

QUEST NW - Geochemical Projects

Government-funded reconnaissance-scale regional geochemical surveys (RGS) have been conducted in BC since 1976. Currently, more than 63,000 drainage sediment and water samples have been collected at an average density of one sample for every 12 km².

Survey results comprise a comprehensive multi-element geochemical database that is routinely used to guide and support mineral exploration activities.

Efforts to maximize the utility of the BC RGS database include both new sampling and enhancements to available analytical information. As part of the QUEST-Northwest Project, *Geoscience BC* supported the following geochemical initiatives:

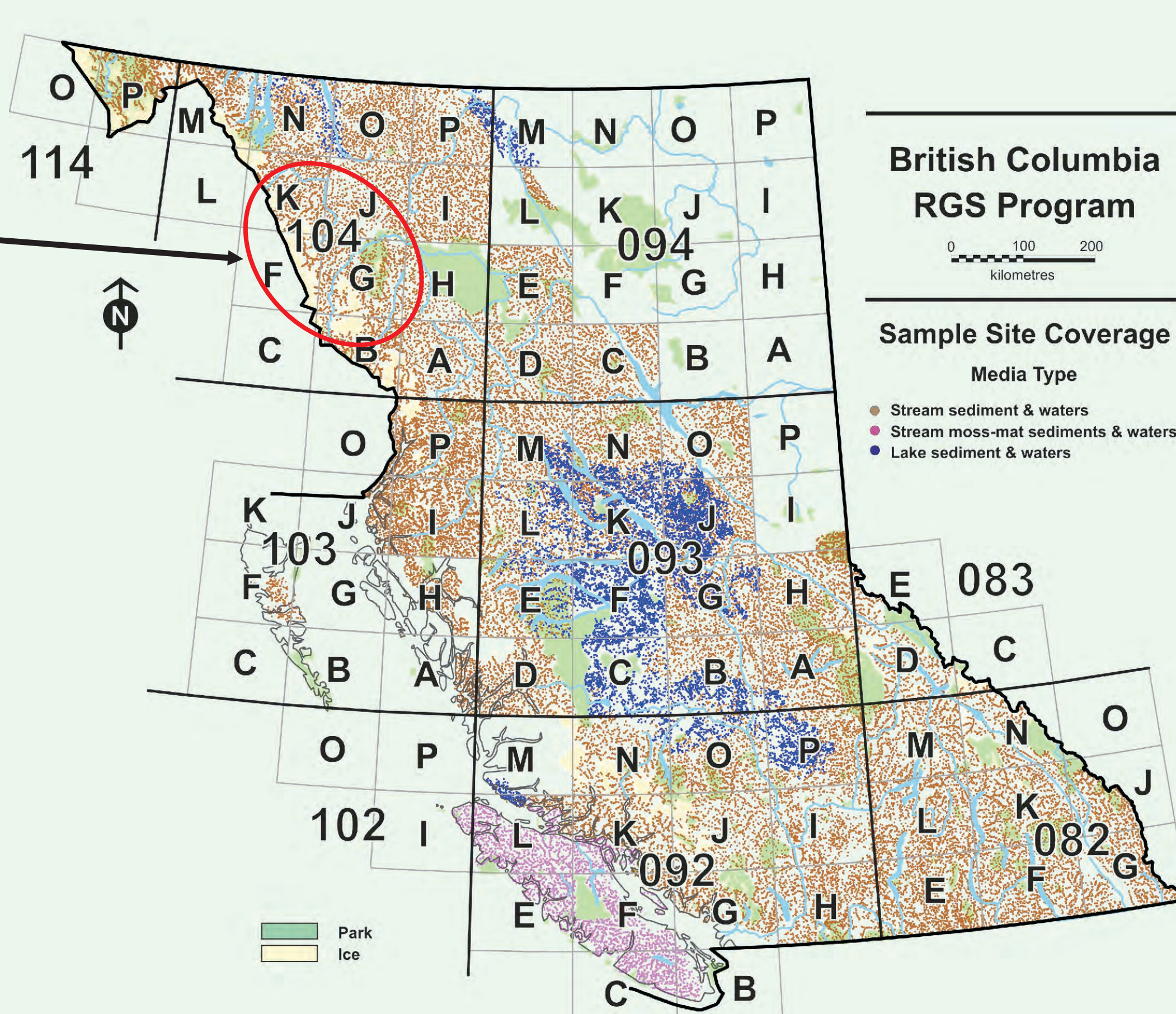
➤ **New stream sediment and water infill sampling** covering areas coincidental to new airborne geophysics work.

➤ **Reanalysis of 997 drainage sediment samples** previously collected in NTS 104K for 53 elements by aqua-regia ICP-MS.

➤ **Reanalysis of 1399 drainage sediment samples** previously collected in NTS 104F/G for 35 elements by INAA.



BC RGS program coverage ...



RGS Sample Archive Upgrade Project

RGS samples have been routinely saved and stored at facilities in Ottawa and Victoria. To help preserve and maintain the integrity of the collection, a co-operative effort between NRCAN, the BCGS and Geoscience BC was initiated in 2010.

The objectives of the Archive Upgrade Project was to repackage all BC samples to current storage standards and amalgamate the BC collection with NRCAN's Earth Material Collection located in Ottawa. This was accomplished in early 2011.

Original storage of BC RGS samples in Victoria and Ottawa ...



New storage of BC RGS samples in Ottawa ...

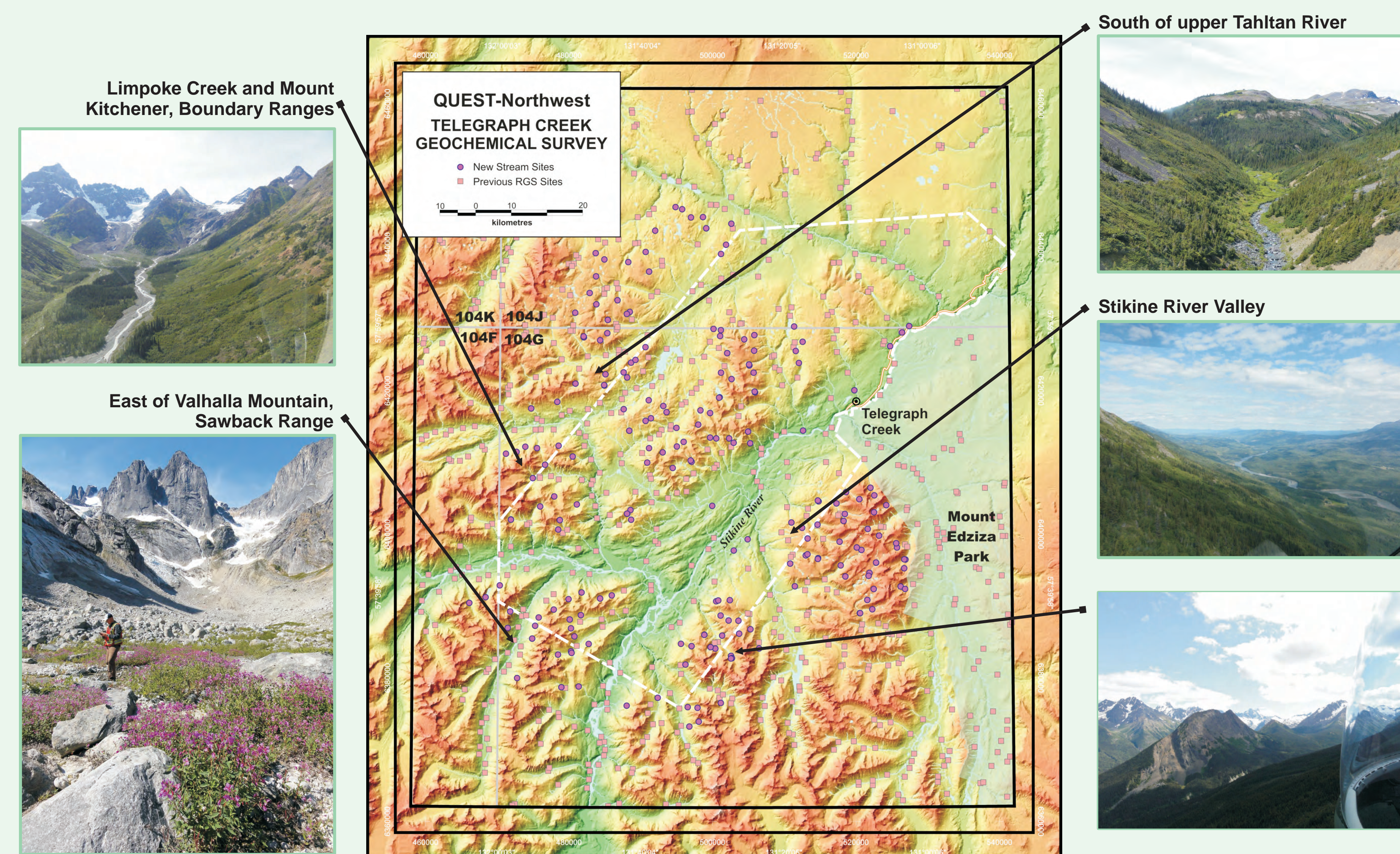


QUEST NW - Infill Geochemical Surveys

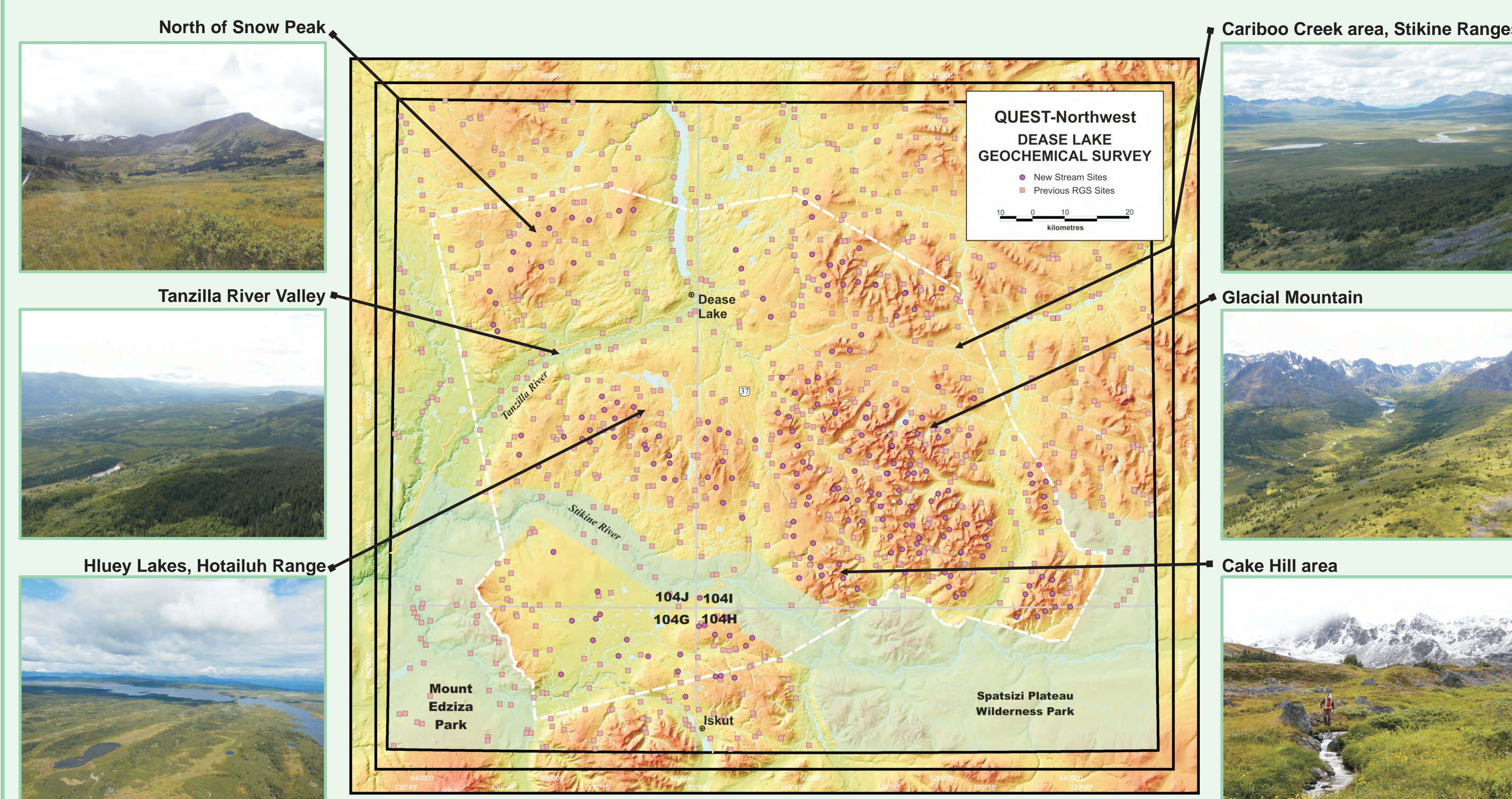
Using helicopter support, stream-based sample collection was carried out in August 2011. A total of 441 stream sediment and water samples were systematically collected. Combined with previous RGS work, the sample site density over the targeted areas was increased to 1 site every 7 km².

Sediment samples will be analyzed for base and precious metals, pathfinder elements and rare earths by an ultra trace aqua-regia digestion ICP-MS package and by INAA. Water samples will be analyzed for pH, conductivity and fluoride. Results of the surveys are scheduled for release in early 2012.

Telegraph Creek Survey ...



Dease Lake Survey ...



QUEST NW - Reanalysis

The reanalysis of archived sediment samples is a continuation of a series of large-scale initiatives that have been sponsored by Geoscience BC since 2007. These programs have significantly enhanced the BC RGS database by providing a wide range of new analytical information at improved detection levels. Results from the following reanalysis work are scheduled for release in early 2012:

In cooperation with the BCGS and NRCAN, samples from 1987 surveys conducted in NTS 104K and 104F/G were recovered from archive storage.

Results of this reanalysis work will add up to 87 new elements to the existing geochemical database and will provide greater data continuity with more recent survey work.

Group of Elements	Upper limit	Element	Unit
As	1.0 ppm	Antimony (Sb)	ppm
As	1.0 ppm	Arsenic (As)	ppm
Ba	20 ppm	Barium (Ba)	ppm
Br	1.0 ppm	Bromine (Br)	ppm
Cd	0.1 ppm	Cadmium (Cd)	ppm
Ce	0.1 ppm	Cerium (Ce)	ppm
Co	0.1 ppm	Cobalt (Co)	ppm
Cr	0.1 ppm	Chromium (Cr)	ppm
Cu	0.1 ppm	Copper (Cu)	ppm
Fe	0.1 ppm	Iron (Fe)	ppm
Ge	0.1 ppm	Germanium (Ge)	ppm
Ag	0.1 ppm	Silver (Ag)	ppm
Al	0.1 ppm	Aluminum (Al)	ppm
Be	0.1 ppm	Beryllium (Be)	ppm
B	0.1 ppm	Boron (B)	ppm
Ca	0.1 ppm	Calcium (Ca)	ppm
Cl	0.1 ppm	Chlorine (Cl)	ppm
Co	0.1 ppm	Cobalt (Co)	ppm
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