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OAK RIDGE
Y-12
PLANT

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Y/SUB/97-99069C/Y22/8

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UNDERGROUND STORAGE TANK MANAGEMENT PLAN

OAK RIDGE Y-12 PLANT
OAK RIDGE, TENNESSEE

Environmental Compliance Organization

September 1997

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for the
U.S. Department of Energy

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FOR THE UNITED STATES
DEPARTMENT OF ENERGY

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UNDERGROUND STORAGE TANK PROGRAM

**OAK RIDGE Y-12 PLANT
OAK RIDGE, TENNESSEE**

Environmental Compliance Organization

September 1997

Prepared by

**Science Applications International Corporation
for the
Oak Ridge Y-12 Plant
Oak Ridge, Tennessee 37831**

Managed by

**Lockheed Martin Energy Systems, Inc.
for the
U.S. Department of Energy
Under Contract No. DE-AC05-84OR21400**

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contributed to the preparation of this document and should not
be considered an eligible contractor for its review.

TABLE OF CONTENTS

	Page
LIST OF FIGURES / TABLES	v
LIST OF ACRONYMS	v
EXECUTIVE SUMMARY	vii
1.0 REGULATORY REQUIREMENTS	1-1
1.1 OAK RIDGE RESERVATION FEDERAL FACILITY AGREEMENT	1-1
1.2 DEPARTMENT OF ENERGY ORDERS	1-1
1.3 DEPARTMENT OF ENERGY UST NOTIFICATION REQUIREMENTS	1-1
1.3.1 Requirements for Existing Tanks	1-1
1.3.2 Requirements for New Tanks	1-2
1.3.3 Requirements for Release Reporting	1-2
1.4 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT	1-2
1.5 RESOURCE CONSERVATION AND RECOVERY ACT	1-2
1.6 TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION RULES	1-2
1.6.1 Program Scope and Minimum Requirements for Tanks	1-3
1.6.2 UST Systems: Design, Construction, Installation, and Notification	1-4
1.6.3 General Operating Requirements	1-5
1.6.4 Release Detection	1-6
1.6.5 Discovery of Free Product	1-8
1.6.6 Release Reporting, Investigation, and Confirmation	1-12
1.6.7 Release Response and Corrective Action	1-12
1.6.8 Analytical Requirements	1-15
1.6.9 Out-of-Service UST Systems and Closure	1-16
1.7 TDEC DIVISION OF USTs REFERENCE HANDBOOK	1-17
1.8 TDEC DIVISION OF USTs TANK OWNERS MANUAL	1-18
2.0 OPERATION AND MANAGEMENT OF ACTIVE UST SITES	2-1
2.1 UST NOTIFICATION REQUIREMENTS	2-1
2.1.1 Annual Tank Fee Information	2-2
2.1.2 Facility Compliance Inspections	2-3
2.2 SPILL AND OVERFILL CONTROL	2-3
2.2.1 9754-3	2-3
2.2.2 Transportation Safeguards Division	2-3
2.3 CORROSION PROTECTION	2-4
2.3.1 9754-3	2-4
2.3.2 Transportation Safeguards Division	2-4
2.4 RELEASE DETECTION	2-4
2.4.1 9754-3	2-4
2.4.2 Transportation Safeguards Division	2-6
2.5 OTHER SYSTEMS	2-6

TABLE OF CONTENTS (continued)

	Page
2.5.1 9754-3	2-7
2.5.2 Transportation Safeguards Division	2-7
2.6 RECORDKEEPING REQUIREMENTS	2-7
3.0 MANAGEMENT OF OUT-OF-SERVICE UST SITES	3-1
3.1 UST NOTIFICATION REQUIREMENTS	3-1
3.2 ANNUAL TANK FEE INFORMATION	3-1
3.3 UST SYSTEM CLOSURE	3-2
3.3.1 Closure in Place	3-2
3.3.2 Tank Removal	3-2
3.4 SITE-SPECIFIC STANDARD REQUESTS	3-3
3.5 MONITORING ONLY PROGRAM REQUIREMENTS	3-4
3.6 RECORDKEEPING REQUIREMENTS	3-4
APPENDICES	
Appendix A Y-12 PLANT UST PROGRAM INVENTORY	A-1
Appendix B Applicable Portions of CERCLA	B-1
Appendix C RCRA 40 CFR Part 280	C-1
Appendix D TDEC Chapter 1200-1-15	D-1
Appendix E Oak Ridge Y-12 Plant UST Operational Procedure	E-1
Appendix F TDEC UST System Report Forms	F-1
Appendix G TDEC UST Technical Guidance Documents	G-1
Appendix H TDEC UST Closure Assessment Guidelines	H-1

LIST OF FIGURES / TABLES

<u>Figure</u> <u>Title</u>		
	Page	
1 Decision flowchart for releases from petroleum UST systems	1-9	
Pocket Master UST site location map	Appendix A	
Individual UST site maps	Appendix A	
<u>Table</u> <u>Title</u>		
1 Release detection requirements for existing petroleum UST systems	1-7	
2 Summary of analytical requirements for samples collected from UST sites . . .	1-16	
3 Summary of Y-12 In-Service USTs	2-1	
A-1 Inventory of underground storage tanks at the Y-12 Plant	Appendix A	
A-2 Summary of tank and piping information	Appendix A	

LIST OF ACRONYMS

BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
BTX	Benzene, Toluene, and Xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DRO	Diesel Range Organics
Energy Systems	Martin Marietta Energy Systems, Inc.
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
GRO	Gasoline Range Organics
IDW	investigation derived waste
NPDES	National Pollutant Discharge Elimination System
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TCLP	Toxicity Characteristic Leaching Procedure
TDEC	Tennessee Department of Environment and Conservation
TPH	Total Petroleum Hydrocarbon
TSCA	Toxic Substances Control Act
UST	underground storage tank

EXECUTIVE SUMMARY

The Underground Storage Tank (UST) Program at the Oak Ridge Y-12 Plant was established to locate UST systems at the facility and to ensure that all operating UST systems are free of leaks. UST systems have been removed or upgraded in accordance with Tennessee Department of Environment and Conservation (TDEC) regulations and guidance. With the closure of a significant portion of the USTs, the continuing mission of the UST Management Program is to manage the remaining active UST systems and continue corrective actions in a safe regulatory compliant manner. This Program outlines the compliance issues that must be addressed, reviews the current UST inventory and compliance approach, and presents the status and planned activities associated with each UST system.

The UST Program provides guidance for implementing TDEC regulations and guidelines for petroleum UST systems. The plan is divided into three major sections: (1) regulatory requirements, (2) active UST sites, and (3) out-of-service UST sites. These sections describe in detail the applicable regulatory drivers, the UST sites addressed under the Program, and the procedures and guidance used for compliance.

1.0 REGULATORY REQUIREMENTS

The Underground Storage Tank (UST) Program at the Oak Ridge Y-12 Plant was established with the mission of locating UST systems at the plant site, ensuring that all operating UST systems are free of leaks, establishing a program for the closure of unnecessary UST systems and upgrade of existing systems that are designated to remain in service, and operation and maintenance of active UST systems. There are a number of state and Federal regulations and guidance procedures that influence or dictate decisions made during the management of UST systems at the Y-12 Plant. This section provides a brief outline of the applicable regulations and procedures. In addition, all activities performed under the Y-12 Plant UST Program must adhere to Lockheed Martin Energy Systems, Inc. (Energy Systems) policies, standards, and procedures.

1.1 OAK RIDGE RESERVATION FEDERAL FACILITY AGREEMENT

UST programs are not specifically cited within the Oak Ridge Reservation Federal Facility Agreement (FFA). The FFA does mention radioactive waste UST systems located at the Oak Ridge National Laboratory. However, radioactive waste UST systems will be managed under a different structure. The Y-12 UST Program is implemented in compliance with orders or regulations developed by the U.S. Department of Energy (DOE), U.S. Environmental Protection Agency (EPA), and the Tennessee Department of Environment and Conservation (TDEC). A summary of these orders or regulations is presented in the subsequent subsections of this chapter.

1.2 DEPARTMENT OF ENERGY ORDERS

Although there are no DOE orders that specifically address UST systems, applicable orders to the Y-12 UST Program include DOE Order 5480.1B, *Environmental Protection, Safety, and Health Program for DOE Operations*, which prescribes the program and criteria for environmental protection, safety, and health for DOE operations, and DOE Order 5400.1, *General Environmental Protection Program*, which establishes requirements, authorities, and responsibilities for DOE operations that ensure compliance with applicable Federal, state, and local environmental protection laws and regulations.

1.3 DEPARTMENT OF ENERGY UST NOTIFICATION REQUIREMENTS

Sections 1.3.1 through 1.3.3 summarize DOE notification requirements and those requirements cited in the Code of Federal Regulations (CFR) within 40 CFR Part 280 that are to be implemented for UST systems.

1.3.1 Requirements for Existing Tanks

DOE facilities should review current UST system inventories and notification forms issued on or before May 1986 to ensure that all regulated systems have been reported to the proper agencies responsible for implementation of UST regulations. In addition to notification forms for new regulated USTs, separate notification forms should be prepared and submitted concurrently for new unregulated USTs (i.e., those that are less than 110 gallons in size or are

used for storage of heating oil) because DOE will treat these unregulated systems in the same manner as regulated systems.

1.3.2 Requirements for New Tanks

DOE facilities should complete notification forms 45 days prior to bringing new UST systems into use to ensure compliance with the 30-day notification requirement of the implementing agency (TDEC). The notification shall include all required information and proper certifications, and shall be submitted on the appropriate TDEC notification form.

1.3.3 Requirements for Release Reporting

Suspected releases from UST systems, including inconclusive tank tightness tests, must be reported immediately upon discovery to the Oak Ridge Operations Site Office. Site checks shall be conducted to confirm the presence of a suspected release. DOE will be responsible for notifying the implementing agency (TDEC) of known or suspected release situations in accordance with the Environmental Protection Division's Environmental Incident Reporting Procedures.

1.4 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulations, found in 40 CFR Part 300 (Appendix B), do not specifically address UST systems. However, any CERCLA hazardous substance(s) released to the environment via leaking UST systems would be addressed under this regulation. Petroleum products and crude oil are excluded from regulation under CERCLA (Appendix B).

1.5 RESOURCE CONSERVATION AND RECOVERY ACT

The primary RCRA regulation regarding Petroleum and Hazardous substance USTs is found in 40 CFR Part 280 (Appendix C), which was developed in response to the addition of Subtitle I to RCRA by Congress. Subtitle I required EPA to develop regulations to protect human health and the environment from UST system releases. Under Section 9003, as amended by the Superfund Amendments and Reauthorization Act (SARA), EPA and states under a cooperative agreement with EPA have the authority to cleanup petroleum releases from UST systems, or to require system owners/operators to conduct such activities. Section 9004 permits EPA to authorize states to implement their own UST programs in place of Federal programs provided that the state program requirements are "no less stringent" than that defined by EPA, and that the state programs provide for adequate enforcement.

1.6 TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION RULES

Environmental compliance requirements related to petroleum UST systems located within the State of Tennessee are defined within the Rules of the TDEC, Division of Underground Storage Tanks, under Chapter 1200-1-15, *UST Program*. Regulations contained within Chapter 1200-1-15 define the technical standards and corrective action requirements for owners/operators

of petroleum UST systems and, therefore, apply to the Y-12 UST Program. A copy of the current Chapter 1200-1-15 revision is presented in Appendix D of this document. This chapter contains seven major subsections that address the following technical topics:

- Program Scope and Minimum Requirements for Tanks (1200-1-15-.01)
- UST Systems: Design, Construction, Installation, and Notification (1200-1-15-.02)
- General Operating Requirements (1200-1-15-.03)
- Release Detection (1200-1-15-.04)
- Release Reporting, Investigation, and Confirmation (1200-1-15-.05)
- Release Response and Corrective Action for UST Systems Containing Petroleum (1200-1-15-.06)
- Out-of-Service UST Systems and Closure (1200-1-15-.07)

Chapter 1200-1-15 contains five appendices that address the issues of notification for USTs, statement for shipping tickets and invoices, groundwater and soil petroleum contamination cleanup levels, and removal of USTs. Chapter 1200-1-15 also contains four subsections that address the following financial topics:

- Financial Responsibility (1200-1-15-.08)
- Administrative Guidelines and Procedures for the Tennessee Petroleum UST Fund (1200-1-15-.09)
- Fee Collection and Certification Issuance Regulations (1200-1-15-.10)
- UST Program (1200-1-15-.11)

The following discussion summarizes the major points of the technical topic subsections of Chapter 1200-1-15. A discussion of the financial topic subsections is not included because the requirements in these subsections, with the exception of annual petroleum UST fees, do not apply to Federal facilities including the Y-12 Plant.

1.6.1 Program Scope and Minimum Requirements for Tanks

The requirements of Chapter 1200-1-15 apply to all owners/operators of a UST system as defined within Rule 1200-1-15-.01(3) except as otherwise provided by deferral. The requirements contained in Rules 1200-1-15-.02 through 1200-1-15-.05, and 1200-1-15-.07 through 1200-1-15-.11 apply to owners/operators of all existing UST systems, excluding the following:

- wastewater treatment tank systems;
- any UST system containing radioactive material that is regulated under the Atomic Energy Act of 1954 (42 USC 2011 and following);
- any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50 Appendix A;
- airport hydrant fuel distribution systems
- UST systems with field-constructed tanks
- equipment or machinery that contain petroleum for operational purposes such as hydraulic lift tanks and electrical equipment tanks
- any UST system whose capacity is 110 gallons or less;
- any UST system that contains a *de minimus* concentration of petroleum; and
- any emergency spill or overflow containment UST system that is expeditiously emptied after use.

In addition, the requirements of Rule 1200-1-15-.04 do not apply to any existing UST system that stores fuel solely for use by emergency power generators. All new UST systems, including all of the deferred systems noted above with the exception of emergency power generator systems, must meet the minimum requirements for new installations. These requirements are that no new UST system may be installed for the purpose of storing petroleum unless (1) the system will prevent releases due to corrosion or structural failure for the operational life of the system; (2) the system is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of petroleum; and (3) the system is constructed or lined with material that is compatible with the petroleum.

1.6.2 UST Systems: Design, Construction, Installation, and Notification

Each new UST system must be constructed of fiberglass-reinforced plastic; steel with cathodic protection; steel-fiberglass-reinforced-plastic composite; metal without additional corrosion protection provided that the subsurface environment is determined not to be corrosive enough to cause releases during operational lifetime and that owners/operators maintain records that demonstrate compliance with this requirement; or other TDEC-approved materials. In addition, spill and overfill equipment must be provided.

Each UST system must be installed according to the manufacturer's installation instructions. Tank and piping line tightness tests are to be performed to minimize the possibility of leakage during operation. A certification of installation must be issued following tank and line

testing to demonstrate compliance with installation and notification requirements. One or more of the following certification methods may be used to demonstrate compliance:

- the installer has been certified by the tank and piping manufacturer,
- the installation has been inspected and certified by a registered professional engineer,
- the installation has been inspected and approved by TDEC,
- all work listed in the manufacturer's installation checklists has been completed, or
- the owner/operator has complied with an equivalent performance standard.

Existing UST systems that are to remain in service must comply with new UST system performance standards, upgrading requirements for existing systems, or undergo closure. Existing steel tanks must be upgraded to meet one of the following requirements: interior lining, cathodic protection, or internal lining combined with cathodic protection. Existing metal piping must be outfitted with cathodic protection. Also, existing UST systems must be outfitted with spill and overfill prevention equipment.

Notification requirements dictate that any owner who brings a UST system into service must submit a Chapter 1200-1-15 Appendix 1 form to the TDEC Division of Underground Storage Tanks 15 days prior to beginning of operation. Also, any owner/operator that replaces or upgrades an existing UST system must provide notification of such activity to TDEC using the Appendix 1 form within 30 days after completion of the replacement or upgrade. Any type of notification must be filed for each tank owned at a particular facility or location, either separately or collectively on one application. All owners/operators are required to certify compliance with the following requirements: tank and piping installation, cathodic protection, financial responsibility, and release detection.

1.6.3 General Operating Requirements

Spill and overfill control provisions require that the available volume of the tank to be filled must be greater than the proposed volume of petroleum to be added, and that the transfer operation is monitored constantly to prevent overfilling and spilling. Energy Systems has enacted procedures for filling UST systems at the Y-12 Plant that are presented in Appendix E of this document.

Corrosion protection and cathodic protection systems must be operated, maintained, and inspected in an effort to prevent the release of petroleum products. UST systems equipped with cathodic protection systems must be tested within 6 months of installation and at least every 3 years thereafter, and the protection system must be functioning as designed. In addition, impressed current cathodic protection systems must also be inspected every 60 days to ensure proper operation. For systems using cathodic protection, records of the protection operation must be maintained to demonstrate compliance and must provide the results of the last two inspections for all protection systems and the last three inspections of impressed current protection systems.

Owners/operators of UST systems must ensure that repairs will prevent releases caused by structural failure or corrosion as long as the system is used to store petroleum. Repairs must meet the following requirements: repairs to systems must be conducted so as to effectively prevent releases for the operational life of the system; repairs to fiberglass-reinforced tanks must be made by the manufacturer's authorized representatives or in accordance with the manufacturer's specifications; metal pipe sections and fittings that have released product must be replaced; and repaired tanks and piping must be tightness tested within 30 days following completion of repairs. However, in place of tightness testing, one of the following methods may be used to document proper system repair: internal inspection, monthly monitoring for releases, or another test method approved by TDEC.

Owners/operators must submit the following information to TDEC:

- notification for all UST systems, including certification of installation for new UST systems;
- reports of all releases, including suspected releases, spills and overfills, and confirmed releases;
- corrective actions planned or implemented, including initial abatement measures, initial site characterization, free product removal, investigation of soil and groundwater cleanup, and corrective action plan; and
- notification prior to permanent closure or change in service.

Owners/operators are required to maintain the following information:

- analysis of site corrosion potential if corrosion protection equipment is not used;
- documentation of operation of corrosion protection equipment;
- documentation of UST system repairs;
- recent compliance with release detection requirements; and
- results of the site investigation conducted for permanent closure.

All of these records must be available at the site, or at a readily available alternative site for inspection by TDEC.

1.6.4 Release Detection

Release detection shall be performed in such a manner as to detect a release from any portion of the UST system that routinely contains petroleum. Release detection equipment must be installed, calibrated, and maintained in accordance with manufacturer instructions including routine maintenance and service checks for operability, and must comply with the performance requirements for release detection methods.

TDEC must be notified when release detection indicates that a release may have occurred. Owners/operators must comply with release detection requirements within the specified timeframe, which is based on the year that the UST system was installed (Table 1). Any existing UST system that cannot comply with any of the eight approved methods for release detection

Table 1. Release detection requirements for existing petroleum UST systems

Year system was installed	Year when release detection is required (by December 22 of the year indicated)				
	1989	1990	1991	1992	1993
Before 1965 or Date Unknown	RD				
1965 - 1969		P / RD			
1970 - 1974	P		RD		
1975 - 1979				RD	
1980 - Dec. 1988	P				RD

RD = Must begin release detection for tanks and suction piping.

P = Must begin release detection for all pressurized piping.

defined in Chapter 1200-1-15 must complete closure procedures by the release detection installation deadline.

Tanks must be monitored at least every 30 days for releases using automatic tank gauging, vapor monitoring, groundwater monitoring, interstitial monitoring, or another TDEC-approved method unless one of the following three conditions exist:

- (1) UST systems that meet the performance standards for new or upgraded systems and monthly inventory control requirements may use tank tightness testing performed at least every 5 years as an interim release detection measure until December 22, 1998, or until 10 years after the tank was installed or upgraded, whichever is later.
- (2) UST systems that do not meet the performance standards for new or upgraded systems may use monthly inventory controls and annual tank tightness testing as an interim release detection measure until December 22, 1998 when the tank must be upgraded or permanently closed.
- (3) Tanks that maintain a capacity of 550 gallons or less may use weekly tank gauging.

Approved methods of release detection for tanks used to meet the requirements for petroleum UST systems are as follows:

- Monthly Inventory Control
- Manual Tank Gauging
- Tank Tightness Testing
- Automatic Tank Gauging

- Vapor Monitoring
- Groundwater Monitoring
- Interstitial Monitoring
- Other TDEC-approved Methods

Manual tank gauging may only be used as the sole method of release detection for tanks with capacities of 550 gallons or less. This method may be used in place of manual inventory control for tanks with capacities of between 551 and 2,000 gallons. Tanks with capacities greater than 2,000 gallons may not use manual tank gauging as a release detection method.

Approved methods of release detection for piping used to meet the requirements for petroleum UST systems are as follows:

- Automatic Line Leak Detectors
- Line Tightness Testing
- Vapor Monitoring
- Groundwater Monitoring
- Interstitial Monitoring
- Other TDEC-approved Methods

Underground piping that routinely contains petroleum must be monitored for releases in a manner that meets the following requirements. With regard to pressurized piping, the piping must be equipped with an automatic line leak detector and have an annual line tightness test or monthly monitoring conducted. With regard to suction piping, the piping must either have a line tightness test conducted at least every 3 years or use a monthly monitoring method. No release detection is required for suction piping if the following standards are met: the underground piping operates at less than atmospheric pressure; the piping is sloped so that the contents will drain back into the storage tank upon suction release; and only one check valve is included in the line and the valve is located directly below and as close as practical to the suction pump.

Release detection records consisting of written performance claims must be maintained for 5 years from the detection system installation date. Sampling, testing, or monitoring data must be maintained for a 1-year period. Tank tightness test results must be retained until the next test is conducted. Written documentation regarding calibration, maintenance, and repair of on-site release detection equipment must be maintained for a 1-year period. Schedules of required calibration and maintenance, provided by the manufacturer, must be retained for 5 years from the date of the detection system installation.

1.6.5 Discovery of Free Product

In addition to the required actions and reporting presented in Figure 1, owners/operators must immediately begin removal of free petroleum product after discovery of a release in accordance with TDEC Technical Guidance Document - 004 (Appendix G). Situations that require removal of free product are: a measured thickness of free product greater than 0.10 inches in a well, the presence of a sheen on surface water, or the presence of a sheen on the ground surface or within a subsurface structure.

When free product removal is required, equipment capable of continuous free product removal must be installed within 48 hours after discovery, unless otherwise directed by TDEC.

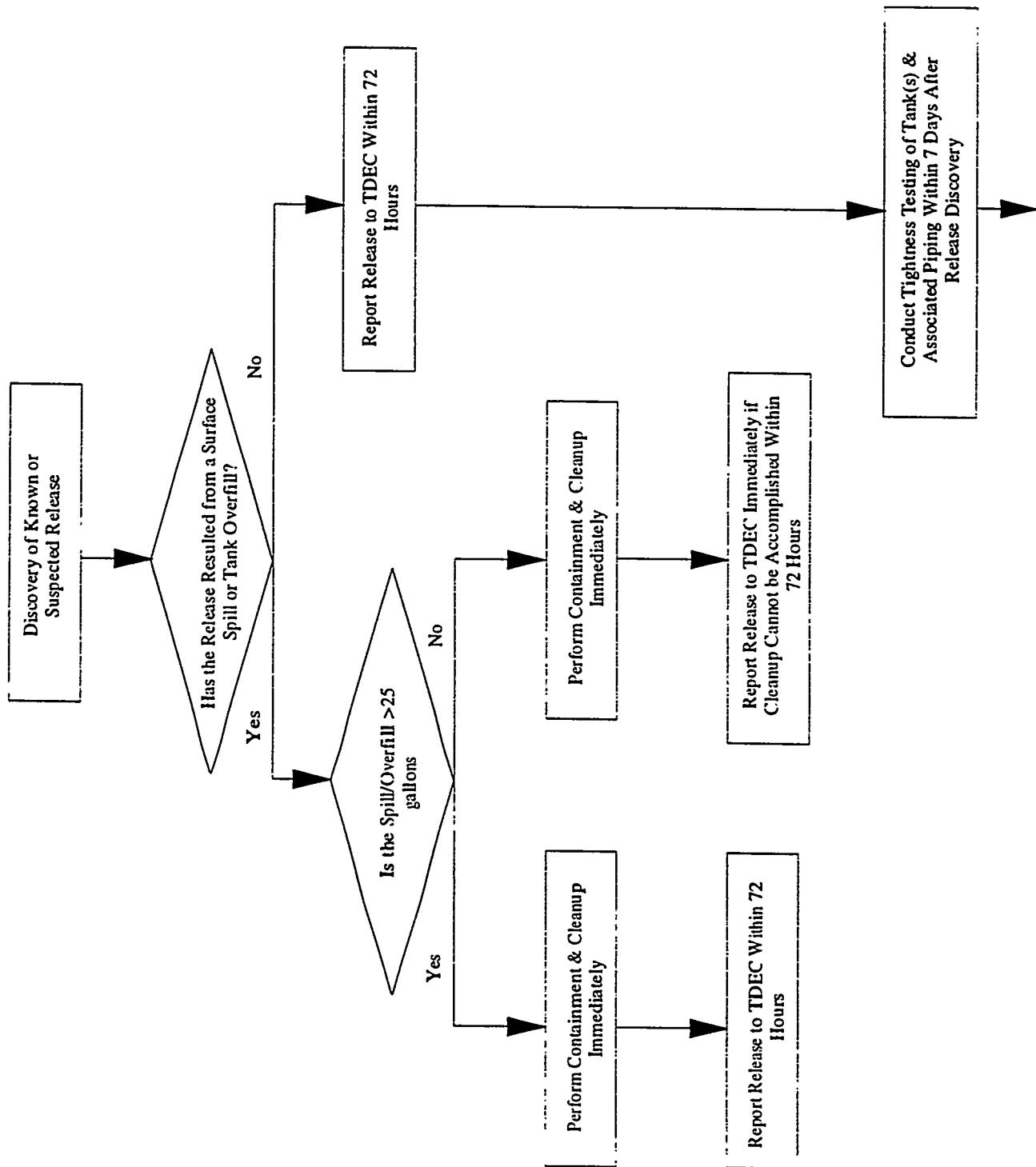


Figure 1. Decision flowchart for releases from petroleum UST systems

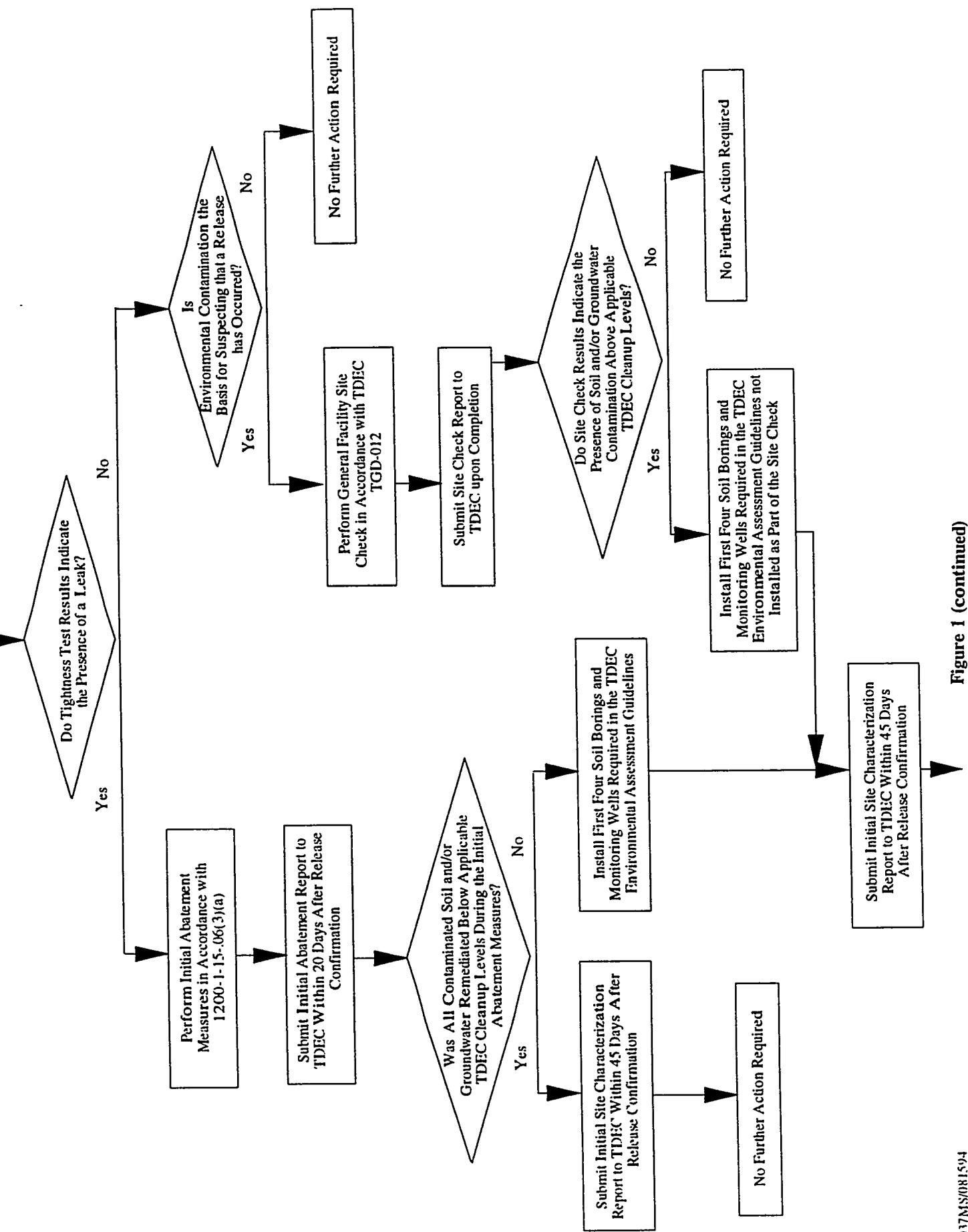


Figure 1 (continued)

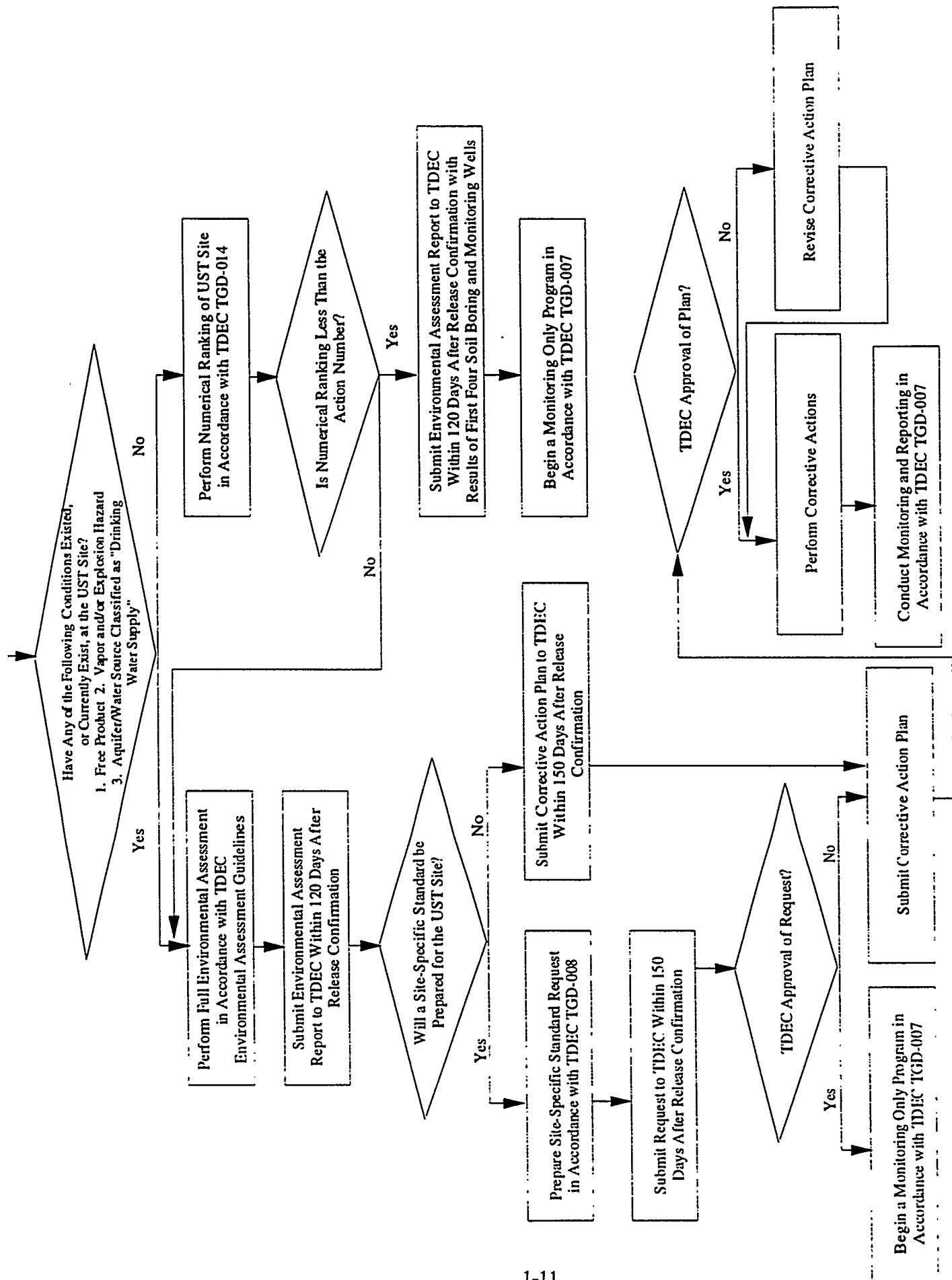


Figure 1 (continued)

The removal system must be designed in such a manner to stop the migration of free product. Where surface water is impacted, petroleum absorbent material such as booms and pads must be installed and replaced whenever necessary. Within 45 days after release confirmation, a Free Product Removal Report must be submitted to TDEC. The form to be utilized for preparation of this report is presented in Appendix F of this document.

1.6.6 Release Reporting, Investigation, and Confirmation

Owners/operators must report to TDEC, within 72 hours, any discovery of released petroleum products, unusual system operating conditions unless the system equipment is found to be defective (but not leaking) and is repaired or replaced immediately, or monitoring results that indicate that a release may have occurred unless (1) the monitoring device is found to be defective and is immediately repaired or replaced, and additional monitoring does not confirm the initial results, or (2) in the case of inventory control, a second month of data does not confirm the initial result.

Unless corrective action is initiated, owners/operators must immediately investigate and confirm all suspected releases of petroleum requiring reporting as described above within 7 days. A system test involving tank and line tightness testing must be conducted to determine whether a leak exists in the tank(s) or associated delivery piping. If a leak is determined to exist based on the results of tightness testing, the owner/operator must repair, replace, or upgrade the UST system, and must begin corrective action. If the results of tightness testing do not indicate that a leak exists, but environmental contamination is the basis for suspecting a release, the owner/operator must conduct a site check.

A site check must be performed to detect the presence of a suspected release where contamination is most likely to be present. The nature of the stored petroleum, type of leak suspected, type of backfill, and depth of groundwater are to be considered when selecting sample types, sample locations, and measurement methods. Corrective action is only required if the site check test results for the excavation zone or the UST site indicate that a release has occurred.

Owners/operators must immediately contain and cleanup spills or overfills of any volume, and begin corrective action, if the spill or overfill results in a release to the environment of more than 25 gallons of petroleum, or causes a sheen on nearby surface water. Spills or overfills of petroleum that are less than 25 gallons must be immediately contained and undergo cleanup. The TDEC Division of Underground Storage Tanks must be informed within 72 hours of any releases exceeding 25 gallons, or immediately if cleanup of releases less than 25 gallons cannot be accomplished within 72 hours.

1.6.7 Release Response and Corrective Action

Upon confirmation of a release, the initial response action by owners/operators shall include reporting the release to the TDEC Division of Underground Storage Tanks within 72 hours, immediate action to prevent additional release, and mitigation of fire, explosion, and vapor hazards. After completion of the initial response actions, further response actions may include initial abatement measures and a site check, initial site characterization, free product removal, release investigation, and a corrective action plan. A description of each of these actions follows.

Initial Abatement Measures / Site Check

Unless otherwise directed, initial abatement measures and a site check must be implemented including (1) removal of petroleum from the UST system to prevent further release; (2) visual inspection of above ground or exposed below ground releases; (3) prevention of further petroleum migration into surrounding soil and groundwater; (4) monitoring and mitigation of hazards posed by vapors migrating from the excavation zone to subsurface structures; (5) mitigation of hazards posed by contaminated soils excavated as a result of release confirmation, site investigation, abatement, or corrective action activities; and (6) investigation to determine the presence of free product, and initiation of free product removal as soon as possible. A report summarizing initial abatement steps, including pertinent data, must be prepared and submitted to TDEC within 20 days after release confirmation.

Initial Site Characterization

Unless otherwise directed, owners/operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing initial abatement measures. This information must include the following: nature and estimated quantity of the release; data concerning surrounding populations, water quality, use and location of potentially affected wells, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use; and results of the initial abatement measures and site check. An initial site characterization report must be prepared and submitted to TDEC within 45 days after release confirmation.

Free Product Removal

Owners/operators must remove free product, to the maximum extent possible, at sites where investigation indicates the presence of free product, while continuing with other response actions. Free product removal must minimize the spread of contamination into previously uncontaminated zones. Unless otherwise directed, a free product removal report must be prepared and submitted to TDEC within 45 days after release confirmation. This report must present the following information: name of responsible person(s); estimated quantity, type, and thickness of observed or measured free product; type of recovery system used; whether any discharge will take place on site or off site during the recovery operation, and the discharge location; type of discharge treatment and expected effluent quality; steps taken or planned to obtain necessary discharge permits; and disposition of recovered free product.

Release Investigation

In order to determine the full extent and location of soil and groundwater contaminated by the release, owners/operators must conduct investigations on the release, the release site, and the surrounding area possibly affected by the release. This type of investigation is required if any of the following conditions exist: there is evidence that groundwater wells have been affected by the release, free product is discovered that requires recovery, there is evidence that contaminated soils may be in contact with groundwater, or the TDEC requests an investigation. An investigation report must be prepared and submitted as soon as possible, or in accordance with a schedule established by the TDEC Division of Underground Storage Tanks.

Corrective Action Plan

At any point after reviewing information submitted in compliance with initial response, initial abatement measure/site check, or initial site characterization actions, the TDEC Division of Underground Storage Tanks may require the development and submission of a corrective action plan. If a plan is required, owners/operators must submit the plan according to a schedule and format established by TDEC. The corrective action plan will only be approved by TDEC after ensuring that its implementation will adequately protect human health, safety, and the environment. Upon approval of the plan, owners/operators must implement planned corrective actions including any modification required by TDEC. Monitoring, evaluation, and reporting of plan implementation results must be conducted in accordance with a schedule and format established by TDEC.

Owners/operators may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin remediation of soil and groundwater prior to corrective action plan approval. However, in doing so, the following conditions must be met: notify TDEC of intention to begin cleanup, comply with any conditions imposed by TDEC, and incorporate self-initiated cleanup measures into the corrective action plan submitted to TDEC for approval.

The corrective action plan submitted to TDEC for approval must address or comply with the following requirements:

- Corrective action planning for groundwater contaminated by petroleum from UST systems that meet the contamination levels listed in Appendix 4 of Chapter 1200-1-15 for drinking and non-drinking water supplies. The plan must determine if the contaminated groundwater met the definition of a drinking water supply before the contamination occurred, and propose site cleanup levels based on the category of groundwater.
- Corrective action planning for soils contaminated by petroleum from UST systems that meet the contamination levels listed in Appendix 5 of TN Rule 1200-1-15 for various soil permeability categories. The plan must propose site cleanup levels based on the category of soil permeability, and the category of groundwater at the site. The permeability of the soil at the site must be reported in the corrective action plan.
- For sites where the background level of petroleum, because of natural conditions, exceeds the levels for cleanup required for soil and/or groundwater as defined in Appendices 4 and 5 of TN Rule 1200-1-15, the owner/operator will only be required to cleanup to the naturally occurring background levels.

After an owner/operator has treated petroleum contamination for an extended period of time and the treatment system has reached asymptotic levels for contaminant removal, or the owner/operator believes that a particular site should not be subject to the cleanup requirements listed in Appendices 4 and 5 of TN Rule 1200-1-15, the TDEC Commissioner may be petitioned for a site-specific standard. However, in the case of an extended treatment period, a site-specific standard can only be requested after the level of contamination in soil and/or groundwater has remained relatively constant for at least four quarters.

1.6.8 Analytical Requirements

1.6.8.1 Analytical Methods

Soil and groundwater samples collected during investigations of petroleum UST sites are required to be analyzed by approved laboratories following standard methods. A listing of laboratories approved by TDEC is contained in Section 6 of the TDEC, Division of Underground Storage Tanks, *Reference Handbook*. Required analytical parameters, methods, and practical quantification limits are summarized in Table 2 and are described below.

Both soil and groundwater samples are required to be analyzed for benzene, toluene, and xylene (BTX) and total petroleum hydrocarbons (TPH). BTX analyses are to be performed following Test Methods for Evaluating Solid Waste (commonly known as SW-846). Purge and trap procedures following Method 5030 should be used for sample preparation. The actual constituent analysis must follow Method 8020, using gas chromatography with a photoionization detector. However, in place of Methods 5030/8020, TDEC has approved the use of Method 8240 for BTX analysis. For soil, the level of total BTX reported as the sum of benzene, toluene, ortho-xylene, meta-xylene, and para-xylene found in the sample, as well as the concentration of the individual results for benzene, toluene, and total xylene are reported.

Commonly, ethylbenzene is quantified during the analysis of BTX constituents. Although not required by TDEC, ethylbenzene results have been reported and included in the summation with benzene, toluene, and xylenes, resulting in a quantification of BTEX rather than BTX.

The required method(s) for TPH analyses is dependent on the type of petroleum product released at a particular site. If gasoline or other low boiling point hydrocarbons (70° to 180°F) were released, the Gasoline Range Organics (GRO) Method should be used. In the event that high boiling point hydrocarbon mixtures (180° to 450°F) such as diesel fuel, kerosene, or fuel oil #2 were released, the Diesel Range Organics (DRO) Method should be used. Releases of heavy hydrocarbon mixtures (boiling point > 450°) such as motor oil or used oil require the use of either Standard Methods of Analysis, Method 503 E, or Methods of Analysis of Water and Wastes, Method 418.1. In cases where the release of a combination of gasoline and diesel petroleum types is suspected or where the type of release is unknown, soil samples must be analyzed by both the GRO Method and the DRO Method and the results summed and reported as TPH.

1.6.8.2 Data Reporting

Requirements for the schematic and tabular presentation of analytical data within investigation reports are presented in the TDEC UST *Reference Handbook*. In addition to a tabular presentation of the data, original laboratory data sheets and copies of chain-of-custody forms are required to be submitted. The following information must be included on original laboratory data sheets:

- facility name,
- UST Facility ID number,
- sample location,

Table 2. Summary of analytical requirements for samples collected from UST sites

Suspected contaminant	Analytical method	Quantification limit
Benzene	SW-846 Method 5030/8020	0.002 ppm (soil and groundwater)
Toluene	SW-846 Method 5030/8020	0.002 ppm (soil and groundwater)
Xylenes	SW-846 Method 5030/8020	0.002 ppm (soil and groundwater)
Benzene, toluene, xylene(s), and ethyl benzene	SW-846 Method 8240	0.005 ppm (groundwater and soil)
Petroleum products with boiling points between 70-180°F (e.g., gasoline)	TPH-GRO	5 ppm (for soil) 0.1 ppm (for groundwater)
Petroleum products with boiling points between 180-450°F (e.g., diesel, kerosene)	TPH-DRO	4 ppm (for soil) 0.1 ppm (for groundwater)
Petroleum products with boiling points >450°F (e.g., used oil)	Method 503E or Method 418.1	<100 ppm (soil) 1 ppm (groundwater)
A mixture of products with one product having a boiling point between 70-180°F and one having a boiling point between 180-450°F (e.g., gasoline and diesel)	TPH-GRO and TPH-DRO	
Hydrocarbon type unknown	TPH-GRO and TPH-DRO	

- sample depth from ground surface,
- date sampled,
- date submitted to the laboratory,
- date analyzed,
- analytical method, and
- detection limit.

1.6.9 Out-of-Service UST Systems and Closure

During temporary closure of a UST system, owners/operators must continue operation and maintenance of corrosion protection and release detection systems and Rule 1200-1-150-.06 must be complied with if a release is detected. However, release detection is not required as long as the UST system is empty of petroleum product as defined per regulatory requirements.

Compliance with reporting, investigation, confirmation, response, and corrective action requirements must be initiated if a release is suspected or confirmed during temporary closure.

When a UST system is temporarily closed for 3 months or longer, owners/operators must leave vent lines open and functioning; cap and secure all other lines, pumps, manways, and ancillary equipment; and must file an amended notification form. When a UST system is temporarily closed for more than 12 months, owners/operators must permanently close the system if it does not meet either performance standards for new or upgraded UST systems, excluding the spill and overfill equipment requirements, unless a written extension of the 12-month temporary closure period is provided by TDEC.

Permanent closure or change-in-service of UST systems requires that owners/operators submit a site closure plan to the TDEC Division of Underground Storage Tanks at least 30 days prior to initiation of activities, unless the action is in response to corrective action. Required assessment of the excavation zone must be performed after notifying TDEC but before completion of the permanent closure or change-in-service.

To permanently close or change the service of a tank, the unit must be emptied and cleaned by removing all liquids and accumulated sludges. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material. Should an owner/operator elect to excavate and remove a tank from the site, all excavation, removal, storage, and disposal activities must be done in accordance with Appendix 6 of the TN Rule 1200-1-15 requirements.

Before permanent closure or change-in-service is completed, owners/operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners/operators must consider the method of closure, the nature of the stored substance, the type of backfill, depth to groundwater, and other factors appropriate for identifying the presence of a release. The requirements for assessment of the UST site can be satisfied if one of the external release detection methods described in Section 1.6.4 of this document is operating at the time of closure, and indicates no release has occurred. In the event that free product, contaminated soils, or groundwater are found during assessment activities, owners/operators must begin corrective action.

Owners/operators must maintain records that are capable of demonstrating compliance with closure requirements. The results of the excavation zone assessment must be maintained for at least 3 years after completion of permanent closure or change-in-service by the party who performed the closure, by the current UST system owner/operator, or by mailing the records to TDEC if they cannot be maintained at the closed facility.

1.7 TDEC DIVISION OF USTs REFERENCE HANDBOOK

Environmental regulatory requirements related to petroleum UST systems are defined within the Rules of TDEC under Chapter 1200-1-15. However, implementation guidelines for compliance with the requirements contained within Chapter 1200-1-15 are defined in the third edition of the TDEC Division of Underground Storage Tanks Reference Handbook, which was issued in July 1996.

The UST Reference Handbook defines various requirements regarding the reporting, response, confirmation, investigation, and corrective action for releases of petroleum from UST systems. It also defines the requirements for closure of petroleum UST systems.

Report forms to be used for documenting Initial Abatement Measures and Initial Site Characterization activities are presented in the July 1996 Reference Handbook. Guidelines for the performance of Environmental Assessments and preparation of both Environmental Assessment Reports and Corrective Action Plans are also presented in the Handbook. Technical Guidance Documents regarding monitoring of UST sites, procedures for obtaining a site-specific standard, performance of a general facility site check, and ranking of UST sites are also presented in the handbook.

1.8 TDEC DIVISION OF USTs OWNERS MANUAL

Information relevant to owners of petroleum UST systems is outlined in the first edition of the TDEC Division of Underground Storage Tanks Owners Manual, which was issued in January 1994. The UST Tank Owners Manual attempts to present important information to UST System owner/operators in a straightforward manner. No new requirements are presented in the manual. The manual contains information on the following areas:

- The Petroleum UST Act
- Petroleum UST Act Regulations
- Notification for USTs
- Annual Fees and Certificates
- Compliance Inspection
- Closure
- Approved Corrective Action Contractors
- State Fund Reimbursement Information
- Other Helpful Information

2.0 OPERATION AND MANAGEMENT OF ACTIVE UST SITES

The Y-12 Plant currently has four active USTs located at two (Table 3) sites. These are Tanks 2396-U and 2397-U located at the Building 9754-3 Fuel Station, and Tanks 2334-U and 2335-U located at Building 9714 Transportation Safeguards Division. The following sections discuss the operational requirements for these active UST sites.

Table 3. Summary of Y-12 In-Service USTs

	Bldg. 9714 UST #2334-U	Bldg. 9714 UST #2335-U	Bldg. 9754-3 UST #2396-U	Bldg. 9754-3 UST #2397-U
Installation date	1987	1987	1993	1993
Operational date	1988	1988	1994	1994
Contents	Unleaded gasoline	Diesel	Diesel	Unleaded gasoline
Capacity (Gal.)	6,000	10,000	10,000	20,000
Tank construction	SWF	SWF	DWF	DWF
Piping construction	SWF	SWF	DWF	DWF
Piping system	Pressurized	Pressurized	Pressurized	Pressurized
RD tank	ATG	ATG	ATG/IM	ATG/IM
RD piping	ALLD/LTT	ALLD/LTT	IM/ALLD	IM/ALLD
Overfill protection	Yes	Yes	Yes	Yes
Spill protection	Yes	Yes	Yes	Yes

ALLD - Automatic line leak detectors
ATG - Automatic tank gauging
DSF - Dual-wall steel/fiberglass coating with interstitial monitors
DWF - Dual-wall fiberglass with interstitial monitors
IM - Interstitial monitoring
LD - Leak detection
LTT - Line tightness testing
RD - Release detection
SWF - Single-wall fiberglass
UST - Underground storage tank

2.1 UST NOTIFICATION REQUIREMENTS

There are two notification forms used by the TDEC Division of Underground Storage Tanks in the Management of USTs: CN-0877 and CN-0911. The Y-12 Plant will submit Form CN-0877 if an unregistered tank is identified, if a tank is closed, if a tank is upgraded, if a new

tank is installed, if the tank changes ownership, or if the name or mailing address changes. Any such changes are required to be reported on these forms within 30 days.

Form CN-0877 is the standard reporting form for tank owners. This form has five pages and covers registration of unregistered tanks, closures, upgrades, new installations, new ownership, and name or mailing address changes. In the event of any status changes listed above, this form should be completed within 30 days and submitted to the TDEC Division of Underground Storage Tanks.

The seller of a UST system is required to complete form CN-0911. This form specifically requires the seller to state how the buyer was made aware of notification requirements for USTs. This form will not likely be applicable to the Y-12 Plant UST systems.

2.1.1 Annual Tank Fee and Operating Certificate Information

The Y-12 Plant USTs are subject to an annual fee payment and are also subject to Voluntary Inspections, as appropriate.

Rule 1200-1-15-.10 of TDEC "Financial Responsibility Regulations" establishes the requirement for payment of an annual administrative service fee for USTs at the Y-12 Plant. Fees are required for tanks actively storing petroleum, tanks reported as in service at the start of the billing cycle (federal facilities January 1), or tanks temporarily out of service after June 30, 1988 that have not been properly closed. The annual fee is \$25 for each petroleum UST. Annual fees are due upon receipt of the invoice from the state of Tennessee. The fees are due to the state by January 31 of each year. If the fees are not paid within the specified time, a penalty of 5 percent, for each month that the fee is late, will be added to the amount of the fee. The state will not issue a registration certificate authorizing the continued operation of the USTs until all tank fees and late fees (if applicable) are paid.

The UST program manager will be responsible for requesting the Office of the Controller to prepare a check for the annual administrative service fees. After receipt, the UST program manager will transmit the check to TDEC under the Y-12 Plant Manager's signature.

The operating certificate, when received from the DOE Y-12 Office will list each UST for which operating authority has been granted. The certificate has a term of one year, from April 1 through the following March 31. Upon receipt of the operating certificate, the UST program manager will send a copy of the certificate to each tank owner at the Y-12 Plant for their records, will post the original copy of the certificate at the 9754-3 and the TSD building, and will place a copy on file in the ECO Document Center.

If the owner and the operator of a tank are not the same person or company, the owner must pay the annual tank fees unless both the owner and operator sign a notarized agreement stipulating that the operator is to pay the fees. This agreement must be submitted to the state each year if the operator is to pay the fees.

2.1.2 Facility Compliance Inspections

UST systems regulated by the TDEC Division of Underground Storage Tanks will be inspected by State inspectors for compliance. The inspector will complete a general inspection form and other more specific forms designed to collect information such as the size, type, use, age, and release detection methods. The TDEC UST Tank Owners Manual does not state an inspection frequency.

The TDEC Division of Underground Storage Tanks has a policy of offering voluntary compliance inspections. Under a voluntary inspection, the owner is advised of any violations of UST regulations and given the opportunity to correct these violations without civil penalties. Two exceptions to this policy that would be subject to a civil penalty are

- a detected release that has not been reported and
- an intentional violation of the regulations.

If the tank owner does not elect to have a voluntary compliance inspection, any violations of the UST regulations are subject to appropriate civil penalties. The Y-12 Plant tanks are subject to voluntary compliance inspections.

2.2 SPILL AND OVERFILL CONTROL

In accordance with TN Rule 1200-1-15-.03(1)(a), owners and/or operators of UST systems must ensure that releases caused by spilling or overfilling do not occur. Methods to prevent overfilling include ensuring that the volume available in the tank is greater than the volume of petroleum product to be transferred to the tank before the transfer is made and constantly monitoring the transfer operation to prevent overfilling and spilling. The owner/operator is required to report, investigate, and clean up any spills or overfills in accordance with Rule 1200-1-15-.05(4).

2.2. 9754-3 Fuel Station

Tanks 2396-U and 2397-U located at the 9754-3 Fuel Station, are equipped with both overfill prevention equipment and overfill containment. The overfill prevention is managed by a shut-off valve in the product fill drop tube. When the tank liquid level rises to about 95% of tank capacity, the valve mechanism is released, limiting the flow into the tank to 5 gpm through a bypass valve, allowing the operator to drain and disconnect the delivery hose. If the liquid level rises to 98% of tank capacity, the bypass valve is also closed preventing any additional liquid to be added to the tank. Overfill containment is accomplished by use of an overflow catchment basin installed integral to the fill riser pipe. If, during the filling operation, some product is spilled at the connection to the riser pipe, the catchment basin allows for easy collection of the spilled product and draining of the product into the riser pipe.

2.2.2 Transportation Safeguards Division

Tanks 2334-U and 2335-U located at Building 9714 Transportation Safeguards Division are equipped with both overfill prevention equipment and overfill containment. The systems are as described for Building 9754-3 in Section 2.2.1.

2.3 CORROSION PROTECTION

UST corrosion protection systems, if applicable, must be operated continuously and regularly inspected for proper operation by a qualified cathodic protection tester. TN Rule 1200-1-15-.03 subpart (2) requires that all corrosion protection systems for steel UST systems be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contains petroleum and is in contact with the ground.

For USTs using cathodic protection, the system must be inspected by a qualified cathodic protection tester within 6 months of installation and at least every 3 years thereafter. The inspector must verify the correct operation of the system and the owner and/or operator must maintain records from the last two inspections that demonstrate compliance with the requirement for corrosion protection inspection and operation.

If the UST system uses an impressed current cathodic protection system it must be inspected every 60 days for correct operation. The inspector must verify the correct operation of the system and the owner and/or operator must maintain records from the last 3 inspections that demonstrate compliance with the requirement for corrosion protection inspection and operation.

2.3.1 9754-3 Fuel Station

The two USTs located at Building 9754-3 the East End Fuel Station (Tanks 2396-U and 2397-U) are fiberglass tanks with fiberglass piping and do not have corrosion protection systems. Therefore, rules regarding corrosion protection systems do not apply to these tanks.

2.3.2 Transportation Safeguards Division

The two USTs located at Building 9714 Transportation Safeguards Division (Tanks 2334-U and 2335-U) are fiberglass tanks with fiberglass piping and do not have corrosion protection systems. Therefore, rules regarding corrosion protection systems do not apply to these tanks.

2.4 RELEASE DETECTION

Tank release detection shall be performed in such a manner as to detect a release from any portion of the UST system that routinely contains petroleum. Release detection equipment must be installed, calibrated, and maintained in accordance with manufacturers instructions, including routine maintenance and service checks for operability, and must comply with the performance requirements for release detection methods outlined in 1200-1-15-.04. Owners and operators must notify TDEC in accordance with Rule 1200-1-15-.05 if any releases are detected.

2.4.1 9754-3 Fuel Station

Both tanks at the 9754-3 Fuel Station are double wall fiberglass with double wall fiberglass product supply lines. Leak detection from these tanks is accomplished by a Veeder

Root TLS-350 UST Monitoring System. Line leak detection is accomplished by a Red Jacket XLD Line Leak Detector.

The Veeder Root TLS-350 system is a fully integrated tank monitoring system that can provide:

- complete inventory information on fuel stored in USTs,
- warning of leaks from these tanks, and
- detection of product discrepancies to an accuracy of 0.1 gallon per hour.

This system can only run leak detect routines when no dispensing is taking place and no deliveries are being made. The manufacturer recommends that the system be placed in leak detect mode whenever the facility is closed. Tank leak tests should be run for a 5-hour period at a minimum. When the leak detection routine is completed either manually or automatically, the control panel will print out a report indicating the final tank leak rates by tank and indicate one of the following three conditions for each tank:

- PASSED,
- FAILED, or
- INVALID.

The report will then show, by tank, any conditions that occurred during the test that may have affected the results.

If the TLS-350 indicates that a leakage rate of > 1 gallon per hour is occurring, a second leak test should be run to verify the accuracy of the initial test. A "Precision Test," of which this system qualifies as defined by NFPA 30, should be run. This test is capable of detecting losses as small as .05 gallons per hour from a UST.

Line leak detection at Building 9754-3 is accomplished by a Red Jacket XLD Line Leak Detector. This line leak detector is able to detect leaks in the pressurized fuel lines and initiate a response to the leak in accordance with the severity. A test of the product supply lines begins after each operation of the product pump and every time the line pressure falls to 10 PSI or upon demand. The line leak detector progressively pursues three levels of tests in the following sequence:

- Catastrophic—this test requires 8 seconds to complete and detects leaks to approximately 10 gallons per hour. If a leak is detected, pump operation is affected as the system has been programmed, a message is displayed on the control panel, an audible alarm sounds, and a record of the leak is placed in the system memory.
- Standard—this test requires a minimum of 30 seconds and a maximum of 30 minutes to complete and detects leaks to approximately .3 gallons per hour. If a leak is detected, pump operation is affected as the system has been programmed, a message is displayed on the control panel, an audible alarm sounds, and a record of the leak is placed in the system memory.

- Precision—this test requires a minimum of 30 minutes and a maximum of 90 minutes to complete and detects leaks to approximately .03 gallons per hour. The results of this test do not affect pump operation, a message is displayed on the control panel, information is entered into monitoring equipment record.

No operator input is required for the line leak detection equipment although the operator can request a line leak detector test any time dispensing is not occurring.

2.4.2 Transportation Safeguards Division

Both tanks at the TSD Building 9714 Facility are single wall fiberglass with single wall fiberglass product supply lines. Leak detection from these tanks is accomplished by a Veeder Root TLS-250 UST Monitoring System. Line leak detection is accomplished by a Red Jacket PPM 4000 Line Leak Detector and an annual “Precision” Line Leak Test.

The Veeder Root TLS-250 system is a fully integrated tank monitoring system that can provide:

- complete inventory information on fuel stored in USTs,
- warning of leaks from these tanks, and
- detection of product discrepancies to an accuracy of 0.2 gallons per hour.

This system can only run leak detect routines when no dispensing is taking place and no deliveries are being made. The manufacturer recommends that the system be placed in leak detect mode whenever the facility is closed. Tank leak tests should be run for a 5-hour period at a minimum. When a leak detection routine is completed either manually or automatically, the control panel will print out a report indicating the final tank leak rates by tank and indicate one of the following three conditions for each tank:

- PASSED,
- FAILED, or
- INVALID.

The report will then show, by tank, any conditions that occurred during the test that may have affected the results.

If the TLS-250 indicates that a leakage rate of $>.2$ gallons per hour is occurring a “Precision Test” as defined by NFPA 30 should be run. This test is capable of detecting losses as small as .05 gallons per hour from a UST.

Line leak detection at Building 9754-3 is accomplished by a Red Jacket PPM 4000 Line Leak Detector. Performance and operation of this unit is similar to the description of the Red Jacket XLD Line Leak Detector described in Section 2.4.1.

2.5 OTHER SYSTEMS

The Y-12 Plant has other systems not required by regulations to ensure that the USTs are managed in a safe and environmentally conscious manner. These systems include features of the

Veeder Root tank monitoring systems, safety oriented systems, and manual duplication of automated systems.

2.5.1 9754-3 Fuel Station

Integral to the Veeder Root TLS-350 tank monitoring system are several features that are significant to safe management of the USTs located at 9754-3. Specific features are a high water alarm that will display "high water alarm" on the control panel and trigger an audible beep and flashing light if the water level in a UST exceeds 1 inch. An overfill alarm will indicate "high product alarm" if the fuel level exceeds a programmed level in a UST. This alarm will also trigger an audible beep and flashing light. This warning serves as a second line of defense to the overfill prevention shutoff valve described in Section 2.2.1. The Veeder Root system also incorporates a low product alarm. This alarm will indicate on the control panel "delivery needed" and will trigger an audible alarm and flashing light.

An emergency stop button is located on the west wall inside the 9754-3 fuel station building. This stop button will disable the dispensers immediately once pressed. The stop button could be used in the event of a fire or a release from the pressurized piping system not managed by the red jacket pipe leak detection system.

A manual tank gauging device "dipstick" is available and is used in the event the Veeder Root tank monitoring system is inoperable.

2.5.2 Transportation Safeguards Division

Tanks 2334-U and 2335-U located at Building 9714 Transportation Safeguards Division are monitored by a Veeder Root TLS-250 that incorporates the same features for high water, high product, and low product. This facility also has an emergency stop button and the tank product level is monitored using a dipstick. The systems are as described for Building 9754-3 in Section 2.5.1.

2.6 RECORDKEEPING REQUIREMENTS

The TDEC Division of Underground Storage Tanks requires that the notification form be completed and submitted under 1200-1-15-.02(3)(a). It is LMES policy, outlined in LMES procedure Y10-35-MM-013, to maintain installation and warranty records of UST system equipment, a record of the location and age of the UST, daily inventory records for a period of 12 months, and the type of equipment as a permanent record. UST system repairs shall also be maintained in the permanent record. There is no specific requirement for submission of tank specifications and installation drawings or to maintain these records under 1200-1-15-.03(5) (Reporting and Recordkeeping). Rule 1200-1-15-.03(5)(b)3 does however require that documentation of UST system repairs be maintained but does not specify a time limit.

It is LMES policy to also maintain leak related test records for the following time periods:

- initial tank leak test—permanent record;

- annual test of Veeder Root systems, Red Jacket Systems—10 years;
- tank leak test results—12 months; and
- the narrative logbook (including daily inventory tapes and alarm status reports)—permanent record.

The TDEC Division of Underground Storage Tanks requires that “documentation of operation of corrosion protection equipment” be maintained (1200-1-15-.03(5)(b)4). This requirement is not applicable to the active USTs at the Y-12 Plant or TSD Facility since they are fiberglass tanks with fiberglass piping systems.

3.0 MANAGEMENT OF OUT-OF-SERVICE UST SITES

The Y-12 Plant currently does not have any out-of-service UST sites. However, the following requirements are, however, applicable to other USTs that change from active to out of service.

3.1 UST NOTIFICATION REQUIREMENTS

There are two notification forms used by the TDEC Division of Underground Storage Tanks in the management of USTs: CN-0877 and CN-0911. With regards to out of service UST sites, the Y-12 Plant will only submit one of these forms if an unregistered out of service tank is identified, if an out of service tank is closed, if an out of service tank changes ownership, or if the name or mailing address changes. Any such changes are required to be reported on these forms within 30 days.

Form CN-0877 is the standard reporting form for tank owners. This form has five pages and covers registration of unregistered tanks, closures, upgrades, new installations, new ownership, and name or mailing address changes. In the event of any status changes listed above, this form should be completed within 30 days and submitted to the TDEC Division of Underground Storage Tanks.

The seller of a UST system (in service or out of service) is required to complete form CN-0911. This form specifically requires the seller to state how the buyer was made aware of notification requirements for USTs. This form will not likely be applicable to the Y-12 Plant UST systems.

On an annual basis the Y-12 Plant USTs are subject to annual fee payment as described in the following section.

3.2 ANNUAL TANK FEE INFORMATION

Rule 1200-1-15-.10 of TDEC "Financial Responsibility Regulations" establishes the requirement for payment of an annual administrative service fee for USTs at the Y-12 Plant. Fees are required for tanks actively storing petroleum, tanks reported as in service at the start of the billing cycle (federal facilities January 1), or tanks temporarily out of service after June 30, 1988 that have not been properly closed. The annual fee is \$25 for each petroleum UST. Annual fees are due upon receipt of the invoice from the state of Tennessee. The fees are due to the state by January 31 of each year. If the fees are not paid within the specified time, a penalty of 5 percent, for each month that the fee is late, will be added to the amount of the fee. The state will not issue a registration certificate authorizing the continued operation of the USTs until all tank fees (if applicable) are paid.

The UST program manager will be responsible for requesting the Office of the Controller to prepare a check for the annual administrative service fees. After receipt, the UST program manager will transmit the check to TDEC under the Y-12 Plant Manager's signature.

The operating certificate, when received from the DOE Y-12 Office, will list each UST for which operating authority has been granted. The certificate has a term of one year, from April 1 through the following March 31. Upon receipt of the operating certificate, the UST program manager will send a copy of the certificate to each tank owner at the Y-12 Plant for their records, will post the original copy of the certificate at the 9754-3 and the TSD building, and will place a copy on file in the ECO Document Center.

If the owner and the operator of a tank are not the same person or company, the owner must pay the annual tank fees unless both the owner and operator sign a notarized agreement stipulating that the operator is to pay the fees. This agreement must be submitted to the state each year if the operator is to pay the fees.

3.3 UST SYSTEM CLOSURE

To permanently close a tank, owners/operators must empty and clean the tank by removing all liquid and accumulated sludges. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material.

3.3.1 Closure in Place

A UST may be closed in place by filling the tank with an inert solid material such as a cement compound, sand, gravel, etc. The inert solid material must have a specific gravity > 1.0 . Before permanent closure in place is completed, the owner/operator must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release must be considered. The TDEC Division of UST Environmental Assessment Guidance requires that a minimum of four soil borings and monitoring wells be installed to measure for the presence of a release. This guidance requires the borings to be located as follows:

- one boring/monitoring well upgradient of the release,
- two borings/monitoring wells downgradient of the release, and
- one boring/monitoring well as close as possible to the location of the release.

If the external release detection methods allowed by Rule 1200-1-15-.04(3)(e) and (f) is operating at the time of closure and indicates that no release has occurred, no sampling is required. If contaminated soils, contaminated groundwater, or free product as a liquid or vapor is discovered through sampling or by any other manner, the owner/operator must begin corrective action in accordance with Rule 1200-1-15-.06.

3.3.2 Tank Removal

If the owner/operator elects to remove the UST, they must submit a site closure plan following the TDEC Closure Assessment Guidelines (Appendix H) as required by Rule 1200-1-15-.07(2)(a). Before permanent closure is completed, the owner/operator must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, the method of closure,

the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release must be considered. The TDEC Division of UST Environmental Assessment Guidance requires that a minimum of four soil borings and monitoring wells be installed to measure for the presence of a release. This guidance requires the borings to be located as follows:

- one boring/monitoring well upgradient of the release,
- two borings/monitoring wells downgradient of the release, and
- one boring/monitoring well as close as possible to the location of the release.

If the external release detection methods allowed by Rule 1200-1-15-.04(3)(e) and (f) is operating at the time of closure and indicates that no release has occurred, no sampling is required. If contaminated soils, contaminated groundwater, or free product as a liquid or vapor is discovered through sampling or by any other manner, the owner/operator must begin corrective action in accordance with Rule 1200-1-15-.06. The excavation and removal of the UST system must be completed in accordance with Appendix 6 of Rule 1200-1-15. This section defines requirements for:

- product removal,
- preparation for removal,
- tank purging,
- testing for flammable vapors in the soil and tank,
- removal of the tank,
- labeling of former USTs, and
- storage of former USTs

3.4 SITE-SPECIFIC STANDARD REQUESTS

The owner/operator of a UST can petition the commissioner of the TDEC Division of USTs for a site-specific standard in accordance with 1200-1-15-.06(7)(e). The Y-12 Plant has completed this process in the closure of some tanks and successfully received a site-specific standard based on the Y-12 Plant groundwater quality. The owner/operator must include the following information in the site-specific standard request:

- the physical and chemical characteristics of petroleum, including its toxicity, persistence, and potential for migration;
- the hydrogeologic characteristics of the petroleum site and the surrounding land;
- the proximity, quality, and current and future use of groundwater;
- an exposure assessment; and
- the proximity, quality, and current and future uses of surface waters.

Technical Guidance Document TGD-008 "Procedures to Obtain a Site-Specific Standard for a Petroleum Underground Storage Tank Site" provides further guidance in preparing a request for a site-specific standard.

3.5 MONITORING ONLY PROGRAM REQUIREMENTS

Technical Guidance Document TGD-007 provides guidance on UST site monitoring. Specifically addressed in this guidance is the monitoring only program requirements. Upon the commissioners approval, a monitoring only program may be implemented. The program will be initiated with a comprehensive monitoring 20 to 30 days after the commissioner approves the request. Site-status monitoring will be conducted semi-annually thereafter until one of two circumstances occur:

- (1) contaminant concentrations are below the applicable cleanup levels or
- (2) the TDEC Division of USTs requires additional activities.

If the analytical results indicate contaminant concentrations have decreased below the applicable cleanup levels, closure monitoring shall commence the next quarter. Soil monitoring shall be performed every two years until the soil contaminant concentrations are below the applicable cleanup levels or the TDEC Division of USTs requires additional activities.

3.6 RECORDKEEPING REQUIREMENTS

Owners/operators must maintain records that are capable of demonstrating compliance with closure requirements. The results of the excavation zone assessment must be maintained for at least 3 years after completion of permanent closure or change in service by the party who performed the closure, by the current UST system owner/operator, or by mailing the records to TDEC if they cannot be maintained at the closed facility.

APPENDIX A

Y-12 PLANT UST

PROGRAM INVENTORY

APPENDIX A. Y-12 PLANT UST PROGRAM INVENTORY

The UST systems located at the Y-12 Plant have been grouped into the following three categories:

- active/in-service petroleum UST systems (4 tanks / 2 sites),
- permanently closed petroleum UST systems (40 tanks / 30 sites), and
- hazardous substance UST systems (3 tanks / 3 sites).

The following section presents a summary of the tanks within the Y-12 Plant UST Program inventory (Table A-1) and a summary of tanks and piping information for each unit within the inventory (Table A-2). A master UST site location map (located within pocket) and individual UST site maps are also presented (following pocket map). All of the location and site maps are keyed to the UST Directory Numbers identified in Table A-1.

Table A-1. Inventory of underground storage tanks at the Y-12 Plant

Directory location	Location	Tank identification number	Installation date	Out of service date	Capacity (gallons)	Contents	Status	Preliminary investigations(s)	Environmental assessment	Corrective action
Petroleum USTs										
CA 6/96										
1	9722-5	2312-U	1987	1994	550	Diesel	Inert filled	7/95, CR (7/95)	NA	NA
2	9722-5	2313-U	1987	1994	550	Diesel	Inert filled	7/95, CR (7/95)	NA	NA
3	9999-7	2316-U	1986	1994	550	Diesel	Inert filled	7/95, CR (7/95)	NA	NA
4	9999-5	2320-U	1986	1994	550	Diesel	Removed	7/95, CR (7/95)	NA	NA
5	9722-4	2333-U	1988	1994	550	Diesel	Inert filled	7/95, CR (7/95)	NA	NA
6	9714	2334-U	1987	In use	6,000	Gasoline	Full compliance	Site check (10/95)	NA	NA
7	9714	2335-U	1987	In use	10,000	Diesel	Full compliance	Site check (10/95)	NA	NA
8	9754-3	2396-U	1993	In use	10,000	Diesel	Full compliance	NA	NA	NA
9	9754-3	2397-U	1993	In use	20,000	Gasoline	Full compliance	NA	NA	NA
10	9712	0084-U	1958	1988	500	Used oil	Removed	6/88, CR, FPR	FBU	NR
11	9704-2	0134-U	1966	1992	171	Gasoline	Removed	6/88, CR, FPR	SR (3/92)	EAP/CAP (8/92), CAP approved (5/95), CR (3/97), SRR (1/95), CA (6/97)
12	9754-2	0439-U	1978	1989	20,000	Gasoline	Removed	9/89, IAR, ISCR, FPRR	SIR/CAP (3/91)	CAP (8/92), CAP approval (5/93), BMR (3/94), SSSR (4/94)

Table A-1. (continued)

Directory location	Location	Tank identification number	Installation date	Out of service date	Capacity (gallons)	Contents	Status	Preliminary investigations(s)	Environmental assessment	Corrective action
13	9754-2	0440-U	1978	1989	10,000	Diesel	Removed 9/89, SSSR in process by TDEC	IAR, ISCR, FPRR	SIR/CAP (3/91)	CAP (8/92), CAP approval (5/93), BMR (3/94), SSSR (4/94)
14	9754	2073-U	1944	1979	1,000	Gasoline	Removed 10/93, SSSR in process by TDEC	SI	SIR/CAP (3/91)	CAP (8/92), CAP approval (5/93), BMR (3/94), SSSR (4/94)
15	9754	2074-U	1944	1979	1,000	Gasoline	Removed 10/93, SSSR in process by TDEC	SI	SIR/CAP (3/91)	CAP (8/92), CAP approval (5/93), BMR (3/94), SSSR (4/94)
16	9754	2075-U	1944	1979	1,000	Diesel	Removed 10/93, SSSR in process by TDEC	SI	SIR/CAP (3/91)	CAP (8/92), CAP approval (5/93), BMR (3/94), SSSR (4/94)
17	9754-1	1290-U	1964	1988	12,000	Diesel	Removed 12/89	EA	SIR (3/91)	CAP (3/92), SRF (2/94), SRF approval (3/94), SSSR (9/94), SSSR revised (1/95)
18	9754-1	1222-U	1968	1988	12,000	Gasoline	Removed 12/89	EA	SIR (3/91)	CAP (3/92), SRF (2/94), SRF approval (3/94), SSSR (9/94), SSSR revised (1/95)
19	9720-15	2068-U	1968	1989	1,000	Gasoline	Removed 2/90	EA/FRX	SIR (3/91)	CAP (3/92), SRF (2/94), SRF approval (3/94), SSSR (9/94), SSSR revised (1/95)
20	9744-1	2062-U	1981	1988	8,000	Gasoline	Removed 12/89	EA	SIR (3/91)	CAP (3/92), SRF (2/94), SRF approval (3/94), SSSR (9/94), SSSR revised (1/95)
21	PRW	210-U	1975	1989	200	Gasoline	Removed 11/89, CA 8/95	ISCR	SIR/CAP (7/91)	EAR/CAP (3/93), CAP approval (12/93), OR (4/94), 5/94), CR (7/94)
22	9201-1	2331-U	1973	1988	560	Gasoline	Removed 12/88, CA 8/97	ISCR, FPRR	SIR (3/92)	EAR/CAP (7/92), CAP approval (12/93), BMR (3/94), SRF (4/94), SRF Approval (5/94), CR (3/97)

Table A-1. (continued)

Directory location	Location	Tank identification number	Installation date	Out of service date	Capacity (gallons)	Contents	Status	Preliminary investigations(s)	Environmental assessment	Corrective action
23	9401-3	0715-U	1955	1988	10,500	No 2 fuel oil	Removed 11/88	NR	NR	NR
24	9734	0836-U	1944	1989	10,000	Used oil	Removed 10/89, CA 7/95	RCRA	RCRA, CA 8/93, RCRA	NR
25	9204-3	0928-U	1966	1989	200	Gasoline	Removed 5/89, CA 8/92	NR	NR	NR
26	9995	2074-U	1965	1979	140	Gasoline	Interfilled 1/79	NR	NR	NR
27	9995	2075-U	1965	1979	55	Gasoline	Interfilled 1/79	NR	NR	NR
28	9996	2080-U	1971	1987	360	Gasoline	Removed 12/88, CA 8/95	RR	NR	NR
29	9212	2083-U	1958	1970	280	Gasoline	Removed 4/91, CA 5/97	ISCR	OECSR (12/91)	NR
30	9201-5	2099-U	1971	1989	560	Gasoline	Removed 7/89, CA 3/90	DR, RR	NR	NR
31	9929-1	2177-U	1971	1983	550	No. 2 fuel oil	Removed 10/88	NR	NR	NR
32	9204-4	2180-U	1960	1992	550	Gasoline	Removed 12/92, CA 8/95	RR	NR	NR
33	9999	2293-U	1955	1971	58	Gasoline	Removed 1/74	NR	NR	NR
34	9999	2294-U	1954	1974	58	Gasoline	Removed 1/74	NR	NR	NR
35	9998	2301-U	1956	1990	55	Diesel	Removed 10/90, CA 1/95	RR	NR	NR
36	PRE	2345-U	1950	1986	64	Gasoline	Removed 1/89, CA 1/95	ISCR	OECSR (2/91)	NR

Table A-1. (continued)

Directory location	Location	Tank identification number	Installation date	Out of service date	Capacity (gallons)	Contents	Status	Preliminary investigation(s)	Environmental assessment	Corrective action
37	9769	2336-U	1949	1988	5,000	No. 2 fuel oil	Inert filled 4/88	NR	NR	NR
38	Chess Ridge	2336-U	1981	1991	550	Gasoline	Removed 5/91, CA 1/91	RR	NA	NR
39	Buff Min.	2337-U	1972	1990	250	Gasoline	Removed 3/90, CA 2/95	IAR, ISCR	SIR (5/91); SIR Phase II (1/92)	CR
40	9720-13	2338-U	1970	1984	200	Used oil	Removed 7/90, CA 5/97	RR	NA	CR
41	9219	2395-U	1964	1977	2,000	No. 2 fuel oil	Removed 8/93	NR	NR	NR
42	SYDP	2064-U	1939	1939	130	Oil solvent	Removed 7/89	IAR, ISCR/FR	RCRA	NR
43	SYDD	2328-U	1959	1969	473	Oil solvent	Removed 7/89	IAR, ISCR/FR	RCRA	NR
44	SYDD	2329-U	1959	1969	473	Oil solvent	Removed 7/89	IAR, ISCR/FR	RCRA	NR

Table A-1. (continued)

Directory location	Location	Tank identification number	Installation date	Out of service date	Capacity (gallons)	Contents	Status	Preliminary investigations(s)	Environmental assessment	Corrective action
<i>Hazardous substance USTs</i>										
45	976713	2102-U	1987	1992	7,500	Methanol	Removed 1/93	CR	NA	NR
46	9418-3	2072-U	1993	1996	45,000	Solid uranium oxide	Exempt	CERCLA	CERCLA	NR
47	9825-1	2122-U	1984	In use	240,000	Solid uranium oxide	Exempt	NA	NA	NA

Notes:

() date to or from regulatory agency.

BMR	= baseline monitoring report	FPRR	= free product removal report	RCRA	= conducted under RCRA, Subtitle C
CA	= closure approved by TDEC	IAR	= initial abatement report	RIR	= release investigation report
CAP	= corrective action plan	ISCR	= initial site characterization report	SIR	= site investigation report
CAR	= corrective action report	NA	= not applicable	SRF	= site ranking form
CERCLA	= conducted under CERCLA	NI	= not investigated	SSR	= site-specific standard request
CR	= closure report	NR	= no closure approval required	SYDD	= salvage yard drum deheader
EA	= environmental assessment	OE	= by TDEC-DUST	TBD	= to be determined
EAR	= environmental assessment report		= overexcavation	TDEC	= Tennessee Department of Environment and Conservation

Shading indicates TDEC-DUST closure approval received or not required.

Table A-2. Summary of tank and piping information

Directory Number	Location	TANK INFORMATION				PIPING INFORMATION				Comments	
		Tank Number	Construction Material	PROTECTION			Construction Material	PROTECTION			
				Cathodic	Spill	Overfill		Type	Cathodic		
1	9722-6	2312-U	FGL (DW)	NA	N	Y	STEEL	S	N	N	
2	9722-5	2313-U	FGL (DW)	NA	N	Y	STEEL	S	N	N	
3	9999-7	2316-U	FGL (SW)	NA	N	N	STEEL	S	N	Emergency generator tank	
4	9999-5	2320-U	FGL (SW)	NA	N	N	STEEL	S	N	Emergency generator tank	
5	9722-4	2333-U	FGL (DW)	NA	N	N	STEEL	S	N	Emergency generator tank	
6	9714	2334-U	FGL (SW)	NA	Y	Y	FGL (SW)	P	NA	Y	
7	9714	2335-U	FGL (SW)	NA	Y	Y	FGL (SW)	P	NA	Bulk fuel dispensing	
8	9754-3	2396-U	FGL (DW)	NA	Y	Y	FGL (DW)	P	NA	Y	
9	9754-3	2397-U	FGL (DW)	NA	Y	Y	FGL (DW)	P	NA	Y	
10	9712	0084-U	STEEL	NA	N	N	STEEL	GF	N	Used oil collection	
11	9204-2	0134-U	STEEL	NA	N	N	STEEL	S	N	N	
12	9754-2	0439-U	FGL (SW)	NA	N	N	FGL (SW)	P	NA	N	
13	9754-2	0440-U	FGL (SW)	NA	N	N	FGL (SW)	P	NA	Bulk fuel dispensing	
14	9754	2073-U	STEEL	NA	N	N	STEEL	S	NA	Dispenser tank	
15	9754	2074-U	STEEL	NA	N	N	STEEL	S	NA	Dispenser tank	
16	9754	2075-U	STEEL	NA	N	N	STEEL	S	N	Dispenser tank	
17	9754-1	1219-U	STEEL	NA	N	N	GLVZD STL.	S	N	Bulk fuel dispensing	
18	9754-1	1222-U	STEEL	NA	N	N	GLVZD STL.	S	N	Bulk fuel dispensing	
19	9720-15	2069-U	STEEL	NA	N	N	GLVZD STL.	S	N	Dispenser tank	
20	9754-1	2082-U	STEEL	NA	N	N	GLVZD STL.	S	N	Bulk fuel dispensing	
21	PRW	2310-U	STEEL	NA	N	N	STEEL	S	N	Emergency generator tank	

Table A-2. (continued)

Directory Number	Location	TANK INFORMATION				PIPING INFORMATION				Comments	
		Tank Number	Construction Material	PROTECTION		Construction Material	PROTECTION				
				Cathodic	Spill		Release	Type	Cathodic		
22	9201-01	2331-U	STEEL	NA	N	N	STEEL	S	N	Dispenser tank	
23	9401-3	0713-U	STEEL	NA	N	N	STEEL	S	N	Back up fuel for Y-12 steam plant	
24	9754	0836-U	STEEL	NA	N	N	GLVZD STL.	GF	N	Converted to bulk oil used storage	
25	9204-3	0928-U	ST. STEEL	N	N	N	ST. STL.	S	N	Emergency generator tank	
26	9995	2078-U	STEEL	N	N	N	STEEL	S	N	Emergency generator tank	
27	9995	2079-U	STEEL	N	N	N	STEEL	S	N	Emergency generator tank	
28	9996	2080-U	STEEL	N	N	N	GLVZD. STL.	S	N	Dispenser tank	
29	9212	2081-U	STEEL	N	N	N	STEEL	S	N	Dispenser tank	
30	9201-5	2099-U	STEEL	N	N	N	GLVZD. STL.	S	N	Dispenser tank	
31	9929-1	2117-U	STEEL	N	N	N	STEEL	S	N	Heating oil tank	
32	9204-4	2130-U	STEEL	N	N	N	GLVZD. STL.	S	N	Dispenser tank	
33	9999	2293-U	STEEL	N	N	N	GLVZD. STL.	S	N	Emergency generator tank	
34	9999	2294-U	STEEL	N	N	N	GLVZD. STL.	S	N	Emergency generator tank	
35	9998	2305-U	ST. STEEL	N	N	N	COPPER	S	N	Emergency generator tank	
36	PRE	2315-U	STEEL	N	N	N	COPPER	S	N	Emergency generator tank	
37	9769	2330-U	STEEL	N	N	N	STEEL	S	N	Heating oil tank	
38	Chat Rd#	2336-U	STEEL	N	N	N	STEEL	S	N	Emergency generator tank	
39	Buff. Mun.	2337-U	STEEL	N	N	N	STEEL	S	N	Emergency generator tank	
40	9720-13	2338-U	ST. STEEL	N	N	N	ST. STEEL	GF	N	Used oil collection	
41	9219	2395-U	STEEL	N	N	N	COPPER	S	N	Heating oil tank	
42	SYDD	2063-U	CONCRETE	N	N	N	NA	GF	N	Concrete sump;RCRA	

Table A-2. (continued)

Directory Number	Location	TANK INFORMATION				PIPING INFORMATION				Comments	
		Tank Number	Construction Material	Cathodic Protection	Spill	Overfill	Release	Construction Material	Type	Cathodic Protection	
43	SYDD	2328-U	CONCRETE	N	N	N	N	NA	GF	N	Concrete vault;RCRA
44	SYDD	2329-U	CONCRETE	N	N	N	N	NA	GF	N	Concrete vault;RCRA
45	9767-13	2102-U	STEEL	Y	N	N	N	STEEL	S	N	No underground piping; Tank was located within concrete vault
46	9418-3	2072-U	CONCRETE	N	N	N	N	NA	NA	N	Concrete vault; CERCLA
47	9825-1	2129-U	CONCRETE	N	N	N	N	NA	NA	N	Concrete vault; CERCLA

DW=double walled
FG=fiberglass
GLVZD,ST.=galvanized steel

N=no
N/A=not applicable

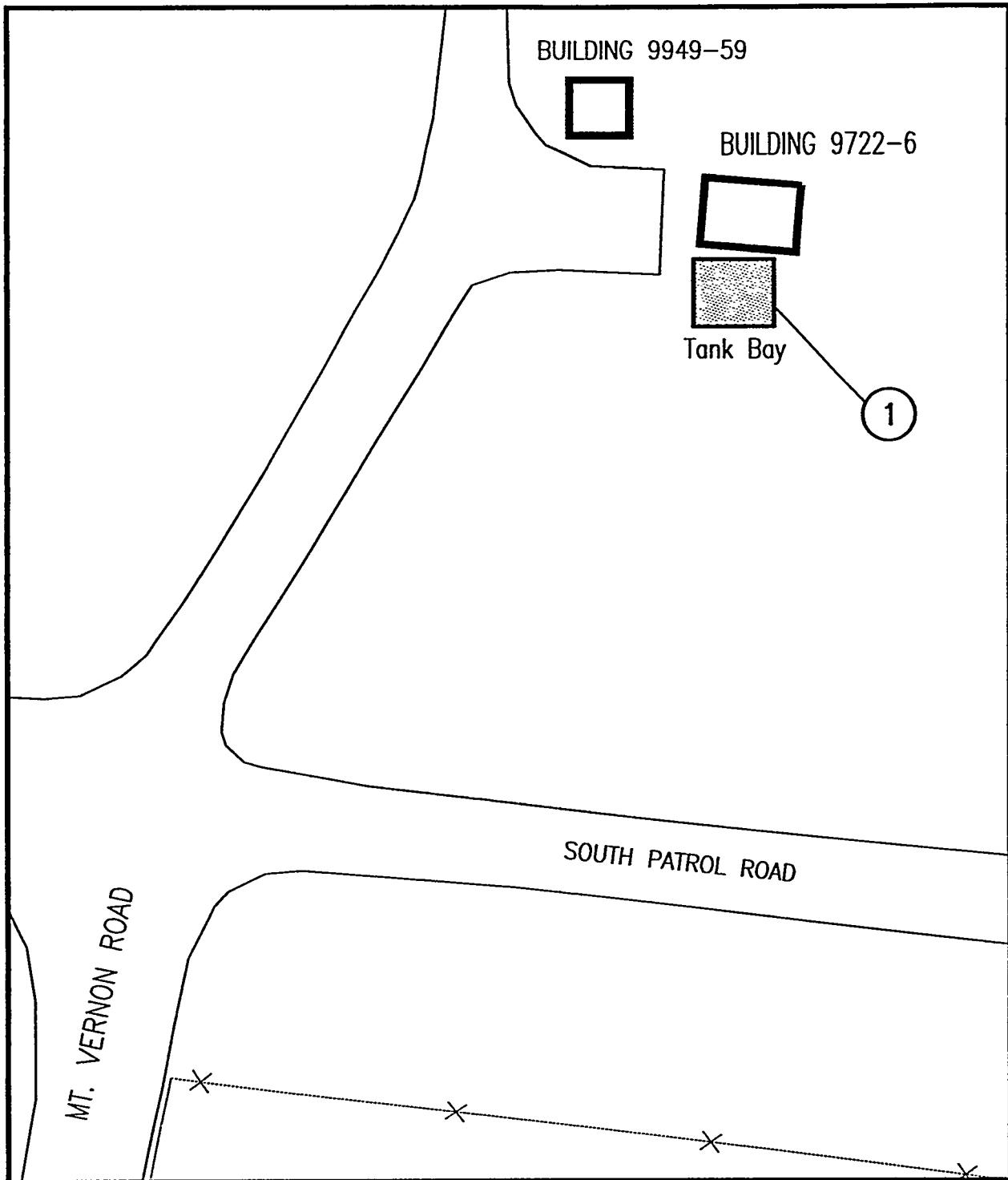
P=pressurized
ST. STEEL=stainless steel

Y=yes

S=suction
SW=single walled

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	NOT TO SCALE	LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
97024/DRKSS/8201.DWG	09/26/97	OAK RIDGE Y-12 PLANT UST 2312-U BLDG. 9722-6 CONTENTS: DIESEL
CAO FILE NAME	REV. - DATE	

Building 9949-57

GUARD TOWER

Building 9722-5

Tank Bay

2

BEAR CREEK ROAD

LEGEND:

(2) ... UST Directory Number

.....Road

.....Building

.....Fence

Y 12 PLANT NORTH

SAC

Science Applications
International Corporation

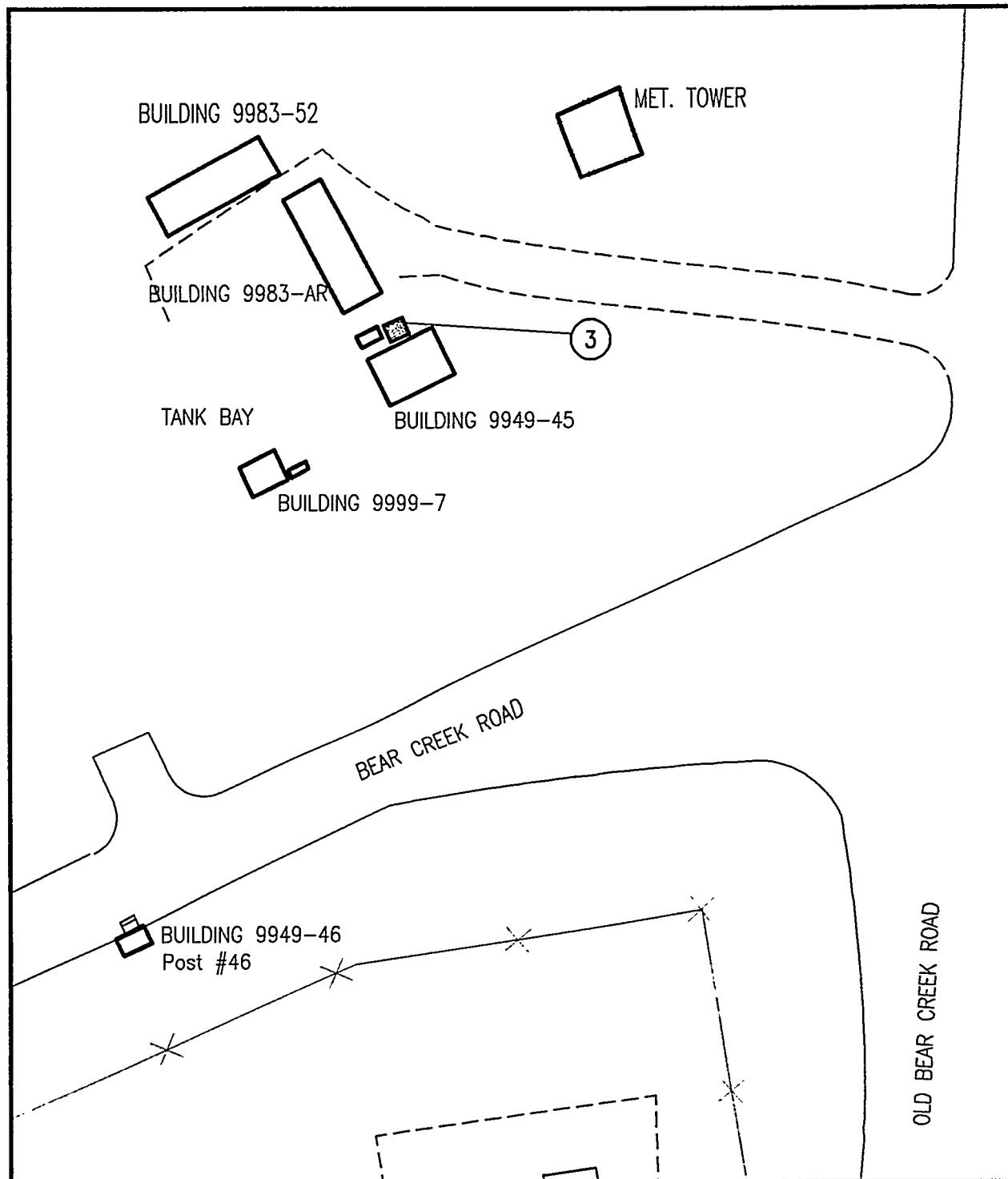
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ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024 'DNGS/9202.DWG' 09/26/97
CAD FILE NAME PEV - DATE

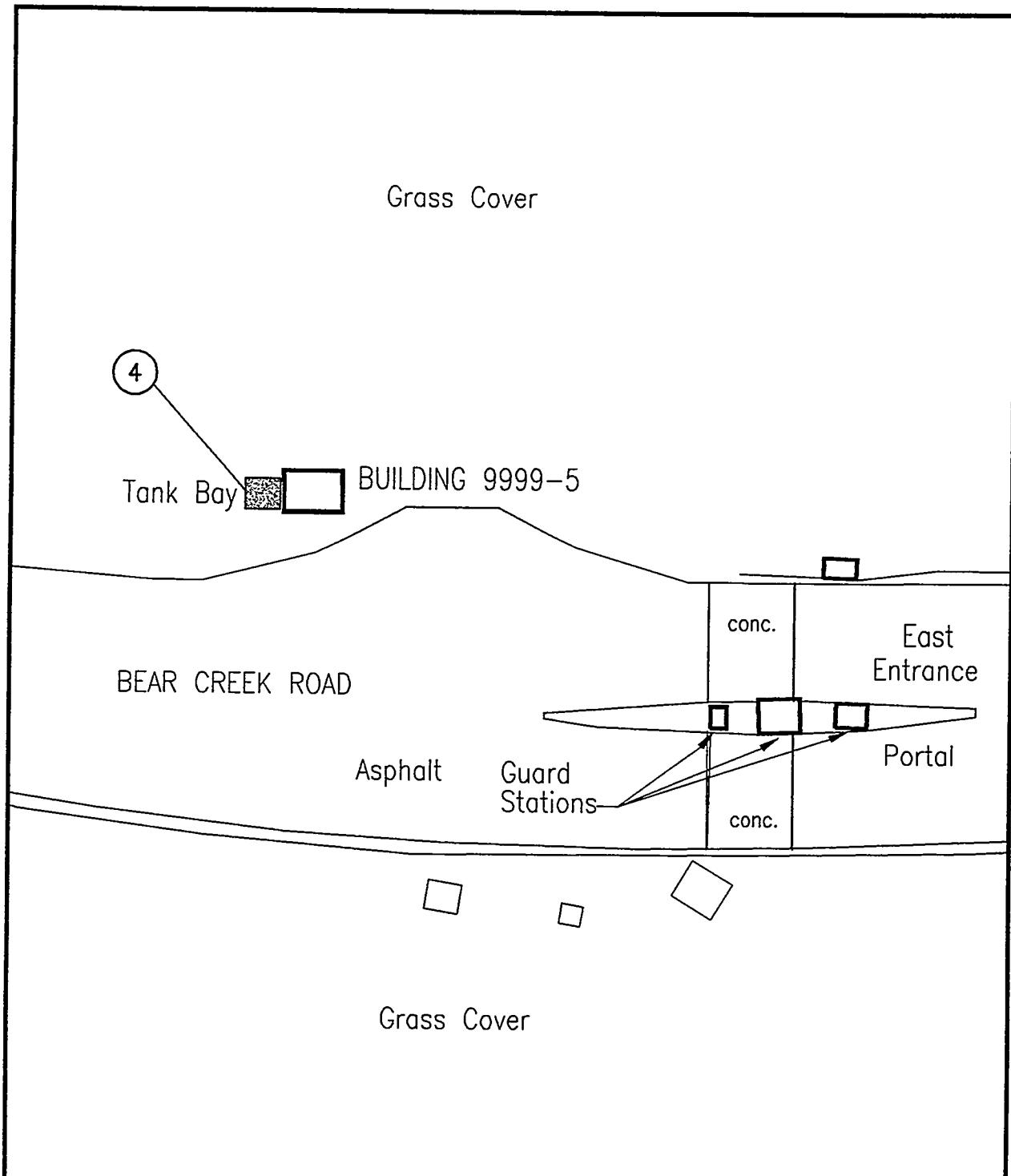
OAK RIDGE Y-12 PLANT
UST 2313-U BLDG. 9722-5
CONTENTS: DIESEL



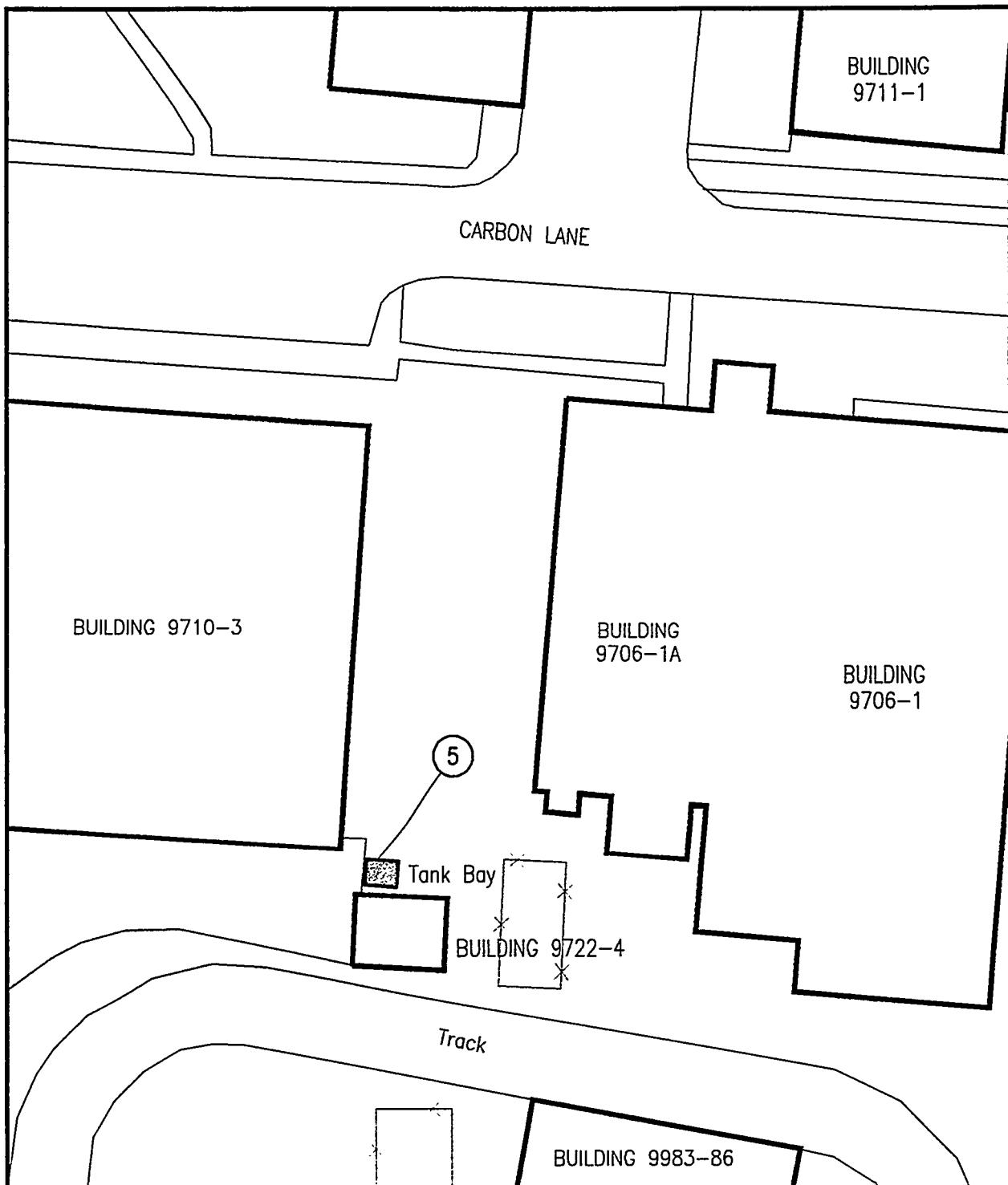
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- Road
- Building
- Fence

 Y-12 PLANT NORTH	 Science Applications International Corporation	 LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
	NOT TO SCALE <small>97024/DRSC 6263.DWG1</small> <small>CAC FILE NAME</small>	<small>05/26/97</small> <small>REV - DATE</small> OAK RIDGE Y-12 PLANT UST 2316-U BLDG. 9999-7 CONTENTS: DIESEL



LEGEND:		Y-12 PLANT NORTH	SAC Science Applications International Corporation	LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
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.....Road			
.....Building			
.....Fence			
NOT TO SCALE				OAK RIDGE Y-12 PLANT UST 2320-U BLDG. 9999-5 CONTENTS: DIESEL
97024/DWGS '8204 DWG	09/26/97			
CAD FILE NAME	REV - DATE			



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- 5 ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

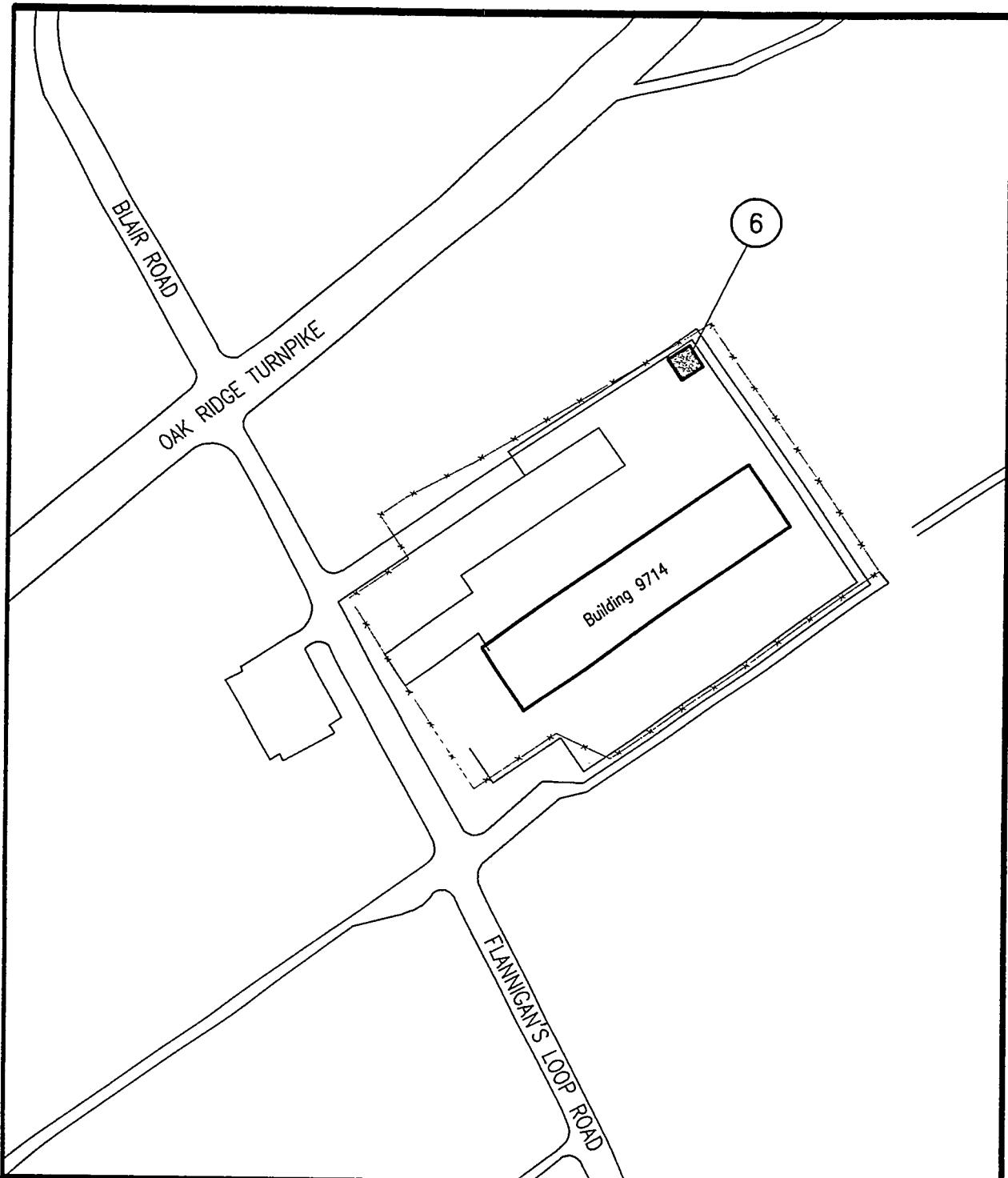
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97024/DWUS/SCS.DWG 05/26/97
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LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

OAK RIDGE Y-12 PLANT
UST 2333-U BLDG. 9722-4
CONTENTS: DIESEL



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- Road
- Building
- Fence



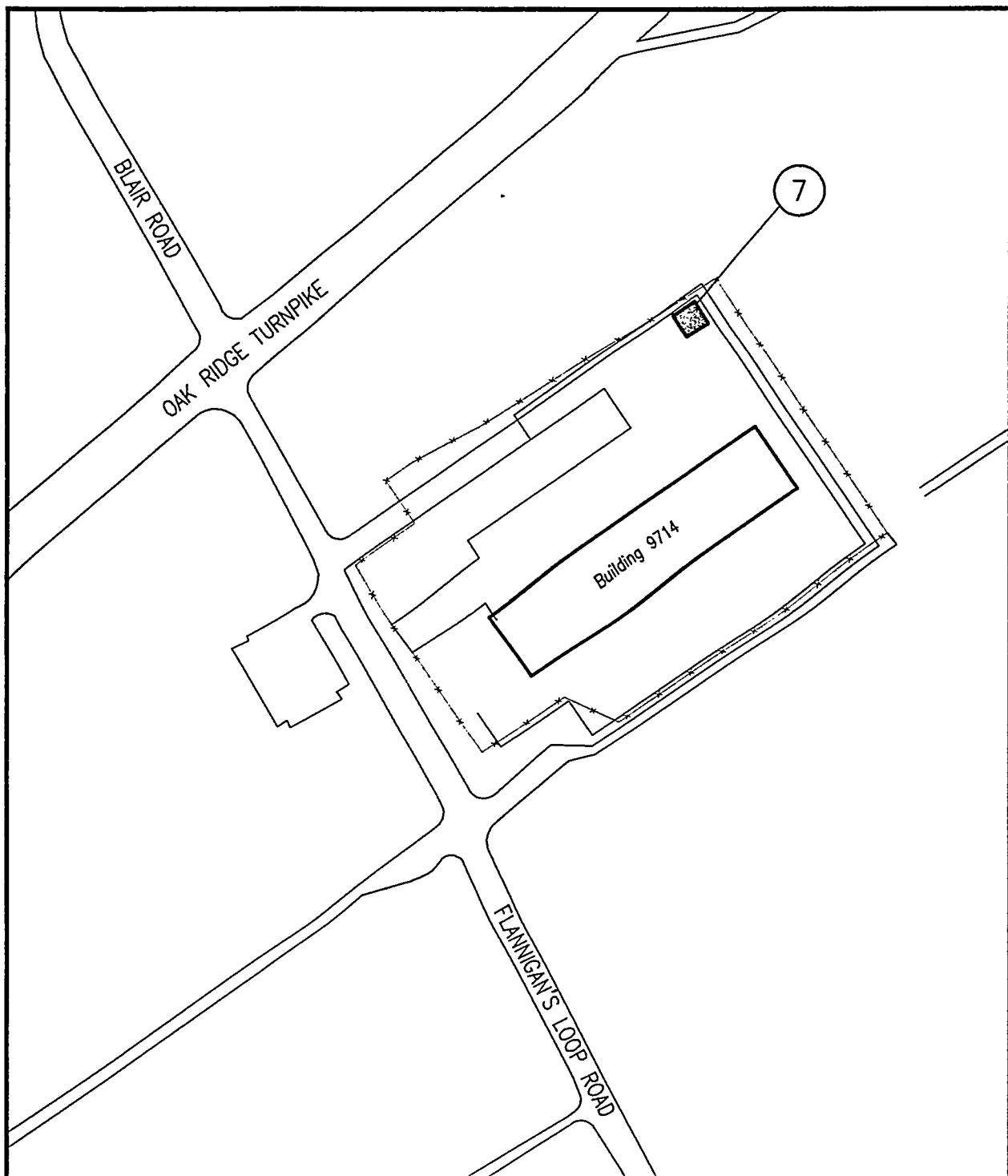
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NOT TO SCALE

97024.DWG.S/B206.DWG 09.26.97
CAD FILE NAME REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2334-U 9714
CONTENTS: GASOLINE



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- Road
- Building
- Fence

Y-12 PLANT NORTH
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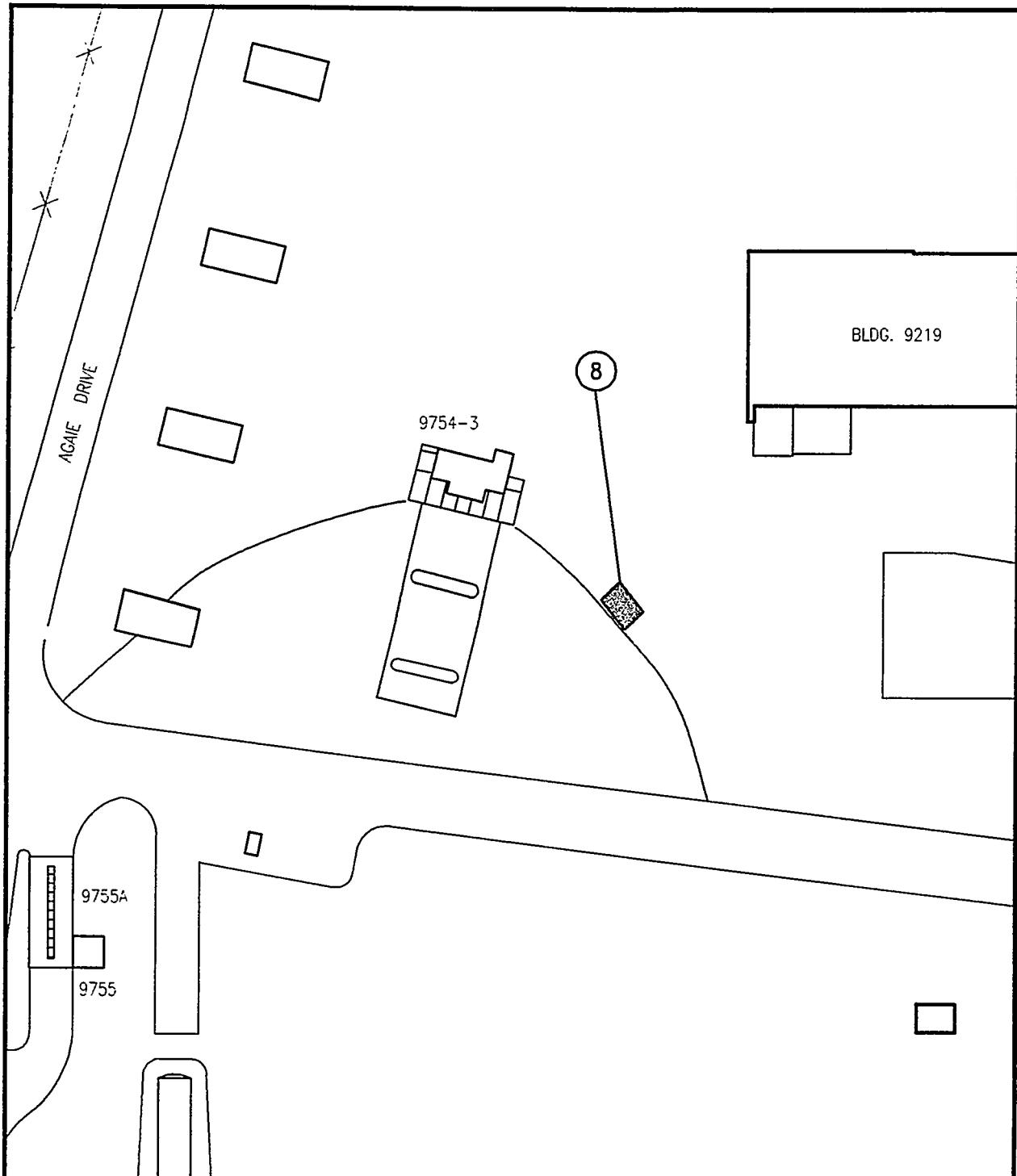
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LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

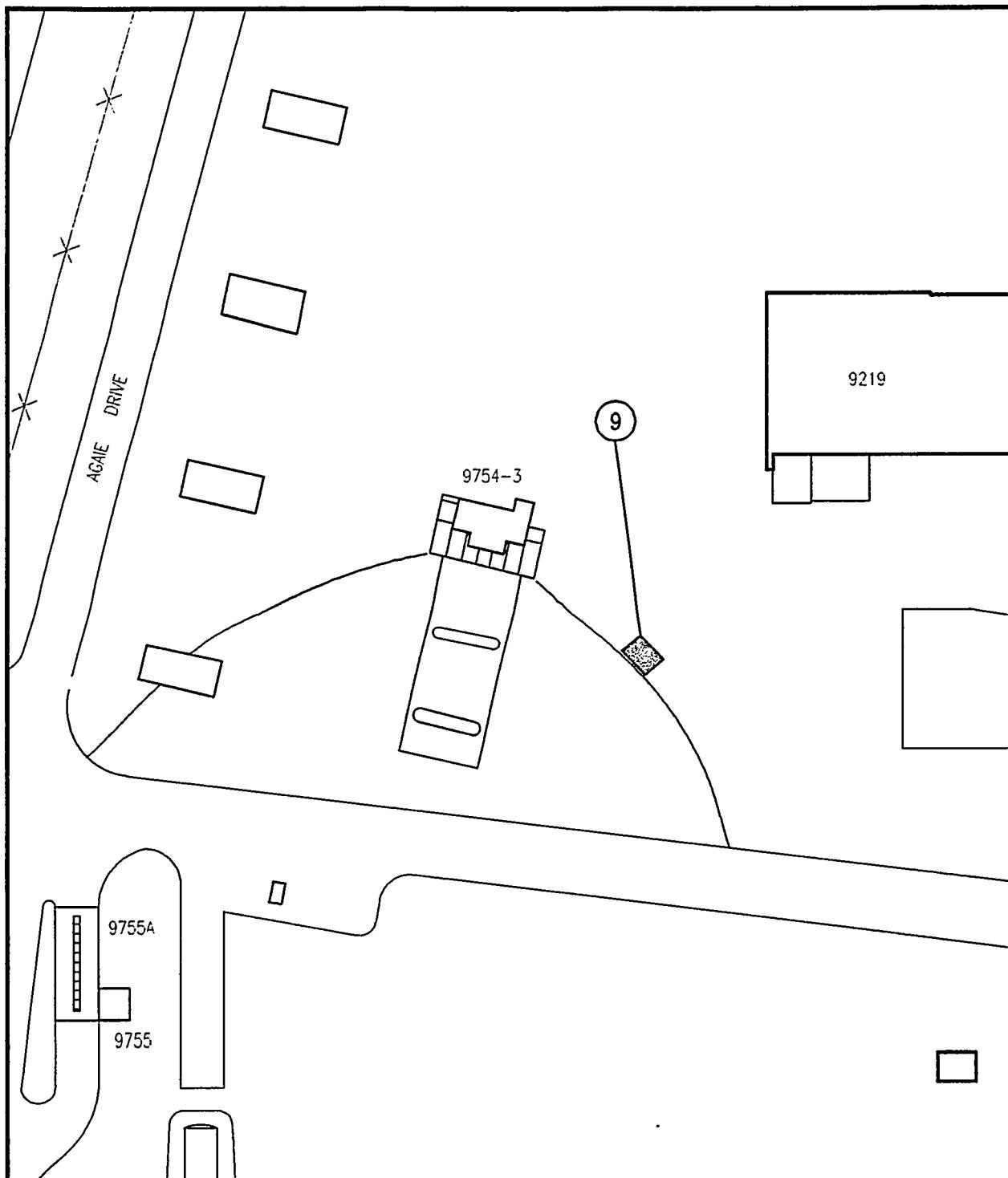
NOT TO SCALE

97024/DWGC/2207.DWG 09-26-97
CAD FILE NAME REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2335-U 9714
CONTENTS: DIESEL



LEGEND:		Y-12 PLANT NORTH	NOT TO SCALE	LOCKHEED MARTIN
8	... UST Directory Number			
.....	..... Road		Science Applications International Corporation	LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
.....	..... Building			OAK RIDGE Y-12 PLANT UST 2396-U BLDG. 9754-3 CONTENTS: DIESEL
.....	..... Fence	97024/DWGS/82050 DWG CAD FILE NAME	09/26/97 REV. - DATE	



LEGEND:

- (9) ... UST Directory Number
- ... Road
- ... Building
- ... Fence

Y-12 PLANT NORTH

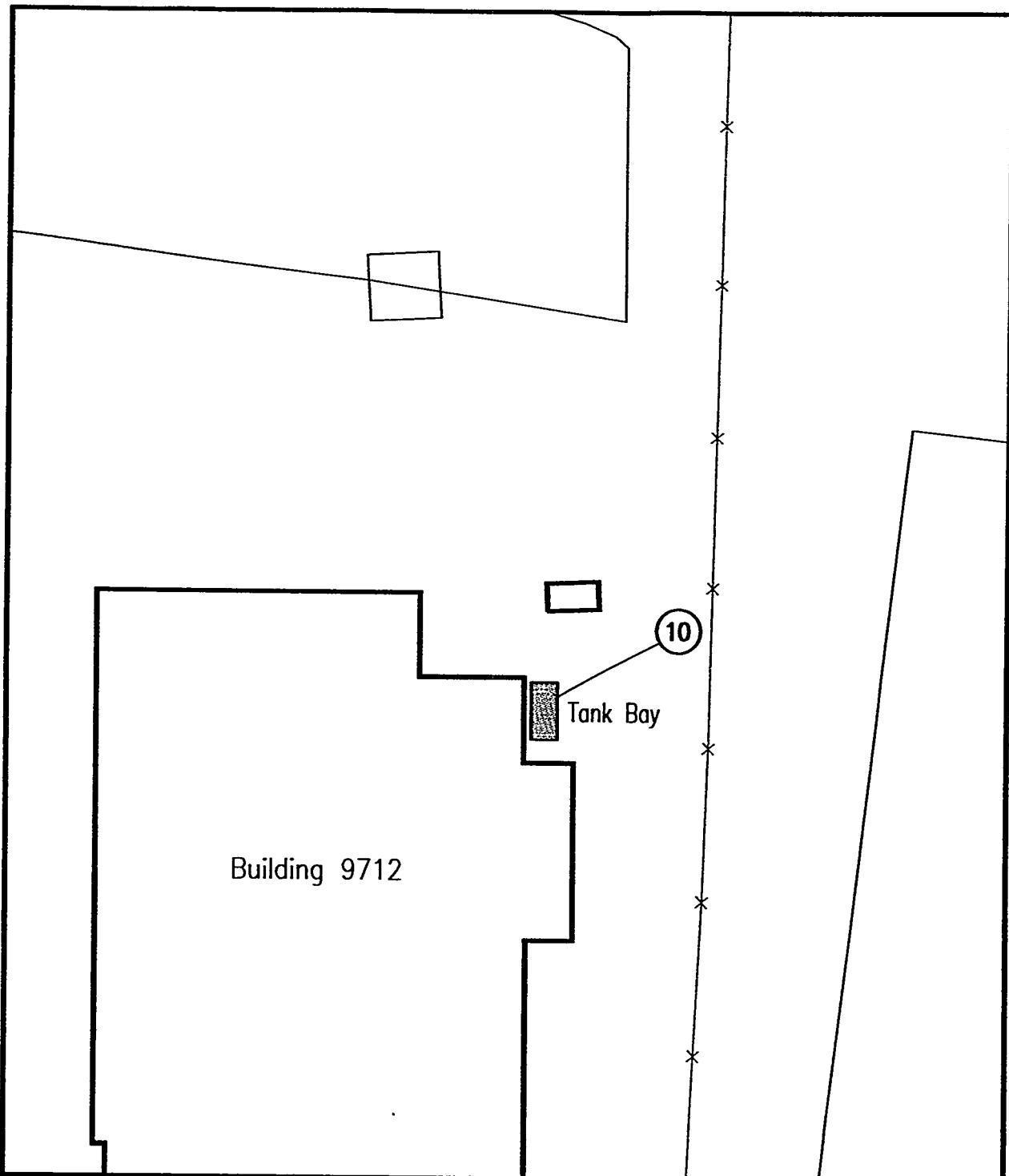
SAIC
Science Applications
International Corporation

NOT TO SCALE

97C24/DWGS/8205* DWG1 09/26/97
CAD FILE NAME: 1 REV. - DATE

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

OAK RIDGE Y-12 PLANT
UST 2397-U BLDG. 9754-3
CONTENTS: GASOLINE



Building 9712

LEGEND:

- (10) ... UST Directory Number
-Road
-Building
- **-**Fence

 Y-12 PLANT NORTH

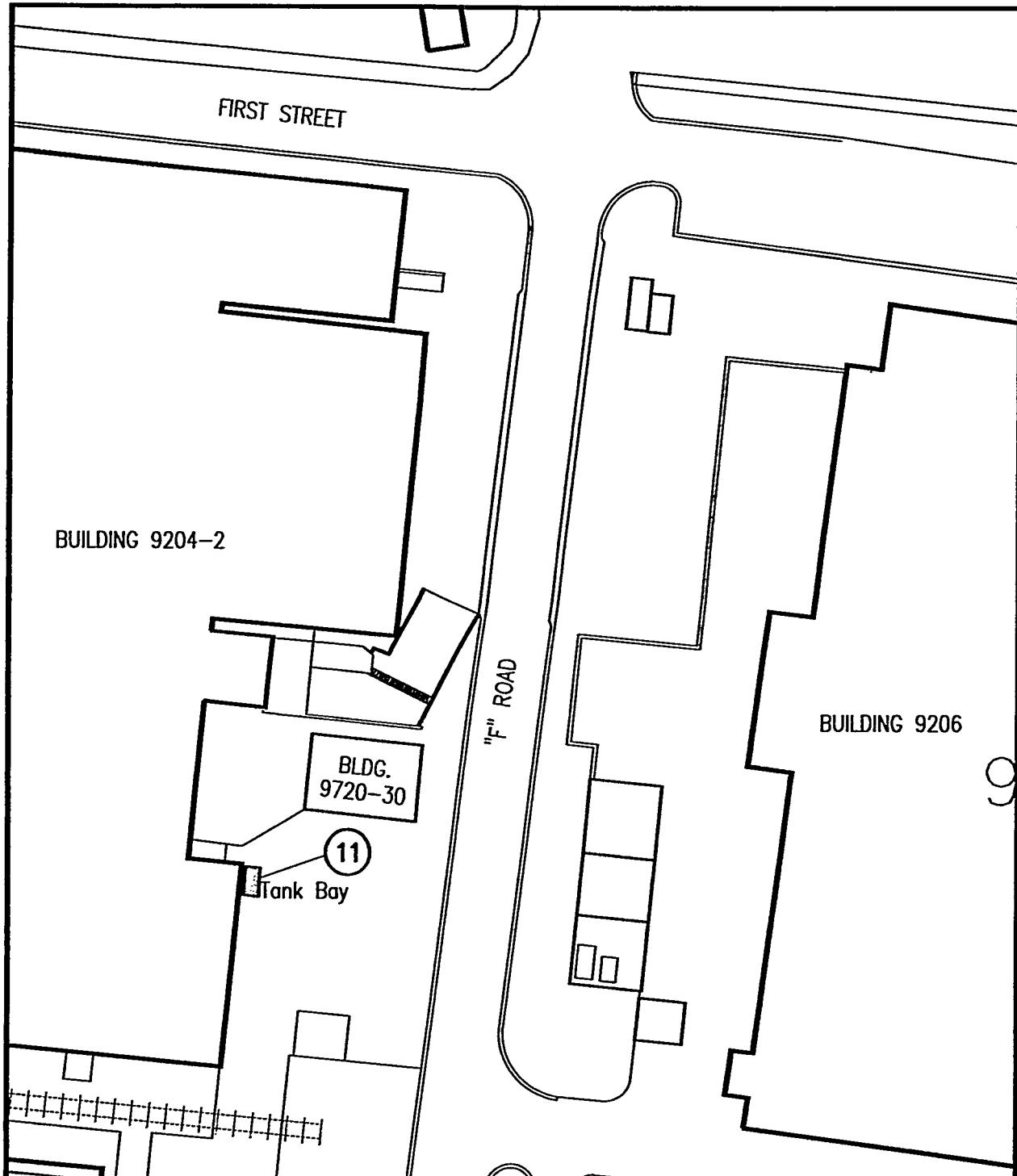

Science Applications
International Corporation


LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DIRGS/52021.DWG	09/26/97
CAD FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 0084-U BLDG. 9712
CONTENTS: USED OIL



LEGEND:

- (11) ... UST Directory Number
- Road
- Building
- *** Fence

Y-12 PLANT NORTH
↗

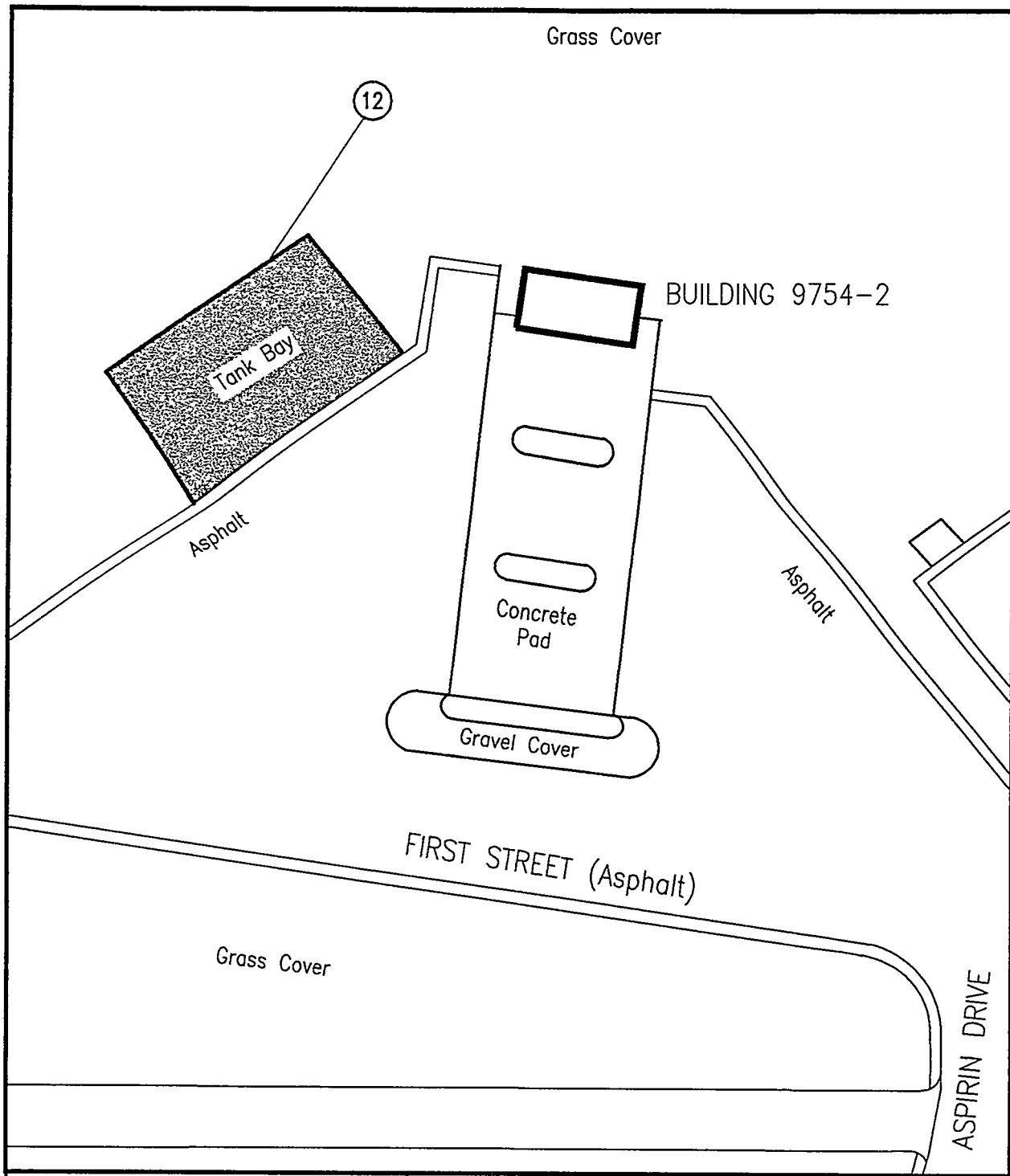
SAIC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

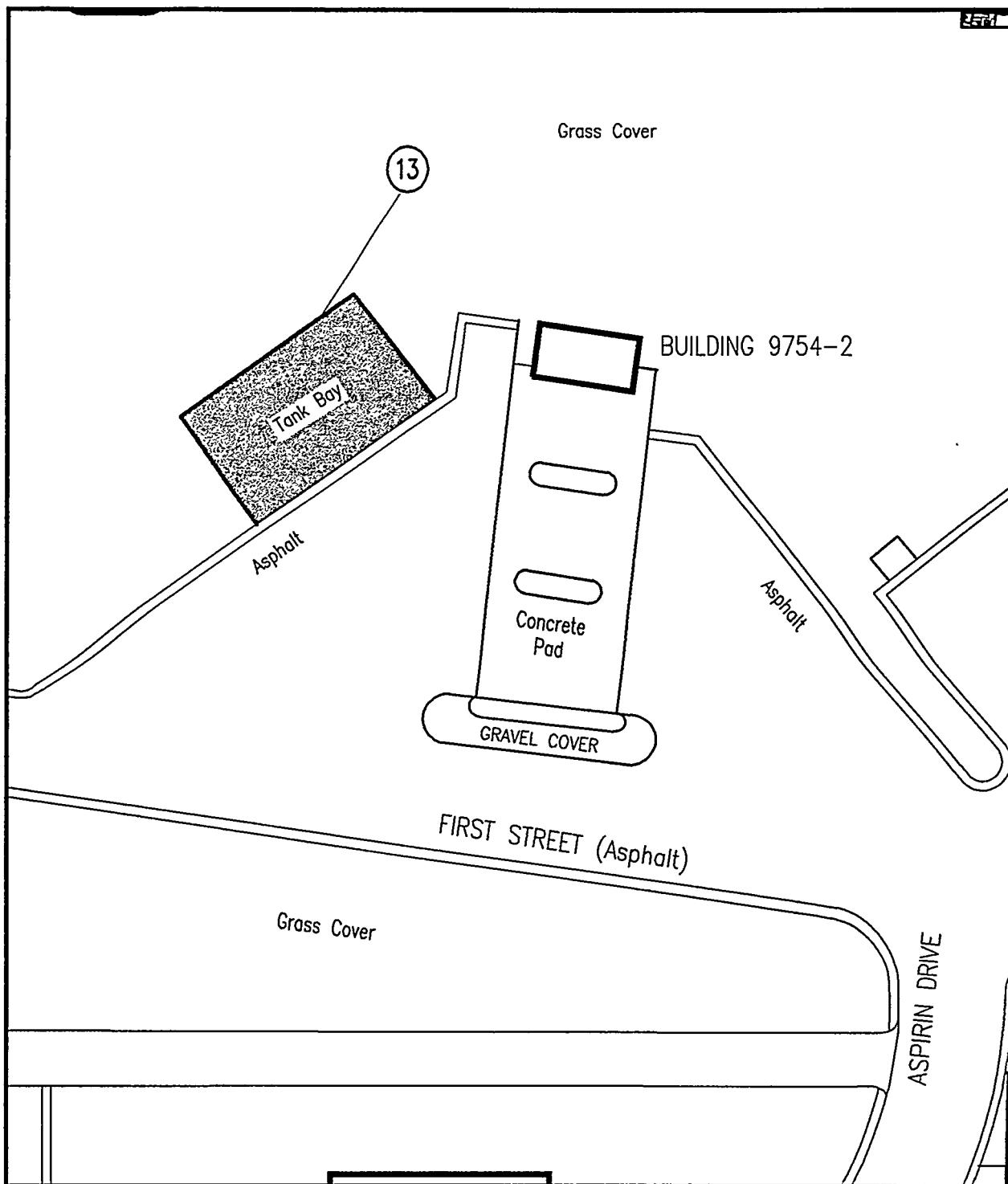
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97024/DWCS/82022.DWG	09/26/97
CAO FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 0134-U BLDG. 9204-2
CONTENTS: GASOLINE



LEGEND:		Y-12 PLANT NORTH	NOT TO SCALE	LOCKHEED MARTIN
(12)	... UST Directory Number			
.....	..... Road			LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
[Building]	..... Building			OAK RIDGE Y-12 PLANT UST 0439-U BLDG. 9754-2
.....	..... Fence			CONTENTS: GASOLINE
		97024/DWCS/82023.DWG	09-25-97	
		CAC FILE NAME	PEY - DATE	



LEGEND:

- 13 ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

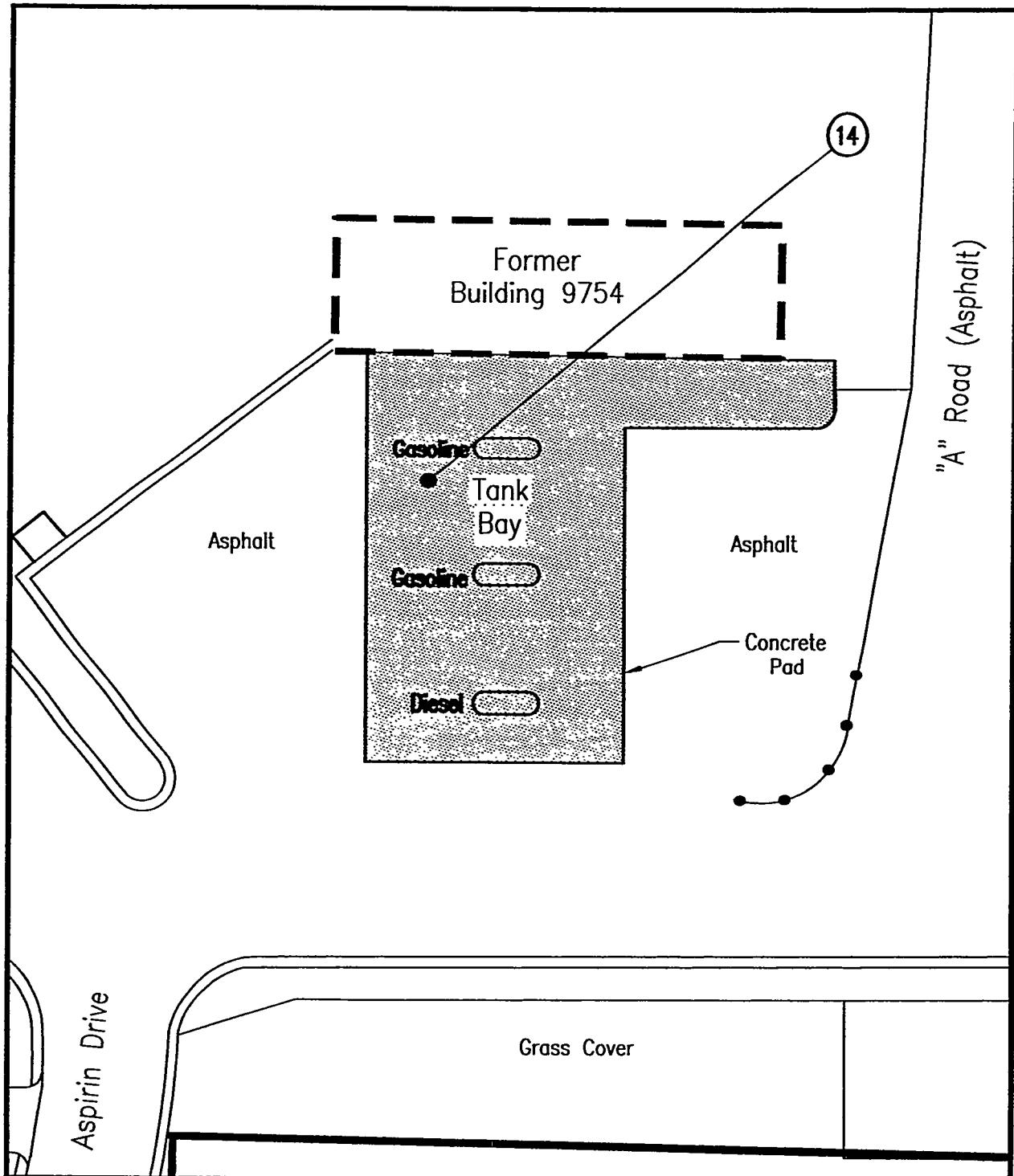
SAIC
Science Applications
International Corporation

NOT TO SCALE

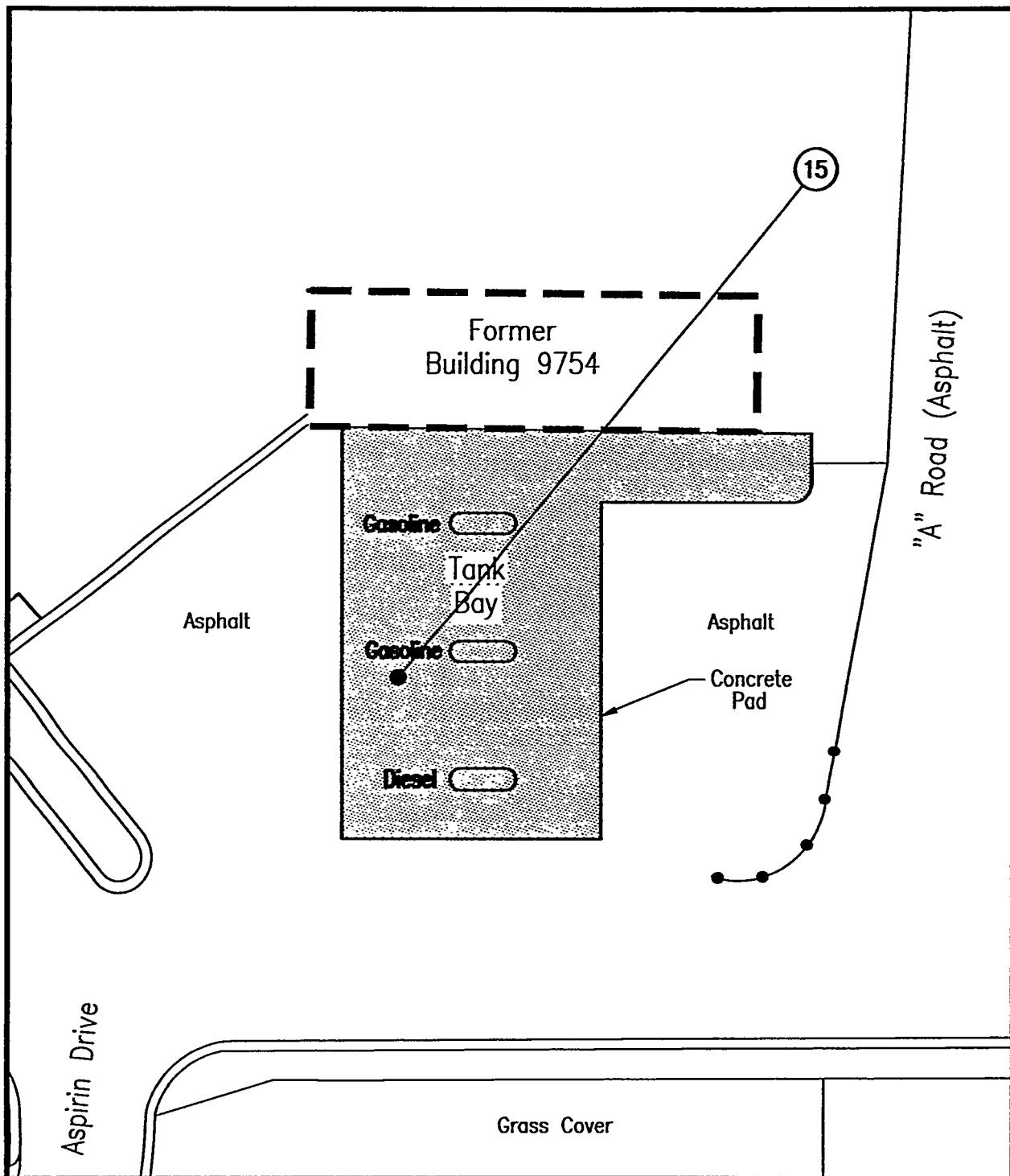
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CAD FILE NAME FEV - DATE

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

OAK RIDGE Y-12 PLANT
UST 0440-U BLDG. 9754-2
CONTENTS: DIESEL



LEGEND:		Y-12 PLANT NORTH	Science Applications International Corporation	LOCKHEED MARTIN
14	... UST Directory Number			
.....	..... Road			
<input type="checkbox"/>	Building			
**	..... Fence			
			NOT TO SCALE	
		97024/0WGS/B2012.DWG	09/25/97	
		CAD FILE NAME	REV. - DATE	
		OAK RIDGE Y-12 PLANT UST 2073-U BLDG. 9754		
		CONTENTS: GASOLINE		



LEGEND:

- 15 ... UST Directory Number
- Road
- Building
- ×× Fence



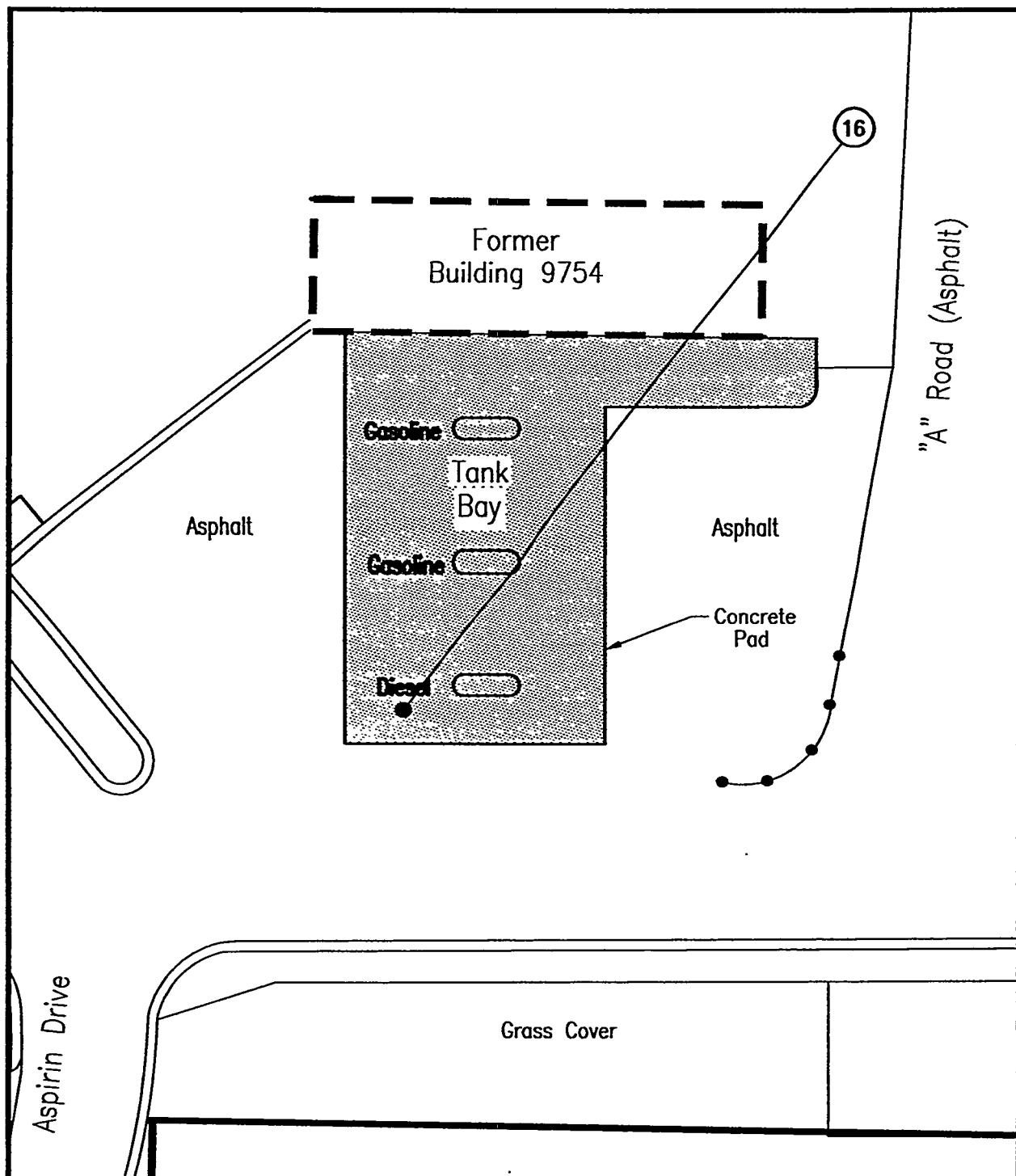
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

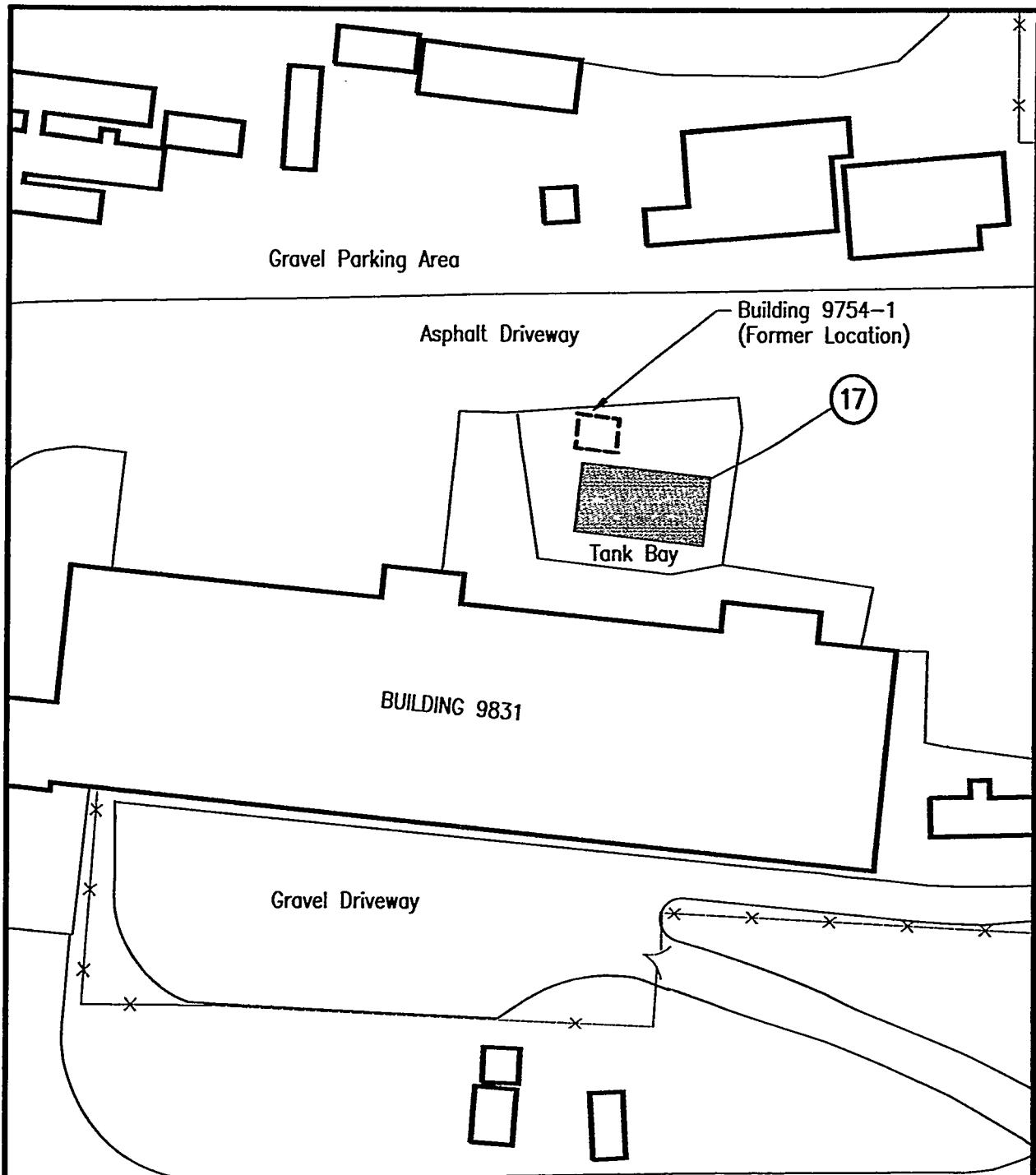
NOT TO SCALE

97024/DRWGS/62015.DWG	09/26/97
CAD FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2074-U BLDG. 9754
CONTENTS: GASOLINE



<u>LEGEND:</u>		 SAIC Science Applications International Corporation	 LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
 16	... UST Directory Number		
 -----	Road		
 -----	Building		
 -----	Fence		
 -----	Property Line		
 Y-12 PLANT NORTH		NOT TO SCALE	
97024/DMCS/82014.DWG		09/26/97	
CAD FILE NAME		REV. - DATE	
OAK RIDGE Y-12 PLANT UST 2075-U BLDG. 9754 CONTENTS: DIESEL			



STREET

SECOND STREET

LEGEND:

- 17 ... UST Directory Number
-Road
-Building
- **Fence

Y-12 PLANT NORTH

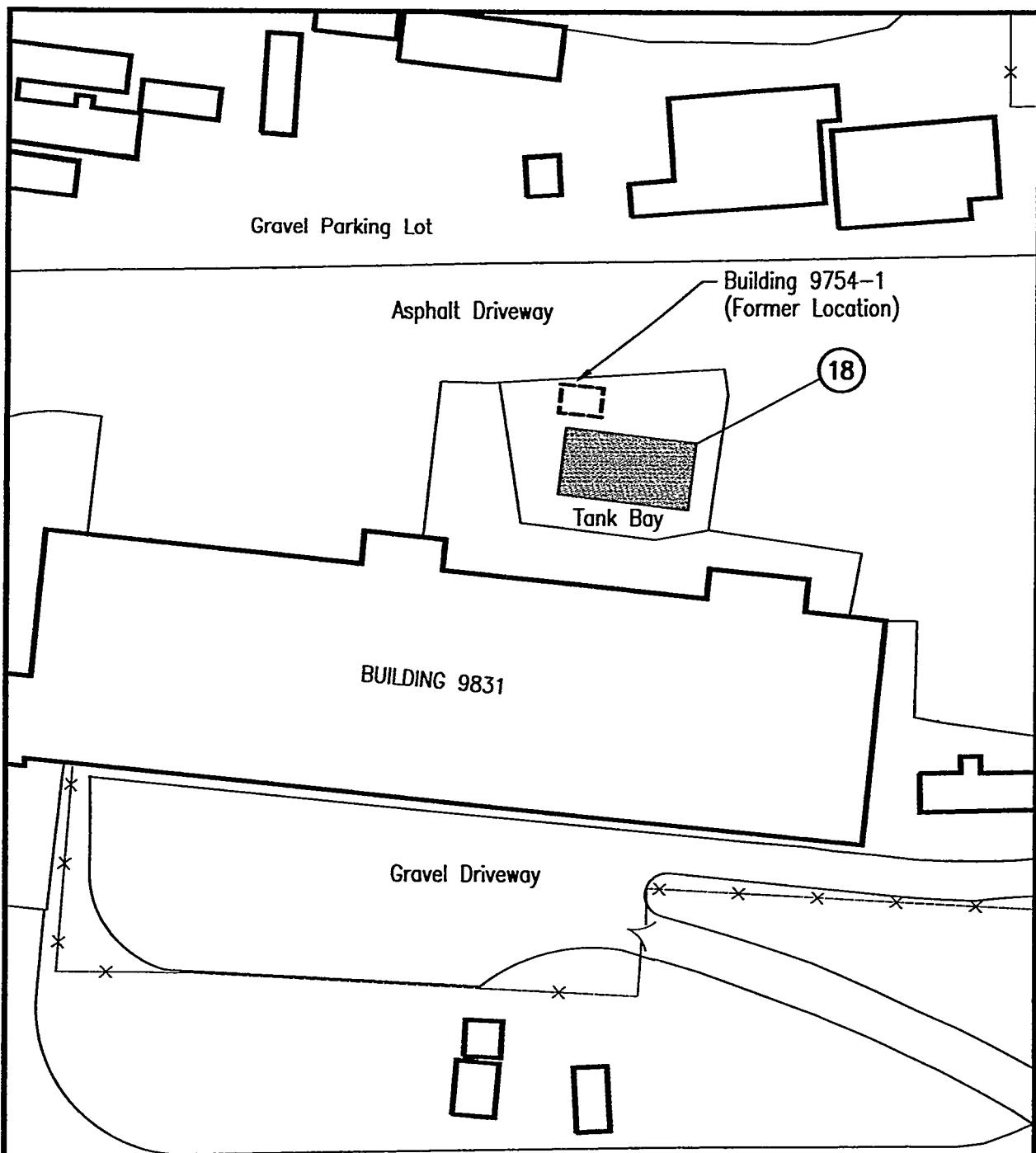
SAIC
Science Applications
International Corporation

NOT TO SCALE

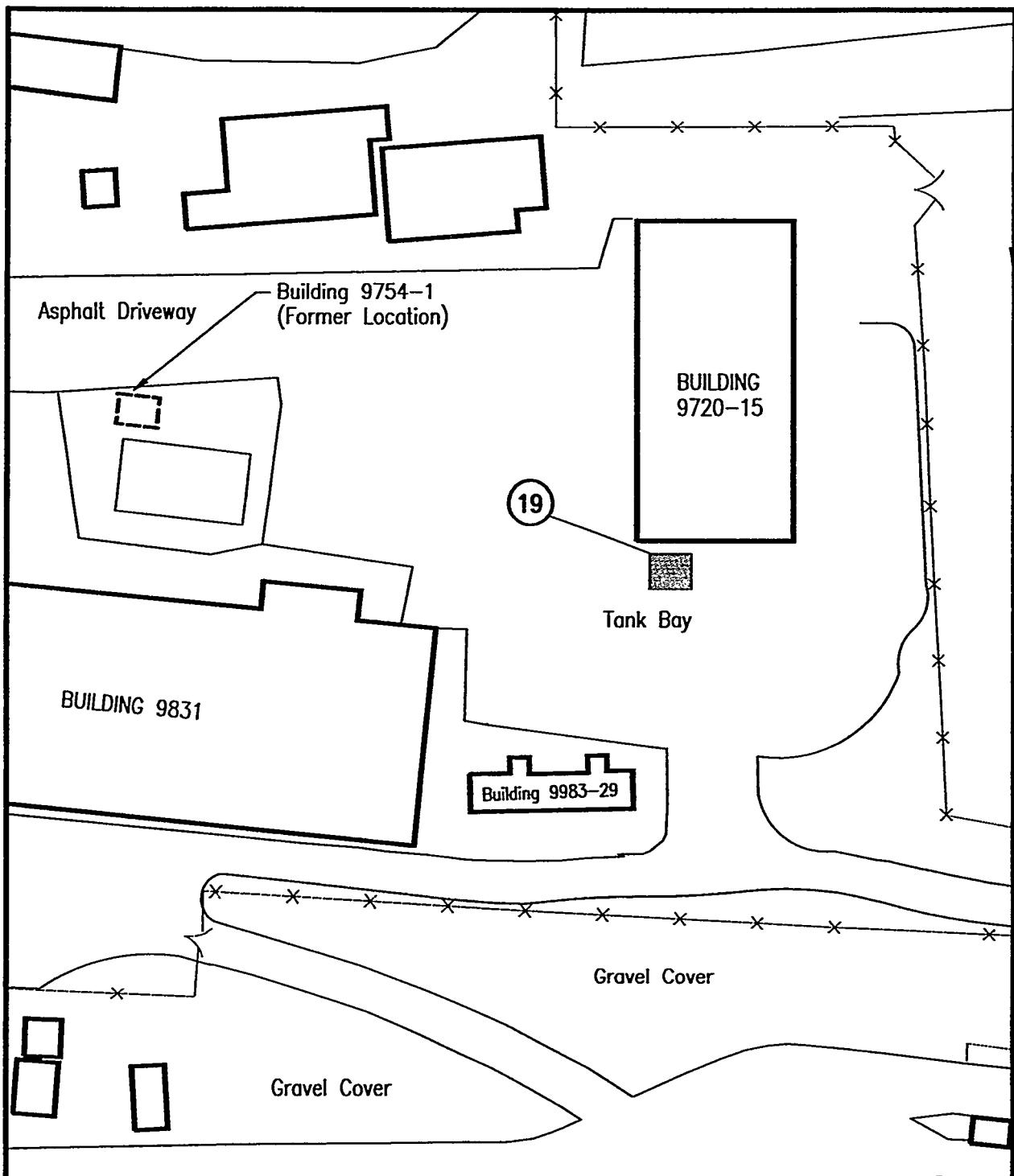
97024/DIRGS/82028.DWG 09/26/97
CAO FILE NAME REV. - DATE

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

OAK RIDGE Y-12 PLANT
UST 1219-U BLDG. 9754-1
CONTENTS: DIESEL



LEGEND:		Y-12 PLANT NORTH	Science Applications International Corporation	LOCKHEED MARTIN
(18)	... UST Directory Number			
.....	Road			
.....	Building			
.....	Fence			
NOT TO SCALE				OAK RIDGE Y-12 PLANT
97024/0WGS/02029.DWG		09/26/97		UST 1222-U BLDG. 9754-1
CAO FILE NAME		REV. - DATE		CONTENTS: GASOLINE



LEGEND:

- 19** ... UST Directory Number
- Road
- Building**
- Fence**

Y-12 PLANT NORTH

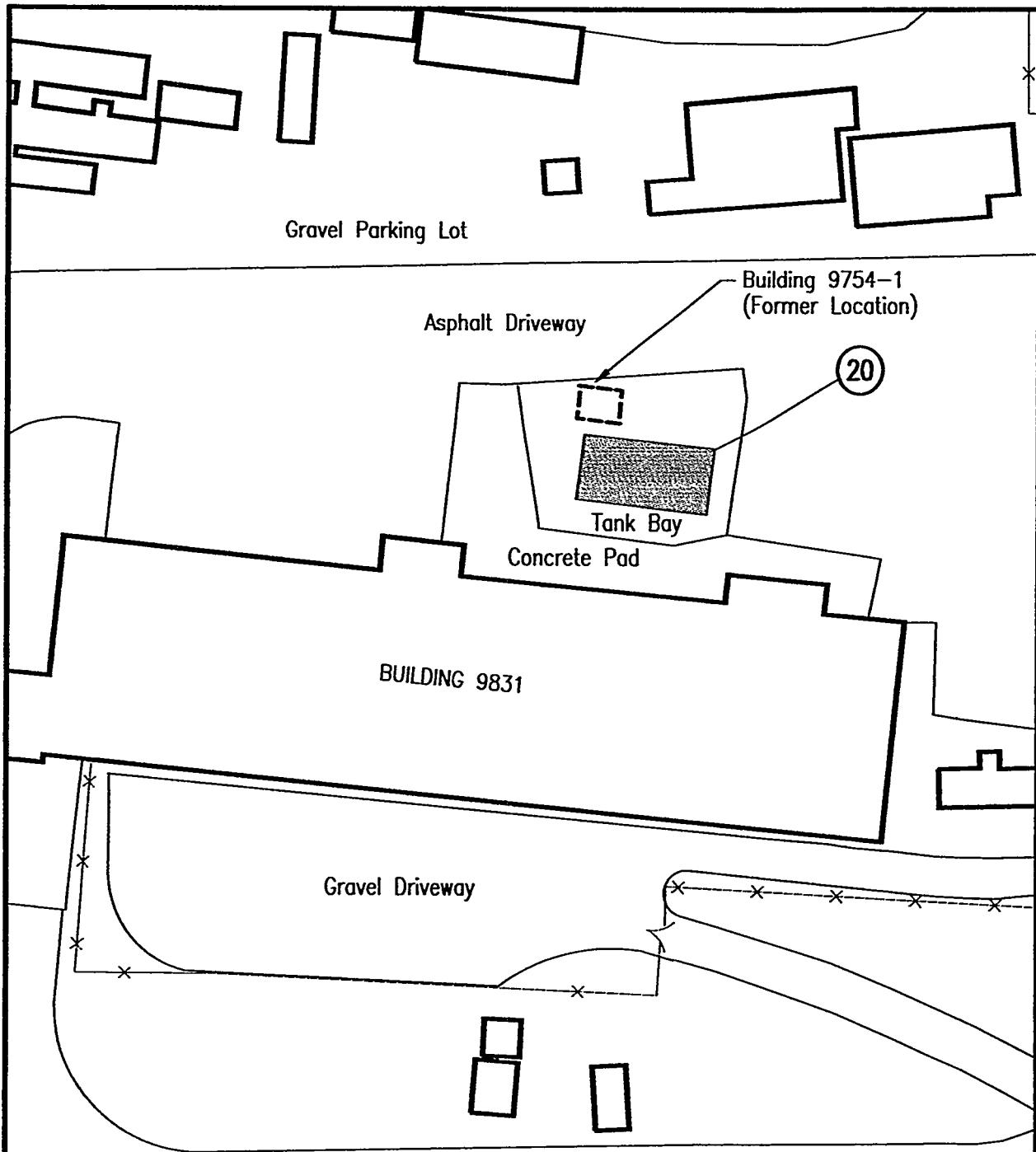
SAIC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

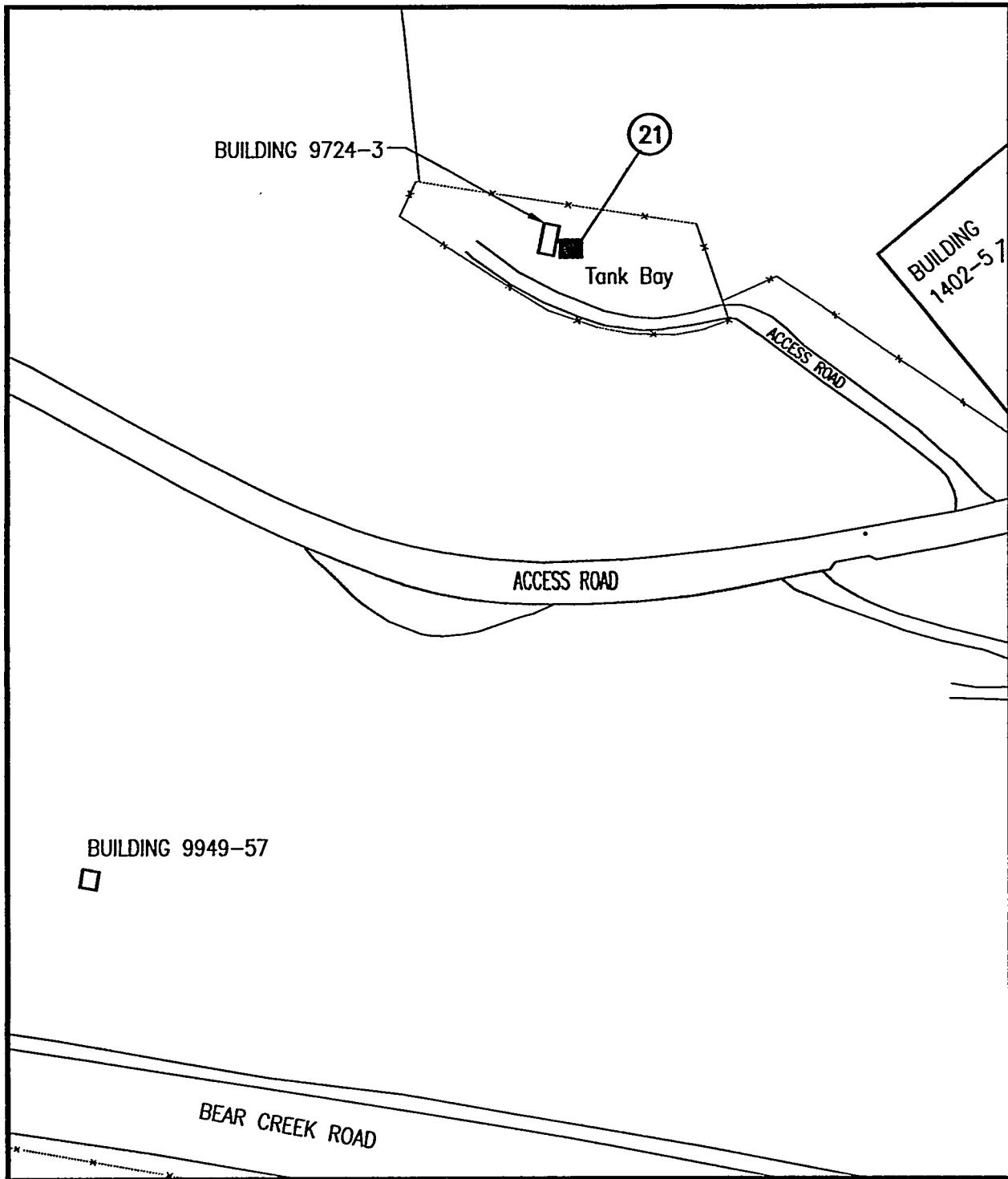
NOT TO SCALE

97024/DRCS/22030.DWG	09/26/97
CAD FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2068-U BLDG. 9720-15
CONTENTS: GASOLINE



LEGEND:		Y-12 PLANT NORTH	NOT TO SCALE	LOCKHEED MARTIN
(20)	... UST Directory Number			
.....	..... Road		
.....	..... Building		
**	..... Fence		
 <i>Science Applications International Corporation</i>		97024/0WGS/52033.DWG	09/26/97	LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
		CAD FILE NAME	REV. - DATE	OAK RIDGE Y-12 PLANT UST 2082-U BLDG. 9754-1 CONTENTS: GASOLINE



LEGEND:

- (21) ... UST Directory Number
-Road
-Building
- **Fence

Y-12 PLANT NORTH

SAC
Science Applications
International Corporation

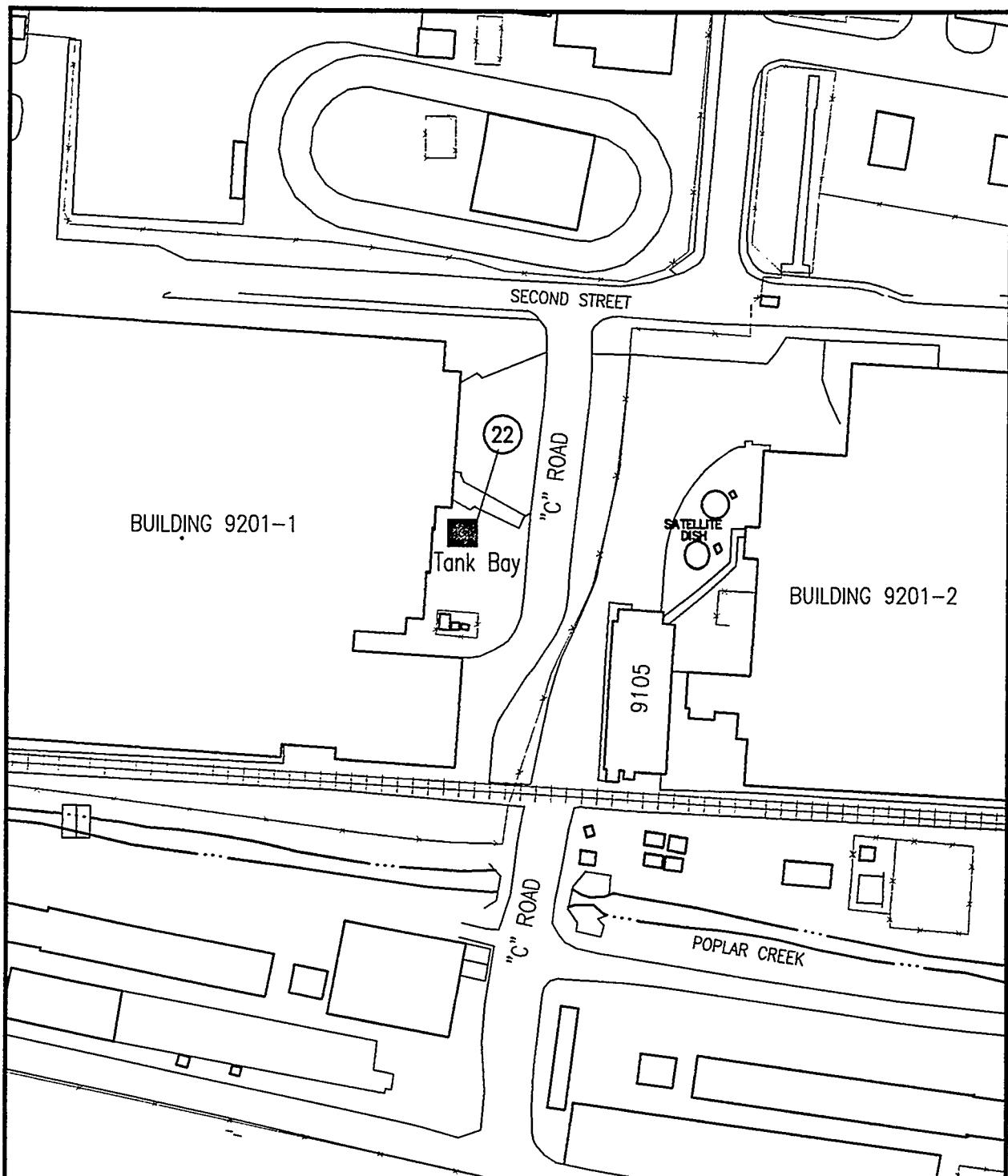
LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/0WCS/62059.DWG
CAO FILE NAME

09/26/97
REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2310-U PINE RIDGE WEST
CONTENTS: GASOLINE



LEGEND:

- (22) ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

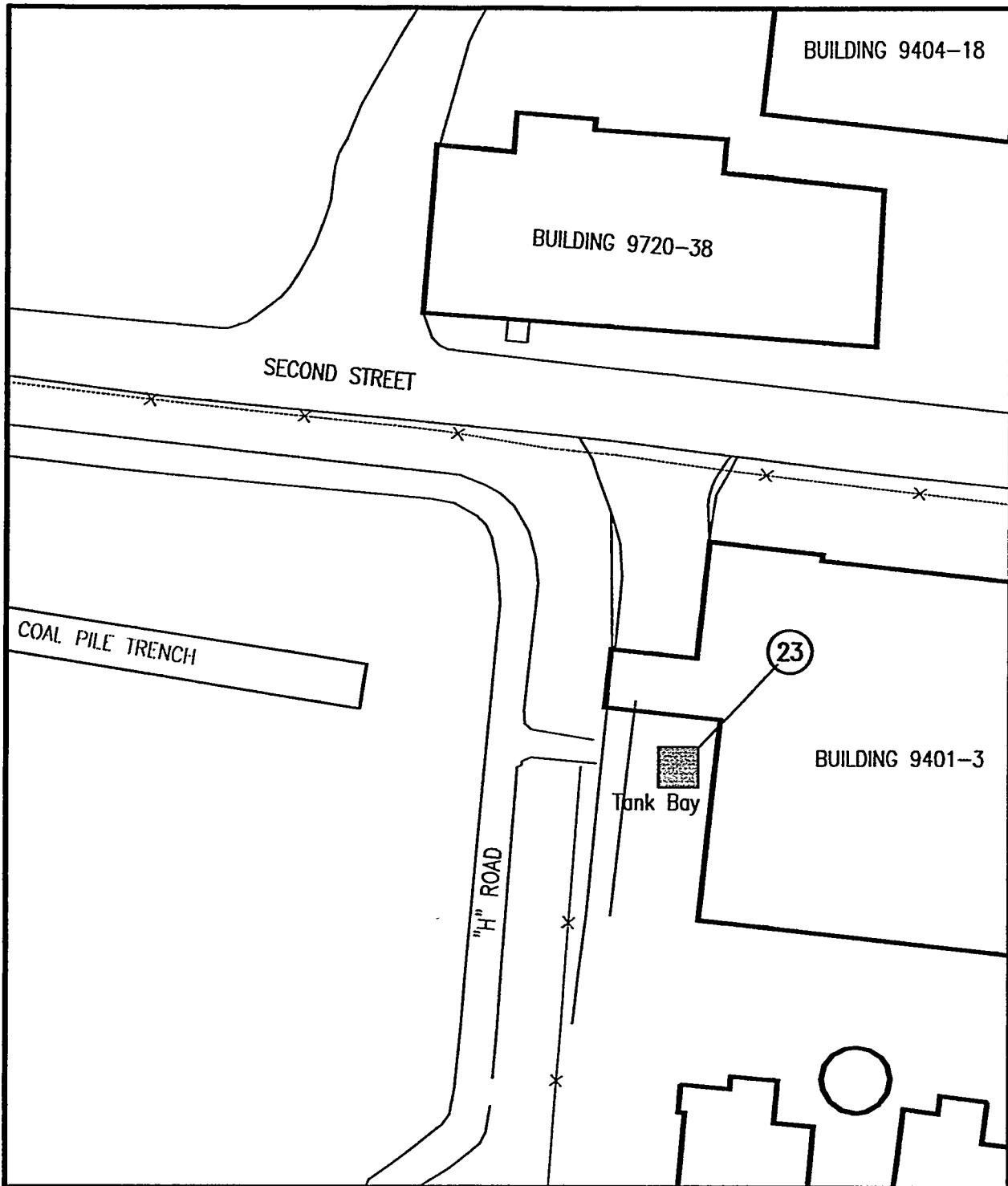
SAIC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DWGS/E264.DWG
CAE FILE NAME
09/26/97
RE. - DATE

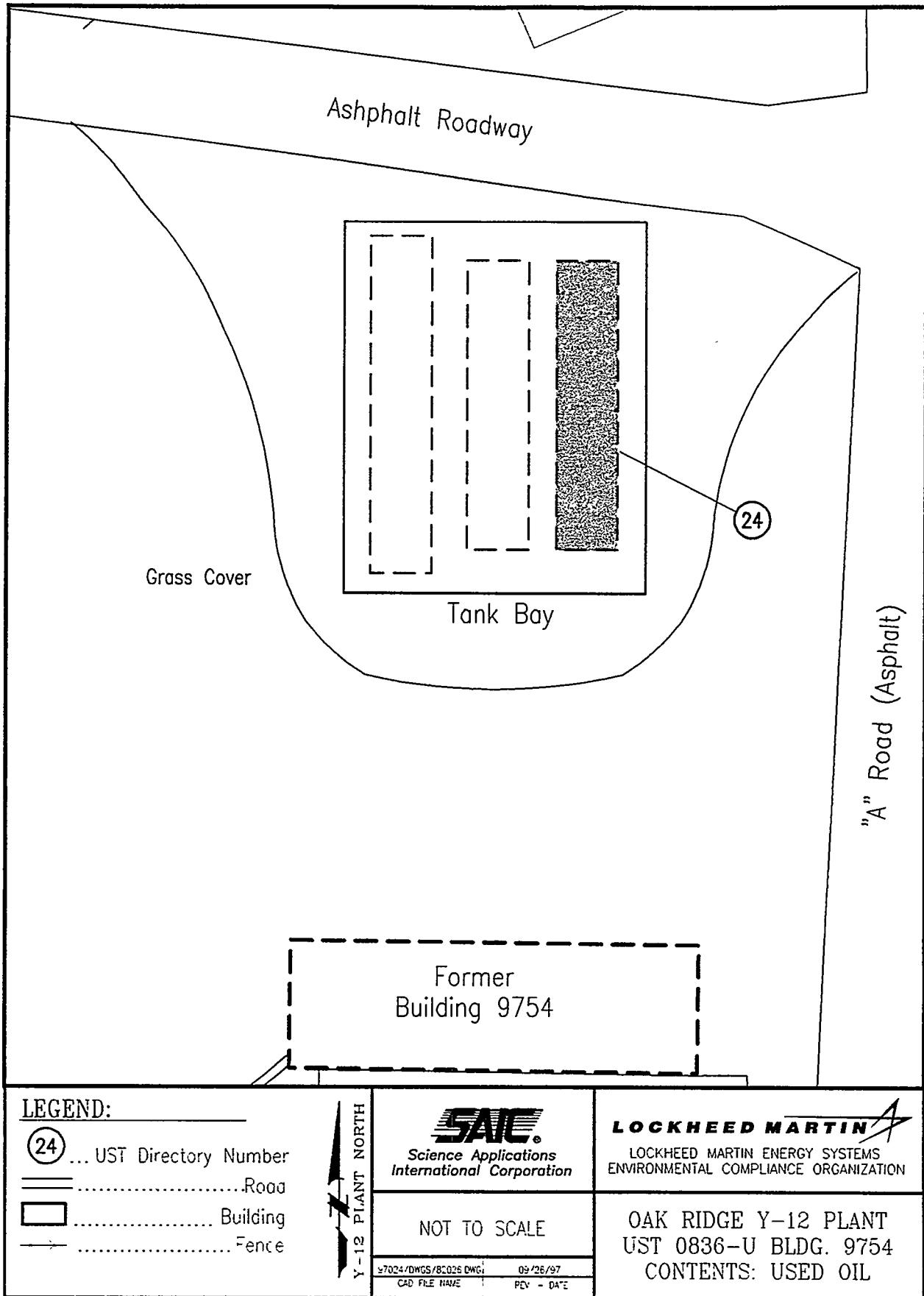
OAK RIDGE Y-12 PLANT
UST 2331-U BLDG. 9201-1
CONTENTS: GASOLINE

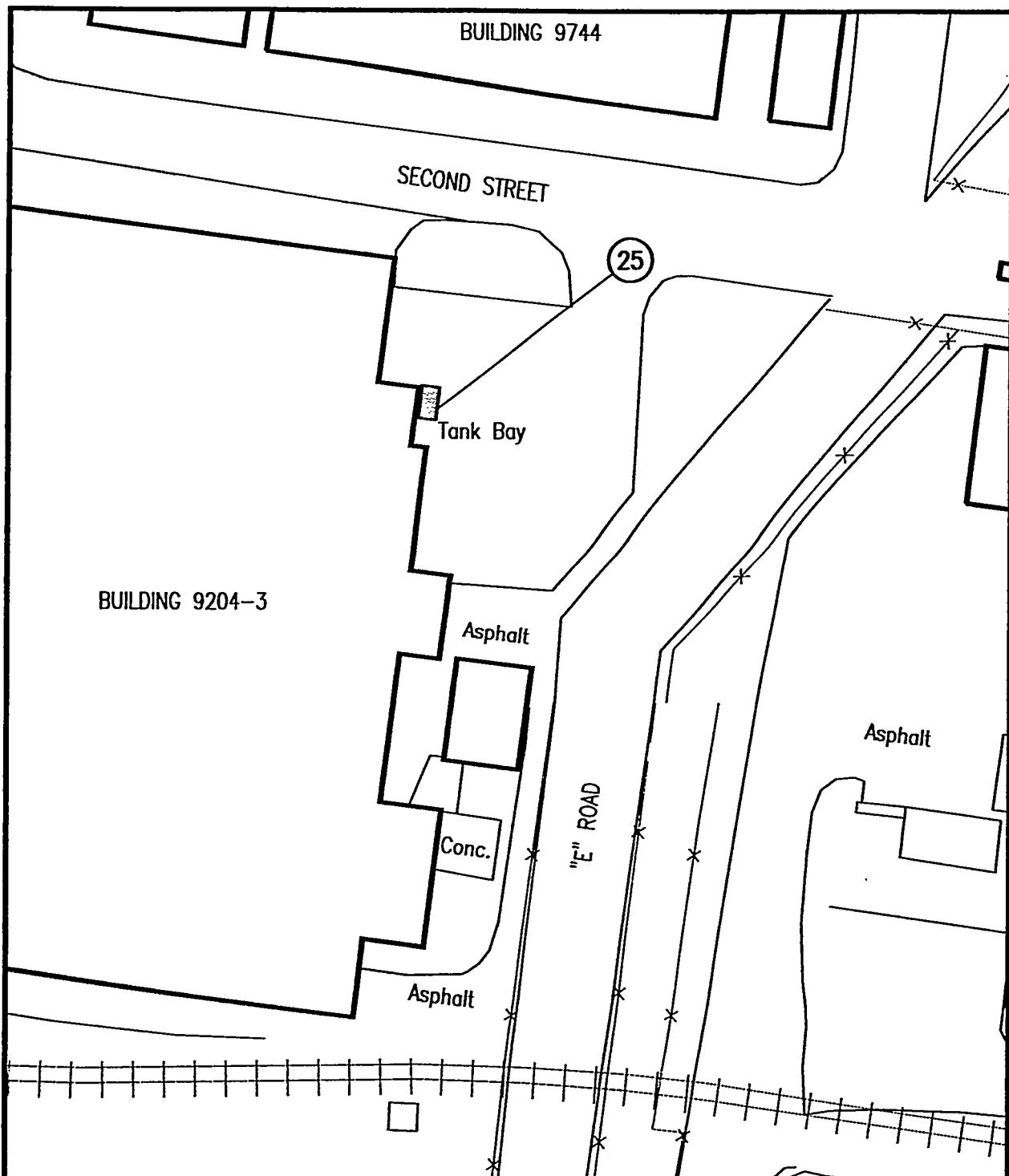


LEGEND:

- (23) ... UST Directory Number
-Road
- [Building] Building
- * Fence

Y-12 PLANT NORTH	SAC Science Applications International Corporation	LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
	NOT TO SCALE	
97024/0WGS/82025.DWG	09/25/97	OAK RIDGE Y-12 PLANT UST 0713-U BLDG. 9401-3 CONTENTS: FUEL OIL
CAO FILE NAME	REV. - DATE	





LEGEND:

- 25 ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH



Science Applications
International Corporation

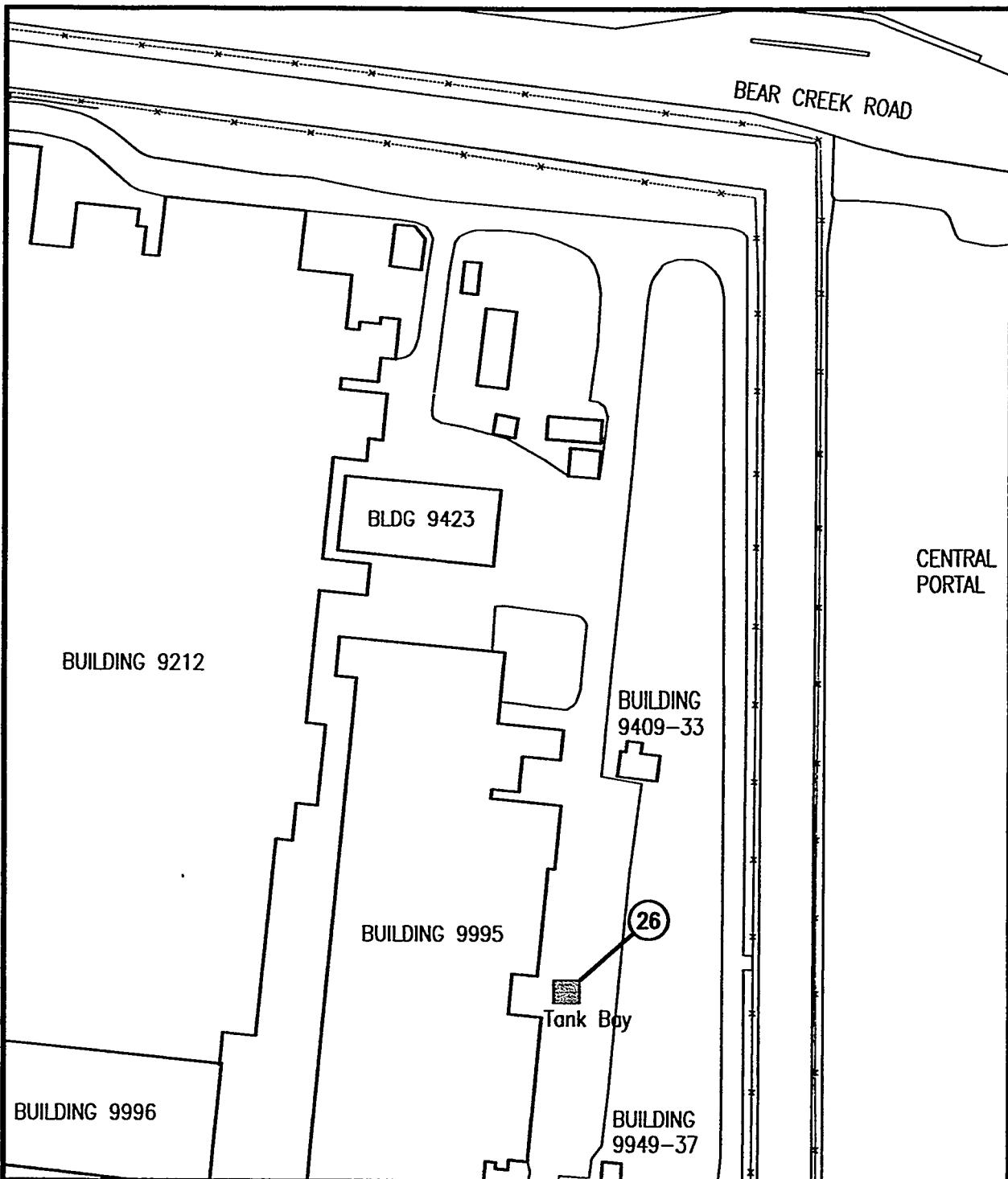
NOT TO SCALE

97024/DWCS/82027.DWG	09/26/97
CAD FILE NAME	REV. - DATE

LOCKHEED MARTIN

LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

OAK RIDGE Y-12 PLANT
UST 0928-U BLDG, 9204-3
CONTENTS: GASOLINE



LEGEND:

- (26) ... UST Directory Number
-Road
-Building
-Fence

Y-12 PLANT NORTH

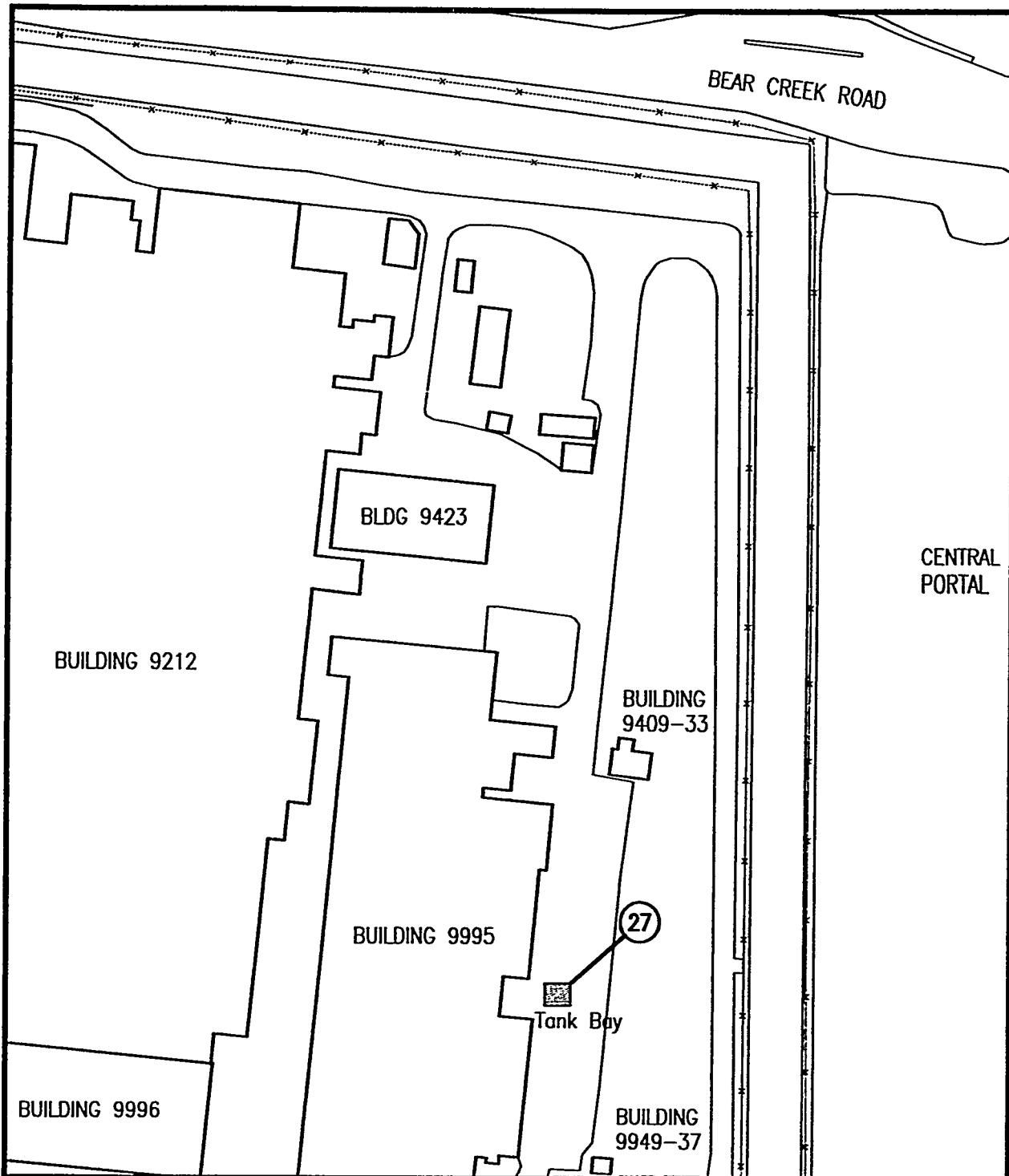
SAC
Science Applications
International Corporation

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LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DWGS/82018.DWG	09/26/97
CAO FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2078-U BLDG. 9995
CONTENTS: GASOLINE



LEGEND:

- 27 ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

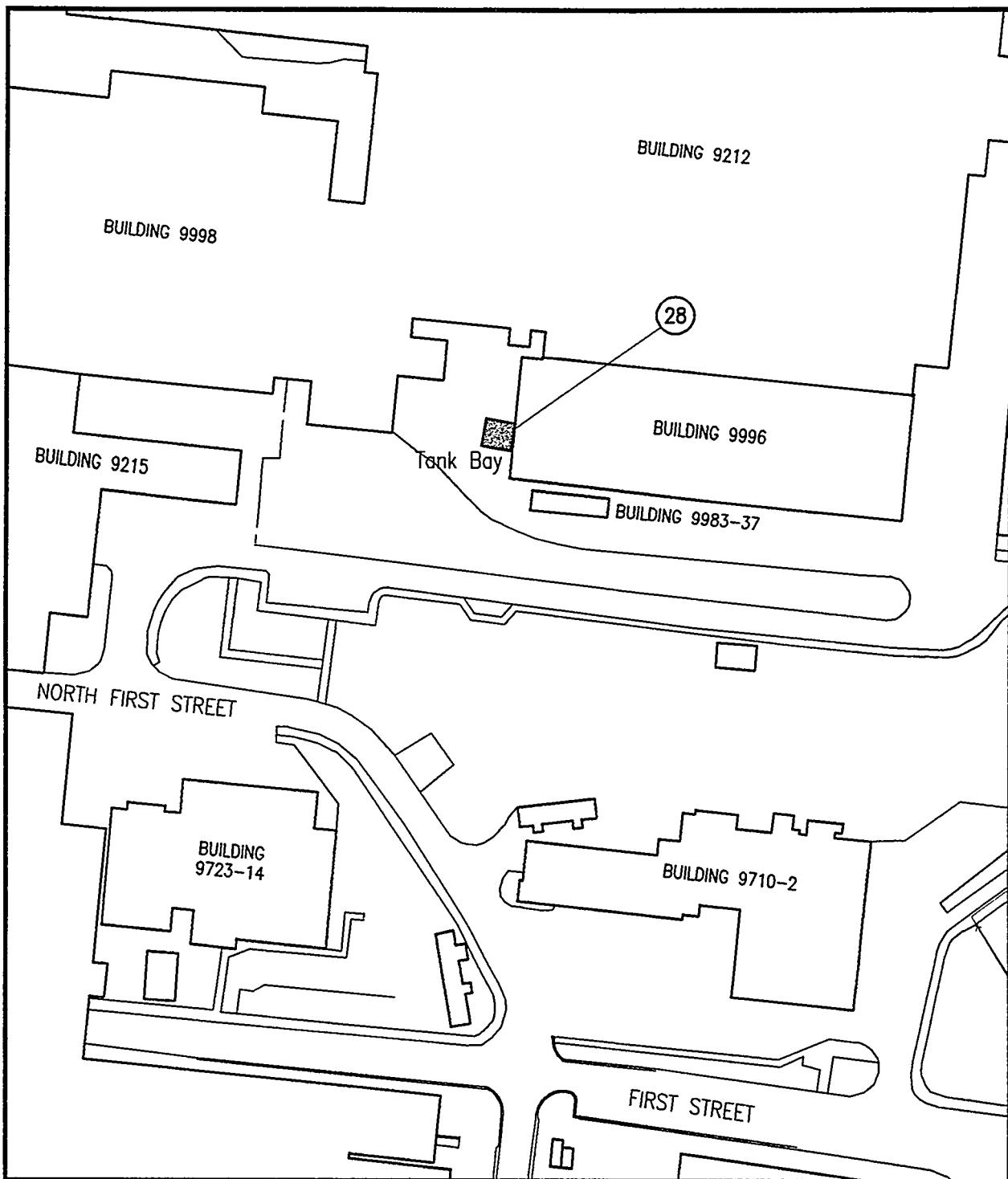
SAIC
Science Applications
International Corporation

NOT TO SCALE

97024/DMKGS/02019.DWG
CAG FILE NAME: 09/26/97
REV - DATE

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

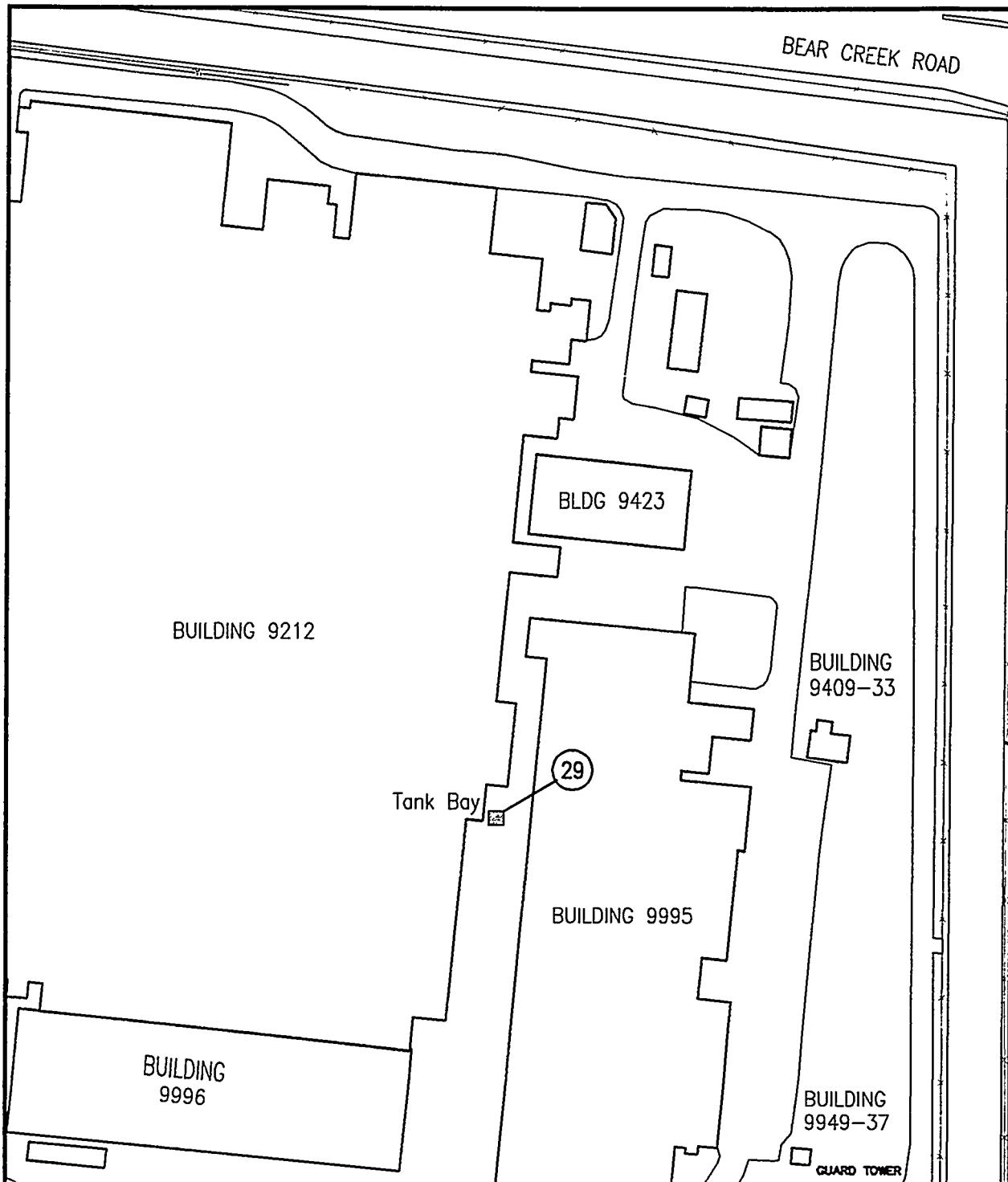
OAK RIDGE Y-12 PLANT
UST 2079-U BLDG. 9995
CONTENTS: GASOLINE



LEGEND:

- (28) ... UST Directory Number
- Road
- Building
- Fence

 Y-12 PLANT NORTH	 Science Applications International Corporation	 LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
	NOT TO SCALE	OAK RIDGE Y-12 PLANT UST 2080-U BLDG. 9996 CONTENTS: GASOLINE
	97024/DMGS/SC031.DWG CAD FILE NAME	09/26/97 REV - DATE



LEGEND:

- 29 ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

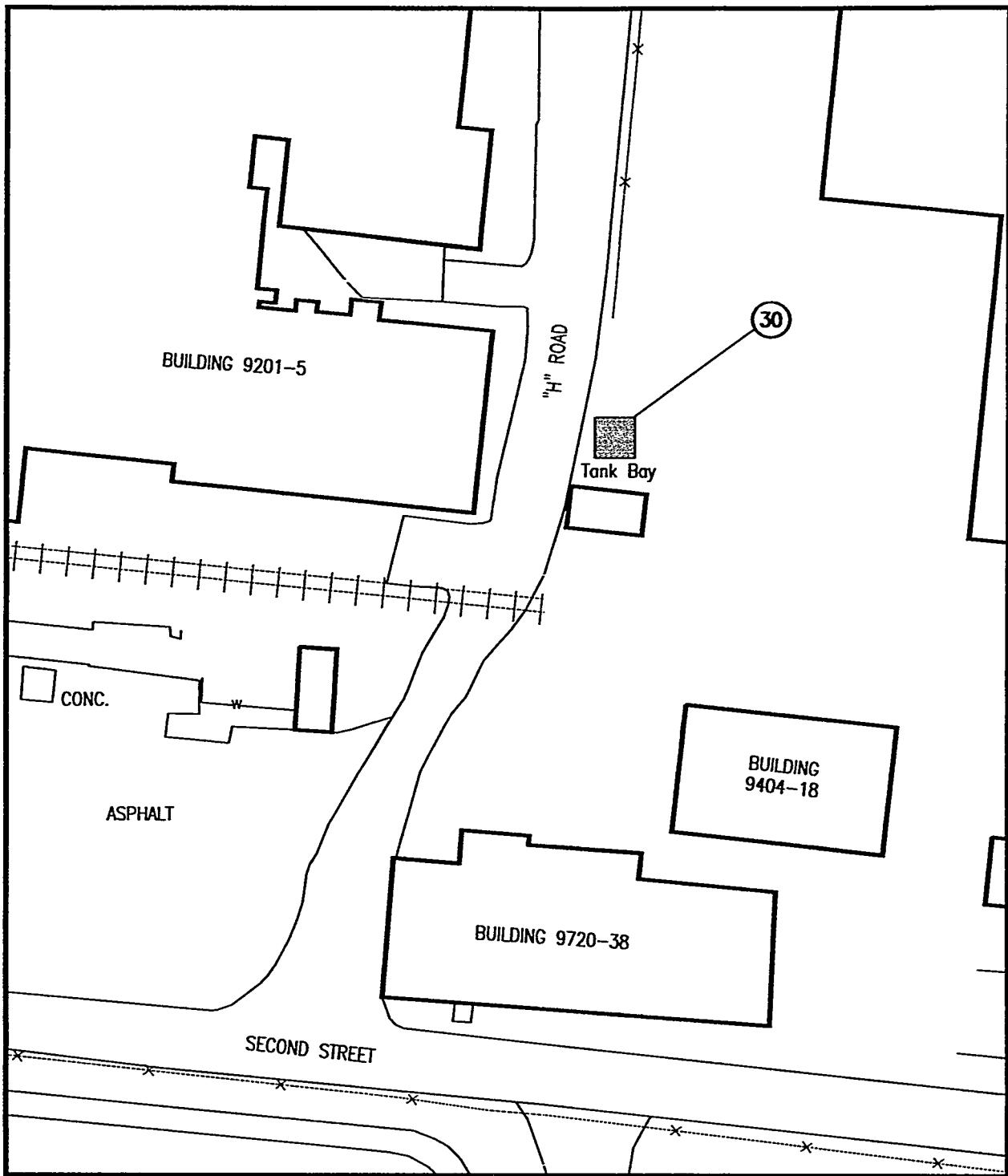
SAC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

37024/DA05 82332.DWG
CAD FILE NAME
F - DATE

OAK RIDGE Y-12 PLANT
UST 2081-U BLDG. 9212
CONTENTS: GASOLINE



LEGEND:

(30) ... UST Directory Number

.....Road

.....Building

**Fence

Y-12 PLANT NORTH

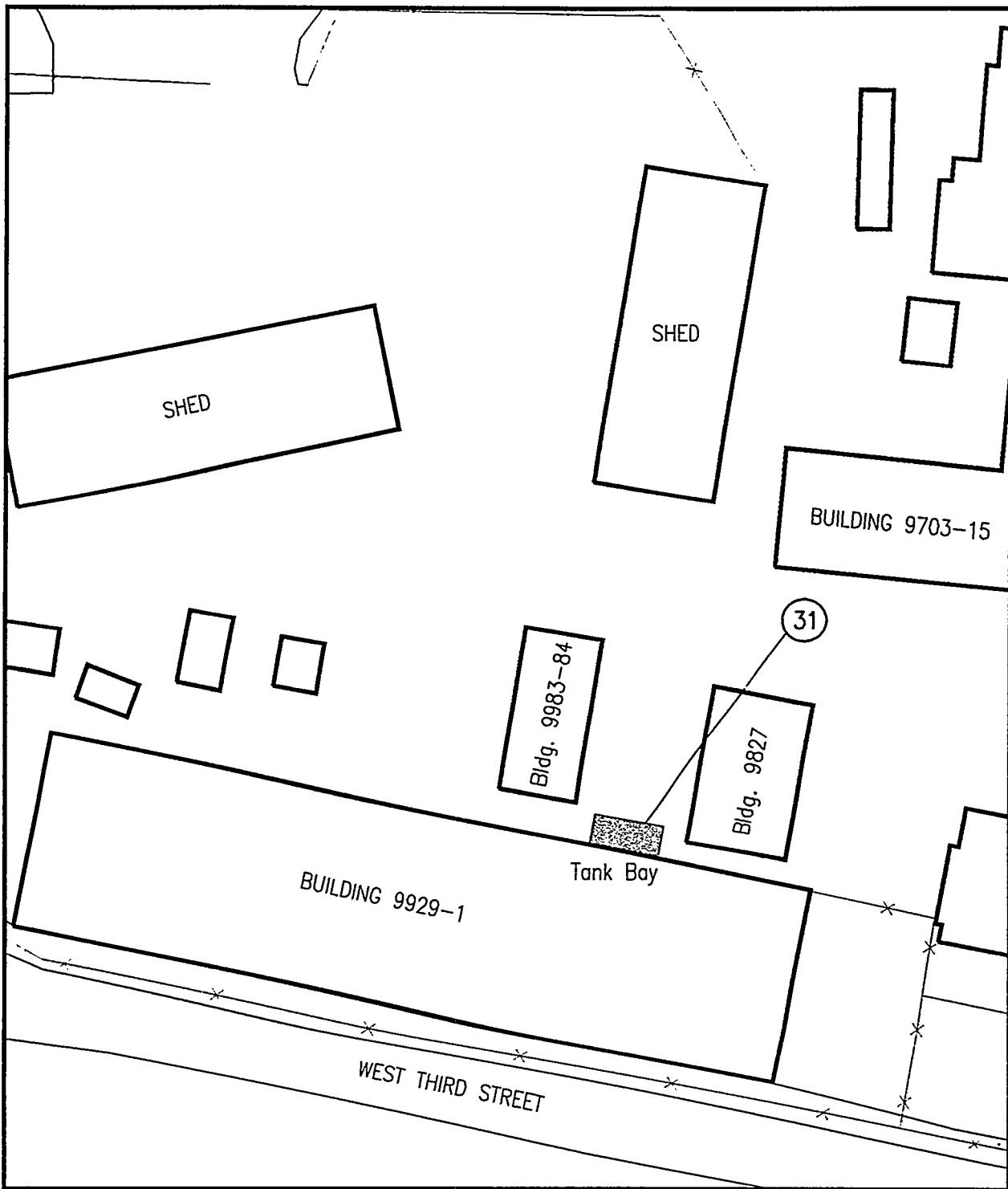
SAC.
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DWCS/62054.DWC	09/26/97
CAD FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2099-U BLDG. 9201-5
CONTENTS: GASOLINE



LEGEND:

- (31) ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

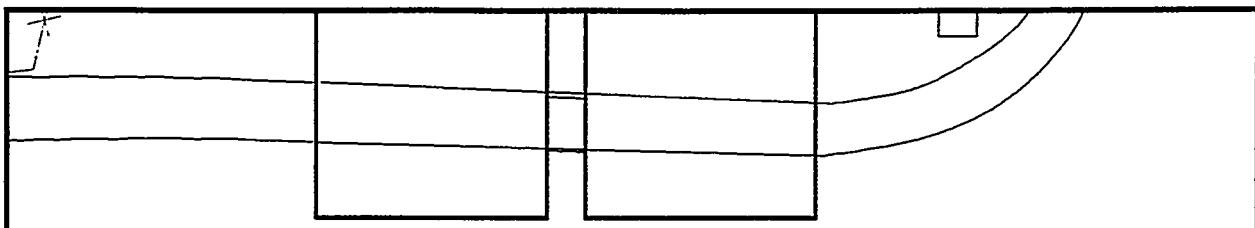
SAC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

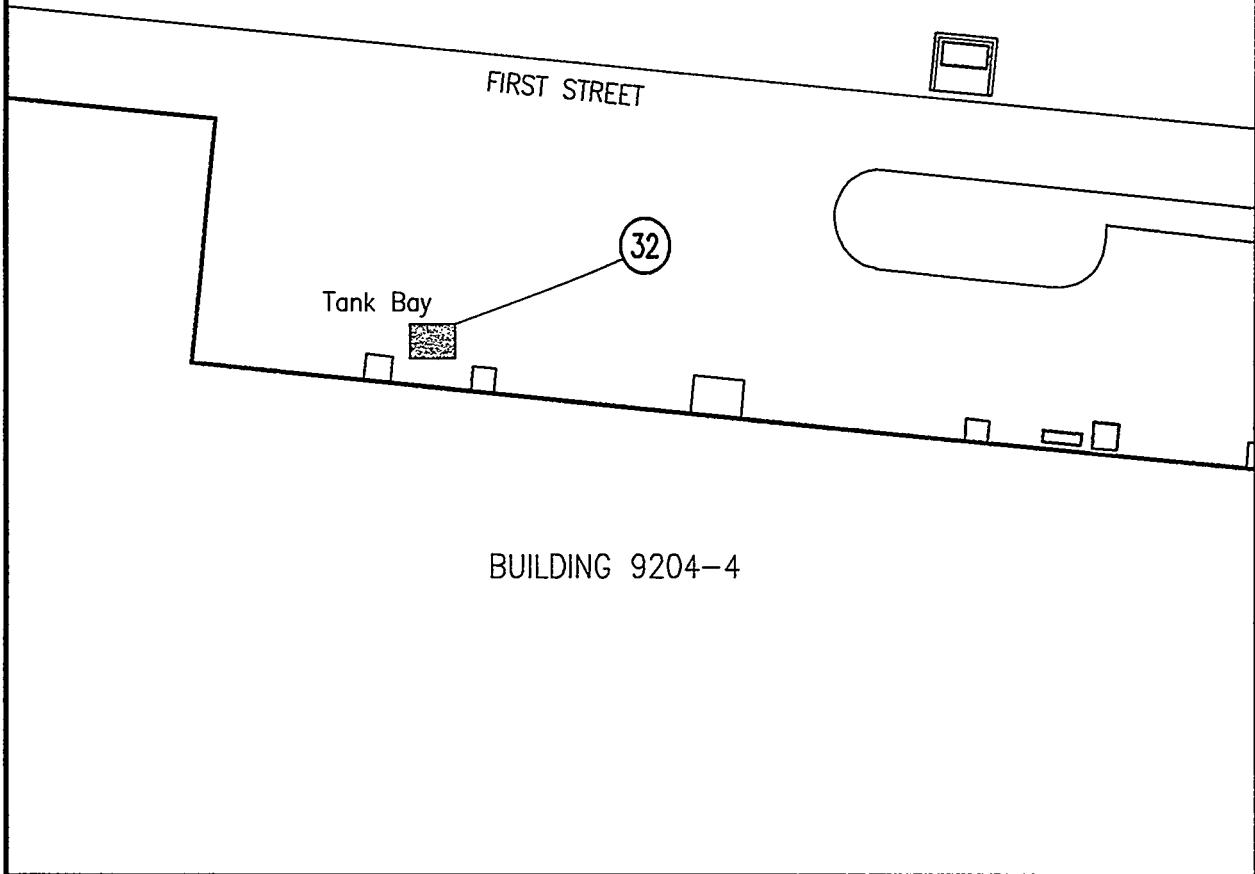
NOT TO SCALE

97024/DWGS/EDC35.Dwg 09-26-97
CAC FILE NAME REV - DATE

OAK RIDGE Y-12 PLANT
UST 2117-U BLDG. 9929-1
CONTENTS: FUEL OIL

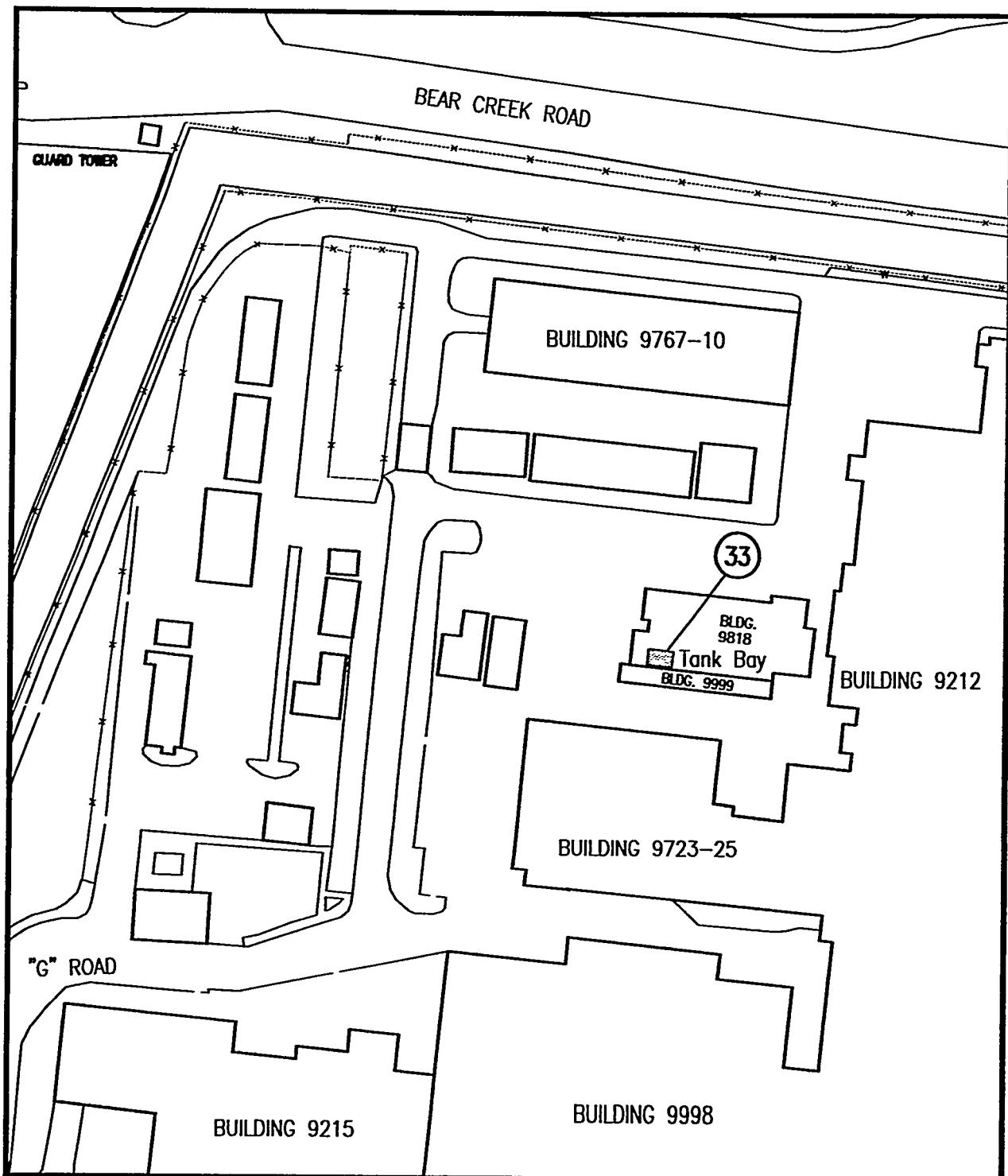


BUILDING 9983-71 BUILDING 9983-72



BUILDING 9204-4

LEGEND:		Y-12 PLANT NORTH	SAC Science Applications International Corporation	LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
(32)	... UST Directory Number			
.....	.....Road		NOT TO SCALE	OAK RIDGE Y-12 PLANT UST 2130-U BLDG. 9204-4 CONTENTS: GASOLINE
.....	Building		97024/04GS/6208.DAT	09/26/27
.....	Fence		CAD FILE NAME	REV - DATE



LEGEND:

- (33) ... UST Directory Number
-Road
-Building
-Fence

Y-12 PLANT NORTH

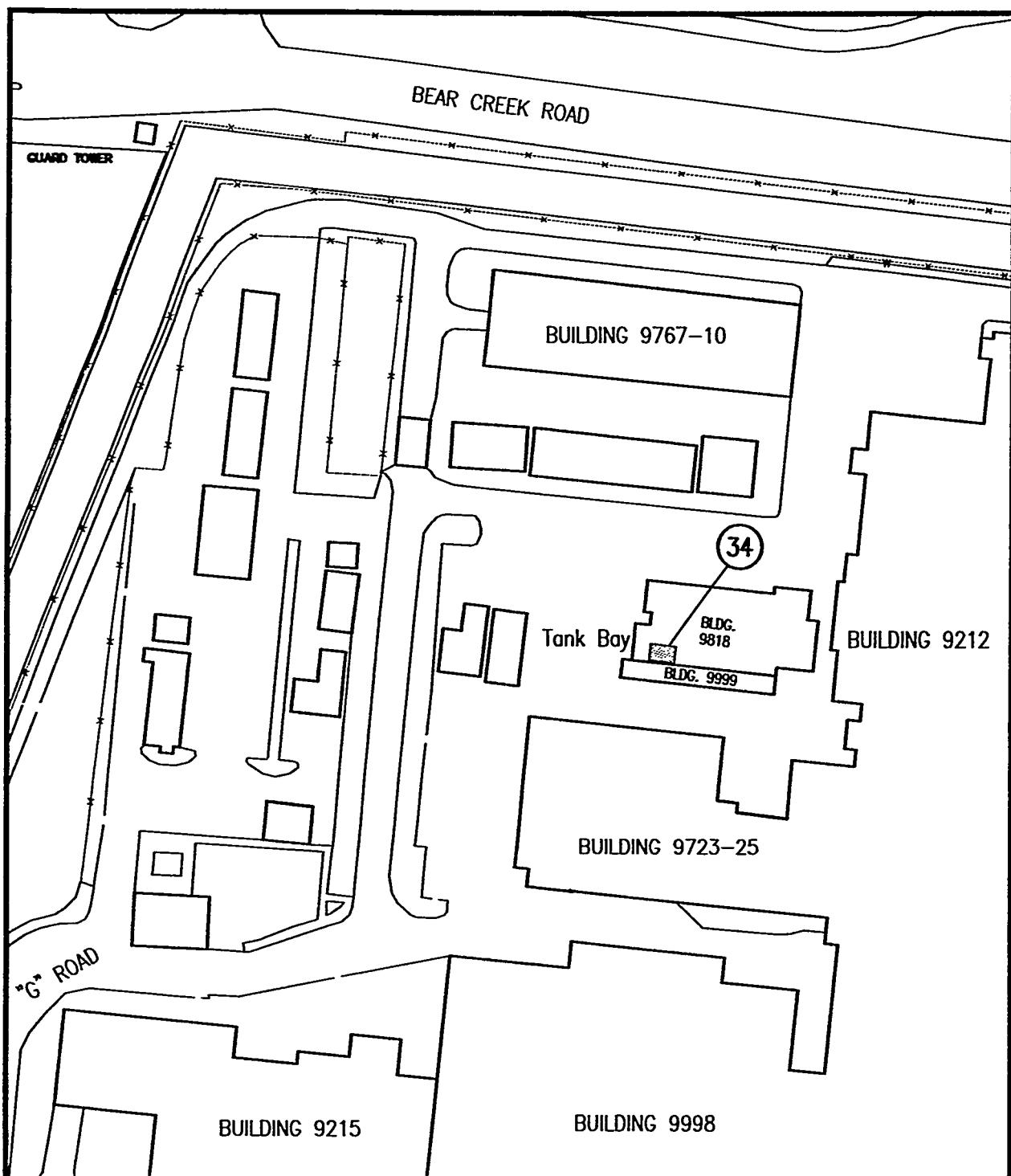
SAC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DWGS/20036.DWG	09/26/97
CAD FILE NAME	REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2293-U BLDG. 9999
CONTENTS: GASOLINE



LEGEND:

- 34 ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH

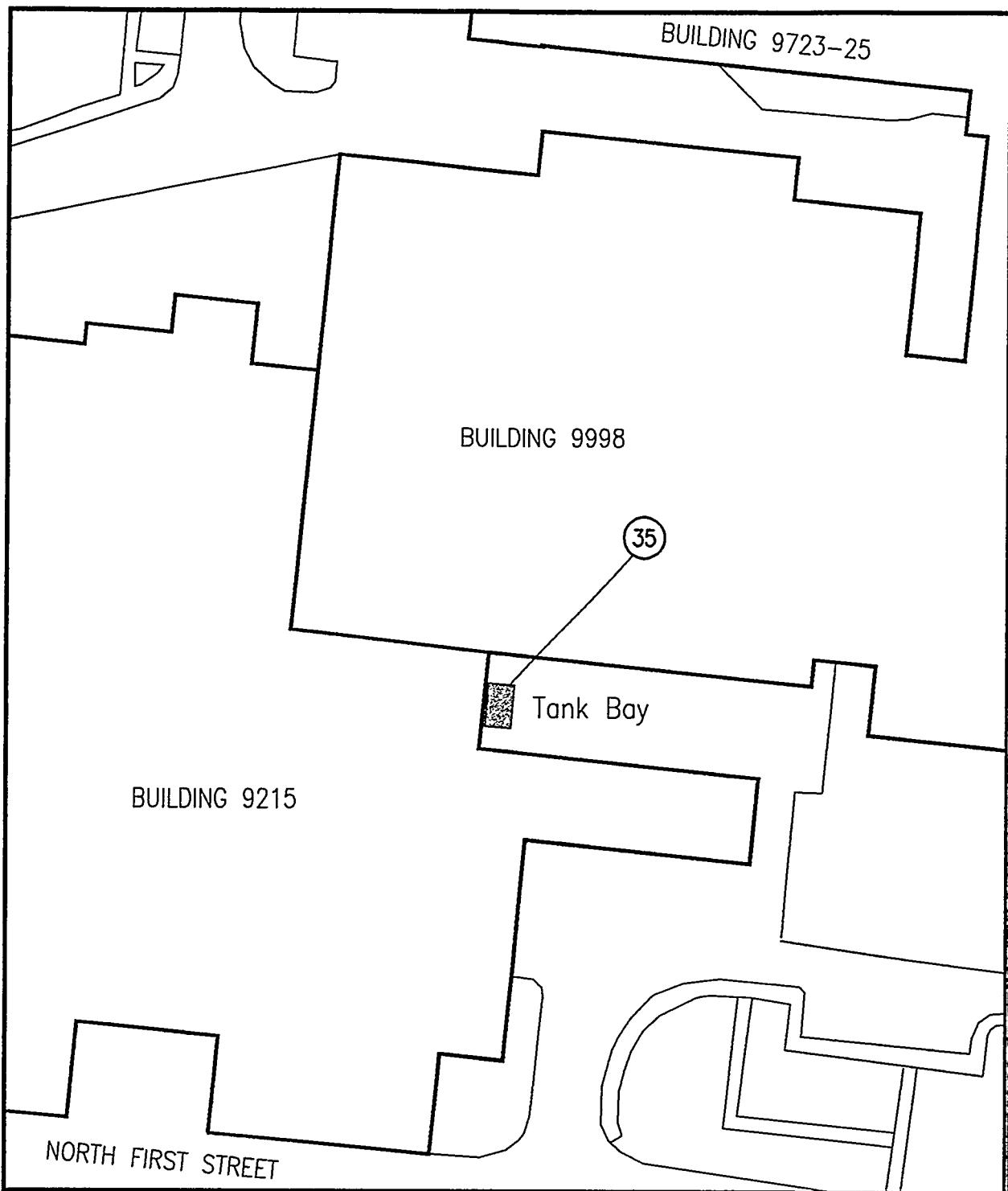
SAC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

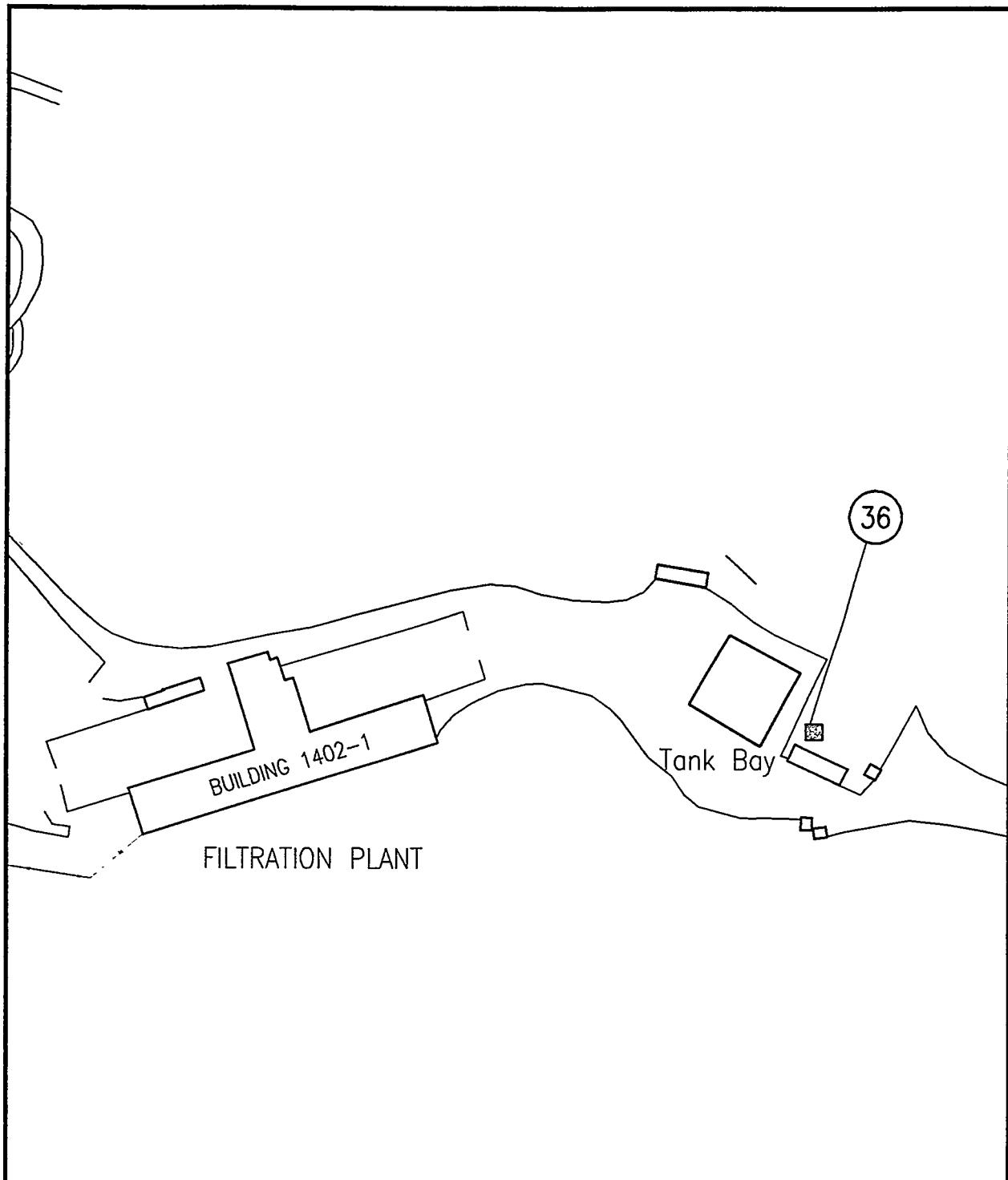
NOT TO SCALE

97024/0WCS/62037.DWG	09/26/97
CAD FILE NAME	REV. - DATE

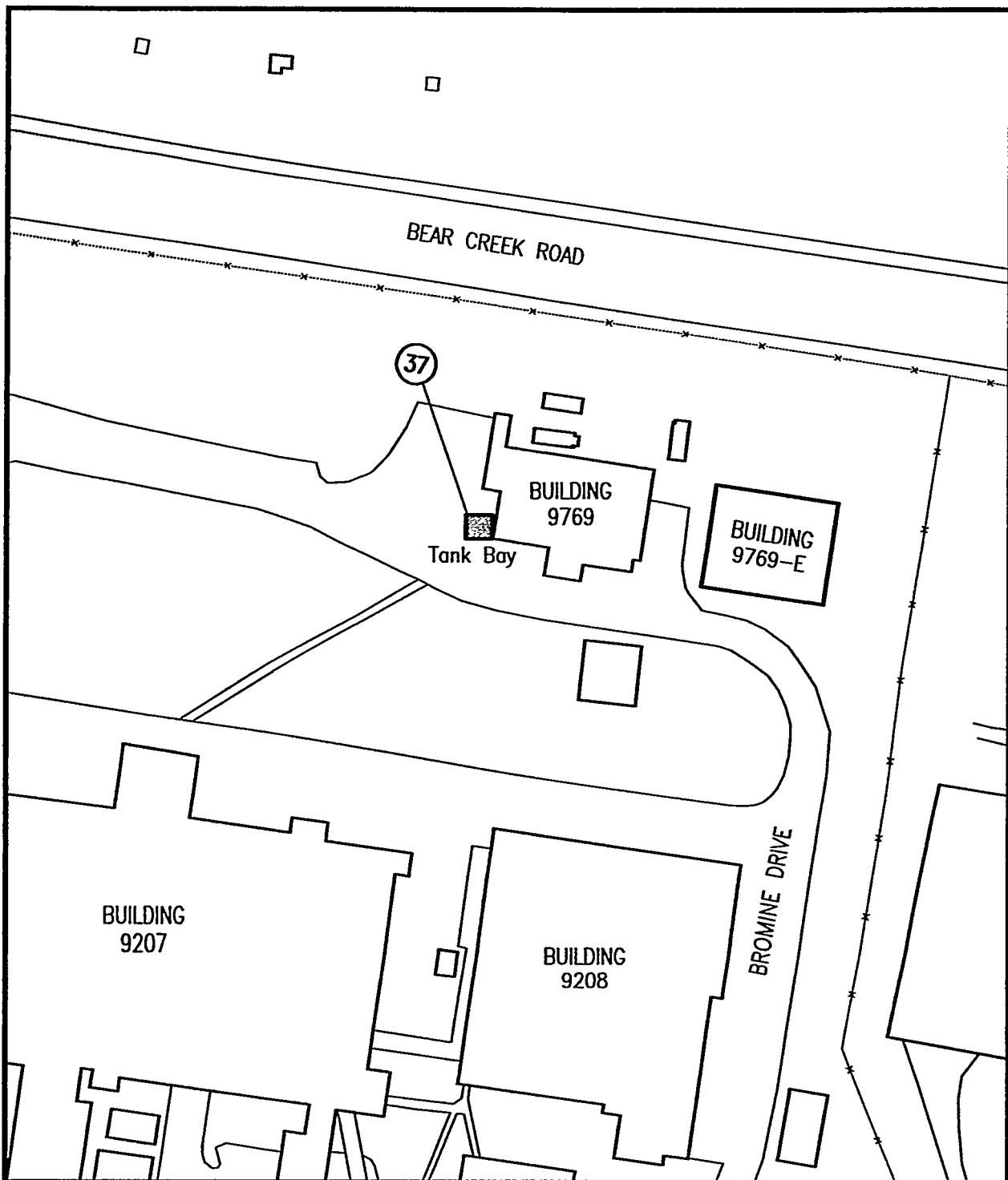
OAK RIDGE Y-12 PLANT
UST 2294-U BLDG. 9999
CONTENTS: GASOLINE



Y-12 PLANT NORTH	SAIC Science Applications International Corporation	LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
NOT TO SCALE	97024/DWGS/92038 DWG; CAD FILE NAME	OAK RIDGE Y-12 PLANT UST 2305-U BLDG. 9998 CONTENTS: DIESEL



LEGEND:		Y-12 PLANT NORTH	SAC Science Applications International Corporation	LOCKHEED MARTIN
(36)	... UST Directory Number			
.....	..... Road		NOT TO SCALE	LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
[ ]	..... Building		97024/DWGS/E2043.DWG CAD FILE NAME	OAK RIDGE Y-12 PLANT UST 2315-U PINE RIDGE EAST CONTENTS: GASOLINE
—	..... Fence		09/28/97 REV - DATE	



LEGEND:

- (37) ... UST Directory Number
- Road
- Building
- Fence

Y-12 PLANT NORTH



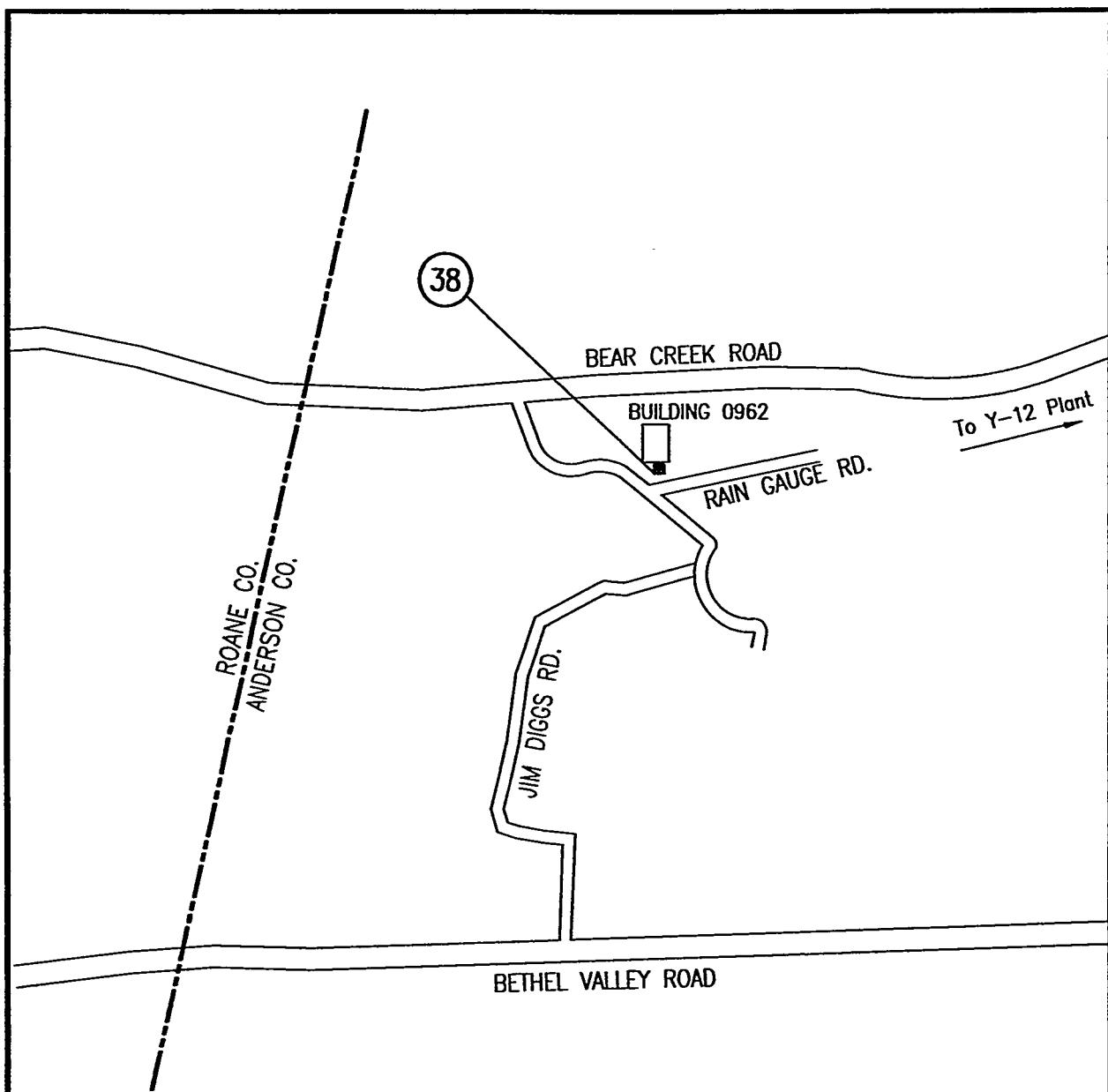
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DWGS/82023.DWG 09/26/97
CAD FILE NAME REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2330-U BLDG. 9769
CONTENTS: FUEL OIL



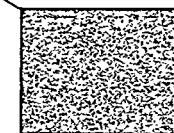
CHESTNUT RIDGE REPEATER SITE
3 MILES NORTHEAST OF X-10 PLANT
ON RAIN GAUGE ROAD

LEGEND:		Y-12 PLANT NORTH	SAC Science Applications International Corporation	LOCKHEED MARTIN
38	... UST Directory Number			
.....	.....Road			
<input type="checkbox"/>Building		NOT TO SCALE	LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
**	.....Fence		97024/DWGS/82042.DWG CAD FILE NAME	09/26/97 REV. - DATE
OAK RIDGE Y-12 PLANT UST 2336-U CHESTNUT RDG. CONTENTS: GASOLINE				

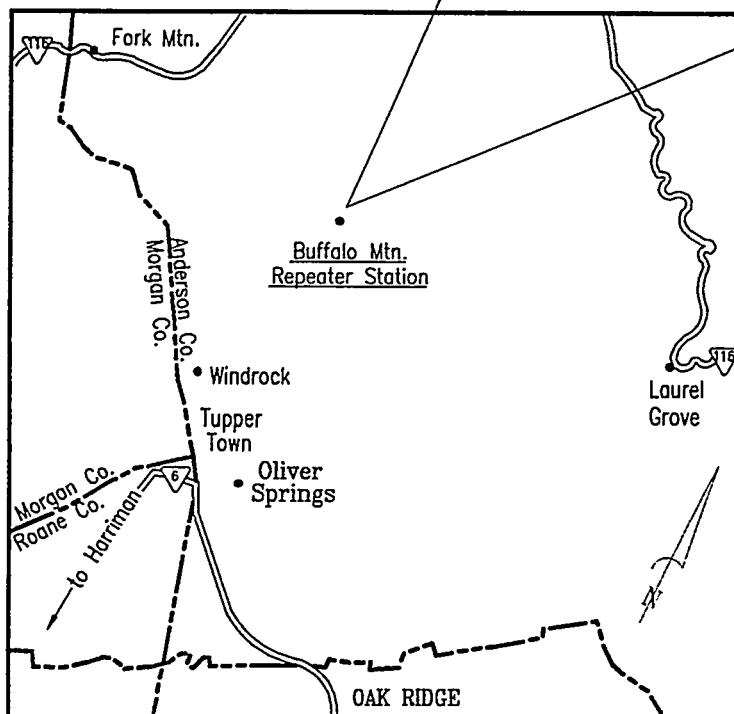
39

SITE MAP

Security Fence



Buffalo Mountain
Repeater Station
Building



VICINITY MAP

BUFFALO MOUNTAIN SITE,
OFF DOE OAK RIDGE RESERVATION,
APPROXIMATELY 16 MILES NORTHWEST
OF THE Y-12 PLANT, 4 MILES NORTH OF
OLIVER SPRINGS IN ANDERSON COUNTY

LEGEND:

- 39 ... UST Directory Number
- Road
- Building
- Fence



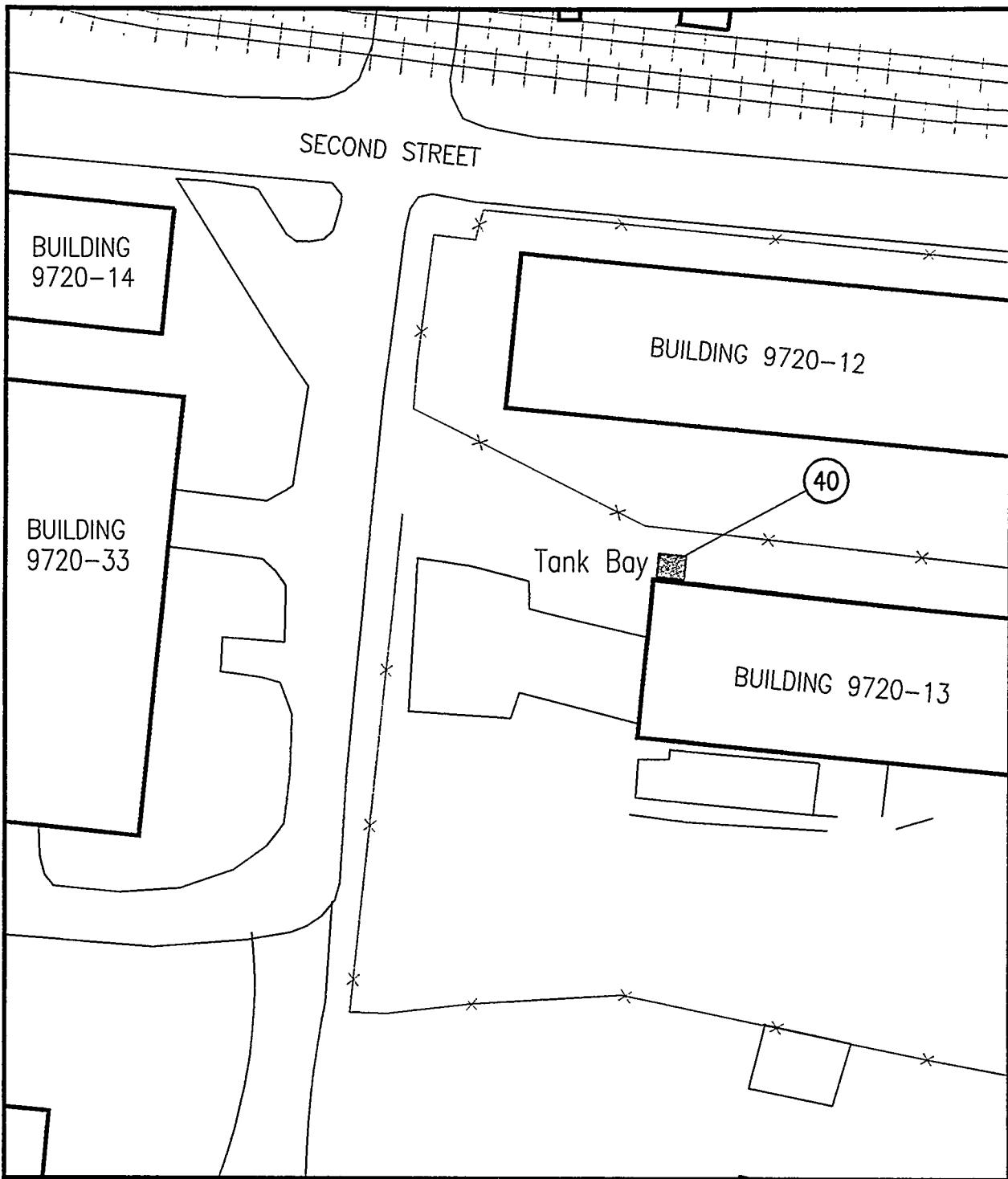
SAIC
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

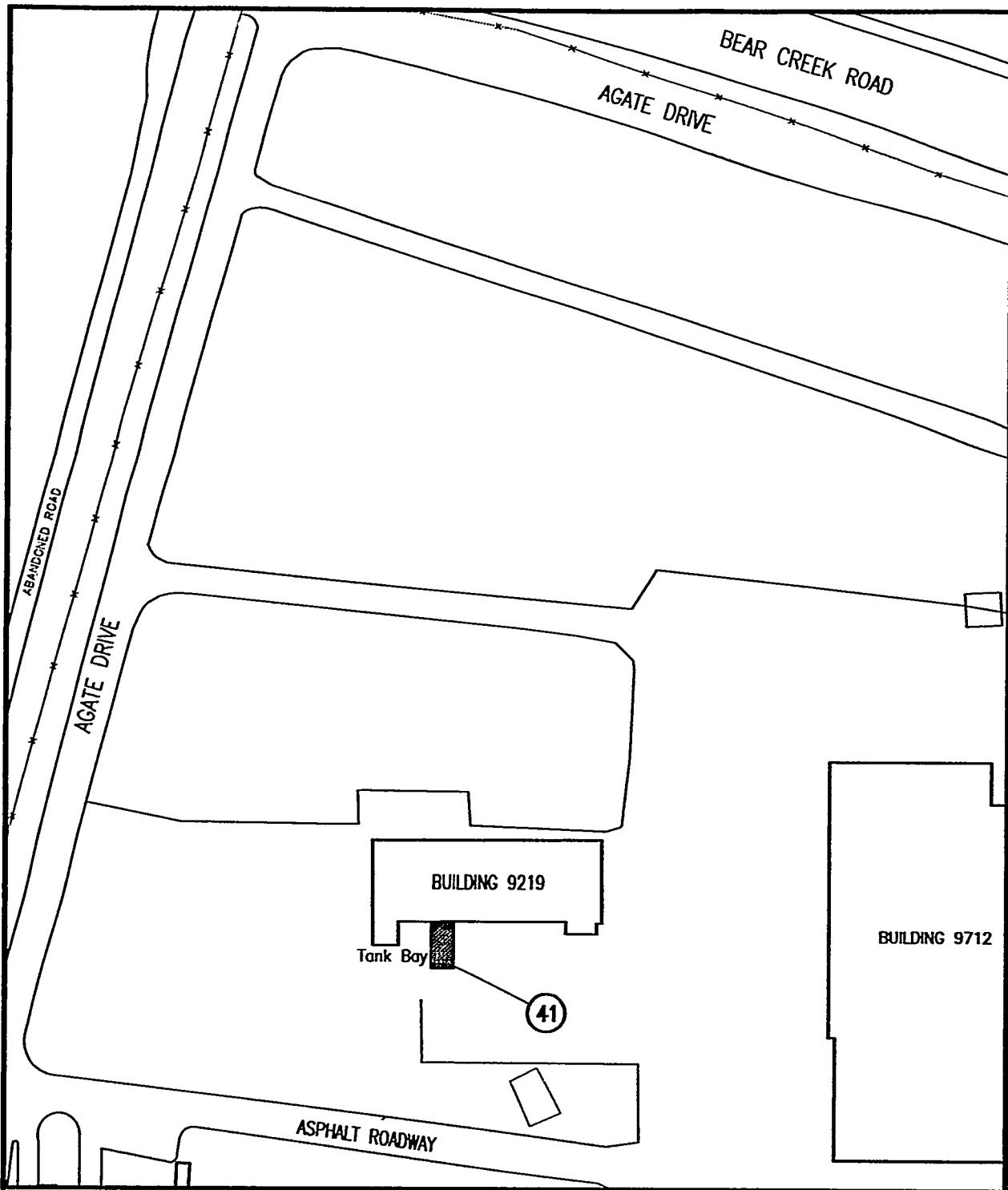
NOT TO SCALE

97024/5WGS/62043.DWG	09/26/07
CAC FILE NAME	SE - DATE

OAK RIDGE Y-12 PLANT
UST 2337-U BUFFALO MT.
CONTENTS: GASOLINE



LEGEND:	
(40)	... UST Directory Number
.....	Road
.....	Building
.....	Fence
	Y-12 PLANT NORTH
	Science Applications International Corporation
	LOCKHEED MARTIN LOCKHEED MARTIN ENERGY SYSTEMS ENVIRONMENTAL COMPLIANCE ORGANIZATION
NOT TO SCALE	OAK RIDGE Y-12 PLANT UST 2338-U BLDG. 9720-13 CONTENTS: USED OIL
37024 DWGS B2044 ENG1 CAT FILE NAME	09/26/97 REV - DATE



LEGEND:

- 41** ... UST Directory Number
- Road
- Building
- ** Fence



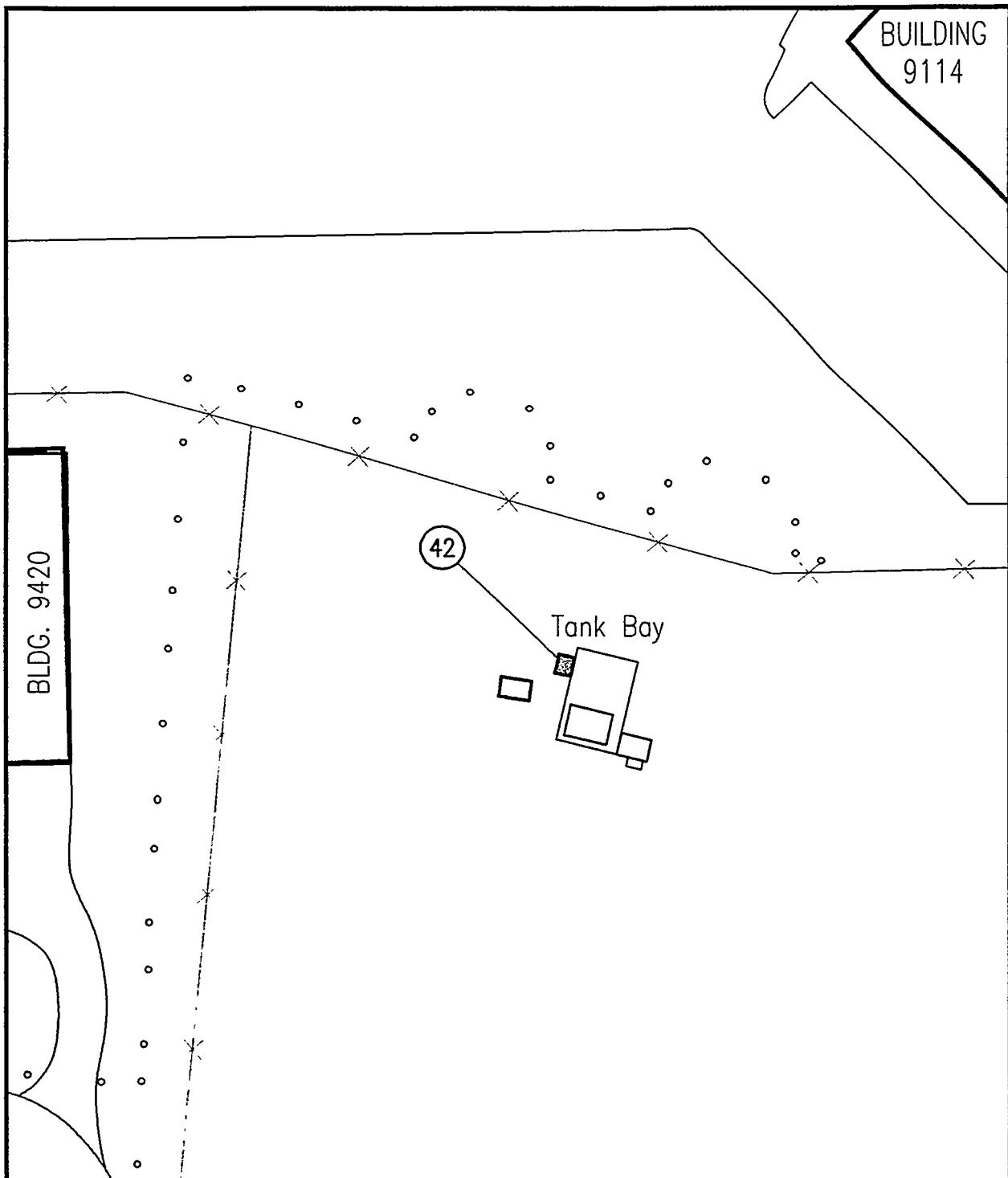
SAC.
Science Applications
International Corporation

LOCKHEED MARTIN
LOCKHEED MARTIN ENERGY SYSTEMS
ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

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OAK RIDGE Y-12 PLANT
UST 2395 BLDG. 9219-13
CONTENTS: FUEL OIL



Y-12 PLANT NORTH

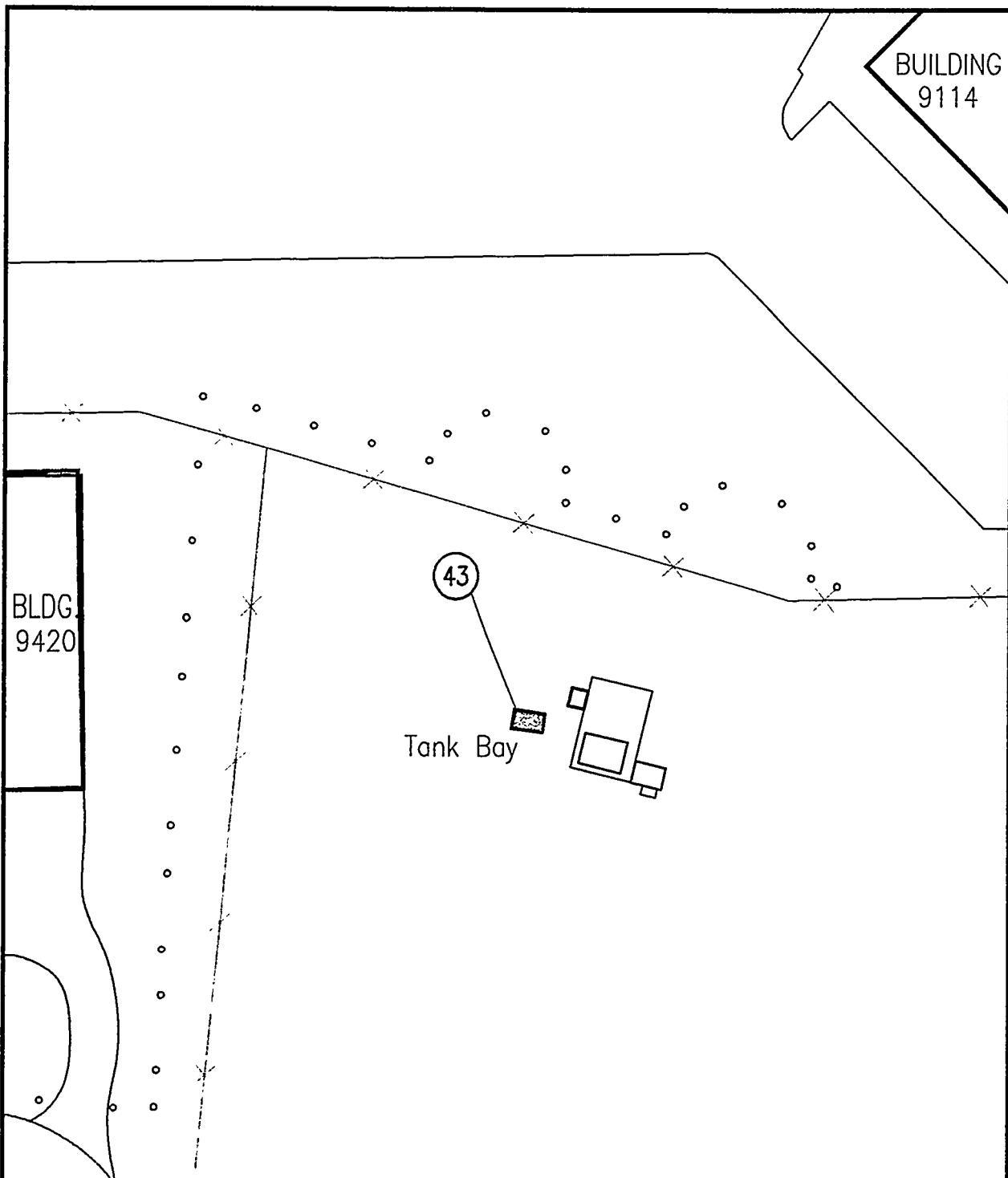
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ENVIRONMENTAL COMPLIANCE ORGANIZATION

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OAK RIDGE Y-12 PLANT
UST 2063-U, SYDD
CONTENTS: OIL/SOLVENTS



LEGEND:

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- Road
- Building
- Fence

12 PLANT NORTH

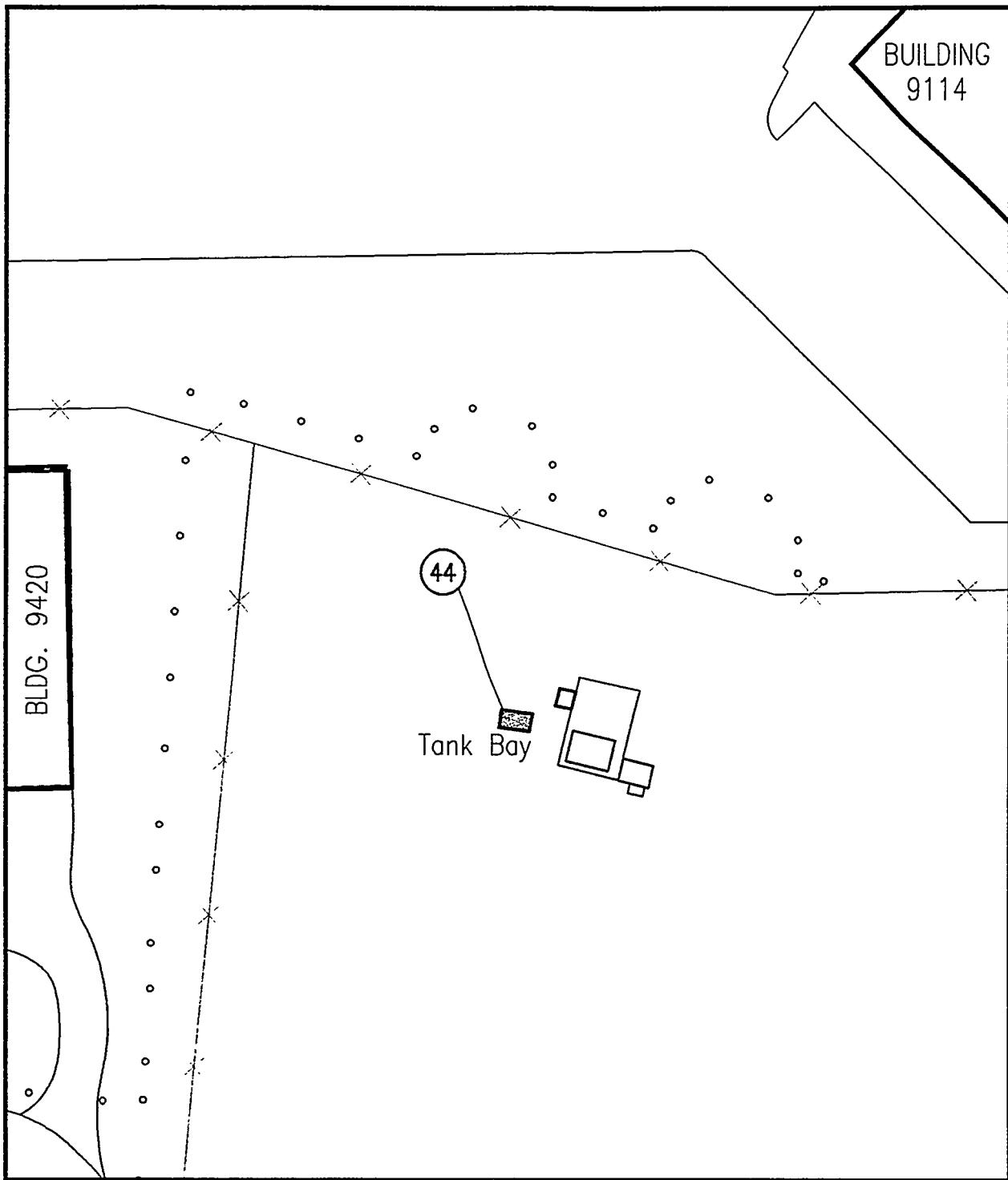
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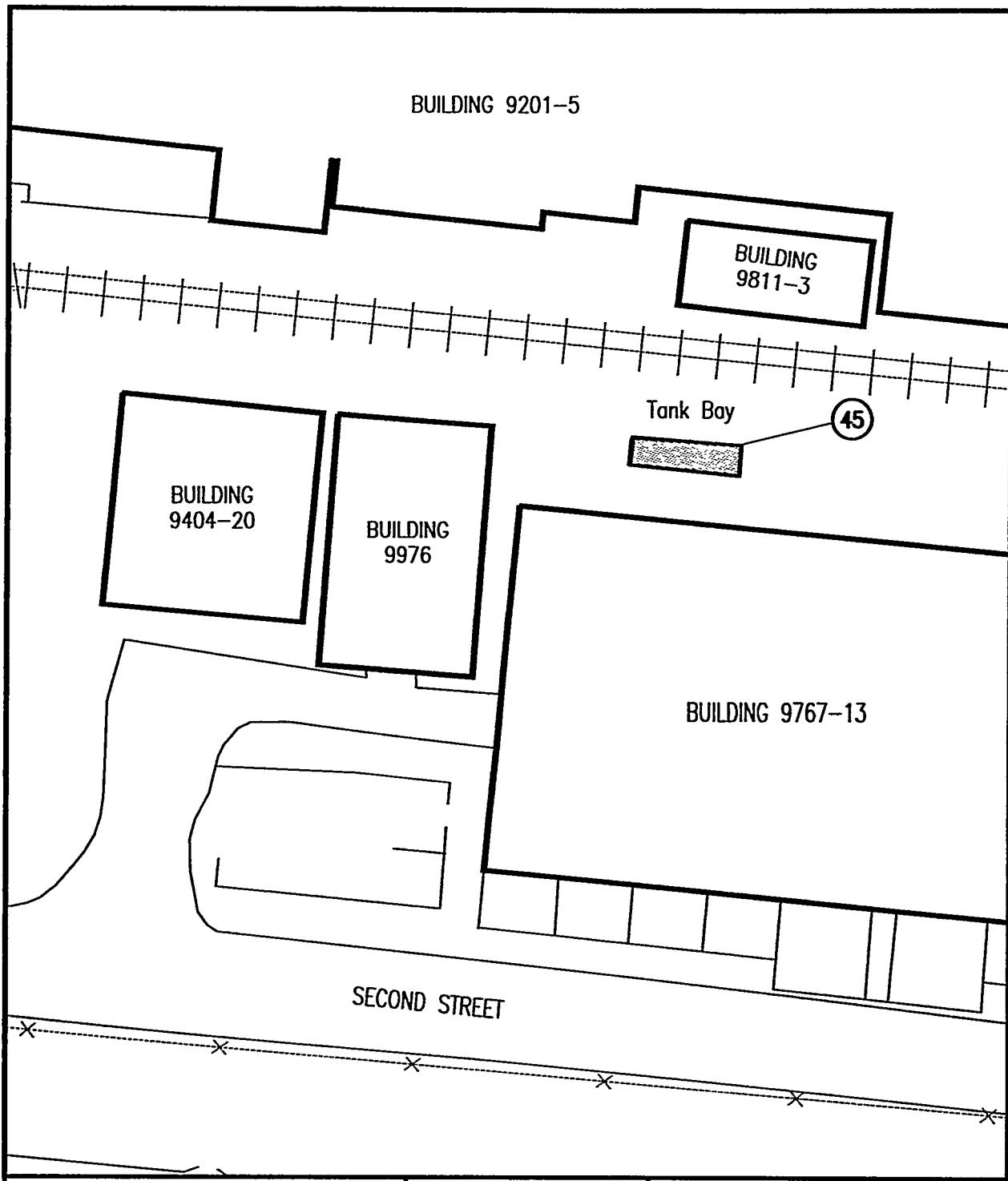
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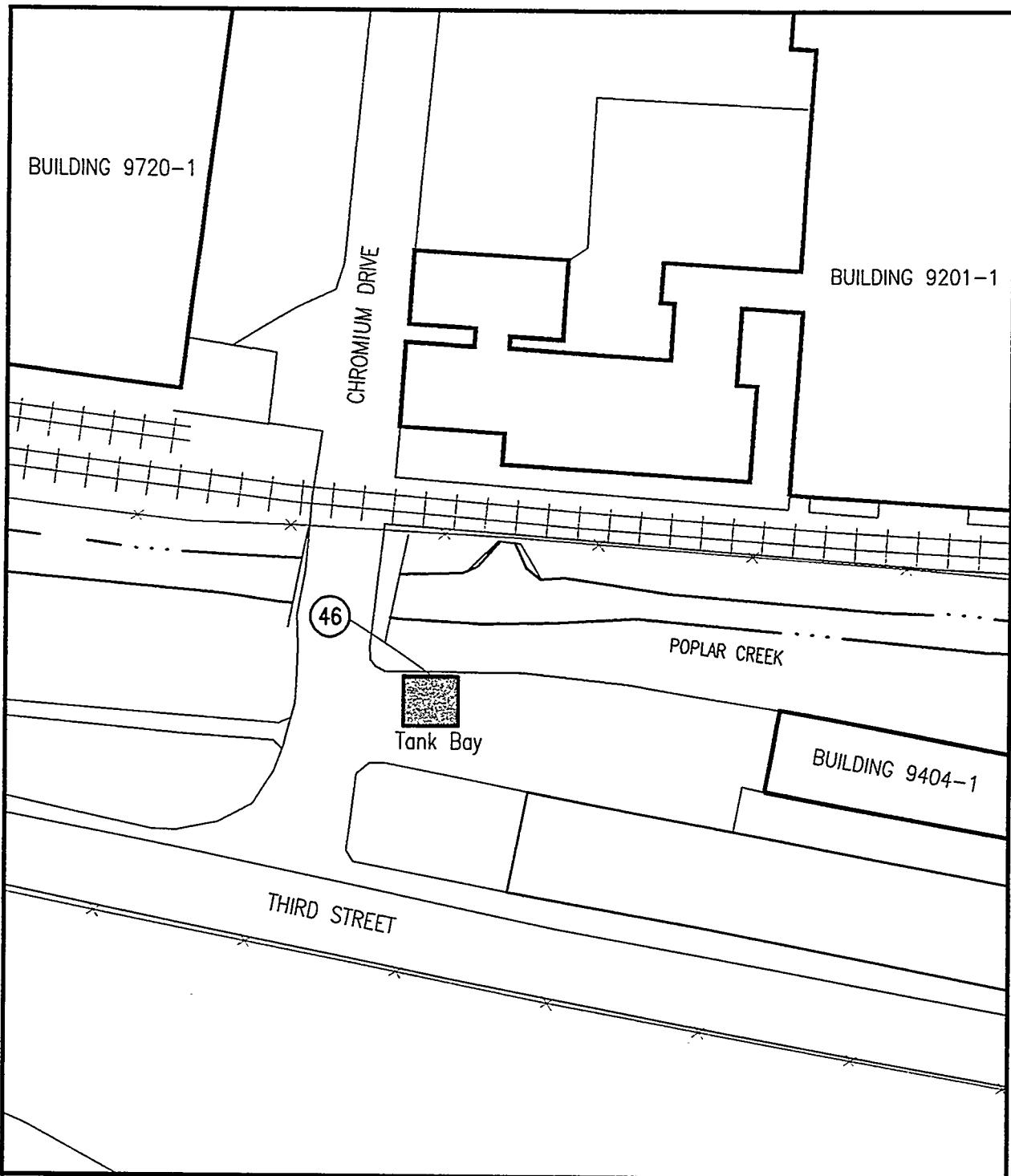
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UST 2328-U, SYDD
CONTENTS: OIL/SOLVENTS



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LEGEND:

- (46) ... UST Directory Number
- Road
- Building
- ** Fence

Y-12 PLANT NORTH

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International Corporation

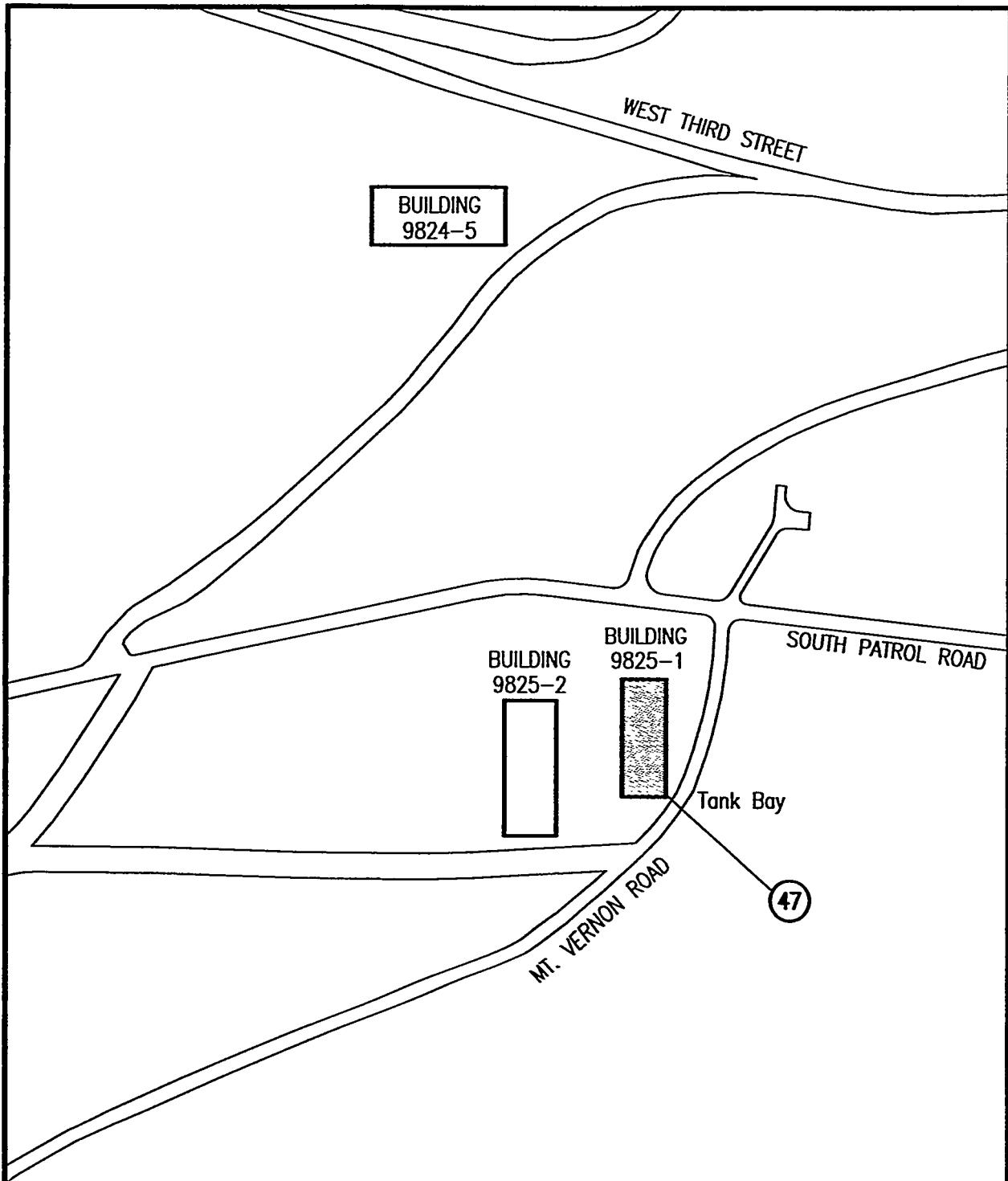
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ENVIRONMENTAL COMPLIANCE ORGANIZATION

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97024/DWGS/2395 DWG
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09/26/97
REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2072-U BLDG. 9418-3
CONTENTS: URANIUM OXIDE



LEGEND:

- 47** ... UST Directory Number
- Road
- Building
- **** Fence



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ENVIRONMENTAL COMPLIANCE ORGANIZATION

NOT TO SCALE

97024/DMCS/122010.DWG
CAD FILE NAME

09/25/97
REV. - DATE

OAK RIDGE Y-12 PLANT
UST 2129-U CHESTNUT RIDGE
CONTENTS: URANIUM OXIDE

APPENDIX B
APPLICABLE PORTIONS OF CERCLA

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

(SUPERFUND)

as amended¹

An Act to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled,

SHORT TITLE AND TABLE OF CONTENTS

This Act may be cited as the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980".

TITLE I—HAZARDOUS SUBSTANCES RELEASES, LIABILITY, COMPENSATION

- Sec. 101. Definitions
- Sec. 102. Reportable Quantities and Additional Designation
- Sec. 103. Notices, Penalties
- Sec. 104. Response Authorities
- Sec. 105. National Contingency Plan
- Sec. 106. Abatement Action
- Sec. 107. Liability
- Sec. 108. Financial Responsibility
- Sec. 109. Civil Penalties and Awards
- Sec. 110. Employee Protection
- Sec. 111. Uses of Fund
- Sec. 112. Claims Procedure
- Sec. 113. Litigation, Jurisdiction and Venue
- Sec. 114. Relationship to Other Law
- Sec. 115. Authority to Delegate, Issue Regulations
- Sec. 116. Schedules
- Sec. 117. Public Participation
- Sec. 118. High Priority for Drinking Water Supplies
- Sec. 119. Response Action Contractors
- Sec. 120. Federal Facilities
- Sec. 121. Cleanup Standards
- Sec. 122. Settlement
- Sec. 123. Reimbursement to Local Governments
- Sec. 124. Methane Recovery
- Sec. 125. Section 3001(b)(3)(a)(i) Waste
- Sec. 126. Indian Tribes

¹Public Law 96-510, as amended by PL 97-216, July 18, 1982; PL 97-272, September 30, 1982; PL 98-45, July 12, 1983; PL 99-160, November 25, 1985; PL 99-499 (Superfund Amendments and Reauthorization Act), October 17, 1986; PL 100-202, December 22, 1987; and PL 100-707, November 23, 1988; PL 101-221, December 12, 1989; PL 101-239, December 19, 1989; PL 101-380, August 18, 1990; PL 101-508, November 5, 1990; PL 101-584, November 15, 1990.

subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

(9) The term "facility" means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

(10) The term "federally permitted release" means (A) discharges in compliance with a permit under section 402 of the Federal Water Pollution Control Act, (B) discharges resulting from circumstances identified and reviewed and made part of the public record with respect to a permit issued or modified under section 402 of the Federal Water Pollution Control Act and subject to a condition of such permit, (C) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the Federal Water Pollution Control Act, which are caused by events occurring within the scope of relevant operating or treatment systems, (D) discharges in compliance with a legally enforceable permit under section 404 of the Federal Water Pollution Control Act, (E) releases in compliance with a legally enforceable final permit issued pursuant to section 3005(a) through (d) of the Solid Waste Disposal Act [42 U.S.C. 6925(a)-(d)] from a hazardous waste treatment, storage, or disposal facility when such permit specifically identifies the hazardous substances and makes such substances subject to a standard of practice, control procedure or bioassay limitation or condition, or other control on the hazardous substances in such releases, (F) any release in compliance with a legally enforceable permit issued under section 102 or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, (G) any injection of fluids authorized under Federal underground injection control programs or State programs submitted for Federal approval (and not disapproved by the Administrator of the Environmental Protection Agency) pursuant to part C of the Safe Drinking Water Act [42 U.S.C. 300h et seq.], (H) any emission into the air subject to a permit or control regulation under section 111 [42 U.S.C. 7411], section 112 [42 U.S.C. 7412], title I part C [42 U.S.C. 7470 et seq.], title I part D [42 U.S.C. 7501 et seq.], or State implementation plans submitted in accordance with section 110 of the Clean Air Act [42 U.S.C. 7410] (and not disapproved by the Administrator of the Environmental Protection Agency), including any schedule or waiver granted, promulgated, or approved under these sections, (I) any injection of fluids or other materials authorized under applicable State law (i) for the purpose of stimulating or treating wells for the production of crude oil, natural gas, or water, (ii) for the purpose of secondary, tertiary, or other enhanced recovery of crude oil or natural gas, or (iii) which are brought to the surface in conjunction with the production of crude oil or natural gas and which are reinjected, (J) the introduction of any pollutant into a publicly owned treatment works when such pollutant is specified in and in compliance with applicable pretreatment standards of section 307 (b) or (c) of the Clean Water Act and enforceable requirements in a pretreatment program submitted by a State or municipality for Federal approval under section 402 of such Act, and (K) any release of source, special nuclear, or byproduct material, as those terms are defined in the Atomic Energy Act of 1954 [42 U.S.C. 2011 et seq.], in compliance with a legally enforceable license, permit, regulation, or order issued pursuant to the Atomic Energy Act of 1954.

(11) The term "Fund" or "Trust Fund" means the Hazardous Substance Response Fund established by section 221 of this Act or, in the case of a hazardous waste disposal facility for which liability has been transferred under section 107(k) of this Act, the Post-closure Liability Fund established by section 232 of this Act.

(12) The term "ground water" means water in a saturated zone or stratum beneath the surface of land or water.

(13) The term "guarantor" means any person, other than the owner or operator, who provides evidence of financial responsibility for an owner or operator under this Act.

(14) The term "hazardous substance" means (A) any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act, (B) any element, compound, mixture, solution, or substance designated pursuant to section 102 of this Act, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [42 U.S.C. 6921] (but not including any waste the regulation of which under the Solid Waste

Disposal Act [42 U.S.C. 6901 et seq.] has been suspended by Act of Congress), (D) any toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act [42 U.S.C. 7412], and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

(15) The term "navigable waters" or "navigable waters of the United States" means the waters of the United States, including the territorial seas.

(16) The term "natural resources" means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the fishery conservation zone established by the Fishery Conservation and Management Act of 1976 [16 U.S.C. 1801 et seq.]), any State, local government, or any foreign government, any Indian tribe, or, if such resources are subject to a trust restriction or alienation, any member of an Indian tribe.

(17) The term "offshore facility" means any facility of any kind located in, on, or under, any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel.

(18) The term "onshore facility" means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land or nonnavigable waters within the United States.

(19) The term "otherwise subject to the jurisdiction of the United States" means subject to the jurisdiction of the United States by virtue of United States citizenship, United States vessel documentation or numbering, or as provided by international agreement to which the United States is a party.

(20)(A) The term "owner or operator" means (i) in the case of a vessel, any person owning, operating, or chartering by demise, such vessel, (ii) in the case of an onshore facility or an offshore facility, any person owning or operating such facility, and (iii) in the case of any abandoned facility, title or control of which was conveyed due to bankruptcy, foreclosure, tax delinquency, abandonment, or similar means to a unit of State or local government, any person who owned, operated, or otherwise controlled activities at such facility immediately beforehand. Such term does not include a person, who, without participating in the management of a vessel or facility, holds indicia of ownership primarily to protect his security interest in the vessel or facility.

(B) In the case of a hazardous substance which has been accepted for transportation by a common or contract carrier and except as provided in section 107(a)(3) or (4) of this Act, (i) the term "owner or operator" shall mean such common carrier or other bona fide for hire carrier acting as an independent contractor during such transportation, (ii) the shipper of such hazardous substance shall not be considered to have caused or contributed to any release during such transportation which resulted solely from circumstances or conditions beyond his control.

(C) In the case of a hazardous substance which has been delivered by a common or contract carrier to a disposal or treatment facility and except as provided in section 107(a)(3) or (4) of this Act, (i) the term "owner or operator" shall not include such common or contract carrier, and (ii) such common or contract carrier shall not be considered to have caused or contributed to any release at such disposal or treatment facility resulting from circumstances or conditions beyond its control.

(D) The term "owner or operator" does not include a unit of State or local government which acquired ownership or control involuntarily through bankruptcy, tax delinquency, abandonment, or other circumstances in which the government involuntarily acquires title by virtue of its function as sovereign. The exclusion provided under this paragraph shall not apply to any State or local government which has caused or contributed to the release or threatened release of a hazardous substance from the facility, and such a State or local government shall be subject

to the transportation movement, and at the ordinary operating convenience of a common or contract carrier, and any such stoppage shall be considered as a continuity of movement and not as the storage of a hazardous substance.

(27) The terms "United States" and "State" include the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession over which the United States has jurisdiction.

(28) The term "vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

(29) The terms "disposal", "hazardous waste", and "treatment" shall have the meaning provided in section 1004 of the Solid Waste Disposal Act [42 U.S.C. 6903].

(30) The terms "territorial sea" and "contiguous zone" shall have the meaning provided in section 502 of the Federal Water Pollution Control Act.

(31) The term "national contingency plan" means the national contingency plan published under section 311(c) of the Federal Water Pollution Control Act or revised pursuant to section 105 of this Act.

(32) The terms "liable" or "liability" under this title shall be construed to be the standard of liability which obtains under section 311 of the Federal Water Pollution Control Act.

(33) The term "pollutant or contaminant" shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring; except that the term "pollutant or contaminant" shall not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas).

(34) The term "alternative water supplies" includes, but is not limited to, drinking water and household water supplies.

(35)(A) The term "contractual relationship", for the purpose of section 107(b)(3) includes, but is not limited to, land contracts, deeds or other instruments transferring title or possession, unless the real property on which the facility concerned is located was acquired by the defendant after the disposal or placement of the hazardous substance on, in, or at the facility, and one or more of the circumstances described in clause (i), (ii), or (iii) is also established by the defendant by a preponderance of the evidence:

- (i) At the time the defendant acquired the facility the defendant did not know and had no reason to know that any hazardous substance which is the subject of the release or threatened release was disposed of on, in, or at the facility.
- (ii) The defendant is a government entity which acquired the facility by escheat, or through any other involuntary transfer or acquisition, or through the exercise of eminent domain authority by purchase or condemnation.
- (iii) The defendant acquired the facility by inheritance or bequest.

In addition to establishing the foregoing, the defendant must establish that he has satisfied the requirements of section 107(b)(3)(a) and (b).

(B) To establish that the defendant had no reason to know, as provided in clause (i) of subparagraph (A) of this paragraph, the defendant must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice in an effort to minimize liability. For purposes of the preceding sentence the court shall take into account any specialized knowledge or experience on the part of the defendant, the relationship of the purchase price to the value of the property if uncontaminated, commonly known or reasonably ascertainable information about the property, the obviousness of the presence or likely presence of contamination at the property, and the ability to detect such contamination by appropriate inspection.

Attorney General of the United States and to the Administrator of the Environmental Protection Agency.

RELATIONSHIP TO OTHER LAW

[42 U.S.C. 9614]

Sec. 114. (a) Nothing in this Act shall be construed or interpreted as preempting any State from imposing any additional liability or requirements with respect to the release of hazardous substances within such State.

(b) Any person who receives compensation for removal costs or damages or claims pursuant to this Act shall be precluded from recovering compensation for the same removal costs or damages or claims pursuant to any other State or Federal law. Any person who receives compensation for removal costs or damages or claims pursuant to any other Federal or State law shall be precluded from receiving compensation for the same removal costs or damages or claims as provided in this Act.

(c) **Recycled oil.**—

(1) **Service station dealers, etc.**—No person (including the United States or any State) may recover, under the authority of subsection (a)(3) or (a)(4) of section 107, from a service station dealer for any response costs or damages resulting from a release or threatened release of recycled oil, or use the authority of section 106 against a service station dealer other than a person described in subsection (a)(1) or (a)(2) of section 107, if such recycled oil—

(A) is not mixed with any other hazardous substance, and

(B) is stored, treated, transported, or otherwise managed in compliance with regulations or standards promulgated pursuant to section 3014 of the Solid Waste Disposal Act and other applicable authorities.

Nothing in this paragraph shall affect or modify in any way the obligation or liability of any person under any other provision of State or Federal law, including common law, for damages injury, or loss resulting from a release or threatened release of any hazardous substance or for removal or remedial action or the costs of removal or remedial action.

(2) **Presumption.**—Solely for the purposes of this subsection, a service station dealer may presume that a small quantity of used oil is not mixed with other hazardous substances if it—

(A) has been removed from the engine of a light duty motor vehicle or household appliances by the owner of such vehicle or appliances, and

(B) is presented, by such owner, to the dealer for collection, accumulation, and delivery to an oil recycling facility.

(3) **Definition.**—For purposes of this subsection, the terms “used oil” and “recycled oil” have the same meanings as set forth in section 1004(36) and 1994(37) of the Solid Waste Disposal Act and regulations promulgated pursuant to that Act.

(4) **Effective date.**—The effective date of paragraphs (1) and (2) of this subsection shall be the effective date of regulations or standards promulgated under section 3014 of the Solid Waste Disposal Act that include, among other provisions, a requirement to conduct corrective action to respond to any releases of recycled oil under subtitle C or subtitle I of such Act.

(d) Except as provided in this title, no owner or operator of a vessel or facility who establishes and maintains evidence of financial responsibility in accordance with this title shall be required under any State or local law, rule, or regulation to establish or maintain any other evidence of financial responsibility in connection with liability for the release of a hazardous substance from such vessel or facility. Evidence of compliance with the financial responsibility requirements of this title shall be accepted by a State in lieu of any other requirement of financial responsibility imposed by such State in connection with liability for the release of a hazardous substance from such vessel or facility.

AUTHORITY TO DELEGATE, ISSUE REGULATIONS

[42 U.S.C. 9415]

Sec. 115. The President is authorized to delegate and assign any duties or powers imposed upon or assigned to him and to promulgate any regulations necessary to carry out the provisions of this title.

recipient to accomplish a public purpose in which substantial EPA involvement is anticipated during the performance of the project.

“Discharge” as defined by section 311(a)(2) of the CWA, includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA, discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit, or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of the NCP, discharge also means threat of discharge.

“Dispersants” means those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

“Drinking water supply” as defined by section 101(7) of CERCLA, means any raw or finished water source that is or may be used by a public water system (as defined in the Safe Drinking Water Act) or as drinking water by one or more individuals.

“Environment” as defined by section 101(8) of CERCLA, means the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson Fishery Conservation and Management Act; and any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

“Facility” as defined by section 101(9) of CERCLA, means any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any site or area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include

any consumer product in consumer use or any vessel.

“Feasibility study” (FS) means a study undertaken by the lead agency to develop and evaluate options for remedial action. The FS emphasizes data analysis and is generally performed concurrently and in an interactive fashion with the remedial investigation (RI), using data gathered during the RI. The RI data are used to define the objectives of the response action, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives. The term also refers to a report that describes the results of the study.

“First federal official” means the first federal representative of a participating agency of the National Response Team to arrive at the scene of a discharge or a release. This official coordinates activities under the NCP and may initiate, in consultation with the OSC, any necessary actions until the arrival of the predesignated OSC. A state with primary jurisdiction over a site covered by a cooperative agreement will act in the stead of the first federal official for any incident at the site.

“Fund or Trust Fund” means the Hazardous Substance Superfund established by section 9507 of the Internal Revenue Code of 1986.

“Ground water” as defined by section 101(12) of CERCLA, means water in a saturated zone or stratum beneath the surface of land or water.

“Hazard Ranking System” (HRS) means the method used by EPA to evaluate the relative potential of hazardous substance releases to cause health or safety problems, or ecological or environmental damage.

“Hazardous substance” as defined by section 101(14) of CERCLA, means: Any substance designated pursuant to section 311(b)(2)(A) of the CWA; any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress); any toxic pollutant listed under section 307(a) of the CWA; any hazardous air pollutant listed under section 112 of the Clean Air Act; and any

imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

“Indian tribe” as defined by section 101(36) of CERCLA, means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village but not including any Alaska Native regional or village corporation, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

“Inland waters,” for the purposes of classifying the size of discharges, means those waters of the United States in the inland zone, waters of the Great Lakes, and specified ports and harbors on inland rivers.

“Inland zone” means the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors on inland rivers. The term inland zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

“Lead agency” means the agency that provides the OSC/RPM to plan and implement response action under the NCP. EPA, the USCG, another federal agency, or a state (or political subdivision of a state) operating pursuant to a contract or cooperative agreement executed pursuant to section 104(d)(1) of CERCLA, or designated pursuant to a Superfund Memorandum of Agreement (SMOA) entered into pursuant to subpart F of the NCP or other agreements may be the lead agency for a response action. In the case of a release of a hazardous substance, pollutant, or contaminant, where the release is on, or the sole source of the release is from, any facility or vessel under the jurisdiction, custody, or control of Department of Defense (DOD) or Department of Energy (DOE), then DOD or DOE will be the lead agency. Where the release is on, or the sole source of the

release is from, any facility or vessel under the jurisdiction, custody, or control of a federal agency other than EPA, the USCG, DOD, or DOE, then that agency will be the lead agency for remedial actions and removal actions other than emergencies. The federal agency maintains its lead agency responsibilities whether the remedy is selected by the federal agency for non-NPL sites or by EPA and the federal agency or by EPA alone under CERCLA section 120. The lead agency will consult with the support agency, if one exists, throughout the response process.

“Management of migration” means actions that are taken to minimize and mitigate the migration of hazardous substances or pollutants or contaminants and the effects of such migration. Measures may include, but are not limited to, management of a plume of contamination, restoration of a drinking water aquifer, or surface water restoration.

“Miscellaneous oil spill control agent” is any product, other than a dispersant, sinking agent, surface collecting agent, biological additive, or burning agent, that can be used to enhance oil spill cleanup, removal, treatment, or mitigation.

“National Priorities List” (NPL) means the list, compiled by EPA pursuant to CERCLA section 105, of uncontrolled hazardous substance releases in the United States that are priorities for long-term remedial evaluation and response.

“Natural resources” means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone defined by the Magnuson Fishery Conservation and Management Act of 1976), any state or local government, any foreign government, any Indian tribe, or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe.

“Navigable waters,” as defined by 40 CFR 110.1, means the waters of the United States, including the territorial seas. The term includes:

(a) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

(b) Interstate waters, including interstate wetlands;

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) That are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;

(3) That are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as navigable waters under this section;

(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition, including adjacent wetlands; and

(f) Wetlands adjacent to waters identified in paragraphs (a) through (e) of this definition: Provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.

“Offshore facility” as defined by section 101(17) of CERCLA and section 311(a)(11) of the CWA, means any facility of any kind located in, on, or under any of the navigable waters of the United States and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel.

“Oil” as defined by section 311(a)(1) of the CWA, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

“Oil pollution fund” means the fund established by section 311(k) of the CWA.

“On-scene coordinator” (OSC) means the federal official predesignated by EPA or the USCG to coordinate and direct federal responses under subpart D, or the official designated by the lead agency to coordinate and direct removal actions under subpart E of the NCP.

“Onshore facility” as defined by section 101(18) of CERCLA, means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind

located in, on, or under any land or non-navigable waters within the United States; and, as defined by section 311(a)(10) of the CWA, means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land within the United States other than submerged land.

“On-site” means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action.

“Operable unit” means a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site.

“Operation and maintenance” (O&M) means measures required to maintain the effectiveness of response actions.

“Person” as defined by section 101(21) of CERCLA, means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States government, state, municipality, commission, political subdivision of a state, or any interstate body.

“Pollutant or contaminant” as defined by section 101(33) of CERCLA, shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under section

101(14) (A) through (F) of CERCLA, nor does it include natural gas, liquified natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas). For purposes of the NCP, the term **pollutant or contaminant** means any pollutant or contaminant that may present an imminent and substantial danger to public health or welfare.

“Post-removal site control” means those activities that are necessary to sustain the integrity of a Fund-financed removal action following its conclusion. Post-removal site control may be a removal or remedial action under CERCLA. The term includes, without being limited to, activities such as relighting gas flares, replacing filters, and collecting leachate.

“Preliminary assessment” (PA) means review of existing information and an off-site reconnaissance, if appropriate, to determine if a release may require additional investigation or action. A PA may include an on-site reconnaissance, if appropriate.

“Public participation,” see the definition for **community relations**.

“Public vessel” as defined by section 311(a)(4) of the CWA, means a vessel owned or bareboat-chartered and operated by the United States, or by a state or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce.

“Quality assurance project plan” (QAPP) is a written document, associated with all remedial site sampling activities, which presents in specific terms the organization (where applicable), objectives, functional activities, and specific quality assurance (QA) and quality control (QC) activities designed to achieve the data quality objectives of a specific project(s) or continuing operation(s). The QAPP is prepared for each specific project or continuing operation (or group of similar projects or continuing operations). The QAPP will be prepared by the responsible program office, regional office, laboratory, contractor, recipient of an assistance agreement, or other organization. For an enforcement action, potentially responsible parties may prepare a QAPP subject to lead agency approval.

“Release” as defined by section 101(22) of CERCLA, means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment

(including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes: Any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons; emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine; release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act, or, for the purposes of section 104 of CERCLA or any other response action, any release of source, byproduct, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978; and the normal application of fertilizer. For purposes of the NCP, release also means threat of release.

“Relevant and appropriate requirements” means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate.

“Remedial design” (RD) means the technical analysis and procedures which follow the selection of remedy for a site and result in a detailed set of plans and specifications for implementation of the remedial action.

“Remedial investigation” (RI) is a process undertaken by the lead agency to determine the nature and extent of the problem presented by the release. The RI emphasizes data collection and site characterization, and is generally performed concurrently and in an

Environmental Protection Agency

§300.310

designated by the EPA Administrator, Governor, SERC, or LEPC, as appropriate.

§300.220 Related Title III issues.

Other related Title III requirements are found in 40 CFR part 355.

Subpart D—Operational Response Phases for Oil Removal

§300.300 Phase I—Discovery or notification.

(a) A discharge of oil may be discovered through:

(1) A report submitted by the person in charge of a vessel or facility, in accordance with statutory requirements;

(2) Deliberate search by patrols;

(3) Random or incidental observation by government agencies or the public; or

(4) Other sources.

(b) Any person in charge of a vessel or a facility shall, as soon as he or she has knowledge of any discharge from such vessel or facility in violation of section 311(b)(3) of the Clean Water Act, immediately notify the NRC. If direct reporting to the NRC is not practicable, reports may be made to the USCG or EPA predesignated OSC for the geographic area where the discharge occurs. The EPA predesignated OSC may also be contacted through the regional 24-hour emergency response telephone number. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or predesignated OSC immediately, reports may be made immediately to the nearest Coast Guard unit. In any event such person in charge of the vessel or facility shall notify the NRC as soon as possible.

(c) Any other person shall, as appropriate, notify the NRC of a discharge of oil.

(d) Upon receipt of a notification of discharge, the NRC shall promptly notify the OSC. The OSC shall proceed with the following phases as outlined in the RCP and OSC contingency plan.

§300.305 Phase II—Preliminary assessment and initiation of action.

(a) The OSC is responsible for promptly initiating a preliminary assessment.

(b) The preliminary assessment shall be conducted using available information, supplemented where necessary and

possible by an on-scene inspection. The OSC shall undertake actions to:

(1) Evaluate the magnitude and severity of the discharge or threat to public health or welfare or the environment;

(2) Assess the feasibility of removal;

(3) To the extent practicable, identify potentially responsible parties; and

(4) Ensure that authority exists for undertaking additional response actions.

(c) The OSC, in consultation with legal authorities when appropriate, shall make a reasonable effort to have the discharger voluntarily and promptly perform removal actions. The OSC shall ensure adequate surveillance over whatever actions are initiated. If effective actions are not being taken to eliminate the threat, or if removal is not being properly done, the OSC shall, to the extent practicable under the circumstances, so advise the responsible party. If the responsible party does not take proper removal actions, or is unknown, or is otherwise unavailable, the OSC shall, pursuant to section 311(c)(1) of the CWA, determine whether authority for a federal response exists, and, if so, take appropriate response actions. Where practicable, continuing efforts should be made to encourage response by responsible parties.

(d) If natural resources are or may be injured by the discharge, the OSC shall ensure that state and federal trustees of affected natural resources are promptly notified in order that the trustees may initiate appropriate actions, including those identified in subpart G. The OSC shall seek to coordinate assessments, evaluations, investigations, and planning with state and federal trustees.

§300.310 Phase III—Containment, countermeasures, cleanup, and disposal.

(a) Defensive actions shall begin as soon as possible to prevent, minimize, or mitigate threat(s) to public health or welfare or the environment. Actions may include but are not limited to: Analyzing water samples to determine the source and spread of the oil; controlling the source of discharge; measuring and sampling; source and spread control or salvage operations; placement of physical barriers to deter the spread of the oil and to protect natural resources; control of the water discharged from upstream impoundment; and the use of chemicals and other materials in accordance with subpart

§300.315

40 CFR Ch. 1

J of this part to restrain the spread of the oil and mitigate its effects.

(b) As appropriate, actions shall be taken to recover the oil or mitigate its effects. Of the numerous chemical or physical methods that may be used, the chosen methods shall be the most consistent with protecting public health and welfare and the environment. Sinking agents shall not be used.

(c) Oil and contaminated materials recovered in cleanup operations shall be disposed of in accordance with the RCP and OSC contingency plan and any applicable laws, regulations, or requirements.

§300.315 Phase IV—Documentation and cost recovery.

(a) Documentation shall be collected and maintained to support all actions taken under the CWA and to form the basis for cost recovery. Whenever practicable, documentation shall be sufficient to prove the source and circumstances of the incident, the responsible party or parties, and impact and potential impacts to public health and welfare and the environment. When appropriate, documentation shall also be collected for scientific understanding of the environment and for the research and development of improved response methods and technology. Damages to private citizens, including loss of earnings, are not addressed by the NCP. Evidentiary and cost documentation procedures are specified in the USCG Marine Safety Manual (Commandant Instruction M16000.11) and further provisions are contained in 33 CFR part 153.

(b) OSCs shall submit OSC reports to the RRT as required by §300.165.

(c) OSCs shall ensure the necessary collection and safeguarding of information, samples, and reports. Samples and information shall be gathered expeditiously during the response to ensure an accurate record of the impacts incurred. Documentation materials shall be made available to the trustees of affected natural resources. The OSC shall make available to trustees of the affected natural resources information and documentation that can assist the trustees in the determination of actual or potential natural resource injuries.

(d) Information and reports obtained by the EPA or USCG OSC shall be transmitted

to the appropriate offices responsible for follow-up actions.

§300.320 General pattern of response.

(a) When the OSC receives a report of a discharge, actions normally should be taken in the following sequence:

(1) When the reported discharge is an actual or potential major discharge, immediately notify the RRT, including the affected state, if appropriate, and the NRC.

(2) Investigate the report to determine pertinent information such as the threat posed to public health or welfare or the environment, the type and quantity of polluting material, and the source of the discharge.

(3) Officially classify the size of the discharge and determine the course of action to be followed.

(4) Determine whether a discharger or other person is properly carrying out removal. Removal is being done properly when:

(i) The cleanup is fully sufficient to minimize or mitigate threat(s) to public health and welfare and the environment. Removal efforts are improper to the extent that federal efforts are necessary to minimize further or mitigate those threats; and

(ii) The removal efforts are in accordance with applicable regulations, including the NCP.

(5) Determine whether a state or political subdivision thereof has the capability to carry out response actions and whether a contract or cooperative agreement has been established with the appropriate fund administrator for this purpose.

(6) Notify the trustees of affected natural resources in accordance with the applicable RCP.

(b) The preliminary inquiry will probably show that the situation falls into one of four categories. These categories and the appropriate response to each are outlined below:

(1) If the investigation shows that no discharge occurred, or it shows a minor discharge with no removal action required, the case may be closed for response purposes.

(2) If the investigation shows a minor discharge with the responsible party taking proper removal action, contact shall be established with the party. The removal action shall, whenever possible, be

Environmental Protection Agency

§300.335

monitored to ensure continued proper action.

(3) If the investigation shows a minor discharge with improper removal action being taken, the following measures shall be taken:

(i) An immediate effort shall, as appropriate, be made to stop further pollution and remove past and ongoing contamination.

(ii) The responsible party shall be advised of what action will be considered appropriate.

(iii) If the responsible party does not properly respond, the party shall be notified of potential liability for federal response performed under the CWA. This liability includes all costs of removal and may include the costs of assessing and restoring, rehabilitating, replacing, or acquiring the equivalent of damaged natural resources, and other actual or necessary costs of a federal response.

(iv) The OSC shall notify appropriate state and local officials, keep the RRT advised, and initiate Phase III operations, as described in §300.310, as conditions warrant.

(v) Information shall be collected for possible recovery of response costs in accordance with §300.315.

(4) When the investigation shows that an actual or potential medium or major oil discharge exists, the OSC shall follow the same general procedures as for a minor discharge. If appropriate, the OSC shall recommend activation of the RRT.

§300.330 Wildlife conservation.

The Department of the Interior, Department of Commerce, and state representatives to the RRT shall arrange for the coordination of professional and volunteer groups permitted and trained to participate in wildlife dispersal, collection, cleaning, rehabilitation, and recovery activities, consistent with 16 U.S.C. 703-712 and applicable state laws. The RCP and OSC contingency plans shall, to the extent practicable, identify organizations or institutions that are permitted to participate in such activities and operate such facilities. Wildlife conservation activities will normally be included in Phase III response actions, described in §300.310.

§300.335 Funding.

(a) If the person responsible for the discharge does not act promptly or take

proper removal actions, or if the person responsible for the discharge is unknown, federal discharge removal actions may begin under section 311(c)(1) of the CWA. The discharger, if known, is liable for costs of federal removal in accordance with section 311(f) of the CWA and other federal laws.

(b) Actions undertaken by the participating agencies in response to pollution shall be carried out under existing programs and authorities when available. Federal agencies will make resources available, expend funds, or participate in response to oil discharges under their existing authority. Authority to expend resources will be in accordance with agencies' basic statutes and, if required, through interagency agreements. Where the OSC requests assistance from a federal agency, that agency may be reimbursed in accordance with the provisions of 33 CFR 153.407. Specific interagency reimbursement agreements may be signed when necessary to ensure that the federal resources will be available for a timely response to a discharge of oil. The ultimate decisions as to the appropriateness of expending funds rest with the agency that is held accountable for such expenditures.

(c) The OSC shall exercise sufficient control over removal operations to be able to certify that reimbursement from the following funds is appropriate:

(1) The oil pollution fund, administered by the Commandant, USCG, that has been established pursuant to section 311(k) of the CWA or any other spill response fund established by Congress. Regulations governing the administration and use of the section 311(k) fund are contained in 33 CFR part 153.

(2) The fund authorized by the Deepwater Port Act is administered by the Commandant, USCG. Governing regulations are contained in 33 CFR part 137.

(3) The fund authorized by the Outer Continental Shelf Lands Act, as amended, is administered by the Commandant, USCG. Governing regulations are contained in 33 CFR parts 135 and 136.

(4) The fund authorized by the Trans-Alaska Pipeline Authorization Act is administered by a Board of Trustees under the purview of the Secretary of the Interior. Governing regulations are contained in 43 CFR part 29.

(d) Response actions other than removal, such as scientific investigations not in support of removal actions or law enforcement, shall be provided by the agency with legal responsibility for those specific actions.

(e) The funding of a response to a discharge from a federally operated or supervised facility or vessel is the responsibility of the operating or supervising agency.

(f) The following agencies have funds available for certain discharge removal actions:

(1) EPA may provide funds to begin timely discharge removal actions when the OSC is an EPA representative.

(2) The USCG pollution control efforts are funded under "operating expenses." These funds are used in accordance with agency directives.

(3) The Department of Defense has two specific sources of funds that may be applicable to an oil discharge under appropriate circumstances. This does not consider military resources that might be made available under specific conditions.

(i) Funds required for removal of a sunken vessel or similar obstruction of navigation are available to the Corps of Engineers through Civil Works Appropriations, Operations and Maintenance, General.

(ii) The U.S. Navy may conduct salvage operations contingent on defense operational commitments, when funded by the requesting agency. Such funding may be requested on a direct cite basis.

(4) Pursuant to section 311(c)(2)(H) of the CWA, the state or states affected by a discharge of oil may act where necessary to remove such discharge and may, pursuant to 33 CFR part 153, be reimbursed from the oil pollution fund for the reasonable costs incurred in such a removal.

(i) Removal by a state is necessary within the meaning of section 311(c)(2)(H) of the CWA when the OSC determines that the owner or operator of the vessel, onshore facility, or offshore facility from which the discharge occurs does not effect removal properly, or is unknown, and that:

(A) State action is required to minimize or mitigate significant threat(s) to the public health or welfare or the environment that federal action cannot minimize or mitigate; or

(B) Removal or partial removal can be done by the state at a cost that is less than

or not significantly greater than the cost that would be incurred by the federal agencies.

(ii) State removal actions must be in compliance with the NCP in order to qualify for reimbursement.

(iii) State removal actions are considered to be Phase III actions, described in §300.310, under the same definitions applicable to federal agencies.

(iv) Actions taken by local governments in support of federal discharge removal operations are considered to be actions of the state for purposes of this section. The RCP and OSC contingency plan shall show what funds and resources are available from participating agencies under various conditions and cost arrangements. Interagency agreements may be necessary to specify when reimbursement is required.

Subpart E – Hazardous Substance Response

§300.400 General.

(a) This subpart establishes methods and criteria for determining the appropriate extent of response authorized by CERCLA:

(1) When there is a release of a hazardous substance into the environment; or

(2) When there is a release into the environment of any pollutant or contaminant that may present an imminent and substantial danger to the public health or welfare.

(b) Limitations on response. Unless the lead agency determines that a release constitutes a public health or environmental emergency and no other person with the authority and capability to respond will do so in a timely manner, a removal or remedial action under section 104 of CERCLA shall not be undertaken in response to a release:

(1) Of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found;

(2) From products that are part of the structure of, and result in exposure within, residential buildings or business or community structures; or

(3) Into public or private drinking water supplies due to deterioration of the system through ordinary use.

(c) Fund-financed action. In determining the need for and in planning or undertaking Fund-financed action, the lead agency shall, to the extent practicable:

APPENDIX C
RCRA 40 CFR PART 280

40 CFR 280

PART 280—UNDERGROUND STORAGE TANKS**Subpart A—Program Scope and Interim Prohibition**

Sec. 280.10 Applicability.

280.11 Interim prohibition for deferred UST systems.

280.12 Definitions.

Subpart B—UST Systems: Design, Construction, Installation and Notification

280.20 Performance standards for new UST systems.

280.21 Upgrading of existing UST systems.

280.22 Notification requirements.

Subpart C—General Operating Requirements

280.30 Spill and overfill control.

280.31 Operation and maintenance of corrosion protection.

280.32 Compatibility.

280.33 Repair allowed.

280.34 Reporting and recordkeeping.

Subpart D—Release Detection

280.40 General requirements for all UST systems.

280.41 Requirements for petroleum UST systems.

280.42 Requirements for hazardous substance UST systems.

280.43 Methods of release detection for tanks.

280.44 Methods of release detection for piping.

280.45 Release detection recordkeeping.

Subpart E—Release Reporting, Investigation, and Confirmation

280.50 Reporting of suspected releases.

Subpart A—Program Scope and Interim Prohibition**280.10 Applicability.**

(a) The requirements of this part apply to all owners and operators of an UST system as defined in 280.12 except as otherwise provided in paragraphs (b), (c), and (d) of this section. Any UST system listed in paragraph (c) of this section must meet the requirements of 280.11.

(b) The following UST systems are excluded from the requirements of this part:

(1) Any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act, or a mixture of such hazardous waste and other regulated substances.

(2) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act.

(3) Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks.

(4) Any UST system whose capacity is 110 gallons or less.

(5) Any UST system that contains a *de minimis* concentration of regulated substances.

(6) Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

(c) *Deferments.* Subparts B, C, D, E, and F do not apply to any of the following types of UST systems:

(1) Wastewater treatment tank systems;

(2) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011 and following);

(3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR Part 50, Appendix A;

(4) Airport hydrant fuel distribution systems; and

(5) UST systems with field-constructed tanks.

280.51 Investigation due to off-site impact.

280.52 Release investigation and confirmation steps.

280.53 Reporting and cleanup of spills and overfills.

Subpart F—Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances

280.60 General.

280.61 Initial response.

280.62 Initial abatement measures and site check.

280.63 Initial site characterization.

280.64 Free product removal.

280.65 Investigations for soil and ground-water cleanup.

280.66 Corrective action plan.

280.67 Public participation.

Subpart G—Out-of-Service UST Systems and Closure

280.70 Temporary closure.

280.71 Permanent closure and changes-in-service.

280.72 Assessing the site at closure or change-in-service.

280.73 Applicability to previously closed UST systems.

280.74 Closure records.

Subpart H—Financial Responsibility

280.90 Applicability.

280.91 Compliance dates.

280.92 Definition of terms.

280.93 Amount and scope of required financial responsibility.

280.94 Allowable mechanisms and combinations of mechanisms.

280.95 Financial test of self-insurance.

280.96 Guarantee.

280.97 Insurance and risk retention group coverage.

280.98 Surety bond.

(d) **Deferrals.** Subpart D does not apply to any UST system that stores fuel solely for use by emergency power generators.

[53 FR 37194, Sept. 23, 1988]

280.11 Interim prohibition for deferred UST systems.

(a) No person may install an UST system listed in 280.10(c) for the purpose of storing regulated substances unless the UST system (whether of single- or double-wall construction):

(1) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(2) Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and

(3) Is constructed or lined with material that is compatible with the stored substance.

(b) Notwithstanding paragraph (a) of this section, an UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life.

Owners and operators must maintain records that demonstrate compliance with the requirements of this paragraph for the remaining life of the tank.

Note: The National Association of Corrosion Engineers Standard RP-02-45, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, may be used as guidance for complying with paragraph (b) of this section.

[53 FR 37194, Sept. 23, 1988]

280.12 Definitions.

Aboveground release means any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the above-ground portion of an UST system and above-ground releases associated with overfills and transfer operations as the regulated substance moves to or from an UST system.

Auxiliary equipment means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used

to distribute, meter, or control the flow of regulated substances to and from an UST.

Belowground release means any release to the subsurface of the land and to ground water. This includes, but is not limited to, releases from the belowground portions of an underground storage tank system and belowground releases associated with overfills and transfer operations as the regulated substance moves to or from an underground storage tank.

Beneath the surface of the ground means beneath the ground surface or otherwise covered with earthen materials.

Cathodic protection is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current. Cathodic protection tester means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

CERCLA means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

Compatible means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

Connected piping means all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

Consumptive use with respect to heating oil means consumed on the premises.

Corrosion expert means a person who, by reason of thorough knowledge of the physical

sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

Dielectric material means a material that does not conduct direct electrical current.

Dielectric coatings are used to electrically isolate UST systems from the surrounding soils.

Dielectric bushings are used to electrically isolate portions of the UST system (e.g., tank from piping).

Electrical equipment means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

Excavation zone means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

Existing tank system means a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or before December 22, 1988. Installation is considered to have commenced if:

(a) The owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,

(b)(1) Either a continuous on-site physical construction or installation program has begun, or;

(2) The owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction at the site or installation of the tank system to be completed within a reasonable time.

Farm tank is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. Farm

includes fish hatcheries, rangeland and nurseries with growing operations.

Flow-through process tank is a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process.

Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

Free product refers to a regulated substance that is present as a non-aqueous phase liquid (e.g., liquid not dissolved in water.)

Gathering lines means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

Hazardous substance UST system means an underground storage tank system that contains a hazardous substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum, and which is not a petroleum UST system.

Heating oil means petroleum that is No. 1, No. 2, No. 4—light, No. 4—heavy, No. 5—light, No. 5—heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

Hydraulic lift tank means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

Implementing agency means EPA, or, in the case of a state with a program approved under section 904 (or pursuant to a memorandum of agreement with EPA), the designated state or local agency responsible for carrying out an approved UST program.

Liquid trap means sumps, well cells, and other traps used in association with oil and gas production, gathering, and extraction operations.

(including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

Maintenance means the normal operational upkeep to prevent an underground storage tank system from releasing product.

Motor fuel means petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.

New tank system means a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after December 22, 1988. (See also Existing Tank System.)

Noncommercial purposes with respect to motor fuel means not for resale.

On the premises where stored with respect to heating oil means UST systems located on the same property where the stored heating oil is used.

Operational life refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed under Subpart O.

Operator means any person in control of, or having responsibility for, the daily operation of the UST system.

Overflow release is a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.

Owner means:

(a) In the case of an UST system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of regulated substances; and

(b) In the case of any UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

Person means an individual, trust, firm, joint stock company, Federal agency, corporation, state, municipality, commission, or

political subdivision of a state, or any intermediate body. Person also includes a consortium, a joint venture, a commercial entity, and the United States Government.

Petroleum UST system means an underground storage tank system that contains petroleum or a mixture of petroleum with de minimis quantities of other regulated substances. Such systems include those containing motor fuel, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

Pipe or Piping means a hollow cylinder or tubular conduit that is constructed of non-earth materials.

Pipeline facilities (including gathering lines) are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.

Regulated substance means:

(a) Any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under subtitle C), and

(b) Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

The term regulated substance includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

Release means any spilling, leaking, emitting, discharging, escaping, leaching or disposing from an UST into ground water, surface water or subsurface soils.

Release detection means determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it. Repair means to restore a tank or UST system component that has caused a release of product from the UST system.

(a) Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;

(b) Tank used for storing heating oil for consumptive use on the premises where stored;

(c) Septic tank;

(d) Pipeline facility (including gathering lines) regulated under:

(1) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.), or

(2) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.); or

(3) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in paragraph (d)(1) or (d)(2) of this definition;

(e) Surface impoundment, pit, pond, or lagoon;

(f) Storm-water or wastewater collection system;

(g) Flow-through process tank;

(h) Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or

(i) Storage tank situated in an underground area (such as a basement, cellar, mine, working, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor. The term underground storage tank or UST does not include any pipes connected to any tank which is described in paragraph (a) through (i) of this definition.

Upgrade means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overflow controls to improve the ability of an underground storage tank system to prevent the release of product.

UST system or Tank system means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any. Wastewater treatment tank means a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

[53 FR 37194, Sept. 23, 1988]

Subpart B—UST Systems: Design, Construction, Installation and Notification

280.20 Performance standards for new UST systems.

In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements.

(1) Tanks. Each tank must be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below.

(i) The tank is constructed of fiber-glass-reinforced plastic; or

Note: The following industry codes may be used to comply with paragraph (a)(1) of this section: Underwriters Laboratories Standard 1746, Corrosion Protection Systems for Underground Storage Tanks, or the Association for Composite Tanks ACT-100, Specification for the Fabrication of FRP Cland Underground Storage Tanks.

(ii) The tank is constructed of metal without additional corrosion protection measures provided that:

(i) The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and

(ii) Owners and operators maintain records that demonstrate compliance with the requirements of paragraphs (a)(4)(i) for the remaining life of the tank; or

(iii) The tank construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the paragraphs (a) (1) through (4) of this section.

(iv) Piping. The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed

(B) Underwriters Laboratories Standard 1746, Corrosion Protection Systems for Underground Storage Tanks;

(C) Underwriters Laboratories of Canada CAN-4-S603-M85, Standard for Steel Underground Tanks for Flammable and Combustible Liquids, and CAN-4-C03.1-M85, Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids, and CAN-4-S631-M84, Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems; or

(D) National Association of Corrosion Engineers Standard RP-02-85, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and Underwriters Laboratories Standard 58, Standard for Steel Underground Tanks for Flammable and Combustible Liquids.

(3) The tank is constructed of a steel-fiber-glass-reinforced-plastic composite; or

Note: The following industry codes may be used to comply with paragraph (a)(3) of this section: Underwriters Laboratories Standard 1746, Corrosion Protection Systems for Underground Storage Tanks, or the Association for Composite Tanks ACT-100, Specification for the Fabrication of FRP Cland Underground Storage Tanks.

(4) The tank is constructed of metal without additional corrosion protection measures provided that:

(i) The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and

(ii) Owners and operators maintain records

that demonstrate compliance with the requirements of paragraphs (a)(4)(i) for the remaining life of the tank; or

(iii) The tank construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the paragraphs (a) (1) through (4) of this section.

(iv) Piping. The piping that routinely

by a nationally recognized association or independent testing laboratory as specified below:

(i) The piping is constructed of fiber-glass-reinforced plastic; or

Note: The following codes and standards may be used to comply with paragraph (b)(1) of this section:

(A) Underwriters Laboratories Subject 971,

UL Listed Non-Metal Pipe;

(B) Underwriters Laboratories Standard 567, Pipe Connectors for Flammable and Combustible and LP Gases;

(C) Underwriters Laboratories of Canada Guide ULC-107, Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids; and

(D) Underwriters Laboratories of Canada Standard CAN 4-S633-M81, Flexible Underground Hose Connectors.

(2) The piping is constructed of steel and cathodically protected in the following manner:

(i) The piping is coated with a suitable dielectric material;

(ii) Field-installed cathodic protection systems are designed by a corrosion expert; and

(iii) Impressed current systems are designed to allow determination of current operating status as required in 280.31(c); and

(iv) Cathodic protection systems are operated and maintained in accordance with 280.31 or guidelines established by the implementing agency; or

Note: The following codes and standards may be used to comply with paragraph (b)(2) of this section:

(A) National Fire Protection Association Standard 30, Flammable and Combustible Liquids Code; and National Association of Corrosion Engineers Standard RP-01-69, Control of External Corrosion on Submerged Metallic Piping Systems.

(J) The piping is constructed of metal without additional corrosion protection measures provided that:

(i) The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and

(ii) Owners and operators maintain records that demonstrate compliance with the requirements of paragraph (b)(2)(i) of this section for the remaining life of the piping; or

Note: National Fire Protection Association Standard 30, Flammable and Combustible Liquids Code; and National Association of Corrosion Engineers Standard RP-01-69, Control of External Corrosion on Submerged Metallic Piping Systems, may be used to comply with paragraph (b)(3) of this section.

(4) The piping construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in paragraphs (b) (1) through (3) of this section.

(C) Spill and overfill prevention equipment.

(1) Except as provided in paragraph (c)(2) of this section, to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overfill prevention equipment:

(i) Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

(ii) Overfill prevention equipment that will:

(A) Automatically shut off flow into the tank when the tank is no more than 95 percent full; or

(B) Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm; or

(C) Restrict flow 30 minutes prior to overfilling, alert the operator with a high-level alarm one minute before overfilling, or automatically shut off flow into the tank so that none of the fitting(s) located on top of the tank are exposed to product due to overfilling.

(2) Owners and operators are not required to use the spill and overfill prevention equipment specified in paragraph (c)(1) of this section if:

(i) Alternative equipment is used that is determined by the implementing agency to be

no less protective of human health and the environment than the equipment specified in paragraph (c)(1) (i) or (ii) of this section; or

(ii) The UST system is filled by transfers of no more than 25 gallons at one time.

(d) *Installation.* All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory, and in accordance with the manufacturer's instructions.

Note: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of paragraph (d) of this section:

(i) American Petroleum Institute Publication 1615, Installation of Underground Petroleum Storage System; or

(ii) Petroleum Equipment Institute Publication RP100, Recommended Practices for Installation of Underground Liquid Storage Systems; or

(iii) American National Standards Institute Standard B31.3, Petroleum Refinery Piping, and American National Standards Institute Standard B31.4, Liquid Petroleum Transportation Piping System.

(c) *Certification of installation.* All owners and operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with paragraph (d) of this section by providing a certification of compliance on the UST notification form in accordance with 280.22.

(1) The installer has been certified by the tank and piping manufacturer; or

(2) The installer has been certified or licensed by the implementing agency; or

(3) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installations; or

(4) The installation has been inspected and approved by the implementing agency; or

(5) All work listed in the manufacturer's installation checklists has been completed; or

(6) The owner and operator have complied with another method for ensuring compliance with paragraph (d) of this section that is determined by the implementing agency to be no less protective of human health and the environment.

[53 FR 37194, Sept. 23, 1988, as amended at 56 FR 38344, Aug. 13, 1991]

280.21 Upgrading of existing UST systems.

(a) *Alternatives allowed.* Not later than December 22, 1998, all existing UST systems must comply with one of the following requirements:

- (1) New UST system performance standards under 280.20;
- (2) The upgrading requirements in paragraph (b) through (d) of this section; or
- (3) Closure requirements under Subpart Q of this part, including applicable requirements for corrective action under Subpart F.

(b) *Tank upgrading requirements.* Steel tanks must be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:

- (1) *Interior lining.* A tank may be upgraded by internal lining if:
 - (i) The lining is installed in accordance with the requirements of 280.33, and
 - (ii) Within 10 years after lining, and every 5 years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.
- (2) *Cathodic protection.* A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of 280.20(a)(2) (ii), (iii), and (iv) and the integrity of the tank is ensured using one of the following methods:
 - (i) The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or
 - (ii) The tank has been installed for less than 10 years and is monitored monthly for releases in accordance with 280.43 (d) through (h); or
 - (iii) The tank has been installed for less than 10 years and is recaused for corrosion holes by conducting two (2) tightness tests that meet the requirements of 280.43(c). The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three

- (3) and six (6) months following the first operation of the cathodic protection system; or
- (iv) The tank is assessed for corrosion holes by a method that is determined by the implementing agency to prevent releases in a manner that is no less protective of human health and the environment than paragraphs (b)(2) (i) through (iii) of this section.

(3) *Internal lining combined with cathodic protection.* A tank may be upgraded by both internal lining and cathodic protection if:

- (i) The lining is installed in accordance with the requirements of 280.33; and
- (ii) The cathodic protection system meets the requirements of 280.20(a)(2) (ii), (iii), and (iv).

Note: The following codes and standards may be used to comply with this section:

(A) American Petroleum Institute Publication 1631, Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks;

(B) National Leak Prevention Association Standard 631, Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection;

(C) National Association of Corrosion Engineers Standard RP-02-85, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems;

(D) American Petroleum Institute Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems.

(c) *Piping upgrading requirements.* Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of 280.20(b)(2) (ii), (iii), and (iv).

Note: The codes and standards listed in the note following 280.20(b)(2) may be used to comply with this requirement.

- (d) *Spill and overfill prevention equipment.* To prevent spilling and overfilling associated with product transfer to the UST

system, all existing UST systems must comply with new UST system spill and overfill prevention equipment requirements specified in 280.20(c).

[53 FR 37194, Sept. 23, 1988]

280.22 Notification requirements.

(a) Any owner who brings an underground storage tank system into use after May 8, 1986, must within 30 days of bringing such tank into use, submit, in the form prescribed in Appendix I of this part, a notice of existence of such tank system to the state or local agency or department designated in Appendix II of this part to receive such notice.

Note: Owners and operators of UST systems that were in the ground on or after May 8, 1986, unless taken out of operation on or before January 1, 1974, were required to notify the designated state or local agency in accordance with the Hazardous and Solid Waste Amendments of 1984, Pub. L. 98-616, on a form published on November 8, 1985 (50 FR 46602) unless notice was given pursuant to section 10(c) of CERCLA. Owners and operators who have not complied with the notification requirements may use portions 1 through VI of the notification form contained in Appendix II of this part.

(b) In states where state law, regulations, or procedures require owners to use forms that differ from those set forth in Appendix I of this part to fulfill the requirements of this action, the state forms may be submitted in lieu of the forms set forth in Appendix I of this part. If a state requires that its form be used in lieu of the form presented in this regulation, such form must meet the requirements of section 902.

(c) Owners required to submit notices under paragraph (a) of this section must provide notices to the appropriate agency or departments identified in Appendix II of this part for each tank they own. Owners may provide notice for several tanks using one notification form, but owners who own tanks located at more than one place of operation must file a separate notification form for each separate place of operation.

(d) Notices required to be submitted under paragraph (a) of this section must provide all of the information in sections I through VI of the prescribed form (or appropriate state form) for each tank for which notice must be given. Notices for tanks installed after December 22, 1988 must also provide all of the information in

section VII of the prescribed form (or appropriate state form) for each tank for which notice must be given.

(e) All owners and operators of new UST systems must certify in the notification form compliance with the following requirements:

- (1) Installation of tanks and piping under 280.20(c).
- (2) Cathodic protection of steel tanks and piping under 280.20 (a) and (b).

(3) Financial responsibility under Subpart H of this part; and

(4) Release detection under 280.41 and 280.42.

(I) All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping complies with the requirements in 280.20(d).

(g) Beginning October 24, 1988, any person who sells a tank intended to be used as an underground storage tank must notify the purchaser of such tank of the owner's notification obligations under paragraph (g) of this section. The form provided in Appendix III of this part may be used to comply with this requirement.

[53 FR 37194, Sept. 23, 1988]

(b) The owner and operator must report, investigate, and clean up any spills and overfills in accordance with 280.53.

[53 FR 37194, Sept. 23, 1988]

280.31 Operation and maintenance of corrosion protection.

All owners and operators of steel UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances:

- (a) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.
- (b) All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirement:

(1) Frequency: All cathodic protection systems must be tested within 6 months of installation and at least every 3 years thereafter or according to another reasonable time frame established by the implementing agency; and

(2) Inspection criteria: The criteria that are used to determine that cathodic protection is adequate as required by this section must be in accordance with a code of practice developed by a nationally recognized association.

Note: National Association of Corrosion Engineers Standard RP-02-85, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, may be used to comply with paragraph (b)(2) of this section.

(c) UST systems with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly.

(d) For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained (in accordance with 280.34) to demonstrate compliance with the performance standards in this section.

These records must provide the following:

(1) The results of the last three inspections required in paragraph (c) of this section; and

(2) The results of testing from the last two inspections required in paragraph (b) of this section.

[53 FR 37194, Sept. 23, 1988]

280.32 Compatibility.

Owners and operators must use an UST system made of or lined with materials that are compatible with the substance stored in the UST system.

Note: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of this section:

- (a) American Petroleum Institute Publication 1626, Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations; and
- (b) American Petroleum Institute Publication 1627, Storage and Handling of Gasoline-Methanol/ Cosolvent Blends at Distribution Terminals and Service Stations.

[53 FR 37194, Sept. 23, 1988]

280.33 Repairs allowed.

Owners and operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances. The repairs must meet the following requirements:

(a) Repairs to UST systems must be properly conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

Note: The following codes and standards may be used to comply with paragraph (a) of this section: National Fire Protection Association Standard 30, Flammable and Combustible Liquids Code; American Petroleum Institute Publication 2200, Repairing Crude Oil, Liquified Petroleum Gas, and Product Pipelines; American Petroleum Institute Publication 1631, Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks and National Leak Prevention Association Standard 631, Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection.

[53 FR 37194, Sept. 23, 1988]

280.34 Reporting and recordkeeping.

Owners and operators of UST systems must cooperate fully with inspections, monitoring and testing conducted by the implementing agency, as well as request for document submittal, testing, and monitoring by the owner or operator pursuant to section 9005 of Subtitle I of the Resource Conservation and Recovery Act, as amended.

Environmental Protection Agency

280.41

(a) **Reporting.** Owners and operators must submit the following information to the implementing agency:

- (1) **Notification for all UST systems** (280.22), which includes certification of installation for new UST systems [280.20(e)].
- (2) **Reports of all releases including suspected releases** (280.50), spills and overfills (280.53), and confirmed releases (280.61).
- (3) **Corrective actions planned or taken** including initial abattement measures (280.62), initial site characterization (280.63), free product removal (Sec. 280.64), investigation of soil and ground-water cleanup (280.65), and corrective action plan (280.66); and

(4) **A notification before permanent closure or change-in-service** (280.71).

(b) **Recordkeeping.** Owners and operators must maintain the following information:

(1) A corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used [280.20(e)(4); 280.20(b)(3)].

(2) **Documentation of operation of corrosion protection equipment** (280.31);

(3) **Documentation of UST system repairs** [280.33(l)];

(4) **Recent compliance with release detection requirements** (280.45); and

(5) **Results of the site investigation conducted at permanent closure** (280.74).

(c) **Availability and Maintenance of Records.** Owners and operators must keep the records required either:

(1) At the UST site and immediately available for inspection by the implementing agency; or

(2) At a readily available alternative site and be provided for inspection to the implementing agency upon request.

(3) In the case of permanent closure records required under 280.74, owners and operators

are also provided with the additional alternative of mailing closure records to the implementing agency if they cannot be kept at the site or an alternative site as indicated above.

Note: The recordkeeping and reporting requirements in this section have been approved by the Office of Management and Budget and have been assigned OMB Control No. 2050-0068. [53 FR 37194, Sept. 23, 1988]

Subpart D Release Detection

280.40 General requirements for all UST systems.

(a) Owners and operators of new and existing UST systems must provide a method, or combination of methods, of release detection that:

- (1) Can detect a release from any portion of the tank and the connected underground piping that routinely contains product;
- (2) Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and
- (3) Meets the performance requirements in §280.43 or 280.44, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, methods used after the date shown in the following table corresponding with the specified method except for methods permanently installed prior to that date, must be capable of detecting the leak rate or quantity specified for that method in the corresponding section of the rule (also shown in the table) with a probability detection (Pd) of 0.95 and a probability of false alarm (Pfa) of 0.05.

(b) Any existing UST system that cannot apply a method of release detection that complies with the requirements of this subpart must complete the closure procedures in Subpart G by the date on which release detection is required for that UST system under paragraph (c) of this section.

[53 FR 37194, Sept. 23, 1988, as amended at 55 FR 17753, April 27, 1990; 55 FR 23738, June 12, 1990; 56 FR 26, Jan. 2, 1991]

280.41 Requirements for petroleum UST systems.

Owners and operators of petroleum UST systems must provide release detection for tanks and piping as follows:

Method	Section	Date after which Pd/Pfa must be demonstrated
Manual Tank Gauging	280.43(b)	December 22, 1990.
Tank Tightness Testing	280.43(c)	December 22, 1980.
Automatic Tank Gauging	280.43(d)	December 22, 1990.
Automatic Line Leak Detection	280.44(a)	September 22, 1991.
Line Tightness Testing	280.44(b)	December 22, 1980.

(c) Owners and operators of all UST systems must comply with the release detection requirements of this subpart by December 22 of the year listed in the following table:

SCHEDULE FOR PHASE-IN OF RELEASE DETECTION

Year system was installed	Year when release detection is required (by December 22 of the year indicated)				
	1989	1990	1991	1992	1993
Before 1965 or date unknown	RD	P P/RD	P P	RD	RD
1965-69					
1970-74					
1975-79					
1980-88					
New tanks (after December 22) immediately upon installation.					

P = Must begin release detection for all pressurized piping as defined 280.41(b)(X).
RD = Must begin release detection for tanks and suction piping in accordance with 280.41(a)

(d) Any existing UST system that cannot apply a method of release detection that complies with the requirements of this subpart must complete the closure procedures in Subpart G by the date on which release detection is required for that UST system under paragraph (c) of this section.

(1) UST systems that meet the performance standards in 280.20 or 280.21, and the monthly inventory control requirements in 280.43 (a) or (b), may use tank tightness testing [conducted in accordance with 280.43(c)] at least every 5 years until December 22, 1998, or until 10 years after the tank is installed or upgraded under 280.21(b), whichever is later;

(2) UST systems that do not meet the performance standards in 280.20 or 280.21 may use monthly inventory controls [conducted in accordance with 280.43(a) or (b)] and annual tank tightness testing [conducted in accordance

(a) Release detection at existing UST systems must meet the requirements for petroleum UST systems in 280.41. By December 22, 1998, all existing hazardous substance UST systems must meet the release detection requirements for new systems in paragraph (b) of this section.

(b) Release detection at new hazardous substance UST systems must meet the following requirements:

(1) Pressurized piping. Underground piping that conveys regulated substances under pressure must:

(i) Be equipped with an automatic line leak detector conducted in accordance with 280.44(c); and

(ii) Have an annual line tightness test conducted in accordance with 280.44(b) or have monthly monitoring conducted in accordance with 280.44(c).

(2) Suction piping. Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every 3 years and in accordance with 280.44(b), or use a monthly monitoring method conduct in accordance with 280.44(c). No release detection is required for suction piping that is designed and constructed to meet the following standards:

(i) The below-grade piping operates at less than atmospheric pressure;

(ii) The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;

(iii) Only one check valve is included in each suction line;

(iv) The check valve is located directly below and as close as practical to the suction pump; and

(v) A method is provided that allows compliance with paragraphs (b)(2)(ii)-(iv) of this section to be readily determined.

[53 FR 37194, Sept. 23, 1988]

(a) Release detection at existing UST systems must meet the requirements for petroleum UST systems in 280.43(b) through (h) can detect a release of petroleum;

(b) Manual tank gauging. Manual tank gauging must meet the following requirements:

(1) Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;

(2) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

(3) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

(4) A leak is suspected and subject to the requirements of Subpart E if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table:

280.43 Methods of release detection for tanks.

Each method of release detection for tanks used to meet the requirements of 280.41 must be conducted in accordance with the following:

(a) Inventory control. Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis in the following manner:

(1) Inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day.

(2) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

(3) The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;

(4) Deliveries are made through a drop tube that extends to within one foot of the tank bottom;

(5) Product dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 cubic inches for every 5 gallons of product withdrawn; and

(6) The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month.

Note: Practices described in the American Petroleum Institute Publication 1621, Recommended Practice for Bulk Liquid Stock Control at Retail Outlets, may be used.

where applicable, as guidance in meeting the requirements of this paragraph.

(b) Manual tank gauging. Manual tank gauging must meet the following requirements:

(1) Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;

(2) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

(3) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

(4) A leak is suspected and subject to the requirements of Subpart E if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table:

Nominal tank capacity	Weekly standard (one test)	Monthly standard (average of four tests)
550 gallons or less.	10 gallons	5 gallons
551-1,000 gallons.	13 gallons	7 gallons
1,001-2,000 gallons.	26 gallons	13 gallons

(5) Only tanks of 550 gallons or less nominal capacity may use this as the sole method of release detection. Tanks of 551 to 2,000 gallons may use the method in place of manual inventory control in 280.43(a). Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this subpart.

(c) Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon per hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(d) **Automatic tank gauging.** Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control must meet the following requirements:

(1) The automatic product level monitor test can detect a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product; and

(2) Inventory control (or another test of equivalent performance) is conducted in accordance with the requirements of 280.43(a).

(c) **Vapor monitoring.** Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

(1) The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;

(2) The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

(3) The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 10 days;

(4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;

(5) The vapor monitor are designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system;

(6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in paragraphs (e) (1) through (4) of this section and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; and

(7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(I) **Ground-water monitoring, Testing or monitoring for liquids on the ground water must meet the following requirements:**

(1) The regulated substance stored is immiscible in water and has a specific gravity of less than one;

(2) Ground water is never more than 20 feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials);

(3) The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low ground-water conditions;

(4) Monitoring wells shall be sealed from the ground surface to the top of the filter pack;

(5) Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;

(6) The continuous monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the ground water in the monitoring wells;

(7) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in paragraphs (f)(1) through (5) of this section and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product; and

(8) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(g) **Interstitial monitoring, Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:**

(1) For double-walled UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains product;

Note: The provisions outlined in the Steel Tank Institute's Standard for Dual Wall Underground Storage Tanks may be used as guidance for aspects of the design and construction of underground steel double-walled tanks.

(2) For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier;

(i) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10⁻⁶ cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;

(ii) The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;

(iii) For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;

(iv) The ground water, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;

(v) The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and,

(vi) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(3) For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.

(h) **Other methods.** Any other type of release detection method, or combination of methods, can be used if:

(1) It can detect a 0.2 gallon per hour leak rate or a release of 150 gallons within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05; or

(2) The implementing agency may approve another method if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs (c) through (h) of this section. In comparing methods, the implementing agency shall consider the size of release that the method can detect and the frequency and

reliability with which it can be detected. If the method is approved, the owner and operator must comply with any conditions imposed by the implementing agency on its use to ensure the implementation of human health and the environment.

[33 FR 37194, Sept. 23, 1988]

280.44 Methods of release detection for piping.

Each method of release detection for piping used to meet the requirements of 280.41 must be conducted in accordance with the following:

(a) **Automatic line leak detectors.** Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within 1 hour. An annual test of the operation of the leak detector must be conducted in accordance with the manufacturer's requirements.

(b) **Line tightness testing.** A periodic test of piping may be conducted only if it can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure.

(c) **Applicable tank methods.** Any of the methods in 280.43 (c) through (h) may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

[33 FR 37194, Sept. 23, 1988]

280.45 Release detection recordkeeping.

All UST system owners and operators must maintain records in accordance with 280.34 demonstrating compliance with all applicable requirements of this Subpart. These records must include the following:

(a) All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be maintained for 5 years, or for another reasonable period of time determined by the implementing agency, from the date of installation;

(b) The results of any sampling, testing or monitoring must be maintained for at least 1 year, or for another reasonable period of time determined by the implementing agency, except that the results of tank tightness testing conducted in accordance with 280.43(c) must be retained until the next test is conducted, and (c) Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site must be maintained for at least one year after the servicing work is completed, or for another reasonable time period determined by the implementing agency. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer must be retained for 5 years from the date of installation.

[33 FR 37194, Sept. 23, 1988]

Subpart E—Release Reporting, Investigation, and Confirmation

280.50 Reporting of suspected releases.

Owners and operators of UST systems must report to the implementing agency within 24 hours, or another reasonable time period specified by the implementing agency, and follow the procedures in 280.52 for any of the following conditions:

(1) The discovery by owners and operators of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basement, sewer and utility lines, and nearby surface water);

(b) Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or an unexplained presence of water in the tank), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced; and,

(c) Monitoring results from a release detection method required under 280.41 and 280.42 that indicate a release may have occurred unless:

(1) The monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; or (2) In the case of inventory control, a second month of data does not confirm the initial result.

[33 FR 37194, Sept. 23, 1988]

280.51 Investigation due to off-site impacts.

When required by the implementing agency, owners and operators of UST systems must follow the procedures in 280.52 to determine if the UST system is the source of off-site impacts. These impacts include the discovery of regulated substances (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the implementing agency or brought to its attention by another party.

[33 FR 37194, Sept. 23, 1988]

280.52 Release investigation and confirmation steps.

Unless corrective action is initiated in accordance with Subpart F, owners and operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under 280.50 within 7 days, or another reasonable time period specified by the implementing agency, using either the following steps or another procedure approved by the implementing agency:

(1) **System test.** Owners and operators must conduct tests [according to the requirements for tightness testing in 280.43(c) and 280.44(b)] that determine whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping, or both.

(2) Owners and operators must repair,

replace or upgrade the UST system, and begin corrective action in accordance with Subpart F if the test results for the system, tank, or delivery piping indicate that a leak exists.

(2) Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate that a leak exists and if

environmental contamination is not the basis for suspecting a release.

(3) Owners and operators must conduct a site check as described in paragraph (b) of this section if the test results for the system, tank, and delivery piping do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.

(b) **Site check.** Owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of ground water, and other factors appropriate for identifying the presence and source of the release.

(1) If the test results for the excavation zone or the UST site indicate that a release has occurred, owners and operators must begin corrective action in accordance with Subpart F; (2) If the test results for the excavation zone or the UST site do not indicate that a release has occurred, further investigation is not required.

[33 FR 37194, Sept. 23, 1988]

280.53 Reporting and cleanup of spills and overfills.

(a) Owners and operators of UST systems must contain and immediately clean up a spill or overfill and report to the implementing agency within 24 hours, or another reasonable time period specified by the implementing agency, and begin corrective action in accordance with Subpart F in the following cases:

(1) Spill or overfill of petroleum that results in a release to the environment that exceeds 25 gallons or another reasonable amount specified by the implementing agency, or that causes a sheen on nearby surface water; and (2) Spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under CERCLA (40 CFR Part 302).

(b) Owners and operators of UST systems must contain and immediately clean up a spill or overfill of petroleum that is less than 25 gallons or another reasonable amount specified

by the implementing agency, and a spill or overfill of a hazardous substance that is less than the reportable quantity. If cleanup cannot be accomplished within 24 hours, or another reasonable time period established by the implementing agency, owners and operators must immediately notify the implementing agency.

Note: Pursuant to 302.6 and 355.40, a release of a hazardous substance equal to or in excess of its reportable quantity must also be reported immediately (rather than within 24 hours) to the National Response Center under sections 102 and 103 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and to appropriate state and local authorities under Title III of the Superfund Amendments and Reauthorization Act of 1986.

[33 FR 37194, Sept. 23, 1988]

Subpart F—Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances

280.60 General.

Owners and operators of petroleum or hazardous substance UST systems must, in response to a confirmed release from the UST system, comply with the requirements of this subpart except for USTs excluded under 280.10(q) and UST systems subject to RCRA Subtitle C corrective action requirements under section 3004(u) of the Resource Conservation and Recovery Act, as amended.

[33 FR 37194, Sept. 23, 1988]

280.61 Initial response.

Upon confirmation of a release in accordance with 280.52 or after a release from the UST system is identified in any other manner, owners and operators must perform the following initial response actions within 24 hours of a release or within another reasonable period of time determined by the implementing agency:

(a) Report the release to the implementing agency (e.g., by telephone or electronic mail); (b) Take immediate action to prevent any further release of the regulated substance into the environment; and

(c) identify and mitigate fire, explosion, and vapor hazards.

[53 FR 37194, Sept. 23, 1988]

280.62 Initial abatement measures and site check.

(a) Unless directed to do otherwise by the implementing agency, owners and operators must perform the following abatement measures:

(1) Remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment; (2) Visually inspect any aboveground releases or exposed belowground releases and prevent further migration of the released substance into surrounding soils and ground water.

(3) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements);

(4) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator must comply with applicable State and local requirements;

(5) Measure for the presence of a release where contamination is most likely to be present at the UST site, unless the presence and source of the release have been confirmed in accordance with the site check requirement of 280.72(b) or the closure site assessment of 280.72(a). In selecting sample types, sample locations, and measurement methods, the owner and operator must consider the nature of the stored substance, the type of backfill, depth to ground water and other factors as appropriate for identifying the presence and source of the release; and

(6) Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with 280.64.

(b) Within 70 days after release confirmation, or within another reasonable period of time determined by the implementing

agency, owners and operators must submit a report to the implementing agency summarizing the initial abatement steps taken under paragraph (a) of this section and any resulting information or data.

[53 FR 37194, Sept. 23, 1988]

280.63 Initial site characterization.

(a) Unless directed to do otherwise by the implementing agency, owners and operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in 280.60 and 280.61.

This information must include, but is not necessarily limited to the following:

(1) Data on the nature and estimated quantity of release;

(2) Data from available sources and/or site investigations concerning the following factors: surrounding population, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;

(3) Results of the site check required under 280.62(a)(5); and

(4) Results of the free product investigations required under 280.62(a)(6), to be used by owners and operators to determine whether free product must be recovered under 280.64.

(b) Within 45 days of release confirmation or another reasonable period of time determined by the implementing agency, owners and operators must submit the information collected in compliance with paragraph (a) of this section to the implementing agency in a manner that demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the implementing agency.

[53 FR 37194, Sept. 23, 1988]

280.64 Free product removal.

At sites where investigations under 280.62(a)(6) indicate the presence of free product, owners and operators must remove free product to the maximum extent practicable as determined by the implementing agency while continuing, as necessary, any actions

initiated under 280.61 through 280.63, or preparing for actions required under 280.65 through 280.66. In meeting the requirements of this section, owners and operators must:

(a) Conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, State, and Federal regulations;

(b) Use abatement of free product migration as a minimum objective for the design of the free product removal system;

(c) Handle any flammable products in a safe and competent manner to prevent fire or explosion; and

(d) Unless directed to do otherwise by the implementing agency, prepare and submit to the implementing agency, within 45 days after confirming a release, a free product removal report that provides at least the following information:

(1) The name of the person(s) responsible for implementing the free product removal measures;

(2) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;

(3) The type of free product recovery system used;

(4) Whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located;

(5) The type of treatment applied to, and the effluent quality expected from, any discharge; (6) The steps that have been or are being taken to obtain necessary permits for any discharge; and

(7) The disposition of the recovered free product.

[53 FR 37194, Sept. 23, 1988]

280.65 Investigations for soil and ground-water cleanup.

(a) In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the ground

water, owners and operators must conduct investigations of the release, the release site, and the surrounding area possibly affected by the release if any of the following conditions exist:

(1) There is evidence that ground-water wells have been affected by the release (e.g., as found during release confirmation or previous corrective action measures);

(2) Free product is found to need recovery in compliance with 280.64;

(3) There is evidence that contaminated soils may be in contact with ground water (e.g., as found during conduct of the initial response measures or investigations required under 280.60 through 280.64); and

(4) The implementing agency requests an investigation, based on the potential effects of contaminated soil or ground water on nearby surface water and ground-water resources.

(b) Owners and operators must submit the information collected under paragraph (a) of this section as soon as practicable or in accordance with a schedule established by the implementing agency.

[53 FR 37194, Sept. 23, 1988]

280.66 Corrective action plan.

(a) At any point after reviewing the information submitted in compliance with 280.61 through 280.63, the implementing agency may require owners and operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and ground water. If a plan is required, owners and operators must submit the plan according to a schedule and format established by the implementing agency. Alternatively, owners and operators may, after fulfilling the requirements of 280.61 through 280.63, choose to submit a corrective action plan for responding to contaminated soil and ground water. In either case, owners and operators are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the implementing agency, and must modify their plan as necessary to meet this standard.

(b) The implementing agency will approve the corrective action plan only after ensuring that implementation of the plan will adequately

protect human health, safety, and the environment. In making this determination, the implementing agency should consider the following factors as appropriate:

(1) The physical and chemical characteristics of the regulated substance, including its toxicity, persistence, and potential for migration; (2) The hydrogeologic characteristics of the facility and the surrounding area; (3) The proximity, quality, and current and future uses of nearby surface water and ground water;

(4) The potential effects of residual contamination on nearby surface water and ground water;

(5) An exposure assessment; and

(6) Any information assembled in compliance with this subpart.

(c) Upon approval of the corrective action plan or as directed by the implementing agency, owners and operators must implement the plan, including modifications to the plan made by the implementing agency. They must monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the implementing agency.

(d) Owners and operators may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin cleanup of soil and ground water before the corrective action plan is approved provided that they:

(1) Notify the implementing agency of their intention to begin cleanup;

(2) Comply with any conditions imposed by the implementing agency, including halting cleanup or mitigating adverse consequences from cleanup activities; and

(3) Incorporate these self-initiated cleanup measures in the corrective action plan that is submitted to the implementing agency for approval.

[53 FR 37194, Sept. 23, 1988]

280.67 Public participation.

(a) For each confirmed release that requires a corrective action plan, the implementing agency must provide notice to the public by means designed to reach those members of the public directly affected by the release and the

planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by field staff.

(b) The implementing agency must ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.

(c) Before approving a corrective action plan, the implementing agency may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.

(d) The implementing agency must give public notice that complies with paragraph (a) of this section if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the implementing agency.

[53 FR 37194, Sept. 23, 1988]

Subpart G—Out-of-Service UST Systems and Closure

280.70 Temporary closure.

(a) When an UST system is temporarily closed, owners and operators must continue operation and maintenance of corrosion release detection in accordance with 280.31, and any release detection in accordance with Subpart D. Subparts E and F must be complied with if a release is suspected or confirmed. However, release detection is not required as long as the UST system is empty. The UST system is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.

(b) When an UST system is temporarily closed for 3 months or more, owners and operators must also comply with the following requirements:

(1) Leave vent lines open and functioning; and

Note: The following cleaning and closure procedures may be used to comply with this section:

(2) Cap and secure all other lines, pumps, manways, and ancillary equipment.

(c) When an UST system is temporarily closed for more than 12 months, owners and operators must permanently close the UST system if it does not meet either performance standards in 280.20 for new UST systems or the upgrading requirements in 280.21, *except that the spill and overfill equipment requirements do not have to be met*. Owners and operators must permanently close the substandard UST systems at the end of this 12-month period in accordance with 280.71-280.74, *unless the implementing agency provides an extension of the 12-month temporary closure period*. Owners and operators must complete a site assessment in accordance with 280.72 before such an extension can be applied for.

[53 FR 37194, Sept. 23, 1988]

280.71 Permanent closure and changes-in-service.

(a) At least 30 days before beginning either permanent closure or a change-in-service under paragraphs (b) and (c) of this section, or within another reasonable time period determined by the implementing agency, owners and operators must notify the implementing agency of their intent to permanently close or make the change-in-service, *unless such action is in response to corrective action*. The required assessment of the excavation zone under 280.72 must be performed after notifying the implementing agency but before completion of the permanent closure or a change-in-service.

(b) To permanently close a tank, owners and operators must empty and clean it by removing all liquids and accumulated sludge. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material.

(c) Continued use of an UST system to store a non-regulated substance is considered a change-in-service. Before a change-in-service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with 280.72.

[53 FR 37194, Sept. 23, 1988]

Note: The following cleaning and closure procedures may be used to comply with this section:

(A) American Petroleum Institute Recommended Practice 1604, Removal and Disposal of Used Underground Petroleum Storage Tanks;

(B) American Petroleum Institute Publication 2015, Cleaning Petroleum Storage Tanks;

(C) American Petroleum Institute Recommended Practice 1631, Interior Lining of Underground Storage Tanks, may be used as guidance for compliance with this section; and

(D) The National Institute for Occupational Safety and Health Criteria for a Recommended Standard • • Working in Confined Space may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.

[53 FR 37194, Sept. 23, 1988]

When directed by the implementing agency, the owner and operator of an UST system permanently closed before December 22, 1988

must assess the excavation zone and close the UST system in accordance with this Subpart if releases from the UST may, in the judgment of the implementing agency, pose a current or potential threat to human health and the environment.

280.74 Closure records.

Owners and operators must maintain records in accordance with 280.34 that are capable of demonstrating compliance with closure requirements under this Subpart. The results of the excavation zone assessment required in 280.72 must be maintained for at least 3 years after completion of permanent closure or change-in-service in one of the following ways:

- By the owners and operators who took the UST system out of service;
- By the current owners and operators of the UST system site; or
- By mailing these records to the implementing agency if they cannot be maintained at the closed facility.

[Source: 53 FR 43370, Oct. 26, 1988, unless otherwise noted.]

Subpart H—Financial Responsibility

280.90 Applicability.

- This subpart applies to owners and operators of all petroleum underground storage tank (UST) systems except as otherwise provided in this section.
- Owners and operators of petroleum UST systems are subject to these requirements if they are in operation on or after the date for compliance established in 280.91.
- State and Federal government entities whose debts and liabilities are the debts and

liabilities of a state or the United States are exempt from the requirements of this subpart.

(d) The requirements of this subpart do not apply to owners and operators of any UST system described in 280.10 (b) or (c).

(e) If the owner and operator of a petroleum underground storage tank are separate persons, only one person is required to demonstrate financial responsibility; however, both parties are liable in event of noncompliance.

Regardless of which party complies, the date set for compliance at a particular facility is determined by the characteristics of the owner as set forth in 280.91.

280.91 Compliance dates.

Owners of petroleum underground storage tanks are required to comply with the requirements of this subpart by the following dates:

- All petroleum marketing firms owning 1,000 or more USTs and all other UST owners that report a tangible net worth of \$20 million or more to the U.S. Securities and Exchange Commission (SEC), Dun and Bradstreet, the Energy Information Administration, or the Rural Electrification Administration; January 24, 1989, except that compliance with 280.94(b) is required by July 24, 1989.
- All petroleum marketing firms owning 100-999 USTs; October 26, 1989.
- All petroleum marketing firms owning 13-99 USTs at more than one facility; April 26, 1991.
- All petroleum UST owners not described in paragraphs (a), (b), or (c) of this section, excluding local government entities; December 31, 1993.
- All local government entities (including Indian tribes) not included in paragraph (f) of this section; February 18, 1994.

2 (f) Indian tribes that own USTs on Indian lands which meet the applicable technical requirements of this part; December 31, 1998.

[53 FR 43370, Oct. 26, 1988, as amended at 54 FR 5452, Feb. 3, 1989; 55 FR 18567, May 2, 1990; 55 FR 46025, Oct. 31, 1990; 56 FR 66373, Dec. 23, 1991; 59 FR 9607, Feb. 28, 1994.]

280.92 Definition of terms.

When used in this subpart, the following terms shall have the meanings given below:

"Accidental release" means any sudden or nonsudden release of petroleum from an underground storage tank that results in a need for corrective action and/or compensation for bodily injury or property damage neither expected nor intended by the tank owner or operator.

"Bodily injury" shall have the meaning given to this term by applicable state law; however, this term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for bodily injury.

"Chief Financial Officer," in the case of local government owners and operators, means the individual with the overall authority and responsibility for the collection, disbursement, and use of funds by the local government.

"Controlling interest" means direct ownership of at least 50 percent of the voting stock of another entity.

"Director of the Implementing Agency" means the EPA Regional Administrator, or, in the case of a state with a program approved under section 9004, the Director of the designated state or local agency responsible for carrying out an approved UST program.

"Financial reporting year" means the latest consecutive twelve-month period for which any of the following reports used to support a financial test is prepared:

- 10-K report submitted to the SEC;
- 10-K report submitted to the SEC;

"Legal defense cost" is any expense that an owner or operator or provider of financial assurance incurs in defending against claims or actions brought:

- By EPA or a state to require corrective action or to recover the costs of corrective action;
- By or on behalf of a third party for bodily injury or property damage caused by an accidental release; or
- By any person to enforce the terms of a financial assurance mechanism.

"Local government" shall have the meaning given to this term by applicable state law and includes Indian tribes. The term is generally intended to include:

- Counties, municipalities, townships, separately chartered and operated special districts (including local government public transit systems and redevelopment authorities), and independent school districts authorized as governmental bodies by state charter or constitution; and
- Special districts and independent school districts established by counties, municipalities, townships, and other general purpose governments to provide essential services.

"Occurrence" means an accident, including continuous or repeated exposure to conditions, which results in a release from an underground storage tank.

Note: This definition is intended to assist in the understanding of these regulations and is not intended either to limit the meaning of occurrence in a way that conflicts with standard insurance usage or to prevent the use of other standard insurance terms in place of occurrence.

¹ Revised, 59 FR 9607, February 28, 1994
² Added, 59 FR 9607, February 28, 1994

"Owner or operator," when the owner or operator are **separate** parties, refers to the party that is obtaining or has obtained financial assurances.

"Petroleum marketing facilities" include all facilities at which petroleum is produced or refined and all facilities from which petroleum is sold or transferred to other petroleum marketers or to the public.

"Petroleum marketing firms" are all firms owning petroleum marketing facilities. Firms owning other types of facilities with USTs as well as petroleum marketing facilities are considered to be petroleum marketing firms.

"Property damage" shall have the meaning given this term by applicable state law. This term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for property damage. However, such exclusions for property damage shall not include corrective action associated with releases from tanks which are covered by the policy.

"Provider of financial assurance" means an entity that provides financial assurance to an owner or operator of an underground storage tank through one of the mechanisms listed in 280.95-280.103, including a guarantor, insurer, risk retention group, surety, issuer of a letter of credit, issuer of a state-required mechanism, or a state.

"Substantial business relationship" means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued incident to that relationship if it arises from and depends on existing economic transactions between the guarantor and the owner or operator.

"Substantial governmental relationship" means the extent of a governmental relationship necessary under applicable state law to make an addendum guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from a clear conveyability of interest in the event of an UST release such as coextensive boundaries, overlapping constituents, common ground-water aquifer, or other relationship other than monetary

compensation that provides a motivation for the guarantor to provide a guarantee.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties. For purposes of this definition, assets means all existing and all probable future economic benefits obtained or controlled by a particular entity as a result of past transactions.

"Termination" under §280.97(b)(1) and §280.97(b)(2) means only those changes that could result in a gap in coverage as when the insured has not obtained substitute coverage or has obtained substitute coverage with a different retroactive date than the retroactive date of the original policy.

[53 FR 43370, Oct. 26, 1988, as amended at 54 FR 47081, Nov. 9, 1989; 56 FR 9050, Feb. 18, 1993]

280.93 Amount and scope of required financial responsibility

(a) Owners or operators of petroleum underground storage tanks must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum underground storage tanks in at least the following per-occurrence amounts:

(1) For owners or operators of petroleum underground storage tanks that are located at petroleum marketing facilities, or that handle an average of more than 10,000 gallons of petroleum per month based on annual throughput for the previous calendar year, \$1 million.

(2) For all other owners or operators of petroleum underground storage tanks; \$50,000.

(b) Owners or operators of petroleum

(1) For owners or operators of 1 to 100 petroleum underground storage tanks, \$1 million; and

(2) For owners or operators of 101 or more petroleum underground storage tanks, \$2 million.

(c) For the purposes of paragraphs (b) and (c) of this section, only, a petroleum underground storage tank means a single underground storage tank means a single

combination of single containment units. (d) Except as provided in paragraph (e) of this section, if the owner or operator uses separate mechanisms or separate combinations of mechanisms to demonstrate financial responsibility for:

(1) Taking corrective action; (2) Compensating third parties for bodily injury and property damage caused by sudden accidental releases; or

(3) Compensating third parties for bodily injury and property damage caused by nonsudden accidental releases, the amount of assurance provided by each mechanism or combination of mechanisms must be in the full amount specified in paragraphs (a) and (b) of this section.

(e) If an owner or operator uses separate mechanisms or separate combinations of mechanisms to demonstrate financial responsibility for different petroleum underground storage tanks, the annual aggregate required shall be based on the number of tanks covered by each such separate mechanism or combination of mechanisms.

(f) Owners or operators shall review the amount of aggregate assurance provided whenever additional petroleum underground storage tanks are acquired or installed. If the number of petroleum underground storage tanks for which assurance must be provided exceeds 100, the owner or operator shall demonstrate financial responsibility in the amount of at least \$2 million of annual aggregate assurance by the anniversary of the date on which the mechanism demonstrating financial responsibility became effective. If assurance is being demonstrated by a combination of mechanisms, the owner or operator shall demonstrate financial responsibility in the amount of at least \$2 million of annual aggregate assurance by the following annual aggregate amounts:

one of the mechanisms combined (other than a financial test or guarantee) to provide assurance. (g) The amounts of assurance required under this section exclude legal defense costs. (h) The required per-occurrence and annual aggregate coverage amounts do not in any way limit the liability of the owner or operator.

[53 FR 43370, Oct. 26, 1988]

280.94 Allowable mechanisms and combinations of mechanisms.

(a) Subject to the limitations of paragraphs (b) and (c) of this section,

(1) An owner or operator, including a local government owner or operator, may use any one or combination of the mechanisms listed in Secs. 280.93 through 280.103 to demonstrate financial responsibility under this subpart for one or more underground storage tanks, and

(2) A local government owner or operator may use any one or combination of the mechanisms listed in §280.104 through 280.107 to demonstrate financial responsibility under this subpart for one or more underground storage tanks.

(b) An owner or operator may use a guarantee under Sec. 280.96 or a surety bond under Sec. 280.98 to establish financial responsibility only if the Attorney(s) General of the state(s) in which the underground storage tanks are located has (have) submitted a written statement to the implementing agency that a guarantee or surety bond executed as described in this section is a legally valid and enforceable obligation in that state.

(c) An owner or operator may use self-insurance in combination with a guarantee only if, for the purpose of meeting the requirements of the financial test under this rule, the financial statements of the owner or operator are not consolidated with the financial statements of the guarantor.

[53 FR 43370, Oct. 26, 1988, as amended at 58 FR 9051, Feb. 18, 1993]

280.95 Financial test of self-insurance.

(a) An owner or operator, and/or guarantor, may satisfy the requirements of 280.93 by

Passing a financial test as specified in this section. To pass the financial test of self-insurance, the owner or operator, and/or guarantor must meet the criteria of paragraph (b) or (c) of this section based on year-end financial statements for the latest completed fiscal year.

(b)(1) The owner or operator, and/or guarantor, must have a tangible net worth of at least ten times:

(i) The total of the applicable aggregate amount required by 280.93, based on the number of underground storage tanks for which a financial test is used to demonstrate financial responsibility to EPA under this section or to a state implementing agency under a state program approved by EPA under 40 CFR Part 281;

(ii) The sum of the corrective action cost estimates, the current closure and post-closure care cost estimates, and amount of liability coverage for which a financial test is used to demonstrate financial responsibility to EPA under 40 CFR 264.101, 264.143, 264.145, 265.143, 165.145, 264.147, and 265.147 or to a state implementing agency under a state program authorized by EPA under 40 CFR Part 271; and

(iii) The sum of current plugging and abandonment cost estimates for which a financial test is used to demonstrate financial responsibility to EPA under 40 CFR 144.63 or to a state implementing agency under a state program authorized by EPA under 40 CFR Part 145.

(2) The owner or operator, and/or guarantor, must have a tangible net worth of at least \$10 million.

(3) The owner or operator, and/or guarantor, must have a letter signed by the chief financial officer worded as specified in paragraph (d) of this section.

(4) The owner or operator, and/or guarantor, must either:

(i) File financial statements annually with the U.S. Securities and Exchange Commission, the Energy Information Administration, or the Rural Electrification Administration; or
(ii) Report annually the firm's tangible net worth to Dun and Bradstreet, and Dun and Bradstreet must have assigned the firm a financial strength rating of 4A or 5A.

(5) The firm's year-end financial statements, if independently audited, cannot include an adverse auditor's opinion, a disclaimer of opinion, or a going concern qualification.

(c)(1) The owner or operator, and/or guarantor must meet the financial test requirements in Sec. 280.93 (b)(1) and (b)(2) for the amount of liability coverage each time specified in that section.

(2) The fiscal year-end financial statements of the owner or operator, and/or guarantor, must be examined by an independent certified public accountant and be accompanied by the accountant's report of the examination.

(3) The firm's year-end financial statements cannot include an adverse auditor's opinion, a disclaimer of opinion, or a going concern qualification.

(4) The owner or operator, and/or guarantor, must have letter signed by the chief financial officer, worded as specified in paragraph (d) of this section.

(5) If the financial statements of the owner or operator, and/or guarantor, are not submitted annually to the U.S. Securities and Exchange Commission, the Energy Information Administration or the Rural Electrification Administration, the owner or operator, and/or guarantor, must obtain a special report by an independent certified public accountant stating that:

(i) He has compared the data that the letter from the chief financial officer specifies as having been derived from the latest year-end financial statements of the owner or operator, and/or guarantor, with the amounts in such financial statements; and

(ii) In connection with that comparison, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) To demonstrate that it meets the financial test under paragraph (b) or (c) of this section, the chief financial officer of the owner or operator, and/or guarantor, must sign, within 120 days of the close of each financial reporting year, as defined by the twelve-month period for which financial statements used to support the financial test are prepared, letter worded exactly as follows, except that the instructions

in brackets are to be replaced by the relevant information and the brackets deleted:

Letter from Chief Financial Officer

I am the chief financial officer of [insert: name and address of the owner or operator, and/or guarantor]. This letter is in support of the use of [insert: the financial test of self-insurance, and/or guarantee] to demonstrate financial responsibility for [insert: taking corrective action and/or compensating third parties for bodily injury and property damage] caused by [insert: sudden accidental releases and/or nonudden accidental releases] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating [an] underground storage tank(s).

Underground storage tanks at the following facilities are assured by this financial test or a financial test under an authorized State program by this [insert: owner or operator, and/or guarantor]. [List for each facility: the name and address of the facility where tanks assured by this financial test are located, and whether tanks are assured by this financial test or a financial test under a State program approved under 40 CFR Part 281. If separate mechanisms or combinations of mechanisms are being used to assure any of the tanks at this facility, list each tank assured by this financial test or a financial test under a State program authorized under 40 CFR Part 281 by the tank identification number provided in the notification submitted pursuant to 40 CFR 80.22 or the corresponding State requirement.]

A [insert: financial test, and/or guarantee] is also used by this [insert: owner or operator,

or guarantor] to demonstrate evidence of financial responsibility in the following amounts under other EPA regulations or state programs authorized by EPA under 40 CFR Parts 271 and 145:

EPA Regulations	Amount
Closure (264.143 and 265.143).....	\$ _____
Post-Closure Care (264.145 and 265.145).....	\$ _____
Liability Coverage (264.147 and 265.147).....	\$ _____
Corrective Action [264.101(b)].....	\$ _____
Plugging and Abandonment (144.63).....	\$ _____
Closure.....	\$ _____
Post-Closure Care.....	\$ _____
Liability Coverage.....	\$ _____
Corrective Action.....	\$ _____
Plugging and Abandonment.....	\$ _____
Total.....	\$ _____

This [insert: owner or operator, or guarantor] has not received an adverse opinion, a disclaimer of opinion, or a going concern qualification from an independent auditor on his financial statements for the latest completed fiscal year.

[Fill in the information for Alternative I if the criteria of paragraph (b) of 280.95 are being used to demonstrate compliance with the financial test requirements. Fill in the information for Alternative II if the criteria of paragraph (c) of 280.95 are being used to demonstrate compliance with the financial test requirements.]

Alternative I

- Amount of annual UST aggregate coverage being assured by a financial test, and/or guarantee. \$ _____
- Amount of corrective action, closure and post-closure care costs, liability coverage, and plugging and abandonment costs covered by a financial test, and/or guarantee. \$ _____
- Sum of lines 1 and 2. \$ _____
- Total tangible assets. \$ _____
- Total liabilities [if reported on line 3 is included in total liabilities, you may deduct that amount from this line and add that amount to line 6.] \$ _____
- Tangible net worth [subtract line 3 from line 4] \$ _____
- Is line 6 at least \$10 million? **Yes** **No**
- Is line 6 at least 10 times line 3? **Yes** **No**
- Have financial statements for the latest fiscal year been filed with the Securities and Exchange Commission? **Yes** **No**
- Have financial statements for the latest fiscal year been filed with the Energy Information Administration? **Yes** **No**
- Have financial statements for the latest fiscal year been filed with the Rural Electrification Administration? **Yes** **No**
- Has financial information been provided to Dun and Bradstreet, and has Dun and Bradstreet provided a financial strength rating of 4A or 5A? [Answer "Yes" only if both criteria have been met.] **Yes** **No**

Alternative II

- Amount of annual UST aggregate coverage being assured by a test, and/or guarantee. \$ _____
- Amount of corrective action, closure and post-closure care costs, liability coverage, and plugging and abandonment costs covered by a financial test, and/or guarantee. \$ _____
- Sum of lines 1 and 2. \$ _____
- Total tangible assets. \$ _____
- Total liabilities [if any of the amount reported on line 3 is included in total liabilities, you may deduct that amount from this line and add that amount to line 6] \$ _____
- Tangible net worth [subtract line 3 from line 4] **Yes** **No**
- Total assets in the U.S. [required only if less than 90 percent of assets are located in the U.S.] \$ _____
- Is line 6 at least \$10 million? **Yes** **No**
- Is line 6 at least 6 times line 3? **Yes** **No**
- Are at least 90 percent of assets located in the U.S.? [If "No," complete line 11.] **Yes** **No**
- Is line 7 at least 6 times line 3? **Yes** **No**
- [Fill in either lines 12-15 or lines 16-18.] **Yes** **No**
- Current assets. **Yes** **No**
- Current liabilities. **Yes** **No**
- Net working capital [subtract line 13 from line 12]. **Yes** **No**
- Is line 14 at least 6 times line 3? **Yes** **No**
- Current bond rating of most recent bond issue. **Yes** **No**
- Score of rating service. **Yes** **No**
- Date of maturity of bond. **Yes** **No**

19. Have financial statements for the latest fiscal year been filed with the SEC, the Energy Information Administration, or the Rural Electrification Administration? **Yes **No****

[53 FR 43370, Oct 26, 1988]

280.96 Guarantee.

(a) An owner or operator may satisfy the requirements of 280.93 by obtaining a guarantee that conforms to the requirements of this section. The guarantor must be:

(1) A firm that (i) possesses a controlling interest in the owner or operator; (ii) possesses a controlling interest in a firm described under paragraph (a)(1)(i) of this section; or, (iii) is controlled through stock ownership by a common parent firm that possesses a controlling interest in the owner or operator; or, (2) A firm engaged in a substantial business relationship with the owner or operator and issuing the guarantee as an act incident to that business relationship.

(b) Within 120 days of the close of each financial reporting year the guarantor must demonstrate that it meets the financial test criteria of 280.95 based on year-end financial statements for the latest completed financial reporting year by completing the letter from the chief financial officer described in 280.95(d) and must deliver the letter to the owner or operator. If the guarantor fails to meet the requirements of the financial test at the end of any financial reporting year, within 120 days of the end of that financial reporting year the guarantor shall send by certified mail, before cancellation or nonrenewal of the guarantee, notice to the owner or operator. If the Director of the implementing agency notifies the guarantor that he no longer meets the requirements of the financial test of 280.95 (b) or (c) and (d), the guarantor must notify the owner or operator within 10 days of receiving such notification from the Director. In both cases, the guarantee will terminate no less than 120 days after the date the owner or operator receives the notification, as evidenced by the return receipt. The owner or operator must obtain alternative coverage as specified in 280.110(c).

(c) The guarantee must be worded as follows, except that instructions in brackets are

to be replaced with the relevant information and the brackets deleted:

Guarantee

Guarantee made this [date] by [name of guaranteeing entity], a business entity organized under the laws of the state of [name of state]. Herein referred to as guarantor, to [the state implementing agency] and to any and all third parties, and obligees, on behalf of [owner or operator] of [business address].

Recitals.

(1) Guarantor meets or exceeds the financial test criteria of 40 CFR 280.95 (b) or (c) and (d) and agrees to comply with the requirements for guarantees as specified in 40 CFR 280.96(b). (2) [Owner or operator] owns or operates the following underground storage tank(s) covered by this guarantee: [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.] This guarantee satisfies 40 CFR Part 280, Subpart H requirements for assuring funding for [insert: taking corrective action and/or compensating third parties for bodily injury and property damage caused by either sudden accidental releases or non-sudden accidental releases or accidental releases; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the above-identified underground storage tank(s) in the amount of [insert dollar amount] per occurrence and [insert dollar amount] annual aggregate.

(3) [Insert appropriate phrase: On behalf of our subsidiary (if guarantor is corporate parent of the owner or operator); On behalf of our affiliate (if guarantor is a related firm of the owner or operator); or Incident to our business relationship with (if guarantor is providing the guarantee as an incident to a substantial business relationship with owner or operator)] (owner or operator), guarantor guarantees to

[implementing agency] and to any and all third parties that:

In the event that [owner or operator] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the [Director of the implementing agency] has determined or suspects that a release has occurred at an underground storage tank covered by this guarantee, the guarantor, upon instructions from the [Director], shall fund a standby trust fund in accordance with the provisions of 40 CFR 280.108, in an amount not to exceed the coverage limits specified above.

In the event that the [Director] determines that [owner or operator] has failed to perform corrective action for releases arising out of the operation of the above-identified tank(s) in accordance with 40 CFR Part 280, Subpart F, the guarantor upon written instructions from the [Director] shall fund a standby trust in accordance with the provisions of 40 CFR 280.108, in an amount not to exceed the coverage limits specified above.

If [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or non-sudden] accidental releases arising from the operation of the above-identified tank(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor, upon written instructions from the [Director], shall fund a standby trust in accordance with the provisions of 40 CFR 280.108 to satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage specified above.

(4) Guarantor agrees that if, at the end of any fiscal year before cancellation of this guarantee, the guarantor fails to meet the financial test criteria of 40 CFR 280.95 (b) or (c) and (d), guarantor shall send within 120 days of such failure, by certified mail, notice to terminate 120 days from the date of receipt of the notice by [owner or operator], as evidenced by the return receipt.

(5) Guarantor agrees to notify [owner or operator] by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code naming guarantor as

debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [owner or operator] pursuant to 40 CFR Part 280.

(7) Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial responsibility requirements of 40 CFR Part 280, Subpart H for the above-identified tank(s), except that guarantor may cancel this guarantee by sending notice by certified mail to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by [owner or operator], as evidenced by the return receipt.

(8) The guarantor's obligation does not apply to any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, leased to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily damage or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

(9) Guarantor expressly waives notice of acceptance of this guarantee by [the implementing agency], by any or all third parties, or by [owner or operator]. I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR 280.96(c) as such regulations were constituted on the effective date shown immediately below.

Effective date: _____

(1) Endorsement
Name: [name of each covered location]

Address: [address of each covered location]

Policy Number: _____
Period of Coverage: [current policy period]

Name of [Insurer or Risk Retention Group]: _____

[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness or notary:

(d) An owner or operator who uses a guarantee to satisfy the requirements of Sec. 280.93 must establish a standby trust fund when the guarantee is obtained. Under the terms of the guarantee, all amounts paid by the guarantor under the guarantee will be deposited directly into the standby trust fund in accordance with instructions from the Director of the implementing agency under 280.108. This standby trust fund must meet the requirements specified in 280.103.

[53 FR 43370, Oct. 26, 1988]

Insurance and risk retention group coverage.

(a) An owner or operator may satisfy the requirements of 290.93 by obtaining liability insurance that conforms to the requirements of this section from a qualified insurer or risk retention group. Such insurance may be in the form of a separate insurance policy or an endorsement to an existing insurance policy.

(b) Each insurance policy must be amended by an endorsement worded as specified in paragraph (b)(1) of this section, or evidenced by a certificate of insurance worded as specified in paragraph (b)(2) of this section, except that instructions in brackets must be replaced with the relevant information and the brackets deleted:

(1) Endorsement
Name: [name of each covered location]

Address: [address of each covered location]

Policy Number: _____
Period of Coverage: [current policy period]

Name of [Insurer or Risk Retention Group]: _____

Environmental Protection Agency

August 1, 1994
Revision 12

280.97

Address of [Insurer or Risk Retention Group]:	Address: [Address of each covered location]				
Name of Insured:	Policy Number: _____ Endorsement (if applicable): _____ Period of Coverage: [Current policy period]				
Address of Insured:	Name of [Insurer or Risk Retention Group]: _____ Address of [Insurer or Risk Retention Group]: _____				
Endorsement:	<p>1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering the following underground storage tanks:</p> <p>[List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.]</p> <p>for [insert: taking corrective action and/or compensating third parties for bodily injury and property damage caused by either sudden accidental releases or non-sudden accidental releases or accidental releases; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tank(s) identified above.</p> <p>The limits of liability are [insert the dollar amount of the each occurrence and annual aggregate limits of the Insurer's or Group's liability; if the amount of coverage is different for different types of coverage or for different underground storage tanks or locations, indicate the amount of coverage for each type of coverage and/or for each underground storage tank or location], exclusive of legal defense costs. This coverage is provided under [policy number]. The effective date of said policy is [date].</p> <p>2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions inconsistent with subsections (1) through (e) of this Paragraph 2</p>				

Address: [Address of each covered location]	<p>Name of Insured: _____ Address of Insured: _____</p> <p>Certification:</p> <p>1. [Name of Insurer or Risk Retention Group], [the Insurer or Group], as identified above, hereby certifies that it has issued liability insurance covering the following underground storage tank(s): [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.]</p> <p>for [insert: taking corrective action and/or compensating third parties for bodily injury and property damage caused by either sudden accidental releases or non-sudden accidental releases or accidental releases; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tank(s) identified above.</p> <p>The limits of liability are [insert the dollar amount of the each occurrence and annual aggregate limits of the Insurer's or Group's liability; if the amount of coverage is different for different types of coverage or for different underground storage tanks or locations, indicate the amount of coverage for each type of coverage and/or for each underground storage tank or location], exclusive of legal defense costs. This coverage is provided under [policy number]. The effective date of said policy is [date].</p> <p>2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions inconsistent with subsections (1) through (e) of this Paragraph 2</p>				
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coverage and/or for each underground storage tank or location], exclusive of legal defense costs. This coverage is provided under [policy number]. The effective date of said policy is [date].	<p>2. The [Insurer or Group] further certifies the following with respect to the insurance described in Paragraph 1:</p> <p>a. Bankruptcy or insolvency of the insured shall not relieve the [Insurer or Group] of its obligations under the policy to which this certificate applies.</p> <p>b. The [Insurer or Group] is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured for any such payment made by the [Insurer or Group]. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in 40 CFR 280.95-280.102.</p> <p>c. Whenever requested by [a Director of an implementing agency], the [Insurer or Group] agrees to furnish to [the Director] a signed duplicate original of the policy and all endorsements.</p> <p>d. Cancellation or any other termination of the insurance by the [Insurer or Group] will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured.</p> <p>[Insert for claims-made policies:</p> <p>e. The insurance covers claims for any occurrence that commenced during the term of the policy that is discovered and reported to the [Insurer or Group] within six months of the effective date of the cancellation or termination of the policy.]</p> <p>I hereby certify that the wording of this instrument is identical to the wording in 40 CFR 280.97(b)(1) and that the [Insurer or Group] is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states.</p> <p>[Signature of authorized representative of Insurer or Risk Retention Group]</p> <p>[Name of person signing] [Title] _____ of _____</p> <p>Authorized Representative of [Name of Insurer or Risk Retention Group]</p> <p>[Address of Representative]</p>				
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(2) Certificate of Insurance
Name: [name of each covered location]

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer or Risk Retention Group]
[Address of Representative]

amount of the each occurrence and annual aggregate limits of the Insurer's or Group's liability; if the amount of coverage is different for different types of coverage or for different underground storage tanks or locations, indicate the amount of coverage for each type of coverage and/or for each underground storage tank or location], exclusive of legal defense costs. This coverage is provided under [policy number]. The effective date of said policy is [date].

1 hereby certify that the wording of this instrument is identical to the wording in 40 CFR 280.97(b)(2) and that the [Insurer or Group] is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer or Risk Retention Group]
[Address of Representative]

Environmental Protection Agency

August 1, 1994
Revision 12

280.98

(c) Each insurance policy must be issued by an insurer or a risk retention group that, at a minimum, is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

[51 FR 43370, Oct. 26, 1986, as amended at 54 FR 47081, Nov. 9, 1989]

280.98 Surety bond.

(a) An owner or operator may satisfy the requirements of 280.93 by obtaining a surety bond that conforms to the requirements of this section. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in the latest Circular 570 of the U.S. Department of the Treasury. (b) The surety bond must be worded as follows, except that instructions in brackets must be replaced with the relevant information and the brackets deleted:

Performance Bond

Date bond executed: _____

Period of coverage: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert individual, joint venture, partnership, or corporation]

State of incorporation (if applicable): _____

Surety(ies): [name(s) and business address(es)]

Scope of Coverage: [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility. List the coverage guaranteed by the bond; taking corrective action or sudden and nonsudden] accidental releases

and/or compensating third parties for bodily injury and property damage caused by either sudden accidental releases or nonudden accidental releases or accidental releases arising from operating the underground storage tank].

Penal sums of bond:

Per occurrence \$ _____

Annual aggregate \$ _____

Surety's bond number: _____

Know All Persons by These Presents, that we, the Principal and Surety(ies), hereto are firmly bound to [the implementing agency], in the above penal sums for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assignees jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sums jointly and severally only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sums only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sums.

Whereas said Principal is required under Subtitle I of the Resource Conservation and Recovery Act (RCRA), as amended, to provide financial assurance for [insert: taking corrective action and/or compensating third parties for bodily injury and property damage caused by either sudden accidental releases or nonudden accidental releases or accidental releases; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tanks identified above, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance; Now, therefore, the conditions of the obligation are such that if the Principal shall faithfully [take corrective action, in accordance with 40 CFR Part 280, Subpart F and the Director of the state implementing agency's instructions for, and/or compensate injured third parties for bodily injury and property damage caused by either sudden and nonudden or sudden and nonsudden] accidental releases

arising from operating the tank(s) identified above, or if the Principal shall provide alternate financial assurance, as specified in 40 CFR Part 280, Subpart H, within 120 days after the date the notice of cancellation is received by the Principal from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

Such obligation does not apply to any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by [the Director of the implementing agency] that the Principal has failed to [take corrective action, in accordance with 40 CFR Part 280, Subpart F and the Director's instructions, and/or compensate injured third parties] as guaranteed by this bond, the Surety(ies) shall either perform [corrective action in accordance with 40 CFR Part 280 and the Director's instructions, and/or third-party liability compensation] or place funds in an amount up to the annual aggregate penal sum into the standby trust fund as directed by [the Regional Administrator or the Director] under 40 CFR 280.108.

Upon notification by [the Director] that the Principal has failed to provide alternate

financial assurance within 60 days after the date the notice of cancellation is received by the Principal from the Surety(ies) and that [the Director] has determined or suspects that a release has occurred, the Surety(ies) shall place funds in an amount not exceeding the annual aggregate penal sum into the standby trust fund as directed by [the Director] under 40 CFR 280.108.

The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the annual aggregate to the penal sum shown on the face of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum.

The Surety(ies), may cancel the bond by sending notice of cancellation by certified mail to the Principal, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal, as evidenced by the return receipt.

The Principal may terminate this bond by sending written notice to the Surety(ies).

In Witness Thereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above. The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 280.98(q) as such regulations were constituted on the date this bond was executed.

Principal
[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate seal]

Corporate Surety(ies)
[Name and address]
[State of incorporation]: _____
[Liability limit]: _____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

(c) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. In all cases, the surety's liability is limited to the per-occurrence and annual aggregate penal sums.

(d) The owner or operator who uses a surety bond to satisfy the requirements of 280.93 must establish a standby trust fund when the surety bond is acquired. Under the terms of the bond, all amounts paid by the surety under the bond will be deposited directly into the standby trust fund in accordance with instructions from the Director under 280.108. This standby trust fund must meet the requirements specified in 280.103.

[53 FR 43170, Oct. 26, 1988]

280.99 Letter of credit.

(a) An owner or operator may satisfy the requirements of 280.93 by obtaining an irrevocable standby letter of credit that conforms to the requirements of this section. The issuing institution must be an entity that has the authority to issue letters of credit in each state where used and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(b) The letter of credit must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

[Name and address of issuing institution]

[Name and address of Director(s) of state implementing agency(s)]

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of [owner or operator name] of

[Address] up to the aggregate amount of [in words] U.S. dollars (\$[insert dollar amount]), available upon presentation [insert, if more than one Director of a state implementing agency is a beneficiary, by any one of you] of [1] your eight draft, bearing reference to this letter of credit, No. _____, and

(2) your signed statement reading as follows: I certify that the amount of the draft is payable pursuant to regulations issued under authority of Subtitle I of the Resource Conservation and Recovery Act of 1976, as amended.

This letter of credit may be drawn on to cover [insert]: taking corrective action and/or compensating third parties for bodily injury and property damage caused by either sudden accidental releases or nonudden accidental releases or accidental releases arising from operating the underground storage tank(s) identified below in the amount of [in words] \$[insert dollar amount] per occurrence and [in words] \$[insert dollar amount] annual aggregate: [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.]

The letter of credit may not be drawn on to cover any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefit, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(c) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

This letter of credit is effective as of [date] and shall expire on [date], but such expiration date shall be automatically extended for a period of [at least the length of the original term] on [expiration date, and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify [owner or operator] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event that [owner or operator] is so notified, any unused portion of the credit shall be available upon presentation of your eight draft for 120 days after the date of receipt by [owner or operator], as shown on the signed return receipt.

Whether this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner or operator] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 280.99(b) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]

[Date]

This credit is subject to [insert the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce, or the Uniform Commercial Code].

(c) An owner or operator who uses a letter

(d) The letter of credit must be irrevocable with a term specified by the issuing institution. The letter of credit must provide that credit be automatically renewed for the same term as the original term, unless, at least 120 days before the current expiration date, the issuing institution notifies the owner or operator by certified mail of its decision not to renew the letter of credit. Under the terms of the letter of credit, the 120 days will begin on the date when the owner or operator receives the notice, as evidenced by the return receipt.

[53 FR 43170, Oct. 26, 1988]

280.100 Use of state-required mechanism.

(a) For underground storage tanks located in a state that does not have an approved program, and where the state requires owners or operators of underground storage tanks to demonstrate financial responsibility for taking corrective action and/or for compensating third parties for bodily injury and property damage, an owner or operator may use a state-required financial mechanism to meet the requirements of 280.93 if the Regional Administrator determines that the state mechanism is at least equivalent to the financial mechanisms specified in this subpart.

(b) The Regional Administrator will evaluate the equivalence of a state-required mechanism principally in terms of: certainty of the availability of funds for taking corrective action and/or for compensating third parties; the amount of funds that will be made available; and the types of costs covered. The Regional Administrator may also consider other factors as is necessary.

(c) The state, an owner or operator, or any other interested party may submit to the Regional Administrator a written petition requesting that one or more of the state-required mechanisms be considered acceptable for meeting the requirements of 280.93. The submission must include copies of the appropriate state statutory and regulatory requirements and must show the amount of funds for corrective action and/or for compensating third parties assured by the mechanism(s). The Regional Administrator may require the petitioner to submit additional

Environmental Protection Agency

280.103

information as is deemed necessary to make this determination.

(d) Any petition under this section may be submitted on behalf of all of the state's underground storage tank owners and operators.

(e) The Regional Administrator will notify the petitioner of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this subpart. Pending this determination, the owner and operators using such mechanisms will be deemed to be in compliance with the requirements of 280.93 for underground storage tanks located in the state for the amounts and types of costs covered by such mechanisms.

[53 FR 43370, Oct. 26, 1988, as amended at 53 FR 51274, Dec. 21, 1988]

280.101 State fund or other state assurance.

(a) An owner or operator may satisfy the requirements of 280.93 for underground storage tanks located in a state, where EPA is administering the requirements of this subpart, which assures that monies will be available from a state fund or state assurance program to cover costs up to the limits specified in 280.93 or otherwise assures that such costs will be paid if the Regional Administrator determines that the state's assurance is at least equivalent to the financial mechanisms specified in this subpart.

(b) The Regional Administrator will evaluate the equivalency of a state fund or other state assurance principally in terms of: Certainty of the availability of funds for taking corrective action and/or for compensating third parties; the amount of funds that will be made available; and the types of costs covered. The Regional Administrator may also consider other factors as is necessary.

(c) The state must submit to the Regional Administrator a description of the state fund or other state assurance to be supplied as financial assurance, along with a list of the classes of underground storage tanks to which the funds may be applied. The Regional Administrator may require the state to submit additional information as is deemed necessary to make a determination regarding the acceptability of the state fund or other state assurance. Pending the determination by the Regional Administrator,

to the Director of the implementing agency for release of the excess.

(e) If other financial assurance as specified in this subpart is substituted for all or part of the trust fund, the owner or operator may submit a written request to the Director of the implementing agency for release of the excess.

(f) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (d) or (e) of this section, the Director of the implementing agency will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

[53 FR 43370, Oct. 26, 1988]

280.103 Standby trust fund.

(a) An owner or operator using any one of the mechanisms authorized by 280.96, 280.98, or 280.99 must establish a standby trust fund when the mechanism is acquired. The trustee of the standby trust fund must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal agency or an agency of the state in which the fund is established.

(b)(1) The standby trust agreement, or trust agreement, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

(b)(2) The trustee must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal agency or an agency of the state in which the fund is established.

280.102 Trust fund.

(a) An owner or operator may satisfy the requirements of 280.93 by establishing a trust fund that conforms to the requirements of this section. The trustee must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal agency or an agency of the state in which the fund is established.

(b) The wording of the trust agreement must be identical to the wording specified in 280.103(b)(1), and must be accompanied by a formal certification of acknowledgement as specified in 280.103(b)(2).

(c) The trust fund, when established, must be funded for the full required amount of coverage, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining required coverage.

(d) If the value of the trust fund is greater than the required amount of coverage, the owner or operator may submit a written request

accidental releases arising from the operation of the underground storage tank. The attached Schedule A lists the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located that are covered by the standby trust agreement.

[Whereas, the Grantor has elected to establish [insert either a guarantee, surety bond, or letter of credit] to provide all or part of such financial assurance for the underground storage tanks identified herein and is required to establish a standby trust fund able to accept payments from the instrument [This paragraph is only applicable to the standby trust agreement.];

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee; Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions

As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor or Trustee.

Section 2. Identification of the Financial Assurance Mechanism.

This Agreement pertains to the [Identify the financial assurance mechanism, either a guarantee, surety bond, or letter of credit, from which the standby trust fund is established to receive payments (This paragraph is only applicable to the standby trust agreement.)].

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, the Fund, for the benefit of [implementing agency]. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. [The Fund is established initially as a standby to receive payments and shall not consist of any property.] Payments made by the provider of financial assurance pursuant to [the Director of the implementing agency's] instruction are transferred to the Trustee and are referred to as

the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor such amounts as [the Director] specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund

Payments made to the Trustee for the Fund shall consist of cash and securities acceptable to the Trustee.

Section 6. Trustee Management

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiaries and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the tanks, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80e-2(a), shall not be acquired or held, unless they are securities or other

obligations of the federal or a state government; (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrainment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

other persons as specified by [the Director], from the Fund for corrective action expenditures and/or third-party liability claims in such amounts as [the Director] shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as [the Director] specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 4. Payment for / Corrective Action and/or Third-Party Liability Claims?

The Trustee shall make payments from the Fund as [the Director of the implementing agency] shall direct, in writing, to provide for the payment of the costs of [insert: taking corrective action and/or compensating third parties for bodily injury and property damage caused by] "either sudden accidental releases or releases] arising from operating the tanks covered by the financial assurance mechanism identified in this Agreement.

The Fund may not be drawn upon to cover any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrainment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

Section 7. Commingling and Investment

The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therewith; and (b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued

Section 9. Taxes and Expenses

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Advice of Counsel

The Trustee may, from time to time consult with counsel, who may be counsel to the Grantor, with respect to any questions arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. Trustee Compensation

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. Successor Trustee

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall

resign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor or trustee shall specify the date on which it assumes administration of the trust in writing sent to the Grantor and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. Instructions to the Trustee.

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing. Signed by such persons as are designated in the attached Schedule B or such other designees as the Grantor may designate by amendment to Schedule B. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by [the Director of the implementing agency] to the Trustee shall be in writing, signed by [the Director], and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or [the director] hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or [the Director], except as provided for herein.

Section 14. Amendment of Agreement

This Agreement may be amended by an instrument in writing executed by the Grantor and the Trustee, or by the Trustee and [the Director of the implementing agency] if the Grantor ceases to exist.

Section 15. Irrevocability and Termination

Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue

until terminated at the written direction of the Grantor and the Trustee, or by the Trustee and [the Director of the implementing agency], if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 16. Immunity and Indemnification

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any direction by the Grantor or [the Director of the implementing agency] issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. Choice of Law
This Agreement shall be administered, construed, and enforced according to the laws of the state of [insert name of state], or the Comptroller of the Currency in the case of National Association banks.

Section 18. Interpretation

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals (if applicable) to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording specified in 40 CFR 280.103(b)(1) as such regulations were constituted on the date written above.

[Signature of Grantor]
[Name of the Grantor]
[Title]
Attest:

[Signature of Trustee]
[Name of the Trustee]
[Title]
[Seal]
[Signature of Witness]
[Name of the Witness]
[Title]
[Seal]

(2) The standby trust agreement, or trust agreement, must be accompanied by a formal certification of acknowledgement similar to the following. State requirements may differ on the proper content of this acknowledgement.

State of _____
County of _____
On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]
[Name of Notary Public]
(c) The Director of the implementing agency will instruct the trustee to refund the balance of the standby trust fund to the provider of financial assurance if the Director determines that no additional corrective action costs or third-party liability claims will occur as a result of a release covered by the financial assurance mechanism for which the standby trust fund was established.

(d) An owner or operator may establish one trust fund as the liability mechanism for all funds assured in compliance with this rule. [53 FR 43170, Oct. 26, 1988, as amended at 53 FR 51124, Dec. 21, 1988]

280.104 Local government bond rating test.

(a) A general purpose local government owner or operator and/or local government serving as a guarantor may satisfy the requirements of § 280.93 by having a currently outstanding issue or issues of general obligation

bonds of \$1 million or more, excluding refunded obligations, with a Moody's rating of Aaa, Aa, A, or Baa, or a Standard & Poor's rating of AAA, AA, A, or BBB. Where a local government has multiple outstanding issues, or where a local government's bonds are rated by both Moody's and Standard and Poor's, the lowest rating must be used to determine eligibility. Bonds that are backed by credit enhancement other than municipal bond insurance may not be considered in determining the amount of applicable bonds outstanding.

(b) A local government owner or operator or local government serving as a guarantor that is not a general purpose local government and does not have the legal authority to issue General obligation bonds may satisfy the requirements of § 280.93 by having a currently outstanding issue or issues of revenue bonds of \$1 million or more, excluding refunded issues and by also having a Moody's rating of Aaa, A, Aa, or Baa, or a Standard & Poor's rating of AAA, AA, A, or BBB as the lowest rating for any rated revenue bond issued by the local government. Where bonds are rated by both Moody's and Standard & Poor's, the lower rating for each bond must be used to determine eligibility. Bonds that are backed by credit enhancement may not be considered in determining the amount of applicable bonds outstanding.

(c) The local government owner or operator and/or guarantor must maintain a copy of its bond rating published within the last 12 months by Moody's or Standard & Poor's.

(d) To demonstrate that it meets the local government bond rating test, the chief financial officer of a general purpose local government owner or operator and/or guarantor must sign a letter worded exactly as follows, except that the instructions in brackets are to be replaced by the relevant information and the brackets deleted:

Letter from Chief Financial Officer
I am the chief financial officer of [insert: name and address of local government owner or operator, or guarantor]. This letter is in support of the use of the bond rating test to demonstrate financial responsibility for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage"]

caused by [insert: "sudden accidental releases" and/or "nonsudden accidental releases"] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

Underground storage tanks at the following facilities are assured by this bond rating test: [List for each facility: the name and address of the facility where tanks are assured by the bond rating test].

The details of the issue date, maturity, outstanding amount, bond rating, and bond rating agency of all outstanding bond issues that are being used by [name of local government owner or operator, or guarantor] to demonstrate financial responsibility are as follows: [complete table]

Issue date	Maturity date	Outstanding amount	Bond rating	Rating agency	[Moody's or Standard & Poor's]

Issue date	Maturity date	Outstanding amount	Bond rating	Rating agency	[Moody's or Standard & Poor's]

The total outstanding obligation of [insert amount], excluding refunded bond issues, exceeds the minimum amount of \$1 million. All outstanding general obligation bonds issued by this government that have been rated by Moody's or Standard & Poor's are rated as at least investment grade (Moody's Baa or Standard & Poor's BBB) based on the most recent ratings published within the last 12 months. The revenue bonds listed are not backed by third-party credit enhancement or are insured by a municipal bond insurance company. Neither rating service has provided notification within the last 12 months of downgrading of bond ratings below investment grade or of withdrawal of bond rating other than for repayment of outstanding bond issues.

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR Part 280.104(e) as such regulations were constituted on the date shown immediately below.

[Date] _____
 [Signature] _____
 [Name] _____
 [Title] _____

(f) The Director of the implementing agency may require reports of financial condition at any time from the local government owner or operator, and/or local government guarantor. If the Director finds, on the basis of such reports or other information, that the local government owner or operator, and/or guarantor, no longer meets the local government bond rating test requirements of § 280.104, the local government owner or operator must obtain alternative coverage within 30 days after notification of such a finding.

The details of the issue date, maturity, outstanding amount, bond rating, and bond rating agency of all outstanding revenue bond issues that are being used by [name of local government owner or operator, or guarantor] to demonstrate financial responsibility are as follows: [complete table]

(e) To demonstrate that it meets the local government bond rating test, the chief financial officer of local government owner or operator and/or guarantor other than a general purpose government must sign a letter worded exactly as follows, except that the instructions in brackets are to be replaced by the relevant information and the brackets deleted:

Issue date	Maturity date	Outstanding amount	Bond rating	Rating agency	[Moody's or Standard & Poor's]

The total outstanding obligation of [insert amount], excluding refunded bond issues, exceeds the minimum amount of \$1 million. All outstanding revenue bonds issued by this government that have been rated by Moody's or Standard & Poor's are rated as at least investment grade (Moody's Baa or Standard & Poor's BBB) based on the most recent ratings published within the last 12 months. The revenue bonds listed are not backed by third-party credit enhancement or are insured by a municipal bond insurance company. Neither rating service has provided notification within the last 12 months of downgrading of bond ratings below investment grade or of withdrawal of bond rating other than for repayment of outstanding bond issues.

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR Part 280.104(e) as such regulations were constituted on the date shown immediately below.

[Date] _____
 [Signature] _____
 [Name] _____
 [Title] _____

(i) Total expenditures: Consists of the sum of general fund operating and non-operating expenditures, as shown in the year-end financial statements for the latest completed fiscal year:

(i) Total revenues: Consists of the sum of general fund operating and non-operating revenues including net local taxes, licenses and permits, fines and forfeitures, revenues from use of money and property, charges for services, investment earnings, sales (property, publications, etc.), intergovernmental revenues (restricted and unrestricted), and total revenues from all other governmental funds including enterprise, debt service, capital projects, and special revenues, but excluding revenues to funds held in a trust or agency capacity. For purposes of this test, the calculation of total revenues shall exclude all transfers between funds under the direct control of the local government using the financial test (interfund transfers), liquidation of investments, and issuance of debt.

(ii) Total expenditures: Consists of the sum of general fund operating and non-operating expenditures including public safety, public utilities, transportation, public works, environmental protection, cultural and

recreational, community development, revenue sharing, employee benefits and compensation, office management, planning and zoning, capital projects, interest payments on debt, payments for retirement of debt principal, and total expenditures from all other governmental funds including enterprise, debt service, capital projects, and special revenues. For purposes of this test, the calculation of total expenditures shall exclude all transfers between funds under the direct control of the local government using the financial test (interfund transfers).

(iii) Local revenues: Consists of total revenues (as defined in paragraph (b)(1)(i) of this section) minus the sum of all transfers from other governmental entities, including all monies received from Federal, state, or local government sources.

(iv) Debt service: Consists of the sum of all interest and principal payments on all long-term credit obligations and all interest-bearing short-term credit obligations. Includes interest and principal payments on general obligation bonds, revenue bonds, notes, mortgages, judgments, and interest bearing warrants. Excludes payments on non-interest-bearing short-term obligations, interfund obligations, amounts owed in trust or agency capacity, and advances and contingent loans from other government.

(v) Total funds: Consists of the sum of cash and investment securities from all funds, including general enterprise, debt service, capital projects, and special revenue funds, but excluding employee retirement funds, at the end of the local government's financial reporting year. Includes Federal securities, Federal agency securities, state and local government securities, and other securities such as bonds, notes and mortgages. For purposes of this test, the calculation of total funds shall exclude agency funds, private trust funds, accounts receivable, value of real property, and other non-security assets.

(vi) Population consists of the number of people in the area served by the local government.

(2) The local government's year-end financial statements, if independently audited, cannot include an adverse auditor's opinion or a disclaimer of opinion. The local government cannot have outstanding issues of general

obligation or revenue bonds that are rated as less than investment grade.

(3) The local government owner or operator must have a letter signed by the chief financial officer worded as specified in paragraph (c) of this section.

(c) To demonstrate that it meets the financial test under paragraph (b) of this section, the chief financial officer of the local government owner or operator, must sign, within 120 days of the close of each financial reporting year, as defined by the twelve-month period for which financial statements used to support the financial test are prepared, a letter worded exactly as follows, except that the instructions in brackets are to be replaced by the relevant information and the brackets deleted:

Letter From Chief Financial Officer

I am the chief financial officer of [insert: name and address of the owner or operator]. This letter is in support of the use of the local Government financial test to demonstrate financial responsibility for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage"] caused by [insert: "sudden accidental releases" and/or "non-sudden accidental releases"] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating [un] underground storage tank[s].

Underground storage tanks at the following facilities are assured by this financial test for each facility: the name and address of the facility where tanks assured by this financial test are located. If separate mechanisms or combinations of mechanisms are being used to assure any of the tanks at this facility, list each tank assured by this financial test by the tank identification number provided in the notification submitted pursuant to 40 CFR Part 280.22 or the corresponding state requirements.] This owner or operator has not received an adverse opinion, or a disclaimer of opinion from an independent auditor on its financial statements for the latest completed fiscal year. Any outstanding issues of general obligation or revenue bonds, if rated, have a Moody's rating of AA, AA, A, or Baa or a Standard and Poor's rating of AAA, AA, A, or BBB; if rated by both

firms, the bonds have a Moody's rating of AA, A, or Baa and a Standard and Poor's rating of AAA, AA, A, or BBB.

Worksheet for Municipal Financial Test

Part I: Basic Information

1. Total Revenues

a. Revenues (dollars) _____
Value of revenues excludes liquidation of investments and issuance of debt. Value includes all general fund operating and non-operating revenues, as well as all revenues from all other governmental funds including enterprise, debt service, capital projects, and special revenues, but excluding revenues to funds held in a trust or agency capacity.

b. Subtract interfund transfers (dollars) _____
c. Total Revenues (dollars) _____

2. Total Expenditures

a. Expenditures (dollars) _____
Value consists of the sum of general fund operating and non-operating expenditures including interest payments on debt, payments for retirement of debt principal, and total expenditures from all other governmental funds including enterprise, debt service, capital projects, and special revenues.

b. Subtract interfund transfers (dollars) _____
c. Total Expenditures (dollars) _____

3. Local Revenues

a. Total Revenues (from 1c) _____
b. Subtract total intergovernmental transfers (dollars) _____
c. Local Revenues (dollars) _____

4. Debt Service

a. Interest and fiscal charges (dollars) _____
b. Add debt retirement (dollars) _____
c. Total Debt Service (dollars) _____
5. Total Funds (Dollars) _____
(Sum of amounts held as cash and investment securities from all funds, excluding amounts held for employee retirement funds, agency funds, and trust funds)

6. Population (Persons) _____

Part II: Application of Test

7. Total Revenues to Population
 - a. Total Revenues (from 1c) _____
 - b. Population (from 6) _____
 - c. Divide 7a by 7b _____
 - d. Subtract 417 _____
 - e. Divide by 5,212 _____
 - f. Multiply by 4,095 _____
8. Total Expenses to Population
 - a. Total Expenses (from 2c) _____
 - b. Population (from 6) _____
 - c. Divide 8a by 8b _____
 - d. Subtract 524 _____
 - e. Divide by 5,401 _____
 - f. Multiply by 4,095 _____
9. Local Revenues to Total Revenues
 - a. Local Revenues (from 3c) _____
 - b. Total Revenues (from 1c) _____
 - c. Divide 9a by 9b _____
 - d. Subtract 693 _____
 - e. Divide by 203 _____
 - f. Multiply by 2,840 _____
10. Debt Service to Population
 - a. Debt Service (from 4d) _____
 - b. Population (from 6) _____
 - c. Divide 10a by 10b _____
 - d. Subtract 51 _____
 - e. Divide by 1,038 _____
 - f. Multiply by 1,866 _____
11. Debt Service to Total Revenues
 - a. Debt Service (from 4d) _____
 - b. Total Revenues (from 1c) _____
 - c. Divide 11a by 11b _____
 - d. Subtract 698 _____
 - e. Divide by 259 _____
 - f. Multiply by -3,533 _____
12. Total Revenues to Total Expenses
 - a. Total Revenues (from 1c) _____
 - b. Total Expenses (from 2c) _____
 - c. Divide 12a by 12b _____
 - d. Subtract 910 _____
 - e. Divide by .899 _____
 - f. Multiply by 3,458 _____
13. Funds Balance to Total Revenues
 - a. Total Funds (from 5) _____
 - b. Total Revenues (from 1c) _____
 - c. Divide 13a by 13b _____
 - d. Subtract 891 _____
 - e. Divide by 9,156 _____
 - f. Multiply by 3,270 _____
14. Funds Balance to Total Expenses
 - a. Total Funds (from 5) _____
 - b. Total Expenses (from 2c) _____

c. Divide 14^a by 14bd. Subtract .86^b

e. Divide by 6.409

f. Divide by 3.270

15. Total Funds for Population

a. Total Funds (from 5)

b. Population (from 6)

c. Divide 15a by 15b

d. Subtract 2.70

e. Divide by 4.548

f. Divide by 1.866

16. Add 7f + 8f + 9f + 10f + 11f + 12f + 13f + 14f

+ 15f + 4.937

[58 FR 9054, Feb. 18, 1993]

280.106 Local government guarantees.

(a) A local government owner or operator may satisfy the requirements of § 280.93 by obtaining a guarantee that conforms to the requirements of this section. The guarantor must be either the state in which the local government owner or operator is located or a local government having a "substantial governmental relationship" with the owner and operator and issuing the guarantee as an act incident to that relationship. A local government acting as the guarantor must:

(1) demonstrate that it meets the bond rating test requirements of § 280.104 and deliver a copy of the chief financial officer's letter as contained in § 280.104(c) to the local government owner or operator; or

(2) demonstrate that it meets the worksheet requirements of § 280.105 and deliver a copy of the chief financial officer's letter as contained in § 280.105(c) to the local government owner or operator; or

(3) demonstrate that it meets the local government fund requirements of § 280.107(a), § 280.107(b), or § 280.107(c) and deliver a copy of the chief financial officer's letter as contained in § 280.107 to the local government owner or operator.

(b) If the local government guarantor is unable to demonstrate financial assurance under any of § 280.104, 280.105, 280.107(a), 280.107(b), or 280.107(c), at the end of the financial reporting year, the guarantor shall send by certified mail, before cancellation or non-renewal of the guarantee, notice to the owner or operator. The guarantee will terminate no less than 120 days after the date the owner or operator receives the notification, as evidenced by the return receipt. The owner or operator must obtain alternative coverage as specified in § 280.114(c).

(c) The guarantee agreement must be worded as specified in paragraph (d) or (e) of this section, depending on which of the following alternative guarantee arrangements is selected:

(1) If, in the default or incapacity of the owner or operator, the guarantor guarantees to

fund a standby trust as directed by the Director of the implementing agency, the guarantee shall be worded as specified in paragraph (d) of this section.

(2) If, in the default or incapacity of the owner or operator, the guarantor guarantees to make payments as directed by the Director of the implementing agency for taking corrective action or compensating third parties for bodily injury and property damage, the guarantee shall be worded as specified in paragraph (e) of this section.

(d) If the guarantor is a state, the local government guarantee with standby trust must be worded exactly as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Local Government Guarantee With Standby Trust Made by a State Guarantor made this [date] by [name of state], herein referred to as "guarantor, to [the state implementing agency] and to any and all third parties, and obliges, on behalf of [local government owner or operator].

Recitals

(1) Guarantor is a state.

(2) [Local government owner or operator] owns or operates the following underground storage tank(s) covered by this guarantee:

[List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR Part 280 or the corresponding state requirement, and the name and address of the facility.] This guarantee satisfies 40 CFR Part 280, Subpart H.

Requirements for assuring funding for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by either "accidental releases" or "nonsudden accidental releases"; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the above-identified underground storage tank(s) in the amount of [insert dollar amount] per occurrence and [insert dollar amount] annual aggregate.

(4) Guarantor agrees to notify [owner or operator] by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code naming guarantor as debtor, within 10 days after commencement of the proceeding.

(5) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [owner or operator] pursuant to 40 CFR part 280.

(6) Guarantor agrees to remain bound under this guarantee for so long as [local government

shown on line 16 of the worksheet is greater than zero and that the wording of this letter is identical to the wording specified in 40 CFR Part 280.105(c) as such regulations were constituted on the date shown immediately below.

[Date]

[Signature]

[Name]

[Title]

(c) If a local government owner or operator using the test to provide financial assurance finds that it no longer meets the requirements of the financial test based on the year-end financial statements, the owner or operator must obtain alternative coverage within 150 days of the end of the year for which financial statements have been prepared.

(d) The Director of the implementing agency may require reports of financial condition at any time from the local government owner or operator. If the Director finds, on the basis of such reports or other information, that the local government owner or operator no longer meets the financial test requirements of § 280.105 (b) and (c), the owner or operator must obtain alternate coverage within 30 days after notification of such a finding.

(1) If the local government owner or operator fails to obtain alternate assurance within 150 days of finding that it no longer meets the requirements of the financial test based on the year-end financial statements or within 30 days of notification by the Director of the implementing agency that it no longer meets the requirements of the financial test, the owner or operator must notify the Director of such failure within 10 days.

Environmental Protection Agency

August 1, 1994

Revision 12

280.106

owner or operator] must comply with the applicable financial responsibility requirements of 40 CFR part 280, Subpart H for the above identified tank(s), except that guarantor may cancel this guarantee by sending notice by certified mail to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by [owner or operator], as evidenced by the return receipt.

(7) The guarantor's obligation does not apply to any of the following:

- (a) Any obligation of [local government owner or operator] under a workers' compensation, disability benefit, or unemployment compensation law or other similar law;
- (b) Bodily injury to an employee of [insert: local government owner or operator] arising from, and in the course of, employment by [insert: local government owner or operator];
- (c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, leased to, in the care, custody, or control of, or occupied by [insert: local government owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily damage or property damage for property damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR part 280.93.

(8) Guarantor expressly waives notice of acceptance of this guarantee by [the implementing agency], by any or all third parties, or by [local government owner or operator].

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR part 280.106(d) as such regulations were constituted on the effective date shown immediately below.

Effective date:

[Name of guarantor]

[Authorized signature for guarantor]

[Name of person signing]

[Title of person signing]

Signature of witness or notary:

If the guarantor is a local government, the local government guarantee with standby trust must be worded exactly as follows, except that instructions in brackets are to be replaced with relevant information and the brackets deleted:

Local Government Guarantee With Standby Trust Made by a Local Government

Guarantee made this [date] by [name of guarantee entity], a local government organized under the laws of [name of state], herein referred to as guarantor, to [the state implementing agency] and to any and all third parties, and obliges, on behalf of [local government owner or operator].

Recitals

(1) Guarantor meets or exceeds [select one: the local government bond rating test requirements of 40 CFR Part 280.104, the local government financial test requirements of 40 CFR Part 280.105, or the local government fund under 40 CFR Part 280.107(a), 280.107(b), or 280.107(c)].

(2) [Local government owner or operator] owns or operates the following underground storage tank(s) covered by this guarantee: [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR Part 280 or the corresponding state requirement, and the name and address of the facility.] This guarantee satisfies 40 CFR Part 280, Subpart H requirements for assuring funding for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "non-sudden accidental releases" or "accidental releases"]; if coverage is different for different tanks or location, indicate the type of coverage applicable to each tank or location] arising from operating the above-identified underground storage tank(s) in the amount of [insert dollar amount] per occurrence and [insert: dollar amount] annual aggregate.

(3) Incident to our substantial governmental relationship with [local government owner or

operator], guarantor guarantees to [implementing agency] and to any and all third parties that:

In the event that [local government owner or operator] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the [Director of the implementing agency] has determined or suspects that a release has occurred at an underground storage tank covered by this guarantee, the guarantor, upon instructions from the [Director] shall fund a standby trust fund in accordance with the provisions of 40 CFR Part 280.112, in an amount not to exceed the coverage limits specified above.

In the event that the [Director] determines that [local government owner or operator] has failed to perform corrective action for releases arising out of the operation of the above-identified tank(s) in accordance with 40 CFR Part 280, Subpart F, the guarantor upon written instructions from the [Director] shall fund a standby trust fund in accordance with the provisions of 40 CFR Part 280.112, in an amount not to exceed the coverage limits specified above.

If [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by ["sudden" and/or "non-sudden"] accidental releases arising from the operation of the above-identified tank(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor, upon written instructions from the [Director], shall fund a standby trust in accordance with the provisions of 40 CFR Part 280.112 to satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage specified above.

(4) Guarantor agrees that, if at the end of any fiscal year before cancellation of this guarantee, the guarantor fails to meet or exceed the requirements of the financial responsibility mechanism specified in paragraph (1), guarantor shall send within 120 days of such failure, by certified mail, notice to [local government owner or operator], as evidenced by the return receipt.

(5) Guarantor agrees to notify [owner or operator] by certified mail of a voluntary or

involuntary proceeding under Title 11 (Bankruptcy), U.S. Code naming guarantor as debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [owner or operator] pursuant to 40 CFR Part 280.

(7) Guarantor agrees to remain bound under this guarantee for so long as [local government owner or operator] must comply with the applicable financial responsibility requirements of 40 CFR Part 280, Subpart II for the above identified tank(s), except that guarantor may cancel this guarantee by sending notice by certified mail to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by [owner or operator], as evidenced by the return receipt.

(8) The guarantor's obligation does not apply to any of the following:

- (a) Any obligation of [local government owner or operator] under a workers' compensation, disability benefit, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert: local government owner or operator] arising from, and in the course of, employment by [insert: local government owner or operator];

- (c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, leased to, in the care, custody, or control of, or occupied by [insert: local government owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

- (e) Bodily damage or property damage for property damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR part 280.93.

(8) Guarantor expressly waives notice of acceptance of this guarantee by [the implementing agency], by any or all third parties, or by [local government owner or operator].

(9) Guarantor expressly waives notice of acceptance of this guarantee by [the implementing agency], by any or all third parties, or by [local government owner or operator].

corresponding state requirement, and the name and address of the facility. This guarantee satisfies 40 CFR part 280, subpart H requirements for assuring funding for [insert: "taking corrective action" and/or compensating third parties for bodily injury and property damage caused by] either "sudden accidental releases" or "non-sudden accidental releases" or "accidental releases"; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the above-identified underground storage tank(s) in the amount of [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate.

(3) Incident to our substantial governmental relationship with [local government owner or operator], guarantor guarantees to [implementing agency] and to any and all third parties and obliges that:

In the event that [local government owner or operator] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the [Director of the implementing agency] has determined or suspects that a release has occurred at an underground storage tank covered by this guarantee, the guarantor, upon written instructions from the [Director] shall make funds available to pay for corrective actions and compensate third parties for bodily injury and property damage in an amount not to exceed the coverage limits specified above.

In the event that the [Director] determines that [local government owner or operator] has failed to perform corrective action for releases arising out of the operation of the above-identified tank(s) in accordance with 40 CFR part 280, Subpart F, the guarantor upon written instructions from the [Director] shall make funds available to pay for corrective actions in an amount not to exceed the coverage limits specified above.

If [owner or operator] fails to satisfy a judgement or award based on a determination of liability for bodily injury or property damage to third parties caused by [insert: "sudden" and/or "non-sudden"] accidental releases arising from the operation of the above-identified tank(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor, upon

written instructions from the [Director], shall make funds available to compensate third parties for bodily injury and property damage in an amount not to exceed the coverage limits specified above.

(4) Guarantor agrees that if at the end of any fiscal year before cancellation of this guarantee, the guarantor fails to meet or exceed the requirements of the financial responsibility mechanism specified in paragraph (1), guarantor shall send within 120 days of such failure, by certified mail, notice to [local government owner or operator], as evidenced by the return receipt.

(5) Guarantor agrees to notify [owner or operator] by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code naming guarantor as debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [owner or operator] pursuant to 40 CFR part 280.

(7) Guarantor agrees to remain bound under this guarantee for so long as [local government owner or operator] must comply with the applicable financial responsibility requirements of 40 CFR Part 280, Subpart H for the above identified tank(s), except that guarantor may cancel this guarantee by sending notice by certified mail to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by [owner or operator], as evidenced by the return receipt. If notified of a probable release, the guarantor agrees to remain bound to the terms of this guarantee for all charges arising from the release, up to the coverage limits specified above, notwithstanding the cancellation of the guarantee with respect to future releases.

(8) The guarantor's obligation does not apply to any of the following:

(a) Any obligation of [local government owner or operator] under a workers'

compensation disability benefits, or

unemployment compensation law or other similar law.

(b) Bodily injury to an employee of [insert: local government owner or operator] arising from, and in the course of, employment by [insert: local government owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrainment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaded to, in the care, custody, or control of, or occupied by [insert: local government owner or operator] that is not the direct result of a release from a petroleum underground storage tank.

(e) Bodily damage or property damage for which [insert: owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR Part 280.93.

(9) Guarantor expressly waives notice of acceptance of this guarantee by [the implementing agency], by any or all third parties, or by [local government owner or operator].

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR Part 280.106(e) as such regulations were constituted on the effective date shown immediately below.

Effective date: _____

[Name of guarantor]

[Authorized signature for guarantor]

[Name of person signing]

[Title of person signing]

[Signature of witness or notary]: _____

[38 FR 9034, Feb. 18, 1993]

280.107 Local government fund.

A local government owner or operator may satisfy the requirements of § 280.93 by establishing a dedicated fund account that conforms to the requirements of this section. Except as specified in paragraph (b), a dedicated fund may not be commingled with other funds or otherwise used in normal operations. A dedicated fund will be considered eligible if it meets one of the following requirements:

(a) The fund is dedicated by state constitutional provision, or local government statute, charter, ordinance, or order to pay for taking corrective action and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum underground storage tanks. A payment is made to the fund once every year for seven years until the fund is fully-funded. This seven year period is hereafter referred to as the "pay-in-period." The amount of each payment must be determined by this formula:

$$\frac{TF-CF}{Y}$$

Where TF is the total required financial assurance for the owner or operator, CF is the current amount in the fund, and Y is the number of years remaining in the pay-in-period, and:

(1) The local government owner or operator has available bonding authority, approved through voter referendum (if such approval is necessary prior to the issuance of bonds), for an amount equal to the difference between the

required amount of coverage and the amount held in the dedicated fund. This bonding authority shall be available for taking corrective action and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum underground storage tanks, or (2) The local government owner or operator has a letter signed by the appropriate state attorney general stating that the use of the bonding authority will not increase the local government's debt beyond the legal debt ceiling established by the relevant state laws. The letter must also state that prior voter approval is not necessary before use of the bonding authority.

(d) To demonstrate that it meets the requirements of the local government fund, the chief financial officer of the local government owner or operator and/or guarantor must sign a letter worded exactly as follows, except that the instructions in brackets are to be replaced by the relevant information and the brackets deleted:

Letter from Chief Financial Officer

I am the chief financial officer of [insert] name and address of local government owner or operator, or guarantor. This letter is in support of the use of the local government fund mechanism to demonstrate financial responsibility for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage"] caused by [insert: "sudden accidental releases" and/or "non-sudden accidental releases"] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

Underground storage tanks at the following facilities are assured by this local government fund mechanism: [List for each facility the name and address of the facility where tanks are assured by the local government fund]. [Insert: "The local government fund is funded for the full amount of coverage required under § 280.93, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage." or "The local government fund is funded for ten times the full

amount of coverage required under § 280.93, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage," or "A payment is made to the fund once every year for seven years until the fund is fully-funded and [name of local government owner or operator] has available bonding authority, approved through voter referendum, of an amount equal to the difference between the required amount of coverage and the amount held in the dedicated fund" or "A payment is made to the fund once every year for seven years until the fund is fully-funded and I have attached a letter signed by the State Attorney General stating that (1) the use of the bonding authority will not increase the local government's debt beyond the legal debt ceilings established by the relevant state laws and (2) that prior voter approval is not necessary before use of the bonding authority]. The details of the local government fund are as follows:

Amount in Fund (market value of fund at close of last fiscal year): _____ [If fund balance is incrementally funded as specified in § 280.107(c), insert: Amount added to fund in the most recently completed fiscal year. _____ Number of years remaining in the pay-in period: _____] A copy of the state constitutional provision, or local government statute, charter, ordinance or order dedicating the fund is attached. I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 280.107(d) as such regulations were constituted on the date shown immediately below.

[Date]

[Signature]

[Name]

[Title]

[58 FR 9034, Feb. 18, 1993]

280.108 Substitution of financial assurance mechanisms by owner or operator

(a) An owner or operator may substitute any alternate financial assurance mechanisms as

specified in this subpart, provided that at all times he maintains an effective financial assurance mechanism or combination of mechanisms that satisfies the requirements of 280.93.

(b) After obtaining alternate financial assurance as specified in this subpart, an owner or operator may cancel a financial assurance mechanism by providing notice to the provider of financial assurance. [53 FR 43370, Oct. 26, 1988, as amended at 58 FR 9034, Feb. 18, 1993]

280.109 Cancellation or nonrenewal by a provider of financial assurance.

(a) Except as otherwise provided, a provider of financial assurance may cancel or fail to renew an assurance mechanism by sending a notice of termination by certified mail to the owner or operator.

(1) Termination of a local government guarantee, a guarantee, a surety bond, or a letter of credit may not occur until 120 days after the date on which the owner or operator receives the notice of termination, as evidenced by the return receipt.

(2) Termination of insurance or risk retention coverage, except for non-payment or misrepresentation by the insured, or state-funded assurance may not occur until 60 days after the date on which the owner or operator receives the notice of termination, as evidenced by the return receipt. Termination for non-payment of premium or misrepresentation by the insured may not occur until a minimum of 10 days after the date on which the owner or operator receives the notice of termination, as evidenced by the return receipt.

(b) If a provider of financial responsibility cancels or fails to renew for reasons other than incapacity of the provider as specified in § 280.114, the owner or operator must obtain alternate coverage as specified in this section within 60 days after receipt of the notice of termination. If the owner or operator fails to obtain alternate coverage within 60 days after receipt of the notice of termination, the owner

or operator must notify the Director of the implementing agency of such failure and submit:

- (1) The name and address of the provider of financial assurance;
- (2) The effective date of termination; and
- (3) The evidence of the financial assistance mechanism subject to the termination maintained in accordance with § 280.107(b). [53 FR 43370, Oct. 26, 1988, as amended at 54 FR 47082, Nov. 9, 1989, 58 FR 9034, Feb. 18, 1993]

280.110 Reporting by owner or operator.

(a) An owner or operator must submit the appropriate forms listed in § 280.111(b) documenting current evidence of financial responsibility to the Director of the implementing agency:

- (1) Within 30 days after the owner or operator identifies a release from an underground storage tank required to be reported under § 280.53 or § 280.61;
- (2) If the owner or operator fails to obtain alternate coverage as required by this subpart, within 30 days after the owner or operator receives notice of:
- (i) Commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming a provider of financial assurance as a debtor;
- (ii) Suspension or revocation of the authority of a provider of financial assurance to issue a financial assurance mechanism;
- (iii) Failure of a guarantor to meet the requirements of the financial test;
- (iv) Other incapacity of a provider of financial assurance; or
- (3) As required by § 280.95(g) and § 280.109(b).

(b) An owner or operator must certify compliance with the financial responsibility requirements of this part as specified in the new tank notification form when notifying the appropriate state or local agency of the installation of a new underground storage tank under § 280.22.

(c) The Director of the Implementing Agency may require an owner or operator to submit evidence of financial assurance as described in § 280.111(b) or other information

relevant to compliance with this subpart at any time.

(The information requirements in this section have been approved by the Office of Management and Budget and assigned OMB control number 2050-0066). [53 FR 43370, Oct. 26, 1988, as amended at 58 FR 9056, Feb. 18, 1993]

280.111 Recordkeeping

(a) Owners or operators must maintain evidence of all financial assurance mechanisms used to demonstrate financial responsibility under this subpart for an underground storage tank until released from the requirements of this subpart under § 280.113. An owner or operator must maintain such evidence at the underground storage tank site or the owner's or operator's place of work. Records maintained off-site must be made available upon request of the implementing agency.

(b) An owner or operator must maintain the following types of evidence of financial responsibility:

(1) An owner or operator using a financial mechanism specified in §§ 280.91 through 280.100 or § 280.102 or §§ 280.104 through 280.107 must maintain a copy of the instrument worded as specified.

(2) An owner or operator using a financial test or guarantee, or a local government financial test or a local government financial test supported by the local government financial test must maintain a copy of the chief financial officer's letter based on year-end financial statements for the most recent completed financial reporting year. Such evidence must be on file no later than 120 days after the close of the financial reporting year.

(3) An owner or operator using a guarantee, surety bond, or letter of credit must maintain a copy of the signed standby trust fund agreement and copies of any amendments to the agreement.

(4) A local government owner or operator using a local government guarantee under § 280.105(d) must maintain a copy of the signed standby trust fund agreement and copies of any amendments to the agreement.

(5) A local government owner or operator using the local government bond rating test under § 280.104 must maintain a copy of its

bond rating published within the last twelve months by Moody's or Standard & Poor's.

(6) A local government owner or operator using the local government guarantee under § 280.106, where the guarantor's demonstration of financial responsibility relies on the bond rating test under § 280.104 must maintain a copy of the guarantor's bond rating published within the last twelve months by Moody's or Standard & Poor's.

(7) An owner or operator using an insurance policy or risk retention group coverage must maintain a copy of the signed insurance policy or risk retention group coverage policy, with the endorsement or certificate of insurance and any amendments to the agreements.

(8) An owner or operator covered by a state fund or other state assurance must maintain on file a copy of any evidence of coverage supplied by or required by the state under § 280.101(d).

(9) An owner or operator using a local government fund under § 280.107 must maintain the following documents:

(i) A copy of the state constitutional provision or local government statute, charter, ordinance, or order dedicating the fund, and

(ii) Year-end financial statements for the most recent completed financial reporting year showing the amount in the fund. If the fund is established under § 280.107(a)(3) using incremental funding backed by bonding authority, the financial statements must show the previous year's balance, the amount of funding during the year, and the closing balance in the fund.

(iii) If the fund is established under § 280.107(a)(3) using incremental funding backed by bonding authority, the owner or operator must also maintain documentation of the results of a voter referendum (under § 280.107(a)(3)(i)), or attestation by the State Attorney General as specified under § 280.107(a)(3)(ii).

(10) A local government owner or operator using the local government guarantee supported by the local government fund must maintain a copy of the guarantor's year-end financial statements for the most recent completed financial reporting year showing the amount of the fund.

days after receiving notice of cancellation of the guarantee, surety bond, letter of credit, or, as applicable, other financial assurance mechanism; and

(ii) The Director determines or suspects that a release from an underground storage tank covered by the mechanism has occurred and so notifies the owner or operator or the owner or operator has notified the Director pursuant to subparts E or F of a release from an underground storage tank covered by the mechanism; or

(2) The conditions of paragraph (b)(1) or (b)(2) (i) or (ii) of this section are satisfied. (b) The Director of the implementing agency may draw on a standby trust fund when:

(1) The Director makes a final determination that a release has occurred and immediate or long-term corrective action for the release is needed, and the owner or operator, after appropriate notice and opportunity to comply, has not conducted corrective action as required under 40 CFR part 280, subpart F; or

(2) The Director has received either:

(i) Certification from the owner or operator and the third-party liability claimant(s) and from attorney(s) representing the owner or operator and the third-party liability claimant(s) that a third-party liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim
The undersigned, as principal and as legal representatives of [insert: owner or operator] and [insert: name and address of third-party claimant], hereby certify that the claim of bodily injury [and/or] property damage caused by an accidental release arising from operating [owner's or operator's] underground storage tank should be paid in the amount of \$[_____].

[Signatures]
Owner or Operator
Attorney for Owner or Operator
(Notary)
Date
[Signatures]
Claimant(s)
Attorney(s) for Claimant(s)
(Notary)
Date

(11)(i) An owner or operator using an assurance mechanism specified in §§ 280.95 through 280.107 must maintain an updated copy of a certification of financial responsibility worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Financial Responsibility
[Owner or operator] hereby certifies that it is in compliance with the requirements of subpart H of 40 CFR part 280. The financial assurance mechanism(s) used to demonstrate financial responsibility under subpart H of 40 CFR part 280 is (are) as follows: [For each mechanism, list the type of mechanism, name of issuer, mechanism number (if applicable), amount of coverage, effective period of coverage and whether the mechanism covers "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "non-sudden accidental releases" or "accidental releases."]

[Signature of owner or operator]

[Name of owner or operator]

[Title]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

[Signature of witness or notary]

[Name of witness or notary]

[Date]

(ii) The owner or operator must update this certification whenever the financial assurance mechanism(s) used to demonstrate financial responsibility change(s). (The information requirements in this section have been approved by the Office of Management and Budget and assigned OMB control number 2050-0066.) [53 FR 43370, Oct. 26, 1988, as amended at 58 FR 9059, Feb. 18, 1993]

280.112 Drawing on financial assurance mechanisms.

(a) Except as specified in paragraph (d) of this section, the Director of the implementing agency shall require the guarantor, surety, or institution issuing a letter of credit to place the amount of funds stipulated by the Director, up to the limit of funds provided by the financial assurance mechanism, into the standby trust if:

(1) The owner or operator fails to establish alternate financial assurance within 60

or (ii) A valid final court order establishing a judgment against the owner or operator for bodily injury or property damage caused by an accidental release from an underground storage tank covered by financial assurance under this subpart and the Director determines that the owner or operator has not satisfied the judgment.

(c) If the Director of the implementing agency determines that the amount of corrective action costs and third-party liability claims eligible for payment under paragraph (b) of this section may exceed the balance of the standby trust fund and the obligation of the provider of financial assurance, the first priority for payment shall be corrective action costs necessary to protect human health and the environment. The Director shall pay third-party liability claims in the order in which the Director receives certifications under paragraph (b)(2)(i) of this section, and valid court orders under paragraph (b)(2)(ii) of this section.

(d) A governmental entity acting as a guarantor under § 280.106(e), the local government guarantee without standby trust, shall make payments as directed by the Director under the circumstances described in § 280.112 (a), (b), and (c).

[33 FR 43370, Oct. 26, 1988, as amended at 58 FR 9051, Feb. 18, 1993]

280.113 Release from the requirements.

An owner or operator is no longer required to maintain financial responsibility under this subpart for an underground storage tank after the tank has been properly closed or, if corrective action is required, after corrective action has been completed and the tank has been properly closed as required by 40 CFR Part 280, Subpart Q.

[33 FR 43370, Oct. 26, 1988, as amended at 54 FR 47052, Nov. 2, 1989, 53 FR 9051, Feb. 18, 1993]

280.114 Bankruptcy or other incapacity of owner or operator or provider of financial assurance.

(i) Within 10 days after commencement of a voluntary or involuntary proceeding under

Title 11 (Bankruptcy), U.S. Code, naming an owner or operator as debtor, the owner or operator must notify the Director of the implementing agency by certified mail of such commencement and submit the appropriate forms listed in § 280.111(b) documenting current financial responsibility.

(b) Within 10 days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming a debtor, such guarantor must notify the owner or operator providing financial assurance as debtor by certified mail of such commencement as required under the terms of the guarantee specified in § 280.96.

(c) Within 10 days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming a local government owner or operator as debtor, the local government owner or operator must notify the Director of the implementing agency by certified mail of such commencement and submit the appropriate forms listed in § 280.111(b) documenting current financial responsibility.

(d) Within 10 days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming a guarantor providing a local government financial assurance as debtor, such guarantor must notify the local government owner or operator by certified mail of such commencement as required under the terms of the guarantee specified in § 280.106.

(e) An owner or operator who obtains financial assurance by a mechanism other than the financial test of self-insurance will be deemed to be without the required financial assurance in the event of a bankruptcy or incapacity of its provider of financial assurance, or a suspension or revocation of the authority of the provider of financial assurance to issue a guarantee, insurance policy, risk retention group coverage policy, surety bond, letter of credit, or state-required mechanism. The owner or operator must obtain alternate financial assurance as specified in this subpart within 30 days after receiving notice of such an event. If the owner or operator does not obtain alternate coverage within 30 days after such notification, he must notify the Director of the implementing agency.

(i) Within 30 days after receipt of notification that a state land or other state assurance has become incapable of paying for assured corrective action or third-party compensation costs, the owner or operator must obtain alternate financial assurance.

[33 FR 43370, Oct. 26, 1988, as amended at 58 FR 9051, Feb. 18, 1993]

280.115 Replenishment of guarantees, letters of credit, or surety bonds.

(i) Within 30 days after a standby trust is funded upon the instruction of the Director of the implementing agency with funds drawn from a guarantee, local government guarantee with standby trust, letter of credit, or surety bond, and the amount in the standby trust is reduced below the full amount of coverage required, the owner or operator shall by the anniversary date of the financial mechanism from which the funds were drawn:

(1) Replenish the value of financial assurance to equal the full amount of coverage required, or

(2) Acquire another financial assurance mechanism for the amount by which funds in the standby trust have been reduced.

(b) For purposes of this section, the full amount of coverage required is the amount of coverage to be provided by § 280.93 of this subpart. If a combination of mechanisms was used to provide the assurance funds which were drawn upon, replenishment shall occur by the earliest anniversary date among the mechanisms.

[53 FR 43370, Oct. 26, 1988, as amended at 58 FR 9051, Feb. 18, 1993]

280.116 Suspension of enforcement. [Reserved]

Appendix I—Notification for Underground Storage Tanks (Form)

III. TYPE OF OWNER		
<input type="checkbox"/> Federal Government	<input type="checkbox"/> Commercial	Tribe or Nation:
<input type="checkbox"/> State Government	<input type="checkbox"/> Private	<input type="checkbox"/> Tribe or Nation: Reservation or on other tribal lands, <input type="checkbox"/>
<input type="checkbox"/> Local Government		<input type="checkbox"/> Tribe or Nation: Tanks are owned by native American nation, tribe, or individual, <input type="checkbox"/>
IV. INDIAN LANDS		
Tanks are located on land within an Indian Reservation or on other tribal lands, <input type="checkbox"/>		
Tanks are owned by native American nation, tribe, or individual, <input type="checkbox"/>		
V. TYPE OF FACILITY		
Select the Appropriate Facility Description		
<input type="checkbox"/> Gas Station	<input type="checkbox"/> Railroad	<input type="checkbox"/> Trucking/Transport
<input type="checkbox"/> Petroleum Distributor	<input type="checkbox"/> Federal - Non-Military	<input type="checkbox"/> Utilities
<input type="checkbox"/> Air Trail (Afters)	<input type="checkbox"/> Federal - Military	<input type="checkbox"/> Residential
<input type="checkbox"/> Aircraft Owner	<input type="checkbox"/> Industrial	<input type="checkbox"/> Farm
<input type="checkbox"/> Auto Dealership	<input type="checkbox"/> Contractor	<input type="checkbox"/> Other (Explain) _____
VI. CONTACT PERSON IN CHARGE OF TANKS		
Name	Job Title	Address
Phone Number (Include Area Code)		
VII. FINANCIAL RESPONSIBILITY		
I have met the financial responsibility requirements in accordance with 40 CFR Subpart H <input type="checkbox"/>		
Check All that Apply		
<input type="checkbox"/> Self Insurance	<input type="checkbox"/> Guarantee	<input type="checkbox"/> Surety Funds
<input type="checkbox"/> Commercial Insurance	<input type="checkbox"/> Surety Bond	<input type="checkbox"/> Trust Fund
<input type="checkbox"/> Risk Retention Group	<input type="checkbox"/> Letter of Credit	<input type="checkbox"/> Other Method Allowed Specify _____
VIII. CERTIFICATION (Please and Sign after completing all sections)		
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my knowledge of those facts I declare it to be true, accurate, and complete.		
Name and official title of owner or owner's authorized representative (Print)		
Signature		Date Signed
Paperwork Reduction Act Notice		
EPA estimates public reporting burden for this form to average 30 minutes per response including time for reviewing instructions, gathering and maintaining the data needed and completing and reviewing the form. Send comments regarding this burden estimate to: Office of Information Policy Branch, P.M. 223, U.S. Environmental Protection Agency, 401 M St. SW, Washington D.C. 20460, marked "Attention: Desk Officer for EPA." This form amends the previous notification form as printed in 40 CFR Part 200, Appendix I, Previous editions of this notification form may be used unless superseded.		

Environmental Protection Agency

August 1, 1994
Revision 12

Part 280, Appendix I

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)					
Tank Identification Number	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____
1. Status of Tank (mark only one)	Currently In Use Temporary Out of Use Permanently Out of Use Unknown	Temporary Out of Use Permanently Out of Use Unknown	Temporary Out of Use Permanently Out of Use Unknown	Temporary Out of Use Permanently Out of Use Unknown	Temporary Out of Use Permanently Out of Use Unknown
2. Date of Installation (mm/yy/yy)					
3. Estimated Total Capacity (gallons)					
4. Material of Construction (mark all that apply)	Asphalt Coated or Bare Steel Cathodically Protected Steel Epoxy Coated Steel Composite (Steel with Fiberglass) Fiberglass Reinforced Plastic Lined Interior Double Walled Polyethylene Tank Liner Concrete Excavation Liner Unknown Other, Please specify Other, Please specify	Asphalt Coated or Bare Steel Cathodically Protected Steel Epoxy Coated Steel Composite (Steel with Fiberglass) Fiberglass Reinforced Plastic Lined Interior Double Walled Polyethylene Tank Liner Concrete Excavation Liner Unknown Other, Please specify Other, Please specify	Asphalt Coated or Bare Steel Cathodically Protected Steel Epoxy Coated Steel Composite (Steel with Fiberglass) Fiberglass Reinforced Plastic Lined Interior Double Walled Polyethylene Tank Liner Concrete Excavation Liner Unknown Other, Please specify Other, Please specify	Asphalt Coated or Bare Steel Cathodically Protected Steel Epoxy Coated Steel Composite (Steel with Fiberglass) Fiberglass Reinforced Plastic Lined Interior Double Walled Polyethylene Tank Liner Concrete Excavation Liner Unknown Other, Please specify Other, Please specify	Asphalt Coated or Bare Steel Cathodically Protected Steel Epoxy Coated Steel Composite (Steel with Fiberglass) Fiberglass Reinforced Plastic Lined Interior Double Walled Polyethylene Tank Liner Concrete Excavation Liner Unknown Other, Please specify Other, Please specify
5. Liner (Material) (mark all that apply)	Bare Steel Galvanized Steel Fiberglass Reinforced Plastic Copper Cathodically Protected Double Walled Secondary Containment Unknown Other, Please specify	Bare Steel Galvanized Steel Fiberglass Reinforced Plastic Copper Cathodically Protected Double Walled Secondary Containment Unknown Other, Please specify	Bare Steel Galvanized Steel Fiberglass Reinforced Plastic Copper Cathodically Protected Double Walled Secondary Containment Unknown Other, Please specify	Bare Steel Galvanized Steel Fiberglass Reinforced Plastic Copper Cathodically Protected Double Walled Secondary Containment Unknown Other, Please specify	Bare Steel Galvanized Steel Fiberglass Reinforced Plastic Copper Cathodically Protected Double Walled Secondary Containment Unknown Other, Please specify
6. Pump (Type) (mark all that apply)	Suction no valve at tank Suction valve at tank Pressure Gravity Feed Has pump been replaced?	Suction no valve at tank Suction valve at tank Pressure Gravity Feed Has pump been replaced?	Suction no valve at tank Suction valve at tank Pressure Gravity Feed Has pump been replaced?	Suction no valve at tank Suction valve at tank Pressure Gravity Feed Has pump been replaced?	Suction no valve at tank Suction valve at tank Pressure Gravity Feed Has pump been replaced?

Tank Identification Number	7. Substance Currently or Last Stored In Greatest Quantity by Volume Describe	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____
	Diesel Gasohol Kerosene Heating Oil Used Oil Other, Please specify				
	Hazardous Substance CERCLA name and/or, CAS number				
	Mixture of Substances Please specify				
	X. TANKS OUT OF USE, OR CHANGE IN SERVICE				
	1. Closing of Tank	A. Estimated date last used (mm/dd/yy/yy)	B. Estimated date tank closed (mm/dd/yy/yy)	C. Tank was removed from ground	D. Tank was closed in ground
				E. Tank filled with inert material Describe	F. Change in service
					2. Site Assessment Completed
					Evidence of a tank detected

EPA Form 7330-1 (Rev. 2-92)

Page 3

Page 4

XI. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)									
Tank Identification Number	Tank No. —	Tank No. —	Tank No. —	Tank No. —	Tank No. —	Tank No. —	Tank No. —	Tank No. —	Tank No. —
1. Installation	<input type="checkbox"/>								
A. Installed certified by tank and piping manufacturers	<input type="checkbox"/>								
B. Installed certified or licensed by the implementing agency	<input type="checkbox"/>								
C. Installation inspected by a registered engineer	<input type="checkbox"/>								
D. Installation inspected and approved by implementing agency	<input type="checkbox"/>								
E. Manufacturer's installation checklist has been completed	<input type="checkbox"/>								
F. Another method selected by State agency. Please specify.	<input type="checkbox"/>								
2. Release Detection (Mark as not apply)	<input type="checkbox"/>								
A. Manual leak detection	<input type="checkbox"/>								
B. Tank bypass testing	<input type="checkbox"/>								
C. Inventory controls	<input type="checkbox"/>								
D. Automatic leak detection	<input type="checkbox"/>								
E. Vapor monitoring	<input type="checkbox"/>								
F. Groundwater monitoring	<input type="checkbox"/>								
G. Inventory monitoring double walled tank/piping	<input type="checkbox"/>								
H. Intertank monitoring/secondary containment	<input type="checkbox"/>								
I. Automatic leak detection	<input type="checkbox"/>								
J. Use bypasses testing	<input type="checkbox"/>								
K. Other method selected by implementing agency. Please specify.	<input type="checkbox"/>								
3. Spill and Overfill Protection	<input type="checkbox"/>								
A. Overfill device installed	<input type="checkbox"/>								
B. Spill device installed	<input type="checkbox"/>								

DATE: I certify the information concerning installation that is provided in section XI is true to the best of my belief and knowledge.
Individual: _____ Name: _____ Signature: _____ Date: _____
Position: _____ Company: _____

Appendix II—List of Agencies Designated To Receive Notifications									
Overlook Avenue SW, Washington, DC 20032					Florida (State Form), Florida Department of Environmental Regulation, Solid Waste Section, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399, 904/487-4398				
Alaska (EPA Form), Alaska Department of Environmental Management, Ground Water Section/Water Division, 1751 Congeasman W.L. Dickinson Drive, Montgomery, Alabama 36130, 205/271-7823					Georgia (EPA Form), Georgia Department of Natural Resources, Environmental Protection Division, Underground Storage Tank Program, 3430 Norman Berry Drive, 7th Floor, Hapeville, Georgia 30354, 404/656-7404				
Arizona (EPA Form), Department of Environmental Conservation, Box 0, Juneau, Alaska 99811-1800, 907/463-2653					Quam (State Form), Administrator, Guam Environmental Protection Agency, P.O. Box 2999, Agana, Guam 96910, Overseas Operator (Commercial call 646-8863)				
American Samoa (EPA Form), Executive Secretary, Environmental Quality Commission, Office of the Governor, American Samoa Government, Pago Pago, American Samoa 96799; Attention: USST Notification					Hawaii (EPA Form), Administrator, Hazardous Waste Program, 645 Halekauwila Street, Honolulu, Hawaii 96813, 808/548-2270				
Arkansas (EPA Form), Arkansas Department of Pollution Control and Ecology, P.O. Box 9583, Little Rock, Arkansas 72219, 501/362-7444					Idaho (EPA Form), Underground Storage Tank Coordinator, Water Quality Bureau, Division of Environmental Quality, Idaho Department of Health and Welfare, 430 W. State Street, Boise, Idaho 83720, 208/314-4251				
California (State Form), Executive Director, State Water Resources Control Board, P.O. Box 100, Sacramento, California 95801, 916/445-1533					Illinois (EPA Form), Underground Storage Tank Coordinator, Division of Fire Prevention, Office of State Fire Marshal, 3130 Executive Park Drive, Springfield, Illinois 62703-4599				
Colorado (EPA Form), Section Chief, Colorado Department of Health, Waste Management Division, Underground Tank Program, 4210 East 11th Avenue, Denver, Colorado 80220, 303/320-8333					Indiana (EPA Form), Underground Storage Tank Program, Office of Environmental Response, Indiana Department of Environmental Management, 105 South Meridian Street, Indianapolis, Indiana 46225				
Connecticut (State Form), Hazardous Materials Management Unit, Department of Environmental Protection, State Office Building, 165 Capitol Avenue, Hartford, Connecticut 06106					Iowa (State Form), UST Coordinator, Iowa Department of Natural Resources, Henry A. Wallace Building, 900 East Grand, Des Moines, Iowa 50219, 512/281-8135				
Delaware (State Form), Division of Air and Waste Management, Department of Natural Resources and Environmental Control, P.O. Box 1401, 89 Kings Highway, Dover, Delaware 19903, 302/726-2409					Kansas (EPA Form), Kansas Department of Health and Environment, Forbes Field, Building 740, Topeka, Kansas 66620, 913/296-1594				
District of Columbia (EPA Form), Attention: UST Notification Form, Department of Consumer and Regulatory Affairs, Pesticides and Hazardous Waste Management Branch, Room 114, 5010					Kentucky (State Form), Department of Environmental Protection, Hazardous Waste Branch, Fort Boone Plaza, Building #2, 18 Reilly Road, Frankfort, Kentucky 40601, 502/364-6716				
Louisiana (State Form), Secretary, Louisiana Department of Environmental Quality, P.O.					Louisiana (State Form), Secretary, Louisiana Department of Environmental Quality, P.O.				

Box 44066, Baton Rouge, Louisiana 70804, 5017312-1263	New Jersey (State Form), Underground Storage Tank Coordinator, Department of Environmental Protection, Division of Water Resources (CN-029), Trenton, New Jersey 08625, 609/292-0424	Puerto Rico (EPA Form), Director, Water Quality Control Area, Environmental Quality Board, Commonwealth of Puerto Rico, San Juan, Puerto Rico, 809/725-0717
Maine (State Form), Attention: Underground Tanks Program, Bureau of Oil and Hazardous Material Control, Department of Environmental Protection, State House—Station 17, Augusta, Maine 04333	New Mexico (EPA Form), New Mexico Environmental Improvement Division, Groundwater/Hazardous Waste Bureau, P.O. Box 968, Santa Fe, New Mexico 87504, 501827-2933	Rhode Island (EPA Form), UST Registration, Department of Environmental Management, 83 Park Street, Providence, Rhode Island 02903, 401/277-2234
Massachusetts (EPA Form), UST Registry, Department of Public Safety, 1010 Commonwealth Avenue, Boston, Massachusetts 02215, 617/566-4500	New York (EPA Form), Bulk Storage Section, Division of Water, Department of Environmental Conservation, 50 Wolf Road, Room 326, Albany, New York 12233-0001, 518/457-4351	South Dakota (EPA Form), Office of Water Quality, Department of Water and Natural Resources, Joe Foss Building, Pierre, South Dakota 57301
Michigan (EPA Form), Michigan Department of State Police, Fire Marshal Division, General Office Building, 7150 Harris Drive, Lansing, Michigan 48913	North Carolina (EPA Form), Division of Environmental Management, Ground-Water Operations Branch, Department of Natural Resources and Community Development, P.O. Box 27687, Raleigh, North Carolina 27611, 919/733-3221	Tennessee (EPA Form), Tennessee Department of Health and Environment, Division of Superfund Underground Storage Tank Section, 150 Ninth Avenue, North, Nashville, Tennessee 37219-5404, 615/741-0690
Minnesota (State Form), Underground Storage Tank Program, Division of Solid and Hazardous Wastes, Minnesota Pollution Control Agency, 520 West Lafayette Road, St. Paul, Minnesota 55155	North Dakota (State Form), Division of Hazardous Management and Special Studies, North Dakota Department of Health, Box 5520, Bismarck, North Dakota 58302-5520	Texas (EPA Form), Underground Storage Tank Program, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711
Mississippi (State Form), Department of Natural Resources, Bureau of Pollution Control, Underground Storage Tank Section, P.O. Box 10385, Jackson, Mississippi 39209, 601/961-5171	Northern Marianas Islands (EPA Form), Chief, Division of Environmental Quality, P.O. Box 1304, Commonwealth of Northern Mariana Islands, Saipan, CM 96930, Cable Address: Gov. NMI Saipan, Overseas Operator: 6884	Utah (EPA Form), Division of Environmental Health, P.O. Box 45500, Salt Lake City, Utah 84145-0500
Missouri (EPA Form), UST Coordinator, Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, Missouri 65102, 314/751-7428	Ohio (State Form), State Fire Marshal's Office, Department of Commerce, 8895 E. Main Street, Reynoldsburg, Ohio 43068, State Hotline: 800/282-1927 Oklahoma (EPA Form), Underground Storage Tank Program, Oklahoma Corporation Comm., Jim Thorpe Building, Oklahoma City, Oklahoma 73105	Vermont (State Form), Underground Storage Tank Program, Vermont AEC/Waste Management Division, State Office Building, Montpelier, Vermont 05602, 802/828-3395
Montana (EPA Form), Solid and Hazardous Waste Bureau, Department of Health and Environmental Science, Cogswell Bldg., Room B-201, Helena, Montana 59620	Oregon (State Form), State Fire Marshal's Office, Division, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, Oregon 97204, 503/229-5788	Virginia (EPA Form), Virginia Water Control Board, P.O. Box 11143, Richmond, Virginia 23230-1143, 804/257-6685
Nebraska (EPA Form), Nebraska State Fire Marshal, P.O. Box 94677, Lincoln, Nebraska 68509-4677, 402/471-9465	Pennsylvania (EPA Form), PA Department of Environmental Resources, Bureau of Water Quality Management, Ground Water Unit, 9th Floor Fulton Building, P.O. Box 2063, Harrisburg, Pennsylvania 17120	Virgin Islands (EPA Form), 205Q(D) Coordinator, Division of Natural Resources Management, 14 F Building 111, Waterfront Homes, Christiansted, St. Croix, Virgin Islands 00820
Nevada (EPA Form), Attention: UST Coordinator, Division of Environmental Protection, Department of Conservation and Natural Resources, Capitol Complex 201 S. Fall Street, Carson City, Nevada 89710, 800/592-0900, Ext. 4670, 702/885-4670	West Virginia (EPA Form), Attention: UST Notification, Solid and Hazardous Waste, Ground Water Branch, West Virginia Department of Natural Resources, 1201	Washington (State Form), Underground Storage Tank Notification, Solid and Hazardous Waste Program, Department of Ecology, M/S PV-11, Olympia, Washington 98504-8711, 206/459-6316
New Hampshire (EPA Form), NH Dept. of Environmental Services, Water Supply and Pollution Control Division, Hazen Drive, P.O. Box 95, Concord, New Hampshire 03301, Attention: UST Registration		

APPENDIX D
TDEC CHAPTER 1200-1-15

**RULES
OF
THE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS**

**CHAPTER 1200—1—15
UNDERGROUND STORAGE TANK PROGRAM**

TABLE OF CONTENTS

1200—1—15—.01	Program Scope and Minimum Requirements for Tanks	1200—1—15—.07	Out-of-Service UST Systems and Closure
1200—1—15—.02	UST Systems: Design, Construction, Installation and Notification	1200—1—15—.08	Financial Responsibility
1200—1—15—.03	General Operating Requirements	1200—1—15—.09	Administrative Guidelines and Procedures for the Tennessee Petroleum Underground Storage Tank Fund
1200—1—15—.04	Release Detection	1200—1—15—.10	Fee Collection and Certificate Issuance Regulations
1200—1—15—.05	Release Reporting, Investigation, and Confirmation	1200—1—15—.11	Underground Storage Tank Program
1200—1—15—.06	Release Response and Corrective Action for UST Systems Containing Petroleum		

1200—1—15—.01 PROGRAM SCOPE AND MINIMUM REQUIREMENTS FOR TANKS.

(1) **Applicability.**

(a) The requirements of this chapter apply to all owners and operators of an UST system as defined in rule 1200—1—15—.01(3) except as otherwise provided in subparagraph (b) and (c) of rule 1200—1—15—.01(1).

Any new UST systems listed in subparagraph (b) of rule 1200—1—15—.01(1) must meet the requirements of rule 1200—1—15—.01(2).

(b) **Deferrals.** Rules 1200—1—15—.02 through 1200—1—15—.05 and 1200—1—15—.07 through 1200—1—15—.11 do not apply to any of the following types of UST systems:

1. Wastewater treatment tank systems;
2. Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 USC 2011 and following);
3. Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50 Appendix A;
4. Airport hydrant fuel distribution systems; and
5. UST systems with field-constructed tanks.
6. Equipment or machinery that contains petroleum for operational purposes such as hydraulic lift tanks and electrical equipment tanks.
7. Any UST system whose capacity is 110 gallons or less.
8. Any UST system that contains a de minimis concentration of petroleum.
9. Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

(c) **Deferrals.** Rule 1200—1—15—.04 does not apply to any UST system that stores fuel solely for use by emergency power generators.

(2) **Minimum Requirements for Tanks.**

(a) No person may install an UST system for the purpose of storing petroleum unless the UST system (whether

(Rule 1200—1—15—01, continued)

1. Will prevent releases due to corrosion or structural failure for the operational life of the UST system.
2. Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any petroleum; and
3. Is constructed or lined with material that is compatible with the petroleum.

(b) Notwithstanding subparagraph (a) of this paragraph, an UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this subparagraph for the remaining life of the tank.

[Note: The National Association of Corrosion Engineers Standard RP—02—85 (March 1985) *Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems*, may be referred to for additional information.]

(3) Definitions.

- (a) "Aboveground release" means any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the above-ground portion of an UST system and aboveground releases associated with overfills and transfer operations as the petroleum moves to or from an UST system.
- (b) "Ancillary equipment" means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of petroleum to and from an UST.
- (c) "Asymptotic level" means a graphical representation of the level of contaminant remaining in soil and/or ground water, where the y-axis of the graph indicates contaminant level and the x-axis represents length of treatment. Samples of the soil and/or ground water shall be taken quarterly. After the slope of the graph approximates the slope of the x-axis, using the data from four consecutive quarters, an asymptotic level of treatment would have been reached; provided that the contaminant treatment system has been properly designed and operated.
- (d) "Bedrock" means any rock, solid and continuous, which is exposed at the surface of the earth or overlain by unconsolidated material.
- (e) "Belowground release" means any release to the subsurface of the land or to ground water. This includes, but is not limited to, releases from the belowground portions of an underground storage tank system and belowground releases associated with overfills and transfer operations as the petroleum moves to or from an underground storage tank.
- (f) "Beneath the surface of the ground" means beneath the ground surface or otherwise covered with earthen materials.
- (g) "Cathodic protection" is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current.

(Rule 1200—1—15—01, continued)

(h) "Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

(i) "CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

(j) "Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

(k) "Connected piping" means all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which petroleum flows. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

(l) "Consumption" with respect to heating oil means consumed on the premises where stored.

(m) "Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must submit documentation for review by the Division that they have accreditation or certification as a corrosion specialist or senior corrosion technologist by the National Association of Corrosion Engineers or have education and a minimum of 4 years responsible charge work experience in the corrosion field. If it is determined by the Division that a person has sufficient experience and education to be qualified to take responsible charge in corrosion control of buried or submerged metal piping systems and metal tanks, then that person shall be classified by the Division as a Corrosion Expert for the purposes of this rule.

(n) "Dielectric material" means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system (e.g., tank from piping).

(o) "Division" means the Division designated by the Commissioner of the Department of Environment and Conservation as the agency to implement the Underground Storage Tank Program in Tennessee.

(p) "Drinking water supply" means any aquifer or water source whose chemical characteristics meet the primary and secondary drinking water standards as defined under rule 1200—5—1 and provides a yield of at least one-half gallon per minute. This shall also include any water supply used for drinking by the citizens of the state.

(q) "Electrical equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

(r) "Excavation zone" means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

(s) "Existing tank system" means a tank system used to contain an accumulation of petroleum or for which installation had commenced on or before December 22, 1988. Installation is considered to have commenced if:

UNDERGROUND STORAGE TANK PROGRAM

(Rule 1200—1—15—01, continued)

CHAPTER 1200—1—15

1. the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,

2. (i) either a continuous on-site physical construction or installation program has begun; or,

(ii) the owner or operator has entered into contractual obligations (which cannot be cancelled or modified without substantial loss) for physical construction at the site or installation of the tank system to be completed within a reasonable time.

(t) "Farm tank" is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. "Farm" includes fish hatcheries, rangeland and nurseries with growing operations.

(u) "Flow-through process tank" means a tank whose principle use is not for storage but is primarily used in the manufacture of a product or in a treatment process. Flow-through process tanks form an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

(v) "Free product" refers to petroleum that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water.)

(w) "Gathering lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

(x) "Ground water" means water below the land surface in a zone of saturation.

(y) "Heating oil" means petroleum that is No. 1, No. 2, No. 4—light, No. 4—heavy, No. 5—light, No. 5—heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

(z) "Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

(aa) "Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

(bb) "Maintenance" means the normal operational upkeep to prevent an underground storage tank system from releasing petroleum.

(cc) "Motor fuel" means petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.

(dd) "New tank system" means a tank system that will be used to contain an accumulation of petroleum and for which installation has commenced after December 22, 1988. (See also "Existing Tank System".)

(ee) "Noncommercial purposes" with respect to motor fuel means not for resale.

(Rule 1200—1—15—.01, continued)

- (ff) "On the premises where stored" with respect to heating oil means UST systems located on the same property where the stored heating oil is used.
- (gg) "Operational life" refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed under rule 1200—1—15—.07.
- (hh) "Operator" means any person in control of, or having responsibility for, the daily operation of the UST system.
- (ii) "Overflow release" is a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the petroleum to the environment.
- (jj) "Owner" means: (a) in the case of an UST system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of petroleum; and (b) in the case of any UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.
- (kk) "Person" means any and all persons, including individuals, firms, partnerships, associations, public or private institutions, state and federal agencies, municipalities or political subdivisions, or officers thereof, departments, agencies or instrumentalities, or public or private corporations or officers thereof, organized or existing under the laws of this state or any other state or country.
- (ll) "Petroleum" means crude oil or any fraction thereof that is liquid at standard temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).
- (mm) "Petroleum UST system" means an underground storage tank system that contains petroleum or a mixture of petroleum with de minimis quantities of other hazardous substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.
- (nn) "Pipe" or "Piping" means a hollow cylinder or tubular conduit that is constructed of non-earth materials.
- (oo) "Pipeline facilities (including gathering lines)" are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.
- (pp) "Release" means any spilling, overfilling, leaking, emitting, discharging, escaping, leaching or disposing of a petroleum substance from an UST including its associated piping, into ground water, surface water, or subsurface soils.
- (qq) "Release detection" means determining whether a release of petroleum has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.
- (rr) "Repair" means to restore a tank or UST system component that has caused a release of petroleum from the UST system.
- (ss) "Residential tank" is a tank located on property used primarily for dwelling purposes.
- (tt) "SARA" means the Superfund Amendments and Reauthorization Act of 1986.

(Rule 1200—1—15—01, continued)

(uu) "Sepic tank" is a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

(vv) "Storm-water or wastewater collection system" means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

(ww) "Surface impoundment" is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well.

(xx) "Tank" is a stationary device designed to contain an accumulation of petroleum and constructed of non-earthen materials (e.g., wood, concrete, steel, fiberglass) that provide structural support.

(yy) "Underground area" means an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

(zz) "Underground release" means any belowground release.

(aaa) "Underground storage tank" or "UST" means any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of petroleum, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. This term does not include any:

1. Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. Tank used for storing heating oil for consumption on the premises where stored;
3. Sepic tank;
4. Pipeline facility (including gathering lines) regulated under:
 - (i) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.), or
 - (ii) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.), or
 - (iii) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in paragraph (d) 1. or (d) 2. of this definition;
5. Surface impoundment, pit, pond, or lagoon;
6. Storm-water or wastewater collection system;
7. Flow-through process tank;

(Rule 1200—1—15—.01, continued)

8. Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or
9. Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term "underground storage tank" or "UST" does not include any pipes connected to any tank which is described in parts 1. through 9. of this subparagraph.

- (bbb) "Upgrade" means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of petroleum.
- (ccc) "UST system" or "Tank system" means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.
- (ddd) "Wastewater treatment tank" means a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

Authority: T.C.A. §§ 68—215—101 et. seq., 68—53—107, 68—53—113 and 4—5—201 et. seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 3, 1991; effective August 17, 1991.

1200—1—15—.02 UST SYSTEMS: DESIGN, CONSTRUCTION, INSTALLATION AND NOTIFICATION.

(1) Performance standards for new UST systems.

In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store petroleum, all owners and/or operators of new UST systems must meet the following requirements.

- (a) Tanks. Each tank must be properly designed and constructed, and any portion underground that routinely contains petroleum must be protected from corrosion as specified below:
 1. The tank is constructed of fiberglass-reinforced plastic:

[Note: The following publications provide information on this subject: Underwriters Laboratories Standard 1316 (First Edition, Revised 1987), *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products*; Underwriter's Laboratories of Canada CAN4-S615-M 83 (First Edition, February 1983), *Standard for Reinforced Plastic Underground Tanks for Petroleum Products*, or American Society of Testing and Materials Standard D4021-86 (1986 Edition), *Standard Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks*.]
 2. The tank is constructed of steel and cathodically protected in the following manner:
 - (i) The tank is coated with a suitable dielectric material;
 - (ii) Field-installed cathodic protection systems are designed by a corrosion expert;
 - (iii) Impressed current systems are designed to allow determination of current operating status as required in rule 1200—1—15—.03(2)(c); and

(Rule 1200—1—15—02, continued)

(iv) Cathodic protection systems are operated and maintained in accordance with rule 1200—1—15—03(2) or a method determined by the Division to provide equivalent protection against corrosion.

[Note: The following publications provide information on this subject: Steel Tank Institute (May 1987 Edition) *Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks*; Underwriters Laboratories Standard 1746, (First Edition, Proposed November 1987), *Corrosion Protection Systems for Underground Storage Tanks*; Underwriters Laboratories of Canada CAN4-S603-M85, (1985 Edition), *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*, and CAN4-603.1-M85, (1985 Edition), *Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids*, and CAN4-S631-M84, (1984 Edition), *Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems*; or National Association of Corrosion Engineers Standard RP-02-85 (March 1985), *Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems*, and Underwriters Laboratories Standard 58 (Eighth Edition, 1986), *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.]

3. The tank is constructed of a steel-fiberglass-reinforced-plastic composite:

[Note: The following publications provide information on this subject: Underwriters Laboratories Standard 1746 (First Edition, Proposed November 1987), *Corrosion Protection Systems for Underground Storage Tanks*, or the Association for Composite Tanks ACT-100 (March 1988 Revision), *Specification for the Fabrication of FRP Clad Underground Storage Tanks*.]

4. The tank is constructed of metal without additional corrosion protection measures provided that:

- (i) The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operational life; and
- (ii) Owners and/or operators maintain records that demonstrate compliance with the requirements of subpart (a)4.(i) of this paragraph for the remaining life of the tank; or

5. The tank construction and corrosion protection are determined by the Division to be designed to prevent the release or threatened release of any stored petroleum in a manner that is no less protective of human health and the environment than parts (a)1. through 4. of this paragraph.

(b) Piping. The piping that routinely contains petroleum and is in contact with the ground must be properly designed, constructed, and protected from corrosion as specified below:

1. The piping is constructed of fiberglass-reinforced plastic; or

[Note: The following publications provide information on this subject: Underwriters Laboratories Subject 971, *UL Listed Non-Metal Pipe*; Underwriters Laboratories Standard 567 (Sixth Edition, 1989), *Pipe Connectors for Flammable and Combustible and LP Gas*, Underwriters Laboratories of Canada Guide ULC-107C (1984 Edition), *Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids*, and Underwriters Laboratories of Canada Standard CAN4-S633-M84 (First Edition, June 1984), *Flexible Underground Hose Connectors for Flammable and Combustible Liquids*.]

2. The piping is constructed of steel and cathodically protected in the following manner:

- (i) The piping is coated with a suitable dielectric material;

(Rule 1200—1—15—.02, continued)

- (ii) Field-installed cathodic protection systems are designed by a corrosion expert;
- (iii) Impressed current systems are designed to allow determination of current operating status as required in rule 1200—1—15—.03(2)(c); and
- (iv) Cathodic protection systems are operated and maintained in accordance with rule 1200—1—15—.03(2) or in a manner determined by the Division to provide equivalent protection against corrosion.

[Note: The following publications provide information on this subject: National Fire Protection Association Standard 30 (1987 Edition), *Flammable and Combustible Liquids Code*; American Petroleum Institute Publication 1615 (Fourth Edition, November 1987), *Installation of Underground Petroleum Storage Systems*; American Petroleum Institute Publication 1632 (First Edition, 1983), *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*; and National Association of Corrosion Engineers Standard RP-01-69 (1983 Revision), *Control of External Corrosion on Submerged Metallic Piping Systems*.]

3. The piping is constructed of metal without additional corrosion protection measures provided that:
 - (i) The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operational life; and
 - (ii) Owners and/or operators maintain records that demonstrate compliance with the requirements of subpart (b)3.(i) of rule 1200—1—15—.02(1) for the remaining life of the piping; or
- [Note: National Fire Protection Association Standard 30 (1987 Edition), *Flammable and Combustible Liquids Code*; and National Association of Corrosion Engineers Standard RP-01-69 (1983 Revision), *Control of External Corrosion on Submerged Metallic Piping Systems*, provide information on this subject.]
4. The piping construction and corrosion protection are determined by the Division to be designed to prevent the release or threatened release of any stored petroleum in a manner that is no less protective of human health and the environment than the requirements in parts (b)1. through 3. of rule 1200—1—15—.02(1).

(c) Spill and overfill prevention equipment.

1. Except as provided in part (c)2. of rule 1200—1—15—.02(1), to prevent spilling and overfilling associated with petroleum transfer to the UST system, owners and/or operators must use the following spill and overfill prevention equipment:
 - (i) Spill prevention equipment that will prevent release of petroleum to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and
 - (ii) Overfill prevention equipment that will:
 - (I) Automatically shut off flow into the tank when the tank is no more than 95 percent full; or
 - (II) Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm; or
 - (III) Restrict flow 30 minutes prior to overfilling, alert the operator with a high level alarm one minute before overfilling, or automatically shut off flow into the tanks so that none of the fittings located on top of the tank are exposed to product due to overfilling.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—02, continued)

2. Owners and/or operators are not required to use the spill and overfill prevention equipment specified in part (c)1. of rule 1200—1—15—02(1) if:

- (i) Alternative equipment is used that is determined by the Division to be no less protective of human health and the environment than the equipment specified in subpart (c)1.(i) or (ii) of rule 1200—1—15—02(1); or
- (ii) The UST system is filled by transfers of no more than 25 gallons at one time.

(d) Installation.

1. All tanks and piping must be installed in accordance with the manufacturer's installation instructions; and
2. After installation has been completed and before the system is placed into operation, a tank tightness test as specified in rule 1200—1—15—04(3)(c) and a line tightness test as specified in rule 1200—1—15—04(4)(b) must be conducted. The tank tightness test and line tightness test must indicate the tank system will not leak prior to placing the tank system into operation.

[Note: Tank and piping system installation practices and procedures described in the following publications provide information on this subject: American Petroleum Institute Publication 1615 (Fourth Edition, November 1987), *Installation of Underground Petroleum Storage System*; Petroleum Equipment Institute Publication RP100 (1987 Edition), *Recommended Practices for Installation of Underground Liquid Storage Systems*; or American National Standards Institute Standard B31.3 (1987), *Petroleum Refinery Piping*, and American National Standards Institute Standard B31.4 (1989), *Liquid Petroleum Transportation Piping System*.]

- (e) Certification of installation. All owners and/or operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with subparagraph (d) of rule 1200—1—15—02(1) by providing a certification of compliance on the UST notification form in accordance with rule 1200—1—15—02(3).

1. The installer has been certified by the tank and piping manufacturers; or
2. The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or
3. The installation has been inspected and approved by the Division; or
4. All work listed in the manufacturer's installation checklists has been completed; or
5. The owner and operator have complied with another method for ensuring compliance with paragraph (d) of rule 1200—1—15—02(1) that is determined by the Division to be no less protective of human health and the environment.

(2) Upgrading of existing UST systems.

- (a) Alternatives allowed. Not later than December 22, 1998, all existing UST systems must comply with one of the following requirements.

1. New UST system performance standards under rule 1200—1—15—02(1);
2. The upgrading requirements in subparagraphs (b) through (d) of this paragraph; or

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—02, continued)

3. Closure requirements under rule 1200—1—15—07, including applicable requirements for corrective action under rule 1200—1—15—06.

(b) Tank upgrading requirements. Steel tanks must be upgraded to meet one of the following requirements:

1. Interior lining. A tank may be upgraded by internal lining if:
 - (i) The lining is installed in accordance with the requirements of rule 1200—1—15—03(4) and at least the following procedures and practices:
 - (I) The storage tank lining material must be compatible with the product to be stored;
 - (II) The tank shell must be structurally sound prior to lining;
 - (III) Lining manufacturers directions are followed during installation of lining; and
 - (IV) After the tank is lined and before the tank is returned to service, the tank must be tank tightness tested according to rule 1200—1—15—04(3)(c); and
 - (ii) Within 10 years after lining, and every 5 years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.
 2. Cathodic protection. A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of rule 1200—1—15—02(1)(a)2.(ii), (iii), and (iv) and the integrity of the tank is ensured using one of the following methods:
 - (i) The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or
 - (ii) The tank has been installed for less than 10 years and is monitored monthly for releases in accordance with rule 1200—1—15—04(3)(d) through (h); or
 - (iii) The tank has been installed for less than 10 years and is assessed for corrosion holes by conducting two (2) tightness tests that meet the requirements of rule 1200—1—15—04(3)(c). The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three (3) and six (6) months following the first operation of the cathodic protection system; or
 - (iv) The tank is assessed for corrosion holes by a method that is determined by the Division to prevent releases in a manner that is no less protective of human health and the environment than subparts (b)2.(i) through (iii) of this paragraph.
 3. Internal lining combined with cathodic protection. A tank may be upgraded by both internal lining and cathodic protection if:
 - (i) The lining is installed in accordance with the requirements of rule 1200—1—15—03(4) and rule 1200—1—15—02(2)(b)1.(i), and
 - (ii) The cathodic protection system meets the requirements of rule 1200—1—15—02(1)(a)2.(ii), (iii), and (iv).

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—02, continued)

[Note: The following publications provide information on this subject: American Petroleum Institute Publication 1631 (Second Edition, December 1987), *Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks*; National Leak Prevention Association Standard 631 (Second Edition, September 1988), *Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection*; National Association of Corrosion Engineers Standard RP-02-85 (March 1985), *Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems*; and American Petroleum Institute Publication 1632 (First Edition, 1983), *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*.]

(c) Piping upgrading requirements. Metal piping that routinely contains petroleum and is in contact with the ground must be cathodically protected and meet the requirements of rule 1200—1—15—02(1)(b)2.(ii), (iii), and (iv).

[Note: The publications listed in the note following rule 1200—1—15—02(1)(b)2, provide information on this subject.]

(d) Spill and overfill prevention equipment. To prevent spilling and overfilling associated with petroleum transfer to the UST system, all existing UST systems must comply with new UST system spill and overfill prevention equipment requirements specified in rule 1200—1—15—02(1)(c).

(3) Notification requirements.

(a) Any owner and/or operator who brings an underground storage tank system into use after July 1, 1989, shall notify the Department by phone or any other method fifteen (15) days in advance of bringing such underground storage tank into use. The owner and/or operator shall submit notification of the underground storage tank system to the Department within fifteen (15) days of placing petroleum into the underground storage tank system. The owner shall use the notification form prescribed in Appendix I of this Rule. Any owner and/or operator wishing to replace or upgrade an existing and properly registered UST system may do so as needed, provided that within thirty (30) days after completion of said replacement or upgrading, he shall notify the Division of the changes made on the form prescribed in Appendix I, indicating that it is an amendment to the existing system.

[Note: Owners and/or operators of UST systems that were in the ground on or after May 8, 1986, unless taken out of operation on or before January 1, 1974, were required to notify the designated state or local agency in accordance with the Hazardous and Solid Waste Amendments of 1984, Public Law 98-616, on a form published by EPA on November 8, 1985, (50 CFR 46602) unless notice was given pursuant to section 103(c) of CERCLA. Owners and/or operators who have not complied with the notification requirements may use portions I through XI of the notification form contained in Appendix I of this Rule.]

(b) Owners and/or operators shall use the form in Appendix I of this Rule to report petroleum underground storage tanks. Owners and/or operators shall complete the notification form accurately and in its entirety.

(c) Owners required to submit notices under subparagraph (a) of this paragraph must provide notices to the Division for each tank they own. Owners may provide notice for several tanks using one notification form, but owners who own tanks located at more than one place of operation must file a separate notification form for each separate place of operation.

(d) Notices required to be submitted under subparagraph (a) of Rule 1200-1-15-02(3) must provide all of the information in Sections I through XI of the prescribed form for each tank for which notice must be given. Notices for tanks installed after December 22, 1988, must also provide all of the information in Section XI of the prescribed form for each tank for which notice must be given.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.02, continued)

(e) All owners and operators of new UST systems must certify in the notification form compliance with the following requirements:

1. Installation of tanks and piping under rule 1200—1—15—.02(1)(e);
2. Cathodic protection of steel tanks and piping under rule 1200—1—15—.02(1)(a) and (b);
3. Financial responsibility under rule 1200—1—15—.08; and
4. Release detection under rule 1200—1—15—.04(2).

(f) All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping complies with the requirements in rule 1200—1—15—.02(1)(d).

(g) Beginning October 26, 1988, any person who sells a tank intended to be used as an underground storage tank must notify the purchaser of such tank of the owner's notification obligations under subparagraph (a) of rule 1200—1—15—.02(3). The form provided in Appendix 2 may be used to comply with this requirement.

(h) Any change in the status of the tanks at a petroleum UST facility must be reported within thirty (30) days of said change. This includes but is not limited to changes of ownership, upgrading or replacement of tanks, changes in mailing address and changes in service. Such reports shall be made using an amended notification form. In the case of a sale of tanks which have been installed at a location and reported to the Division as required by Rule, the seller must submit the notification form provided in Appendix 3 and must also inform the buyer of the notification requirement.

Authority: T.C.A. §§68—215—101 et seq., 68—53—107, 68—53—113 and 4—5—201 et seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 3, 1991; effective August 17, 1991. Amendment filed July 28, 1995; effective October 10, 1995.

1200—1—15—.03 GENERAL OPERATING REQUIREMENTS.

(1) Spill and overfill control.

(a) Owners and/or operators must ensure that releases due to spilling or overfilling do not occur. The owner and/or operator must ensure that the volume available in the tank is greater than the volume of petroleum to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

[Note: The following publications provide information on this subject: National Fire Protection Association Publication 385 (1985 Edition), *Tank Vehicles for Flammable and Combustible Liquids*; American Petroleum Institute Publication 1621 (Third Edition, 1977), *Recommended Practice for Bulk Liquid Stock Control at Retail Outlets*; and National Fire Protection Association Standard 30 (1987 Edition), *Flammable and Combustible Liquids Code*.]

(b) The owner and/or operator must report, investigate, and clean up any spills and overfills in accordance with rule 1200—1—15—.05(4).

(2) Operation and maintenance of corrosion protection.

All owners and/or operators of steel UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store petroleum:

(a) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contains petroleum and is in contact with the ground.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.03, continued)

(b) All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

1. Frequency. All cathodic protection systems must be tested within 6 months of installation and at least every 3 years thereafter;
2. The cathodic protection system must be functioning as designed and is effectively preventing corrosion; and
3. The owner and/or operator shall maintain records that demonstrate compliance with this paragraph.

[Note: National Association of Corrosion Engineers Standard RP-02-85 (March 1985 Edition), *Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems*, provides information on this subject.]

(c) UST systems with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly.

(d) For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained (in accordance with rule 1200—1—15—.03(5)) to demonstrate compliance with the performance standards in rule 1200—1—15—.03(2). These records must provide the following:

1. The results of the last three inspections required in subparagraph (c) of rule 1200—1—15—.03(2); and
2. The results of testing from the last two inspections required in subparagraph (b) of rule 1200—1—15—.03(2).

(3) Compatibility.

Owners and/or operators must use an UST system made of or lined with materials that are compatible with the petroleum stored in the UST system.

[Note: The following publications provide information on storing alcohol blends: American Petroleum Institute Publication 1626 (First Edition, April 1985), *Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations*; and American Petroleum Institute Publication 1627 (First Edition, August 1986), *Storage and Handling of Gasoline-Methanol Co-solvent Blends at Distribution Terminals and Service Stations*.]

(4) Repairs allowed.

Owners and/or operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store petroleum. The repairs must meet the following requirements:

(a) Repairs to UST systems must be conducted so as to effectively prevent releases for the operational life of the tank system.

[Note: The following publications provide information on this subject: National Fire Protection Association Standard 30 (1987 Edition), *Flammable and Combustible Liquids Code*; American Petroleum Institute Publication 2200 (Second Edition, 1983), *Repairing Crude Oil, Liquified Petroleum Gas, and Product Pipelines*; American Petroleum Institute Publication 1631 (Second Edition, December 1987), *Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks*; and National Leak Prevention Association Standard 631 (Second Edition, September 1988), *Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection*.]

(Rule 1200—1—15—.03, continued)

- (b) Repairs to fiberglass-reinforced plastic tanks shall be made by the manufacturer's authorized representatives or in accordance with the manufacturer's specifications.
- (c) Metal pipe sections and fittings that have released product as a result of corrosion or other damage must be replaced. Fiberglass pipes and fittings may be repaired in accordance with the manufacturer's specifications.
- (d) Repaired tanks and piping must be tightness tested in accordance with rule 1200—1—15—.04(3)(c) and rule 1200—1—15—.04(4)(b) within 30 days following the date of the completion of the repair except as provided in parts (d)1. through 3. of rule 1200—1—15—.03(4):
 - 1. The repaired tank is internally inspected; or
 - 2. The repaired portion of the UST system is monitored monthly for releases in accordance with a method specified in rule 1200—1—15—.04(3)(d) through (h); or
 - 3. Another test method is used that is determined by the Division to be no less protective of human health and the environment than those listed above.
- (e) Within 6 months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with rule 1200—1—15—.03(2)(b) and (c) to ensure that it is operating properly.
- (f) UST system owners and/or operators must maintain records of each repair for the remaining operating life of the UST system that demonstrate compliance with the requirements of rule 1200—1—15—.03(4).

(5) Reporting and recordkeeping.

Owners and/or operators of UST systems must cooperate fully with inspections, monitoring and testing conducted by the Division, as well as requests for document submission, testing, and monitoring by the owner or operator pursuant to the Tennessee Petroleum Underground Storage Tank Act *T.C.A. §68—53—107*.

- (a) Reporting. Owners and/or operators must submit the following information to the Division:
 - 1. Notification for all UST systems (rule 1200—1—15—.02(3), which includes certification of installation for new UST systems (rules 1200—1—15—.02(1)(e));
 - 2. Reports of all releases including suspected releases (rule 1200—1—15—.05(1)), spills and overfills (rule 1200—1—15—.05(4)), and confirmed releases (rule 1200—1—15—.06(2));
 - 3. Corrective actions planned or taken including initial abatement measures (rule 1200—1—15—.06(3)), initial site characterization (rule 1200—1—15—.06(4)), free product removal (rule 1200—1—15—.06(5)), investigation of soil and ground-water cleanup (rule 1200—1—15—.06(6)), and corrective action plan (rule 1200—1—15—.06(7)); and
 - 4. A notification before permanent closure or change-in-service (rule 1200—1—15—.07(2)).
- (b) Recordkeeping. Owners and/or operators must maintain the following information:
 - 1. A corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used (rule 1200—1—15—.02(1)(a)4; rule 1200—1—15—.02(1)(b)3);

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.03, continued)

2. Documentation of operation of corrosion protection equipment (rule 1200—1—15—.03(2));
3. Documentation of UST system repairs (rule 1200—1—15—.03(4)(f));
4. Recent compliance with release detection requirements (rule 1200—1—15—.04(5)); and
5. Results of the site investigation conducted at permanent closure (rule 1200—1—15—.07(5)).

(c) Availability and Maintenance of Records. Owners and/or operators must keep the records required either:

1. At the UST site and immediately available for inspection by the Division; or
2. At a readily available alternative site and be provided for inspection to the Division upon request.
3. In the case of permanent closure records required under rule 1200—1—15—.07(5), owners and/or operators are also provided with the additional alternative of mailing closure records to the Division if they cannot be kept at the site or an alternative site as indicated above.

Authority: T.C.A. §§68—215—101 et seq. and 4—5—201 et seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990.

1200—1—15—.04 RELEASE DETECTION.

(1) General requirements for release detection.

(a) Owners and/or operators of new and existing UST systems must provide a method, or combination of methods, of release detection that:

1. Can detect a release from any portion of the tank and the connected underground piping that routinely contains petroleum;
2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and
3. Meets the performance requirements in rule 1200—1—15—.04(3) or rule 1200—1—15—.04(4), with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, methods used after December 22, 1990 except for methods permanently installed prior to that date, must be capable of detecting the leak rate or quantity specified for that method in rule 1200—1—15—.04(3)(b), (c), and (d) or rule 1200—1—15—.04(4)(a) and (b) with a probability of detection of 0.95 and a probability of false alarm of 0.05.

(b) When a release detection method operated in accordance with the performance standards in rule 1200—1—15—.04(3) and rule 1200—1—15—.04(4) indicates a release may have occurred, owners and operators must notify the Division in accordance with rule 1200—1—15—.05.

(c) Owners and/or operators of all UST systems must comply with the release detection requirements of rule 1200—1—15—.04 by December 22 of the year listed in the following table:

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.04, continued)

Year System was installed	1989	1990	1991	1992	1993
Before 1965 or Date Unknown	RD	P	P/RD		
1965-1969		P		RD	
1970-1974		P			RD
1975-1979		P			
1980-1988		P			RD

New tanks (after December 22, 1988) immediately upon installation

P - Must begin release detection for all pressurized piping in accordance with rule 1200—1—15—.04(2)(b)1.

RD - Must begin release detection for tanks and suction piping in accordance with rule 1200—1—15—.04(2)(a) and rule 1200—1—15—.04(2)(b)2.

(d) Any existing UST system that cannot apply a method of release detection that complies with the requirements of rule 1200—1—15—.04 must complete the closure procedures in rule 1200—1—15—.07 by the date on which release detection is required for that UST system under subparagraph (c) of rule 1200—1—15—.04(1).

(2) Requirements for petroleum UST systems.

Owners and operators of petroleum UST systems must provide release detection for tanks and piping as follows:

(a) Tanks. Tanks must be monitored at least every 30 days for releases using one of the methods listed in rule 1200—1—15—.04(3)(d)-(h) except that:

1. UST systems that meet the performance standards in rule 1200—1—15—.02(1) or rule 1200—1—15—.02(2), and the monthly inventory control requirements in rule 1200—1—15—.04(3)(a) or (b), may use tank tightness testing (conducted in accordance with rule 1200—1—15—.04(3)(c)) at least every 5 years until December 22, 1998 or until 10 years after the tank is installed or upgraded under rule 1200—1—15—.02(2)(b), whichever is later;
2. UST systems that do not meet the performance standards in rule 1200—1—15—.02(1) or rule 1200—1—15—.02(2) may use monthly inventory controls (conducted in accordance with rule 1200—1—15—.04(3)(a) or (b)) and annual tank tightness testing (conducted in accordance with rule 1200—1—15—.04(3)(c)) until December 22, 1998 when the tank must be upgraded under rule 1200—1—15—.02(2) or permanently closed under rule 1200—1—15—.07(2); and
3. Tanks with capacity of 550 gallons or less may use weekly tank gauging (conducted in accordance with rule 1200—1—15—.04(3)(b)).

(b) Piping. Underground piping that routinely contains petroleum must be monitored for releases in a manner that meets one of the following requirements:

1. Pressurized piping. Underground piping that conveys petroleum under pressure must:

UNDERGROUND STORAGE TANK PROGRAM

(Rule 1200—1—15—04, continued)

CHAPTER 1200—1—15

- (i) Be equipped with an automatic line leak detector conducted in accordance with rule 1200—1—15—04(4)(a); and
- (ii) Have an annual line tightness test conducted in accordance with rule 1200—1—15—04(4)(b) or have monthly monitoring conducted in accordance with rule 1200—1—15—04(4)(c).
- 2. Suction piping. Underground piping that conveys petroleum under suction must either have a line tightness test conducted at least every 3 years and in accordance with rule 1200—1—15—04(4)(b), or use a monthly monitoring method conducted in accordance with rule 1200—1—15—04(4)(c). No release detection is required for suction piping that is designed and constructed to meet the following standards:
 - (i) The below-grade piping operates at less than atmospheric pressure;
 - (ii) The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;
 - (iii) Only one check valve is included in each suction line;
 - (iv) The check valve is located directly below and as close as practical to the suction pump; and
 - (v) A method is provided that allows compliance with subparts (b)2(ii)–(iv) of rule 1200—1—15—04(2) to be readily determined.

(3) Methods of release detection for tanks.

Each method of release detection for tanks used to meet the requirements of rule 1200—1—15—04(2) must be conducted in accordance with the following:

- (a) Inventory control. Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis in the following manner:
 1. Inventory volume measurements for petroleum inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day;
 2. The equipment used is capable of measuring the level of petroleum over the full range of the tank's height to the nearest one-eighth of an inch;
 3. The petroleum inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;
 4. Deliveries are made through a drop tube that extends to within one foot of the tank bottom;
 5. Petroleum dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 cubic inches for every 5 gallons of petroleum withdrawn; and
 6. The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month.

[Note: American Petroleum Institute Publication 1621 (Fourth Edition, 1987), *Recommended Practice for Bulk Liquid Stock Control at Retail Outlets*, provides information on this subject.]

(Rule 1200—1—15—.04, continued)

(b) Manual tank gauging. Manual tank gauging must meet the following requirements:

1. Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;
2. Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;
3. The equipment used is capable of measuring the level of petroleum over the full range of the tank's height to the nearest one-eighth of an inch;
4. A leak is suspected and subject to the requirements of rule 1200—1—15—.05 if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table:

Nominal Tank Capacity	Weekly Standard (one test)	Monthly Standard (Average of 4 Tests)
550 gallons or less	10 gallons	5 gallons
551-1000 gallons	13 gallons	7 gallons
1001-2000 gallons	26 gallons	13 gallons

5. Only tanks of 550 gallons or less nominal capacity may use this as the sole method of release detection. Tanks of 551 to 2,000 gallons may use the method in place of manual inventory control in rule 1200—1—15—.04(3)(a). Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this rule.

(c) Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon per hour leak rate from any portion of the tank that routinely contains petroleum while accounting for the effects of thermal expansion or contraction of the petroleum, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(d) Automatic tank gauging. Equipment for automatic tank gauging that tests for the loss of petroleum and conducts inventory control must meet the following requirements:

1. The automatic product level monitor test can detect a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains petroleum; and
2. Inventory control (or another test of equivalent performance) is conducted in accordance with the requirements of rule 1200—1—15—.04(3)(a).

(e) Vapor monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

1. The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;
2. The stored petroleum, or a tracer compound placed in the tank system, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

UNDERGROUND STORAGE TANK PROGRAM

(Rule 1200—1—15—.04, continued)

CHAPTER 1200—1—15

3. The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 30 days;
4. The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;
5. The vapor monitors are designed and operated to detect any significant increase in concentration above background of the petroleum stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system;
6. In the UST excavation zone, the site is assessed to ensure compliance with the requirements in parts (e)1.-4. of rule 1200—1—15—.04(3) and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains petroleum; and
7. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(f) **Groundwater monitoring.** Testing or monitoring for liquids on the ground water must meet the following requirements:

1. Ground water monitoring shall not be allowed in areas where the tank excavation zone has encountered bedrock.
2. The petroleum stored is immiscible in water and has a specific gravity of less than one;
3. Ground water is never more than 20 feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials);
4. The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of petroleum on the water table into the well under both high and low ground water conditions;
5. Monitoring wells shall be sealed from the ground surface to the top of the filter pack;
6. Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;
7. The continuous monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the ground water in the monitoring wells;
8. Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in parts (f)1.-5. of rule 1200—1—15—.04(3) and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains petroleum; and
9. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(g) **Interstitial monitoring.** Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains petroleum and also meets one of the following requirements:

(Rule 1200—1—15—.04, continued)

1. For double-walled UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains petroleum;

[Note: Steel Tank Institute's (April, 1989 Edition) *Standard for Dual Wall Underground Storage Tanks* provides information on this subject.]

2. For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier;
 - (i) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10-6 cm/sec for the petroleum stored) to direct a release to the monitoring point and permit its detection;
 - (ii) The barrier is compatible with the petroleum stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;
 - (iii) For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;
 - (iv) The ground water, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;
 - (v) The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and,
 - (vi) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

3. For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.

(h) Other methods. Any other type of release detection method, or combination of methods, can be used if:

1. It can detect a 0.2 gallon per hour leak rate or a release of 150 gallons within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05; or
2. The Division may approve another method if the owner and operator can demonstrate that the method can detect a release as effective as any of the methods allowed in subparagraphs (c)-(h) of rule 1200—1—15—.04(3). In comparing methods, the Division shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner and operator must comply with any conditions imposed by the Division on its use to ensure the protection of human health and the environment.

(4) Methods of release detection for piping.

Each method of release detection for piping used to meet the requirements of rule 1200—1—15—.04(2) must be conducted in accordance with the following:

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.04, continued)

- (a) Automatic line leak detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of petroleum through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within 1 hour. An annual test of the operation of the leak detector must be conducted in accordance with the manufacturer's requirements.
- (b) Line tightness testing. A periodic test of piping may be conducted only if it can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure.
- (c) Applicable tank methods. Any of the methods in rule 1200—1—15—.04(3)(c) through (h) may be used if they are designed to detect a release from any portion of the underground piping that routinely contains petroleum.

(5) Release detection recordkeeping.

All UST system owners and/or operators must maintain records in accordance with rule 1200—1—15—.03(5) demonstrating compliance with all applicable requirements of rule 1200—1—15—.04. These records must include the following:

- (a) All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be maintained for 5 years from the date of installation;
- (b) The results of any sampling, testing, or monitoring must be maintained for at least 1 year except that the results of tank tightness testing conducted in accordance with rule 1200—1—15—.04(3)(c) must be retained until the next test is conducted; and
- (c) Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site must be maintained for at least one year after the servicing work is completed. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer must be retained for 5 years from the date of installation.

Authority: T.C.A. §§68—215—101 et seq. and 4—5—201 et seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990.

1200—1—15—.05 RELEASE REPORTING, INVESTIGATION AND CONFIRMATION.

(1) Reporting of suspected releases.

Owners and/or operators of UST systems must report to the Division within 72 hours and follow the procedures in rule 1200—1—15—.05(3) for any of the following conditions:

- (a) The discovery by owners and/or operators or others of released petroleum at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water).
- (b) Unusual operating conditions observed by owners and/or operators (such as the erratic behavior of petroleum dispensing equipment, the sudden loss of petroleum from the UST system, or an unexplained presence of water in the tank), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced; and
- (c) Monitoring results from a release detection method required under rule 1200—1—15—.04(2) that indicate a release may have occurred unless

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—05, continued)

1. The monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; or
2. In the case of inventory control, a second consecutive month of data does not confirm the initial result.

(2) Investigation due to off-site impacts.

When required by the Division, owners and/or operators of UST systems must follow the procedures in rule 1200—1—15—05(3) to determine if the UST system is the source of off-site impacts. These impacts include the discovery of petroleum (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the Division or brought to its attention by another party.

(3) Release investigation and confirmation steps.

Unless corrective action is initiated in accordance with rule 1200—1—15—06, owners and/or operators must immediately investigate and confirm all suspected releases of petroleum requiring reporting under rule 1200—1—15—05(1) within 7 days using the following steps:

- (a) System test. Owners and/or operators must conduct tests (according to the requirements for tightness testing in rule 1200—1—15—04(3)(c) and rule 1200—1—15—04(4)(b)) that determine whether a leak exists in that portion of the tank that routinely contains petroleum, or the attached delivery piping, or both.
 1. Owners and/or operators must repair, replace or upgrade the UST system, and begin corrective action in accordance with rule 1200—1—15—06 if the test results for the system, tank, or delivery piping indicate that a leak exists.
 2. Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate that a leak exists and if environmental contamination is not the basis for suspecting a release.
 3. Owners and/or operators must conduct a site check as described in paragraph (b) of this section if the test results for the system, tank, and delivery piping do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.
- (b) Site check. Owners and/or operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and/or operators must consider the nature of the stored petroleum, the type of initial alarm or cause for suspicion, the type of backfill, the depth of ground water, and other factors appropriate for identifying the presence and source of the release.
 1. If the test results for the excavation zone or the UST site indicate that a release has occurred, owners and/or operators must begin corrective action in accordance with rule 1200—1—15—06;
 2. If the test results for the excavation zone or the UST site do not indicate that a release has occurred, further investigation is not required.

(4) Reporting and cleanup of spills and overfills.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.05, continued)

- (a) Owners and/or operators of UST systems must contain and immediately clean up a spill or overfill and report to the Division within 72 hours and begin corrective action if a spill or overfill of petroleum results in a release to the environment that exceeds 25 gallons or that causes a sheen on nearby surface water; or
- (b) Owners and operators of UST systems must contain and immediately clean up a spill or overfill of petroleum that is less than 25 gallons. If cleanup cannot be accomplished within 72 hours owners and/or operators must immediately notify the Division.

Authority: T.C.A. §68—215—101 et seq. and 4—5—201 et seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 28, 1995; effective October 10, 1995.

1200—1—15—.06 RELEASE RESPONSE AND CORRECTIVE ACTION FOR UST SYSTEMS CONTAINING PETROLEUM.

(1) General.

Owners and/or operators of petroleum UST systems must, in response to a confirmed release from the UST system, comply with the requirements of rule 1200—1—15—.06.

(2) Initial response.

Upon confirmation of a release in accordance with rule 1200—1—15—.05(3) or after a release from the UST system is identified in any other manner, owners and/or operators must perform the following initial response actions.

- (a) Report the release to the Division within 72 hours (e.g., by telephone or electronic mail);
- (b) Take immediate action to prevent any further release of the petroleum into the environment; and
- (c) Take immediate action to identify and mitigate fire, explosion, and vapor hazards.

(3) Initial abatement measures and site check.

- (a) Unless directed to do otherwise by the Division, owners and/or operators must perform the following abatement measures:

1. Remove as much of the petroleum from the UST system as is necessary to prevent further release to the environment;
2. Visually inspect any aboveground releases or exposed belowground releases and prevent further migration of the petroleum into surrounding soils and ground water;
3. Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements);
4. Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and/or operator must comply with applicable state and local requirements;

(Rule 1200—1—15—.06, continued)

5. Measure for the presence of a release where contamination is most likely to be present at the UST site, unless the presence and source of the release have been confirmed in accordance with the site check required by rule 1200—1—15—.05(3)(b) or the closure site assessment of rule 1200—1—15—.07(3)(a). In selecting sample types, sample locations, and measurement methods, the owner and operator must consider the nature of the stored petroleum, the type of backfill, depth to ground water and other factors as appropriate for identifying the presence and source of the release; and
6. Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with rule 1200—1—15—.06(3).

(b) Within 20 days after release confirmation owners and/or operators must submit a report to the Division summarizing the initial abatement steps taken under subparagraph (a) of rule 1200—1—15—.06(3) and any resulting information or data.

(4) Initial site characterization.

(a) Unless directed to do otherwise by the Division, owners and/or operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in rule 1200—1—15—.06(1) and rule 1200—1—15—.06(2). This information must include, but is not necessarily limited to the following:

1. Data on the nature and estimated quantity of release;
2. Data from available sources and/or site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;
3. Results of the site check required under rule 1200—1—15—.06(3)(a)5; and
4. Results of the free product investigations required under rule 1200—1—15—.06(3)(a)6, to be used by owners and/or operators to determine whether free product must be recovered under rule 1200—1—15—.06(5).

(b) Within 45 days of release confirmation owners and/or operators must submit the information collected in compliance with subparagraph (a) of rule 1200—1—15—.06(4) to the Division in a manner that demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the Division.

(5) Free product removal.

At sites where investigations under rule 1200—1—15—.06(3)(a)6 indicate the presence of free product, owners and/or operators must remove free product to the maximum extent practicable as determined by the Division while continuing, as necessary, any actions initiated under rule 1200—1—15—.06(2) through rule 1200—1—15—.06(4), or preparing for actions required under rule 1200—1—15—.06(6) through rule 1200—1—15—.06(7). In meeting the requirements of this paragraph, owners and/or operators must:

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.06, continued)

- (a) Conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery by-products in compliance with applicable local, state and federal regulations;
- (b) Use abatement of free product migration as a minimum objective for the design of the free product removal system;
- (c) Handle any flammable products in a safe and competent manner to prevent fires or explosions; and
- (d) Unless directed to do otherwise by the Division, prepare and submit to the Division, within 45 days after confirming a release, a free product removal report that provides at least the following information:
 1. The name of the person(s) responsible for implementing the free product removal measures;
 2. The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;
 3. The type of free product recovery system used;
 4. Whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located;
 5. The type of treatment applied to, and the effluent quality expected from, any discharge;
 6. The steps that have been or are being taken to obtain necessary permits for any discharge; and
 7. The disposition of the recovered free product.

(6) Investigations for soil and ground water cleanup.

- (a) In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the ground water, owners and/or operators must conduct investigations of the release, the release site, and the surrounding area possibly affected by the release if any of the following conditions exist:
 1. There is evidence that ground water wells have been affected by the release (e.g., as found during release confirmation or previous corrective action measures);
 2. Free product is found to need recovery in compliance with rule 1200—1—15—.06(5);
 3. There is evidence that contaminated soils may be in contact with ground water (e.g., as found during conduct of the initial response measures or investigations required under rule 1200—1—15—.06(1) through rule 1200—1—15—.06(5); and
 4. The Division requests an investigation, based on the potential effects of contaminated soil or ground water on nearby surface water and ground water resources.
- (b) Owners and/or operators must submit the information collected under subparagraph (a) of this paragraph in a format established by the Division as soon as practicable or in accordance with schedule and in a format established by the Division.

(Rule 1200—1—15—.06, continued)

(7) Corrective action plan.

- (a) At any point after reviewing the information submitted in compliance with rule 1200—1—15—.06(2) through rule 1200—1—15—.06(4), the Division may require owners and/or operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and ground water. If a plan is required, owners and/or operators must submit the plan according to a schedule and format established by the Division. Alternatively, owners and/or operators may, after fulfilling the requirements of rule 1200—1—15—.06(2) through rule 1200—1—15—.06(4), choose to submit a corrective action plan for responding to contaminated soil and ground water. In either case, owners and/or operators are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the Division, and must modify their plan as necessary to meet this standard.
- (b) The Division will approve the corrective action plan only after ensuring that implementation of the plan will adequately protect human health, safety, and the environment. In making this determination, the Division should consider the following factors as appropriate:
 1. The physical and chemical characteristics of the petroleum, including its toxicity, persistence, and potential for migration;
 2. The hydrogeologic characteristics of the facility and the surrounding area;
 3. The proximity, quality, and current and future uses of nearby surface water and ground water;
 4. The potential effects of residual contamination on nearby surface water and ground water;
 5. An exposure assessment; and
 6. Any information assembled in compliance with rule 1200—1—15—.06.
- (c) Upon approval of the corrective action plan or as directed by the Division, owners and/or operators must implement the plan, including modifications to the plan made by the Division. They must monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the Division.
- (d) Owners and/or operators may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin cleanup of soil and ground water before the corrective action plan is approved provided that they:
 1. Notify the Division of their intention to begin cleanup;
 2. Comply with any conditions imposed by the Division, including halting cleanup or mitigating adverse consequences from cleanup activities; and
 3. Incorporate these self-initiated cleanup measures in the corrective action plan that is submitted to the Division for approval.
- (e) 1. Ground water contaminated by petroleum from UST systems must be addressed in the corrective action plan and meet the levels as listed in Appendix 4 for drinking water supplies and non-drinking water supplies. The corrective action plan must determine if the contaminated ground water met the definition of a "drinking water supply" before the contamination occurred and propose site cleanup levels based on the category of ground water.

(Rule 1200—1—15—.06, continued)

2. Soil contaminated by petroleum from UST systems must be addressed in the corrective action plan. The level of soil cleanup shall follow Appendix 5. Soil cleanup levels shall vary depending upon the permeability of the soil and whether the ground water below the site is a "drinking water supply" or "non-drinking water supply". The permeability of the soil at the site and the type ground water below the site must be reported in the corrective action plan.
3. For sites where the background level of petroleum, due to natural conditions, exceeds the levels of cleanup required for soil and/or ground water in Appendices 4 and 5 then the owner and/or operator shall only be required to cleanup to the naturally occurring background levels.
4. After an owner and/or operator has treated petroleum contamination at a site for an extended period of time and the treatment system for soil and/or ground water has reached asymptotic levels for contaminant removal, then the owner and/or operator may request a site specific standard from the Commissioner. The site specific standard request must document the type of treatment used at the site, the length of treatment, and that the level of contaminant in the soil and/or ground water has remained relatively constant for at least four (4) quarters. The site specific standard request must also contain the parameters in paragraph 5 below. ~~If the Commissioner does not act on the request within ninety (90) days of receipt, it shall be deemed to be denied.~~ The owner and/or operator may appeal any denial of a site specific standard request to the Board. The Commissioner shall submit an annual report to the Board documenting the site specific standards granted during the calendar year.
5. If the owner and/or operator believes that a particular site should not be subject to the cleanup requirements in Appendices 4 and 5, the owner and/or operator may petition the Commissioner for a site specific standard. The owner and/or operator must, at a minimum, include the following in the site specific standard request:
 - (i) The physical and chemical characteristics of petroleum; including its toxicity, persistence, and potential for migration;
 - (ii) The hydrogeologic characteristics of the petroleum site and the surrounding land;
 - (iii) The proximity, quality, and current and future uses of ground water;
 - (iv) An exposure assessment; and
 - (v) The proximity, quality, and current and future uses of surface waters.
6. An owner or operator may petition the Board for a hearing provided a written petition is submitted to and received by the Commissioner within thirty (30) days of denial of a request for a site specific standard or within thirty (30) days following the expiration of the ninety (90) calendar days from receipt of a properly completed request. The Commissioner's determination shall be final and not subject to review unless the written petition for hearing is submitted and received within this time frame.
 - (i) The written petition must set forth the basis for the appeal as required by the Administrative Procedures Act, T.C.A. §4—5—101 *et seq.*, and the Rules promulgated there under; particularly Rule 1360—1—.05.
 - (ii) A site specific standard request must be submitted according to the following time frames: (1) the owner/operator has implemented a corrective action plan and has been unable to clean the site such that there is compliance with the regulations; or (2) the owner/operator submits a request for a site specific standard in lieu of submittal of an environmental assessment plan; such request must be submitted to the Division by the deadline to submit the environmental assessment plan or the request will be deemed denied.

(Rule 1200—1—15—.06, continued)

(iii) Should the Commissioner deny the request for a site specific standard, the owner/operator must submit the necessary environmental assessment plan within 120 days of receipt of the Division's determination.

(8) Public participation.

(a) For each confirmed release that requires a corrective action plan, the Division must provide notice to the public by means designed to reach those members of the public directly affected by the release and the planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by field staff.

(b) The Division must ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.

(c) Before approving a corrective action plan, the Division may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.

(d) The Division must give public notice that complies with subparagraph (a) of rule 1200—1—15—.06(8) if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the Division.

Authority: T.C.A. §§68—215—101 et seq. and 4—5—201 et seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 28, 1995; effective October 10, 1995.

1200—1—15—.07 OUT-OF-SERVICE UST SYSTEMS AND CLOSURE.

(1) Temporary closure.

(a) When an UST system is temporarily closed, owners and/or operators must continue operation and maintenance of corrosion protection in accordance with rule 1200—1—15—.03(2), and any release detection in accordance with rule 1200—1—15—.04. Rule 1200—1—15—.05 and rule 1200—1—15—.06 must be complied with if a release is suspected or confirmed. However, release detection is not required as long as the UST system is empty. The UST system is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.

(b) When an UST system is temporarily closed for 3 months or more, owners and/or operators must also comply with the following requirements:

1. Leave vent lines open and functioning; and
2. Cap and secure all other lines, pumps, manways, and ancillary equipment.
3. File amended notification form showing the tank system as Temporarily Out of Use.

(c) When an UST system is temporarily closed for more than 12 months, owners and/or operators must permanently close the UST system if it does not meet either performance standards in rule 1200—1—15—.02(1) for new UST systems or the upgrading requirements in rule 1200—1—15—.02(2), except that the spill and overfill equipment requirements do not have to be met. Owners and/or operators must permanently close the substandard UST systems at the end of this 12-month period in accordance with rule 1200—1—15—.07(2) through rule 1200—1—15—.07(5), unless the Division provides a written extension of this 12-month temporary closure period. Owners and/or operators must complete a site assessment in accordance with rule 1200—1—15—.07(3) before such an extension can be applied for.

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.07, continued)

(2) Permanent closure and changes-in-service.

- (a) At least 30 days before beginning either permanent closure or a change-in-service under paragraphs (b) and (c) of Rule 1200—1—15—.07(2), owners and/or operators must submit a site closure plan to the Division to permanently close or make the change-in-service, unless such action is in response to corrective action. The required assessment of the excavation zone under Rule 1200—1—15—.07(3) must be performed after notifying the Division but before completion of the permanent closure or a change-in-service. Results of all samples taken during the closure of the underground storage tank system or change in service of the underground storage tank system must be reported to the Department within sixty (60) days of collection. Samples may not be taken while the underground storage tank system is in operation.
- (b) To permanently close a tank, owners and/or operators must empty and clean it by removing all liquids and accumulated sludges. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material such as a cement compound, sand, gravel, etc. The inert solid material must have a specific gravity greater than 1.0.
- (c) Continued use of an UST system to store a non-regulated substance is considered a change-in-service. Before a change-in-service, owners and/or operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with rule 1200—1—15—.07(3).
- (d) Should an owner and/or operator elect to excavate and remove a tank from the site, such excavation and removal must be done in accordance with Appendix 6.
- (e) Once a tank has been excavated, it may be stored on-site or transported off-site for storage or disposal. Excavated tanks which have not been cut into sections for disposal shall be considered in storage and shall at all times, while in storage, be maintained in a vapor-free state and stored in accordance with Appendix 5.
- (f) Tanks may not be stored at a UST facility unless they are maintained in a vapor-free state, stored in accordance with Appendix 6, and one of the following conditions are met:
 1. (i) Tanks have been cleaned by removal of all liquids and accumulated sludges; and
 - (ii) Tanks have been purged of vapors so that any explosive levels do not exceed 20 percent of the lower flammable limit for the regulated substance; and
 - (iii) Tanks have an opening or openings installed which comprise a minimum of 10 percent of the total tank surface area. Such openings will not be considered openings if they are in contact or contiguous with the ground or surface on which the tank may be resting; or
2. 1.(i) and (ii) above have been complied with and there are no remaining USTs either in use or in a temporarily closed condition at the facility; or
3. Tanks which are removed from a UST facility and are intended for reuse at the same or another facility as USTs may be stored at a UST facility if the owner and/or operator meets the conditions described in 1.(i) and (ii), and either removes the tank off-site from a UST facility or puts it back into service within thirty (30) days of excavation.

(g) Tanks must be stored in a manner which does not pose safety hazards. Tanks must be stored in a position with the tank's center of gravity closest to the ground. Tanks may not be stacked. Tanks must be secured so that they will not roll or slide across a level or sloping ground surface.

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—.07, continued)

(h) Transportation and disposal of tanks will be subject to all applicable Federal, State, and local laws and regulations concerning the safe transportation and proper disposal of such materials.

[Note: The following publications provide information on this subject: American Petroleum Institute Recommended Practice 1604 (Second Edition, December 1987), *Removal and Disposal of Used Underground Petroleum Storage Tanks*; American Petroleum Institute Publication 2015 (Third Edition, September 1985), *Cleaning Petroleum Storage Tanks*; American Petroleum Institute Recommended Practice 1631 (Second Edition, December 1987), *Interior Lining of Underground Storage Tanks*. The National Institute for Occupational Safety and Health Criteria Document 80-106 (1980 Edition), *Criteria for a Recommended Standard... Working in Confined Space* may be used as guidance for conducting safe closure procedures at some petroleum tanks.]

(3) Assessing the site at closure or change-in-service.

(a) Before permanent closure or a change-in-service is completed, owners and/or operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and/or operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release. The requirements of this paragraph are satisfied if one of the external release detection methods allowed in rule 1200—1—15—.04(3)(e) and (f) is operating in accordance with the requirements in rule 1200—1—15—.04(3) at the time of closure, and indicates no release has occurred.

(b) If contaminated soils, contaminated ground water, or free product as a liquid or vapor is discovered under subparagraph (a) of this paragraph, or by any other manner, owners and/or operators must begin corrective action in accordance with rule 1200—1—15—.06.

(4) Applicability to previously closed UST systems.

When directed by the Division, the owner and/or operator of an UST system permanently closed before December 22, 1988 must assess the excavation zone and close the UST system in accordance with rule 1200—1—15—.07 if releases from the UST may, in the judgment of the Division, pose a current or potential threat to human health and the environment.

(5) Closure records.

Owners and/or operators must maintain records in accordance with rule 1200—1—15—.03(5) that are capable of demonstrating compliance with closure requirements under rule 1200—1—15—.07. The results of the excavation zone assessment required in rule 1200—1—15—.07(3) must be maintained for at least 3 years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and/or operators who took the UST system out of service;

(b) By the current owners and/or operators of the UST system site; or

(c) By mailing these records to the Division if they cannot be maintained at the closed facility.

Authority: T.C.A. §§68—215—101 et seq., 68—215—113 and 4—5—201 et seq.. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 28, 1995; effective October 10, 1995.

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

Appendix I

Notification for Underground Storage Tanks		STATE USE ONLY	
TYPE OF NOTIFICATION		ID NUMBER	
<input type="checkbox"/> A. NEW FACILITY <input type="checkbox"/> B. AMENDED <input type="checkbox"/> C. CLOSURE No. of tanks at facility No. of continuation sheets attached		DATE RECEIVED	
INSTRUCTIONS Please type or print in ink all items except "signature" in section V. This form must be completed for each location containing underground storage tanks. If more than five (5) tanks are owned at this location, photocopy the following sheets, and staple continuation sheets to the form.		A. Date Entered Into Computer B. Data Entry Clerk Initials C. Owner Was Contacted to Clarify Responses. Comments	
GENERAL INFORMATION			
<p>Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 6, 1986, or that are brought into use after May 6, 1986. The information requested is required by Section 8002 of the Resource Conservation and Recovery Act (RCRA), as amended.</p> <p>The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonable available records, or in the absence of such records, your knowledge, belief, or reasonable.</p> <p>Who Must Notify? Section 8002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—</p> <ol style="list-style-type: none"> (1) in the case of an underground storage tank in use on November 6, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and (2) in the case of any underground storage tank in use before November 6, 1984 but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use. <p>(1) If the State agency so requires, any facility that has undergone any changes in facility information or tank system status (only amended tank information needs to be included).</p> <p>What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including estimated underground piping) is 10% or more buried in the ground. Some examples are underground tanks storing 1. Gasoline, used oil, or other fuel, and 2. Industrial solvents, pesticides, herbicides or fungicides.</p> <p>What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are</p> <ol style="list-style-type: none"> 1. Tanks or reservoirs units of 1,100 gallons or less capacity used for heating water for noncommercial purposes 2. Tanks used for storing heating oil for domestic use on the premises where stored. 			1. owned tanks; 2. petroleum facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1978, or which is an intrastate pipeline facility regulated under State laws; 3. surface impoundments, pits, ponds, or impounds; 4. term water or waste water collection systems; 5. flow-through process tanks; 6. liquid trap or an otherwise gathering lines directly related to oil or gas production and gathering operations; 7. storage tanks contained in an underground area (such as a basement, under a building, out, shell, or surface); if the storage tank is situated upon or above the surface of the floor.
<p>What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substances defined as hazardous in Section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances required as hazardous waste under Subtitle C of RCRA. It also includes petroleum, oil, gas, crude oil or any fraction thereof which is used or treated if containing 10 percent or more of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).</p> <p>Where To Notify? Send completed form to:</p> <p style="text-align: center;">Underground Storage Tank Division 300 Doctor's Building 708 Church Street Tennessee Department of Health and Environment Nashville, TN 37207-4101</p> <p>When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but not in the ground, must notify by May 6, 1986. 2. Owners who bring underground storage tanks into use after May 6, 1986, must notify within 30 days of bringing the tanks into use. 3. If the State requires notification of any amendments to the facility send information to State agency immediately.</p> <p>Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed \$10,000 for each tank for which notification is not given or for which false information is submitted.</p>			1. owned tanks; 2. petroleum facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1978, or which is an intrastate pipeline facility regulated under State laws; 3. surface impoundments, pits, ponds, or impounds; 4. term water or waste water collection systems; 5. flow-through process tanks; 6. liquid trap or an otherwise gathering lines directly related to oil or gas production and gathering operations; 7. storage tanks contained in an underground area (such as a basement, under a building, out, shell, or surface); if the storage tank is situated upon or above the surface of the floor.
I. OWNERSHIP OF TANK(S)		II. LOCATION OF TANK(S)	
Owner Name (Corporation, Institution, Public Agency, or Other Entity) Business Address City State Zip Code County Phone Number (Include Area Code)		Latitude Longitude <small>(If same as Section I, mark box <input type="checkbox"/>)</small> Facility Name or Company Site Number, as applicable Owner Address (P.O. Box not acceptable)	
City State Zip Code County Phone Number (Include Area Code)		City State Zip Code County	

101-3147 (Rev. 1-91)

August, 1991 (Revised)

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Appendix 1, continued)

III. TYPE OF OWNER		IV. INDIAN LANDS										
<input type="checkbox"/> Federal Government	<input type="checkbox"/> Commercial	Tanks are located on land within an Indian Reservation or on other trust lands.										
<input type="checkbox"/> State Government	<input type="checkbox"/> Private	<input type="checkbox"/> Tribe or Nation: _____										
<input type="checkbox"/> Local Government		<input type="checkbox"/> _____										
V. TYPE OF FACILITY												
Select the Appropriate Facility Description												
<input type="checkbox"/> Gas Station	<input type="checkbox"/> Railroad	<input type="checkbox"/> Trucking/Transport										
<input type="checkbox"/> Petroleum Distributor	<input type="checkbox"/> Federal - Non-Military	<input type="checkbox"/> Utilities										
<input type="checkbox"/> Air Taxi (Airlines)	<input type="checkbox"/> Federal - Military	<input type="checkbox"/> Residential										
<input type="checkbox"/> Aircraft Owner	<input type="checkbox"/> Industrial	<input type="checkbox"/> Farm										
<input type="checkbox"/> Auto Dealership	<input type="checkbox"/> Contractor	<input type="checkbox"/> Other (Explain) _____										
VI. CONTACT PERSON IN CHARGE OF TANKS												
Name	Job Title	Address	Phone Number (Include Area Code)									
VII. FINANCIAL RESPONSIBILITY												
I have met the financial responsibility requirements in accordance with 40 CFR Subpart H <input type="checkbox"/>												
Check All that Apply <table border="0"> <tr> <td><input type="checkbox"/> Self Insurance</td> <td><input type="checkbox"/> Guarantee</td> <td><input type="checkbox"/> State Funds</td> </tr> <tr> <td><input type="checkbox"/> Commercial Insurance</td> <td><input type="checkbox"/> Surety Bond</td> <td><input type="checkbox"/> Trust Fund</td> </tr> <tr> <td><input type="checkbox"/> Risk Retention Group</td> <td><input type="checkbox"/> Letter of Credit</td> <td><input type="checkbox"/> Other Method Allowed Specify _____</td> </tr> </table>				<input type="checkbox"/> Self Insurance	<input type="checkbox"/> Guarantee	<input type="checkbox"/> State Funds	<input type="checkbox"/> Commercial Insurance	<input type="checkbox"/> Surety Bond	<input type="checkbox"/> Trust Fund	<input type="checkbox"/> Risk Retention Group	<input type="checkbox"/> Letter of Credit	<input type="checkbox"/> Other Method Allowed Specify _____
<input type="checkbox"/> Self Insurance	<input type="checkbox"/> Guarantee	<input type="checkbox"/> State Funds										
<input type="checkbox"/> Commercial Insurance	<input type="checkbox"/> Surety Bond	<input type="checkbox"/> Trust Fund										
<input type="checkbox"/> Risk Retention Group	<input type="checkbox"/> Letter of Credit	<input type="checkbox"/> Other Method Allowed Specify _____										
VIII. CERTIFICATION (Read and sign after completing all sections)												
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.												
Name and official title of owner or owner's authorized representative (Print)	Signature		Date Signed									
EPA estimates public reporting burden for this form to average 30 minutes per response including time for reviewing instructions, gathering and maintaining the data needed and completing and reviewing the form. Send comments regarding this burden estimate to: Chief, Information Policy Branch PM-223, U.S. Environmental Protection Agency, 401 M Street, Washington D.C. 20460, marked "Attention Desk Officer for EPA." This form amends the previous notification form as printed in 40 CFR Part 280, Appendix L. Previous editions of this notification form may be used while supplies last.												

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Appendix 1, continued)

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)					
Tank Identification Number	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____
1. Status of Tank (mark only one)	Currently in Use <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Temporarily Out of Use <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Permanently Out of Use <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amendment or Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Date of Installation (mo./year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Estimated Total Capacity (gallons)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Material of Construction (Mark all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Coated or Bare Steel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cathodically Protected Steel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Epoxy Coated Steel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Composite (Steel with Fiberglass)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fiberglass Reinforced Plastic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lined Interior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Double Walled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Polyethylene Tank Jacket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concrete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excavation Liner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unknown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has tank been repaired?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Piping (Material) (Mark all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bare Steel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Galvanized Steel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fiberglass Reinforced Plastic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cathodically Protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Double Walled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secondary Containment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unknown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Piping (Type) (Mark all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suction: no valve at tank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suction: valve at tank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gravity Feed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has piping been repaired?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Page 3

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Appendix 1, continued)

Tank Identification Number	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____
7. Substance Currently or Last Stored In Greatest Quantity by Volume					
Gasoline					
Diesel					
Gasohol					
Kerosene					
Heating Oil					
Used Oil					
Other, Please specify					

Hazardous Substance CERCLA name and/or, CAS number					

Mixture of Substances Please specify					

X. TANKS OUT OF USE, OR CHANGE IN SERVICE					
1. Closing of Tank					
A. Estimated date last used (mo./day/year)					

B. Estimate date tank closed (mo./day/year)					

C. Tank was removed from ground					
D. Tank was closed in ground					
E. Tank filled with inert material Describe					

F. Change in service					

2. Site Assessment Completed					

Evidence of a leak detected					

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Appendix 1, continued)

XI. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)

Tank Identification Number	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____			
1. Installation								
A. Installer certified by tank and piping manufacturers								
B. Installer certified or licensed by the implementing agency								
C. Installation inspected by a registered engineer								
D. Installation inspected and approved by implementing agency								
E. Manufacturer's installation checklists have been completed								
F. Another method allowed by State agency. Please specify.								
2. Release Detection (Mark all that apply)	TANK	PIPING	TANK	PIPING	TANK	PIPING	TANK	PIPING
A. Manual tank gauging	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
B. Tank tightness testing	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
C. Inventory controls	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
D. Automatic tank gauging	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
E. Vapor monitoring	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
F. Groundwater monitoring	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
G. Interstitial monitoring double walled tank/piping	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
H. Interstitial monitoring/secondary containment	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
I. Automatic line leak detectors	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
J. Line tightness testing	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
K. Other method allowed by Implementing Agency. Please specify.	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
3. Spill and Overfill Protection								
A. Overfill device installed								
B. Spill device installed								
OATH: I certify the information concerning installation that is provided in section XI is true to the best of my belief and knowledge.								
Installer:	Name _____	Signature _____			Date _____			
	Position _____				Company _____			

Appendix 2 — Statement for Shipping Tickets and Invoices

Note - A Federal law (the Resource Conservation and Recovery Act (RCRA), as amended (Pub. L. 98-616)) requires owners of certain underground storage tanks to notify designated State or local agencies by May 8, 1986, of the existence of their tanks. The Tennessee Petroleum Underground Storage Tank Act (T.C.A. §68—215—101^{et seq.}) also contains notification requirements. Notifications for tanks brought into use after July 1, 1989 must be made 15 days in advance of installation. Consult EPA's regulations, issued on November 8, 1986 (40 CFR Part 280) and state law (T.C.A. §68—215—101^{et seq.}) and state regulations (Chapter 1200—1—15) to determine if you are affected by these laws and regulations.

Appendix 3 - Change of Ownership Form

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION Page 9 of 25 Pages
DIVISION OF UNDERGROUND STORAGE TANKS

AMENDED NOTIFICATION FOR UNDERGROUND STORAGE TANKS																																																																							
SELLER REPORTING CHANGE OF OWNERSHIP OF TANKS																																																																							
INSTITUTION and GENERAL INFORMATION																																																																							
<p>Who Must Notify? In the case of a sale of tanks, the seller must submit the amended notification form and must also inform the buyer of the notification requirements.</p> <p>Where To Notify? Any change in the status of the tanks at a petroleum underground storage tank facility must be reported within thirty (30) days of such change.</p> <p>Where To Notify? Send completed forms to: Underground Storage Tank Division 200 Doctor's Building 708 Church Street Tennessee Department of Environment & Conservation Nashville, TN 37243-1541</p> <p>Penalties: Any seller who knowingly fails to notify or furnishes false information shall be subject to a civil penalty not to exceed \$10,000 for each tank for which notification is not given or for which false information is submitted.</p>																																																																							
<p>Please type or print in ink all items except "signature" in section</p>																																																																							
<table border="1"> <tr> <td colspan="3">ID NUMBER</td> </tr> <tr> <td colspan="3"> I. OWNERSHIP OF TANK(S) </td> </tr> <tr> <td colspan="2">Seller's Name (Corporation, Individual, Public Agency, or Other Entity)</td> <td colspan="2">Buyer's Name (Corporation, Individual, Public Agency, or Other Entity)</td> </tr> <tr> <td colspan="2">Street Address</td> <td colspan="2">Street Address</td> </tr> <tr> <td>City</td> <td>State</td> <td>ZIP Code</td> <td>City</td> </tr> <tr> <td>County</td> <td></td> <td></td> <td>County</td> </tr> <tr> <td colspan="4">Phone Number (Include Area Code):</td> </tr> <tr> <td colspan="4"> II. LOCATION OF TANK(S) </td> </tr> <tr> <td colspan="2">Give the County Tax Map and Parcel numbers for this location</td> <td colspan="2">III. BUYER INFORMED BY SELLER</td> </tr> <tr> <td colspan="2">MSD # _____ Parcel # _____</td> <td colspan="2">The seller informed the buyer of the notification requirements on _____ (MM/YY)</td> </tr> <tr> <td colspan="2">Facility Name or Company (See Identifier, if applicable)</td> <td colspan="2">(Mark all that apply)</td> </tr> <tr> <td colspan="2">Street Address (If O, Box not recommended)</td> <td colspan="2"> <input type="checkbox"/> Mail <input type="checkbox"/> Certified Mail <input type="checkbox"/> Telephone or Teleconfer <input type="checkbox"/> Other (please) _____ </td> </tr> <tr> <td>City</td> <td>State</td> <td>ZIP Code</td> <td></td> </tr> <tr> <td>County</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4"> IV. CERTIFICATION (Read and sign after completing all sections) </td> </tr> <tr> <td colspan="4"> <p>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.</p> <table border="1"> <tr> <td colspan="2">Name and official title</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">(Print)</td> <td>Signature</td> <td>Date Signed</td> </tr> </table> </td> </tr> </table>		ID NUMBER			I. OWNERSHIP OF TANK(S)			Seller's Name (Corporation, Individual, Public Agency, or Other Entity)		Buyer's Name (Corporation, Individual, Public Agency, or Other Entity)		Street Address		Street Address		City	State	ZIP Code	City	County			County	Phone Number (Include Area Code):				II. LOCATION OF TANK(S)				Give the County Tax Map and Parcel numbers for this location		III. BUYER INFORMED BY SELLER		MSD # _____ Parcel # _____		The seller informed the buyer of the notification requirements on _____ (MM/YY)		Facility Name or Company (See Identifier, if applicable)		(Mark all that apply)		Street Address (If O, Box not recommended)		<input type="checkbox"/> Mail <input type="checkbox"/> Certified Mail <input type="checkbox"/> Telephone or Teleconfer <input type="checkbox"/> Other (please) _____		City	State	ZIP Code		County				IV. CERTIFICATION (Read and sign after completing all sections)				<p>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.</p> <table border="1"> <tr> <td colspan="2">Name and official title</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">(Print)</td> <td>Signature</td> <td>Date Signed</td> </tr> </table>				Name and official title				(Print)		Signature	Date Signed
ID NUMBER																																																																							
I. OWNERSHIP OF TANK(S)																																																																							
Seller's Name (Corporation, Individual, Public Agency, or Other Entity)		Buyer's Name (Corporation, Individual, Public Agency, or Other Entity)																																																																					
Street Address		Street Address																																																																					
City	State	ZIP Code	City																																																																				
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Phone Number (Include Area Code):																																																																							
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Facility Name or Company (See Identifier, if applicable)		(Mark all that apply)																																																																					
Street Address (If O, Box not recommended)		<input type="checkbox"/> Mail <input type="checkbox"/> Certified Mail <input type="checkbox"/> Telephone or Teleconfer <input type="checkbox"/> Other (please) _____																																																																					
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(Print)		Signature	Date Signed																																																																				



Appendix 4

PETROLEUM CONTAMINATION CLEANUP LEVELS

GROUND WATER CLEANUP LEVEL

	BENZENE LEVEL	TOTAL PETROLEUM HYDROCARBON LEVEL
DRINKING WATER	0.005 PPM	0.100 PPM
NON-DRINKING WATER	0.070 PPM	1.0 PPM

Appendix 5

PETROLEUM CONTAMINATION CLEANUP LEVELS

<u>SOIL PERMEABILITY</u>	<u>>10⁻⁴ CM/SEC</u>	<u>10⁻⁴ TO 10⁻⁶ CM/SEC</u>	<u><10⁻⁶CM/SEC</u>
<u>SOIL CLEANUP LEVEL</u>	<u>T.P.H. LEVEL PPM *</u>		
DRINKING WATER	10	50*	100
NON-DRINKING WATER	50	250*	500

OR

TOTAL PETROLEUM HYDROCARBON CLEANUP LEVELS

<u>SOIL PERMEABILITY</u>	<u>>10⁻⁴ CM/SEC</u>	<u>10⁻⁴ TO 10⁻⁶ CM/SEC</u>	<u><10⁻⁶CM/SEC</u>
<u>SOIL CLEANUP LEVEL</u>	<u>T.P.H. PPM LEVEL</u>		
DRINKING WATER	100	250	500
NON-DRINKING WATER	250	500	1000

** Revised; see Appendix 5 replacement*

SUBSTANCE OF PROPOSED RULES

CHAPTER 1200-1-15 UNDERGROUND STORAGE TANK PROGRAM

Appendix 5 of 1200-1-15, PETROLEUM CONTAMINATION CLEANUP LEVELS, is amended by deleting Appendix 5 in its entirety and replacing it so that, as amended, the appendix shall read:

Appendix 5 PETROLEUM CONTAMINATION CLEANUP LEVELS

BENZENE CLEANUP LEVELS

SOIL PERMEABILITY	>10 -4 CM/SEC	10 -4 to 10 -6 CM/SEC	< 10 -6 CM/SEC
SOIL CLEANUP LEVEL		BENZENE LEVEL in PPM	
DRINKING WATER	5	25	50
NON-DRINKING WATER	25	50	100

OR

TOTAL PETROLEUM HYDROCARBON CLEANUP LEVELS

SOIL PERMEABILITY	>10 -4 CM/SEC	10 -4 to 10 -6 CM/SEC	< 10 -6 CM/SEC
SOIL CLEANUP LEVEL		TPH in PPM	
DRINKING WATER	100	250	500
NON-DRINKING WATER	250	500	1000

Rule Making Authority: T.C.A. §68-215-109 and T.C.A. 4-5-202

Substantive Authority: T.C.A. §68-215-107

Administrative History: Original Rule Filed March 1, 1990; effective April 15, 1990

APPENDIX 6

REMOVAL OF UNDERGROUND TANKS

(1) Preparation

- (a) Drain product piping into the tank, being careful to avoid any spillage. Cap or remove product piping.
- (b) Remove liquids and residues from the tank by using explosion-proof or air-driven pumps. Pump motors and suction hoses must be bonded to the tank or otherwise grounded to prevent electrostatic ignition hazards. It may be necessary to use a hand pump to remove the last few inches of liquid from the bottom of the tank.

NOTE: (The Federal Resource Conservation and Recovery Act (RCRA) 42 U.S.C. Section 6901 et seq., and the Tennessee Hazardous Waste Management Act (HWMA) Part 1 T.C.A. §68—16—101 et seq. place restrictions on disposal of certain residues that may be present in some underground storage tanks. Residues from tanks that have held leaded gasoline should be treated with extreme caution. Lead compounds and other residues in the tank may be classified as hazardous wastes).

(c) Excavate to the top of tank.

- (d) Remove the fill pipe, gauge pipe, vapor recovery truck connection, submersible pumps, and other tank fixtures. Remove the drop tube, except when it is planned to vapor-free the tank by using an eductor. Cap or remove all non-product lines, such as vapor recovery lines, except the vent line. The vent line must remain connected until the tank is purged. Temporarily plug all other tank openings so that all vapors will exit through the vent line during the vapor-freeing process.

(2) Purgung

- (a) Remove flammable vapors by one of the methods described in (2)(b) through (2)(e), or as required by local codes. These methods provide a means for temporary vapor-freeing of the tank atmosphere. However, it is important to recognize that the tank may continue to be a source of flammable vapors even after following the vapor-freeing procedures described in (b) through (e). For this reason, caution must always be exercised when handling or working around tanks that have stored flammable or combustible liquids. Before initiating work in the tank area or on the tank, a combustible gas indicator must be used to assess vapor concentrations in the tank and work area. All work must be done in accordance with Section 3, Testing".
- (b) Vent all vapors from the tank at a minimum height of 12 feet above grade and 3 feet above any adjacent roof lines until the tank is purged of flammable vapors. The work area must be free from sources of ignition.
- (c) Flammable and combustible vapors may be purged with an inert gas such as carbon dioxide (CO₂) or nitrogen (N₂). This method is not to be utilized if the tank is to be entered for any reason, as the tank atmosphere will be oxygen deficient. The inert gas is to be introduced through a single tank opening at a point near the bottom of the tank at the end of the tank opposite the vent. When inert gases are used, they must be introduced under low pressure to avoid the generation of static electricity. When using CO₂ or N₂, pressures in the tank must not exceed 5 pounds per square inch gauge.

CAUTION: The process of introducing compressed gases into the tank may create a potential ignition hazard as the result of the development of static electrical charges. The discharging device must therefore be grounded. Explosions have resulted from the discharging of CO₂ fire extinguishers into tanks containing a flammable vapor-air mixture. CO₂ extinguishers must not be used for inerting flammable atmospheres.

(Appendix 6, continued)

(d) If the method described in 3 is not practical, the vapors in the tank may be displaced by adding solid carbon dioxide (dry ice) to the tank in the amount of at least 1.5 pounds per 100 gallons of tank capacity. The dry ice should be crushed and distributed evenly over the greatest possible area in the tank to promote rapid evaporation. As the dry ice vaporizes, flammable vapors will flow out of the tank and may surround the area. Therefore, where practical, plug all tank openings except the vent after introducing the solid CO₂ and continue to observe all normal safety precautions regarding flammable or combustible vapors. Make sure that all of the dry ice has evaporated before proceeding.

(e) Flammable vapors may be exhausted from the tank by one of two methods of tank ventilation listed below:

1. Ventilation using an eductor-type air mover usually driven by compressed air. The eductor-type air mover must be properly bonded to prevent the generation and discharge of static electricity. When using this method, the fill (drop) tube must remain in place to ensure ventilation at the bottom of the tank. Tanks equipped with fill (drop) tubes that are not removable should be purged by this method. An eductor extension shall be used to discharge vapors a minimum of 12 feet above grade and at least 3 feet above any adjacent roof line.
2. Ventilation with a diffused air blower. When using this purging method, it is imperative that the air-diffusing pipe is properly bonded to prevent the discharge of a spark. Fill (drop) tubes must be removed to allow proper diffusion of the air in the tank. Air supply should be from a compressor that has been checked to ensure a clean air supply and is free from volatile vapors. Air pressure in the tank must not exceed 5 pounds per square inch gauge.

(3) Testing

- (a) The tank atmosphere and the excavation area are to be regularly tested for flammable or combustible vapor concentrations until the tank is removed from both the excavation and the site. Such tests are to be made with a combustible gas indicator which is properly calibrated according to the manufacturer's instructions and which is thoroughly checked and maintained in accordance with the manufacturer's instructions. Persons responsible for testing must be completely familiar with the use of the instrument and the interpretation of the instrument's readings.
- (b) The tank vapor space is to be tested by placing the combustible gas indicator probe into the fill opening with the drop tube removed. Readings should be taken at the bottom, middle, and upper portions of the tank, and the instrument should be cleared after each reading. If the tank is equipped with a non-removable fill tube, readings are to be taken through another opening. Liquid product must not enter the probe. Readings of 20 percent or less of the lower flammable limit must be obtained before the tank is considered safe for removal from the ground.
- (c) Tanks purged with an inert gas must be sampled with an oxygen indicator and the oxygen content must be considered while interpreting combustible gas indicator results.

(4) Removal

- (a) After the tank has been freed of vapors and before it is removed from the excavation, plug or cap all accessible holes. One plug must have a 1/8-inch vent hole to prevent the tank from being subjected to excessive differential pressure caused by temperature changes. The tank must always be positioned with this vent plug on top of the tank during subsequent transport and storage.

UNDERGROUND STORAGE TANKS PROGRAM

CHAPTER 1200—1—15

(Appendix 6, continued)

- (b) Excavate around the tank to uncover it for removal. Remove the tank from the excavation and place it on a level surface. Use wood blocks to prevent movement of the tank after removal and prior to loading on a truck for transportation. Use screwed (boiler) plugs to plug any corrosion holes in the tank shell.
- (c) Precautions must be taken to assure any vapors left in the tank do not reach a combustible level. If this situation occurs, the tank must be purged according to Section B.
- (d) Before the tank is removed from the site, the tank atmosphere must be checked with a combustible gas indicator to ensure that it does not exceed 20 percent of the lower flammable limit.
- (e) The tank must be secured on a truck for transportation to the storage or disposal site with the 1/8-inch vent hole located at the uppermost point on the tank. Tanks must be transported in accordance with all applicable local, state, and federal laws and regulations.
- (f) Tanks must be labeled after removal from the ground but prior to removal from the site. Regardless of the condition of the tank, the label must contain a warning against certain types of reuse. The former contents and present vapor state of each tank, including vapor-freeing treatment and data must also be indicated. The label must be similar to the following in legible letters at least 2 inches high:

TANK HAS CONTAINED LEADED GASOLINE*

NOT VAPOR FREE

NOT SUITABLE FOR STORAGE OF FOOD OR LIQUIDS
INTENDED FOR HUMAN OR ANIMAL CONSUMPTION

DATE OF REMOVAL: MONTH/DAY/YEAR

*Or other flammable/combustible liquid. Use the applicable designation, for example, DIESEL.

Tanks that have held leaded motor fuels (or whose service history is unknown) must also be clearly labeled with the following information.

TANK HAS CONTAINED LEADED GASOLINE
LEAD VAPORS MAY BE RELEASED IF HEAT
IS APPLIED TO THE TANK SHELL

STORAGE OF USED TANKS

Storage Procedures

- (a) Tanks must be vapor-free before being placed in storage. Tanks must also be free of all liquids and residues. All tank openings must be tightly plugged or capped, with one plug having a 1/8-inch vent hole to prevent the tank from being subjected to excessive differential pressure caused by temperature changes. Tanks must be stored with the vented plug at the highest point on the tank. All tanks must be labeled.
- (b) Used tanks must be stored in secure areas where the general public will not have access.

(Rule 1200—1—15—.09, continued)

(17) Recovery of Costs by State — Apportionment of Liability.

- (a) Making use of any and all appropriate existing state legal remedies, the Commissioner may commence court action to recover the amount expended by the state from any and all responsible parties for each site investigated, identified, contained or cleaned up, including up to the limits of financial responsibility for owners and/or operators of petroleum underground storage tanks covered by the fund and the entire amount from owners and/or operators of petroleum underground storage tanks not covered by the fund.
- (b) In any action under this rule, no responsible party shall be liable for more than that party's apportioned share of the amount expended by the state for such site. The responsible party has the burden of proving his apportioned share. Such apportioned share shall be based solely on the liable party's portion of the total volume of the petroleum at the petroleum site at the time of action under this chapter. Any expenditures required by the provisions of this chapter made by a responsible party (before or after suit) shall be credited toward any such apportioned share.
- (c) In no event shall the total moneys recovered from the responsible party or parties exceed the total expenditure by the state for each site.
- (d) Any party found liable for any costs or expenditures recoverable under this chapter who establishes by a preponderance of evidence that only a portion of such costs or expenditures are attributable to his or her actions shall be required to pay only for such portion.
- (e) If the trier of the fact finds evidence insufficient to establish such party's portion of costs or expenditures in such a cost recovery, the court shall apportion such costs or expenditures among the defendants, to the extent practicable, according to equitable principles.

(18) Failure to Take Proper Action

Any responsible party who fails without sufficient cause to properly provide for removal of petroleum or remedial action upon order of the commissioner pursuant to this chapter may be liable to the state for a penalty in an amount equal to one hundred fifty percent (150%) of the amount of any costs incurred by the state as a result of such failure to take proper action. The Commissioner may recover this penalty in an action commenced under T.C.A. §68—53—115, rule 1200—1—15—.09(17), or in a separate civil action, and such penalty shall be in addition to any costs recovered from such responsible party pursuant to this chapter.

(19) Severability. If any paragraph, subparagraph, part, subpart, item or subitem of this rule is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this rule shall not be affected thereby.

Authority: T.C.A. §§68—53—107, 68—53—113 and 4—5—201 et seq. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 3, 1991; effective August 17, 1991. Amendment filed November 24, 1992; effective January 9, 1993. Amended by Public Chapter 467; effective May 31, 1993. Amendment filed July 28, 1995; effective October 10, 1995.

1200—1—15—.10 FEE COLLECTION AND CERTIFICATION ISSUANCE REGULATIONS.

- (1) *Purpose* — The purpose of this rule is to establish a system and schedule for collection of underground storage tank fees.
- (2) *Applicability* — Requirements of this Rule apply to the following persons:
 - (a) All owners/operators of petroleum underground storage tanks reported under the requirements of T.C.A. §68—53—101 et seq. as follows:

UNDERGROUND STORAGE TANK PROGRAM

(Rule 1200—1—15—10, continued)

CHAPTER 1200—1—15

1. All petroleum underground storage tanks that are actively storing petroleum;
2. All petroleum underground storage tanks that are reported as in service at the start of the annual billing cycle (July 1 for underground storage tanks in East Tennessee, October 1 for underground storage tanks in Middle Tennessee and January 1 for underground storage tanks in West Tennessee) and;
3. All petroleum underground storage tanks taken temporarily of service after June 30, 1988 and have not been properly closed.

(b) Rule 1200—1—15—10 becomes effective July 1, 1990.

(3) *Annual Petroleum Underground Storage Tank Fees*

- (a) Any person required to pay a fee under this rule shall submit the fee in the specified amount, with checks made payable to the Department of Environment and Conservation/Underground Storage Tank Division for deposit in the State Treasury.
- (b) Any person who is an owner of a petroleum underground storage tank subject to annual fees shall pay the required annual fee unless a notarized agreement signed by the owner and the operator of petroleum underground storage tanks stipulates that the operator shall pay the annual fee. A new agreement must be submitted annually if the operator is to pay the annual fee.
- (c) The fee schedule provided in this rule shall be based upon the annual financial requirement to operate the petroleum underground storage tank program established pursuant to T.C.A. §68—215—101^{et seq.}
- (d) The amount of the annual petroleum underground storage tank fee shall be one hundred twenty-five dollars (\$125) per tank.
- (e) The amount of the annual administrative service fee for agencies and functions of the U.S. Government having sovereign immunity shall be twenty five dollars (\$25) per tank. Agencies and functions of the U.S. Government are not eligible for benefit or financial assistance from the Tennessee Petroleum Underground Storage Tank Fund.
- (f) Any owner or operator who pays an annual fee on an existing underground storage tank which is subsequently permanently closed in accordance with rule 1200—1—15—07(2) and replaced by a new underground storage tank installed at the same site in accordance with rule 1200—1—15—02(1) and 1200—1—15—02(3) will not be required to pay an additional annual fee.
- (g) Payment of the entire amount of the annual fee is required for underground storage tanks in service or temporarily out of service during any portion of the current billing year. Tanks placed into service after the current billing year begins or tanks which are permanently closed before the current billing year ends are not due a refund of the annual fee or any portion thereof.
- (h) The annual petroleum underground storage tank fee for an owner of an underground storage tank who complies with all the conditions set forth in rule 1200—1—15—10(10) shall be twenty-five dollars (\$25.00), following Division approval, for the time frame set forth in rule 1200—1—15—10(10)(e) only, provided that the owner maintains compliance with rule 1200—1—15—10 and these regulations.

(Rule 1200—1—15—.10, continued)

(4) *Use of the Fee*

- (a) The annual petroleum underground storage tank fees shall be deposited into the Petroleum Underground Storage Tank Fund and shall be used as specified in the Tennessee Petroleum Underground Storage Tank Act. The use of the fund includes but is not limited to:
 1. Provide a mechanism to assist with the financial responsibility requirements for owners and/or operators of petroleum underground storage tanks, including cleanup of contamination and third party claims due to bodily injury and/or property damage caused by leaking petroleum underground storage tanks.
 - (i) The fund shall provide for cleanup of contamination caused by leaking petroleum underground storage tanks whose owners and/or operators have paid the required petroleum underground storage tank fee. The fund shall be responsible for cleanup costs above the entry level to the fund in an amount not to exceed one million dollars (\$1,000,000). The initial owner and/or operator financial responsibility requirement for clean-up (taking corrective actions) is specified in rule 1200—1—15—.09(8)(b).
 - (ii) The fund shall provide coverage for third-party claims involving bodily injury and/or property damage caused by leaking petroleum underground storage tanks whose owners and/or operators have paid the required petroleum underground storage tank fee. The fund shall be responsible for court awards involving third party claims above the entry level into the fund in an amount not to exceed one million dollars (\$1,000,000). The initial owner and/or operator financial responsibility requirements for third party claims involving bodily injury or property damage is specified in rule 1200—1—15—.09(8)(b).
 2. Provide for administrative costs of implementation of the Petroleum Underground Storage Tank Program.

(5) *Failure to Pay the Annual Petroleum Underground Storage Tank Fee*

- (a) Any petroleum underground storage tank owner/operator who fails to pay the lawfully levied petroleum underground storage tank fee will be assessed a monthly penalty of 5 percent (5%) of the amount. Such penalty shall be assessed monthly until the fee and all associated penalties are paid. The monthly penalty may be waived by the Commissioner upon receipt of documentation justifying late fee payment.
- (b) The Department shall not issue a petroleum underground storage tank certificate to any facility where the owner/operator has failed to pay the lawfully levied petroleum underground storage tank fees. To refuse or fail to pay the Department the annual fee per tank is an unlawful action as described in T.C.A. §68—53—104(3).
- (c) The Department shall revoke the petroleum underground storage tank certificate for any facility for which the owner/operator has failed to pay the lawfully levied petroleum underground storage tank fee(s). Should an owner/operator fail to pay the annual fee(s), following 15 days from the receipt of written notice that the Department intends to remove the certificate, a Division representative may remove the certificate from a facility.
- (d) Upon failure or refusal of an owner and/or operator of a petroleum underground storage tank, subject to fees by regulation, to pay a fee lawfully levied within a reasonable time allowed by the Commissioner, the Commissioner may proceed in the Chancery Court of Davidson County to obtain judgment and seek execution of such judgment.

(6) *Petroleum Underground Storage Tank Annual Fee Notices*

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—10, continued)

(a) Prior to the due date of the annual underground storage tank fee, the Division shall issue fee notices to the owner/operator of the petroleum underground storage tanks. Fee notices and due dates shall be staggered using the three grand divisions of the state of Tennessee.

1. Tank fees for underground storage tanks in the following East Tennessee counties shall be due on July 31 of each year:

Johnson, Sullivan, Carter, Washington, Unicoi, Hancock, Hawkins, Greene, Claiborne, Grainger, Hamblen, Cocke, Scott, Campbell, Union, Anderson, Knox, Jefferson, Sevier, Morgan, Roane, Loudon, Blount, Bledsoe, Rhea, Meigs, McMinn, Monroe, Grundy, Sequatchie, Hamilton, Bradley, Polk, Franklin, and Marion.

2. Tank fees for underground storage tanks in the following Middle Tennessee counties shall be due October 31 of each year:

Stewart, Montgomery, Robertson, Sumner, Macon, Clay, Pickett, Houston, Hickman, Cheatham, Davidson, Wilson, Trousdale, Smith, Jackson, Overton, Fentress, Putnam, Cumberland, White, DeKalb, Van Buren, Warren, Cannon, Rutherford, Williamson, Dickson, Humphreys, Perry, Wayne, Lewis, Lawrence, Maury, Giles, Marshall, Lincoln, Moore, Bedford, and Coffee.

3. Tank fees for underground storage tanks in the following West Tennessee counties shall be due January 31 of each year:

Lake, Obion, Weakley, Henry, Dyer, Crockett, Gibson, Carroll, Benton, Lauderdale, Tipton, Shelby, Haywood, Fayette, Madison, Hardeman, Henderson, Chester, McNairy, Decatur, and Hardin.

(b) The owner/operator of petroleum underground storage tanks shall pay the annual fee on or before the due date.

(c) Any owner who brings an underground storage tank system into use after July 1, 1989, must submit the current year's tank fee with the required notice of existence of such tank system required in rule 1200—1—15—02(3)(a).

(7) *Issuance of Annual Petroleum Underground Storage Tank Facility Certificates*

(a) The Division shall issue petroleum underground storage tank facility certificates annually. The certificate will contain the facility identification number, address, number of underground storage tanks, and the size of said tanks. The color of the certificate will be changed annually in order to assist persons delivering petroleum in determining if the underground storage tank facility has a current certificate.

(b) Certificate issuance shall be staggered using the three grand divisions of the state of Tennessee. Certificates shall be issued as follows:

1. Petroleum underground storage tank facility certificates for East Tennessee shall be issued in the month of September to owner/operators for petroleum underground storage tanks in the following counties:

Johnson, Sullivan, Carter, Washington, Unicoi, Hancock, Hawkins, Greene, Claiborne, Grainger, Hamblen, Cocke, Scott, Campbell, Union, Anderson, Knox, Jefferson, Sevier, Morgan, Roane, Loudon, Blount, Bledsoe, Rhea, Meigs, McMinn, Monroe, Grundy, Sequatchie, Hamilton, Bradley, Polk, Franklin, and Marion.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—10, continued)

The annual certificate shall be effective for one year, starting October 1 of the year to September 30 of the following year.

2. Petroleum underground storage tank facility certificates for Middle Tennessee shall be issued in the month of December to owner/operators for petroleum underground storage tanks in the following counties:

Stewart, Montgomery, Robertson, Sumner, Macon, Clay, Pickett, Houston, Hickman, Cheatham, Davidson, Wilson, Trousdale, Smith, Jackson, Overton, Fentress, Putnam, Cumberland, White, DeKalb, Van Buren, Warren, Cannon, Rutherford, Williamson, Dickson, Humphreys, Perry, Wayne, Lewis, Lawrence, Maury, Giles, Marshall, Lincoln, Moore, Bedford, and Coffee.

The annual certificate shall be effective for one year, starting January 1 of the year to December 31 of the same year.

3. Petroleum underground storage tank facility certificates for West Tennessee shall be issued in the month of March to owner/operators for petroleum underground storage tanks in the following counties:

Lake, Obion, Weakley, Henry, Dyer, Crockett, Gibson, Carroll, Benton, Lauderdale, Tipton, Shelby, Haywood, Fayette, Madison, Hardeman, Henderson, Chester, McNairy, Decatur, and Hardin.

The annual certificate shall be effective for one year, starting April 1 of the year to March 31 of the following year.

(8) *Unlawful Action*

It shall be unlawful to put petroleum into underground storage tanks at a facility without a current petroleum underground storage tank facility certificate. This is a violation for the person putting petroleum into the underground storage tank as well as for the person having product put into the underground storage tank.

(9) *Removal of Certificates*

The Division may remove the petroleum underground storage tank facility certificate from a facility if the owner/operator violates the provisions of T.C.A. §68—215—101 *et seq.* or any regulations promulgated subsequent to this Act. Such removal must be authorized through issuance of a Commissioner's Order due to violations of the Act or regulations. The owner/operator may appeal the Commissioner's Order to the Board.

(10) *Tank Fee Reduction Incentive Program*

- (a) The annual petroleum underground storage tank fee shall be twenty-five dollars (\$25.00) for each tank, following Division approval, which: (1) has been fully and completely upgraded to comply with the new and/or upgraded tank standards set forth in rule 1200—1—15—.02; or (2) is a replacement tank or additional tank which complies with the new tank standards set forth in Rule 1200—1—15—.02 and is installed at an existing petroleum site. An owner of a tank installed after December 22, 1988 at a new petroleum site is not eligible for the tank fee reduction incentive program and must pay an annual petroleum underground storage tank fee in accordance with rule 1200—1—15—.10(3)(d). To participate in the tank fee reduction incentive program, each tank located at the petroleum site must comply with all the following conditions:

1. Each tank and all lines must meet the performance standards for new and/or upgraded tank systems as described in Rule 1200—1—15—.02; and
2. The tank is monitored for releases utilizing a monthly monitoring method as described in Rule 1200—1—15—.04(3)(b)—(3)(h) and .04(4)—(5); except emergency generator tanks described in 1200—1—15—.01(1)(c); and

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—10, continued)

3. The system is operated in accordance with the general operating requirements as described in Rule 1200—1—15—03; and
4. The tank owner and/or operator must not owe any outstanding tank fees or late penalties on any tanks located at the petroleum site; and
5. Any tank removed or replaced after April 15, 1990 at the petroleum site was closed in accordance with closure requirements as described in Rule 1200—1—15—07.

(b) An owner of an underground storage tank which meets the requisites of subpart (a) of this rule may submit a written request for approval for eligibility in the tank fee reduction incentive program. An owner must provide the following information and data to the Division with the written request; including but not limited to:

1. Data and documentation to evidence the criteria set forth in subpart (a) of this rule; and
2. Any other information required by the Division related to the underground storage tank system at the petroleum site.

(c) The Division shall consider the following factors to determine whether to grant approval:

1. Compliance with the performance standards set forth in Rule 1200—1—15—02—04;
2. Compliance with Rule 1200—1—15—07;
3. Compliance with the Act and regulations promulgated thereunder.

The Division will notify an owner of the Division's determination to grant approval for a reduced annual fee with the invoice for the billing year.

(d) The Division may revoke an approval at any time if the owner fails to maintain compliance with Rule 1200—1—15—02 through .04 and .07 of the regulations, or provides false or inaccurate information or data to the Division. If the Division revokes the approval, the owner must pay an annual petroleum underground storage tank fee in accordance with Rule 1200—1—15—10(3)(e) for the year of revocation and every year thereafter. Following revocation, an owner may not request an approval for the petroleum site after the deficiencies or noncompliance has been corrected.

The Division will notify the owner in writing of a decision to revoke the approval. If the owner is dissatisfied with the Division's decision, the owner must submit an appeal, in writing, to the Commissioner. The written appeal shall set forth the grounds and reasons for objection and shall ask for a hearing before the Board. The Division's determination to revoke an approval shall become final if a written petition of appeal is not filed with the Commissioner within thirty (30) days after the date the Notice of Revocation is served. If the Board rules, following a contested case procedure pursuant to the Uniform Administrative Procedure Act, T.C.A. §4—5—101 *et seq.*, that the Division's basis for revoking the approval was inaccurate, the Board can reinstate the reduced fee as set forth in Rule 1200—1—15—10(10)(a).

(e) An owner may seek approval for eligibility in the tank fee reduction incentive program from the Division on or after July 1, 1994, at the beginning of the billing cycle for the 1994-1995 fee year, as described in Rule 1200—11—5—10(6), until June 30, 1998. This reduced annual tank fee shall cease on June 30, 1998 at the beginning of the billing cycle for the 1998-1999 fee year and an owner shall pay the annual petroleum underground storage tank fee in accordance with Rule 1200—1—15—10(3)(d).

(f) An owner must submit all the information, data, and documentation required by this rule to the Division by June 1 of each billing year to be eligible for the reduced annual tank fee. Any owner who fails to submit the requisite information, data and documentation by June 1 may submit a written request for a reduced annual tank fee for the next year.

(Rule 1200—1—15—10, continued)

Authority: T.C.A. §§68—215—109 and 4—5—202. Administrative History: Original rule filed March 1, 1990; effective April 15, 1990. Amendment filed July 3, 1991; effective August 17, 1991. Amendment filed February 4, 1994; effective June 28, 1994. Amendment filed February 4, 1994; effective June 28, 1994. Amendment filed July 28, 1995; effective October 10, 1995. Amendment filed July 24, 1995; effective November 28, 1995.

1200—1—15—11 UNDERGROUND STORAGE TANK PROGRAM.

- (1) Purpose. The purpose of this rule is to establish a system and schedule whereby certain fees shall be levied by the Petroleum Underground Storage Tank Board and collected by the Commissioner. Expenditures of such fees collected shall be restricted to operation of the Petroleum Underground Storage Tank Program established pursuant to T.C.A. §68—215—101 *et. seq.*
- (2) Applicability. Requirements of this rule apply to the following persons:
 - (a) All owners/operators of petroleum underground storage tanks reported under the requirements of T.C.A. §68—215—101 *et. seq.* as follows:
 1. All petroleum underground storage tanks that are actively storing petroleum;
 2. All petroleum underground storage tanks that are reported as in service on July 1, 1989; and
 3. All petroleum underground storage tanks taken temporarily out of service after June 30, 1988 and have not been properly closed.
 - (b) Rule 1200—1—15—11 shall be effective December 8, 1989 through June 30, 1990.
- (3) Annual Petroleum Underground Storage Tank Fees
 - (a) Any person required to pay a fee under this rule shall submit the fee in the specified amount, with checks made payable to the Department of Environment and Conservation/Underground Storage Tank Division for deposit in the State Treasury.
 - (b) Any person who is an owner of a petroleum underground storage tank subject to annual fees shall pay the required annual fee unless a notarized agreement signed by the owner and the operator of petroleum underground storage tanks stipulates that the operator shall pay the annual fee. A new agreement must be submitted annually if the operator is to pay the annual fee.
 - (c) The amount of the annual petroleum underground storage tank fee shall be one hundred dollars (\$100) per tank for the July 1, 1989 to June 30, 1990 fiscal year.
 - (d) The amount of the annual administrative service fee for agencies and functions of the United States Government having sovereign immunity shall be twenty five dollars (\$25.00) per tank for the July 1, 1989 to June 30, 1990 fiscal year. Agencies and functions of the United States Government are not eligible for benefit or financial assistance from the Tennessee Petroleum Underground Storage Tank Fund.
- (4) Use of the Fee. The petroleum underground storage tank fees shall be deposited into the Petroleum Underground Storage Tank Fund and shall be used as specified in the Tennessee Petroleum Underground Storage Tank Act.

The use of the fund includes, but is not limited to the following:

- (a) The fund shall provide for cleanup of contamination caused by leaking petroleum underground storage tanks whose owners and/or operators have paid the required petroleum underground storage tank fee. The fund shall be responsible for cleanup costs above the entry level to the fund in an amount not to exceed one million dollars (\$1,000,000). For the period between July 1, 1989 and April 30, 1990, the initial owner and/or operator financial responsibility requirements for cleanup shall be fifty thousand dollars (\$50,000). The fund shall be responsible for cleanup of contamination due to leaking petroleum underground storage tanks on a per site per occurrence basis.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—11, continued)

(b) The fund shall provide coverage for third-party claims involving bodily injury and/or property damage caused by leaking petroleum underground storage tanks whose owners and/or operators have paid the required petroleum underground storage tank fee. The fund shall be responsible for court awards involving third party claims above the entry level into the fund in an amount not to exceed one million dollars (\$1,000,000). For the period between July 1, 1989 and April 30, 1990, the initial owner and/or operator financial responsibility requirement for third party claims involving bodily injury or property damage shall be one hundred fifty thousand dollars (\$150,000). The fund shall be responsible for third party claims involving bodily injury and/or property damage caused by leaking petroleum underground storage tanks on a per site per occurrence basis.

(5) Failure to Pay the Annual Petroleum Underground Storage Tank Fee

(a) Any petroleum underground storage tank owner or operator who fails to pay the lawfully levied petroleum underground storage tank fee on or before the due date shall be assessed a monthly penalty of 5 percent of the amount due, which shall accrue on the first day of delinquency and be added thereto. Thereafter, on the last day of each month during which any part of any fee or any prior accrued penalty remains unpaid, an additional 5 percent (5%) of the then unpaid balance shall accrue and be added thereto.

(b) The commissioner may proceed with action described in the Tennessee Petroleum Underground Storage Tank Act for failure to pay the lawfully levied petroleum underground storage tank fee.

(6) Petroleum Underground Storage Tank Annual Fee Notices

(a) Prior to the due date of the annual petroleum underground storage tank fee, the Division shall issue fee notices to the owners/operators of petroleum underground storage tanks. Fee notices and due dates shall be staggered using the three grand divisions of the State of Tennessee.

1. Tank fees for underground storage tanks located in the following East Tennessee counties shall be due December 31, 1989:

Johnson, Sullivan, Carter, Washington, Unicoi, Hancock, Hawkins, Greene, Claiborne, Grainger, Hamblen, Cocke, Scott, Campbell, Union, Anderson, Knox, Jefferson, Sevier, Morgan, Roane, Loudon, Blount, Bledsoe, Rhea, Meigs, McMinn, Monroe, Grundy, Sequatchie, Hamilton, Bradley, Polk, Franklin, and Marion.

2. Tank fees for underground storage tanks located in the following Middle Tennessee counties shall be due December 31, 1989:

Stewart, Montgomery, Robertson, Sumner, Macon, Clay, Pickens, Houston, Hickman, Cheatham, Davidson, Wilson, Trousdale, Smith, Jackson, Overton, Fentress, Putnam, Cumberland, White, DeKalb, Van Buren, Warren, Cannon, Rutherford, Williamson, Dickson, Humphreys, Perry, Wayne, Lewis, Lawrence, Maury, Giles, Marshall, Lincoln, Moore, Bedford, and Coffee.

3. Tank fees for underground storage tanks located in the following West Tennessee counties shall be due March 31, 1990:

Lake, Obion, Weakley, Henry, Dyer, Crockett, Gibson, Carroll, Benton, Lauderdale, Tipton, Shelby, Haywood, Fayette, Madison, Hardeman, Henderson, Chester, McNairy, Decatur, and Hardin.

UNDERGROUND STORAGE TANK PROGRAM

CHAPTER 1200—1—15

(Rule 1200—1—15—11, continued)

(b) Any owner who brings an underground storage tank system into use after July 1, 1989 shall submit the current year's underground storage tank fee with the required notice of existence of such tank system(s) required in T.C.A. §68—53—106(4).

(7) **Unlawful Action.** It shall be unlawful to put petroleum into underground storage tanks at a facility without a current petroleum underground storage tank facility certificate. This is a violation for the person putting petroleum into the underground storage tank as well as for the person having product put into the underground storage tank.

(8) **Removal of Certificates.** The Division may remove the petroleum underground storage tank facility certificate from a facility if the owner/operator violates the provisions of T.C.A. §68—215—101 et. seq. or any regulations promulgated subsequent to this Act. Such removal must be authorized through issuance of a Commissioner's Order due to violations of the Act or regulations. The owner/operator may appeal the Commissioner's Order to the Board.

Authority: T.C.A. §§68—215—101 et. seq., 68—53—107, 68—53—113 and 4—5—201 et. seq. Administrative History: Original rule filed October 24, 1989; effective December 8, 1989. Amendment filed December 19, 1989; effective February 2, 1990. Amendment filed July 3, 1991; effective August 17, 1991.

RULEMAKING HEARING RULES
OF
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
RULES OF THE TENNESSEE UNDERGROUND STORAGE TANK BOARD

CHAPTER 1200-1-15

AMENDMENTS

Rule 1200-1-15-.06 (6) (b) is amended by replacing it in its entirety and shall now read:

(b)1. The responsible party shall conduct a limited investigation of the site: installing four soil borings completed as ground water monitoring wells or follow another investigative scheme approved by the Division. Soil and ground water shall be sampled to determine current levels of petroleum contamination. The threat of the contamination to the environment and local health and safety shall be evaluated using Technical Guidance Document 014 provided by the Division. The evaluation shall be subject to the review and approval of the Division. The evaluation of the threat presented by the contamination shall include, but is not limited to, the following items:

- i. The permeability of the soil;
- ii. The suitability of the ground water below the site for a drinking water supply as defined by rule 1200-1-15-.01(3)(p);
- iii. The depth to ground water;
- iv. The ground water flow rate;
- v. The level of ground water contamination at the site in comparison with the applicable ground water clean-up levels as listed in Appendix 4;
- vi. The level of soil contamination at the site in comparison to the applicable soil clean-up levels as listed in Appendix 5;
- vii. The proximity of nearby surface water;
- viii. The distance from the contamination to the nearest water supply (public and/or private);
- ix. The distance between the contamination and subsurface structures such as basements, sewers, utilities, etc.
- x. The physical and chemical characteristics of the petroleum, including its toxicity, persistence and potential for migration; and
- xi. The proximity, quality and current and future uses of surface waters.

The responsible party must submit this information in accordance with a schedule and in a format established by the Division. The evaluation shall determine whether the petroleum site is subject to investigation and corrective action per rule 1200-1-15-.06(7) or enters the monitoring only program described in rule 1200-1-15-.06(6)(b)3.

(b) 2. A responsible party shall commence investigation and corrective action at a petroleum site in accordance with rule 1200-1-15-.06(7) if the findings of the evaluation per 1200-1-15-.06(b)(1) evidence the condition of the site is a significant threat to public health and environment as defined in Technical Guidance Document 014. The responsible party shall completely define the areal and vertical extent of soil and/or ground water contamination. The investigation shall be completed in accordance with a schedule and a report submitted in a format established by the Division. Corrective action shall proceed as described in paragraph 1200-1-15-.06 (7).

- (b) 3. All other petroleum sites shall enter the monitoring only program with site conditions monitored semi-annually as directed by the Division. If at anytime soil and/or ground water analytical results indicate a significant increase in the level of petroleum contamination or site conditions change and petroleum vapors, free product or other public health and/or environmental problems arise, then the responsible party shall begin corrective action as described in paragraph 1200-1-15-.06(7). If the responsible party begins investigation and/or corrective action work at the site at the direction of the Division, then the costs are Fund eligible provided the site is Fund eligible.
- (b) 4. Responsible parties with petroleum sites in the monitoring only program may request a No Further Action Letter from the Division if the level of soil and ground water contamination has remained constant or decreased for a significant time period and the relative environmental and public health and safety risks are low. Once a site enters the monitoring only program, the Division must either issue a No Further Action Letter to the responsible party or inform the responsible party of the need to perform further investigation and/or corrective action at the site. The Division must inform the responsible party of this decision no sooner than two years from the date the site enters the monitoring only program but no later than four years from the date the site enters the monitoring only program.
- (b) 5. Responsible parties with petroleum sites may choose to begin corrective action to resolve soil and/or ground water contamination at sites designated for the monitoring program. These responsible parties shall proceed under the direction of the Division in accordance with paragraph 1200-1-15-.06 (7). The costs for investigations and corrective action beyond the monitoring only program requirements at these sites shall not be the liability of the Fund.

Rule Making Authority: T.C.A. Section 68-215-107 and 4-5-201 et. seq.
Substantive Authority: T.C.A. Section 68-215-107 and 68-215-111.
Administrative History: Original Rule Filed March 1, 1990; Effective April 15, 1990.

Rule 1200-1-15-.06 (7) (a) is amended by adding the following sentence, so that, as amended the rule shall read:

At any point after reviewing the information submitted in compliance with rule 1200-1-15-.06(2) through rule 1200-1-15-.06(4), the Division may require owners and/or operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and ground water. If a plan is required, owners and/or operators must submit the plan according to a schedule and format established by the Division. Alternatively, owners and/or operators may, after fulfilling the requirements of rule 1200-1-15-.06(2) through rule 1200-1-15-.06(4), choose to submit a corrective action plan for responding to contaminated soil and ground water. In either case, owners and/or operators are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the Division, and must modify their plan as necessary to meet this standard. An owner and/or operator submitting a corrective action plan in accordance with the requirements of 1200-1-15-.06(6)(b)5 shall not be reimbursed from the Fund for the costs associated with further investigation, preparation of the corrective action plan or the corrective action.

Rule Making Authority: T.C.A. Section 68-215-107 and 4-5-201 et. seq.
Substantive Authority: T.C.A. Section 68-215-107 and 68-215-111.
Administrative History: Original Rule Filed March 1, 1990; Effective April 15, 1990.

Rule 12001-15-.09(7) is amended by adding a new subparagraph (b) and relettering subparagraphs (b) through (e) as (c) through (f), so that as amended the rule shall read:

- (a) Whenever in the Commissioner's determination, an eligible owner or operator has a release of petroleum from an underground storage tank and the owner or operator has been found to be eligible for Fund

coverage, the Department shall, subject to the provisions of this rule, disburse monies available in the Fund to provide for:

1. Emergency response activities, investigation, and assessment of sites contaminated by a release of petroleum in accordance with the requirements of rule 1200-1-15-.05 through 1200-1-15-.06.
2. The rehabilitation of sites contaminated by a release of petroleum, which may consist of clean-up of affected soil and groundwater, using cost effective alternatives that are technologically feasible and reliable, and that provide adequate protection of the public health, safety and welfare and minimize environmental damage, in accordance with corrective action requirements of rule 1200-1-15-.06.
3. The interim replacement and permanent restoration of potable water supplies;

(b) Monies held in the Fund shall not be used to reimburse costs incurred by owners and/or operators conducting corrective action in accordance with 1200-1-15-.06(6)(b)5.;

(c) Monies held in the Fund may be disbursed for making payments to third parties who bring suit relative to a UST release against the owner or operator of an UST who is eligible for Fund coverage when such third party obtains a final judgment in that action enforceable in Tennessee.

(d) Costs incurred by the Division in the administration of the provisions of this rule or authorized under T.C.A. 68-53-101 et seq. shall be charged to the Fund.

(e) The fund shall be available to the Board and the Commissioner for expenditures for the purposes of providing for the investigation, identification, and for the reasonable and safe cleanup, including monitoring and maintenance of petroleum sites within the state as provided in T.C.A. 68-53-101 et seq.

(f) The commissioner may enter into contracts and use the fund for those purposes directly associated with identification, investigation, containment and cleanup, including monitoring and maintenance prescribed above including:

1. Hiring consultants and personnel;
2. Purchase, lease or rental of necessary equipment; and
3. Other necessary expenses.

Rule Making Authority: T.C.A. Section 68-215-107 and 4-5-201 et. seq.

Substantive Authority: T.C.A. Section 68-215-107 and 68-215-111.

Administrative History: Original Rule Filed March 1, 1990; Effective April 15, 1990.

Rule 1200-1-15-.09(8)(a) is amended by replacing it in its entirety, so that, as amended, the rule shall read:

(a) The Fund shall provide to eligible UST owners or operators coverage for the cost of investigation and corrective action resulting from the accidental release of petroleum from an UST storing petroleum; except for those costs incurred by UST owners or operators performing investigation and corrective action work as described in rule 1200-1-15-.06(6)(b)5. The Fund will also provide to eligible UST owners and operators

Rulemaking Hearing Rules

1200-1-15

Page 4 of 7

compensation of third parties for bodily injury and property damage caused by accidental releases from a regulated petroleum underground storage tank.

Rule Making Authority: T.C.A. 68-215-107 and 4-5-201 et. seq.

Substantive Authority: T.C.A. 68-215-107 and 68-215-111.

Administrative History: Original Rule Filed March 15, 1990; Effective April 15, 1990.

Rule 1200-1-15-.09(9) is amended by adding a new subparagraph (d) so that, as amended, the rule shall read:

(d) Costs associated with corrective action conducted in accordance with 1200-1-15-.06(6)(b)5. shall not be eligible for reimbursement from the Fund.

Rule Making Authority: T.C.A. Section 68-215-107 and 4-5-201 et. seq.

Substantive Authority: T.C.A. Section 68-215-107 and 68-215-111.

Administrative History: Original Rule Filed March 1, 1990; Effective April 15, 1990.

Signature of the agency officer or officers directly responsible for proposing and/or drafting these rules:

Charles L. Head, Director
Division of Underground Storage Tanks

The roll call vote by the Tennessee Petroleum Underground Storage Tank Board on these rulemaking hearing rules was as follows:

	<u>Aye</u>	<u>No</u>	<u>Abstain</u>	<u>Absent</u>
George J. Hyfantis, Chairman	✓	—	—	—
Thomas C. Jennings, Member	✓	—	—	—
John Johnson, Member	✓	—	—	—
Kyle W. Shell, Member	—	—	—	✓
James White, Member	—	—	—	✓
Kenneth Bunting, Member	✓	—	—	—
Kelly Williamson, Member	✓	—	—	—
Nelson Bowers, Member	—	—	—	✓
Chuck Dunn, Member	✓	—	—	—

I certify that this is an accurate and complete copy of the rulemaking hearing rules, lawfully promulgated and adopted by the Tennessee Petroleum of Underground Storage Tanks Board of the 15 day of August, 1995.

I certify that these rules are properly presented for filing, a notice of rulemaking hearing having been filed in the Department of State on the _____ day of _____, 1995, and such notice of rulemaking hearing having been published in the _____ 1995 issue of The Tennessee Administrative Register, and such rulemaking hearing having been conducted thereto on the _____ day of _____, 1995.

George J. Hyfants, Chairman
TN Petroleum Underground Storage
Tank Board

Subscribed and sworn to before me this the 16 day of
August, 1995.

Notary Public

My Commission expires on the 20 day of November, 1996

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provision of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

Charles W. Burson
Attorney General and Reporter

The rulemaking hearing rules set out herein were properly filed in the Department of State and will become effective on the _____ day of _____, 1995.

Riley C. Damell
Secretary of State

By: _____

TENNESSEE ADMINISTRATIVE REGISTER
NOTICE OF RULEMAKING HEARING

**TENNESSEE DEPARTMENT OF ENVIRONMENT
AND CONSERVATION – 1200**
DIVISION OF UNDERGROUND STORAGE TANKS

There will be a public hearing before the Tennessee Department of Environment and Conservation, acting on behalf of the Tennessee Petroleum Underground Storage Tank Board, to consider the promulgation of amendments to the Tennessee Petroleum Undergrcund Storage Tank Regulations pursuant to T.C.A. §68-215-101. et.seq. The comments received at this hearing will be presented to the Tennessee Petroleum Underground Storage Tank Board for their consideration in regards to the proposed regulatory amendments. The hearing will be conducted in the manner prescribed by the Uniform Administrative Procedures Act. T.C.A. §4-5-201. et. seq. and will take place in the 4th Floor Conference Room of the L & C Annex, located at 401 Church Street, Nashville, Tennessee 37243-1541 at 1:30 p.m. CST on the 2nd day of April, 1996.

Written comments will be included in the hearing records if received by the close of business April 4th, 1996, at the office of the Technical Secretary, Tennessee Petroleum Underground Storage Tank Board, 4th Floor, L & C Tower, 401 Church Street, Nashville, TN. 37243-1541.

Any individuals with disabilities who wish to participate in these proceedings (or to review these filings) should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such participation. Such initial contact may be in person, by writing, telephone, or other means, and should be made no less than ten (10) days prior to (January 19, 1996) or the date such party intends to review such filings, to allow time to provide such aid or service. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, 21st Floor, 401 Church Street, Nashville, TN 37243, telephone 615-532-0600. For a copy of this notice of rulemaking hearing; contact Charles L. Head, Technical Secretary, Director of the Division of Underground Storage Tanks at 4th Floor L&C Tower, 401 Church Street, Nashville, TN 37243-1541.

SUBSTANCE OF PROPOSED RULES

**CHAPTER 1200-1-15
UNDERGROUND STORAGE TANK PROGRAM**

Appendix 5 of 1200-1-15, PETROLEUM CONTAMINATION CLEANUP LEVELS, is amended by deleting Appendix 5 in its entirety and replacing it so that, as amended, the appendix shall read:

**Appendix 5
PETROLEUM CONTAMINATION CLEANUP LEVELS**

BENZENE CLEANUP LEVELS

SOIL PERMEABILITY	>10 -4 CM/SEC	10 -4 to 10 -6 CM/SEC	< 10 -6 CM/SEC
SOIL CLEANUP LEVEL	BENZENE LEVEL in PPM		
DRINKING WATER	5	25	50
NON-DRINKING WATER	25	50	100

OR

TOTAL PETROLEUM HYDROCARBON CLEANUP LEVELS

SOIL PERMEABILITY	>10 -4 CM/SEC	10 -4 to 10 -6 CM/SEC	< 10 -6 CM/SEC
SOIL CLEANUP LEVEL	TPH in PPM		
DRINKING WATER	100	250	500
NON-DRINKING WATER	250	500	1000

Rule Making Authority: T.C.A. §68-215-109 and T.C.A. 4-5-202

Substantive Authority: T.C.A. §68-215-107

Administrative History: Original Rule Filed March 1, 1990; effective April 15, 1990

I certify that this is an accurate and complete representation of the intent and scope of rule making proposed by the Tennessee Department of Environment and Conservation, acting on behalf of the Tennessee Petroleum Underground Storage Tank Board.

Charles L. Head, Director
Division of Underground Storage Tanks

Subscribed and sworn before me this the 5th day of February, 1946.

Notary Public

My commission expires on the 20 day of September, 1946

The Notice of ~~SUITE~~ MAKING set out herein was properly filed in the Department of State on the
1 day of July, 1986

Riley C. Darnell
Secretary of State

By:

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APPENDIX E

OAK RIDGE Y-12 PLANT UST OPERATIONAL PROCEDURE



Martin Marietta Energy Systems, Inc.
Oak Ridge, Y-12 Plant Command Media

Number: Y10-35-MM-013

Date: 03/10/94

Supersedes: New

Page: 1 of 24

Facilities Management
Materials Management Department
Administrative

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Approvals:

Validator

3.24.94

Date

Subject Matter Expert

3-21-94

Date

Facilities Management Organization. Chairperson
Procedures Configuration Control Board

3-30-94

Date

Manager, Materials Management Department

3-30-94

Date

Support Approvals:

Representative, Environmental Management Department
Health, Safety, Environmental and Accountability Organization

3/10/94

Date

General Supervisor, Transportation Safeguard Division

3-29-94

Date

This procedure has been reviewed by an
Authorized Derivative Classifier and has been
determined to be UNCLASSIFIED. This
does not constitute clearance for
public release.

4-11-94

Effective Date

Name & Date

3/14/94

CONTENTS

I. PURPOSE	3
II. REQUIREMENTS REFERENCES	3
III. SCOPE/LIMITATIONS	3
IV. DEFINITIONS	3
V. GENERAL INFORMATION	6
VI. REQUIREMENTS	6
A. General	6
B. Documentation	6
C. Safety	8
D. <i>Leak Testing (Weekly and Annual Requirements)</i>	9
E. <i>Emergency/Alarms and Notifications</i>	9
VII. RESPONSIBILITIES	10
A. <i>Materials Management Supervisor</i>	10
B. <i>Materials Clerk</i>	12
VIII. ACTION STEPS	13
IX. REQUIRED RECORDS	13
X. ADMINISTRATION	14
XI. APPENDIXES	14
A. <i>Fuel Station Daily Inventory Record for Facility</i>	15
B. <i>Y-12 Plant Fuel Station: Vehicle Fuel Log (Ethanol 11-030-1125)</i>	17
C. <i>Y-12 Plant Fuel Station: Heavy-Equipment Fuel Log (Ethanol 11-030-1125)</i>	18
D. <i>Y-12 Plant Fuel Station: Vehicle Fuel Log (Diesel 11-025-0900)</i>	19
E. <i>Fuel Station Receipt Form and Steps for Printing Delivery Report</i>	20
F. <i>In-Tank Leak Detection Status and Operating Steps to Perform In-Tank Leak Test</i> ..	21
G. <i>Warnings and Alarms Chart</i>	23

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

I. PURPOSE

To establish the responsibilities, safety guidelines, and operating instructions for the safe and efficient operation of the Y-12 Plant Fuel Stations located at Building 9754-3 and TSD.

II. REQUIREMENTS REFERENCES

A. Flowdown Documents

1. Y-12 Plant Emergency Procedure 40-007: *Reporting of and Responding to On-Site Hazardous Material Releases*
2. Y-12 Plant Health and Safety Procedure 70-208: *Hazard Communication*

B. Other Documents Needed

1. Martin Marietta Energy Systems, Inc., *Stores Operating Manual*
2. State of Tennessee. Tennessee Petroleum Underground Storage Tank Act, T.C.A. 68-215-101, et. seq.

III. SCOPE/LIMITATIONS

Applies to all Materials Management Department personnel responsible for the safe and efficient operation and/or supervision of the Y-12 Plant Fuel Stations located at Building 9754-3 and TSD.

IV. DEFINITIONS

A. Abbreviations: Displayed on reader of Veeder-Root (V-R) TLS-350 and TLS-250 Tank-Monitoring Systems:

C#: "2 Wire C.L." (Type A) followed by its number
I#: "External Input" followed by its number
L#: "Liquid Sensor" followed by its number
P#: "Pipeline" followed by the specific line number
T#: "Tank" followed by the specific tank number

IV. DEFINITIONS (Cont.)

- B. *Alarms:* The V-R TLS-350 Tank-Monitoring Systems displaying and sounding four alarms: (1) audible alarm in the monitor, (2) visual alarm on the monitor, (3) audible alarm mounted above the monitor, and (4) a visual alarm located on a pole northeast of Building 9754-3. The V-R TLS-250 Tank-Monitoring System located at TSD displaying and sounding two alarms: (1) audible alarm in the monitor and (2) visual alarm on the monitor.
- C. *Alphanumeric Buttons:* On the V-R TLS-350 system, the twelve right-hand buttons providing alphanumeric functions and allowing input of leak-test start times and test durations while in the operating mode.
- D. *Calibration:* To ensure that the meter on the fuel dispenser is accurate. This calibration is required annually and can be conducted by the operating facility or service contractor. (Note: Retailers are required to have dispensers calibrated and certified by the Department of Agriculture annually).
- E. *Manual (Dipstick) Tank Gaging:* Manual measuring method used for measuring level of fuel in underground storage tanks. The instrument used for actual measurements of the fuel is called a dipstick.
- F. *Material Safety Data Sheet (MSDS):* Descriptive data sheet for fuels, located in the Emergency Manual, Hazardous Materials Section maintained at these facilities.
- G. *Monitoring Functions:* (1) In-tank inventory data, (2) last-shift inventory data, (3) in-tank test results, (4) liquid status, (5) two-wire (type A) status, (6) start in-tank leak test, (7) stop in-tank leak test, and (8) test output relays.
- H. *Operating-Button Functions:* On the V-R TLS-350 system, twelve buttons located on the left side providing operational buttons to access and print data and to start and stop leak tests.
- I. *Pressurized Lines:* Used when the sump pump is located at the underground storage tanks to push product to the fuel dispensers.
- J. *Printer:* Printing device attached to front panel of the V-R monitor system which prints reports from the leak-detection monitoring system. The TLS-350 unit uses 2 1/4-inch thermal paper. The TLS-250 unit uses 2 1/2-inch thermal paper.
- K. *Red Jacket PPM 4000 Line Leak Detector (located at TSD):* Detector located on the sump pumps and able to detect leaking at the rate of 3 gallons per hour in the pressurized fuel lines. When a leak is detected, the device constricts fuel flow.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements
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IV. DEFINITIONS (Cont.)

- L. *Red Jacket XLD Line Leak Detector (located at Building 9754-3):* Detector located on the sump pumps and able to detect leaking at the rate of 3 gallons per hour in the pressurized fuel lines. When a leak is detected, the device constricts fuel flow.
- M. *TLS-250 Monitoring Device Front Panel (located at TSD):* Monitoring system area housing 6-button keyboards; four-lamp type indicators showing power-on, warning and alarm conditions; and liquid crystal display.
- N. *TLS-350 Monitoring Device Front Panel (located at Building 9754-3):* Monitoring system area housing 24-button keyboards; three-lamp type indicators showing power-on, warning and alarm conditions; and two-line 24-character-per-line liquid crystal display.
- O. *Tokheim Commercial Refueling Dispenser:* Fuel-dispensing device consisting of supply lines from the underground tanks; shear valves; submerged pump.
- P. *Ullage:* The air space inside the underground storage tanks.
- Q. *Underground Storage Tank (UST) Registration Certificate:* Registration certification issued annually by the State of Tennessee. The original certificate must be conspicuously posted at fueling facilities.
- R. *Veeder-Root TLS-250 UST Monitoring System (located at TSD):* An advanced, fully integrated tank monitoring system that can provide (1) complete inventory information on fuel stored in USTs, (2) warning of leaks from these tanks, and (3) detection of product discrepancies to an accuracy of 0.2.
- S. *Veeder-Root TLS-350 UST Monitoring System (located at Building 9754-3):* An advanced, fully integrated tank monitoring system that can provide (1) complete inventory information on fuel stored in USTs, (2) warning of leaks from these tanks, and (3) detection of product discrepancies to an accuracy of 0.1.

V. GENERAL INFORMATION

The Building 9754-3 and TSD fueling stations shall be operated and maintained in compliance with the State of Tennessee regulations and Y-12 Plant policies and procedures.

WARNING

SMOKING IS PROHIBITED within 50 ft of fueling station islands and underground storage tanks.

VI. REQUIREMENTS

A. General

1. At the beginning of each shift the status of the Building 9754-3 and TSD fueling stations shall be determined (i.e., nonalarm status and no detected abnormalities at the tank site or islands).
2. An inventory tape is printed from the V-R monitoring system by pressing the PRINT key. The gallon amounts of fuel indicated on this tape are listed on the Daily Inventory Record (Appendix A), and the tape is attached to the station Narrative Logbook for that day. Other data on the tape is reviewed for unusual or abnormal readings.
3. Fuel pumps shall be turned On at the beginning of the shift and turned Off when personnel leave the facility.
4. While fuel is being dispensed to a vehicle, the vehicle's motor shall be turned off.

B. Documentation

1. Documentation of the status of the fueling facility shall be recorded in the station Narrative Logbook, and the inventory tape from the V-R monitoring system shall be attached to the station Narrative Logbook daily.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

VI. REQUIREMENTS

B. *Documentation* (Cont.)

2. The amount of fuel in the UST when the facility opens, gallons dispensed, gallons off-loaded, and end-of-the-day fuel amount shall be recorded on the Daily Inventory Record (Appendix A).
3. At the Building 9754-3 fueling station **ONLY**, as fuel is dispensed, the transaction should be documented appropriately as follows:
 - a. For vehicles, complete Vehicle Fuel Log, a white form (Appendix B).
 - b. For heavy equipment, complete Heavy Equipment Fuel Log, a yellow form, (Appendix C).
 - c. For diesel vehicles, complete Vehicle Fuel Log, a blue form (Appendix D).
 - d. Tenths of miles shall not be recorded from the odometer reading.

NOTE: Each completed form must be submitted **DAILY** to Material Control.

4. Documentation shall be made of the amount of off-loaded fuel and the readings from V-R monitoring system tape shall be printed after off-loading.
5. The readings taken before and after off-loading are recorded on the Fuel Station Receipt Form (Appendix E) and the Daily Inventory Record (Appendix A).
6. The Fuel Station Receipt Form and any freight bills are submitted to Material Control.

VI. REQUIREMENTS (Cont.)

C. Safety

1. Before performing maintenance, service, or changing fuel filters/strainers, all power must be shut off at the master electrical panel and impact valve must be closed.

WARNING

While service is performed, traffic shall be flagged away from the fuel station island.

2. When receiving gasoline/diesel fuel from tanker, all traffic shall be flagged away from the fuel station island and pumps must be turned off.
3. Should assistance be required to perform the off-loading operation, the following safety equipment is required:
 - a. Neoprene, nitrile or polyvinyl alcohol gloves
 - b. Safety glasses with side shields
 - c. Safety shoes
4. Off-loading operations performed by the vendor shall be monitored:
 - a. If unsafe conditions are observed, off-loading shall be STOPPED immediately.
 - b. If the V-R monitoring system fails to track the off-loading of fuel, the dipstick shall be used for measuring.
 - c. Always ensure that residue from the dipstick drains back into the tank and not onto the ground.
 - d. After off-loading is complete, a second measurement is taken. Any discrepancies between readings and the freight bill must be resolved.
5. The off-loaded fuel amount shall be recorded on the Fuel Station Receipt Form (Appendix E) and the Daily Inventory Record (Appendix A).

VI. REQUIREMENTS (Cont.)

D. *Leak Testing (Weekly and Annual Requirements)*

1. An in-tank leak detection test by the V-R monitoring systems shall be conducted WEEKLY, when the fuel stations are closed. If the test fails, a manual test shall be conducted, following the steps outlined in Appendix F. The leak-test results shall be printed on a tape from the V-R monitoring system and attached to the Narrative Logbook.

WARNING

The in-tank leak-detection test shall NOT be conducted while fuel station is in operation or while fuel is being dispensed.

NOTE: The in-tank leak-detection test shall NOT be conducted while fuel station is in operation or while fuel is being dispensed.

2. The Red Jacket line leak detectors shall be checked ANNUALLY to see if the detection device will trip. The results of this annual check shall be recorded in the station Narrative Logbook as a permanent record.
3. Calibration of the fuel-dispenser meters shall be conducted ANNUALLY. Documentation of the step-by-step calibration adjustments during this annual check shall be recorded in the station Narrative Logbook as a permanent record.
4. A validation test of the accuracy of the V-R systems shall be conducted ANNUALLY. The results of the test shall be recorded in the station Narrative Logbook as a permanent record.

E. *Emergency/Alarms and Notifications*

1. Spills shall be reported to the Plant Shift Superintendent immediately (Building 9754-3 personnel shall call 4-7172 and TSD personnel shall call 4-3282) or 911 or by pulling the Gamewell box.

NOTE: If containment can be SAFELY performed by operating personnel, the spill shall be kept from drains, soil, and water sources until emergency-response personnel arrive.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

VI. REQUIREMENTS

E. *Emergency/Alarms and Notifications (Cont.)*

2. The Emergency Stop Button on the west wall inside the 9754-3 fuel station building will disable the dispensers immediately. To reactivate the dispensers the electrical power must be restored at the electrical box and the emergency stop button pulled out.
3. If the audible and visual alarms are activated by the V-R monitoring device, follow the steps outlined in Appendix G, which includes display messages, type of alarm, cause, response steps, and notification.
4. Alarm devices shall be maintained in good operating order at all times. If failure of any type is identified, the supervisor shall be notified immediately.
5. The V-R monitoring system will automatically send a detailed report should an alarm status be detected. This report shall be maintained in the station Narrative Logbook as a permanent record of the event.
6. If any of the following conditions are detected, the Environmental Management Department is notified who reports to the Tennessee Department of Health and Environment:
 - a. Released fuel is discovered (e.g., in an unusual area or as a visible sheen).
 - b. Leak detection equipment indicates a release.
 - c. A spill of more than 25 gallons of product must be reported within 72 hours or, if less than 25 gallons of product is spilled and cannot be cleaned up within 72 hours.
 - d. Unusual operating conditions are detected.
 - e. Monitoring system (V-R) has a failed test result of >0.2.
 - f. Monthly reconciliation of inventory indicates loss of >1% flowthrough plus 130 gallons.

VII. RESPONSIBILITIES

A. *Materials Management Supervisor*

1. Ensures that employees are trained to use and operate the fuel dispensing equipment, leak-detection monitoring equipment, and air-compression equipment.

VII. RESPONSIBILITIES

Materials Management Supervisor (Cont.)

2. Ensures that employees assigned to operate the Fuel Stations are on-the-job trained.
3. Contacts contract service personnel to make necessary repairs and perform preventive maintenance as needed.
4. Notifies Material Control personnel when fuel should be ordered.
5. Supervises the off-loading of fuel, verifies inventory tape from V-R system against freight bill quantity and signs necessary receipt documents.
6. Ensures that Materials Clerks are maintaining required records and oversees the reconciliation of the Daily Inventory Record MONTHLY.
7. Ensure that spill-response supplies are maintained nearby on the premises.
8. Notifies and/or assists emergency response teams as needed for spills or emergency situations.
9. Reports any occurrences to line and environmental management. Completes occurrence reports as needed.
10. In the event a fuel leak is detected, assisted by Y-12 Plant Environmental Management:
 - a. Prevents further release if possible.
 - b. Identifies and mitigate fire, explosion and vapor hazards.
 - c. Removes as much product from UST as necessary to prevent further leaking.
 - d. Identifies any aboveground and exposed below ground released fuel to prevent further release
 - e. Remedies hazards posed by contaminated soil.
 - f. Removes any free product detected.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

VII. RESPONSIBILITIES

A. *Materials Management Supervisor* (Cont.)

11. Should a release occur, assists environmental management in issuing (1) the Initial Abatement Report 20 days after confirmed release and (2) the Free Product Removal Report 45 days after confirmed release.

12. Guides the Materials Clerk on correct response to alarms detected by the V-R monitoring equipment.

B. *Materials Clerk*

1. Conducts a walk-through of the fuel station at the beginning of each shift, to determine the status of the facility and:
 - a. documents the status in the station Narrative Logbook.
 - b. prints the inventory listing from the V-R monitoring printer.
 - c. records the gallons on the Daily Inventory Record.
 - d. tapes the inventory report into the station Narrative Logbook.

2. Re-energizes the fuel pumps at the beginning of each shift.

3. Dispenses fuel when the status of all equipment is normal and vehicle engines are turned OFF.

4. Documents fuel dispensing on appropriate form Appendix A and for the 9754-3 fuel station, Appendixes B, C, and D.

NOTE: The Appendix A daily inventory record is turned in MONTHLY to the supervisor; and Appendixes B, C, and D are turned in DAILY to Material Control or the supervisor.

5. When fuel is being received, flags all vehicle traffic away from fuel station island.

6. After off-loading of fuel, prints inventory tape from V-R monitoring system, and records on Fuel Station Receipt Form (Appendix E), and on the Daily Inventory Record (Appendix A). If the V-R monitoring system is unable to print inventory tape, takes measurement with the Dipstick.

7. Responds to spills and/or other emergencies by calling the Plant Shift Superintendent, 911, or by pulling the Gamewell box alarm.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

VII. RESPONSIBILITIES

B. *Materials Clerk* (Cont.)

8. Notifies supervisor of spills and/or other emergencies.
9. Responds to audible and visual alarms signalled by the V-R monitoring system as described in Appendix G.
10. Maintains supplies as needed for the daily operations of the fuel facility.
11. Notifies supervisor immediately of all maintenance needs and/or equipment failures and documents the condition in the Facility Narrative Logbook.

VIII. ACTION STEPS

None.

IX. REQUIRED RECORDS

1. Installation and warranty records of the equipment must be kept for the life of the facility.
2. Record of the results of the initial tank leak test conducted with 95% product shall be maintained as a permanent record.
3. Record of the location, age of the UST, and the type of equipment shall be maintained as a permanent record.
4. Record of the results of the annual test conducted on the Red Jacket line equipment, the V-R monitoring systems and the calibration test shall be maintained for 10 years.
5. Daily inventory tapes printed from the V-R monitor are maintained in the station Narrative Logbook as a permanent record.
6. All tank leak-test results shall be maintained for 12 months.
7. Daily Inventory Records shall be maintained for 12 months.
8. Any alarm status reports generated by the V-R monitor shall be maintained and attached to the station Narrative Logbook as a permanent record.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

X. ADMINISTRATION

- A. The interpretation and the administration of this procedure is the responsibility of the Manager, Materials Management Department.
- B. A hard copy of this procedure shall remain in the Y-12 Plant Procedures Representative's office and another copy in the FMO Procedures Representative's work area. The master copy of this procedure is printed in PC WordPerfect 5.1, and the electronic (disk) storage is kept by the FMO Procedures Coordinator.

XI. APPENDIXES

- A. *Fuel Station Daily Inventory Record for Facility* _____
- B. *Y-12 Plant Fuel Station: Vehicle Fuel Log (Ethanol 11-030-1125)*
- C. *Y-12 Plant Fuel Station: Heavy-Equipment Fuel Log (Ethanol 11-030-1125)*
- D. *Y-12 Plant Fuel Station: Vehicle Fuel Log (Diesel 11-025-0900)*
- E. *Fuel Station Receipt Form and Steps for Printing Delivery Report*
- F. *In-Tank Leak Detection Status and Operating Steps to Perform In-Tank Leak Test*
- G. *Warnings and Alarms Chart*

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix A

FUEL STATION DAILY INVENTORY RECORD FOR FACILITY _____

Tank No. _____ Type of fuel in Tank: _____ Month/Year: _____

DAY	A OPENING GAL READING	B GALLONS DISPENSED	C GALLONS ADDED	D INVENTORY BALANCE (D = A - B + C)	E CLOSING GAL READING	F DAILY INVENTORY (F = D - E)
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						
31						

See Monthly Reconciliation on Back

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix A (Cont.)

MONTHLY RECONCILIATION

Total From Column (B)						Gallons For Suspected Release		Total From Column (F)		Monthly Inventory
	X	0.01	+	130	=		-		=	

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix B

Y-12 PLANT FUEL STATION: VEHICLE FUEL LOG (ETHANOL 11-030-1125)

DO NOT RECORD tenths of mileage

Y10-35-MM-013

Date: 03/10/94 Supersedes: New Page: 18 of 24

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix C

Y-12 PLANT FUEL STATION: HEAVY-EQUIPMENT FUEL LOG (ETHANOL 11-030-1125)

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix D

Y-12 PLANT FUEL STATION: VEHICLE FUEL LOG (DIESEL 11-025-0900)

DO NOT RECORD tenths of mileage

Y10-35-MM-013

Date: 03/10/94 Supersedes: New Page: 20 of 24

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix E

FUEL STATION RECEIPT FORM

Steps for Printing Delivery Report

1. Press, *Function Key*
2. Press, *Step Key* until reader displays - DELIVERY
3. Press, *Print Key*

Appendix F

IN-TANK LEAK DETECTION

Minimum test time is 5 hours

Pretest Conditions: Following the inventory report, the system will print out, tank by tank, the number and any in-tank pre-test conditions affecting the test results.

POSSIBLE CONDITION	ACTIONS REQUIRED
Probe segments out of range	Call for service.
Delivery mix error	Use product until condition is corrected.
Temperature out of range	Wait for a change in temperature; retest.
Recent delivery	Wait for product to settle and retest.
Tank level low	Reorder fuel.

Posttest Condition: During the leak-detect test, the system will again look for tank and equipment conditions that could invalidate or cause a false FAILURE reading such as:

POSSIBLE CONDITION	ACTION REQUIRED
Test mix error	Use product until condition corrects.
Segment out of range	Call for service.
Delivery mix error	Use product until condition corrects.
First-hour error	Retest.
Last-hour error	Retest.
Temperature change error	Wait for change in temperature; retest.
Temperature out of range	Wait for change in temperature; retest.
Recent delivery	Wait for product to settle and retest.
Tank level low	Reorder product.

End of Test Report: Will indicate one of the following four conditions for each tank:

PASSED	Volume change (if any) was less than 0.1 gallon per hour.
FAILED	Volume change was greater than +/- 0.1 gallon per hour, and all test conditions were acceptable.
INVALID	One or more test conditions were outside acceptable parameters and the volume change was greater +/- 0.1 gallon per hour. The tank number, product label, and unacceptable condition(s) will be printed after the leak-rate report.
SHORT	Test duration was too short to yield valid test results.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix F (cont.)

STEPS TO PERFORM IN-TANK LEAK TEST

TO CONDUCT TEST FOR ALL TANKS

On Operational Button Functions (left-hand keypad)	Press <STEP>
Continuing test for All Tanks	Press <STEP>
All tanks timed duration	Press <STEP>
All tanks test to 0.1 gal/hr	Press <STEP>
All tanks duration:	Press <CHANGE>
Now enter duration: <5>	Press <ENTER>
(Test for this system takes a minimum of 5 hours, maximum numbers of hours available to run test should be used)	
To continue	Press <STEP>
Start Leak Test	Press <ENTER>

TO CONDUCT TEST FOR SINGLE TANKS

On Operational Button Functions (left hand keypad)	Press <STEP>
Continue test for single tanks	Press <CHANGE> Press <ENTER> Press <STEP>
To enter tank number	Press <TANK>
Enter tank #: < >	Press <STEP>
All-tanks test to 0.1 gal/hr	Press <STEP>
All-tanks duration:	Press <CHANGE>
Now enter duration: <5>	Press <ENTER>
To continue	Press <STEP>
Start Leak Test	Press <ENTER>

Appendix G

WARNINGS AND ALARMS

SYSTEM-STATUS MESSAGES				
DISPLAY MESSAGE	TYPE OF ALARM	CAUSE	RESPONSE STEPS	NOTIFICATION
Setup data warning	Audible beep Yellow flashing light	System-setup problem has been detected.	Set-up parameters should be input by qualified persons only.	Supervisor Service Company
Paper out	Audible beep Yellow flashing light	Paper roll is empty	Replace paper roll in printer,	None
Printer error	Audible beep Yellow flashing light	Print free - roller release is open, OR Printer temperature thermistor has failed.	Push the release lever up to closed position, OR No action; notify Supervisor	None Supervisor
IN-TANK PROBES, INTERSTITIAL PROBES, SUMP SENSORS, AND DISPENSER SENSORS WARNING AND ALARM MESSAGES				
Leak alarm or sudden-loss alarm	Audible beep Red flashing light	Fuel loss has exceeded the Leak Alarm Limit during a leak test; limit is programmable.	Disengage audible alarms.* Print alarm message. Notify supervisor immediately. If unable to notify supervisor immediately, call 911, pull the gamewell box or call 4-7172 at Y-12 or 4-3282 at TSD.	Supervisor PSS Environmental Officer
High-water alarm and/or warning	Audible beep Red flashing light and/or Yellow flashing light	Water collecting in bottom of tank exceeds limit; limit is programmable. If water level exceeds 1", Environmental Management should be notified.	Disengage audible alarms.* Print alarm message. Then notify supervisor.	Supervisor Environmental Officer

*For 9754-3 fuel station the audible alarms are disengaged by switching #5 in the main electrical box. At the TSD facilities the audible alarms is disengaged by using key to set to Alarm Reset on the V-R front panel.

Subject: Fuel Stations, 9754-3 and Transportation Safeguard Division (TSD): Requirements

Appendix G (Cont.)

DISPLAY MESSAGE	TYPE OF ALARM	CAUSE	RESPONSE STEPS	NOTIFICATION
Overfill alarm or high-product alarm	Audible beep Red flashing light	Fuel level in the tank exceeds Overfill Limit during delivery. Limit is programmable	Disengage audible alarms. * Print alarm message. Alert driver to stop off-loading operations and notify supervisor immediately. If a spill has occurred, follow spill response actions.	Supervisor Other notifications as needed
Low-product alarm and/or delivery needed	Audible beep Red flashing light and/or Yellow flashing light	Fuel level has dropped below programmed Low Level Limit	Disengage audible alarms. * Print alarm message. Notify Supervisor to reorder fuel.	Supervisor
Invalid fuel level (in systems equipped with Magnetostrictive probes)	Audible beep Yellow flashing light	The fuel and water measurement floats on probe are too close because of low fuel; while this condition exists, fuel height, volume readings, and delivery reports are invalid.	Disengage audible alarms. * Print alarm message. Notify Supervisor to reorder fuel.	Supervisor
Probe out	Audible beep	A probe is not currently communicating with the console.	Disengage audible alarms. * Print alarm message. Notify Supervisor to call for service.	Supervisor Service Company
Periodic test alarm and/or warning	Audible beep Red flashing light and/or Yellow flashing light	If system is unable to perform a Periodic test (0.1 gph for 9754-3 facility or 0.2 gph for TSD facility) in a programmed number of days, this warning will show.	Disengage audible alarms. * Print alarm message. Notify supervisor and programming should be rechecked.	Supervisor Service Company
Test tank active	Yellow flashing light	This message will be displayed when a requested tank test is in progress.	No action needed.	None

*For 9754-3 fuel station the audible alarms are disengaged by switching #5 in the main electrical box. At the TSD facilities the audible alarms is disengaged by using key to set to Alarm Reset on the V-R front panel.

APPENDIX F

TDEC UST SYSTEM

REPORT FORMS



**DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
INITIAL ABATEMENT REPORT FORM**

The following information shall be provided within twenty (20) calendar days of a confirmed release in accordance with Rule 1200-1-15-06(3)(b). Each item shall be addressed in a typewritten report.

1. Facility ID #: _____
2. Facility Name: _____
3. System test failure, laboratory confirmation of petroleum contamination, or discovery of free product was reported to the Division within 72 hours of discovery?
Yes _____ No _____
Method of Notification: _____
(If by telephone, provide the name of the person contacted)
4. Date release confirmed: _____
5. Describe how the release was discovered?
6. Describe actions taken to prevent further release to the environment (removal of product from tank, etc.) and prevent further migration of the petroleum (removal of free product, contaminated soil, etc.).
7. Describe the observations from the visual inspection of all aboveground releases and exposed belowground releases.
8. Provide all data resulting from the monitoring of vapors or free product.
9. Describe all actions taken to mitigate fire and safety hazards posed by vapors or free product that have migrated from the UST excavated zone and entered into subsurface structures (such as sewers or basements).
10. Document the amount of contaminated soil removed and the management (storage, treatment, and/or disposal) of contaminated soil. (NOTE: The owner and/or operator shall comply with all applicable State and local requirements.)

11. If applicable, provide the following: date free product was discovered, amount removed, and the way it was managed (storage, treatment, and/or disposal). (Note: Free product removal shall be conducted in accordance with Rule 1200-1-15-06(5); the Free Product Removal Report shall be submitted within forty-five (45) calendar days of its discovery.)
12. Provide all additional information and data generated during initial abatement.
13. Note: If this is a fund eligible site and reimbursement will be requested from the Tennessee Petroleum Underground Storage Tank Fund an approved Corrective Action Contractor shall perform all work associated with the investigation and remediation of the release from the tank system.

Provide the name(s) of the geologist or professional geologist as defined under Tennessee Code Annotated 62-36-101, the duly licensed professional engineer in the state of Tennessee, and/or an Approved Corrective Action Contractor who conducted the site check, will prepare the Initial Site Characterization Report, and, if necessary, will conduct the soil and ground water investigation and prepare the Corrective Action Plan.

The certification below shall be signed by the tank owner and/or operator (or authorized representative) and the person(s) responsible for preparing the report.

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print)

Signature

Date

Prepared by (Print)

Signature

Date

Note: Each of the above signatures shall be notarized.

STATE OF _____

Sworn to and submitted before me by _____ on this date

My commission expires _____

Notary Public - Print Name

Signature



**DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
INITIAL SITE CHARACTERIZATION REPORT FORM**

The following information shall be provided within forty-five (45) calendar days of a confirmed release in accordance with Rule 1200-1-15-.06(4)(b). Each item shall be addressed in a typewritten report.

1. Facility ID #: _____
2. Facility Name: _____
3. System test failure, laboratory confirmation of petroleum contamination, or discovery of free product was reported to the Division within 72 hours of discovery?
Yes _____ No _____
- Method of Notification:
(If by telephone, provide the name of the person contacted.) _____
- Field Office: _____
- Date: _____
- Reported by: _____
4. Date release confirmed: _____
5. Describe how the release was discovered?: _____
6. Type of petroleum released: _____
7. Estimate of amount released: _____
8. Provide data concerning the following: surrounding populations, water quality, use and approximate locations of drinking water supplies potentially affected by the release within a 0.5 mile radius of the site, subsurface soil conditions, locations of subsurface sewers, climatological conditions and land use.
9. Identify all off-site impacts resulting from the release.
10. Describe the rationale in selecting the sampling points. (Note: The sampling locations shall be where contamination is most likely to be present and include all potentially impacted drinking water supplies.)

11. Were all applicable sections of the Environmental Assessment Guidelines followed?

Yes No

If no, address all variations from the Guidelines.

12. Provide information concerning the amount of contaminated soil removed and the management (storage, treatment, and/or disposal) of contaminated soil. (NOTE: The owner and/or operator shall comply with all applicable state and local requirements.)

13. Provide information concerning the amount of ground water removed and the management (storage, treatment, and/or disposal) of contaminated ground water. (NOTE: The owner and/or operator shall comply with all applicable state and local requirements.)

14. If applicable, provide information concerning the date free product was discovered, amount removed, and the way it was managed (storage, treatment, and disposal). (NOTE: Free product removal shall be conducted in accordance with Rule 1200-1-15-.06(5); the Free Product Recovery Report shall be submitted within forty-five(45) calendar days of its discovery.)

15. Appendix A shall include a table of all analytical results, the laboratory analysis sheets, all soil boring logs and monitoring well diagrams.

16. Appendix B shall include the following:

- a) A scaled site map (no larger than 11 X 17 inches) identifying the location of existing and/or former UST system(s) (indicate former system(s) with dashed lines), the point(s) of release, sampling points, soil borings, monitoring wells, and existing utilities (sewer, water, telephone, etc.).
- b) A topographic map identifying the location of the site and all surface water and water wells potentially impacted by the release.

17. Appendix C shall include the results of all tank and piping tightness tests. (NOTE: Rule 1200-1-15-.03(4)(d) requires that repaired tanks and piping be tested in accordance with Rule 1200-1-15-.04(3)(c) and (4)(b) within thirty (30) calendar days following the date of repair, except as provided in parts 1 through 3 of Rule 1200-1-15-.03(4)(d).)

18. Was the presence of contamination in soil or ground water indicated above the most stringent cleanup levels? (NOTE: If TGD-011 was followed to obtain a less stringent soil cleanup level during a site closure then that level shall apply.)

Yes No

If yes, the owner and/or operator shall submit the Environmental Assessment Report (EAR) as established in Rule 1200-1-15-.06(6) and other applicable regulations.

If no, the Division will review the actions taken to determine if all work was conducted in accordance with the Guidelines.

19. As required in the Release Response Letter, at a minimum, the initial four (4) soil borings and the initial four (4) monitoring wells were to be installed by the due date of this report. Has this work been performed or an extension granted by the Division?

Yes No

20. The attached Cost Estimate Cover Sheet, the Assessment Activities Cost Estimate Form, and the Report Preparation Cost Estimate Form shall be included in Appendix D of this report. The cost incurred to date for all previous activities and an estimate of the cost to complete the environmental assessment and the Environmental Assessment Report shall be summarized on the Cost Estimate Cover Sheet.

The certification below shall be signed by the UST system owner and/or operator (or authorized representative) and a geologist or professional geologist, as defined under Tennessee Code Annotated 62-36-101, or a duly licensed professional engineer in the State of Tennessee.

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print)

Signature

Date

Prepared by (Print)

Signature

Date

TN Lic./Reg #

If a P.E. signs this report indicate the area of expertise.

Stamp/Seal

Note: Each of the above signatures shall be notarized.

STATE OF _____

Sworn to and submitted before me by _____ on this date

My commission expires

Notary Public - Print Name

Signature

TENNESSEE UST COST ESTIMATE COVER SHEET



FACILITY INFORMATION

CORRECTIVE ACTION CONTRACTOR

COSTS

Submit with ISCR	Estimated Costs	Actual Costs
Site Check		
Initial Abatement / Emergency Response		
Free Product Recovery		
Initial Site Characterization		
Environmental Assessment		
Environmental Assessment Report		

Signature of Person Completing Estimate _____ Date _____

Signature of Owner/Operator _____ **Date** _____

Submit with EAR	Estimated Costs	Actual Costs
Environmental Assessment		
Environmental Assessment Report		
Corrective Action Plan		

Signature of Person Completing Estimate _____ Date _____

Signature of Owner/Operator _____ Date _____

Submit with CAP	Estimated Costs	Actual Costs
Corrective Action Plan		
Corrective Action		
Monitoring		
Operation & Maintenance		
Closure		

Signature of Person Completing Estimate _____ Date _____

Signature of Owner/Operator _____ Date _____

ASSESSMENT ACTIVITIES COST ESTIMATE FORM

CHECK ONE SITE CHECK INITIAL ABATEMENT / EMERGENCY RESPONSE
 INITIAL SITE CHARACTERIZATION ENVIRONMENTAL ASSESSMENT

Provide a brief description of the tasks included in this estimate. (Expand this form as necessary)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

ASSOCIATED CHARGES		
Drilling		
Excavation		
Trucking		
Surveying		
Analytical	Samples X	\$/Sample
Rentals (List Below)		
Disposal - Free Product		
Water		
Soil		
Capital Expenditures (List Below)		
Permitting		
Lodging and Per Diem	Days x \$	
Mileage	Miles X \$	/mile
Miscellaneous (List Below)		
TOTAL		

REPORT PREPARATION COST ESTIMATE FORM

- SITE CHECK REPORT
- INITIAL ABATEMENT REPORT*
- FREE PRODUCT RECOVERY REPORT**
- INITIAL SITE CHARACTERIZATION REPORT***
- ENVIRONMENTAL ASSESSMENT REPORT
- CORRECTIVE ACTION PLAN

PROFESSIONAL SERVICES			
Personnel (List Below)	Hours	Cost Per Hour	TOTAL
			TOTAL

* Initial Abatement Report costs shall not exceed \$ 250.00.

** Free Product Recovery Report costs shall not exceed \$ 125.00.

*** Initial Site Characterization Report costs shall not exceed \$ 1500.00



**DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
FREE PRODUCT REMOVAL REPORT**

The following information must be provided within forty-five (45) calendar days of the discovery of free product in accordance with Rule 1200-1-15-06(5)(d). Each item must be addressed in a typewritten report.

When the presence of free product is observed in ground or surface water, an active system capable of continuous free product removal must be installed within forty-eight (48) hours. The minimum objective for the design of the removal system is to stop the migration of free product. When surface water is impacted, petroleum absorbent materials such as booms and pads must be installed and replaced whenever necessary. Flammable products must be handled in a safe and competent manner to prevent fires or explosions.

1. Facility ID #: _____
2. Facility Name:
3. Date Free Product Discovered:
4. Date Free Product Removal System Operational:
5. Name, affiliation, and telephone number of the person(s) responsible for implementing the free product removal measures:
6. Describe the estimated quantity, type, and thickness of free product measured in wells, boreholes, and excavations.
7. Describe the type of free product recovery system installed.
8.
 - a. Indicate the location of any discharge taking place on-site or off-site during the recovery operation. (If none, proceed to 9.)
 - b. Describe the type of treatment applied to, and the effluent quality expected from, any discharge.
 - c. Describe the steps that have been or are being taken to obtain necessary permits for any discharge.
9. Describe the method for disposal of the recovered free product.

The certification below shall be signed by the UST system owner and/or operator (or authorized representative) and a geologist or professional geologist, as defined under Tennessee Code Annotated 62-36-101, or a properly licensed professional engineer in the State of Tennessee.

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print)

Signature

Date

Prepared by (Print)

Signature

Date

TN Lic./Reg #

If a P.E. signs this report indicate the area of expertise.

Stamp/Seal

Note: Each of the above signatures shall be notarized.

STATE OF _____

Sworn to and submitted before me by _____ on this date

My commission expires _____.

Notary Public - Print Name

Signature

APPENDIX G

**TDEC UST TECHNICAL
GUIDANCE DOCUMENTS**



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT - 002

EFFECTIVE DATE - AUGUST 28, 1991
REVISED DATE - JANUARY 14, 1992
REVISED DATE - JUNE 28, 1993
REVISED - APRIL 29, 1996

RE: DIVISION OF WATER SUPPLY'S PRIMARY AND SECONDARY DRINKING WATER STANDARDS

Division Rule 1200-1-15-.01(3)(p) defines "Drinking water supply" as:

"Any aquifer or water source whose chemical characteristics meet the primary and secondary drinking water standards as defined under rule 1200-5-1 and provides a yield of at least one-half gallon per minute. This shall also include any water supply used for drinking by citizens of the state."

The procedures outlined in Section II L. of the Environmental Assessment Guidelines shall be followed when determining if the ground water at a site meets the above referenced definition.

TENNESSEE DIVISION OF WATER SUPPLY
MAXIMUM CONTAMINANT LEVELS
RULE 1200-5-1-.06, 12, AND 25

A. Primary Standards

1) Inorganic Chemicals	LEVEL, PPM
Antimony	0.006
Arsenic	0.05
Asbestos (Fibers)	7.0
Beryllium	0.004
Barium	2.0
Cadmium	0.005
Chromium	0.1
Cyanide (as free cyanide)	0.2
Fluoride	4.0
Lead	0.05
Mercury	0.002
Nitrate (as nitrogen)	10.0
Nitrite (as nitrogen)	1.0
Total Nitrate and Nitrite (as nitrogen)	10.0
Selenium	0.05
Thallium	0.002

2) Organic Chemicals	LEVEL, PPM
Alachlor	0.002
Atrazine	0.003
Carbofuran	0.04
Chlordane	0.002
Dibromodichloropropane	0.0002
2,4, Dichlorophenoxyacetic acid	0.07
Ethylene dibromide	0.00005
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Polychlorinated biphenyls	0.0005
Toxaphene	0.003
2,4,5 Trichlorophenoxypropionic acid	0.05
Pentachlorophenol	0.001
Benzo(a)pyrene	0.0002
Dalapon	0.2
Di(2-ethylhexyl) adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Glyphosate	0.7
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Oxamyl (Vydate)	0.2
Picloram	0.5
Simazine	0.004
2,3,7,8-TCDD (Dioxin)	0.00000003
Endrin	0.002

3) Turbidity

The maximum contaminant levels for turbidity in drinking water measured at a representative entry point(s) to the distribution system, are:

- one (1.0) turbidity unit, as determined by a monthly average pursuant to Regulation 1200-5-1-08.
- two (2.0) turbidity units based on an average for two consecutive days pursuant to Regulation 1200-5-1-08.

4) Microbiological

The maximum contaminant levels for microbiological are applicable to both community water systems and non-community water systems.

- The maximum contaminant level (MCL) is based on the presence or absence of total coliforms in a sample, rather than coliform density.

The number of total coliform positive samples shall not exceed any of the following:

1. For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.
2. For a system which collects fewer than 40 samples/month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.
3. A public water system which has exceeded the MCL for total coliforms must report the violation to the State no later than the end of the next business day after it learns of the violation and notify the public in accordance with the schedule of 1200-5-1-19(1) using the language specified in 1200-5-19(1)(i).
4. A public water system which has failed to comply with the coliform monitoring requirements, including a sanitary survey requirement must report the monitoring violation to the State within ten (10) days after the system discovers the violation and notify the public in accordance with 1200-5-1-19(1).

b) Any fecal coliform-positive repeat sample or E. coli-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or E. coli-positive routine sample constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in [1200-5-1-19(1)(a)3.] this is a violation that may pose an acute risk to health, and the language specified by 1200-5-1-19(5)(j) must be used.

c) Fecal coliforms/*Escherichia coli* (E. coli) testing

1. If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture medium to determine if fecal coliforms are present, except that the system may test for E. coli in lieu of fecal coliforms. If fecal coliforms or E. coli are present, the system must notify the State by the end of the day when the system is notified of the test results, unless the system is notified of the result after the Department office is closed, in which case the system must notify the State before the end of the next business day.
2. The State has the discretion to allow a public water system, on a case-by-case basis, to forgo fecal coliform or E. coli testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is fecal coliform-positive or E. coli-positive. Accordingly, the system must notify the State

as specified in paragraph (c)(1) of this section and the provisions of 1200-5-1-.06(4)(b) apply.

- d) A public water system must determine compliance with the MCL for total coliforms in (a) and (b) of this section for each month in which it is required to monitor for total coliforms.
- e) No variance or exemptions from the maximum contaminant level for total coliforms are permitted.

5) Radionuclides

- a) The following maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity are applicable to all community water systems:
 1. Combined radium-226 and radium-228: -5 pCi/l.
 2. Gross alpha particle activity (including radium-226 but excluding radon and uranium): -15 pCi/l.
- b) Maximum contaminant levels for beta particles and photon radioactivity from man-made radionuclides in community water systems shall be as follows:
 1. The average annual concentrations of beta particle and photon radioactivity from man-made radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than four (4) millirem/year.
 2. Except for radionuclides listed in Table A, the concentration of man-made radionuclides causing four (4) mrem total body or organ dose equivalents shall be calculated on the basis of a two (2) liter per day drinking water intake using the 168 hour data listed in "Maximum Permissible Body Burdens and Maximum Water for Occupational Exposure," NBS Handbook 69 as amended August 1963, U.S. Department of Commerce. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed four (4) millirem/year.

TABLE A
Average Annual Concentrations
Assumed to Produce a Total Body
or Organ Dose of a 4 mrem/yr.

<u>Radionuclide</u>	<u>Critical Organ</u>	<u>pCi per Liter</u>
Tritium	Total Body	20,000
Srrolntium-90	Bone Marrow	8

B. Secondary Standards	Level, PPM
Chloride	250
Color (In Color Units)	15
Copper	1
MBAS (Methyl Blue Active Substance)	0.5
Iron	0.3
Manganese	0.05
Odor (In Threshold Odor Number)	3
pH	6.5-8.5
Sulfate	250
TDS (Total Dissolved Solids)	500
Zinc	5
Fluoride	2.0
Aluminum	0.2
Silver	0.1
C. Volatile Organic Chemicals	
Trichloroethylene	0.005
Carbon tetrachloride	0.005
Vinyl chloride	0.002
1,2-Dichloroethane	0.005
Benzene	0.005
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075
cis 1,2-Dichloroethylene	0.07
1,2-Dichloropropane	0.005
Ethyl benzene	0.7
Monochlorobenzene	0.1
ortho-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
trans 1,2-Dichloroethylene	0.1
Xylenes (total)	10
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
TECHNICAL GUIDANCE DOCUMENT - 004

EFFECTIVE DATE - AUGUST 29, 1991
REVISED DATE - JULY 8, 1993
REVISED DATE - AUGUST 1, 1996

RE: REQUIREMENTS FOR FREE PRODUCT REMOVAL

The purpose of this document is to assist the regulated community in understanding the requirements for free product (nonaqueous phase liquid) removal defined under Rule 1200-1-15-06(5). Situations which require free product removal are:

1. A measured thickness greater than 0.01 feet of free product in a well;
2. The presence of product on a surface body of water, or
3. The presence of product on the ground or within a subsurface structure.

An eligible owner or operator conducting UST corrective actions is entitled to coverage of reasonable costs from the Tennessee Petroleum Underground Storage Tank Fund, subject to Rule 1200-1-15-09(11)(a), which states:

Upon confirmation of a release in accordance with rule 1200-1-15-05(3) or after a release from the UST system is identified in any other manner, owners and operators must perform initial response actions required in rule 1200-1-15-06(2), initial abatement measures required in rule 1200-1-15-06(3)(a)1. through 4. and rule 1200-1-15-06(3)(b), and initial free product removal according to rule 1200-1-15-06(5) and rule 1200-1-15-06(3)(a)6. necessary to properly stabilize a site and to prevent significant continuing damage to the environment or risk to human health.

Therefore, failure to comply with the requirements of this Technical Guidance Document may result in the loss of Fund coverage.

When the presence of free product is observed on ground water, an active system capable of continuous free product removal shall be installed within forty-eight (48) hours, unless otherwise specified by the Division. The minimum objective for the design of the removal system is to prevent the migration of free product.

Where surface water is impacted, petroleum absorbent materials such as booms and pads shall be installed and replaced whenever necessary. Flammable products shall be handled in a safe and competent manner to prevent fires or explosions.

Unless directed to do otherwise by the Division, prepare and submit, within 45 days after confirming the presence of free product, the attached Free Product Removal Report. The report shall then be submitted quarterly or as directed by the Division until free product (as described above) is no longer present or a corrective action system is operational.



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS

FREE PRODUCT REMOVAL REPORT
Effective August 1, 1996

The following information must be provided within forty-five (45) calendar days of the discovery of free product in accordance with Rule 1200-1-15-.06(5)(d). Each item shall be addressed in a typewritten report.

When the presence of free product is observed on ground or surface water, an active system capable of continuous free product removal shall be installed within forty-eight (48) hours, unless otherwise specified by the Division. The minimum objective for the design of the removal system is to prevent the migration of free product. When surface water is impacted, petroleum absorbent materials such as booms and pads shall be installed and replaced whenever necessary. Flammable products shall be handled in a safe and competent manner to prevent fires or explosions.

1. Facility ID # : _____
2. Facility Name:
3. Date free product discovered:
4. Date free product removal system operational:
5. Name, affiliation and telephone number of the person(s) responsible for implementing the free product removal measures:
6. Describe the estimated quantity, type and thickness of free product measured in wells, boreholes and excavations.
7. Describe the type of free product recovery system installed.
8.
 - a. Indicate the location of any discharge taking place on-site or off-site during the recovery operation (If none, proceed to item 9).
 - b. Describe the type of treatment applied to, and the effluent quality expected from, any discharge.
 - c. Describe the steps that have been or are being taken to obtain necessary permits for any discharge.
9. Describe the method for disposal of recovered free product.
10. Provide the gallons of free product removed during the reporting period and the total gallons removed to date.

Signature Page

A signature page, as shown below shall be attached to the FPRR. The page shall be signed by the owner/operator (or authorized representative within the organization) and a registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 *et seq.*), or a registered professional engineer under the Tennessee Architects, Engineers, Landscape Architects and Interior Designer Law and Rules (T.C.A. §62-2-101 *et seq.*).

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print name)

Signature

Date

Title (Print)

P.E. or P.G. (Print name)

Signature

Date

Tennessee Registration #

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

_____. My commission expires _____.

Notary Public (Print name)

Signature

Date

Stamp/Seal



DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT - 005

EFFECTIVE DATE - AUGUST 30, 1991

REVISED DATE - JUNE 30, 1993

REVISED DATE - AUGUST 1, 1996

RE: SAMPLING REQUIREMENTS FOR EXCAVATED MATERIAL

The purpose of this guidance document is to assist the regulated community in determining if excavated material is contaminated or has been adequately treated. Discrete samples shall be collected from the excavated material to determine if the level of petroleum contamination is below the Division's most stringent regulatory cleanup levels (5 PPM BENZENE and/or 100 PPM TPH).

PROCEDURES:

1. The total volume of excavated material (in cubic yards) shall be determined and divided by ten (10). This is the total number of discrete samples to be collected for field screening. Field screening shall be in accordance with the current Environmental Assessment Guidelines. If the result is not a whole number, round up to the next whole number.
 - a. Sampling points must be evenly distributed throughout the entire volume of material. The samples collected for field screening shall be representative samples according to volume, rather than area.
 - b. All field screening samples shall be collected from sufficient depth in undisturbed material. Surface samples are not acceptable.
2. Samples shall be collected from the area(s) with the highest levels of contamination as determined by the field screening in Item 1 above. The sample(s) shall be submitted for laboratory analysis in accordance with the table below. All laboratory analysis shall follow the current Closure Assessment Guidelines.

VOLUME OF TREATED MATERIAL (cubic yards)	NUMBER OF SAMPLES FOR LAB ANALYSIS
0 - 60	1
60 - 240	2
240 - 480	3
480 - 720	4

Note: Each additional 240 cubic yards of material will require one additional sample for laboratory analysis.

3. All results from both the field screening and laboratory analyses, as well as a site map showing all sampling points and a distance referenced from the stockpile to a permanent fixed point, shall be submitted to the appropriate field office. The original or a carbon copy of the laboratory analysis sheet shall be submitted to the Division. Photocopies are not acceptable. All laboratory analysis sheets shall include the information specified in the *LST System Closure Assessment Guidelines*.



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
TECHNICAL GUIDANCE DOCUMENT - 006

Effective Date: January 1, 1994

RE: Standard Drilling Log

The purpose of this Technical Guidance Document (TGD) is to provide a standard drilling log which shall be completed for all borings and monitoring wells installed during site investigations. The drilling log has been developed to ensure that appropriate observations are made during boring and/or monitoring well installation activities and to provide consistency for facilitating a more timely review. Legible hand drafting is acceptable.

The attached drilling log shall be used. The drilling log may be copied or is available from the Division on a diskette. The sections shall be completed as follows:

<u>Facility Name:</u>	Facility name where the tank(s) are/were located
<u>TN Fac. ID #:</u>	Seven digit number assigned to the facility by the Division
<u>Well # &/or Boring #:</u>	Well and/or boring number consistently referenced throughout all reports and plans
<u>Location Map:</u>	Site sketch locating the well or boring in relation to buildings, tank pit(s), and other important features
<u>Start Date & Time:</u>	Date and time that drilling began
<u>Comp. Date & Time:</u>	Date and time of boring or monitoring well completion
<u>Logged By and Lic. #:</u>	Name and license number of the individual logging the well and/or boring
<u>Driller:</u>	Driller's name and name of drilling company
<u>Drilling Method:</u>	Drilling method(s) used to complete the boring or monitoring well
<u>Project #:</u>	Section provided for the convenience of the company or professional completing the log
<u>Elev (MSL):</u>	Elevation of the top of the boring or monitoring well referenced to MSL

<u>T.D. (MSL):</u>	Elevation of the bottom of the boring or monitoring well referenced to MSL						
<u>Comments:</u>	Any pertinent information not included in the columns provided on the log						
<u>MSL:</u>	Mean sea level elevation in feet for ground level, top of well casing, top of screen, bottom of screen, and bottom of well						
<u>Completion Diagram:</u>	Detailed monitoring well schematic which shall indicate but not be limited to the type and diameter of the well, borehole diameter, depth of borehole, depth of well, type of casing and screen, slotted screen size, grain size of sand pack, depth to top of screen, depth to top of sand pack, and depth to top of bentonite seal (Symbols in Table 1)						
<u>Water Level:</u>	Water level first encountered and at completion of the well (Symbols in Table 1)						
<u>Penetration Rate:</u>	Blow count, min./ft., etc.						
<u>Depth:</u>	Depth in feet below ground level (the log shall be scaled 4ft./in.)						
<u>Graphic Lithology:</u>	Soil and/or rock lithology including secondary porosity, fossils, intrusions, and structural defects (Symbols in Table 2)						
<u>OVD:</u>	Organic Vapor Detector reading from headspace analysis						
<u>Samples & Cores:</u>	<table> <tr> <td><u>Type</u></td> <td>Type of sample or core indicated as: SS - Split spoon ST - Shelby Tube CS - Continuous sample RC - Rock core</td> </tr> <tr> <td><u>Int/Rec</u></td> <td>Sample location and/or interval for analytical or physical testing or description and recovery. Symbols are shown in Table 1.</td> </tr> <tr> <td><u>Anal.</u></td> <td>Sample taken for analysis and indicated as shown in Table 1</td> </tr> </table>	<u>Type</u>	Type of sample or core indicated as: SS - Split spoon ST - Shelby Tube CS - Continuous sample RC - Rock core	<u>Int/Rec</u>	Sample location and/or interval for analytical or physical testing or description and recovery. Symbols are shown in Table 1.	<u>Anal.</u>	Sample taken for analysis and indicated as shown in Table 1
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<u>Int/Rec</u>	Sample location and/or interval for analytical or physical testing or description and recovery. Symbols are shown in Table 1.						
<u>Anal.</u>	Sample taken for analysis and indicated as shown in Table 1						

Description: Description of the soil and/or rock including but not limited to:

- a. Rock Type/Soil Type Primary and secondary lithologies
- b. Composition/Texture Size and shape of the particles; cement and matrix; fossiliferous (Abbreviations in Table 3)
- c. Strength/Consistency The following modifiers may be used to enhance the soil strength description:

brittle	fails suddenly with little strain;
elastic	rubbery;
friable	crumbles easily; and
sensitive	loses strength on remolding.

Table 3 lists abbreviations for strength and modifiers. The terms for consistency are presented in Table 4.
- d. Color Table 3 lists abbreviations (It is not necessary to use the Munsell Color Chart Notation)
- e. Moisture Table 3 lists abbreviations
- f. Origin Determine if the soil is residual (weathered in place from parent material) or has been transported and deposited. Transported and deposited soils include alluvium, colluvium, loess, glacial till or drift, and man-made fill. (Abbreviations in Table 3)
- g. Structure Type of bedding, weathering, voids, and secondary porosity (Abbreviations in Table 3)

Table 1

Completion Diagram Symbols:

	SOLID PIPE WITH NO PACKING		SLOTTED PIPE PACKED IN SAND
	GROUT SEAL AROUND SOLID GROUT ANS131 (1.X)		END PIPE ON SLOTTED PIPE PACKED IN SAND DOTS (5.X) / ANS137 (.2X)
	BENTONITE SEAL AROUND SOLID PIPE ANS137 (.2X)		SAND PACK DOTS (5.X)
	SOLID PIPE PACKED IN SAND DOTS (.5X)		

Water Level Symbols:



Sample Symbols:

SS - SPLIT SPOON	X - 75-100% RECOVERY	BTX - BENZENE, TOLUENE, & XYLEMES
ST - SHELBY TUBE	> - 50-75% RECOVERY	GRO - GASOLINE RANGE ORGANICS
CS - CONTINUOUS SAMPLE	< - 25-50% RECOVERY	DRO - DIESEL RANGE ORGANICS
RC - ROCK CORE	I - 0-25% RECOVERY	HB+ - METHOD 418.1 OR 503 E

	SPLIT SPOON SAMPLE 75-100% RECOVERY ANALYZED FOR BTX & GRO		CONTINUOUS SAMPLE 25-50% RECOVERY ANALYZED WITH OVD
	SHELBY TUBE SAMPLE 50-75% RECOVERY ANALYZED FOR PERM.		CORE 0-25% RECOVERY

Table 2
Soil & Rock Lithology Symbols:

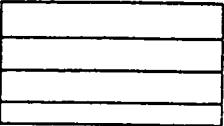
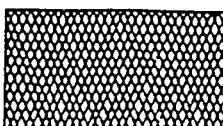
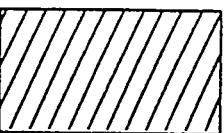
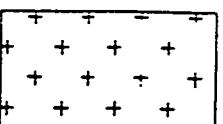
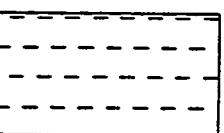
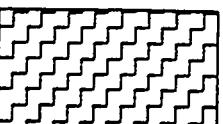
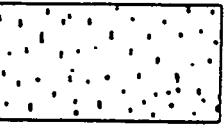
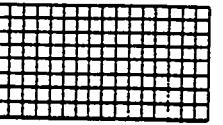
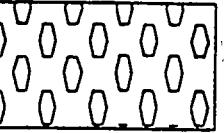
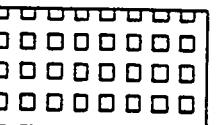
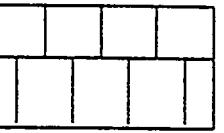
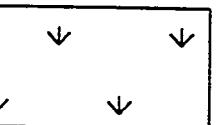
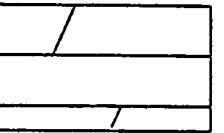
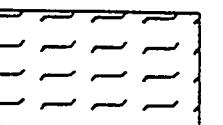
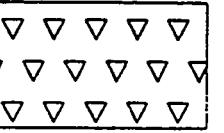
	CLAY LINE (.5X)		COAL/LIGNITE ANS137 (.2X)
	SILT ANS131 (.5X)		IGNEOUS CROSS (.5X)
	SHALE DASH (.5X)		METAMORPHIC ZIGZAG (.5X)
	SAND DOT (.5X)		CONCRETE NET (.5X)
	GRAVEL HEX (.3X)		ASPHALT SQUARE (.5X)
	LIMESTONE BRICK (.5X)		ORGANIC SOIL GRASS (.4X)
	DOLOMITE DOLMIT (.4X)		FILL FLEX (.5X)
	CHERT TRIANG (.5X)		

Table 2 (continued)
Modifying Components, Cement,
Etc.:

	FOSSILS		CHERT		SILT
	OOLITES, PISOLITES, CONCRETIONS, ETC.		SAND		FRACTURES
	BEDDING PLANES		CLAY, SHALE		VISIBLE POROSITY (DESCRIBE IN COMMENTS)
	CALCITE, LIMESTONE		DOLOMITE		HYDROCARBON ODOR OR STAINING, FREE PRODUCT, ETC. (DESCRIBE IN COMMENTS)

Table 3
Abbreviations

COMPOSITION

Bo.=Boulder
Gv.=Gravel(y)
Sa.=Sand(y)
Sl.=Silt(y)
Cl.=Clay(ey)
Pt.=Peat(y)
Sh.=Shells
Rk.=Rock
Wd.=Wood
Qz.=Quartz
Ml.=Mica(sous)
Ca.=Calcareous
Og.=Organic(s)
Co.=Coarse
Md.=Medium
Fn.=Fine
An.=Angular
Ro.=Rounded
Gd.=Graded
Un.=Uniform
Ls.=Loess

Moisture

Dy.=Dry
Ms.=moist
We =Wet
Sat.=Saturated

Strength

Lo.=Loose
Fm.=Firm
Dn.=Dense
So.=Soft
St.=Stiff
Hd.=hard
Cp.=Compressible
Pl.=Plastic
Fr.=Friable

Modifiers

D.=Dark
L.=Light
H.=High(y)
M.=Moderate(y)
S.=Slight(y)
P.=Partial(y)
V.=Very
W.=Well
E.=Elastic
Sb.=Sub

Origin

Al.=Alluvium(al)
Rs.=Residuum(al)
Fl.=Fill
Ru.=Rubble
Ts.=Topsoil

Color

Bl.=Blue
Bk.=Black
Br.=Brown
Gn.=Green
Gy.=Gray
Or.=Orange
Rd.=Red
Tn.=Tan
Wh.=White
Mt.=Mottled
Mu.=Multicolored
Str.=Streaked
Yl.=Yellow

Structure

Bd.=Banded
Cv.=Cavity
De.=Decomposed
Fg.=Fragment(s)
Ho.=Homogeneous
Jt.=Joint(ed)
La.=Laminated
Ln.=Lens(es)
Sk.=Slickenside
Sm.=Seam
Sr.=Stratified
Vv.=Varved
Wt.=Weathered
Vd.=Void(s)
Fr.=Fracture(d)
Fa.=Fault

Table 4 Terms For Consistency

**Consistency of Predominately Fine - grained Soils
(Silts and Clays)**

<u>Term</u>	<u>Field Test on Soil</u>
Very Soft	Easily squeezed between fingers
Soft	Molded by light finger pressure
Firm	Molded by strong finger pressure
Stiff	Dented by strong finger pressure
Very Stiff	Dented only slightly by strong finger pressure
Hard	Dented only slightly by thumbnail finger pressure
Very Hard	Difficult to excavate by pick

**Consistancy of Predominately Coarse - Grained Soils
(Fine Gravels and Sands)**

<u>Term</u>	<u>Field Test on Soil</u>
Very Loose	Easily penetrated by 1/2" rebar pushed by hand
Loose	Easy effort to excavate by handshovel
Firm	Easily penetrated by 1/2" rebar driven with 5 lb. hammer
Very Firm	Moderate effort to excavate by handshovel
Dense	Penetrated a foot by 1/2" rebar driven with 5 lb. hammer / Difficult to excavate by handshovel
Very Dense	Penetrated only a few inches by a 1/2" rebar driven with 5 lb hammer / Difficult to excavate by pick



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT - 007

EFFECTIVE DATE - JANUARY 1, 1994
REVISED DATE - AUGUST 1, 1996

RE: MONITORING AT UST SITES

The purpose of this Technical Guidance Document (TGD) is to assist the regulated community in determining the requirements for periodic monitoring and reporting at UST sites.

All work associated with this TGD shall be performed in accordance with the applicable sections of the Environmental Assessment Guidelines.

I. Monitoring Program Components

A. Comprehensive

Comprehensive Monitoring shall consist of the following activities in sequence:

1. Water Monitoring

- a. Obtaining water and free product level measurements from all monitoring wells;
- b. Obtaining free product level measurements from any release detection wells, if applicable;
- c. Sampling all monitoring wells and recovery wells; and,
- d. Sampling all springs and water supplies approved by the Division.

2. Vapor Monitoring

Vapor monitoring of all subsurface structures (i.e. basements, utility vaults, sewers, etc.) within 300 feet of known contamination. Known contamination shall be defined as all sampling locations where analytical results document contamination above the applicable cleanup levels or where free product has been observed. All structures which have been previously impacted by petroleum vapors shall also be monitored.

B. Site Status

Site Status Monitoring shall consist of the following activities:

1. Water Monitoring

- a. Obtaining water and free product level measurements from all monitoring wells;**
- b. Obtaining free product level measurements from any release detection wells, if applicable;**
- c. Sampling all monitoring wells approved by the Division;**
- d. Sampling all springs and water supplies approved by the Division; and,**
- e. Sampling the influent and effluent of the ground water treatment system, if applicable.**

2. Vapor Monitoring

Vapor Monitoring of all subsurface structures (i.e. basements, utility vaults, sewers, etc.) within 300 feet of known contamination. Known contamination shall be defined as all sampling locations where analytical results document contamination above the applicable cleanup levels or where free product has been observed. All structures which have been previously impacted by petroleum vapors shall also be monitored.

3. Emissions Monitoring

Emissions monitoring from the soil vapor extraction system, if applicable. At a minimum, measurements of the total volatiles as measured by an organic vapor detector shall be taken.

C. Soil

Soil Monitoring shall consist of the installation of one boring in the location where the highest level of soil contamination was known to exist through previous site assessment activities.

II. Monitoring Programs

A. Corrective Action

Corrective Action Monitoring shall be performed upon approval of the Corrective Action Plan by the Division, and consist of the following:

- 1. Comprehensive Monitoring shall be performed within seventy-two hours prior to the start-up of the ground water corrective action system.**

2. Site Status Monitoring shall be performed every six months thereafter until the ground water contaminant concentrations are below the applicable cleanup levels. Closure Monitoring shall commence 20 to 30 days after the Division approves the termination of the ground water corrective action system in accordance with Item C. below.
3. Soil Monitoring shall be conducted two years after the soil corrective action system becomes operational. It shall continue every two years thereafter until the soil contaminant concentrations decrease below the applicable cleanup levels.

B. Monitoring Only

A monitoring only program shall be implemented upon the Division's approval and consist of the following:

1. Comprehensive Monitoring shall be performed 20 to 30 days after the Division approves a monitoring only request.
2. Site Status Monitoring shall be conducted every six months thereafter until:
 - a. Contaminant concentrations are below the applicable cleanup levels; or,
 - b. The Division requires additional activities.

If the analytical results indicate contaminant concentrations are below the applicable cleanup levels. Closure Monitoring shall commence the next quarter in accordance with Item C. below and upon approval of the Division.

3. Soil Monitoring shall be performed every two years, until the soil contaminant concentrations are below the applicable cleanup levels or the Division requires additional activities.

C. Closure

Closure Monitoring shall be performed to determine that the ground water contaminant concentrations remain below the applicable cleanup levels for one year and shall consist of four (4) consecutive quarters of sampling using the following procedures:

1. Comprehensive Monitoring shall be conducted 20 to 30 days after the Division approves the start of a Closure Monitoring Program.
2. Site Status Monitoring shall be performed the second and third quarters.
3. Comprehensive Monitoring shall be conducted the fourth quarter.

If contaminant concentrations are detected above the applicable cleanup levels during closure monitoring, additional activities associated with corrective action may be required.

Refer to the UST Monitoring Summary at the end of this Guidance Document to determine when to perform each type of monitoring.

III. Report Preparation

Within thirty (30) days after sample collection, a report shall be prepared and submitted containing the following information:

A. Progress

For sites in corrective action, supply an "as built" equipment diagram. This diagram shall be submitted only in the first monitoring report after the system(s) has been installed or in any subsequent reports after a major modification as been made to the corrective action system(s).

If any corrective action has taken place since the last report, briefly describe the progress of the corrective action system(s) to date.

1. Based upon the readings taken during routine operation and maintenance (O & M) visits to the site, provide the average flow rate and the estimated total gallons of water treated for the reporting period. (Report this amount in Table 1)
2. Provide the gallons of free product removed during the reporting period and the total gallons removed to date. (Report this amount in Table 1) Describe the method for management and disposal of the free product.
3. Provide in Table 1 all monthly costs incurred at the site and the total costs incurred to date associated with monitoring and O and M. Costs shall include but not be limited to the following: all personnel time on and off site, report preparation, analytical costs, equipment rental, supplies, capital equipment, repairs, utilities, fees, per diem and mileage.
4. If modifications are made to a corrective action system, briefly explain the modifications and why they were necessary.
5. For each site visit, briefly describe the purpose of the visit including the length of time on the site and the names of the personnel and position/title on the site.

B. Problems

Briefly describe any problem(s) which have been encountered since the previous report and the actions taken to resolve the problem(s). If applicable, report in Table 1, the percent of time the treatment system was out of operation during the reporting period.

C. Water Monitoring

1. Potentiometric Data

- a. Provide a table, prepared in accordance with Section D.1.c. of the Initial Site Characterization Report Guidelines (ISCRG), from the data collected from all events.
- b. Provide two potentiometric maps, prepared in accordance with Section D.1.d of the ISCRG, from the data collected during the last two monitoring periods.

2. Analytical Data

- a. Provide a table, prepared in accordance with Section D.5 of the ISCRG, using analytical results from all events.

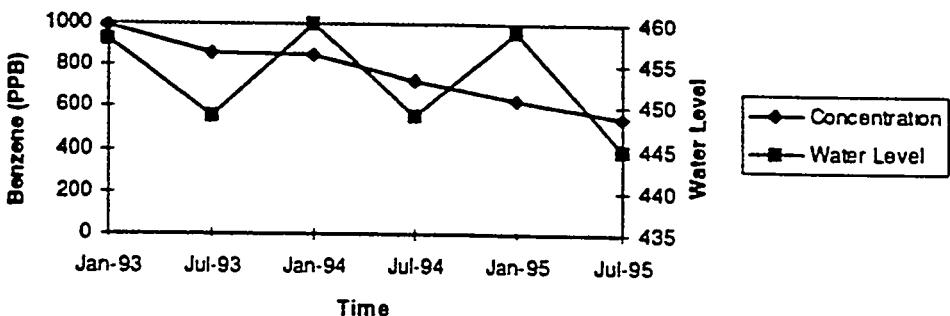
Provide all laboratory analysis sheets for this monitoring period in an appendix. Include the TN UST Facility ID Number on all laboratory analysis sheets. A copy of the chain of custody sheets shall be in the appendix.

Photostatic copies of the laboratory analysis sheets are not acceptable.

- b. Provide a graph for each monitoring well sampled showing the ground water contaminant concentrations for benzene and TPH and ground water levels versus time.

Provide a graph for each monitoring event showing the influent and effluent contaminant concentrations for benzene and TPH for sites in ground water corrective action.

Use all ground water data and indicate the point in time in which the system became operational. Use the example below as a guide.



- c. If Comprehensive Monitoring was conducted during the current monitoring period, provide a plume map(s) prepared in accordance with Section D.7. of the ISCRG.

D. Vapor Monitoring Results

Describe the results of the vapor monitoring. Provide a map showing the locations of the monitoring points and a table indicating the results of the monitoring.

E. Emissions Monitoring Results

Describe the results obtained from the monitoring of any soil vapor extraction systems and provide a table with the results of all sampling events.

F. Soil Monitoring Results

Describe the results of any soil sampling conducted during the reporting period. Provide a table with all soil analytical results obtained in accordance with this TGD.

If a soil vapor extraction system is being used, provide a zone of influence map showing the extent of vapor drawdown to a minimum 1 (one) inch of water.

G. Additional Information

Provide any additional information which was included in the approved CAP or required by the Division. If applicable, provide this additional information in tables or maps.

H. Signature Page

A signature page, as shown below shall be attached to the monitoring report. The page shall be signed by the owner/operator (or authorized representative within the organization) and a registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 *et seq.*), or a registered professional engineer under the Tennessee Architects, Engineers, Landscape Architects, and Interior Designers Law and Rules (T.C.A. §62-2-101 *et seq.*).

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print name)

Signature

Date

Title (Print)

P.E. or P.G. (Print name)

Signature

Date

Tennessee Registration #

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____

COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

_____. My commission expires _____.

Notary Public (Print name)

Signature

Date

Stamp/Seal

MONITORING REPORT

Table 1

TN UST FACILITY ID NUMBER: _____

Reporting Period	From:	From:	From:	From:
	To:	To:	To:	To:
Avg. Flow Rate (GPM)				
Total Gallons Pumped Per Period				
Cumulative Total- Gallons Pumped				
% Time System Was Down				
Gallons of Free Product Removed				
Cumulative Gallons of Free Product Removed				

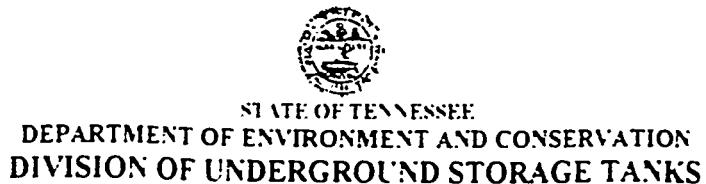
The Reporting Period described above shall be a six month interval.

Month						
# of Site Visits per Month						
Electrical Cost per Month						
Cumulative Electrical Costs To Date						
All Costs per Month						
Cumulative Costs To Date (Monitoring and O & M)						

The Reporting Period for O & M costs is monthly.

UST Monitoring Program Summary

Monitoring Program Components	When to Perform	Description
Comprehensive (Water and Vapor)	<ol style="list-style-type: none"> 1. Before CA system startup (Baseline). 2. Upon system shutdown (1st qtr. of Closure Monitoring). 3. The 4th quarter of Closure Monitoring. 4. Before beginning a Monitoring Only Program. 	<p>Sample all monitoring wells and recovery wells. Also all springs and water supplies proposed by the CAC and approved by the Division.</p> <p>Monitor for vapors in all subsurface structures (i.e. basement, sewers, utilities) within 300 feet of known contamination. Also any structure previously impacted by petroleum vapors.</p>
Site Status (Water, Vapor, and Emissions)	<ol style="list-style-type: none"> 1. Every six months during the operation of the corrective action system. 2. Every six months during Monitoring Only. 3. During the 2nd and 3rd quarter of Closure Monitoring. 	<p>Sample all monitoring wells proposed by the CAC and approved by the Division.</p> <p>The influent and effluent of the treatment system.</p> <p>Monitor for vapors in all subsurface structures (i.e. basement, sewers, utilities) 300 feet of known contamination. Also any structure previously impacted by petroleum vapor.</p>
Soil	<p>Every two years until achieving soil cleanup goals.</p>	<p>Monitoring of the system's air effluent.</p> <p>One boring in the area of highest soil contamination to monitor contaminant reduction.</p>



TECHNICAL GUIDANCE DOCUMENT - 008

Effective Date - January 13, 1992

Revised Date - November 19, 1993

Revised Date - August 1, 1996

RE: Procedure To Obtain a Site-specific Standard For a Petroleum Underground Storage Tank Site

I. PURPOSE AND CLARIFICATION

The purpose of this Technical Guidance Document (TGD) is to provide the owner and/or operator with the minimum requirements necessary to apply for a Site-specific Standard. The development of a Site-specific Standard Request (Request) may involve significant costs. Submittal does not assure approval of the Request by the Commissioner. The owner and/or operator may petition the Commissioner to grant a Site-specific Standard if:

1. "The owner and/or operator has treated petroleum contamination at a site for an extended period of time and the treatment system for soil and/or ground water has reached asymptotic levels for contaminant removal" as stated in Rule 1200-1-15-.06(7)(e)4 (Note: "Asymptotic" is defined as a level of contaminant in the soil and/or ground water which has remained relatively constant for at least four (4) consecutive quarters.).
2. "The owner and/or operator believes that a particular site should not be subject to the cleanup requirements in Appendices 4 and 5" as stated in Rule 1200-1-15-.06(7)(e)5.

A Site-specific Standard requested in accordance with Rule 1200-1-15-.06(7)(e)5 shall be submitted only after all contaminant plumes have been defined to the applicable cleanup levels and an Environmental Assessment Report (EAR) has been prepared and submitted in accordance with the 1996 revision of the EAR Guidelines. The Request may be submitted in lieu of a Corrective Action Plan (CAP). The Request shall be submitted by the CAP compliance date.

A risk-based exposure assessment shall be performed in accordance with Rule 1200-1-15-.06(7)(e)5(iv). The exposure assessment shall be completed as outlined in Section II.E. of this document.

Should the Commissioner grant a Site-specific Standard, a monitoring period shall be required. All monitoring and reporting shall be performed in accordance with TGD - 007. The Site-specific Standard may be revoked in accordance with Rule 1200-1-15-.06(7)(e)6 if it is later determined that the information supplied in the request was not accurate or there has been a change in the information supplied or in actual site conditions.

Should the Commissioner deny the properly completed Request, fail to act within ninety (90) calendar days of receipt or revoke the Site-specific Standard, the owner and/or operator may petition the Petroleum Underground Storage Tank Board for the Site-specific Standard in accordance with Rule 1200-1-15-.06(7)(e)5.

II. MINIMUM REQUIREMENTS

Subparts (i) through (v) of Rule 1200-1-15-06(7)(e)⁵ require the owner and/or operator to gather specific information regarding the contaminant plume(s) and the surrounding area. Each section of the Request shall be prepared and assembled in the order presented within this document. Each section shall contain a prepared text that includes the required elements of the section and provide an explanation of any associated tables and maps. Any information that is not specifically requested but is relevant to the project shall also be included. The preparer shall assemble the required information so as to provide a comprehensive final document. Each section and subsection heading shall be clearly printed in the report. A table of contents shall be provided listing the location of all sections, maps, tables, and appendices.

A. Executive Summary

Provide an Executive Summary describing the findings of the project to date. Include conclusions and interpretation of data derived from implementing the environmental assessment and/or corrective action activities. The summary shall include the applicable cleanup levels as established in the Initial Site Characterization Report (ISCR) and the proposed site-specific cleanup levels.

B. Provide the Physical and Chemical Characteristics of Petroleum; Including Its Toxicity, Persistence, and Potential For Migration

1. Physical Characteristics

- a. The source(s) of contamination and amount released
- b. The background level of each constituent in both the soil and ground water of the area if naturally-occurring petroleum is suspected to exist upgradient of the contaminant plume(s)
- c. The media through which the release is spreading or is likely to spread, the direction, and the rate
- d. Scaled plan view maps showing the extent of contamination to the applicable cleanup levels as listed in Appendices 4 and 5 of Rule 1200-1-15 in accordance with Sections C.4.a. and D.6.a. of the Environmental Assessment Report Guidelines

2. Chemical Characteristics

The chemical characteristics of the constituents of concern (COC) shall be listed from the COC Table (Attachment 1). These values shall be used for all calculations included in the Request. The COCs for gasoline are benzene, toluene, ethyl benzene, total xylenes, methyl t-butyl-ether, and hexane (selected surrogate for Total Petroleum Hydrocarbons-Gasoline Range Organics). Benzo(a)pyrene and naphthalene shall be used as surrogates for TPH-Diesel Range Organics (TPH-DRO).

C. Provide the Hydrogeologic Characteristics of the Petroleum Site and the Surrounding Land

- 1 The soil permeability of the site as reported in the ISCR
- 2 Ground water recharge area
- 3 Recharge rate
4. Hydrology (ground water flow gradient, direction, hydrologic boundaries and the occurrence of main aquifers or water bearing zones)

D. Provide the Proximity, Quality, and Current and Future Uses of Ground Water

1. The ground water classification of the aquifer or water source (i.e. drinking water supply or non-drinking water supply) as reported in the ISCR
2. Any current and/or future uses of the ground water within a one half (0.5) mile radius of the petroleum site (Provide a color topographic map showing the location of all wells and springs as required in Section D.6.a. of the ISCR)
3. The depth to each aquifer or water bearing zone encountered during the investigation

E. Perform an Exposure Assessment

1. Select and list the current and future exposure pathways and receptors for the site in accordance with Attachment 2
2. Evaluate all on-site receptors identified above in Item 1. Provide a table which compares the actual on-site concentrations to the look-up table values in Attachment 3
3. Evaluate all off-site receptors identified above in Item 1 using the Fate and Transport Models provided in Attachment 4 and the Cross-Media Transfer Definitions and Fate and Transport Parameters in Attachment 5. If site-specific data are unobtainable, the default values provided in Attachment 5 shall be used.
 - a. Any detectable soil contamination shall be evaluated using Equation 1, Soil to Ground Water Leaching
 - b. Any ground water contamination above the applicable clean-up levels shall be evaluated using Equation 2, Domenico Ground Water Solute Transport Model
 - c. Provide a table which reports the LF_{su} . $C_{max\ soil}$. $C_{leaching}$. $C_{max\ gw}$. $C_{source\ gw}$ and compares the $C(x)$ to the applicable clean-up levels for the site
4. Provide a discussion of the results of both on-site receptor impacts and off-site receptor impacts, if applicable

F. Provide the Proximity, Quality, and Current and Future Uses of Surface Waters

- 1 Any surface waters within a one half (0.5) mile radius and the site location indicated on a color topographic map (This map shall be on 8.5 x 11 or 11 x 17 inch paper.)
- 2 Any current and/or future uses of surface waters within a one half (0.5) mile radius (i.e. drinking water source, recreation, etc.)

III. SUMMARY

The Request shall be concluded with a summary justifying the proposed site-specific cleanup levels based on all available information. The summary shall include a discussion of all risk(s) to human health or environment as determined in the exposure assessment.

IV. SIGNATURE PAGE

A signature page, as shown below, shall be attached to the Request. The page shall be signed by the owner/operator (or authorized representative within the organization), a registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), and a registered professional engineer under the Tennessee Architects, Engineers, Landscape Architects, and Interior Designers Law and Rules (T.C.A. §62-2-101 et seq.)

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print name)

Signature

Date

Title (Print)

P.G. (Print name)

Signature

Date

Tennessee Registration #

P.E. (Print name)

Signature

Date

Tennessee Registration #

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____

COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

Notary Public (Print name)

Signature

Date

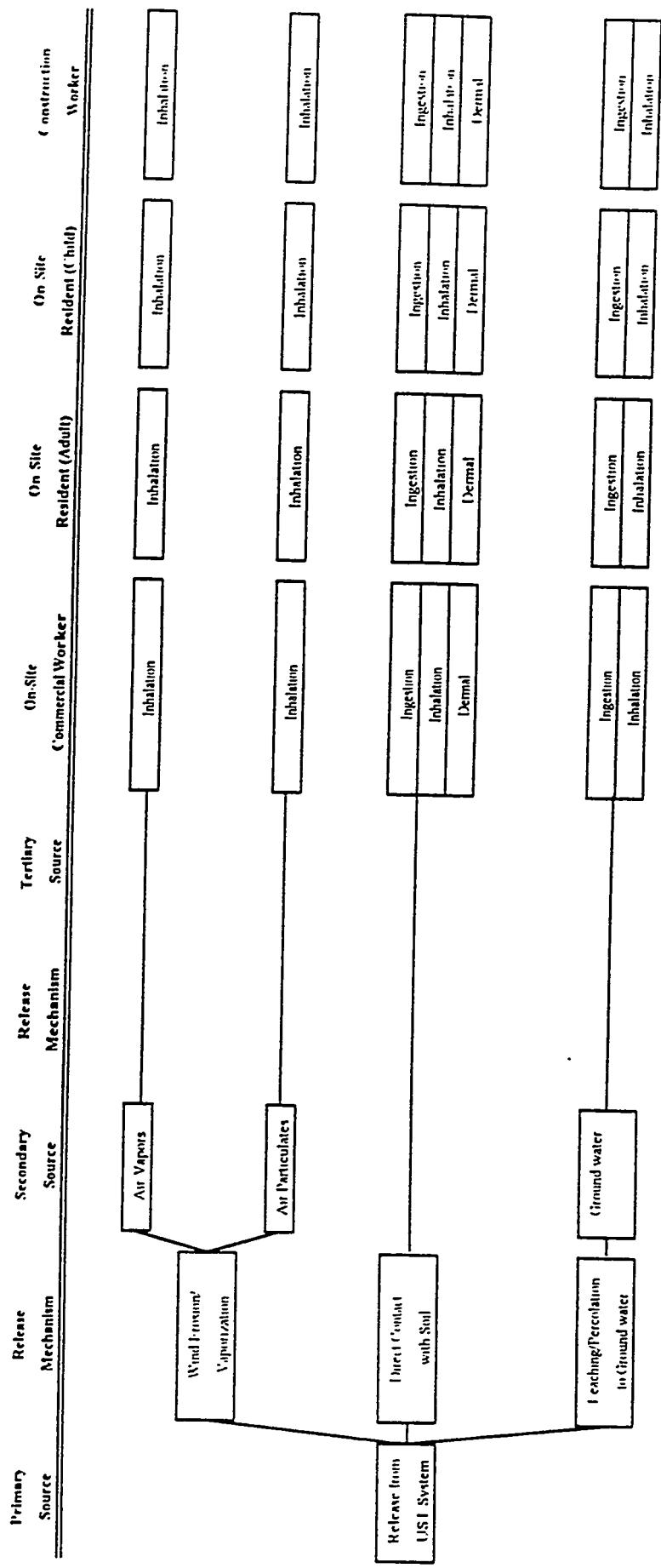
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Attachment 1
 Technical Guidance Document-008
 Constituents of Concern Table

Constituents of Concern

Chemical	Toxicant Classification	K_{ic} $\text{cm}^3\text{-H}_2\text{O/g-C}$	II (Unlabeled)	Pure Product Solubility (mg/l)	SI _o kg-day/mg	SI _i kg-day/mg	RF _o mg/kg-day	RF _i mg/kg-day
Benzene	Carcinogen	3.80E+01	2.20E+01	1.75E+03	2.90E-02	2.90E-02	•	•
	Systemic	1.35E+02	2.60E+01	5.35E+02	•	•	2.00E-01	1.00E-01
Toluene	Systemic	9.55E+01	3.20E+01	1.52E+02	•	•	1.00E-01	2.90E-01
1-Ethyl Benzene	Systemic	2.40E+02	2.90E+01	1.98E+02	•	•	2.00E+00	2.00E+00
1,3-Diethyl Xylenes	Systemic	1.15E+01	2.40E+02	4.80E+04	•	•	5.00E-03	8.57E-01
Methyl-1-Butyl-Ether	Systemic	4.79E+02	5.07E+00	1.30E+01	•	•	6.00E-02	5.71E-02
Hexane	Carcinogen	3.89E+05	5.80E-08	1.20E+03	7.30E+00	6.10E+00	•	•
Benz(a)pyrene	Systemic	1.29E+03	4.90E-02	3.10E+01	•	•	4.00E-03	4.00E-03
Naphthalene								

Attachment 2
Technical Guidance Document-008
Exposure Decision Tree



Attachment 3
 Technical Guidance Document - 008
 Look-Up Tables
 Risk-Based Screening Levels for On-Site Receptors

Ground Water: Ingestion
 (ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	2.8E-03	6.3E-03	9.9E-03	3.4E-01
Benzo(a)Pyrene	1.2E-05	2.5E-05	3.9E-05	1.3E-03
Ethylbenzene	3.7E+00	1.6E+00	1.0E+01	1.4E+01
Hexane	2.2E+00	9.0E-01	6.1E+00	8.4E+00
Methyl t-Butyl Ether	2.0E-01	1.0E-01	5.0E-01	7.0E-01
Naphthalene	1.0E-01	6.3E-02	4.0E-01	6.0E-01
Toluene	7.3E+00	3.1E+00	2.0E+01	2.8E+01
Xylene	7.3E+01	3.1E+01	2.0E+02	2.8E+02

Ground Water: Volatilization to Indoor Air
 (ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	2.9E-02	3.2E-02	9.2E-03	3.2E-01
Benzo(a)Pyrene	1.2E-03*	1.2E-03*	1.2E-03*	1.2E-03*
Ethylbenzene	7.1E+01	1.5E+01	1.5E+02*	1.5E+02*
Hexane	4.0E-01	1.0E-01	1.1E+00	1.5E+00
Methyl t-Butyl Ether	8.3E+02	1.8E+02	2.2E+03	3.0E+03
Naphthalene	4.7E+00	1.0E+00	1.7E+01	1.2E+01
Toluene	2.7E+01	5.7E+00	8.0E+01	1.1E+02
Xylene	2.0E+02*	1.3E+02	2.0E+02*	2.0E+02*

* Indicator RBSL exceeded pure component water solubility; therefore water solubility is listed as RBSL

Attachment 3
(Continued)
Technical Guidance Document - 008
Look-Up Tables
Risk-Based Screening Levels for On-Site Receptors

Ground Water: Volatilization to Outdoor Air
(ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	2.1E+00	2.3E+00	2.6E+00	9.1E+02
Benzo(a)Pyrene	1.2E-03*	1.2E-03*	1.2E-03*	1.2E-03*
Ethylbenzene	1.5E+02*	1.5E+02*	1.5E+02*	1.5E+02*
Hexane	1.3E+01*	1.3E+01*	1.3E+01*	1.3E+01*
Methyl t-Butyl Ether	4.8E+04*	4.8E+04*	4.8E+04*	4.8E+04*
Naphthalene	3.1E+01*	3.1E+01*	3.1E+01*	3.1E+01*
Toluene	5.4E+02*	5.4E+02*	5.4E+02*	5.4E+02*
Xylene	2.0E+02*	2.0E+02*	2.0E+02*	2.0E+02*

Surficial Soil: Ingestion, Inhalation and Dermal Contact
(ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	1.5E-02	1.3E-02	3.0E-02	8.8E-01
Benzo(a)Pyrene	2.6E-02	2.5E-02	4.7E-02	1.5E+00
Ethylbenzene	1.6E+02**	1.6E+02**	1.6E+02**	1.6E+02**
Hexane	1.4E+04	2.3E+03	2.2E+04	2.5E+04
Methyl t-Butyl Ether	2.0E+03	2.8E+02	3.9E+03	3.9E+03
Naphthalene	3.6E+00	6.0E-01	8.1E+00	6.9E+00
Toluene	7.8E+02**	7.8E+02**	7.8E+02**	7.8E+02**
Xylene	1.4E+01	2.9E+00	1.4E+01	1.9E+01

* Indicator RBSL exceeded pure component water solubility; therefore water solubility is listed as RBSL
 **Indicator RBSL exceeded saturated soil concentrations; therefore saturated soil concentration is listed as RBSL

Attachment 3
Technical Guidance Document - 008
(Continued)
Look-Up Tables
Risk-Based Screening Levels for On-Site Receptors

Subsurface Soil: Outdoor Vapor Inhalation
(ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	2.7E-01	2.9E-01	4.5E-01	1.5E+01
Benzo(a)Pyrene	4.7E+00**	4.7E+00**	4.7E+00**	4.7E+00**
Ethylbenzene	1.6E+02**	1.6E+02**	1.6E+02**	1.6E+02**
Hexane	3.5E+01	7.4E+00	4.9E+01	6.6E+01
Methyl t-Butyl Ether	7.8E+03	1.7E+03	1.1E+04	1.5E+04
Naphthalene	2.5E+02	5.3E+01	2.6E+02	3.5E+02
Toluene	7.8E+02**	2.2E+02	7.8E+02**	7.8E+02**
Xylene	5.0E+02**	5.0E+02**	5.0E+02**	5.0E+02**

Subsurface Soil: Indoor Vapor Inhalation
(ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	3.6E-04	3.8E-04	1.1E-03	3.8E-02
Benzo(a)Pyrene	4.7E+00**	4.7E+00**	4.7E+00**	4.7E+00**
Ethylbenzene	3.5E+01	7.6E+00	7.4E+01	1.0E+02
Hexane	7.0E-01	2.0E-01	1.8E+00	2.5E+00
Methyl t-Butyl Ether	1.4E+02	3.0E+01	4.4E+02	6.0E+02
Naphthalene	5.0E+01	1.1E+01	1.3E+02	1.8E+02
Toluene	1.8E+01	3.8E+00	5.6E+01	7.7E+01
Xylene	5.0E+02**	1.4E+02	5.0E+02**	5.0E+02**

** Indicator RBSL exceeded saturated soil concentrations; therefore saturated soil concentration is listed as RBSL

Attachment 3
 (Continued)
 Technical Guidance Document - 008
 Look-Up Tables
 Risk-Based Screening Levels for On-Site Receptors

Subsurface Soil: Leaching to Ground Water Ingestion
 (ppm)

COC	Resident (Adult)	Resident (Child)	Commercial Worker	Construction Worker
Benzene	1.7E-02	3.7E-02	5.8E-02	2.0E+00
Benzo(a)Pyrene	6.0E-01	1.2E+00	1.8E+00	4.7E+00**
Ethylbenzene	4.6E+01	2.0E+01	1.3E+02	1.6E+02**
Hexane	1.5E+02	6.3E+01	4.1E+02	5.6E+02
Methyl t-Butyl Ether	4.0E-01	2.0E-01	1.2E+00	1.6E+00
Naphthalene	1.7E+01	7.4E+00	4.8E+01	6.6E+01
Toluene	1.2E+02	5.2E+01	3.4E+02	4.7E+02
Xylene	5.0E+02**	5.0E+02**	5.0E+02**	5.0E+02**

** Indicator RBSL exceeded saturated soil concentrations; therefore saturated soil concentration is listed as RBSL

Attachment 4
Technical Guidance Document-00X
Equations

Equation 1
Soil to Ground Water Leaching

$$LF_{sw} = K_{sw} / \alpha$$

Soil to Leachate Partition:

$$K_{sw} = \frac{\rho_s}{\theta_{ws} + k_s \rho_s + H \theta_{as}}$$

where $k_s = k_{oc} \times f_{oc}$

Leachate to Ground Water Dilution Factor:

$$\alpha = 1 + \frac{U_{gw} \delta_{gw}}{I \times W}$$

$$C_{Leaching} = C_{max,soil} (LF_{sw})$$

Equation 2
Domenico Ground Water Solute Transport Model

$$\frac{C(x)}{C_{source, gw}} = \exp\left(\frac{x}{2\alpha_x} \left[1 - \sqrt{1 + \frac{4\lambda\alpha_z}{u}} \right]\right) \times \text{erf}\left(\frac{S_w}{4\sqrt{\alpha_y x}}\right) \times \text{erf}\left(\frac{S_d}{4\sqrt{\alpha_z x}}\right)$$

where.

$$C_{source, gw} = C_{Leaching} + C_{max, gw} \text{ and } u = \frac{ki}{\theta}$$

Attachment 4
(Continued)
Technical Guidance Document-008
Equations

For this Request the Division requires $\lambda=0$. Therefore, the equation for the Domenico Model is

$$\frac{C(x)}{C_{\text{source } \mu\text{n}}} = \text{erf}\left(\frac{S_u}{4\sqrt{\alpha_v x}}\right) \times \text{erf}\left(\frac{S_d}{4\sqrt{\alpha_v x}}\right)$$

S_w (cm) = Source width parallel to the flow in the horizontal plane = site specific

S_d (cm) = Source depth = 200

$x(cm)$ = Distance to nearest receptor = site specific

$$\alpha_z (cm) = 0.10x = \text{Longitudinal Dispersivity}$$

$$\alpha_y (cm) = \frac{\alpha_x}{3} = \text{Transverse Dispersivity}$$

$$\alpha_z (cm) = \frac{\alpha_x}{20} = \text{Vertical Dispersivity}$$

Error Function (erf) Table

β	$\text{erf}(\beta)$	β	$\text{erf}(\beta)$
0.00	0	1.0	0.842701
0.05	0.056372	1.1	0.880205
0.10	0.112463	1.2	0.910314
0.15	0.167996	1.3	0.934008
0.20	0.222703	1.4	0.952285
0.25	0.276326	1.5	0.966105
0.30	0.328627	1.6	0.976348
0.35	0.379382	1.7	0.983790
0.40	0.428392	1.8	0.989091
0.45	0.475482	1.9	0.992790
0.50	0.520500	2.0	0.995322
0.55	0.563323	2.1	0.997021
0.60	0.603856	2.2	0.998137
0.65	0.642029	2.3	0.988857
0.70	0.677801	2.4	0.999311
0.75	0.711156	2.5	0.999593
0.80	0.742101	2.6	0.999764
0.85	0.770668	2.7	0.999866
0.90	0.796908	2.8	0.999925
0.95	0.820891	2.9	0.999959
		3.0	0.999978

Attachment 5
Technical Guidance Document-008
Cross-Media Transfer Definitions and
Fate and Transport Parameters

Cross-Media Transfer Definitions

LF_{gw}	Leaching Factor Soil to ground water (ppm/ppm)
$C_{leaching}$	Concentration in ground water contributed by leaching (ppm)

Fate and Transport Parameters

$K_{t,s}$	Soil to Leachate Partition (ppm-H ₂ O/ppm-soil)
α	Leachate to ground water dilution factor (unitless)
ρ_s	Soil bulk density (g-soil/cm ³ -soil); default value = 1.70E+00
θ_{ws}	Volumetric water content in vadose zone soils (cm ³ -H ₂ O/cm ³ -soil); default value = 1.20E-01
k_s	Soil-water sorption coefficient (g-H ₂ O/g-soil)
k_{oc}	Carbon-water sorption coefficient(cm ² -H ₂ O/g-carbon)
f_{oc}	Fractional organic carbon; default value = 1.00E-02
H	Henry's law constant(unitless)
θ_{as}	Volumetric air content in vadose zone soils (cm ³ -air/cm ³ -soil); default value = 2.60E-01
U_{gw}	Ground water Darcy velocity (cm/yr)
δ_{gw}	Ground water mixing zone thickness (cm); default value = 2.00E+02
I	Infiltration rate of water through soil (cm/yr); default value = 3.00E+01
W	Width of source area parallel to wind, or ground water flow direction (cm)
$C_{max,soil}$	Maximum soil concentration on-site (ppm)
$C_{max,gw}$	Maximum ground water concentration on-site (ppm)
C_{source}	Concentration in Source Zone (ppm)
$C(x)$	Concentration at a point downgradient (ppm)
x	Distance downgradient (cm)
α_x	Longitudinal Dispersivity (cm)
α_y	Transverse Dispersivity (cm)
α_z	Vertical Dispersivity (cm)
λ	First-Order Degradation Rate (day ⁻¹)
u	Specific Discharge (cm/day)
S_u	Source Width (cm)
S_d	Source Depth (cm); default value = 2.00E+02
C_{gw}	Maximum concentration of contaminant on-site (ppm)
k	Hydraulic Conductivity (cm/day)
i	Hydraulic Gradient (cm/cm)
θ	Porosity



DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT - 009

EFFECTIVE DATE - JANUARY 14, 1992

REVISED - JANUARY 1, 1994

REVISED - AUGUST 1, 1996

RE: REQUIREMENTS TO TREAT PETROLEUM CONTAMINATED SOIL GENERATED FROM RELEASES FROM UNDERGROUND STORAGE TANKS.

The purpose of this Technical Guidance Document (TGD) is to provide the Responsible Party (RP) the requirements for the treatment of petroleum contaminated soil generated at underground storage tank (UST) sites. Tennessee Code Annotated (T.C.A) §68-215-103(16) defines Responsible Party as the owner and/or operator of a petroleum site or any person who at the time of the release which caused the contamination was an owner and/or operator of a petroleum underground storage tank.

The Division of Underground Storage Tanks is responsible for permitting the treatment of petroleum contaminated soils from UST systems if:

1. The soil is treated on the site of generation, or
2. The soil is treated on a site owned by the Responsible Party or their subsidiary.

An *Application to Treat Petroleum Contaminated Soil* shall be completed and submitted to the appropriate UST field office. Enclosed are two applications. Choose the appropriate application based on the treatment method. The approved application shall be retained by the RP. If the application contains false information, the case may be referred to the Tennessee Division of Solid Waste Management (SWM).

The Division of Solid Waste Management permits the treatment of petroleum contaminated soil from UST systems when:

1. The soil is treated on a site owned by a Third Party, or
2. The soil is generated in another state and is treated in Tennessee, or
3. The soil is not treated in accordance with the approved application.

Documentation for treatment and/or disposal of soil (i.e. Application to Treat Petroleum Contaminated Soil, Solid Waste Permits, Landfill Disposal Manifests, Permitted Thermal Treatment Facility Manifests, etc.) shall be sent to the appropriate UST field office.



August 1996

STATE OF TENNESSEE DIVISION OF UNDERGROUND STORAGE TANKS

APPLICATION TO TREAT PETROLEUM CONTAMINATED SOIL BY MOBILE THERMAL TREATMENT

The Responsible Party (RP) of the underground storage tank (UST) system shall submit the original application to the appropriate Division of Underground Storage Tanks field office. Approval must be obtained prior to treatment. Tennessee Code Annotated (T.C.A.) §68-215-103(16) defines Responsible Party (RP) as the owner and/or operator of a petroleum site or any person who at the time of the release which caused the contamination was an owner and/or operator of a petroleum underground storage tank.

REQUIREMENTS:

1. The application shall be submitted within 45 days of the laboratory analysis being performed or the UST system removal. Treatment shall be implemented within 30 days from the approval. Technical Guidance Document-005 shall be followed prior to and after treatment.
2. Contaminated soil shall be treated on the site of generation or on a site owned by the RP or a subsidiary of the RP. A copy of the approved application shall be kept by the RP. The RP shall contact the Division of Solid Waste Management (SWM) to obtain a Solid Waste Processing Facility Permit for soil treated on a site owned by a Third Party
3. The Division will not approve the treatment of petroleum contaminated soil within 100 feet of any residence, business or other place of human occupancy.
4. In zoned areas, the local Zoning Board shall be contacted to determine if the treatment site is acceptable.
5. An impermeable barrier shall be placed between the contaminated soil and the ground surface. Asphalt and concrete are not impermeable barriers. The barrier shall prevent contamination of the surrounding area. The perimeter shall be bermed to prevent surface runoff.
6. The untreated soil pile shall be covered with plastic prior to precipitation events.
7. **A SITE MAP IS REQUIRED. THE APPLICATION WILL NOT BE PROCESSED WITHOUT ONE.** The site map must include the location and size of the treatment area; the location of any nearby residence, business, or other dwelling; and any nearby water body (e.g. streams, creeks, ponds, etc.).
8. The most cost efficient method shall be used for soil treatment.

APPROVAL OF THIS APPLICATION IS FOR SOIL TREATMENT BY MOBILE THERMAL TREATMENT ONLY. All fund eligible activities shall be reasonable and justifiable in order to receive reimbursement from the Petroleum Underground Storage Tank Fund.

Application to Treat Petroleum Contaminated Soil By
Mobile Thermal Treatment

Facility ID = _____

Date _____

Page 2 of 4

COMPLETE THE FOLLOWING:

1. Facility ID Number: _____
2. RP of the UST System: _____
Phone Number: (____) _____ - _____
3. Facility generating the contaminated soil: _____
Address: _____
4. Name of company providing mobile thermal treatment _____
Address _____
5. Property owner of the treatment site: _____
6. If treatment site is other than site of generation, deed is attached. Yes _____
7. Address of the treatment site: _____
8. Estimated quantity of contaminated soil: _____ cubic yards
9. Distance to nearest residence, business, or other place of human occupancy: _____ feet.
(Not within 100 feet)
10. Area zoned. Yes _____ No _____
Treatment site zoning: _____
11. Zoning agency contacted:

Person contacted _____
Office _____
Date _____

The zoning agency allows the treatment of petroleum contaminated soil on this property.
Yes _____ No _____

Application to Treat Petroleum Contaminated Soil By Mobile Thermal Treatment

Facility ID = - - - -

Date _____

Page 3 of 4

12. The space provided below is for the site map. Refer to item 7 of the Requirements.

Application to Treat Petroleum Contaminated Soil By
Mobile Thermal Treatment

Facility ID # _____

Date _____

Page 4 of 4

Signature Page

A signature page, as shown below shall be attached to the *Application to Treat Petroleum Contaminated Soil*. The page shall be signed by the RP (or authorized representative within the organization) and a registered professional geologist under the Tennessee Geologist Act (T.C.A. § 62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rule (T.C.A. § 62-2-101 et seq.).

We, the undersigned, certify under the penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments is true, accurate and complete to the best of our knowledge, information and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

UST System RP or RP's authorized
representative (Print name) _____ Signature _____ Date _____

Title (Print) _____

P.E. or P.G. (Print name) _____ Signature _____ Date _____

TN Registration # _____

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date _____. My commission
expires _____.

Notary Public (Print Name) _____ Signature _____ Date _____

Stamp/Seal



August 1996

STATE OF TENNESSEE
DIVISION OF UNDERGROUND STORAGE TANKS

APPLICATION TO TREAT PETROLEUM CONTAMINATED SOIL BY
AERATION

The Responsible Party (RP) of the underground storage tank (UST) system shall submit the original application to the appropriate Division of Underground Storage Tanks field office. Approval must be obtained prior to treatment. Tennessee Code Annotated (T.C.A.) §68-215-103(16) defines Responsible Party (RP) as the owner and/or operator of a petroleum site or any person who at the time of the release which caused the contamination was an owner and/or operator of a petroleum underground storage tank.

REQUIREMENTS:

1. The application shall be submitted within 45 days of the laboratory analysis being performed or the UST system removal. Treatment shall be implemented within 30 days of the approval. Technical Guidance Document 005 shall be followed prior to and after treatment.
2. Contaminated soil shall be treated on the site of generation or on a site owned by the RP or a subsidiary of the RP. A copy of the approved application shall be kept by the RP. The RP shall contact the Division of Solid Waste Management (SWM) to obtain a Solid Waste Processing Facility Permit for soil treated on a site owned by a Third Party.
3. If contaminated soil is transported from the site of generation for treatment, a copy of the deed for the treatment site shall be attached.
4. The Division of UST will not approve the treatment of petroleum contaminated soil within a 100-year flood plain or wetland.
5. The Division will not approve the treatment of petroleum contaminated soil within 100 feet of any residence, business or other place of human occupancy.
6. In zoned areas, the local Zoning Board shall be contacted to determine if the treatment site is acceptable.
7. An impermeable barrier shall be placed between the contaminated soil and the ground surface. Asphalt and concrete are not impermeable barriers. The barrier shall prevent contamination of the surrounding area. The perimeter shall be bermed to prevent surface runoff. The soil layer shall not exceed two feet.
8. The soil pile shall be covered with plastic prior to precipitation events.
9. **A SITE MAP IS REQUIRED. THE APPLICATION WILL NOT BE PROCESSED WITHOUT ONE.** The site map shall include the location and size of the treatment area; the location of any nearby residence, business, or other dwelling; and any nearby water body (e.g. streams, creeks, ponds, etc.).
10. The treatment process shall not damage the impermeable barrier.

Application to Treat Petroleum Contaminated Soil by Aeration Facility ID # _____
Date _____
Page 2 of 4

11. The most cost efficient method shall be used for soil treatment.

APPROVAL OF THIS APPLICATION IS FOR SOIL TREATMENT ONLY. All fund eligible activities shall be reasonable and justifiable in order to receive reimbursement from the Petroleum Underground Storage Tank Fund.

COMPLETE THE FOLLOWING:

1. Facility ID Number: _____
2. RP of the UST system: _____
Phone Number: (____) _____ - _____
3. Facility generating the contaminated soil: _____
Address: _____

4. Property owner of the treatment site: _____
5. If treatment site is other than site of generation, deed is attached. Yes _____
6. Address of the treatment site: _____

7. Estimated quantity of contaminated soil: _____ cubic yards
8. Method of soil treatment: _____
If tilling, indicate frequency: _____
Describe type of impermeable barrier: _____
Thickness of soil pile: _____ feet. (Maximum thickness - 2 feet.)
9. Distance to nearest residence, business, or other place of human occupancy: _____ feet.
(Not within 100 feet)
10. Distance to nearest water body: _____ feet

Application to Treat Petroleum Contaminated Soil by Aeration Facility ID = _____

Date _____

Page 3 of 4

11. Property is within a 100-year flood plain or wetland. Yes No

12. Area zoned. Yes No

Treatment site zoning: _____

13. Zoning agency contacted:

Person contacted _____

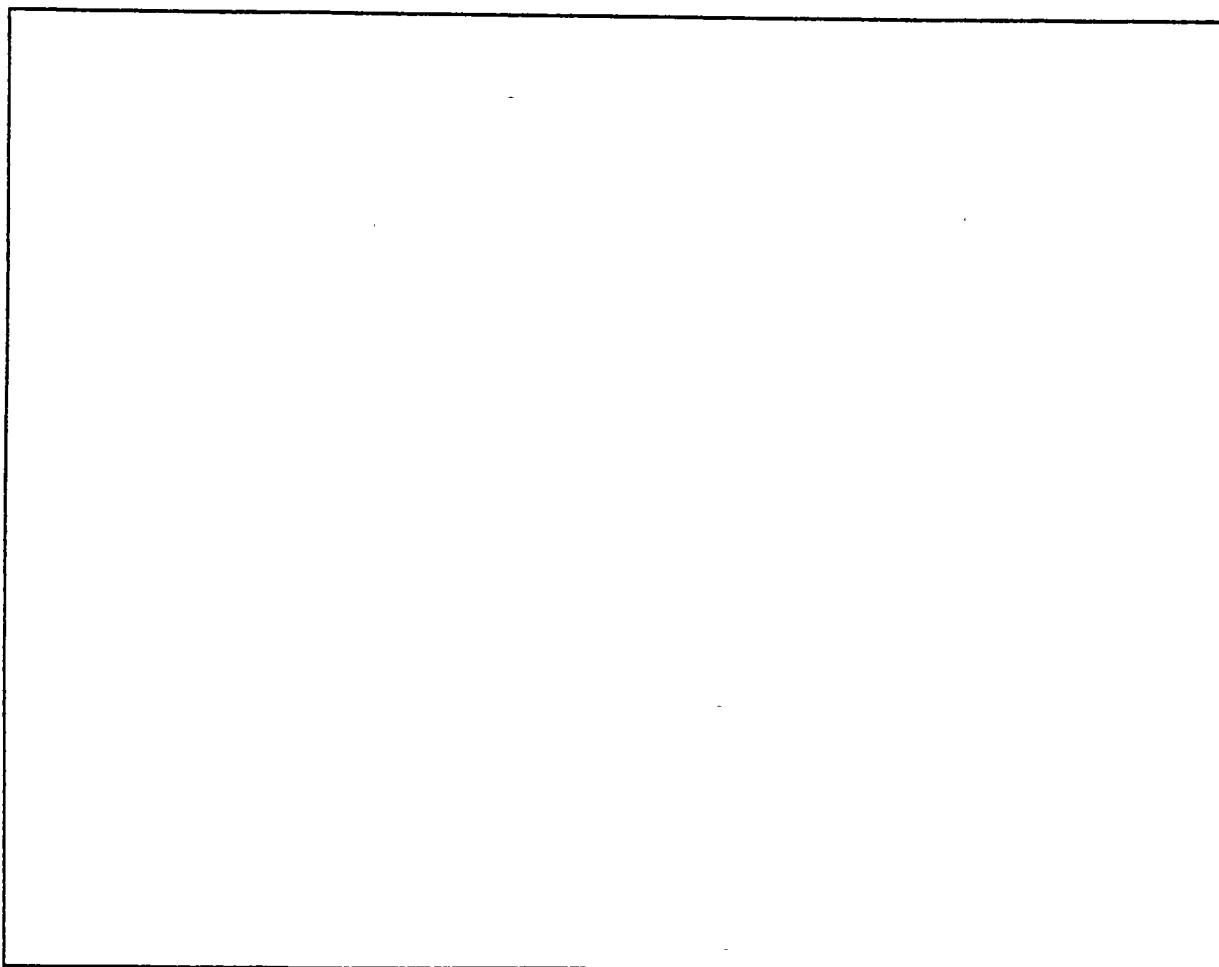
Office _____

Date _____

The zoning agency allows the treatment of petroleum contaminated soil on this property.

Yes No

14. The space provided below is for the site map. Refer to item 9 of the Requirements.



Application to Treat Petroleum Contaminated Soil by Aeration Facility ID# _____
Date _____
Page 4 of 4

Signature Page

A signature page, as shown below shall be attached to the *Application to Treat Petroleum Contaminated Soil*. The page shall be signed by the RP (or authorized representative within the organization) and a registered professional geologist under the Tennessee Geologist Act (T.C.A. § 62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rule (T.C.A. § 62-2-101 et seq.).

We, the undersigned, certify under the penalty of law, including but not limited to penalties for perjury, that the information contained in this form and on any attachments is true, accurate and complete to the best of our knowledge, information and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

UST System RP or RP's authorized
representative (Print name) _____ Signature _____ Date _____

Title (Print) _____

P.E. or P.G. (Print name) _____ Signature _____ Date _____

TN Registration # _____

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date _____. My commission
expires _____. _____

Notary Public (Print Name) _____ Signature _____ Date _____

Stamp/Seal



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
TECHNICAL GUIDANCE DOCUMENT - 010
EFFECTIVE DATE - JANUARY 16, 1992

RE: Procedure to obtain an NPDES Permit at a Petroleum Underground Storage Tank Site and the Division's Interim Requirements.

The Tennessee Department of Environment and Conservation believes that ground water contamination caused by releases from petroleum underground storage tank systems are serious problems and must be addressed in a proper and timely manner. In any ground water cleanup, the problem of contaminant removal and the disposal of treated waters is always an issue. One method of disposal of treated water is discharge to surface waters according to a National Pollution Discharge Elimination System (NPDES) permit issued by the Division of Water Pollution Control (WPC). WPC and the Division of Underground Storage Tanks (UST) developed an agreement effective April 17, 1990 which streamlines the NPDES process thus allowing for timely free product removal, cleanup of ground water, and proper wastewater treatment. The April 17, 1990 agreement is described below:

1. If there has been a release of petroleum from an underground storage tank system to the environment and there is discharge of treated water to surface waters, then an NPDES Permit will be required.
2. The Responsible Party or his/her representative shall submit two (2) NPDES Permit Applications to the appropriate WPC field office, along with a copy to the appropriate UST field office and a copy to the UST central office. The permit application may be submitted at any time during the investigation or remediation of a UST site.
3. UST shall respond to the permit application request by issuing an interim approval letter. This letter will include requirements for sampling frequency, discharge limits, and reporting as stated below:
 - a. The sampling frequency for all chemical parameters shall be monthly until the NPDES permit is issued by WPC. After the permit is issued by WPC the sampling frequency shall be based on the requirements of the permit.
 - b. The discharge limits for the effluent from the treatment unit are based on available treatment technologies and water quality criteria and are as follows:

Effluent Characteristic	Daily Max. Conc. mg/l	Sample Type
Flow		Instantaneous
Benzene	0.005	Grab
Ethylbenzene	0.010	Grab
Toluene	0.010	Grab
Xylene	0.010	Grab
Total Lead	0.030	Grab
Total Sus. Solids	40	Grab
Oil and Grease	15	Grab
48 Hour LC50*	Survival in 100% effluent	Composite

*Acute toxicity testing will be required monthly for the first 3 months and 2 appropriate test species, including a Daphnididae species and the fathead minnow (Pimephales promelas). Chronic toxicity testing will not be required. If toxicity is determined in any of these 3 tests, annual acute toxicity testing for the duration of the permit will be required. If toxicity is not demonstrated, annual testing will not be required.

UST may impose additional requirements as deemed necessary to protect human health and the environment. This may include but is not limited to requiring additional effluent characteristic limitations on TPH, MTBE, etc. These additional requirements shall remain after the NPDES permit is issued, although they may not be specifically required in the permit.

- c. A monthly report shall be submitted to the appropriate UST field office and the UST central office on a monthly basis. The report shall contain all information gathered during the sampling period and reported on standard Discharge Monitoring Report (DMR) forms. The report shall be submitted by the fifteenth day of the preceding month.
- 4. The permit applicant shall be sent a draft of the NPDES permit for review by WPC. If the draft is not agreeable and/or is more stringent than the criteria outlined above, the applicant must contact WPC. Additionally, a public notice regarding the permit issuance process will be made by WPC following development of the draft permit.
- 5. The Division of WPC will issue the NPDES Permit to the applicant. Once the permit is issued, the applicant has 30 days to appeal if the permit is not agreeable and/or is more stringent than the criteria outlined above.

The technology based standards used for the NPDES permit do not take stream dilution into account. The sampling frequency for chemical parameters will generally be monthly. However streams with 3Q20 low flow of zero may require weekly sampling. This will be determined by WPC on a case by case basis.

If the applicant feels dilution should be taken into account, the sampling frequency is not appropriate etc., then the applicant should appeal the NPDES permit. If the Water Quality Control Board grants the appeal, then UST will re-evaluate its requirements for discharge at that site to be consistent with the effective NPDES permit.

6. Once the NPDES permit is agreeable to all parties, the effluent sample results shall be reported as required as stated in the permit and submitted to the following:
 - a. Division of Water Pollution Control-Central Office; (DMR's only)
 - b. Division of Water Pollution Control-Field Office: (Upon request of the field office, individual sample results may be required in addition to DMR's.)
 - c. Both influent and effluent sample result will be reported monthly and will be submitted to the appropriate UST field office and UST central office.
7. If the effluent exceeds the limits established in the NPDES Permit, a Notice of Violation (NOV) will be issued by the Division of Underground Storage Tanks under the authority of the Tennessee Water Quality Control Act and/or the Tennessee Petroleum Underground Storage Tank Act.
8. If the permittee fails to correct permit violations, appropriate enforcement action may be taken by UST. If violations persist, the NPDES permit may be revoked.

It is important that the letter from the Division of Underground Storage Tanks approving discharge of treated water to surface water be followed in every detail. The approval letter allows the owner/operator to begin discharging to surface water after filing for an NPDES permit, yet prior to issuance of the NPDES permit.



**DIVISION OF UNDERGROUND STORAGE TANKS
TECHNICAL GUIDANCE DOCUMENT - 011**

**EFFECTIVE DATE: AUGUST 30, 1991
REVISED DATE: AUGUST 1, 1996**

**RE: PROCEDURES TO DETERMINE THE APPLICABLE SOIL AND GROUND
WATER CLEANUP LEVELS DURING AN UNDERGROUND STORAGE TANK
(UST) SYSTEM CLOSURE**

The purpose of this Technical Guidance Document (TGD) is to determine the applicable soil and/or ground water cleanup levels during an UST system closure. This TGD is to be utilized after sampling and analyses have been performed following the *UST System Closure Assessment Guidelines*.

The analytical data collected during closure will dictate which sections of this TGD are to be followed:

1. If soil contamination is between 5 ppm and 100 ppm benzene and/or 100 ppm and 1,000 ppm TPH and no ground water was encountered. Sections I and III of this TGD shall be followed.
2. If soil contamination is between 5 ppm and 100 ppm benzene and/or 100 ppm and 1,000 ppm TPH and ground water was encountered. If ground water contamination is between 0.005 ppm and 0.070 ppm benzene and/or 0.100 ppm and 1.0 ppm TPH, Sections I, II and III of this TGD shall be followed
3. If no soil contamination is found, but ground water contamination is between 0.005 ppm and 0.070 ppm benzene and/or 0.100 ppm and 1.0 ppm TPH. Sections I, II and III of this TGD shall be followed.

If contaminant levels are above the ranges specified above, the Responsible Party shall proceed with an environmental assessment per the Environmental Assessment Guidelines. If site-specific conditions warrant variations from this guidance document, Division personnel in the appropriate field office shall be informed and permission shall be obtained prior to the implementation of these variations.

If any of the following conditions exist or have existed, this TGD cannot be applied:

1. The conditions of the site present vapor or explosion hazards. For the purpose of this TGD, the presence of any detectable levels of petroleum vapors in an enclosed space shall constitute a vapor or explosion hazard;
2. Ground water and/or surface water contamination above 0.07 ppm benzene and/or 1.0 ppm TPH;

3. Soil contamination above the most stringent cleanup level at the soil bedrock interface; or
4. The UST system is installed in bedrock.

Additional requirements:

- A. This TGD can only be used during an UST system closure. It is not valid when contamination is discovered or suspected during any other type of site assessment.
- B. If at any time during the site work ground water or surface water is found to contain concentrations greater than 0.07 ppm benzene or 1.0 ppm TPH, an environmental assessment shall be required.
- C. A registered geologist or registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rules (T.C.A. §62-2-101 et seq.) shall be retained to perform all work specified in this TGD.
- D. An UST approved Corrective Action Contractor shall conduct and oversee all work associated with the investigation and remediation of a release from the UST system if a site is fund eligible and reimbursement will be requested from the Tennessee Petroleum Underground Storage Tank Fund.
- E. Laboratory Method 4030 shall not be used when using this TGD.

I. PROCEDURE TO DETERMINE APPLICABLE SOIL CLEANUP LEVELS

A. WATER USE SURVEY

The Water Use Survey shall be performed in accordance with the current Environmental Assessment Guidelines to determine if ground water is being used for drinking water. If any impacted aquifer or water source is being used by the citizens of the state, then the aquifer or water source shall be classified as a "drinking water supply". If water is not encountered during closure of the UST system and is not a drinking water supply as determined in the water use survey, it may be classified as a "non-drinking water supply".

B. PROCEDURE TO DETERMINE SOIL PROPERTIES

The following sub-sections in the current Environmental Assessment Guidelines - *Soil Investigation Procedures* shall be followed when installing the soil borings and collecting shelby tube samples:

- Boring Methods
- Soil Properties Analysis
- Borehole Abandonment
- Decontamination Procedures

primary or secondary standards, it shall be classified as a "non-drinking water supply".

- c. If the ground water meets the criteria of the primary and secondary drinking water standards specified in the current Environmental Assessment Guidelines, the yield of the aquifer or water supply shall be determined as described in the current Environmental Assessment Guidelines. If the aquifer or water source is not able to produce water at the rate of one-half gallon per minute and is not a drinking water supply as determined in the water use survey, it may be classified as a "non-drinking water supply". If the aquifer or water source is able to produce water at the rate of one-half gallon per minute and is a drinking water supply as determined in the water use survey, it shall be classified as a "drinking water supply" and the site shall go into assessment following the Environmental Assessment Guidelines.

B. WATER ENCOUNTERED IN PERMEABILITY BORING

If ground water is encountered in the permeability borings, a ground water monitoring well shall be constructed in Boring 1. The monitoring well shall be constructed and sampled in accordance with the current Environmental Assessment Guidelines. If ground water analytical results are between 0.005 parts per million (ppm) and 0.070 ppm benzene and/or 0.100 ppm and 1.0 ppm TPH, a water use survey shall be performed as described in the current Environmental Assessment Guidelines. The ground water shall be analyzed following the current Environmental Assessment Guidelines to determine if the water source meets the primary and secondary drinking water standards of Rule 1200-5-1.

1. If the aquifer or water source fails to meet the primary or secondary standards specified in the current Environmental Assessment Guidelines and is not a drinking water supply as determined in the water use survey, it may be classified as a "non-drinking water supply".
2. If the ground water meets the criteria of the primary and secondary drinking water standards specified in the current Environmental Assessment Guidelines, then the yield of the aquifer or water supply shall be determined as described in the current Environmental Assessment Guidelines. If the aquifer or water source is not able to produce water at the rate of one-half gallon per minute and is not a drinking water supply as determined in the water use survey, it may be classified as a "non-drinking water supply". If the aquifer or water source is able to produce water at the rate of one-half gallon per minute and is a drinking water supply as determined in the water use survey, it shall be classified as a "drinking water supply" and the site shall go into assessment following the Environmental Assessment Guidelines.

III. REPORT

After the applicable cleanup levels for soil and ground water have been determined, a report including the following information shall be submitted to the Division.

A. 1. Facility ID = _____

2. Facility Name:

3. Date release confirmed:

4. Date release reported:

B. Site Location

1. Provide a vicinity map showing the site location and adjacent properties.

2. Provide a site map, drawn to scale, including the following:

a. The location of the tank(s), lines, and dispenser island(s). If these have been removed, indicate the former location by using a dashed line.

b. The location of all underground utilities (i.e. gas, water, sewer, etc.).

c. The location of the soil borings and/or monitoring well.

C. Submit all water, ground water and soil laboratory results. The original or a carbon copy of the laboratory analysis sheet shall be submitted to the Division. Photocopies are not acceptable. All laboratory analysis sheets shall include the information specified in the *UST System Closure Assessment Guidelines*.

D. Results of the Water Use Survey

E. Results of Soil Properties Testing (if applicable)

1. Describe the method used to drill and sample the soil borings.

2. Submit boring logs for the soil borings in accordance with TGD-006.

3. Include the depth at which the undisturbed soil samples (shelby tube) were collected.

4. Identify the laboratory methods used to determine the soil properties.

5. Include the laboratory soil property results as specified in the current Environmental Assessment Guidelines. The original or a carbon copy of the laboratory analysis sheet shall be submitted to the Division. Photocopies are not acceptable. All laboratory analysis sheets shall include the information specified in the *Environmental Assessment Guidelines*.

F. List the applicable ground water cleanup level based on the following table (Appendix 4. UST Regulations):

	<u>BENZENE LEVEL</u>	<u>TOTAL PETROLEUM HYDROCARBON LEVEL</u>
DRINKING WATER	0.005 PPM	0.100 PPM
NON-DRINKING WATER	0.070 PPM	1.0 PPM

G. List the applicable soil cleanup level based on the following tables (Appendix 5. UST Regulations):

<u>Soil Cleanup Level</u>	<u>Benzene Level PPM</u>		
<u>Soil Permeability</u>	<u>>10 -4 cm/sec</u>	<u>10 -4 to 10 -6 cm/sec</u>	<u><10 -6 cm/sec</u>
Drinking Water	5	25	50
Non-Drinking Water	25	50	100

OR

<u>Soil Cleanup Level</u>	<u>TPH Level PPM</u>		
<u>Soil Permeability</u>	<u>> 10 -4 cm/sec</u>	<u>10 -4 to 10 -6 cm/sec</u>	<u><10 -6 cm/sec</u>
Drinking Water	100	250	500
Non-Drinking	250	500	1000

H. A completed Signature Page shall be included in the report.

Signature Page

A signature page, as shown below shall be attached to the report. The page shall be signed by the RP (or authorized representative within the organization) and a registered professional geologist under the Tennessee Geologist Act (T.C.A. § 62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rule (T.C.A. § 62-2-101 et seq.).

We, the undersigned, certify under the penalty of law, including but not limited to penalties for perjury, that the information contained in this form and on any attachments is true, accurate and complete to the best of our knowledge, information and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

U.S.T System RP or RP's authorized
representative (Print name)

Signature

Date

Title (Print)

P.E. or P.G. (Print name)

Signature

Date

TN Registration #

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date _____. My commission
expires _____.

Notary Public (Print Name)

Signature

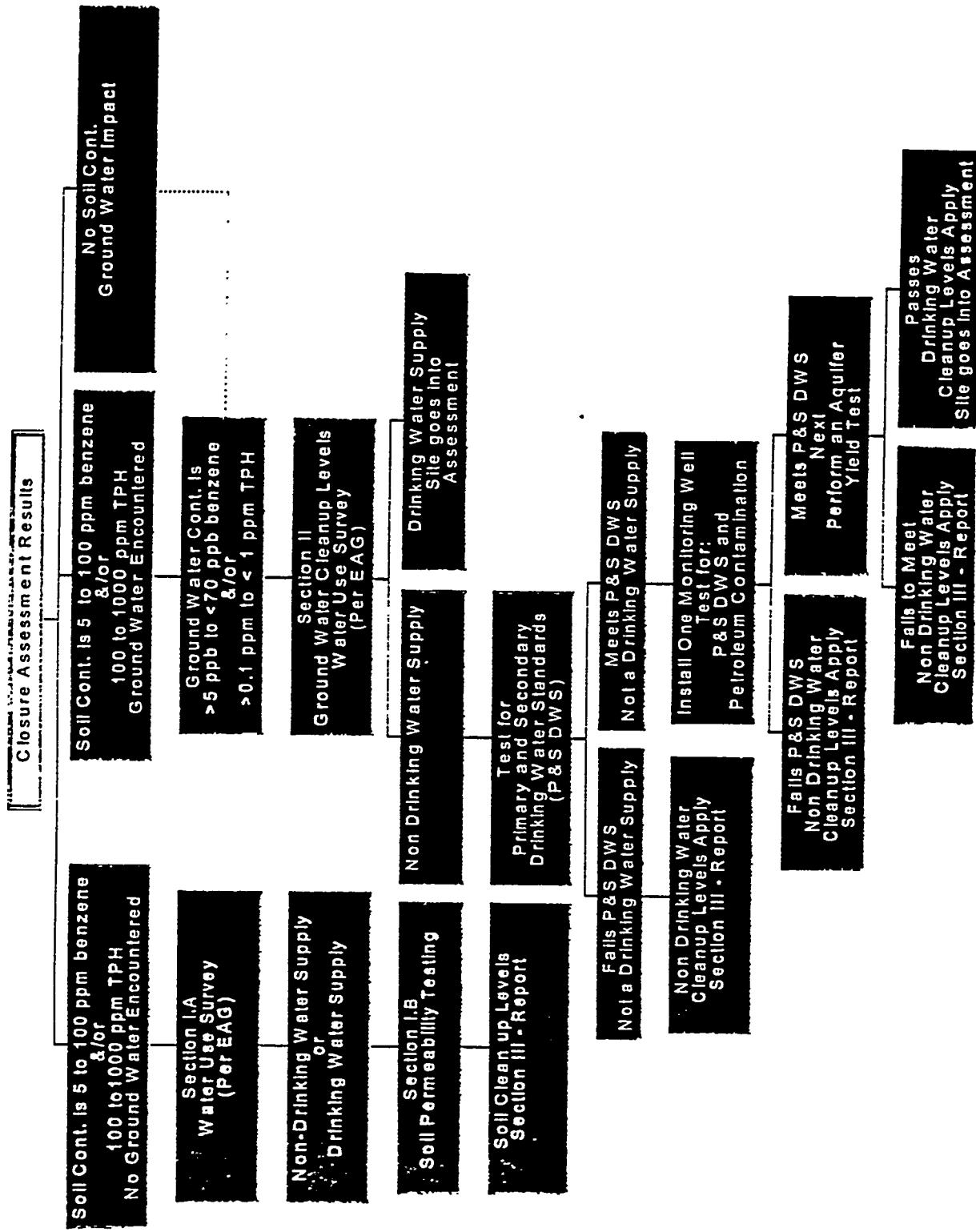
Date

Stamp/Seal

TGD - 011

Flow Chart (Revised)

(Copy of Slide)





**STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION**

DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT - 012

EFFECTIVE DATE: JANUARY 21, 1994

REVISED DATE: AUGUST 1, 1996

RE: GENERAL FACILITY SITE CHECK

PURPOSE

In order to satisfy Rule 1200-1-15-05(3)(b), this investigation shall be conducted at facilities with evidence of on-site environmental impact (exclusive of analytical data) or off-site environmental impact and at which underground storage tank (UST) system(s) have passed tightness testing.

An environmental impact includes, but is not limited to, the discovery of released petroleum at a UST site and/or in the surrounding area (such as free product or vapors in soils, basements, sewer and utility lines and nearby surface water).

GENERAL INFORMATION

Site check activities and the evaluation of the subsurface investigation shall be directed by a registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, Landscape Architects, and Interior Designers Law and Rules (T.C.A. §62-2-101 et seq.). In addition, all Fund eligible work shall be conducted and/or overseen by an UST-approved Corrective Action Contractor.

Any of the following conditions shall warrant the installation of one ground water monitoring well at the location indicated in Procedures A.3. or B.3. below.

1. Environmental impact which includes surface water and/or ground water;
2. Borings which encounter ground water; or,
3. Tank(s) and/or supply line(s) installed at or below the soil/bedrock interface.

If at any point during the site check activities, free product is encountered on site, it shall be managed in accordance with TGD - 004, Requirements for Free Product Removal.

All site check activities shall be conducted in accordance with all relevant sections of the Environmental Assessment Guidelines. The results shall be reported in accordance with the Site Check Report Guidelines.

PROCEDURES

In order to satisfy Rule 1200-1-15-.05(3)(b), the following procedures shall be completed:

A. Sampling Due to Single Point Environmental Impact

1. Two (2) imaginary lines (Lines A and B) shall be constructed from the point at which the environmental impact was discovered to the edges of the UST system, as shown in Diagrams 1 and 2. The angle formed by these two lines shall then be bisected by a third imaginary line (Line C). A fourth line (Line D) shall be placed perpendicular to Line C, in the area between the UST system and the point of environmental impact, at a distance of 10 to 15 feet from the nearest portion of the UST system. All borings are to be located along Line D.
2. All borings shall be placed as follows:

The first boring shall be advanced at the intersection of Line C and Line D. Additional borings shall be located on Line D at points fifteen (15) feet to each side of the initial boring. Each additional pair of borings shall be located on Line D at points fifteen (15) feet from the previous pair. Borings may continue outward along Line D in this manner until Lines A and B are encountered. If more than seven (7) borings will be required to meet these guidelines, the Division shall be contacted for prior approval.

3. If warranted, one ground water monitoring well shall be installed on Line C at a point midway between the UST system and the point where an environmental impact was observed. If the midpoint is not located on the site, then the well shall be installed at the intersection of Line C and the property boundary.

B. Sampling Due to Multiple Points of Environmental Impact

1. Two (2) imaginary lines (Lines A and B) shall be constructed from the points at which environmental impact was discovered to the edges of the UST system, as shown in Diagram 3. The angle formed by these two lines shall then be bisected by a third imaginary line (Line C). A fourth line (Line D) shall be placed perpendicular to Line C, in the area between the UST system and the points of environmental impact, at a distance of 10 to 15 feet from the nearest portion of the UST system. All borings are to be located along Line D.
2. All borings shall be placed as follows:

The first boring shall be advanced at the intersection of Line C and Line D. Additional borings shall be located on Line D at points fifteen (15) feet to each side of the initial boring. Each additional pair of borings shall be located on Line D at points fifteen (15) feet from the previous pair. Borings may continue outward along Line D in this manner until Lines A and B are encountered. If more than seven (7) borings are required to meet these guidelines, the Division shall be contacted for prior approval.

3. In the case of multiple impact points, the well shall be installed at the midpoint of an imaginary line from the UST system to the point of the most significant impact. If the midpoint is not located on the site, then the well shall be installed at the intersection of the line and the property boundary.

Diagram 1

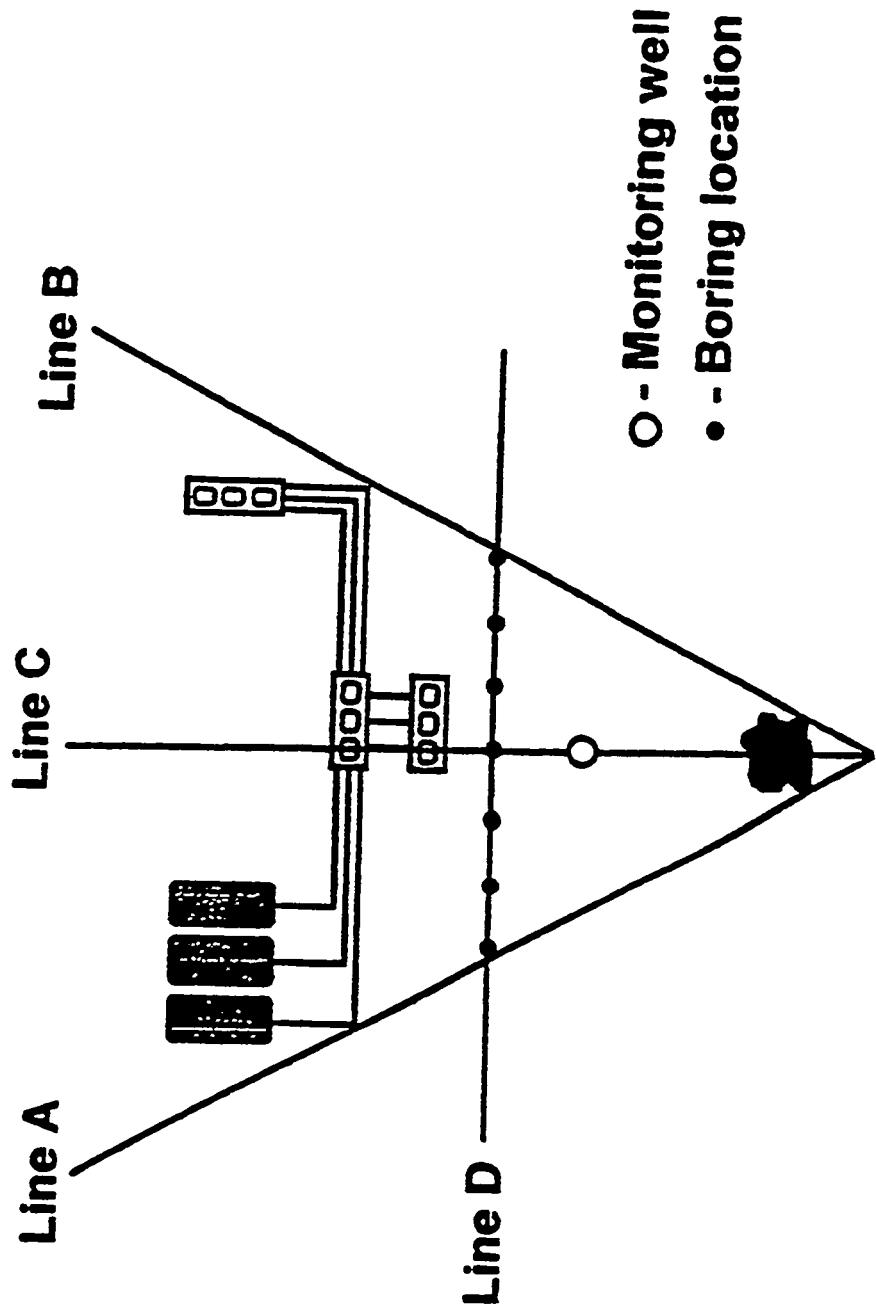
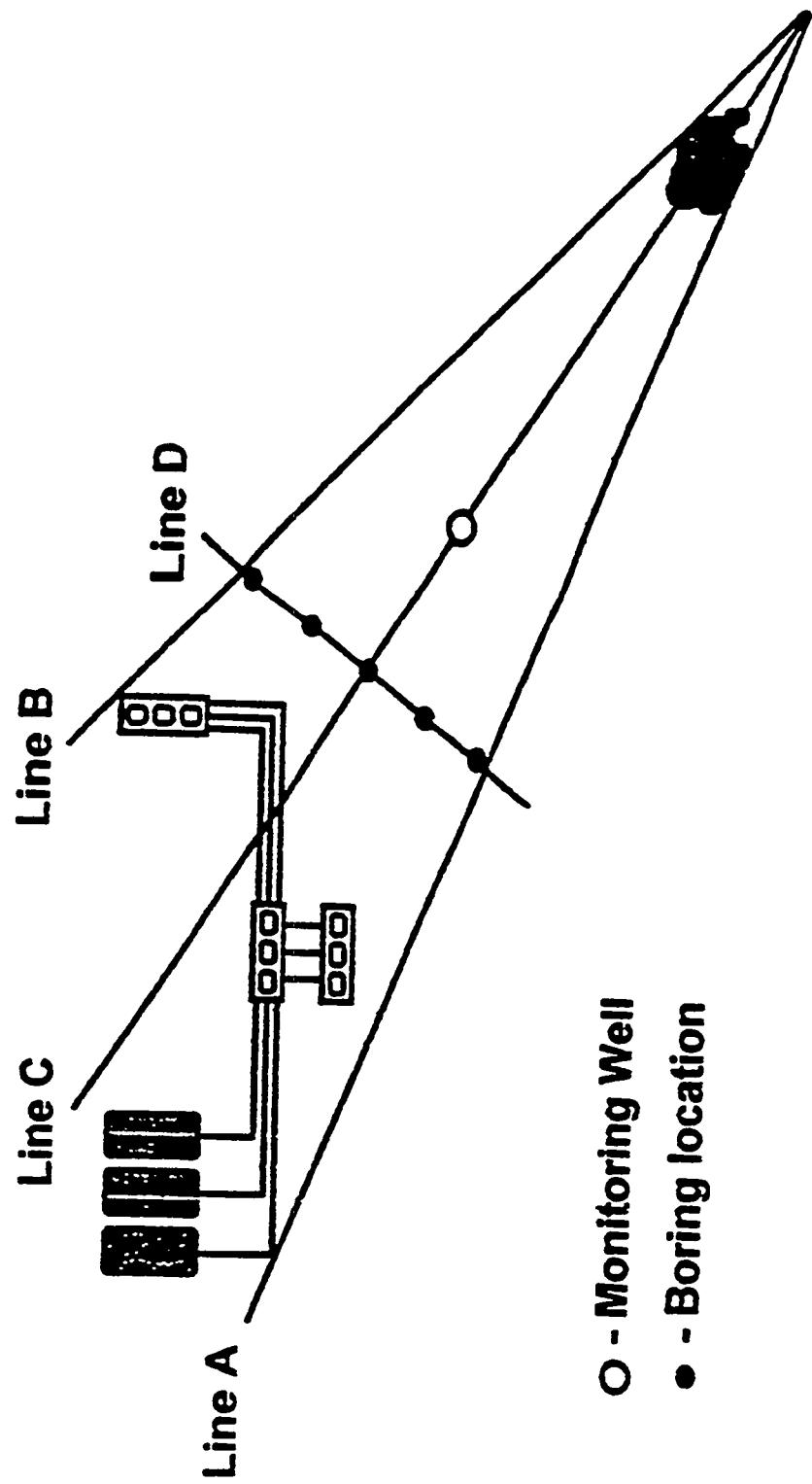


Diagram 2





STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS

TECHNICAL GUIDANCE DOCUMENT - 014

EFFECTIVE DATE: JANUARY 19, 1994
REVISED DATE: August 1, 1996

RE: UST SITE RANKING SYSTEM

The purpose of this Technical Guidance Document (TGD) is to determine the numerical ranking for underground storage tank sites in accordance with Rule 1200-1-15-.06(6)(b). For a complete explanation of the Site Ranking System see Part B of this document.

Part A

For the purposes of this TGD the following shall constitute a 'significant threat' and a monitoring only program shall not be applicable.

1. The impacted ground water source is classified as a "drinking water supply";
2. The conditions of the site present vapor or explosion hazards. For the purpose of this evaluation, the presence of any detectable levels of petroleum vapors in an enclosed space shall constitute a vapor or explosion hazard;
3. Any surface water on or near the petroleum site is visibly impacted by a petroleum product;
4. Free product is present. For the purpose of this evaluation, the presence of a measured thickness greater than 0.01 feet of a petroleum product in a monitoring well shall constitute free product; and/or
5. The numerical ranking for the site is at or above the action number. For the purpose of this evaluation, the ranking number shall be defined as the total site score (Box 16 on the attached UST Site Ranking Form).

Sites which pose a significant threat to human health or the environment cannot pursue monitoring only as a corrective action option and shall define the areal and vertical extent of soil and groundwater contamination to the applicable cleanup levels upon approval by the Division. However, if the conditions posing a significant threat have been eliminated and adequate justification, with supporting documentation, has been provided to the Division to demonstrate the conditions will not reoccur, the site shall be ranked provided the Division approves ranking at the site.

Sites which do not pose a significant threat to human health or the environment, shall begin a corrective action program of monitoring the site in accordance with TGD - 007 Monitoring at UST Sites upon approval by the

Division. The owner, operator or responsible party shall complete the site ranking required by this Technical Guidance Document each year and submit with the appropriate monitoring report. If one or more of the conditions which represent a significant threat is discovered, the Division shall be notified within seventy-two (72) hours of its discovery. If at any time, the contaminant concentrations are below the applicable clean-up levels the site ranking form shall not be completed.

Part B

The purpose of this Technical Guidance Document is to provide guidance to owners, operators or responsible parties (the "RP") on the method to determine if contaminated soils and ground water resulting from a release from an underground tank may be a monitoring program as described in Rule 1200-1-15-.06(6)(b) or must pursue corrective action as set forth in Rule 1200-1-150.06(7). The RP must follow the requirements of Rule 1200-1-15-.06(6)(b) and this guidance document to determine if the site may follow the monitoring soil and ground water only as an alternative for corrective action in response to a confirmed release. This determination is dependent upon whether various conditions of the site, soil and ground water constitute a 'significant threat' to human health or the environment. If any condition exists, or occurs at any time during the monitoring only program which constitutes a 'significant threat' as defined in this Guidance Document, the RP must immediately initiate corrective action pursuant to the requirements of Rule 1200-1-51-.06(7). The RP may, following Division approval, monitor soil and ground water as described in this Rule and Guidance provided there is no 'significant threat' to human health or the environment.

To determine whether the conditions on the site pose a significant threat the RP must conduct an evaluation of the site. This Guidance Document describes the steps to conduct the evaluation and includes a format to calculate whether the conditions of the site reflect a significant threat; this method calculates a numerical value, or ranking, for the petroleum site.

Significant Threat:

A 'significant threat' is defined, for purposes of this rule, as "any condition on the site which allows the ready transfer of petroleum product through soil and/or ground water; poses a condition to human health or the environment which is a concern, including but not limited to, the presence of vapors hazard, the presence of free product in soil or ground water, the presence of product on surface waters such as a sheen, the presence of a explosion hazard; or there is a surface or subsurface conduit to a drinking water source or other ground water aquifer."

Examples of a Significant Threat condition:

1. The conditions of the site present vapor or explosion hazards. Vapors and/or explosion hazards are defined for purposes of this evaluation only, as the presence of any detectable levels of petroleum vapors in an enclosed space;
2. The impacted ground water source is classified as "drinking water supply";
3. Any surface water on or near the petroleum site is visibly impacted by petroleum product;
4. Free Product is present on the site. Free product is defined for purposes of this evaluation only, as a petroleum product with a measured thickness greater than 0.01 feet of a petroleum product in a monitoring well; and/or
5. The numeric ranking for the site is at or above the action number. The ranking number is the total site score in Box 16 of the Form.

If any of the above conditions exist the owner, operator or responsible party may not remediate the site by monitoring only through the program, and the RP shall proceed with a full environmental assessment of the petroleum site and submit an Environmental Assessment Report (EAR) and Corrective Action Plan (CAP) and/or a Site Specific Standard Request (SSS) to the Division for approval, as set forth in the regulations. However, if the conditions posing a significant threat have been eliminated and adequate justification, with supporting documentation, has been provided to the Division to demonstrate the conditions will not reoccur, the site shall be ranked in accordance with this Technical guidance Document, provided the Division approves ranking at the site.

The evaluation:

The RP shall initiate a limited investigation of the site to evaluate or assess the threat presented by the contamination at the site. The limited investigation shall include the installation of four (4) soil borings completed as ground water monitoring wells, or follow another investigative scheme approved by the Division. The owner, operator or responsible party shall conduct the investigation; the findings shall be compiled on the format in this guidance document. Each finding is given a numerical value. The total site score, or numerical ranking, provides an indication of the level of threat presented by the site. The RP must submit the data and information compiled in the limited investigation and the attached format, together with the Initial Site Characterization Report, to the Division for approval. However, if the total site score, or numerical ranking, is at or above the Action Number, as defined in this Technical Guidance Document, the RP shall initiate corrective action on the site pursuant to Rule 1200-1-151-.06 and the Technical Guidance Documents.

If the total site score, or numerical ranking, is below the Action Number, following Division approval, the RP may commence corrective action by monitoring the ground water, soil and for the presence of vapors, semi-annually. These monitoring dates shall be established by the Division in the approval process. Further, the RP shall perform the calculation required by this Technical Guidance Document each year to rank the site. If the total site score exceeds the Action Number, as defined in this Technical Guidance Document, or one of the above conditions is discovered at any time during the monitoring program, the RP shall proceed with a full environmental assessment of the petroleum site and submit an Environmental Assessment Report (EAR) and Corrective Action Plan (CAP) and/or a Site Specific Standard Request (SSS) to the Division for approval, as set forth in the regulations and the Technical Guidance Documents.

Action Number:

The Action number, for purposes of this evaluation only, is the regulatory limit established by this ranking system. The Action Number is 500.

Instructions for Completing the Site Ranking

After installing the first four soil borings/monitoring wells and obtaining the analytical results, the attached Site Ranking Form shall be completed from the data generated. If site specific conditions exist which may invalidate a category, justification may be provided to eliminate the score. Subsequent Site Rankings shall be completed using the most recent data.

Geologic and Hydrogeologic Factors:

1. Minimum depth to water table

The distance between the ground surface and the water table shall be determined from the four (4) monitoring wells. The minimum distance shall be used to determine the score in this category. When confined aquifers are encountered, the depth at which water is first encountered shall be used to determine this score.

2. Minimum distance between the water table and contaminated soil

The distance between the soil with concentrations above the applicable cleanup levels and the water table shall be determined. The minimum distance shall be used to determine the score in this category. When confined aquifers are encountered, the depth at which water is first encountered shall be used to determine this score.

3. Soil permeability

The soil permeability shall be determined as described in the Environmental Assessment Guidelines. The maximum permeability shall be used to determine the score in this category. If the soil permeability cannot be determined, the maximum score shall apply.

4. Calculated ground water flow rate

The ground water flow rate shall be calculated and the maximum value shall be used to determine the score for this category. Regardless of the calculated ground water flow rate, if karst conditions exist in the area of the site, the maximum score shall apply.

Receptor Factors:

For categories 5 through 8 the following applies:

All sampling locations where analytical results document contamination above the applicable cleanup level shall be identified as known contamination. These sampling locations include soil borings/monitoring wells, soil or water from tank pits, soil or water from line trenches, etc.

To determine the score for each of these categories, the first step is to determine if any of the receptors (i.e. basement, sanitary sewer, etc.) are within a 50 foot radius of known contamination. If a receptor exists within this area, the highest score shall apply and no additional investigation is warranted to determine the score for each category. If a receptor does not exist within 50 feet of the known contamination, the investigation shall continue in each additional area (50 to 100 foot radius, etc.) until a receptor is identified or it has been determined that a receptor does not exist within 300 feet of known contamination.

For categories 9 through 11 the following applies:

To determine the score for each of these categories, the first step is to determine if a water source is within a 0.1 mile radius of Monitoring Well 4 (MW-4) as defined in the Environmental Assessment Guidelines. If a water source is within this area, the highest score shall apply and no additional investigation is warranted to determine the score for each category. If a water source does not exist within 0.1 mile of MW-4, the investigation shall continue in each additional area (0.1 to 0.25 mile radius, etc.) until a water source is identified or it has been determined that a water source does not exist within 0.5 mile of MW-4.

Contamination Factors:

Contaminant Concentration

- A. **Determine the maximum concentrations from any sampling point for the following:**
 1. Benzene and TPH in ground water
 2. Benzene and TPH in soil
- B. **Determine the applicable cleanup levels in accordance with the Environmental Assessment Guidelines.**
- C. **Divide the maximum concentrations (A) by the applicable cleanup levels (B) to obtain the Contaminant Concentration Ratio (C).**

For Categories 12 through 15 the following applies:

Use the Contaminant Concentration Ratios as computed in Table 1 to determine the score in each category. All numbers shall be rounded up to the next whole number.

16. Total Site Score

Sum the scores for Categories 1 through 15 to determine the Total Site Score.

Signature Page

A signature page, as shown below shall be attached to the Site Ranking Form ONLY IF it is not submitted with any other report. The page shall be signed by the owner/operator (or authorized representative within the organization) and a professional geologist appropriately registered under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), or a appropriately licensed engineer under the Tennessee Architects, Engineers, Landscape Architects and Interior Designers Law and Rules (T.C.A. §62-2-101 et seq.).

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print name)

Signature

Date

Title (Print)

P.E. or P.G. (Print name)

Signature

Date

Tennessee Registration #

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

_____. My commission expires _____.

Notary Public (Print name)

Signature

Date

Stamp/Seal

UST SITE RANKING FORM

Facility ID Number: _____

Facility Name:

Facility Address:

Date Ranking Form completed:

Geologic and Hydrogeologic Factors

1	Minimum depth to the water table		Score
< 5.0 Feet		50	
5.1 to 10.0 Feet		45	
10.1 to 15.0 Feet		40	
15.1 to 30.0 Feet		35	
30.1 to 50.0 Feet		25	
50.1 to 75.0 Feet		15	
75.1 to 100.0 Feet		10	
> 100.0 Feet		5	
Document, date, and page number where information can be verified:			
2	Minimum distance between water table and contaminated soil		Score
< 5.0 Feet		50	
5.1 to 10.0 Feet		45	
10.1 to 15.0 Feet		40	
15.1 to 30.0 Feet		35	
30.1 to 50.0 Feet		25	
50.1 to 75.0 Feet		15	
75.1 to 100.0 Feet		10	
> 100.0 Feet		5	
No soil contamination		0	
Document, date, and page number where information can be verified:			
3	Soil permeability		Score
Undetermined		30	
> 10^{-4} cm/sec		30	
10^{-4} to 10^{-6} cm/sec		20	
< 10^{-6} cm/sec		10	
Document, date, and page number where information can be verified:			
4	Calculated ground water flow rate		Score
<10 feet/day		3	
10 to 40 feet/day		6	
40 to 90 feet/day		12	
90 to 130 feet/day		18	
130 to 260 feet/day		24	
> 260 feet/day		30	
Karst			
Document, date, and page number where information can be verified:			

Receptor Factors

5	Basements/Crawl Spaces/Utility Vaults		
	<50 feet from known contamination	150	
	50.1 to 100.0 feet from known contamination	75	
	100.1 to 200.0 feet from known contamination	50	
	200.1 to 300.0 feet from known contamination	25	
	>300.1 feet from known contamination	0	
	Document, date, and page number where information can be verified:	Score	
6	Sanitary sewer mains and service lines		
	<50 feet from known contamination	75	
	50.1 to 100.0 feet from known contamination	40	
	100.1 to 200.0 feet from known contamination	20	
	200.1 to 300.0 feet from known contamination	10	
	>300.1 feet from known contamination	0	
	Document, date, and page number where information can be verified:	Score	
7	Storm water sewers		
	<50 feet from known contamination	50	
	50.1 to 100.0 feet from known contamination	30	
	100.1 to 200.0 feet from known contamination	10	
	200.1 to 300.0 feet from known contamination	5	
	>300.1 feet from known contamination	0	
	Document, date and page number where information can be verified:	Score	
8	Other subsurface utilities (i.e. natural gas, water, electric, telephone, etc.)		
	<50 feet from known contamination	75	
	50.1 to 100.0 feet from known contamination	40	
	100.1 to 200.0 feet from known contamination	20	
	200.1 to 300.0 feet from known contamination	10	
	>300.1 feet from known contamination	0	
	Document, date and page number where information can be verified:	Score	
9	Public water supply source		
	<0.1 mile	300	
	0.1 to 0.25 mile	200	
	0.25 to 0.5 mile	100	
	>0.51 mile	0	
	Document, date, and page number where information can be verified:	Score	
10	Private water supply source		
	<0.1 mile	200	
	0.1 to 0.25 mile	150	
	0.25 to 0.5 mile	100	
	>0.51 mile	0	
	Document, date, and page number where information can be verified:	Score	
11	Distance to surface water		
	<0.1 mile	25	
	0.1 to 0.25 mile	15	
	0.25 to 0.5 mile	10	
	>0.51 mile	0	
	Document, date, and page number where information can be verified:	Score	

Contaminant Factors

Table 1

Contaminant Concentrations	A. Max Contam. Levels	B. App. Cleanup Levels	C. Cont. Conc. Ratio A/B
Benzene in ground water			
TPH in ground water			
Benzene in soil			
TPH in soil			

Document, date, and page numbers where information can be verified:

12	Benzene in ground water				
< 1.0				0	
1.1 to 10.0				25	
10.1 to 50.0				50	
50.1 to 100.0				100	
100.1 to 500.0				200	
> 500.1				300	
		Score			
13	TPH in ground water				
< 1.0				0	
1.1 to 10.0				20	
10.1 to 50.0				40	
50.1 to 100.0				80	
100.1 to 500.0				120	
> 500.1				200	
		Score			
14	Benzene in soil				
< 1.0				0	
1.1 to 5.0				25	
5.1 to 10.0				50	
10.1 to 50.0				100	
> 50.1				200	
		Score			
15	TPH in soil				
< 1.0				0	
1.1 to 5.0				20	
5.1 to 10.0				40	
10.1 to 50.0				80	
> 50.1				100	
		Score			
16	Total site score				



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

DIVISION OF UNDERGROUND STORAGE TANKS

• TECHNICAL GUIDANCE DOCUMENT - 015

EFFECTIVE DATE - August 1, 1996

RE: Procedure to Obtain Closure for Sites in the Monitoring Only Program

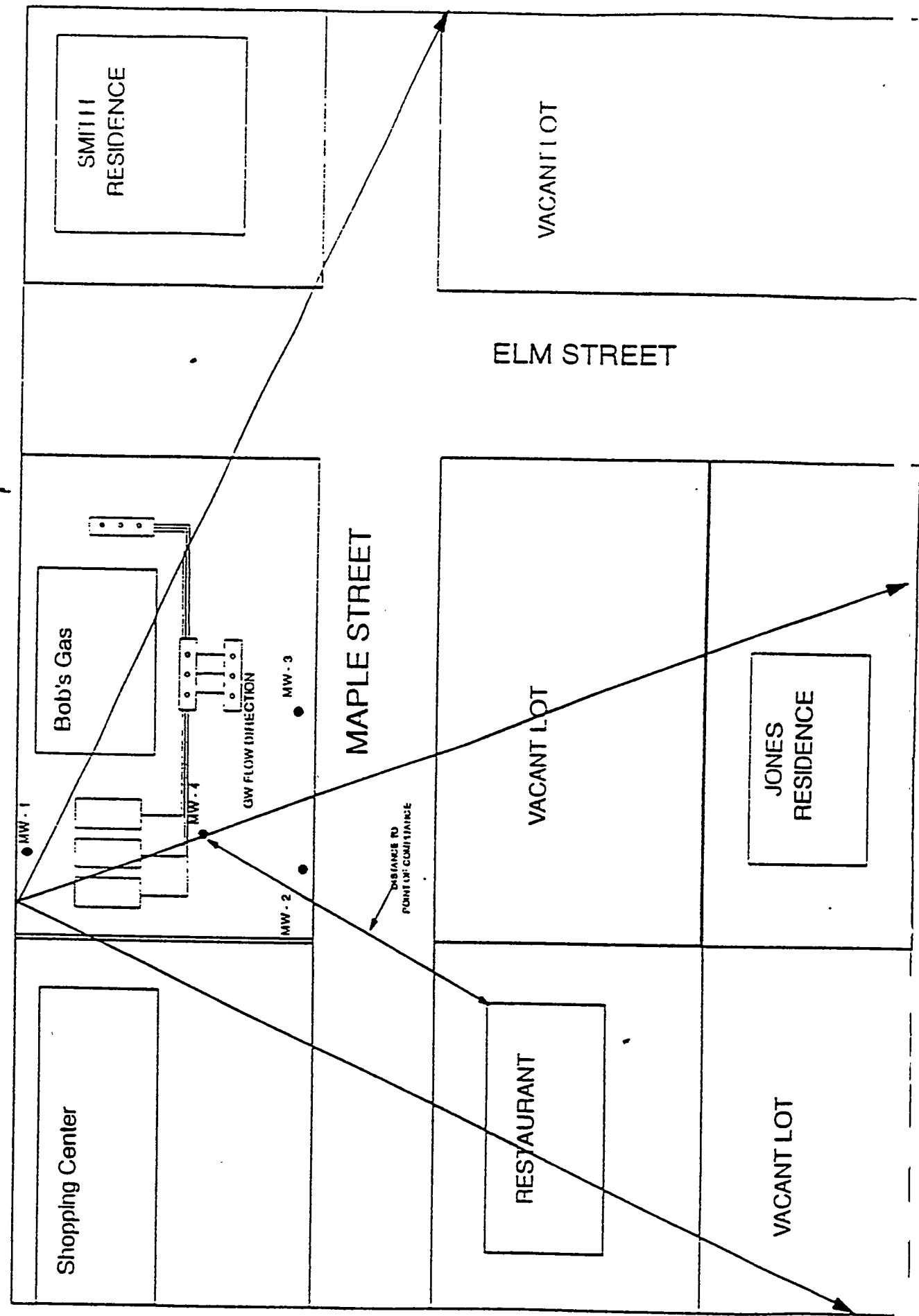
The purpose of this Technical Guidance Document (TGD) is to provide the owner and/or operator with the minimum requirements to obtain closure at petroleum underground storage tank sites in accordance with Rule 1200-1-15-.06(6)(b). This TGD shall determine an off-site point of compliance and the maximum contamination which may reach that point using Fate and Transport equations. The site may be eligible for closure after a minimum of two years of monitoring if the ground water contamination at the established point of compliance is at or below the applicable cleanup levels of 0.070 PPM benzene and 1.0 PPM TPH.

A. Determine the Distance to the Point of Compliance

The nearest off-site occupied building (residential or commercial) from the monitoring well with the highest level of contamination, within the area specified below shall be defined as the point of compliance for the purposes of this TGD.

1. Draw a line depicting the predominant ground water flow direction on a vicinity map. The line shall start at the upgradient property line of the petroleum site, pass through the monitoring well with the highest level of contamination and extend downgradient to the edge of the map. If the highest level of benzene and TPH contamination exist in different monitoring wells, the line shall pass through the well with the highest benzene contamination.
2. Draw two (2) lines, each 45 degrees in the downgradient direction, off the ground water flow direction line. These lines shall begin at the upgradient property line of the petroleum site and extend to the edge of the vicinity map. The point of compliance shall be between these two lines.
3. Measure the distance from the monitoring well with the highest level of contamination to the point of compliance. If the highest level of benzene and TPH contamination exist in different monitoring wells, the monitoring well with the highest benzene concentration shall be used.

Refer to the attached diagram for assistance when determining the distance to the point of compliance.



B. Determine the Site Ground Water Concentrations

1. Determine LF_{sw} for benzene, GRO, and DRO using the following equations:

Soil to Ground Water Leaching

$$LF_{sw} = \frac{K_{sw}}{\alpha}$$

Soil to Leachate Partition:

$$K_{sw} = \frac{\rho_s}{\theta_{ws} + k_s \rho_s + H \theta_{ss}}$$

Soil-Water Sorption Coefficient:

$$k_s = k_{oc} \times f_{oc}$$

Leachate to Ground Water Dilution Factor:

$$\alpha = 1 + \frac{U_{gw} \delta_{gw}}{Im od \times S_w}$$

Site Specific Infiltration Rate:

$$I_{site} = I \times (1 - I_{Cover})$$

Where:

LF_{sw}	Leaching Factor: Soil to ground water: $[(\text{mg/L-H}_2\text{O})/(\text{mg/kg-soil})]$
K_{sw}	Soil to Leachate Partition (unitless)
α	Leachate to ground water dilution factor (unitless)
ρ_s	Soil bulk density ($\text{g-soil/cm}^3\text{-soil}$) Default value = $1.70\text{E-}00$ (if ρ_s analysis has not been performed at the site)
θ_{ws}	Volumetric water content in vadose zone soils ($\text{cm}^3\text{-H}_2\text{O/cm}^3\text{-soil}$) Default value = $1.20\text{E-}01$ (if θ_{ws} analysis has not been performed at the site)
k_s	Soil-water sorption coefficient ($\text{g-H}_2\text{O/g-soil}$)
k_{oc}	Carbon-water sorption coefficient ($\text{cm}^3\text{-H}_2\text{O/g-Carbon}$) Benzene $3.80\text{E+}01$ GRO $4.79\text{E+}02$ (Hexane) DRO $1.29\text{E+}03$ (Naphthalene)
f_{oc}	Fractional organic carbon Default value = $1.00\text{E-}02$ (if f_{oc} analysis has not been performed at the site)
H	Henry's law constant Benzene $2.20\text{E-}01$ GRO $5.07\text{E+}00$ (Hexane) DRO $4.90\text{E-}02$ (Naphthalene)

θ_{∞}	Volumetric air content in vadose zone soils (cm ³ -air/cm ³ -soil) Default value = 1.50E-01 (if θ_{∞} analysis has not been performed at the site)
U_g	Ground water Darcy velocity (cm/yr)
δ_g	Ground water mixing zone thickness (cm) Default value = 2.00E-02
I	Infiltration rate of water through soil (cm/yr); Default value = 3.00E-01
L_{cov}	Percent of soil contaminant plume covered by pavement, concrete, or building(s), etc. If the entire soil contaminant plume is covered the maximum allowable number is 90%.
I_{site}	Site specific infiltration rate of water through soil (cm/year)
S_w	Width of source area parallel to ground water flow direction (cm) Default value = 1.50E-03 (if S_w was not determined in the ISCR)

2. Determine $C_{Leaching}$ using the following equation for benzene, GRO, and DRO.

$$C_{Leaching} = C_{soil\ ave} \times LF_{sw}$$

Where:

$C_{Leaching}$: Contamination in ground water contributed by leaching (PPM)

$C_{soil\ ave}$: Average soil contamination taken from the boring installed during the most recent soil monitoring event (PPM). If any of the soil samples were non-detect they shall not be used in the calculation.

3. Determine $C_{gw\ ave}$ using the following equation for benzene and TPH using all analytical data from the three (3) most recent ground water monitoring events. If a monitoring well had non-detect results during all three (3) monitoring events, the data from that monitoring well shall not be used in the calculation. If during the last three (3) monitoring events, a monitoring well had one (1) or two (2) non-detect results, $C_{gw\ ave}$ shall be calculated assigning the non-detect results a value of zero (0).

$$C_{gw\ ave} = \sum \frac{C_{N\ MW}}{N}$$

Where:

$C_{gw\ ave}$: Average site ground water contamination (PPM)

$C_{N\ MW}$: Contamination in monitoring well for sample N (PPM)

N: Number of samples

4. Determine C_{Source} using the following equations for benzene and TPH.

a. $C_{Source\ benzene} = C_{Leaching\ benzene} + C_{gw\ ave\ benzene}$

b. $C_{Source\ TPH} = C_{Leaching\ GRO} + C_{Leaching\ DRO} + C_{gw\ ave\ TPH}$

C. Determine the concentration at the point of compliance for benzene and TPH using the following equation:

$$\frac{C_x}{C_{\text{source}}} = \text{erf}\left(\frac{S_w}{4\sqrt{\alpha_x}x}\right) \times \text{erf}\left(\frac{S_d}{4\sqrt{\alpha_z}x}\right)$$

Where:

C_x	Concentration at the point of compliance (PPM)
C_{source}	Contamination at the site (PPM)
S_d	Source depth (cm) Default = 2.00E+02
x	Distance to point of compliance (cm)
$\alpha_x = 0.10x$	Longitudinal Dispersivity (cm)
$\alpha_y = \frac{\alpha_x}{3}$	Transverse Dispersivity (cm)
$\alpha_z = \frac{\alpha_x}{10}$	Vertical Dispersivity (cm)

An Error Function Table has been provided below to assist in determining the erf value. If an Error Function Table is used, extrapolation shall be used to determine the exact erf value. However, several spreadsheet software packages are capable of determining the value directly.

Error Function (erf) Table

β	erf (β)	β	erf (β)
0.00	0	1.0	0.842701
0.05	0.056372	1.1	0.880205
0.10	0.112463	1.2	0.910314
0.15	0.167996	1.3	0.934008
0.20	0.222703	1.4	0.952285
0.25	0.276326	1.5	0.966105
0.30	0.328627	1.6	0.976348
0.35	0.379382	1.7	0.983790
0.40	0.428392	1.8	0.989091
0.45	0.475482	1.9	0.992790
0.50	0.520500	2.0	0.995322
0.55	0.563323	2.1	0.997021
0.60	0.603856	2.2	0.998137
0.65	0.642029	2.3	0.988857
0.70	0.677801	2.4	0.999311
0.75	0.711156	2.5	0.999593
0.80	0.742101	2.6	0.999764
0.85	0.770668	2.7	0.999866
0.90	0.796908	2.8	0.999925
0.95	0.820891	2.9	0.999959
		3.0	0.999978

D. Determine if the site is eligible for closure

Compare the concentrations at the point of compliance for benzene and TPH with the applicable cleanup levels of 0.070 PPM benzene and 1.0 PPM TPH. If the concentrations at the point of compliance are at or below the applicable cleanup levels, the site may be eligible for closure upon approval by the Division.

If the site is not eligible for closure, the owner and/or operator shall continue with the monitoring only program until such time as the concentrations at the point of compliance are below the applicable cleanup levels.

E. Determine the target site cleanup goal(s), if applicable.

If the contaminant levels at the point of compliance exceed the applicable cleanup levels, determine the target site cleanup goal(s) necessary to achieve 0.070 PPM benzene and/or 1.0 PPM TPH at the point of compliance. This shall be done by using the equation in section C. above and solving for C_{source} .

After two (2) years of monitoring the petroleum site and after each subsequent monitoring event, the average site ground water contamination shall be determined using the equation in section B.3. above. This contamination shall be compared to the target site cleanup goal(s) established above. At such time, the site average ground water contamination is at or below the target site cleanup goal(s), the site may be eligible for closure upon approval by the Division.

F. Report Preparation

After the site has been in the Monitoring Only Program for two years, the attached Closure Report for Monitoring Only Sites shall be submitted with the fourth Site Status Monitoring Report or as directed by the Division. The report shall not be resubmitted until the site average ground water contamination is at or below the target site cleanup goal(s).

Reference: ASTM Standard: E 1739-95 Standard Guide for Risk-Based Corrective Action Applied at Petroleum Sites

STATE OF TENNESSEE
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DIVISION OF UNDERGROUND STORAGE TANKS
 CLOSURE REPORT FOR MONITORING ONLY SITES

1. Facility ID #: _____
2. Facility Name:
3. Date site approved for monitoring only:
4. Provide a description of the point of compliance (i.e. residence, business). Attach a vicinity map showing its location and the distance to the monitoring well with the highest level of contamination.
5. List the following parameters used in the calculations:

Parameter	Value	Units
θ_s		g-soil/cm ³ -soil
θ_w		cm ³ -H ₂ O/cm ³ -soil
f_c		percent
θ_a		cm ³ -air/cm ³ -soil
U_r		cm/yr
S_w		cm
I_{Cover}		percent
x		cm

6. List the benzene ground water concentrations, in PPM, from the 3 most recent sampling events:

	Event 1	Event 2	Event 3
Date of sampling event	/ /	/ /	/ /
Well Number	[REDACTED]	[REDACTED]	[REDACTED]

7. List the TPH ground water concentrations, in PPM, from the 3 most recent sampling events:

	Event 1	Event 2	Event 3
Date of sampling event	/ /	/ /	/ /
Well Number	[REDACTED]	[REDACTED]	[REDACTED]

3. Provide $C_{\text{soil ave}}$ for benzene, GRO, and DRO, in PPM. Include document date, and page number, where information can be verified.

	Benzene	GRO	DRO
Date of sampling event	:	/	/
Sample 1	:	:	:
Sample 2	:	:	:
Sample 3	:	:	:
Average	:	:	:

9. Attach worksheets showing the calculations for the following:

- a. I_{site}
- b. α
- c. k_{t} for benzene, GRO, and DRO
- d. K_{rw} for benzene, GRO, and DRO
- e. LF_{sw} for benzene, GRO, and DRO
- f. $C_{\text{soil ave}}$ for benzene, GRO, and DRO
- f. C_{Leaching} for benzene, GRO, DRO
- g. $C_{\text{gw ave}}$ for benzene and TPH
- h. C_{Source} for benzene and TPH
- i. α_{t}
- j. α_{g}
- k. α_{r}
- l. C_{t} for benzene and TPH

10. Provide the results of the calculations in the following table:

Parameter	Value	Units
I_{me}	:	cm/yr
α	:	unitless
$k_{\text{t benzene}}$	:	g-H ₂ O/g-soil
$k_{\text{t GRO}}$	:	g-H ₂ O/g-soil
$k_{\text{t DRO}}$	:	g-H ₂ O/g-soil
$K_{\text{rw benzene}}$	:	unitless
$K_{\text{rw GRO}}$	:	unitless
$K_{\text{rw DRO}}$	:	unitless
$LF_{\text{sw benzene}}$	:	(mg/L-H ₂ O)/(mg/kg-soil)
$LF_{\text{sw GRO}}$	:	(mg/L-H ₂ O)/(mg/kg-soil)
$LF_{\text{sw DRO}}$	:	(mg/L-H ₂ O)/(mg/kg-soil)
$C_{\text{soil ave benzene}}$	:	PPM
$C_{\text{soil ave GRO}}$	:	PPM
$C_{\text{soil ave DRO}}$	:	PPM
$C_{\text{leaching benzene}}$	:	PPM
$C_{\text{leaching GRO}}$	:	PPM
$C_{\text{leaching DRO}}$	:	PPM
$C_{\text{gw ave benzene}}$	:	PPM
$C_{\text{gw ave TPH}}$	:	PPM
$C_{\text{Source benzene}}$	:	PPM

$C_{\text{source TPH}}$	PPM
α_r	—
α_w	—
α_t	—
$C_{\text{c benzene}}$	PPM
$C_{\text{c TPH}}$	PPM

11. Determine if the site is eligible for closure:

	Benzene	TPH
Calculated concentrations at the point of compliance	—	—
Applicable cleanup levels	0.070 PPM	1.0 PPM
Is the calculated concentration below the applicable cleanup level? (Yes/No)	—	—

12. Determine target site cleanup goal(s) for benzene and TPH, if applicable:

Attach worksheets showing the calculations for the target site cleanup goal(s) for benzene and TPH

Benzene target site cleanup goal (PPM)	—
TPH target site cleanup goal (PPM)	—

A signature page, as shown below shall be attached to the Closure Report For Monitoring Only Sites Form only if it is not submitted with any other report. The page shall be signed by the owner/operator (or authorized representative within the organization) and a registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 *et seq.*), or a registered professional engineer under the Tennessee Architects, Engineers, Landscape Architects, and Interior Designers Law and Rules (T.C.A. §62-2-101 *et seq.*).

We, the undersigned, certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report form and on any attachments, is true, accurate and complete to the best of our knowledge, information, and belief. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

Owner/Operator (Print name)

Signature

Date

Title (Print)

P.E. or P.G. (Print name)

Signature

Date

Tennessee Registration #

Note: Each of the above signatures shall be notarized separately with the following statement:

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

_____. My commission expires _____.

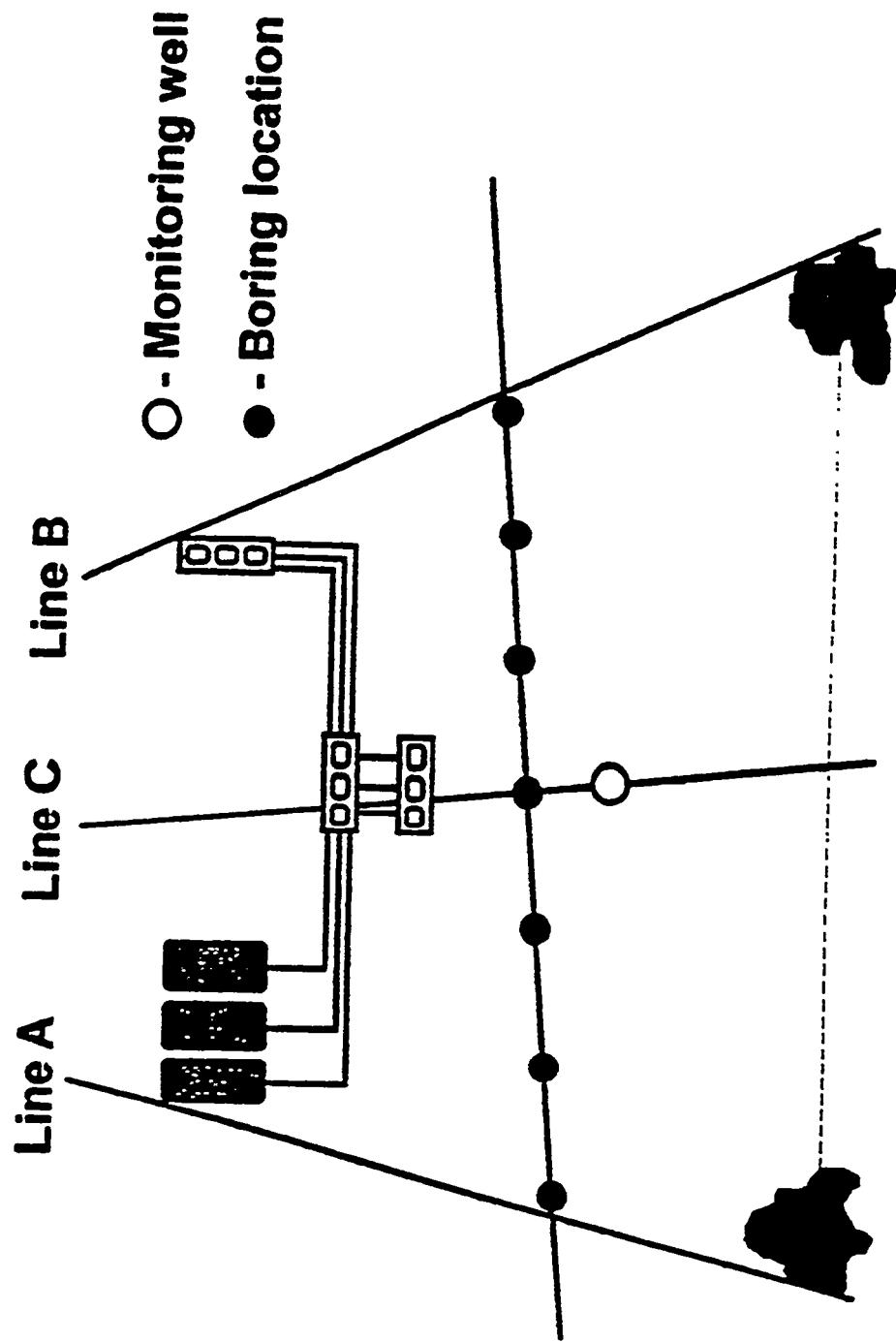
Notary Public (Print name)

Signature

Date

Stamp/Seal

Diagram 3



APPENDIX H

TDEC UST CLOSURE

ASSESSMENT GUIDELINES

TENNESSEE DEPARTMENT OF
ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND
STORAGE TANKS



CLOSURE ASSESSMENT
GUIDELINES

August 1996



August 1996

**STATE OF TENNESSEE
DIVISION OF UNDERGROUND STORAGE TANKS**

RE: UNDERGROUND STORAGE TANK SYSTEM CLOSURE

In accordance with Rule 1200-1-15-07(2)(a) of the Tennessee Petroleum Underground Storage Tank Regulations, the Responsible Party shall notify the Division of Underground Storage Tanks of their intent to permanently close an underground storage tank (UST) system. A closure assessment shall be conducted to determine if a release has occurred. According to Rule 1200-1-15-01(3)(ccc):

UST system or tank system means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.

The enclosed application shall be completed and submitted for approval to the appropriate field office thirty days before initiating any closure activities. Once approved, the application is valid for twelve months from the date of approval. The approved application is non-transferable. If ownership of the UST system changes, a new application shall be submitted for approval. The following enclosures are for your use and information during closure of the UST system:

UST System Closure Assessment Guidelines

Application for Permanent Closure of Underground Storage Tank Systems

Approved Laboratory List

Approved Corrective Action Contractor List

Field Office Location Map

Notification Form

Within thirty days after an UST system is permanently closed, a Notification Form must be submitted to the address located on the notification form (UST Nashville Central Office). The form shall indicate the current status of the UST system at the facility. Include the Facility ID Number and mark "C. CLOSED." Failure to submit the amended Notification Form may result in continued billing for the annual tank fee.



August 1996

STATE OF TENNESSEE
DIVISION OF UNDERGROUND STORAGE TANKS

UST SYSTEM CLOSURE ASSESSMENT GUIDELINES

These guidelines provide the standard procedure for underground storage tank (UST) system closure in accordance with Rule 1200-1-15-.07(3)(a). The requirements of this paragraph are satisfied if one of the external release detection methods allowed in Rule 1200-1-15-.04(3)(e) and (f) is operating in accordance with the requirements in Rule 1200-1-15-.04(3) at the time of closure and indicates no release has occurred.

The guidelines shall be followed unless prohibited by site-specific conditions or other applicable statutes, rules or regulations. If these guidelines cannot be followed, preapproval shall be obtained from the appropriate field office. These changes shall be documented in the *Permanent Closure Report*.

Tennessee Code Annotated (T.C.A.) §68-215-103(16) defines Responsible Party as the owner and/or operator of a petroleum site or any person who at the time of the release which caused the contamination was an owner and/or operator of a petroleum underground storage tank.

If closing chemical tanks, contact the Environmental Protection Agency in Atlanta, GA at (404) 347-3866.

I. BEFORE BEGINNING ANY WORK

- A. The UST system Responsible Party (RP) shall complete and submit the original *Application for Permanent Closure of Underground Storage Tank Systems* to the appropriate field office 30 days prior to closure. The approved application is valid for 12 months.
- B. Notify the local fire department or State Fire Marshal's office of the permanent closure. Local fire departments may have additional requirements.
- C. The UST system RP shall obtain the appropriate sample containers from a Division approved laboratory. The laboratory shall use *SW-846, Test Methods for Evaluating Solid Waste*. A list of these laboratories is enclosed. Obtain instructions for collecting and preserving the samples from the laboratory; or

The UST system RP shall contact a certified tester to analyze the required soil samples using *EPA Method 4030*.

Listed are the required analyses:

- 1) If the UST system has stored gasoline or other low boiling point petroleum hydrocarbons, benzene and Gasoline Range Organics (GRO) analyses are required for soil samples. Benzene and GRO are required for ground water if encountered.
- 2) If the UST system has stored diesel, kerosene, or other high boiling point petroleum hydrocarbons (except for waste oil), Diesel Range Organics (DRO) analysis is required.
- 3) If the UST system stored a combination of petroleum hydrocarbons (gasoline and diesel range fuels) in the same tankhold, the analyses in items "1" and "2" are required. Total Petroleum Hydrocarbons (TPH) shall be reported as the sum of GRO and DRO.
- 4) If the UST system stored only waste oil, *Standard Methods of Analysis*, Method 503E or *Methods of Analysis of Water and Wastes*, Method 418.1 shall be used.
- 5) If the UST system stored a combination of petroleum hydrocarbons including waste oil or the storage history is unknown, benzene, GRO, DRO and a waste oil analysis method shall be used.

D. For UST system Closure-in-place, refer to Section IV below.

E. Contact the appropriate field office at least one working day prior to implementing any closure activities and/or sampling events.

II. GENERAL REQUIREMENTS FOR ALL UST SYSTEM CLOSURES

A. The original or a carbon copy of all analytical results shall be submitted to the appropriate UST field office. Photocopies are not acceptable. All laboratory analysis sheets shall include the following:

1. The Tennessee UST Facility ID Number;
2. Boring number or location of additional sampling points;
3. Date sample was collected;
4. Date sample was analyzed;
5. Sample depth;
6. Parameter (i.e. benzene, GRO, DRO and Total TPH);
7. Unit of measurement (Parts per million, PPM)
8. Analytical method; and
9. Authorized laboratory signature.

If Method 4030 is used the information listed above shall be printed on the data print out from the analyzer. A copy of the testers' certification shall be included with the *Permanent Closure Report*.

- B. All excavated material remaining on the site of generation or on a site owned by the RP or subsidiary of the RP shall be placed on and covered with plastic and bermed. If practical, the material should be segregated depending on the soil conditions. If the contaminated material is to be treated on a site owned by a Third Party, contact the Tennessee Division of Solid Waste Management.
- C. If petroleum contaminated soil material is to be managed in accordance with TGD-009, the appropriate *Application to Treat Petroleum Contaminated Soil* shall be completed and submitted to the appropriate field office for approval. Proper screening and sampling of the excavated material in accordance with TGD-005 shall be completed prior to proper disposal.
- D. The Tennessee Petroleum Underground Storage Tank Regulations require the Division be notified within 72 hours of the discovery of free product or petroleum contamination while closing an UST system. Failure to notify the Division could affect fund coverage of corrective action costs associated with this release for the Responsible Party.
- E. All appropriate closure records shall be maintained for at least 3 years.
- F. In accordance with the petroleum contamination cleanup levels in Appendix 4 and 5 of Rule 1200-1-15, any material (soil, sand, or rock) with concentrations exceeding 5 parts per million benzene and/or 100 parts per million TPH is considered to be contaminated by a petroleum product. Ground water is contaminated if concentrations exceed 0.005 parts per million benzene and 0.1 parts per million TPH. A release from the UST system requiring a response in accordance with Rule 1200-1-15-.06 has occurred if laboratory results indicate contamination above these cleanup levels.
- G. If soil contamination is above 5 ppm benzene and/or 100 ppm TPH, at least one of the following requirements shall be met:
 - 1. Follow Technical Guidance Document-011 to determine the applicable soil and/or ground water cleanup levels. If Method 4030 was used during closure, representative soil sample (s) shall be collected from the excavation zone and analyzed by a Division approved laboratory;
 - 2. Remove the UST system and overexcavate areas of obvious soil contamination; or
 - 3. Conduct an environmental assessment following the current Environmental Assessment Guidelines.

III. UST SYSTEM REMOVAL

The removal of an UST system shall follow the procedures outlined in Appendix 6 in Rule 1200-1-15.

A. SAMPLING TANK EXCAVATIONS

1. **Composite samples are not acceptable.** Areas of obvious contamination shall be overexcavated prior to sampling. If more than 100 cubic yards of material are overexcavated, contact the appropriate field office. Field screening samples shall be collected after all backfill material is removed from the excavation. Soil samples for laboratory analysis shall be obtained from the pit floor at a depth of one foot.
2. All soil samples for laboratory analysis shall be obtained one foot into undisturbed soil. Refer to Table 1 to determine the sample number and location. A decontaminated hand auger, scoop, or other sampling device shall be used to collect an undisturbed soil sample. Clean, disposable, latex gloves shall be worn during the collection of each sample. The sample shall be immediately placed into a sample container leaving no air space, labeled, and stored at 4°C until delivered to a Division approved laboratory.

TABLE 1

TOTAL TANK STORAGE CAPACITY (GAL.) PER PIT	MINIMUM NUMBER OF SAMPLES TO SUBMIT TO LABORATORY	LOCATION OF SAMPLE POINTS
1120 OR LESS	2	SEE FIGURE 1
1121 TO 15,000	4	SEE FIGURE 1
15,001 TO 30,000	5	SEE FIGURE 1
30,001 TO 45,000	6	SEE FIGURE 1
45,001 TO 60,000	7	SEE FIGURE 1

GREATER THAN 60,000 APPROVED ON A SITE-SPECIFIC BASIS

3. If water is encountered in the tank pit, a maximum of 500 gallons may be removed and properly disposed without notifying the Division. If the water recharges within 24 hours, a sample shall be collected and submitted to a Division approved laboratory. Water samples shall be analyzed for the appropriate petroleum constituents.

B. ENCOUNTERING BEDROCK

1. If the UST system is installed in bedrock, samples of material up to the size of pea gravel may be collected and submitted for laboratory analysis. If all the backfill material has been excavated and no material can be sampled, a ground water monitoring well shall be installed and sampled. This work shall be directed by a registered geologist or registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rule (T.C.A. §62-2-101 et seq.). The monitoring well shall be installed immediately adjacent to the area of suspected contamination. If no obvious area of contamination is evident, the monitoring well shall be installed immediately adjacent to the tank pit and piping trench intersection. Follow the current Environmental Assessment Guidelines.
2. If soil contamination above 5 ppm benzene and/or 100 ppm TPH is in contact with bedrock, a ground water monitoring well shall be installed and sampled. This work shall be directed by a registered geologist or registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rule (T.C.A. §62-2-101 et seq.). The monitoring well shall be installed immediately adjacent to the area of contamination in the apparent downgradient direction.
3. A monitoring well construction diagram, detailed boring log (prepared in accordance with TGD-006, *Standard Drilling Log*), analytical results and a scaled site map shall be submitted to the appropriate UST field office along with the *Permanent Closure Report*. The site map shall indicate the location of the monitoring well in relation to the entire UST system.
4. If water is encountered in the tank pit, a maximum of 500 gallons may be removed and properly disposed without notifying the Division. If the water recharges within 24 hours, a sample shall be collected and submitted to a Division approved laboratory. Water samples shall be analyzed for the appropriate petroleum constituents.

IV. UST SYSTEM CLOSURE-IN-PLACE

- A. If the RP is not the property owner, a notarized approval statement from the property owner shall be included with the *Application for Permanent Closure*. The statement shall include the facility address, tax map and parcel number.

- B. The UST system must be emptied of all petroleum prior to any sampling. Closing an UST system in-place requires soil boring or direct push tools capable of collecting soil samples. Split-spoon samplers, hand augers, or shelby tubes shall be used to collect the samples from the required depth. Sampling auger cuttings is unacceptable for laboratory analysis.
- C. All soil samples for laboratory analysis shall be obtained from a depth of one foot into undisturbed soil. Refer to Table 2 to determine the sample number and location. A decontaminated hand auger, scoop, or other sampling device shall be used to collect an undisturbed soil sample. Clean, disposable, latex gloves shall be worn during the collection of each sample. The sample shall be immediately placed into a sample container leaving no air space, labeled, and stored at 4°C until delivered to a Division approved laboratory.

TABLE 2

TOTAL TANK STORAGE CAPACITY (GAL.) PER PIT	MINIMUM NUMBER OF SAMPLES TO SUBMIT TO LABORATORY	LOCATION OF SAMPLE POINTS
1120 OR LESS	2	SEE FIGURE 2
1121 TO 15,000	4	SEE FIGURE 2
15,001 TO 30,000	6	SEE FIGURE 2
30,001 TO 45,000	8	SEE FIGURE 2
45,001 TO 60,000	10	SEE FIGURE 2

GREATER THAN 60,000 APPROVED ON A SITE-SPECIFIC BASIS

- D. If bedrock or water is encountered before completing the requirements described above in Section IV. C., a ground water monitoring well shall be installed. This work shall be directed by a registered geologist or registered professional geologist under the Tennessee Geologist Act (T.C.A. §62-36-101 et seq.), or registered professional engineer under the Tennessee Architects, Engineers, and Landscape Architects, and Interior Designers Law and Rule (T.C.A. §62-2-101 et seq.). The monitoring well shall be installed immediately adjacent to the tank pit and piping trench intersection. Follow the current Environmental Assessment Guidelines.
- E. If soil contamination is above 5 ppm benzene and/or 100 ppm TPH, at least one of the following requirements shall be met:
 1. Follow Technical Guidance Document-011 to determine the applicable soil and/or ground water cleanup levels. If Method 4030 was used during closure, representative soil sample (s) shall be collected from the boring (s) and analyzed by a Division approved laboratory.;

2. Remove the UST system and overexcavate areas of obvious soil contamination; or
3. Conduct an environmental assessment following the current Environmental Assessment Guidelines.

F. Once the soil and/or ground water has been determined to be within the applicable cleanup levels in accordance with Appendix 4 and 5 in Rule 1200-1-15, follow the document *Procedures For UST System Closure-In-Place*.

STATE OF TENNESSEE
DIVISION OF UNDERGROUND STORAGE TANKS

PROCEDURE FOR UST SYSTEM CLOSURE-IN-PLACE

Local ordinances that apply to the closure-in-place of underground storage tank (UST) systems shall be followed. Below are the closure-in-place procedures. A permanent record of the UST system location, date of closure, and method used to close the UST system in-place shall be maintained by the Responsible Party.

When properties are sold or transferred, the new owners or new lease holders shall be informed of the presence of UST systems that are closed-in-place.

- A. Disconnect and cap all piping not used during purging procedures. The vent line shall remain connected until the tank is filled with an inert solid material.
- B. The tank atmosphere shall be purged and regularly tested in accordance with the provisions in Appendix 6 (2) and (3) of the regulations.
- C. Fill the tank with an inert solid material as indicated below:
 1. Sand: Dry sand can be added to the tank as long as it flows freely. Once the tank is nearly full, a sand/water slurry shall be used to completely fill the tank.
 2. Sand/Soil: The tank shall be filled to 80% of its capacity with sand. A free flowing mixture of sand/soil shall then be added into the tank until the fill pipe is full.
 3. Concrete: Concrete can be used to fill a tank if the slurry is free flowing. Add until the fill pipe is full.
 4. Concrete/Bentonite: A concrete/bentonite slurry may be used to fill the tank. Add the slurry until the fill pipe is full.
- D. Other inert solid material may be used if approved by Division personnel.
- E. Disconnect and cap the vent line.

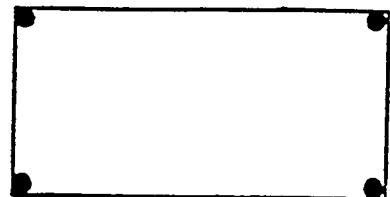
FIGURE 1

SAMPLE LOCATIONS FOR UST REMOVAL

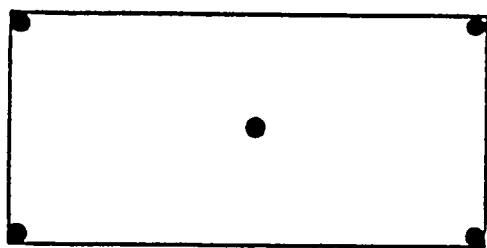
1,120 gal. or LESS



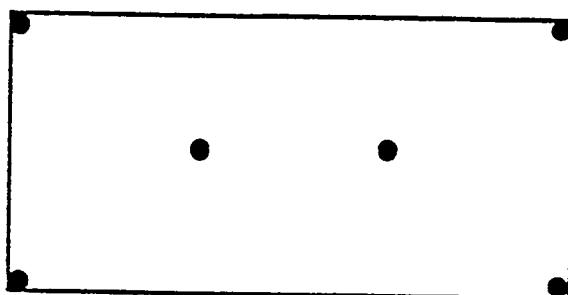
1,121 to 15,000 gal.



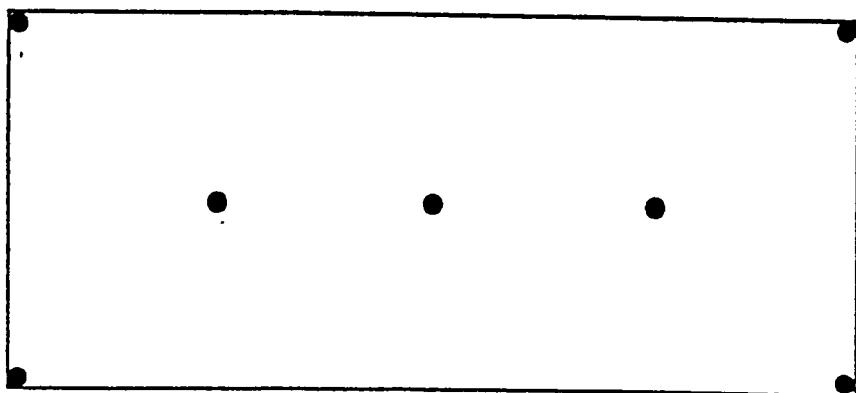
15,001 to 30,000 gal.



30,001 to 45,000 gal.



45,001 to 60,000 gal.



● - Sampling point

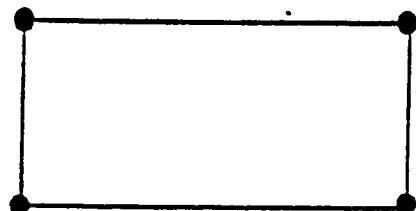
FIGURE 2

SAMPLE LOCATIONS FOR UST CLOSURE - IN - PLACE

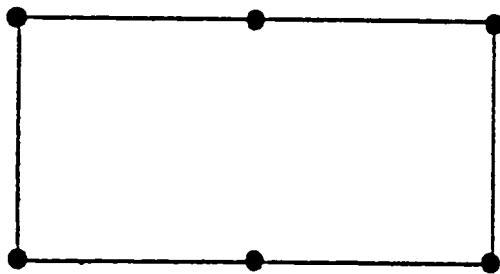
1,120 gal. or LESS



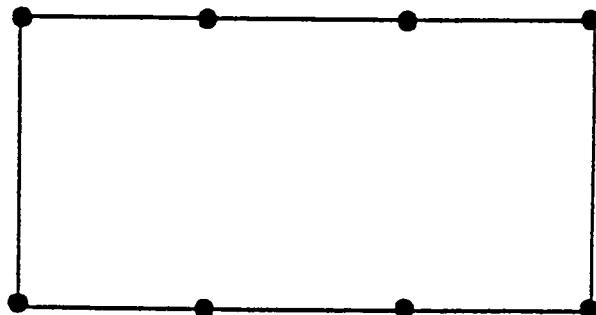
1,121 to 15,000 gal.



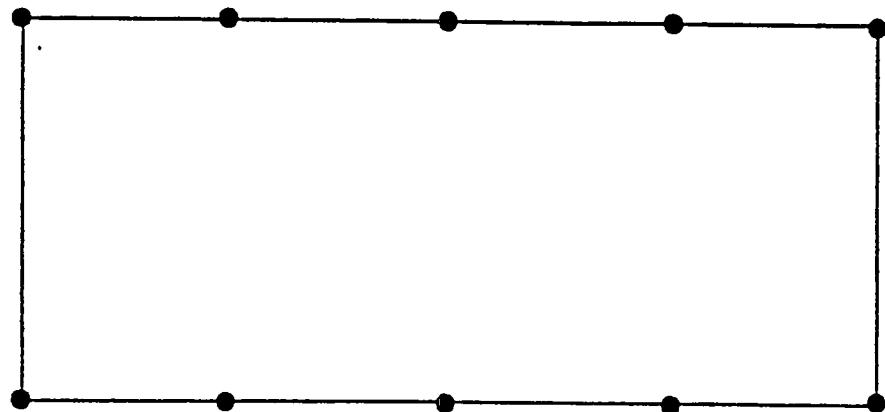
15,001 to 30,000 gal.



30,001 to 45,000 gal.



45,001 to 60,000 gal.



● - Sampling point



August 1996

STATE OF TENNESSEE DIVISION OF UNDERGROUND STORAGE TANKS

APPLICATION FOR PERMANENT CLOSURE OF UNDERGROUND STORAGE TANK SYSTEMS

The UST system Responsible Party shall complete and submit the original application to the appropriate Division of Underground Storage Tanks field office for approval 30 days prior to closing a UST system. Tennessee Code Annotated (T.C.A.) §68-215-103(16) defines Responsible Party (RP) as the owner and/or operator of a petroleum site or any person who at the time of the release which caused the contamination was an owner and/or operator of a petroleum underground storage tank. T.C.A. §68-215-114(b) states that the Responsible Party shall be liable to the state for costs of investigation, identification, containment and cleanup, including monitoring and maintenance.

Refer to the attached map for the address of the appropriate field office. A copy of the approved application shall be on the premises with the person in charge during closure of the UST system. All of the following items shall be addressed.

The application is valid for twelve months from the approval date. The approved application is non-transferable. If RP of the UST system changes, a new application shall be submitted for approval. Approval of this application is for closure activity only. Fund coverage approval is a separate process.

Date _____ Facility ID Number: _____

1. Name of Facility: _____

Address: _____

Phone Number: () _____ County: _____

On-site Contact (Operator): _____

2. Name of Responsible Party: _____

Address: _____

Phone Number: () _____ Contact person: _____

3. Number of tanks registered at this facility: _____

4. Number of regulated tanks to be closed: _____

Application for Permanent Closure of UST Systems
Date _____
Page 2 of 5

Facility ID# _____

5. List the tank number, size, contents, primary use and date last used for all tanks to be closed. Attach sheet for additional tanks to be closed.

Tank Number	Size	Contents (past and present)	Usage* (all that apply)	Last Used
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

* Retail, Commercial, Heating oil, Emergency generator, Residential, Farm, Other

6. Type of closure: Removal _____ ** Closure in place _____

** Inert material selected _____

** Attach a statement explaining the reason for closure in place.

7. Proposed date of UST system closure _____

8. Soil and/or ground water samples shall be collected. Laboratory analyses are based on the type of product stored. If the type of product stored is unknown, all samples shall be analyzed using benzene, TPH-GRO, TPH-DRO, and a waste oil method. Mark all the following that apply:

GASOLINE TANKS: (Boiling Point Range 70-180° F)

Benzene AND

Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO) _____

DIESEL OR KEROSENE TANKS: (Boiling Point Range 180-450° F)

Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO) _____

WASTE OIL TANKS: (Boiling Point Range greater than 450° F)

418.1 OR 503E _____

If closing chemical tanks, contact the Environmental Protection Agency in Atlanta at (404) 347-3866.

Application for Permanent Closure of UST Systems

Facility ID# _____

Date _____

Page 3 of 5

9. Name of Division approved laboratory _____

10. Name of Company/Person performing the UST system closure _____

11. Name of Company/Person obtaining soil/ground water samples _____

12. All excavated material remaining on the site of generation or on a site owned by the RP or subsidiary of the RP shall be placed on and covered with plastic, and bermed. If practical, the material should be segregated pending soil conditions. Proper screening and sampling of the excavated material in accordance with Technical Guidance Document - 005 shall be completed prior to treatment. If treatment is required, the material shall be properly screened and sampled prior to disposal.

If petroleum contaminated material is to be managed in accordance with Technical Guidance Document-009, the appropriate *Application to Treat Petroleum Contaminated Soil* shall be completed and submitted to the appropriate field office for approval. If the contaminated material is to be treated on a site owned by a Third Party, contact the Tennessee Division of Solid Waste Management.

Give the location/address where contaminated soil will be stockpiled _____

13. Describe how the contaminated soil will be treated _____

14. Give the location/address where the contaminated soil will be treated _____

15. If water is encountered, a maximum of 500 gallons can be properly removed without notifying the Division.

16. Describe where contaminated water will be treated _____

17. Describe how treated water will be disposed _____

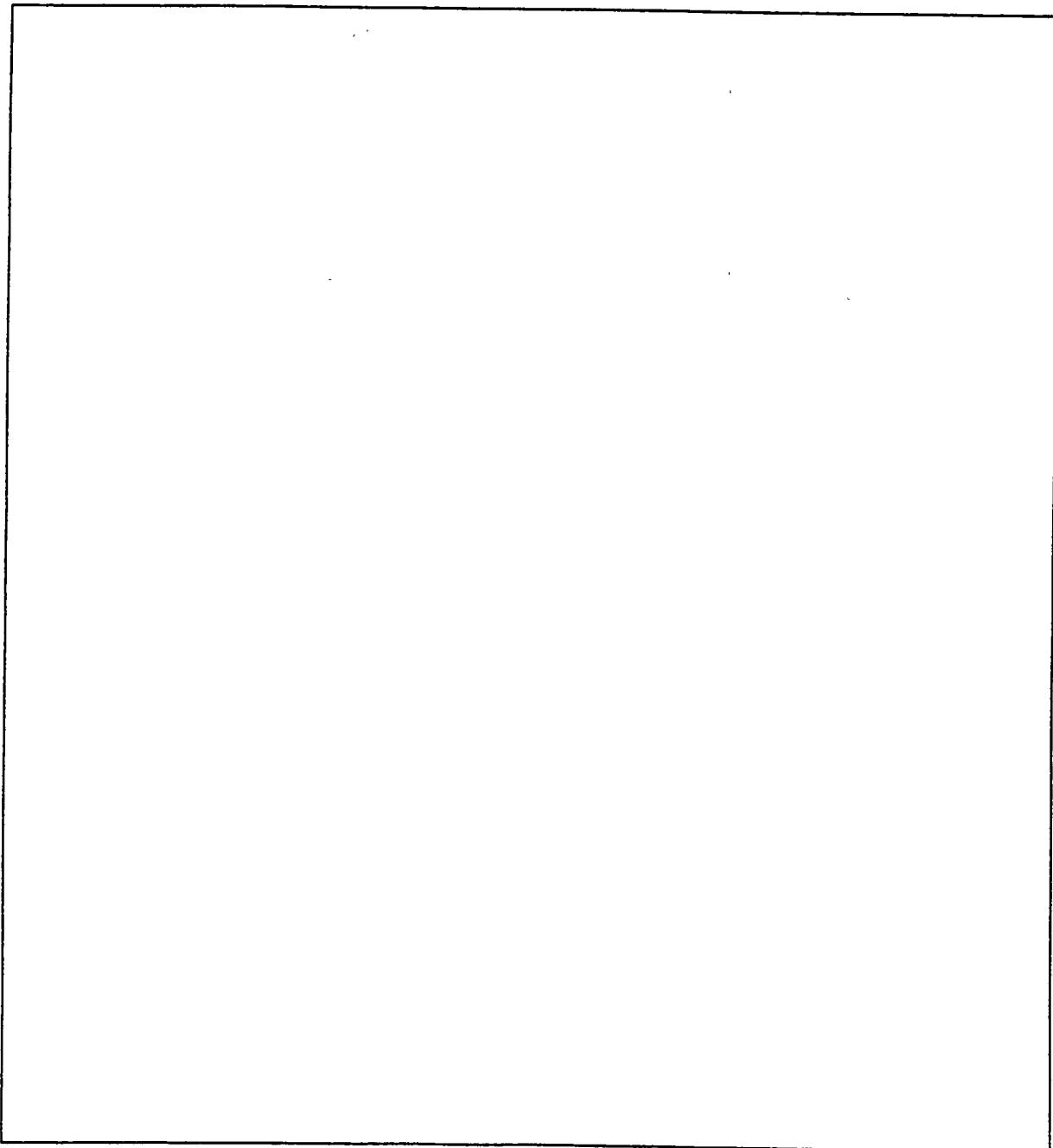
Application for Permanent Closure of UST Systems

Date _____

Page 4 of 5

Facility ID# _____

18. A site map shall be provided in this space giving the location of the underground storage tanks, associated lines, sampling points and any nearby underground utilities. A permanent fixed point must be identified and a distance referenced to the UST system. **THE APPLICATION WILL NOT BE PROCESSED WITHOUT THE MAP.**



Application for Permanent Closure of UST Systems

Date _____

Page 5 of 5

Facility ID# _____

I, (print) _____, Responsible Party of the petroleum UST system(s) at this facility, agree to submit, within 45 days of collecting the samples, the analytical results for the UST system closure and will resolve all environmental problems resulting from a release from the UST system(s) at this site.

I certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this form and on any attachments is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

UST system RP or RP authorized
representative (Print name)

Signature

Date

Title (Print)

STATE OF _____ COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

_____. My commission expires _____.

Notary Public (Print name)

Signature

Date

Stamp/Seal



August 1996

STATE OF TENNESSEE DIVISION OF UNDERGROUND STORAGE TANKS

PERMANENT CLOSURE REPORT

The Responsible Party (RP) of the underground storage tank (UST) system shall complete and submit the original of this report within 45 days of collecting samples during the UST system closure assessment. Tennessee Code Annotated (T.C.A.) §68-215-103(16) defines Responsible Party as the owner and/or operator of a petroleum site or any person who at the time of the release which caused the contamination was an owner and/or operator of a petroleum underground storage tank.

Include the following appendices in the report. Attach extra sheets if necessary.

Appendix A: A table containing the field screening and analytical results. All results shall be reported in parts per million (ppm). The results shall be properly identified and correlated with the sampling locations on the site map. If water was encountered during closure-in-place, include the monitoring well information required in the Environmental Assessment Guidelines.

Appendix B: The original or carbon copy of the laboratory analysis sheets. Photocopies are not acceptable. All laboratory analysis sheets shall include the information specified in the *UST System Closure Assessment Guidelines*.

Appendix C: Documentation for treatment and/or disposal of soil, sludge, liquid, tanks and piping (i.e. Application to Treat Petroleum Contaminated Soil, Solid Waste Permits, Landfill Disposal Manifests, etc.).

Appendix D: A copy of the Amended Notification form shall be submitted with this report. Send the original Amended Notification form to the UST Nashville Central Office.

1. UST Facility ID _____ - _____
2. Facility Name _____
3. Division personnel with the appropriate field office were notified at least one working day before collecting soil samples for the UST system closure assessment. Yes No If yes:
Person contacted _____
Field office _____
Date _____
Reported by _____
4. The tank atmosphere and work zone were regularly tested with a combustible gas indicator in accordance with UST regulations Appendix 6(2) and (3). Yes No

Permanent Closure Report

Facility ID Number _____

Date _____

Page 2 of 6

5. Method of purging tank atmosphere:

Carbon dioxide gas _____ Nitrogen _____ Eductor-type air movers _____

Diffused air blower _____ Dry ice (1.5 lb/100 gal.) _____

Other _____

6. Product piping was drained into the tank. Yes _____ No _____

7. Product piping was: Capped _____ Removed _____

8. All liquid/sludge was removed from the UST system. Yes _____ No _____
Not encountered _____

9. Method of liquid/sludge storage: _____

10. Method of liquid/sludge disposal: _____

Manifests included in Appendix C. Yes _____ No _____
Not applicable _____

11. Tank was labeled in accordance with the UST Regulations Appendix 6(4)(f).
Yes _____ No _____ Not applicable _____

12. Method of UST system storage/disposal:

Cut up for disposal _____ Stored on site _____ Stored off site _____
Other _____

UST systems stored on site or off site are subject to Rules 1200-1-15-.07(2)(e), (f) and (g) and Appendix 7.

13. Location of UST system storage/disposal _____

Certificate of disposal included in Appendix C. Yes _____ No _____
If no, explain _____

14. Amount of material excavated during UST system closure: _____ cubic yards.

15. Total amount of contaminated material overexcavated after removal of the UST system: _____ cubic yards.
If more than 100 cubic yards of material was overexcavated, Division personnel in the appropriate field office should have been contacted.
Division personnel in the appropriate field office were contacted. Yes _____ No _____
Not applicable _____
If yes:
Person contacted _____
Field Office _____
Date _____
Reported by _____

All excavated material remaining on the site of generation or on a site owned by the responsible party or subsidiary of the responsible party shall be placed on and covered with plastic and bermed. Sampling the excavated material in accordance with Technical Guidance Document - 005, must be completed prior to proper disposal.

If petroleum contaminated material is managed in accordance with Technical Guidance Document-009, the appropriate *Application to Treat Petroleum Contaminated Soil* shall be completed and submitted to the local field office for approval. If the contaminated material is to be treated on a site owned by a Third Party, contact the Tennessee Division of Solid Waste Management.

All excavations shall be backfilled with material containing levels at or below 5 ppm benzene and/or 100 ppm TPH.

16. Mark all that apply regarding the management of the excavated material:
Stockpiled on site _____ Thermal treatment on site _____ Thermal treatment off site _____
Landfilled _____ Other _____

Documentation is included in Appendix C. Yes _____ No _____ If no, explain why _____

17. Explain why the method in #16 was chosen for management of the excavated material _____

18. All samples were placed directly into the appropriate containers, immediately after collection. Yes _____ No _____

19. Immediately after collection all samples were placed on ice and maintained at 4°C until delivered to a Division approved laboratory. Yes _____ No _____

Permanent Closure Report

Facility ID Number _____

Date _____

Page 4 of 6

20. Laboratory confirmation of petroleum contamination or discovery of free product was reported to the Division within 72 hours. Yes No Not applicable
If yes:
Person contacted _____
Field office _____
Date _____
Reported by _____

21. Water was encountered in the soil borings during closure-in-place.
Yes No Not applicable
If encountered, was water sampled. Yes No
Monitoring well information is in Appendix A. Yes No
Analytical results are in Appendix B. Yes No

22. Water was encountered during excavation of the UST system. Yes No
Amount of water removed: _____ gals.
Water recharged within 24 hours. Yes No
Recharge water was sampled. Yes No
Analytical results are in Appendix B. Yes No
Method of water disposal: _____
Manifests included in Appendix C. Yes No

23. If more than 500 gallons of water were removed, Division personnel in the appropriate field office should have been contacted.
Division personnel in the appropriate field office were contacted. Yes No
Not applicable
If yes:
Person contacted _____
Field Office _____
Date _____
Reported by _____

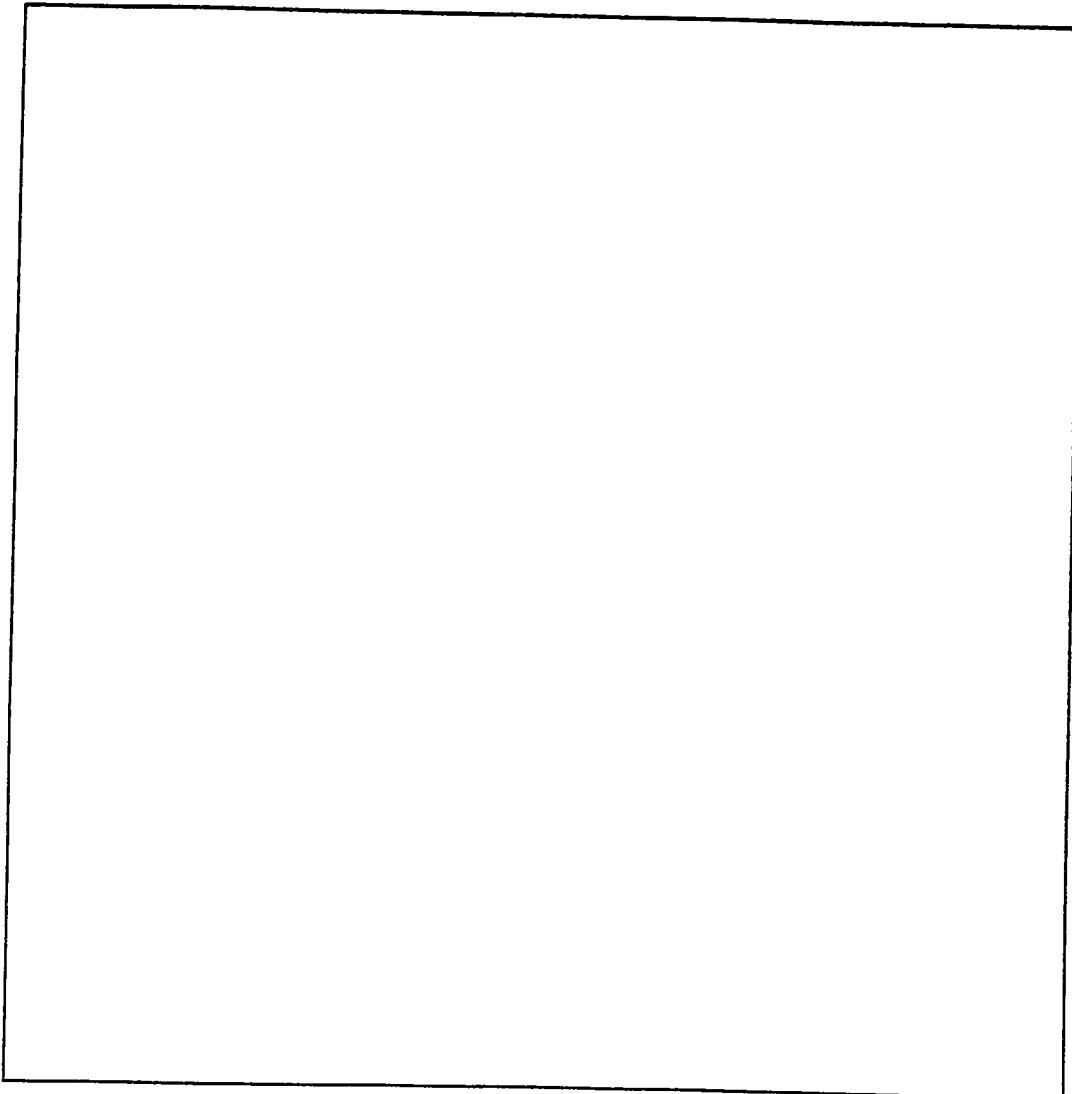
24. Bedrock was encountered during UST system removal/closure-in-place.
Yes No
All contaminated material above the applicable cleanup level was excavated.
Yes No Not applicable
Soil was sampled from floor of excavation. Yes No
Analytical results are in Appendix B. Yes No

25. The original Notification Form reporting the closure of the tank system was submitted to the Nashville Central Office. Yes No

26. Failure to submit a Notification Form may result in the assessment of additional tank fees.

THIS PERMANENT CLOSURE REPORT WILL NOT BE PROCESSED WITHOUT THE COMPLETION AND SUBMITTAL OF THE APPROPRIATE APPENDICES IN THEIR ENTIRETY.

27. An updated site map shall be provided in this space showing buildings, utilities, areas of overexcavation, borings, and sample points. The map shall also include soil stockpiles, their dimensions in feet, and properly labeled screening and sampling points. A measurement shall be included from one corner of the tank excavation to a permanent structure (i.e. building, power pole, fire hydrant, etc.). The site map shall include a north arrow.



Permanent Closure Report

Date _____

Page 6 of 6

Facility ID Number _____

I certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this form and on any attachments is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

UST System RP or RP's authorized
representative (Print name)

Signature

Date

Title (Print)

P.E. or P.G. (Print name)

Signature

Date

TN Registration #

Note: Each of the above signatures shall be notarized separately with the following statement.

STATE OF _____

COUNTY OF _____

Sworn to and subscribed before me by _____ on this date

_____. My commission expires _____.

Notary Public (Print Name)

Signature

Date

Stamp/Seal

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