

October 11, 2016

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: Emilie Hamm, A/Project Manager

RE: Mount Nansen Water Resources Investigations – Field Memo: October 3 to 5, 2016 - FINAL

The following memo provides a record of the activities conducted during EDI's October 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. 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.

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| Trip Dates: | October 3-5, 2016 |
| EDI Field Staff: | Alexandre Mischler and Gabriel Rivest |
| Weather conditions during monitoring: | Air temperatures ranged from -14 to 2°C, with partly cloudy to clear skies. |
| 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 fall; water levels were moderate to low. Seeps and small streams were frozen. Placer mining operations along Pony Creek upstream of H-PC-DSP/WQ-PC-U have stopped for the season. |
| Wildlife Sightings: | A young bull moose was observed near H-VC-R on October 3. Spruce grouses and an ermine were observed at the Mount Nansen site. |
| Site concerns (safety): | None. |



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

HYDROLOGY

| Station | Hydrometric Measurement Type | Notes & Comments |
|-------------|------------------------------|--|
| ATM-VC5 | None | Barometric logger downloaded. |
| H-PC-DSP | Volumetric | Volumetric discharge measurement collected at culvert outlet. |
| H-DC-DX+105 | Volumetric | Volumetric discharge measurement collected. |
| H-DC-D1b | Volumetric | Volumetric discharge measurement collected. |
| H-DC-B | Salt Tracer | Salt tracer discharge measurement was completed. Logger downloaded and winterized. |
| H-DC-M-WP | Salt Tracer | Volumetric discharge measurement collected. |
| H-DC-R | Salt Tracer | Salt tracer discharge measurement collected. Logger downloaded and winterized. |
| H-VC-U | ADV | Velocity-area discharge measurement completed using an ADV. Logger downloaded and winterized. |
| H-VC-DBC | ADV | Velocity-area discharge measurement completed using an ADV. Logger downloaded and winterized successfully. |
| H-BC | Salt Tracer | Salt tracer discharge measurement was completed. Logger downloaded and winterized. |
| H-VC-UMN | ADV | Velocity-area discharge measurement completed using an ADV. Logger downloaded and winterized. |
| H-VC-R+290 | ADV | Velocity-area discharge measurement completed using an ADV. Logger downloaded and winterized successfully. |
| H-SEEP | Volumetric | Volumetric measurement collected in addition to reading the flow meter in the seepage pond shack. |
| H-TP | None | Low water level; surface of pond frozen. |



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

WATER QUALITY

| Site | Sampled? (Yes/No) | Notes / Explanations |
|---------------|----------------------|--|
| WQ-SEEP | Yes | Low to moderate flow rate from pipe outlet with lightly turbid water. |
| WQ-TP | Yes | Low water level with clear water. Pond covered with ice up to 0.02 m thick. |
| WQ-DC-DX | No | Site frozen to substrate. |
| WQ-DC-DX+105 | Yes | Moderate flow rate with clear water. |
| WQ-DC-D1b | Yes | Moderate flow rate with lightly turbid water. |
| WQ-DC-B | Yes | Low water level with lightly turbid water. Channel partly covered with ice. |
| WQ-DC-U | Yes | Low flow rate with lightly turbid water. Thin ice on channel banks. |
| WQ-DC-R | Yes | Moderate flow with lightly turbid water. Channel covered with ice up to 0.07 m thick. |
| WQ-VC-U | Yes | Moderate flow rate with clear water. |
| WQ-VC-R | Yes | Moderate flow rate with clear water. Thin ice along banks. |
| WQ-VC-DBC | Yes | Moderate flow with lightly turbid water. Back Creek contributing suspended sediment into Victoria Creek at confluence. |
| WQ-VC-UMN | Yes | Moderate flow rate with clear water. |
| WQ-BC | Yes | Moderate flow and turbidity. Ice up to 0.03 m covering channel. |
| WQ-PC-U | Yes | Low flow with highly turbid water. |
| WQ-PC-D | Yes | Low flow with highly turbid water. |
| WQ-CH-P-13-01 | No | Site frozen to substrate. |
| WQ-DESS-01 | No | Site frozen to substrate. |
| WQ-DESS-02 | No | Site frozen to substrate. |
| WQ-DESS-03 | No | Site dry. No evidence of recent flow. |
| WQ-LW-SEEP-01 | No | Site dry. No evidence of recent flow. |
| WQ-NW-SEEP-02 | No | Site frozen. No evidence of recent flow; pipe outlet is dry. |
| WQ-PW | Yes | Moderate flow rate with clear water. Some ice at pipe outlet. Drinking water and bacteriological samples collected. |



Quality
Assurance/Quality
Control Samples

| Site | Sampled? (Yes/No) | Notes / Explanations |
|-------------------|----------------------|---|
| Field Replicate 1 | Yes | Collected at WQ-PC-D. |
| Field Replicate 2 | Yes | Collected at WQ-SEEP. |
| Field Blank | Yes | Sample bottles filled with deionized water supplied by ALS; samples were filtered and preserved as instructed. Collected at WQ-DC-DX. |
| Travel Blank | Yes | Samples were provided by the lab and were transported to and from site. |
