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EDI Project No: 16Y0089

Assessment and Abandoned Mines Branch (AAM) K-149
Department of Energy, Mines and Resources, Yukon Government
Room 2C Royal Center, 4114-4th Avenue
PO 2703, Whitehorse, YT, Y1A 2C6

Attention: Erik Pit, Type II Project Manager

RE: Mount Nansen Water Resources Investigations – Field Memo: June 6-8, 2016 – FINAL

The following memo is a brief field update from EDI's June 2016 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 (Table 1 and Table 2). 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:	June 6-8, 2016
EDI Field Staff:	Joel MacFabe, Alexandre Mischler and Danny Skookum
Weather conditions during monitoring:	Conditions for the three days included air temperatures from 4 to 15°C, with sunny skies to moderate rain and calm winds.
Any changes to project scope, schedule or budget:	None. All sampling and monitoring was conducted within scope.
Additional Comments:	Site conditions were reflective of late-spring transitioning to summer. Water levels were moderate and have dropped since the May 2016 trip. A few small, isolated patched of snow and ice remain around the Mount Nansen site and all watercourses were flowing.
Wildlife Sightings:	A porcupine was observed crossing the bridge at the Diversion Channel near the tailings pond at 19:30 on June 7, 2016.
Site concerns (safety):	None

Table 1. Summary of hydrometric program tasks completed and station conditions during the June 2016 sampling event.

HYDROLOGY

Station	Hydrometric Measurement Type	Notes & Comments
ATM-VC5	None	Barometric logger downloaded.
H-DC-DX+105	Volumetric	Volumetric discharge measurement collected.
H-DC-D1b	Salt Tracer	Thin ice present along channel. All water flows along bed, under ice surface. Salt tracer discharge measurement was collected.
H-DC-B	Salt Tracer	Salt tracer discharge measurement was collected. Logger successfully downloaded.
H-DC-M-WP	Salt Tracer	Salt tracer discharge measurement collected. Continuous logger removed from site for testing.
H-DC-R	Salt Tracer	Salt tracer discharge measurement collected. All flow contained in primary channel.
H-VC-U	ADV	Velocity-area discharge measurement completed using an ADV. Logger downloaded successfully.
H-BC	ADV	Velocity-area discharge measurement completed using an ADV. Logger downloaded successfully.
H-VC-DBC	ADV	Velocity-area discharge measurement completed using an ADV. Logger downloaded successfully.
H-VC-UMN	ADV	Velocity-area discharge measurement completed using an ADV. Logger downloaded successfully.
H-VC-R	None	Station removed on May 9, 2016.
H-VC-R+290	ADV	Velocity-area discharge measurement completed using an ADV.
H-SEEP	Volumetric	Volumetric measurement collected in addition to reading the flow meter in the seepage pond shack. Water flows freely from pipe outlet.
H-TP	None	Water level remains low.
H-PC-DSP	Salt Tracer	Salt tracer discharge measurement collected. Upstream road crossing active with heavy equipment at time of visit. Turbidity very high at site.

Table 2. Summary of water quality program tasks completed and site conditions during the June 2016 sampling event.

WATER QUALITY

Site	Sampled? (Yes/No)	Notes / Explanations
WQ-SEEP	Yes	Moderate flow rate from pipe.LC50 sample collected.
WQ-TP	Yes	Low water level in pond with moderately turbid water.
WQ-DC-DX	Yes	Moderate flow rate with clear water.
WQ-DC-DX+105	Yes	Moderate to high flow rate with clear water.
WQ-DC-D1b	Yes	Thin patches of ice persist near sample site. Moderate flow rate with clear water.
WQ-DC-B	Yes	Very turbid water and low water level.
WQ-DC-U	Yes	Moderate flow with turbid water.
WQ-DC-R	Yes	Moderate flow with turbid water.
WQ-CH-P-13-01	Yes	Moderate flow with clear water.
WQ-LW-SEEP-01	No	Site dry; no sample collected.
WQ-BC	Yes	Moderate flow with highly turbid water.
WQ-VC-U	Yes	Moderate flow with lightly turbid water. Back creek contributing suspended sediment into Victoria Creek at confluence.
WQ-VC-DBC	Yes	Moderate flow with moderately turbid water. Channel free of ice and snow.
WQ-VC-UMN	Yes	Moderate flow with moderately turbid water.
WQ-VC-R	Yes	Sample collected at regular summer location upstream of culvert. Water level low with lightly turbid water.
WQ-PW	Yes	Moderate flow with clear water.
WQ-DESS-01	Yes	Moderate flow with clear water. Water flows along access road downstream of site.
WQ-DESS-02	No	Insufficient flowrate to collect sample; no sample collected.
WQ-DESS-03	Yes	Low, steady flow with clear water.
WQ-ADIT-SEEP	No	Site dry. No flow detected that was distinct from Pony Creek.
WQ-PC-U	Yes	Very high turbidity with high flow. Active placer mining operations upstream.
WQ-PC-D	Yes	Very high turbidity with high flow. Active placer mining operations upstream.
WQ-MS-S-08	No	Site dry; no sample collected.
WQ-MS-S-03	Yes	Moderate flow and clear water.
WQ-MS-S-09	No	Site dry; no sample collected. This seep was identified and sampled during freshet, and has been dry since; it will not be visited again in 2016 unless water levels on site increase.
WQ-MS-S-10	No	Site dry; no sample collected. This seep was identified and sampled during freshet, and has been dry since; it will not be visited again in 2016 unless water levels on site increase.

WATER QUALITY

Site	Sampled? (Yes/No)	Notes / Explanations
WQ-MS-S-A	No	Site dry; no sample collected. This seep was identified and sampled during freshet, and has been dry since; it will not be visited again in 2016 unless water levels on site increase.
WQ-NW-SEEP-02	Yes	Low flow rate with moderately turbid water.

Quality Assurance/Quality Control Samples		
Field Replicate 1	Yes	Collected at WQ-NW-SEEP-02.
Field Replicate 2	Yes	Collected at WQ-DC-D1b.
Field Blank	Yes	Sample bottles filled with deionized water supplied by ALS; samples were filtered and preserved as instructed. Collected at WQ-NW-SEEP-02.
Travel Blank	Yes	Samples were provided by the lab and were transported to and from site.