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File: 204700415      Date: January 23, 2019

Subsurface     Surface     Vegetation Plot     Lagoon

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**Reference: January Water Sampling Event**

## 1.1 BACKGROUND

The January sampling event was for surface water. The site was covered in snow and was relatively frozen. Only SW5, SW17, and SW18 were sampled. Based on the conditions from the December sampling event and the recent weather, the other sites were not visited.

The weather was cloudy and in the mid 30's.

## 1.2 SAMPLING EVENT HIGHLIGHTS

### SURFACE

Water was only sampled at SW5, SW17, and SW18. The only other sampling location visited was SW-2, which was completely frozen. A hole was drilled at this location and there was about 6" of actual ice and then another 12" of frozen ground. Mud was found underneath the 18" of ice and frozen ground.

SW5 was also drilled for ice thickness and it was determined there was approximately 24-inches of ice. We were able to sample this location using a peristaltic pump. SW17 and SW18 was also sampled with a peristaltic pump. The creek at the toe of the slope of the percolation beds was open, however it was mostly frozen over at SW18. Two holes in the ice were found to sample SW18.

Flow of the creek was not obtained due to the flow meter running out of battery. It also should be noted that the YSI 556 was taken in for maintenance after the sampling event and it was determined that the pH probe needed to be replaced. pH results from this sampling event should be used cautiously.

### IMPROVEMENTS FOR FUTURE SAMPLING:

The flow meter will have fresh batteries and the YSI will have a new pH probe.

## 1.3 OTHER ACTIVITIES

Flow data not available this event.

## 1.4 SAMPLE RESULTS

The attached table summaries detected analytes. All other were below detectable limits. Complete results can be found in the SGS reports.

**Reference: January Water Sampling Event**
**1.5 DATA QUALITY**

There was one duplicate taken during the January sampling event for surface. The duplicate and original sample all tested very similar with no alarming differences. Although the percentages look high, the actual difference in value for those particular tests are not alarming.

Site ID	Nitrate	Nitrite	Total Nitrate/ Nitrite	TSS	TKN	Ammonia	Total P	BOD	FC	E. Coli	TC
<b>SW5</b>	ND	ND	ND	4.1	2.76	2.03	0.23	14.8	ND	ND	5
<b>Dup</b>	2.66	ND	2.68	1.22	1.6	0.60	0.14	ND	1	1	53
<b>% Diff</b>	<b>NA</b>	<b>0.0%</b>	<b>NA</b>	<b>-108.3%</b>	<b>-71.9%</b>	<b>-108.7%</b>	<b>-48.5%</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>165.5%</b>

**Attachment: Photo Log**

## January Photo Log



Photo 1:  
Access Road



Photo 4:  
SW-17



Photo 2:  
Future Berm Clearing



Photo 5:  
SW-17



Photo 3:  
SW-5



Photo 6:  
SW-18

**Attachment: Results Summary Table**

Site ID	SW5	SW5.1	SW17	SW18
Date Collected	1/23/2019	1/23/2019	1/23/2019	1/23/2019
Time	11:35	11:35	13:06	13:35
Sample Type	Surface	Surface	Surface	Surface
Water Temperature (°C)	0.28	0.28	1.36	1.38
Conductivity	507	507	552	709
pH	5.78	5.78	6.6	6.85
DO	2.61	2.61	6.94	7.04
Nitrate	ND(0.100)	ND(0.100)	3.08	3.28
Nitrite	ND(0.100)	ND(0.100)	ND(0.100)	ND(0.100)
Total Nitrate/Nitrite	ND(0.100)	ND(0.100)	3.08	3.28
TSS	5.54	7.33	2.18	1
TKN	2.24	2.13	1.34	1.68
Ammonia	1.15	1.26	0.537	0.759
Total P	0.12	0.127	0.138	0.797
BOD	15.9	14.7	ND(2.00)	2.54
FC	ND(1)	ND(1)	1	ND(1)
E. Coli	1	ND(1)	5	3