

Sandoval County Facility

NaturTech In-Vessel Containerized Composting System

Renewable Carbon Management LLC

Sandoval County Composting Facility

- Was first proposed in 2004, was permitted and completed near the end of 2005.
- Is the only in vessel or containerized composting facility in New Mexico.
- Save Air Space by diverting organic waste from going into the landfill.
- Means of Controlling Odors (Manure)
- Produce a beneficial product for re-use for local communities, business and governments
- Intended to accept wastewater sludge (Phase II)

Sandoval County, New Mexico

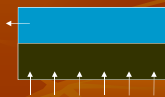


What is In Vessel Composting ?

- It is an enclosed aerated composting system comely referred to as “In vessel or Containerized system.”
- There is a wide range technologies to choose from.
- Total number of plants or sites with various technologies is over 587 world wide.
- Sandoval County utilizes a aerated static pile system.

Active Aeration

- Aerated systems operate with positive aeration i.e. blown up from underneath
- Air flow is controlled by an air velocity sensor
- Temperature is controlled with a probe and modulating damper



Container Floor



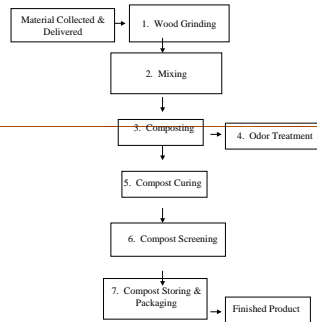
Positive and Negative Aeration System – Red Container is Biofilter



Biofilter

- Biofiltration is the removal of contaminants
- Volatile Organic Compounds
- Ammonia
- Uses a solid media for absorption (wood chips)
- Solid Media contain microorganisms that metabolize such contaminants, rendering them innocuous
- Aerobic system

The NaturTech Composting Process Model



Morbark Horizontal Grinder



What is batch composting?

- The material to be composted is loaded into an enclosed vessel or container and subject to active aerations and process monitoring for 17 to 21 days.
- A 30 day curing period follows.
- The enclosed batch process is then repeated
- Fresh material is not comingled with older material

Mix Management

- Quality control of the Feedstock and Bulking Material.
- Percentage of Feedstock and Bulking Material
- Moisture 60-65%
- Porosity
- Carbon to Nitrogen Ratio 25-1
- Available Carbon – Available Nitrogen

Harsh Mixer



Container Filling



20 Day Composting Cycle

- Continuous monitoring each container.
 - Report Log
 - Tracking date for each container
 - Temperature PFRP
 - 72 continuous hours over 55 C (131 F)
 - Temperature "Vector Attraction Reduction"
 - 14 days over 40 C (104 F) averaging 45 C (113 F)

Curing Cycle

- Continues monitoring container.
 - Log
 - Tracking Number
 - Date and time
 - Temperature
 - Air flow
 - Valve Position

Leach ate Drain



Container Unloading



Fecon Dish Screen



Finished Compost



Annual Amount of Compost and Mulch

- 616.9 tons of compost in 2009
- 2,221.09 tons of mulch in 2009
- Forecasted 2010 compost is 760 tons
- 5,000 tons of mulch for 2010
- Average cost of Compost \$62.50 per ton 2009
- Average cost for 2010 \$42.50

Phase II



