

SAMPLING OF COMPOST PILES

- 1. INTRODUCTION**
- 2. DISCUSSION OF SAMPLING REQUIREMENTS AND HANDS-ON EXERCISES**
- 3. REPORT WRITING**

1. INTRODUCTION

This module covers compost sampling requirements and fundamental scientific concepts associated with T14 requirements.

Objectives:

- Promote consistency with regard to interpretation and field application of this T14 regulation.
- Develop a basic understanding about alternative sampling techniques that can be used.

2. DISCUSSION OF SAMPLING REQUIREMENTS

Q1: Who must meet T14 §17868.1 metal concentration limits and pathogen reduction sampling requirements?

A1: All composting operations that sell or give away greater than 1,000 cubic yards of compost annually.

A1: (Cont...)

- An operator who composts green material, food material, or mixed solid waste shall take and analyze one composite sample for every 5,000 cubic-yards of compost produced.
- An operator who composts biosolids shall meet the sampling schedule described in Table 1 below.

Table 1
Frequencies of Sampling for
Biosolids Composting Facilities

Amount of Biosolids Compost Feedstock (metric tons per 365 day period)	Frequency
Greater than zero but annually fewer than 290	annually
Equal to or greater than 290 but fewer than 1,500	quarterly
Equal to or greater than 1,500 but fewer than 15,000	bimonthly
Equal to or greater than 15,000	monthly

T14 §17868.1 (Cont...)

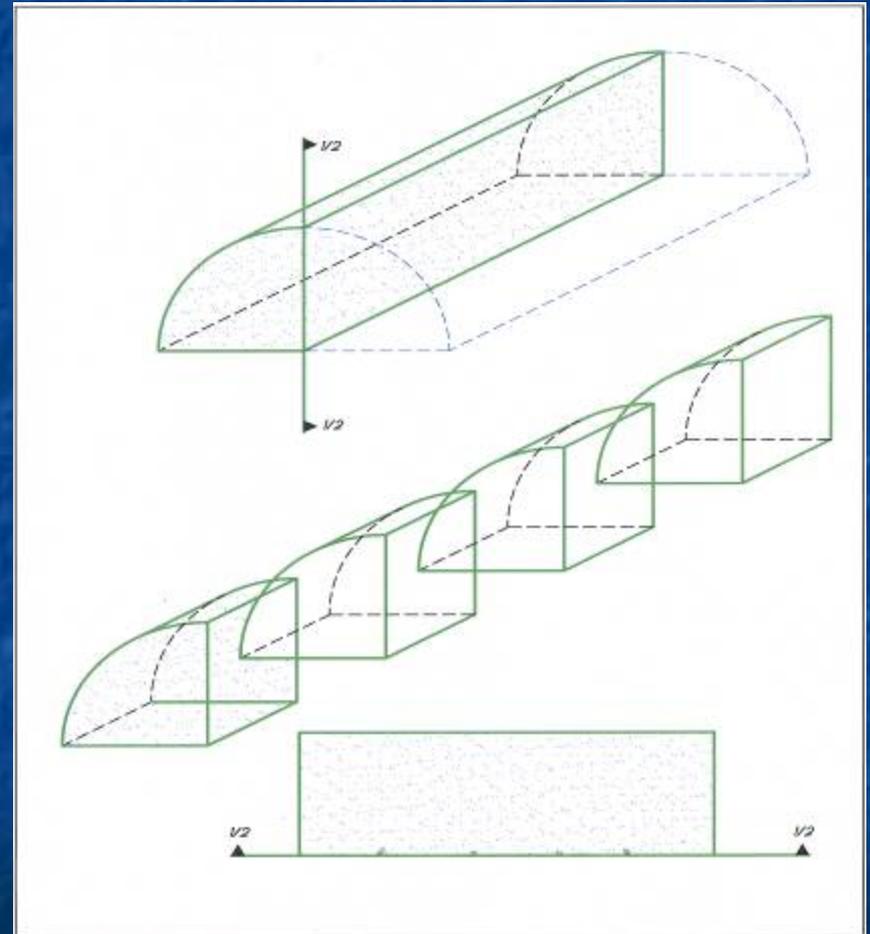
Q2: Where should composite samples be taken for maximum acceptable metal concentrations analysis, pursuant to T14 §17868.2?

A2: To a laboratory certified by the California Department of Health Services, pursuant to the Health and Safety Code.

Q3:

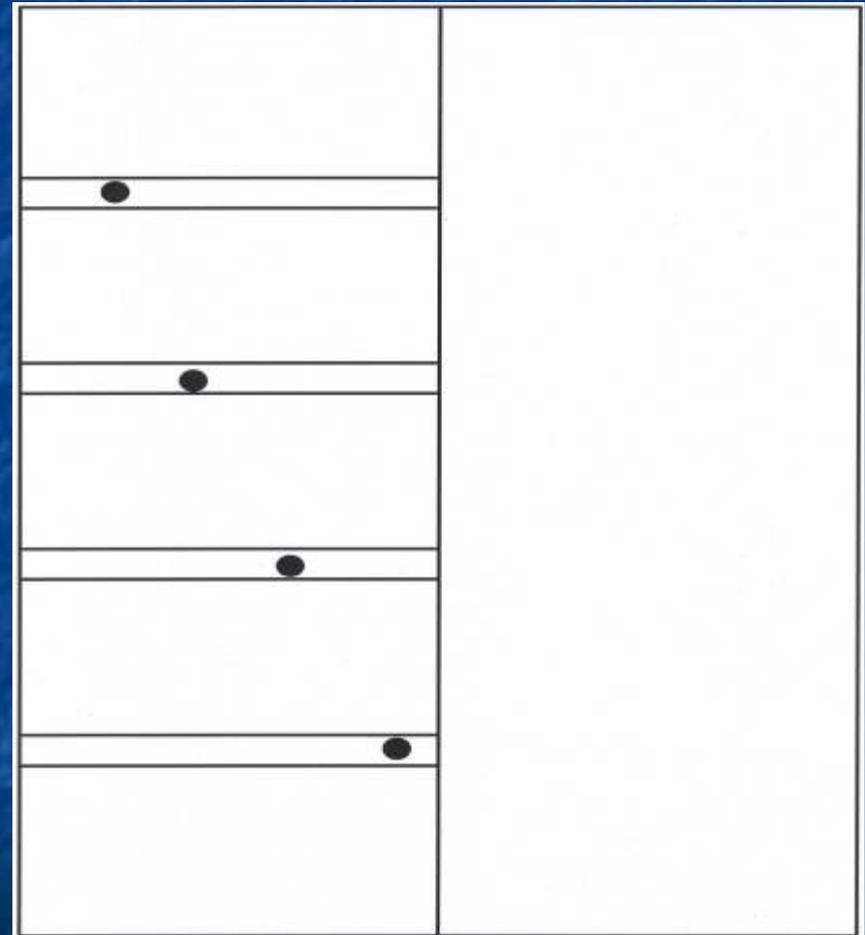
Q3: How may a composite sample be obtained pursuant to T14 §17868.1(3)(b)?

- Four samples should be extracted from one-half the width of the pile, each at a different cross-section.



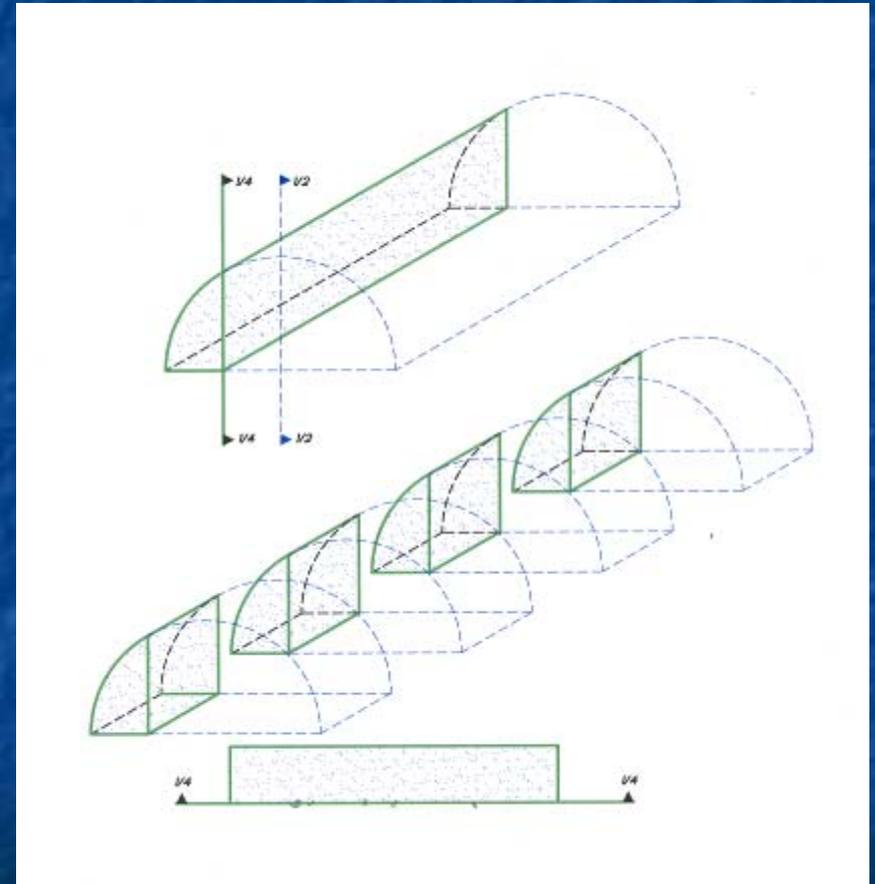
A3: Samples from one-half pile width

- Top view illustrating the extraction of four compost samples from one-half the width of a windrow. Note that each sample is collected at a different cross-section.



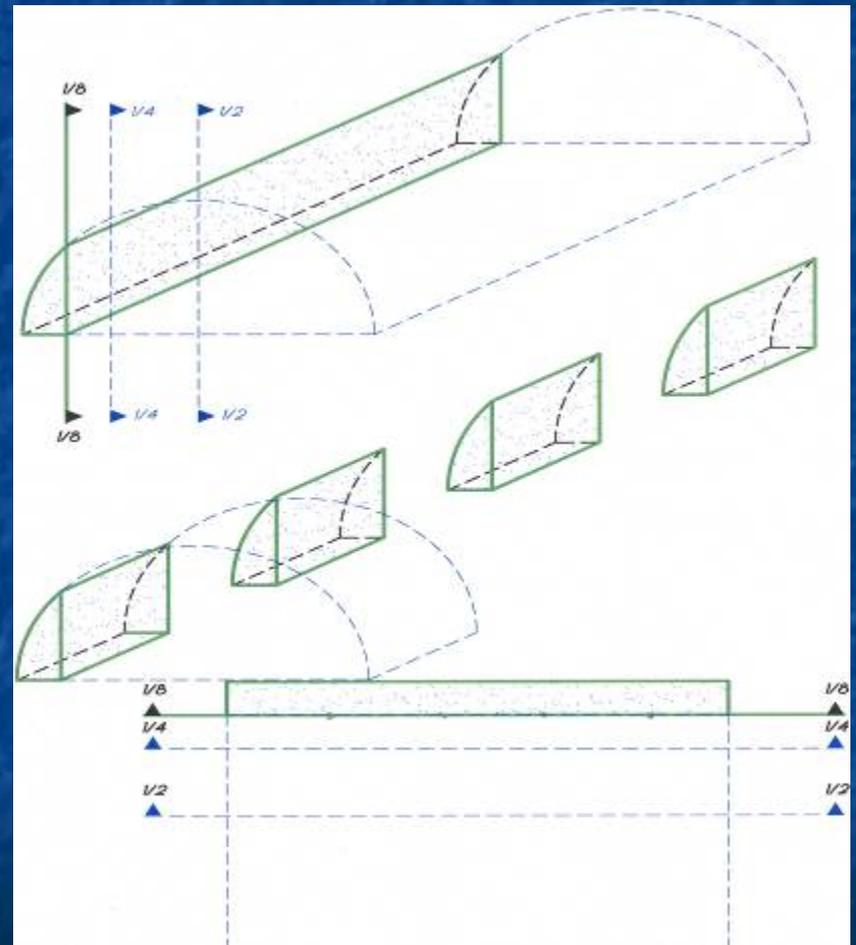
Q3: (Cont...)

- How may a composite sample be obtained pursuant to T14 §17868.1(3)(b)?
- Four samples should be extracted from one-fourth the width of the pile, each at a different cross-section.



Q3: (Cont...)

- How may a composite sample be obtained pursuant to T14 §17868.1(3)(b)?
- Four samples should be extracted from one-eighth the width of the pile, each at a different cross-section.



T14 §17868.1

Q4. Can the EA approve alternative methods of sampling for a green material composting operation or facility that ensures the maximum metal concentration requirements of T14 §17868.2 and the pathogen reduction requirements of T14 §17868.3 are met.

A: Yes.

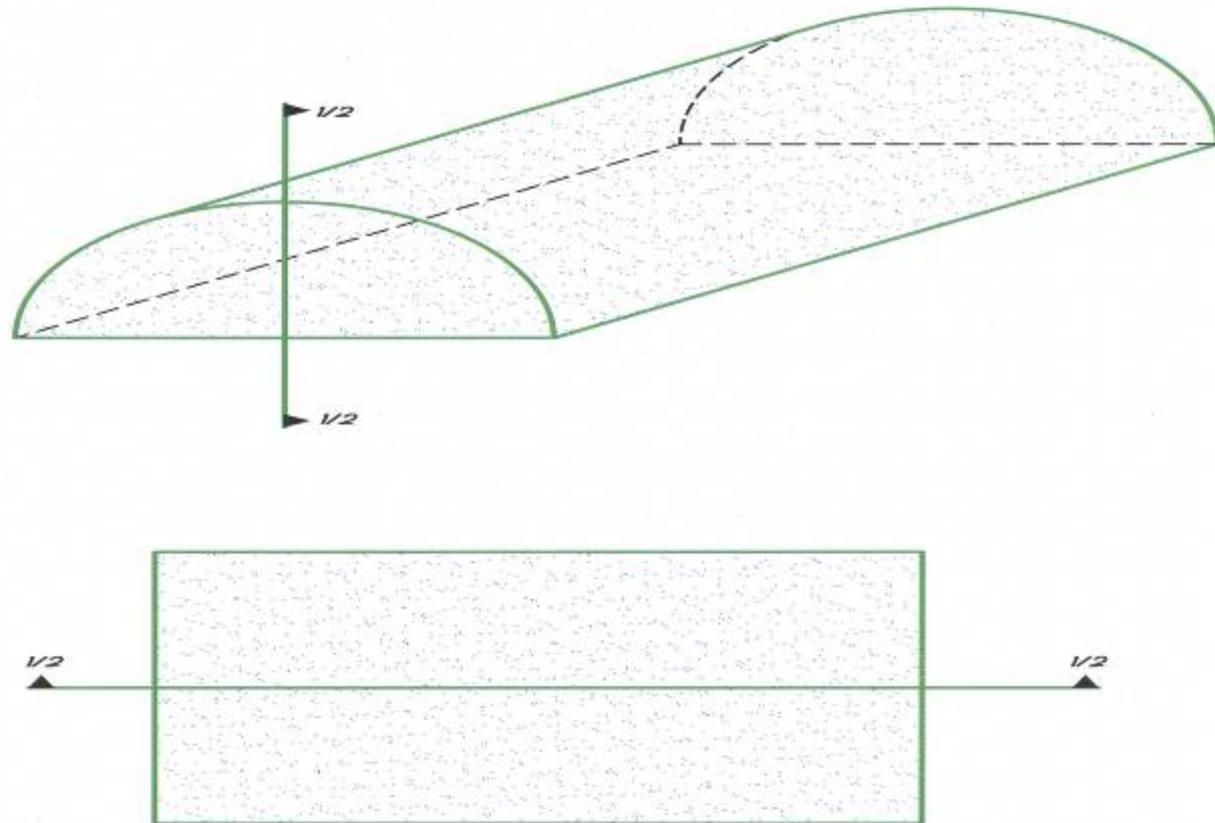
Example One



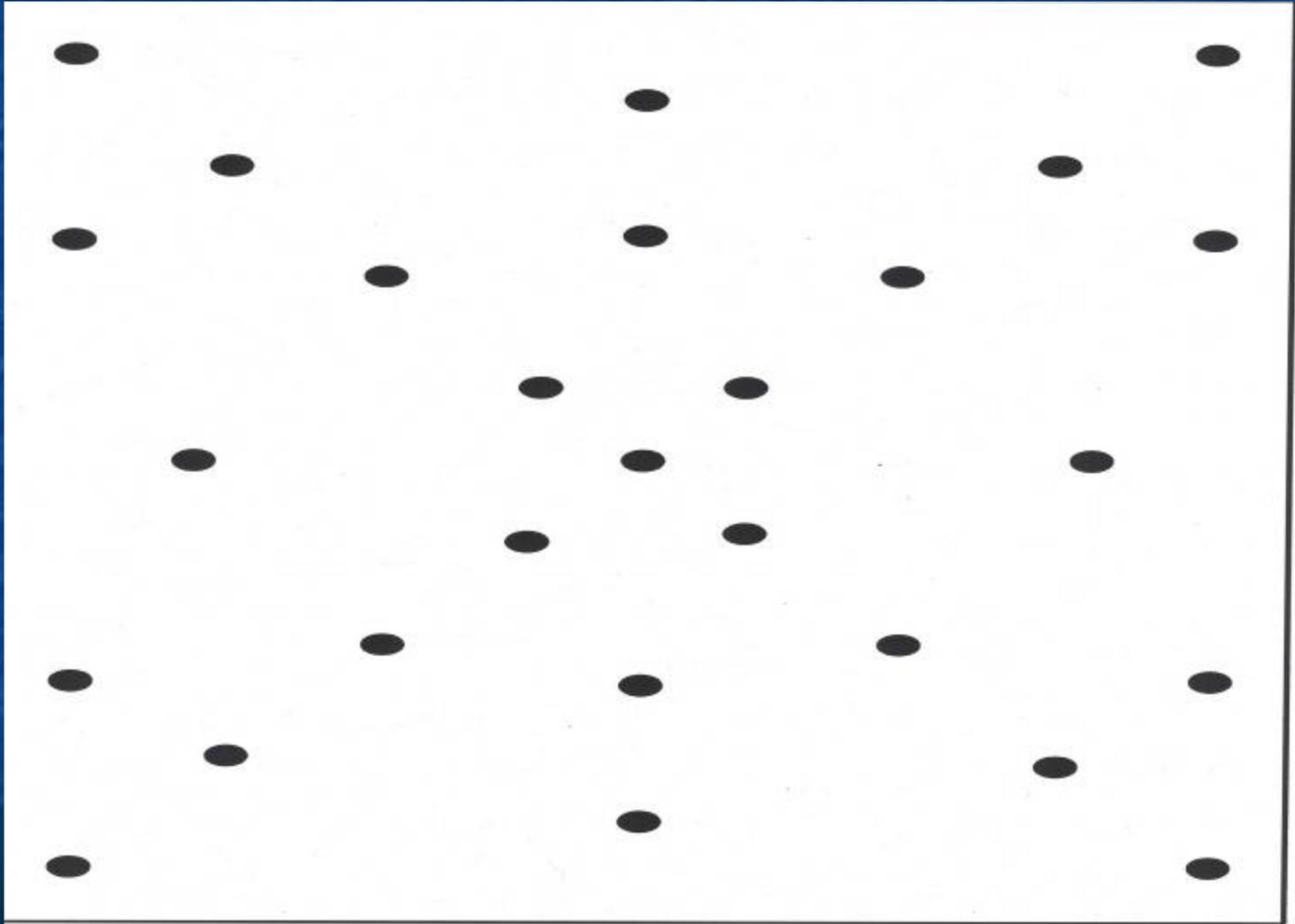
Example Two



Example Two (Cont...)



Example Two (End)



3. REPORT WRITING

- Compostable Materials
 Inspection Report (CIWMB 93)
- Documentation of findings
 - Written description
 - Supporting Documentation:
 - Diagrams and drawings
 - Maps
 - Photographs
 - Videos

Documentation of Findings

- Written description:
 - What did you see?
 - Where did you see it?
 - Can you quantify it?
 - Why is it a V or an A/C?
- Attach supporting documentation (i.e., photos, maps, drawings, or video)

INSPECTION REPORT STATEMENTS

- (V) Sampling results not available.
- (C) Records indicate time/temp. requirements are met.
- (V) I observed four samples being extracted from one-half the width of pile C-1, but they were extracted from the same cross-section. See site sketch dated 6/6/07 and digital photos attached to this inspection report.

LEACHATE CONTROL

1. INTRODUCTION
2. OBSERVATION, EVALUATION AND DISCUSSION
3. REPORT WRITING
4. BEST MANAGEMENT PRACTICES

I. INTRODUCTION

What does T14 §17867(a)(12) require for Leachate Control?

The operator shall ensure that leachate is controlled to prevent contact with the public.

What does leachate mean?

“Leachate” means liquid which has come in contact with, percolated through or condensed out of composting feedstock or compost and extracted dissolved and suspended materials; it also includes liquid that drains from the mix or fresh organic matter.

Goals

- Learn how to observe, evaluate and document leachate related conditions with regard to T14 regulations.
- Develop a basic understanding of BMPs to address compliance issues.

2. OBSERVATION AND EVALUATION

Example Three: Liquid from fresh organic matter



Example Four: Liquid from feedstock



Example Five: Liquid from compost



3. REPORT WRITING

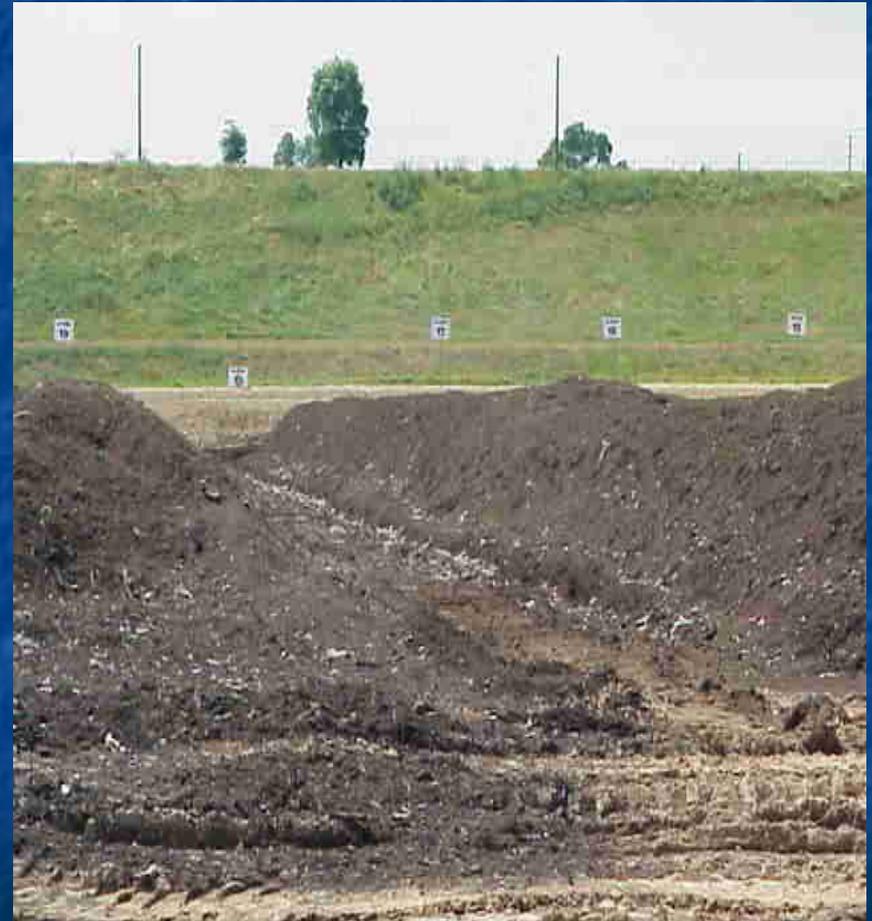
- Disposal facility inspection report (CIWMB 93)
- Documentation of findings
 - Written description
 - Supporting Documentation:
 - Diagrams and drawings
 - Maps
 - Photographs
 - Videos

Documentation of Findings

- Written description:
 - What did you see?
 - Where did you see it?
 - Can you quantify it?
 - Why is it a V or an A/C?
- Attach supporting documentation (i.e., photos, maps, drawings, or video)

4. BEST MANAGEMENT PRACTICES

- BMPs are environmental protection practices applied to compost and composting feedstock to help ensure that composting operations are conducted in an environmentally responsible manner.



Small Group Exercise (Panoramic View)



Small Group Exercise (Site History)

- Prior monthly inspection report indicates that an A/C for leachate control was issued.
- The week before the inspection did not rain.
- The site is located within a rainy area.
- The Site's daily log does not mention anything about unusually wet loads (i.e. ice cream leftovers) being accepted within the last few days.
- The neighboring land owner called the EA to complain about composting run-off entering his apple orchard.