

MEMORANDUM

DATE: July 17, 2018
TO: AltEn LLC **FACILITY ID:** 84069
Mead Cattle Co 43238
THRU: Todd Ellis
FROM: Kyle Morton
RE: Site visit - NEC 071218-HJ-1515

On July 12, the Department received a notification of environmental concern pertaining to the AltEn plant in Mead, Nebraska. Callers alleged strong chemical odors rising from a WDGS (wet distillers grains and solubles) pile stored on the north side of the facility property, as well as farmland adjacent to the property on which the WDGS was applied.

On July 13, I visited the site, bringing the Department's forward-looking infrared (FLIR) camera to survey the WDGS pile to determine if volatile organic compounds (VOCs) emanating from the pile were the source of the chemical odor. I arrived at 10:15 and initially circled the property via county roads. Weather was overcast, 80°F, with SSW winds of 5-10 mph. I noticed a strong earthy/chemical odor as I drove along County Road K, which was immediately north of and downwind of the property. At 10:20, I accessed the property via a service road north of the WDGS piles to conduct surveillance with the FLIR camera. I took several photos and videos, but did not see any hydrocarbons/VOCs emanating from the pile. Photos can be found in Attachment B and videos in the facility file. It appeared to be in various stages of composting, with freshly deposited yellow cake on the north edge and more discolored materials toward the south edge of the pile.

At 10:55, a moderate rain began in the area and I was forced to pause my inspection. I parked on County Road 10 immediately opposite of the AltEn entry road and observed an emission stack exhausting a brown plume of about 50% opacity. I took additional photos with my personal phone (Attachment B). At 12:05, the rain had subsided and I parked at the location indicated on the overhead map (Attachment A) to conduct a Method 9 reading (Attachment C). While there, Mr. Buck Wehrbein, operations manager at Mead Cattle Co, stopped by to discuss the visit. I explained the Department had received complaints about odor emanating from the AltEn WDGS pile, and Mr. Wehrbein confirmed he and staff had noticed a strong odor from that area. He described operations at AltEn, wherein previous operations involved AltEn corn byproducts being used as feedstock for Mead Cattle operations. He stated that currently AltEn used seed corn in ethanol production, which is poisonous as cattle feed, and waste was consequently used in biochar operations (the emission stack I was observing). I collected Mr. Wehrbein's contact information and he left the site. I left the site shortly after upon completing the Method 9 test.



The highest 6-minute average Method 9 opacity reading I recorded was 30.4%, which exceeds the 20% opacity limit in Title 129 – Chapter 20.

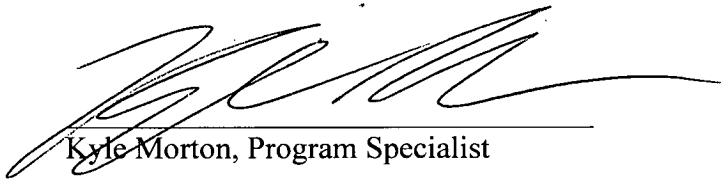
After reviewing my findings with Department supervisors, it is unclear whether AltEn or Mead Cattle Co own and operate the biochar device, or have some form of joint ownership and operation. I spoke with Mr. Wehrbein by phone on July 17 at 1:45PM to clarify this. Mr. Wehrbein stated that the biochar device was fully owned and operated by AltEn, and there was no joint partnership or agreement as far as he was aware.

Attachments

Attachment A – AltEn/Mead Cattle – overhead map

Attachment B – Photos of site

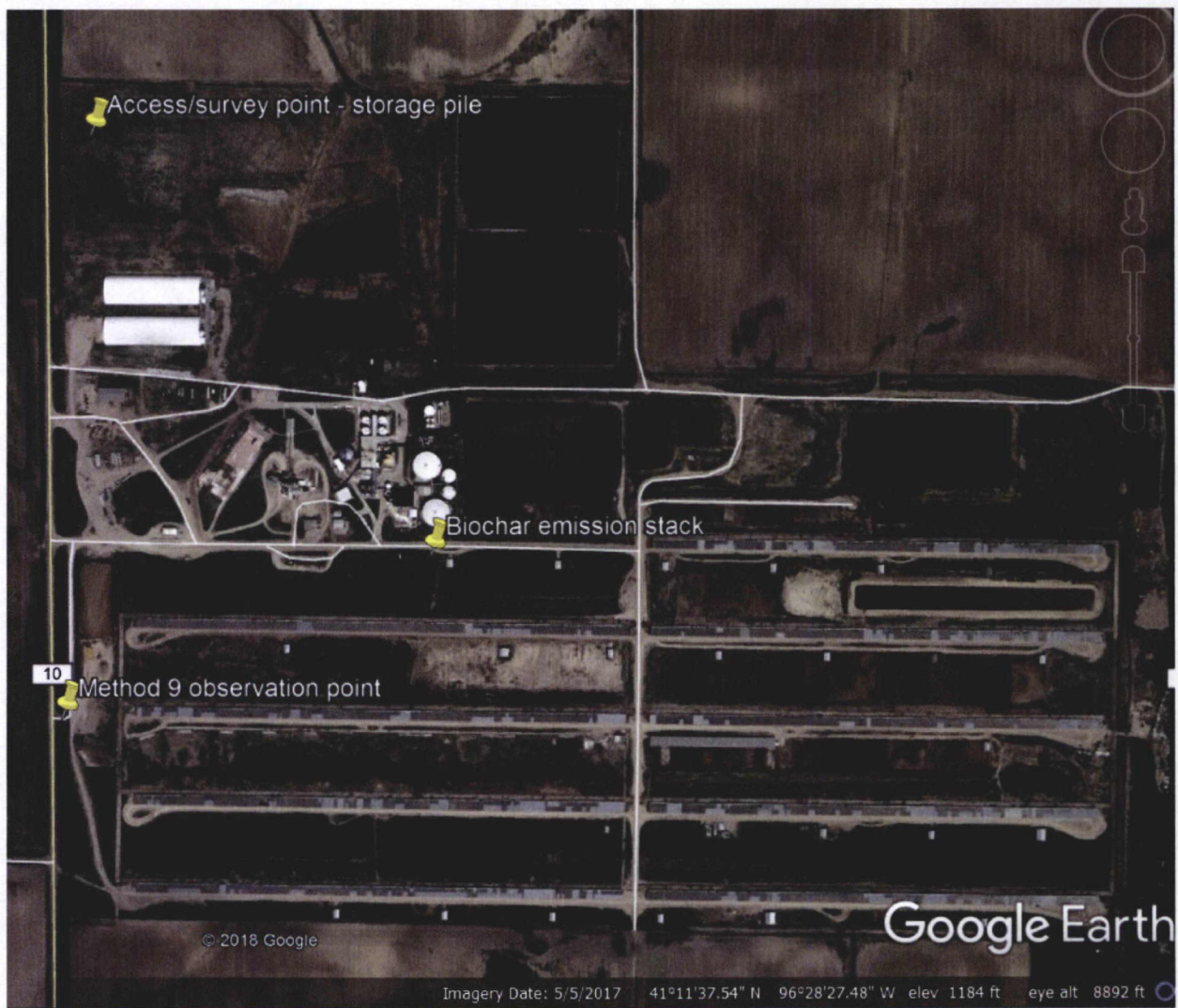
Attachment C – Method 9 form



Kyle Morton, Program Specialist

Date 7/17/18

Attachment A
AltEn/Mead Cattle overhead map



Attachment B
Photos of site



Photograph 1.

Date: 7/13/18

Photographer: Kyle Morton

Location: North property looking northeast at possible compost or waste pile, which had yellowish coloration



Photograph 2.

Date: 7/13/18

Photographer: Kyle Morton

Location: North property looking southeast at possible compost or waste pile, which had brownish/dark green coloration





Photograph 3.

Date: 7/13/18

Photographer: Kyle Morton

Location: North property looking east at possible compost or waste pile. Middle of pile had greenish coloration



Photograph 4.

Date: 7/13/18

Photographer: Kyle Morton

Location: North property looking south at possible compost or waste pile, which had yellowish/green coloration





Photograph 5.

Date: 7/13/18

Photographer: Kyle Morton

Location: North property looking southeast at possible compost or waste pile.



Photograph 6.

Date: 7/13/18

Photographer: Kyle Morton

Location: West of AltEn entry road facing east. Note visible emissions emanating from what is presumed to be biochar emission stack.



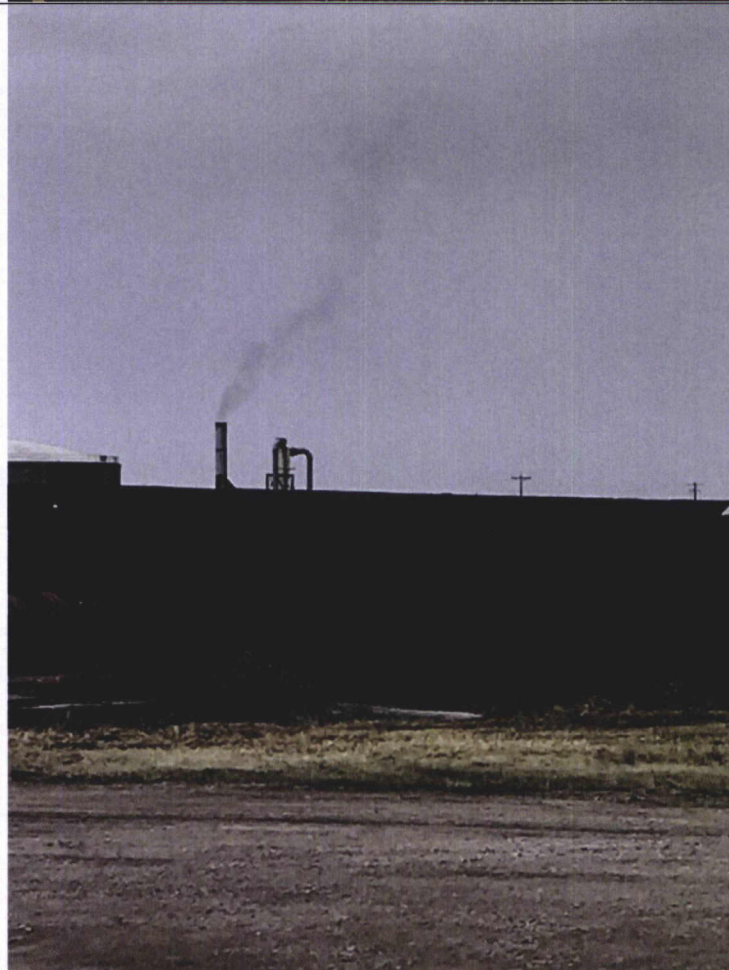


Photograph 7.

Date: 7/13/18

Photographer: Kyle Morton

Location: Southwest of AltEn property facing northeast. Approximate view of Method 9 readings. Biochar stack can be seen toward the right side of the picture.



Photograph 8.

Date: 7/13/18

Photographer: Kyle Morton

Location: Method 9 reading example (35%). Peak opacity was 50% during my observation of the site.



Attachment C
Method 9 observation sheet

VISIBLE EMISSION OBSERVATION FORM

No.

| | | |
|--|--------------------|----------------------------------|
| COMPANY NAME ALTEN | | |
| STREET ADDRESS 1344 Co Rd 10 | | |
| CITY MEAD | STATE NE | ZIP 68041 |
| PHONE (KEY CONTACT) | | SOURCE ID NUMBER 84069 |

| | |
|-------------------------------------|----------------|
| PROCESS EQUIPMENT BIOCHAR | OPERATING MODE |
| CONTROL EQUIPMENT | OPERATING MODE |

| | |
|---|--|
| DESCRIBE EMISSION POINT BIOCHAR STACK -- BROWN PLUME | |
| HEIGHT ABOVE GROUND LEVEL ~30 ft | HEIGHT RELATIVE TO OBSERVER Start End |
| DISTANCE FROM OBSERVER Start 800 ft End 800 ft | DIRECTION FROM OBSERVER Start NE End NE |

| | |
|--|---|
| DESCRIBE EMISSIONS Start BROWN End Brown, intermittent | |
| EMISSION COLOR Start Brown End | IF WATER DROPLET PLUME Attached <input type="checkbox"/> Detached <input type="checkbox"/> |
| POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED Start BASE OF STACK End | |

| | |
|---|--|
| DESCRIBE PLUME BACKGROUND Start Gray/overcast End SAME | |
| BACKGROUND COLOR Start Gray End - | SKY CONDITIONS Start overcast End - |
| WIND SPEED DIR Start SSE End SSE | WIND DIRECTION SPEED Start 5-10 End 5-10 mph |
| AMBIENT TEMP Start 80 End 80 | WET BULB TEMP RH, percent |

| | |
|---------------------------------|--------------------------|
| Stack with Plume Sun Wind | SOURCE LAYOUT SKETCH |
|---------------------------------|--------------------------|

| |
|------------------------|
| ADDITIONAL INFORMATION |
|------------------------|

| OBSERVATION DATE 7/13/18 | | | | START TIME 1205 | END TIME 1235 |
|-----------------------------|----|----|----|--------------------|------------------|
| SEC MIN | 0 | 15 | 30 | 45 | COMMENTS |
| 1 | 10 | 10 | 15 | 10 | |
| 2 | 15 | 0 | 5 | 10 | |
| 3 | 15 | 30 | 20 | 10 | |
| 4 | 15 | 20 | 0 | 5 | |
| 5 | 0 | 10 | 10 | 15 | |
| 6 | 20 | 15 | 20 | 20 | |
| 7 | 30 | 25 | 15 | 5 | |
| 8 | 10 | 10 | 15 | 25 | |
| 9 | 25 | 30 | 30 | 40 | |
| 10 | 35 | 40 | 40 | 40 | |
| 11 | 50 | 35 | 45 | 50 | |
| 12 | 45 | 35 | 35 | 20 | PHOTO |
| 13 | 0 | 0 | 5 | 5 | |
| 14 | 0 | 5 | 10 | 10 | |
| 15 | 20 | 20 | 10 | 20 | |
| 16 | 20 | 35 | 35 | 30 | |
| 17 | 30 | 40 | 25 | 10 | |
| 18 | 10 | 10 | 10 | 15 | |
| 19 | 10 | 20 | 15 | 30 | |
| 20 | 10 | 20 | 10 | 10 | |
| 21 | 10 | 5 | 0 | 0 | |
| 22 | 0 | 0 | 0 | 0 | |
| 23 | 0 | 0 | 0 | 0 | |
| 24 | 0 | 0 | 0 | 0 | |
| 25 | 0 | 0 | 0 | 10 | |
| 26 | 10 | 20 | 20 | 10 | |
| 27 | 0 | 0 | 5 | 0 | WEATHER TALK |
| 28 | 0 | 0 | 0 | 0 | |
| 29 | 0 | 5 | 5 | 10 | |
| 30 | 0 | 0 | 0 | 0 | |

| | |
|---|-------------------------|
| OBSERVER'S NAME (PRINT) KYLE MORTON | |
| OBSERVER'S SIGNATURE | DATE 7/13/18 |
| ORGANIZATION NDEA | |
| CERTIFIED BY ETA | DATE 5/2/2018 |
| CONTINUED ON VEO FORM NUMBER | |