ALASKA LEGISLATURE COMMITTEE FILES 1997-1998 8672
9639 SENATE LABOR & COMMERCE

(115) "tank tightness test" means a leak detection method capable of detecting a leak rate of at least 0.1 gallons per hour in any part of a UST that routinely contains petroleum, including associated piping, while accounting for the effects of thermal expansion or contraction of the petroleum, vapor pockets, tank deformation, evaporation, condensation, and the location of the water table;

(116) "temporary closure" means closure of a UST for no more than 12 months, with no petroleum added to or removed from the UST during that time;

(117) "test" means to perform a tank tightness test or a cathodic protection test;

(118) "underground area," as that term is used in the definition of "underground storage tank" in AS 46.03.450, means an underground room such as a basement, cellar, shaft, or vault that provides enough space for physical inspection of the exterior of the UST located on or above the surface of the floor;

(119) "underground storage tank" has the meaning given in AS 46.03.450;

(120) "underground petroleum storage tank system" and "underground storage tank system" have the meaning given to "underground petroleum storage tank system" in AS 46.03.450;

(121) "upgrade" or "upgrading" have the meaning given to "upgrading" in AS 46.03.430(d)(2);

(122) "UST" means an underground storage tank or an underground storage tank system;

(123) "*UST Procedures Manual*" means the department's procedures manual adopted by reference in 18 AAC 78.090(d);

(124) "vadose zone" means the ground layer beneath the topsoil and overlying the water table in which water in pore spaces coexists with air or in which geological matter is unsaturated;

(125) "vault" means an enclosure that

(A) is liquid tight, vapor tight, and without backfill inside;

(B) is reinforced with concrete at least six inches thick on the sides, top, and bottom of the enclosure;

(C) has openings for inspection through the top only;

(D) has tank connections piped or closed so that neither vapors nor liquid can escape into the enclosure; and

(E) permits portable equipment to discharge to the outside vapors that may accumulate should leakage occur;

(126) "wastewater collection system" is defined within the definition of "storm water or waste water collection system" in this section; and

(127) "wastewater treatment tank" means a UST designed to receive and treat an influent wastewater through physical, chemical, or biological methods. (Eff. 3/25//91, Register 118; am 8/21/91, Register 119; am 1/27/94, Register 129; am 6/23/94, Register 130; am 8/4/94, Register 131; am 11/3/95, Register 136; am ___/___/97, Register ____)

Authority: AS 44.46.020
AS 44.46.025
AS 46.03.020
AS 46.03.050
AS 46.03.070
AS 46.03.360
AS 46.03.365
AS 46.03.375
AS 46.03.415
AS 46.03.420
AS 46.03.430
AS 46.03.740
AS 46.03.758
Sec. 7, ch. 96, SLA 1990

Editor's note: A listing of sources for nationally-recognized codes of practice, as that term is defined in 18 AAC 78.095, may be found in the editor's note following 18 AAC 78.025.

STORAGE TANK PROGRAM

Annual Update

January 1997

Underground Storage Tanks (UST)

Total tanks = 7216

There are 2362 tanks still in use, and 4854 tanks which have closed (Chart 1)

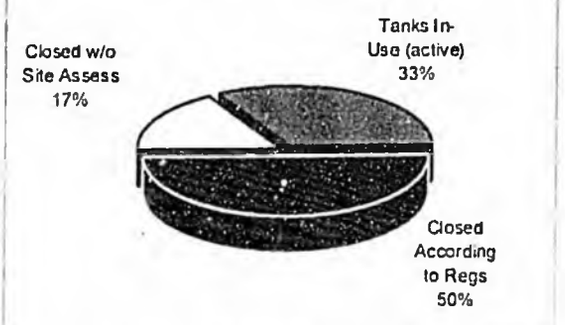
Tanks Status (Chart 1)

Tanks In-Use	2362
Tanks Closed	4854
Total Tanks	**7216**

Closed tanks include:

- √ Tanks closed with a site assessment according to State regulations,
- √ Tanks closed without a site assessment
- √ Tanks in the process of closing - but which have not submitted post closure notification that a site assessment has been completed
- √ Tanks closed prior to implementation of State regulations
- √ Tanks Temporarily Out of Service - (closed for 12 months or less according to State regulations).

CHART 1 - Tank Status
January 1997



UST Tank Protection

Active Tanks = 2362

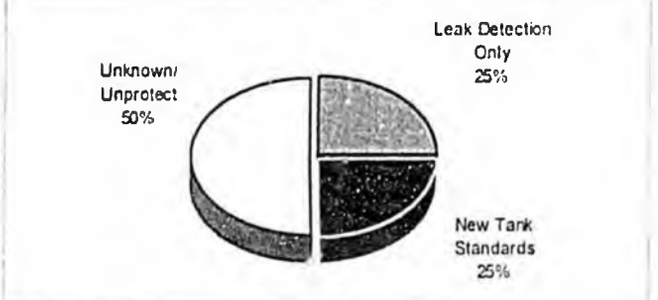
Tank Protection (Chart 2)

Tanks with Leak Detection Only	589
Tanks Meeting New Tank Standards	585
Unprotected Tanks	1188
Total	**2362**

Tanks with "leak detection only" are in compliance until 12/98 when all tanks must meet "new tank standards."

New tank standards = leak detection, corrosion protection and spill/overfill protection

CHART 2 - Tank Protection Status
January 1997



Cleanup of Leaking Tanks

There are a total of 1302 leaking underground storage tank sites in Alaska. Of those, 544 sites have been cleaned.

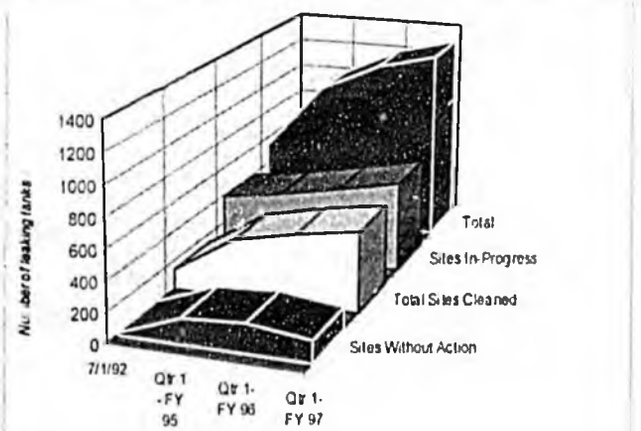
The number of leaking tanks identified in the past 4 years has increased by 691 and the total number of sites cleaned has increased by 384.

Cleanup of LUST Sites (Chart 3)

Total Sites Cleaned	544
Sites in Progress	612
Sites Without Action	146
Total Leaking Tank Sites Identified*	**1302**

*As more tanks are closed and upgraded, additional leaking tanks sites will be identified.
Note: All numbers are cumulative

CHART 3 - Status of Leaking Tank Sites
January 1997



UST Financial Assistance Program

Approximately $20.9 million has been appropriated for financial assistance grants and loans since program inception. Requests for financial assistance during that time have been over $80 million. (Table 1 and Chart 6)

Approximately $18.7 million in grants and loans have been awarded since 1991.

TABLE 1
Financial Assistance Summary FY 91-FY 96*

	TT/SA		Cleanup		Upgrade		Closure		Reimbursement		TOTAL	
Dollars are in Thousands	*Number*	*Dollars*	*Number*	*Dollars*	*Number*	*Dollars*	*Number*	*Dollars*	*Number*	*Dollars*	*Number*	*Dollars*
Applications Received	416	$362.5	502	$57,434.9	302	$12,254.5	612	$6,756.8	158	$3,388.4	1990	$80,197.1
Grants & Loans Issued	286	$210.7	143	$13,608.3	79	$3,484.8	180	$1,368.2	0	$.0	688	$18,672.0
Anticipated FY 97 Grants	0	$.0	15	$1,593.7	6	$339.8	30	$297.5	0	$.0	51	$2,231.0
Waiting for Funds	0	$.0	234	$29,111.7	184	$7,425.9	331	$4,183.7	156	$3,388.4	907	$44,109.7
New FY 98 Applications	0	$.0	19	$2,386.7	0	$.0	0	$.0			19	$2,386.7
Continuation Cleanup Funding	0	$.0	27	$1,838.6							27	$1,838.6
Ineligible or Withdrawn	130	$151.9	64	$8,895.9	33	$1,004.0	71	$907.4			296	$10,959.2

*Numbers are cumulative

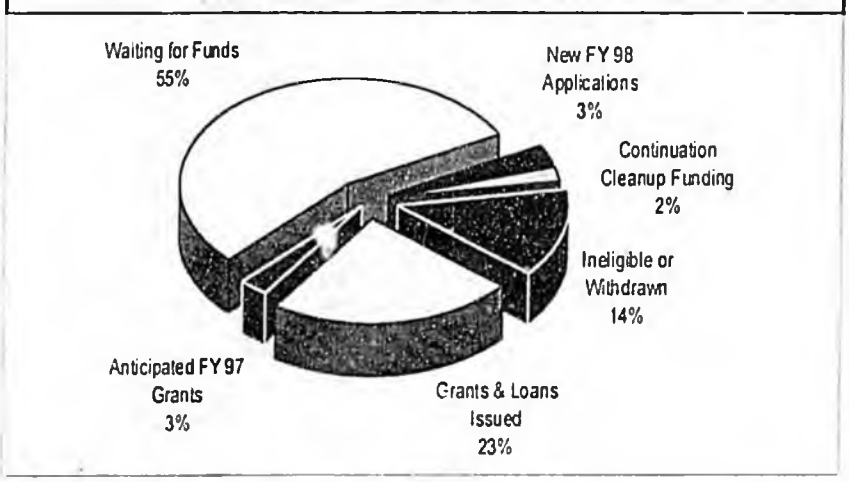
Grant and Loan Appropriations
1991-1997 $20,900,000

Requests Received: $80,197,100

Unfunded Requests: $48,334,915

Ineligible/Withdrawn: $10,959,200

CHART 4
Financial Assistance Summary FY 91 - FY 96*



* Based on total dollars

Aboveground Storage Tanks (AST)

Estimated costs to upgrade and repair existing facilities exceeds $200 million.

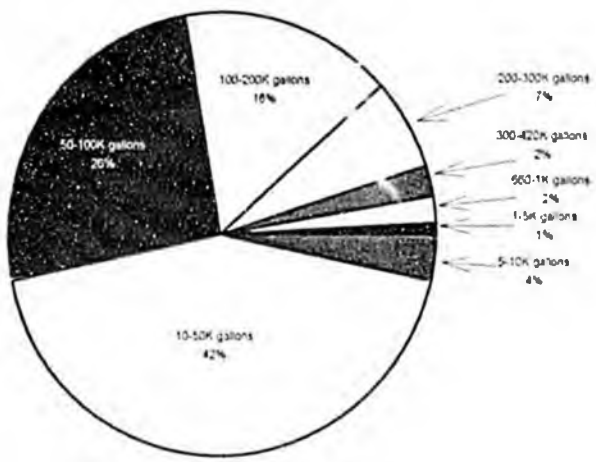
Most owners and operators do not have the financial means, knowledge or training to repair, upgrade, consolidate, operate and maintain their AST facilities in a safe manner.

Many tanks are located in remote areas where fuel delivery is limited to once or twice a year.

Aboveground Tank Facilities
The Department is in the process of collecting data about aboveground tanks and developing an AST program to include notification, operator training, and financial assistance.

ASTs with a capacity of under 420,000 gallons are currently unregulated. The Department is working with tank owners and the public to determine whether these smaller tanks should be regulated, and to identify what size tanks, and what types of facilities would qualify for operator training and technical and financial assistance.

CHART 5 - Aboveground Tanks by Capacity
January 1997



Estimated number of facilities = 2000

Storage Tank Program - Division of Spill Prevention and Response
Department of Environmental Conservation
January 1997

ALASKA UNDERGROUND

Winter 1997

A Newsletter for Alaska Storage Tank Owners, Operators and Contractors

ALASKA UNDERGROUND
Volume 6, Number 1

Editor - Karen Paulick
Regular Columns - John Barnett, Bonnie Bladow, Cathy Gitkov, Cynthia Pring-Ham, Ben Thomas
James Hayden - Storage Tank Manager
Kurt Fredriksson - Director, Spill Prevention & Response

To access the newsletter on the Internet, go to: http://www.state.ak.us./local/akpages/ENV.CONSERV/dec_pub.htm.

ALASKA UNDERGROUND is published quarterly, free-of-charge, for interested individuals and organizations. It is specifically for education and information and is not intended to replace the standards and guidelines in the state and federal UST regulations. This newsletter is one of several methods the Department of Environmental Conservation has implemented to meet the Educational Assistance requirements in AS 46.03.370.

The State of Alaska, Department of Environmental Conservation, complies with Title II of the Americans with Disabilities Act of 1990. This publication is available in alternative communication formats upon request. Please contact Karen Paulick at 465-5200, or FAX to 465-5218, to make any necessary arrangements.

IN THIS ISSUE

Cleanup Standards Revised

Cleanup Levels

The Department of Environmental Conservation (DEC) is proposing changes to the cleanup levels for petroleum contamination. The proposal calls for replacement of the current underground storage tank (UST) matrix and cleanup levels. The Department anticipates releasing a draft of contaminated sites cleanup standards (Article 3 of the Oil and Hazardous Substance regulations, 18 AAC 75), by early 1997. To be consistent with these regulations, the UST Regulations, 18 AAC 78, will be changed to reference these cleanup standards.

3 Types of Cleanup Standards

Three types of cleanup standards have been proposed and are listed below. These standards will increase flexibility to cleanup property. The standards are all risk based but vary depending on the complexity of the site.

■ Generic

The generic numerical standards are intended to protect human health and the environmental at any site within three climate zones, without further consideration of site specific conditions. They are based on:

- human health risks associated with the possible ingestion of hazardous substances in the soil/groundwater;
- inhalation of volatile hazardous substances in the soil; and,
- migration of hazardous substance to groundwater.

The generic standards are in a table format and have been calculated for:

- indicator compounds (i.e. benzene, toluene, ethylbenzene, xylene and specific polynuclear aromatic hydrocarbons and metals); and,
- aliphatics and aromatics in the petroleum hydrocarbon ranges, C_6-C_{10}, C_{10}-C_{25}, and C_{26}-C_{36}

Maximum concentration levels for different petroleum ranges, based on aesthetic and nuisance considerations, are also addressed.

■ Site Specific

Site specific numerical standards are derived for certain exposure risks using the same models and equations for the generic cleanup standards, but with the inclusion of site specific data. This standards are protective of the groundwater ingestion pathway at the contaminated site.

■ Full Risk Assessment

Full risk assessment based standards are the most sophisticated type of standards and are developed when the owner and operator wants to consider extensive site specific data for multiple exposure risks, for property use that is not expected to be residential, or when unusual characteristics or features are found at the site. These can be determined by following a Risk Assessment Procedures Manual being proposed by DEC.

DOLLARS AND SENSE

STATUS OF THE FINANCIAL ASSISTANCE PROGRAM FOR UNDERGROUND STORAGE TANKS

Since September 5, 1990, the underground storage tank Financial Assistance Program issued over $18 million (400 grants to 282 facilities) throughout Alaska. The grants were used to cleanup contamination from leaking underground storage tanks (UST), to upgrade underground storage tank facilities for leak detection, spill prevention, and corrosion protection requirements mandated by federal law, and to remove or permanently close USTs.

Grants for FY 1997

Based on allocations by the Board of Storage Tank Assistance, the Financial Assistance Program anticipates continuing cleanup efforts at the 36 ongoing cleanup projects funded with prior fiscal year funds and beginning cleanup efforts at six new facilities. In addition, funds should be sufficient to award grants for six new upgrade projects and 30 closure or removal projects.

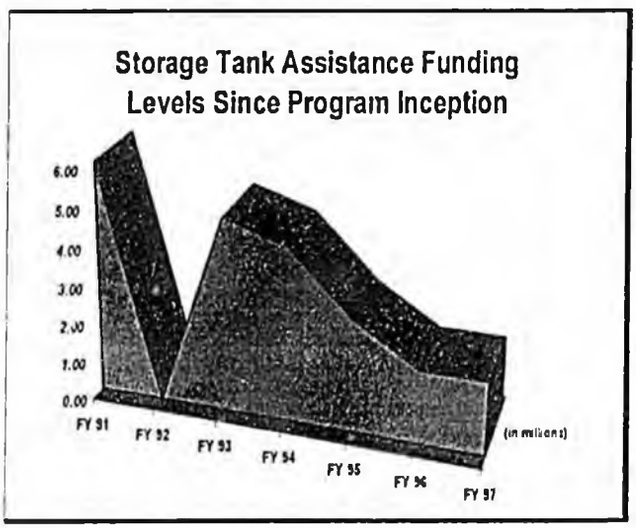
Pending Applications

You can no longer apply to the Financial Assistance Program for grants and loans as the application deadlines ended on June 30, 1994 for the Tank Cleanup Program and on December 30, 1994 for the Tank Upgrade and Closure Program. There are many applicants who applied before the application deadlines, and who are still waiting for financial assistance.

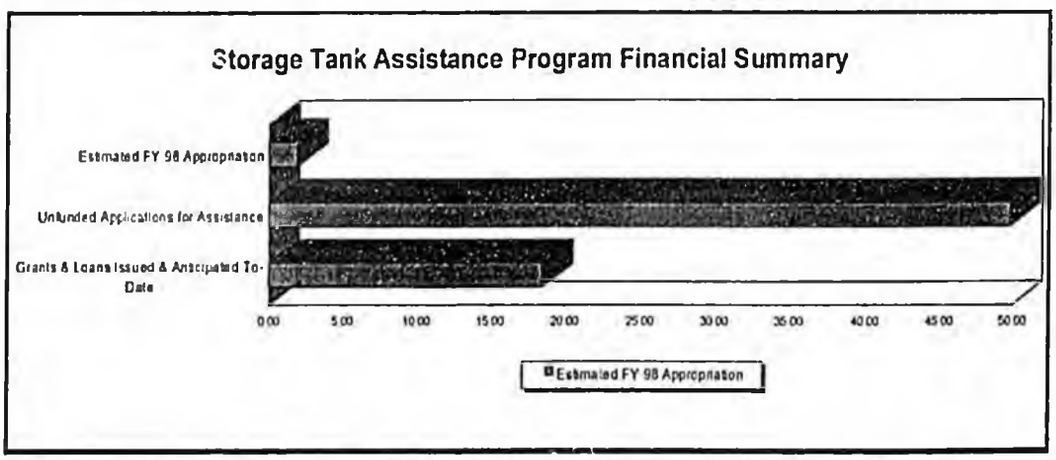
Applications that are pending include: 295 requests for cleanup grants; 190 for upgrade; and 361 for closure. This does not include the 158 applications pending under the Reimbursement Program for work completed prior to September 5, 1990 (the effective date of the Underground Storage Tank Statutes). These applicants, by statute, receive the lowest priority for funding and will not be funded until all applicants under the Tank Cleanup Grant and Loan Program and the Tank Upgrade and Closure Program receive funds.

Additional Funding Needed

The Department is in the process of submitting a request under the capital improvement budget to provide close to $2.0 million for grants in Fiscal Year 1998 and $2.0 for Fiscal Year 1999.



Since the inception of the Storage Tank Assistance Fund in 1990, Legislative appropriations have steadily declined. In the FY 91 budget the Fund received $6.0 million. For FY 97 the Fund received $1.9.



The Storage Tank Assistance Fund has 1,004 financial assistance applications on file requesting a total of $49.8 million in aid. The amount anticipated to be received from the next legislative session is expected to be less than $2.0 million.

QUESTIONS & ANSWERS

DID YOU KNOW?

- **A new UST system must be installed at least 75 feet away from a Class C drinking water well.** This requirement applies to the many facilities that have their own water supply wells.

- **If you have a steel tank and piping with cathodic protection, you are required to have your cathodic protection system tested every three years.** Testing must be performed by a person currently certified by the State of Alaska in cathodic protection testing.

- **The owner/operator of a UST system is responsible for hiring an Alaska certified tank worker to perform UST work.** If an unauthorized worker is used, the owner/operator may need to have the work redone, and may be subject to violations. This includes work for installation, repair, reconfiguration, closure, tank tightness testing, and cathodic protection testing. Not sure? Card your tank worker!

- **A newly installed spill prevention device (catchment basin) must be of sufficient capacity to hold the amount of fuel in a typical delivery hose.** A hose usually holds about 14 gallons. Some catchment basins are only 5 gallons. Make sure yours is large enough!

- **A newly installed UST system must have corrosion protection for both tanks and piping.** There is no piping exemption for the corrosion protection requirements.

- **Deadbeat parents can not be certified tank workers.** A new rule went into effect October 1, 1996, that allows the State to deny renewal of an occupational license to people who are delinquent in paying child support. This includes people who are certified to perform UST work. A new certification will not be reissued or renewed without a release from the Child Support Enforcement Division. The next renewal date for UST workers is December 31, 1997.

- **Owners/operators of USTs must notify the Storage Tank Program when they install, upgrade, repair, or significantly reconfigure a UST, including piping.** Notification must be filled-out and signed by owner/operator AND the certified worker who performed the work.

- **Inventory control with tank tightness testing is only a temporary method of leak detection.** Inventory control will not be an acceptable method of leak detection after December 22, 1998 for tanks without spill/overfill devices and corrosion protection. Inventory control, started before December 22, 1998, may be used for ten years following the installation of a new tank or the upgrading of an existing tank to meet the corrosion protection and spill/overfill requirements.

- **Inventory control can never be used alone.** Inventory control (as a means of leak detection) must always be used in combination with tank tightness testing or statistical inventory reconciliation.

COMMONLY ASKED QUESTIONS ABOUT UNDERGROUND STORAGE TANKS

"Don't Wait Till '98": Last Chance for Free Tank Workshops

The Storage Tank Program will be hosting free, one-day workshops for tank owners and operators in March of 1997. Workshop locations will include Ketchikan, Juneau, Kenai, Anchorage and Fairbanks. Exact times and locations will be announced soon. The workshops will focus on options and technical requirements for upgrade and closure of tanks. We will also have a large collection of free publications. If there is a topic you would like us to cover, or if you think there is sufficient interest in your community to add another workshop near you, please contact Ben Thomas at 907-465-5206. E-mail: *bthomas@envircon.state.ak.us*

CORRECTIVE ACTION

WORK PLANS: THE KEY TO PREPARING A GOOD RISK ASSESSMENT

If the procedure outlined here is followed, the risk assessment procedure should flow quite smoothing saving a great deal of time and money.

The Underground Storage Tank regulations (18 AAC 78), contain provisions, within Article 3 (Cleanup Standards), for the approval of alternative soil cleanup levels, as well as alternative surface and groundwater cleanup levels. This is done through the submittal of a site specific work plan and risk assessment report by the responsible party (RP). The key to preparing a credible risk assessment document, is the **prior** submittal of a work plan for the proposed risk assessment.

Scoping Meeting

The first item of "preliminary work" is the scoping meeting. This typically involves the RP and/or the RP's consultant, and members of the DEC staff. This is a good opportunity for DEC staff and the RP to discuss the general approach, and identify any problems (data gaps, etc.) that may need to be addressed.

The Work Plan

When the conceptual site model is approved by DEC, the RP can begin to prepare the work plan.

The risk assessment work plan must address the magnitude and probability of threats to both human health and ecological conditions at a site. The risk assessment work plan should include:

- Submittal of a **conceptual site model** (CSM). The CSM is used to evaluate exposure pathways. Pathways can be classified as ingestion (through food or drink), dermal (touch), and inhalation (through breathing). Sources of contamination are most often thought of as soil, water, or air.
- An **introduction** sufficient to acquaint the reader with the background of the site (vicinity maps, geologic, and hydrogeologic setting, historical investigations);
- A section to address the selection of **compounds of potential concern,** and a proposed point of compliance; and,
- A discussion of the **fate and transport modeling** of the compounds of concern.

Other sections of the risk assessment work plan should address **exposure assessment** (including land uses, ground water uses, and soil exposure areas), **toxicity assessment**, and **risk characterization.** Ecological receptors need to be adequately addressed.

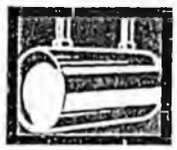
After looking at the data, it may be decided that additional information is required to complete the risk assessment. In this case, it would be important to include in the risk assessment work plan a section on: field activities, to describe such things as the installation of additional monitoring wells; collection of additional soil and ground water samples; and, data collection to support an argument for natural attenuation.

The Department looks forward to working with tank owners and operators in the development of alternative cleanup levels at those sites where the source of contamination has been removed, and the remaining soil and/or groundwater contamination poses no significant threat to human health.

For More Information

For additional information contact Steve Bainbridge, in Fairbanks, at 907-471-2182.

TECHNICAL REVIEW



EPA AND DEC CONDUCT UST FACILITY INSPECTIONS

This past summer, the Environmental Protection Agency (EPA) and Department of Environmental Conservation (DEC) together conducted a second season of (underground storage tank) UST facility inspections throughout the state.

28 Facilities Inspected

The two agencies inspected 76 UST tanks at 28 facilities located on the Kenai Peninsula, Fairbanks, Anchorage, and Fort Greely. The main focus of the inspections was to ensure that owners/operators were performing leak detection and had obtained financial responsibility for their tanks. Inspectors also provided owners with information regarding the upcoming 1998 UST standards and improvements their UST systems would need to meet the 1998 standards.

Who Was Inspected?

This year's inspections covered a wide variety of facilities including: mom & pop businesses; major gas station chains; state facilities; and a military facility. Owners were contacted by DEC approximately two weeks in advance of the inspection date and were requested to have specific documentation readily available for review. Inspections generally took anywhere from a half-an-hour to two hours depending on the number of tanks at the facility, the type of systems being operated, and the age of the tanks.

More Compliance Noted

Compared to last year's inspections, inspectors found more tank owners had upgraded or replaced their systems in an effort to meet the 1998 standards.

Upgrading Worth The Cost

Most owners with upgraded or new systems said it was a stretch financially to upgrade or replace their old systems. However, most were glad they had the work done. Benefits of upgrading included: reduced annual tank registration fees; avoidance of possible business shutdowns due to delays in finding qualified individuals to do the work as the 1998 deadline approaches; and having confidence in their systems, knowing there was less likelihood a release would occur and if one did they would be alerted to the problem before it became a huge financial liability.

Out-of-Compliance Tanks

An owner whose system was found to be out-of-compliance with federal and state regulations was issued a Notice of Non-Compliance (NoNC) and was given a time period to correct violations without monetary fines being assessed. The majority of the NoNC issued were for improper leak detection, specifically improper or incomplete inventory control record keeping and failure to conduct annual tank tightness test. Other violations included: improper leak detection for pressurized lines; failure to have financial responsibility; and failure to do cathodic protection testing.

In general, inspectors found owners and operators cooperative and more aware of the regulatory requirements.

For Information

For information about the inspection program, or for UST facility requirements, contact Tim Stevens at 907-269-7538 or you may call the DEC hotline at 800-478-4974.

Problems Found During Inspections:

- improper leak detection, specifically improper or incomplete inventory control record keeping;
- failure to conduct annual tank tightness test;
- improper leak detection for pressurized lines;
- failure to have financial responsibility;
- failure to do cathodic protection testing.

ABOVE AND BEYOND

COAST GUARD INSPECTIONS AND REQUIREMENTS FOR ASTS

Coast Guard Inspections

The United States Coast Guard (USCG) conducted 187 aboveground storage tank (AST) facility inspections in rural Alaska during the spring and summer of 1996. The major problems discovered were related to lack of, or deterioration of safety equipment. Examples of these discrepancies are:

- no operation manuals;
- inadequate or lack of secondary containment;
- failure to perform pressure testing on transfer piping;
- failure to post "no smoking signs";
- lack of facility security.

In several areas, there was evidence of spills, leaky connections and unstable tanks.

USCG staff noted that they have seen some improvement to AST facilities in rural Alaska and that the awareness level for USCG requirements is improving.

Next year the Coast Guard is hoping to conduct approximately the same number of inspections in rural Alaska. They intend to focus on facilities where problems were found in addition to facilities that they were unable to inspect during this season.

USCG Requirements

The Clean Water Act and the Oil Pollution Act give the USCG authority to regulate "Marine Transportation Related" (MTR) facilities. This includes bulk facilities that are capable of transferring oil to or from vessels with a capacity of 10,500 gallons or more and facilities that pose a significant and substantial threat of discharge.

These requirements, were recently updated, and can be found in 33 CFR 154 and 156. They are briefly summarized below:

- Owner/operator must submit a "Letter of Intent to Operate," to the Captain of the Port. The letter must contain the names, addresses, and telephone numbers of the facility owner and operator;
- Owner/operator must submit two copies of an "Operations Manual" describing how the operating rules and equipment requirements will be met and responsibilities of personnel who conduct transfers;
- Owner/operator must submit two copies of a Facility Response Plan for approval;
- Owners/operators are liable for oil spill removal costs and damages of up to $350 million including civilian and criminal penalties;
- The Coast Guard will inspect MTR's, focusing on immediate dangers to life and health, pollution prevention, and danger to property;
- The Coast Guard is responsible for testing and maintaining transfer hoses and piping.

For Information

For additional information on USCG requirements for ASTs contact you local Marine Safety Office:

Juneau 907-463-2464
Anchorage 907-271-6700
Valdez 907-835-7215

NEWS BRIEFS

Attention Local Governments

The Storage Tank Program recently mailed local governments in Alaska a UST information packet that is designed to be used by small towns and municipalities to better prepare for the 1998 upgrade or closure deadline. If you did not get the packet, or would like another, please call Ben Thomas at 907-465-5206; or e-mail: bthomas@envircon.state.ak.us

Go Ask "Alice"

Alaska Storage Tank Program staff recently attended a meeting in Washington D.C. to assist in the development of a national standard for UST facility inspections. The meeting, sponsored by the American Society of Testing and Materials (ASTM), explored the possibility of a third-party inspection procedure that could be used by tank owners, state regulators, loan officers, insurance brokers, or licensed tank workers. The standard would look like a comprehensive checklist and would include all the federal tank requirements. (Alaska's UST requirements are very similar, so a checklist for Alaskans would be almost identical.) Alaska is considering moving towards the concept of requiring third-party inspectors to perform a facility inspection every few years.

Liners May Be Used For Corrosion Protection

The last issue of the newsletter had a headline article concerning the upgrading of tanks to meet the 1998 requirements. One method of upgrade for corrosion protection that was not mentioned, but that is an acceptable method of corrosion protection is the use of a liner. See 18 AAC 78.030 (d) for further details.

1997 Registration Fees Due

UST Registration for 1996 expires on December 31, 1996. An annual registration renewal fee is required by AS 46.03.385(a), and must be paid to the Department at least 30 days before the registration expires each year.

A courtesy 1997 Registration Invoice was mailed around November 1, 1996. Registration fees are due **December 1, 1996**! Late fees of $10 per tank, per day, for non-payment begin January 1, 1997! (The "day of payment" means the day the fee is received by the Department of Environmental Conservation or, if mailed, the day of the postmark.)

Questions about registration or fees? Contact David Allen at (907) 269-2537, or outside Anchorage: (800) 478-4974.

State Tanks

Seven State of Alaska agencies, that manage USTs, are developing a capital budget to upgrade, or close and replace, 200 state-owned USTs throughout Alaska.

Publications Available

The Storage Tank Program has a large stock of publications, such as "Don't Wait Till '98," "Doing Inventory Control Right," "Controlling Cleanup Costs," "Musts for USTS," and "Dollars and Sense." We also have a number of other publications dealing with things such as closure, statistical inventory reconciliation, manual tank gauging, financing options for state and local agencies, and general information about underground storage tanks. Copies of these documents are free to the public.

We also have copies of industry standards related to USTs which may be reviewed in our DEC offices.

For further information about available publications please call or visit your local office of DEC (see listing on back of this newsletter).

Look for this Logo

This logo is a reminder that tank owners/operators should not wait until 1998 to upgrade or close their tanks.

We recently learned that the official Michie version of the UST regulations has a typographical error. The Cleanup Levels, as published in the October 1996, Supplement, Page 264, Part B, Table E, are incorrect. **Do not use these values.** Please refer to the regulations published by the Department and dated November 3, 1995, for the correct values. If you are unsure which version to use or if you have questions, please contact Cynthia Pring-Ham at 907-465-5301.

Department of Environmental Conservation
STORAGE TANK PROGRAM
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Juneau, AK 99801-1795

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ALASKA UNDERGROUND

IMPORTANT DATES

December

1 1997 UST Registration Fees Due
31 1996 UST Registration Expires

January

February

March Alaska Workshops: Don't Wait Till '98 (Ketchikan, Juneau, Kenai, Anchorage Fairbanks)

(Every Saturday - Tank Worker Exam - Anchorage)
(Fourth Saturday of every month - Tank Worker Exam - Fairbanks)

TANK.NET

The Storage Tank Program has a web page on the Internet to help answer many questions about tanks in Alaska. Currently we get about 20 visits per week. Visitors can: download UST regulations, forms, lists of tank workers, and lists of all tanks; provide links to other tank pages: provide answers to frequently asked questions; and, even download this newsletter. Is there a service that you need that we don't yet provide? Go check it out at: www.state.ak.us/dec/dspar/stp_home.htm, and tell us what you think.

The Alaska Underground Storage Tank Program has a Toll-Free Hotline. For assistance call:
800-478-4974

CENTRAL/JUNEAU OFFICE
410 Willoughby Ave, Suite 105
Juneau, AK 99801-1795
907-465-5200

ANCHORAGE OFFICE
555 Cordova
Anchorage, AK 99501
907-269-7500

FAIRBANKS OFFICE
610 University Ave
Fairbanks, AK 99709-3643
907-451-2360

KENAI OFFICE
35390 Kalifonsky Beach Rd.
Soldotna, AK 99669
907-262-5210

FINANCIAL ASSISTANCE & REGISTRATION INFORMATION
555 Cordova
Anchorage, AK 99501
907-269-7504

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1075 Check St.
Wasilla, AK 99687
907-376-5038

Audit Report

DEC

DEPARTMENT OF ENVIRONMENTAL CONSERVATION BOARD OF STORAGE TANK ASSISTANCE

September 19, 1995

Audit Control Number:

18-1432-96

Division of Legislative Audit

P.O. Box 113300, Juneau, Alaska 99811-3300

ALASKA STATE LEGISLATURE

LEGISLATIVE BUDGET AND AUDIT COMMITTEE
Division of Legislative Audit

P. O. Box 113300
Juneau, AK 99811-3300
(907) 465-3830
FAX (907) 465-2347

September 19, 1995

Members of the Legislative Budget
and Audit Committee:

In accordance with the provisions of Title 24 of the Alaska Statutes, the attached report is submitted for your review.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BOARD OF STORAGE TANK ASSISTANCE

September 19, 1995

Audit Control Number

18-1432-96

This audit was conducted under the requirements of Alaska Statutes 44.66.050 and the authority of AS 24.20.271(1). In the report, we assess the operations and performance of the Board of Storage Tank Assistance utilizing the criteria set out in AS 44.66.050(c). This statutory criteria is intended to be used to assess whether the activities of a given board, commission, council, agency, or program is effectively meeting a demonstrated public need. Currently under AS 44.66.010(18), the board is scheduled for termination on June 30, 1996. The board would be allowed one year in which to conclude its affairs. We recommend that the legislature extend the board until June 30, 2000.

The audit was conducted in accordance with generally accepted government auditing standards and the criteria set out in AS 44.66.050(c). Fieldwork procedures utilized in the course of developing this report are discussed in the Objectives, Scope, and Methodology section of this report.

Randy S. Welker, CPA
Legislative Auditor

CORRECTION

THE FOLLOWING DOCUMENT(S)
HAVE BEEN RE-FILMED TO
ASSURE LEGIBILITY OR PAGINATION

Audit Report

DEC

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LEGISLATIVE BUDGET AND AUDIT COMMITTEE

DIVISION OF LEGISLATIVE AUDIT

The Legislative Budget and Audit Committee is a permanent interim committee of the Alaska Legislature. The committee is made up of five senators and five representatives, with one alternate from each legislative chamber. The chairmanship of the committee alternates between the two chambers every legislature.

The committee is responsible for providing the legislature with audits of state government agencies. The programs and activities of state government now cost more than $5 billion a year. As legislators and administrators try increasingly to allocate state revenues effectively and make government work more efficiently, they need information to evaluate the work of governmental agencies. The audit work performed by the Division of Legislative Audit helps provide that information.

As a guide to all their work, the Division of Legislative Audit complies with generally accepted auditing standards established by the American Institute of Certified Public Accountants and with government auditing standards established by the U.S. General Accounting Office.

Audits are performed at the direction of the Legislative Budget and Audit Committee. Individual legislators or committees can submit requests for audits of specific programs or agencies to the committee for consideration. Copies of all completed audits are available from the Division of Legislative Audit's offices in either Anchorage or Juneau.

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The audit was conducted in accordance with generally accepted government auditing standards and the criteria set out in AS 44.66.050(c). Fieldwork procedures utilized in the course of developing this report are discussed in the Objectives, Scope, and Methodology section of this report.

Randy S. Welker, CPA
Legislative Auditor

TABLE OF CONTENTS

OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with the intent of Titles 24 and 44 of the Alaska Statutes (sunset legislation), we have reviewed the activities of the Board of Storage Tank Assistance. As required by AS 44.66.050(a), the legislative committee of reference shall consider this report during the legislative oversight process to determine whether the board should be reestablished. Currently, AS 44.66.010(18) states that the board will terminate on June 30, 1996, and will have one year from that date to conclude its affairs.

Objectives

Our specific audit objectives were:

1. To determine if the termination date of the board should be extended.

2. To determine if the board is operating in the interest of the public. In assessing the operations and performance of the board, we utilized the criteria set out in AS 44.66.050(c). Criteria set out in this statute relates to the determination of a demonstrated public need for the board.

Scope and Methodology

The board was created in September 1990. Our scope included all activities of the board since its inception. We reviewed the board's activities to determine whether they have been in the interest of the public and whether they have been in compliance with Alaska statutes and regulations.

In order to address our audit objectives, we reviewed the following:

- Applicable sections of Alaska's statutes and regulations.
- Budget documents, session laws and other legislative information relating to the board's operations.
- Transcribed minutes and audio tapes of board meetings.
- Internal reports and documents prepared by the board and the Department of Environmental Conservation (DEC).
- Reading files of the board's executive director.
- Grant files of recipients of financial assistance.
- Financial information on the State's accounting system.

- Office of the Ombudsman closed case file.
- Office of the Governor, Boards & Commissions files.
- Prior year audit workpapers and audit reports related to various DEC operations.

Also, we conducted interviews with the following:

- Board members and the board's executive director.
- DEC staff.
- Owners and operators of underground petroleum storage tanks.

In addition, we attended the July 20, 1995 meeting of the board. We observed the proceedings and the interaction of the board with the public.

ORGANIZATION AND FUNCTION

In 1990, the legislature (Chapter 96, SLA 1990) established a process to provide both technical and financial assistance to owners and operators of underground storage tanks (USTs). It was determined that such assistance was necessary for UST owners to comply with both current and prospective federal and state requirements. The 1990 legislature also provided for the cleanup of existing leaks and prevention of future leaks associated with USTs in order to protect the public from contamination of drinking water and to protect the environment.

The comprehensive legislation established the Board of Storage Tank Assistance. The board works in conjunction with the State's Department of Environmental Conservation (DEC) to carry out the various requirements of the UST statutes. The board is involved in the making of regulations pertaining to USTs and DEC is responsible for administering the UST program. This includes the administration of the financial assistance program.

The program offers grants and loans to owners and operators to test, clean up, upgrade, or close their facilities. The Storage Tank Assistance Fund (STAF) was established to fund the program. Appropriations are made to STAF from the mitigation account fund and from tank registration receipts.

Board Responsibilities

The board's primary statutory functions are to:

1. Adopt regulations to be used by DEC in determining which costs are eligible for financial assistance.

2. Adopt regulations to be used by DEC to rank (prioritize) applications for financial assistance.

3. Resolve disputes that might arise when DEC determines that a UST owner or operator is not eligible for assistance, determines that costs are ineligible, or assigns a rank with which an owner or operator does not agree.

4. Approve regulations specifying allowable technologies for testing, containment and cleanup, or corrective action prior to being adopted by DEC.

5. Review regulations proposed by DEC that sets a standard for the level of a contaminant that is allowed to remain in soil or groundwater after cleanup of a release from, or associated with, an UST.

Additional responsibilities are assigned to the board under 18 AAC 78. The board allocates funds appropriated to the STAF for the financial assistance program. Also, the board is responsible for the establishment of a point system to rank eligible applicants.

Board Membership

Under the requirements of AS 46.03.360, the seven member board consists of the commissioners of DEC and the Department of Transportation and Public Facilities (DOTPF), or their designees, and the following persons appointed by the governor to serve staggered four-year terms:

- A registered engineer, who is knowledgeable about installing, upgrading, repairing, or closing USTs.

- A general contractor, who is knowledgeable about installing, upgrading, repairing, or closing USTs.

Board of Storage Tank Assistance
(as of August 15, 1995)

Judy Chadwick-Anderson, Chair
(representative of the Insurance Industry)
Kurt Fredrikson
designee of the commissioner of DEC
Robert Haines
Tank Contractor
Nate Johnson
designee of the commissioner of DOTPF
Steve Johnson
Registered Engineer
Jim Weymiller
Tank Owner
Dale Young
Tank Owner
John Barnett
Executive Director

- Two owners or operators of an UST, at least one of whom does not own or operate more than 10 USTs.

- A member of the insurance industry.

Members serve without compensation, but are entitled to per diem and travel expenses. Since 1991, the board has employed a full-time executive director.

DEC's Responsibilities

DEC's Division of Spill Prevention and Response administers the financial assistance program. Statutes and regulations require DEC to:

1. Receive, review, and approve applications and other required documentation for financial assistance.

2. Priority rank applicants using a scoring system developed by the board.

3. Distribute and monitor grant awards.

4. Manage the Storage Tank Assistance Fund.

BACKGROUND INFORMATION

In 1990, the legislature created a program to provide both financial and technical advisory assistance to the owner and operators of underground petroleum storage tanks (UST). The assistance was to help UST owners and operators comply with current and prospective state and federal regulations (see inset at right). These regulatory requirements address numerous design and operational aspects of USTs.

Underground tanks are typically used to store petroleum and other potentially hazardous substances. These tanks invariably develop leaks which allow the substances stored in them to leak into the surrounding soil, contaminating the groundwater, which in turn could contaminate a drinking water source.

The U.S. Congress directed the Environmental Protection Agency to develop regulations for the design, construction, and installation of new tanks. Additionally, new, stricter standards were established for the retrofitting of existing tanks. Such tanks will be required to be upgraded to provide for leak detection, corrosion prevention, and spill and overflow protection.

In addition, UST owners are required to demonstrate they are capable of assuming financial responsibility for the costs involved in taking corrective action and cleaning up releases from their tanks.

Such financial responsibility extends to covering third party loss and bodily injury. Most UST owners are required to demonstrate $1 million of financial responsibility per occurrence and $2 million aggregate. Failure to meet the requirements may result in fines of up to $10,000 per day.

Federal Law Imposes Strict Requirements on USTs

Congress passed the Hazardous and Solid Waste Amendments of 1984 to the Resource Conservation and Recovery Act. These amendments, in part, require the U.S. Environmental Protection Agency (EPA) to regulate USTs containing petroleum and hazardous substances. According to EPA estimates, nationwide there are several million USTs that contain petroleum or hazardous substances--tens of thousands of which, together with their associated piping, are leaking and contaminating groundwater, a major source of drinking water for a large portion of the country.

Congress directed the EPA to develop regulations for the design, construction, and installation of new tanks as well as the addition of leak detection, corrosion prevention, and spill and overflow protection to existing tanks. The EPA regulations went into effect on December 22, 1988 and USTs installed on or before that date are considered "existing tanks," while those tanks installed after that date are considered "new installations." New installations are to meet the performance standards set out in the regulations at the time of tank installation. Existing tanks are allowed to phase in these standards over a period of 10 years.

Congress also mandated that all UST owners, except state and federally owned or operated tanks, be able to demonstrate specific levels of financial responsibility for corrective action and cleanup associated with releases from their USTs including third party loss and bodily injury. The financial responsibility requirements were phased in according to the type of owner and the number of tanks owned. The final date for all tank owners to meet this requirement was December 31, 1993. Most tank owners are required to demonstrate $1 million of financial responsibility per occurrence and $2 million aggregate. Failure to meet the requirements may result in fines of up to $10,000 per day.

Source: DEC's FY 94 STAP Report

Because most Alaska businesses using USTs were unable to meet the financial responsibility requirements and unable to pay the possible fines, state legislation was introduced to provide assistance to assume "financial responsibility." The prime sponsor of the original 1990 legislation stated that it is "*the responsibility of the legislature to assist the small tank owners to comply with the new federal regulations.*"

The enacted legislation addressed educational, technical, and financial assistance for UST owners and operators. It required owners and operators to register their tanks and pay a registration fee based on the size of their tank. In addition, the storage tank assistance fund (STAF) was established to provide financial assistance to owners and operators.

Financial Assistance Programs

Appropriations are made to STAF to fund the financial assistance programs. The programs provide grants and loans to owners and operators of regulated USTs. Assistance is provided under four different programs. As shown below, each program has different eligibility requirements, application dates, and grant reimbursement percentages.

Summary of UST Financial Assistance Programs

PROGRAM	STATUTE (AS) REGULATION (AAC) SESSION LAW (SLA)	APPLICATION DUE DATE	ELIGIBLE COSTS	TYPE OF ASSISTANCE
Tank Tightness Testing & Site Assessment Incentive Program	AS 46.03.415 18AAC78.510 (Subsequently repealed)	March 5, 1992	Tank tightness tests or site assessments to determine if there had been a release of petroleum.	50% of actual costs. Not to exceed (a) $300 per tank for tank tightness tests up to a maximum of $1,200 per facility; and, (b) $800 per tank for site assessments up to $3,200 per facility.
Tank Cleanup Grant & Loan Program	AS 46.03.420 18 AAC 78.515	June 30, 1994	Risk assessment, containment, corrective action, and cleanup.	Up to $1 million per occurrence, owner/operator is responsible for 10% of total cleanup costs (not to exceed $25,000). Loans are available for owner's share.
Tank Upgrade & Closure Grant Program	AS 46.03.430 18 AAC 78.520	December 31, 1994	Removal, upgrade or replacement of UST that was installed before December 22, 1988.	60% of actual cost. Not to exceed $60,000.
Reimbursement Program	SLA 1990, Ch 96, Sec 7 18 AAC 78.525	March 5, 1991	Risk assessment, containment, cleanup, corrective action, upgrading or closure activities on or after December 22, 1988 and before September 5, 1990.	90% of containment, cleanup, corrective action and risk assessment. 60% of upgrade or closure. Not to exceed $200,000 per owner/operator.

Financial assistance is no longer provided under the tank tightness testing and site assessment incentive program. Eligible applicants that applied before the due date for the other three programs are still on the active list awaiting funds. Applications for the tank cleanup grant and loan program are still accepted from applicants who applied before the due date for the tank upgrade and closure grant program if they discover and report contamination before July 1, 1996. Eligible applicants that applied before the due date for the other three programs are still on the active list awaiting funds

Funding Issues

Like all state operations, funding for the STAF must be appropriated by the legislature. Since the beginning of the financial assistance program, demand for assistance has been much more than the annual appropriations. Eligible applicants that are not funded in one year remain active until funds are available.

At the inception of the program, $6 million was appropriated for the grant and loan program. That amount has decreased each year with $1.9 million appropriated to fund FY 96 grants. DEC has estimated that over $54 million is needed to fund all eligible applicants. It will take approximately 19 years to fund existing projects at that level of funding.

Reimbursement Program

Original legislation assigned a low priority to this program. Payment is to be made if there is sufficient funding. Since inception, no projects have been funded. DEC has 158 applications for reimbursement. They estimate that it will require over $3 million to fund all projects.

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REPORT CONCLUSIONS

In our opinion, the Board of Storage Tank Assistance should be reestablished. The board plays an integral role in the State's underground storage tank (UST) program. The board acts as a mediator, sets regulations, and acts as a sounding board to owners and operators of USTs.

The board acts as an independent body in settling disputes between DEC and owners and operators of USTs. Since the board's inception, they have mediated over eleven formal appeal cases. The board has been involved in numerous cases on an informal basis. Owners and operators call the board to informally discuss the applicability of state statues and regulations to their specific situation; thereby averting the need for formal appeals.

The board actively participates in the making of statutes and regulations pertaining to USTs. The board is statutorily required to adopt regulations to be used by DEC to administer the UST program. Regulations originally adopted have been amended and are currently in the process of being revised. The board also reviews all regulations pertaining to USTs that are proposed by DEC.

We believe the board should continue until June 30, 2000. The intent of legislation establishing the board was to assist owners and operators of USTs to comply with federal and state laws and regulations. U.S. Environmental Protection Agency (EPA) regulations require USTs to meet new, stricter federal standards by December 22, 1998. The "need" or demand for funding to bring operating USTs into compliance have far outstripped the appropriations made to date. Prospectively, it is unlikely that the amount of the appropriations will substantially increase over the next few fiscal years.[1]

Currently, it is unclear what enforcement actions EPA will take in Alaska against UST owners that are not in compliance with the new regulations. Given these circumstances, we foresee there may be an ongoing public policy role for the board beyond the EPA implementation deadline. By extending the board to June 30, 2000, a reevaluation of its activities can be made in the summer of 1999. Evaluation at this time would be made in the context of EPA's enforcement action regarding UST requirements.

Many owners and operators need assistance from the financial assistance program before undertaking the necessary action to comply with federal and state laws and regulations. With the existing level of funding (See Background Information) for the program, some eligible applicants will not receive funding until after the federal deadline.

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[1] As discussed in the Background Information section, it is estimated that it will cost more than $54 million to bring operating USTs into compliance with the prospective federal requirements. This estimate is based only on the funding that has been applied for to date under the State's assistance program. Representatives of the Alaska Underground Tank Owners and Operators organization reported to us that they felt there were many owners and operators, who face being in non-compliance, that have not come f rward and even applied for any of the available funding.

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FINDINGS AND RECOMMENDATIONS

Recommendation No. 1

The legislature should consider changing the statute to require the appointment of one public member to the Board of Storage Tank Assistance with no commercial of financial interest in the replacement and retrofitting of underground storage tanks.

Alaska Statute (AS 46.03.360) requires seven members to be appointed to the Board of Storage Tank Assistance. Membership includes two government members — the commissioners of the Department of Environmental Conservation and the Department of Transportation and Public Facilities — and five "public members." Four of the public members must have specific knowledge of underground storage tanks. The fifth public member must be a member of the insurance industry. While not required by statute, this position has been filled by individuals involved in UST pollution liability insurance.

Typically, the legislature has provided for the appointment of what is termed "a public member" to the State's various professional licensing boards. The intent behind such a requirement is to give the general public access to the decision-making and actions that such a board might take. The public member acts as a disinterested representative on these boards, that unlike other board members, has no professional nor financial interest in board proceedings. While the five public members on the Board of Storage Tank Assistance are from the private sector, they are involved, to varying degrees, with the commercial aspects surrounding USTs.

Because environmental concerns are shared equally by the general public as well as those with a specialized knowledge of UST issues and concerns, we suggest that the board and the public may benefit from the appointment of a board member with no ties to USTs. Such an appointee should have no commercial or financial interest in the replacement and retrofitting of USTs. Appointment of such a member would serve to "open up" the board proceedings in this admittedly very esoteric subject area. Since the board is instrumental in developing priorities and criteria by which funding decisions are made, such a perspective may provide a viewpoint that is independent from any operational, regulatory, or commercial interest. The presence of such a member would increase, albeit perhaps very incrementally, awareness of the objectives and goals of the board, to the public at large while providing a "reality check" on the actions and goals of the board.

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ANALYSIS OF PUBLIC NEED

Limited Analysis

The following analysis of board activities relates to the public need factors defined in the "sunset" law, Alaska Statute 44.66.050. These analyses are not intended to be comprehensive, but address those areas we were able to cover within the scope of our review.

The extent to which the board, commission, or program has operated in the public interest.

Projects with the greatest health and environmental threats receive priority

In accordance with its statutory responsibility, the board has adopted regulations to be used by the Department of Environmental Conservation (DEC) to rank requests for assistance. Regulations specify the criteria to be used for ranking applications for cleanup, upgrade, and closure. Although not in regulation, the board has established a point system to prioritize each type of project. The point system is designed to give the highest points to leaking underground petroleum storage tanks (USTs) that pose the greatest threat to public health and the environment, thus ensuring projects requiring prompt corrective action are funded first.

Projects with imminent public health threats receive emergency funds

An owner or operator of a UST is eligible for emergency financial assistance if a leak or overfill of their tank poses an imminent public health threat and the owner or operator does not have the funds to begin clean up action. This type of release is usually evidenced by groundwater that has a high potential for contamination with a distinct probability that drinking water is or will be threatened.

After determining eligibility for an emergency grant, DEC must consult the board. At a public meeting the board reviews the severity of the situation, the need for financial assistance, and the applicant's compliance with federal and state laws. Also, the board reviews the preliminary scope of work. The board determines whether the amount of requested funds is appropriate for the proposed scope of work.

Since the board's inception, they have approved seven projects in which almost $700,000 has been expended on emergency projects.

Board resolves disputes

DEC receives and processes applications for financial assistance. If determined eligible, an applicant's project receives a score (or rank). Once the project receives funding, documentation of expenses is submitted to DEC for reimbursement.

One of the board's statutory duties is to hear appeals from owners and operators who disagree with DEC's determinations. The board has adopted regulations on the appeal process. Once an appeal is requested, regulations require a hearing to be held at the next scheduled board meeting and the board is required to issue a decision within 10 days. According to the board, the hearing date and time is scheduled at the convenience of the appellant. If the location of the next board meeting is inconvenient, a teleconference is held.

Our testing revealed that the board is in compliance with regulations. The files we reviewed showed that appeal hearings were heard within 30 days after a written request was made. Decisions were issued at the end of each hearing.

Since 1991, the board has heard eleven appeals. The majority were related to rank and the remainder related to the eligibility of costs. Appeals over eligibility for the financial assistance program have never been brought before the board. The board has ruled in favor of the appellant in 6 of the eleven appeals (55%), with the remainder in favor of DEC.

According to the board, they have worked with numerous UST owners and operators who have disagreed with DEC's actions but, due to the board's intervention, did not request an appeal. Often, an explanation or clarification of procedures by the board's executive director has eliminated the need for a formal appeal.

Information provided to interested parties

The board utilizes several mediums to ensure that owners and operators are kept abreast of federal and state regulations. After the new storage tank statutes and regulations were adopted, the board, in conjunction with DEC, conducted workshops in seven different areas of the State to introduce individuals to the UST program. The workshops were attended by owners and operators of USTs and individuals from private companies; city, borough, and state agencies.

Currently, the board contributes one or two articles to DEC's newsletter, "Alaska Underground," which is published approximately three times a year. Articles are about board activities or changes in regulations or policies. In addition to owners and operators, the newsletter is distributed to consultants, certified workers, legislators, state agencies and interested persons.

In between publication dates, the board prepares information bulletins that are distributed to tank owners and operators. The bulletins are one to two page reports on issues of interest.

The board has prepared a booklet of "Questions and Answers" about the UST program. It is designed to introduce people to the program and provide answers to questions most frequently asked of the board. It is updated annually and distributed to tank owners and operators, legislators, DEC staff, and federal Environmental Protection Agency staff.

The extent to which the operation of **the board, commission,** or agency program has been **impeded or** enhanced **by** existing **statutes, procedures,** and practices which it has adopted, **and any other** matter, including budg**etary, resource, and** personnel matters.

The board's establishing legislation also provided financial assistance programs to assist the owners and operators of USTs to comply with federal and state requirements. Appropriations are made to the storage tank assistance fund to provide assistance to owners and operators of UST. Although DEC manages the fund, the board is responsible for allocating funds to the financial assistance programs.

Each year, at its July meeting, the board discusses funding. DEC informs the board of the number of applications received and the amount requested. They also suggest various methods to allocate the funds. The board then decides which projects to fund.

When the fund was first established in 1991 more than $6 million was allocated to storage tank grants. Since then, funding has decreased. While funds have decreased, requests for financial assistance have increased. DEC estimates that over $54 million is needed to fund all projects on file.

The FY 96 appropriation to financial assistance grants and loans was $1.9 million. If funding continues at the this level it will take approximately 19 years to fund all projects.

Due to insufficient funding, no funds have been paid to eligible applicants of the reimbursement program. Original legislation allowed tank owners and operators to apply for reimbursement for a part of their eligible costs for UST upgrade activities if such activities took place prior to the law's effective date. Applicants had to apply by March 5, 1991 to be considered for funding. Legislation required that payments under this program would only be made after other requests for financial assistance had been satisfied. Since there remains outstanding funding requests under the various other programs, the board has not allocated any funding for this purpose.

DEC's records indicate that approximately $3 million is needed to reimburse the 158 eligible applicants on file.

The extent to which the board, commission, or agency has recommended statutory changes that are generally of benefit to the public interest.

The board has actively participated in statutory changes regarding USTs. In 1994, three changes were made to the statutes:

1. Original legislation required the board to hear appeals when disputes arose on eligibility of costs and priority ranking. Statutes were amended to allow the board to also hear appeals on program eligibility.

2. The due date for applications for financial assistance for the tank closure and upgrade and closure program was set for December 31, 1994.

3. The application due date for the tank cleanup grant and loan program (cleanup program) was June 30, 1994. Statutes were amended to extend the due date for two years for eligible applicants of the upgrade and closure program if they discover and report contamination before July 1, 1996.

The extent to which the board, commission, or agency has encouraged interested persons to report to it concerning the effect of its regulations and decisions on the effectiveness of service, economy of service, and availability of service that it has provided.

Activities of the board are discussed at meetings that are open to the public. All meetings are announced in newspapers in the three largest cities in the State. The announcement includes a brief summary of the major issues that will be discussed.

The meeting agenda provides for public comment at the beginning and end of each meeting. Also, the board chair solicits public comments throughout the meeting.

The extent to which the board, commission, or agency has encouraged public participation in the making of its regulations and decisions.

The board has encouraged public participation in the making of its regulations. Prior to adoption, regulations are discussed at board meetings which are advertised and open to the public.

The efficiency with which public inquiries or complaints regarding the activities of the board, commission, or agency filed with it, with the department to which a board or commission is administratively assigned, or with the Office of the Ombudsman have been processed and resolved.

From a review of the ombudsman closed case files we determined that no complaints have been filed against any activities of the board.

The extent to which the board or commission which regulates entry into an occupation or profession has presented qualified applicants to serve the public.

Since the board does not regulate any occupation or profession, this criterion is not applicable to the activities of the board.

The extent to which state personnel practices, including affirmative action requirements have been complied with by the board, commission, or agency to its own activities and the area of activity or interest.

Nothing has come to our attention to indicate that the board has not complied with state personnel practices.

The extent to which statutory, regulatory, budgeting, or other changes are necessary to enable the agency, board or commission to better serve the interests of the public and to comply with the factors enumerated in this subsection.

See Recommendation No. 1.

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UNDERGROUND PETROLEUM STORAGE TANK PROGRAM

Board of Storage Tank Assistance

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(907) 465-5219
FAX (907) 465-5218

Tony Knowles, Governor

December 22, 1995

Division of Legislative Audit
P.O. Box 113300
Juneau, AK 99811-3300

Attention: Jim Griffin

RE: Preliminary Report,Sunset Review of the Board of Storage Tank Assistance
Audit Control Number: 18-1432-95

Dear Mr. Griffin,

This letter is in response to the Preliminary Report pertaining to the Sunset Review of the Board of Storage Tank Assistance.

Several errors were noted as follows:

Page 7, paragraph 3. Actual number is $1.9 million, not $2.9 million.
Page 15, paragraph 5. Actual number is $1.9 million, not $2.9 million.
Page 16, Items 2 & 3. References to "closure program" should read "upgrade and closure program"

The Board of Storage Tank Assistance discussed at length the findings and recommendation outlined in the Preliminary Report, specifically Recommendation No 1, *"The legislature should consider amending Board statutes to provide for the appointment of a public member with no specialized knowledge of, or commercial interest in, underground storage tanks."*

The Board fully supports modifying existing statutes to allow for additional appointments. With nearly 50 million dollars in financial assistance requests currently on file, the Board welcomes any additional input and insight that might be brought forward by citizens concerned with protecting Alaska's public health and environment. The Board of Storage Tank Assistance has been extremely successful in protecting and restoring Alaska's fragile environment from petroleum contamination resulting from leaking underground storage tanks and has done so without jeopardizing Alaskan jobs or Alaska's transportation dependant economy. The program is under funded at this time and needs to develop an alternative funding source to address current and future needs. The appointment of a concerned representative from outside the tank industry will help the Board evaluate future needs, scope and funding alternatives to insure the continued future success of the Storage Tank Assistance program.

The Board is committed to constantly refining and improving the Storage Tank Assistance Fund consistent with the program's original assistance-oriented intent. Tank owners and operators are a hard working and indispensable segment of Alaska's economy and deserve a hard working, conscientious and diversified Board of Storage Tank Assistance.

As you are aware, funds appropriated by the Alaska State Legislature to the Storage Tank Assistance Fund are allocated annually by the Board of Storage Tank Assistance to different financial assistance programs, the tank cleanup program, the tank upgrading program and the tank closure program.

The Board of Storage Tank Assistance makes the annual allocations after taking into consideration the amount of money in the Fund, the money required to meet the needs for each program, as supported by approved applications and the requirement that the greatest priority be given to funding projects that present the greatest threat or potential threat to public health. Although all regulated tank owners and operators are eligible, all applicants are priority ranked for funding according to regulations and criteria established by the Board of Storage Tank Assistance. The ranking system emphasizes public health threat foremost followed by numerous other considerations such as size of business, number of tanks owned, whether the company is too small to be self-insurable, nearest alternative fuel source and whether the facility is in a rural location. Several other criteria are used to rank applications with an emphasis on small rural tank owners that pose an imminent public health threat and have acted in good faith to undertake as much of the work as possible on their own.

Although the Board has addressed public health threats associated with leaking underground petroleum storage tanks to a considerable extent, the problem is not yet resolved and will take many years to resolve statewide. Again, the Board fully supports the recommendation outlined in the Preliminary Report.

Please feel free to contact me at 465-5219 at your convenience if you have any questions or wish to discuss this matter further.

Sincerely Yours,

John C. Barnett
Executive Director, Board of Storage Tank Assistance

cc: Judy Chadwick-Anderson, Board Chairperson

ALASKA STATE LEGISLATURE

LEGISLATIVE BUDGET AND AUDIT COMMITTEE
Division of Legislative Audit

P. O. Box 113300
Juneau, AK 99811-3300
(907) 465-3830
FAX (907) 465-2347

December 29, 1995

Members of the Legislative
Budget and Audit Committee:

We have reviewed the response of the Board of Storage Tank Assistance to our audit report. We have made the suggested editing changes noted in the letter regarding a dollar amount used in the report and the description of one of the State's underground storage tank programs.

Randy S. Welker
Legislative Auditor

CORRECTION

THE FOLLOWING DOCUMENT(S)
HAVE BEEN REFILMED TO
ASSURE LEGIBILITY OR PAGINATION

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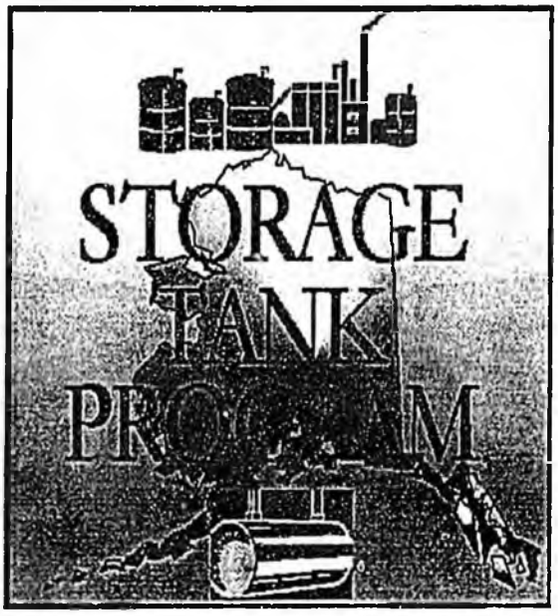
Randy S. Welker
Legislative Auditor

DEPARTMENT OF ENVIRONMENTAL CONSERVATION



UNDERGROUND STORAGE TANKS PROCEDURES MANUAL

*

GUIDANCE FOR REMEDIATION OF PETROLEUM-CONTAMINATED SOIL AND WATER AND STANDARD SAMPLING PROCEDURES

PUBLIC REVIEW DRAFT AMENDMENTS

March 13, 1997

CHAPTER 1. GUIDANCE FOR REMEDIATION OF PETROLEUM-CONTAMINATED SOIL AND WATER AT UNDERGROUND STORAGE TANK SITES

SECTION 2. REMEDIATION TECHNOLOGIES

Section 2.2 is amended to read:

2.2 Landspreading

Landspreading is a passive remediation method that decreases petroleum product concentrations in soil through biological action and aeration. Landspreading operations may require a solid waste disposal permit under 18 AAC 60. In general, a permit is not required if the soil will be removed from the landspreading site after the landspreading activity is complete.

Landspreading works well with soils contaminated with gasoline and soils lightly contaminated with diesel or other heavier chain petroleum products. Used or waste oil contaminated soil can be landspread if, before treatment, the contaminated soil has a toxicity characteristic leaching procedure (TCLP) level of 20 times [METAL CONTAMINATION FACTOR OF 0.01 OF] the maximum level shown in 40 C.F.R. 261.24, Table 1 (1994). In general, heavy metal concentrations in the TCLP extract should be below the maximum contaminant levels (MCLs) set out in 18 AAC 80.

SECTION 3. REMEDIATION CHECKLISTS

All checklists will be updated to reflect correct citations to applicable sections in 18 AAC 75 and 18 AAC 78.

Landfarming Checklist

Project Name_____ **UST Facility #0-C**_____
Page Number in Report ____

____ Workplan with detailed specifications for the landfarming project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If applicable, description of cultured microbes, any additives, and oxygen source with their rate of application and biodegration (18 AAC 75.355(c)(4)).

____ If landfarm is constructed off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.355(b)(2)).

____ If landfarm is constructed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

In-situ Bioremediation Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report___

____ Workplan with detailed specifications for the in-situ bioremediation project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Site monitoring plan showing placement locations for monitoring wells (18 AAC 75.355(e)(1)).

____ Hydrogeologic description of the site addressing soil and sediments present, stratigraphy, groundwater gradient, confining layers, perched water, aquifer transmissivity, percolation rates from precipitation, and other relevant factors (18 AAC 75.355(e)(2)).

____ If required by ADEC, hydrogeologic modeling addressing capture zones, effects of hydraulic loading, and plume migration (18 AAC 75.355(e)(3)).

____ If applicable, description of cultured microbes, any additives, and oxygen source with their rate of application and biodegration (18 AAC 75.355(c)(4)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Cell Bioremediation Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report ____

____ Workplan with detailed specifications for the cell bioremediation project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If applicable, description of cultured microbes, any additives, and oxygen source with their rate of application and biodegration (18 AAC 75.355(c)(4)).

____ If treatment cell is constructed off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If treatment cell is constructed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Landspreading Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report ____

____ Workplan with detailed specifications for the landspreading project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If landspreading is constructed off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If landspreading is constructed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

In-situ Vapor Extraction Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report ___

____ Workplan with detailed specifications for the in-situ vapor extraction project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Site monitoring plan showing placement locations for monitoring wells (18 AAC 75.355(e)(1)).

____ Hydrogeologic description of the site addressing soil and sediments present, stratigraphy, groundwater gradient, confining layers, perched water, aquifer transmissivity, percolation rates from precipitation, and other relevant factors (18 AAC 75.355(e)(2)).

____ If required by ADEC, hydrogeologic modeling addressing capture zones, effects of hydraulic loading, and plume migration (18 AAC 75.355(e)(3)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____

Signature_____

Title_____ Date_____

Prepared Cell Vapor Extraction Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report _____

____ Workplan with detailed specifications for the cell vapor extraction project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If treatment cell is constructed off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If treatment cell is constructed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Solidification and Fixation Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report ___

____ Workplan with detailed specifications for the solidification or fixation project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If solidification or fixation project is off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If solidification or fixation is off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Asphalt Recycling Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report _____

____ Workplan with detailed specifications for the asphalt recycling project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If using a hot asphalt batch plant, certify that processes incorporating contaminated soils meet all current industry standards for asphalt paving (18 AAC 75.355(c)(3)).

____ If required by ADEC, results of a mix design study incorporating excavated materials as certified by a registered engineer. Blending of soil is permissible only to meet design specifications. (18 AAC 75.355).

____ If required by ADEC, results of a leaching assessment (18 AAC 75.355(d)(2)).

____ If required by ADEC, an as-built drawing certified by a registered engineer (18 AAC 75.355(d)(7)).

____ If asphalt recycling is completed off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If asphalt recycling is completed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

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Title_____ Date_____

Thermal Desorption Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in report ____

____ Workplan with detailed specifications for the thermal desorption project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Information submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If thermal desorption is completed off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If thermal desorption is completed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Soil Washing Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report _____

____ Workplan with detailed specifications for the soil washing project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5))

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Soil placed on liner meeting long-term storage requirements (18 AAC 75.355(a)(8) and 18 AAC 75.365).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Infc ıation submitted that addresses containment and handling of leachate (18 AAC 75.355(c)(1)).

____ Project maintains appropriate separation distance from surface water, drinking wells, and groundwater (18 AAC 75.365(a)(2)).

____ If soil washing is c mpleted off-site, the contaminated soil moved to the landfarm site was covered and secured (18 AAC 75.365(b)(2)).

____ If soil washing is completed off-site, compliance with the remediation facility requirements (18 AAC 75.355(f)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

____ Remediated soils returned to original site or disposed of properly (18 AAC 75.365(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Groundwater Pump and Treat Checklist

Project Name_____ **UST Facility #0-00**_____
Page Number in Report ___

___ Workplan with detailed specifications for the groundwater pump and treat project (18 AAC 75.355(a)(2)).

___ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

___ Workplan schedule for conducting field work, monitoring, corrective action performance and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

___ A list of additives and additive effects (18 AAC 75.355(a)(5)).

___ Site control plan (18 AAC 75.355(a)(6)).

___ Wastewater discharge permit for discharge of regulated wastewater (18 AAC 72).

___ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

___ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

___ Site monitoring plan showing placement locations for monitoring wells (18 AAC 75.355(e)(1)).

___ Hydrogeologic description of the site addressing soil and sediments present, stratigraphy, groundwater gradient, confining layers, perched water, aquifer transmissivity, percolation rates from precipitation, and other relevant factors (18 AAC 75.355(e)(2)).

___ If required by ADEC, hydrogeologic modeling addressing capture zones, effects of hydraulic loading, and plume migration (18 AAC 75.355(e)(3)).

___ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

___ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Title_____

Signature_____ Date_____

Air Sparging Checklist

Project Name_____ _____ **UST Facility #0-00**_____
Page Number in Report ____

____ Workplan with detailed sp ecifications for the air sparging project (18 AAC 75.355(a)(2)).

____ Design plan that will provide prevention of contamination migration to previously unaffected areas (18 AAC 75.355(a)(3)).

____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 75.355(a)(4)).

____ A list of additives and additive effects (18 AAC 75.355(a)(5)).

____ Site control plan (18 AAC 75.355(a)(6)).

____ Wastewater discharge permit for discharge of regulated wastewater (18 AAC 72).

____ Project complies with air quality standards and requirements (18 AAC 75.355(a)(7) and 18 AAC 50).

____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 75.355(a)(9) and 18 AAC 72).

____ Site monitoring plan showing placement locations for monitoring wells (18 AAC 75.355(e)(1)).

____ Hydrogeologic description of the site addressing soil and sediments present, stratigraphy, groundwater gradient, confining layers, perched water, aquifer transmissivity, percolation rates from precipitation, and other relevant factors (18 AAC 75.355(e)(2)).

____ If required by ADEC, hydrogeologic modeling addressing capture zones, effects of hydraulic loading, and plume migration (18 AAC 75.355(e)(3)).

____ Post-treatment sampling to ensure cleanup levels have been met (18 AAC 78.610(b)).

____ Cleanup levels achieved (18 AAC 75.360 and 18 AAC 78.630(b)).

I certify that I have personally reviewed the above checklist and that all informati n noted is contained in the attached report.

Name_____ Title_____

Signature_____ Date_____

CHAPTER 2. STANDARD SAMPLING PROCEDURES

SECTION 2. PROGRAM ORGANIZATION AND RESPONSIBILITIES

Section 2.1 is amended to read:

2.1 Personnel and responsibilities

The Qualified Personnel Form, Appendix A, must be submitted to ADEC with a resume for each qualified person to document that all activities under this chapter, including the collection, interpretation, and reporting of data, are conducted or supervised by a qualified person as required by 18 AAC 78. The submitted document must also identify the assessment firm's key UST personnel including the principal investigator and the quality assurance (QA) officer. One person may perform both the principal investigation and quality assurance officer tasks. The [THEIR] responsibilities for these tasks under this chapter are as follows:

(1) the assessment firm's principal investigator is responsible for overall management of the UST site assessment and site investigation program, including adherence to the procedures outlined in this chapter;

(2) the assessment firm's QA officer is responsible for overall quality assurance of the assessment firm's UST program; the QA officer is responsible for conducting scheduled field audits and providing ongoing review, monitoring, and evaluation of the field and laboratory activities; the QA officer shall validate or supervise validation of all reports to ADEC.

SECTION 4. SAMPLING PROCEDURES

Table 1 in subsection 4.1 is repealed and readopted to read:

Table 1: Reference Guide to Sample Collection and Laboratory Analysis

Part A: Soils, Sediments, Sludges, and Fill Materials

Parameter	Preparation Method[1]	Analytical Method[1]	Analytical Detection Limit[2]	Practical Quantitation Limit[3]	Container Description	Preservation/ Holding Time
Gasoline Range Organics	AK101*	AK101*	0.7 mg/kg	7 mg/kg min.	4 oz. amber glass, TLS	methanol, <25°C/ 28 days
Diesel Range Organics	AK102*	AK102*	0.5 mg/kg	5 mg/kg min.	4 oz. amber glass, TLC	4° ± 2°C / 14 days to extract, analyze < 40 days
Residual Range Organics	AK103*	AK103*	10 mg/kg	100 mg/kg	min. 4 oz. amber glass, TLC	4° ± 2°C / 14 days to extract, analyze <-40 days
Total BTEX	AK101*	AK101*	0.007 mg/kg	0.07 mg/kg	min. 4 oz. amber glass, TLS	4° ± 2°C / 14 days or per method requirements
Polynuclear Aromatic Hydrocarbons (PAH)	3540 or 3550	8250, 8270, or 8310	0.1 mg/kg	1.0 mg/kg	min. 4 oz. amber glass, TLS	4° ± 2°C / 14 days to extract; analyze < 40 days
Total Volatile Chlorinated Solvents**	5030	8010, 8240, or 8260	0.008 mg/kg	0.08 mg/kg	min 4 oz. amber glass, TLS	4° ± 2°C / 14 days
Polychlorinated biphenyls (PCBs)	3550 or 3540	8080 or 8081	0.01 mg/kg	0.05 mg/kg	min. 4 oz amber glass, TLC	4° ± 2°C / 14 days to extract; analyze < 40 days
Total Arsenic	per analytical method sepcification	6010, 6020, 7060, or 7061	1 mg/kg	10 mg/kg	min. 4 oz amber glass, TLC	4° ± 2°C / 6 months max. on digestate
Total Cadmium	per analytical method sepcification	6010,6020, 7130, or 7131	1 mg/kg	10 mg/kg	min. 4 oz amber glass, TLC	4° ± 2°C / 6 months max. on digestate
Total Chromium	per analytical method sepcification	6010, 6020, 7190, or 7191	1 mg/kg	10 mg/kg	min. 4 oz amber glass, TLC	4° ± 2°C / 6 months max. on digestate
Total Lead	per analytical method sepcification	6010, 6020, 7420, 7421	1 mg/kg	10 mg/kg	min. 4 oz amber glass, TLC	4° ± 2°C / 6 months max. on digestate

Legend: Total BTEX = Benzene, Toluene, Ethylbenzene, isomers of Xylene (para, meta, or orthoxylene); PAH = naphthalene, fluorene, anthracene, pyrene, benzo-a-anthracene, acenaphthene, chrysene, benzo-a-pyrene,dibenzo-a,h-anthracene, benzo-b-fluoranthene, benzo-k-fluoranthene, ideno-123-cd-pyrene, VOA = Volatile Organic Analysis; TLC = Teflon lined screw caps; TLS = Teflon lined septa sonically bonded to screw caps;

[1] Unless otherwise noted, all preparation and analytical methods refer to those contained in EPA's Methods for Chemical Analysis of Water & Wastes, EPA 600/4-79-020, revised March, 1983 or its Test Methods for the Evaluating Solid Waste, SW-846, (PB84128677), 3rd Edition, including Final Updates I, II, IIA, and IIB, dated January 1995, as amended through _____, 1997, Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268, all of which are adopted by reference.

[2] Method detection limits (MDL) are determined at the department's chemistry laboratory, as specified in 40 C.F.R., Part 136, Appendix B, as amended through ___, 1997, adopted by reference. Each laboratory must verify its own method detection limits and must be better than or equal to those listed here.

[3] Practical quantitation limits (PQL), like method detection limits, are instrument specific. PQLs must be established by each laboratory and must be equal to or exceed those listed here. For purposes of this chapter, PQL = 10 x MDL, except for PCBs which are PQL= 5 x MDL (56 C.F.R. 26511).

* ADEC Analytical Methods AK101, AK102, and AK103 are included in the department's Underground Storage Tank Procedures Manual as Appendix D.

** May be analyzed out of AK101 methanol preserved sample

Table 1: Reference Guide to Sample Collection and Laboratory Analysis (cont.)

Part B: Ground, Surface, Waste, and Marine Waters[4]

Parameter	Preparation Method[1]	Analytical Method[1]	Analytical Detection Limit[3]	Practical Quantitation Limit[3]	Container Description	Preservation/ Holding Time
Gasoline Range Organics	AK101*	AK101*	30 µg/L	300 µg/L	40 mL VOA, TLS	pH < 2 (HCl), 4° ± 2°C / 14 days
Diesel Range Organics	AK102*	AK102*	20 µg/L	200 µg/L	1 L amber glass, TLC	pH < 2 (HCl) 4° ± 2°C / 7 days to extract, analyze < 40 days
Residual Range Organics	Soils only method					
Total BTEX	AK 101*	AK 101*	0.7 µg/L	7 µg/L	duplicate 40 mL vials/sample, TLS	pH < 2 (HCl), 4° ± 2°C / 14 days
Polynuclear Aromatic Hydrocarbons (PAH)	3510 or 3520	610 or 625	1 µg/L	10 µg/L	1 L amber glass, TLS	4° ± 2°C / 7 days to extract, analyze < 40 days
Total Volatile Chlorinated Solvents	5030	601 or 624	0.8 µg/L	8 µg/L	duplicate 40 mL vials/sample, TLS	pH < 2 (HCl), 4° ± 2°C / 14 days
Polychlorinated biphenyls (PCBs)	3510 or 3520	608	1 µg/L	5 µg/L	1 L amber glass, TLC	4° ± 2°C /7 days to extract, analyze < 30 days
Total Arsenic	per analytical method specifications	6010, 6020, 7060, or 7061	100 µg/L	1000 µg/L	min. 100 mL HDPE[5]	pH < 2 (HNO_3), 4° ± 2°C/6 months max. on digestate
Total Cadmium	per analytical method specifications	6010, 6020, 7130, or 7131	100 µg/L	1000 µg/L	min. 100 mL HDPE[5]	pH < 2 (HNO_3), 4° ± 2°C/6 months max. on digestate
Total Chromium	per analytical method specifications	6010, 6020, 7190, or 7191	100 µg/L	1000 µg/L	min. 100 mL HDPE[5]	pH < 2 (HNO_3), 4° ± 2°C/6 months max. on digestate
Total Lead	per analytical method specifications	6010, 6020, 7420, or 7421	100 µg/L	1000 µg/L	min. 100 mL HDPE[5]	pH < 2 (HNO_3), 4° ± 2°C/6 months max. on digestate

Legend: See Part A of this table

[1] See Part A of this table
[2] See Part A of this table
[3] See Part A of this table
[4] Sample collection and laboratory analyses for water collected from drinking water sources must be done in accordance with 18 AAC 80.
[5] HDPE, High Density Polyethylene sample collection bottles, critically cleaned for trace metals analysis.
* ADEC Analytical Methods AK101, AK102, and AK103 are included in the department's Underground Storage Tank Procedures Manual as Appendix D.

Subsection 4.4.1 is amended to read:

4.4.1 Field screening devices

Many field screening instruments are available for detecting petroleum contaminants in the field on a rapid or real-time basis. Acceptable field screening instruments must be suitable for the contaminant being screened. The procedure for field screening using photoionization detectors (PID)s and flame ionization detectors (FIDs) is described in Section 4.4.2. If other instruments are used, a description of the instrument or method and its intended use must be provided to ADEC. Alternative methods must provide equivalent or better accuracy for field screening when compared to the FID or PID devices. Whichever field screening method is chosen, the accuracy of the method must be verified throughout the sampling process through use of appropriate standards to match the use intended for the data. Unless the department indicates otherwise, wherever [WHEREVER] the requirement for field screening is stated in this chapter, instrumental or analytical methods of detection must be used, not olfactory or visual screening methods.

Subsection 4.5(6) is amended to read:

Specific types of sampling activity are as follows:

. . . .

(6) documentation that corrective actions have met applicable cleanup standards [LEVELS] for soil (18 AAC 78.610 [18 AAC 78.320]) and water (18 AAC 78.620 [18 AAC 78.327]) through final verification sampling.

Subsection 4.5.1 is amended to read:

4.5.1 Sample locations for contaminated untreated stockpiles

As noted in Section 4.4 (Field screening), soils must be segregated during excavation based on apparent degrees of contamination. Soils must be stockpiled in accordance with 18 AAC 78.600(g) [18 AAC 78.311. FOR STOCKPILES GREATER THAN 500 CUBIC YARDS, SAMPLING FREQUENCY MUST BE DETERMINED BEFORE SAMPLING BY CONSULTATION WITH THE ADEC PROJECT MANAGER].

Characterizing stockpiled soil is necessary to determine whether treatment or disposal of the soil is needed, to assist with selection of treatment or disposal methods, and to establish baseline data for use in evaluating the effectiveness of treatment.

To determine if untreated stockpiled soils can be disposed or considered not contaminated, stockpiled soils must be characterized by using

(1) field screening; at least one soil sample must be obtained from each 10 cubic yards of stockpiled soil for field screening purposes; samples must be obtained from various depths in the pile, but none less than 18 inches beneath the exposed surface of the pile; field screening must follow the procedures outlined in this section and results must be documented in a site log book; and

(2) the number [LABORATORY ANALYSIS] of grab samples collected from each stockpile according to the requirements of 18 AAC 78.610(b) [18 AAC 78.320(c)].

Section 4 is amended by adding a new subsection to read:

4.5.3 Sample locations for remediated excavated soils

To determine if excavated soil has been remediated, final cleanup verification samples must be from the location and depth of areas showing the highest levels of contamination during field screening.

Unless otherwise approved by the ADEC project manager, at least one field screening sample must be obtained from each 10 cubic yards of remediated soil. Field screening samples must be obtained from various depths, but not less than 18 inches beneath the exposed surface of the soil. Field screening must follow the procedures outlined in this section and the results must be documented in a site log book.

The number of grab samples collected from the remediated soil must be as required by 18 AAC 78.610(b).

Subsection 4.7 is amended to read:

4.7 Obtaining groundwater samples from borings/wells

Groundwater samples might be required if contamination of the groundwater is suspected. Water sampled directly from an excavation is not necessarily representative of normal groundwater conditions and will not be evaluated as a representative groundwater sample. In such cases, installation and sampling of a groundwater monitoring well might be required, as determined by ADEC under 18 AAC 78.620 [18 AAC 78.327].

The lead-in to subsection 4.7.1 is amended to read:

4.7.1 Installing groundwater monitoring wells

Unless otherwise directed by ADEC, if groundwater monitoring wells are required, the installation must be as required by 18 AAC 78.620(b) [18 AAC 78.327(b)], and the following procedures must be used:

[no further changes to this subsection]

Subsection 4.7.2.1 is amended to read:

4.7.2.1 Determining well depth and presence of nonaqueous phase liquids

Before sampling a monitoring well, the column of water in the well casing must be checked for the presence of nonaqueous phase liquids, including free petroleum products that might be floating on top of the water or in a separate layer at the bottom of the casing. Nonaqueous phase liquids are identified by:

(1) carefully lowering a clean [CLEAR] bailer, in a manner that will create minimum disturbance, into the well before purging and observing the liquids removed from the top and the bottom of the water column;

(2) using a paste type of detector with ingredients that will not lead to cross-contamination; or

(3) using an electronic device designed to detect nonaqueous liquids and to measure the thickness of the nonaqueous layer.

If free product is present, the well must be bailed or pumped to remove the product and must be monitored to evaluate the recharge rate.

Subsection 4.7.2.3, paragraph (4), is amended to read:

4.7.2.3 Collecting groundwater samples with bailers

If a bailer is used to collect samples, the following procedure must be used:

[no changes to paragraphs (1) - (3) of this subsection]

(4) bailers must be made of glass, Teflon, stainless steel, other suitable materials, or of disposable materials such as Teflon or polyethylene; polyvinyl chloride (PVC) [; PLASTIC] bailers are not acceptable for sampling volatile organic compounds; all bailers must be decontaminated as outlined in Section 4.8 (Decontamination of equipment);

[no changes to paragraphs (5) - (12) of this subsection]

SECTION 6. ANALYTICAL PROCEDURES

Subsections 6.2 and 6.3 are amended, and Table 2 is repealed and readopted, and Table 2A is added, as follows:

6.2 Identification of laboratory conducting analyses

Only results from a laboratory approved by ADEC will be accepted by ADEC for use in reports prepared under this chapter. ADEC will not accept laboratory results unless the laboratory's current state laboratory UST identification number accompanies those results.

6.3 Determination of analyses for petroleum hydrocarbons

Unless approval to deviate from these specifications is obtained in advance from ADEC, selection and use of all laboratory analyses must conform to the provisions of Table 2 and appropriate sections of this chapter. Table 2 indicates which product is to be tested for each petroleum fraction using Alaska Series, AK 101, AK 102, and AK103 methods and for the various indicator compounds listed in Table 2A, using methods from EPA's *Test Methods for Evaluating Solid Waste*, SW-846, adopted by reference in Table 1. The identity of a released refined petroleum product is assumed to be unknown unless a laboratory analysis shows that a contaminant is only a gasoline or only a nongasoline refined product, unless this requirement is waived by ADEC.

If it can be documented that only one type of product was stored or distributed during the operational life of a facility, a waiver may be requested from ADEC for the requirement to determine the identity of the product, in accordance with 18 AAC 78.605(b) [18 AAC 78.315(d)]. The information collected in the examination of the site background (Section 4.3.1) will be used to determine if a waiver should be sought.

If leaded gasoline is a potential contaminant at the site, a preliminary laboratory analysis for lead might be required. The ADEC project manager must be contacted for this determination. Samples collected for lead may be composited before analysis. Unless the concentration of total lead exceeds 100 mg/kg, the analysis may be used only to document the level of lead for use in meeting treatment and disposal data needs and criteria.

Table 2
Determination of Sampling and Laboratory Analysis for Soil(S) and Groundwater(GW)

Petroleum Product	C6-C10 GRO	C10-C25 DRO	C25-C36 RRO	BTEX	PAH[1]	Metals[3] and Solvents[4]
Leaded Gasoline/ Aviation Gasoline	S & GW			S & GW	S[2]	(S & GW)[5]
Gasoline/JP-4	S & GW			S & GW	S[2]	
Diesel/ #1&#2 Fuel Oil	S & GW	S & GW	S & GW	S & GW	S & GW	
#3 - #6 Fuel Oils/JP-5		S & GW	S & GW	GW	S & GW	
Waste Oil (crankcase)	S & GW	S & GW	S & GW	S & GW	S & GW	S & GW
Kerosene	S & GW	S & GW	S & GW	S & GW	S & GW	
Mineral/Dielectric Oils		S & GW	S & GW	GW		
Unknown	S & GW	S & GW	S & GW	S & GW	S & GW	S & GW

Legend:
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
RRO = Residual Range Organics
BTEX = refers to the indicator compounds to be analyzed: Benzene, Toluene, Ethylbenzene, and Xylene.
PAH = naphthalene, fluorene, anthracene, pyrene, benzo-a-anthracene, acenaphthene, chrysene, benzo-a-pyrene,dibenzo-a,h-anthracene, benzo-b-fluoranthene, benzo-k-fluoranthene, ideno-123-cd-pyrene

[1] PAH analysis for soils would be required for all petroleum releases, unless the combined petroleum hydrocarbon cleanup levels for all fractions at the site is equal to or less than 500 mg/kg.

[2] All of the PAH indicator compounds listed in Table 2A would be required for all petroleum products except gasoline and JP-4 fuel spill analysis which would be limited to the naphthalene only, unless the project manager requires otherwise.

[3] Metals analysis, except where noted, would include: arsenic, barium, cadmium, chromium, lead, nickel, and vanadium.

[4] Volatile chlorinated solvents and other additives listed in Table 2A must be performed if required by the project manager.

[5] Metal analysis for lead only must be performed if required by the project manager.

TABLE 2A
INDICATOR COMPOUNDS
FOR PETROLEUM CONTAMINATED SITES

- *Volatiles (BTEX)*
  - benzene
  - toluene
  - Ethyl benzene
  - xylene
- *Polynuclear Aromatic Hydrocarbons (PAHs)**
  - anthracene
  - acenaphthene
  - benzo(a)pyrene
  - pyrene
  - naphthalene
  - chrysene
  - indeno(1.,2,3,-cd)pyrene
  - benzo(k)fluoranthene
  - fluorene
  - benzo(b)fluoranthene
  - benzo(a)anthracene
  - dibenzo(a,h)anthracene
- *Metals as required on a case by case basis*
  - arsenic
  - barium
  - cadmium
  - chromium
  - lead
  - nickel
  - vanadium
- *Others as needed on a case by case basis*
  - ethylene dibromide (EDB)
  - 1,2 dichloroethane (EDC)
  - methyl 1 tert-butylether (MTBE)
  - chlorinated solvents

Section 6 is amended by adding a new subsection to read:

6.4 Retrofitting AK Method Series Analytical Results

ADEC is proposing a risk-based indicator/surrogate approach for developing cleanup levels for petroleum contamination, which is described in ADEC's petroleum cleanup guidance, *Background Development of Regulations for Soil and Groundwater Cleanup Levels at Sites Contaminated with Petroleum Products*, adopted by reference in 18 AAC 75. This approach uses the same petroleum hydrocarbon ranges found in the AK series methods (C_6 - C_{10}, C_{10} - C_{25}, and C_{25} - C_{36}), but further separates them into aliphatic and aromatic fractions for each range. Using the aliphatic and aromatic fractions increases the validity associated with estimating the risk of the contamination and the accuracy when analyzing the fate and transport of the fraction.

The AK Series methods are unable to quantify the percent of aliphatic and aromatic fractions. To retrofit the data generated by the AK Series methods, ADEC has correlated the GRO, DRO, and RRO hydrocarbon ranges with an assumed distribution of aliphatic and aromatic compounds. To maintain ADEC's overall conservative approach and because fuel constituents vary considerably, the total of both the aliphatic and aromatics percentages is 120% rather than 100%. This will conservatively overestimate the potential risk due to the high variability in fuel constituents. The proposed default composition of the percent aliphatic and aromatic fractions for each range of petroleum hydrocarbons is stated in Table 2B. These will be used unless there is actual fractional data available or if site screening or sampling indicates that the aromatic fraction for the site is higher than the default value listed.

TABLE 2B
PROPOSED DEFAULT COMPOSITIONS FOR
ALIPHATIC AND AROMATIC FRACTIONS FOR EACH HYDROCARBON RANGE

CARBON RANGE	PERCENT ALIPHATIC*	PERCENT AROMATIC*
GRO - C_6 - C_{10}	70	50
DRO - C_{10} - C_{25}	80	40
RRO - C_{25} - C_{36}	90	30
Note: To maintain ADEC's overall conservative approach and because fuel constituents vary considerably, the total of both the aliphatic and aromatics percentages is 120% rather than 100%. This will conservatively overestimate the potential risk due to the high variability in fuel constituents.		

SECTION 7. CALIBRATION AND MAINTENANCE OF FIELD EQUIPMENT

Subsection 7.1.1, paragraph (1) is amended to read:

7.1.1 Calibration

(1) If PID and FID field instruments are used, instruments must be calibrated before each testing session to yield "total organic vapors" in parts per million to a benzene equivalent. The PID instrument must be operated with a lamp source that is able to detect the contaminants of concern, operates at a minimum of 10.6 eV [10.2 eV], and is capable of ionizing those contaminants of concern.

[no changes to remainder of this subsection]

SECTION 8. DATA REDUCTION, VALIDATION, AND REPORTING

Subsection 8.4.2, paragraph (a)(8) is amended to read:

(8) state laboratory UST [FILE] identification number;

Subsection 8.4.2, paragraph (b)(1) is amended to read:

(1) state laboratory UST [FILE] identification number;

SECTION 9. INTERNAL QUALITY CONTROL CHECKS

Table 3 in Subsection 9.1 is repealed and readopted to read:

TABLE 3
Example of Field Quality Control Summary

Quality Control Designation	Tolerance	Results This Project
Holding time to extract DRO for soil	14 days at 4° ± 2° C	
Holding time to extract DRO for water	7 days at 4° ± 2° C	
Holding time to analyze DRO for soil	Less than 40 days	
Holding time to analyze DRO for water	Less than 40 days	
Holding time w/methanol GRO for soil	28 days	
Holding time GRO for water	14 days at 4° ± 2° C	
Holding time to extract RRO for soil	14 days at 4° ± 2° C	
Holding time to analyze RRO for soil	Less than 40 days	
Holding time to anaylze; BTEX; soil	14 days at 4° ± 2° C or per method requirements	
Holding time BTEX for water	14 days at 4° ± 2° C	
Holding time to extract PAH for soil	14 days at 4° ± 2° C	
Holding time to extract PAH for water	7 days at 4° ± 2° C	
Holding time to analyze PAH for soil	Less than 40 days	
Holding time to analyze PAH for water	Less than 40 days	
Holding time Total VCS for soil	14 days at 4° ± 2° C	
Holding time Total VCS for water	14 days at 4° ± 2° C	
Holding time to extract PCB for soil	14 days at 4° ± 2° C	
Holding time to extract PCB for water	7 days at 4° ± 2° C	
Holding time to analyze PCB for soil	Less than 40 days	
Holding time to analyze PCB for water	Less than 30 days	
Holding time on digestate Total arsenic for soil	6 months max. at 4° ± 2° C	
Holding time on digestate Total arsenic for water	6 months max. at 4° ± 2° C	
Holding time on digestate Total cadmium for soil	6 months max. at 4° ± 2° C	
Holding time on digestate Total cadmium for water	6 months max. at 4° ± 2° C	
Holding time on digestate Total chromium for soil	6 months max. at 4° ± 2° C	
Holding time on digestate Total chromium for water	6 months max. at 4° ± 2° C	
Holding time on digestate Total lead for water	6 months max. at 4° ± 2° C	
Completeness	85%	
Field Duplicate	From ADEC project manager	
Decontamination Blank (s)	Less than practical quantitation limit	
Trip Blank (s)	Less than practical quantitation limit	
Methanol Trip Blank	Less than practical quantitation limit	
Field Blank	Less than practical quantitation limit	
Background Sample (s)	Assess background influence on final verification samples	

Legend: BTEX = Benzene, Toluene, Ethyl-benzene, Xylene;
DRO = Diesel Range Organics;
GRO = Gasoline Range Organics;
RRO= Residual Range Organics;
PAH = Polynuclear Aromatic Hydrocarbons; individual indicator PAH compounds
PCB = Polychlorinated Biphenyls;
VCS = Volatile Chlorinated Solvents.

Subsection 9.1.1, including Table 4, are repealed and readopted:

9.1.1 Minimum field QC sample requirements

Table 4 shows the minimum level of sample QC scrutiny that must be applied to field sampling. A description of each type of field QC sample appears in Sections 9.1.2. - 9.1.5. Reference to sets of samples in this and subsequent subsections refers to samples taken from the same site (or, for multiple sampling points within a single project, from the same area within a site that has uniform characteristics such as grain size and organic content) during the same sampling event during a discrete time period. It does not apply to sampling points from different sites, samples taken at significant time differences from each other, nor multiple samples from the same site, but with nonuniform site characteristics.

Table 4. Minimum Quality Control Scrutiny

Minimum Field QC Samples Required	When Required	Allowable Tolerance
Field Duplicate (One per set of 10 samples, minimum of one)	All soil and water samples	Precision set by Project Manager
Decontamination or Equipment Blank (One per set of 20 similar samples, minimum of one)	All soil and water samples where sampling equipment is decontaminated between samples	Less than the practical quantitation limit listed in Table 1
Trip Blank (One per set of 20 volatile samples, minimum of one)	All water samples being analyzed for GRO, BTEX, or volatile chlorinated solvents.	Less than the practical quantitation limit listed in Table 1
Methanol Trip Blank (One per set of 20, minimum of one)	All soil samples being analyzed for GRO, BTEX or volatile chlorinated solvents using AK101 field methanol preservation	Less than the practical quantitation limit listed in Table 1
Field Blank (One per set of 20, minimum of one)	Per project specifications. Used for highly contaminated sites with volatile organic contaminants	Less than the practical quantitation limit listed in Table 1

Subsection 9.1.2 - 9.1.6 are repealed and readopted to read:

9.1.2 Field duplicate sample

Field duplicate samples are useful in documenting the precision (variability) of the sampling process and the site. They are independent samples collected as close as possible to the same point in space and time. They are two separate samples taken from the same source, stored in separate containers, and analyzed independently.

At least one field duplicate must be collected for every 10 samples for each matrix sampled, for each target compound. Duplicate water samples must be collected as close as possible to the same point in space and time and must be collected before any decontamination blanks are collected. Duplicate soil samples must be collected as close as possible to the same point in space and time. All field duplicates must be blind samples and must be given unique sample numbers just like any other field sample. Their collection should be adequately documented. The results from field duplicate samples must be used to calculate a precision value for field sampling quality control. The formula in 9.1.6 will be used to calculate precision.

9.1.3 Decontamination or equipment blank

A decontamination or equipment blank is used to determine if contamination occurred from sampling equipment such as pumps and bailers and checks to make sure equipment decontamination procedures have been effective. This blank is a sample of contaminant-free media used to rinse sampling equipment. It must be collected after completion of decontamination procedures and before sampling. Decontamination blanks for water samples must be collected as described in Section 4.7.2 (Sampling groundwater monitoring wells). Decontamination blanks for soil samples must be collected in a similar manner. Decontamination blanks would not be required if disposable bailers are used for each sample taken.

If decontamination blanks are required, at least one decontamination blank must be collected and analyzed for each set of water samples that might contain volatiles. In addition, at least one decontamination blank must be collected and analyzed for every 20 soil samples collected each day.

9.1.4 Trip blank and methanol trip blank

A trip blank is used to document if contamination occurred in the sample containers during shipping, transport, or storage procedures. This blank is a sample of contaminant-free media taken from the laboratory to the sampling site along with each batch of samples and returned to the laboratory **unopened**. An aqueous trip blank would contain organic free water and a methanol trip blank would contain methanol. This type of blank can be especially useful in documenting when trace volatile organic compounds are being investigated. A trip blank would be used for samples being analyzed for all volatile organic compounds such as GRO, BTEX, and volatile chlorinated solvents.

If a trip or methanol trip blank is required, at least one trip or methanol trip blank must accompany each set of 10 samples that might contain volatile organic contaminants.

9.1.5 Field blank

A field blank is used to document if sample contamination occurred as a result of reagent and/or environmental contamination from contaminated air at the sample location. This blank is especially helpful for highly contaminated sites with volatile organic compounds. A field blank is a sample of contaminant-free media taken from the laboratory to the sampling site and **opened onsite** during the sampling procedure. The field blank is then sealed and appropriately labeled and returned to the laboratory for analysis with the sample batch. The field blank does not replace the trip blank.

If required, a field blank must accompany each set of 20 samples destined for volatile organics analysis.

9.1.6 Background sample

A background sample is optional and is taken to document and assess contaminant baseline or historical information. This sample is collected in an area judged to be free of a site contaminant. A background sample must be collected whenever, in the QA officer's judgment, it is required:

(1) to document the occurrence of naturally occurring organics, especially when their presence might interfere with analytical tests;

(2) to document the presence of contamination by migration of contaminants from offsite or non-UST-related sources; and

(3) in a corrective action or treatment plan.

Section 9 is amended by adding new subsections to read:

9.2 Laboratory Quality Control Samples

Laboratory quality control (QC) samples typically accompany the field samples during the laboratory preparation and analysis. The number of laboratory QC samples are dependent on the standard operating procedures of the method used. Labs do not generally charge for quality control analyses. The only laboratory quality control that would affect field sampling procedures would be the addition of a surrogate(s) that is included in the methanol preservation solution for use on soil samples being analyzed for volatile organic comtaminants, especially, GRO and BTEX using AK101. A list of laboratory QC samples follow:

9.2.1 List of laboratory quality control samples

Surrogates: The surrogate is analyzed and the recovery, expressed as a percentage, is intended to indicate the percent recovery of the contaminant. A surrogate is added to every sample that is being analyzed for organic compounds, including field quality control samples before sample preparation and analysis. In AK101, a methanol/surrogate solution is used in the field for preserving soil samples being analyzed for volatile organic compounds, especially, GRO and BTEX.

Retention time standard: A retention time standard is method specific and is used to verify the integration range. It also provides data for column performance. The elution pattern indicates expected boiling ranges for petroleum products that have boiling range production criteria.

Laboratory spike and laboratory spike duplicates samples: These samples are used to determine precision and accuracy of the analytical results through the percent recovery and relative percent difference. Quantities of stock solutions of the target contaminant(s) are added to laboratory matrix before it is extracted/digested and analyzed.

Matrix spike and matrix spike duplicate samples: These samples are used to assess and document the precision and bias of a method as a result of that specific sample matrix.

Reagent blank: The reagent blank is used to evaluate possible contamination of analytical process by target contaminants. No contaminant should be present in the reagent blank at a concentration greater than the method detection limit.

Bottle blanks: Bottle blanks may be used for diesel and gasoline organic analyses to determine if the bottles used are contaminant free.

Instrument blanks: The instrument blanks are used for diesel and gasoline analyses to determine if the instruments used are contaminant free.

Subsection 10.1 is repealed:

10.1 Staff training Repealed _____, 1997 [NORMALLY, THE NEED FOR TRAINING OF SAMPLING PERSONNEL WILL BE DETERMINED THROUGH THE AUDITING PROCEDURES OUTLINED IN SECTION 11.1.1 (AUDITING OF SAMPLING PERSONNEL). IF THE CORRECTIVE ACTIONS OUTLINED IN SECTION 11.1.1 DO NOT RESULT IN ACCEPTABLE PERFORMANCE, THE SAMPLING PERSONNEL MUST BE REMOVED FROM SAMPLING ACTIVITIES UNTIL THEY CAN DEMONSTRATE ADHERENCE TO THE PROCEDURES IN THIS CHAPTER. THE NEED FOR ADDITIONAL TRAINING OF NON-SAMPLING PERSONNEL IS INDICATED THROUGH SCHEDULED AUDITS AND DATA VALIDATION AND REPORTING. THE OWNER OR OPERATOR SHALL ENSURE THAT THE ASSESSMENT FIRM CONTRACTS FOR OR PROVIDES NECESSARY TRAINING OF THE APPROPRIATE PERSONS IF A POTENTIAL PROBLEM WITH DATA QUALITY IS IDENTIFIED BEFORE THE PERSON PERFORMS THE ACTIVITY AGAIN.]

Subsections 10.3, 10.4, and 10.5 are amended, and 10.6 is repealed as follows:

10.3 Field instrument failure and improper use

If [AN AUDIT OF FIELD SAMPLING PERFORMANCE INDICATES THAT] field instruments are being improperly used (or not used), [THE INSTRUMENT OPERATORS MUST BE RETRAINED AND THEIR ACTIVITIES AUDITED AS SPECIFIED IN SECTION 11.1.1, AND] field data must be re-collected.

10.4 Failures in data processing, management, or analysis

Problems with data processing, management, or analysis is typically discovered during data reduction, validation, and reporting (see Section 8) [OR DURING SCHEDULED AUDITS (SEE SECTION 11)]. If these problems occur, the owner or operator shall ensure that the QA officer or another appropriate person is notified. Upon review of the problem, the owner or operator shall ensure that the QA officer or other appropriate person

[(1) INITIATES STEPS TO RETRAIN THE PERSON PERFORMING THE TASK;]

(2) initiates actions to correct the improper procedure;

(3) adheres to procedures outlined for notifying the QA officer and project manager of potential problems with data quality;

[(4) ADHERES TO PROCEDURES FOR DOCUMENTING POTENTIAL PROBLEMS AND NONCOMPLIANCE; AND

(5) ADHERES TO PROCEDURES FOR DETERMINING WHEN NONSCHEDULED AUDITS ARE NEEDED].

10.5 Corrective actions with laboratory

Normally, any corrective actions necessary in a laboratory are handled internally by the approved laboratory through its approved QA/QC procedures on file with ADEC. The need for corrective action in the laboratory is identified by

(1) the laboratory's internal QC checks;
(2) the data review conducted by the assessment firm (see Section 8.3); or
(3) the laboratory's performance audits[(SEE SECTION 11.2).

IF APPROPRIATE SATISFACTORY CORRECTIVE ACTIONS ARE NOT PERFORMED BY THE LABORATORY, THE ASSESSMENT FIRM MAY NOT CONTRACT WITH THAT LABORATORY TO PERFORM FUTURE ANALYSES UNTIL THE PROBLEM IS RESOLVED.

10.6 Corrective actions for other problems Repealed ___/1997 [OTHER PROBLEMS NOT DISCUSSED IN THIS CHAPTER MIGHT INTERFERE WITH THE ASSESSMENT FIRM MEETING THE DATA QUALITY OBJECTIVES OF THIS CHAPTER. APPROPRIATE CORRECTIVE ACTIONS MUST BE TAKEN FOR THESE PROBLEMS AND MUST BE INITIATED BY THE QA OFFICER, PRINCIPAL INVESTIGATOR, OR ASSESSMENT FIRM MANAGEMENT].

Sections 11 and 12 are repealed:

SECTION 11. PERFORMANCE AUDITS

Repealed ____, 1997.

[THE OWNER OR OPERATOR SHALL ENSURE THAT THE ASSESSMENT FIRM PREPARES AN ANNUAL REPORT THAT COMPILES INFORMATION OBTAINED FROM AUDITS OF THE FIRM'S ACTIVITIES UNDER THIS CHAPTER. ACTIVITIES DESCRIBED IN THIS SECTION ARE TO BE USED AS A GUIDELINE IN DESIGNING THE AUDITS.

11.1 AUDITING OF FIELD SAMPLING

11.1.1 AUDITING OF SAMPLING PERSONNEL THE OWNER OR OPERATOR SHALL ENSURE THAT ALL EMPLOYEES OF THE ASSESSMENT FIRM ARE PROPERLY TRAINED AND THEIR PERFORMANCE AUDITED BEFORE PARTICIPATING WITHOUT SUPERVISION IN SAMPLING ACTIVITIES. AT A MINIMUM, BEFORE ENGAGING IN ANY SAMPLING PROCEDURE FOR THE FIRST TIME, AN EMPLOYEE MUST:

(1) BE TRAINED BY A QUALIFIED PERSON WHO HAS CONDUCTED THE PROCEDURE BEFORE; AND

(2) HAVE READ THE EXPECTED PROCEDURES OUTLINED IN THIS CHAPTER, THE RELEVANT PROVISIONS OF 18 AAC 78, AND THE ASSESSMENT FIRM'S RELEVANT OPERATIONS MANUAL.

AFTER INITIAL INSTRUCTION IN THE PROCEDURE, THE TRAINER MUST AUDIT THE EMPLOYEE'S SAMPLING ACTIVITIES. THE EMPLOYEE'S PERFORMANCE MUST CONTINUE TO BE AUDITED UNTIL THE EMPLOYEE CAN CONSISTENTLY PERFORM THE ACTIVITY IN ACCORDANCE WITH THE EXPECTED PROCEDURES.

AFTER DEMONSTRATING SATISFACTORY PERFORMANCE IN A PROCEDURE, EACH EMPLOYEE'S FIELD PROCEDURES MUST BE AUDITED AT LEAST ANNUALLY. ALL FIELD SAMPLING PERFORMANCE MUST BE EVALUATED DURING THIS AUDIT.

IF ANY CORRECTIVE ACTIONS RESULT FROM AN EMPLOYEE'S DEVIATION FROM THE EXPECTED FIELD PROCEDURES, THE EMPLOYEE'S PERFORMANCE ON THE ACTIVITY THAT PROMPTED THE CORRECTIVE ACTION MUST BE AUDITED DURING THE NEXT SAMPLING EVENT. THE PERFORMANCE MUST CONTINUE TO BE AUDITED UNTIL THE EMPLOYEE CONSISTENTLY PERFORMS THE ACTIVITY IN ACCORDANCE WITH EXPECTED PROCEDURES.

11.1.2 AUDITING OF FIELD PROCEDURES THE OWNER OR OPERATOR SHALL ENSURE THAT, AT LEAST ANNUALLY, THE SUFFICIENCY OF THE SAMPLING PROCEDURES IN THIS CHAPTER ARE AUDITED BY THE ASSESSMENT FIRM'S QA OFFICER. THIS AUDIT MAY BE COMBINED WITH AN ANNUAL AUDIT OF AN EMPLOYEE.

11.1.3 MONITORING OF FIELD SUBCONTRACTORS THE OWNER OR OPERATOR SHALL ENSURE THAT, AT A MINIMUM, ASSESSMENT FIRM FIELD STAFF ROUTINELY MONITORS THE PERFORMANCE OF:

(1) WELL DRILLERS;
(2) EXCAVATION EQUIPMENT OPERATORS;
(3) DRILLING OR EXCAVATION EQUIPMENT;
(4) REMOVERS OF PRODUCT;
(5) TREATMENT FACILITY OPERATORS; AND
(6) TREATMENT EQUIPMENT.

IF THIS MONITORING INDICATES THAT CHANGES IN SUBCONTRACTORS OR EQUIPMENT QUALITY WILL IMPROVE OR LESSEN THE QUALITY OF FIELD SAMPLING ACTIVITIES, THE OWNER OR OPERATOR SHALL ENSURE THAT THE QA OFFICER OR PRINCIPAL INVESTIGATOR IS NOTIFIED AND THAT, IF NECESSARY, THE OFFICER OR INVESTIGATOR IMPLEMENTS APPROPRIATE CORRECTIVE MEASURES.

11.1.4 MONITORING OF FIELD EQUIPMENT FIELD INSTRUMENTS MUST BE MAINTAINED AND CALIBRATED AS OUTLINED IN SECTION 7.1. IN ADDITION, THE RESULTS OF FIELD INSTRUMENT ANALYSES MUST BE COMPARED WITH ANALYTICAL RESULTS. UNEXPECTED OR UNEXPLAINED DISCREPANCIES MUST BE REVIEWED AND, IF NECESSARY, CORRECTIVE ACTION MUST BE TAKEN AS OUTLINED IN SECTION 10 (CORRECTIVE ACTIONS).

PERFORMANCE OF DECONTAMINATION EQUIPMENT AND SOLUTIONS MUST BE AUDITED BY PERIODIC COLLECTION AND ANALYSIS OF DECONTAMINATION (EQUIPMENT) BLANKS. UNEXPECTED OR UNEXPLAINED RESULTS MUST BE REVIEWED AND, IF NECESSARY, CORRECTIVE ACTION MUST BE TAKEN AS OUTLINED IN SECTION 10 (CORRECTIVE ACTIONS).

11.1.5 AUDITING OF FIELD RECORDS ALL FIELD RECORDS AND ANY OTHER RELEVANT FIELD DATA MUST BE AUDITED BY A QUALIFIED PERSON BEFORE REPORTS ARE SUBMITTED.

11.1.6 PERSONNEL CONDUCTING FIELD AUDITS AUDITING OF ALL ACTIVITIES MUST BE CONDUCTED BY A PERSON WHO HAS CONDUCTED OR SUPERVISED THE AUDITED ACTIVITIES BEFORE. THIS ACTIVITY MUST BE PERFORMED BY THE ASSESSMENT FIRM'S UST QA OFFICER.

11.1.7 DOCUMENTATION AND SUBMISSION OF FIELD AUDITS EACH PERSON PERFORMING AN AUDIT SHALL DOCUMENT RELEVANT OBSERVATIONS AND SUBMIT THEM TO THE QA OFFICER OR PRINCIPAL INVESTIGATOR, WHO SHALL EVALUATE THE OBSERVATIONS AND IMPLEMENT APPROPRIATE CORRECTIVE MEASURES.

11.2 SYSTEM AUDITS THE OWNER OR OPERATOR SHALL ENSURE THAT AT LEAST ONCE EACH YEAR THE QA OFFICER EXAMINES:

(1) DOCUMENTATION THAT ADEC APPROVED LABORATORIES ARE USED FOR ALL UST PROJECTS;
(2) ALL FIELD AND LABORATORY AUDIT REPORTS;
(3) MAJOR CORRECTIVE ACTIONS TAKEN;
(4) OVERALL PROGRAM FOR COMPLIANCE OF THE ASSESSMENT FIRM'S UST PROGRAM WITH INDUSTRY STANDARDS, REGULATORY REQUIREMENTS, AND EMERGING TECHNOLOGY; AND
(5) THE ADEQUACY OF ALL ELEMENTS OF THIS CHAPTER.

THIS AUDIT MAY BE CONDUCTED AS PART OF THE ASSESSMENT FIRM'S REVIEW OF NON-UST ACTIVITIES.

AT A MINIMUM, THE DOCUMENTATION OF THIS AUDIT MUST BE SUBMITTED AS PART OF A QUALITY ASSURANCE REPORT TO MANAGEMENT, AS OUTLINED IN SECTION 12.]

SECTION 12. QUALITY ASSURANCE REPORTS TO MANAGEMENT

Repealed ___ , 1997.

[THE OWNER OR OPERATOR SHALL ENSURE THAT THE ASSESSMENT FIRM PREPARES A QUALITY ASSURANCE (QA) REPORT FOR THE ASSESSMENT FIRM'S MANAGEMENT THAT COVERS THE FIRM'S USE OF THE PROCEDURES IN THIS CHAPTER AND ADHERES TO THE PROTOCOLS IN THIS SECTION.

12.1 CONTENTS OF REPORTS TO MANAGEMENT THE QA REPORT TO MANAGEMENT MUST BE BASED ON A REVIEW OF DATA QUALITY INDICATORS, RESULTS OF FIELD AND LABORATORY PERFORMANCE AUDITS, REPORTS ON CORRECTIVE ACTION OR SAMPLE ALTERATION, OR LIMITATIONS ON THE USE OF MEASUREMENT DATA AND THE EFFECTS ON LEGAL DEFENSIBILITY.

12.2 PREPARATION OF REPORTS TO MANAGEMENT A QA REPORT MUST BE PREPARED BY THOSE INDIVIDUALS WHO POSSESS THE EDUCATION, PROFESSIONAL EXPERIENCE, AND TRAINING NECESSARY TO ASSESS THE QUALITY OF DATA BEING GENERATED, TO EVALUATE THE RESULTS OF FIELD AND LABORATORY AUDITS AND THE SUFFICIENCY OF CORRECTIVE ACTIONS, AND TO RECOMMEND EFFECTIVE SOLUTIONS TO PROBLEMS ENCOUNTERED.

12.3 SCHEDULE OF REPORTS TO MANAGEMENT AT A MINIMUM, QA REPORTS MUST BE PROVIDED ANNUALLY AFTER COMPLETION OF SYSTEM AUDITS. IN ADDITION, A REPORT TO APPROPRIATE MANAGEMENT MUST BE PROVIDED WHEN SIGNIFICANT QA PROBLEMS ARISE.

12.4 WHO RECEIVES REPORTS TO MANAGEMENT AT A MINIMUM, THE ASSESSMENT FIRM'S SUPERVISOR OF ALL UST PROGRAM ACTIVITIES MUST REVIEW QA REPORTS. QA REPORTS ARE FOR INTERNAL USE AND MIGHT BE CONFIDENTIAL; THERE IS NO REQUIREMENT TO SUBMIT THESE REPORTS TO

ADEC. HOWEVER, IF A QUESTION ARISES CONCERNING AN ASSESSMENT FIRM'S COMPLIANCE WITH THIS CHAPTER, COPIES OF THE REPORTS MUST BE AVAILABLE FOR REVIEW BY ADEC. THE ASSESSMENT FIRM MAY INCLUDE INFORMATION IN A QA REPORT THAT HELPS DOCUMENT COMPLIANCE WITH THIS CHAPTER OR WITH 18 AAC 78.]

Appendices A, B, and C are repealed and replaced as follows:

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPENDIX A

Qualified Personnel Form

This form must be submitted before any work conducted by the assessment firm under Chapter 2, Standard Sampling Procedures of the Underground Storage Tanks Procedures Manual. Resumes and any other pertinent documents must be submitted as attachments to demonstrate that the personnel listed below are "qualified" as defined in 18 AAC 78. Resumes need to contain dates of degrees obtained and professional experience and or work history. The assessment firm shall notify ADEC of all amendments to this listing and submit a revised form along with documentation of personnel changes and resumes, if additional people are added.

Assessment Firm Name _____
Address _____
City, State, Zip Code _____
Phone Number _____
Fax Number _____
Principal Investigator _____
QA Officer _____

QUALIFIED PERSONNEL

A "qualified person" is one who actively practices environmental science or engineering, geology, physical science, hydrology, or a related field, and has: (1) a bachelor's degree or equivalent from an accredited postsecondary institution in environmental science or engineering, geology, hydrology, physical science, or a related field; and (2) at least one year of supervised sampling and analysis field work experience completed after the degree is obtained.

1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____
7. _____ 8. _____
9. _____ 10. _____
11. _____ 12. _____
13. _____ 14. _____
15. _____ 16. _____
17. _____ 18. _____
19. _____ 20. _____
21. _____ 22. _____
23. _____ 24. _____
25. _____ 26. _____
27. _____ 28. _____
29. _____ 30. _____

APPENDIX B
ADEC Storage Tank Program
Site Assessment and Release Investigation Summary Form

This document summarizes information from site assessments and release investigation reports that are required by Alaska's Underground Storage Tanks Regulations (18 AAC 78). It is intended to ensure minimum requirements are met when submitting full reports to ADEC. It cannot be substituted for comprehensive site assessment or release investigation reports. Site assessments as defined in AS 46.03.450 are conducted to check for the presence or absence of petroleum contamination. If contamination of soil or groundwater is identified then a release investigation is required. Site assessments and release investigations must be conducted by a qualified impartial third party (as defined in 18 AAC 78) and in accordance with Chapter 2 of the Underground Storage Tanks Procedures Manual (UST Manual).

How to fill out this form

Type or print in ink the requested information and sign in ink the "signature" blocks on page 7. Please attach this form to the comprehensive site assessment or release investigation report (or include it in the report introduction) and submit it to the nearest ADEC field operations office's in Juneau, Anchorage, Fairbanks or Soldotna.

1. General Information

Purpose of Site assessment/ Release investigation: _____
(Closure, Change-in-service, Suspected or confirmed release, Compliance check, Other)

Owner of site:

_____ _____
Name of company/legal entity that owns the site — Phone number

_____ _____
Mailing address — City, State, Zip code

Operator of site:

_____ _____
Name of company/legal entity that operates the site — Phone number

_____ _____
Mailing address of operator — City, State, Zip code

Location of site:

_____ _____
Name of site (e.g. John Doe's Service Station) — Phone number

_____ _____
Physical address of site (be as specific as possible) — City, State, Zip code

_____ _____
Legal description of site — Section/township/range

_____ _____
Type of business at site — Facility ID # / Tank ID number(s)

Financial Assistance Applications filed (this site only)
☐ Site assessment/ tightness test ☐ Tank cleanup ☐ Tank upgrade ☐ Tank closure

Reports on file with ADEC:
☐ Tightness test ☐ Closure notice ☐ Other_____

2. System and tank status

Describe the status, size, and contents of the tanks that have been at the site:

Tank ID Number:	Tank No. ___	Tank No. ___	Tank No. ___	Tank No. ___	Tank No. ___
Tank status (check one) Currently in use					
Temporarily closure					
Closed/left in place					
Closed/removed					
Total capacity (gallons)					
Contents (diesel, etc)					

3. Firm conducting site assessment or release investigation

Name of firm	Phone number
Mailing address	City, State, Zip code
Site assessment supervisor(s)	Person(s) collecting samples

4. Site history

Based on the best available knowledge, please check the appropriate box below:

Y	N	
__	__	Was soil contamination observed or identified?
__	__	Was groundwater contamination observed or identified?
__	__	Did inventory control or prior tank repairs indicate a possible release?
__	__	Has a tank tightness test been performed on any USTs on the site?
__	__	Have any of the facility's USTs or piping ever failed a tightness test?
__	__	Have there been any previous site assessments performed at this site?
__	__	Do previous site assessments indicate any contamination has occurred?

If the answer to any of these questions is yes, please describe (or attach copy of report discussion). Give dates and circumstances, use continuation sheet if necessary:

5. Field screening analysis

Date(s) of field screening:_____ Temperature(s) during screening:_____
Estimated wind speeds:_____ Weather (clear, raining, etc):_____
Type of field detection instrument used: _____
Brand:_____ Model: _____ Date calibrated:_____
Number of tests:_____ Range of results:_____
If an instrument wasn't used, what field detection method was used?_____
Number of tests:_____ Range of results:_____

6. Collection of soil samples

For site assessments done for USTs remaining in place

Check the appropriate boxes below (if not applicable, leave blank):

Y	N	
__	__	Were samples taken from borings (or test pits) within 5 feet of the UST?
__	__	Were samples collected from within 2 feet below the bottom of the UST?
__	__	Were dispensers connected to the UST system?
__	__	Were samples taken from borings (or test pits) adjacent to dispensers?
__	__	Were samples taken from borings (or test pits) adjacent to piping?

How many borings/pits were made?_____ How many samples were analyzed? _____

For site assessments done at excavation and removal of USTs:

Check the appropriate boxes below (if not applicable, leave blank):

Y	N	
__	__	Were any areas of obvious contamination identified or observed?
__	__	Were samples taken from areas of obvious contamination?
__	__	Were at least two discrete analytical samples taken from the excavated pit area?
__	__	Was at least one sample taken from below each dispensing island's piping?
__	__	Was at least one sample taken from the piping trench?
__	__	Were the samples referenced above collected taken from native soil within two feet below the bottom of the tank pit or dispenser/piping trench?
__	__	If multiple tanks were removed, were at least three samples collected?
__	__	Were additional samples collected for each 250 square feet of pit area over the initial 250 square feet?

Number of distinct points sampled:_____ Estimated excavation's surface area: _____

For all site assessments

Check the appropriate boxes below:

Y	N	
__	__	Were field duplicate samples collected and analyzed?
__	__	Were all samples kept at the appropriate temperature until analysis?
__	__	Were all samples extracted & analyzed within recommended holding times?
__	__	Did chain-of-custody/transfer logs accompany samples to laboratory?

7. Laboratory analysis of soil samples

(see Table 1 of UST Procedures Manual or Table G of 18 AAC 78.800(b))

Identify the possible contaminants (gasoline, BTEX, diesel, etc.): _____

Please list the analytical methods used to detect these contaminants in the soil samples, the number of samples analyzed by each method, and the range of results for each method:

Possible product	**Analytical method**	**Number of samples**	**Range of results**	**Location(s) of sample point(s) w/ highest level of contamination**
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

8. Groundwater investigation

Check the appropriate boxes below:

Y	N	
__	__	Was groundwater encountered during the excavation or drilling work?
__	__	Were borings drilled/pits dug at least 5 feet below the USTs bottom?
__	__	Is groundwater or seasonal high water table known or suspected to exist within 5 feet of the bottom of the USTs?
__	__	Were samples taken from borings drilled/test pits dug to this water level?
__	__	Were all these samples analyzed within recommended holding times?

How many groundwater/saturated-soil samples were collected & analyzed? _____

How many of these samples were taken from the top 6" of water table? _____

How many field QC samples were analyzed? _____ Trip blanks _____ Duplicates _____ Decon blanks

9. Laboratory analysis of water samples
(see Table 1 of UST Procedures Manual or Table G of 18 AAC 78.800(b))

Identify the possible contaminants at the site: _____

Identify the analytical methods used to detect these contaminants in the water samples, the number of samples analyzed by each method, and the range of results for each method:

Analytical method	**Number of samples**	**Range of results (ppm)**	**Location(s) of sample point with highest level of contamination**
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

10. Disposal of material
Check the appropriate boxes below (if not applicable, leave blank):

Y N

__ __ Were tanks cleaned in accordance with API 2015 (Safe Entry and Cleaning of Petroleum Storage Tanks)?

__ __ Were the tanks and piping removed and disposed in accordance with API 1604 (Closure of Underground Petroleum Storage Tanks)?

Where were the tanks and piping disposed?_____

_____

Where was the tank sludge and rinsewater disposed?_____

_____

11. Stockpiles
Check the appropriate boxes below:

Y N

__ __ Is any soil stockpiled at the site?

__ __ Are soils stockpiled in accordance with 18 AAC 78.600(g)?

12. Release investigation
Check the appropriate box below:

Y N

__ __ Was any petroleum contamination identified during site characterization or site assessment?

(Answer "yes" if any evidence a release occurred; if no, proceed to item 13)

When did release occur? _____ (Date & time) When was release confirmed? _____ (Date & time)

When was ADEC notified? _____ (Date & time) List ADEC staff notified: _____ (Name)

What is status of UST that prompted the investigation? ____ In use ____ Out-of-use, product still in system ____ Out-of-use system empty ____ Permanently closed

Briefly describe (or attach copy of report discussion) the steps taken to prevent further migration of the release and steps taken to monitor and mitigate fire and safety hazards:_____

_____

_____

_____

13. Site sketch

Sketch the site in the space below. Alternatively, attach a site map to the back of the form. The sketch (or accompanying narrative) should include the following information:

- locations of all USTs, piping, and dispensers
- distances from tanks to nearby structures
- property line locations
- location and dimensions of excavation(s)
- type of backfill used to surround system
- locations of any known historical releases
- locations of any observed contamination
- location of any boreholes and test pits
- soil types
- field screening locations and readings
- sampling locations, depths, & sample ID numbers
- water wells and monitoring wells (if present)
- depth to groundwater/seasonal high groundwater
- locations of any stockpiled soils
- north arrow
- bar scale (specify feet or meters)

For release investigations, in addition to the above information, show the groundwater gradient; surface drainages (including potential hydraulic connections with groundwater) and utility trenches.

14. Quality assurance

Check the appropriate boxes below:

Y	N	
__	__	Were there deviations from Chapter 2 of the UST Procedures Manual? (Note that any deviations must be documented in a section of the comprehensive report)
__	__	Is a field quality control summary included in the reports?
__	__	Is a laboratory QC summary included in the report for all samples used to verify cleanup levels have been met?

15. Certification

The following certification is to be signed by the assessment firm's principal investigator or Quality Assurance Officer:

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of Chapter 2 of the UST Procedures Manual.

_____ _____

(Print name) (Title)

_____ _____

(Signature) (Date)

The following certification is to be signed by the UST owner/operator (or designated representative):

I certify that I have personally examined and am familiar with the information in this and all attached documents and based on my inquiry of the individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

_____ _____

(Print name) (Specify if owner, operator, representative)

_____ _____

(Signature) (Date)

_____ _____

(Street Address) (City, State, Zip)

16. Attachments

Please check the boxes showing any comprehensive reports attached to this summary:

____ Site Assessment Report (include if no release investigation is needed)

____ Release Investigation Report (include if release investigation is needed)