

PCS 84089

AltEn Field Observations

March 2, 2021

Dave Bubb

NDEE

Observations started at approximately 1415 and ended at 1600.

Site just above Site 3 on the north side of Highway 66 facing northeast. Foam and water bubbling near the green vertical pipe is caused by a subsurface agitator on the end of the pump. The agitator is designed to prevent the pump from pulling debris and mud into the pump. The operator said that he is pumping 800 gallons per minute back to the AltEn facility. The small earthen berm to the right side of the picture was compromised during the previous evening and allowed water to escape as the flow had increased overnight. He indicated that the day before he was able to nearly pump the stream dry and very little water was pooling behind the earthen berm. The pump is running 24 hours a day and wasn't able to keep up with the increased runoff.



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Same site as the previous picture but facing back towards the south toward Highway 66 towards top of the picture. Note water color has a tannic stain to it.



Same location as previous picture, facing northwest, showing collapsible pipe full of stream water being pumped towards the northwest to the AltEn facility.



Site 3 facing west on the west side of Highway 66. Cement culvert is underwater and is located between the two larger trees and below the orange flag. The sandbags which were in front of the tarp-wrapped plywood have been removed and the water is holding the plywood in place. Water temperature: 2.6 degrees C, Dissolved oxygen: 0.8 mg/l, pH: 7.5 St.Units, Conductivity: 491 Umhos/cm, Turbidity: 44.7 NTU's, Dissolved oxygen (percent saturation) 6 percent. Air temperature: 61 degrees F, clear, southwest wind at 20-25 mph.



Site 3 facing northwest on the west side of Highway 66. Cement culvert is just to the left of the photograph. Photo shows how much water is building behind the blocked culvert and has expanded beyond the normal stream channel.



Site 3 facing north on the west side of Highway 66. Photo shows water in ditch from recent melting snow and some backed-up water from the stream just on the opposite side of the brush. Note the two markers near the water line. The pole in the foreground was placed there by someone else. The one towards the right, at the edge of the water, has 1/10th of a foot increments on a metal 3.3-foot gage height marker and placed there by the NDEE.



Site 3 facing north on west side of Highway 66. Closer photo of the NDEE marker.



Site 3 facing west on the west side of Highway 66. Close-up of the NDEE marker.



Site 3 facing east on the east side of Highway 66. Stream below culvert is still mostly frozen with some surface water over ice.



Site 3 facing northwest on the west side of Highway 66. Photo shows flooded ditch as well as flooded pasture from runoff from snow melt and backed up water in the stream.



Site 2 facing west on the west side of the county road. Water on top of ice.



Site 2 facing east on the west side of county road.



Facing north/northeast on Avenue H, approximately 1/3 mile east of Road 8 to the southeast of Site 4. Water has a tannic stain appearance to it. Reddish/orange tube, lower part of picture, going through culvert from the south.



Facing south and on south side of the county road from the previous photo. Note green debris accumulate on the collapsible tubing. Water on the right side of photo is flowing down the ditch from the west.



Site 4 facing west on west side of county road. Mostly frozen as there is considerable tree cover and not allowing sun to fully penetrate to the ground.



Site 4 facing east on the east side of the county road.



Site 5 facing west. Pump was running during this visit.

