

# MAINE



## Department of Human Services Health & Environmental Testing Laboratory




### AUTUMN

### NEWSLETTER

### 1998

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<b>MORBIDITY REPORT</b>	
<u>Disease Period Covered: 1/1/98 to 11/21/98</u>	
MEASLES (RUBELLA)	0
MUMPS	0
RUBELLA	0
CRS (Congenital Rubella Syndrome)	0
DIPHTHERIA	0
TETANUS	0
PERTUSSIS	31
HIB	0

*Data derived from the Maine Bureau of Health Immunization Program, Weekly Morbidity of confirmed cases.*

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# A Statistical Perspective on Human Rabies

by: Rose Wright, Microbiologist

First “Old Yeller”, then “Cujo” frightened us enough that considerable misinformation now surrounds rabies. The fact that we are unable to cure people afflicted with the disease is most frightening. Rarely has a human being survived once symptoms appear. Typically there is an incubation period of 20 days to three months where the patient experiences no symptoms. Then the clinical course begins with fatigue, malaise, headache, fever much like a typical flu-like illness. Often pain may be present at the site of exposure. Two to ten days later symptoms may include hyperactivity, disorientation, swallowing muscle spasms, bizarre behavior or paralysis. Coma may follow lasting for days or months. The patient usually dies from respiratory arrest. No wonder we panic if we think we may have been exposed to rabies.

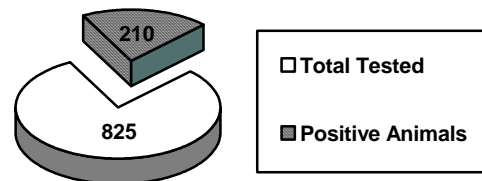
Since 1990, in the United States, there have been 26 cases of human rabies despite the thousands of infected animals annually. Five of the 26 cases were due to dog rabies and acquired outside of the United States. It is important to remember that human rabies is a greater threat in developing countries. Developing countries do not have the economic resources to maintain a vaccination program such as that in the United States. People traveling to underdeveloped countries should consider preexposure treatment because post exposure vaccinations may not be readily available in these countries. Twenty-one cases of human rabies were acquired within the United States. Two of those twenty-one cases were due to canine rabies in Texas (near Mexico) and nineteen were due to the bat strain. Some people who died from the bat strain recalled seemingly insignificant or no contact with bats. Bats are an important asset to the environment and must not be destroyed indiscriminately. Do not allow them to roost in attics--if they can enter an attic they can probably get into living areas as well. Release a bat that has entered a home only if contact (bite or scratch) with people or pets can positively be excluded. Capture and test bats when contact cannot be excluded. Consider that contact may have occurred while you were sleeping. Although bats are the most common vector associated with human rabies, raccoons are the most predominant animal infected with the disease in the United States. To date, no documented case of human rabies has been attributed to the Mid-Atlantic strain of raccoon rabies. Skunks, bats, and foxes in that order are the next most common infected animals. Dogs and cats are less susceptible and frequently vaccinated so they rarely develop rabies. Humans are also less susceptible. Rodents (chipmunks, squirrels, mice, and rats) and lagomorphs (rabbits) are the most resistant to the virus. The rabies virus infects mammals and the overwhelming number of human rabies cases (>25,000/year) are due to domestic dogs in developing countries

Rules to further reduce the risk of human infection:

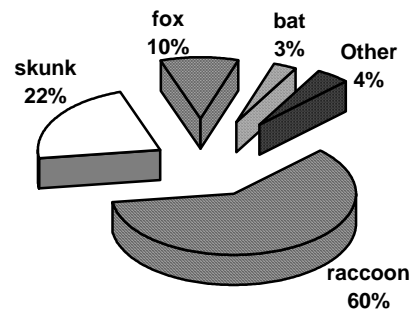
1. Avoid any animal wild or domestic that is sick or behaving oddly. Wear gloves when handling a sick pet.
2. Immediately wash bite or scratch wounds thoroughly for ten minutes with soap and water. There is a relationship between the amount of virus introduced into the body and the likelihood of infection.
3. Capture the animal that bites or scratches. Submit wild animals for testing. Cats, dogs, and ferrets that appear healthy are quarantined for 10 days. Studies show that if the dog, cat, or ferret was infectious at the time of the bite they will show signs of rabies within 3 - 7 days. The use of the ten day quarantine period represents a doubling of the time period in which virus could be present in saliva prior to clinical onset as a safety factor.
4. Boost vaccinated animals exposed to a rabid animal and quarantine for 45 days. Though it is unlikely that a fully vaccinated animal will develop rabies after an exposure, no vaccine is 100% effective.
5. Euthanize or quarantine for six months unvaccinated animals exposed to a rabid animal. Vaccinate the animal on the fifth month (unless it was euthanized). The reason for not vaccinating the animal immediately is because the vaccination may delay the onset of symptoms.

Rabies is in Maine and it is a deadly disease but with common sense the probability of human infection is unlikely. The last known case of human rabies in Maine occurred over sixty years ago in 1934.

Jan 1 - Sept 30, 1998



Breakdown of Rabies Positive Animals (by percentage)



# Hepatitis C Virus Seroprevalence Summary

*by: Lori A. Webber, Microbiologist*

HIV seroprevalence samples from Maine STD clinics were collected September 1997 through April 1998 for research Hepatitis C virus (HCV) testing. There was a total of 584 specimens tested for HCV by enzyme immunoassay (EIA). Those specimens that had a reactive EIA were repeated in duplicate. Only 18 of the total number of sera tested were repeatedly reactive for a EIA reactivity rate of 3%. The reactive samples were sent to the Centers for Disease Control in Atlanta, Georgia for confirmation by recombinant immunoblot assay (RIBA) testing. The results of the supplemental testing is summarized by the following chart:

HETL HIV NUMBER	HETL HCV EIA RESULT	HCV CONFIRMATION RESULT FROM CDC	HCV RIBA FROM CDC
97M-HIV-11706	DETECTED	POSITIVE	
97M-HIV-11851	DETECTED	INDETERMINATE	POSITIVE
97M-HIV-11930	DETECTED	INDETERMINATE	INDETERMINATE
97M-HIV-12319	DETECTED	INDETERMINATE	INDETERMINATE
97M-HIV-12520	DETECTED	POSITIVE	
97M-HIV-13048	DETECTED	INDETERMINATE	NEGATIVE
97M-HIV-13263	DETECTED	POSITIVE	
97M-HIV-13634	DETECTED	POSITIVE	
97M-HIV-14733	DETECTED	INDETERMINATE	POSITIVE
97M-HIV-15623	DETECTED	POSITIVE	
98M-HIV-01342	DETECTED	POSITIVE	
98M-HIV-01390	DETECTED	POSITIVE	
98M-HIV-02662	DETECTED	POSITIVE	
98M-HIV-02735	DETECTED	POSITIVE	
98M-HIV-03105	DETECTED	POSITIVE	
98M-HIV-04313	DETECTED	POSITIVE	
98M-HIV-04438	DETECTED	POSITIVE	
98M-HIV-04442	DETECTED	POSITIVE	

According to the results received from CDC, the EIA test confirmed 13 samples as being true positives without further testing. Of the remaining five specimens, the EIA optical density (OD) reading for each is as follows:

HIV#	1st OD Reading	Cutoff	Repeat OD Readings	Cutoff	HCV Confirmation	RIBA Results
97M-11851	>2.2	0.420	>2.2 / >2.2	0.459	Indeterminate	Positive
97M-11930	0.757	0.420	0.763 / 1.021	0.459	Indeterminate	Indeterminate
97M-12319	0.666	0.459	0.640 / 0.602	0.405	Indeterminate	Indeterminate
97M-13048	0.555	0.405	0.528 / 0.590	0.449	Indeterminate	Negative
97M-14733	>2.2	0.449	>2.2 / >2.2	0.441	Indeterminate	Positive

Samples that tested indeterminate by the initial supplemental confirmation testing were further tested by the RIBA method. RIBA is a strip immunoassay that distinguishes specific HCV antibody from nonspecific reactivity. The first and last samples on the list were actual positives based on the RIBA results. That brings the total number of positives to 15 out of the 18 sent to CDC for confirmation. Sample 97M-13048 is a true negative. The remaining two are unresolved. This brings the overall reactivity rate to 2.6% for Hepatitis C virus in the seroprevalence population.



# Free Testing

The Epidemiology Program, Division of Disease Control, Bureau of Health encourages all clinical laboratories to screen all stool samples from patients with bloody diarrhea for E. coli 0157:H7. It is requested that all M-Sorbitol (SMAC) negative isolates that have been biochemically confirmed and tested positive for 0157 antigen be submitted to the Bacteriology laboratory for H7 antigen testing. These isolates are also routinely tested by Pulsed Field Gel Electrophoresis (PFGE). This was especially useful during this past summer in the investigation of several clusters. All salmonella isolates should also be submitted for serotyping. In addition, all isolates of Neisseria meningitidis and Haemophilus influenzae from sterile sites such as blood and spinal fluid should also be sent for typing. PFGE testing of these additional bacterial species may also be performed if warranted. Submitting single isolates of these bacterial species is very important. These are investigated epidemiologically in an attempt to find the source and prevent further spread within the community. The Epidemiology Program will cover the costs associated with the confirmatory and serologic testing of these organisms.

## Drinking Water Inorganics and Microbiology

*by: Richard French, Supervisor*

This has been a very busy summer with a number of changes that affected all of us. One such change was in the way the US Postal Service was processing priority mail. This is important to the water industry, since most water compliance samples are sent by mail, with the majority including bacteria samples that have a holding time of 30 hours. Although the change allowed priority mail to be delivered anywhere in the country within two days, this added a day to the average delivery time in Maine of 24 to 30 hours statewide, making it impossible to meet the 30 hour holding time. After a number of meetings with the postal service, it was agreed that the water samples with specially designated labels would be processed in Maine and delivered to the labs within the 30 hour holding time in most cases. In order for you sample to arrive at a lab within 30 hours, the following guidelines should be followed:

1. Check with the local post office to find out the time the mail is picked up each day.
2. Take your sample and mail it as close to the pick up time as possible.
3. Use the enclosed specially marked return address label (this is different for other laboratories, the HETL label has a red bar).
4. Make sure that the water samples are sent first class only, not by priority mail which will be processed "out-of-

state". There should not be any priority stickers on the box.

If by chance you follow these guidelines and your sample arrives too late, you will be sent a replacement sample with a postage free label. Please use this label to return your sample and the postage will be picked up by HETL. If you do not receive this label in your replacement kit, please call the laboratory at 287-1716 and a label will be sent to you.

There has been some confusion in the way you have been sent your annual compliance testing kits for coliform bacteria and nitrate nitrogen. In the past, you were sent a TSA kit for this testing which was tested for coliform bacteria, nitrate nitrogen, and nitrite nitrogen. Now you will be sent a TG1 for bacteria and a TSH,NO<sub>3</sub>N for the annual nitrate nitrogen test. This is due to the way the compliance programs are set up at Health Engineering. If when you receive these kits and you have received that same year a TE1 or TE2 test, you do not have to test for nitrate nitrogen again, unless you are treating for it. The best rule for compliance samples is to send in all of the samples sent to you. About 99% of the time the testing is necessary for compliance. If in doubt about a water sample, please call the HETL at 287-1716 or the Division of Health Engineering at 287-2070. We will be glad to answer your questions.

Complain, Complain and Complain again!!! Yes, we are asking for, and want to hear your complaints. We want to provide you with the best laboratory service possible. Your ideas and suggestions can help us do that. Shortly, the public water supplies will be receiving a questionnaire included with the monthly samples. Please take the time to fill it out and return it with your samples. The surveys will be compiled and used to improve the laboratory service to you.



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## The Heterotrophic Plate Count

*by: John Chandler*

The heterotrophic plate count (HPC) is a technique used to enumerate aerobic and facultative aerobic bacteria capable of growing on the simple carbohydrates, amino acids, and peptids found in most HPC media. Generally, membrane filters incubated on R2A agar at 20 to 28°C for 5 to 7 days will give the highest counts (Standard Methods # 9215D).

The HPC has been a valuable test that water systems operators can use to monitor the effectiveness of treatment, and the

growth of bacteria in distribution lines and storage tanks. Problems with treatment and physical-chemical changes in the distribution system can lead to sporadic occurrences of coliform bacteria. Increases in the HPC may serve as an early warning and allow operators to take action to avoid coliform occurrences.

As an example, the Presque Isle Water District (PIWD) had experienced problems with coliforms during the late summer and early autumn of past years. In October 1997, PIWD began testing for HPC in the finished water at the treatment plant and at three sites ( City Hall, Grants, and Leisure Gardens ) in the distribution system. Every month four samples were mailed to the Health and Environmental Testing Lab (HETL) for analysis. Samples were packed in an insulated box with two cold packs and the temperature of at least one sample was checked upon receipt at HETL. Temperatures ranged between 6 to 14°C. Samples were analyzed within 30 hours of collection using method 9215D. The following table shows the HPC results after incubation for 7 days at 28°C:

Month	City Hall	Grants	Leisure Gardens	Treatment Plant
	HPC/ml	HPC/ml	HPC/ml	HPC/ml
<b>OCT 97</b>	160	2	47	0
<b>NOV 97</b>	52	78	16	0
<b>DEC 97</b>	41	1	6	0
<b>JAN 98</b>	5	6	17	1
<b>FEB 98</b>	95	6	41	0
<b>MAR 98</b>	14	3	45	0
<b>APR 98</b>	44	2	46	0
<b>MAY 98</b>	33	6	5	2
<b>JUNE 98</b>	88	10	43	0
<b>JULY 98</b>	790	14000	17000	440
<b>AUG 98</b>	79	520	86	2
<b>SEPT 98</b>	200	200	5	1

PIWD responded to the high counts in July and August by rechlorinating a storage tank supplying Leisure Gardens and bypassing a another storage tank supplying Grants. So far PIWD has had no occurrence of coliform bacteria in 1998.

If you are interested in testing for HPC, please contact John Chandler at HETL.

## Notes from the Organics Section: Why are There so Many Test Codes for Organics???

There are four main analytical classes of organic compounds. The first three classes of compounds are based on boiling points. The lowest boiling compounds are the volatiles (boiling points from below room temperature to about 220 deg C., the next range is the Semivolatiles (with boiling points from about 180 deg C. to 340 deg C and beyond), and the final range is the Nonvolatiles which can't be chromatographed by gas chromatography and are not included in our testing procedures. . The fourth class contains compounds that are very soluble in water and are called

intractables. Methanol and ethylene glycol are in the intractable class.

There are two main classes of compounds (Volatiles and Semivolatiles) that we test for in the organic section of HETL , therefore why are 11 test codes for drinking water and 34 additional test codes for the Department of Environmental protection ? For each set of compounds that we analyze for EPA has many options that can be used. The HETL laboratory uses one set of procedures for each class from each major category . The fuel oil and gasoline procedures were set up by the State of Maine in corporation with several private labs. The state regulates these procedures. The hydrocarbon methods are bases on Wisconsin and the American Petroleum Institute ( API) methods.

The three major EPA programs that have different procedures for the same group of compounds are the Drinking Water Program, the Surface and Wastewater Programs , and the Solid Waste Program.

Each program has a slightly different procedure and a different list of compounds. When you receive your results EPA's method is listed in the first line under the analysis description .

If you are having your water tested for the drinking water program your test codes will be in the 500 series. e.g. TS504 is our test code for the EPA's method 504 for EDB (ethylene dibromide -which has been discontinued as a pesticide and gasoline scavenger for lead ). This is a test that was developed for the drinking water program to detect EDB at extremely low levels. This method uses GC/ECD which extremely sensitive to compounds with two bromines in the molecule. The Organic Section has received many calls about this analysis. The reason that this test was added late in the round of drinking water testing was because DHE thought that the state had a waiver for this test for all water supplies. Later DHE was informed that groundwater supplies were not exempt.

The other two EPA series that we use are the 600 series for Wastewater and Surface Waters and the 8000 series for the Solid Waste procedures. For the volatile procedure there are three sets of EPA procedures we use method 524.2 for drinking water , method 624 for Wastewater and method 8260 for solid waste sites. EPA has considered combining these methods into one series, but there hasn't been any progress in this area that we have been informed of.

**Note: Method 8260 can be used for waters, solids and neat products at solid waste sites.**

Some other reasons for having other test codes is the need to lower detection limits for compounds such as pesticides and PCB's. One example of this for the drinking water program is the TSO and TCP tests that are performed on the same extract. Some of the compounds must be analyzed by GC/ECD which has a high sensitivity for halogenated compounds (compounds containing chlorine or bromine). The ECD doesn't see the other compounds , therefore the samples also have to be analyzed on the GC/MS. Other reasons for choosing different tests are based on the cost of the analysis. Some compounds

decompose or don't chromatograph through a GC system because of the temperatures involved. These compounds have to be analyzed by Liquid chromatography where the water is injected directly into the system with no heating. The carbamates analyzed in test TQ3 are analyzed by liquid chromatography.

Most of our test codes do not include the EPA number in the code. The test codes that were developed in the past were named by two different procedures. Those named at DEP were given letters that generally reflected the test that was performed. e.g. ABNW stands for acid/base /neutrals in water. These tests are performed by method 8270. There is another test for wastewater with the code ABN625 which gives EPA's number in the test code. The original codes from the old Public health lab begin with TS which stands for test and the M was chosen as the next unused letter when the test codes were made up.

The laboratory hasn't been consistent in its naming of new procedures. The test code for fuel oil in water was changed from FOW (fuel oil in water) to DROW(diesel range organics in water) when the procedure was updated. The test code for gasoline (TSM) wasn't changed because we thought it might lead to confusion. This was OK until recently when some requests have been sent in for GROW . TSM is still the test code for gasoline in water. Changing all test codes to the same format would seem to be a good idea, but there are many items related to the changes that can't easily be changed.

**Most drinking water procedures don't list all of the results on the report sheet, but list the compounds analyzed for on the attached sheet. The lab will be adding the MCL's and MEG's to attached sheets after checking with the state toxicologist to be sure that all the MEG's have the correct current value. The attachment to the TSN test currently lists the MCLs, but only lists the MEG for MTBE. The other MEG's will be added soon.**

## **Lab Certification and Improvement Program news**

*by: Mike Sodano, Program Supervisor*

### **Price Changes**

The HETL has completed the rulemaking process on revising its fee structure and test menu. Generally where increases have occurred, they have been modest and in some cases prices have been lowered. The anticipated effective date is 10/9/98. Overall these changes will:

- Add the Congenital Adrenal Hyperplasia (CAH) test to the newborn screening panel to be consistent with a rule change of the Newborn Screening Program as recommended by the Newborn Screening Advisory Committee and adjust the fee to cover the additional cost.
- Revise the test listings to eliminate redundancies and inconsistencies.
- Add new specific methodologies, diagnostic and environmental tests as mandated by state and federal

laws/regulations and establish specific fees to cover these costs.

- Retain the existing hourly rate for testing services.
- Adjust some other fees upward or downward to reflect costs and changes in methodologies.

### **Drinking Water Reporting**

The Drinking Water Program, Division of Health Engineering is in the preliminary stages of revising its reporting requirements. The intent is to establish a standardized reporting format with a goal towards electronic reporting. Ultimately the labs, the water supplies and the Program will benefit because chains of custody, demographic information required and the lab reporting format will all be standardized. Thus, avoiding the need for unnecessary re-sampling and reducing the number of unacceptable reports rejected by the Drinking Water Program.

### **Bathing Beaches**

The Division of Health Engineering in concert with the Division of Disease Control is looking into establishing rules to regulate bathing beaches. They will be based upon the Bathing Beach Water Quality Guidelines distributed last July. The intent is to define public bathing beaches, set water quality & analytical standards and establish notification/enforcement policy when water quality standards are exceeded.

## **Environmental Lead Service**

*by: Mike Corbin*

The Health and Environmental Testing Laboratory (HETL) is currently the only Maine lab that is both nationally accredited by ELAP and certified in Maine for Lead testing under Chapter 424 rules. Up until now, the HETL's analytical capability has been limited to low volume work mostly for governmental clients and as a reference laboratory. The HETL has received many inquiries regarding its ability to perform lead testing in conjunction with DEP Chapter 424 Lead Management Regulations. The HETL would like to provide the people of Maine with a low cost analytical service, **a full service instate laboratory** capable of analyzing lead in all media (water, air, soil, air filters, paint, and wipes). This is in accordance with our mission statement to provide improved analytical capability for analysis of contaminants impacting public health.

The purpose of this article is to inform people of the HETL's proposal to increase its high quality analytical capability, to reduce the cost of the test, and at the same time, reduce the current turn-around time. The following changes took effect on July 1, 1998. We would very much appreciate any feedback that you might give.

- Within 48 hours of receipt of sample as a preliminary written report could be available (for fax or e-mail) that contains the inspector's sample number, dates (sample date received date analysis date), HETL sample number, sample information needed for calculations and the

analytical result. Results would be organized, sorted, by a project identifier, so that all the samples of a particular project will have their results reported together.

- Samples can be received by the lab between 7:00am and 5:00pm. A drop off box will be available outside the lab for drop off of samples when the lab is closed. Maine Delivery Service offers pick up and delivery from around 400 locations in Maine. For \$3.50/week they will make a stop every day at a predetermined location
- The final report will include all demographic and descriptive information provided with the chain of custody and an invoice. These reports will be sent shortly after the additional data entry has taken place, typically several days.

You may send your comments to  
[mike.c.corbin@state.me.us](mailto:mike.c.corbin@state.me.us).

## **New Efforts to Improve Surveillance of Disease in Maine**

*by: Jack Krueger, Chief, HETL*

The State Public Health and Environmental Testing Laboratory is embarking on a plan to increase its presence and effectiveness as a sentinel to combat emerging infectious diseases. Dr. Joseph McDade aptly states that "Infectious disease surveillance data are invaluable commodities in the continuing battle against infectious diseases" Surveillance Data includes incident rates for different diseases, prevalence and distribution among different populations, and incipient trends.

This surveillance information is necessary for:

1. Assessments of the microorganisms in vectors, water, food and other environmental sources
2. Determining the antigenic composition of pathogenic agents (i.e. influenza virus, targeted for vaccine development)
3. Assessing antimicrobial resistance patterns of locally circulating strains of bacteria
4. Comparing the sensitivity, specificity, and reliability of available diagnostic techniques
5. Identifying subtypes of etiologic agents by molecular techniques is useful in determining the epidemiology of disease outbreaks, including infection source and appropriate interventions.

There are major problems in data acquisition. These include conflicts between cost containment efforts in administering health care and the need for essential laboratory data, a misperception that public and private sector laboratories compete and duplicate efforts, and a lack of a well defined national laboratory data base.

Short Term Goals to improve Public Health Microbiology Surveillance include:

1. Provide reporting of even negative results, with necessary data to identify patient's sex, age, cause for evaluation, race, and demographics.

2. Provide representative isolates of etiologic agents to public health authorities for confirmation and subtyping
3. Begin with a few selected diseases and submit laboratory data to a central database.

The HETL is working with Dr. Gensheimer, the State Epidemiologist, to develop a working laboratory advisory group to better establish a partnering mechanism with other laboratories. This partnering is necessary if data is to be collected and used to protect our state from emerging infectious diseases. Already, a group is forming in Maine to plan capabilities in the event of an epidemic. Future laboratory concerns could include food safety, environmental biomonitoring and preparedness for bioterrorism. Laboratory managers interested in working with the HETL towards these goals should contact Jack Krueger at the HETL.

## **Forensic Chemistry**

*by: Chris Montagna, Forensic Chemistry Supervisor*

For the past year the Forensic Chemistry Section has undertaken tremendous strides in the revitalization of its Controlled Substances Analysis Unit. The process included: a change in its management team, the institution of major facility improvements and several policy changes. The result of these actions increase the agency's ability to provide timely and quality analysis of solid dose drugs.

In mid-July, Christopher Montagna was hired as the Forensic Section Supervisor. With the assistance of the Chemistry staff, the section reorganized work space, improved evidence tracking capabilities and analytical procedures.

To insure the quality of service, the laboratory initiated a program involving independent agents and the new section supervisor to conduct comprehensive assessments of the facility and analytical procedures. This program included an assessment of the unit by a retired DEA analyst/supervisor with more than 35 years of experience in the area of solid dose drug testing. The inspector conducted an in-depth review of the entire drug analysis operation. The process included the review of procedures, evidence integrity and personnel qualifications. A written assessment confirmed the laboratory's ability to provide scientifically and legally acceptable analyses of controlled substances.

The HETL's Forensic Chemistry Section plans to further strengthen the section's operation by obtaining accreditation through the American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD-LAB). The laboratory plans to seek accreditation in early 1999.

The experiences over the past year provided the HETL with a unique insight into the changing environment of the forensic sciences. Extensive internal and external assessments made us aware of the higher standards established for all forensic laboratories. The actions taken by the HETL demonstrate the management team's commitment to meeting the challenges set forth in the forensic profession. With their assistance, the

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## Excerpts derived from “Overview of MTBE Study and plan of Action”

This document can be found in *complete form* at the Bureau of Health Web page in .pdf format.  
<http://www.state.me.us/dhs/boh>

### Study of Private Water supplies

- MTBE was detected in 150, or 15.8%, of the 951 samples private water supplies.
- 1.1% of the sampled waters showed levels of MTBE above 35 ppb. Extrapolated to statewide data, this represents an estimated 1000-4300 private wells in Maine with these levels.
- 92.3% of the sampled waters showed either MTBE levels that were not detectable or below 1ppb, and 6.6% were between 1ppb and 35 ppb.
- Compared to MTBE, very few water samples detected other gasoline components, and levels of BTEX compounds detected were well below health-based standards.
- Assessed factors which were found *not* to be associated with MTBE detection included: recollection on a questionnaire of a notice in odor or taste, recollection on a questionnaire of a recent nearby gasoline spill, type of water supply, and proximity to gasoline storage tanks(such as a gas station)
- Location of the water supply in counties with required RFG use as well as with population density were both associated with detectable MTBE levels. Since RFG use is often required in places of high population density, these two factors are difficult to tease apart from each other. However, further data analysis shows that both seem to be separate risk factors.

### Study of Public Water Supplies:

- MTBE was detected in 125, or 16% of the 793 tested public water supplies.
- No samples were found to have MTBE levels above 35ppb.
- 93.9% of the samples showed levels that were either not detectable or below 1ppb; and 6.1% were between 1ppb and 35ppb
- Toluene was found in 13.1% of public water supplies - higher than seen in private water samples. However, concentrations of toluene were quite low, mostly less than 1ppb and well below the drinking water standard of 1000pb. With this exception of toluene, very few public water supplies detected BTEX compounds compared with MTBE.
- Assessed factors that were found *not* to be associated with MTBE detection included: type of well or water supply and proximity to gasoline storage tank.
- Type of water use establishment was found to be associated with MTBE detection. Public water supplies that were businesses or mobile home parks were about twice as likely to have detectable levels of MTBE as compared with community and school water supplies.
- Location of the water supply in counties with required RFG use as well as with high population density were both associated with detectable levels of MTBE. Population density itself was a significant risk factor within areas where RFG use was required. However, unlike the private water data, population density was not a significant risk factor in areas where RFG is not required.

### **What is this proposed alternative fuel, and what is its toxicity?**

This proposed alternative fuel is made up of conventional fuel but with lower volatility (lower Reid Vapor Pressure, or RVP), lower sulfur content, and with a limit on the amount of benzene comparable to RFG. This fuel both reduces the amount of MTBE in Maine as well as continues Maine’s achievements in cleaning our air. Since its constituents are the same as conventional gasoline, its toxicity as a liquid is the same.

### **How will the proposed alternative fuel be supplied to Maine? Will it be widely available?**

We have received assurances from some suppliers that this alternative fuel can be produced and delivered to Maine without a significant access or market problem. Several other states such as Alabama use similar alternative fuels and do not have access or market problems. However, information will be gathered during the rule-making process on steps to ensure a smooth transition in a reasonable time frame. This proposed alternative fuel would be for use in the summer as out alternative to RFG, probably primarily required for Maine’s seven southern counties. Since there are cold weather



performance issues associated with it because of its low volatility, conventional gasoline is proposed for use during the winter months for now.



**MAINE PUBLIC HEALTH AND ENVIRONMENTAL  
TESTING LABORATORY  
DEPARTMENT OF HUMAN SERVICES**



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E-Mail RICHARD.FRENCH@STATE.ME.US

**PLEASE COMPLAIN!**

Yes, you read this right. The HETL really needs to know what you think of our service. The scientists and staff that provide your analyses are trying hard to modernize and improve our product. This laboratory wishes to provide for you the most up to date, cost efficient methods of analysis available, with courteous service, reasonable turnaround times, and clear/accurate reports. As part of a **Total Quality Management Plan**, the HETL is in the process of reorganizing many of our functions: some staff are going to lead new areas, some new computer capabilities have been added, and some sections have seen a physical face lift. To help fund some of these changes, we had to increase the costs of a few tests to adjust for inflation, since there has been no increase in several years. **We need to know if our changes have been worthwhile.**

Because we are looking for ways to improve the delivery of our service, please **COMPLAIN**; let us know whether our program is meeting your needs. **Please share this COMPLAINT REQUEST with your co-workers and take a minute or two to LET US KNOW.** You need not include your name, but if you have specific questions that you would like addressed, include your name, daytime telephone number, and time that it would be best to reach you and we will give you a call.

**Send comments by FAX, phone, or e-mail to addresses listed above, or write them into the comments card included with this newsletter.**

Richard French, Quality Assurance Officer, HETL (**COMPLAINT DEPARTMENT!**)



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**Please fill out this short questionnaire, cut this half of the page off (along the dotted line) and drop into any mailbox**

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**All suggestions, questions, comments welcome!!!** - Please write comments in space below:

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