DEQ
Montana Department of Environmental Quality

UNDERGROUND STORAGE TANK CLOSURE CHECKLIST

Email to DEQ

Facility ID #:_____ Permit #:_____

Tank Owner/Operator: _____ Location:_____

Licensed Remover or Inspector:_____ License #:_____

(Write date in appropriate column or N/A if not applicable.)

	INSTALLER		INSPECTOR	
Preparation	Yes	No	Yes	No
1. Are all open flames and spark-producing equipment within the vapor hazard area shut down? Are equipment and vehicles grounded?				
2. Are non-sparking tools and explosion proof pumps used, and static electricity controlled by grounding?				
3. Are all utility, gas and water lines on site located, marked and avoided?				
4. Is site properly ventilated?				
5. Is monitoring equipment warmed up and zeroed in an uncontaminated atmosphere?				
6. Is safety equipment available and used?				
Preclosure				
1. Are tank(s) and piping properly emptied of all liquids and accumulated sludge?				
2. Are discharged fumes vented at least 12' above grade, and 3' above nearby roofs?				
3. If purging, are frequent %LEL readings taken? Are readings acceptable (less than 20% LEL) before tank is removed? Readings: _____				
4. If inerting, is proper amount of Dry Ice or Nitrogen gas used? Are acceptable oxygen meter readings (less than 5% 0_2) obtained from inside the tank(s)? Readings:_____				
Closure In Place				
1. Are tank(s) completely filled with inert material?				
2. Are all tank openings plugged?				
Removal				
1. Are pipes disconnected and all tank openings capped or plugged except for one 1/8" vent hole on tank top?				
2. Are tank(s) properly lifted from hole?				
3. Are all product/vent lines, dispensers, etc. removed?				
4. Are vapor monitoring readings acceptable for tank transport? Readings:_____				
5. Are tank(s) properly labeled for transport?				
6. Are tank(s) properly disposed of?				
Sampling				
1. Are soil samples collected under tanks, piping and dispensers for removals and closures in place?				
2. If groundwater is encountered, are soil samples collected from the soil/water interface?				
3. Are all samples properly collect, labeled, stored, and transported according to lab instructions?				

NOTE — ATTACH SITE PLAN (PAGE 2) SHOWING WHAT WAS REMOVED, CLOSED IN-PLACE OR LEFT IN-PLACE; AND LOCATIONS OF SOIL SAMPLE COLLECTION.

Additional Comments:_____

Licensed Remover's Signature:_____ Date:_____

Inspector's Signature:_____ Date:_____

WITHIN 30 DAYS OF CLOSURE, SUBMIT COPIES OF CHECKLIST, CLOSURE FORMS, SIGNED PERMIT AND SOIL SAMPLE RESULTS TO: MT DEPARTMENT OF ENVIRONMENTAL QUALITY, WUTMB/UST, PO BOX 200901, HELENA, MT 59620-0901.

Department — Original; Owner — Yellow Copy; Inspector/IR — Pink Copy

MONTANA DEPT. OF ENVIRONMENTAL QUALITY (MDEQ)
SUMMARY OF UNDERGROUND STORAGE TANK SYSTEMS (UST)* CLOSURE REQUIRMENTS

Pursuant to November 1989 Administrative rules of Montana (ARM)
ARM 17.56.701 through 17.56.705, and 17.56.1222 through 17.56.1233

*UST definition includes underground piping connected to aboveground storage tanks.

TEMPORARY CLOSURE/ (i.e. Inactive) (Tank and/or underground piping empty and not being used, but permanently closed)

* Annual tank registration fees must be paid.
* Corrosion protection must be maintained.
* Release detection must continue, unless the underground storage tank (UST) system is empty.
* Inactive tanks must be emptied of product (to less than 1 inch).
* When an UST system is temporarily closed for 3 - 12 months:
  a. Empty UST system (to less than 1 inch),
  b. Leave vent lines open and functioning,
  c. Cap and secure all other lines, pumps, and ancillary equipment.
* Close UST system permanently if temporarily closed more than 12 months and corrosion protection system is not providing adequate levels of protection.

PERMANENT CLOSURE (UST system has been properly removed or closed in-place - *A closure* permit and site assessment is required for all UST closures)

* Apply for a permit from DEQ at least 30 days before scheduling closure work.
* Obtain the services of a licensed installer/remover to conduct closure.
* Notify local fire department and obtain approval for proper closure safety techniques, including inerting or purging the tank. Licensee must obtain all applicable local permits.
* After permit is issued, cleaning and/or closure procedures must follow requirement of references in ARM 17.56.702, and all special permit conditions.
* Tank and all piping (including vent lines) must be removed from the ground; all related appurtenances not to be used further must also be removed. **DEQ will accept closure in-place ONLY if adequate justification is provided (by an engineer, architect, etc.) showing that removal would compromise the load of a desirable structure. All USTs closed in-place must be opened and cleaned internally prior to being completely filled with an appropriate inert solid material (ARM 17.56.702).**

SITE ASSESSMENT

* **Soil samples must be collected as soon as possible after tank/piping removal, and in accordance with all permit conditions. Each UST closure permit will specify the appropriate and required sampling parameters. Sampling parameters must be followed during the removal project. If closure permit sampling parameters are not followed, the department will require resampling of the tank/pipe excavation.**
* Collect soil samples at least 1 to 2 feet below the tank, piping and dispensers.
* For each tank over 600 gallons, collect at least 2 soil samples, one from beneath each end of the tank or at suspected worst-case locations.
* For each tank 600 gallons or less, a minimum of one soil sample must be collected beneath the center of the tank.
* For piping removals, collect soil samples below piping at fittings but not to exceed 20 foot intervals. Up to 5 pipe trench samples may be blended into one composite sample for analysis if authorized by DEQ. Soils that exhibit petroleum staining or odor must not be composited (combined) with other soil samples. In the case of evident petroleum staining or odor, collect a discreet soil sample and note the sample location on the site map to be provided to DEQ.

* Collect one soil sample 1-2 feet below each dispenser not located directly over the tank. Dispenser samples from common islands may be blended into one composite sample for analysis if authorized by DEQ.
* For in-place closures, soil samples must be collected below or adjacent to tank and piping, 1-2 feet below the bottom of the tank or piping, using borings or excavations.
* If contaminated soil is removed from the excavation site, at least one composite sample of contaminated soil must be collected for analysis.
* If groundwater is encountered in the excavation, collect soil samples from the soil/water interface. If a sheen or free product is visible on the water, contact DEQ immediately.
* Field hydrocarbon vapor analyzers may be used as screening tools; however, only laboratory analysis of samples will be accepted by DEQ to confirm the absence of contamination.
* If contamination is discovered, the owner/operator must begin corrective action in accordance with ARM Sub-Chapters 5 and 6, and report the release to DEQ within 24 hours at (406) 444-1420 or 1-800-457-0568.

SPECIAL REQUIREMENTS: The location where soil sampling occurred must be collected and definitively identified. All **SOIL SAMPLES** must be collected directly into laboratory approved jars and immediately refrigerated, or preserved with methanol. If not methanol preserved, the samples must remain under refrigeration until the sample is received by the laboratory. Soil samples must completely fill the sample container, eliminating all air space and voids. Generally, soil samples must be received by the laboratory within seven (7) days of the collection date, or they will be presumed void and resampling will be required. Soil samples that are collected or handled improperly, or that arrive at a laboratory without refrigeration or preservative, excessive headspace (air-space) or voids, or in improper containers, will be presumed void and resampling of the tank/pipe excavation will be required. All **WATER SAMPLES** for volatile constituents must be collected directly into 40 ml VOA vials in such a manner that no air bubbles remain. Aqueous VPH sampling requires three 40 ml vials for each sampling area. All water samples must be immediately preserved by chemical means as directed by the department and extracted within 14 days of the collection date. Water samples improperly handled will be presumed void and resampling will be required. **Individuals conducting underground storage tank assessments for the department are required to follow the sampling protocols outlined in the tables below (Soil Samples & Aqueous Samples). The tables outline the appropriate sampling and preservation protocol for each method specified.**

–**SOIL SAMPLES**- VPH/EPH Sampling and Preservation Protocol

Parameter	**Analytical Method**	**Sample Container/Preservation**	**Holding Time**
VPH	Massachusetts Method VPH	For samples **not methanol - preserved:** 1 – 4 oz. glass jar, cool to 4 degrees C **Or** Preweighed jar or vials **with methanol** preservation plus 1 – 4 oz. glass jar without methanol used for moisture analysis, cool to 4 degrees C	7 days to lab preservation and extraction 28 days from extraction
EPH Screen	Massachusetts Method EPH	1 – 4 oz glass jar, cool to 4 degree C	7 days to lab preservation/extraction
EPH Fractionation	Massachusetts Method EPH	1 – 4 oz glass jar, cool to 4 degree C	7 days to lab preservation/extraction
RCRA Metals	Method SW 3050 A	50 gram plastic or glass jar, no preservation	6 months

There are two DEQ approved methods for collecting **soil samples** for VPH analysis: with methanol preservation and without methanol preservation. At this time, DEQ is not routinely requiring that soil samples be methanol-preserved in the field. The VPH Method includes field methanol preservation as a suitable option. This requires a total of three containers for each sample: two 40-ml glass vials containing preweighed amounts of methanol and one four-ounce jar for a moisture analysis. For samples that are not methanol preserved in the field, to ensure that significant loss of volatiles does not occur, the samples must be placed on ice immediately upon collection and methanol-preserved by a laboratory within seven (7) days of sampling. Soil samples collected for EPH analysis must be placed on ice immediately upon collection to ensure that significant loss of contaminants does not occur; the samples must be placed on ice immediately upon collection and methanol preserved and extracted by a laboratory within seven (7) days of sampling.

–**AQUEOUS SAMPLES**- VPH/EPH Sampling and Preservation Protocol

Parameter	**Analytical Method**	**Sample Container/Preservation**	**Holding Time**
VPH	Massachusetts Method VPH	3 – 40 ml. vials, acidify with HCL to pH <2, cool to 4 degree C.	14 days to analysis
EPH Screen	Massachusetts Method EPH	2 – 1 liter amber glass bottles, acidify with H2SO4 to pH<2, cool to 4 degrees C.	14 days to extraction
EPH	Massachusetts Method EPH	2 – 1 liter amber glass bottles, acidify with H2SO4 or HCl, cool to 4 degrees C.	14 days to extraction

For **aqueous** sample preservation, the VPH method recommends the use of three (3) 40 milliliter vials. The samples are to be preserved by adding hydrochloric acid (HCl) and reducing the pH to 2 or less. Then the samples must be placed on ice immediately. Chilled, preserved samples must be analyzed by a laboratory within 14 days of sampling. The EPH Method recommends 5 milliliters of 1:1 HCl, or Sulfuric acid (H2SO4), as a preservative. EPH samples must be placed on ice immediately after sampling and preservation. The samples must be extracted by a laboratory within 14 days.