

Morrow, Kirk

From: Morrow, Kirk
Sent: Monday, February 22, 2021 5:43 PM
To: Scott Tingelhoff
Cc: kpeterson@mrgkc.com; dzalesky2@unl.edu; mtingelhoff@mrgkc.com; Doug Ferguson (Ferguson.Doug@epamail.epa.gov); Buell, Thomas; Pracheil, Brad; TJ.Engstrom@cleanharbors.com
Subject: RE: DAILY OBSERVATIONS (FEB 21 (AM); FEB 22 (AM); FEB 22 (AM - SAMPLING))
Attachments: ALTEN OBSERVATIONS (Bubb-AM21FEB.pdf; ALTEN OBSERVATIONS (Heil-AM22FEB).pdf; ALTEN OBSERVATIONS (Michl-Bubb AM22FEB-SAMPLING).pdf

RE: ALT EN LLC
MEAD, NEBRASKA

NDEE FAC ID: 84069

PROGRAM ID: 021221-NH-0845

Mr. Tingelhoff:

For your use and information.

Attached is my group's observations from yesterday and earlier this morning.

There was an additional team of NDEE field personnel in the area this morning tasked with the measurement of surface water physical parameters in the area. Currently, NDEE has postulated that one of these parameters (conductivity) may be useful in the timely identification/confirmation of the material released from the Alt En LLC on February 12. The purpose of today's activities were to measure physical parameters in areas beyond (downstream of) where we believed the spill to have been contained, This planned event was to test our hypothesis and assess the waters beyond the spill (where water remains).

Please note that at the area of Road 7/Highway 66 ("Stop 3") the team observed the spilled material beyond the constructed containment (i.e. immediately east of the highway). This information was immediately shared, on site, with the Clean Harbors work crew.

It is not yet clear if this new area of contamination resulted from migration prior to Saturday's introduction of a "packer device" into the culvert, or if the barrier construction is not capable of stopping water flow in its entirety. At present, I would expect that the barrier should, at a minimum, severely restrict water flow through this new area of discovered contamination and slow the migration further downstream.

Sincerely,

Kirk Morrow, P.G.
Emergency Response Program
Nebraska Dept. of Environment & Energy
P.O. Box 98922
Lincoln, NE 68509-8922



DATE: February 21, 2021

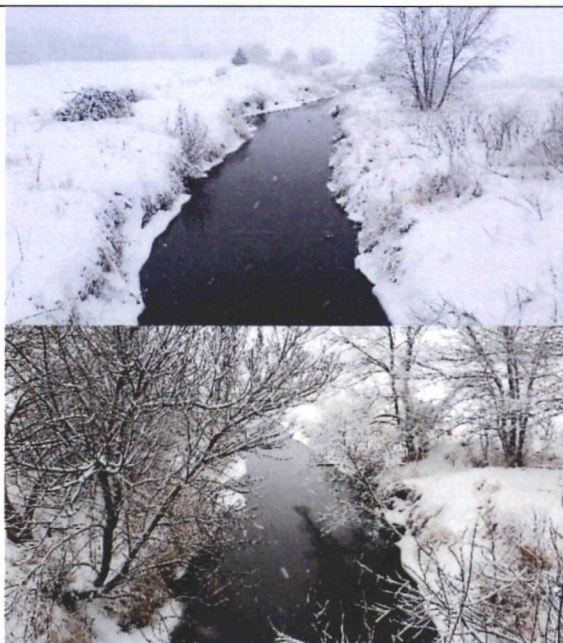
INVESTIGATOR: D. Bubb

WEATHER: 25 degrees (F) 100% clouds with heavy snow and fog.

**STOP 1 – HIGHWAY 66 WEST of
ASHLAND GUN CLUB**

Open stream.

Current heavy snow and fog.
No noticeable discolored water or odor.



**STOP 2 – North of the Intersection of
COUNTY ROADS 6 & F**

Current snow and fog.

Stream covered in snow/ice.



STOP 3 – Road 7/Highway 66

Current snow and fog.

Did not want to pull too far off the road as slick conditions would have allowed vehicle to slide down the side slope. Also, due to very heavy fog, did not want to leave vehicle on the road while out taking pictures as possible oncoming cars may have been coming and visibility was less than 1/8 to 1/4 mile. Pictures taken very rapidly while getting out of the vehicle momentarily.



STOP 4 – County Road 8, North of Road H

Current heavy snow and fog.

There had been a hole in the ice from a previous investigation done by G. Michl. Chopped the new ice out of the hole with a chipper. Ice was likely 15 inches thick. Water was no more than an inch or two in the bottom of the hole. Some livestock smell in the hole and on the ice chisel.



**STOP 5 – UN-L Eastern Extension – North
of County Roads 9 & J**

Current snow and fog.

Water is open to slush covered upstream.
Water appeared to be dark.

Tractor/PTO set up to pump water from the
stream.

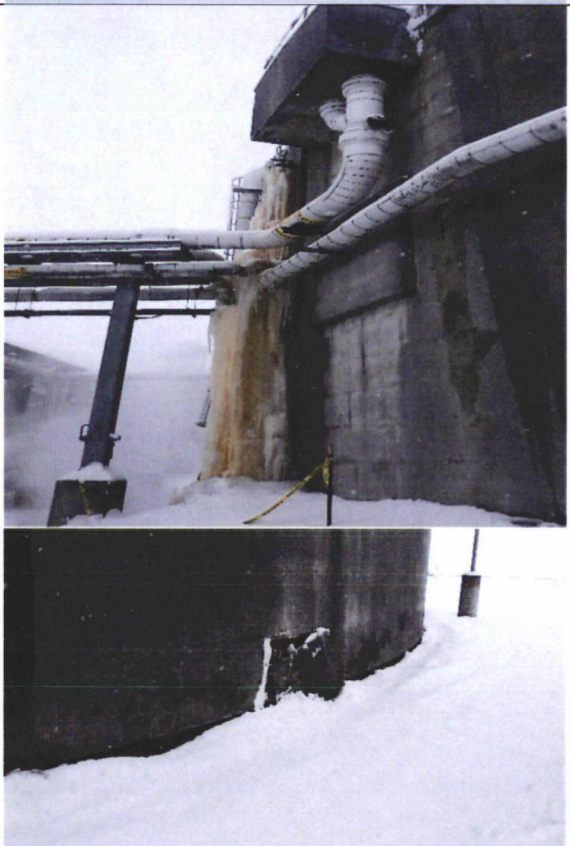


**STOP 6 – ALTEN LLC FACILITY
DIGESTERS**

Current snow and fog.

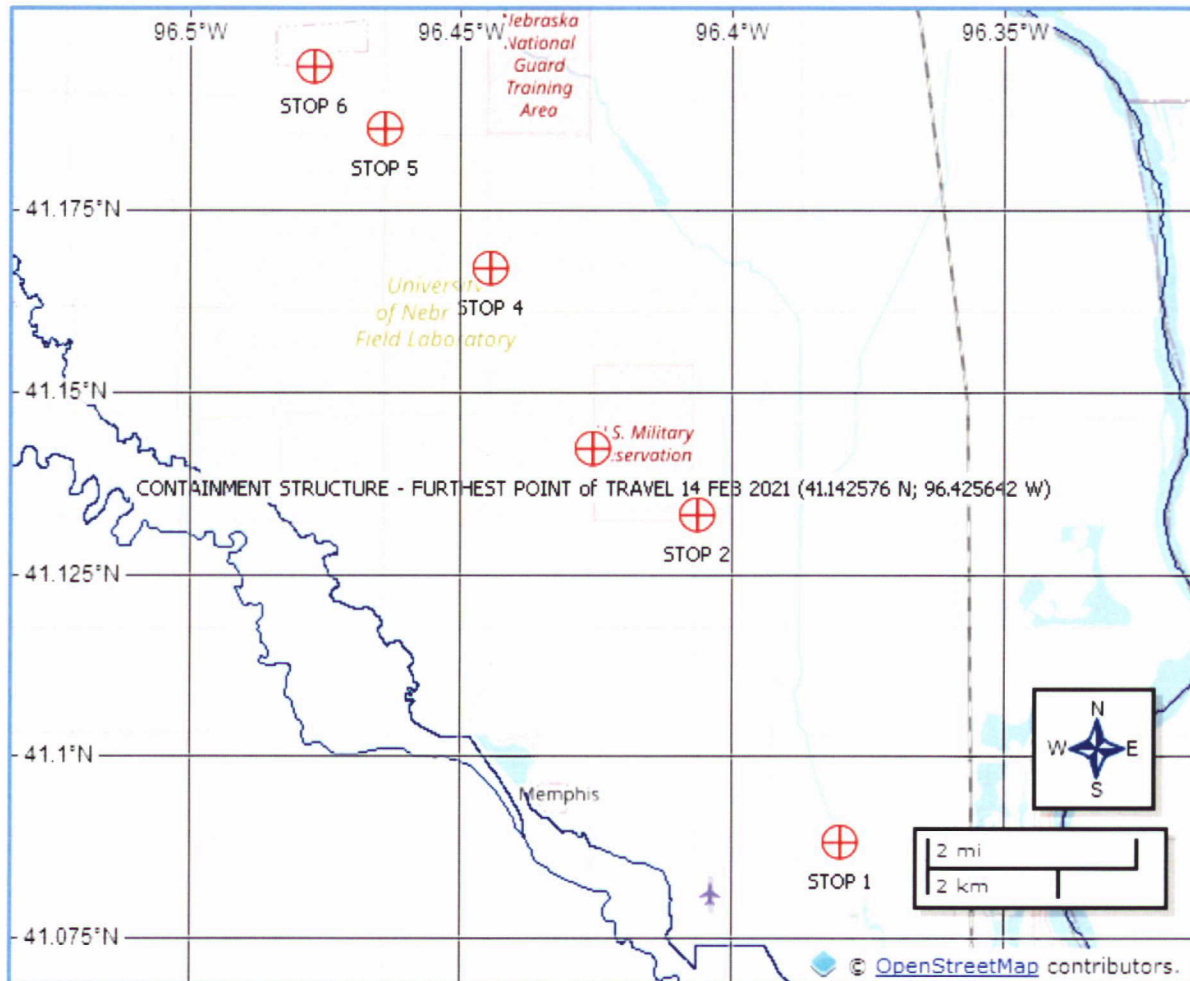
Water trickling from a digester causing a
large ice cycle.

Damage to insulation on one of the digesters.



ADDITIONAL INFORMATION / COMMENTS:

Conditions during these observations were less than ideal and made it difficult to see the stream or ice conditions. When I arrived at Site 1, I met James Kohler, an employee of Terracon. The company Mr. Kohler works for had been contracted to make observations of the stream and the ethanol plant. He met me at Site 2 shortly after. He then proceeded to Site 4 and I went to Site 3. I then went to Site 4 where Mr. Kohler was parked and, while there, Ken Peterson, an employee with AltEn, drove up. We had a brief discussion and all three of us then went to Site 5. After making observations at Site 5 we went to AltEn. Mr. Peterson was helpful in answering my questions.



DATE: 02/22/2021

INVESTIGATOR: Neal Heil

WEATHER: Partly cloudy, WNW wind 5-10 mph, 34 degrees F

**STOP 1 – HIGHWAY 66 WEST of
ASHLAND GUN CLUB**

Water/liquid present. No unusual odors noted.



**STOP 2 – North of the Intersection of
COUNTY ROADS 6 & F**

Fresh snowfall and ice observed upstream from culvert. No flow observed entering culvert. No flow observed leaving downstream opening of culvert.



STOP 3 – Road 7/Highway 66

Sandbags rearranged since my previous visit and blue nylon rope leading into entrance to culvert. Brownish liquid observed in hole chopped into ice prior to my visit. Called Brad Pracheil to advise liquid presumed to be spilled material present at this location.



STOP 4 – County Road 8, North of Road H

Brownish-colored ice present below fresh layer of snow; same as previous visit.



STOP 5 – UN-L Eastern Extension – North of County Roads 9 & J

Liquid observed upstream of road. Downstream snow-covered. Generator present, but not running. Hoses present, but not connected to anything.



STOP 6 – ALTEN LLC FACILITY DIGESTERS

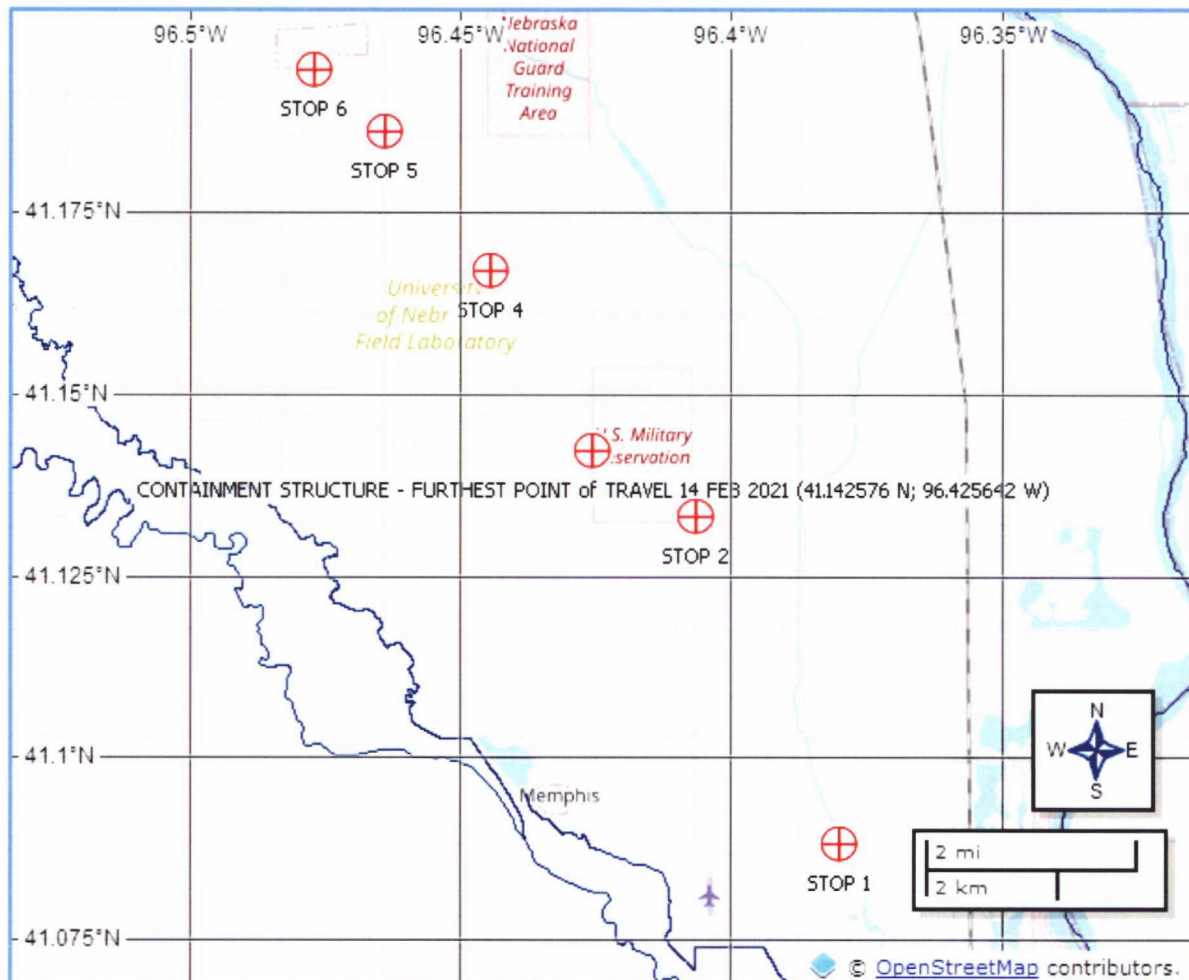
Truck with “Bucklin” on door and three workers present at south digester. Using gasoline-powered pump to pump from digester piping vault to lagoon immediately east of south digester. Lagoon contains liquid within 5-10 feet of top of berm. I was told no flow out of south digester. North digester as before (no observed leaks). Several workers using hose emitting steam to melt large ice structure on south side of north digester.



ADDITIONAL INFORMATION / COMMENTS:

Met Mr. Ken Peterson at administrative office prior to entering AltEn property. Mr. Peterson advised ice falling from digester roofs; keep clear of falling ice. Observed Clean Harbors Mobile Command Center parked in AltEn admin. office parking lot. No activity observed in or near

command center. No vehicles with Clean Harbors marking observed on property. No cleanup activity observed with the exception of pump connecting south digester to lagoon to the east and ice structure on north digester being melted with steam. I met Terracon representative James Koehler at Stops #1 and #2.



DATE: 2/22/21

INVESTIGATOR: Greg Michl and Dave Bubb

WEATHER: Cool and Clear Skies

<p><u>STOP 1 – HIGHWAY 66 WEST of ASHLAND GUN CLUB</u></p> <p>No report</p>	
<p><u>STOP 2 – North of the Intersection of COUNTY ROADS 6 & F</u></p> <p>Time: 11:00</p> <p>Re-checked the upstream side (west) channel for discoloration of the surface ice/snow and the hole previously chopped in the ice. No evidence of AltEn's thin stillage making it to this location.</p>	

STOP 3 – Road 7/Highway 66 – Upstream

Time: 09:50 (upstream side of Hwy 66)

The AltEn thin stillage discharge water has now reached this location. The discolored surface ice/snow can be viewed in the top portion of photo and the lower part of the photo is where we shoveled the snow from the surface of the ice. The odorous, darker colored waste water rapidly filled the void on top of the ice surface.

In the second and third photo's you can view the hole I had chopped to the channel's mud substrate on 2/19/21. This hole was void of any water on 2/19/21, but is now full of the odorous, dark colored water.

Field parameter measurements were collected here and are as follows:

Temperature: 0.6 ° Celsius
Dissolved Oxygen: 3.05 mg/l
pH: 8.07 su
Conductivity: 11,955.0 $\mu\text{mhos/cm}$
Turbidity: 211.6 NTUs



**STOP 3 – Road 7/Highway 66 –
Downstream**

Time: 10:05 (downstream side of Hwy 66)

The AltEn thin stillage discharge water has also moved through the Hwy 66 culvert and is now present in the plunge pool on the downstream side (east). There was no discolored surface ice/snow, but when we drilled a hole through the ice it was immediately evident in the water below. The odorous, darker colored waste water rapidly filled the drilled hole. The plunge pool was estimated to be 2.5-3 ft deep at this location.

Field parameter measurements were collected here and are as follows:

Temperature: 0.9 ° Celsius
Dissolved Oxygen: 0.54 mg/l
pH: 7.68 su
Conductivity: 9,593.0 umhos/cm
Turbidity: 189.0 NTUs



<p><u>STOP 4 – County Road 8, North of Road H</u></p> <p>No report</p>	
<p><u>STOP 5 – UN-L Eastern Extension – North of County Roads 9 & J</u></p> <p>No report</p>	
<p><u>STOP 6 – ALTEN LLC FACILITY DIGESTERS</u></p> <p>No report</p>	

ADDITIONAL INFORMATION / COMMENTS:

At 11:20 we collected a downstream “background” water sample from the Stan Kizer pond located approximately 1.5 miles southeast of the “Stop 3” location. This small reservoir is located on the same stream channel, but we do not believe the AltEn thin stillage has reached this location. The purpose of this sampling was to document the current water quality conditions

via collection of field parameters, and water samples to be analyzed for nutrients (nitrogen and phosphorus), ammonia, total suspended solids and chloride. The winter water quality conditions were consistent of that expected for a eutrophic, eastern Nebraska small reservoir.

Field parameter measurements were as follows:

Temperature: 1.3 ° Celsius

Dissolved Oxygen: 38.2 mg/l (*reservoir was exhibiting super-saturated conditions at 283%; likely due to heavy algal growth/photosynthesis occurring under the ice*)

pH: 8.3 su

Conductivity: 1,011.0 umhos/cm

Turbidity: 5.6 NTUs

