

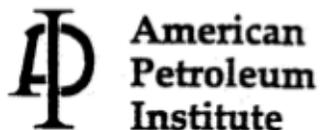
# **Bulk Liquid Stock Control At Retail Outlets**

**Manufacturing, Distribution and Marketing Department**

API RECOMMENDED PRACTICE 1621  
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## APPENDIX D-WATER-GAUGING PROCEDURE

### D.1 Checking for Water

A water-finding paste, which is unaffected by gasoline but will change color in water, is used to check for water at the bottom of storage tanks. Information on satisfactory paste may be obtained from the supplier. It is used as follows:

- a. Coat the end of a gauge stick on the graduated side with a light, even film of the paste for approximately 3 inches.
- b. Slowly insert the stick through the gauge hole until the stick reaches the bottom of the tank. Be sure that the stick is kept in a vertical position and that it does not rest on an obstruction or other projection on the tank bottom. Wait 1 to 2 seconds and slowly remove the stick.
- c. Withdraw the stick and read the water cut (as noted by the change in the color of the paste) on the graduated scale to the nearest 1/8 inch.
- d. If the test shows 1 inch (or more) of water, make arrangements for the water's immediate removal and notify the product supplier. If the test shows water levels of 2 inches or more, the product should not be delivered until the water has been removed.
- e. Refer to Appendix C for information on converting the gauge readings from inches to gallons of water. This conversion is required for proper inventory reconciliation.

For a more accurate measurement, API recommends an average of two gauge readings that fall within 1/4 inch of each other. (See C.2).

Note: Occasionally, a submerged and/or suction pump will deliver water with the product, but no water will show when the tank is checked. This usually indicates that the tank is not level and the water has accumulated at the low end away from the gauge well. Similarly, a suction pump may dispense water with the product when there is an underground suction line leak and a high water table. Such a condition must be checked and corrected immediately. Some long tanks are equipped with a gauge well at each end and water may be found only under the lower end. A tank equipped with only a center gauge well may not show accumulated water if the tank is not level.

### D.2 Acceptable Procedures For Removal of Water Accumulation

When water in the tank exceeds 1 inch, it should be removed. Removal may be accomplished with a low volume pump, using a length of 1-inch steel pipe inserted in the fill riser or gauge riser, whichever is at the lowest end of the tank. A small, hand operated rotary pump, air operated pump, or explosion-proof electric pump works well. The bottom of the suction pipe should be cut off square with a notch as shown in Figure D-1. Note: Prior to performing these procedures, the authority having jurisdiction should be consulted concerning regulations pertaining to emission control and disposal and handling of the liquids generated.

If desired, the following procedures may be considered:

**D.2.1** The water may be pumped from the tank to an approved container for transport to a recycling facility or an approved disposal site. The authority having jurisdiction should be consulted. In addition, refer to the EPA

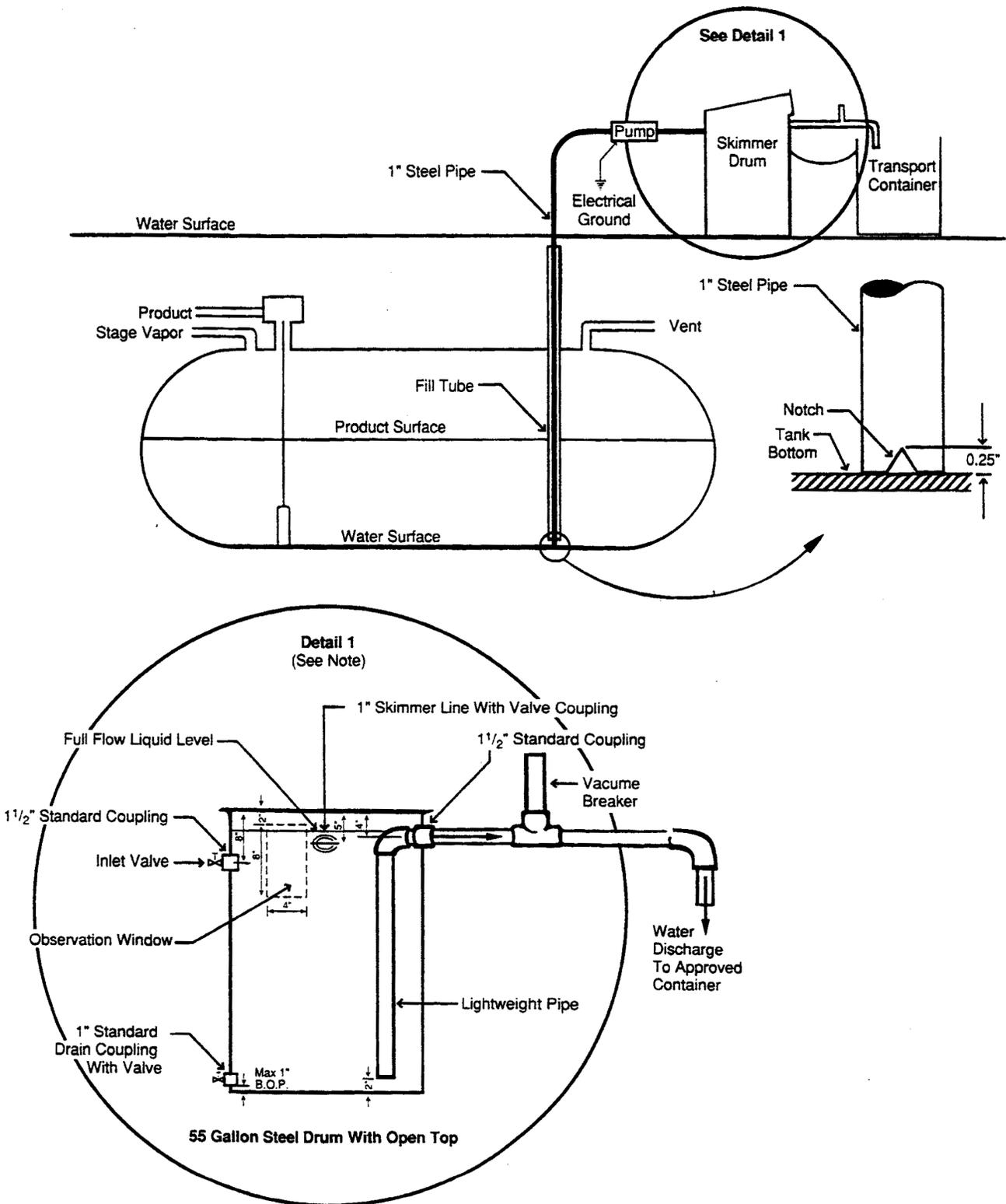
declaratory ruling concerning recycling of gasoline water mixtures. Note: In a letter dated March 19, 1986, the U.S. EPA Office of Solid Waste, in response to a petition for a declaratory ruling and advisory opinion concerning 40 Code of Federal Regulations Part 261.33 (c); recycling of gasoline/water mixtures, writes, "gasoline/water mixture is considered a mixture which contains a commercial chemical product (CCP). CCPs that are reclaimed are not considered 'solid wastes' (i.e., it's not 'discarded' because it's normally a fuel and not being abandoned). Since hazardous waste is a subset of solid waste, this mixture is not defined as a hazardous waste (i.e., it must be a solid waste before it can be a hazardous waste). . . . Since the fuel oil-water mixture is not a solid and hazardous waste, this mixture is not subject to Federal regulation under the Resource Conservation and Recovery Act. This mixture may still be subject to state law and to the transportation rules promulgated by the Department of Transportation."

**WARNING:** Prior to starting the water removal process, electrical continuity must be provided between the pump, tank, and container in addition to a positive ground to ensure dissipation of potential static electric charges.

**D.2.2** The water may be pumped from the tank, with the suction pipe at the bottom of the tank, into a 55 gallon steel drum. The drum can be converted for use as an oil skimmer as indicated in Figure D-1. The following procedures may be used when using the oil skimmer as detailed in Figure D-1:

- a. Connect the water removal pump discharge hose to the inlet connection on the 55 gallon skimmer drum.
- b. Fill the skimmer with water prior to starting the water removal process.
- c. Prior to starting the water removal process, electrical continuity must be provided between the pump, tank, and drum, in addition to a positive ground (refer to NFPA 77)
- d. Connect water discharge to a state or federally approved container that will be used to haul the contaminated water to an authorized recycling location or disposal site. Refer to federal, state and local regulations.
- e. Start pumping the water from the tank. Adjust the inlet valve for a maximum pump flow rate of 5 gallons per minute. Reduce the flow if necessary to avoid overflowing the drum and to obtain better oil/water separation.
- f. During the pumping operations, separated gasoline in the skimmer drum should not be allowed to exceed 2 inches in depth. Skim the gasoline into an approved container for return to the underground storage tank. Note that the container must be electrically grounded as identified in Item c. above. The skimmer drum may be equipped with a 1 inch skimming line and valve placed through the side of the drum wall at 5 inches (center line of the 1-inch pipe) below the top of the drum (see Figure D-1).
- g. Upon completion of the water removal operation, all product should be skimmed off the surface of the skimmer drum into an approved container and returned to the underground storage tank. The water phase in the drum should be transferred to an approved container for hauling to a recycling facility or to an approved disposal site. Check with the authority having jurisdiction for regulations pertaining to the removal, disposal and designation of a recyclable product. Again, refer to the EPA declaratory ruling concerning recycling of gasoline-water mixtures.

**CAUTION:** An open-top drum is recommended to observe operation and facilitate skimming. The drum top should be in place during normal pumping operations since flammable liquid/vapor may be on the surface of the separator drum. Therefore, ensure that all safety precautions are taken when performing this operation.



Note: Quick disconnects may be installed at all external pipe/hose connections

Figure D-1—Water Removal Procedure Using an Oil Skimmer