APPENDIX 9.II

FISHERIES REPORT

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9.II.1 INTRODUCTION

The Gahcho Kué Project (Project) has the potential to alter flows in streams downstream of Kennady Lake and in the adjacent 'N' watershed. Flow alterations could impact Arctic grayling (*Thymallus arcticus*), which use these streams for spawning in spring and rearing of young-of-year in summer. Streams near Kennady Lake typically consist of multi-braided channels, with low banks and large boulder substrates. During the spring freshet, flows exceed the banks and flood extensive areas of riparian tundra. These higher flows quickly recede and, by mid-summer, flows in most streams are confined to interstitial spaces between boulders. Arctic grayling in the Kennady Lake and adjoin areas have evolved an adfluvial life history and are adapted to high flow variability in these streams. However, any additional changes to the flow regime can alter suitability of these streams for spawning and rearing and can affect the annual recruitment and sustainability of Arctic grayling populations downstream. Arctic grayling have been identified as a valued component (VC) for the Fisheries and Aquatic Resources impact assessment for the Project.

To assess potential impacts of flow alterations in streams on Arctic grayling, microhabitat data (e.g., depth, water velocity) was collected at representative cross-sections in streams near Kennady Lake during the open-water season. The purpose of these data was to provide an indication of stream conditions spawning adults and rearing young-of-the-year Arctic grayling experience under natural conditions and to provide a means to predict how changes in flow could alter instream habitat conditions for Arctic grayling.

9.II.2 METHODS

Microhabitat data were collected at single cross-sections in 33 streams downstream of Kennady Lake and in the adjacent N watershed in the spring, summer, and fall of 2005, to characterize hydraulic habitat available for Arctic grayling at different water levels (Table 9.II-1). Spring surveys were completed from June 6 to 23, 2005. Summer surveys were completed from July 26 to August 7, 2005, and fall surveys were completed from September 8 to 15, 2005. Cross-sections were located in nine streams between Kennady Lake and Lake 410 plus the Kennady Lake outlet (Stream K5), 15 streams in the adjacent N watershed, and six streams between Lake 410 and Kirk Lake (the P watershed) plus the Lake 410 and Kirk Lake outlets.

Table 9.II-1 Summary of Stream Cross-sections Conducted, by Season, in 2005

Stream	Transect			Stream	Transect		
	Spring	Summer	Fall		Spring	Summer	Fall
Downstream of Kennady Lake							
K5	X	X	X	L3	X	X	X
L1a	X	X	X	M1	X	X	X
L1b	X	X	X	M2	X	X	X
L1c	X	X		M3	X	X	X
L2	X	X	X	M4	X	X	X
N Watershed							
N1	X			N11	X		
N2	X	X	X	N12	X	X	X
N3	X	X	X	N14	X	X	X
N4	X	X	X	N15	X		
N5	X	X	X	N16	X		
N6	X	X	X	N17	X	X	
N9	X			N18	X		
N10	X						
Downstream of Lake 410							
410	X			P4	X	X	X
P1	X			P5	X		
P2	X			P6	X		
P3E	X			Kirk	X		

With the exception of Stream L1c which was almost dry in fall, all nine streams between Kennady Lake and Lake 410, plus the Kennady Lake outlet (Stream K5) were surveyed in all three seasons. Streams in the adjacent N watershed sampled all three seasons included streams N2, N3, N4, N5, N6, N12, and N14. Stream P4 was the only stream that was surveyed between Lake 410 and Kirk Lake in all three seasons. Dangerous flow conditions precluded data collection in the main channel of the Kirk Lake outlet and microhabitat data was collect at a cross-section located only in a side channel.

Methods for data collection at each cross-section were adapted from "*Assessment Methods for Aquatic Habitat and Instream Flow Characteristics in Support of Applications to Dam, Divert, or Extract Water from Streams in British Columbia*" (Lewis et al. 2004). Crew members walked the length of the stream to select a section with appropriate habitat for Arctic grayling spawning. Cross-sections were typically located in a riffle with a variety of substrate types. A 100 m surveyor tape was suspended perpendicular to the water flow and anchored on each bank. A survey level and rod was used to measure elevations at the water's edge, at top and toe of each bank and in the channel at regular intervals along the tape. Cross-sections were typically extended at least 50 metres (m) upslope from the water's edge to provide a cross-sectional profile of the stream "valley". This was done so that water levels predicted to occur during different phases of the mine could be compared to baseline conditions on the cross-section.

A large flat rock away from the stream channel was usually chosen as a benchmark for the elevation measurements. The benchmark and the location of the two end points of the cross-section were marked with spray paint and flagging tape and the Universal Transverse Mercator (UTM) coordinates were recorded in spring to facilitate finding the same cross-section during the summer and fall surveys. The elevation of the water level of the upstream lake was also recorded during each visit.

At regular intervals in the wetted channel, depth, water velocity, relative substrate composition (e.g., gravel, cobble, boulder), maximum substrate size (D90), and cover (e.g., undercut banks, boulders, depth, aquatic vegetation) were recorded. Measurements were made strictly at the required interval along the tape. This frequently meant taking measurements beside or behind boulders. By doing so, an unbiased representation of available microhabitat in the stream was measured. Velocity measurements were made using a Swoffer Velocity Meter. The percentage composition of substrates in a 0.5 m radius circle was assessed visually. Substrates were classified based on size (Table 9.II-2). Photographs upstream and downstream of the cross-section and of the channel banks were taken at each site.

Table 9.II-2 Substrate Size Classes

Class	Size
Fines (F)	< 2 mm
Small Gravel (SG)	2 – 16 mm
Large Gravel (LG)	16 – 64 mm
Small Cobble (SC)	64 – 128 mm
Large Cobble (LC)	12 – 256 mm
Boulders (B)	256 – 4,000 mm
Bedrock (R)	> 4,000 mm

Source: Lewis et al. 2004.

mm = millimetres; < = less than; > = greater than.

9.II.2.1 DATA ANALYSIS

Channel profiles were plotted for each stream in Microsoft Excel. All elevations were relative to the benchmark for each cross-section, which was arbitrarily set to 10 m. Measured water levels in each stream during each site visit in spring, summer, and/or fall were plotted on the channel profiles to show the difference in depth and wetted perimeter during different discharges.

Water levels downstream of Kennady Lake predicted during dewatering, mine operations, and the Kennady Lake re-filling were plotted on the channel profiles in streams between Kennady Lake and Lake 410 to allow comparison to the water levels observed during natural flows in 2005. Manning's equations, a one dimensional uniform flow model, was used to estimate water levels in the lake outlet channel transects at different snapshots of the mine life. Initially, the channel roughness for each transect was calibrated using Manning's equation and depth discharge data collected in the field. When a discharge could not be obtained to pair with a measured water level for calibration, a roughness value was taken from a calibrated transect of similar shape and substrate material. Discharge results from the hydrologic model were then entered into Manning's equation with the calibrated transect to determine the corresponding water level. Assumptions of the different dewatering, operations, and re-filling scenarios are provided in Section 9.7, Effects to Water Quantity.

Average depth, water velocity, and substrate size were calculated at each cross-section in each season. Dominant and sub-dominant substrate types and cover types were determined by most frequent substrate and cover types recorded along the entire length of the cross-section, including flooded vegetated tundra areas in the spring.

Frequency distributions for depth and water velocity in each spring, summer, and fall were plotted separately for data pooled from streams between Kennady Lake and Lake 410, from streams in the adjacent N watershed and from streams between Lake 410 and Kirk Lake. Frequency distributions based on the seven substrate classes were plotted by pooling data from streams in the same three areas. Stream discharges on the days of the spring, summer, and fall surveys were based on hydrometric stations located at Stream K5, L1, N2, N1, N6, N16, and Kirk Lake outlet and reported in Annex H, Climate and Hydrology Baseline.

9.II.3 RESULTS

Habitat characteristics for each stream are summarized in Table 9.II-3. Channels typically exhibited the same general morphology; multi-braided channels with low channel banks, willows and tundra mosses in the riparian area and large (greater than 50 centimetre [cm]), angular boulders. Channel roughness typical of these boulder-dominated streams is depicted in Figure 9.II-1. During the spring, the wetted width was typically larger than the channel width, as the increased water levels led to water overflowing stream banks onto riparian tundra. During the summer and fall, wetted widths decreased with the majority of the flow flowing between or under the large boulders within the defined channel.

Depth and water velocities were highest in spring; depth and water velocities were lower but similar in the summer and fall. Boulders were the dominant substrate in most streams and large cobbles were also common. Vegetation and fines were present but rare. Boulders provided the majority of the cover for fish.

9.II.3.1 STREAMS BETWEEN KENNADY LAKE AND LAKE 410

Channel profiles depicting water levels in spring, summer, and fall of 2005 in streams between Kennady Lake and Lake 410 are provided in Figures 9.II-1 and 9.II-2. Average depths ranged between 0.18 m and 0.32 m in spring while average water velocities in spring ranged between 0.07 metres per second (m/s) and 0.33 m/s (Table 9.II-3). Average depths and water velocities were lower in summer; 0.13 m to 0.25 m and 0.05 m/s and 0.22 m/s, respectively. Average depths and water velocities were lower in fall than in summer. The dominant substrate type in all streams in most seasons was boulders. Vegetation was the dominant substrate type in Streams K5, L2, and L3 in spring because the cross-section included extensive areas of flooded riparian tundra. Wetted widths were highest in the spring, when the streams were flooded over their banks and flow extended into the tundra. During the summer and fall, streams were confined in the boulder channels.

A frequency distribution of depths in streams between Kennady Lake and Lake 410 is provided in Figure 9.II-3. Depths below 0.1 m were most frequent in all three seasons (Figure 9.II-3). The frequency of depths lower than 0.1 m was highest in the fall and lowest in the spring. As expected, the frequency of depths greater than 0.2 m decreased from spring to fall. Water velocities less than 0.1 m/s were most frequent in all seasons (Figure 9.II-4). The frequency of water velocities greater than 0.2 m/s decreased from spring to fall.

Table 9.II-3 Summary of Habitat Characteristics from Stream Transects

Stream	Season	Average Depth (m)	Depth Range (m)	Average Velocity (m/s)	Velocity Range (m/s)	Dominant Substrate	Subdominant Substrate	Average Substrate Size (cm)	Dominant Cover
K5	Spring	0.24	0 – 0.62	0.12	0 – 0.60	V	B		V/B
	Summer	0.14	0 – 0.32	0.1	0 – 0.37	B	LC	18	B
	Fall	0.11	0 – 0.24	0.09	0 – 0.26	B	LC		
L1a	Spring	0.26	0 – 0.56	0.24	0 – 0.73	B	V		B/V
	Summer	0.15	0 – 0.39	0.18	0 – 0.55	B	LC	35	B
	Fall	0.13	0 – 0.32	0.07	0 – 0.33	B	LC		
L1b	Spring	0.25	0 – 0.44	0.21	0 – 0.62	B	LC	23	B/V
	Summer	0.16	0 – 0.36	0.09	0 – 0.35	B	LC	29	B
	Fall	0.11	0 – 0.25	0.06	0 – 0.29	B	LC		
L1c	Spring	0.29	0 – 0.56	0.26	0 – 0.65	B	LC	32	
	Summer	0.12	0 – 0.38	0.09	0 – 0.32	B	LC		
L2	Spring	0.28	0 – 0.64	0.28	0 – 1.05	V	B	22	B
	Summer	0.16	0 – 0.25	0.22	0 – 0.44	B	LC	18	B
	Fall	0.11	0 – 0.21	0.21	0 – 0.56	LC	B		
L3	Spring	0.22	0 – 0.66	0.07	0 – 0.65	V	B	46	V
	Summer	0.25	0 – 0.43	0.15	0 – 0.40	B	LC	46	B
	Fall	0.19	0 – 0.37	0.06	0 – 0.31	B	LC		
M1	Spring	0.31	0 – 0.68	0.17	0 – 0.48	B	V	37	B/V
	Summer	0.2	0 – 0.50	0.08	0 – 0.19	B	LC	22	B
	Fall	0.18	0 – 0.39	0.03	0 – 0.13	B	LC		
M2	Spring	0.24	0 – 0.62	0.33	0 – 1.24	B	LC	19.8	B
	Summer	0.19	0 – 0.31	0.16	0 – 0.64	B	SC	31	B
	Fall	0.2	0 – 0.45	0.13	0 – 0.41	LC	B	31	
M3	Spring	0.32	0 – 0.66	0.22	0 – 0.54	B	LC	27	B
	Summer	0.18	0 – 0.54	0.05	0 – 0.26	B	LC	31	B
	Fall	0.15	0 – 0.38	0.04	0 – 0.24	B	LC		
M4	Spring	0.18	0 – 0.56	0.12	0 – 0.57	B	LC	35	B/V
	Summer	0.13	0 – 0.33	0.05	0 – 0.25	B	LC		
	Fall	0.15	0 – 0.28	0.06	0 – 0.15	B	LC		
N1	Spring	0.25	0 – 0.48	0.51	0 – 1.36	B	LC	42	B

Table 9.II-3 Summary of Habitat Characteristics from Stream Transects (continued)

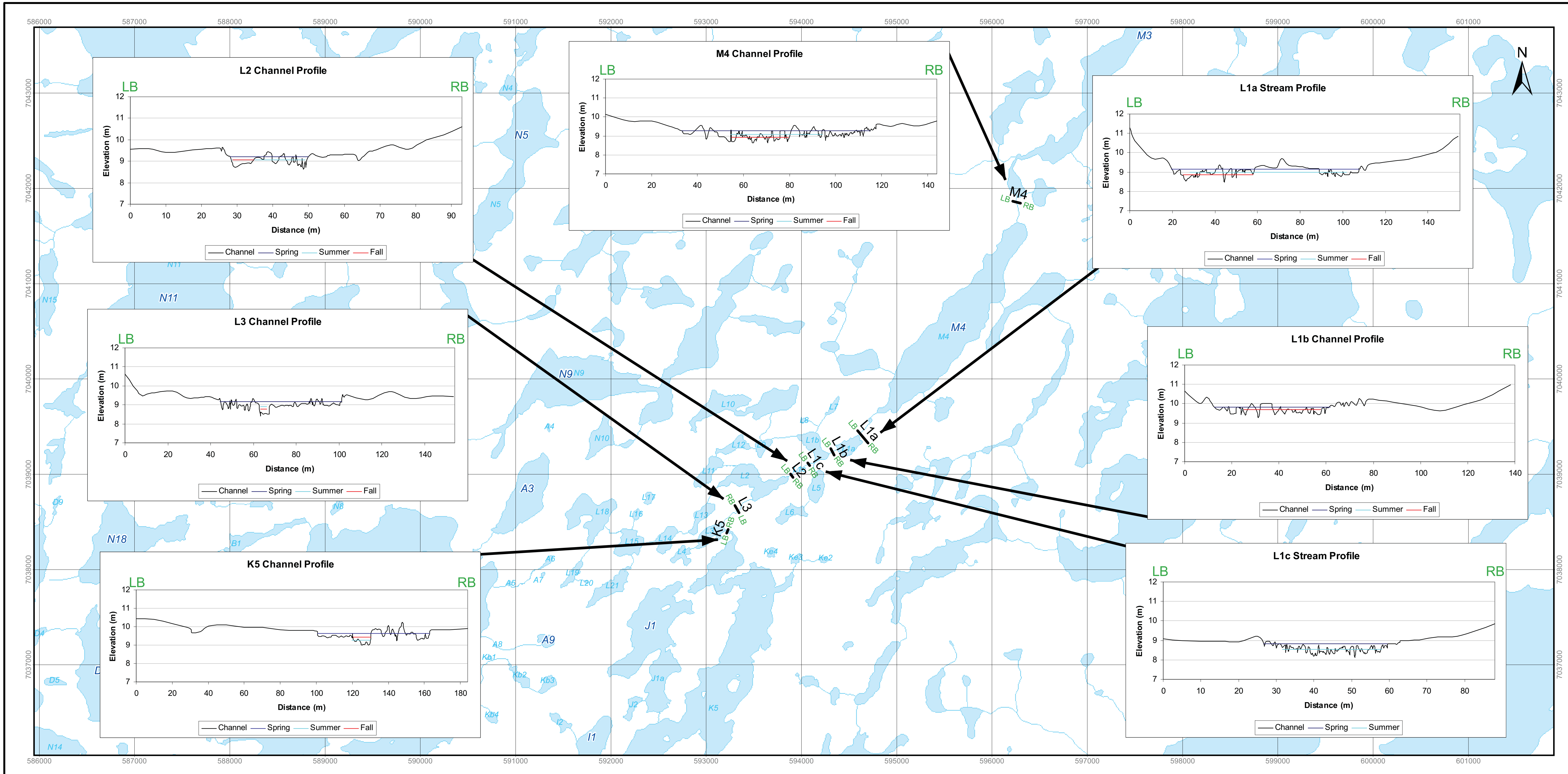
Stream	Season	Average Depth (m)	Depth Range (m)	Average Velocity (m/s)	Velocity Range (m/s)	Dominant Substrate	Subdominant Substrate	Average Substrate Size (cm)	Dominant Cover
N2	Spring	0.28	0 – 0.97	0.16	0 – 0.54	B	V	40	B/V
	Summer	0.16	0 – 0.56	0.05	0 – 0.15	B	F	65	B/V
	Fall	0.16	0 – 0.51	0.02	0 – 0.14	B	LC		
N3	Spring	0.17	0 – 0.43	0.38	0 – 0.92	B	LC	47	B/V
	Summer	0.1	0 – 0.34	0.19	0 – 1.13	B	LC	29	B
	Fall	0.08	0 – 0.19	0.14	0 – 0.68	LC	B		
N4	Spring	0.28	0 – 0.95	0.64	0 – 1.28	B	R	41	B
	Summer	0.15	0 – 0.60	0.04	0 – 0.11	B		46	B
	Fall	0.13	0 – 0.66	0.025	0 – 0.28	B	LC		
N5	Spring	0.25	0 – 0.56	0.04	0 – 0.37	B	F	35	
	Summer	0.11	0 – 0.42	0.01	0 – 0.05	V	B	29	V
	Fall	0.14	0 – 0.32	0.002	0 – 0.03	V	B		
N6	Spring	0.19	0 – 0.52	0.16	0 – 0.54	B	V	44	B
	Summer	0.15	0 – 0.52	0.05	0 – 0.20	V	B	31	
	Fall	0.12	0 – 0.43	0.05	0 – 0.18	B			
N9	Spring	0.24	0 – 0.58	0.11	0 – 0.25	B	F	58	B
N10	Spring	0.24	0 – 0.31	0.11	0 – 0.24	F			V
N11	Spring	0.32	0 – 0.50	0.7	0 – 1.37	B	LC	37	B
N12	Spring	0.15	0 – 0.32	0.09	0 – 0.40	B		80	V
	Summer	0.16	0 – 0.42	0.01	0 – 0.07	F			
	Fall	0.15	0 – 0.42	0.003	0 – 0.04				
N14	Spring	0.19	0 – 0.27	0.09	0 – 0.26	F	V		B
	Summer	0.06	0 – 0.08	0.02	0 – 0.05	F			
	Fall	0.06	0 – 0.12	0.05	0 – 0.26				
N15	Spring	0.29	0 – 0.95	0.18	0 – 0.48	B	LC	56	B
N16	Spring	0.19	0 – 0.36	0.52	0 – 1.1	B	LC	38	B
N17	Spring	0.25	0 – 0.58	0.21	0 – 0.48	B	LC	41	B
	Summer	0.17	0 – 0.44	0.03	0 – 0.13	B	LC		B
N18	Spring	0.21	0 – 0.45	0.07	0 – 0.44	F	B	20	

Table 9.II-3 Summary of Habitat Characteristics from Stream Transects (continued)

Stream	Season	Average Depth (m)	Depth Range (m)	Average Velocity (m/s)	Velocity Range (m/s)	Dominant Substrate	Subdominant Substrate	Average Substrate Size (cm)	Dominant Cover
P1	Spring	0.31	0 – 1.00	0.21	0 – 0.76	F	B	31	B
P2	Spring	0.31	0 – 0.61	0.24	0 – 0.63	B	LC	37	B
P3E	Spring	0.26	0 – 0.70	0.47	0 – 1.49	B	LC	15	B
P4	Spring Summer Fall	0.39 0.22 0.12	0 – 0.73 0 – 0.39 0 – 0.25	0.61 0.36 0.19	0 – 1.31 0 – 1.00 0 – 0.72	B B	LC LC	32 25	B B
P5	Spring	0.47	0 – 0.84	0.17	0 – 0.50	B	LC	26	B
P6	Spring	0.43	0- 0.86	0.35	0 – 0.74	B	LC	51	B
410	Spring	0.34	0 – 0.85	0.22	0 – 0.83	B	V	59	B
Kirk	Spring	0.43	0 – 1.15	0.51	0 – 1.27	B		41	B

Notes: Substrate codes: B – boulder; LC – large cobble; V – vegetation; F – Fines; R – bedrock. Cover codes: B – boulder; V – vegetation.

cm = centimetres; m = metres; m/s = metres per second.

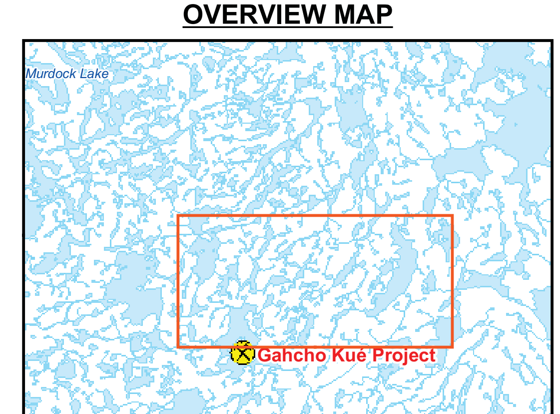


LEGEND

- Gahcho Kué Project
- Watercourse
- Waterbody
- Stream Transect (Channel Profile)
- LB Left Bank of Watercourse
- RB Right Bank of Watercourse

NOTES
Base data source: National Topographic
Base Data (NTDB) 1:50,000

OVERVIEW MAP



GAHCHO KUÉ PROJECT

Transect Locations and Channel Profiles in Streams of the 'K' and 'L' Watersheds between Kennady Lake and Lake 410

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JOB NO: 09-1365-1004	REVISION NO: 1
OFFICE: GOLD-CAL	DRAWN: SK
CHECK: KC	

DE BEERS CANADA

Figure 9.II-1

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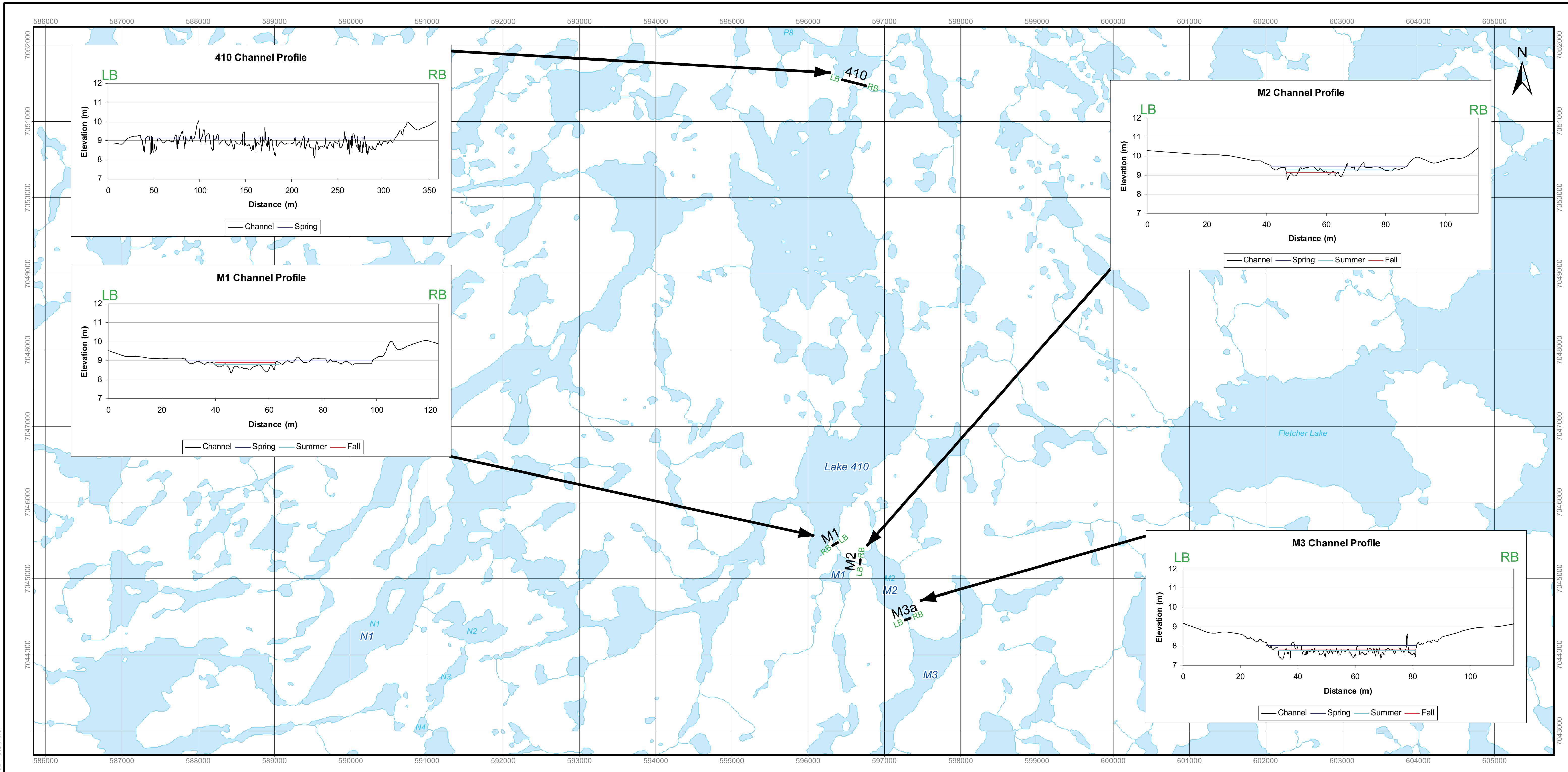
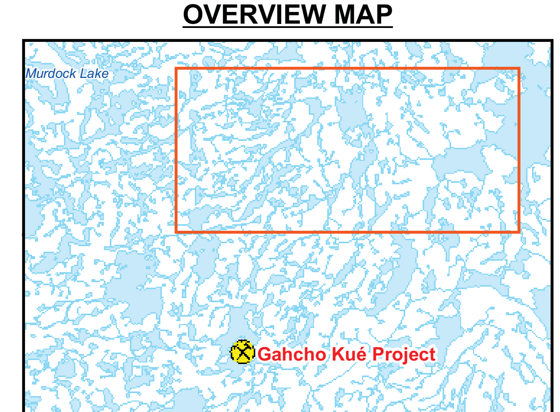


LEGEND

- Gahcho Kué Project
- Watercourse
- Waterbody
- Stream Transect (Channel Profile)
- LB Left Bank of Watercourse
- RB Right Bank of Watercourse

NOTES
Base data source: National Topographic
Base Data (NTDB) 1:50,000

OVERVIEW MAP



GAHCHO KUÉ PROJECT

Transect Locations and Channel Profiles in Stream of the 'M' Watershed between Kennady Lake and Lake 410

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FILE No: E-Fish-021-GIS	DATE: December 13, 2010
JOB NO: 09-1365-1004	REVISION NO: 1
OFFICE: GOLD-CAL	DRAWN: SK
CHECK: KC	Figure 9.II-2

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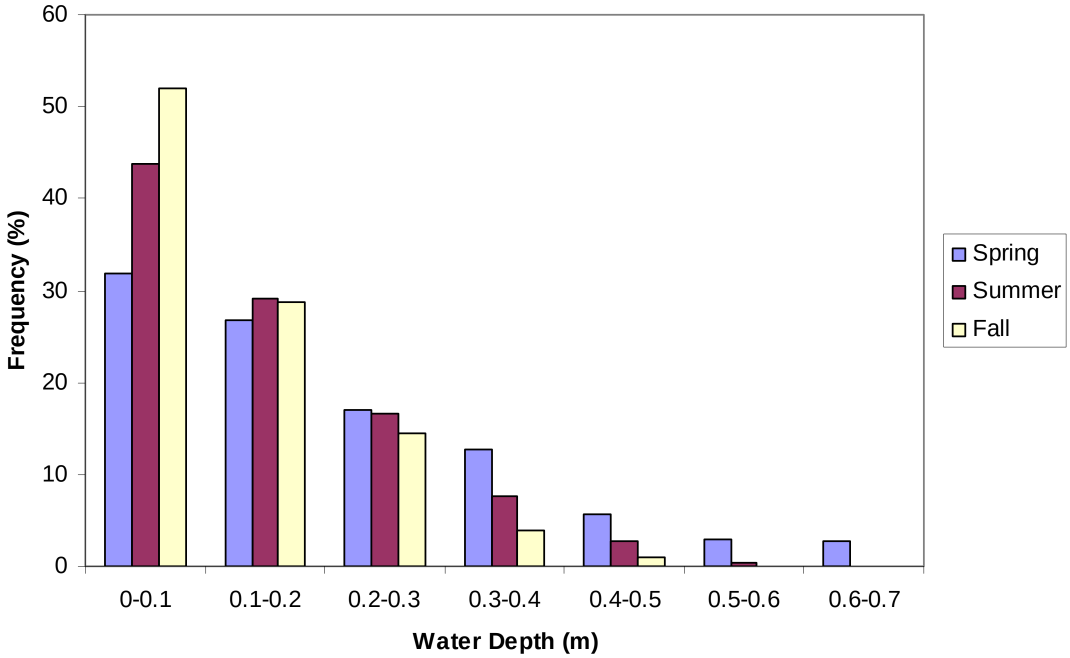
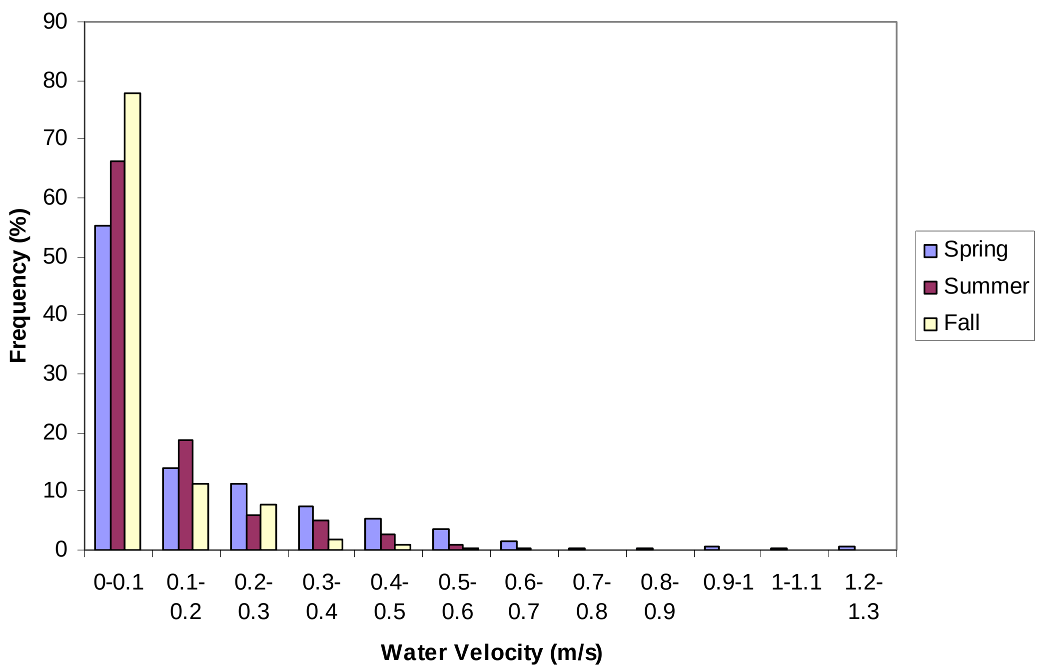
Figure 9.II-3 Frequency of Seasonal Water Depths in the Downstream Outlet Streams



% = percent; m = metres.

Figure 9.II-4 Frequency of Seasonal Water Velocities in the Downstream Outlet Streams



% = percent; m = metres.

9.II.3.2 N WATERSHED STREAMS

The Project has the potential to change flows in streams throughout the N watershed due to the dewatering of Kennady Lake and diversion of Kennady Lake sub-watersheds during mine construction and operations. Unlike streams between Kennady Lake and Lake 410, these streams are not connected in series downstream. As a result, information for these streams is presented separately below. Location of transects and stream cross-sectional profiles for the N watershed streams are provided in Figures 9.II-5, 9.II-6, and 9.II-7.

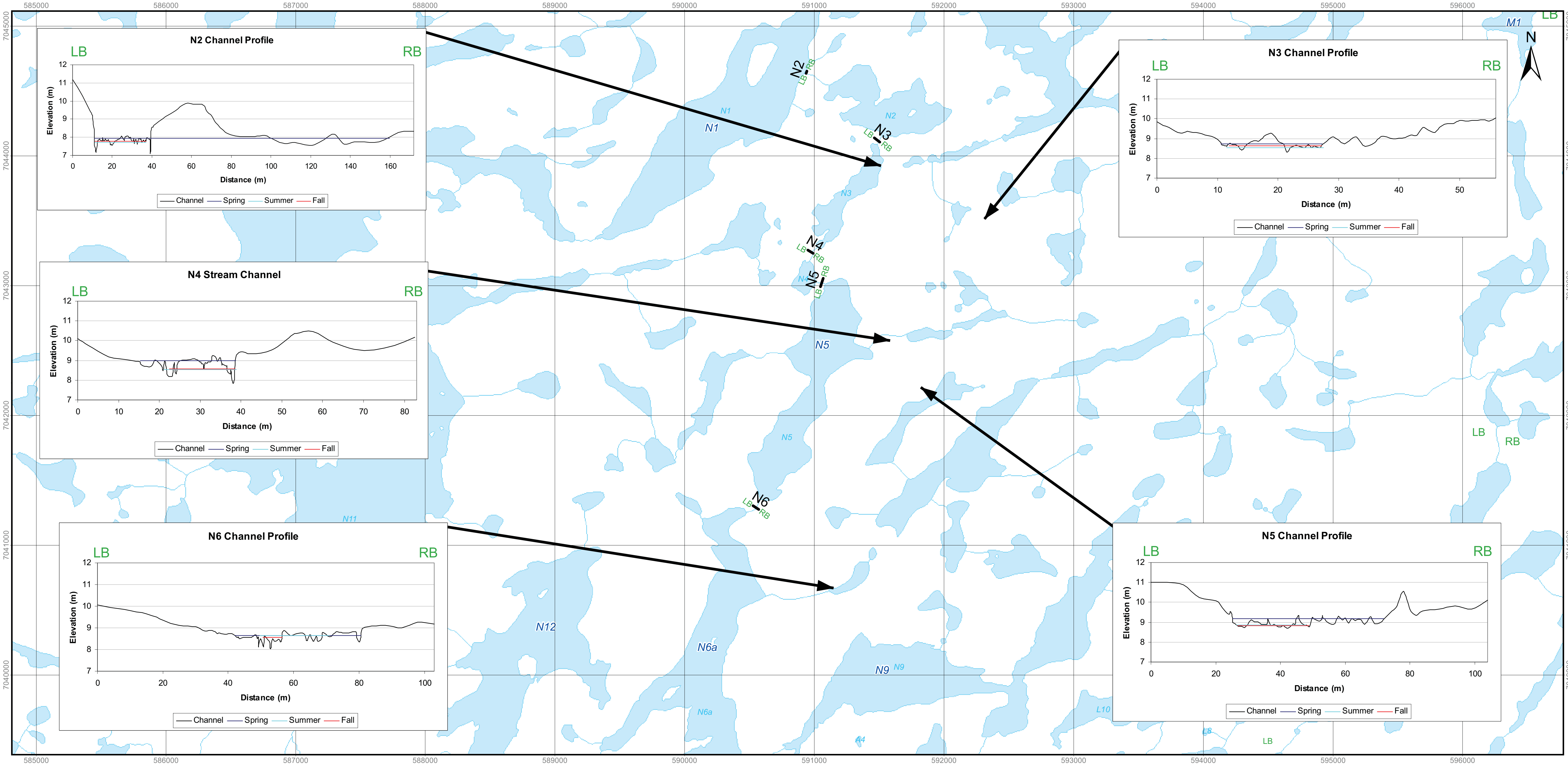
9.II.3.2.1 Stream N1

Stream N1 drains the N watershed to Lake 410. The stream is dominated by large, angular boulder substrates. The average depth in the spring was 0.25 m and the average velocity was 0.51 m/s.

The most frequent depths range was between 0.2 m and 0.3 m (Figure 9.II-8). Shallower (less than 0.1 m) and deeper depths (over 0.4 m) were the least common. Water velocities between 0.3 m/s and 0.4 m/s were the most frequent in spring (Figure 9.II-9).

9.II.3.2.2 Streams N2, N3, N4, N5, N6

Streams N2 to N6 drain a series of lakes in the N watershed immediately north of Kennady Lake and flow into Lake N1. These streams are dominated by boulder substrates, with portions of streams N2 and N4 influenced by bedrock outcrops. Depths less than 0.2 m were most frequent in all three seasons, with the proportion of depths less than 0.2 m increasing in summer and fall (Figure 9.II-10). Depths greater than 0.2 m were the most common spring. Water velocities less than 0.1 m/s were the most frequent in all three seasons (Figure 9.II-11).

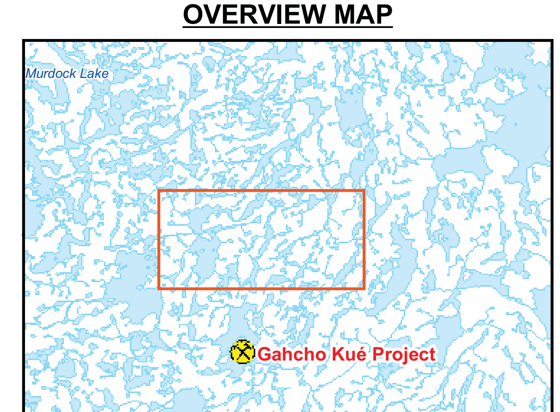


LEGEND

- Gahcho Kué Project
- Watercourse
- Waterbody
- Stream Transect (Channel Profile)
- LB Left Bank of Watercourse
- RB Right Bank of Watercourse

NOTES
Base data source: National Topographic Base Data (NTDB) 1:50,000

OVERVIEW MAP



GAHCHO KUÉ PROJECT

Transect Locations and Channel Profiles in Streams along the Proposed Northern Diversion Route in the Adjacent 'N' Watershed

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DE BEERS CANADA

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DATE: December 13, 2010
JOB NO: 09-1365-1004
REVISION NO: 1
OFFICE: GOLD-CAL
DRAWN: SK
CHECK: KC

Figure 9.II-5

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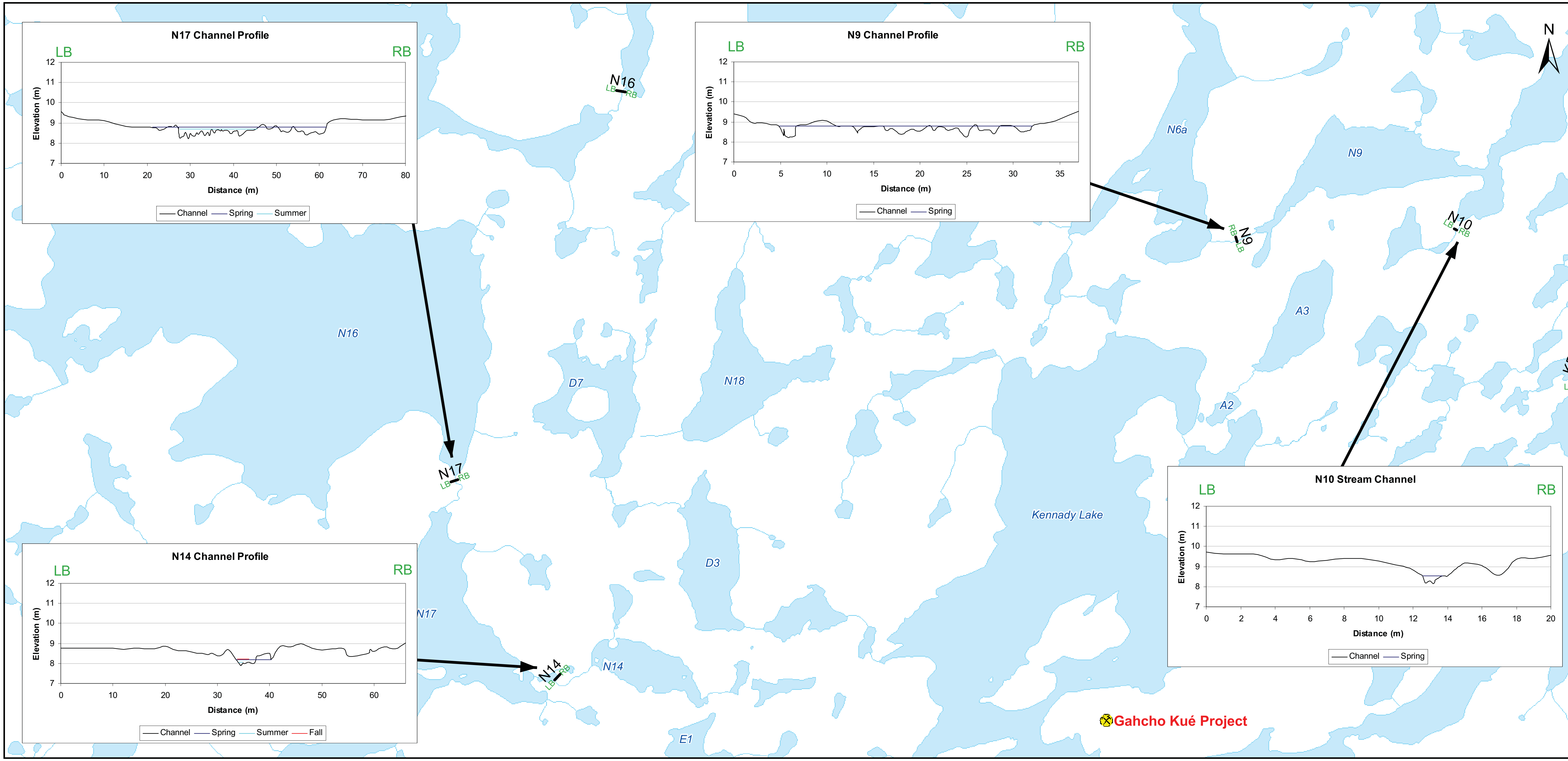
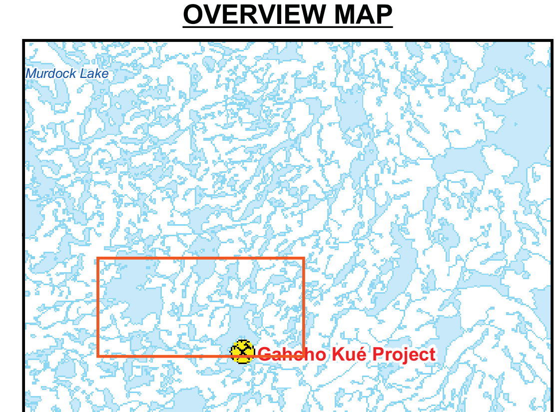


LEGEND

- Gahcho Kué Project
- Watercourse
- Waterbody
- Stream Transect (Channel Profile)
- LB Left Bank of Watercourse
- RB Right Bank of Watercourse

NOTES
Base data source: National Topographic
Base Data (NTDB) 1:50,000

OVERVIEW MAP



GAHCHO KUÉ PROJECT

Transect Locations and Channel Profiles in Streams in the Adjacent 'N' Watershed

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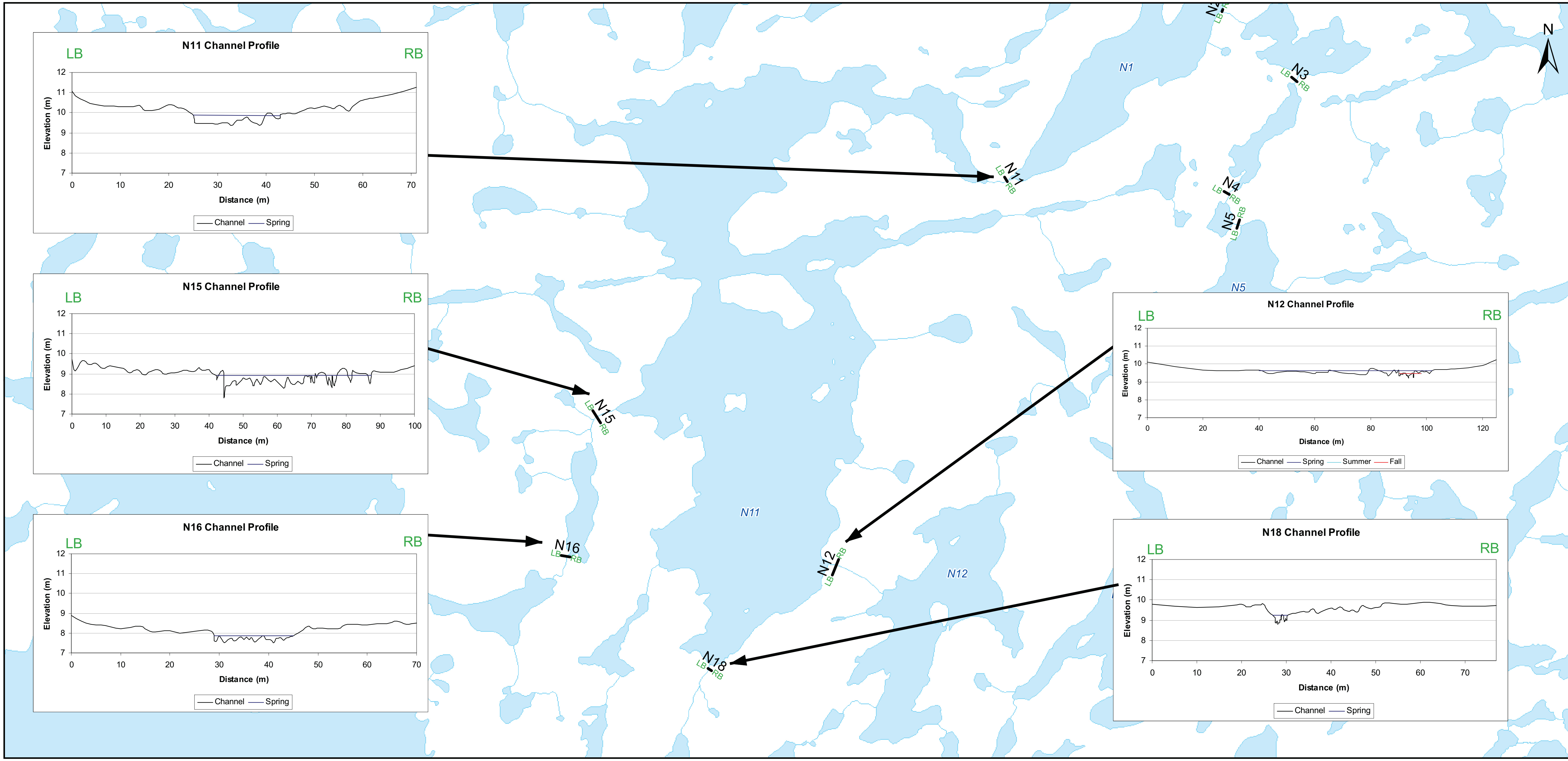
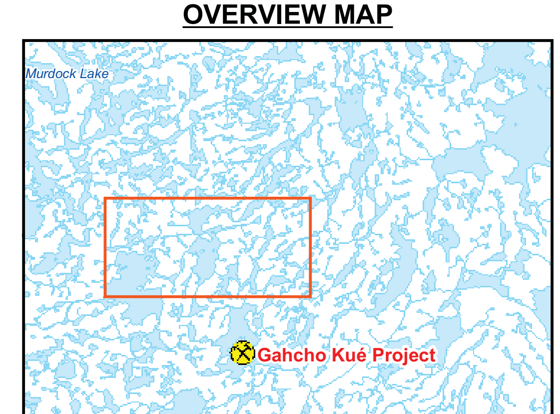


LEGEND

- Gahcho Kué Project
- Watercourse
- Waterbody
- Stream Transect (Channel Profile)
- LB Left Bank of Watercourse
- RB Right Bank of Watercourse

NOTES
Base data source: National Topographic
Base Data (NTDB) 1:50,000

OVERVIEW MAP



GAHCHO KUÉ PROJECT

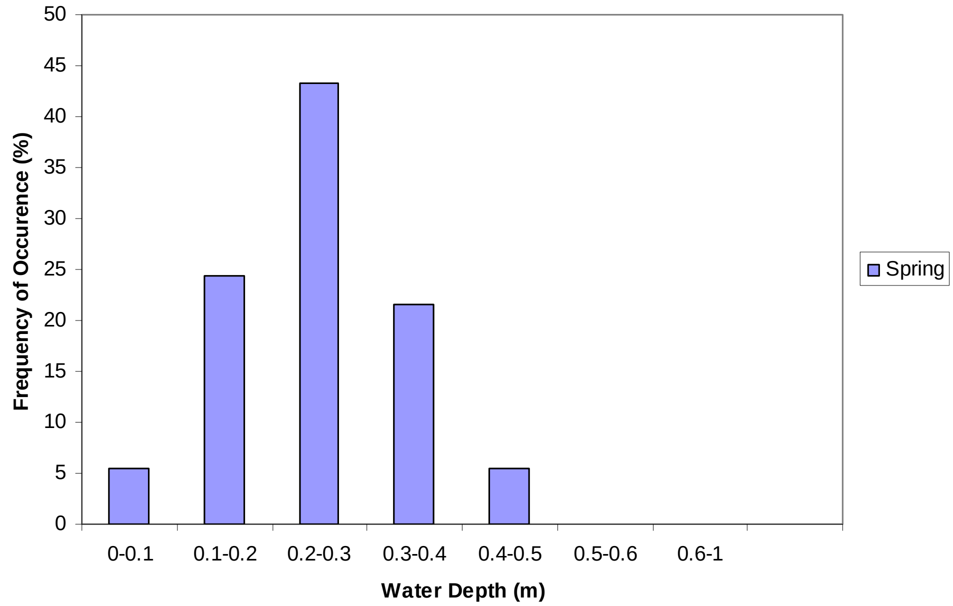
Transect Locations and Channel Profiles in Streams in the Adjacent 'N' Watershed

PROJECTION: UTM Zone 12	DATUM: NAD83
Scale: 1:30,000 (300 0 300 600 Metres)	
FILE No: E-Fish-024-GIS	DATE: December 13, 2010
JOB NO: 09-1365-1004	REVISION NO: 1
OFFICE: GOLD-CAL	DRAWN: SK / CHECK: KC

DE BEERS CANADA

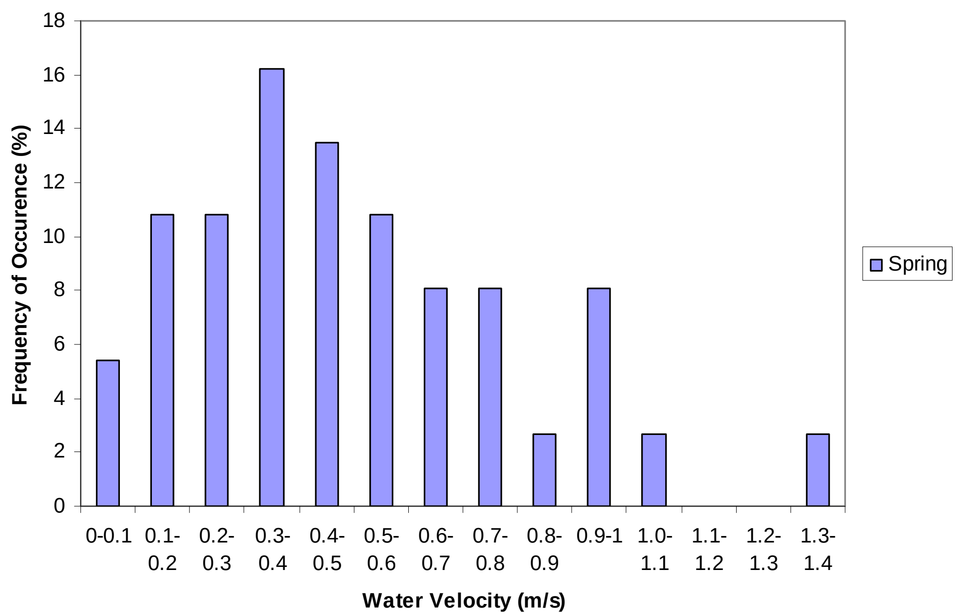
Figure 9.II-7

Figure 9.II-8 Frequency of Spring Water Depths in Stream N1



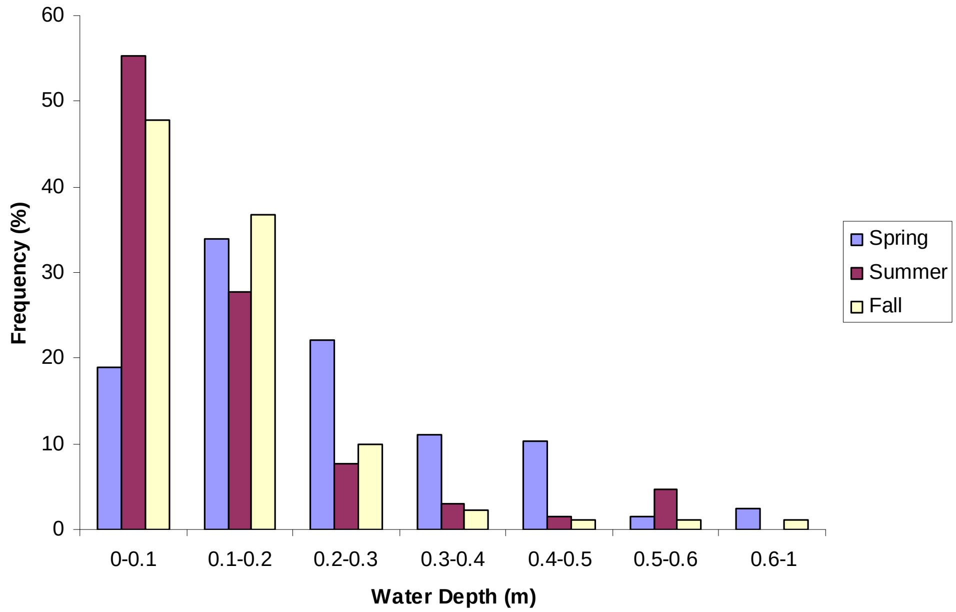
% = percent; m = metres.

Figure 9.II-9 Frequency of Spring Water Velocities in Stream N1



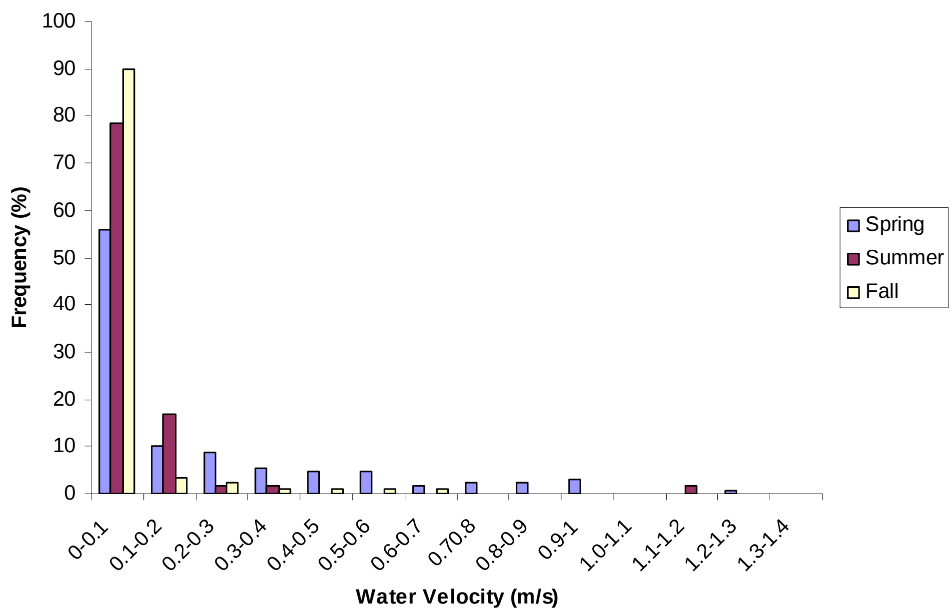
% = percent; m/s = metres per second.

Figure 9.II-10 Frequency of Seasonal Water Depths in Streams N2 to N6



% = percent; m = metres.

Figure 9.II-11 Frequency of Seasonal Water Velocities in Streams N2 to N6



% = percent; m/s = metres per second.

9.II.3.2.3 Stream N11

Stream N11 drains Lake N11 into Lake N1. The stream is dominated by large boulder substrates and includes a series of bedrock cascades in the middle of its length. The cross-section in Stream N11 was located downstream of these cascades. The average depth in the spring was 0.32 m and the average velocity was 0.7 m/s (Table 9.II-3). In spring, the most frequent depth category was between 0.3 m and 0.4 m (Figure 9.II-12). The most frequent water velocities in spring were between 0.5 m/s and 0.6 m/s but water velocities greater than 1.0 m/s were also present (Figure 9.II-13).

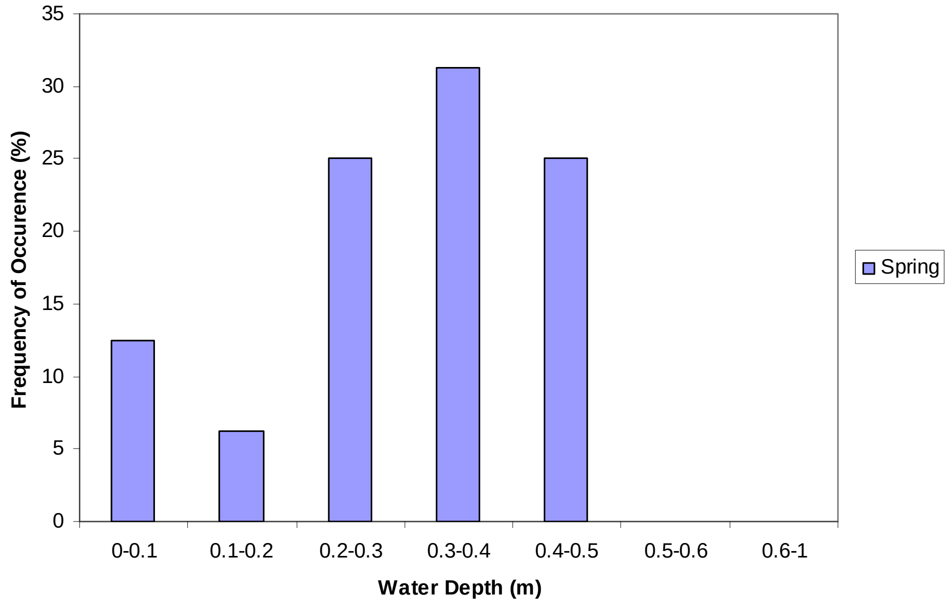
9.II.3.2.4 Stream N12

Stream N12 drains Lake N12 to Lake N11. The average depth in all three seasons was 0.15 m while the average velocity in spring was 0.09 m/s and less then 0.01 m/s in summer and fall (Table 9.II-3). The stream is dominated by boulder substrates. Depths less than 0.1 m were most frequent in all seasons (Figure 9.II-14). The proportion of depths less than 0.1 m was greatest in fall. Only in spring were water velocities greater than 0.1 m/s present in Stream N12 (Figure 9.II-15).

9.II.3.2.5 Stream N18

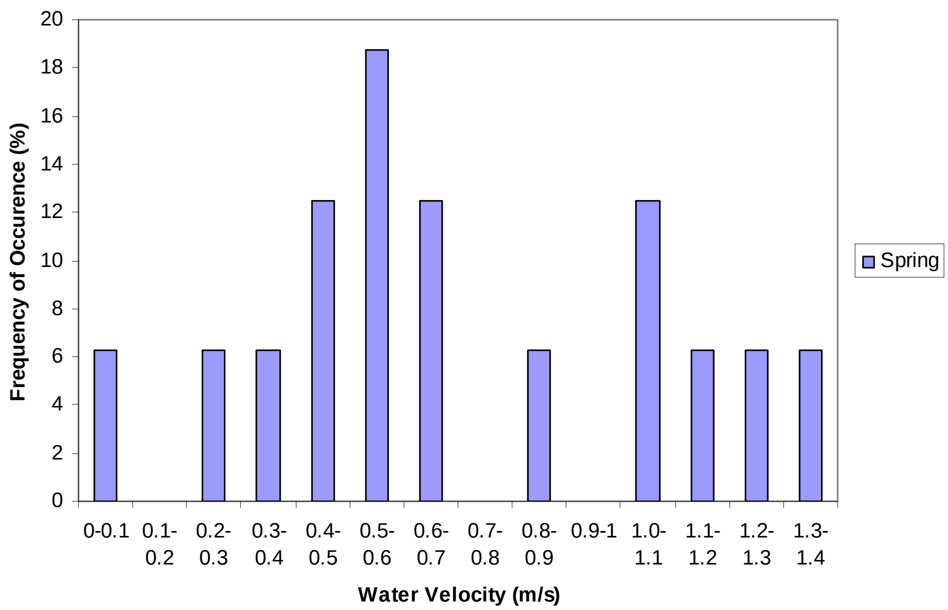
Stream N18 drains Lake N18 into Lake N11. N18 is dominated by boulder substrates. The average depth in the spring was 0.21 m and the average velocity was 0.07 m/s (Table 9.II-3). The majority of depths in spring were less than 0.1 m (Figure 9.II-16). Depths greater than 0.3 m were also available. Most water velocities in spring were less than 0.1 m/s (Figure 9.II-17).

Figure 9.II-12 Frequency of Spring Water Depths in Stream N11



% = percent; m = meters.

Figure 9.II-13 Frequency of Spring Water Velocities in Stream N11



% = percent; m/s = meters per second.