knew of the problem as early as 1981. Also, even though the industry and the EPA knew of the threat that MTBE posed to the environment, no warnings were presented to Congress in 1990 when it debated and passed amendments to the Clean Air Act that, in effect, required millions of gallons of MTBE to be added to the nation's gasoline. The newly disclosed testimony and confidential memos from the oil industry and the EPA were filed under seal in a 1998 suit brought by Communities for a Better Environment, an Oakland environmental group. Judge Stuart Pollak unsealed the documents, which provide a host of new details about industry and the EPA's knowledge of the dangers, in May. In their defense, the oil companies have argued in court that the EPA knew of the dangers of MTBE and that the companies were merely complying with the 1990 federal law.

The EPA first allowed gas refiners to use MTBE in small quantities as an octane booster in 1979 without any comprehensive testing of the chemical's long-term effect on health or the environment. Two years later, at the request of the oil companies, the agency increased the amount of MTBE that could be used to 11 percent. The first effects of the agency's decision surfaced within two years and, over the next decade, warnings about the dangers of MTBE escalated.

According to the court documents and depositions:

By 1981, Shell, Exxon and Texaco were informed by employees that MTBE was leaking from their gas stations and had contaminated drinking water in three towns in New Jersey and Maryland.

An oil industry group studying MTBE was told in 1981 that approximately 20 percent of all underground storage tanks were leaking.

By 1984, the oil companies knew from studies that MTBE, as a chemical ether that smells and tastes like paint thinner, was different from other gas components: It moves rapidly through the soil, can be detected in water at extremely low levels, persists for long periods, and is very difficult to remove from contaminated sites and water.

In 1985, based on environmental concerns, engineers at Exxon recommended to management that MTBE not be used as an additive. The company ignored the recommendation.

In 1986, environmental officials from Maine presented a paper at a national conference calling for a ban on MTBE after the chemical turned up in 30 water sites in the state.

The EPA reported in 1986 that 35 percent of all underground tanks were leaking an average of 2,800 gallons of gasoline annually.

In 1987, the EPA reported in an internal memo that MTBE had been found in groundwater in four states affecting up to 20,000 people and warned that the MTBE problem could "rapidly mushroom . . . leading to widespread drinking water contamination."

In a 1987 letter to the EPA, the oil industry played down the risks of MTBE as "negligible," adding that "MTBE does not represent a drinking water hazard."

The agency signed an agreement in 1988 with the oil industry that did not require monitoring for MTBE in groundwater, though it listed the chemical as a "high risk" water contaminant that year in the Federal Register. In 1990, under intense lobbying from Midwest farmers who produce corn to make ethanol, Congress amended the Clean Air Act to include a rigid formula for cleaner-burning gasoline using oxygenates such as MTBE and ethanol. There was no discussion by the EPA or the oil industry of MTBE's well-documented threat to the nation's water supply. Then, in 1995, two major laboratory studies concluded that MTBE causes leukemia and tumors in rats, which led the EPA to list the chemical as a possible human carcinogen. By the mid-1990s, MTBE was showing up in public and private water wells across the nation. In 1995, Santa Monica shut down 50 percent of its wells due to MTBE contamination, and South Lake Tahoe followed suit in 1997, shutting down a third of its wells. The news of the shutdowns caught most federal EPA officials completely off-guard. "It was a blindside," said Matt Hagemann, the science policy adviser for the agency's West Coast region at the time. "Even the smartest hydrologists working in the agency's tank program didn't know what was going on. (MTBE) just burst on the scene. Obviously the oil industry wasn't blindsided. They never shared their data, and any people in the agency who knew were keeping the information close to the vest." Environmental officials in California were also surprised by the growing contamination problem. As late as 1998, state officials were praising MTBE's benefits in cleaning the air. But by the end of that year, a special University of California study done for the state concluded that MTBE is not needed in California's cleaner-burning gas, and recommended the chemical be banned. Four months later, Gov. Gray Davis ordered MTBE's removal from the state's gasoline by no later than the end of 2002.

<http://www.wateronline.com/content/news/article.asp?DocID={3EFD6A85-93D5-11D5-A775-00D0B7694F32}&Bucket=Current+Headlines>

<http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2001/08/21/MN128812.DTL>

<http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2001/08/19/MN214427.DTL>

*Clean Water Report, August 27, 2001*

*Associated Press 8/20/01*

*WaterOnLine 8/21/01*

Lawsuit is Communities for a Better Environment vs. Unocal, filed in August 1998

### **Oxygenated Fuels Association Loses One in California**

In January 2001, manufacturers of MTBE, in the name of their trade coalition, the Oxygenated Fuels Association (OFA), sued California Governor Gray Davis, and California Air Resources Board Chairman Alan Lloyd over California's upcoming MTBE ban. In a 13-page order, federal judge David Levi in Sacramento tossed out the lawsuit challenging California's ban on September 4<sup>th</sup>, ruling that there is nothing in federal air quality regulations precluding the ban. While the act does block every other state from imposing its own rules regarding motor vehicle fuel and additives, it exempts California from the prohibition as the "state that regulated automotive emissions before Congress entered the field." The judge also rejected the argument made by attorneys for the manufacturers that the ban violates the commerce clause of the U.S. Constitution, which reserves matters involving interstate commerce to Congress. Again citing the Clean Air Act's unique exemption of California, Levi quoted from a 1983 U.S. Supreme Court finding that when state action is specifically authorized by Congress, that action "is not subject to the commerce clause even if it interferes with interstate commerce."

An attorney for the MTBE producers said that the ruling would be appealed to the 9<sup>th</sup> U.S. Circuit Court of Appeals. Attorneys for OFA argued that Congress' grant of autonomy to California does not apply to the MTBE ban because it was enacted to protect water, not air. Levi rejected such a restrictive interpretation of the Clean Air Act as "inconsistent with the broad authority granted to California."

[http://www.capitolalert.com/news/capalert08\\_20010905.html](http://www.capitolalert.com/news/capalert08_20010905.html)

*Greenwire, September 5, 2001*

<http://www.sfgate.com/cgi-bin/article.cgi?file=/news/archive/2001/09/05/state1147EDT0066.DTL>

### **Federal Trade Commission to Investigate Unocal Clean Gas Patents**

The Federal Trade Commission has begun an investigation into whether the Unocal Corporation engaged in anti-competitive practices in developing patents for the production of cleaner-burning gasoline. The inquiry is the latest chapter in a protracted fight between Unocal, an independent oil company, and many much larger oil conglomerates about whether Unocal had the right to patent processes to make cleaner-burning fuels and whether the companies should be paying royalties on those patents. The companies, backed by a number of experts, contend that the elaborate efforts their refineries must make to avoid running afoul of Unocal's patent claims have slowed the refining process, limiting supplies of cleaner gasoline and driving up prices. Unocal strongly denies that its patents contribute to higher fuel prices.

The FTC began the investigation into Unocal after a request that ExxonMobil filed in March. So far, ExxonMobil, Chevron, Shell and other companies fighting against Unocal have lost every legal appeal to invalidate the patents. But the trade commission, should it rule against Unocal, could effectively strip the patents from the company. The dispute can be traced back to a collaboration begun in the late 1980's between the state of California and a consortium of oil companies, including Unocal, to develop guidelines for a cleaner-burning gasoline. During the process, the companies and the state determined what the pollution emissions of the fuel should be and how it should be blended. The other companies in the group, largely led by Exxon Mobil, say Unocal used the information and secretly patented the blending processes for cleaner-burning, or reformulated, gasoline. According to Exxon's filing, "Unocal subverted the standard-setting process to obtain unlawful monopoly profits." Unocal argues that the agreement governing the consortium did not compel it to tell others of their research. Unocal charges about 1.2 cents to 3.4 cents for every gallon of reformulated gasoline produced under a license to use its patent, and some refiners have contracted to get such licenses. The biggest refiners, like Exxon Mobil, now make reformulated gasoline by "blending around" the patents, which slows the refining process, crimps supplies of reformulated gasoline and drives up prices, they argue. Last year, in an investigation into high fuel prices in the Midwest, the FTC concluded that the efforts of refiners

to avoid infringing on Unocal's patents contributed to constrained supplies of reformulated gasoline in the region. A Unocal spokesman denied the patents had such an impact, and pointed to lower prices for reformulated gasoline this year as proof. "There is no evidence whatsoever," Mr. Lane said, "that our patents have had a negative impact on supply." Trade groups and industry experts dispute Unocal's view. Refineries spend more regardless of whether they blend around the patents or pay Unocal royalties on them. Should the FTC find evidence of anti-competitive practices, it has several options, a spokesman said. The commission could simply close the case and reserve the right to take action later. It could forge a consent agreement with Unocal in which the company might drop its demands for royalty payments without admitting wrongdoing. If an agreement cannot be reached, the commission could file suit against Unocal in federal court or in its own administrative law court. It could also ask the Justice Department to file suit seeking damages against Unocal. The FTC investigation could strip Unocal of the \$100 million it has made on the patents and the \$75 to \$150 million in royalties the company hoped to reap annually.

The US Supreme Court upheld the validity of the disputed patent in a February 2001 ruling (See also Spring 2001 ASTSWMO newsletter and November 2000 newsletter). Meanwhile, the US Office of Patents and Trademarks has taken the "relatively unusual" step of re-examining Unocal's patent, a process that typically takes a year to 18 months.

<http://www.nytimes.com/2001/08/15/business/15GAS.html?pagewanted=print>

<http://www.planetark.org/dailynewsstory.cfm/newsid/12118/story.htm>

<http://www.latimes.com/templates/misc/printstory.jsp?slug=la%2D000067875aug22>

Greenwire, August 15, 2001, August 22, 2001

## **UPCOMING FUEL OXYGENATE CONFERENCES**

### **Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation. Conference and Exposition**

November 13-16, 2001, Houston, Texas. Presented by American Petroleum Institute and National Ground Water Association. <http://www.ngwa.org/education>

### **12<sup>th</sup> Annual West Coast Conference on Contaminated Soils, Sediments, and Water**

March 2002, San Diego, CA. For information, call Marc Nascarella at 413-549-5561 or email at [marc@aehs.com](mailto:marc@aehs.com).

**2002 NGWA Conference on MTBE: Assessment, Remediation, and Public Policy**, June 6-7, 2002, Orange, CA . <http://www.ngwa.org/education>

### **MTBE Treatment Technology: Design and Implementation**

February 25-26, Orlando, Florida, sponsored by the National Ground Water Association. <http://www.ngwa.org/education>

## **RECENT CONFERENCES**

**NGWA National FOCUS Conference on MTBE in Ground Water and Ground Water Disinfection.** June 4-5, 2001 Baltimore Marriott Inner Harbor, Baltimore, Maryland

**In Situ and On-Site Bioremediation: The Sixth International Symposium**  
June 4-7, 2001 - Sheraton Harbor Island San Diego, California

**Sixth Canadian/American Conference on Hydrogeology**  
July 9-10, 2001, Banff, Alberta, Canada, sponsored by the National Ground Water Association.

**First International Congress on Petroleum Contaminated Soils, Sediments & Water**  
August 14-17 2001, Imperial College, London, U.K., sponsored by AEHS.

**Summer 2001 ACS Meeting: Oxygenate Remediation**  
August 26-30, 2001 Chicago, IL, ACS Environmental Chemistry Division Symposia

**MTBE Treatment Technology: Design and Implementation**  
September 11-12, 2001, San Antonio, Texas, sponsored by the National Ground Water Association.

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**Additions**

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**Mealey's MTBE and USTs Conference.** Nov. 4-5, 2002, Ritz-Carlton Hotel, Marina Del Rey, CA (Los Angeles) 1-800-MEALEYS or [www.MEALEYS.COM](http://www.MEALEYS.COM), or 610-768-0303. All about developments in litigation involving gasoline additives and underground storage tanks. CLE credits, MTBE Resource Handbook – a bound compilation of all conference speaker materials, including case studies, articles, and PowerPoint presentations. Special thanks for this issue of the MTBE and Fuel Oxygenates Newsletter:

The ASTSWMO MTBE and Fuel Oxygenates Workgroup gratefully acknowledges contributions to this newsletter from Matt Hageman, KOMEX H2O Science, and Bruce Bauman – American Petroleum Institute (API). The workgroup also thanks Pat Ellis, Fred McGarry, and Bruce Bauman, for editorial assistance provided for this issue of the newsletter.

**13<sup>th</sup> Annual West Coast Conference on Contaminated Soil, Sediment and Water.** March 17-20, 2003. Marriott Mission Valley Hotel, San Diego. Brenna Bartall 413-549-5170 or [brenna@aehs.com](mailto:brenna@aehs.com)

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**Refineries lack unity**

Chairman and CEO of Valero Energy Bill Greehey, during the keynote speech at the National Petrochemical and Refiner's Association's 100<sup>th</sup> annual meeting, stated that US refiners have done a poor job protecting their interest. He called the MTBE issue a "debacle." "Probably the single biggest travesty the federal government has wrought on our industry is the MTBE and ethanol debacle. First the government mandates that we have to put oxygenates in about 30% of the nation's gasoline. We spend hundreds of millions of dollars to comply. Now they say they want to ban MTBE and mandate ethanol. And to add insult to injury, we are now being sued for

making the product the federal government required us to make in the first place.” He stated that the refining industry does not work together effectively as an industry. But that the ethanol industry has its act together. “Not only does the US government provide them with a 53 c/gal tax subsidy that robs our state and federal highway funds of about \$1 billion each year, but the federal government has also imposed a 54c/gal tariff on ethanol imports. Now why in the world is it fair for our government to protect... ethanol interests from imports – but not US refining interests?”

Oxy-Fuel News, 4/1/02

[http://hoovnews.com/fp.asp?layout=displaynews&doc\\_id=NR200204021675.3.1\\_1b140007770a3d79](http://hoovnews.com/fp.asp?layout=displaynews&doc_id=NR200204021675.3.1_1b140007770a3d79)

### **Iowa Senator Grassley Wants to Hold California to Original Phaseout Deadline**

In April, Senator Grassley announced that he planned to introduce legislation that would force California to stick to its 2003 ban on MTBE and make the switch to ethanol. He proposed trying to amend the energy bill with S.A. 3054 “to overrule the governor of California so that they have to start using ethanol on January 1.” Governor Davis said the delay in the ban was necessary to avoid a sharp spike in gasoline prices and tight supplies in the nation’s most populous state. Grassley wants the federal government to force California to stick to its original ban date because the farming and ethanol industries have already invested about \$1.4 billion to capitalize on California’s ethanol needs. As of July 2002, the amendment appears not to have been filed.

Tallahassee Democrat 4/2/02

<http://www.tallahassee.com/mld/tallahassee/news/politics/2984986.htm>

<http://library.northernlight.com/FC20020408900000167.html?cb=0&dx=1006&sc=0#doc>

### **Ethanol tax break poses dilemma for Congress**

The Bush administration recently learned that there was a \$9 billion hole in the gas-tax revenues that states use to widen highways, build new ones, and make public transportation appealing enough to get motorists off the roads. During the energy crisis of the last 1970’s, Congress gave ethanol-based fuel – or gasohol – a tax break to make it competitive with regular gasoline and to reduce dependence on foreign oil. Today the federal tax on regular gas is 18.4 cents a gallon. The tax on ethanol is more than a nickel cheaper – 13.1 cents a gallon. The result of the MTBE phaseout is greater use of the lower-taxed gasohol, which means that less money goes into the federal highway fund. Transportation officials estimate that increased use of ethanol will result in a \$1.4 billion loss in the road funds for the fiscal year that begins this fall. Because of the resulting drop in federal revenues, Bush wants to cut nearly 30% of the transportation money that California would get next fiscal year – a loss of \$663 million. Experts estimate that if the proposed requirement to triple the amount of ethanol use by 2012 is passed, the federal highway fund would accrue \$2.6 billion less each year. Senator Feinstein will try to amend the energy bill to postpone the ethanol mandate for one year, and Senator Inhofe will try to phase out the tax break that ethanol currently enjoys. <http://www.signonsandiego.com/news/nation/20020402-1250-n47104.html>

Senate Bill S2678, introduced on June 25<sup>th</sup>, attempts to address some of the Highway Fund problem.

### **Senators from New York and California say RFS Mandate is “Anti-Consumer” and will drive up prices**

Senators from California and New York sent a “Dear Colleague” letter on March 21<sup>st</sup>, expressing concern about the renewable fuels provision that was added to the Senate Energy Bill (SB517). The bill includes a tripling in the volume of ethanol in gasoline by 2012, from the 1.7 billion gallons per year currently used to 5 billion gallons of ethanol per year by 2012, and additional increases

after that. “Consumers in every state would be forced to pay for ethanol, whether they use it or not. It is the equivalent of a new gas tax. There are a number of estimates of how much this provision would cost. We fear gas prices would rise significantly under the best circumstances and – should there be market disruptions, which are all too likely – the price of gasoline would double.”

The letter states that removing the oxygenate mandate is necessary. “There is no sound public policy reason for mandating the use of ethanol. Furthermore, this ethanol mandate will contribute to market volatility and price spikes, especially since the ethanol industry is highly concentrated within a few large firms located in the Midwest.” “And, as if creating a mandated market for ethanol were not enough, the provision also includes a “renewable fuels safe harbor” clause that gives unprecedented product liability protection against consumers and communities that seek legal redress from the manufacturers and oil companies that produce or utilize defective additives in their gasoline. This is especially troubling in that there appears to be evidence that ethanol and other additives may have environmental problems of their own.”

### **Mixed Reactions to Delay of California MTBE Ban**

There has been mixed reactions to Governor Davis’ decision to bely the California MTBE ban by a year. Some companies were happy to have another year to comply with the ban, others wanted a longer delay, and still others thought that Davis should have stuck with the original ban date. Phillips Petroleum has reduced MTBE usage in California by 80% already. “Now the delay on the MTBE ban “has forced us to re-evaluate our ability to continue with this program,” according to company spokesperson Rick Johnson. Phillips had invested millions of dollars in infrastructure to have ethanol shipped in by tanker ship and to put in equipment at its terminals to do the blending.

Kinder Morgan Energy Partners, which transports gasoline in California, was well on its way to meeting the governor’s original deadline when Davis announced the delay, said company spokesperson Rick Rainey. He said the company was modifying its terminals in accordance with the governor’s original mandate. With the ban on MTBE delayed, the company has halted its terminal upgrades. He said there’s too many variables and things up in the air to continue with the investment. He said that refineries that want to produce MTBE-free gasoline before 2004 can’t rely on Kinder Morgan’s terminals for the time being.

A spokesman for Shell Oil Products US, which operates a refinery in Bakersfield, said that If Kinder Morgan was prepared to accommodate the change from MTBE to ethanol by the end of the year, Shell would also make any necessary changes. ChevronTexaco’s intention is to meet the original deadline, however, a company spokesperson said that the fact that California uses a common distribution system for transporting petroleum products would make it difficult to meet the deadline. ChevronTexaco has spent four years preparing to meet the original deadline.

*Insert into legislative summary table:*

6/25/02 S2678 (Baucus and others) Maximum Economic Growth for America Through the Highway Trust Fund Act, or “MEGA Trust Act.” A bill to amend the Internal Revenue Code of 1986 to transfer all excise taxes imposed on alcohol fuels to the Highway Trust Fund, and for other purposes. Referred to Committee on Finance. The MTBE and Fuel Oxygenates Workgroup welcomes your assistance. To contribute information to the ASTSWMO MTBE and Fuel Oxygenates Newsletter or to participate in

workgroup discussions contact Jeff Kuhn at (406)444-5976 (Email: [jkuhn@state.mt.us](mailto:jkuhn@state.mt.us)) or Pat Ellis at (302)395-2500 (Email: [pellis@dnrec.state.de.us](mailto:pellis@dnrec.state.de.us)).