

111532

AIC 155 0084

MEMO:

To: File # 111532
Green Disposal Mead, LLC (formerly GreenCycle LLC)
1344 County Road 10
Mead, NE 68041

From: Kyle Morton *KM*

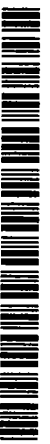
Date: July 21, 2020

RE: Performance Test results

On April 15-16, 2020, Green Disposal Mead, LLC (GDM) conducted testing on the facility's biochar/gasifier stack. Testing was to address requirements of Consent Order Case #3515, dated February 24, 2020, and subsequent Amendment to Consent Order #3515, dated April 3, 2020. Both orders required testing the biochar unit for total particulate matter (PM₁₀), carbon monoxide (CO), mass of volatile organic compounds (VOCs), speciated hazardous air pollutants (HAPs), and seven pesticide compounds that the Nebraska Department of Agriculture found present in the seed corn and wet cake byproduct. GDM contracted American Engineering Testing, Inc. of St. Paul, Minnesota to conduct the testing. EPA Test Methods 1 – 4 were used to determine stack gas characteristics such as volumetric airflow, oxygen (O₂) and carbon dioxide (CO₂) concentrations, and stack gas moisture; Methods 5 and 202 were used to measure total filterable and condensable particulate matter (PM, PM₁₀ and PM_{2.5}); Method 10 was used to measure CO; Method 18 and modified NCASI/ CI/SG/PULP-94.02 was used to measure speciated VOCs and HAPs; and SW-846 Method 0010 was used to measure speciated pesticide compounds. The test report was received by the Department on June 9, 2020 and results are summarized below.

Results summary

Pollutants	Run 1	Run 2	Run 3	Average
PM ₁₀ /PM _{2.5} (lb/hr)	1.47	1.64	1.45	1.52
CO (lb/hr)	< 0.100	< 0.094	< 0.096	< 0.97
VOC (lb/hr)	< 1.04	< 0.825	< 0.934	< 0.934
HAP (lb/hr)	< 0.184	< 0.174	< 0.177	< 0.178
Azoxystrobin (lb/hr)	Not detected (ND)	ND	ND	ND
Clothianidin (lb/hr)	0.0019	0.00067	0.00034	0.0010
Imidacloprid (lb/hr)	ND	ND	ND	ND
Tebuconazole (lb/hr)	ND	ND	ND	ND
Thiabendazole (lb/hr)	0.00044	0.00023	0.00013	0.00027
Thiamethoxam (lb/hr)	0.000076	0.000023	0.0000	0.000033
Trifloxystrobin (lb/hr)	0.000037	0.000039	0.000024	0.000034



20200004332

Operating data summary

Test date	Thermal Oxidizer (TO) temperature – Stage 1 (°F)	TO temperature – Stage 2 (°F)	Auger rate (%)
4/15/2020	1946	1856	3.0
4/16/2020	1927	1846	2.9

There are no applicable emission rate limits for pollutants from the biochar. As discussed above, testing was to ensure that emissions from the facility did not exceed thresholds that would require a construction permit under Title 129 – Chapter 17. Following is a brief summary of the biochar potential to emit based on test results, along with the corresponding pollutant threshold under Chapter 17.

Potential to emit

Pollutants	Average emission rate (lb/hr)	Potential to emit (tons/yr)	Title 129 – Chapter 17 thresholds (tons/yr)
PM ₁₀	1.52	6.658	15
PM _{2.5}	1.52	6.658	10
CO	< 0.097	0.425	50
VOC	< 0.934	4.09	40
HAPs	< 0.178	0.780	10

After reviewing the test report, the Department found no significant errors or discrepancies.