|  |  |
| --- | --- |
| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | UST containment sump integrity testing formUnderground Storage Tanks (UST) ProgramDoc Type: Compliance Certification |

Instructions on page 2

Purpose:This procedure is to test the leak integrity of containment sumps. See reverse side for baisic hydrostatic testing instructions. Consult PEI/RP1200, Section 6.5 for the test method.

## Facility information

|  |  |
| --- | --- |
| Facility name: |       |
| Facility address: |       | Facility ID#: |       |
| City: |       | State: |       | Zip code: |       |
| Owner name: |       |
| Mailing address: |       |
| City: |       | State: |       | Zip code: |       |
| Phone: |       | Fax: |       | Email: |       |

## Testing information

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Containment sump tank ID |       |       |       |       |       |       |
| 2. Containment sump material |       |       |       |       |       |       |
| 3. Liquid and debris removed from sump?\* | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No | [ ]  Yes [ ]  No |
| 4. Visual inspection (No cracks, loose parts or separation of the bucket from the fill pipe.)? | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail |
| 5. Containment sump depth |       |       |       |       |       |       |
| 6. Height from bottom to top of highest penetration |       |       |       |       |       |       |
| 7. Starting water level |       |       |       |       |       |       |
| 8. Test start time |       |       |       |       |       |       |
| 9. Ending water level |       |       |       |       |       |       |
| 10. Test end time |       |       |       |       |       |       |
| 11. Test period (minimum test time: 1 hour) |       |       |       |       |       |       |
| 12. Water level change |       |       |       |       |       |       |
| **Test results:** | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail | [ ]  Pass [ ]  Fail |

*Pass/fail criteria: Must pass visual inspection. Water level drop of less than 1/8 inch.*

|  |
| --- |
| **Comments:** |

\* All liquids and debris must be disposed of properly.

|  |  |  |  |
| --- | --- | --- | --- |
| Testing company name: |       | Tester’s name: |       |
| Date (mm/dd/yyyy): |       | Tester’s signature: |  |

UST containment sump integrity testing - Instructions

**General**: Containment sumps for tank systems are neither intended nor designed for the storage of petroleum products, but rather to contain small leaks and spills for short periods of time. This section describes the procedures used to test the integrity of containment sumps to ensure that they do not leak.

**Caution**: Gaining access to the containment sump requires removing the lid, cover or dispenser panel that is in place to protect the equipment in the sump. These components can be heavy. They may require special handling and more than one person to remove them. Use caution when moving and replacing them when testing is complete. During the test, put the covers and panels in a safe location where they are secure and isolated from vehicle and customer traffic.

**Warning**: Do not use fuels such as gasoline, E85 or diesel as a test fluid because they present a serious fire and safety hazard. Gasoline vapors are flammable and can explode if exposed to an ignition source such as a spark or open flame. If a tank or containment area is not tight, using fuel as the test fluid will cause a release into the soil or groundwater.

**General**: Containment sumps are liquidtight structures designed to temporarily contain leaks or spills. In addition, containment sumps often serve as the leak detection monitoring location for double-walled piping systems. Leakage from the primary piping typically flows by gravity inside the secondary piping to the sump, where it can be easily observed or detected by a sensor.

**Purpose**: This section describes the preparation and procedures to test the integrity of containment sumps to ensure that they do not leak.

**Description of test**: The containment sump is filled to the proper level with water. The water level is measured at the beginning and end of the test.

**Test equipment shall include**:

* Water
* Measuring stick that is accurate to within 1/16 (0.063) inch and of sufficient length
* Stopwatch or other time-measurement device capable of measuring a one-second increment

**Preparation**:

1. Care should be taken when conducting the test in the rain or during freezing weather conditions.

2. Remove and properly dispose of any liquid and debris (leaves, sediment and trash) in the containment sump.

3. Inspect the containment sump for damage. Examine all penetration fittings, conduits, junction boxes, caps and risers (if present), and sidewall seams for defects, damage or improperly installed components. If there are loose components (e.g., loose penetration fitting clamps or missing interstitial space caps), have these items corrected before performing the integrity test. If there are items that must be repaired or replaced (e.g., deteriorated penetration fitting boots), notify the owner/operator.

4. Test boots or secondary piping termination fittings must be present on the piping penetrating the sump. During testing, these fittings prevent water from entering the interstitial space of double-walled piping. Without these fittings, the integrity of the sump cannot be tested using this method.

5. If interstitial monitoring sensors are present within the containment sumps, temporarily remove them before conducting the test. If the sensor is removed, reposition after testing to appropriate position according to the manufacturer’s instructions.

6. If the containment sump is found to have cracks, loose parts or separation of any joints or penetration fittings, it is not considered to be liquidtight. This visually indicates a test failure.

**Caution**: Water can damage electrical connections. Ensure that there are no components that can be damaged by the addition of water to the sump. If such components are present, take appropriate precautions when performing the test or use an alternative test method.

**Test procedure**:

1. Begin the test by adding water to the sump to a minimum of six inches above the highest joint or penetration fitting, whichever is higher. To compensate for sump deflection, the water must be allowed to settle a minimum of 15 minutes before taking the initial test measurements. If the highest joint or penetration is less than six inches from the top of the sump, add water to within one inch of the top of the sump.

2. Place the measuring stick vertically at the lowest point in the sump and extending above the water level in the sump to allow for an accurate measurement to be taken. The location of the measuring stick must remain the same for each water level measurement. Document the initial water level measurement as measured from the bottom of the sump. Alternative measurement methods may be used provided that the measurement to 1/16 (0.063) inch can be made.

3. Take all precautions to prevent the water level from being disturbed during the duration of the test.

4. After one hour, document the ending water level measurement.

5. Upon completion of the test:

* remove all water and properly dispose of it
* reinstall any interstitial monitoring sensors in their proper positions
* return the test boots or secondary fittings to their pre-test operating configurations
* inspect and reinstall all containment-sump lids, gaskets and covers

**Note**: Completion of the test provides an opportunity to confirm the functionality of any interstitial monitoring sensors.

**Pass/Fail criteria**: If the water level changes less than 1/8 (0.125) inch, the containment sump passes the integrity test. If the water level changes 1/8 (0.125) inch or greater, the containment sump fails the integrity test.

**Proper disposal of test liquids:** Test liquids must be disposed of properly.