

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: January 10-12, 2017 - FINAL

The following memo provides a record of the activities conducted during EDI's January 2017 trip to Mount Nansen; sampling was 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.

Trip Dates:	January 10-12, 2017
EDI Field Staff:	Joel MacFabe, Hannah Gray, Danny Skookum
Weather conditions during monitoring:	Conditions for the two days included air temperatures from -25 to -6°C, with clear to overcast skies.
Any changes to project scope, schedule or budget:	All sampling and monitoring was conducted within scope. However, additional office resources in January were used to compile historical hydrology data to address a data request from Lorax.
Additional Comments:	Site conditions were reflective of winter; water levels were low. Ice and snow present at all locations. Seeps and small streams were frozen.
Wildlife Sightings:	Field crew observed a wolverine at approximately 15 km from the start of the Nansen road. Snowshoe hair observed while accessing H/WQ-VC-UMN. Fresh signs of Ptarmigan were observed at the meteorological station.
Site concerns (safety):	None



Table 1. Summary of hydrometric program tasks completed and station conditions during the January 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 low. Ice cover was approximately 0.02 m thick. Salt tracer discharge measurement completed.
H-DC-D1b	None	Channel was frozen to bed for winter period
H-DC-B	None	Site was dry at time of visit
H-DC-M-WP	Salt Tracer	Salt tracer was performed at site. Overflow ice covered V-notch weir.
H-DC-R	None	Overflow ice was present at site; channel frozen to bed for winter period.
H-PC-DSP	None	Channel was 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 (0.02 m thick). Logger downloaded.
H-VC-DBC	Salt Tracer	Flow at site was low. Salt tracer discharge measurement completed. Channel covered with ice up to 0.18 m thick. Logger downloaded.
H-BC	None	Overflow ice conditions at site were less than back full. No detectable signs of flow were present under ice. Ice thickness was approximately 0.45 m.
H-VC-UMN	Salt Tracer	Flow at site was low. Salt tracer discharge measurement completed. Channel covered with ice up to 0.20 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 0.22 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 0.37 m thick ice.



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

WATER QUALITY

Site	Sampled? (Yes/No)	Notes / Explanations
WQ-SEEP	Yes	Ice build-up at pipe outlet. Moderate flowrate with lightly turbid water.
WQ-TP	Yes	Low water level with clear water. Pond covered with ice 0.37 m thick.
WQ-DC-DX	No	Site frozen to bed for winter period.
WQ-DC-DX+105	Yes	Low flow rate with lightly turbid water. Thin ice (0.01 m thick) and snow covering channel.
WQ-DC-D1b	No	Site frozen to bed for winter period.
WQ-DC-B	No	Site was dry with no evidence of flowing water.
WQ-DC-U	Yes	Channel covered with thin layer of ice (0.12 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	Channel covered with ice at least 0.10 m thick. Sample collected in centre of channel.
WQ-VC-DBC	Yes	Channel covered with ice up to 0.10 m thick. No open water leads at sampling location
WQ-VC-UMN	Yes	Channel covered in ice 0.18 m thick. No open water leads at sampling location
WQ-BC	No	Overflow ice conditions at site. No sign of detectable flow under ice. Ice thickness was approximately 0.45 m thick.
WQ-PC-U	No	Site frozen to bed for winter period.
WQ-PC-D	No	Site frozen to bed for winter period.
WQ-CH-P-13-01	No	Site frozen to substrate for winter period. Overflow ice at site.
WQ-NW-SEEP-02	No	Site frozen to bed for winter period.
WQ-PW	Yes	Moderate flow rate with clear water. Moderate ice accumulation downstream of pipe outlet.
Quality Assurance/Quality Control Samples		
Field Replicate	Yes	Collected at WQ-VC-R+150-r.
Field Blank	Yes	Sample bottles filled with deionized water supplied by ALS; samples were filtered and preserved as instructed. Sample completed at parking location for WQ-VC-UMN
Travel Blank	Yes	Samples were provided by the lab and were transported to and from site.