

|                             |                            |                         |                         |                          |                          |
|-----------------------------|----------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| 1541<br>SPICEY<br>RIVER     | 01E<br>POODOON<br>RIVER    | 04F<br>WAVE             | 04E<br>TRUION           | 04H<br>BEATTON<br>RIVER  | 04E<br>CHINGWAL<br>RIVER |
| 1544<br>SLOTTED<br>RIVER    | 04F<br>MOONLINE<br>CREEK   | 04E<br>MELBURN<br>RIVER | 04E<br>HALLWAY<br>RIVER | 04E<br>CHARLE<br>LAKE    | 04D<br>CLEAR<br>LAKE     |
| 04P<br>NASS<br>RIVER        | 02H<br>WAZUON<br>RIVER     | 02H<br>MAYNARD<br>RIVER | 04E<br>PASS             | 04D<br>CREEK             | 04E<br>DANNE<br>RIVER    |
| 003<br>TERRACE              | 02L<br>SLOTTED<br>RIVER    | 04E<br>FRASER           | 04L<br>MORRISON<br>PASS | 02L<br>MORRISON<br>PASS  | 02L<br>MORRISON<br>PASS  |
| 1521<br>WATERLAW<br>CHANNEL | 02E<br>MONTGOMERY<br>RIVER | 04E<br>GEORGE           | 04H<br>MORRISON         | 04H<br>MORRISON          | 04E<br>MORRISON          |
| 1454<br>LEASD<br>SOUND      | 04E<br>SULLY<br>CREEK      | 04E<br>CORNELL          | 04A<br>QUINLAN<br>CREEK | 04E<br>QUINLAN<br>CREEK  | 04E<br>QUINLAN<br>CREEK  |
| 04P<br>SOUND                | 04H<br>RATERS<br>RIVER     | 04E<br>MOUNT<br>MAYNARD | 04E<br>TIGARD<br>LAKE   | 04E<br>BOHANNAN<br>RIVER | 04E<br>DEVILON<br>RIVER  |

Provincial boundary .....  
 Railroad (unclassified) .....  
 Road (unclassified) .....  
 Mineral deposit (selected) .....  
 Populated place (unclassified) .....

**Terbium Anomaly**  
**Value Breakdown**

- > 1.5
- 1 to 1.5
- 0 to 1
- -1 to 0
- -1.5 to -1
- -10 to -1.5

values above cluster norm

values below cluster norm

The revised and input element grids (Bartlett and Whittall, 2005) 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-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.

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.

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 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. (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.

Jackman, W. (2006): Regional drainage sediment and water geochemical data, Anahim Lake and Nechako River, central British Columbia (NTS 92C-03-02F), Geoscience BC Report.

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

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.

Geoscience BC  
www.geosciencebc.com

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

#### Acknowledgments

Numerical analysis by CSIRO, Australia - [www.csiro.au](http://www.csiro.au)

Geoscience BC is funded through grants from the Provincial Government of British Columbia.

QUEST is funded in partnership with the Northern Development Initiative. QUEST - [www.norquest.ca](http://www.norquest.ca)

National Research  
**FLAGSHIPS**

Minerals Down Under CSIRO 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.

www.geosciencebc.com

GEOCHEMISTRY - CSIRO SOM ANALYSIS

## QUEST PROJECT

**QUEST PROJECT**  
1:250,000 NTS SHEETS 02A B C E G H I J K N O R

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

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.

Citation:  
Geoscience BC (2009): QUEST Project - Geochemistry - CSIRO SOM Analysis;

Cluster-Normalized Terbium Anomalism; Geoscience BC, Map 2009-14-38,  
scale 1:500 000.