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By clerk at 2:17 pm, May 31, 2011

Memo

To:	File	**Date:**	April 4, 2011
cc:		**From:**	Larry Amskold
Subject:	Ephemeral Streams at Boston Camp	**Project #:**	1CH008.023

Five ephemeral streams have been identified downgradient of the ore stockpile areas. As recommended in the waste rock and ore management plan for Boston (SRK 2009), these streams are now monitored during spring freshet to provide an indication of whether contaminants from the ore and waste rock piles are reaching the shoreline of Aimaokatalok Lake. It should be noted that there are old drill sites upstream of all sampling locations that may also influence results in this area.

The sample locations are shown in Figure 1. On June 24 2010, all five sample locations were visited, and streams C2, D2 and E2 were sampled (Attachment 1). Samples were submitted to ALS-Chemex, Vancouver, B.C. for analysis of nutrients (ammonia, nitrate, and orthophosphate), total and dissolved metals, and routine parameters (pH, alkalinity, sulphate and chloride).

Results of field parameters for the three streams that were sampled are summarized in Table 1. Photos of streams A2, B2, C2, D2, and E2 are provided in Photos 1 through 10, respectively. As shown, flows at C2, D2, and E2 were extremely low. There was no flow present in A2 and B2 streambeds.

A summary of water quality results is provided in Table 2. The 2010 results are generally consistent with the 2009 results.

Seepage chemistry predictions were made as part of the Water and Ore/Waste Rock Management Plan (SRK 2009). Measured concentrations in the ephemeral stream samples were below the maximum predicted values and were generally in good agreement with the average predicted value (Figure 2). The predicted concentrations of parameters that behave conservatively (Cl, Se, SO_4) were generally at or slightly above predicted values. Parameters that are not expected to behave conservatively (As, Fe, Cu, Ni, NO_3) were generally below the predicted values.

References:

SRK Consulting, 2009. Water and Ore/Waste Rock Management Plan for the Boston Site Hope Bay Project, Nunavut. Report 1CH008.022 prepared by SRK Consulting (Canada) Ltd. for Hope Bay Mining Ltd. July 2009.

Table 1: Field Parameters

Sample ID	Field pH s.u.	Field Cond uS	ORP mV	Temp ^{o}C	Flow	Comments
A2	na	na	na	na	none	Sample site was dry
B2	na	na	na	na	none	Sample site was dry
C2	6.9	1133	374	20	Trace	Abundant organic matter.
D2	6.7	2150	394	16	Trace	Abundant grass and mosquito larvae in stream.
E2	7.3	667	391	14	Trace	Filamentous algae growth.

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Table 2: Summary of 2009 and 2010 Water Quality Results

	Sample ID	Total Alkalinity mg/L as $CaCO_3$	Ammonia mg/L as N	Chloride mg/L	Nitrate mg/L as N	Sulphate mg/L	Aluminum mg/L	Arsenic mg/L	Cadmium mg/L	Copper mg/L	Iron mg/L	Lead mg/L	Nickel mg/L	Selenium mg/L	Zinc mg/L
2009	C2	42	<0.02	166	<0.005	48	0.014	<0.0015	<0.000017	0.0017	<0.03	<0.00005	0.003	<0.001	0.0014
	D2	25	0.024	455	4	196	0.012	<0.002	<0.000085	0.0016	<0.03	<0.00025	0.0053	<0.006	<0.005
	E2	43	0.022	210	2.2	137	0.016	<0.002	0.000063	0.003	<0.03	0.000068	0.0061	<0.001	0.0055
2010	C2	44	0.083	197	3.0	223	0.011	0.0021	<0.00005	0.0018	0.071	0.0002	0.0084	0.0018	0.0071
	D2	30	0.03	547	2.1	217	0.0057	<0.003	<0.00025	0.0014	<0.03	<0.00025	0.0083	<0.005	<0.005
	E2	59	<0.005	137	<0.005	50	0.0076	0.0016	<0.00005	0.0012	<0.03	<0.00005	0.0029	<0.001	<0.001

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Placeholder for Figure 1 – Autocad PDF of seepage area.

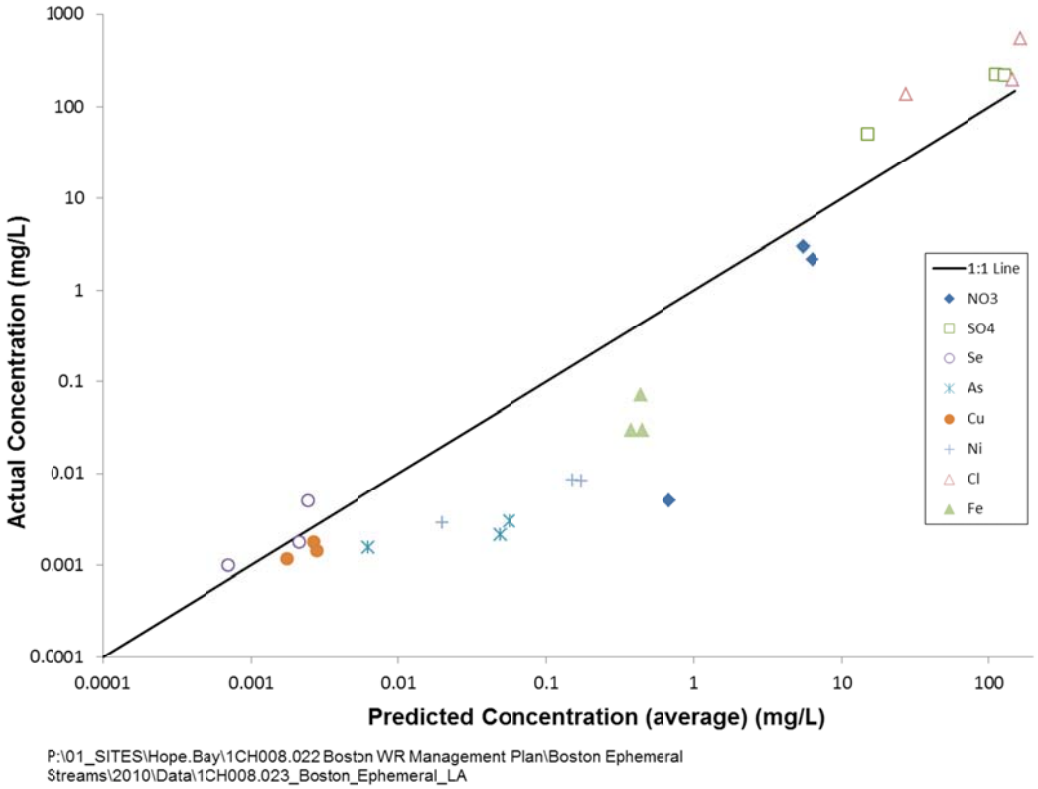

Figure 2: Actual versus predicted concentrations for Boston ephemeral seeps.

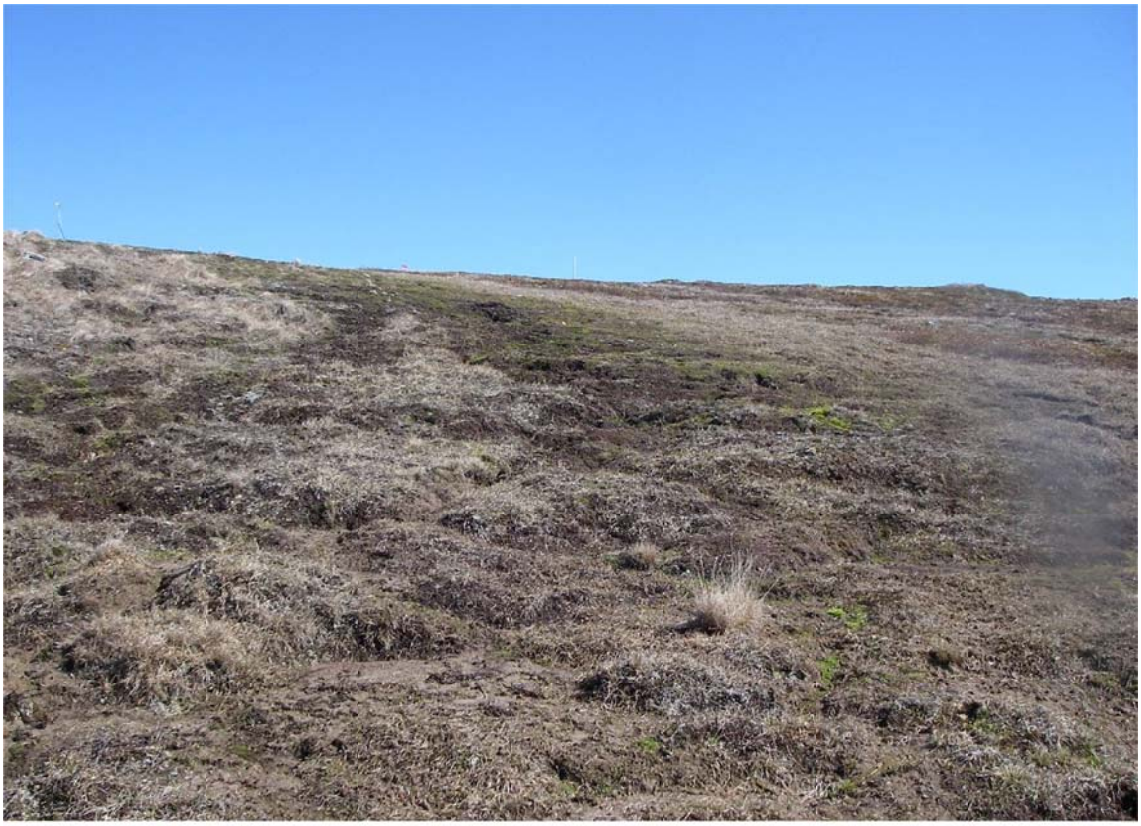

Photo 1: Looking upstream at A2.

Photo 2: Looking downstream at A2.

Photo 3: Looking upstream at B2.

Photo 4: Looking downstream at B2.

Photo 5: Ephemeral stream C2.

Photo 6: Looking downstream at C2.

Photo 7: Looking upstream at D2.

Photo 8: Looking downstream at D2.

Photo 9: Ephemeral stream E2.

Photo 10: Looking downstream at E2.