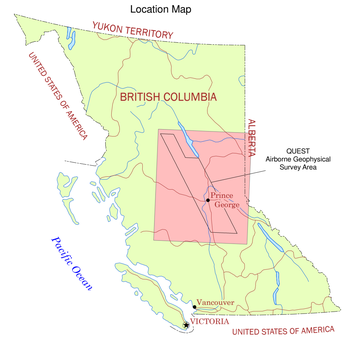
Geoscience BC

QUEST PROJECT

1:500 000 GEOCHEMISTRY - CSIRO SOM ANALYSIS: CLUSTER-NORMALIZED SELENIUM ANOMALISM

1:250 000 NTS SHEETS 93A,B,C,F,G,H,I,J,K,N,O,P
PART OF 1:250 000 NTS SHEETS 82M; 83D,E,L,M; 84D; 92M,N,O,P; 93D,E,L,M AND 94A,B,C,D

Location Map



National Topographic System Index

104H SPATSIZI RIVER	094E TODDOGGONE RIVER	094F WARE	094G TRUTCH	094H BEATTON RIVER	094E CHINCHAGA RIVER
104A BOWSER LAKE	094D MCCONNELL CREEK	094C MESILINKA RIVER	094B HALFWAY RIVER	094A DAWSON LAKE	084D CLEAR HILLS
103P NASS RIVER	093M HAZELTON	093N MANSON RIVER	093O PINE PASS	093P DAWSON CREEK	083M GRANDE PRAIRIE
103I TERRACE	093L SMITHERS	093K FORT FRASER	093J MCLEOD LAKE	093I MONKMAN PASS	083L WAPITI
103H DOUGLAS CHANNEL	093E WHITESAIL LAKE	093F NECHAKO RIVER	093G PRINCE GEORGE	093H MCBRIDE	083E MOUNT ROBSON
103A LAREDO SOUND	093D BELLA COOLA	093C ANAHIM LAKE	093B QUESNEL	093A QUESNEL LAKE	083D CANOE RIVER
102P QUEENS SOUND	092M RIVERS INLET	092N MOUNT WADDINGTON	092O TATLAYOKO LAKES	092P BONAPARTE LAKE	082M SEYMOUR ARM

Survey Location Map

Legend

- Airborne Geophysical Survey Area
- Provincial boundary
- Railroad (unclassified)
- Road (unclassified)
- Mineral deposit (selected)
- Populated place (unclassified)

Selenium Anomalism Value Breakdown

> 1.5	values above cluster norm
1 to 1.5	
0 to 1	
-1 to 0	
-1.5 to -1	
-10 to -1.5	values below cluster norm

QUEST Geochemistry CSIRO SOM Analysis - Cluster-Normalized Element Anomalism

The levelled and imputed element grids (Barnett and Williams, 2009) were intersected by the sample locations and the values assigned to the sample point. Note, missing element values have been imputed.

The SiroSOM procedure assigns each sample to a best-matching unit (BMU) and samples that are similar tend to be assigned to either the same BMU or nearby BMUs that are close on the self-organized map. To assist with interpretation the SOM-derived BMU "vectors" were analyzed using K-means to produce 20 classes. Field samples have been coloured according to the cluster – assignment of their particular BMU.

"Cluster-Normalized" element anomaly maps have been produced with samples normalized to the mean and standard deviation of the K-means cluster to which a sample's BMU belongs. Users are cautioned that normalization by the K-means cluster mean may make intrinsically small numbers anomalous. Specifically, if an element is normally only present in small amounts in a set of samples assigned to a cluster, then the normalization process applied here will make the higher values in this low valued group anomalous.

Data Analysis

Fraser, S.J., and Hodgkinson, J.H., (2009): An Investigation Using SiroSOM for the Analysis of QUEST Stream-Sediment and Lake-Sediment Geochemical Data. September 2009, Geoscience BC, Report 2009-14. CSIRO Exploration and Mining Report 2009/983. 64 p.

Geochemistry Data

Levelled Data

Barnett, C. T. and Williams, P. M. (2009): Using geochemistry and neural networks to map geology under glacial cover, Geoscience BC, Report 2009-3.

Original Data

Jackaman, W. (2008): Regional Stream Sediment and Water Geochemical Data, Pine Pass, British Columbia (NTS 93O); Geoscience BC, Report 2008-7

Jackaman, W. (2008): Regional Lake Sediment and Water Geochemical Data, Northern Fraser Basin, Central British Columbia (parts of NTS 93G, H, J, K, N & O); Geoscience BC, Report 2008-5

Jackaman, W. (2008): QUEST Project Sample Reanalysis; Geoscience BC, Report 2008-3

Jackaman, W. (2007): Regional drainage sediment and water geochemical data, South Nechako Basin and Cariboo Basin, central British Columbia (parts of NTS 92N, O, P, 93A, B); Geoscience BC, Report 2007-6, 332 p.

Lett, R.E.W. and Bluemel, B. (2006): Re-analysis of regional geochemical survey stream sediment samples from the McLeod Lake area (NTS map sheet 093J); BC Ministry of Energy, Mines and Petroleum Resources, Geofile 2006-09, 220 p.

Jackaman, W. (2006): Regional drainage sediment and water geochemical data, Anahim Lake and Nechako River, central British Columbia (NTS 93C & 93F); Geoscience BC, Report 2006-4, 463 p.

Lett, R.E.W. (2005): Regional Geochemical Survey Database on CD, BC Ministry of Energy, Mines and Petroleum Resources, Geofile 2005-17.

Topographic Data

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.

Data Sources

Geoscience BC
www.geosciencebc.com

Ministry of Energy, Mines and Petroleum Resources
www.empr.gov.bc.ca/mining/geoscience

Acknowledgments

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Numerical analysis by CSIRO, Australia - www.csiro.au

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National Research FLAGSHIPS Minerals Down Under — CSIRO — Northern Development Initiative Trust

Geoscience BC

Geoscience BC is an industry-led, industry-focused not for profit society that works to attract mineral and oil and gas investment to British Columbia through collection and marketing of geoscience data.

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MAP 2009-14-35

GEOCHEMISTRY - CSIRO SOM ANALYSIS
Cluster-Normalized Selenium Anomalism

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1:250 000 NTS SHEETS 93A,B,C,F,G,H,I,J,K,N,O,P
PART OF 1:250 000 NTS SHEETS 82M; 83D,E,L,M; 84D;
92M,N,O,P; 93D,E,L,M AND 94A,B,C,D

1 : 500,000

0 5 10 15 20 25 50 kms

Universal Transverse Mercator Projection, Zone 10
Horizontal Datum: North American Datum 1983

Mean magnetic declination 2009, 19°26' E, decreasing 16.6' annually. Readings vary from 17°42' E in the southeast corner to 20°47' E in the northwest corner of the map.

September 16, 2009

Citation:
Geoscience BC (2009): QUEST Project - Geochemistry - CSIRO SOM Analysis: Cluster-Normalized Selenium Anomalism; Geoscience BC, Map 2009-14-35, scale 1 : 500 000.

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