

PCS 84069

#### AltEn Field Observations

March 3, 2021

Dave Bubb

NDEE

#### **Biochar Sample Collection**

Conditions at the time of this sampling event included: Air temperature 64 degrees F, clear, calm.

Two samples were collected; one was a 5-point composite sample collected from the bagged biochar, and the other sample collected was directly from the auger from the biochar unit. The biochar unit was operating at the time of the sampling event.

Bags of biochar are stored outside on pallets. Photo is facing west. This area is located south of the digester which was compromised on February 12, 2021.



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Bags of biochar. Photo is facing southwest. This is the same lot of bags in the previous photo.



Bags of biochar. Photo is facing south towards feedlot. AltEn employees on the left side of photo.





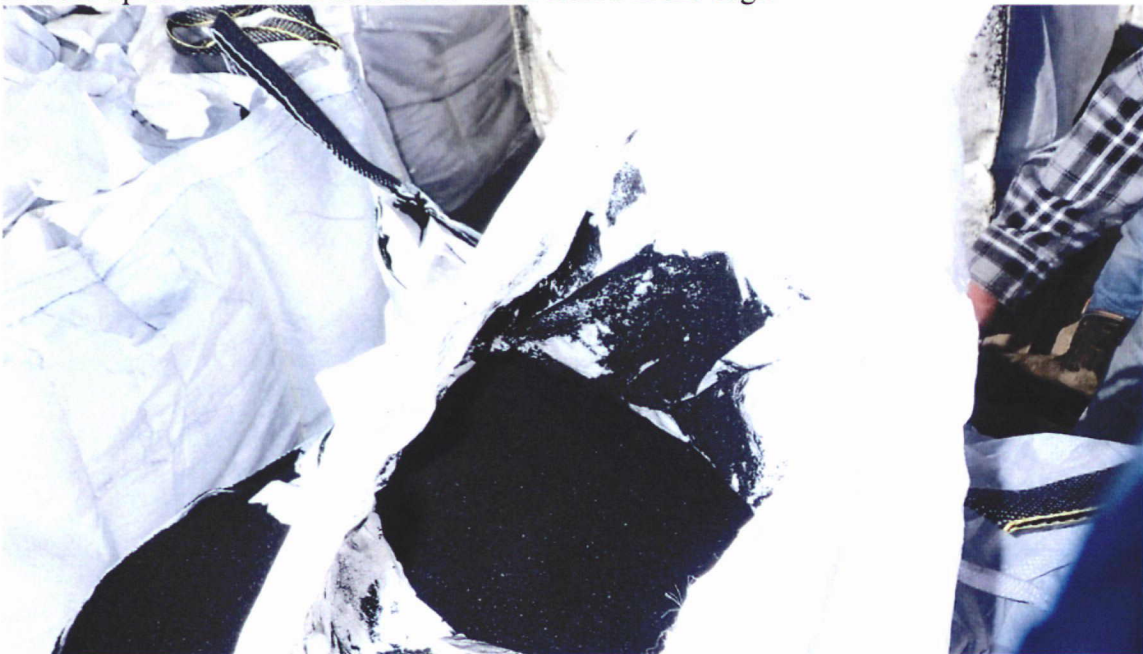
Distillers grain, or wet cake, is placed in the red hopper, right side of photo, via front-end loader. It is then transferred to a tumbler (grey, cylindrical, horizontal equipment) just to the left of the red hopper. The distillers grain is tumbled and has air added to aid in drying. After that process it is transferred to a furnace where it is heated to, as it was explained to me, a temperature of 1,300 to 1,800 degrees.



Facing east/southeast. More bags of biochar are stored on the east side of the biochar processing area.

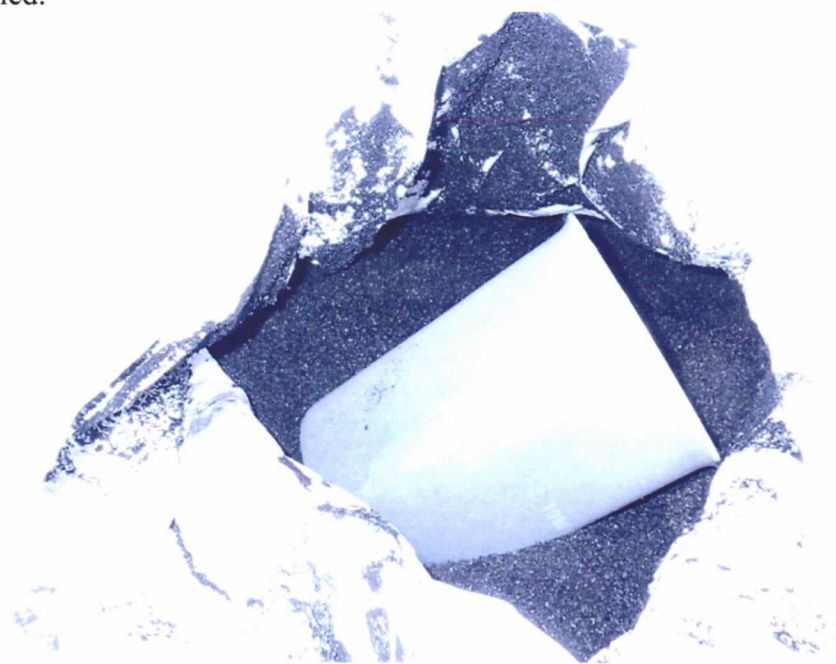


A close up of the biochar as it looks while stored in the bags.





A close up of the biochar with the NDEE sampling container in the bag ready to be sampled.



An AltEn employee opening a biochar bag so the product can be sampled. Photo is facing east. Note red hopper in the background. Five bags were opened and a sample was collected from each of the opened bags. Approximately 1,000 ml were collected from each bag and placed in a zip lock type bag for one composite sample.



An AltEn employee holding the NDEE-supplied sample container under the auger which transfers the processed product into the large white bags. The sample was then placed in a zip loc type bag.

