567—135.15(455B) Out-of-service UST systems and closure.

135.15(1) *Temporary closure.*

a. When a UST system is temporarily closed, owners and operators must continue operation and maintenance of corrosion protection in accordance with 135.4(2), any release detection in accordance with rule 135.5(455B), and financial responsibility in accordance with 567—Chapter 136. Rules 135.6(455B) to 135.12(455B) 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 (1 inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.

b. When a UST system is temporarily closed for three months or more, owners and operators must notify the department in writing of the temporary closure and comply with the following requirements:

(1) Leave vent lines open and functioning; and

(2) Cap and secure all other lines, pumps, accesses, and ancillary equipment.

c. When a UST system is temporarily closed for more than 12 months, owners and operators must return the tank tags and permanently close the UST system if it does not meet either the performance standards in 135.3(1) for new UST systems or the upgrading requirements in 135.3(2), 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 135.15(2) to 135.15(5), unless the department provides an extension of the 12-month temporary closure period. Owners and operators must complete a site assessment in accordance with 135.15(3) before such an extension can be applied for.

135.15(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"* below, owners and operators must notify the department of their intent to permanently close or make the change-in-service. An owner or operator must seek prior approval to permanently close a tank in a time frame shorter than the 30-day notice. The required assessment of the excavation zone under 135.15(3) must be performed after notifying the department but before completion of the permanent closure or a change-in-service.

b. To permanently close a tank or piping, owners and operators must empty and clean them 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. Piping must either be removed from the ground or have the ends plugged with an inert solid material.

When permanently closing a tank by filling with inert solid material, the tank may not be filled until a closure report is approved by the department. The tank must be filled within 30 days after department approval. The owner and operator must notify the department within 15 days after filling the tank with inert solid material.

c. Continued use of a UST system to store a nonregulated 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 135.15(3).

d. Permanent closure procedures must be followed in the replacement of tanks or piping. Notification must be made using DNR Form 542-1308, "Notification of Tank Closure or Change-in-Service." The form must include the date scheduled for the closure. Oral confirmation of the closure date must be given to the DNR field office 24 hours prior to the actual closure. The required assessment of the excavation zone under 139.15(3) must be performed after notifying the department but before completion of the permanent closure or change-in-service.

NOTE: The following cleaning and closure procedures may be used to comply with subrule 135.15(2): American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks"; American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks"; American Petroleum Institute Recommended Practice 1631, "Interior Lining of Underground Storage Tanks," may be used as guidance for compliance with this subrule; and 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.

135.15(3) *Assessing the site at closure or change-in-service.*

a. Before permanent closure or a change-in-service is completed, owners or operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting the sample types, sample locations, and measurement methods, owners and operators must consider 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.

At UST sites with a history of petroleum storage, soil and groundwater samples shall in every case be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) with each compound reported separately in accordance with 135.16(455B). If there has been a history or suspected history of petroleum storage other than gasoline or gasoline blends (i.e., all grades of diesel fuels, fuel oil, kerosene, oil and mineral spirits), or such storage history is unknown or uncertain, soil and groundwater samples shall also be analyzed for total extractable hydrocarbons in accordance with 135.16(455B).

All such samples shall be collected separately and shipped to a laboratory certified under 567—Chapter 42, Part C, within 72 hours of collection. Samples shall be refrigerated and protected from freezing during shipment to the laboratory.

When an UST is removed from an area of confirmed contamination, the department may waive closure sampling if written documentation is submitted with the closure notification. Documentation should include laboratory analytical reports and a site map showing tank and piping locations along with contamination plume and sampling locations.

b. For all permanent tank and piping closures or changes-in-service, at least one water sample must be taken from the first saturated groundwater zone via a monitoring well or borehole except as provided in paragraph *"g."* The well or borehole must be located downgradient from and as close as possible to the excavation but no farther away than 20 feet.

If, however, the first saturated groundwater zone is not encountered within 10 feet below the lowest elevation of the tank excavation, the requirement for groundwater sampling shall not apply unless:

(1) Sands or highly permeable soils are encountered within 10 feet below the lowest level of the tank excavation which together with the underlying geology would, in the judgment of the department, pose the reasonable possibility that contamination may have reached groundwaters deeper than 10 feet below the lowest level of the tank excavation. The method of determining highly permeable soil is found in the departmental guidance documents entitled "Underground Storage Tank Closure Procedures for Tank and Piping Removal" and "Underground Storage Tank Closure for Filling in Place."

(2) Indications of potential groundwater contamination, including petroleum products in utility lines, petroleum products in private wells, petroleum product vapors in basements or other structures, occur in the area of the tank installation undergoing closure or change-in-service.

c. For permanent closure by tank removal, the departmental guidance document entitled "Underground Storage Tank Closure Procedures for Tank and Piping Removal" must be followed. The minimum number of soil samples that must be taken depends on the tank size and length of product piping. Samples must be taken at a depth of 1 to 2 feet beneath the tank fill area below the base of the tank along the tank's centerline. Soil samples must also be taken at least every 10 feet along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping.

If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

If contamination is suspected or found in any area within the excavation (i.e., sidewall or bottom), a soil sample must be taken at that location.

The numbers of samples required for tanks are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location on Centerline
1,000 or less	1	center of tank
1,001 - 8,000	2	1/3 from ends
8,001 - 30,000	3	5 feet from ends and at center of tank
30,001 - 40,000	4	5 and 15 feet from ends
40,001 and more	5	5 and 15 feet from ends and at center of tank

d. For closing a tank in place by filling with an inert solid material or for a change-in-service, the departmental guidance document entitled "Underground Storage Tank Closure for Filling in Place" must be followed. The minimum number of soil borings required for sampling depends on the size of the tank and the length of the product piping. Soil samples must be taken within 5 feet of the sides and ends of the tank at a depth of 2 to 4 feet below the base of the tank, but outside the backfill material, at equal intervals around the tank. Soil samples must also be taken at least every 10 feet along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping. If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

The minimum numbers of soil borings and samples required are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location of Samples
6,000 or less	4	1 each end and each side
6,001 - 12,000	6	1 each end and 2 each side
12,001 or more	8	1 each end and 3 each side

e. A closure report must be submitted to the department within 45 days of the tank removal or sampling for a closure in place. The report must include all laboratory analytical reports, soil boring and well or borehole construction details and stratigraphic logs, and a dimensional drawing showing location and depth of all tanks, piping, sampling, and wells or boreholes, and contaminated soil encountered. The tank tags must be returned with the closure report.

f. The requirements of this subrule are satisfied if one of the external release detection methods allowed in 135.5(4)*"e"* and *"f"* is operating in accordance with the requirements in 135.5(4) at the time of closure and indicates no release has occurred.

g. If contaminated soils, contaminated groundwater, or free product as a liquid or vapor is discovered during the site assessment or by any other manner, contact the department in accordance with 135.6(1). Normal closure procedures no longer apply. Owners and operators must begin corrective action in accordance with rules 135.7(455B) to 135.12(455B).

Identification of free product requires immediate response in accordance with 135.7(5). If contamination appears extensive or the groundwater is known to be contaminated, a full assessment of the contamination will be required. When a full assessment is required or anticipated, collection of the required closure samples is not required. If contamination appears limited to soils, overexcavation of the contaminated soils in accordance with 135.15(4) may be allowed at the time of closure.

135.15(4) *Overexcavation of contaminated soils at closure.*

a. If contaminated soils are discovered while assessing a site at closure in accordance with 135.15(3), owners and operators may overexcavate up to one foot of the contaminated soils surrounding the tank pit. The contamination and overexcavation must be reported to the department in accordance with the requirements of 135.6(4)*"a"* prior to backfilling the excavation. If excavation is limited to one foot of contaminated soils, a soil sample shall be taken and laboratory analyzed in accordance with 135.16(455B) from the area showing the greatest contamination. Any overexcavation of contaminated

soils beyond one foot of contaminated soils is considered expedited corrective action and must be conducted by a certified groundwater professional in accordance with the procedures in 135.12(11).

b. Excavated contaminated soils must be properly disposed in accordance with 567—Chapters 100, 101, 102, 120, and 121, Iowa Administrative Code.

c. A report must be submitted to the department within 30 days of completion of the laboratory analysis. The report must include the requirements of 135.15(3)*"e"* and a dimensional drawing showing the depth and area of the excavation prior to and after overexcavation. The area of contamination must be shown.

135.15(5) *Applicability to previously closed UST systems.* When directed by the department, the owner and operator of a UST system permanently closed before October 24, 1988, must assess the excavation zone and close the UST system in accordance with this rule if releases from the UST may, in the judgment of the department, pose a current or potential threat to human health and the environment.

135.15(6) *Closure records.* Owners and operators must maintain records in accordance with 135.4(5) that are capable of demonstrating compliance with closure requirements under this rule. The results of the excavation zone assessment required in 135.15(3) must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

a. By the owners and operators who took the UST system out of service;

b. By the current owners and operators of the UST system site; or

c. By mailing these records to the department if they cannot be maintained at the closed facility.

135.15(7) *Applicability to pre-1974 USTs.* The closure provisions of rule 135.15(455B) are not applicable to USTs which have been out of operation as of January 1, 1974. For purposes of this subrule, out of operation means that no regulated substance has been deposited into or dispensed from the tanks and that the tanks do not currently contain an accumulation of regulated substances other than a de minimus amount as provided in 135.15(1)*"a."*

Owners and operators or other interested parties are not required to submit documentation that USTs meet the exemption conditions and may rely on this subrule as guidance. However, should a question arise as to whether USTs meet the exemption, or owners and operators or other interested parties request acknowledgment by the department that USTs are exempt, they must submit an affidavit on a form provided by the department. The affiant must certify that based on a reasonable investigation and to the best of the affiant's knowledge, the USTs were taken out of operation prior to January 1, 1974, the USTs have not contained a regulated substance since January 1, 1974, and the USTs do not currently contain an accumulation of regulated substances.

If the department has a reasonable basis to suspect a release has occurred, the release investigation and confirmation steps of subrule 135.8(1) and the corrective action requirements as provided in 135.7(455B) to 135.8(455B) shall apply.