



CITY OF LARAMIE
PUBLIC WORKS
P.O. Box C
Laramie, WY 82073

Public Works 721-5230
Solid Waste Division 721-5279
Engineering Division 721-5230
Streets Division 721-5277
Utility Division 721-5280
FAX (307) 742-7174
TDD (307) 721-5295

April 24, 2013

RE: Biosolids / Composting Sampling and Analysis Plan

In response to the EPA's advice on future compliance, the COL is developing and is implementing many parts of its biosolids handling plan. This plan is a significant change, which will keep the COL well within the required parameters.

The Analysis Plan includes:

- VAR / SOUR testing before the biosolids leave the Wastewater Treatment Plant (WWTP).
- 28 Fecal samples, or 7 samples / quarter are done prior to hauling to the landfill.
- 16 Annual Biosolids samples, 4 samples / quarter are done prior to hauling to the landfill.
- If all prior testing passes, the City of Laramie (COL) is able to land apply the biosolids according to our permit or, bring it to the COL landfill for composting.

At the Composting Site:

Composting

1. Building the Windrows
2. Bring them up to Temperature (by turning and adding water)
3. When the temperatures are even across the pile @ or above 131°F they start taking the AM & PM temps. The temps need to stay above 131°F for 15 days consecutively and turned at least 5 times in the 15 day period, **or temperature, time and turning (T³) requirements.**
4. If section three (3) is completed then sampling can be done for: Test Methods for the Examination of Composting and Compost (TMECC) which includes the following methods:
 - EPA 6010 analysis by EPA Method 3050B
 - EPA 1681 Fecal Coliform
 - EPA 1682 Salmonella
 - TMECC 05.08A
 - TMECC /SOLVITA
 - Nutrients (N+P₂O₅+K₂O)
 - WT/VOL
 - Microscopic
 - Conductivity 1:5
 - pH Value
 - Nutrient Index (Ag Index)

5. If section three (3) does not pass or information is lost, additional sampling and testing can be done.
 - EPA 1681 Fecal Coliform
 - EPA 1682 Salmonella
 - Viable Helminth Ova
 - Enteric Virus
6. Once section four (4) and five (5) pass, the piles can be screened and sold.
7. If they do not pass analyses, there are other options that include.
 - Multiple land application methods
 - Use as landfill cover
 - There are other land application and disposal options not mentioned.

What else are we doing to move forward to selling the composted materials?

- We have included spreadsheets that illustrate how we are tracking our progress. (Appendix D)
- At this time the COL has started a new numbering system. The numbers will only get bigger every year. No number will be used twice. (10, 11, 12...533, 534...)
- There are 5 active piles: Pile10 just finished T³ requirements, and the other 4 piles are heating up to 131°F minimum.
- Pile #10 is the last of the 2011 Biosolids.
- A berm was built north of the biosolids pile, and we are building another berm to hold and separate the different years of biosolids at least till we catch up on composting them.
- At the front of every berm there is a numbered tube with all the pertinent paperwork (information about the individual piles) in the tube.

The COL would like to thank the EPA's team of engineers for putting us back on the track of compliance.

Karla Adami
Industrial Pretreatment Coordinator

Date : April 16, 2013