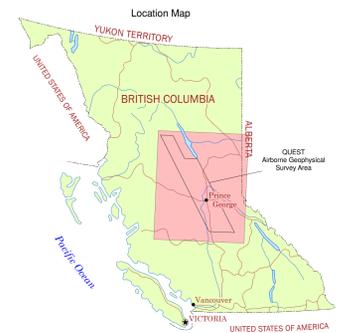
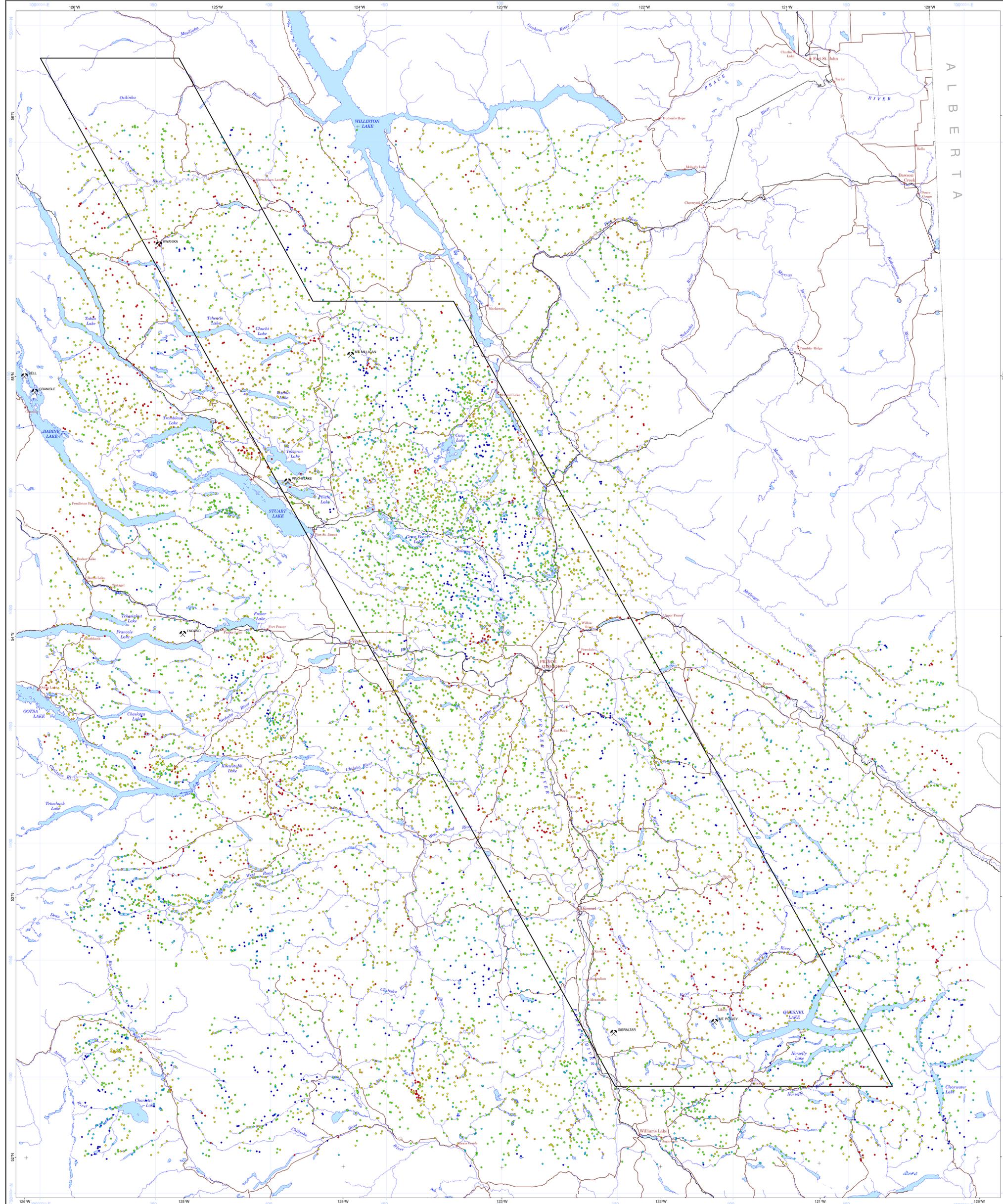
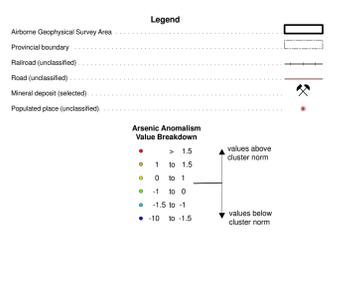
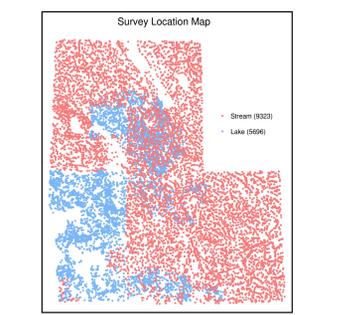


Disclaimer: While every effort has been taken to ensure the accuracy of the information in this map, the data are provided on an "as is" basis, without any warranty, guarantee or representation of any kind, whether expressed or implied. It is the responsibility of the user to check the facts before entering any financial or other commitment based upon this information.



National Topographic System Index

93A SWITCH RIVER	93B COLUMBIA RIVER	93C WILSON RIVER	93D MCCOY RIVER	93E BENTON RIVER	93F CHAMBERLAIN RIVER
93G WILLIAM LAKE	93H MCCOY LAKE	93I MCCOY LAKE	93J MCCOY LAKE	93K MCCOY LAKE	93L MCCOY LAKE
93M MCCOY LAKE	93N MCCOY LAKE	93O MCCOY LAKE	93P MCCOY LAKE	93Q MCCOY LAKE	93R MCCOY LAKE
93S MCCOY LAKE	93T MCCOY LAKE	93U MCCOY LAKE	93V MCCOY LAKE	93W MCCOY LAKE	93X MCCOY LAKE
93Y MCCOY LAKE	93Z MCCOY LAKE	93AA MCCOY LAKE	93AB MCCOY LAKE	93AC MCCOY LAKE	93AD MCCOY LAKE
93AE MCCOY LAKE	93AF MCCOY LAKE	93AG MCCOY LAKE	93AH MCCOY LAKE	93AI MCCOY LAKE	93AJ MCCOY LAKE
93AK MCCOY LAKE	93AL MCCOY LAKE	93AM MCCOY LAKE	93AN MCCOY LAKE	93AO MCCOY LAKE	93AP MCCOY LAKE
93AQ MCCOY LAKE	93AR MCCOY LAKE	93AS MCCOY LAKE	93AT MCCOY LAKE	93AU MCCOY LAKE	93AV MCCOY LAKE
93AW MCCOY LAKE	93AX MCCOY LAKE	93AY MCCOY LAKE	93AZ MCCOY LAKE	93BA MCCOY LAKE	93BB MCCOY LAKE
93BC MCCOY LAKE	93BD MCCOY LAKE	93BE MCCOY LAKE	93BF MCCOY LAKE	93BG MCCOY LAKE	93BH MCCOY LAKE
93BI MCCOY LAKE	93BJ MCCOY LAKE	93BK MCCOY LAKE	93BL MCCOY LAKE	93BM MCCOY LAKE	93BN MCCOY LAKE
93BO MCCOY LAKE	93BP MCCOY LAKE	93BQ MCCOY LAKE	93BR MCCOY LAKE	93BS MCCOY LAKE	93BT MCCOY LAKE
93BU MCCOY LAKE	93BV MCCOY LAKE	93BW MCCOY LAKE	93BX MCCOY LAKE	93BY MCCOY LAKE	93BZ MCCOY LAKE
93CA MCCOY LAKE	93CB MCCOY LAKE	93CC MCCOY LAKE	93CD MCCOY LAKE	93CE MCCOY LAKE	93CF MCCOY LAKE
93CG MCCOY LAKE	93CH MCCOY LAKE	93CI MCCOY LAKE	93CJ MCCOY LAKE	93CK MCCOY LAKE	93CL MCCOY LAKE
93CM MCCOY LAKE	93CN MCCOY LAKE	93CO MCCOY LAKE	93CP MCCOY LAKE	93CQ MCCOY LAKE	93CR MCCOY LAKE
93CS MCCOY LAKE	93CT MCCOY LAKE	93CU MCCOY LAKE	93CV MCCOY LAKE	93CW MCCOY LAKE	93CX MCCOY LAKE
93CY MCCOY LAKE	93CZ MCCOY LAKE	93DA MCCOY LAKE	93DB MCCOY LAKE	93DC MCCOY LAKE	93DD MCCOY LAKE
93DE MCCOY LAKE	93DE MCCOY LAKE	93DE MCCOY LAKE	93DE MCCOY LAKE	93DE MCCOY LAKE	93DE MCCOY LAKE



**QUEST Geochemistry CSIRO SOM Analysis - Cluster-Normalized Element Anomalism**

The leveled 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 CSIRO 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 "vector" was analyzed using K-means to produce 20 classes. Field samples have been colored 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 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 2009/093, 94-p.

**Geochemistry Data**

**Labeled 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**

Jackman, W. (2008) Regional Stream Sediment and Water Geochemical Data, Pine Pass, British Columbia (NTS 920). Geoscience BC, Report 2008-7.

Jackman, W. (2008) Regional Lake Sediment and Water Geochemical Data, Northern Fraser Basin, Central British Columbia (parts of NTS 82M, 83D, E, L, M, N, O, P, 93A, B). Report 2008-5.

Jackman, W. (2008) QUEST Project Sample Reanalysis. Geoscience BC, Report 2008-3.

Jackman, W. (2007) Regional drainage sediment and water geochemical data, South Nechako Basin and Cariboo Basin, central British Columbia (parts of NTS 82M, 83D, E, L, M, N, O, P, 93A, B). Geoscience BC, Report 2007-4, 332 p.

Let, R.E.W. and Blumel, B. (2006) Re-analysis of regional geochemical survey stream sediment samples from the McLeod Lake area (NTS map sheet 920J). BC Ministry of Energy, Mines and Petroleum Resources, Geofiles 2006-09, 220 p.

Jackman, W. (2006) Regional drainage sediment and water geochemical data, Anahim Lake and Nechako River, central British Columbia (NTS 82M, 83D, E, L, M, N, O, P, 93A, B). Geoscience BC, Report 2006-4, 463 p.

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

**Topographic Data**

Massey, N.W.D., Mackinnon, 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, Geofiles 2005-1.

**Data Sources**

Geoscience BC: Ministry of Energy, Mines and Petroleum Resources  
www.geosciencebc.com

www.empr.gov.bc.ca/mining/geoscience

**Acknowledgments**

Cartography by Fion Ma, Geoscience BC

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

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MAP 2009-14-05  
GEOCHEMISTRY - CSIRO SOM ANALYSIS  
Cluster-Normalized Arsenic Anomalism  
**QUEST PROJECT**  
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 10 20 30 40 50 kms

Universal Transverse Mercator Projection, Zone 10  
Horizontal Datum: North American Datum 1983  
Mean magnetic declination 2009, 1978 E, decreasing 1.6 E annually. Readings vary from 1742 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 Arsenic Anomalism. Geoscience BC, Map 2009-14-05, Scale 1:500,000.

GEOSCIENCE BC - QUEST - GEOCHEMISTRY - CSIRO SOM ANALYSIS