

Leachate Sampling Check Lists (11-6-14)

The following check lists are step by step procedures for taking the best leachate sample that will characterize the MSW stabilization process occurring in a landfill unit (active or closed) or in a closed landfill. Other helpful references for a successful leachate sampling effort include:

Related References Available on the BWM Website: http://www.kdheks.gov/waste/p_pcc.html

1. **Preparation of Postclosure Care Reduction and/or Termination Plans**, Technical Guidance Document SW-2014-P2 (5-2-14).
2. **Leachate Sampling Plan for Reduction and/or Termination of Postclosure Care**, Technical Guidance Document SW-2013-G3 (5-2-14).
3. **Recommended List of Leachate Parameters for Post Closure (PCC) Care Terminations** (3-27-12).
4. **Training Primer for Sampling of MSWLF Emissions for the Determination of Postclosure Care Reduction/Termination Plan** (4-1-14).

Check Lists

Leachate Sampling of Gravity Discharge (Active or Closed Units) – See attached Diagram No. 1 with description.

1. Follow the approved **Leachate Sampling Plan** (Reference 2) given in the **Postclosure Care Reduction and/or Termination Plan** (see above Reference 1).
2. Review the leachate sampling principles given in Reference 4.
3. Collect the leachate samples needed to perform the specific analyzes given in the **Leachate Sampling Plan** (Reference 2) and discussed in Reference 3. Specific steps for leachate sampling at the leachate discharge point into the collection/storage/disposal facilities are as follows:
 - a. Flush sample collection device.
 - b. Collect needed sample(s) in labeled containers. Fill to top; but, don't overfill containers so that any preservative is lost.
 - c. Measure and record temperature of leachate and ambient air as well as other field parameters of interest.
 - d. Store sample(s) for transportation to lab.
 - e. Send/take sample(s) to lab for required analyses.
 - f. Evaluate lab results by comparing with each other and previously collected results. If the results do not make sense, then determine what factor(s) could have affected the results. If necessary, collect other samples to eliminate the causative factor(s).

Leachate Sampling of Sump Pump Discharge (Active or Closed Units) – See attached Diagram No. 1 with description and the previous **Steps 1 to 3** with the following specific steps:

1. Determine the approximate cycle time of the sump pump, i.e., the time interval between the upper and lower set points. This value should be fairly consistent for a covered closed unit with an impervious cover; however, if the cover is pervious, then antecedent precipitation can affect leachate production and the pump times can vary more. If the unit is active w/wo leachate recirculation and/or RD&D liquid addition is practices, than these can affect leachate production and pump cycle time.
2. Considering the information in **Step 1** for each unit, determine the best time to take the leachate sample which is when the leachate level is nearing its lower set point. Do not allow the pump to empty the sump since this can damage the pump.

- Follow the previous **Steps 3a to 3f** at the point where the leachate is discharged into a wetwell/storage basin/off-site location.

Leachate Sampling of Combined Gravity or Sump Pump Discharge (Closed Units with Active Unit or Closed Landfill) –See Diagram No. 2 and follow the above procedures according to the type of leachate removal system in place.

Leachate Generation and Flow in Landfill Unit

It is recognized that the generation and flow of leachate in the MSW mass is not uniform since a major source of moisture in the mass is precipitation which is intermittent in frequency, intensity and distribution. Also, there are the affects of physical barriers within the landfill unit, e.g., intermediate covers and/or compressed impermeable MSW, which can hinder/prevent leachate flow and/or create temporary or permanent leachate lens/pools. The bottom line is that leachate flow should be characterized using flow measurement devises; preferably for each landfill unit.

Leachate and Landfill Gas Sampling

The reference **Landfill Gas Sampling Plan for Reduction and/or Termination of Postclosure Care**, Technical Guidance Document SW-2013-G2, suggests that LFG samples be taken at the wellhead when leachate samples are being taken in order to better correlate emission results. Another option would be to take the LFG sample from the leachate collection header after the leachate sample is taken since the gas would represent LFG released from the leachate in the header.

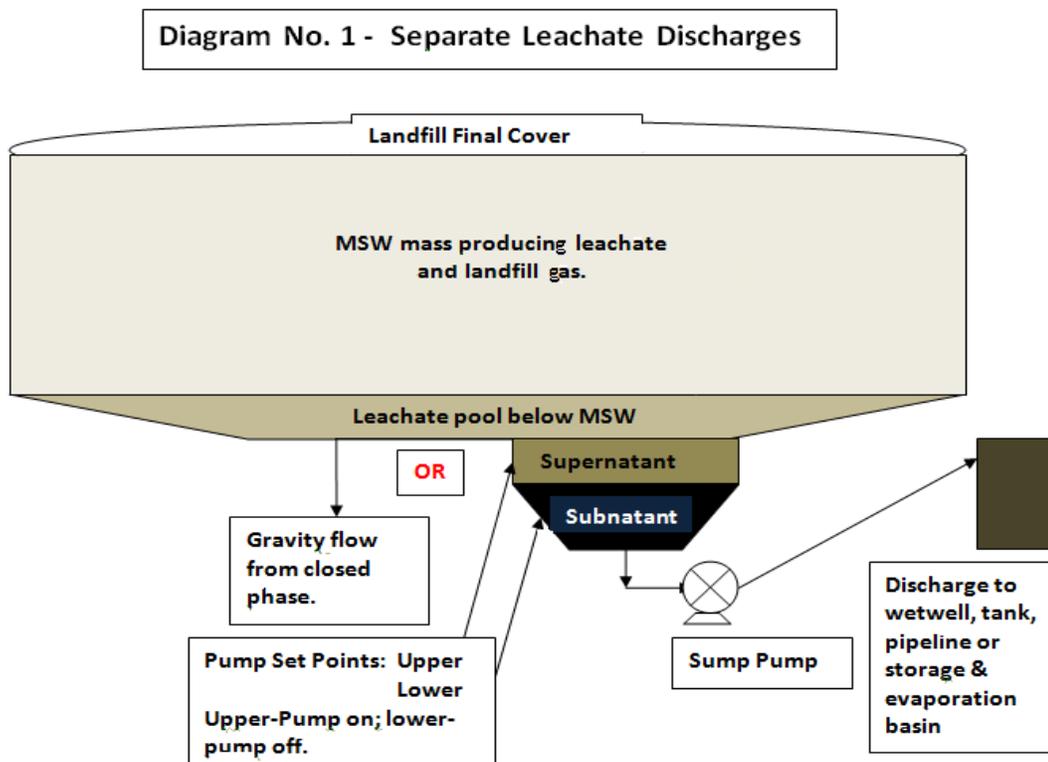


Diagram No. 2 – Common Collection System

