

QUEST-SOUTH PROJECT SAMPLE REANALYSIS

Geoscience BC Report 2010-04

Release Date: January 2010

Data Files: GBC Report 2010-04.PDF and GBC Report 2010-04.XLS

PROJECT SUMMARY

As part of Geoscience BC's 2009 QUEST-South Project, a selection of archived drainage sediment samples have been reanalyzed by inductively coupled plasma mass spectrometry (ICP-MS) and inductively coupled plasma atomic emission spectrometry (ICP-AES) by ALS Chemex (North Vancouver). These techniques provide a wide range of new analytical information at improved detection levels plus greater data compatibility with analytical methods currently being employed (Jackaman and Reichheld, 2009).

Geoscience BC Report 2010-4 includes new analytical results for a total of 8256 stream sediment samples that cover parts of NTS map sheets 082E, L, M and 092H, I, J, O, P (Table 1 and Figure 1). These government-funded surveys were originally conducted from 1976 to 1981 as part of the National Geochemical Reconnaissance (NGR) program (Lett, 2005). The new data has been carefully checked for analytical quality using blind duplicate samples and control reference material. When determined to be complete and accurate, the reanalysis data were merged with sample site location information acquired from the original survey published reports. It should be noted that although efforts have been made to include all samples from the target survey areas, there are gaps in the final data set due to missing archive material for a total of 280 samples.

The project was funded by Geoscience BC and managed by W. Jackaman (Noble Exploration Services Ltd.) in cooperation with M. McCurdy, J. Pinard and P. Friske of NRCan, and R. Lett and D. Lefebure of the BCGS.

Table 1. Summary of QUEST-South Project reanalysis target areas.

Survey Year	Map Area	Survey Type	NTS Map	Total Samples
1976	Penticton	stream survey	082E	1631
1976	Vernon	stream survey	082L	1385
1976/77	Seymour Arm	stream survey	082M	1219
1981	Hope	stream survey	092H	995
1981	Ashcroft	stream survey	092I	606
1981	Pemberton	stream survey	092J	852
1979	Taseko Lakes	stream survey	092O	935
1979	Bonaparte Lake	stream survey	092P	913

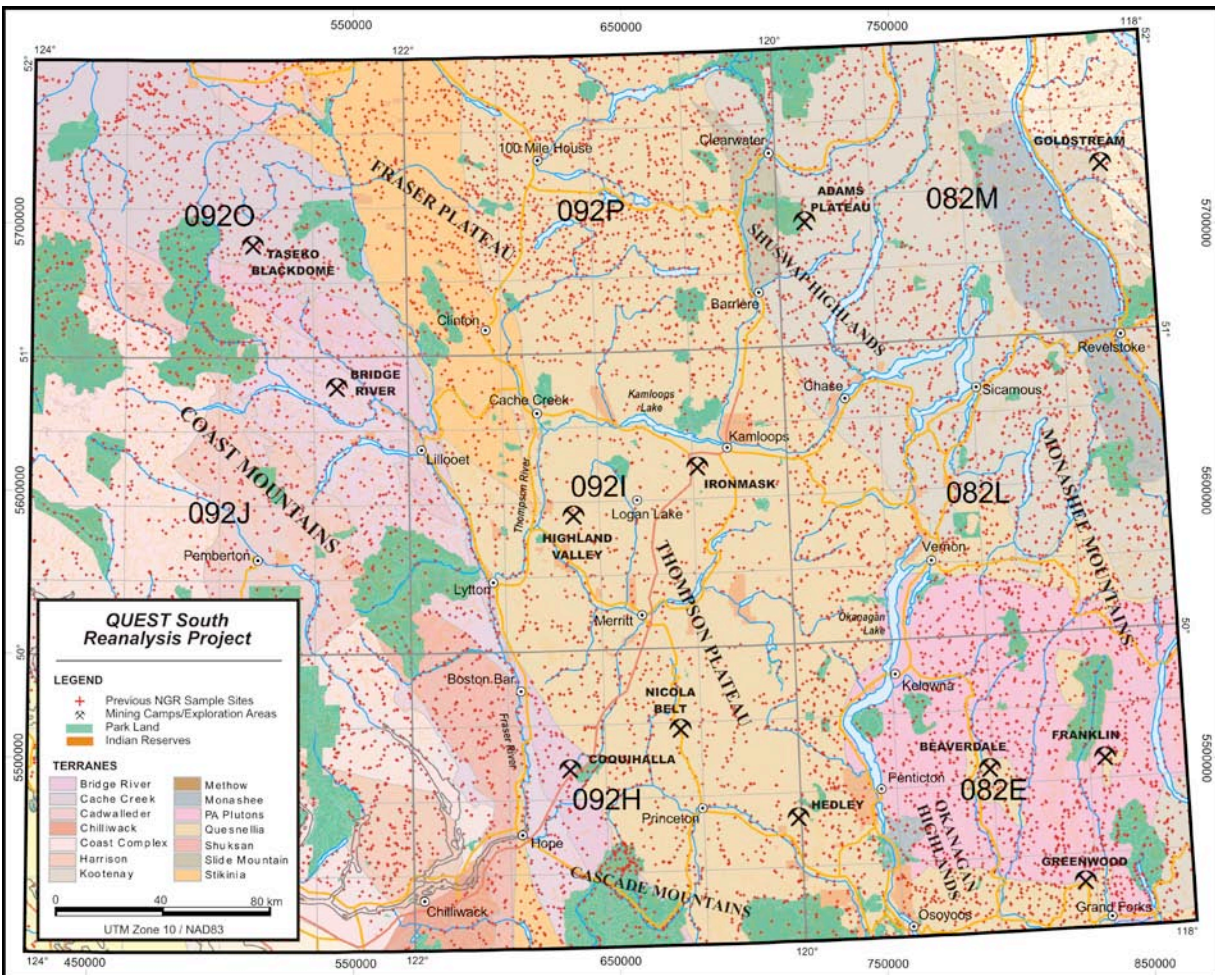


Figure 1. Map showing the location of QUEST-South Project reanalysis target areas.

REFERENCES

- Jackaman, W. and Reichheld, S.A. (2010): QUEST South Geochemical Database Upgrades – New Survey and Sample Reanalysis Data (NTS 082E, L, M and 092H, I, J, O, P), Southern British Columbia; *in* Geoscience BC Summary of Activities 2009, Geoscience BC, Report 2010-1.
- Lett, R.E.W. (2005): Regional Geochemical Survey Database on CD, BC Ministry of Energy, Mines and Petroleum Resources, Geofile 2005-17.
 URL <<http://www.empr.gov.bc.ca/Mining/Geoscience/Geochemistry/Pages/default.aspx>>
- Massey, N.W.D., MacIntyre, D.G., Desjardins, P.J. and Cooney, R.T. (2005): Digital Geology Map of British Columbia: Whole Province, B.C. Ministry of Energy and Mines, Geofile 2005-1.
 URL <<http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/DigitalGeologyMaps/Pages/default.aspx>>

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DATA FILE FORMAT

Data is provided as an XLS file.

SAMPLE SITE LOCATION DATA and DESCRIPTIONS

Field	Label	Type	Length	Example
1	MASTERID	CHAR	20	STRM82E761002
2	TYPE	CHAR	4	SS
3	MAP50	CHAR	6	82E/04
4	MAP20	CHAR	8	082E.003
5	YEAR	NUM	6	1976
6	ID	CHAR	10	1002
7	STATUS	NUM	2	0
8	UTMZ	NUM	2	10
9	UTME83	NUM	6	316052
10	UTMN83	NUM	7	5434832
11	LAT	NUM	10(5)	49.03890
12	LONG	NUM	10(5)	-119.51700
13	STRAT	CHAR	8	MJg
14	REPORT	CHAR	25	GBC REPORT
15	LAB	CHAR	20	ALS Chemex
16	MTHD	CHAR	6	ICPMS

Explanation of Codes

MASTERID: Unique ID number listed for each data record. Consists of survey type, NTS map sheet designation, collection year, and sample ID number.

TYPE: Type of regional survey: SS – Stream Survey

MAP50: National Topographic System (NTS) 1:50,000 scale map.

MAP20: National Topographic System (NTS) 1:20,000 scale map.

YEAR: Year sample was collected.

ID: Original sample site ID.

STATUS: Identifies the collection of multiple samples from a single site.

UTMZ: Site location UTM zone.

UTME83: Site location UTM easting (NAD83).

UTMN83: Site location UTM northing (NAD83).

LAT: Latitude (decimal degrees) calculated from NAD83 UTM coordinates.

LONG: Longitude (decimal degrees) calculated from NAD83 UTM coordinates.

STRAT: Underlying geology at sample site (field STRAT1 from Massey *et al.*, 2005).

REPORT: Report designation of published data.

LAB: Analytical laboratory conducting listed analysis.

MTHD: Primary analytical method used.

ICPMS - Inductively coupled plasma mass spectrometry.

ANALYTICAL DATA

Analytes and ranges for analytical information included as part of this data release are listed in the following table. The analytical method used was an ultra-trace level geochemical procedure with and aqua regia digestion and analysis by ICP-MS and ICP-AES (ALS Chemex method ME-MS41L). Please note that analytical data are provided in its original reported state, data determined at less than detection are listed as negative values and cells containing missing data have been left blank.

Field	Element		Detection Limit	Upper Limit	Units
17	Gold	Au	0.2	100	ppb
18	Silver	Ag	2	100	ppb
19	Aluminum	Al	0.01	25	%
20	Arsenic	As	0.1	10000	ppm
21	Barium	Ba	0.5	10000	ppm
22	Bismuth	Bi	0.01	10000	ppm
23	Boron	B	10	10000	ppm
24	Calcium	Ca	0.01	40	%
25	Cadmium	Cd	0.01	2000	ppm
26	Cobalt	Co	0.1	10000	ppm
27	Chromium	Cr	0.5	10000	ppm
28	Copper	Cu	0.01	10000	ppm
29	Iron	Fe	0.01	50	%
30	Gallium	Ga	0.05	10000	ppm
31	Mercury	Hg	5	100	ppb
32	Potassium	K	0.01	10	%
33	Lanthanum	La	0.2	10000	ppm
34	Magnesium	Mg	0.01	30	%
35	Manganese	Mn	1	50000	ppm
36	Molybdenum	Mo	0.01	10000	ppm
37	Sodium	Na	0.001	10	%
38	Nickel	Ni	0.1	10000	ppm
39	Phosphorus	P	0.001	5	%
40	Lead	Pb	0.01	10000	ppm
41	Sulphur	S	0.01	10	%
42	Antimony	Sb	0.02	10000	ppm
43	Scandium	Sc	0.1	10000	ppm
44	Selenium	Se	0.1	1000	ppm
45	Strontium	Sr	0.2	10000	ppm
46	Tellurium	Te	0.01	500	ppm
47	Thorium	Th	0.1	10000	ppm
48	Titanium	Ti	0.001	10	%
49	Thallium	Tl	0.02	10000	ppm
50	Uranium	U	0.05	10000	ppm
51	Vanadium	V	1	10000	ppm
52	Tungsten	W	0.05	10000	ppm
53	Zinc	Zn	0.1	10000	ppm

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