



Overview of Yard Waste Composting And Food Waste Compost Pilot Project

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Composting

Organic Waste:
A Municipal Problem
or
Natural Resource Opportunity?



Definition of Composting

Transformation of raw organic materials into biologically-stable, humus-rich substances suitable for growing plants.



Objectives in Composting

1. Protect surface water and ground water quality.
2. Comply with federal, state and local regulations.
3. Control odors, flies, rodents and birds.
4. Destroy pathogens and weed seeds.
5. Reduce the volume of the initial mix (30–50%).



Objectives in Composting

5. Convert a significant operational expense into profits.
6. Process materials systematically to minimize cost.
7. Improve relations with neighbors and regulators.



Municipal

- Green Waste
- Food Waste
- Biosolids
- Septage
- Road Kill

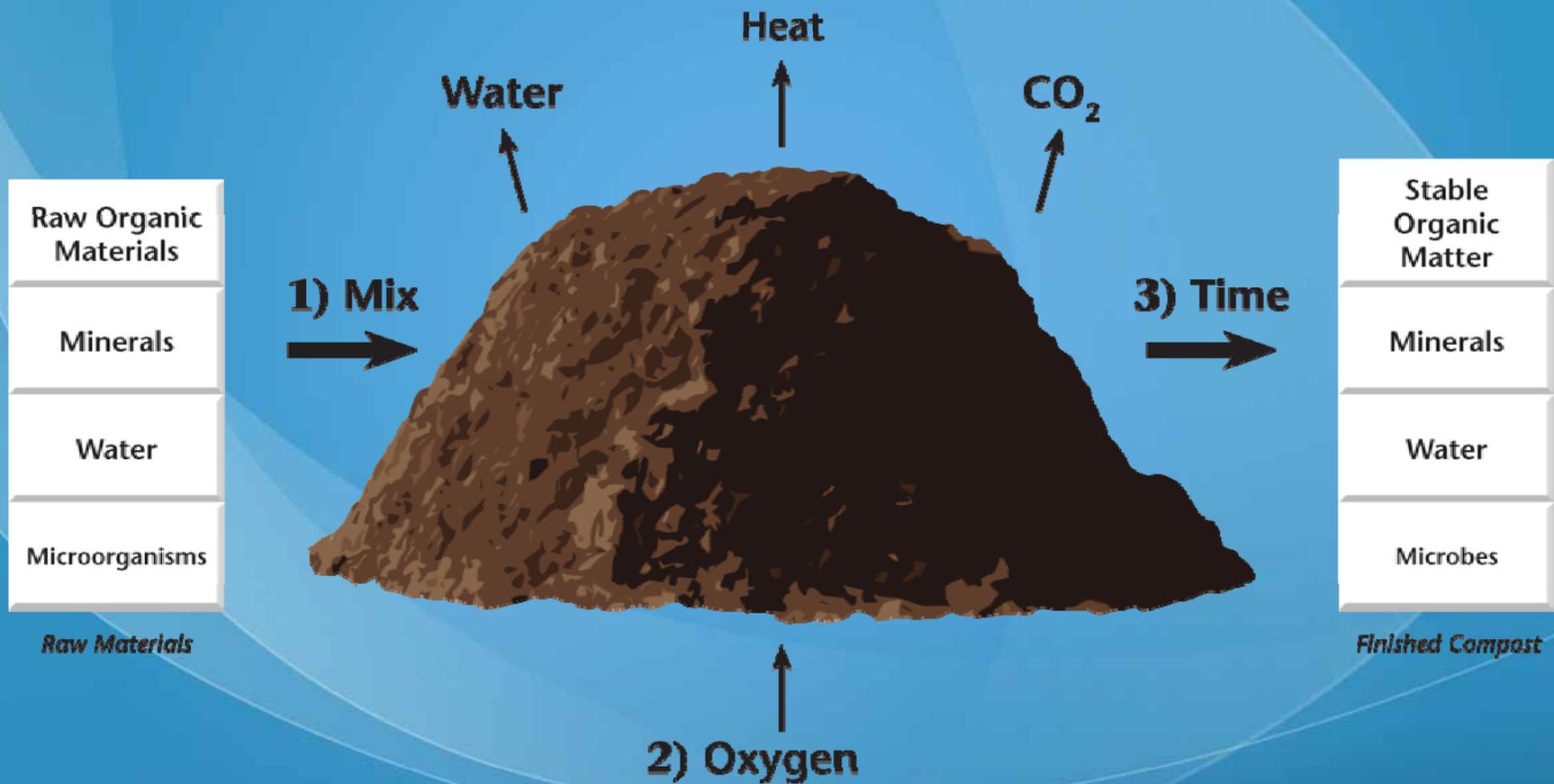


Industrial

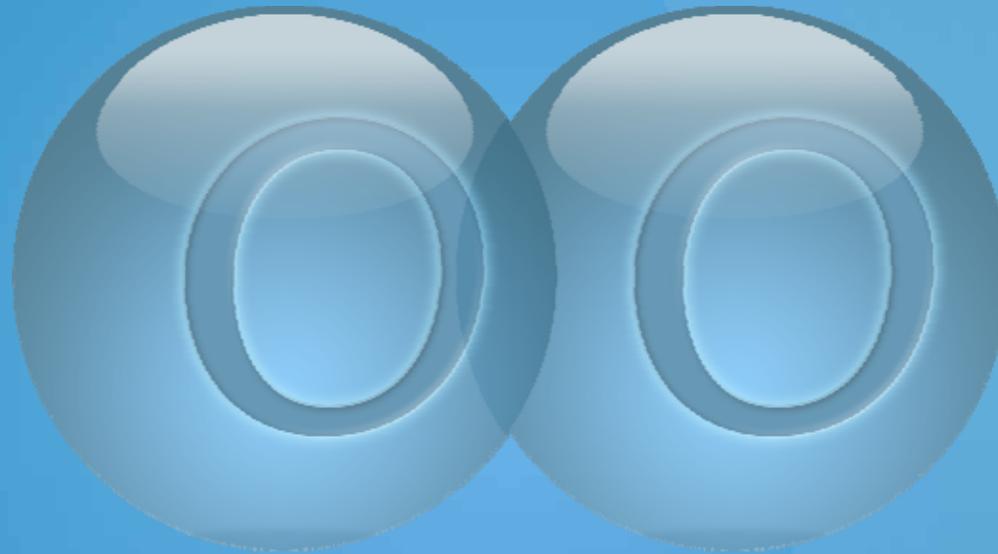
- Fruit Pomace
- Potato Waste
- Fish Waste
- Vegetable Culls
- Nursery Waste



The Composting Process



The Secret to Composting is...



Oxygen!

Will this be on the test? **Absolutely!**

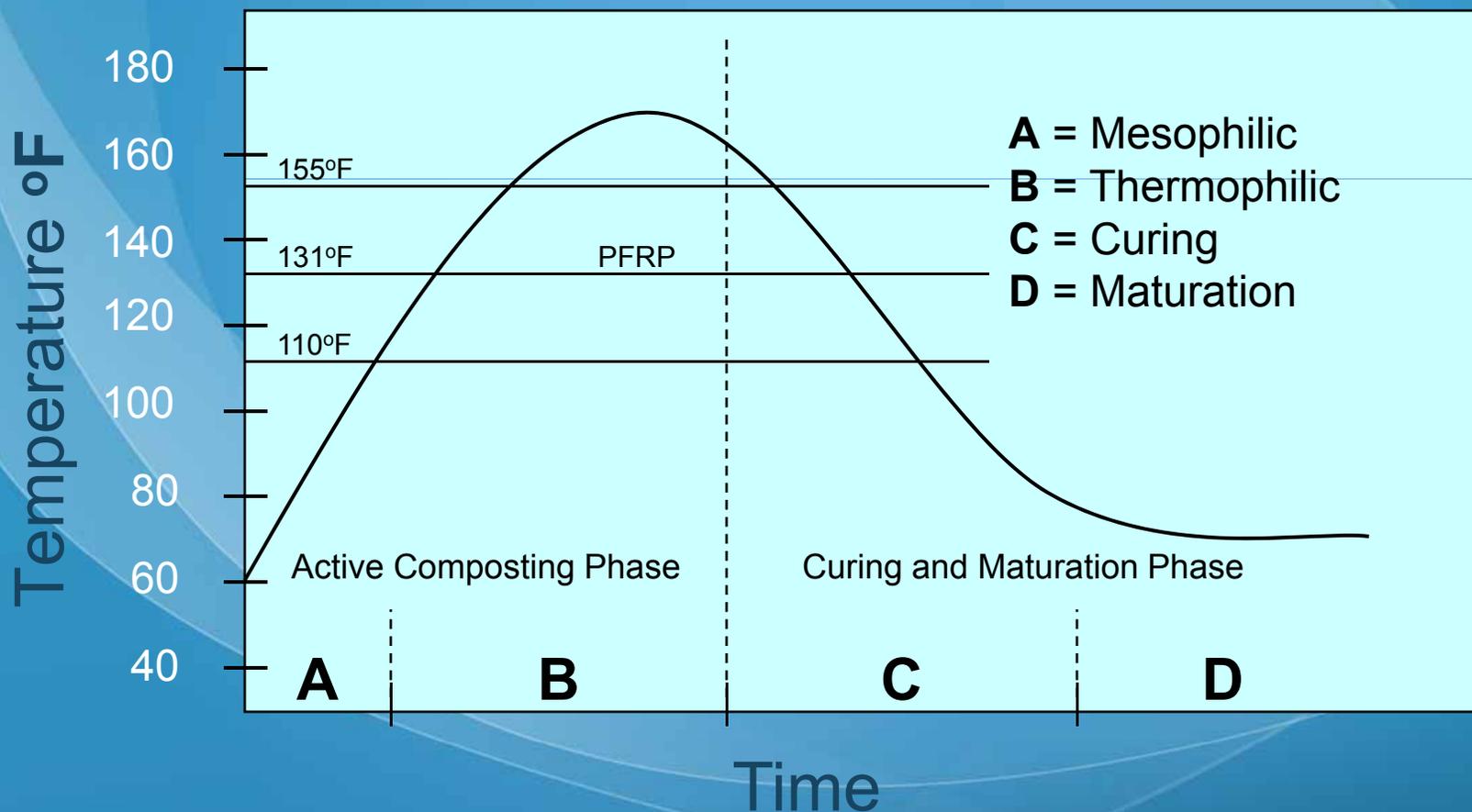
Aeration

Allows the Operator to:

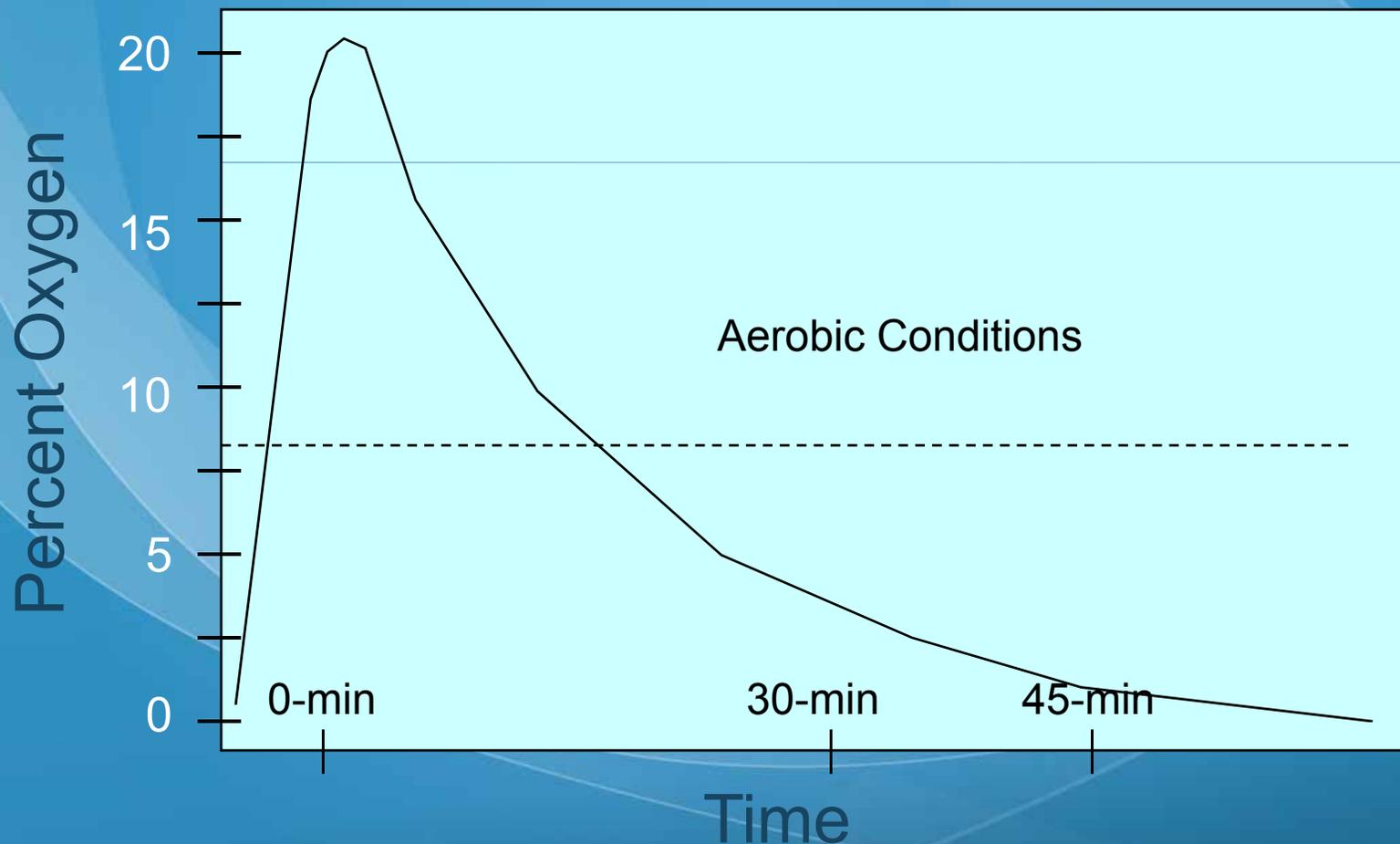
- Maintain Aerobic Conditions
- Mitigate Impacts from Objectionable Odors
- Manage Pile Temperatures
- Reduce the Loss of Nutrients
- Facilitate the Rate of Composting & Curing
- Produce Superior Compost Products



Temperature Change in a Typical Compost Pile



Oxygen Depletion in a Turned Compost Pile



Front End Loader (FEL) Turned Windrows, Large



Turned Windrow



Turned Windrow



Turned Windrows



Upper Valley Disposal Service, Napa, CA

Passive Aeration



Positive / Negative Aeration

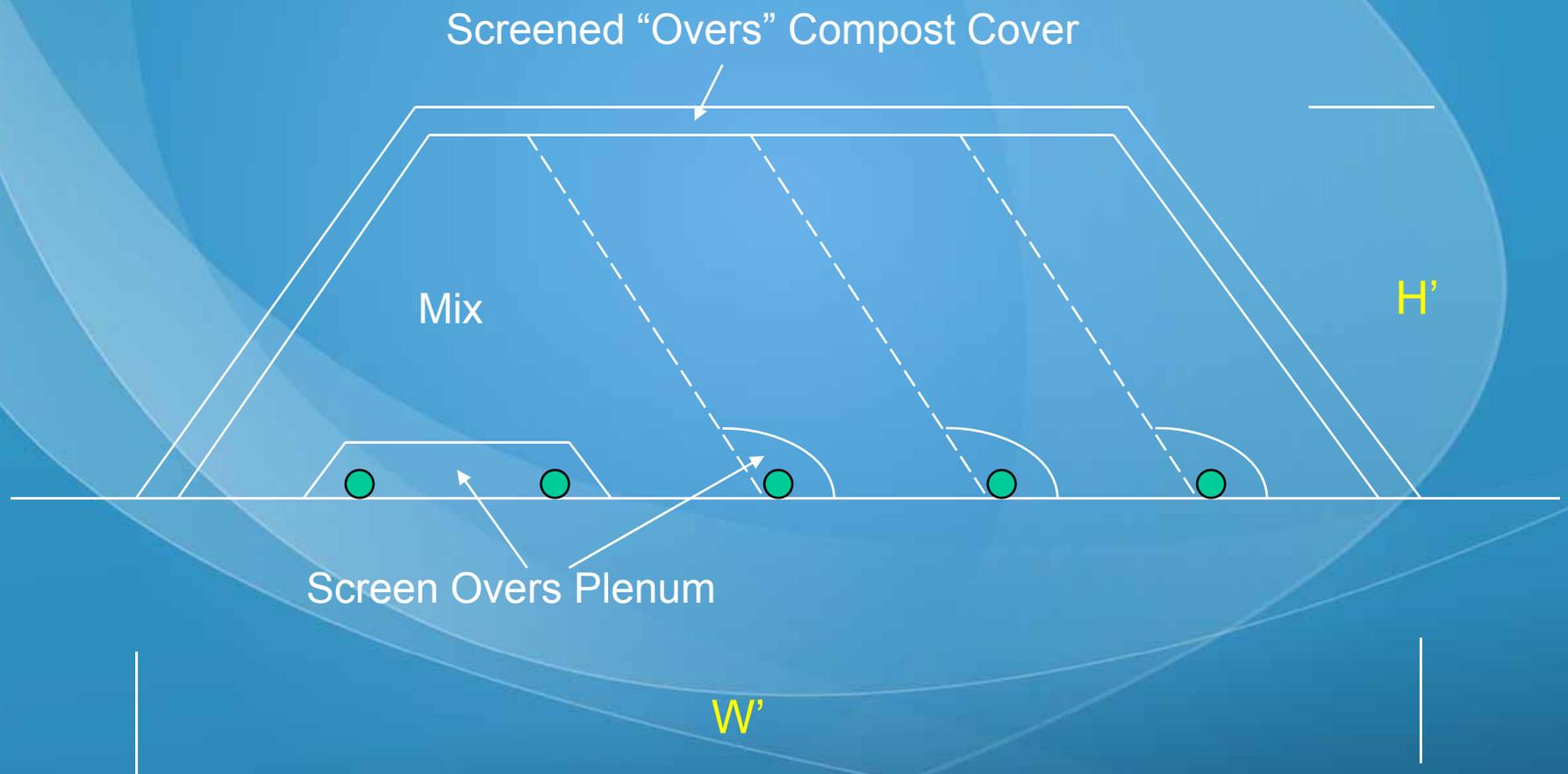


The Compost Factory, Puyallup, WA

Aerated Static Pile Composting



Section View EASP



Materials Handling

When the method of mixing and processing is successful at meeting the biological requirements for composting:

- The primary focus of composting then becomes materials handling.
- Composting is a manufacturing process.



Primary Objective

40 CFR Part 503, (i.e., the “503 Regulations”)

PFRP: Process to Further Reduce Pathogens

- ASP Composting: 55°C (131°F), 3-Days
- Turned Windrow: 55°C, 5-Turnings, 15-Days

Criteria also suitable for destroying plant seeds.



Operating Aerated Static Piles Allows Municipalities

- Start small and grow in planned increments.
- Define your key objectives & set goals.
- Always strive to improve product quality.



Operating Aerated Static Piles Allows Municipalities

- To reduce materials handling and equipment costs.
- Respond to regulatory changes.
- Keep it safe and systematic (KISS).



OCRRA Pilot Project

Composting Yard Waste and Food Waste



OCRRA Pilot Project Blower Unit & Service Panel



Thursday, December 5, 2008

OCRRA Pilot Project Blower & Timer Controls



OCRRA Pilot Project Manifold & Piping

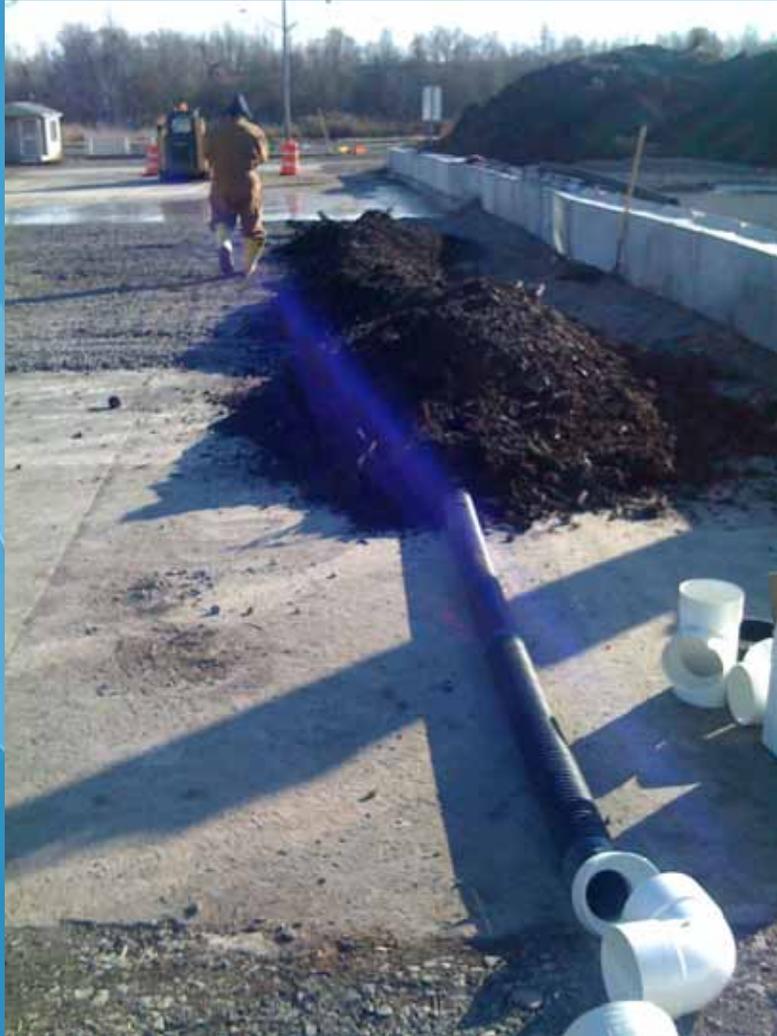


Saturday, December 6, 2008

OCRRA Pilot Project



OCRRA Pilot Project



OCRRA Pilot Project



Extended Aerated Static Pile



OCRRRA Pilot Project Zone 1: Yard Waste



OCRRA Pilot Project

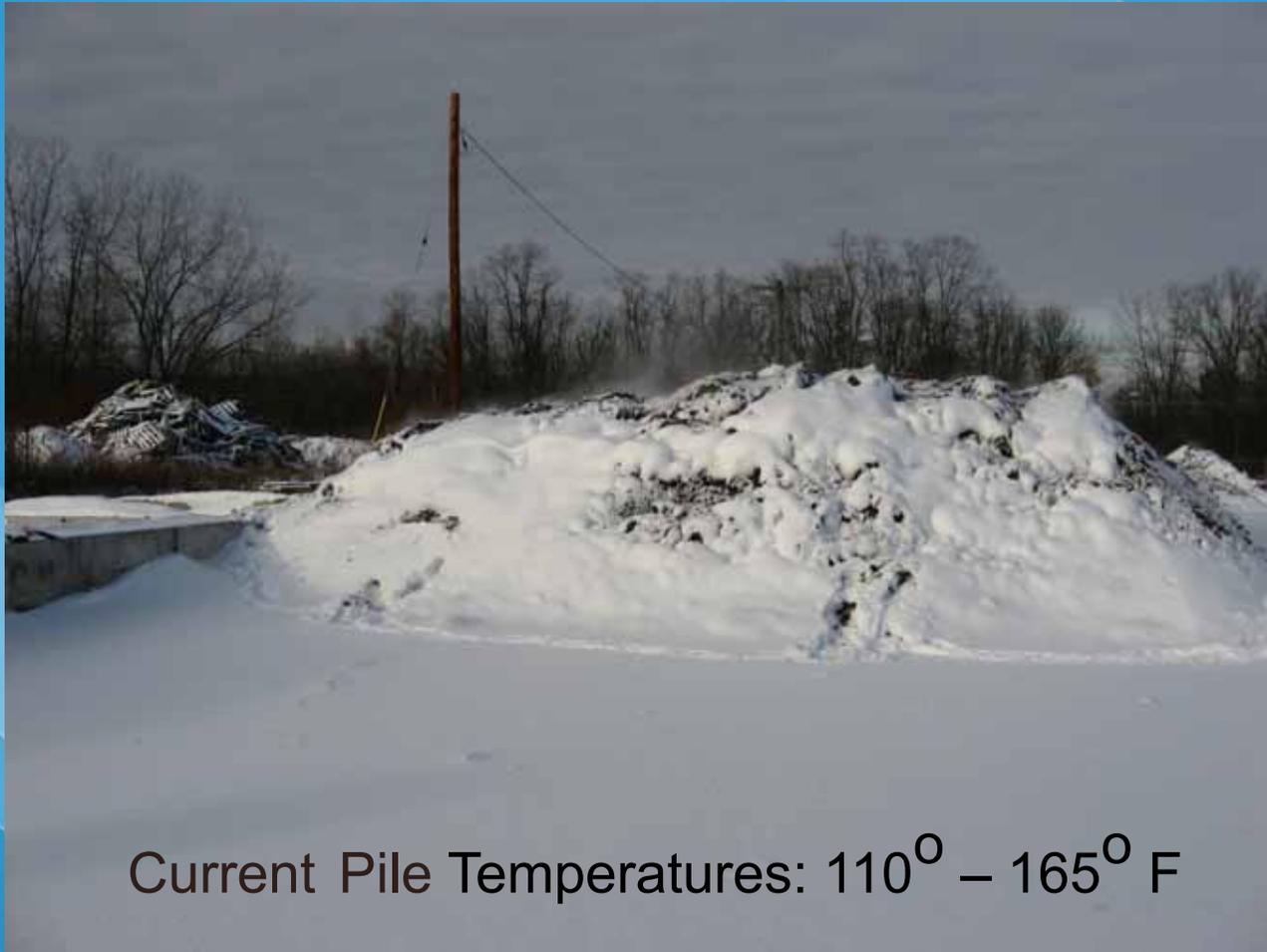


OCRRA Pilot Project



Monday, December 8, 2008

OCRRA Pilot Project



Current Pile Temperatures: 110^o – 165^o F

OCRRA Pilot Project Food Waste Delivery



OCRRA Pilot Project Feed Stock



OCRRA Pilot Project

Mixing @ 3 : 1



OCRRA's Vermeer Horizontal Grinder



OCRRA's Compost Screening Operations

