

February 15, 2017

EDI Project No: 16Y0089

Assessment and Abandoned Mines  
Department of Energy, Mines and Resources,  
Government of Yukon  
PO 2703, K-419  
Whitehorse, YT Y1A 2C6

Attention: Emilie Hamm, A/Project Manager

**RE: Mount Nansen Water Resources Investigations – Field Memo: February 7-9, 2017 - FINAL**

The following memo provides a record of the activities conducted during EDI's February 2017 trip to Mount Nansen; sampling conducted as part of the 2016/17 Water Resources Investigations. This memo provides a record of site conditions and tasks that were completed at each hydrometric station and water quality site. A detailed monthly report on the data collected during the trip will be provided once the water quality lab results are received and all data has been checked for quality assurance/quality control.

<b>Trip Dates:</b>	February 7-9, 2017
<b>EDI Field Staff:</b>	Scott Dilling, Alexandre Mischler, Danny Skookum
<b>Weather conditions during monitoring:</b>	Air temperatures ranged from -25°C to -12°C, with clear skies on February 7-8 and overcast conditions on February 9.
<b>Any changes to project scope, schedule or budget:</b>	All sampling and monitoring was conducted within scope.
<b>Additional Comments:</b>	Site conditions were reflective of winter: water levels were low and ice and snow was present at all locations. Seeps and some small streams were frozen to substrate.
<b>Wildlife Sightings:</b>	On February 8, field crew observed a lynx at site H-VC-UMN and three more lynxes on the road near site WQ-DC-R. On February 9, a snowshoe hare was observed going in and out of a snow drift near the H-VC-U station.
<b>Site concerns (safety):</b>	None



Table 1. Summary of hydrometric program tasks completed and station conditions during the February 2017 sampling event.

## HYDROLOGY

Station	Hydrometric Measurement Type	Notes & Comments
ATM-VC5	None	Barometric logger downloaded.
H-DC-DX+105	Salt Tracer	Water level was very low. Ice cover was 0.02 m thick with anchor ice along creek bed. Salt tracer discharge measurement completed.
H-DC-B	None	Stagnant water at site. Conditions not suitable for discharge measurement.
H-DC-M-WP	Salt Tracer	Salt tracer was performed downstream of weir. Overflow ice covered V-notch weir.
H-DC-R	None	Overflow ice was present at site; channel frozen to bed for winter period.
H-VC-U	Salt Tracer	Flow at site was low. Salt tracer discharge measurement completed. Channel covered with thin layer of ice (0.03 m thick). Logger downloaded.
H-VC-DBC	Salt Tracer	Low flow in channel. Salt tracer discharge measurement completed. Channel covered with ice up to 0.20 m thick. Logger downloaded.
H-BC	None	Thick overflow ice (0.75 m) in channel. No detectable signs of flow present under ice.
H-VC-UMN	Salt Tracer	Flow at site was low. Salt tracer discharge measurement completed. Channel covered with ice up to 0.10 m thick. Logger downloaded.
H-VC-R+290	Salt Tracer	Flow at site was low. Salt tracer discharge measurement completed. Channel covered with ice approximately 0.30 m thick. Logger downloaded.
H-SEEP	Volumetric	Volumetric measurement collected in addition to reading the flow meter in the seepage pond shack. Seepage pond covered with ice.
H-TP	None	Low water level. Pond covered with 0.60 m thick ice.



Table 2. Summary of water quality program tasks completed and site conditions during the February 2017 sampling event.

## WATER QUALITY

Site	Sampled? (Yes/No)	Notes / Explanations
WQ-SEEP	Yes	Ice build-up at pipe outlet and open water downstream of pipe. Moderate flowrate with lightly turbid water.
WQ-TP	Yes	Low water level with lightly turbid water. Pond covered with ice 0.60 m thick.
WQ-DC-DX+105	Yes	Very low flow rate with lightly turbid water. Anchor ice along creek bed and thin ice (0.02 m thick) and snow covering channel.
WQ-DC-B	No	No sample collected. Stagnant water along bed below alternating layers of ice and slush did not allow collection of a representative sample.
WQ-DC-U	Yes	Low water level with lightly turbid water Channel covered with thin layer of ice (0.05 m thick).
WQ-DC-R	No	Site unsuitable for sampling due to overflow ice conditions and channel frozen to bed for winter period.
WQ-VC-U	Yes	Channel covered with ice approximately 0.03 m thick at sampling location. One small open water lead downstream of site.
WQ-VC-R+150	Yes	Sample collected immediately upstream of stilling well. Usual sampling location was frozen to bed. Channel covered with ice up to 0.30 m thick.
WQ-VC-DBC	Yes	Low flow with clear water. Sections of thin ice (0.01 m) upstream and downstream of site.
WQ-VC-UMN	Yes	Channel covered in ice 0.10 m thick. Low flow with clear water.
WQ-BC	No	Overflow ice conditions at site. No sign of detectable flow under ice. Ice thickness was approximately 0.75 m thick.
WQ-PW	Yes	Moderate flow rate with clear water. Moderate ice accumulation downstream of pipe outlet.
<b>Quality Assurance/Quality Control Samples</b>		
Field Replicate	Yes	Collected at WQ-TP-r.
Field Blank	Yes	Sample bottles filled with deionized water supplied by ALS; samples were filtered and preserved as instructed, when other sample sets were processed at the bunkhouse.
Travel Blank	Yes	Samples were provided by the lab and were transported to and from site.