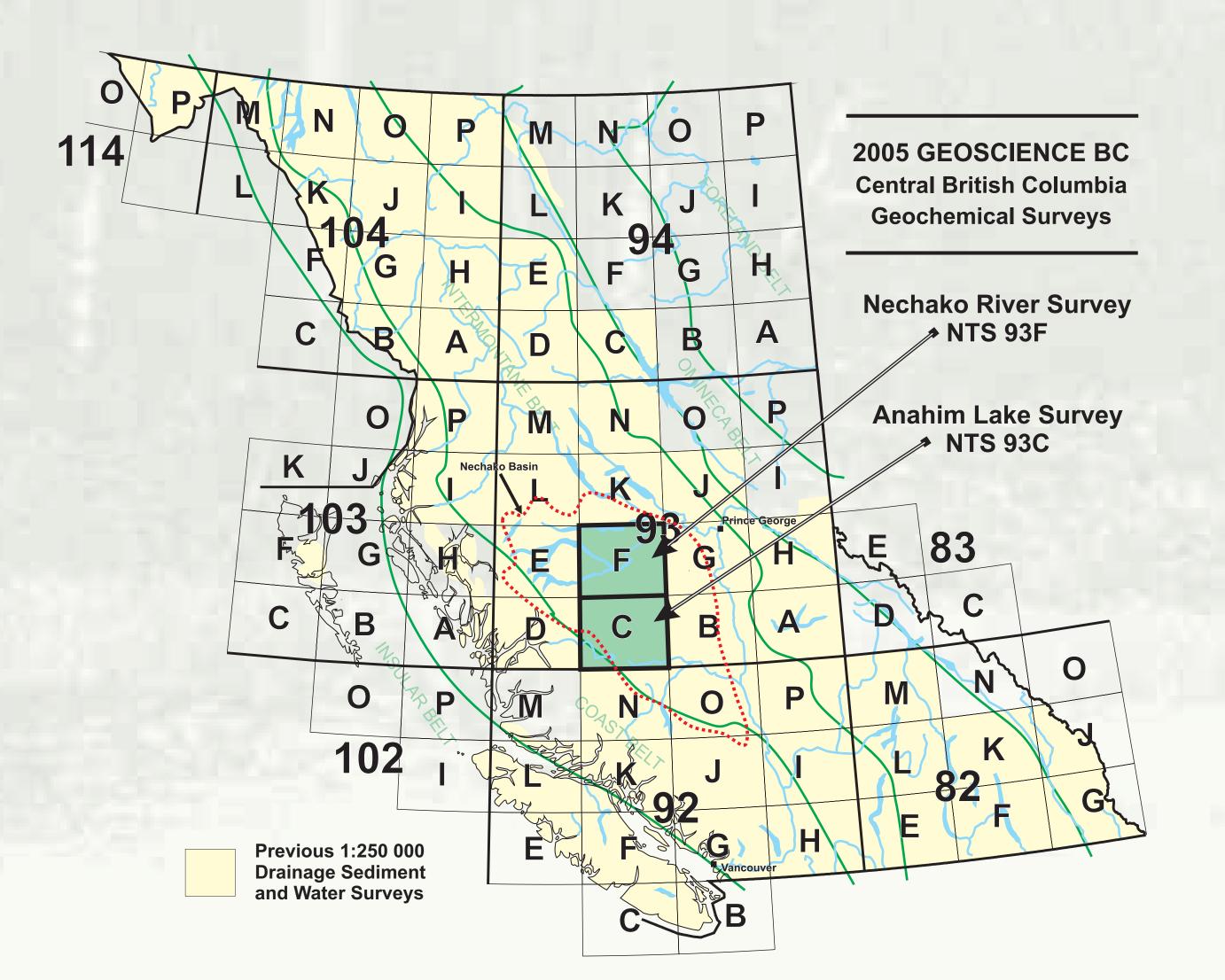
Geoscience BC

INTRODUCTION ...

uring the 2005 field season, *Geoscience BC* funded two reconnaissance-scale drainage sediment and water surveys that were successfully completed in previously un-surveyed regions of central British Columbia. These surveys are part of an ongoing effort to complete first-level geochemical coverage of the province as well as provide the mining and exploration community access to new, highquality geochemical information.



econnaissance scale drainage sediment and water surveys are widely recognized as one of the most important exploration tools in the Canadian Cordillera. To date over 70% of British Columbia has been surveyed. This high quality, publicly available, grassroots information is directly responsible for follow-up mineral exploration that is valued in the millions of dollars and has been credited with the discovery of numerous mineral prospects. Survey results from the 2005 programs will provide the exploration community access to new geochemical information for under-explored areas of high mineral potential. The data will help outline regional geochemical trends, identify new exploration targets, and profile previously discovered mineral properties.

2005 SURVEYS ...

elicopter-supported sample collection was carried out from July to September 2005, during which 2070 drainage sediment and water samples were Less systematically collected from 1957 sites. Within the low-lying areas, lake sediment and water were collected from 1855 sites. In the Anahim Lake map sheet, stream sediment material was also collected from 102 sites in areas of greater relief near Mount Dent and Charlotte Lake. The surveys covered a total area of 19 500 square kilometres and the average sample site density was 1 site per 9.9 square kilometres.

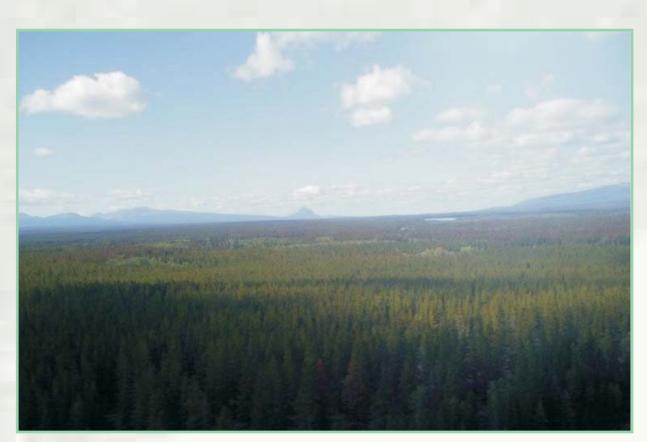
DRAINAGE SEDIMENT & WATER GEOCHEMICAL SURVEYS **ANAHIM LAKE & NECHAKO RIVER MAP AREAS (NTS 93C & F)**

REGIONAL SUMMARY...

he Anahim Lake (NTS 93C) and Nechako River (NTS 93F) map sheets are situated in the Nechako Basin in central BC, in a region of low relief L characterized by large expanses of flat and gently rolling landscape. Subdued topography, poor drainage and abundance of lakes over much of the region make lake sediments an appropriate geochemical sample medium. The plateaus are mostly forested with subboreal spruce and pine, and are generously dotted with small to medium-sized lakes, as well as extensive wetland systems. Throughout the region, the northern pine beetle kill has significantly impacted extensive areas of forest cover.



Nechako Plateau



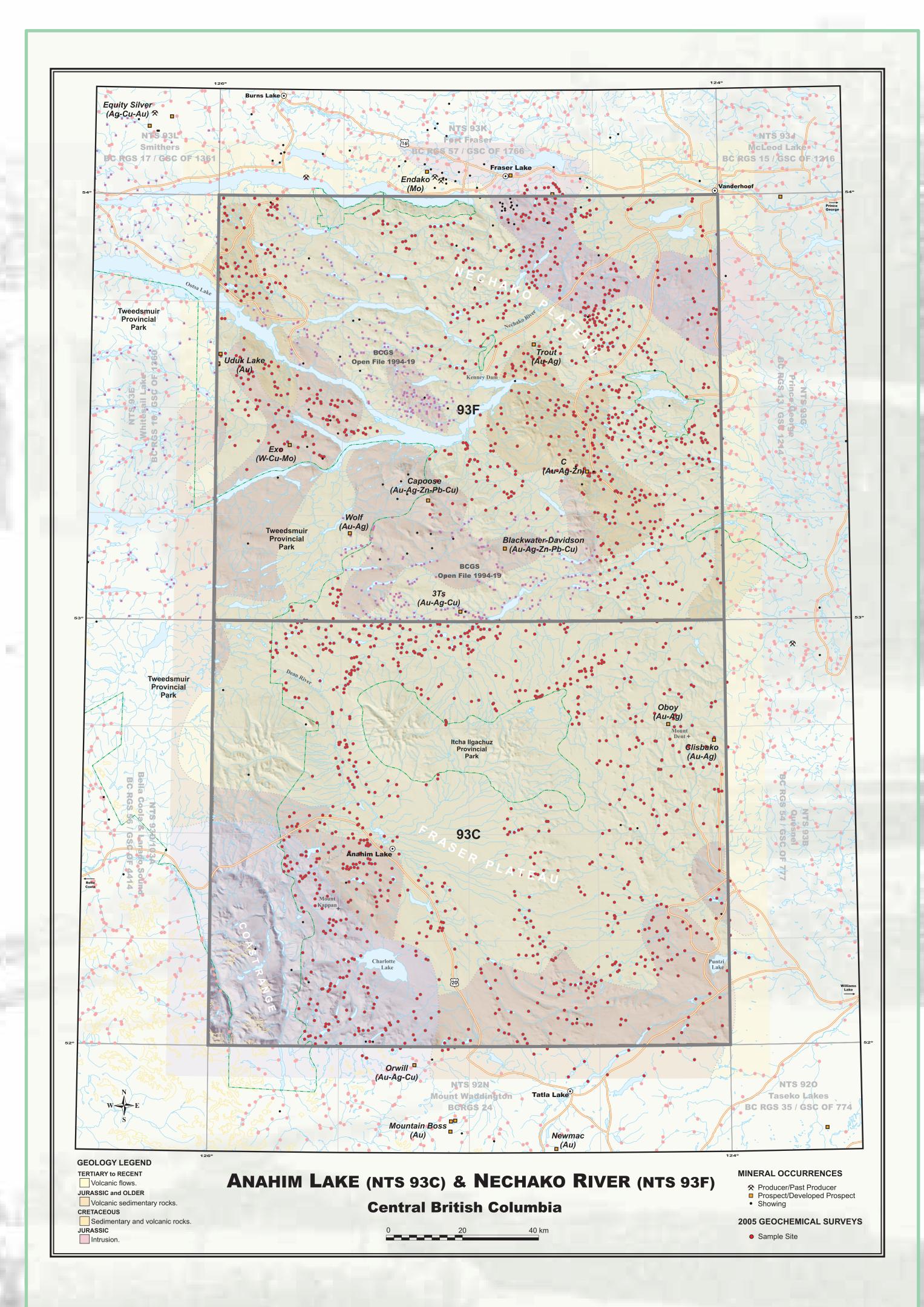
Fraser Plateau

he region is bounded to the north by the Skeena Arch, to the west and south by the Coast Plutonic Complex and to the east by the Cache Creek Group. Examples of L mineral deposits found in the survey areas include epithermal Au-Ag occurrences Wolf (093F 045) and Oboy (093C 015), hosted by Ootsa Lake Group felsic volcanic rocks, and the 3Ts developed prospect (Tsacha [093F055], Taken [093F055] and Tam claims), occurring in Hazelton Group intermediate volcanic rocks. Also important are Mo and Cu porphyry occurrences associated with Tertiary intrusions (e.g., C, 093F 004) and porphyry-related precious and base metal mineralization (e.g., Capoose, 093F 040), hosted by Hazelton Group intermediate volcanic rocks associated with crosscutting rhyolitic dikes of Cretaceous age.

SURVEY DESIGN ...

ethods and specifications are based on standard lake sediment geochemical survey strategies used elsewhere in Canada for the NGR program (Friske, ▲ V ▲ 1991), as well as prior orientation studies and regional lake sediment surveys completed in BC (Cook, 1997). Lake sediment surveys have been shown to be an effective tool for delineating regional geochemical patterns and anomalous metal concentrations related to mineral deposits. The discovery of epithermal precious metal prospects such as the Wolf, Capoose and Tsacha prospects, and porphyry base metal prospects such as the Mac deposit, are examples of the successful application of previous lake sediment geochemistry programs in central BC.





PREVIOUS WORK...

wo previous lake sediment and water geochemistry surveys (Cook and Jackaman, 1994) were completed in the Fawnie Range and Ootsa Lake areas, and several till geochemistry surveys were conducted in parts of the southern Nechako Plateau (Levson et al., 1994; Weary et al., 1997; Levson et al., 2001). Biogeochemical surveys have been completed in parts of the Nechako Plateau (Dunn and Hastings, 1998a, b, c, d; Dunn and Hastings, 2000a, b, c, d) and in the Clisbako area of the Fraser Plateau (Dunn, 1997). Cook and Dunn (2006) are currently conducting studies dealing with property-scale surficial geochemistry.

Survey Type	Survey Date	NTS Map Sheets	Survey Name	Reference	
Till Geochemistry	1994	93F03	Fawnie Creek	Levson <i>et al</i> ., 1994	The second second second second second
Till Geochemistry	1997	93F07	Chedakuz Creek	Weary <i>et al</i> ., 1997	
Till Geochemistry	2001	93F05, 12	Tetachuk Creek and Marilla	Levson <i>et al</i> ., 2001	
Till Geochemistry	2001	93C01, 08, 09, 16	Clisbako	Lett <i>et al</i> ., 2006	
ake Sed/Water Geochem	1994	93F02, 03	Fawnie Range	Cook and Jackaman, 1994	
ake Sed/Water Geochem	1994	93F06, 11, 12, 13, 14	Ootsa Lake	Cook and Jackaman, 1994	
Biogeochemistry	1996	93C09	Clisbako	Dunn, 1997	
Biogeochemistry	1998	93F03, 05, 07, 12	Ootsa-Francois Lakes	Dunn and Hastings, 1998	
Biogeochemistry	2000	93F12, 13, 14	Nechako River	Dunn and Hastings, 2000	



SAMPLE ANALYSIS ...

ediment samples have been analyzed for base and precious metals, pathfinder elements and rare earths by instrumental neutron activation analysis (INAA) and inductively coupled plasma mass spectrometry (ICP-MS). Loss-on-ignition and fluorine were also determined for sediment material. Fluoride, conductivity and pH have been determined for the water samples.

Aluminum	0.01 %	Copper	0.01	ppm	Nickel	0.1 ppm	Tellurium	0.02 p	opn
Antimony	0.02 ppm	Gallium	0.2	ppm	Phosphorus	0.001 %	Thallium	0.02 p	pn
Arsenic	0.1 ppm	Iron	0.01	%	Potassium	0.01 %	Thorium	0.1 p	pn
Barium	0.5 ppm	Lanthanum	0.5	ppm	Scandium	0.1 ppm	Titanium	0.001 %	/o
Bismuth	0.02 ppm	Lead	0.01	ppm	Selenium	0.1 ppm	Tungsten	0.1 p	pn
Cadmium	0.01 ppm	Magnesium	0.01	%	Silver	2 ppb	Uranium	0.4	pn
Calcium	0.01 %	Manganese	1	ppm	Sodium	0.001 %	Vanadium	2 p	pn
Chromium	0.5 ppm	Mercury	5	ppb	Strontium	0.5 ppm	Zinc	0.1 p	pn
Cobalt	0.1 ppm	Molybdenum	0.01	ppm	Sulphur	0.02 %			
ICP-M		ts					OTHEI	2	
[CP-M	S Sediment	ts					OTHE	R	
	S Sediment		1	ppm	Scandium	0.2 ppm	OTHEI Sediments		
Antimony	S Sediment	Europium	12	ppm ppb		0.2 ppm 0.02 %	Sediments	•••	pn
Antimony Arsenic	S Sediment			ppb	Scandium Sodium Tantalum	0.02 %	Sediments Fluorine	 10 pp	-
ICP-M Antimony Arsenic Barium Bromine	S Sediment 0.1 ppm 0.5 ppm 50 ppm	Europium Gold			Sodium	0.02 % 0.5 ppm	Sediments Fluorine Loss on Ignitio	 10 pp on 0.1 %	-
Antimony Arsenic Barium	S Sediment 0.1 ppm 0.5 ppm 50 ppm 0.5 ppm 0.5 ppm	Europium Gold Hafnium	2 1	ppb ppm %	Sodium Tantalum	0.02 % 0.5 ppm 0.5 ppm	Sediments Fluorine	 10 pp on 0.1 %	-
Antimony Arsenic Barium Bromine Cerium	S Sediment 0.1 ppm 0.5 ppm 50 ppm 0.5 ppm 0.5 ppm	Europium Gold Hafnium Iron	2 1 0.2	ppb ppm % ppm	Sodium Tantalum Terbium	0.02 % 0.5 ppm 0.5 ppm 0.2 ppm	Sediments Fluorine Loss on Ignitio	 10 pp on 0.1 %	-
Antimony Arsenic Barium Bromine	S Sediment 0.1 ppm 0.5 ppm 50 ppm 0.5 ppm 5 ppm 5 ppm	Europium Gold Hafnium Iron Lanthanum	2 1 0.2 2	ppb ppm %	Sodium Tantalum Terbium Thorium	0.02 % 0.5 ppm 0.5 ppm	Sediments Fluorine Loss on Ignitic Natural Wa	 10 pp on 0.1 %	0

DATA RELEASE ...

inal survey results will be compiled into a NGR/RGS style data package that will include survey descriptions and details regarding methods; analytical and field data listings; summary statistics; plus sample location map and maps for individual elements. In addition, existing lake sediment results from previous surveys conducted in the study area will be incorporated into the final data package. The publications will be released on a CD-ROM as PDF files and will include all raw digital data files used in the production process. Results will also be available on the BCGS MapPlace.

> The data is scheduled for release *Spring 2006.*

ACKNOWLEDGMENTS...

ompanies that contributed to the successful completion of the 2005 surveys include Far West Helicopters (Chilliwack), White Saddle Air Services (Bluff Lake), Lakelse Air (Terrace) McElhanney Consulting Services (Vancouver), Acme Analytical Lab (Vancouver), Activation Lab (Ancaster, Ont) as well as the many local services providers in the Fraser Lake and Anahim Lake communities. Thanks also to Erik, Emma, Ray and John for their valuable assistance.



Nechako River Field Crew



Anahim Lake Field Crew