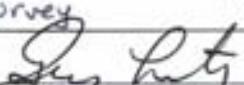


Ministry of Energy & Mines  
 Energy & Minerals Division  
 Geological Survey Branch

 ASSESSMENT REPORT  
 TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)]		TOTAL COST
Mt. Milligan Project Stream Sediment Geochemistry Survey		
AUTHOR(S)	GARY LUSTIG Anna Fonseca	SIGNATURE(S)  Anna Fonseca
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S)		
STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S)		
PROPERTY NAME	Mt. Milligan	
CLAIM NAME(S) (on which work was done)	512892, 512894, 512901, 512903, 512904, 512910 512912, 512915, 512917, 512919, 521165	
COMMODITIES SOUGHT	Cu, Au	
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN		
MINING DIVISION	Omineca	NTS 93N/01, 930/04
LATITUDE	55 ° 08' 00"	LONGITUDE 124 ° 04' 00" (at centre of work)
OWNER(S)	1) Placer Dome (CLA) Limited 2)	
MAILING ADDRESS	1600-1055 Dunsmuir St. Vancouver, BC V7X 1P1	
OPERATOR(S) [who paid for the work]	1) Placer Dome (CLA) Limited 2)	
MAILING ADDRESS	1600-1055 Dunsmuir St. Vancouver, BC V7X 1P1	
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude)	Andesite, monzonite, Triassic-Jurassic, Witch Lake Fm., potassio, propylitic	
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS	16966, 17936, 19121 19268, 21682, 22294, 25299	

(OVER)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ...)			
Soil			
silt	36 samples - 51 elements, 348LGG, Cu-Au	{ 512892, 512894, 512901	12 574.67
Rock		{ 512903, 512909, 512910	17 290.17
Other	31 stream water, 75 elements	{ 512915, 512917, 512919, 521165	15 711.83
DRILLING			
(total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST	31,436.67

Mt. Milligan Project,  
Stream Sediment Geochemistry Survey

Omineca Mining Division  
(NTS 93N/01, 93O/04)  
55°08' N Latitude / 124°04' W Longitude

**Prepared for Placer Dome (CLA) Limited**

February, 2006

Work performed in claims:

512892  
512894  
512901  
512903  
512904  
512910  
512912  
512915  
512917  
512919  
521165

**Gary Lustig, M.Sc., P. Geo.**  
**Anna Fonseca, M. Sc.**

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## Summary

The 2005 Mt. Milligan Geochemical Footprint project employed BLEG, standard silt and water geochemistry. Specific objectives of this survey included:

- To characterize the stream geochemical signature of the Mt. Milligan deposit;
- To determine if there are any anomalous drainages that have not been adequately explored;
- To establish how far down the drainage system Mt. Milligan can be tracked;
- To establish background geochemical levels;
- To determine best sampling and analytical procedures to detect buried Cu-Au porphyry deposits in Quesnel Trough.

There were 38 sample sites planned within the deposit area and along King Richard and Rainbow Creeks, but due to difficulties with access and availability of suitable sampling material, only 31 sites were sampled.

Analysis included BLEG or “bulk leach extractable gold”, conventional -80 mesh silt analysis by ICP-AES and ICP-MS following aqua regia digestion and water analysis also by ICP-AES and ICP-MS.

Copper in silt is strongly anomalous within the mineralized areas and within approximately 1 km of the known mineralization. Values drop off rapidly as sediments pass into the outwash plain area and decrease steadily downstream towards the junction with Rainbow Creek. Gold in silt concentrations are elevated within the mineralized area, but appears a bit more erratic than copper. Gold becomes enriched further downstream in King Richard Creek and in Rainbow Creek.

The BLEG gold results produced strongly anomalous patterns in the deposit area and also within the streams to the south draining the southeastern part of the soil anomaly. Values decreased steadily within King Richard Creek towards the junction with Rainbow Creek. This is in sharp contrast to the gold in silt values that actually increase downstream. Copper responses were similar to those in silt although absolute concentrations were naturally lower. BLEG analysis responded more or less equally to the mineralization as the conventional silt samples.

Copper in water is enriched in the lower order streams, dropping to background levels in King Richard Creek as it passes into the outwash plain. Its drop is more gradual and may provide a better vector to mineralization than silt or BLEG.

The area has some major challenges to the interpretation of stream sediment geochemistry due to the drainage pattern, the extensive glaciofluvial deposits and the large enrichment in soils that have an uncertain relationship with known mineralization. The streams within the upland areas surrounding the deposit are generally anomalous and did form a prominent anomaly in the historic RGS data. There is little indication in the lower part of King Richard Creek and Rainbow Creek that there is a major Cu-Au deposit upstream.

## 1 Introduction

The 2005 Mt. Milligan Geochemical Footprint project employed BLEG technology and standard stream sediment geochemistry. This orientation survey was aimed optimizing stream sediment sampling strategies employed in grassroots exploration projects targeting Mt. Milligan-like porphyry systems in Quesnel Trough. Specific objectives of this survey included:

- To characterize the stream geochemical signature of the Mt. Milligan deposit;
- To determine if there are any anomalous drainages that have not been adequately explored;
- To establish how far down the drainage system Mt. Milligan can be tracked;
- To establish background geochemical levels;
- To determine best sampling and analytical procedures to detect buried Cu-Au porphyry deposits in Quesnel Trough.

Initially, 38 sample sites were identified within the deposit area and along King Richard and Rainbow Creeks. Large samples for BLEG, standard stream sediment, and water samples were collected in 32 of those sites. Heavy minerals were concentrated in approximately half of the 32 sampled sites. Sample collection took place between July 6<sup>th</sup> and 10<sup>th</sup>, with two sampling crews. Field crews were based in Canfor's Phillip Logging Camp, and consisted of geologists Darren O'Brien, Anna Fonseca, and Paul Jago, and field assistants Willie Moise and Dwight Prince.

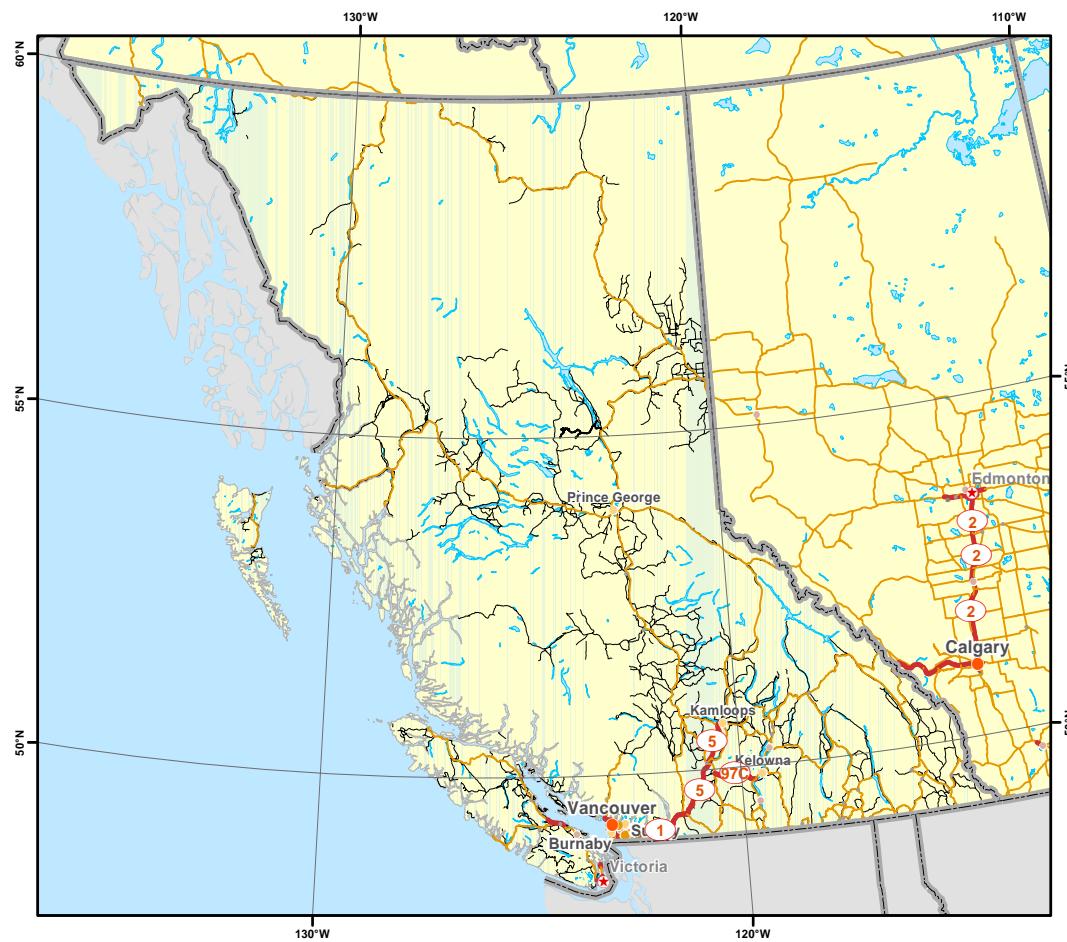
## 2 Location and Access

The Mt. Milligan deposit is located in north-central British Columbia, within the Omineca Mining Division, approximately 155 km northwest of Prince George, 86 km north of Fort St. James, 95 km west of Mackenzie (Figure 1). The town of Mackenzie is the closest supply center. Government officials from the Fort St. James town expressed interest in expanding the Rainbow Road, which would provide direct access from the town to Mt. Milligan property.

Within the Mt. Milligan property, a network of forestry roads and old mineral exploration roads provide partial access to most sample sites (Figure 2).

## 3 Climate and Vegetation

The Mt. Milligan property is located in the Interior Plateau climatic zone, which is immediately to the east of, and sheltered from moist westerly air flow by the Coast Mountains. Average temperatures are 15° C in summer, and –12° C in winter and average yearly precipitation is 63 cm.



**Figure 1 Location map**

Vegetation consists of spruce forests that tend to grow on the lowland till deposits because of high soil water content in the clay matrix. Jackpine forests tend to grow in glacial outwash terraces in the major valleys. Old roads support dense willow growth.

#### 4 Property Description and Ownership

The property consists of 43 claims that were converted to British Columbia's new claim block system and 37 claims that were staked in 2005. All claims within the survey area are 100% owned by Placer Dome Inc. Table 1 lists claim number, area, and anniversary date. Figure 2 shows the location of property boundaries and claims. The claims are in Nak'azdli First Nation Traditional Territory.

**Table 1 Mt. Milligan converted claims**

Tenure	Area (ha)	Expiry Date	NTS Map	Tenure	Area (ha)	Expiry Date	NTS Map
512884	369.632	2006/DEC/29	093N020	512945	462.324	2006/AUG/26	093O012
512887	295.844	2006/DEC/29	093N020	512960	203.414	2010/APR/04	093O011
512888	369.979	2006/DEC/29	093N020	512982	295.8	2006/SEP/02	093O011
512890	296.121	2006/SEP/10	093N010/020	521164	332.887	2006/OCT/14	093O011
512891	554.449	2010/FEB/28	093N020	521165	443.905	2006/OCT/14	093O011
512892	443.767	2006/DEC/29	093N020	521177	444.089	2006/OCT/14	093O011
512894	554.969	2006/DEC/29	093N020	521178	277.539	2006/OCT/14	093O011
512896	444.183	2011/JUN/20	093N010/020	521179	462.756	2006/OCT/14	093O001/011
512897	444.34	2006/SEP/10	093N010	521180	370.225	2006/OCT/14	093O001
512901	554.48	2010/APR/26	093N020	521181	351.719	2006/OCT/14	093O001
512903	462.331	2011/APR/26	093N020	521182	444.449	2006/OCT/14	093O001
512904	555.115	2011/APR/26	093N010/020	521183	370.374	2006/OCT/14	093O001
512907	424.903	2006/SEP/08	093N020	521184	296.301	2006/OCT/14	093O001
512909	351.094	2006/SEP/10	093O011	521185	444.471	2006/OCT/14	093O001
512910	332.824	2006/SEP/10	093O011	521186	444.496	2006/OCT/14	093N010
512912	388.557	2006/SEP/10	093O011	521187	407.598	2006/OCT/14	093N010
512913	665.236	2006/SEP/02	093O011	521189	370.632	2006/OCT/14	093N010
512915	554.852	2006/MAR/05	093O011	521190	463.037	2006/OCT/14	093N010
512917	555.14	2006/SEP/03	093O011	521191	463.038	2006/OCT/14	093N010
512919	444.319	2006/SEP/10	093N010	521192	370.431	2006/OCT/14	093N010
512921	518.369	2006/SEP/03	093O001	521193	370.621	2006/OCT/14	093N010
512923	332.428	2010/APR/03	093O011	521194	463.276	2006/OCT/14	093N010
512924	665.165	2010/APR/01	093O011	521195	463.276	2006/OCT/14	093N010
512925	73.961	2010/APR/01	093O011	521196	444.632	2006/OCT/14	093O001
512927	406.695	2010/APR/01	093O011	521197	444.635	2006/OCT/14	093O001
512930	480.648	2010/APR/03	093O011	521198	463.375	2006/OCT/14	093N010
512931	480.341	2010/APR/03	093O011	521199	463.374	2006/OCT/14	093O001
512932	92.341	2010/APR/01	093O011	521200	463.377	2006/OCT/14	093O001
512933	517.134	2010/APR/03	093O011	521201	185.351	2006/OCT/14	093O001
512934	554.332	2010/APR/03	093O011	521202	445.045	2006/OCT/14	093N010
512935	443.673	2010/APR/03	093O011	521203	445.047	2006/OCT/14	093N010
512936	720.559	2010/APR/03	093O011	521204	445.047	2006/OCT/14	093O001
512937	517.346	2010/APR/04	093O012	521205	445.049	2006/OCT/14	093O001
512938	462.136	2010/APR/04	093O011	521206	463.565	2006/OCT/14	093O001
512939	462.135	2010/APR/04	093O011/012	521207	370.852	2006/OCT/14	093O001
512940	462.134	2010/APR/01	093O012	521208	445.206	2006/OCT/14	093N010
512941	665.851	2010/APR/01	093O011/012	521209	445.207	2006/OCT/14	093N010
512942	554.875	2010/APR/04	093O012	521210	445.21	2006/OCT/14	093O001
512943	370.069	2010/APR/04	093O011/012	521212	333.905	2006/OCT/14	093O001
512944	369.861	2006/AUG/26	093O012	521213	166.952	2006/OCT/14	093O001

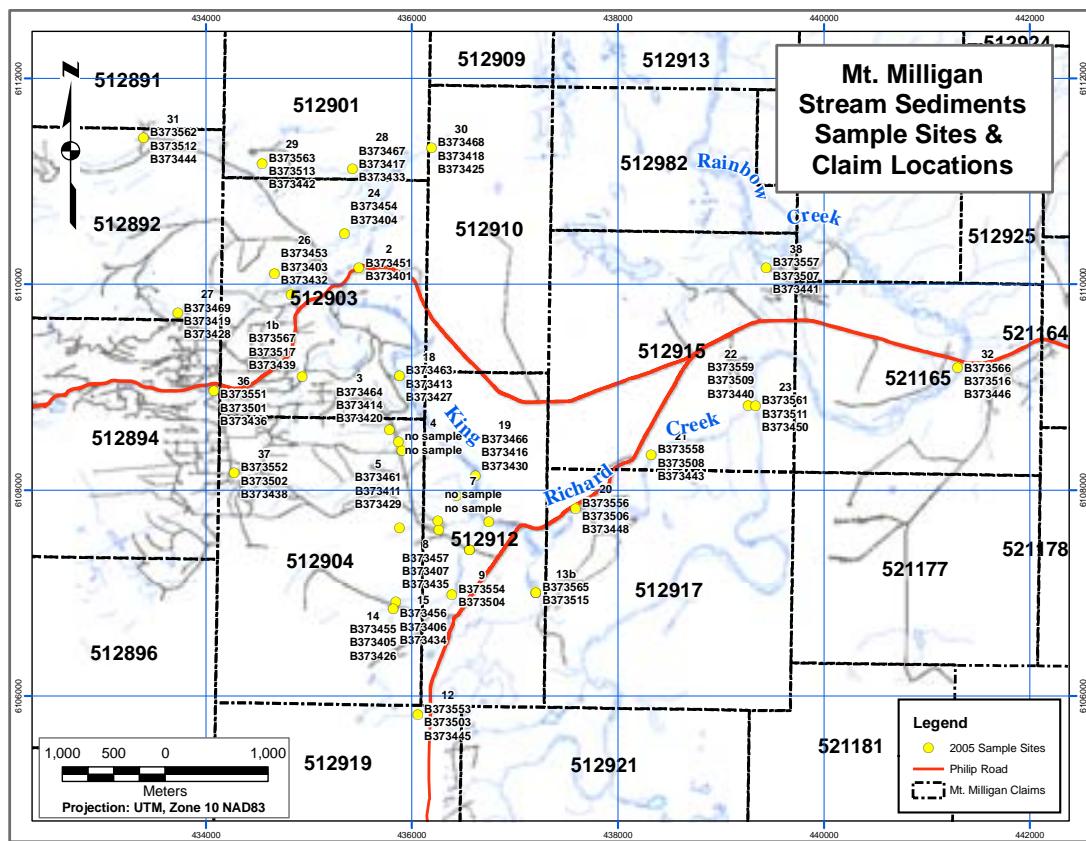


Figure 2 Sample sites, claim locations and road access

## 5 Property History

Mt. Milligan Main deposit was discovered in 1987. Initial regional exploration work was carried out by Selco Inc. and BP Resources Canada Limited. Lincoln Resources carried out subsequent exploration work and intersected significant copper-gold mineralization in the Main deposit. Additional work by United Lincoln and Continental Gold Corp led to the discovery of Southern Star deposit in 1989. This work also identified low-grade porphyry gold and copper-gold mineralization in Goldmark and North Slope zones. Placer Dome Inc. purchased BP's interest in the mineral claims, acquired Continental Gold in 1990 and completed a pre-feasibility study in 1991.

## 6 Geology

### 6.1 Regional Geology

The Mt. Milligan deposit is located in central Quesnellia Terrane of British Columbia. Quesnellia is characterized by widespread Late Triassic to Early Jurassic arc rocks comprising:

- 1) Augite-phyric volcaniclastic rocks and subordinate coherent volcanic rocks of basaltic to dacitic compositions; 2) coeval and partly comagmatic plutons ranging from calc-alkaline to alkaline and shoshonitic affinity; 3) sedimentary rocks including shale, limestone, and epiclastic deposits.

In the Mt. Milligan area, Quesnellia consists of Triassic to Lower Jurassic volcanic and subordinate sedimentary rocks of Takla Group, and Hogem intrusive suite, which is interpreted as Takla Group's intrusive equivalent (Map 1). Many Cu-Au mineral showings are associated with Hogem Batholith and smaller coeval intrusions. Takla Group in the Mt. Milligan area is informally subdivided into a lower, predominantly sedimentary Inzana Lake Succession, and an upper, predominantly volcaniclastic Witch Lake Succession.

The Witch Lake Succession hosts the Mt. Milligan deposit, and is characterized by augite-phyric volcaniclastic and coherent basaltic andesites, with subordinate epiclastic beds. Regionally, middle to Upper Cretaceous syenitic to dacitic dikes cross-cut larger Early Mesozoic plutons.

### 6.2 Deposit Geology

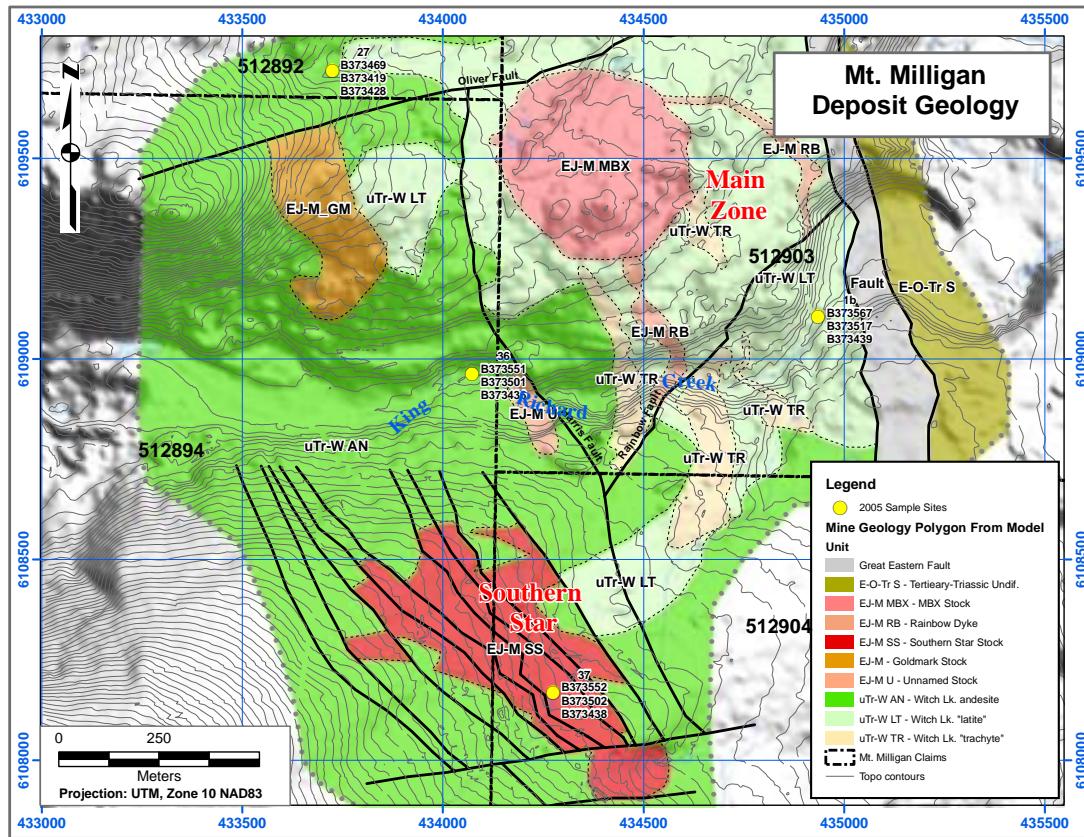
The Mt. Milligan property includes Mt. Milligan Main and Southern Star deposits. Figure 3 shows the geology of Mt. Milligan deposit. The deposit is tilted towards the east.

#### 6.2.1 Mt. Milligan Main Deposit

Mt. Milligan Main deposit is hosted mainly in volcanic and volcaniclastic rocks of the Witch Lake succession. The Main deposit is divided into Au- and Cu-rich MBX, WBX, and DWBX zones, and Au-rich, Cu-poor 66 Zone. Mineralization extends east from the eastern contact of the MBX stock to Great Eastern Fault, and is centered on the northeasterly dipping Rainbow Dike. Cu- and Au-rich mineralization of MBX zone appears to grade laterally into the Cu-poor, Au-rich 66 Zone. Mineralization is bound to the north by Oliver Fault and to the southeast by a regional structure called the Great Eastern Fault. Stratiform trachyte and latite flow and volcaniclastic units were defined by staining drill core. The absence of pyroclastic deposits suggests that trachyte units are likely the products of hydrothermal alteration, rather than primary potassic composition.

A swarm of narrow post-mineralization dikes intrudes the eastern part of MBX and 66 zones. The cross-cutting relationships between post-mineralization dikes and faults are

unclear. Post-mineralization dike compositions range from dioritic to dacitic, and contain small amounts of disseminated sulphides.



**Figure 3** Mt. Milligan deposit area geology

Mineralization consists of disseminated pyrite and chalcopyrite associated with disseminated iron oxides. A small portion of sulphides is hosted in veinlets <1 cm of calcite-pyrite ± chalcopyrite; quartz-pyrite ± chalcopyrite; pyrite-chalcopyrite; and epidote-pyrite.

### 6.2.2 Southern Star Deposit

Mineralization in the Southern Star deposit is hosted in the Southern Star Stock and adjacent Witch Lake volcanic succession. Mineralization consists of a potassio-feldspar matrix breccia/stockwork with strongly carbonate altered monzonite clasts. Alteration consists of potassio feldspar, calcite, and biotite.

## 7 History of weathering and transport

### 7.1 Regional Glacial History - Cordilleran Ice Sheet

Quaternary landform evolution in the Canadian Cordillera was controlled by major climatic perturbations that led to episodic growth and decay of continental ice sheets. Deteriorating climates resulted in glaciers that advanced and coalesced to form piedmont complexes and mountain ice sheets that eventually merged to form the Cordilleran Ice Sheet that covered most of British Columbia, southern Yukon, western Alberta, and Alaska. The Cordilleran Ice Sheet was continuously fed from high mountain ice sources. Ice flow was controlled mainly by topography, but radial flow also occurred about domes of very thick (>2.5 km) ice. At least two major advances of the Cordilleran Ice Sheet are recorded. An early, thick ice advance overrode the Rocky Mountains, whereas the later advance was blocked by the Rocky Mountains.

### 7.2 Quaternary History

Regional Quaternary history of the Mt. Milligan area is described on a one-page report by Kerr (1990).

Glaciers existed in the Mt. Milligan area since late Tertiary and early Quaternary time, but very little is known about these early glaciations. On the other hand, there is reasonable stratigraphic and landform evidence for the last three Quaternary glaciations. Each glacial cycle terminated with rapid climate improvement and deglaciation, which resulted in complex frontal retreat in peripheral glaciated areas, and downwasting and stagnation through the interior portions of glaciers. During interglacial periods, uplands became ice free first, and divided the remaining ice into valley tongues.

The Late Wisconsinan Glacial Event is the youngest and best documented glacial period. It started 25 to 30 thousand years, with maxima at 14 to 14.5 thousand years (Clague and others, 1980). This glacial event lasted through approximately 10 thousand years, when the current nonglacial period began. Detailed geomorphological studies in central British Columbia show complex glacial growth and retreat punctuated by local stillstands and readvances during glaciation.

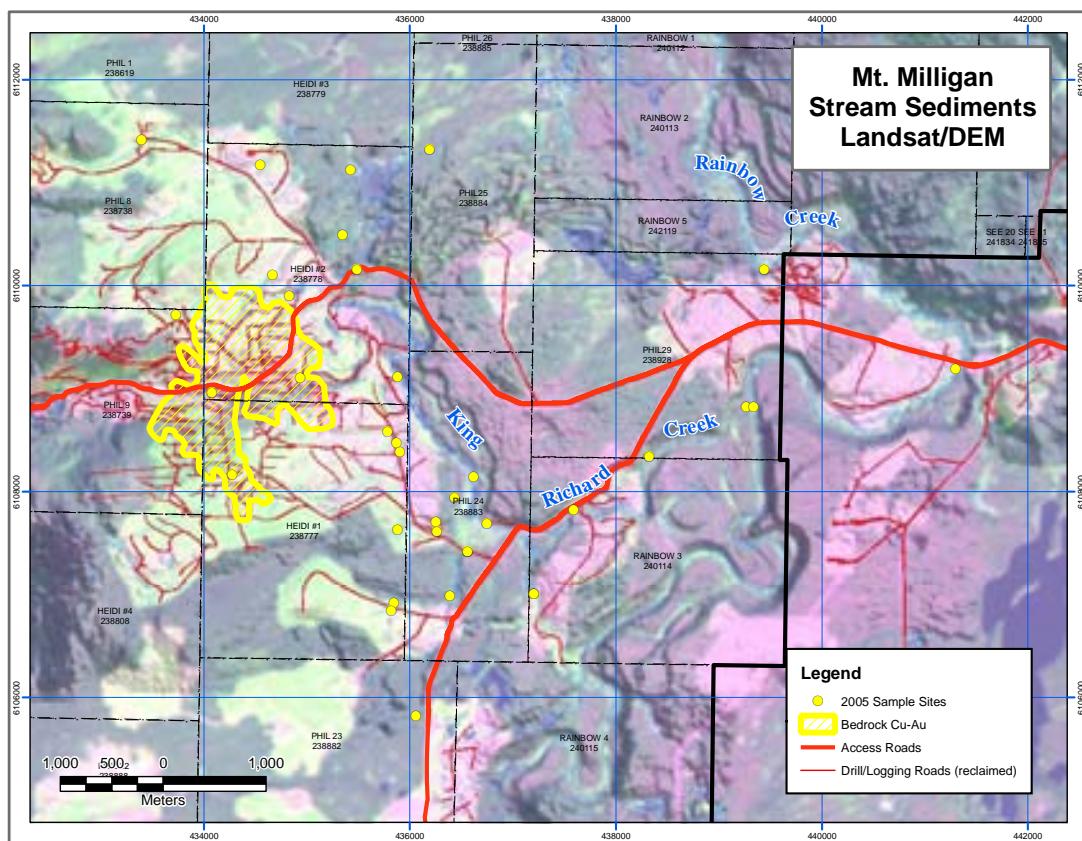
### 7.3 Surficial Environment

#### 7.3.1 Physiography

The Mt. Milligan ridge forms the western end of Manson Plateau. Nechako Lowland lies to the west and Rocky Mountain Trench approximately 50 km east-northeast of the deposit, and forms the boundary between Manson Plateau and Omineca Mountains to the east.

The Mt. Milligan deposits are located on the eastern flank of a north-northwest trending ridge of high hummocky to rolling relief (figure 4), with elevations culminating at Mt.

Milligan (1508 m), approximately 8 km northwest of the deposits. Lowest elevations of around 950 m are found at the valley bottom where King Richard Creek flows into Rainbow Creek.



**Figure 4** Mt. Milligan physiography and access

### 7.3.2 Drainage

Drainage is dominated by the Nation River, with Chuchi Lake at its headwaters, approximately 17 km northwest of the deposits. Nation River flows into the Peace River system at the Williston Reservoir.

Rainbow Creek is a south-flowing tributary of Nation River. Rainbow Creek and its tributary King Richard Creek (informal local name) are well incised creeks that control drainage patterns in the Mt. Milligan deposit area. Both creeks have several small lake chains at headwaters, and are commonly surrounded by swamps and marshes.

Relative stream abundance in the deposit area is 5 to 7 channels per square kilometer. Lakes are typically <150 m in length by <40 m width, with elongated to equidimensional shapes equally abundant. Heidi Lake at the headwaters of King Richard is larger (700 x 250 m) and elongated.

### 7.3.3 Surficial Geology

The main surficial depositional process in the Mt. Milligan deposit area is glacial till deposited during the last (Late Wisconsinan) glacial episode (figure 5). Ricker's (1991) descriptions of unconsolidated surficial materials are summarized below:

The area has an extensive morainal blanket, with hummocky and drumlinized landforms that consist of dense, matrix-supported diamictite. Moraine has well graded (poorly sorted) silt dominated matrix, and consists of plain, blanket, undulating, and locally rolling surfaces. Average thickness of morainal deposits is 15 to 30 m, and maximum thickness is 65 m on lower mountain slopes.

Glaciofluvial sand and gravel are dominant to the west of Mount Milligan, and consist of outwash sedimentary complexes of sinuous esker ridges up to 10 km long, kame deposits, and broad overlapping outwash fans deposited by glacial meltwater during ice retreat. Large meltwater discharge from Heidi Lake gap spewed a thick layer of glacio-fluvial deposits towards the mineralized zones to the east, forming eskers and an outwash veneer that overlies glacial till to the south of the eskers. The upper walls of King Richard and Rainbow Creek valleys are lined with glacio-fluvial terraces.

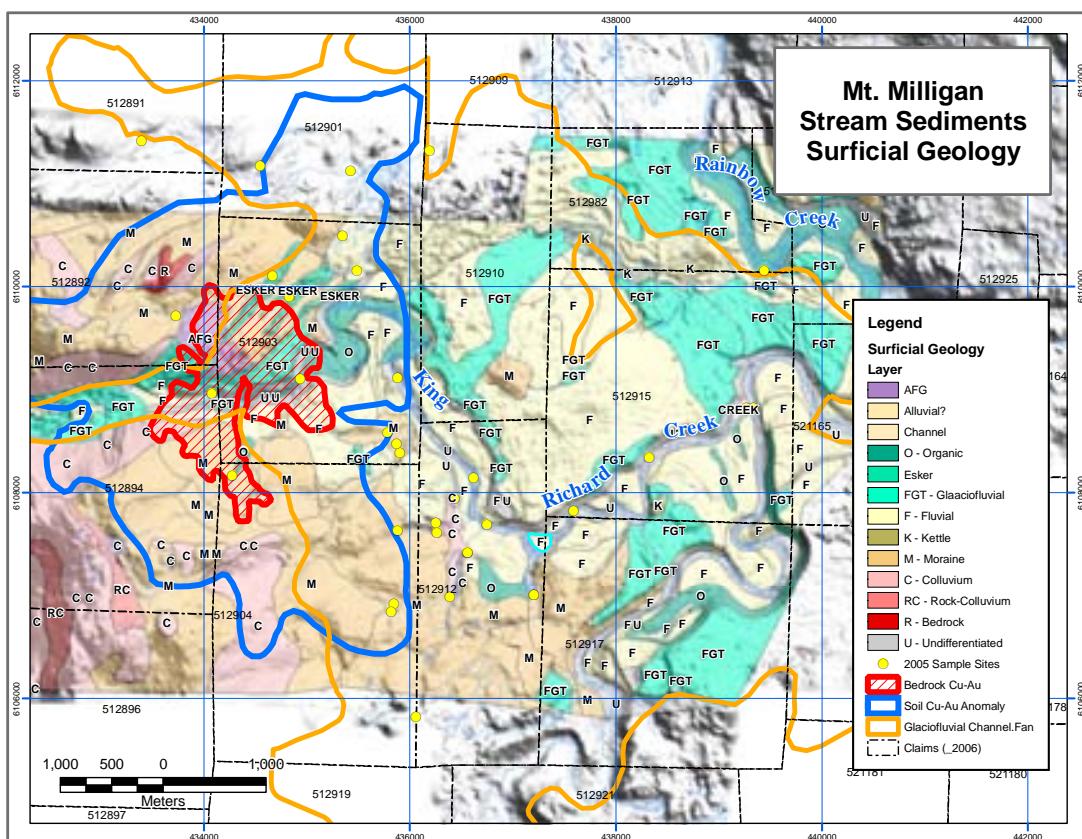


Figure 5 Surficial geology (after Riker 1991)

More restricted deposit types include fluvial sediments deposited by running water in the absence of glacier ice forming creek beds and adjacent terraces; lacustrine deposits on uplands and benchlands; glacio-lacustrine deposits adjacent to Limestone Creek valley; possible eolian deposits; colluvial; volcanic; organic; and anthropogenic deposits.

#### 7.3.4 Soils

Soils consist of poorly developed humo-ferric podzols in glacial and glacio-fluvial deposits.

#### 7.3.5 Anthropogenic influences

A dense network of access roads, drill pads and trenches along with accelerated drilling activity from 1989 to 1991 constitute a significant source of anthropogenic contamination of surficial deposits, and potentially affects most sites sampled during this survey.

Intense forestry activity during the early 1990s resulted in clear-cutting and selective logging of over 50% of the deposit area, and constitute another potential source of anthropogenic contamination.

### 8 Previous Geochemical Work

Sibbick and others (1996) conducted a till geochemical survey over an area surrounding the Mt. Milligan deposit. They collected 108 till samples that were submitted to multielement geochemical analyses, and yielded gold and copper anomalies over the deposits, and along a northwest trending area between Phillip Lakes Fault and Limestone Creek Fault (Maps 2 & 3).

A combined GSC-BCGS copper in pine bark geochemical survey (Dunn and others, 1996) over the area involved collection and multi-element analyses of 129 bark samples, and yielded anomalous clusters over the Mt. Milligan deposits, and in areas to the north and west of the deposits (Maps 4 & 5).

Sketchley and others (1995) describe a soil geochemical survey (conducted by the late Stan Hoffman, a prominent geochemist then with BP Minerals) in which approximately 2100 samples were collected from a 6 x 7 km area over and surrounding the Mt. Milligan deposits. Analytical results outlined several copper and gold anomalies to the west, north, and south of the deposits, but extensive cover of glacial-fluvial and morainal material partially masked and dispersed the bedrock geochemical response.

Ricker (1991) made the following interpretation of glacial events at Mt. Milligan: “*At the conclusion of the last glaciation the ice sheet downwasted unevenly so that meltwater from a residual ice dome in the upper Nation River Valley "burst" through the Heidi Lake gap to form an extensive outwash around and under stagnating ice blocks in Rainbow Valley. Initial esker deposition under or within glacier ice soon gave way to outwash plain outflow to the south of the esker which in turn swung northward along the Rainbow*

*Creek Valley. Rapid down cutting in this valley has yielded a spectacular series of terraces in the absence of any glacial lake development. This feature of deglaciation has provided a much more stable landscape.”*

Re-processing the results of the original soil survey by gridding and generating colour images reveals a fan-shaped pattern of gold and copper distribution that could have resulted from melt water spilling through the gap. The pattern does not appear to be a typical down-ice dispersion pattern, and the bulk of the anomalies are actually up-ice of the deposits (Maps 6 & 7).

Although there is very little outcrop in the Mt. Milligan area, a detailed bedrock geochemistry map can be produced from the 900+ drillholes in the area. Plots of the gold and copper distribution in the first core samples recovered are shown in Maps 8 & 9.

## 9 2005 Sampling Program

### 9.1 Field Procedures

#### 9.1.1 Sample Sites

A total of 38 sample sites were proposed within the deposit area and long King Richard and Rainbow Creeks. Where possible, samples were located at road accessible sites. The relatively large number of samples is necessary because of complications of the glacial history, the effect of glacio-fluvial processes on metal dispersion, and the complex drainage pattern. Sites along Rainbow Creek, where drainage follows a northeast-trending esker complex have difficult access.

Proposed sample sites were identified with the aid of Landsat 7 image overlain with 10 m spaced elevation model, and aerial photographs. Proposed sample locations were plotted in a GIS, and UTM, NAD83 coordinates were reported and entered into GPS units for site location in the field (figure 2).

Sample sites were flagged and sample numbers were marked on the flagging tape. Sample sites that were proposed immediately downstream from roads, or marsh or boggy areas were changed in order to minimize anthropogenic contamination and organic content.

#### 9.1.2 Sample Collection

Standard BLEG sampling procedures were adapted to the local stream system, and were kept in line with procedures used by exploration companies in Queensland, Australia. Sampling crews were advised not to wear metal jewelry or other potential contaminant. The proposed sample collection procedures using 20 mesh sieves to collect fines proved inappropriate. BLEG and standard silt samples were collected using 4 mesh (-4.76 mm) sieves. A 7 to 12 kg wet BLEG sample and a 2 to 4 kg wet silt sample was collected in

each site, unless the proposed creek proved to be a bog lacking flow, and containing excessive organic content. Wet BLEG samples were collected in 24 x 36' poly ore bags, and wet silt samples were collected in 8 x 13 poly bags. The wet content of BLEG samples with suspended fines was kept in the sample bag, whereas for standard silt samples, part of the water was decanted on site. Sample bags were labeled with sample number on both sides, and sealed with plastic zap straps. Silt sample bags were put inside a second 8 x 13 ' bag containing a water proof sample number tag. Water proof sample tags were enclosed above the BLEG sample with a second zap strap. A 125 ml water sample was collected immediately upstream from the sediment sampling site, and in most sites a heavy mineral pan concentrate was collected for future resistate mineral composition studies. One crew had a Hanna Champ pH meter, and recorded water pH readings immediately upstream from sampling sites. The pH meter was calibrated to pH 7 standard solution at the start of each day, and the electrodes were kept immersed in pH 7 solution throughout the day. Sieves and pans were rinsed and scrubbed at each site at the end of sampling, and rinsed again in the following site before sampling. Water sample bottles were sealed with a layer of thin plastic beneath the lid.

### **9.1.3 Sample Descriptions**

Sample location and site/sample description were entered on a sampling form that uses the Geological Survey of Canada's format descriptor for regional stream sediment geochemical reconnaissance data. Appendix III contains field sampling forms.

Duplicate BLEG, silt, and water samples were collected in two sites. A sample bottle with distilled water was inserted in the water sample sequence to serve as a blank. Standards were not used due to the difficulty in finding silt standards. Rock standards were not used because they typically have gold contents significantly higher than those expected in BLEG and silt samples, and could cause contamination in an analytical batch. External and in-lab re-analyses will be requested for quality control.

## **9.2 Laboratory Procedures**

### **9.2.1 Sample Preparation**

All samples were sent to ALS Chemex Labs of Vancouver for preparation.

BLEG - After drying, sieving to –20 mesh, approximately 1-2 kg of material was forwarded to ALS Chemex Labs in Australia for analyses.

Silt - Standard silt sample preparation (PREP41) includes drying and dry-sieving samples to –180  $\mu\text{m}$  (80 mesh). The 80 mesh fraction is split and analyzed without crushing.

Water – samples were filtered at 0.45  $\mu\text{m}$  and acidification to pH 2 using analytical grade  $\text{HNO}_3^3$  (nitric acid) to desorb the gold.

### 9.2.2 Analytical Procedures

BLEG samples were analyzed for gold and copper by super trace level (0.0001-10 ppm) Au-cyanide leach, followed by ICP-MS determination (Chemex code Au-CN12). Silt samples were analysed for gold + 50 elements by a combination of ICP-AES and ICP-MS following aqua regia digestion (Chemex code Au-TL43; analytical range: 0.001 to 1 ppm). Table 2 lists silt analytes and ranges in ppm.

**Table 2 Silt Analytes and ranges**

Analyte	Lower Limit	Upper Limit	Analyte	Lower Limit	Upper Limit
Ag	0.01	100	Mn	5	10000
Al*	0.0001	0	Mo	0.5	10000
As	0.1	10000	Na*	0.0001	0
B*	10	10000	Nb*	0.05	500
Ba*	10	10000	Ni	0.2	10000
Be*	0.05	100	P	10	10000
Bi	0.01	10000	Pb	0.2	10000
Ca*	0.0001	0	Rb*	0.1	500
Cd	0.01	500	Re*	0.001	50
Ce*	0.02	500	S*	0.0001	0
Co	0.1	10000	Sb*	0.0001	10000
Cr*	1	10000	Sc*	0.1	10000
Cs*	0.05	500	Sn*	0.2	500
Cu	0.2	10000	Sr*	0.2	10000
Fe	0.0001	0	Ta*	0.01	500
Ga*	0.05	10000	Te*	0.01	500
Ge*	0.05	500	Th*	0.2	500
Hf*	0.02	500	Tl*	0.02	10000
Hg	0.01	10000	U	0.05	10000
In*	0.005	500	V	1	10000
K*	0.0001	0	W*	0.05	500
La*	0.2	10000	Y*	0.05	500
Li*	0.1	500	Zn	2	10000
Mg*	0.0001	0	Zr*	0.5	500

Water samples were analyzed for gold + 57 elements by ICP-MS and ICP-AES (Chemex code ME-MS14). Table 3 lists water analytes and lower reporting limits in ppm.

**Table 3 Analyte range and detection limit in 57 element hydrogeochemistry**

Analyte	Lower limit	Analyte	Lower limit	Analyte	Lower limit
Ag	0.05	Hf	0.01	Sb	0.1
Al	50	Hg	0.2	Sc	0.1
As	0.1	Ho	0.01	Se	0.1
B	10	In	0.01	Sm	0.01

Analyte	Lower limit	Analyte	Lower limit	Analyte	Lower limit
Ba	0.01	K	50	Sn	0.01
Be	0.1	La	0.01	Sr	0.01
Bi	0.01	Li	10	Ta	0.01
Ca	50	Lu	0.05	Tb	0.01
Cd	0.01	Mg	0.5	Te	0.1
Ce	0.01	Mn	0.1	Th	0.01
Co	0.1	Mo	1	Tl	0.01
Cr	0.1	Na	50	Tm	0.01
Cs	0.01	Nb	0.01	U	0.01
Cu	0.1	Nd	0.01	V	0.1
Dy	0.01	Ni	0.1	W	0.01
Er	0.01	P	100	Y	0.01
Eu	0.01	Pb	0.01	Yb	0.01
Fe	10	Pr	0.01	Zn	0.1
Ga	0.01	Rb	0.1	Zr	0.1
Gd	0.01				

### 9.2.3 Quality Control

The results of field duplicate analysis are shown in table 4. In the silt analysis there is good agreement for copper, but there is some difference in the gold analysis. BLEG likewise shows good copper comparison and less precision for gold. There is good agreement for copper in the water sample duplicate.

Table 4 Replicate silt, BLEG and water analysis

	Sample	Au ppm	Cu ppm
Silt	B373458	0.058	77.1
	B373459	0.025	74.4
	B373564	0.018	0.24
	B373565	0.009	0.22
BLEG	B373408	0.0185	10.15
	B373409	0.0073	9.15
	B373514	0.0088	5.5
	B373515	0.0065	6.1
Water	B373422		1.5
	B373423		1.3

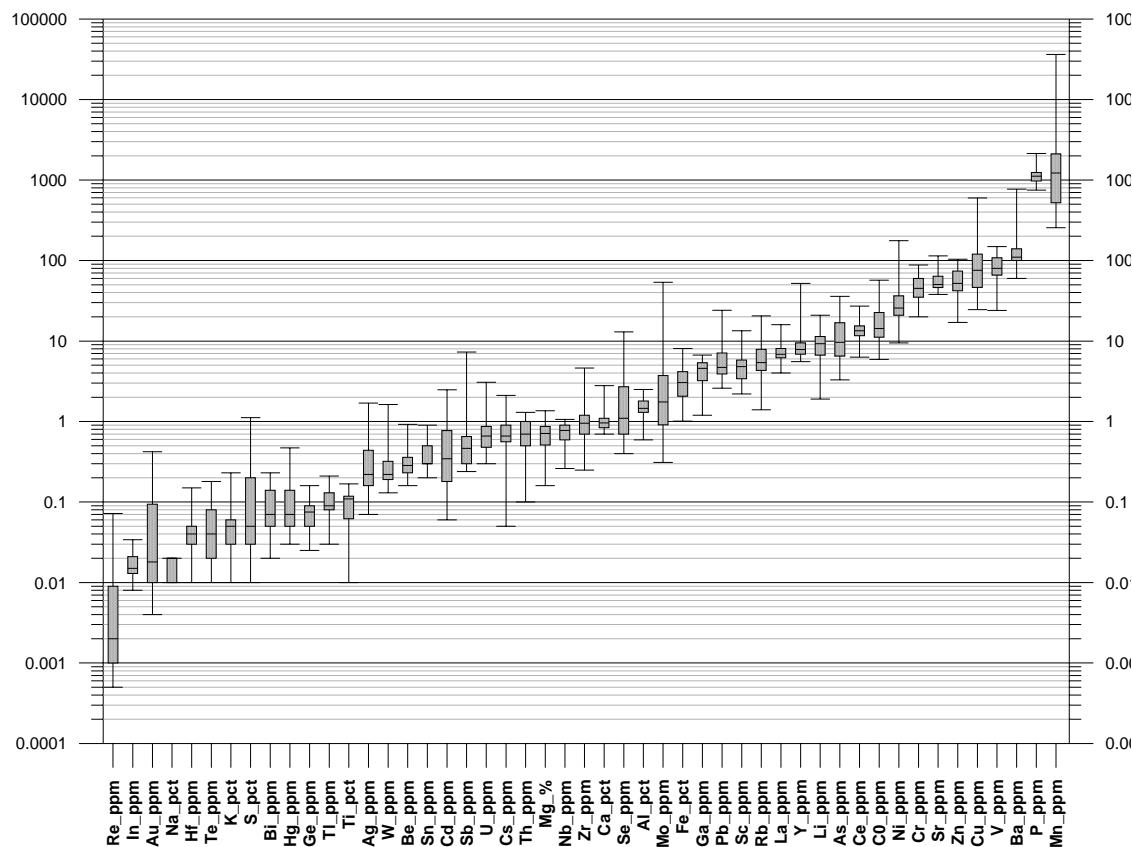
### 9.3 Silt Geochemistry

#### 9.3.1 Sample Composition

Composition of silt samples are shown as pie symbols on Map10. There are higher concentrations of organics in samples in the lower order streams, and a greater proportion of sand in the samples in the lower reaches of King Richard Creek and Rainbow Creek.

#### 9.3.2 Statistical Analysis

Conventional silt analysis was provided for 49 elements. Univariate and multivariate statistical analyses were completed using XLSTAT, a statistical add-in to Microsoft Excel. Descriptive statistics for all variables are shown in Appendix IV. Values less than detection limit were replaced by a value of half the detection limit.



**Figure 6 Box & whisker plot - silt geochemistry**

The distribution of the values is shown graphically in a combined box and whisker plot shown in figure 6. The caps at the end of each box indicate the extreme values (minimum and maximum), the box is defined by the lower and upper quartiles, and the line in the center of the box is the median. For the purpose of multivariate analysis, data was screened to eliminate variables that had insufficient samples greater than the detection limit. The filter used was that to be accepted the variable mean must be greater than 3 times the detection limit. Three elements, Ge, Hf and Na were eliminated from the

multivariate dataset. Skewness was determined for each variable as well as its log transformed equivalent. The version with skewness closer to zero was used in further multivariate analysis.

### 9.3.2.1 Single Element Results

Results from individual elements are presented in Maps 11-60. Symbols are classified using a “Jenk’s Optimizer” routine, which uses a statistical formula to identify breakpoints between classes. The Jenk’s method minimizes the sum of the variance within each of the classes to find natural groupings and patterns in the subject data set.

Gold is elevated within the mineralized area, but appears a bit more erratic than copper. Gold becomes more strongly enriched further downstream in King Richard Creek and in Rainbow Creek. This phenomenon has been described by Hobday and Fletcher (2003) where in the low order tributaries the distribution of gold is controlled by source influences such as bedrock geology, weathering and glacial processes, whereas in the higher order streams fluvial processes dominate. They indicate that “*This shift from source- to process-related geochemistry invalidates the traditional geochemical dilution model and gives long anomalous dispersion trains for Au.*”

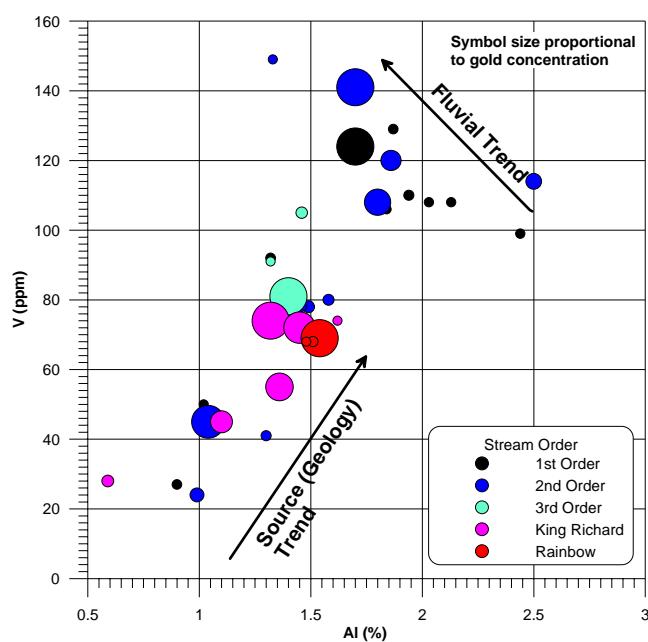
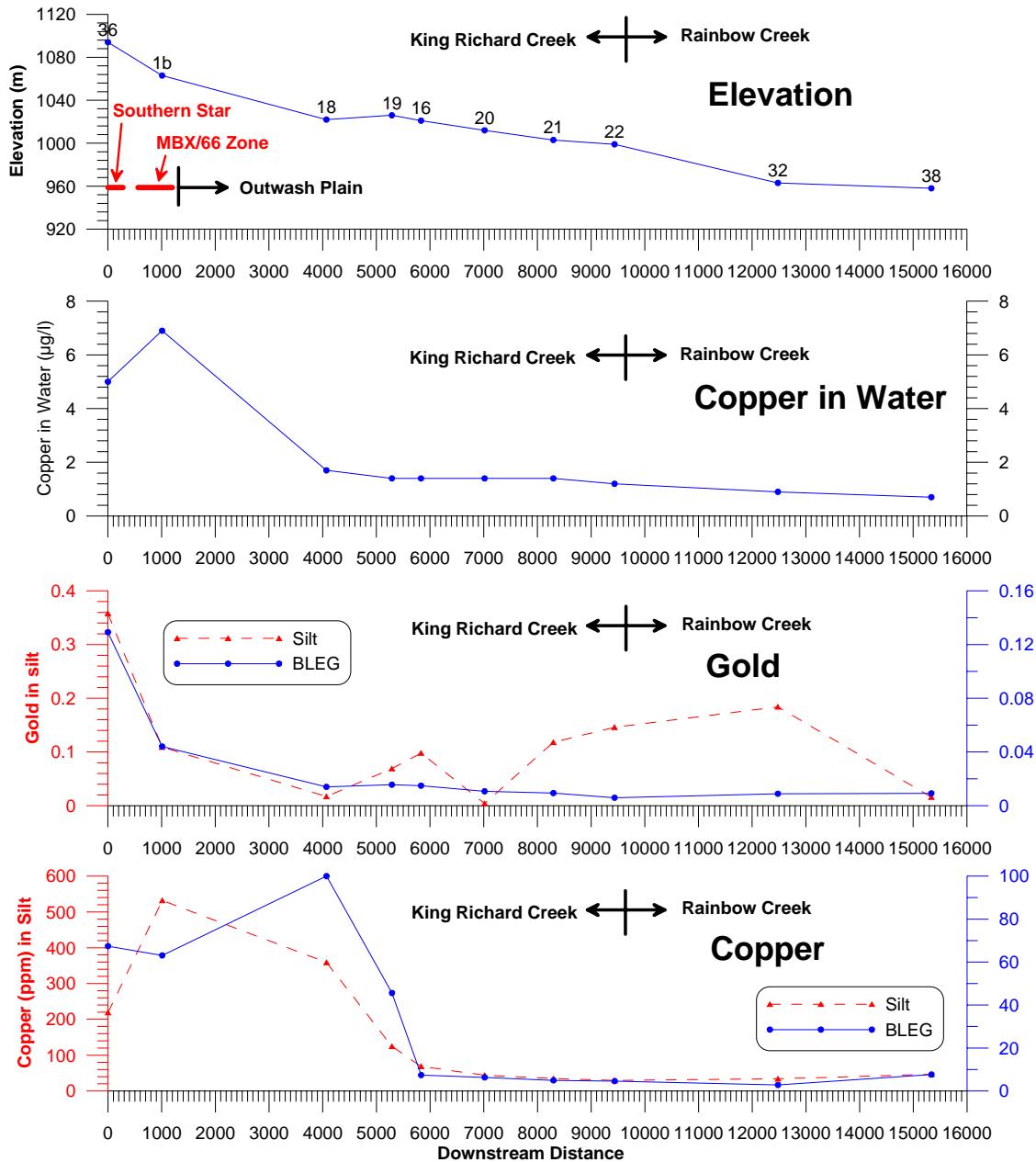


Figure 7 V vs. Al Process Plot Mt. Milligan Area

Hobday et al used a plot of heavy mineral elements, represented by vanadium against silicate minerals represented by Al. They demonstrated that the change from a positive correlation within in the source area to a negative correlation in the main stream is due to fluvial reworking and a winnowing process, concentrating the heavy minerals. A very similar pattern can be seen from the Mt. Milligan area (figure 7), but the higher order streams including King Richard Creek and Rainbow Creek are within the “tributary” trend and the negative correlated trend is exclusively 1<sup>st</sup> and 2<sup>nd</sup> order streams. The drainage studied by Hobday et al was a dendritic drainage system flowing

into a swiftly flowing stream with a steep gradient. At Mt. Milligan the drainage is often disrupted by numerous swamps and beaver dams, even along the lower order streams. The negative trend in the low order streams may be due to the separation of heavy and light fraction as the streams flow through ponds rather than winnowing effects in higher order streams. Symbol and drainage plots of gold in silt are displayed in Maps 11 and 12.

Copper is strongly anomalous within the mineralized areas and within approximately 1 km of the known mineralization. Values drop off rapidly as you pass into the outwash plain area and decrease steadily downstream towards the junction with Rainbow Creek. Symbol and drainage basin plots of copper are shown in Maps 13 and 14.



**Figure 8** Downstream profile plots

Profiles of the downstream concentration of copper and gold in silt, water and BLEG samples can be seen in figure 8. Copper and gold drop quite rapidly after the streams enter the outwash plain as “King Richard Creek”, with the drop in gold values occurring further upstream than the drop in copper. The increase in gold downstream is prominent in the silt which contrasts sharply with the BLEG results.

Silver in silt samples is anomalous primarily in streams draining towards the north, with some scattered anomalies in the south. There is a cluster of two stream anomalies in the south-eastern part of the soil anomaly (Map 15).

Molybdenum is anomalous in the mineralized area samples and also in drainages flowing east. Values in King Richard Creek decrease gradually downstream towards the junction with Rainbow Creek (Map 16).

Mercury is anomalous over the deposit area as well in drainages towards the north and east. Values are generally low in the area draining the southern part of the soil anomaly (Map 17).

Cobalt is anomalous over the deposit area and most drainages sourcing the soil anomaly. Samples in King Richard Creek are generally at background levels. Arsenic is anomalous in all sites draining the deposits and soil anomaly, and drop to background values in King Richard Creek (Map 18).

Antimony is highest in a first order stream above the MBX, indicating a source at higher elevations. This site is also highly anomalous for arsenic, sulphur, silver and copper, but generally low in gold. Drainages towards the north are generally anomalous, with a slight elevation of values southeast of the soil anomaly (Map 19).

Sulphur is strongly anomalous north of the MBX as well as in the upper part of King Richard Creek (Map 20).

The remainder of the single-element plots are found in Maps 21-60

### **9.3.2.2 Multivariate Results**

#### Correlation

Correlation coefficients were calculated based on the “multivariate” dataset. Because of the large numbers columns and rows the table is not reproduced here, but can be found in Appendix IV. Gold has little correlation with any of the other elements analysed. The best correlation is a negative correlation with uranium. Copper, on the other hand, shows strong positive correlated with Ag, As, Be, Bi, Ca, Cd, Co, Cs, Hg, In, Mo, Ni, P, Pb, Re, S, Sb, Se, Te and Tl.

#### Cluster Analysis

Cluster analysis is a multivariate procedure for detecting natural groupings in data. Cluster analysis classification is based upon the placing of objects into more or less homogeneous groups, in a manner such that the relationship between groups is revealed. The first “dendrogram” displays the results using a complete linkage and Euclidian distances (figure 9). The mineralization cluster consists of Cu, As, Co, Mn, Mo, Sb, Bi

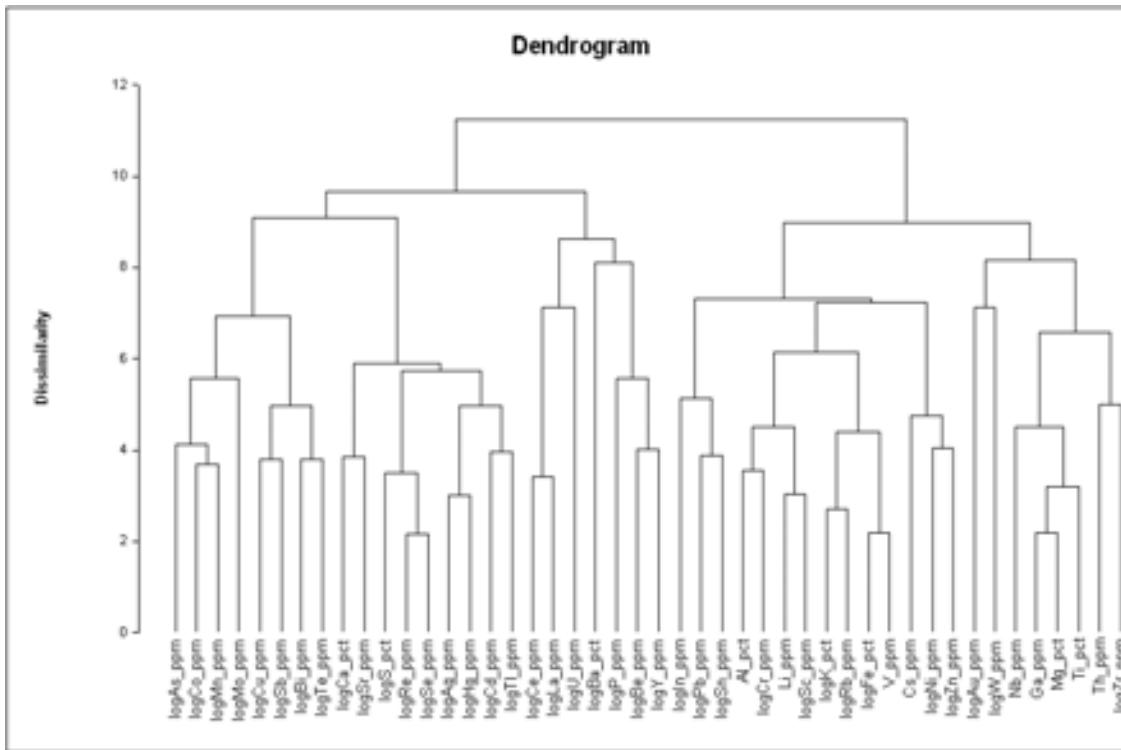


Figure 9 Silt cluster analysis - Complete linkage, Euclidian distances

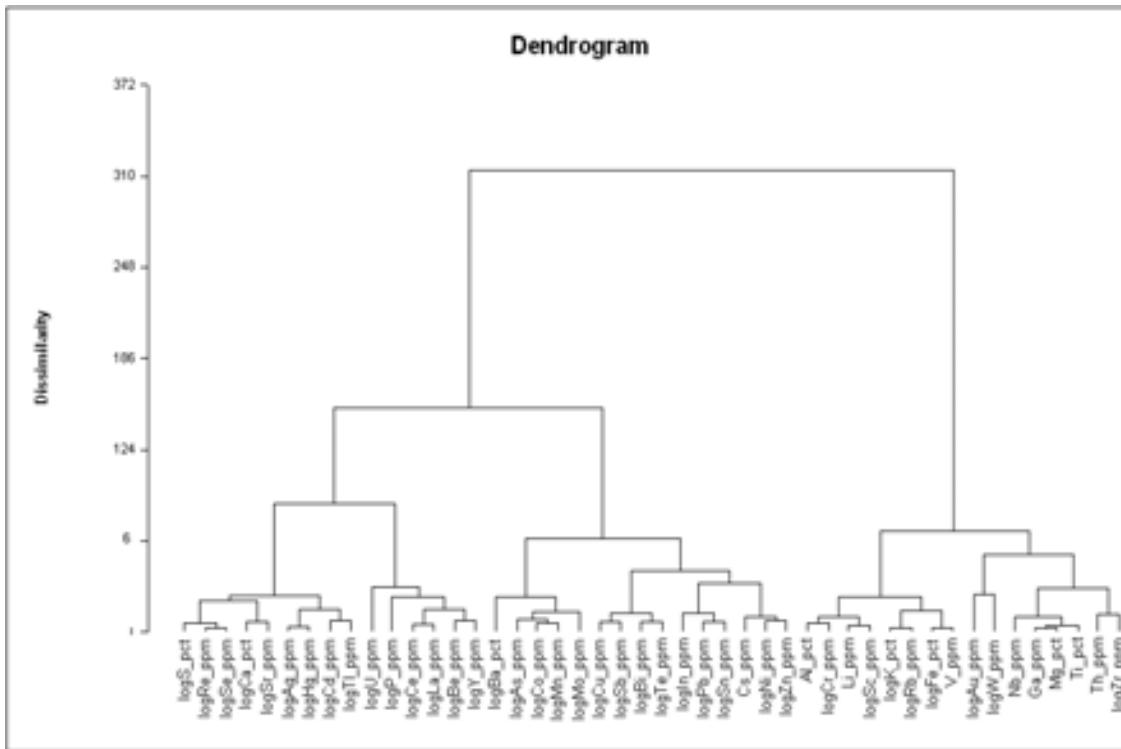


Figure 10 Silt cluster analysis - Ward's method, Euclidian distances

and Te. A second dendrogram using Ward's method, also with Euclidian distance joins these elements in a cluster with In, Pb, Sn, Cs, Ni and Zn (figure 10). In both plots, Au is joined with W although the linkage distance is fairly long

### Factor Analysis

Factor analysis is a statistical technique applied to a single set of variables to discover which sets of variables in the set form coherent subsets that are relatively independent of one another. Variables that are correlated with one another which are also largely independent of other subsets of variables are combined into factors. Factors which are generated are thought to be representative of the underlying processes that have created the correlations among variables. Although factor analysis is commonly applied to geochemical data, particularly as a method of reducing the large number of variables produced by modern multielement analysis, it should be used with caution. An excellent review of the use of factor analysis in geochemical data is presented by Reimann et al (2002), from which the following is quoted:

*"Complex polypopulational regional geochemical (or environmental) data are not really suited for factor analysis. In nature the chemical elements show neither a normal nor a log-normal distribution. Different geochemical processes can govern the regional distribution of one and the same factor. It is not sufficient to use just one method of factor analysis with one set of elements to explain the inherent information of a whole data set. Different choices of parameters result in a multitude of results — some may be useful, others cannot be interpreted. The fact that single elements do not enter any of the factors does not mean that the regional distribution of these elements is uninteresting — for an interpretation these may be the most interesting elements of all."*

Factor analysis employing Pearson and Spearman correlations could not produce factor scores. Factor analysis employing varimax rotation and a Kendall correlation was completed with the extraction of 4 factors:

Factor 1 – Al, Co, Cr, Cs, Fe, Ga, In, K, Li, Mg, Ni, Rb, Sc, V, Zn

Factor 2 – Ag, Ca, Cd, Hg, Re, S, Se, Sr, Tl

Factor 3 – Be, Ce, LA, U, Y

Factor 4 – As, Bi, Cd, Co, Cu, Mn, Mo, Sb, Te, W

Factor scores can be computed for each sample and plotted just as any other variable. In computing factor scores, each variable is weighted proportionally to its involvement in a pattern; the more involved a variable, the higher the weight. Variables not at all related to a given pattern would be weighted near zero. To determine the score for a case on a pattern, then, the case's data on each variable is multiplied by the pattern weight for that variable. The sum of these weight-times-data products for all the variables yields the factor score. Cases will have high or low factor scores as their values are high or low on

the variables entering a pattern. Plots of factor scores for silt can be found in Maps 61 to 64.

Factor 4 is generally enriched samples above King Richard Creek but has no distinct pattern. Factor 2 is strongly enriched in the samples draining towards the north. Factor 3 appears enriched in samples at the margin of the soil anomaly, but displays no distinct pattern. Factor 4, which is the “mineralization factor”, is strongly enriched in mineralized areas as well as southern first and second order streams draining the soil anomaly area.

### 9.3.3 Regional Background

For comparison purposes, the regional background was determined by selecting an area centered on Mt. Milligan and performing basic statistics on the 439 silt samples collected and analysed during BCEM regional geochemical surveys. Statistics are presented in a box and whisker plot (figure 11 and table 5).

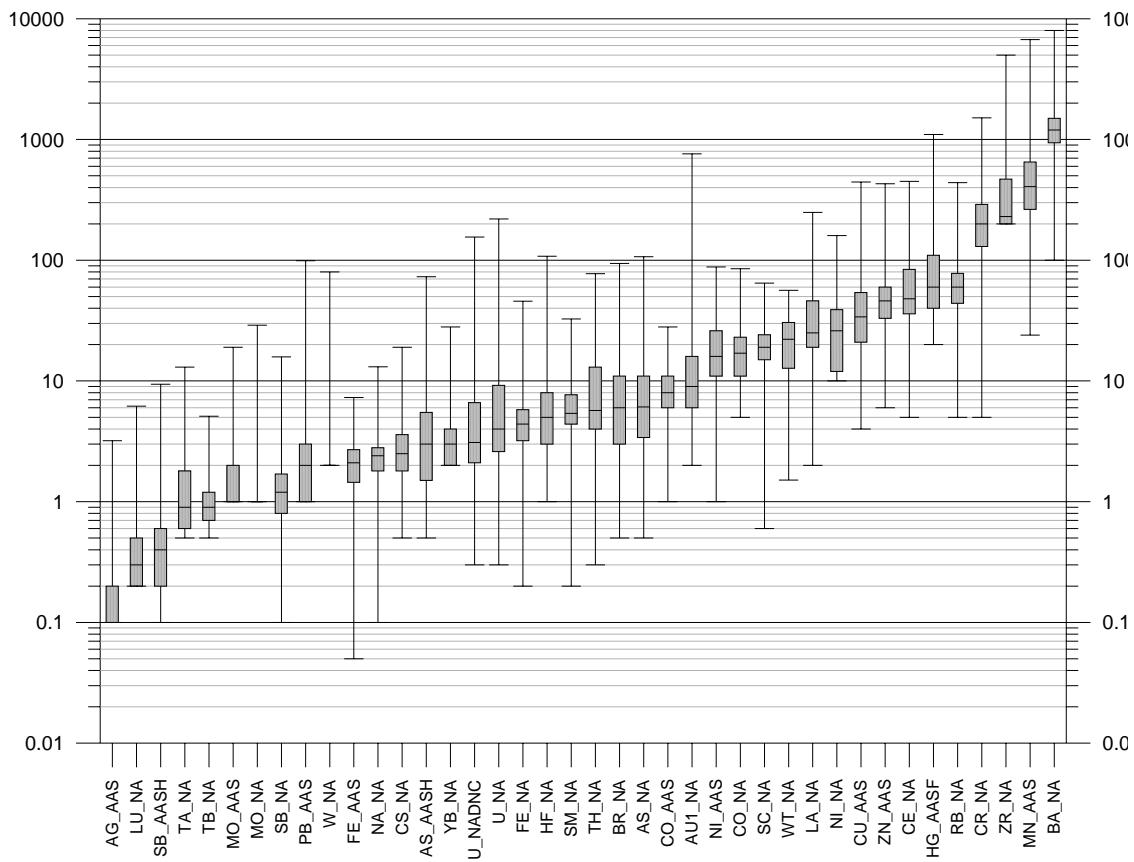
**Table 5 Summary statistics - RGS silt analysis**

	AU NA	CU AA	SB AA	MO AA	SB NA	W NA	AS AA	CO AA	MN AAS
Minimum	2	4	0.1	1	0.1	2	0.5	1	24
Median	9	34	0.4	1	1.2	2	3	8	407
Maximum	760	445	9.4	19	15.8	80	73	28	6710
Mean	21.269	41.540	0.527	1.772	1.432	3.016	4.630	8.651	579.704
Geometric mean	9.943	31.993	0.382	1.383	1.126	2.424	3.020	7.488	425.877
Kurtosis	87.309	44.068	84.609	29.096	49.618	176.846	44.430	1.058	27.243
Skewness	8.434	4.818	7.828	4.850	5.516	11.616	5.503	0.783	4.387
Standard deviation	57.577	35.411	0.676	2.015	1.265	4.614	6.148	4.317	635.980

Three RGS samples have been collected within the area by BCEM prior to the discovery of Mt. Milligan. One sample is within King Richard Creek, just where it passes into the outwash terrace terrain. It is highly anomalous for copper with a value of 445 ppm, and anomalous to a lesser degree in gold. The copper compares favorably with adjacent sample from the current survey of 375, 532 and 359 ppm. Gold is higher than adjacent 205 samples at 15, 32 and 17 ppb. The regional background (median) is 9 ppb for gold and 34 ppm for copper. The other two RGS samples are both within drainages southeast of the deposit and are both moderately anomalous in copper at 57 and 67 ppm and also in gold, both at 24 ppb. Both sample compared favorably with the 2005 analysis for copper, but one of the sites only returned 10 ppb gold compared to the 24 ppb RGS sample.

### 9.4 BLEG Geochemistry

“Bulk Leached Extractible Gold” analysis consisted of both gold and copper analysis from bulk samples following a cyanide leach. Gold results produced strongly anomalous patterns in the deposit area and also within the streams to the south draining the southeastern part of the soil anomaly. Values decreased steadily within King Richard Creek towards the junction with Rainbow Creek. This is in sharp contrast to the gold in silt values that actually increase downstream.



**Figure 11 Regional background - RGS silt analysis**

Copper responses were similar to those in silt although absolute concentrations were naturally lower. BLEG analyses responded more or less equally to the mineralization as the conventional silt samples. As the cyanide leach technique generally does not digest coarse gold grains, it is less susceptible to the downstream increase in gold possible due to fluvial effects. This would be a positive feature in a relatively high density sampling program, but may miss some anomalies in a more regional survey where just higher order streams are sampled. Results for gold and copper are shown in maps 65 to 68 as well as in profile form in figure 6.

## 9.5 Water Geochemistry

Water analyses consisted of both ICP and ICP-AES analyses, with a total of 80 determinations per sample. Where the element had been analysed by both methods, usually one method produced results below detection limit. Each pair of analysis was examined to determine which of the two analyses should be retained for further processing. This resulted in 55 unique element analyses. As with the silt samples, the results reporting less than detection were converted to half of the detection limit and a filter of mean greater than  $3 \times \text{DL}$  applied, resulting in 23 elements for multivariate analysis. Skewness was used to determine if each element should be log-transformed prior to further analysis.

Descriptive statistics are included in Appendix IV, but due to the large size of the table are not reproduced here. A graphical representation of the distribution of each element is shown in a box and whisker plot (figure 12). The relative large number of elements with the majority of analyses below detection limit is apparent on the left-hand side of the plot.

Copper in water is enriched in the lower order streams, dropping to background levels in King Richard Creek as it passes into the outwash plain. The highest copper analysis is from the southeast corner of the copper soil anomaly with a value of 11.0 µg/l copper. Within the known mineralized zones maximum value is 6.0 µg/l. Background in King Richard Creek is around 1.4 µg/l dropping to 0.7 µg/l in Rainbow Creek (Maps 69-70).

A cluster analysis (figure 13) indicates the closest association with copper is silver followed by nickel. A symbol plot of silver (Map 71) shows a slight enrichment in the deposit area, with the highest sample again being in the southeast corner of the soil anomaly. Nickel also shows a spatial correlation with known mineralization (Map 72), with the highest value being northwest of and upstream of the MBX deposit.

Factor analysis applied to the same dataset as the cluster analysis with four factors being extracted with highest factor loadings as follows:

Factor 1: Ca, Mg, Na, Sr

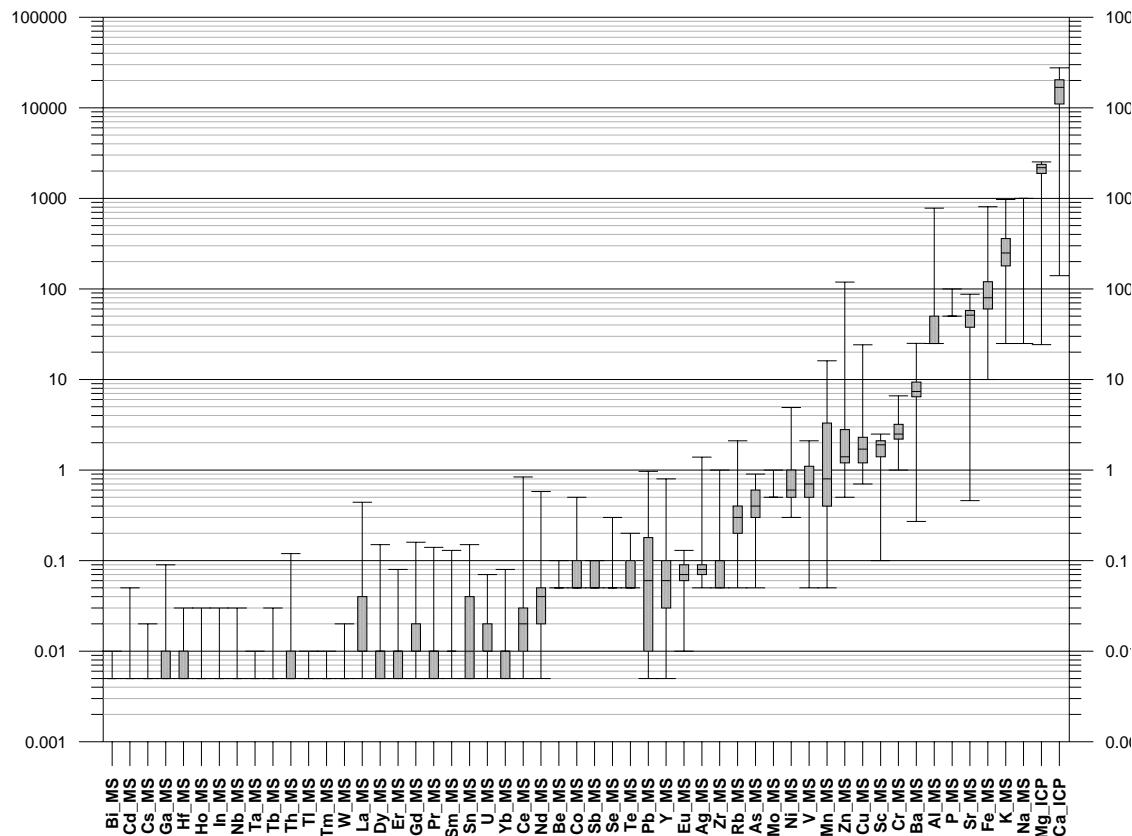
Factor 2: Ce, Fe, La, Mn, Nd, Sc, Y, Cu

Factor 3: As, Cr, V

Factor 4: Ba, Fe, K, Mg, Rb, Sc

Plots of the factor scores are shown in maps 73-76. The plot of Factor 1 shows generally low scores over the mineralized areas. This is probably due to the very high negative loadings for Cu, Ag, and Ni.

Factor 2, which has the highest loading for copper of all of the factors also show the strongest spatial correlation with mineralization. Factors 3 and 4 do not have a strong spatial correlation with mineralization.

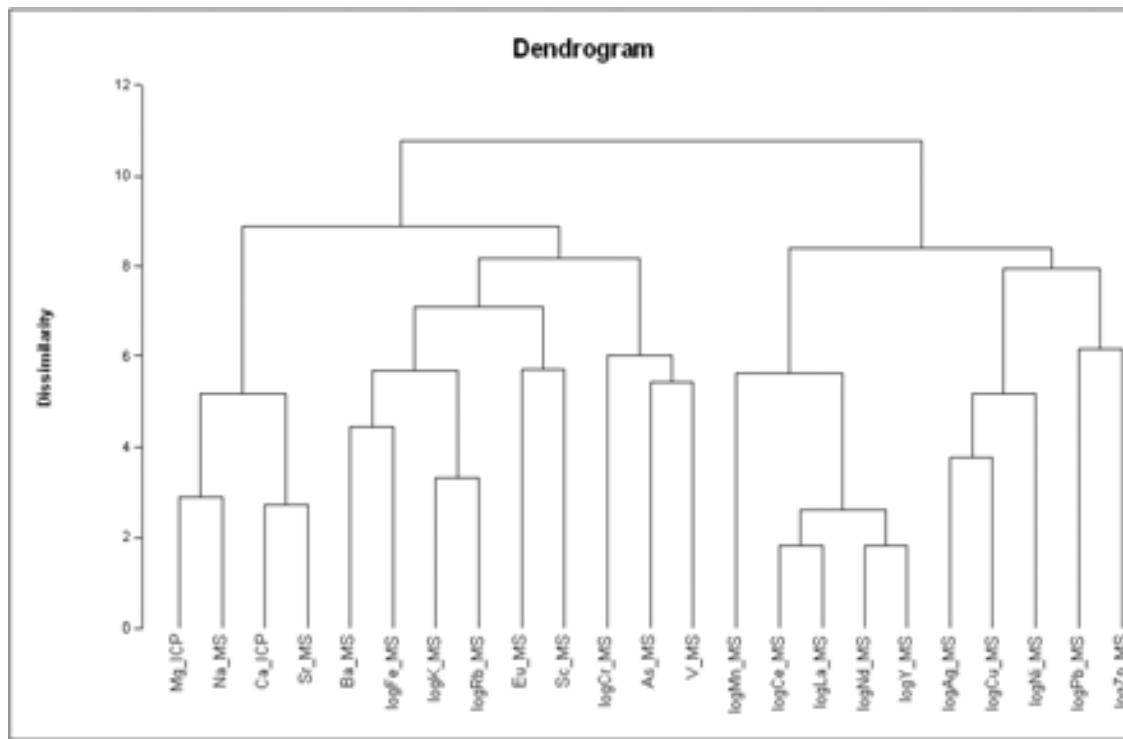


**Figure 12 Box & whisker plot - water geochemistry**

## 10 Discussion of Results

The orientation survey established the effectiveness of conventional silt, BLEG and water analyses for detecting copper gold mineralization at Mt. Milligan. The silt analyses resulted in very anomalous values within the mineralized zone, but drops off quite rapidly as sampling moved onto the glaciofluvial outwash plain. There is an enrichment of gold in the lower reaches of King Richard Creek and also in Rainbow Creek, which has documented placer gold. In a regional program, a sample at the mouth of King Richard Creek would be anomalous compared to the adjacent sample in Rainbow Creek, but a sample two kilometers upstream would reveal only background values. The area is less than optimal for silt sampling as there are numerous beaver dams, and small ponds that could cause settling of heavy minerals before reaching the mouth of King Richard Creek.

Copper in silt appears very effective in outlining the deposit area, but many other elements are enriched in the deposit it area, including many elements not necessarily associated with Cu-Au mineralization. It is notable that all four of the factors extracted from the dataset are enriched in the streams above the outwash plane. This may be more



**Figure 13 Cluster analysis - water geochemistry**

affected by physiography than mineralization as these streams are sourcing till and bedrock whereas the higher order streams are primarily within a thick glaciofluvial and fluvial sequence.

BLEG analysis appears very effective in indicating the mineralized area, and copper seems particularly effective with this method. The sharp decrease in values on the outwash terraces is still apparent as with the silt, but the increase in gold in the higher order King Richard and Rainbow creeks is not apparent. This could make BLEG a more effective tool in searching for gold ± copper systems in this environment.

Copper in water appears to be the best overall vector to mineralization, as the concentration increases at a more noticeable rate from Rainbow Creek into King Richard Creek and into the headwaters in the deposit areas.

The area has some major challenges to the interpretation of stream sediment sampling results due to the drainage pattern, the extensive glaciofluvial deposits and the large enrichment in soils that may be unrelated to known mineralization. The streams within the upland areas surrounding the deposit are generally anomalous and did form a prominent anomaly in the historic RGS data. There is little indication in the lower part of King Richard Creek and Rainbow Creel that there is a major Cu-Au deposit upstream.

The generally anomalous nature of streams to the southeast of the deposits is interesting as they don't drain areas of known mineralization. This indicates that there is potential for additional mineralization in that area.

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- Sibbick, S.J., Balma R.G. and Dunn C.E. 1996. Till geochemistry of the Mount Milligan area (Parts of 93N/1 and 93O/4). British Columbia Geological Survey Open File 1996-22.

## Statement of Expenditures

**Field Personnel**

PDI, Darren Obrien, Paul Jago	\$3,150.00
NakAzdli Band - Contract	\$4,300.00
Total	\$7,450.00

**Consultants**

Anna Fonseca	\$7,322.30
G. N. Lustig Consulting Ltd.	\$4,828.87
Total	\$12,151.17

**Food and Accomodation**

\$1,600.27

**Mobilization/Demobilization**

\$987.54

**Vehicle Rentals**

\$847.85

**Equipment and Supplies**

\$704.98

**Laboratory Analysis**

\$2,894.87

**Report Preparation**

\$4,800.00

<b>Total Expenditures</b>	<b>\$31,436.67</b>
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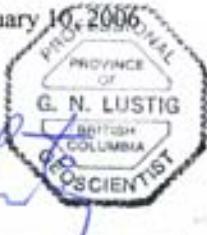
## **Statements of Qualifications**

## Certificate of Qualified Person

I, Gary Norman Lustig hereby certify that:

1. I reside at 1637 Springhaven Place, Kamloops, BC, Canada V2E 1C7;
2. I am a geologist employed by G. N. Lustig Consulting Ltd. with offices at 1637 Springhaven Place, Kamloops, BC, Canada V2E 1C7;
3. I have a Bachelor of Science Degree in Geology from the University of Saskatchewan, Saskatoon, Saskatchewan, Canada and a Master of Science Degree from the University of Manitoba, Winnipeg, Manitoba, Canada;
4. I have practiced my profession continuously since 1973, with the exception of 2 years in which I was in full-time graduate studies. I have worked on a variety of mining and exploration projects in Canada, United States, Mexico, Spain, Australia, Papua New Guinea, Indonesia, South Africa and Chile.
5. I am registered with the following statutory professional organizations:
  - Professional Geoscientist with The Association of Professional Engineers and Geoscientists of the Province of British Columbia as Member - Reg. No. 20462
  - Professional Geologist with The Association of Professional Engineers, Geologists and Geoscientists of the Northwest Territories as Licensee - Reg. No. L908
  - Professional Engineer with The Association of Professional Engineers and Geoscientists of Saskatchewan as Member - Cert. No. 4392
6. I am a member of the following professional societies:
  - Geological Association of Canada
  - Canadian Institute of Mining and Metallurgy
  - Society of Economic Geologists
7. As of the date of the certificate, I am not aware of any material fact or material change with respect to the subject matter of the technical report, which is not reflected in the technical report
8. I have visited the Mt. Milligan property in 1991, 1992 and in 2004.
9. I do not currently own any securities of Placer Dome Inc., although at the time of the work described herein I owned approximately 1000 shares of Placer Dome Inc.
10. I have previously been involved in an economic analysis, GIS compilation, geological modeling and diamond drilling at Mt. Milligan.

Dated on February 10, 2006



Gary N. Lustig M.Sc. P. Geo.

### **Statement of Qualifications**

I, Anna Fonseca, certify that:

1. I have been involved in geological mapping and mineral exploration in British Columbia, Yukon, Alaska, Russia and Mexico since 1994.
2. I am a graduate of the University of Alaska Fairbanks with a degree in Geology (B.S., 1993) and I obtained a Masters of Science degree in economic geology from the University of British Columbia (M.Sc., 1998).
3. I have been working as a Geological Consultant for Placer Dome Inc. since May 2004.
4. I am co-author of this report on Placer Dome Inc.'s Mount Project, Stream Sediment Geochemistry Survey.
5. I was directly involved in the 2005 geochemical sampling work described in the report.
6. I have no direct or indirect interest in the properties or securities of Placer Dome Inc. or affiliated companies, nor do I expect to acquire such interest.

*Anna de Fonseca*

**APPENDIX I**  
**MAPS**

# Mt. Milligan Stream Sediments Bedrock Geology

## Legend

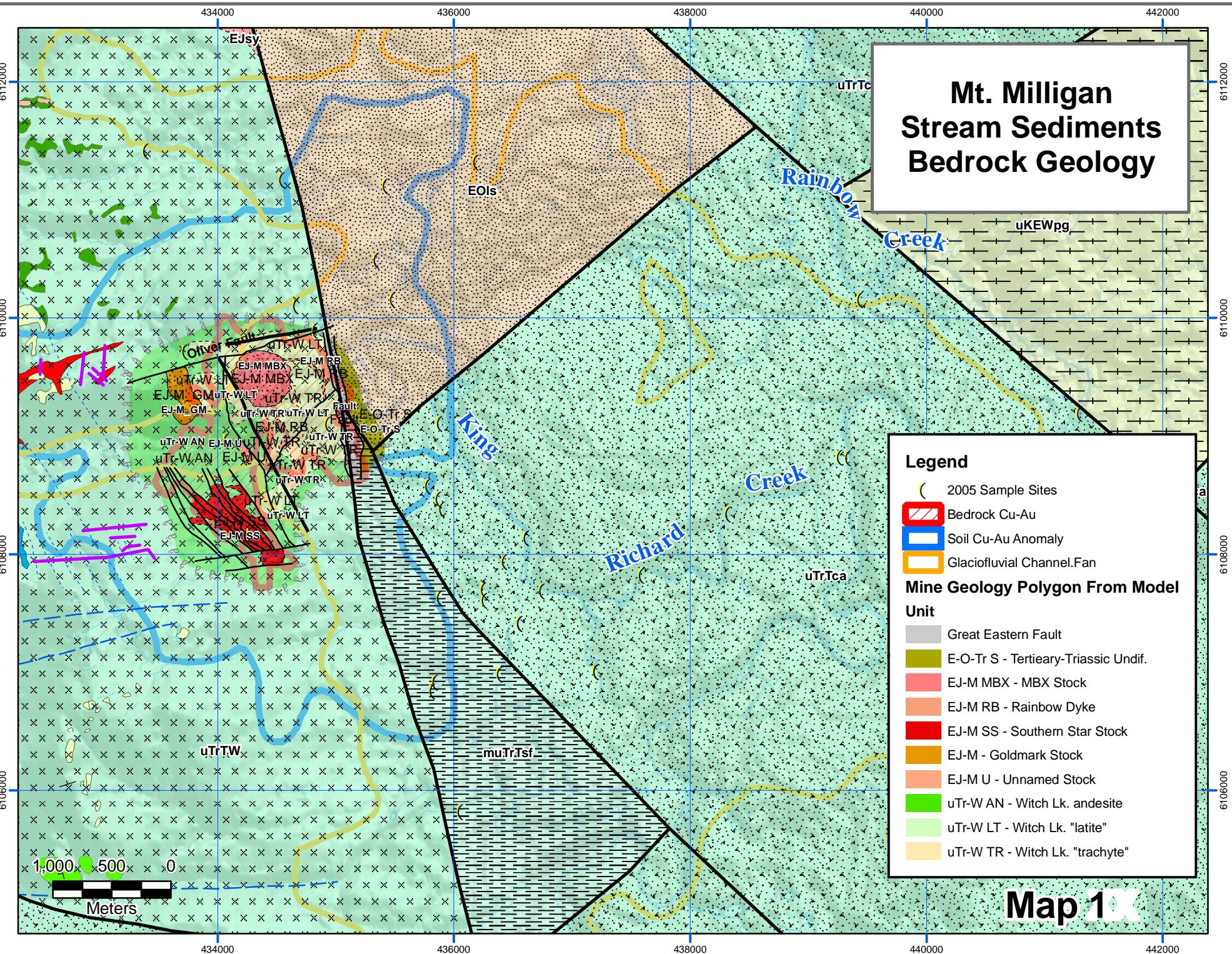
- ( ) 2005 Sample Sites
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## Mine Geology Polygon From Model

### Unit

- Great Eastern Fault
- E-O-Tr S - Tertiary-Triassic Undif.
- EJ-M MBX - MBX Stock
- EJ-M RB - Rainbow Dyke
- EJ-M SS - Southern Star Stock
- EJ-M - Goldmark Stock
- EJ-M U - Unnamed Stock
- uTr-W AN - Witch Lk. andesite
- uTr-W LT - Witch Lk. "latite"
- uTr-W TR - Witch Lk. "trachyte"

**Map 1**



## Mt. Milligan Biogeochemistry Gold in Till

**Legend**

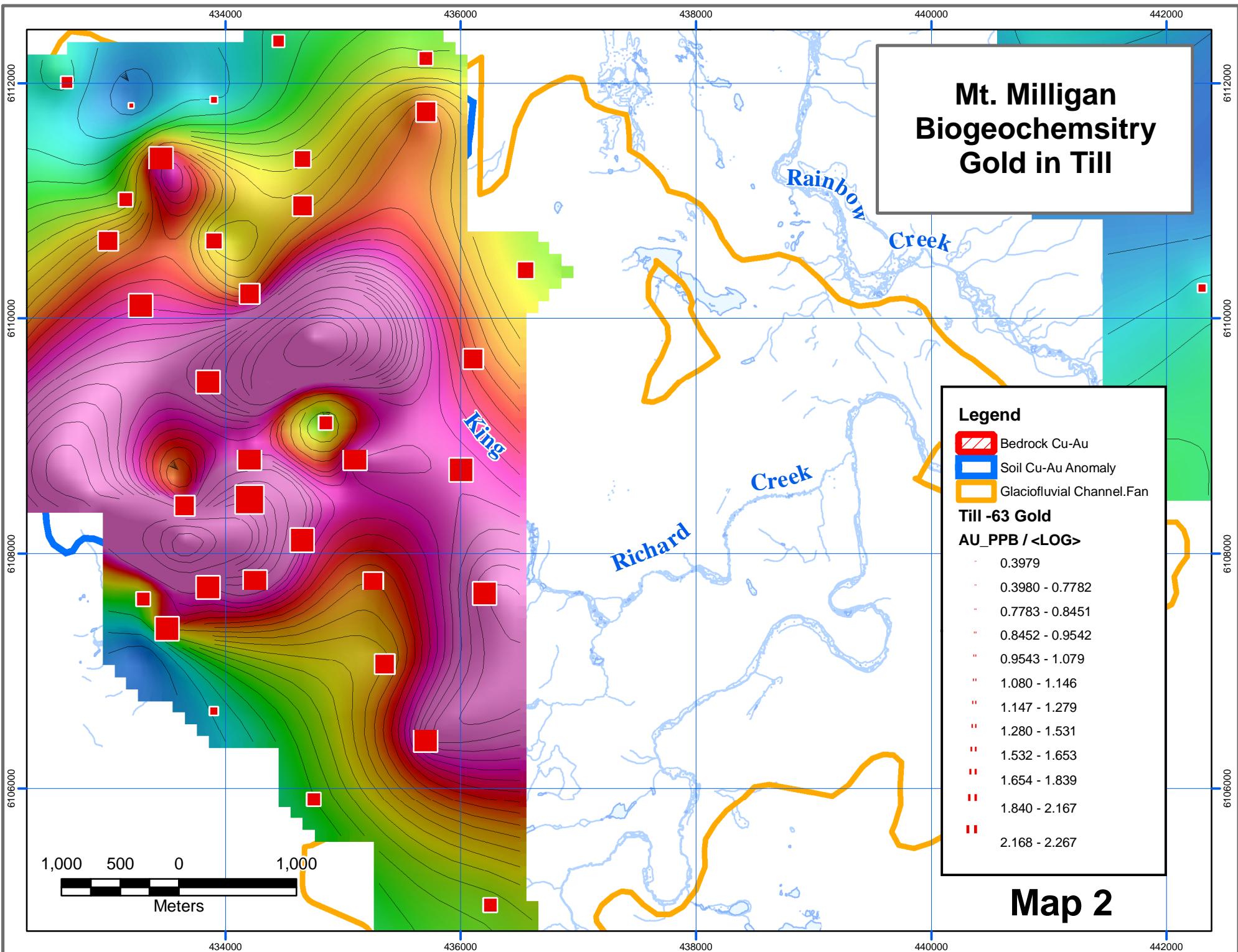
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

### Till -63 Gold

#### AU\_PPB / <LOG>

- |                 |
|-----------------|
| 0.3979          |
| 0.3980 - 0.7782 |
| 0.7783 - 0.8451 |
| 0.8452 - 0.9542 |
| 0.9543 - 1.079  |
| 1.080 - 1.146   |
| 1.147 - 1.279   |
| 1.280 - 1.531   |
| 1.532 - 1.653   |
| 1.654 - 1.839   |
| 1.840 - 2.167   |
| 2.168 - 2.267   |

**Map 2**



# Mt. Milligan Biogeochemistry Copper in Till

**Legend**

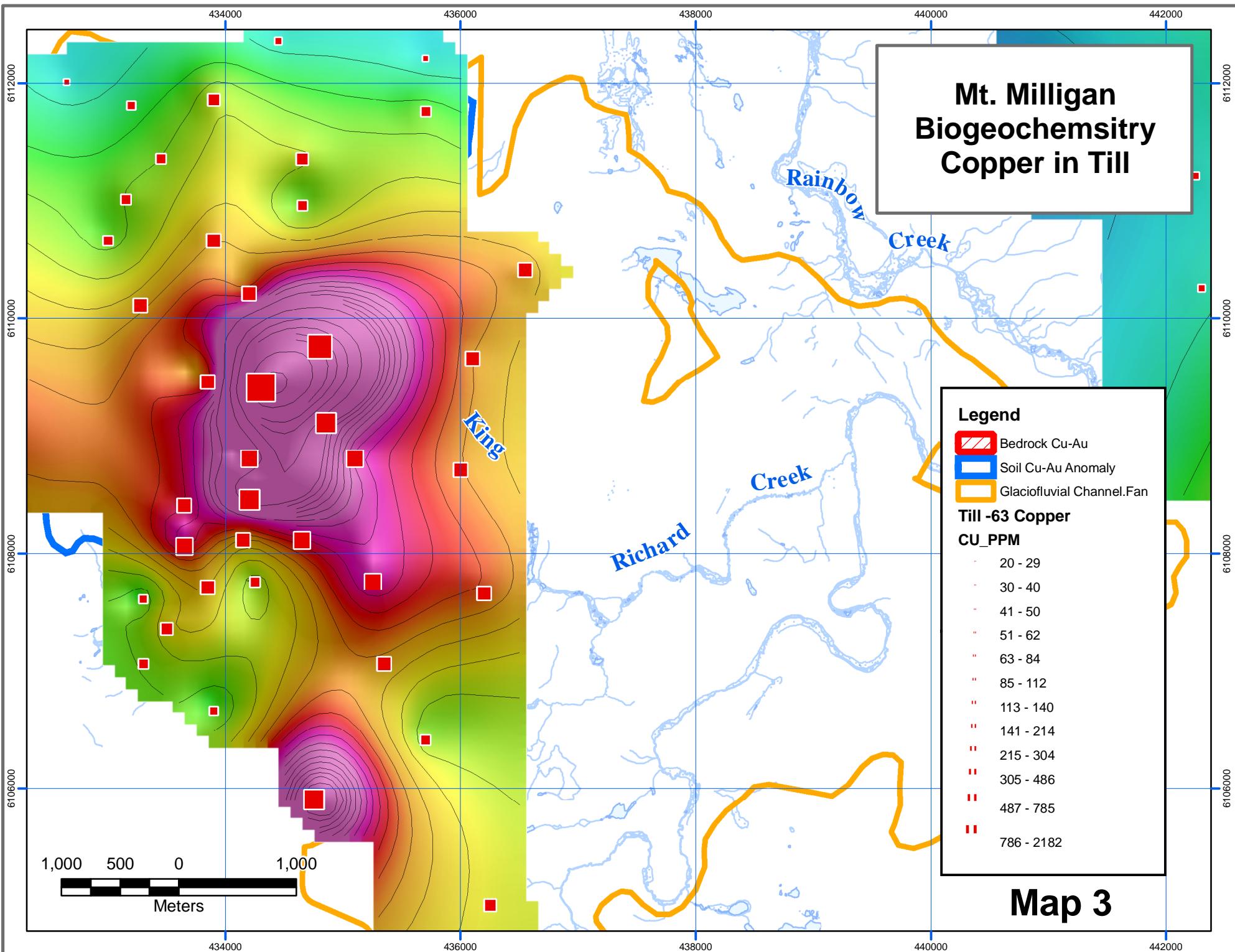
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## Till -63 Copper

### CU\_PPM

20 - 29
30 - 40
41 - 50
51 - 62
63 - 84
85 - 112
113 - 140
141 - 214
215 - 304
305 - 486
487 - 785
786 - 2182

# Map 3



# Mt. Milligan Biogeochemistry Gold in Pine Bark

## Legend

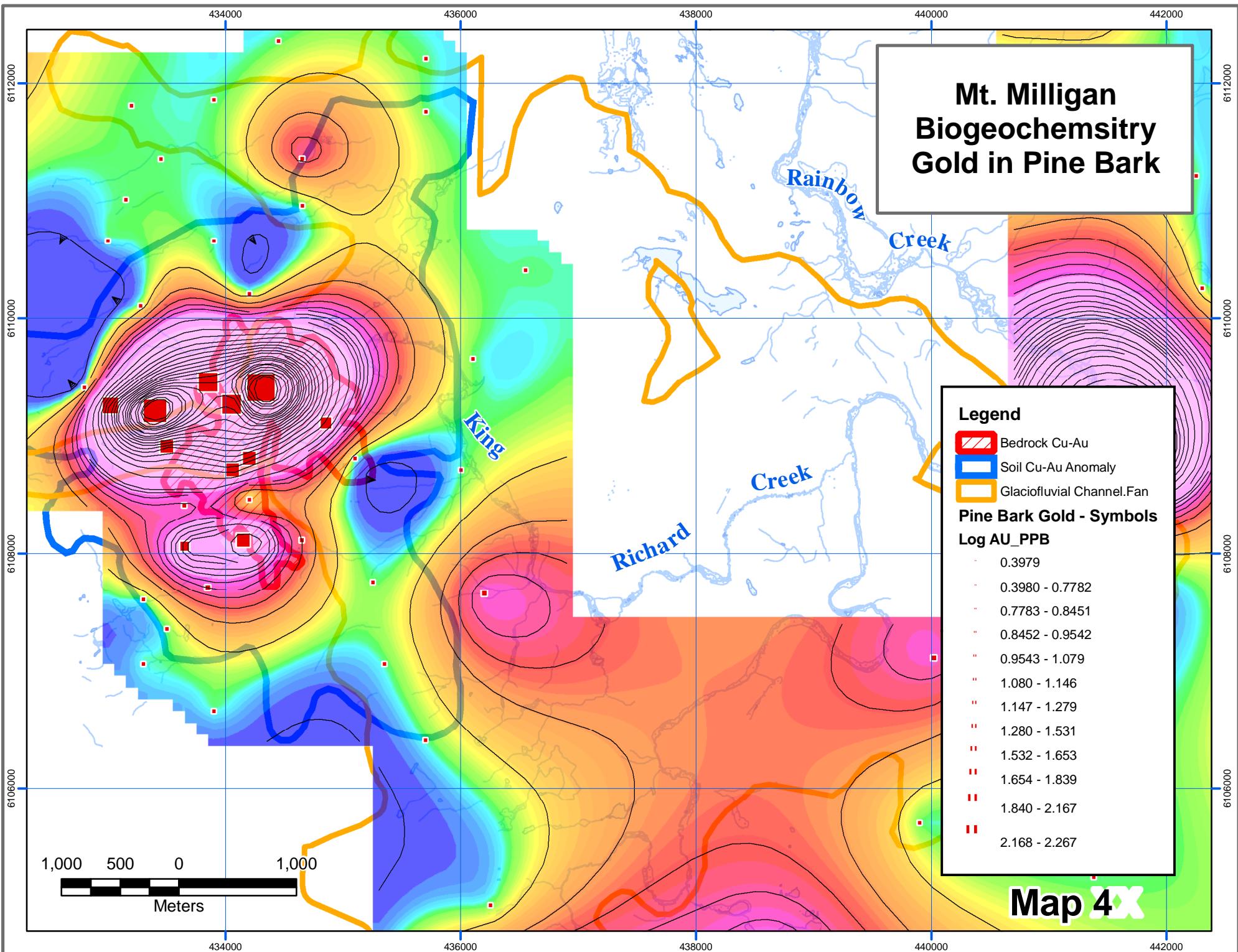
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## Pine Bark Gold - Symbols

### Log AU\_PPB

- 0.3979
- 0.3980 - 0.7782
- 0.7783 - 0.8451
- 0.8452 - 0.9542
- 0.9543 - 1.079
- 1.080 - 1.146
- 1.147 - 1.279
- 1.280 - 1.531
- 1.532 - 1.653
- 1.654 - 1.839
- 1.840 - 2.167
- 2.168 - 2.267

Map 4X



**Mt. Milligan  
Biogeochemistry  
Copper in Pine Bark**

**Legend**

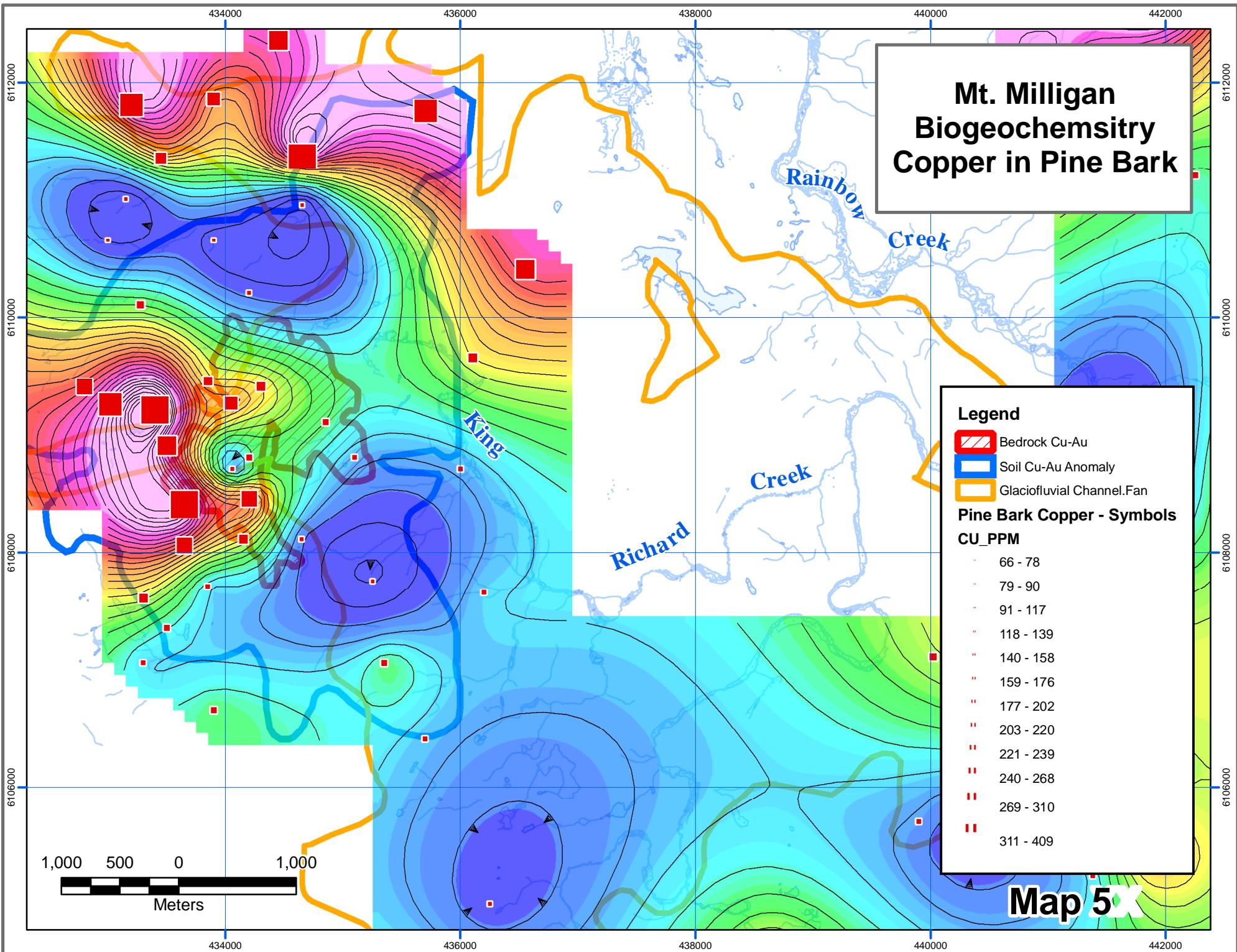
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**Pine Bark Copper - Symbols**

**CU\_PPM**

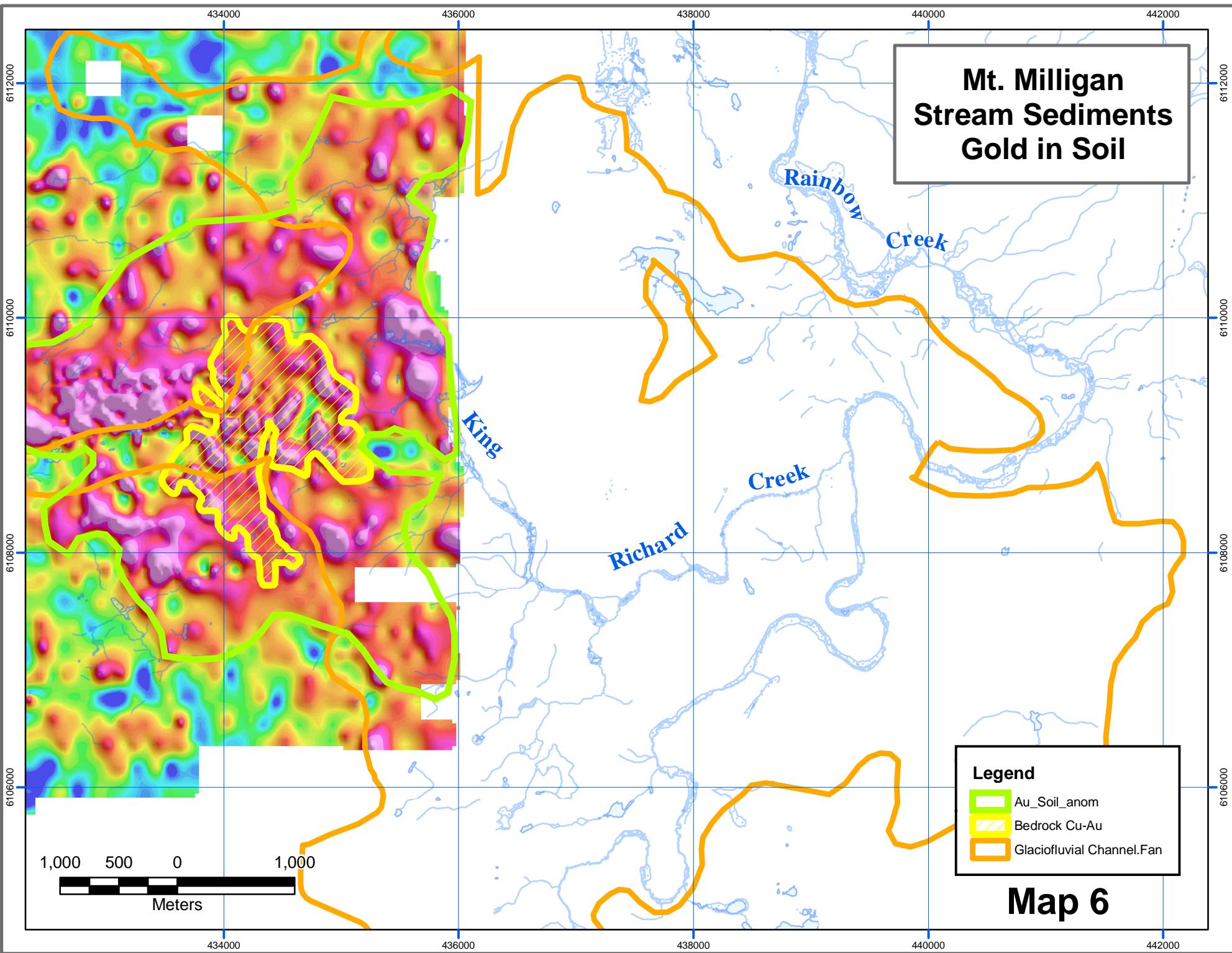
- |   |           |
|---|-----------|
| • | 66 - 78   |
| • | 79 - 90   |
| • | 91 - 117  |
| • | 118 - 139 |
| • | 140 - 158 |
| • | 159 - 176 |
| • | 177 - 202 |
| • | 203 - 220 |
| • | 221 - 239 |
| • | 240 - 268 |
| • | 269 - 310 |
| • | 311 - 409 |

**Map 5X**



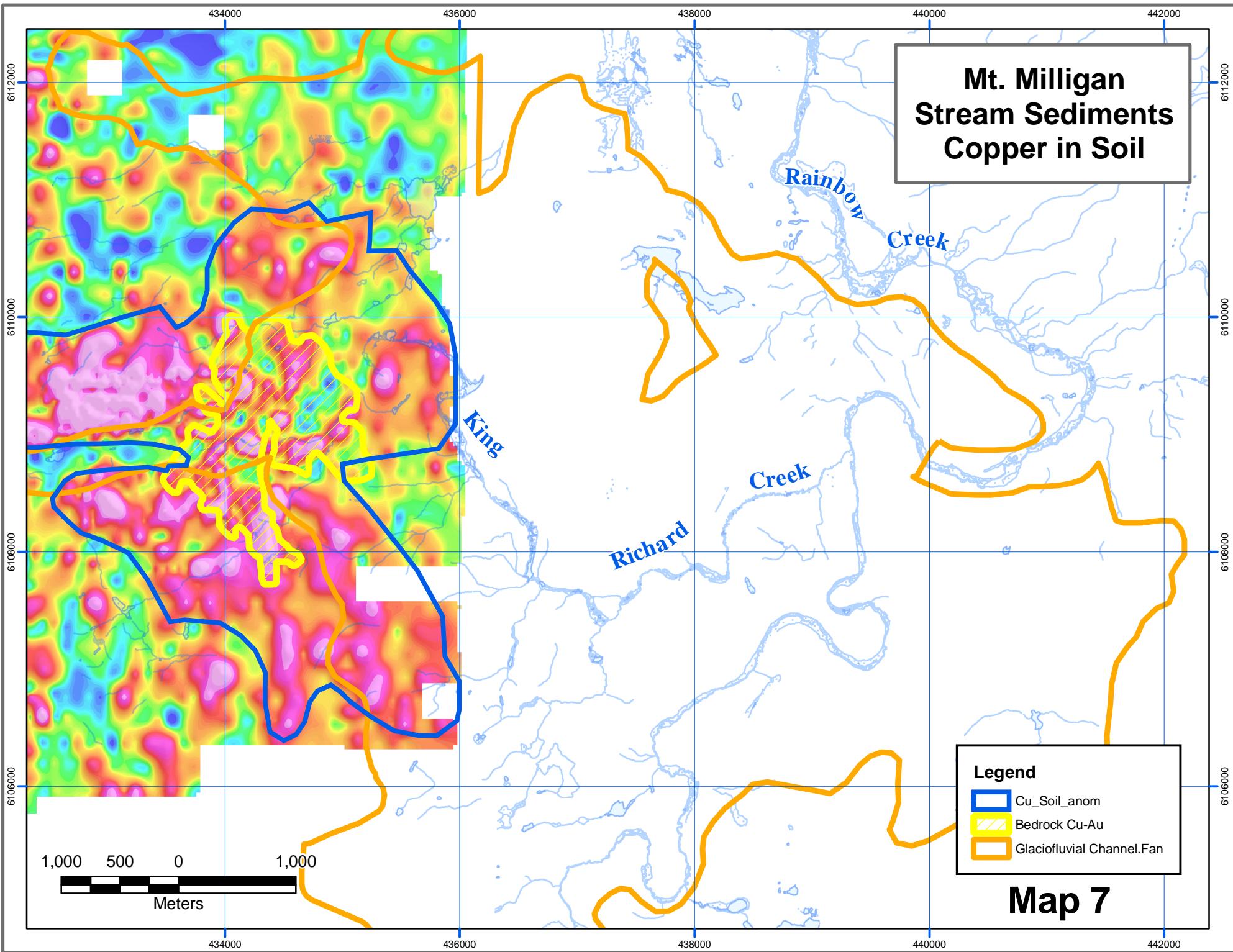
# Mt. Milligan Stream Sediments Gold in Soil

**Map 6**



# Mt. Milligan Stream Sediments Copper in Soil

Map 7

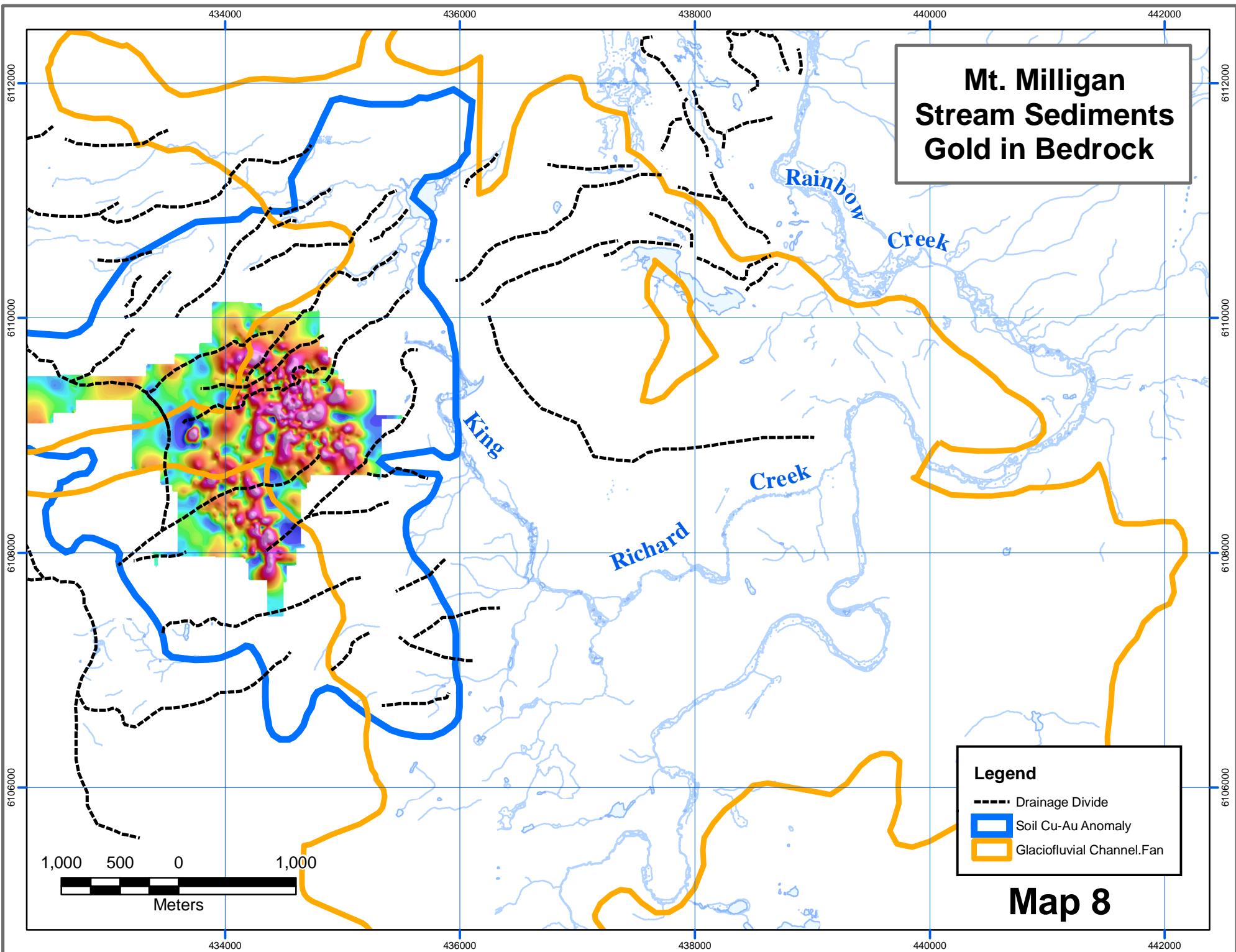


# Mt. Milligan Stream Sediments Gold in Bedrock

**Map 8**

**Legend**

- Drainage Divide
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

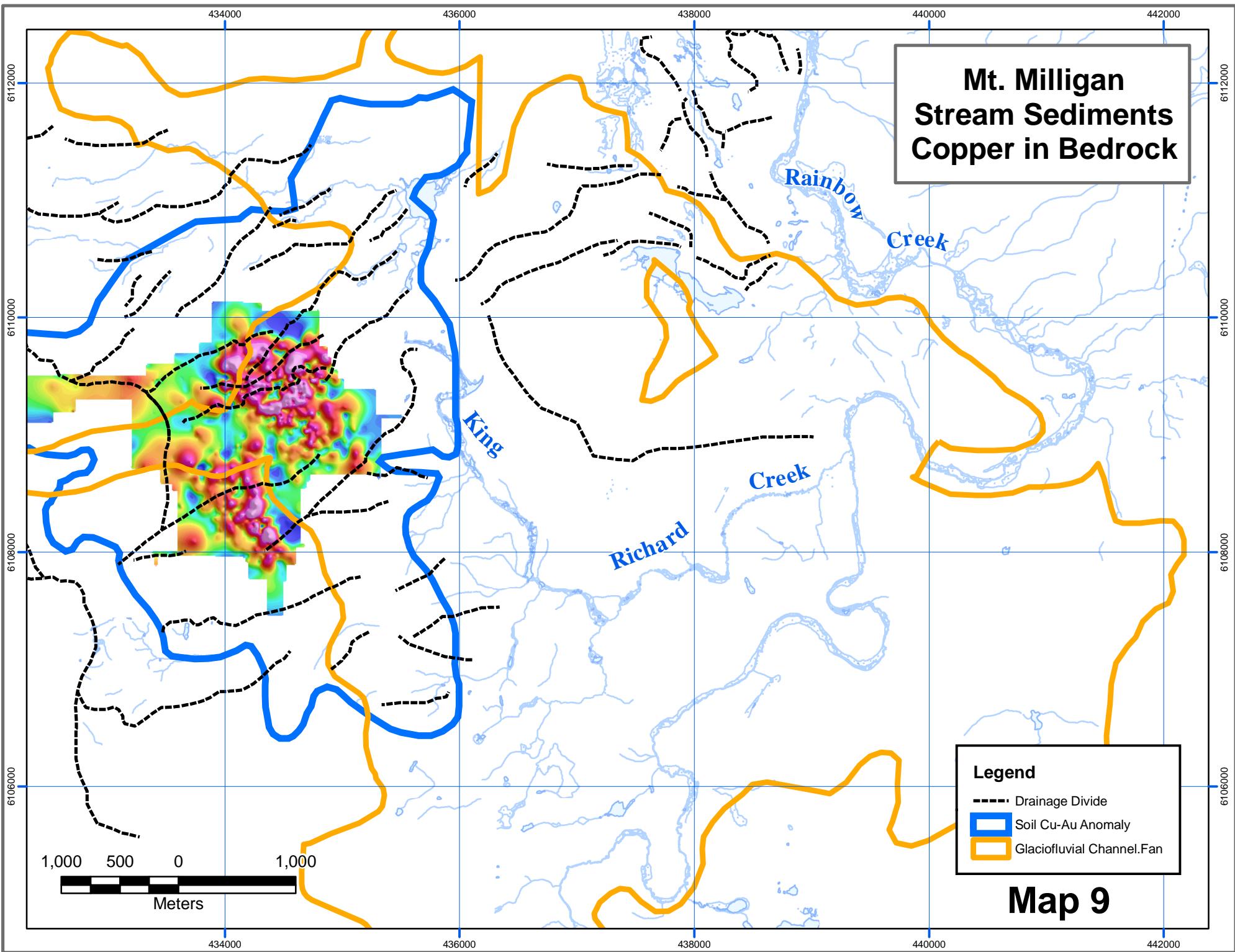


# Mt. Milligan Stream Sediments Copper in Bedrock

**Map 9**

**Legend**

- Drainage Divide
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

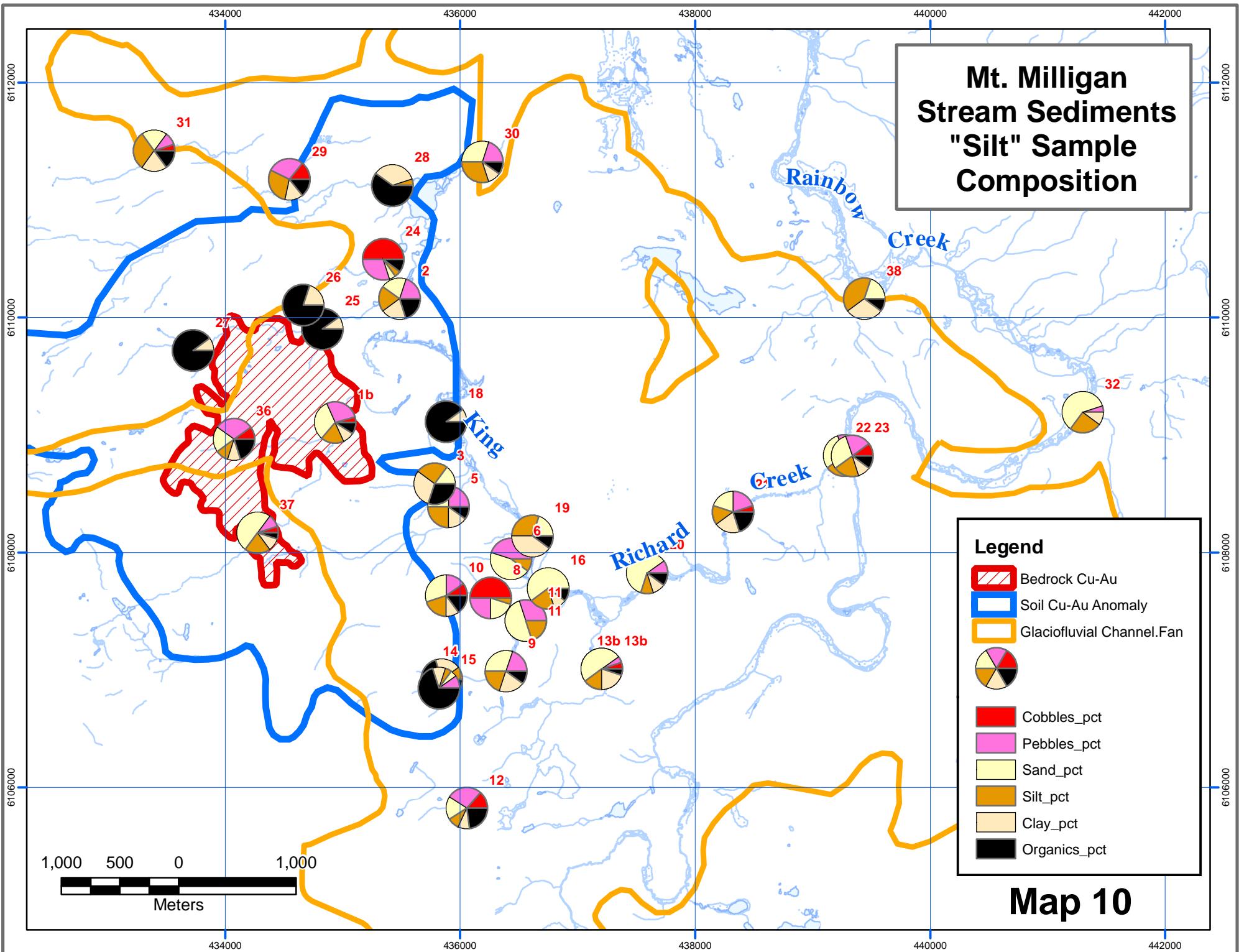


# Mt. Milligan Stream Sediments "Silt" Sample Composition

## Legend

- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan
- 
- Cobbles\_pct
- Pebbles\_pct
- Sand\_pct
- Silt\_pct
- Clay\_pct
- Organics\_pct

Map 10



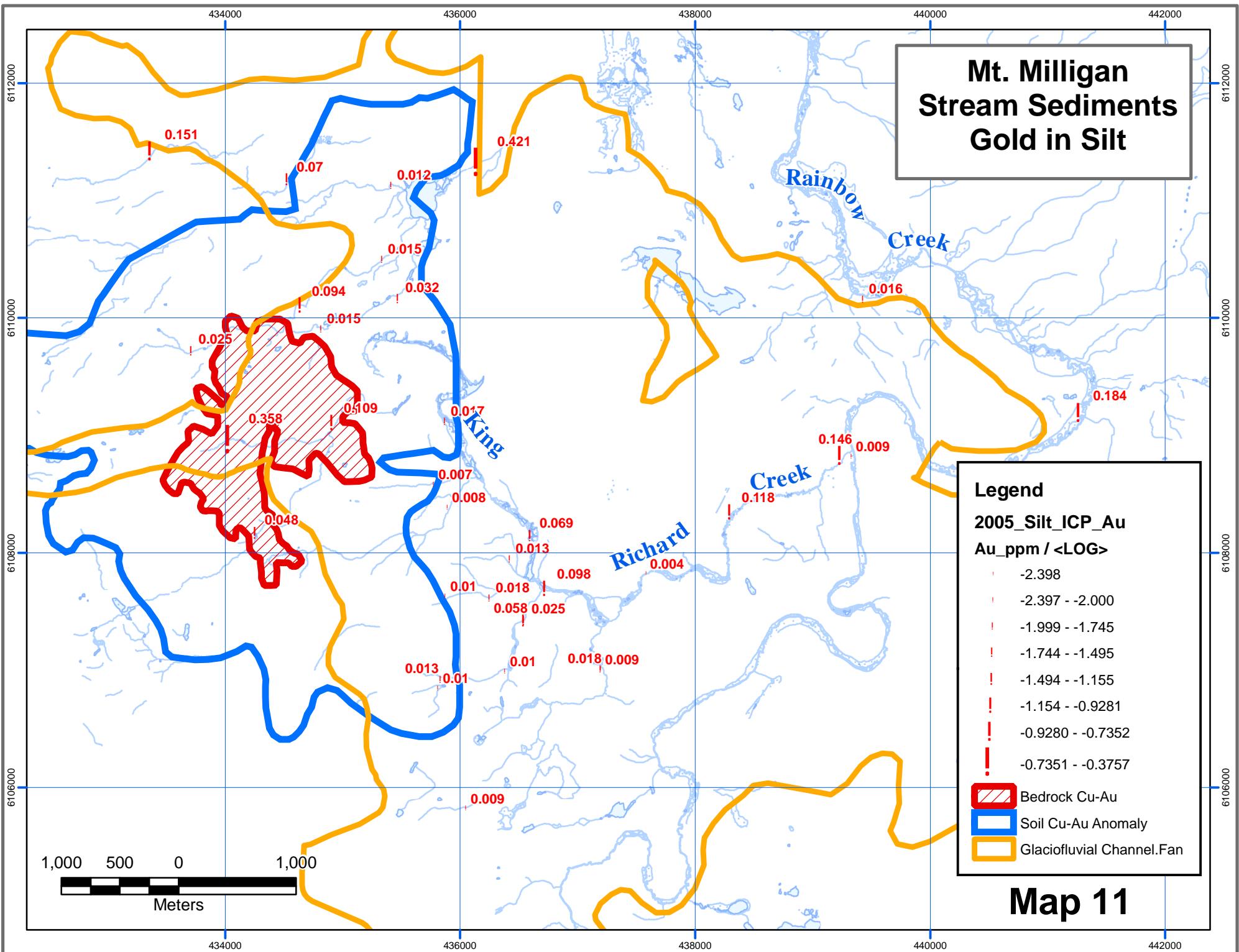
**Mt. Milligan  
Stream Sediments  
Gold in Silt**

**Legend**  
**2005\_Silt\_ICP\_Au**  
**Au\_ppm / <LOG>**

- 2.398
- 2.397 - -2.000
- 1.999 - -1.745
- 1.744 - -1.495
- 1.494 - -1.155
- 1.154 - -0.9281
- 0.9280 - -0.7352
- 0.7351 - -0.3757

- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**Map 11**



# Mt. Milligan Stream Sediments Gold in Silt

## Legend

Glaciofluvial Channel.Fan  
Soil Cu-Au Anomaly

Bedrock Cu-Au  
Drainage Divide

2005\_Silt\_ICP\_Au  
Au\_ppm / <LOG>

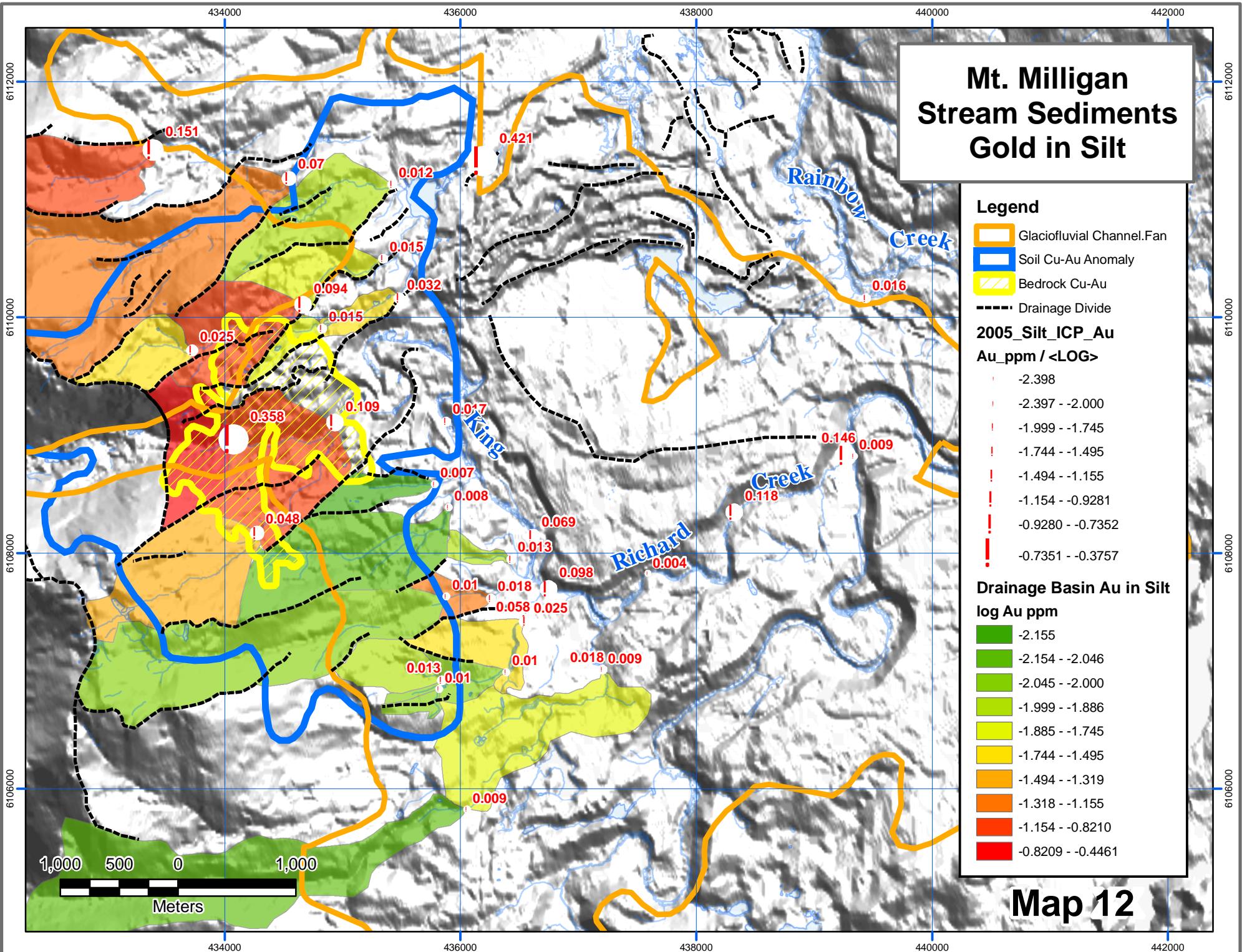
-2.398
-2.397 - -2.000
-1.999 - -1.745
-1.744 - -1.495
-1.494 - -1.155
-1.154 - -0.9281
-0.9280 - -0.7352
-0.7351 - -0.3757

## Drainage Basin Au in Silt

### log Au ppm

-2.155
-2.154 - -2.046
-2.045 - -2.000
-1.999 - -1.886
-1.885 - -1.745
-1.744 - -1.495
-1.494 - -1.319
-1.318 - -1.155
-1.154 - -0.8210
-0.8209 - -0.4461

Map 12



**Mt. Milligan  
Stream Sediments  
Copper in Silt**

**Legend**

**2005\_Silt\_ICP\_Cu**

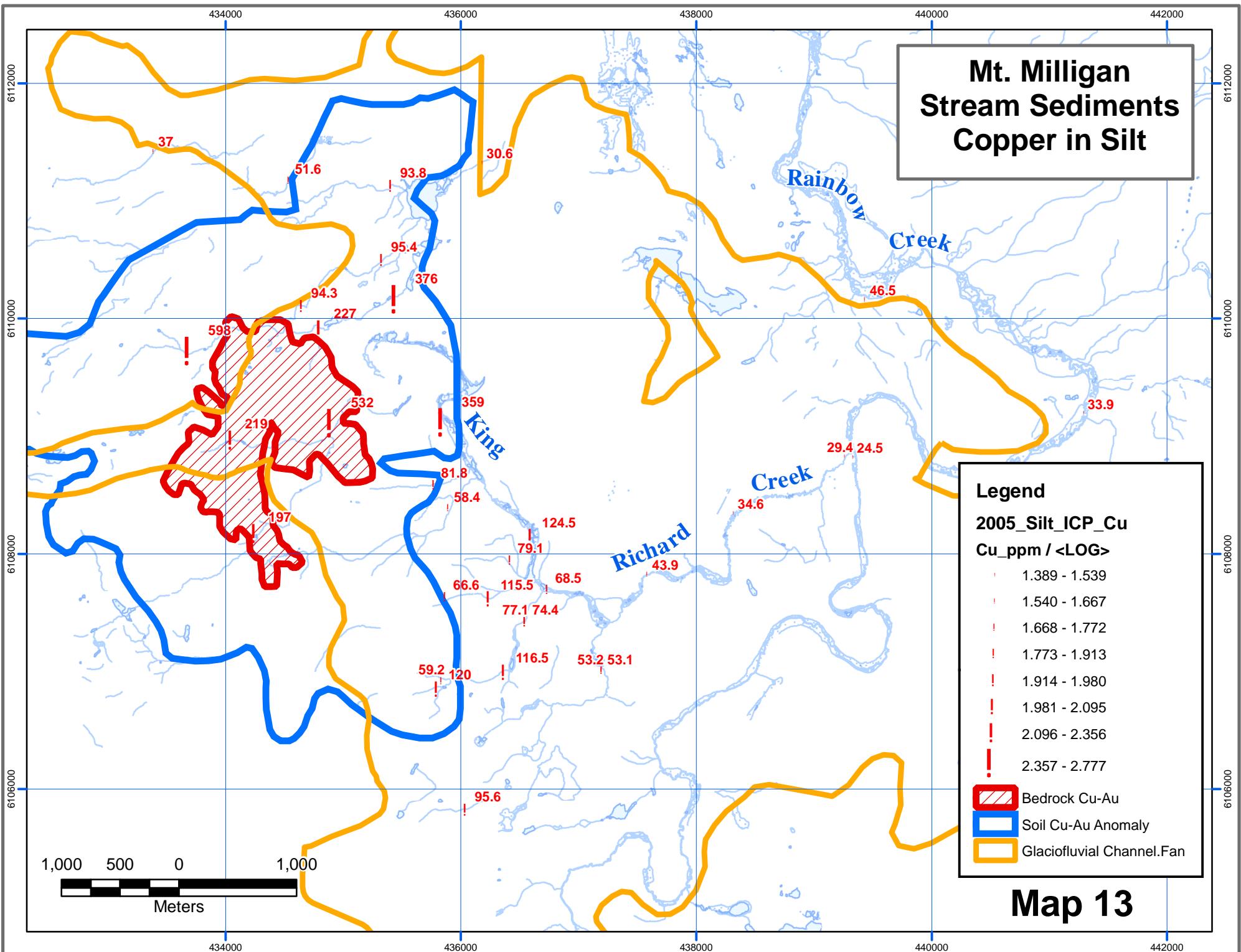
**Cu\_ppm / <LOG>**

- 1.389 - 1.539
- 1.540 - 1.667
- 1.668 - 1.772
- ! 1.773 - 1.913
- ! 1.914 - 1.980
- ! 1.981 - 2.095
- 2.096 - 2.356
- 2.357 - 2.777

**Bedrock Cu-Au**  
**Soil Cu-Au Anomaly**

**Glaciofluvial Channel.Fan**

**Map 13**



# Mt. Milligan Stream Sediments Copper in Silt

## Legend

— Glaciofluvial Channel.Fan  
— Soil Cu-Au Anomaly  
— Bedrock Cu-Au  
— Drainage Divide

## 2005\_Silt\_ICP\_Cu

### Cu\_ppm / <LOG>

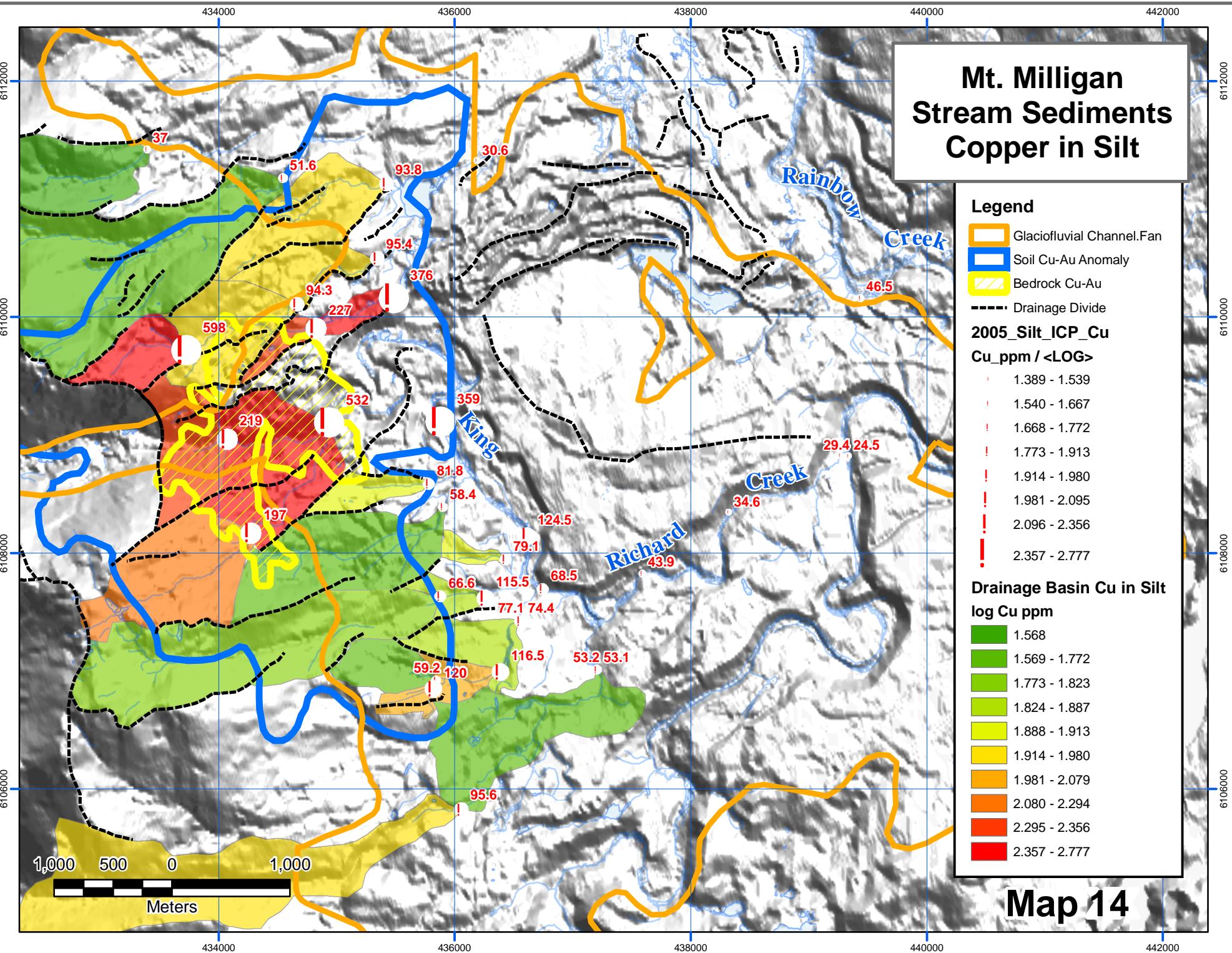
! 1.389 - 1.539
! 1.540 - 1.667
! 1.668 - 1.772
! 1.773 - 1.913
! 1.914 - 1.980
! 1.981 - 2.095
! 2.096 - 2.356
! 2.357 - 2.777

## Drainage Basin Cu in Silt

### log Cu ppm

1.568
1.569 - 1.772
1.773 - 1.823
1.824 - 1.887
1.888 - 1.913
1.914 - 1.980
1.981 - 2.079
2.080 - 2.294
2.295 - 2.356
2.357 - 2.777

**Map 14**



**Mt. Milligan  
Stream Sediments  
Silver in Silt**

**Legend**

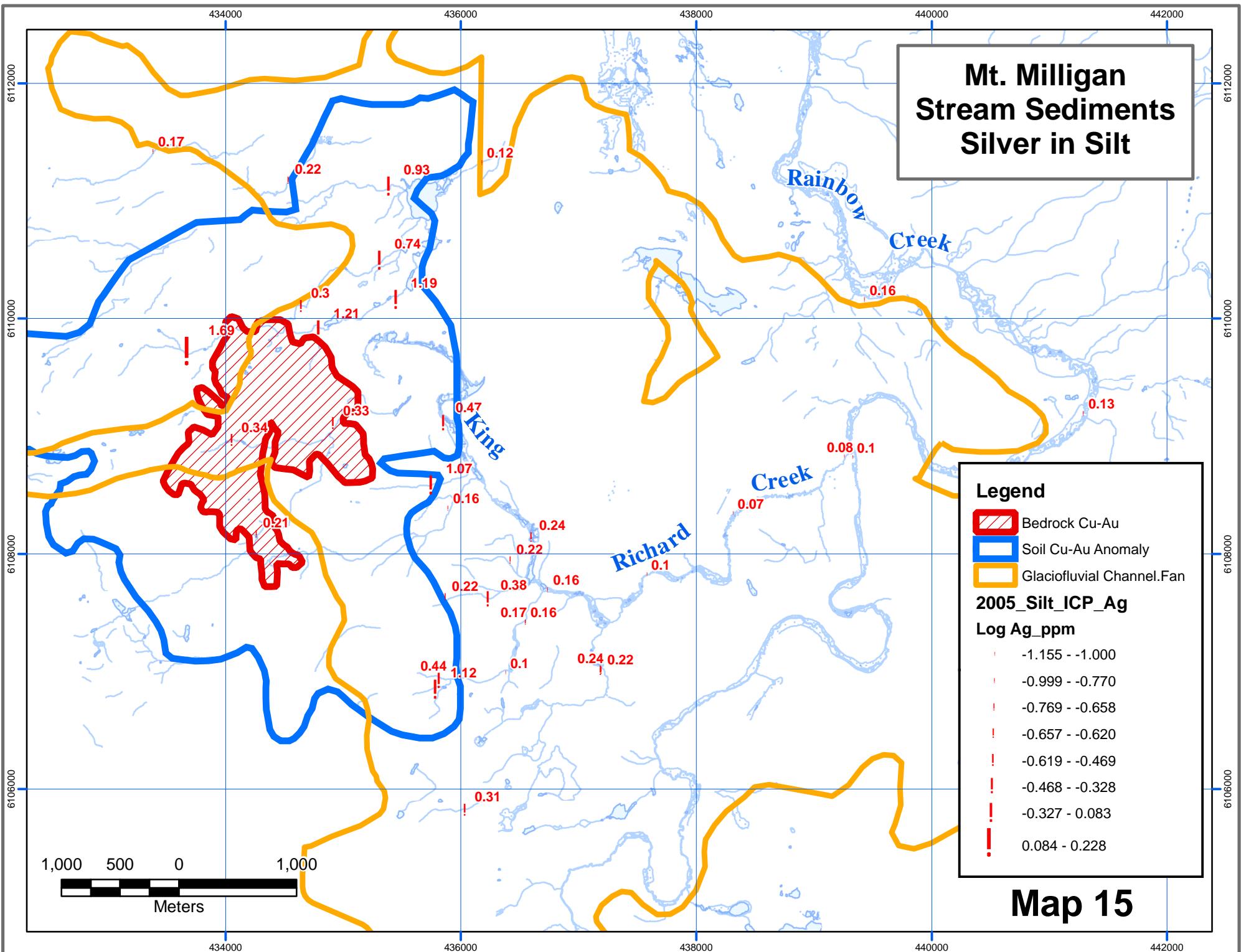
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Ag**

**Log Ag\_ppm**

-1.155 - -1.000
-0.999 - -0.770
-0.769 - -0.658
-0.657 - -0.620
-0.619 - -0.469
-0.468 - -0.328
-0.327 - 0.083
0.084 - 0.228

**Map 15**



**Mt. Milligan  
Stream Sediments  
Molybdenum in Silt**

**Legend**

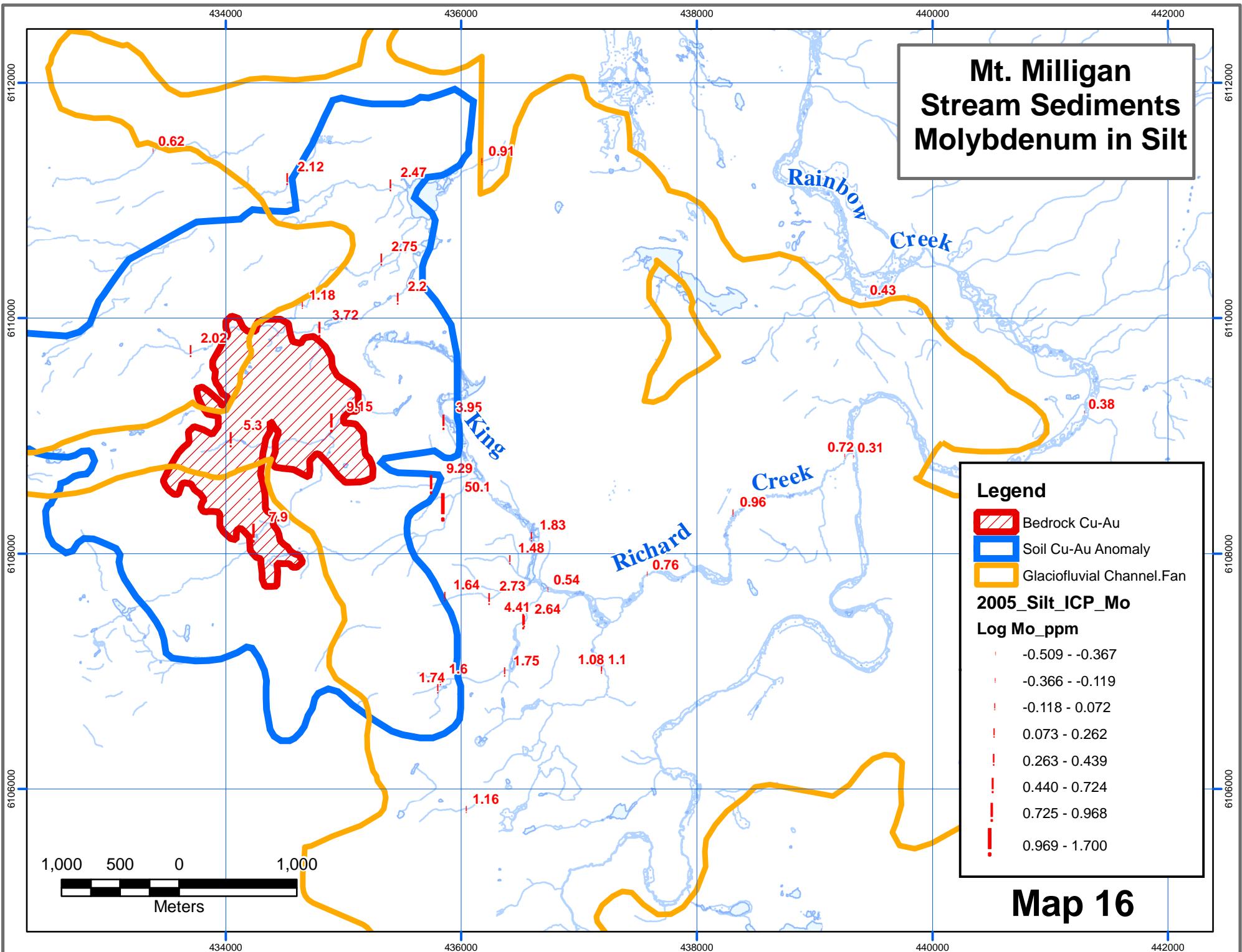
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Mo**

**Log Mo\_ppm**

-0.509 - -0.367
-0.366 - -0.119
-0.118 - 0.072
0.073 - 0.262
0.263 - 0.439
0.440 - 0.724
0.725 - 0.968
0.969 - 1.700

**Map 16**



# Mt. Milligan Stream Sediments Mercury in Silt

**Legend**

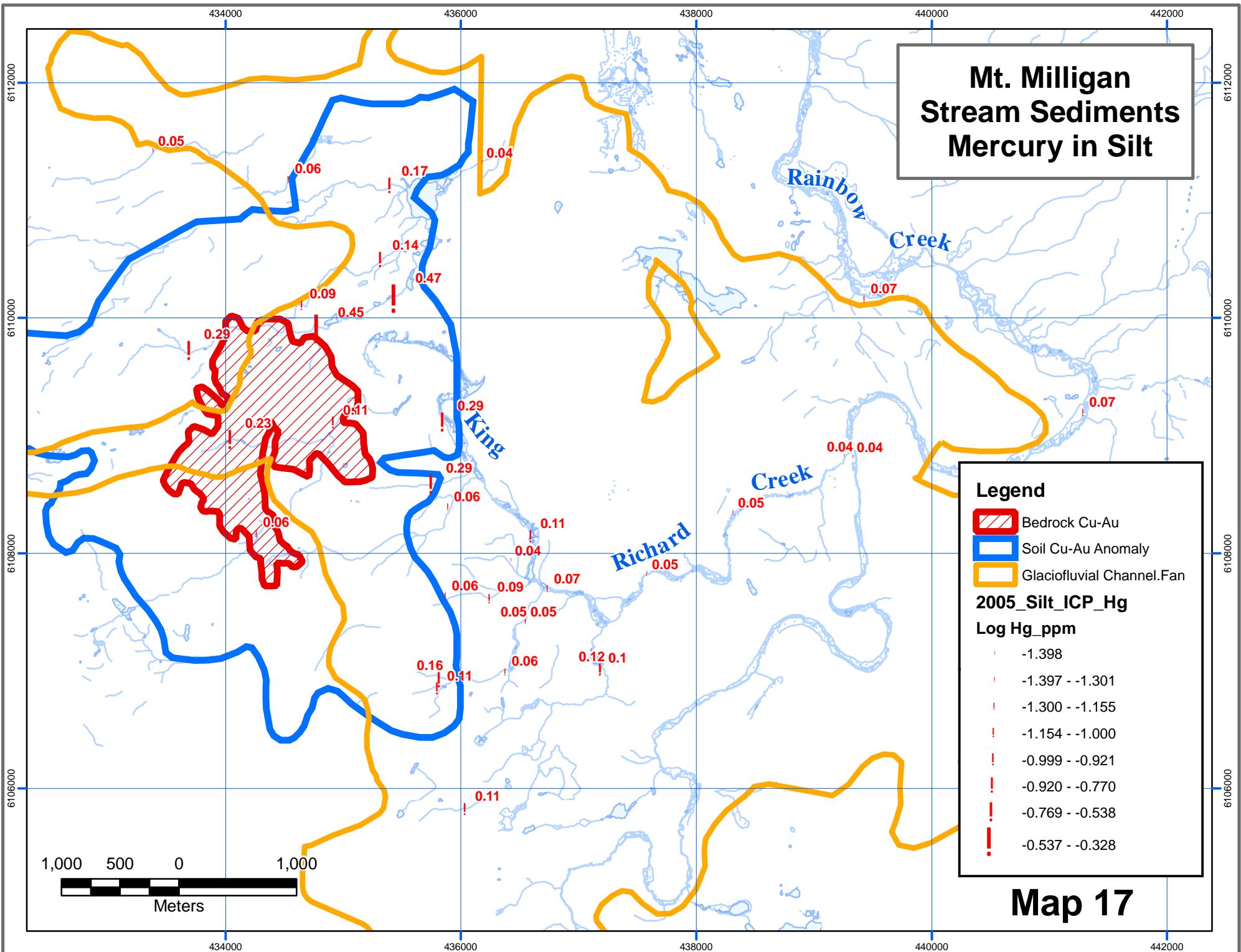
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Hg**

**Log Hg\_ppm**

-1.398
-1.397 - -1.301
-1.300 - -1.155
-1.154 - -1.000
-0.999 - -0.921
-0.920 - -0.770
-0.769 - -0.538
-0.537 - -0.328

**Map 17**



**Mt. Milligan  
Stream Sediments  
Cobalt in Silt**

**Legend**

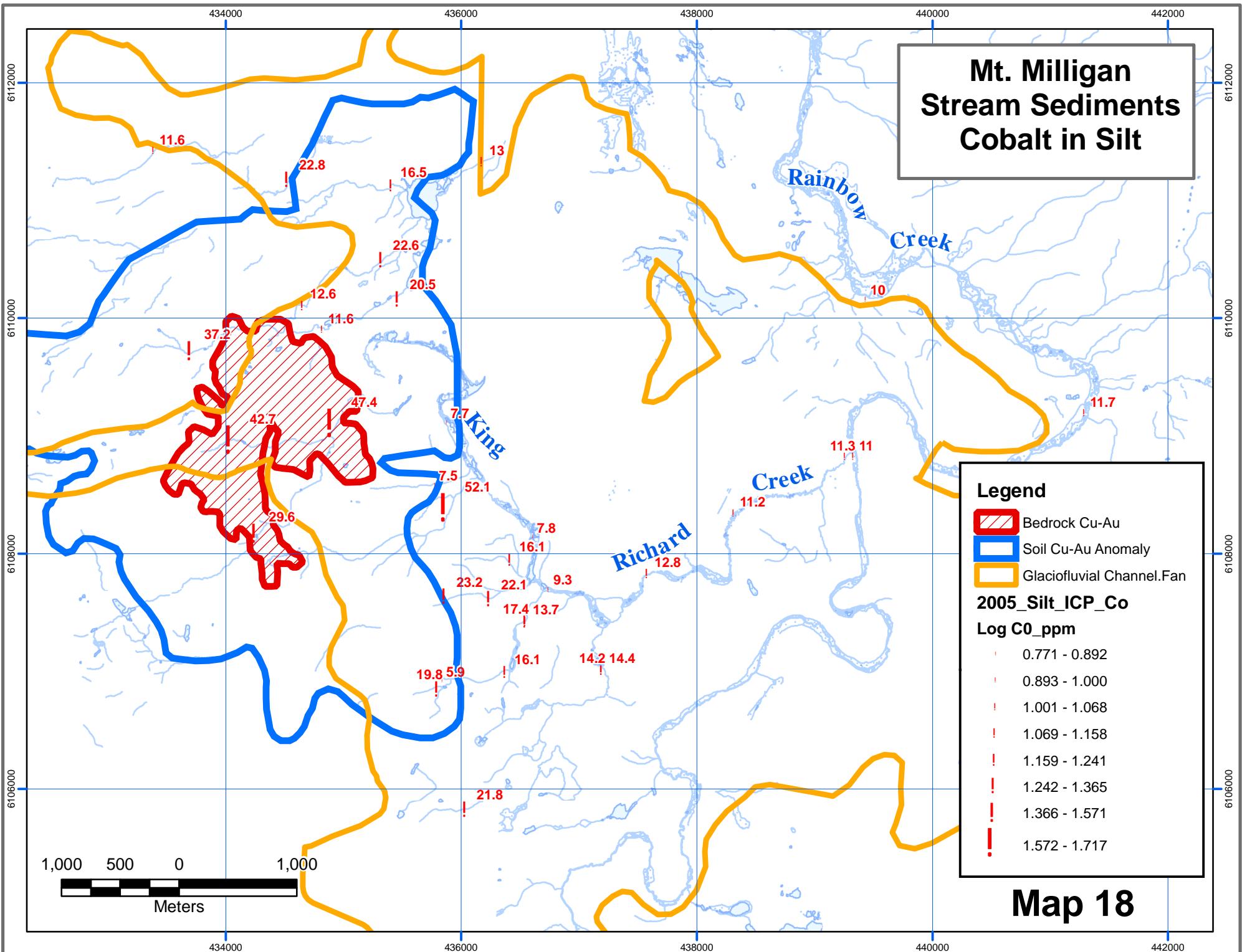
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Co**

**Log Co\_ppm**

- |               |
|---------------|
| 0.771 - 0.892 |
| 0.893 - 1.000 |
| 1.001 - 1.068 |
| 1.069 - 1.158 |
| 1.159 - 1.241 |
| 1.242 - 1.365 |
| 1.366 - 1.571 |
| 1.572 - 1.717 |

**Map 18**



# Mt. Milligan Stream Sediments Antimony in Silt

**Legend**

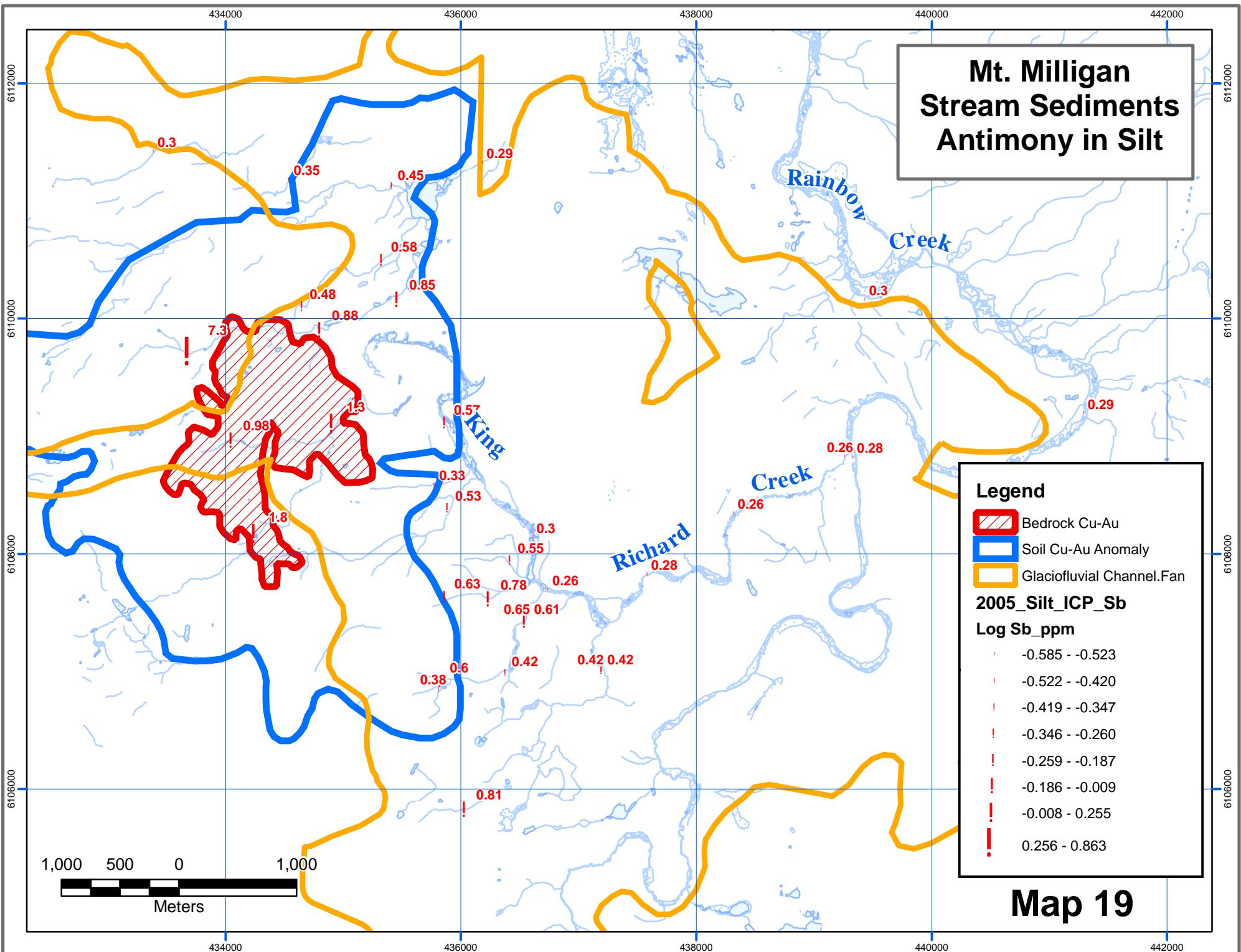
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Sb**

**Log Sb\_ppm**

-0.585 - -0.523
-0.522 - -0.420
-0.419 - -0.347
-0.346 - -0.260
-0.259 - -0.187
-0.186 - -0.009
-0.008 - 0.255
0.256 - 0.863

**Map 19**



# Mt. Milligan Stream Sediments Sulphur in Silt

**Legend**

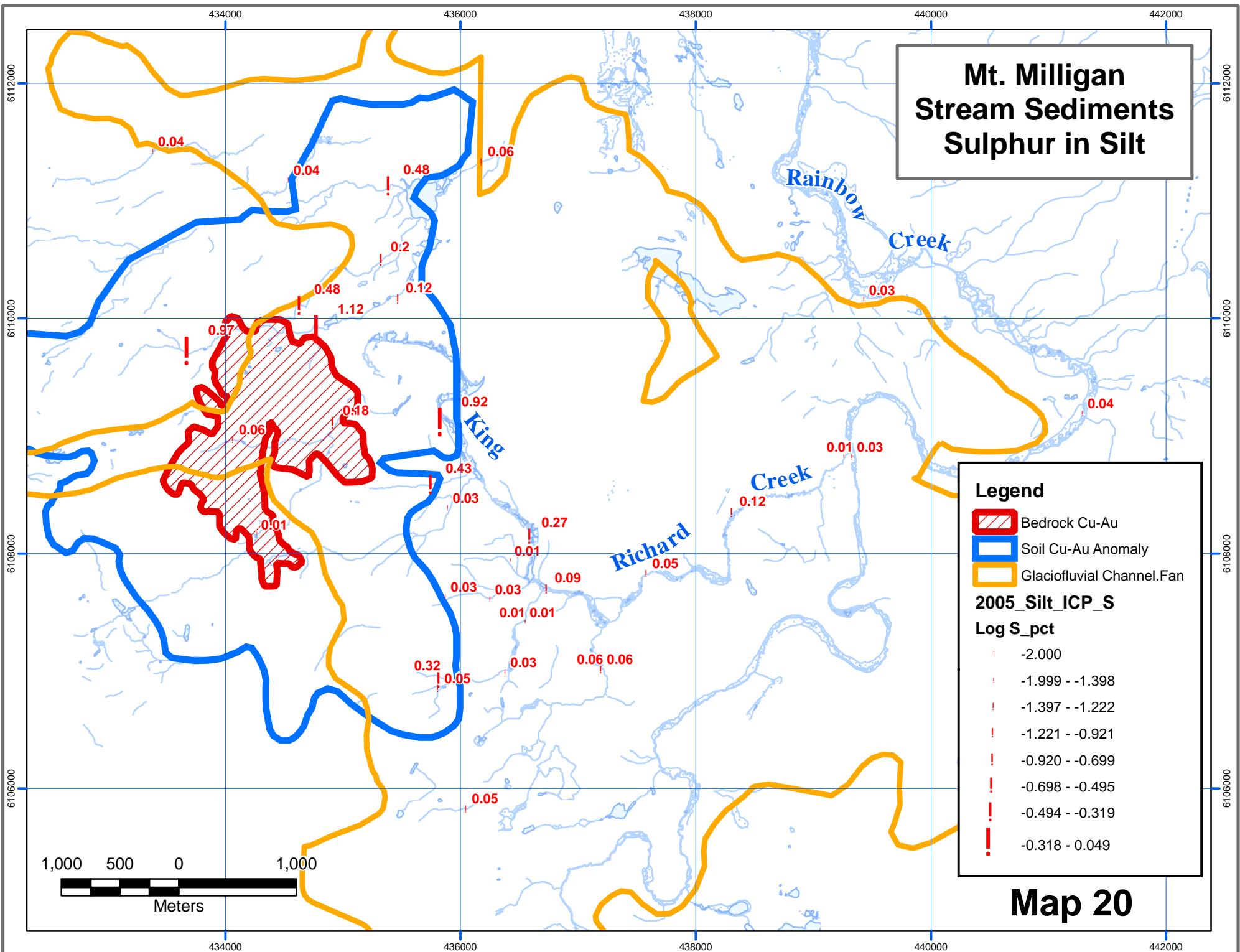
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_ICP\_S

### Log S\_pct

-2.000
-1.999 - -1.398
-1.397 - -1.222
-1.221 - -0.921
-0.920 - -0.699
-0.698 - -0.495
-0.494 - -0.319
-0.318 - 0.049

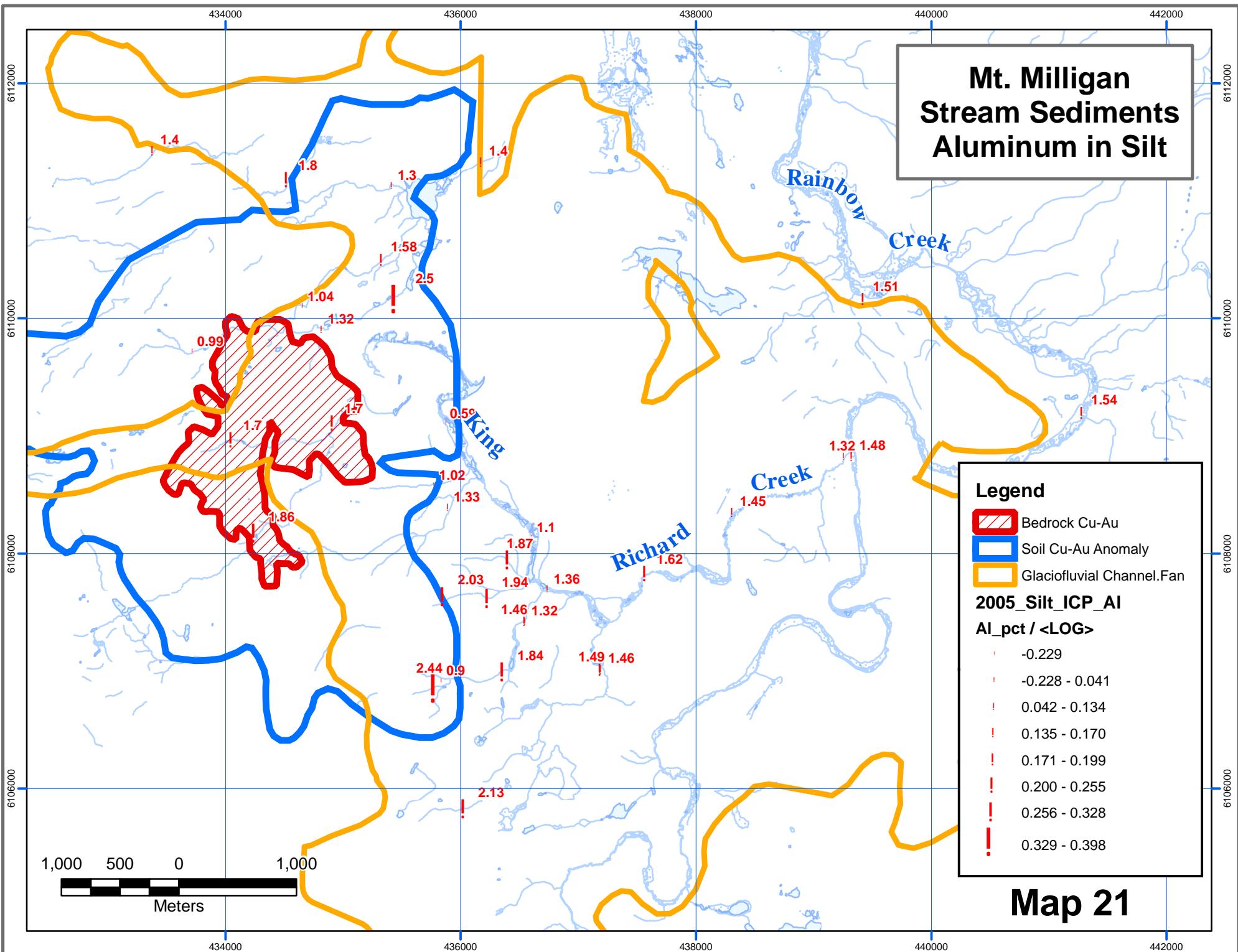
**Map 20**



# Mt. Milligan Stream Sediments Aluminum in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_ICP_AI</b>	
<b>AI_pct / &lt;LOG&gt;</b>	
-	-0.229
-	-0.228 - 0.041
-	0.042 - 0.134
!	0.135 - 0.170
!	0.171 - 0.199
!	0.200 - 0.255
!	0.256 - 0.328
!	0.329 - 0.398

**Map 21**



**Mt. Milligan  
Stream Sediments  
Arsenic in Silt**

**Legend**

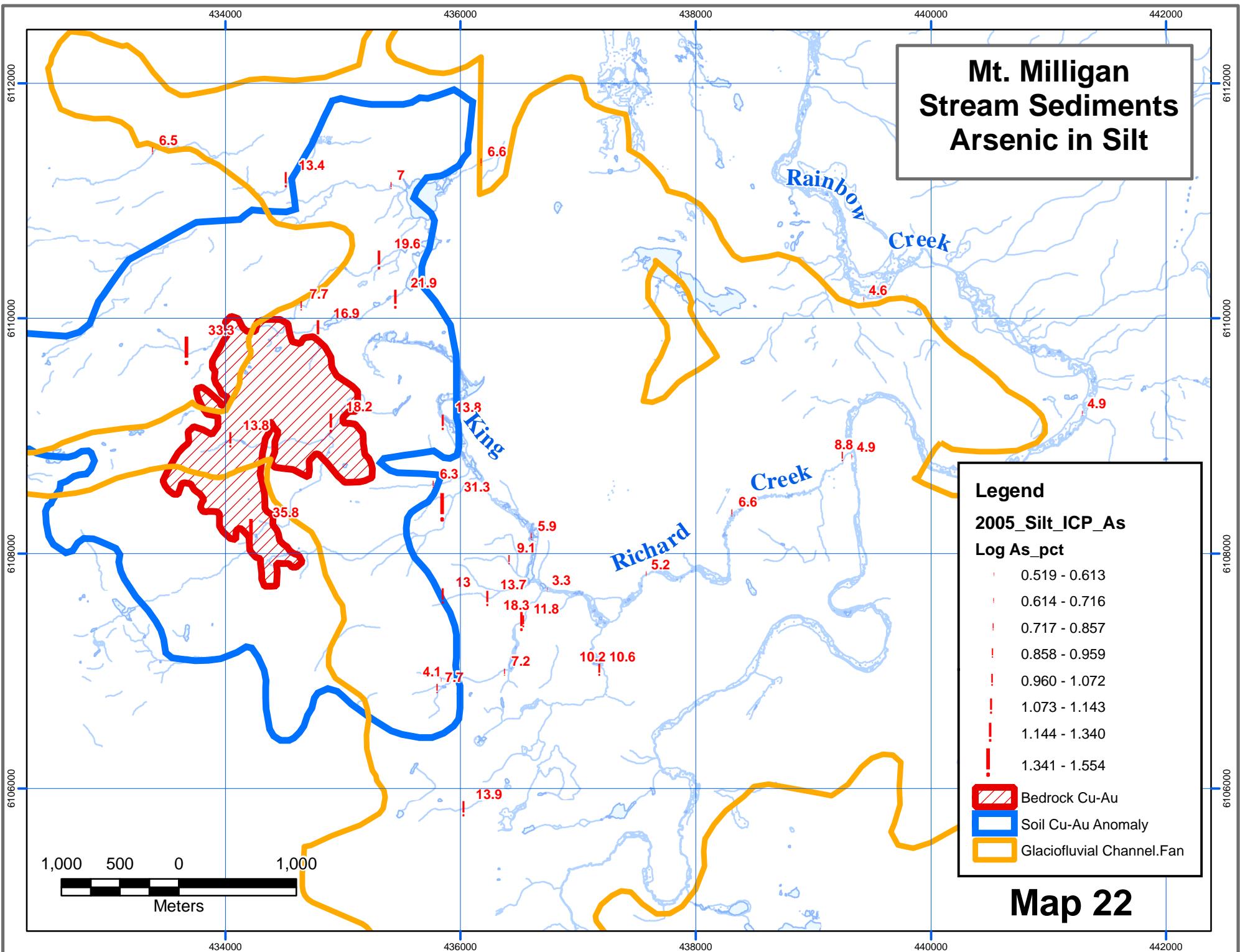
**2005\_Silt\_ICP\_As**

**Log As\_pct**

- 0.519 - 0.613
- 0.614 - 0.716
- 0.717 - 0.857
- ! 0.858 - 0.959
- ! 0.960 - 1.072
- ! 1.073 - 1.143
- ! 1.144 - 1.340
- ! 1.341 - 1.554

Bedrock Cu-Au  
Soil Cu-Au Anomaly  
Glaciofluvial Channel.Fan

**Map 22**



# Mt. Milligan Stream Sediments Barium in Silt

## Legend

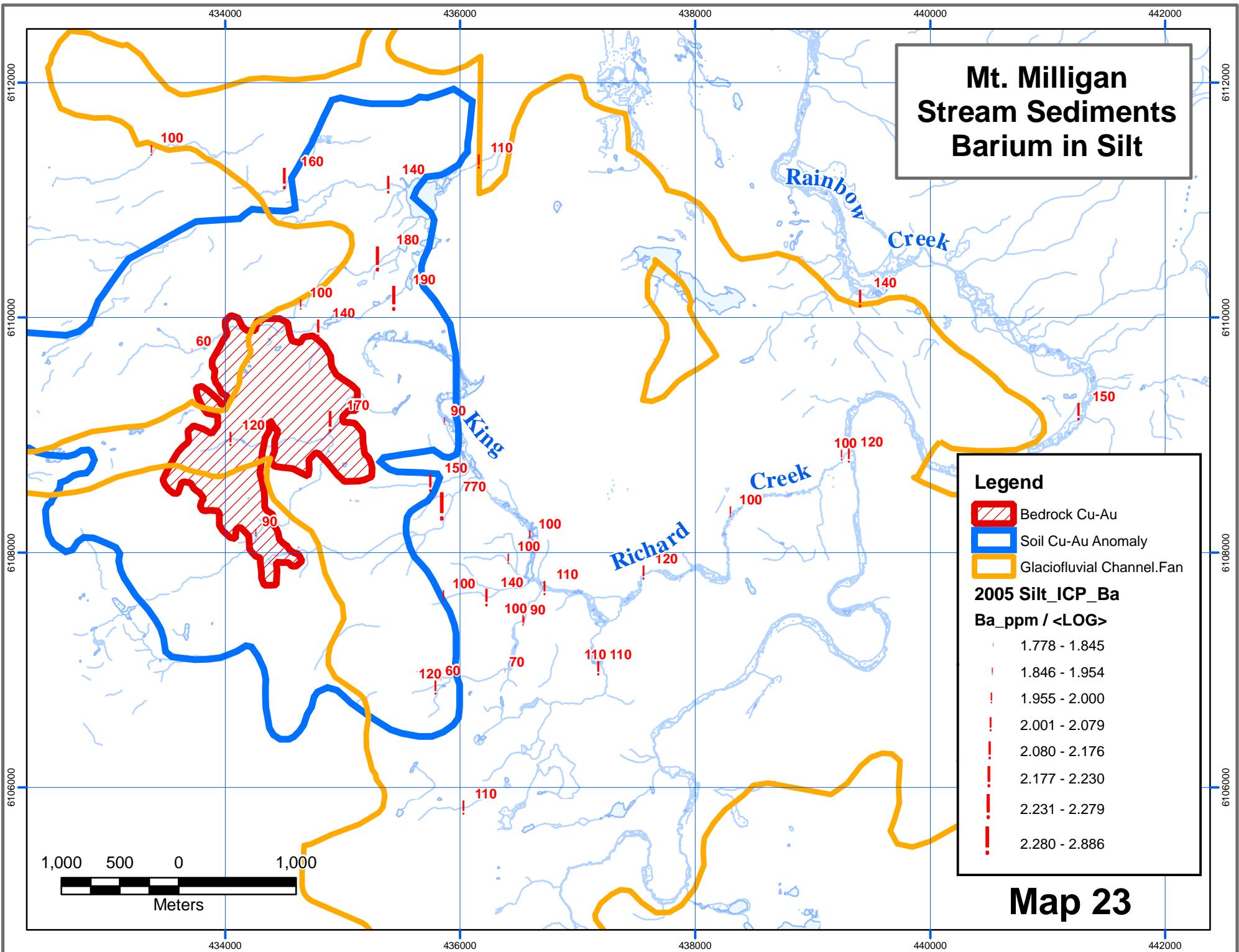
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005 Silt\_ICP\_Ba

### Ba\_ppm / <LOG>

- |               |
|---------------|
| 1.778 - 1.845 |
| 1.846 - 1.954 |
| 1.955 - 2.000 |
| 2.001 - 2.079 |
| 2.080 - 2.176 |
| 2.177 - 2.230 |
| 2.231 - 2.279 |
| 2.280 - 2.886 |

**Map 23**



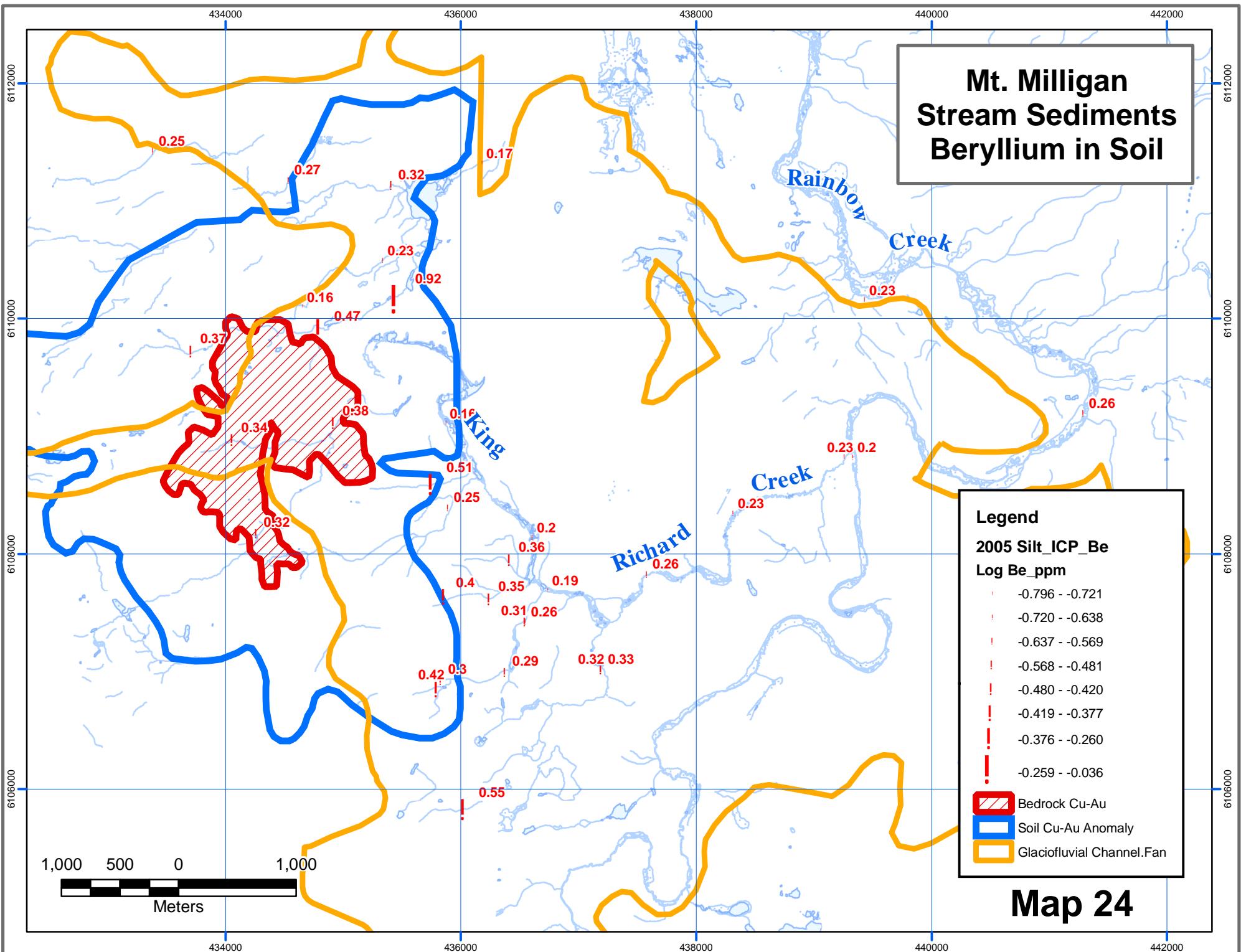
**Mt. Milligan  
Stream Sediments  
Beryllium in Soil**

**Legend**  
**2005 Silt\_ICP\_Be**  
**Log Be\_ppm**

-0.796 - -0.721
-0.720 - -0.638
-0.637 - -0.569
-0.568 - -0.481
-0.480 - -0.420
-0.419 - -0.377
-0.376 - -0.260
-0.259 - -0.036

- / Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**Map 24**



# Mt. Milligan Stream Sediments Bismuth in Silt

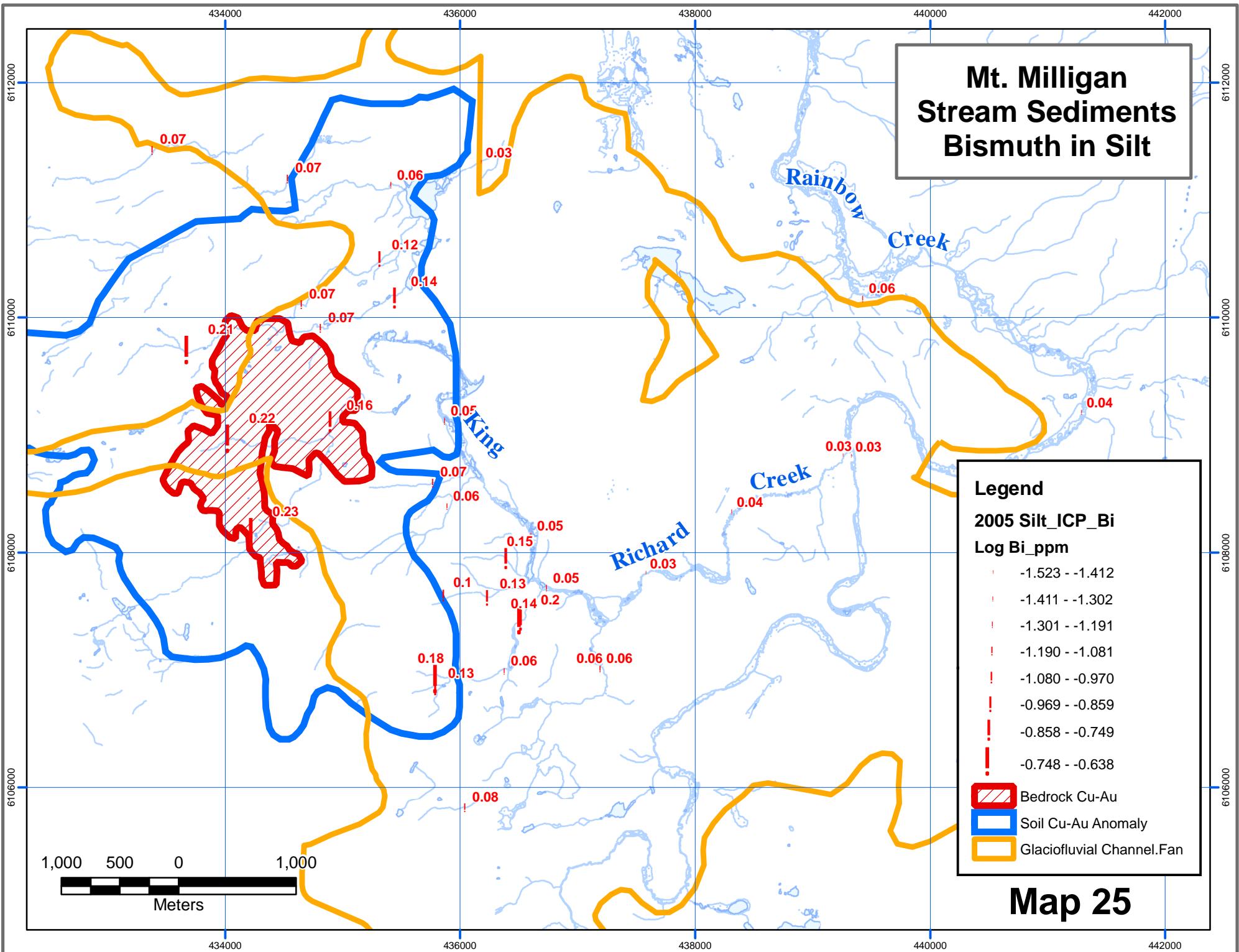
## Legend 2005 Silt\_ICP\_Bi

### Log Bi\_ppm

- 1.523 - -1.412
- 1.411 - -1.302
- 1.301 - -1.191
- 1.190 - -1.081
- 1.080 - -0.970
- 0.969 - -0.859
- 0.858 - -0.749
- 0.748 - -0.638

 Bedrock Cu-Au  
 Soil Cu-Au Anomaly  
 Glaciofluvial Channel.Fan

**Map 25**



# Mt. Milligan Stream Sediments Calcium in Silt

## Legend

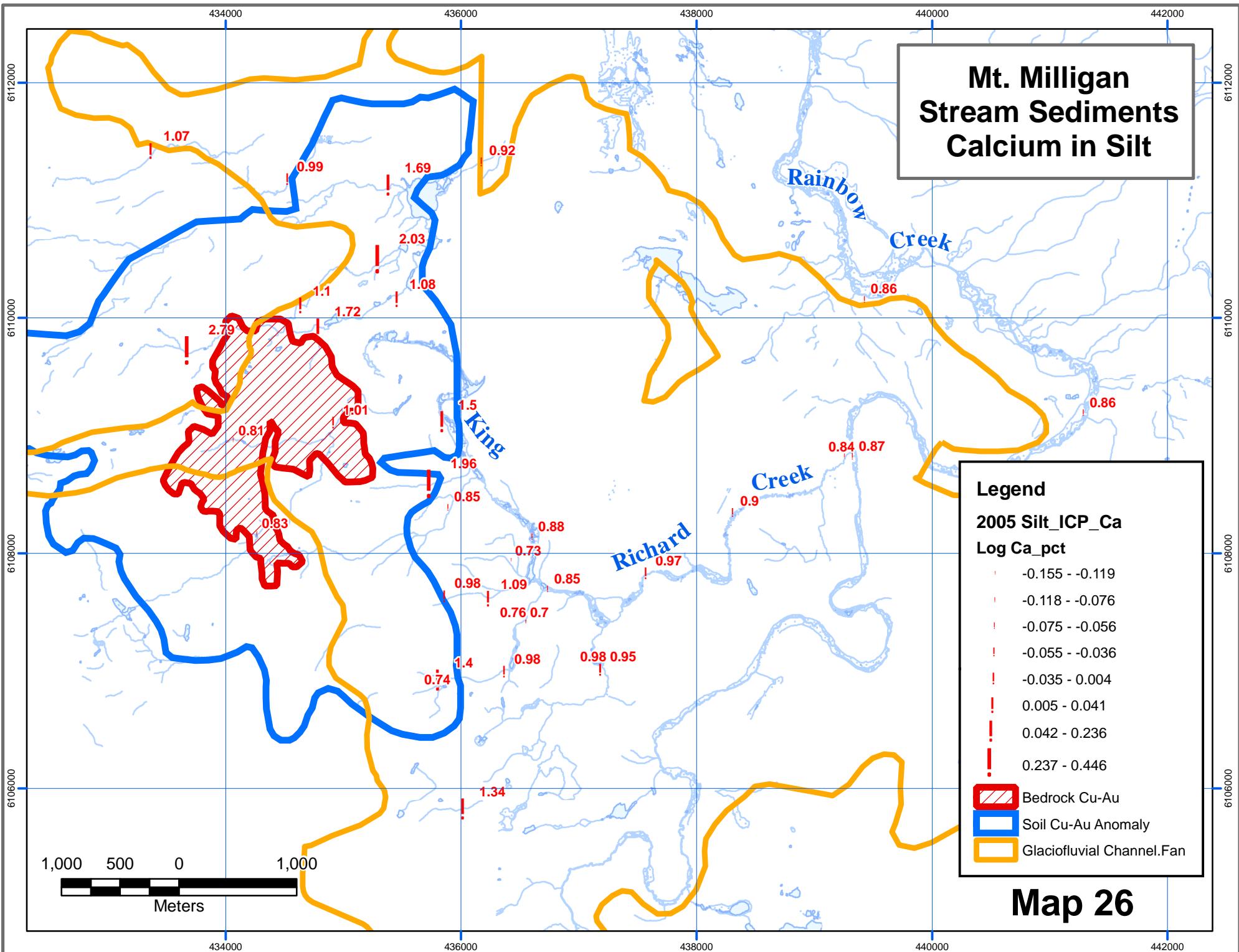
### 2005 Silt\_ICP\_Ca

#### Log Ca\_pct

- 0.155 - -0.119
- 0.118 - -0.076
- 0.075 - -0.056
- 0.055 - -0.036
- 0.035 - 0.004
- 0.005 - 0.041
- 0.042 - 0.236
- 0.237 - 0.446

 Bedrock Cu-Au  
 Soil Cu-Au Anomaly  
 Glaciofluvial Channel.Fan

**Map 26**



# Mt. Milligan Stream Sediments Cadmium in Silt

## Legend

### 2005 Silt\_ICP\_Cd

#### Log Cd\_ppm

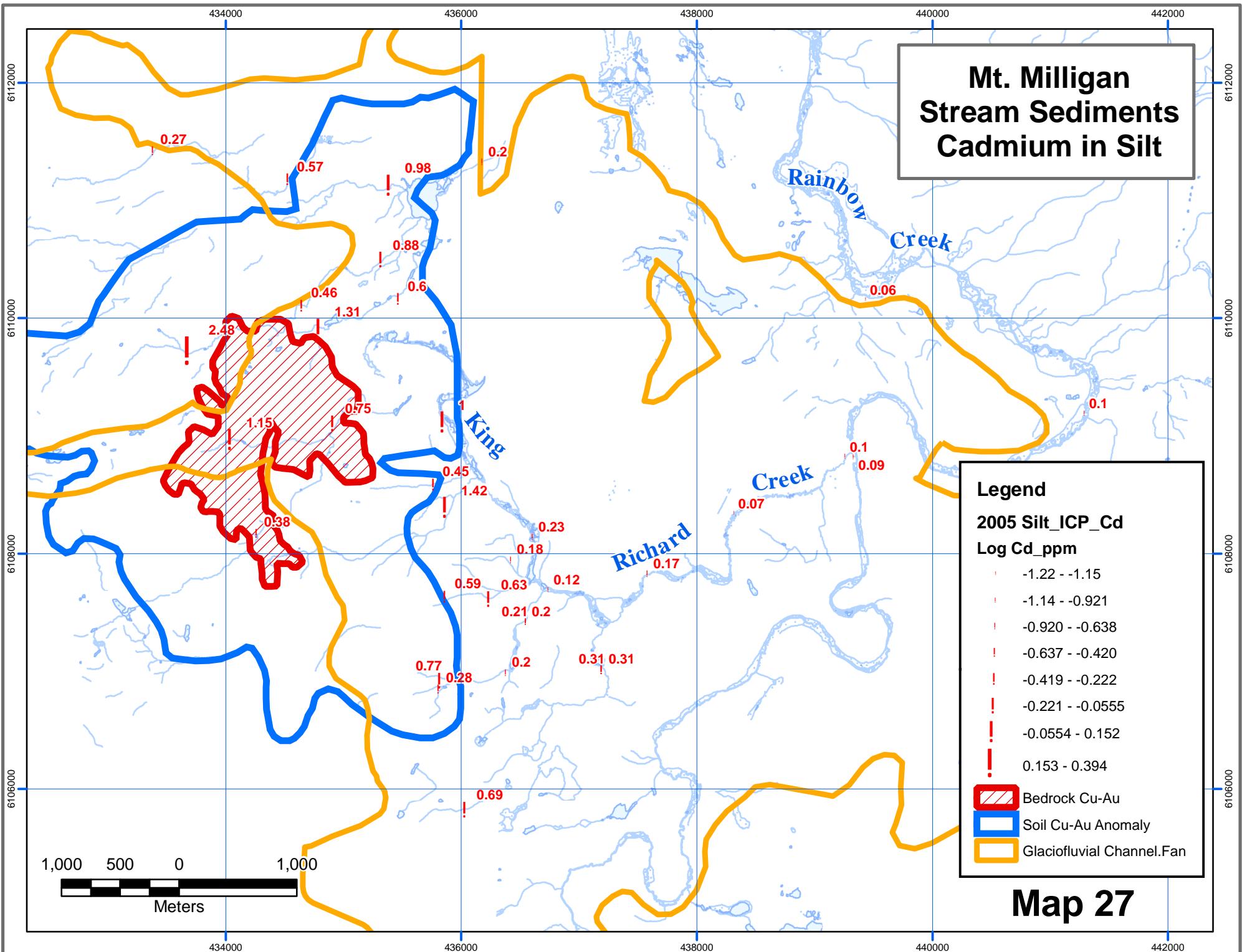
- 1.22 - -1.15
- 1.14 - -0.921
- 0.920 - -0.638
- 0.637 - -0.420
- 0.419 - -0.222
- 0.221 - -0.0555
- 0.0554 - 0.152
- 0.153 - 0.394

■ Bedrock Cu-Au

■ Soil Cu-Au Anomaly

■ Glaciofluvial Channel.Fan

**Map 27**



**Mt. Milligan  
Stream Sediments  
Cerium in Silt**

**Legend**

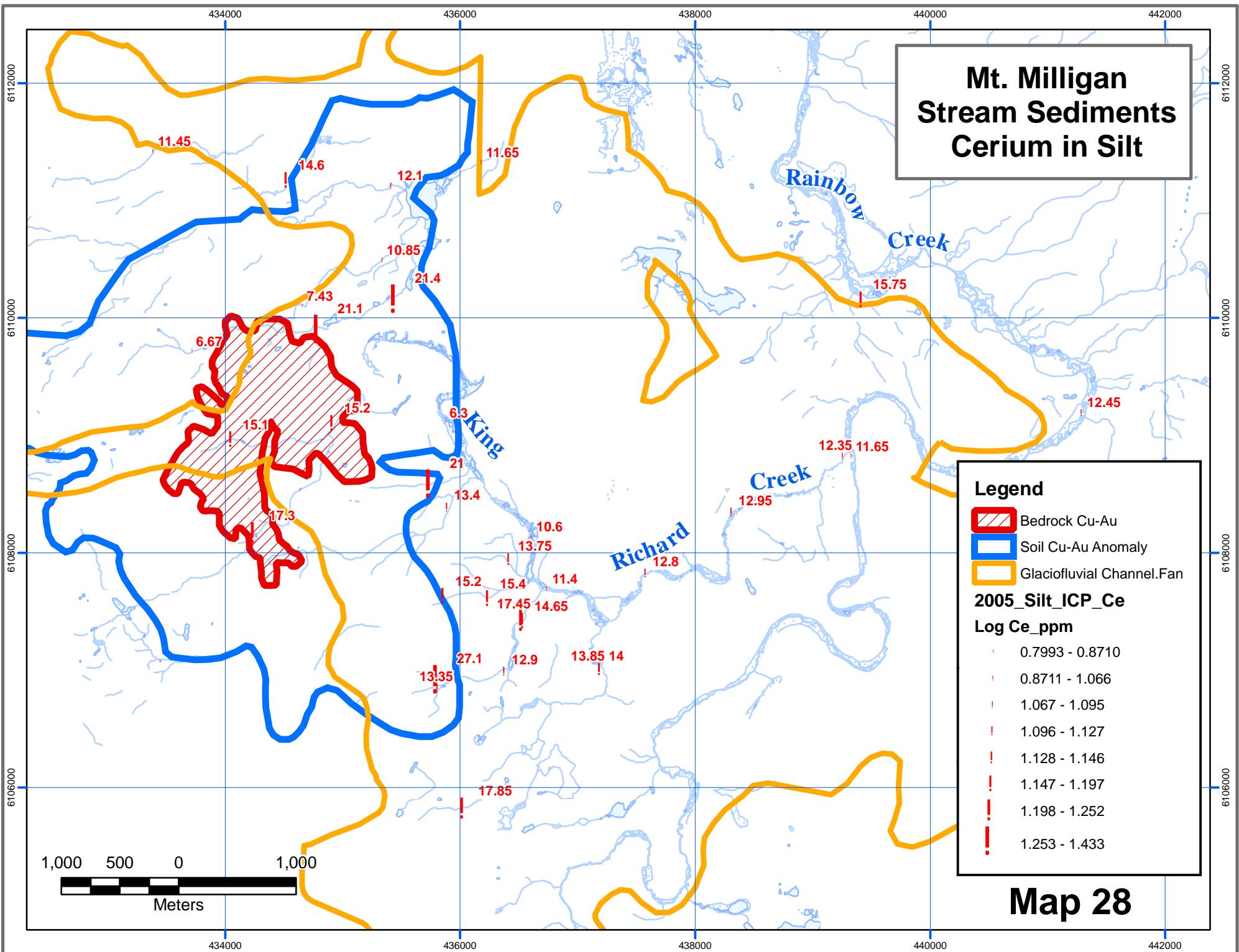
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Ce**

**Log Ce\_ppm**

- |                 |
|-----------------|
| 0.7993 - 0.8710 |
| 0.8711 - 1.066  |
| 1.067 - 1.095   |
| 1.096 - 1.127   |
| 1.128 - 1.146   |
| 1.147 - 1.197   |
| 1.198 - 1.252   |
| 1.253 - 1.433   |

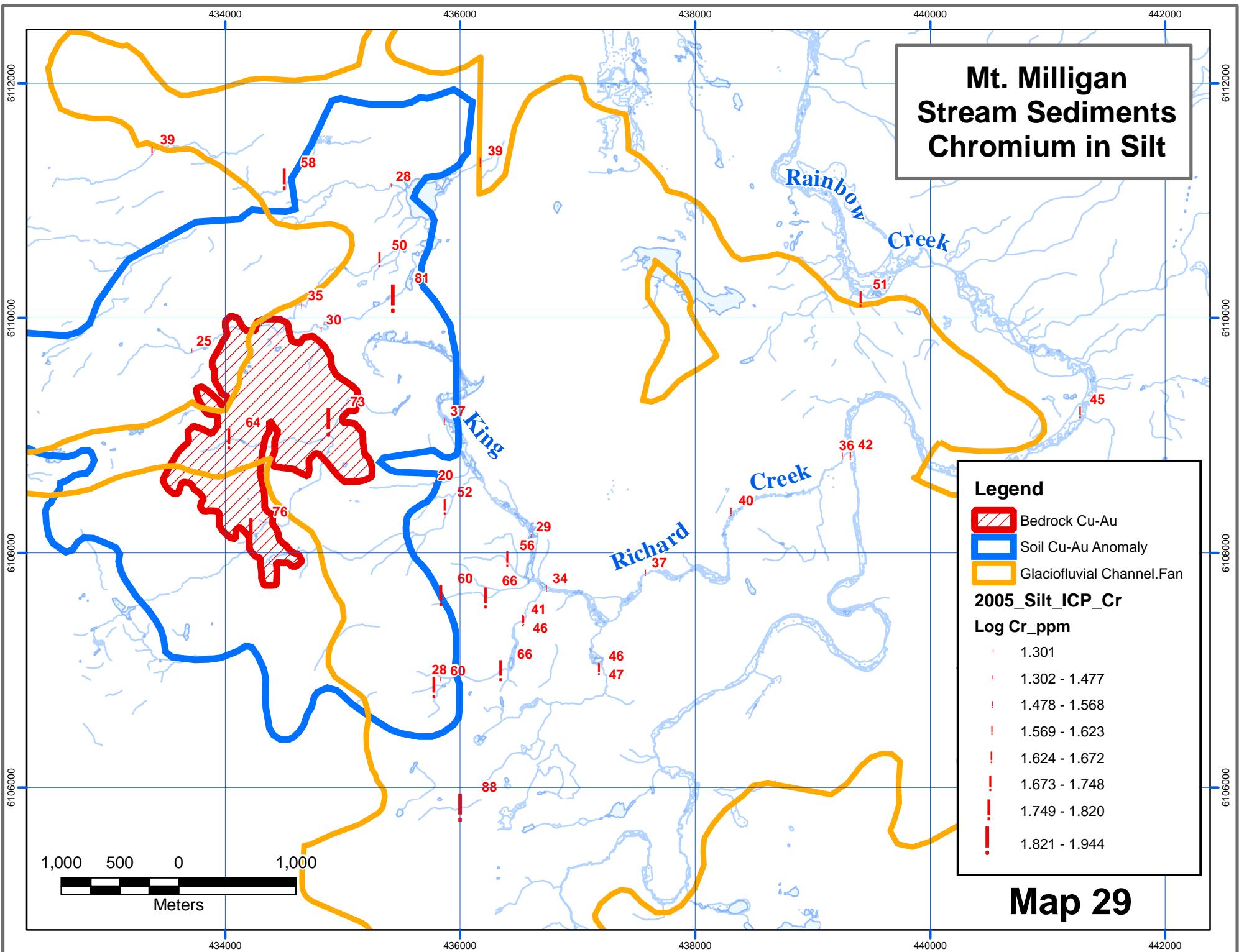
**Map 28**



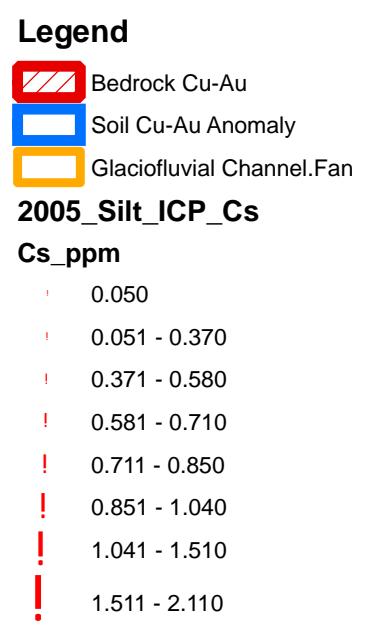
# Mt. Milligan Stream Sediments Chromium in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_ICP_Cr</b>	
<b>Log Cr_ppm</b>	
1.301	
1.302 - 1.477	
1.478 - 1.568	
1.569 - 1.623	
1.624 - 1.672	
1.673 - 1.748	
1.749 - 1.820	
1.821 - 1.944	

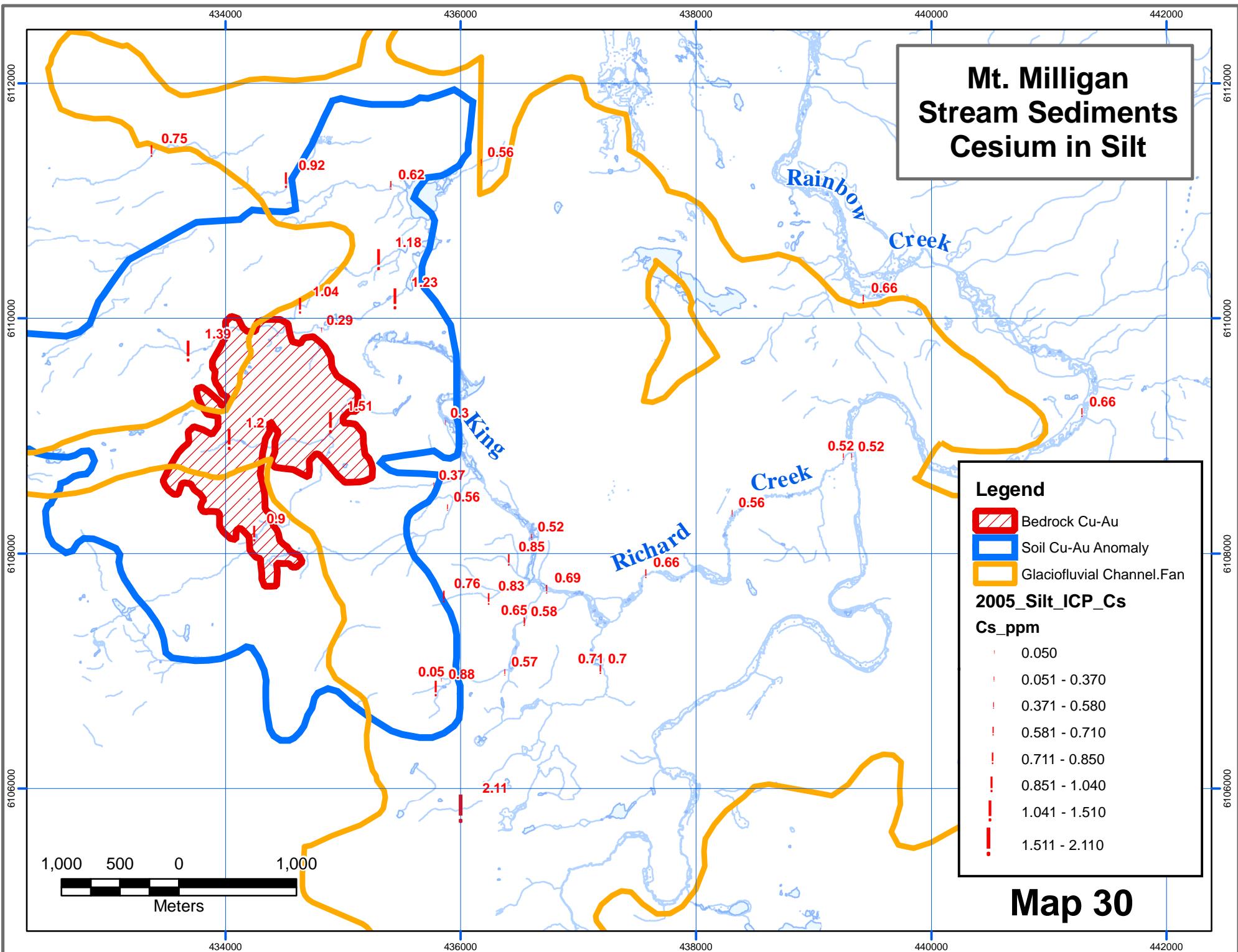
**Map 29**



**Mt. Milligan  
Stream Sediments  
Cesium in Silt**



**Map 30**



**Mt. Milligan  
Stream Sediments  
Iron in Soil**

**Legend**

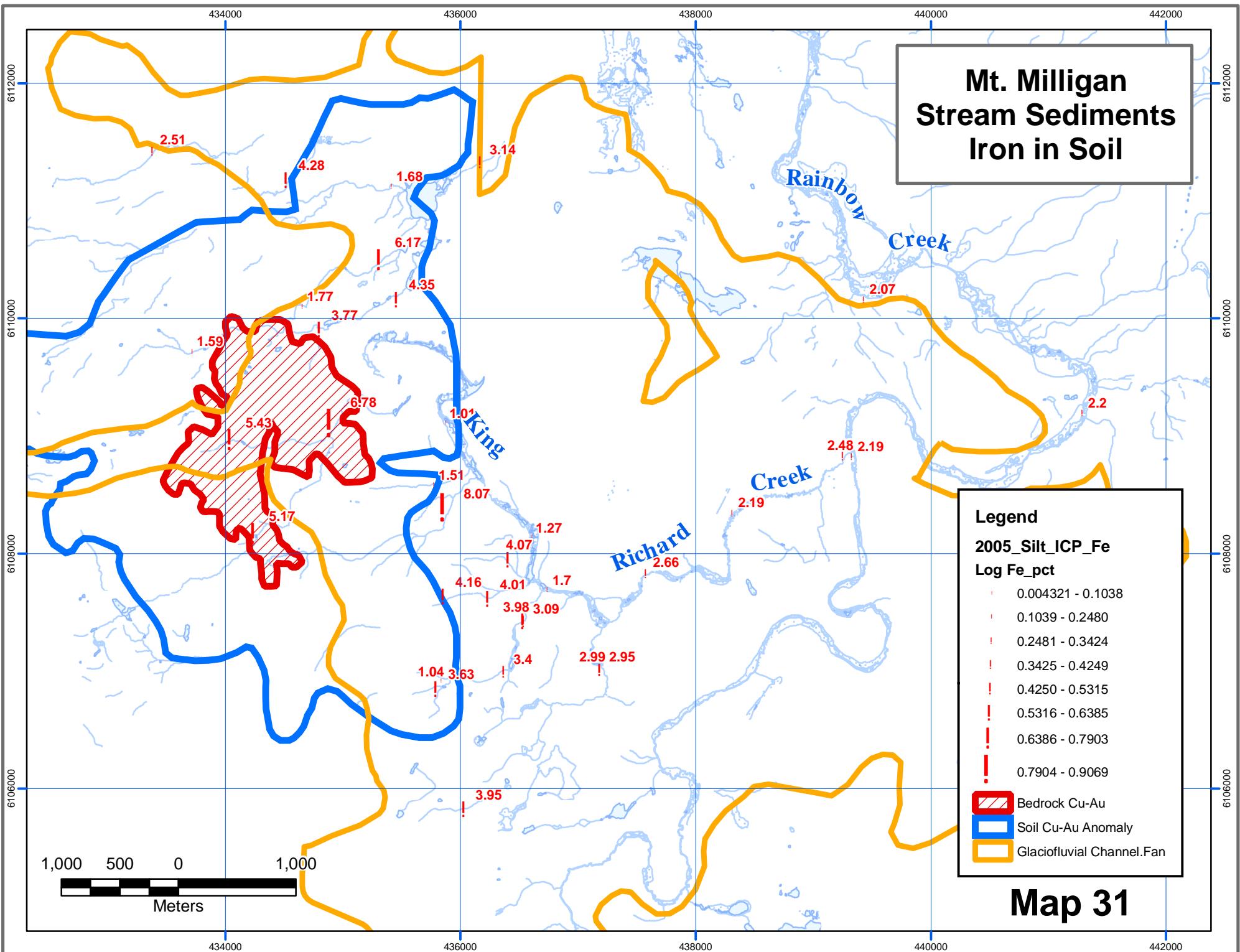
**2005\_Silt\_ICP\_Fe**

**Log Fe\_pct**

- 0.004321 - 0.1038
- 0.1039 - 0.2480
- 0.2481 - 0.3424
- 0.3425 - 0.4249
- 0.4250 - 0.5315
- 0.5316 - 0.6385
- 0.6386 - 0.7903
- 0.7904 - 0.9069

- / Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

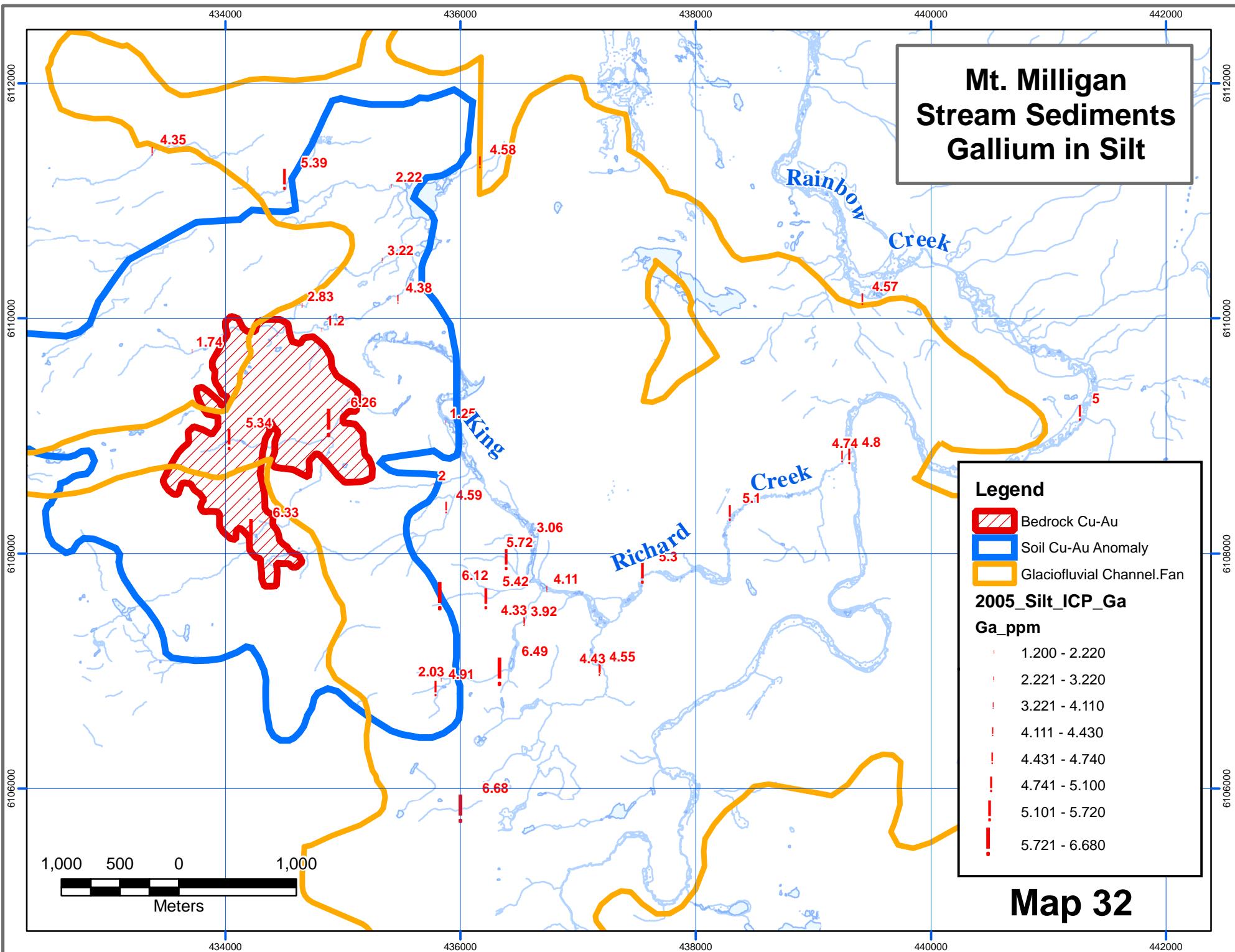
**Map 31**



**Mt. Milligan  
Stream Sediments  
Gallium in Silt**

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_ICP_Ga</b>	
<b>Ga_ppm</b>	
1.200 - 2.220	
2.221 - 3.220	
3.221 - 4.110	
4.111 - 4.430	
4.431 - 4.740	
4.741 - 5.100	
5.101 - 5.720	
5.721 - 6.680	

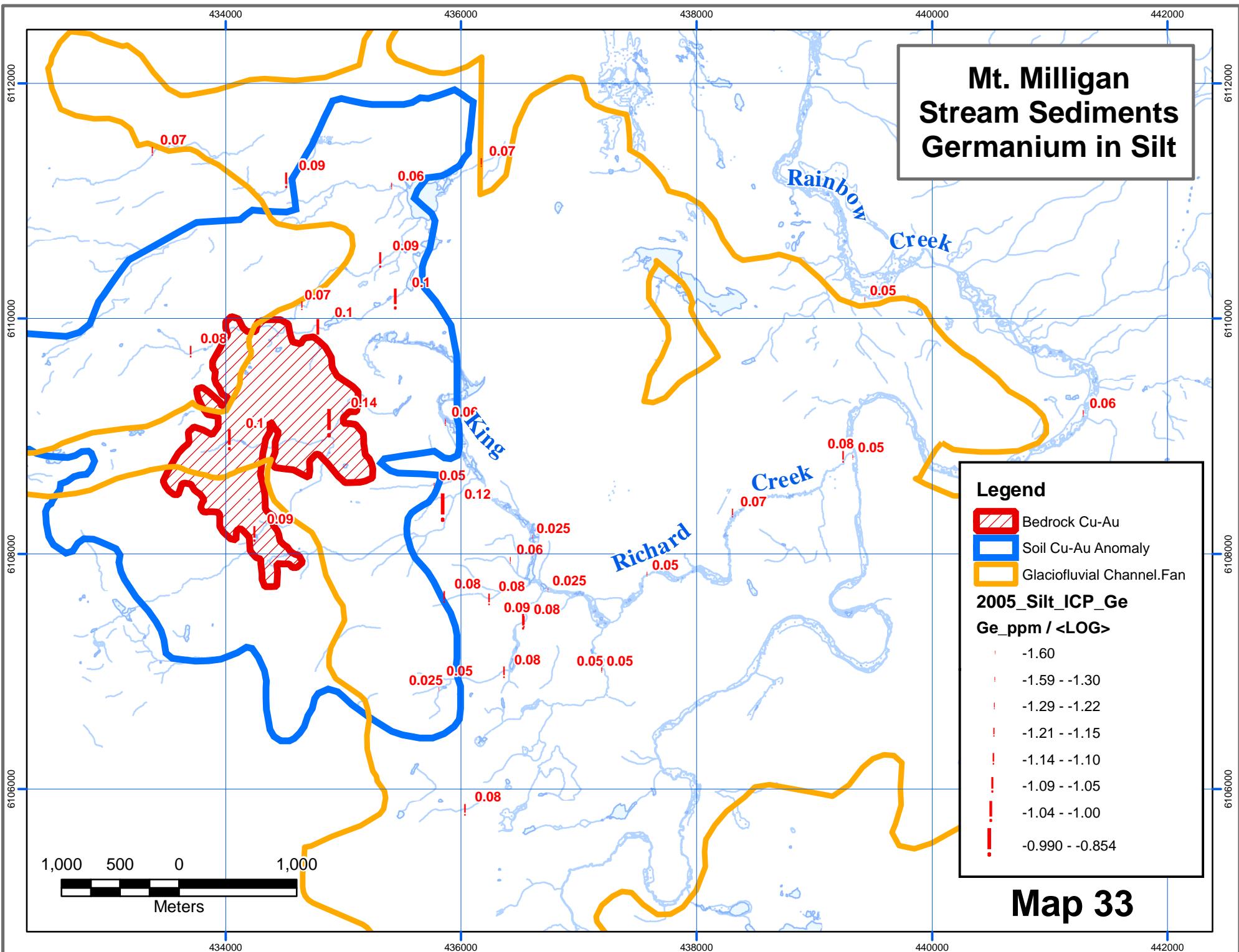
**Map 32**



# Mt. Milligan Stream Sediments Germanium in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_ICP_Ge</b>	
<b>Ge_ppm / &lt;LOG&gt;</b>	
-	-1.60
-	-1.59 - -1.30
-	-1.29 - -1.22
-	-1.21 - -1.15
-	-1.14 - -1.10
-	-1.09 - -1.05
-	-1.04 - -1.00
-	-0.990 - -0.854

**Map 33**



**Mt. Milligan  
Stream Sediments  
Hafnium in Silt**

**Legend**

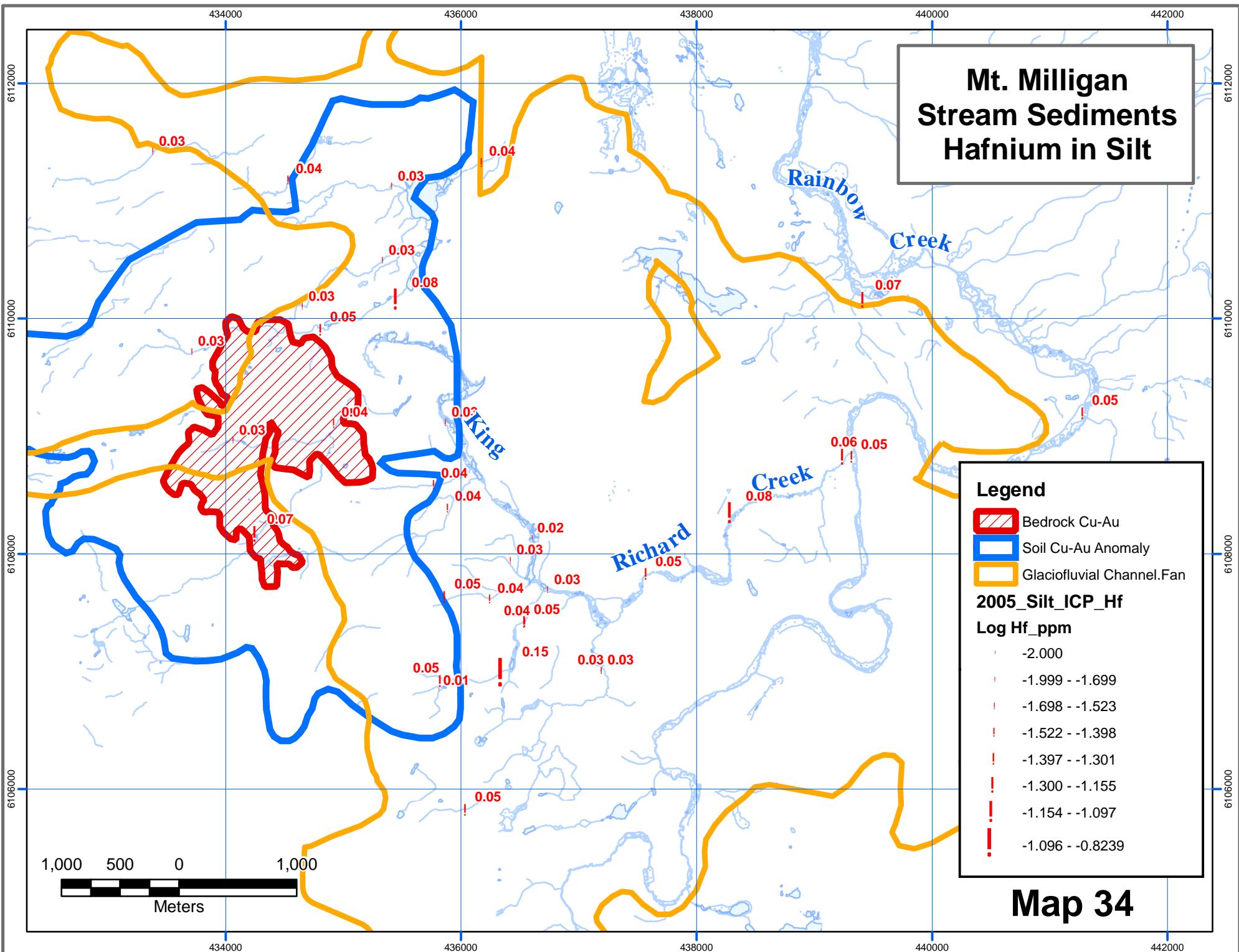
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Hf**

**Log Hf\_ppm**

-2.000
-1.999 - -1.699
-1.698 - -1.523
-1.522 - -1.398
-1.397 - -1.301
-1.300 - -1.155
-1.154 - -1.097
-1.096 - -0.8239

**Map 34**



**Mt. Milligan  
Stream Sediments  
Indium in Silt**

**Legend**

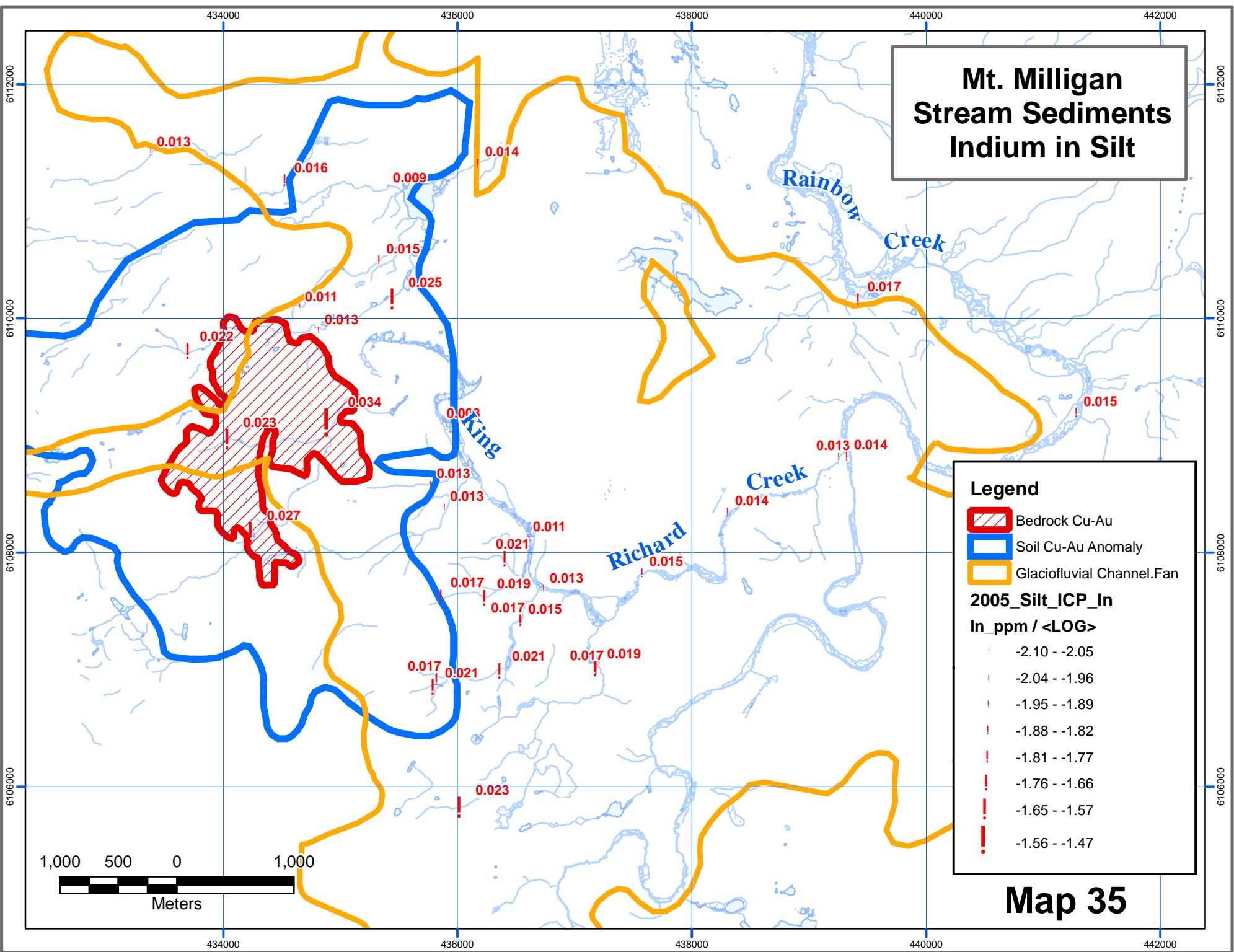
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_In**

In\_ppm / <LOG>

-2.10 - -2.05
-2.04 - -1.96
-1.95 - -1.89
-1.88 - -1.82
-1.81 - -1.77
-1.76 - -1.66
-1.65 - -1.57
-1.56 - -1.47

**Map 35**



# Mt. Milligan Stream Sediments Potassium in Silt

**Legend**

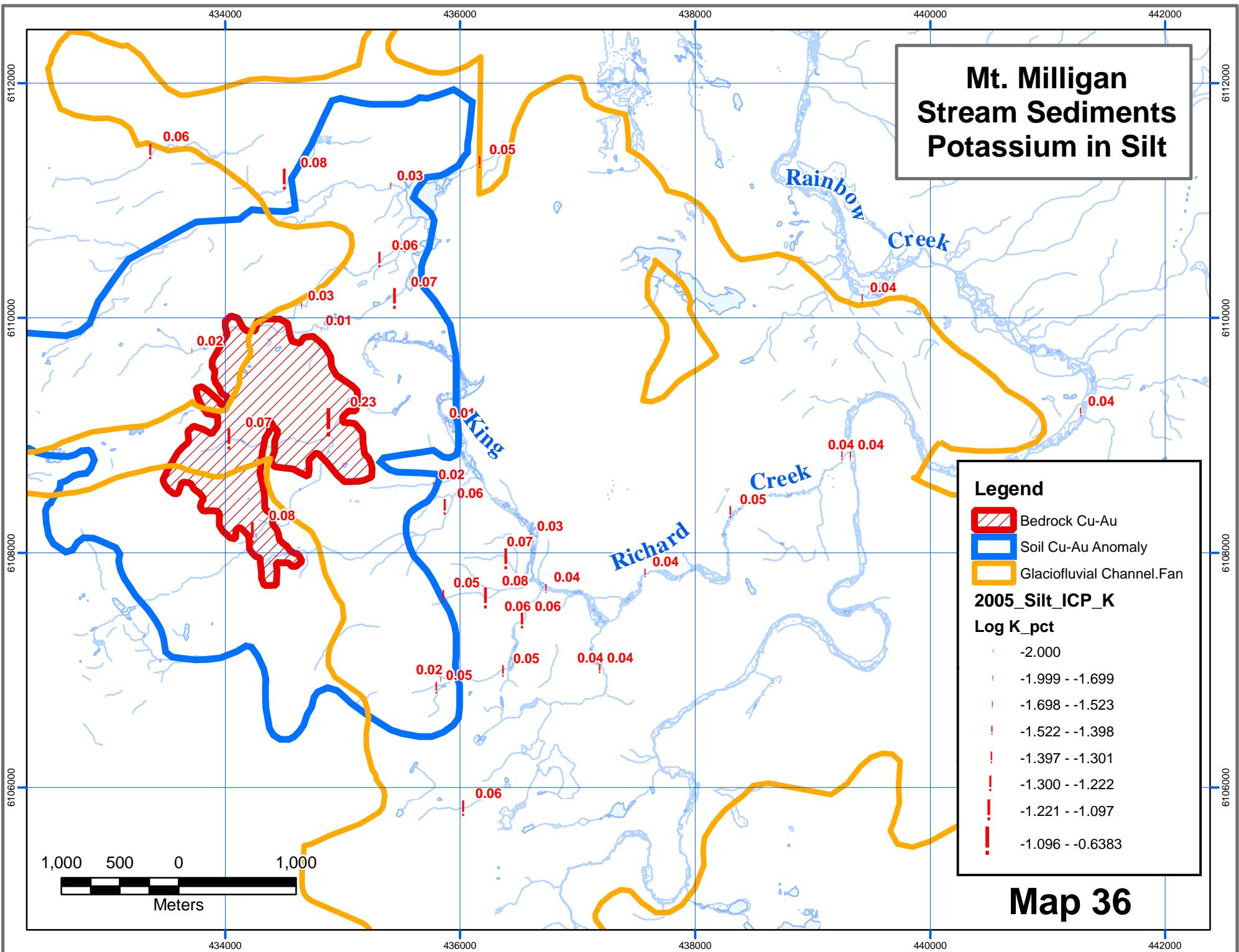
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_K**

## Log K\_pct

- |                  |
|------------------|
| -2.000           |
| -1.999 - -1.699  |
| -1.698 - -1.523  |
| -1.522 - -1.398  |
| -1.397 - -1.301  |
| -1.300 - -1.222  |
| -1.221 - -1.097  |
| -1.096 - -0.6383 |

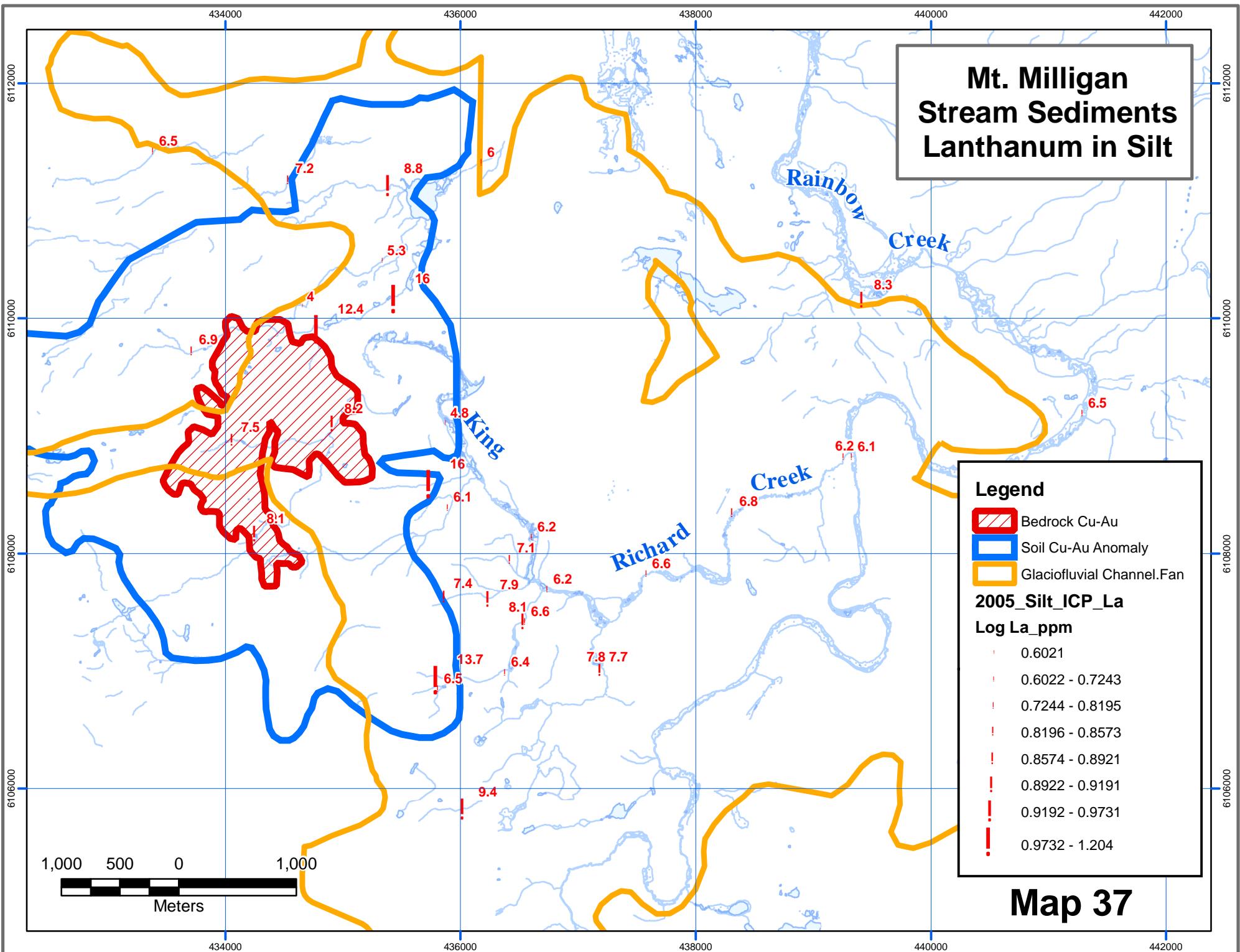
**Map 36**



# Mt. Milligan Stream Sediments Lanthanum in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_ICP_La</b>	
<b>Log La_ppm</b>	
0.6021	
0.6022 - 0.7243	
0.7244 - 0.8195	
0.8196 - 0.8573	
0.8574 - 0.8921	
0.8922 - 0.9191	
0.9192 - 0.9731	
0.9732 - 1.204	

**Map 37**



# Mt. Milligan Stream Sediments Lithium in Silt

**Legend**

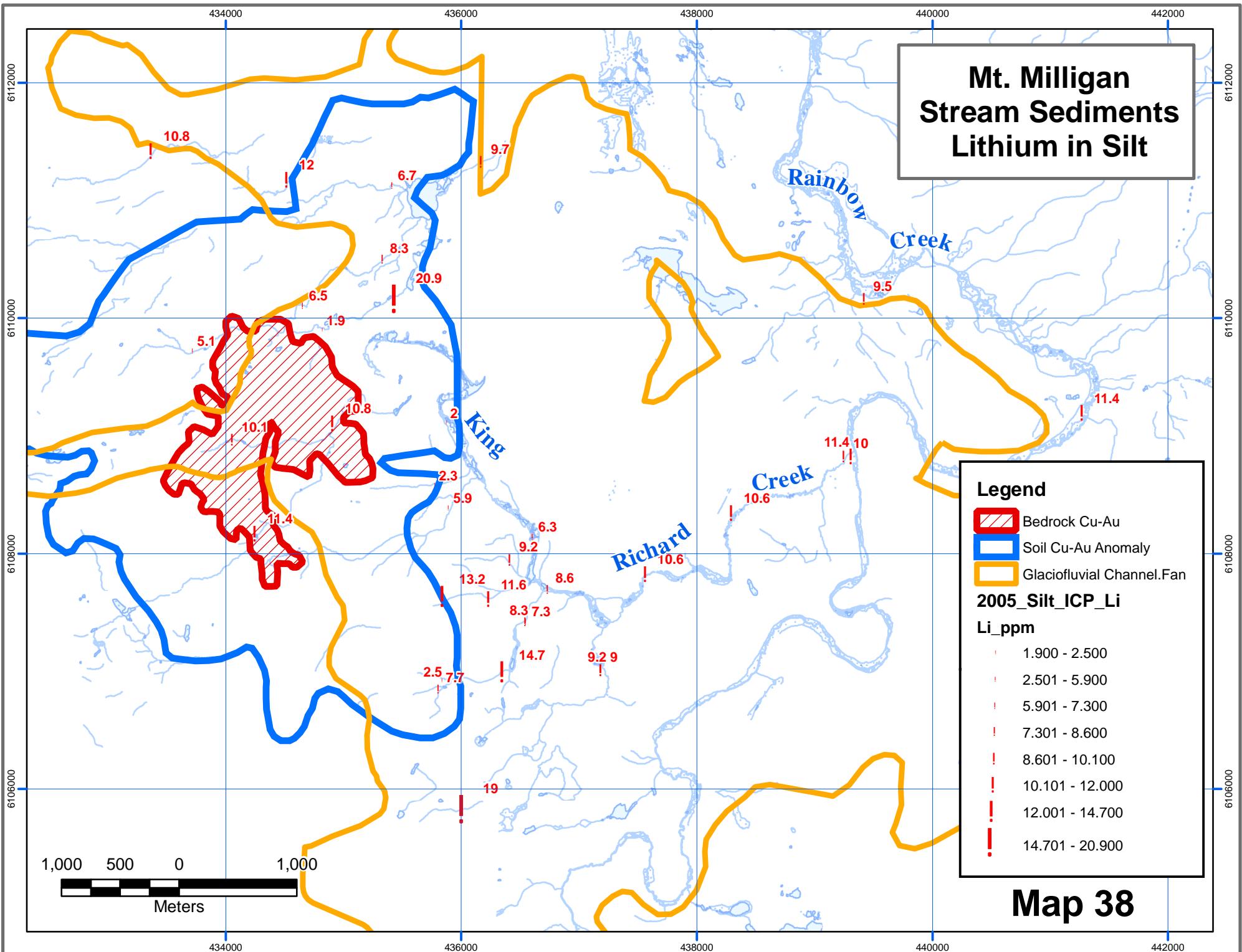
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Li**

## Li\_ppm

1.900 - 2.500
2.501 - 5.900
5.901 - 7.300
7.301 - 8.600
8.601 - 10.100
10.101 - 12.000
12.001 - 14.700
14.701 - 20.900

**Map 38**



# Mt. Milligan Stream Sediments Magnesium in Silt

**Legend**

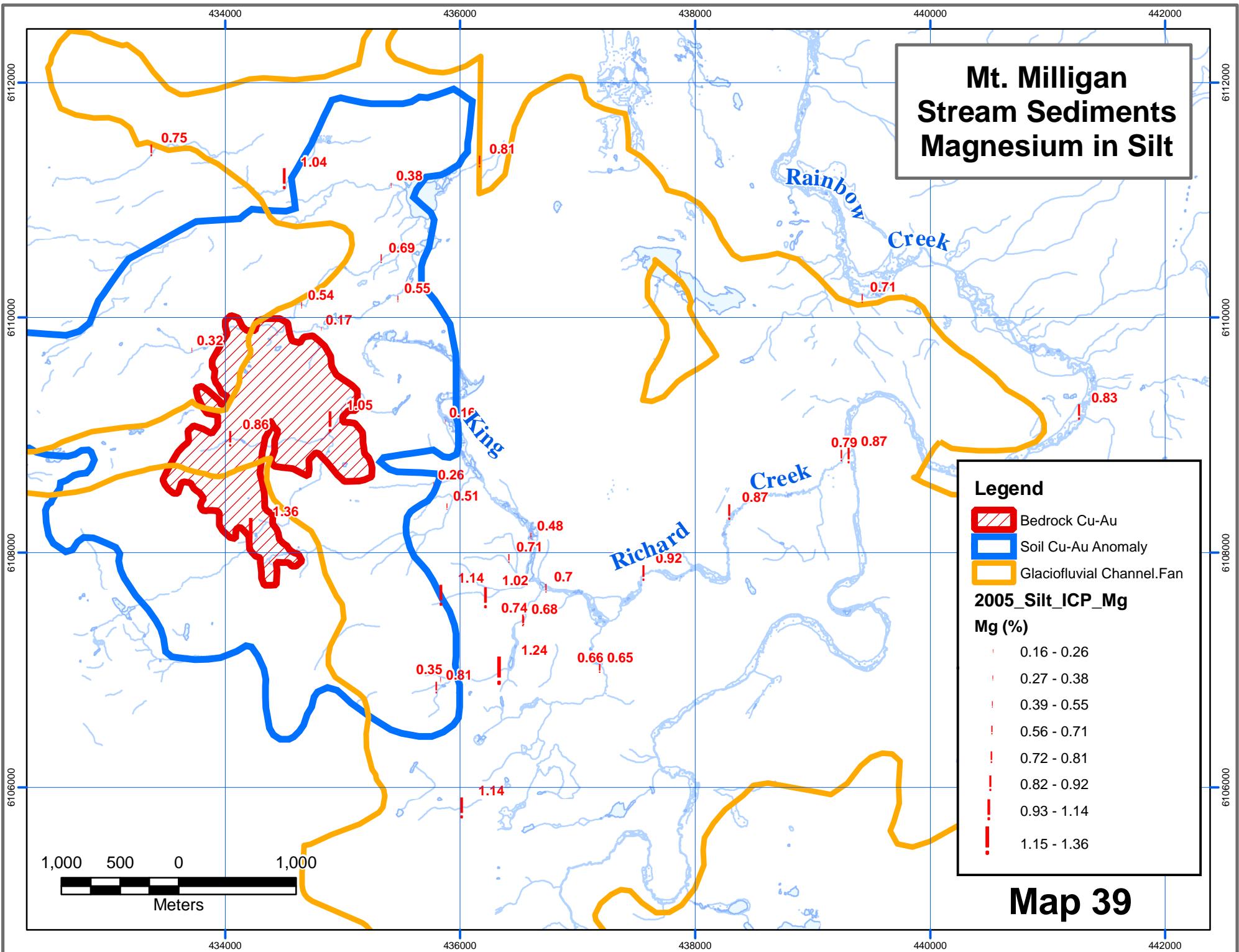
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_ICP\_Mg

### Mg (%)

0.16 - 0.26
0.27 - 0.38
0.39 - 0.55
0.56 - 0.71
0.72 - 0.81
0.82 - 0.92
0.93 - 1.14
1.15 - 1.36

**Map 39**



# Mt. Milligan Stream Sediments Manganese in Silt

**Legend**

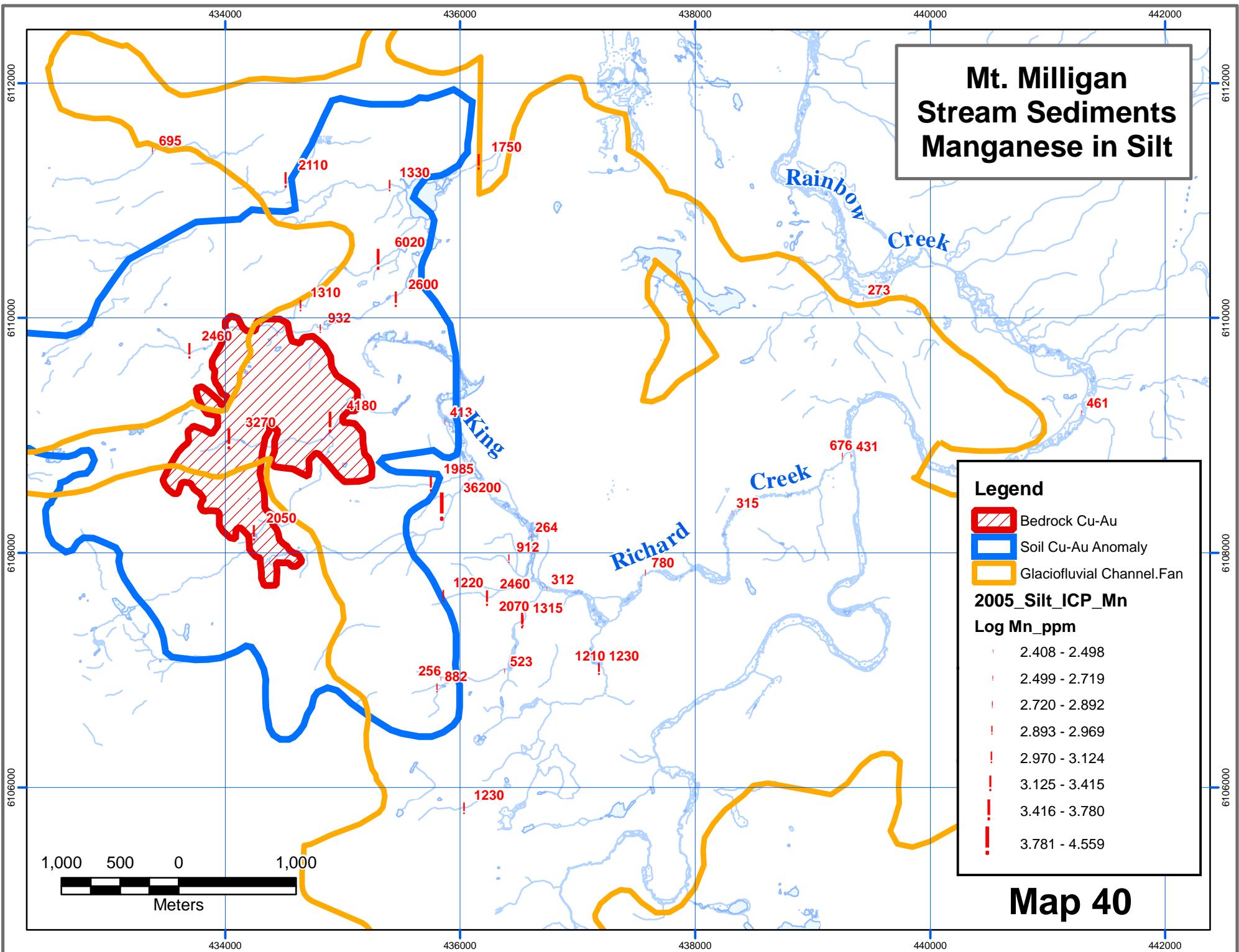
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_ICP\_Mn**

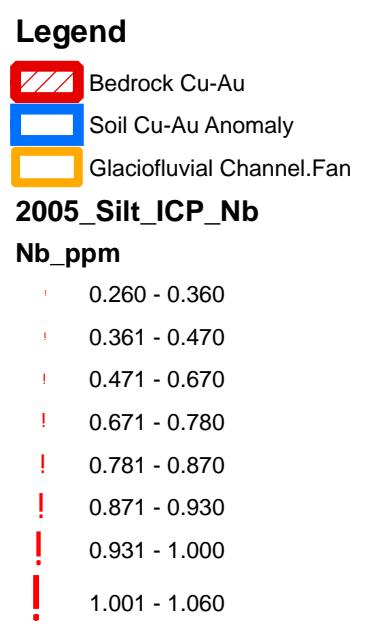
**Log Mn\_ppm**

- |               |
|---------------|
| 2.408 - 2.498 |
| 2.499 - 2.719 |
| 2.720 - 2.892 |
| 2.893 - 2.969 |
| 2.970 - 3.124 |
| 3.125 - 3.415 |
| 3.416 - 3.780 |
| 3.781 - 4.559 |

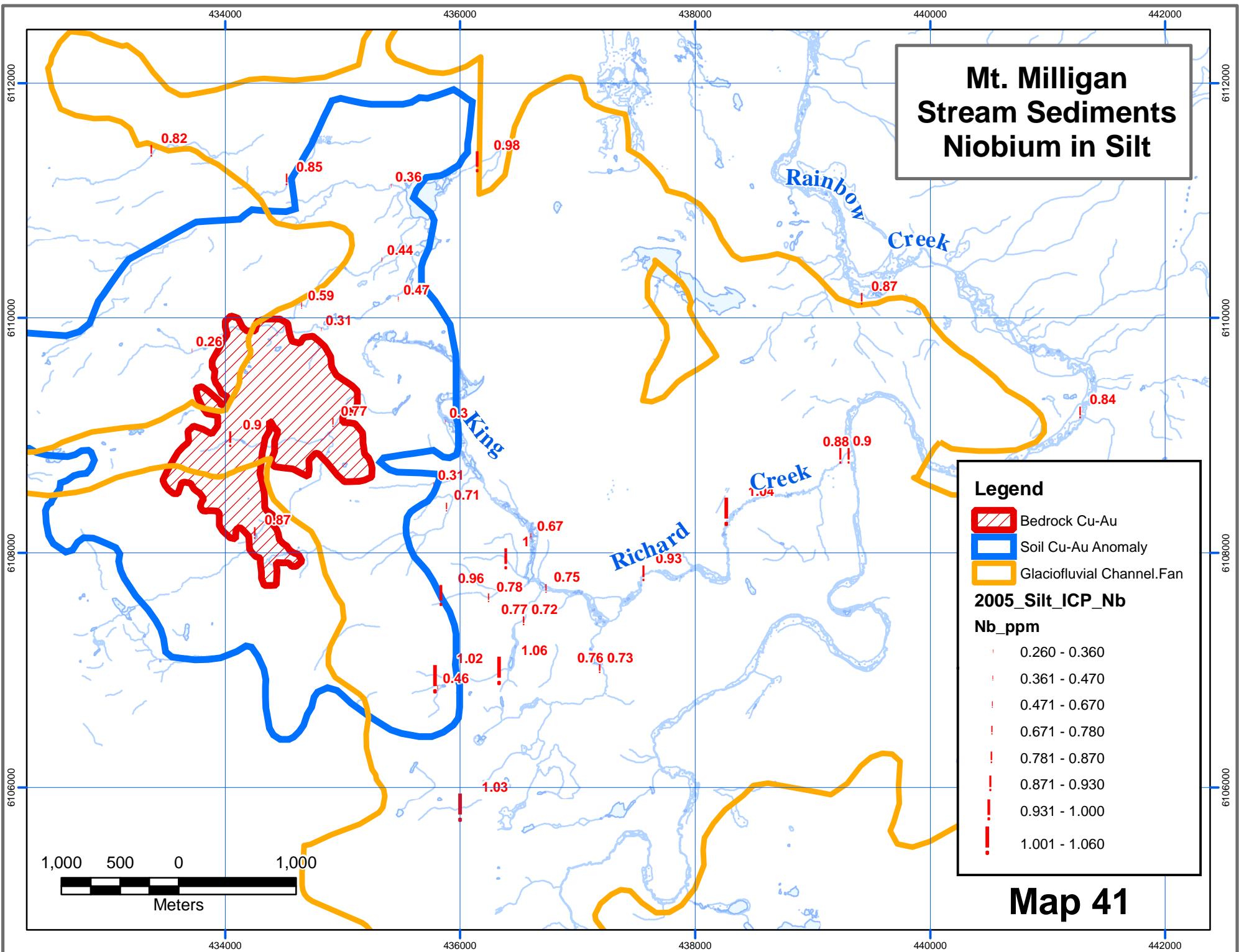
**Map 40**



**Mt. Milligan  
Stream Sediments  
Niobium in Silt**



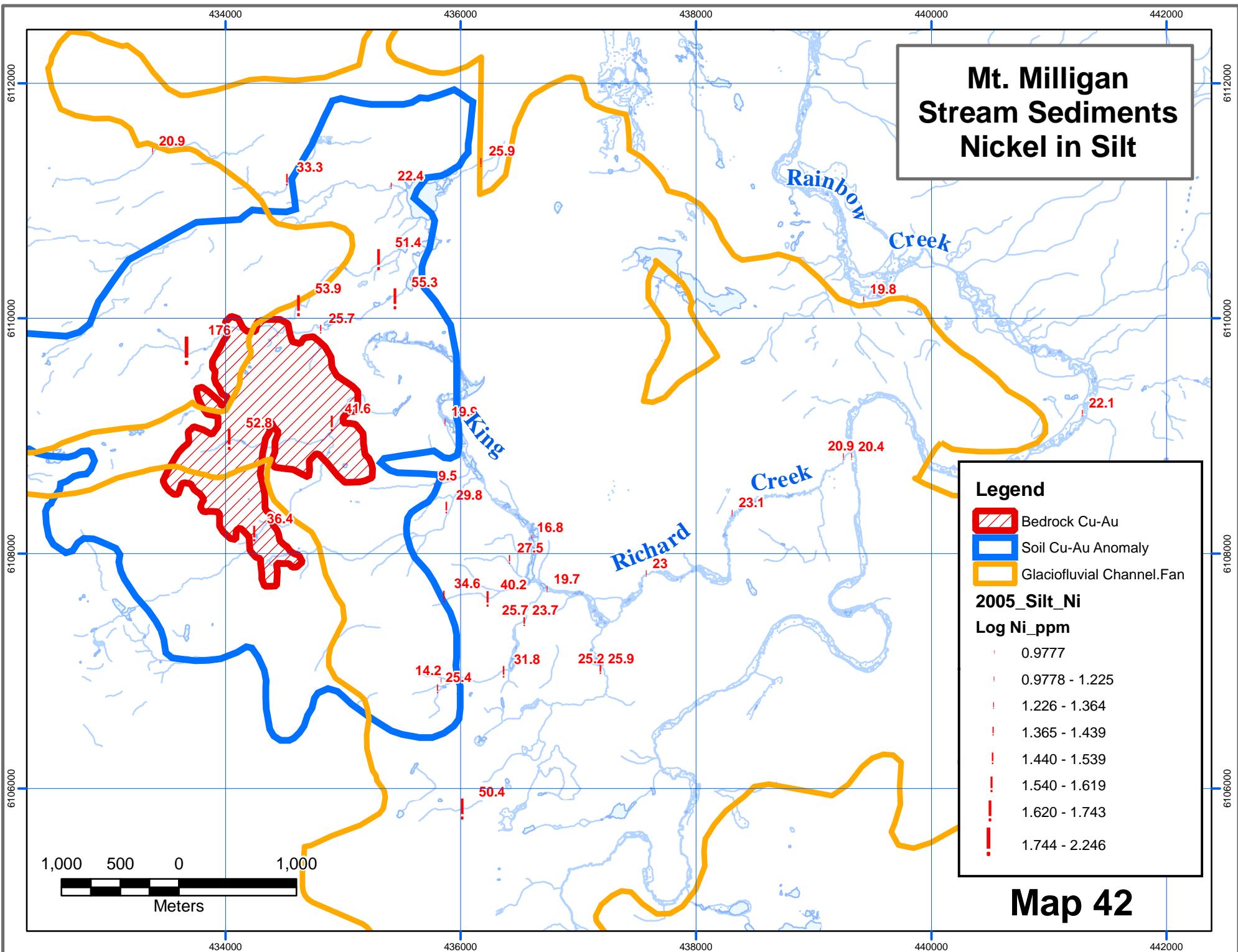
**Map 41**



# Mt. Milligan Stream Sediments Nickel in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_Ni</b>	
<b>Log Ni_ppm</b>	
—	0.9777
—	0.9778 - 1.225
—	1.226 - 1.364
—	1.365 - 1.439
—	1.440 - 1.539
—	1.540 - 1.619
—	1.620 - 1.743
—	1.744 - 2.246

**Map 42**



# Mt. Milligan Stream Sediments Phosphorus in Silt

**Legend**

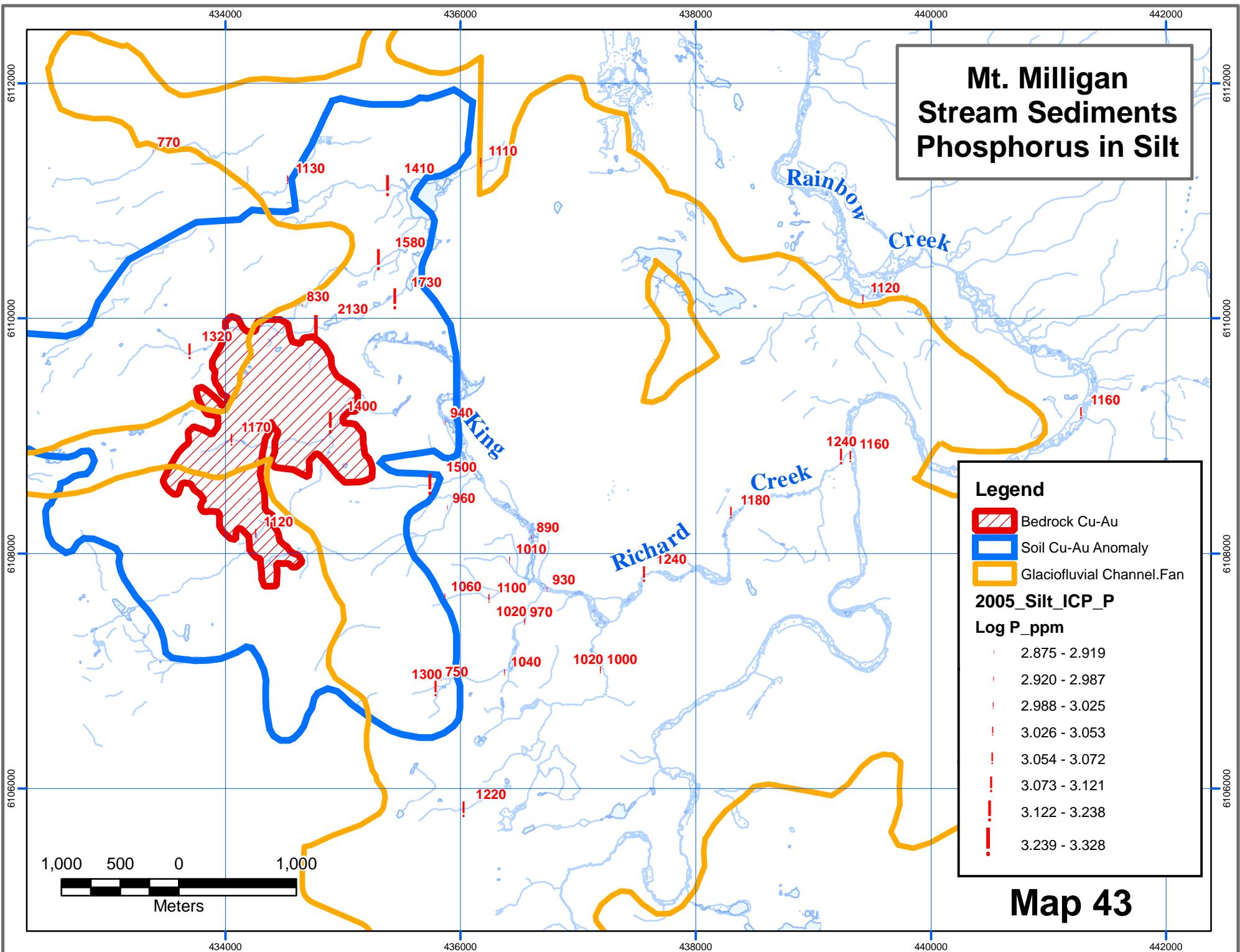
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_ICP\_P

### Log P\_ppm

- |               |
|---------------|
| 2.875 - 2.919 |
| 2.920 - 2.987 |
| 2.988 - 3.025 |
| 3.026 - 3.053 |
| 3.054 - 3.072 |
| 3.073 - 3.121 |
| 3.122 - 3.238 |
| 3.239 - 3.328 |

**Map 43**



# Mt. Milligan Stream Sediments Lead in Silt

**Legend**

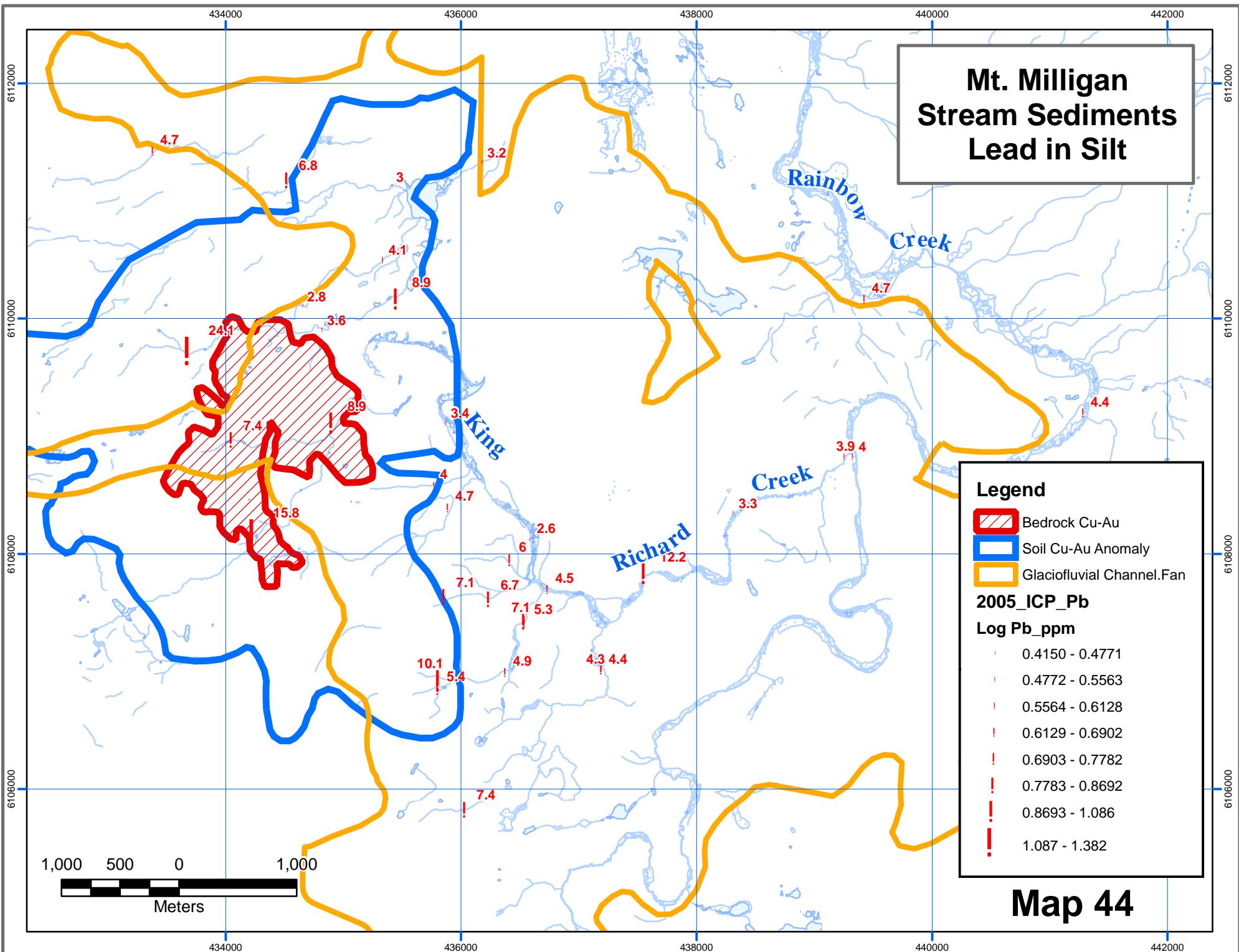
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_ICP\_Pb

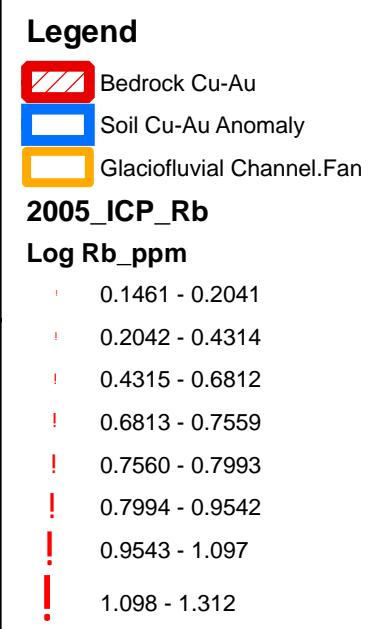
### Log Pb\_ppm

- |                 |
|-----------------|
| 0.4150 - 0.4771 |
| 0.4772 - 0.5563 |
| 0.5564 - 0.6128 |
| 0.6129 - 0.6902 |
| 0.6903 - 0.7782 |
| 0.7783 - 0.8692 |
| 0.8693 - 1.086  |
| 1.087 - 1.382   |

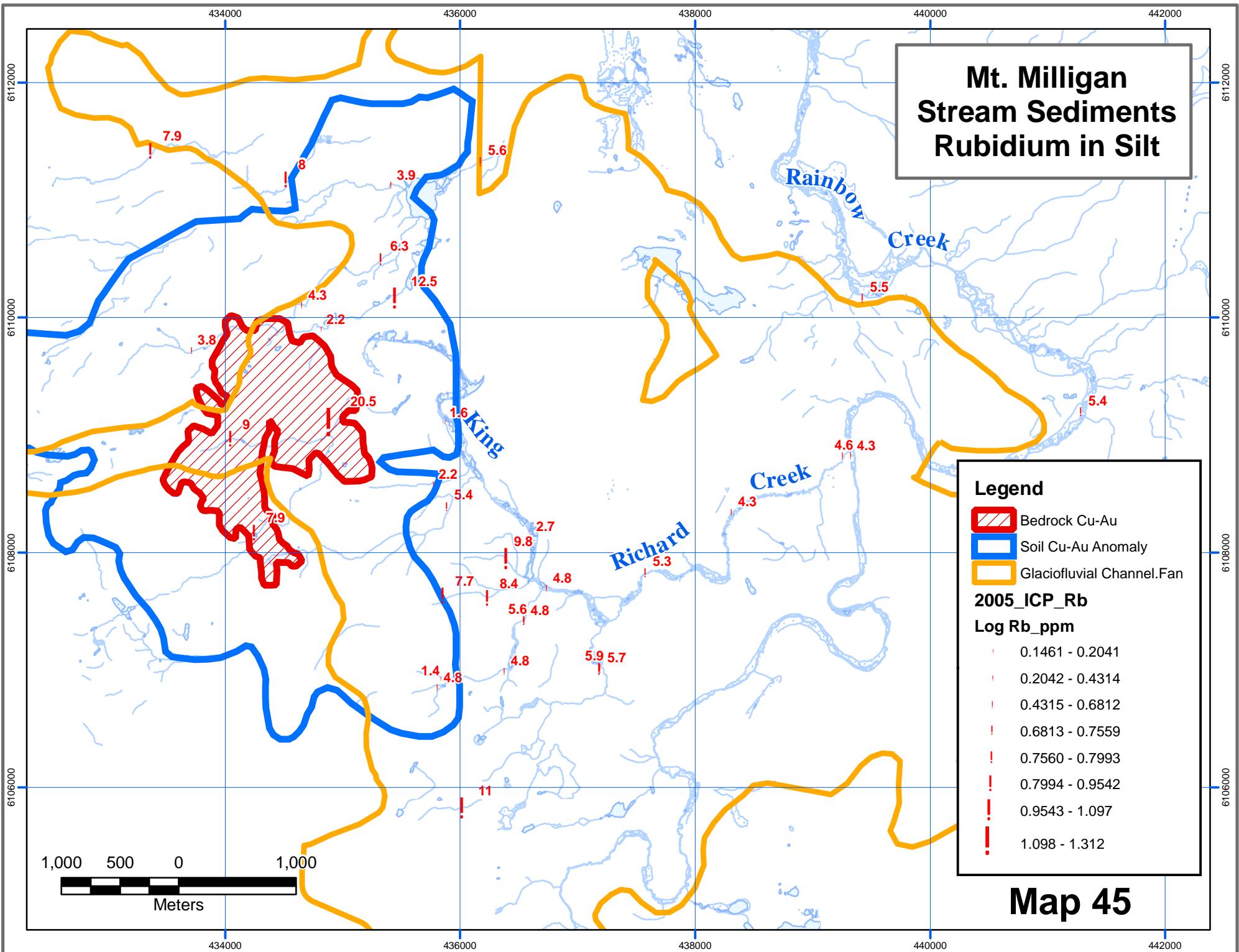
**Map 44**



# Mt. Milligan Stream Sediments Rubidium in Silt



**Map 45**



# Mt. Milligan Stream Sediments Rhenium in Silt

## Legend

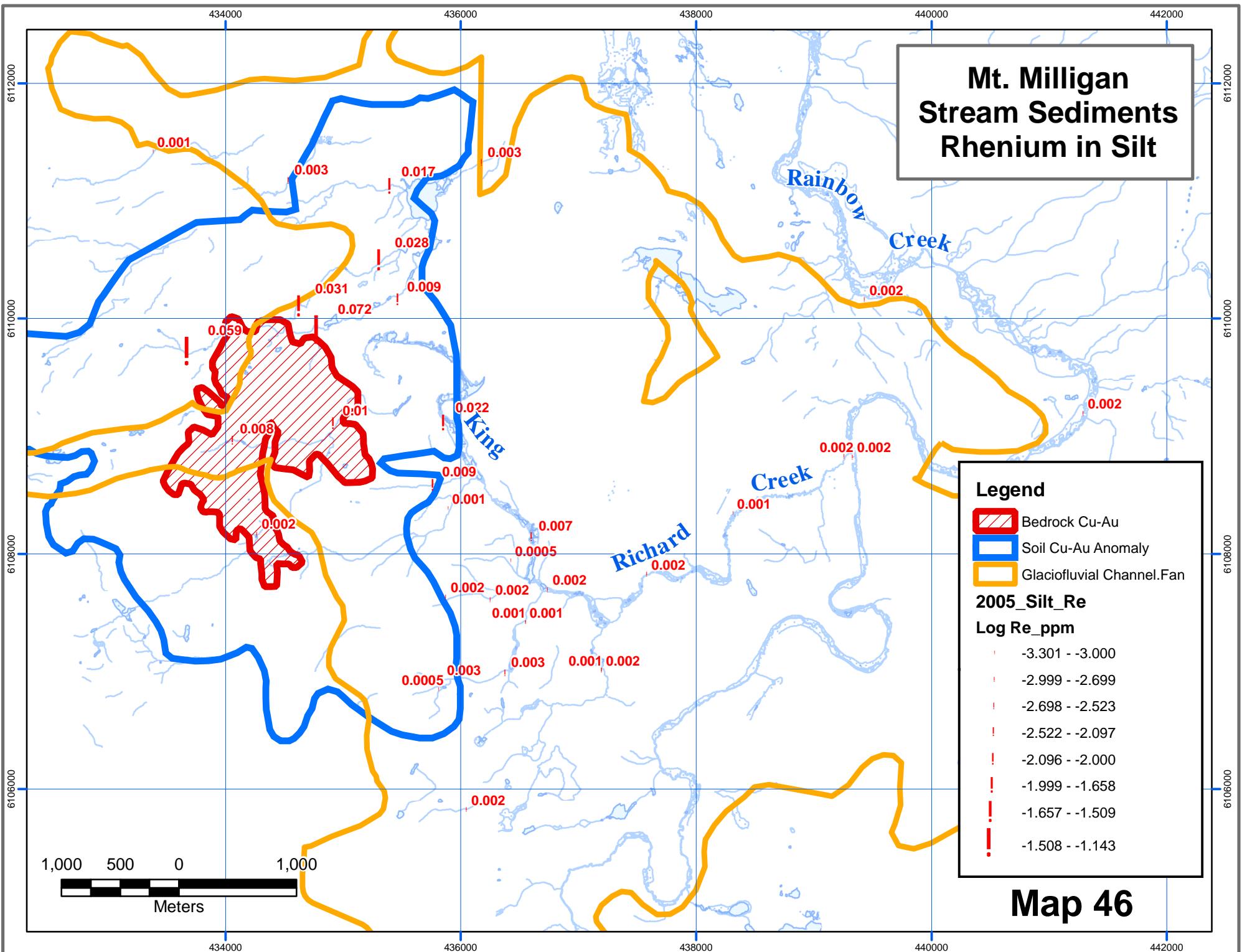
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_Re

### Log Re\_ppm

-3.301 - -3.000
-2.999 - -2.699
-2.698 - -2.523
-2.522 - -2.097
-2.096 - -2.000
-1.999 - -1.658
-1.657 - -1.509
-1.508 - -1.143

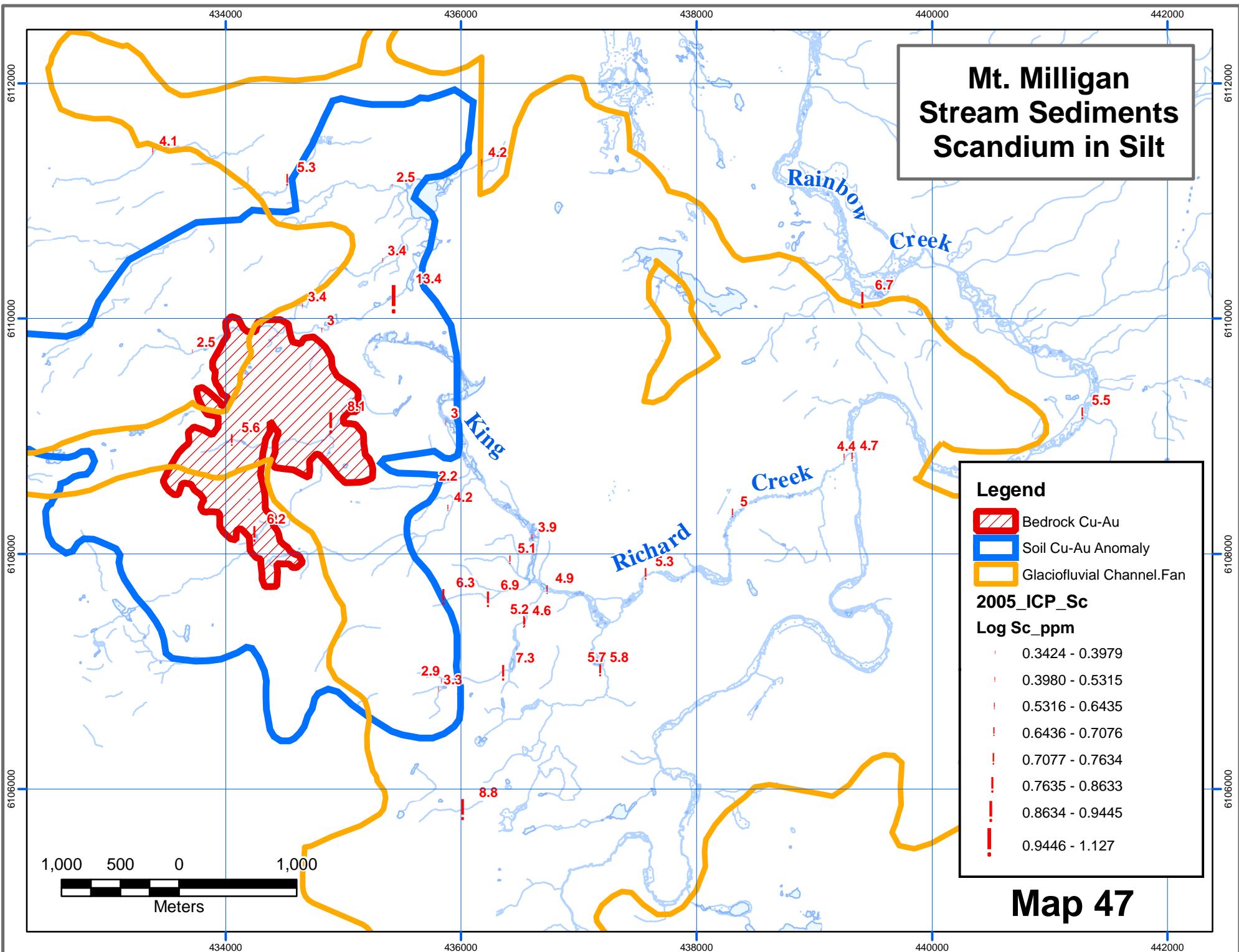
Map 46



# Mt. Milligan Stream Sediments Scandium in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
2005_ICP_Sc	
Log Sc_ppm	
0.3424 - 0.3979	
0.3980 - 0.5315	
0.5316 - 0.6435	
0.6436 - 0.7076	
0.7077 - 0.7634	
0.7635 - 0.8633	
0.8634 - 0.9445	
0.9446 - 1.127	

Map 47



# Mt. Milligan Stream Sediments Selenium in Silt

## Legend

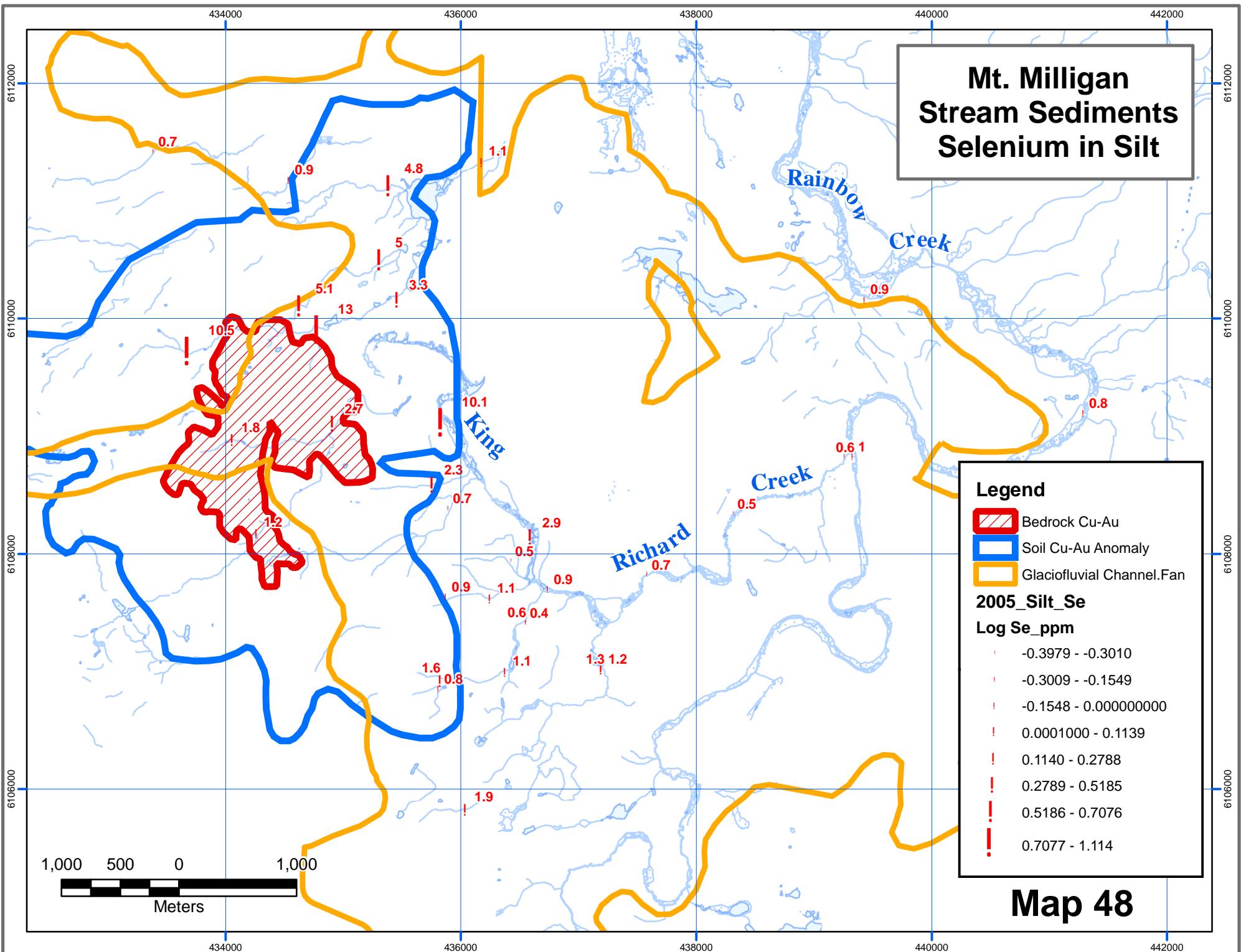
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_Se

### Log Se\_ppm

-0.3979 - -0.3010
-0.3009 - -0.1549
-0.1548 - 0.0000000000
0.0001000 - 0.1139
0.1140 - 0.2788
0.2789 - 0.5185
0.5186 - 0.7076
0.7077 - 1.114

Map 48



**Mt. Milligan  
Stream Sediments  
Tin in Silt**

**Legend**

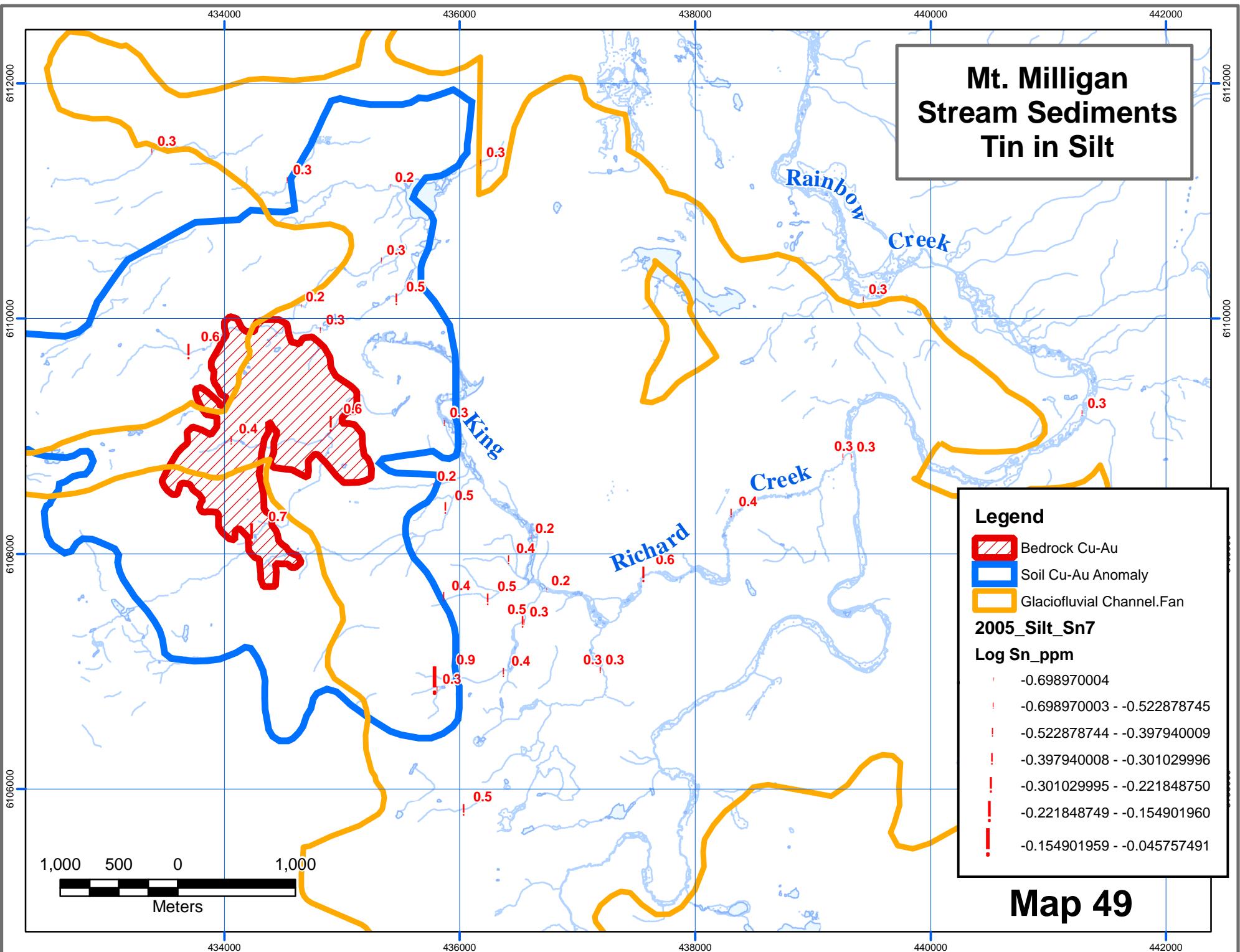
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_Sn7**

**Log Sn\_ppm**

-0.698970004
-0.698970003 - -0.522878745
-0.522878744 - -0.397940009
-0.397940008 - -0.301029996
-0.301029995 - -0.221848750
-0.221848749 - -0.154901960
-0.154901959 - -0.045757491

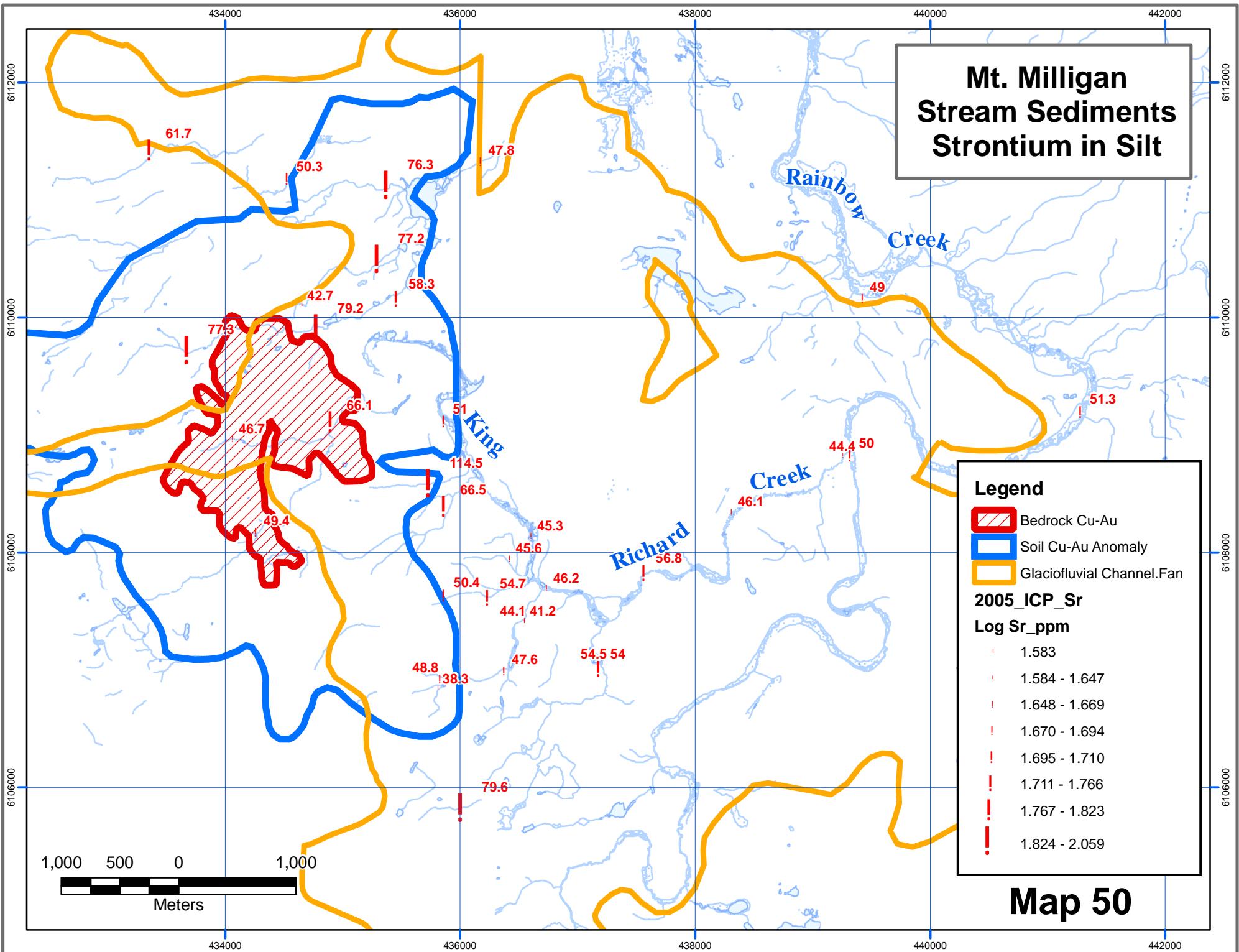
**Map 49**



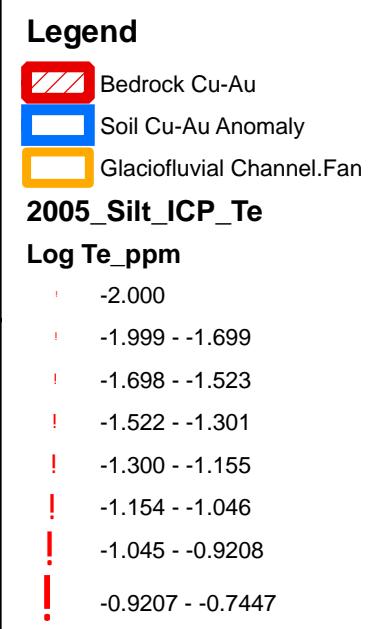
# Mt. Milligan Stream Sediments Strontium in Silt

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_ICP_Sr</b>	
<b>Log Sr_ppm</b>	
1.583	
1.584 - 1.647	
1.648 - 1.669	
1.670 - 1.694	
1.695 - 1.710	
1.711 - 1.766	
1.767 - 1.823	
1.824 - 2.059	

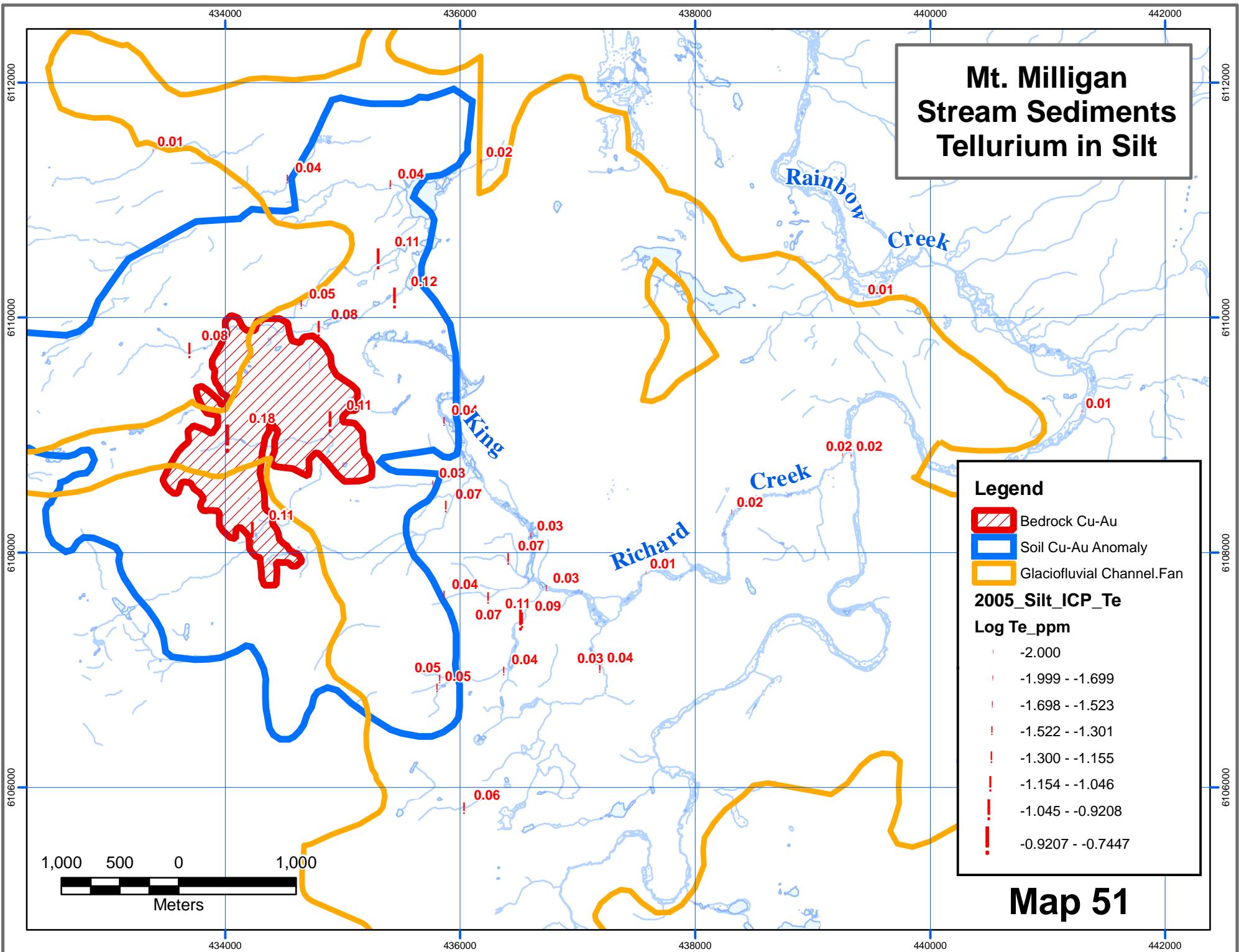
**Map 50**



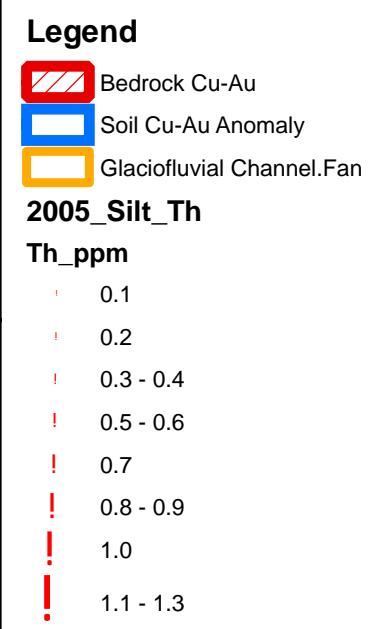
# Mt. Milligan Stream Sediments Tellurium in Silt



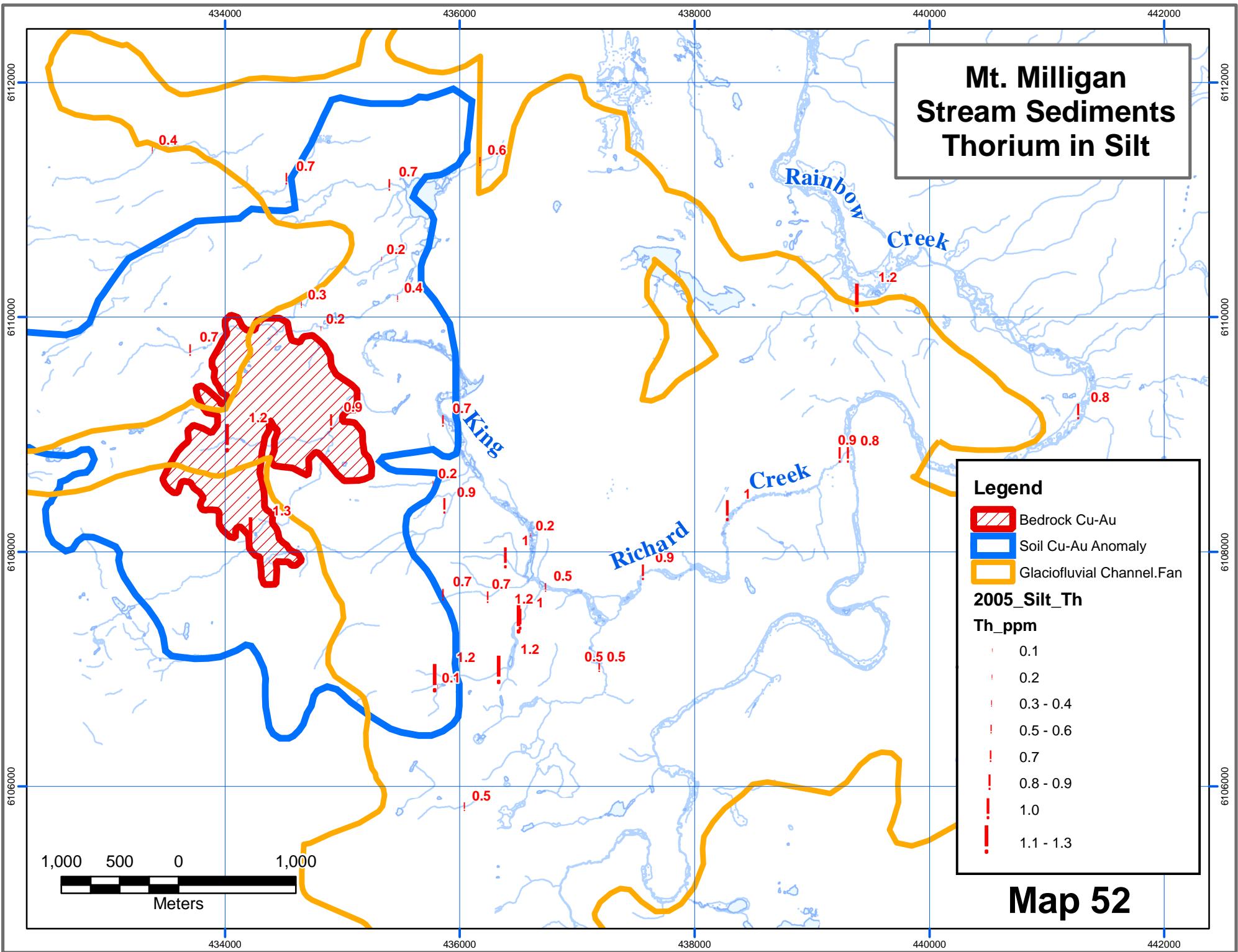
**Map 51**



**Mt. Milligan  
Stream Sediments  
Thorium in Silt**



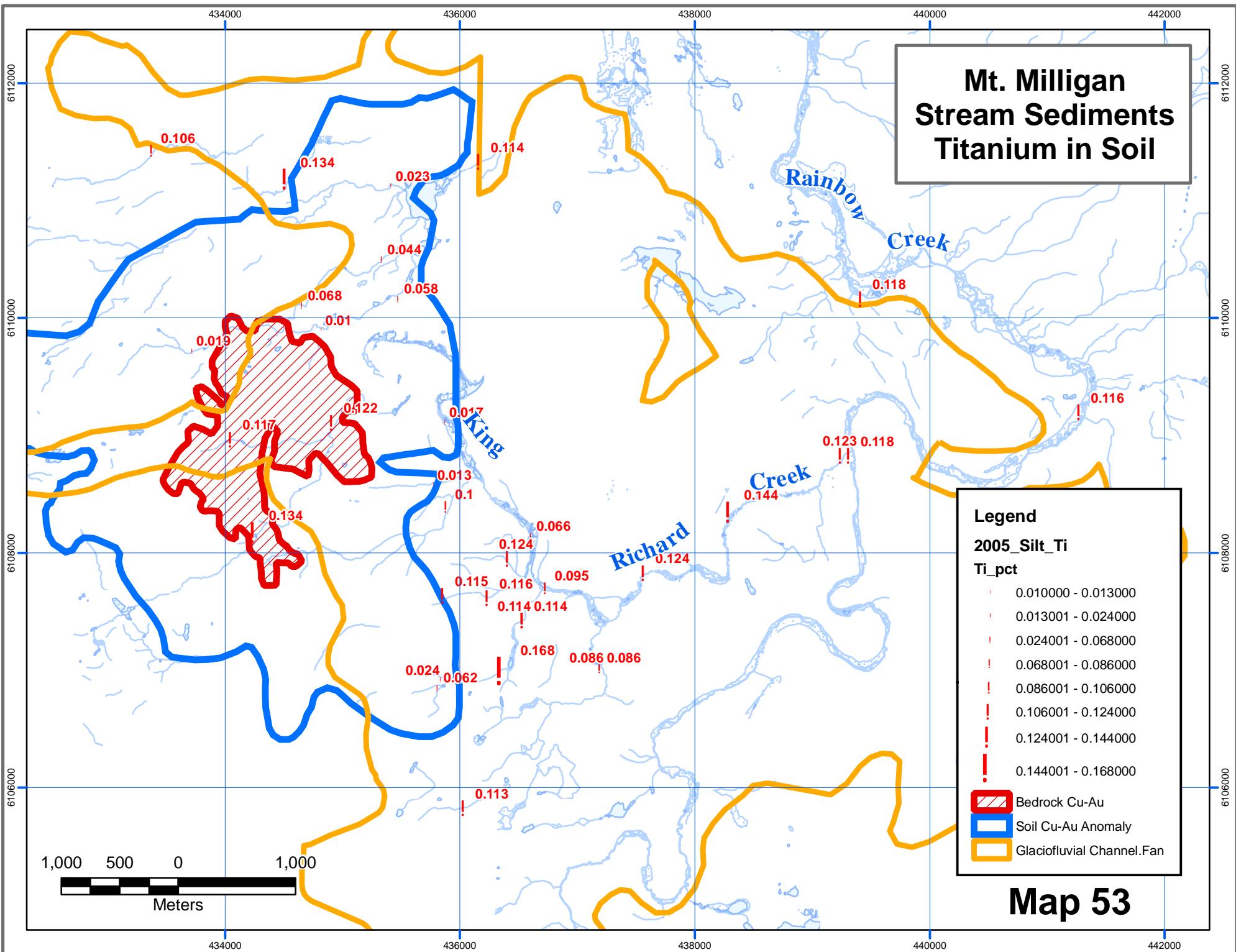
**Map 52**



**Mt. Milligan  
Stream Sediments  
Titanium in Soil**

Legend	
<b>2005_Silt_Ti</b>	
Ti_pct	
0.01000 - 0.013000	
0.013001 - 0.024000	
0.024001 - 0.068000	
0.068001 - 0.086000	
0.086001 - 0.106000	
0.106001 - 0.124000	
0.124001 - 0.144000	
0.144001 - 0.168000	
Bedrock Cu-Au	
Soil Cu-Au Anomaly	
Glaciofluvial Channel.Fan	

**Map 53**



**Mt. Milligan  
Stream Sediments  
Thallium in Silt**

**Legend**

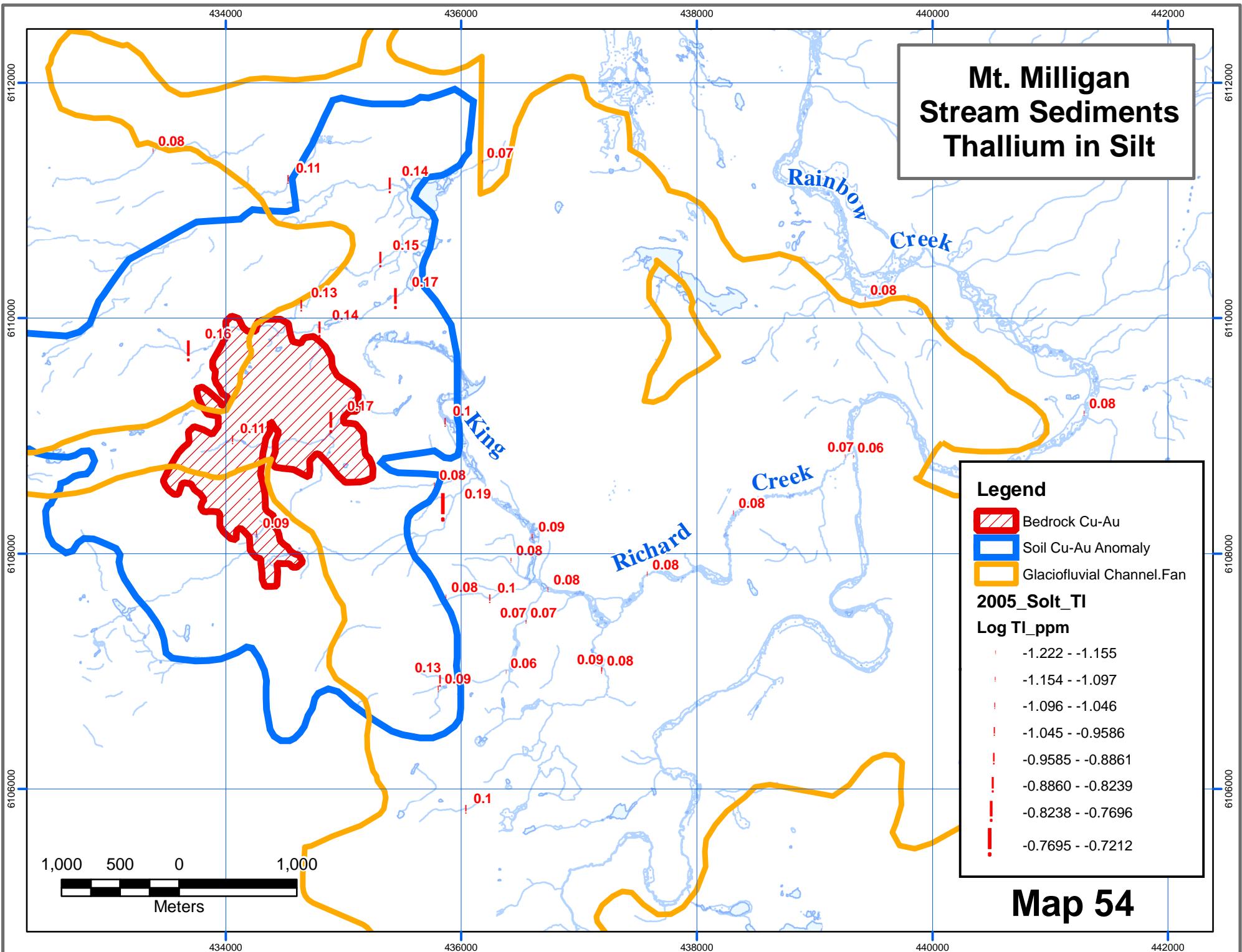
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Solt\_Tl**

**Log TI\_ppm**

- |                   |
|-------------------|
| -1.222 - -1.155   |
| -1.154 - -1.097   |
| -1.096 - -1.046   |
| -1.045 - -0.9586  |
| -0.9585 - -0.8861 |
| -0.8860 - -0.8239 |
| -0.8238 - -0.7696 |
| -0.7695 - -0.7212 |

**Map 54**



# Mt. Milligan Stream Sediments Uranium in Silt

**Legend**

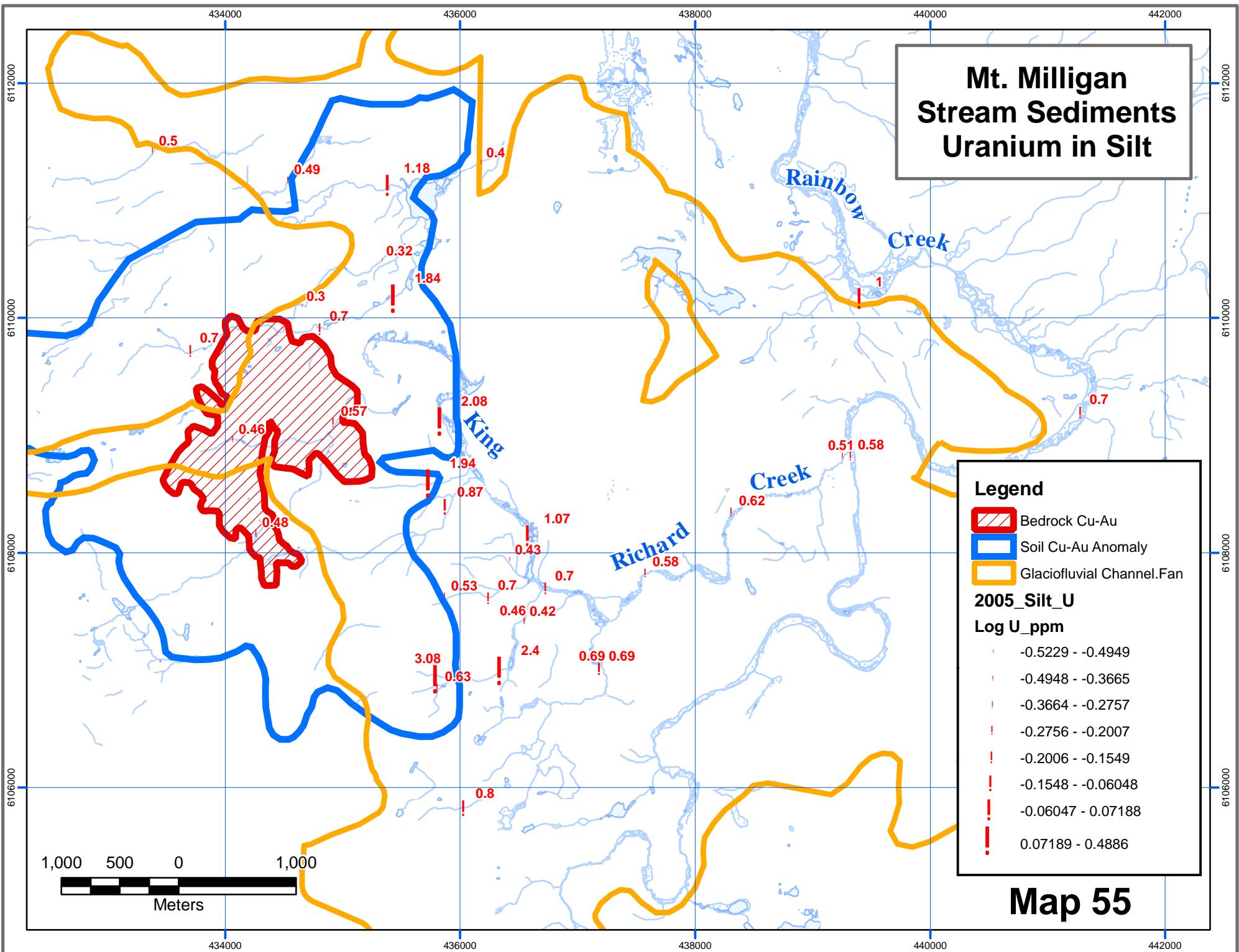
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_U

### Log U\_ppm

-0.5229 - -0.4949
-0.4948 - -0.3665
-0.3664 - -0.2757
-0.2756 - -0.2007
-0.2006 - -0.1549
-0.1548 - -0.06048
-0.06047 - 0.07188
0.07189 - 0.4886

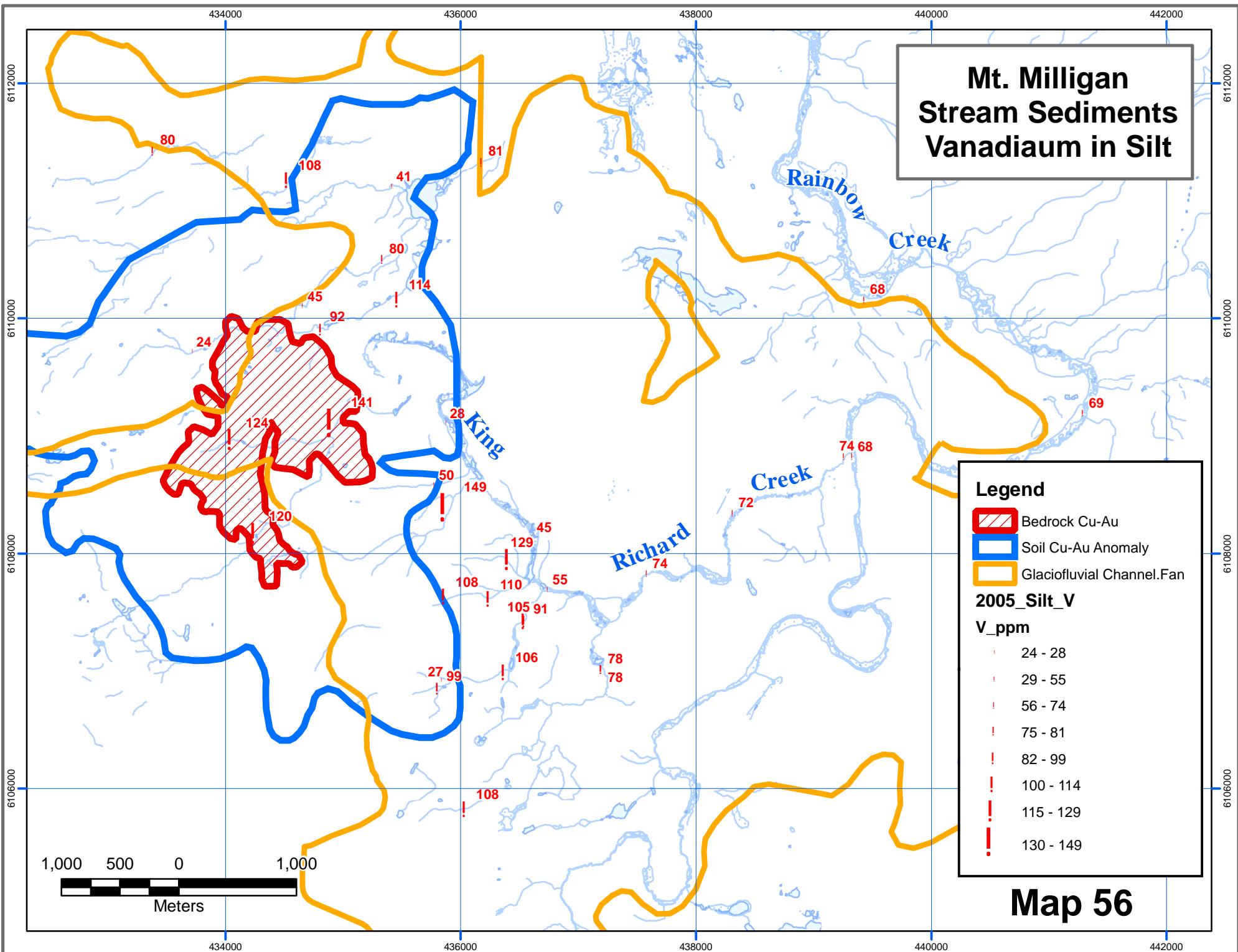
# Map 55



**Mt. Milligan  
Stream Sediments  
Vanadium in Silt**

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_V</b>	
<b>V_ppm</b>	
—	24 - 28
—	29 - 55
—	56 - 74
—	75 - 81
—	82 - 99
—	100 - 114
—	115 - 129
—	130 - 149

**Map 56**



# Mt. Milligan Stream Sediments Tungsten in Silt

## Legend

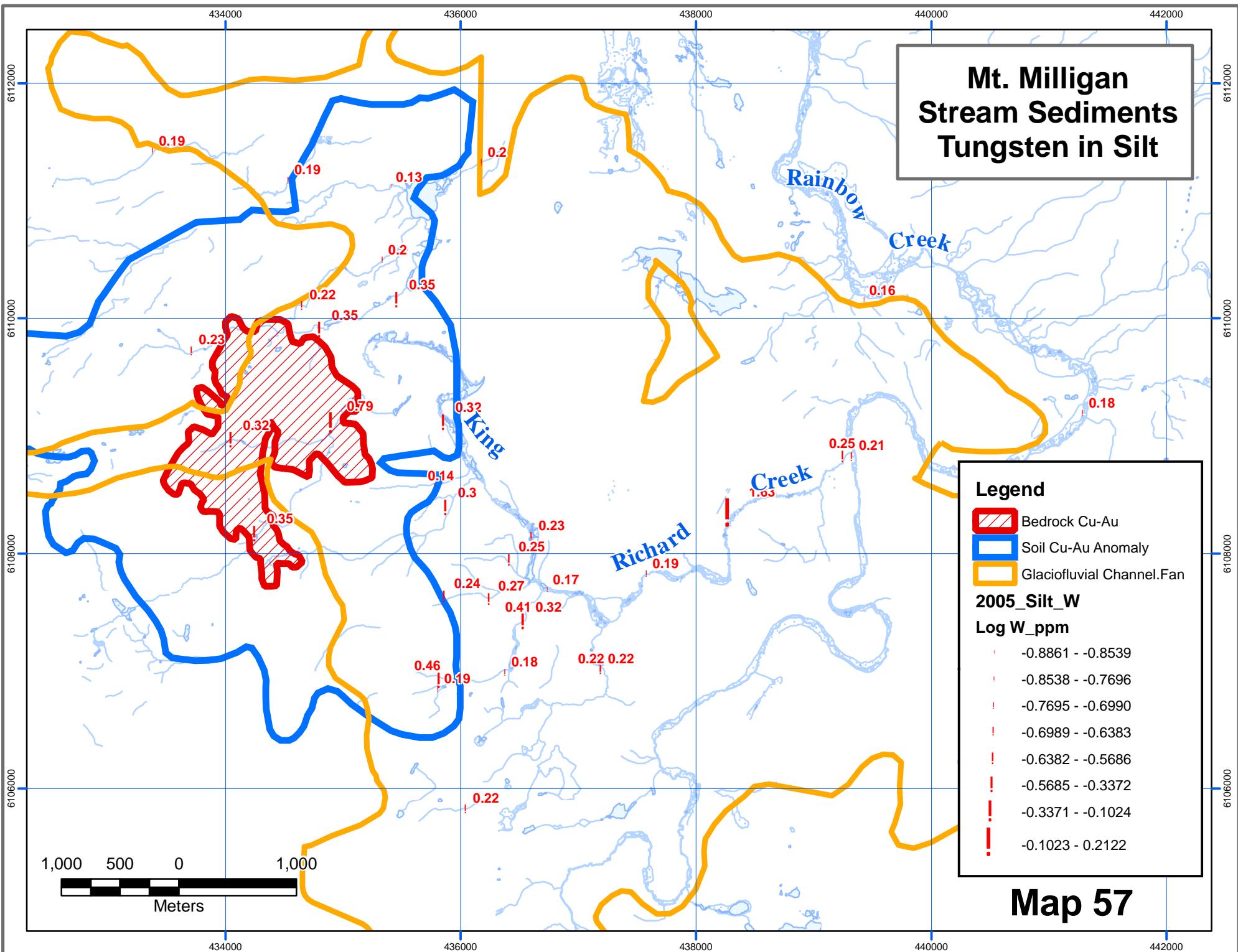
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_W

### Log W\_ppm

-0.8861 - -0.8539
-0.8538 - -0.7696
-0.7695 - -0.6990
-0.6989 - -0.6383
-0.6382 - -0.5686
-0.5685 - -0.3372
-0.3371 - -0.1024
-0.1023 - 0.2122

**Map 57**



**Mt. Milligan  
Stream Sediments  
Yttrium in Silt**

**Legend**

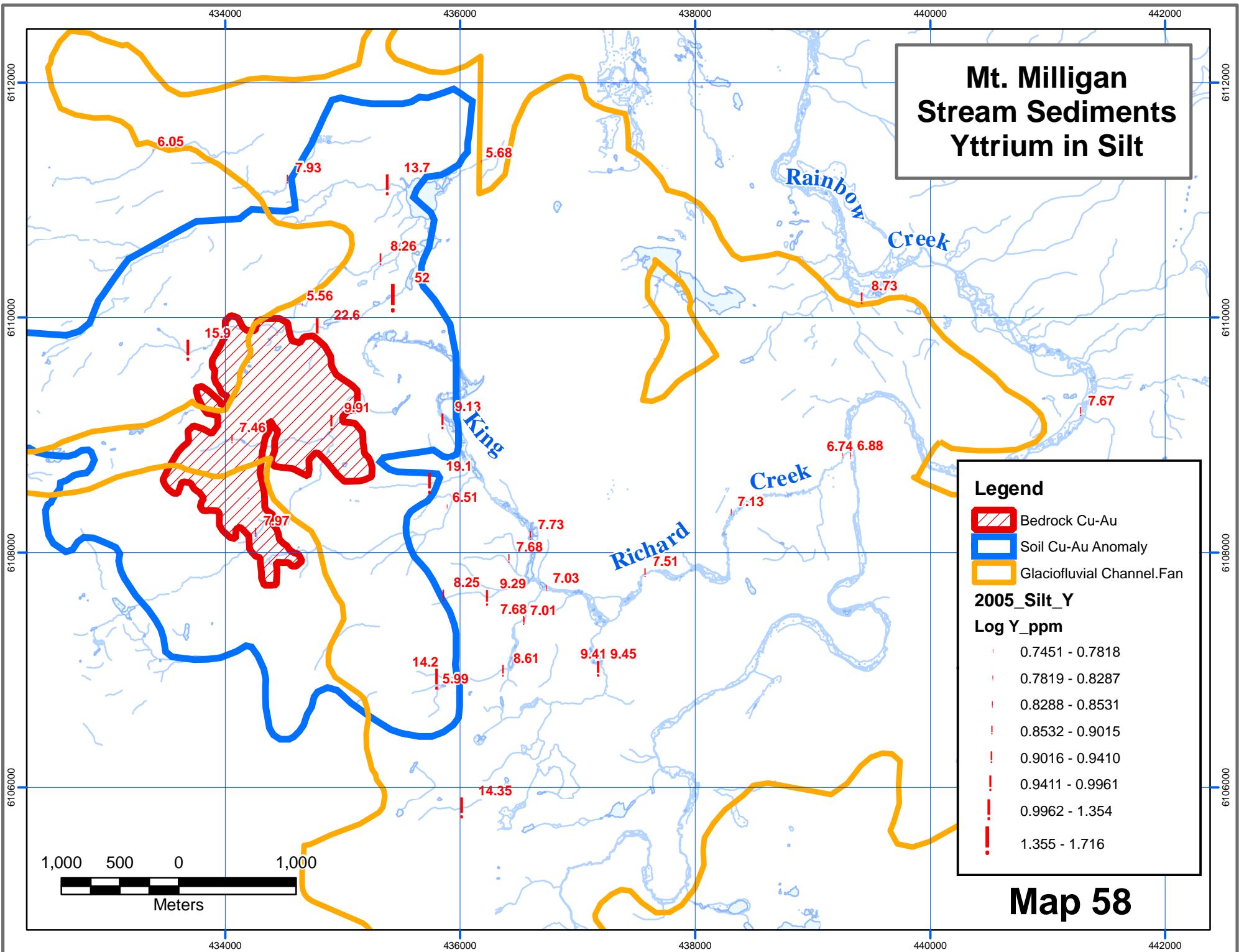
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt\_Y**

**Log Y\_ppm**

- |                 |
|-----------------|
| 0.7451 - 0.7818 |
| 0.7819 - 0.8287 |
| 0.8288 - 0.8531 |
| 0.8532 - 0.9015 |
| 0.9016 - 0.9410 |
| 0.9411 - 0.9961 |
| 0.9962 - 1.354  |
| 1.355 - 1.716   |

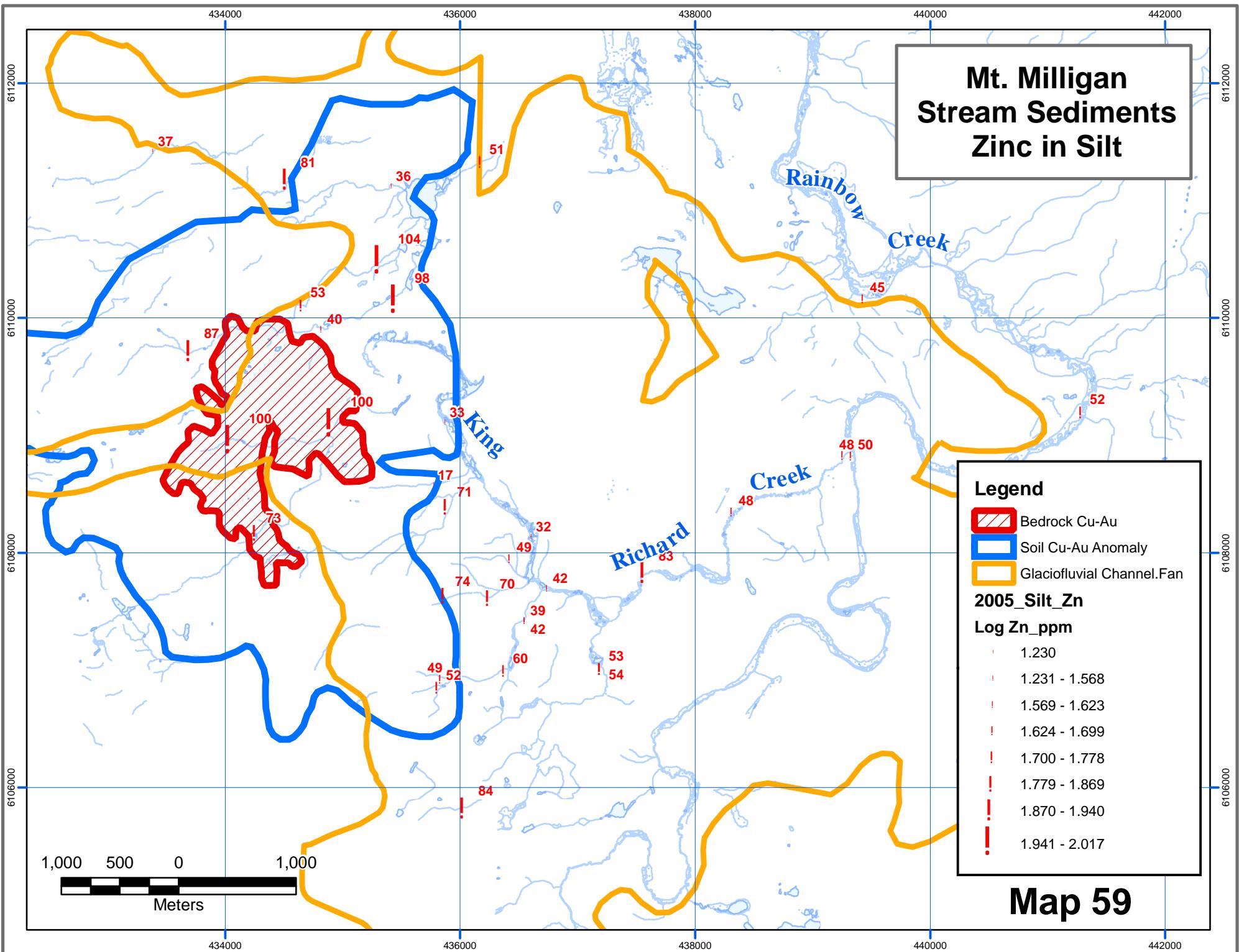
**Map 58**



**Mt. Milligan  
Stream Sediments  
Zinc in Silt**

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
<b>2005_Silt_Zn</b>	
<b>Log Zn_ppm</b>	
—	1.230
—	1.231 - 1.568
—	1.569 - 1.623
—	1.624 - 1.699
—	1.700 - 1.778
—	1.779 - 1.869
—	1.870 - 1.940
—	1.941 - 2.017

**Map 59**



# Mt. Milligan Stream Sediments Zirconium in Silt

**Legend**

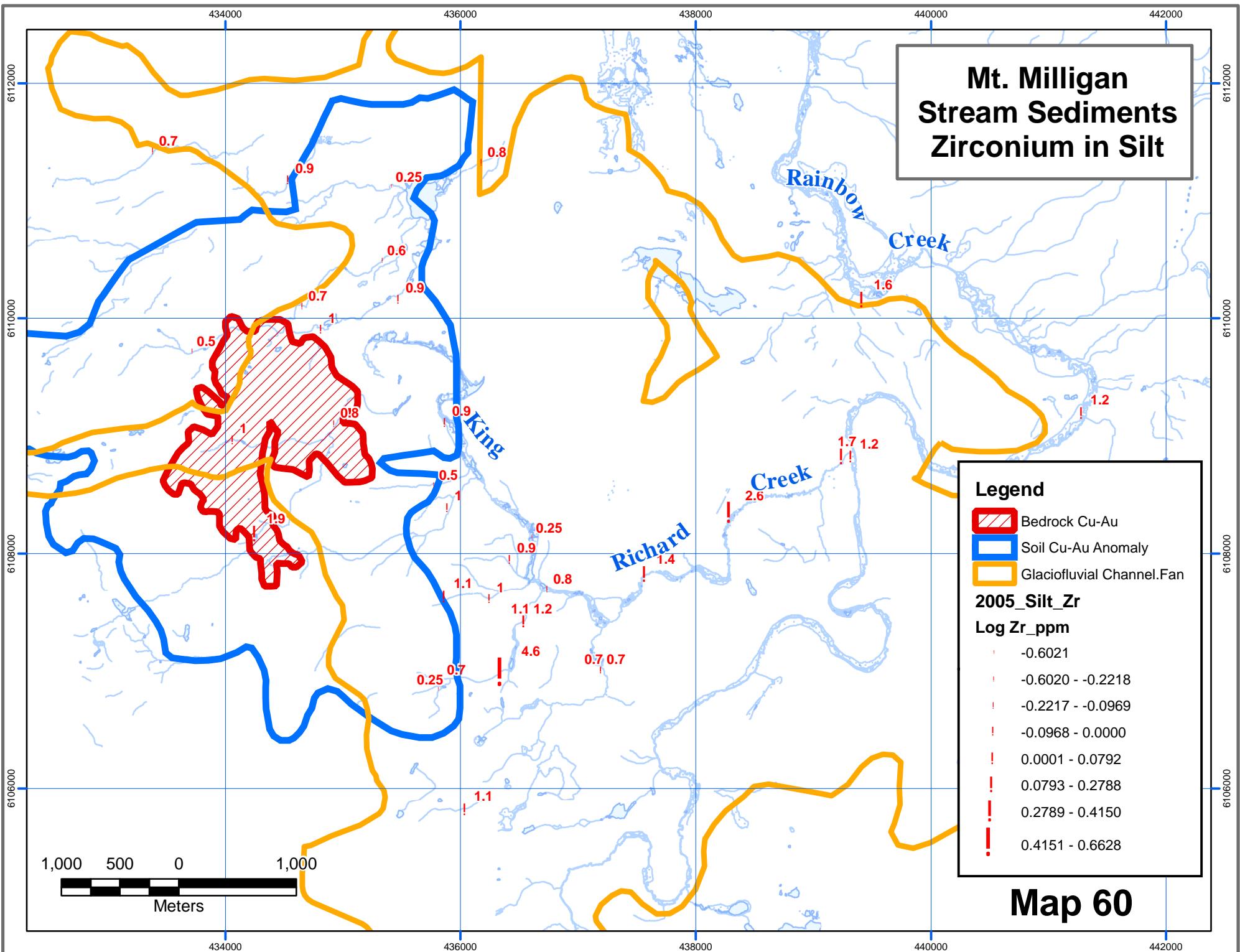
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

## 2005\_Silt\_Zr

### Log Zr\_ppm

-0.6021
-0.6020 - -0.2218
-0.2217 - -0.0969
-0.0968 - 0.0000
0.0001 - 0.0792
0.0793 - 0.2788
0.2789 - 0.4150
0.4151 - 0.6628

# Map 60



**Mt. Milligan  
Stream Sediments  
Silt Factor 1**  
**Al, Rb, Cr, Ga, Li, K, Mg, Sc**  
**Fe, V, Zn, Co, Cs, In, Na**

**Legend**

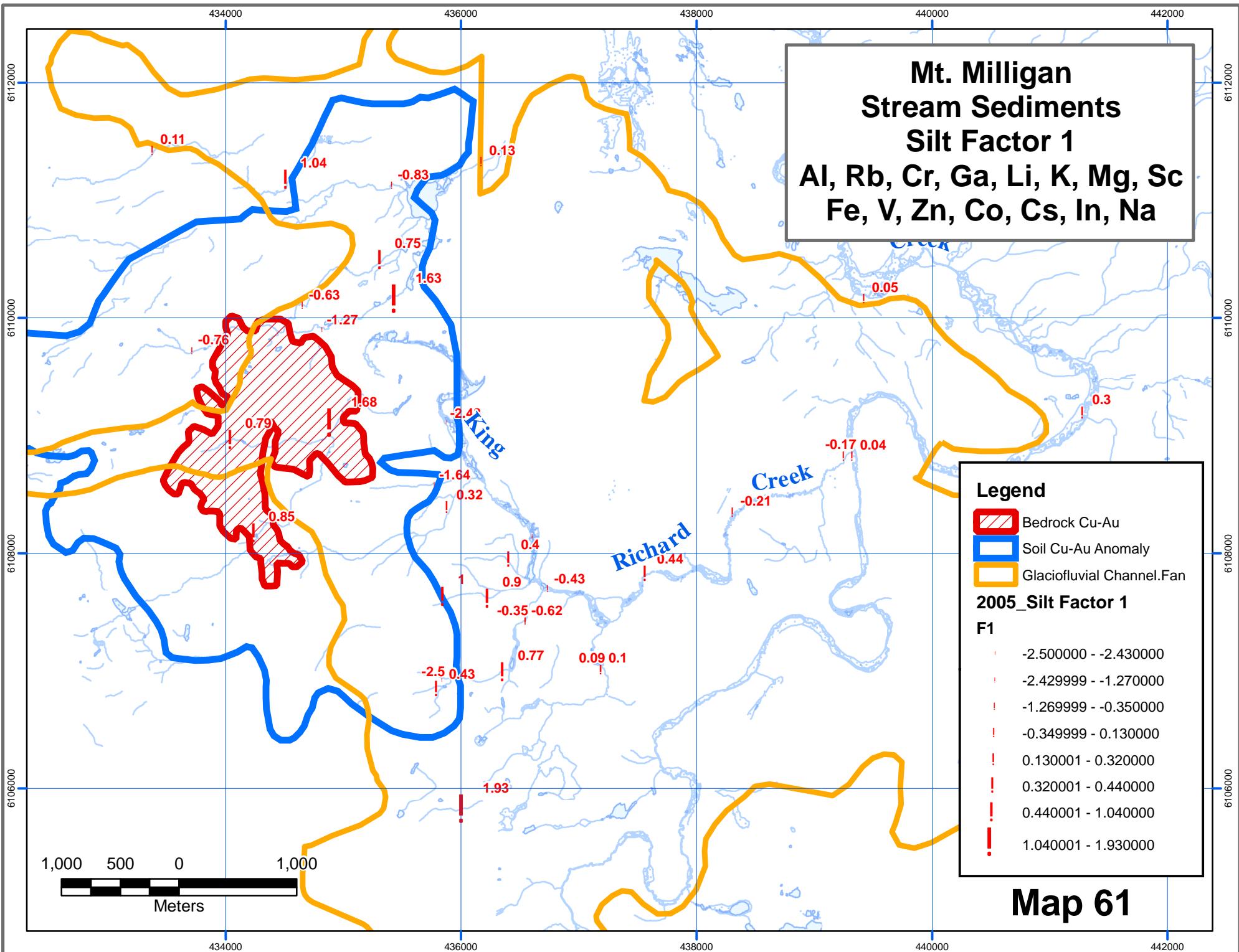
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt Factor 1**

**F1**

- 2.500000 - -2.430000
- 2.429999 - -1.270000
- 1.269999 - -0.350000
- 0.349999 - 0.130000
- 0.130001 - 0.320000
- 0.320001 - 0.440000
- 0.440001 - 1.040000
- 1.040001 - 1.930000

**Map 61**



**Mt. Milligan  
Stream Sediments  
Silt Factor 2  
Se, Hg, S, Ca, Ag,  
Re, Tl, Cd, Sr**

**Legend**

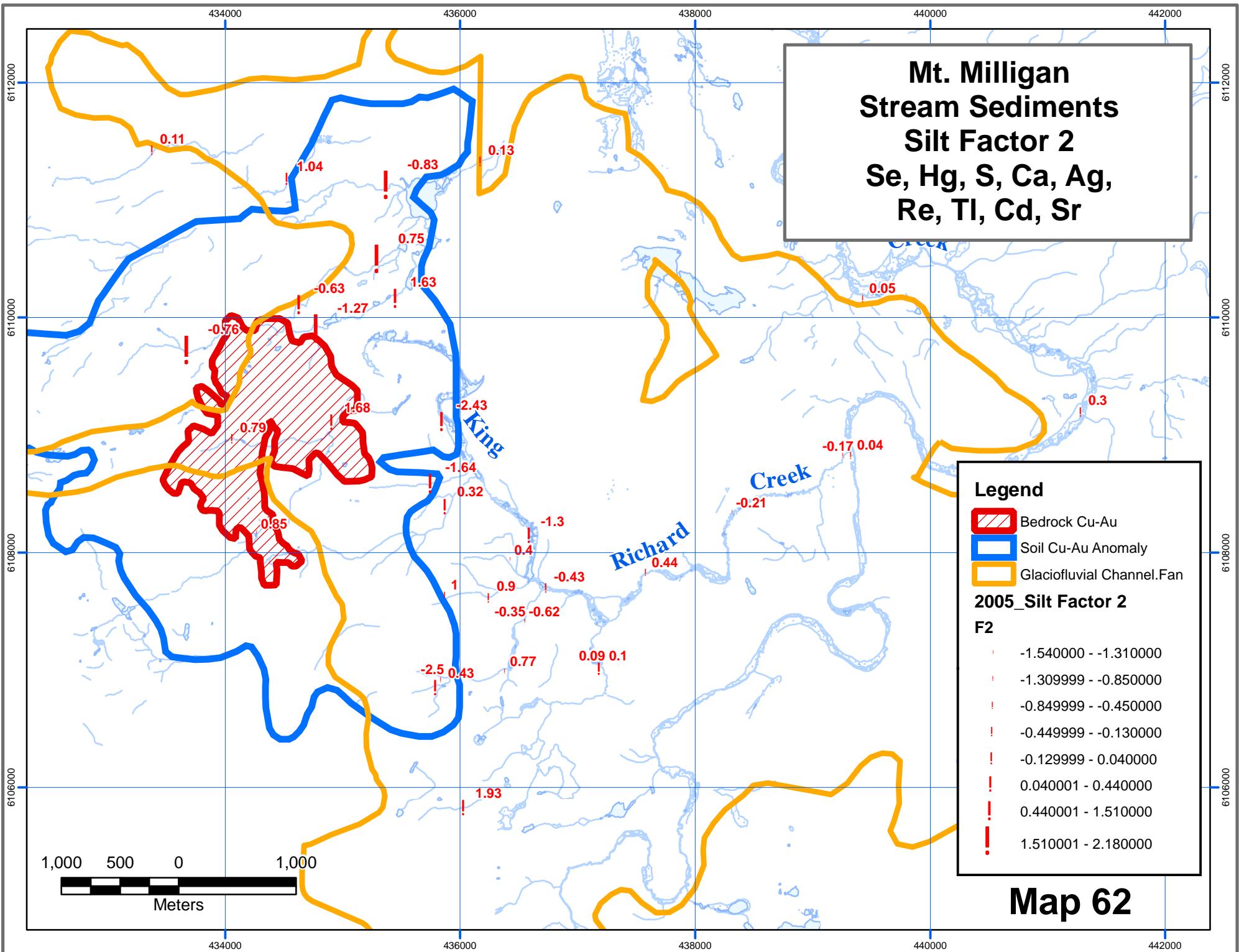
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt Factor 2**

**F2**

- |                       |
|-----------------------|
| -1.540000 - -1.310000 |
| -1.309999 - -0.850000 |
| -0.849999 - -0.450000 |
| -0.449999 - -0.130000 |
| -0.129999 - 0.040000  |
| 0.040001 - 0.440000   |
| 0.440001 - 1.510000   |
| 1.510001 - 2.180000   |

**Map 62**



**Mt. Milligan  
Stream Sediments  
Silt Factor 3  
La, Y, Ce, U, Be**

**Legend**

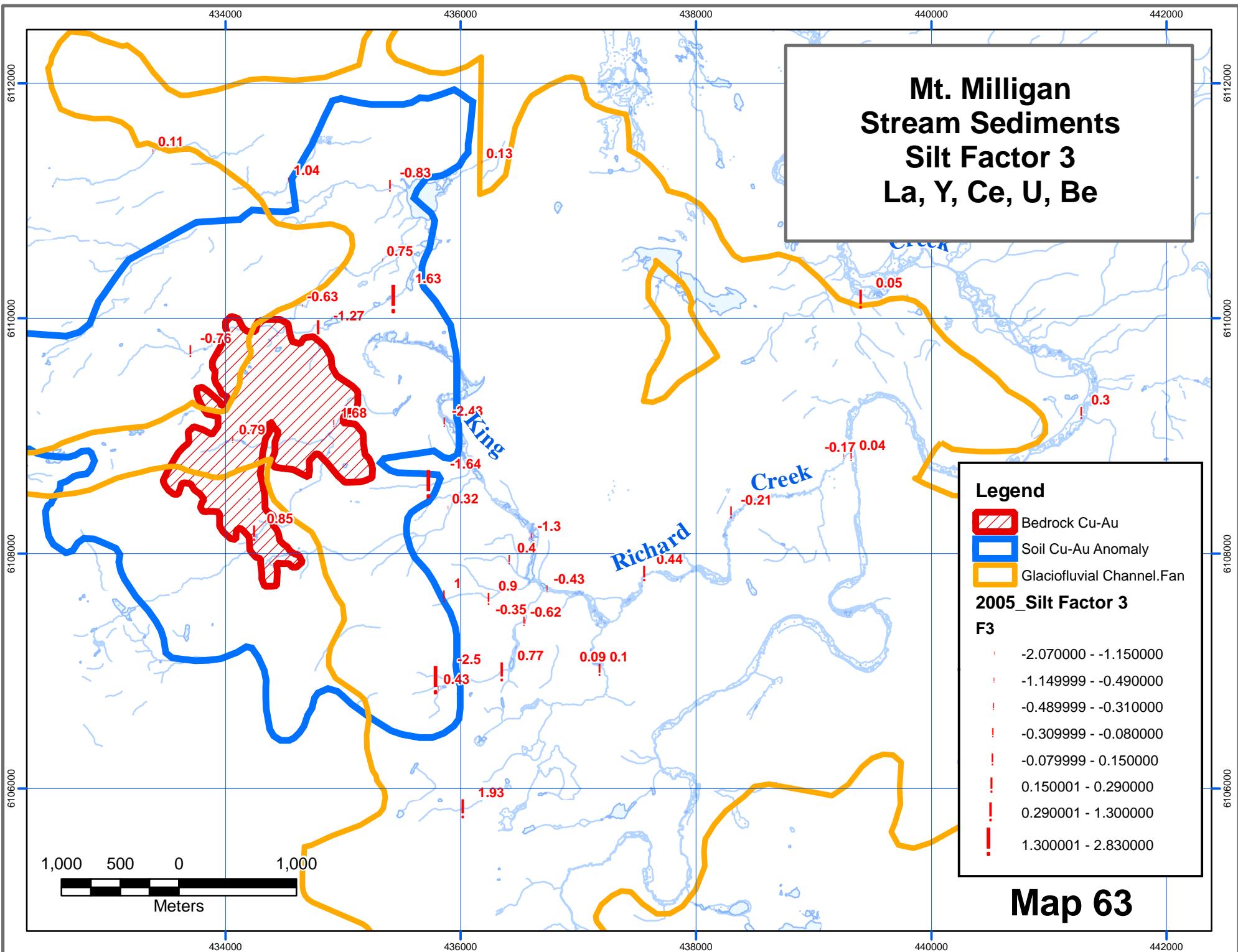
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt Factor 3**

**F3**

- |                       |
|-----------------------|
| -2.070000 - -1.150000 |
| -1.149999 - -0.490000 |
| -0.489999 - -0.310000 |
| -0.309999 - -0.080000 |
| -0.079999 - 0.150000  |
| 0.150001 - 0.290000   |
| 0.290001 - 1.300000   |
| 1.300001 - 2.830000   |

**Map 63**



**Mt. Milligan  
Stream Sediments  
Silt Factor 4  
Te, Sb, Bi, As, Mo,  
Cu, Cd, W, Mn, Co**

**Legend**

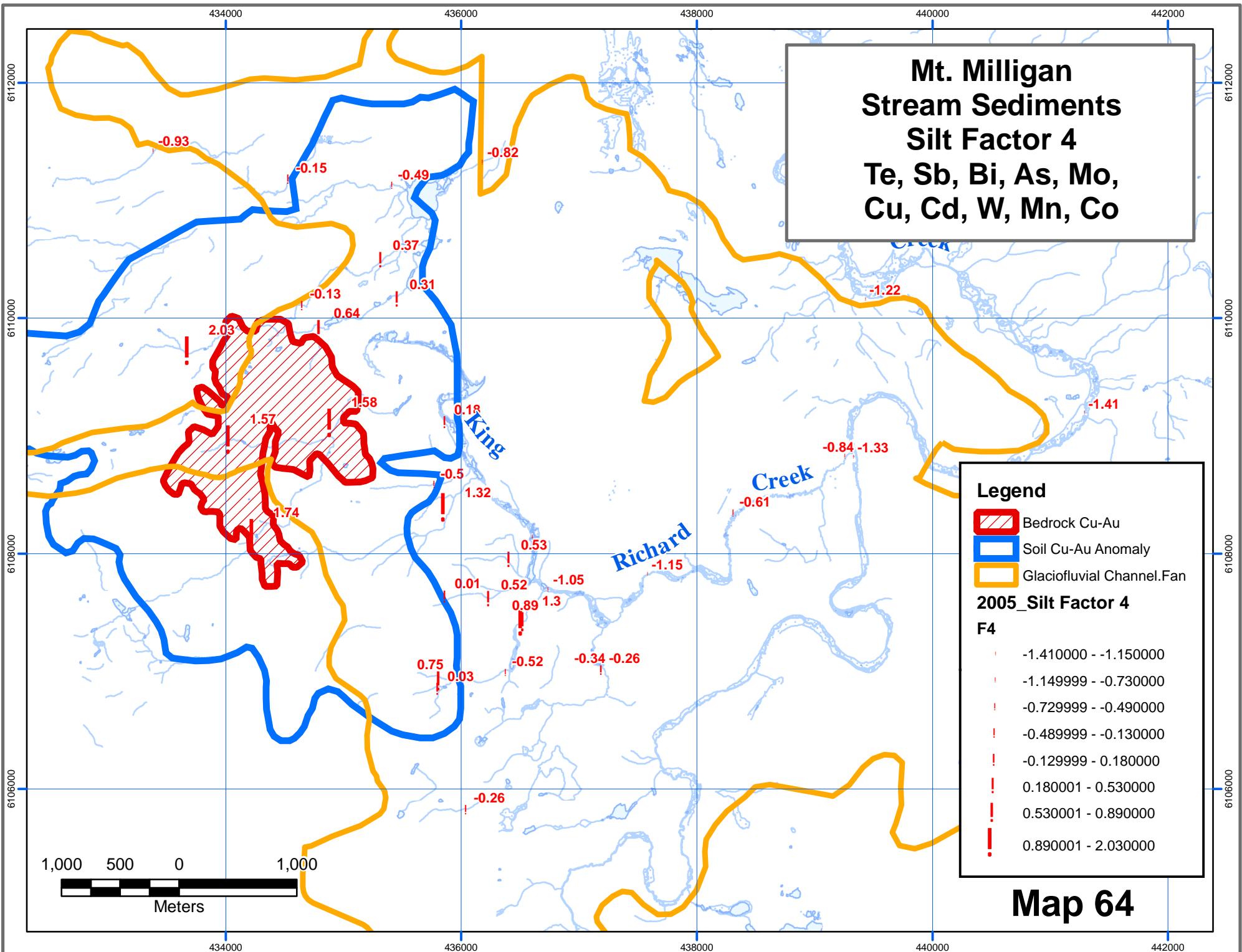
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_Silt Factor 4**

**F4**

- |                       |
|-----------------------|
| -1.410000 - -1.150000 |
| -1.149999 - -0.730000 |
| -0.729999 - -0.490000 |
| -0.489999 - -0.130000 |
| -0.129999 - 0.180000  |
| 0.180001 - 0.530000   |
| 0.530001 - 0.890000   |
| 0.890001 - 2.030000   |

**Map 64**



**Mt. Milligan  
Stream Sediments  
BLEG Gold**

**Legend**

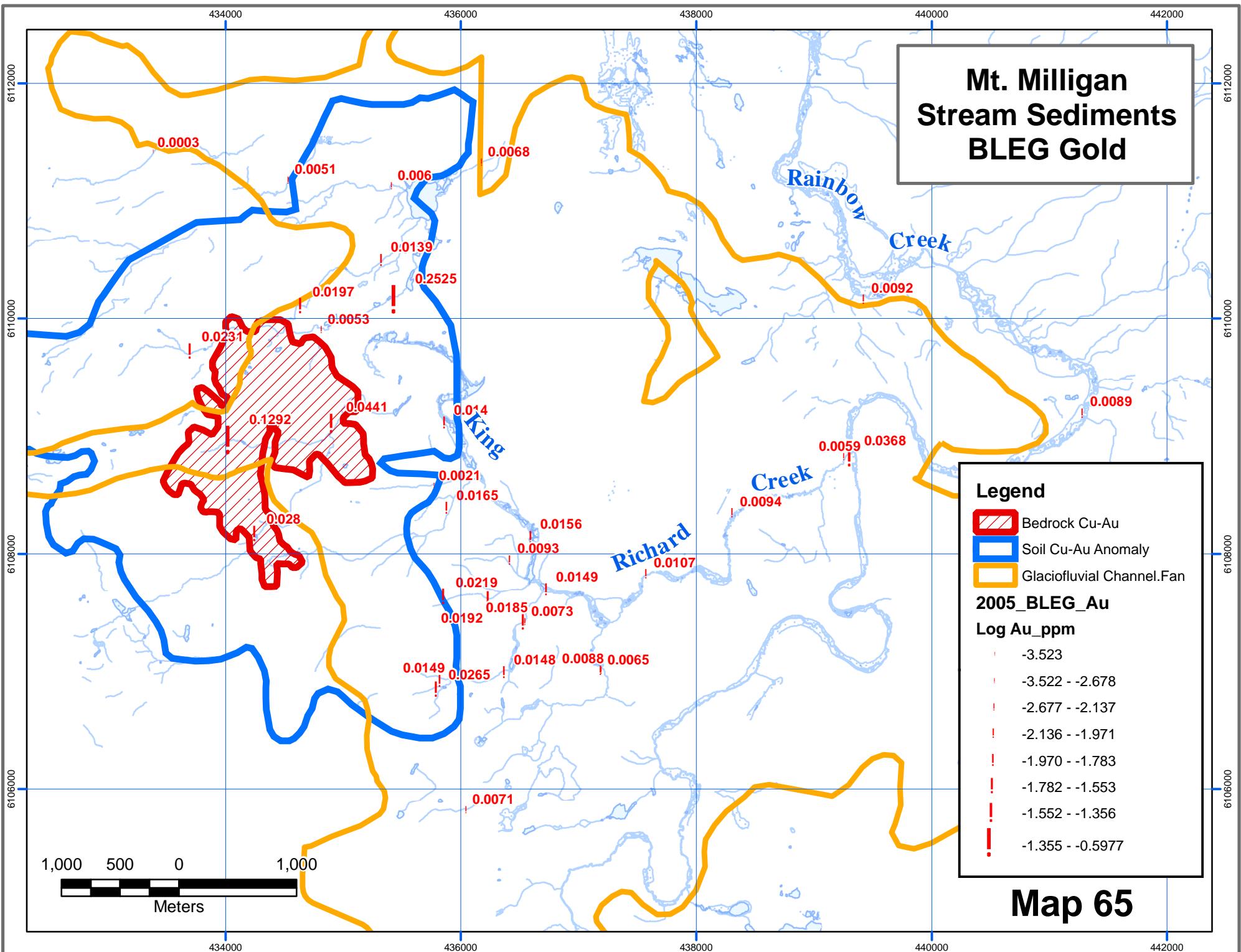
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_BLEG\_Au**

**Log Au\_ppm**

- |                  |
|------------------|
| -3.523           |
| -3.522 - -2.678  |
| -2.677 - -2.137  |
| -2.136 - -1.971  |
| -1.970 - -1.783  |
| -1.782 - -1.553  |
| -1.552 - -1.356  |
| -1.355 - -0.5977 |

**Map 65**



# Mt. Milligan Stream Sediments BLEG Gold

## Legend

- Glaciofluvial Channel.Fan
- Soil Cu-Au Anomaly
- Bedrock Cu-Au
- Drainage Divide

## 2005\_BLEG\_Au

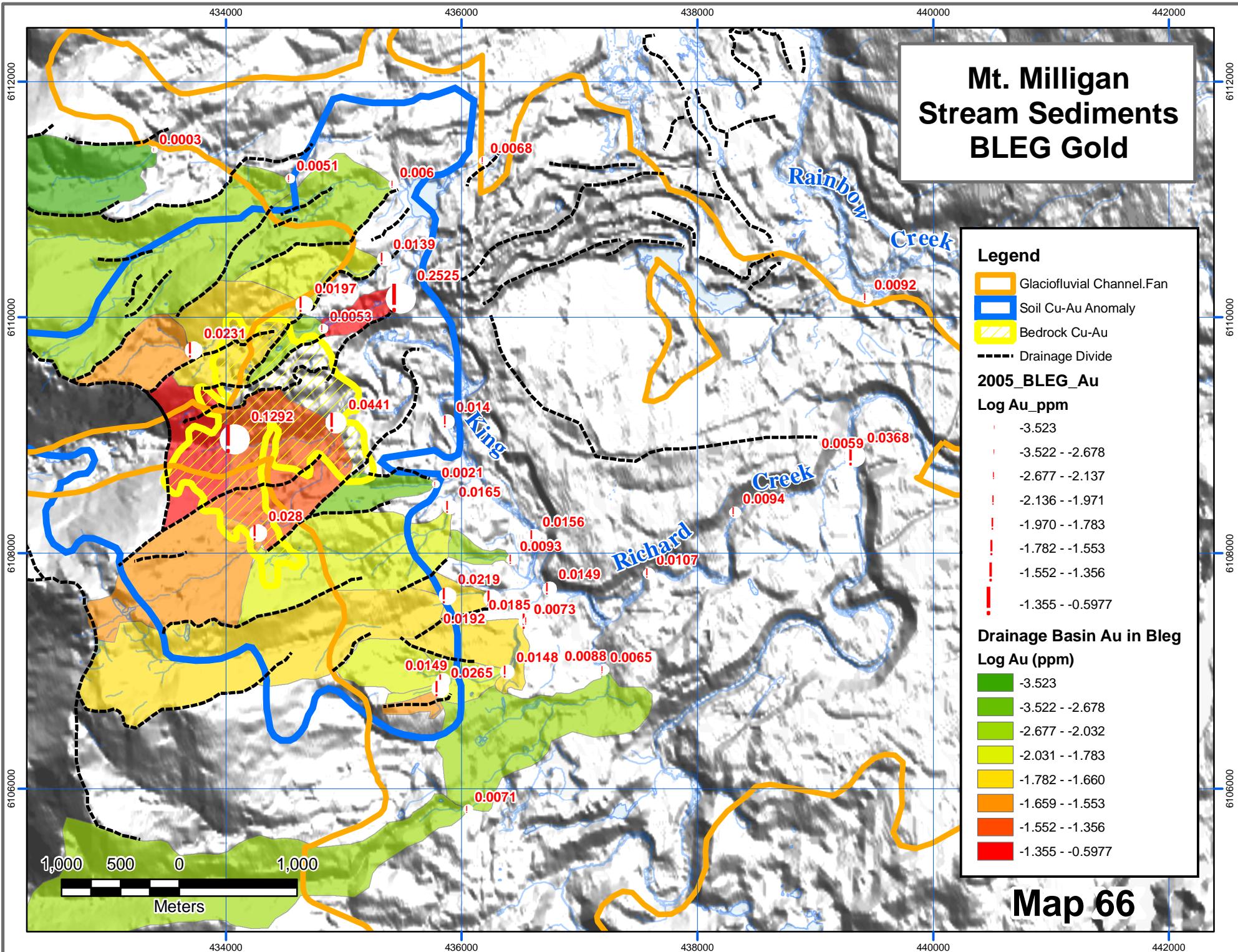
### Log Au\_ppm

- 3.523
- 3.522 - -2.678
- 2.677 - -2.137
- 2.136 - -1.971
- 1.970 - -1.783
- 1.782 - -1.553
- 1.552 - -1.356
- 1.355 - -0.5977

### Drainage Basin Au in Bleg Log Au (ppm)

- |                  |
|------------------|
| -3.523           |
| -3.522 - -2.678  |
| -2.677 - -2.032  |
| -2.031 - -1.783  |
| -1.782 - -1.660  |
| -1.659 - -1.553  |
| -1.552 - -1.356  |
| -1.355 - -0.5977 |

Map 66



**Mt. Milligan  
Stream Sediments  
BLEG Copper**

**Legend**

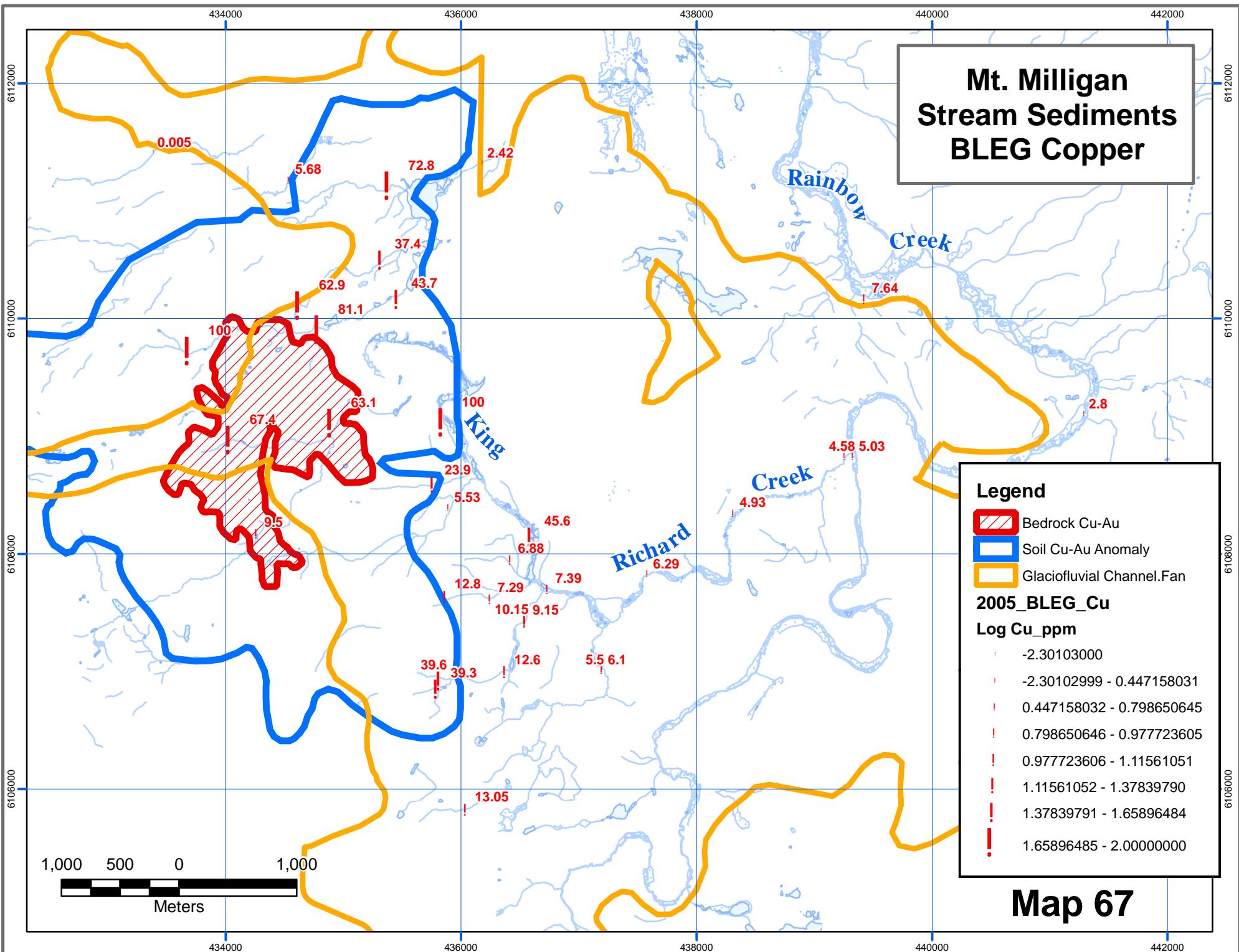
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005\_BLEG\_Cu**

**Log Cu\_ppm**

-2.30103000
-2.30102999 - 0.447158031
0.447158032 - 0.798650645
0.798650646 - 0.977723605
0.977723606 - 1.11561051
1.11561052 - 1.37839790
1.37839791 - 1.65896484
1.65896485 - 2.00000000

**Map 67**



# Mt. Milligan Stream Sediments BLEG Copper

## Legend

- Glaciofluvial Channel.Fan
- Soil Cu-Au Anomaly
- Bedrock Cu-Au
- Drainage Divide

## 2005\_BLEG\_Cu

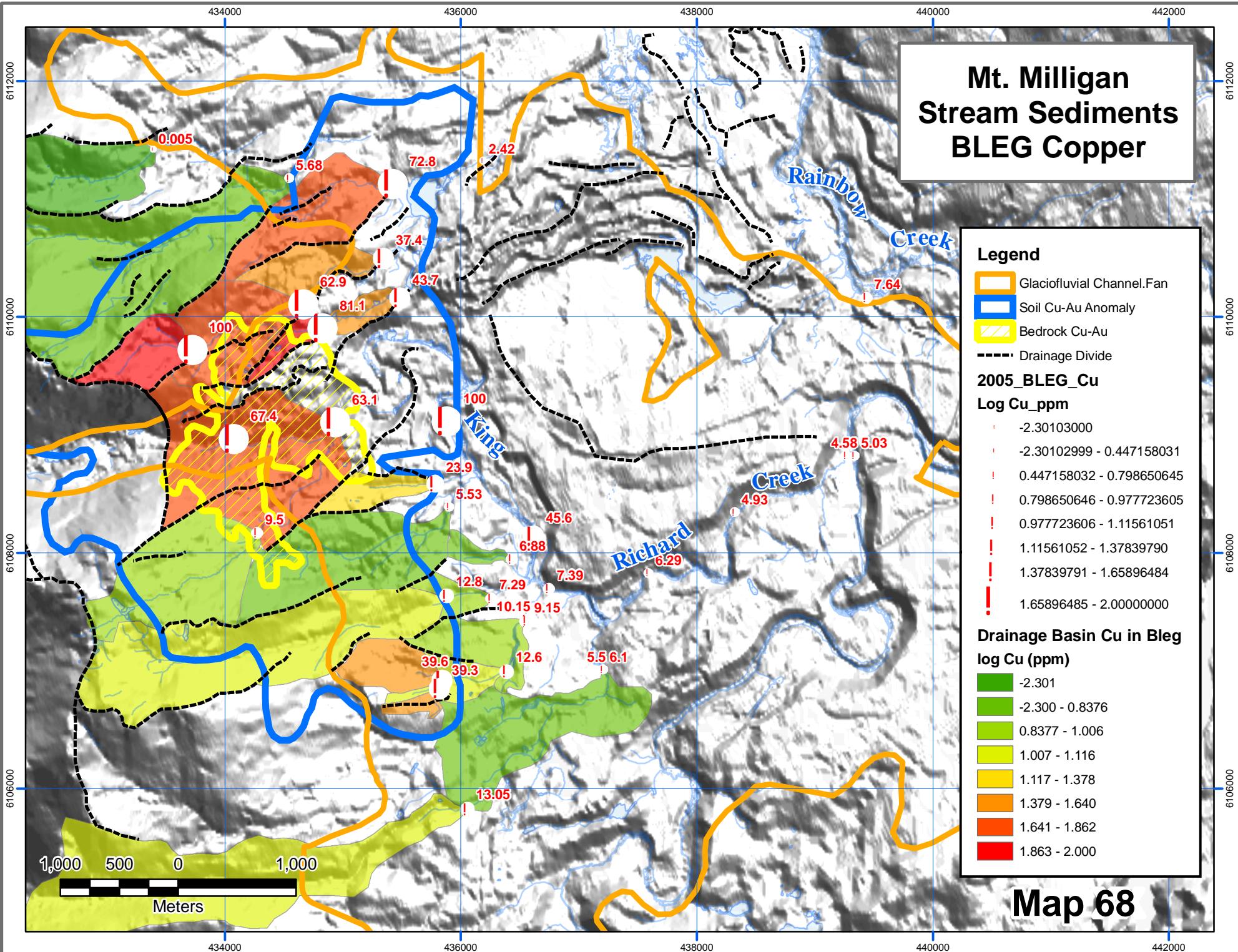
### Log Cu\_ppm

- |                           |
|---------------------------|
| -2.30103000               |
| -2.30102999 - 0.447158031 |
| 0.447158032 - 0.798650645 |
| 0.798650646 - 0.977723605 |
| 0.977723606 - 1.11561051  |
| 1.11561052 - 1.37839790   |
| 1.37839791 - 1.65896484   |
| 1.65896485 - 2.00000000   |

### Drainage Basin Cu in Bleg log Cu (ppm)

- |                 |
|-----------------|
| -2.301          |
| -2.300 - 0.8376 |
| 0.8377 - 1.006  |
| 1.007 - 1.116   |
| 1.117 - 1.378   |
| 1.379 - 1.640   |
| 1.641 - 1.862   |
| 1.863 - 2.000   |

Map 68



**Mt. Milligan  
Stream Sediments  
Copper in Water**

**Legend**

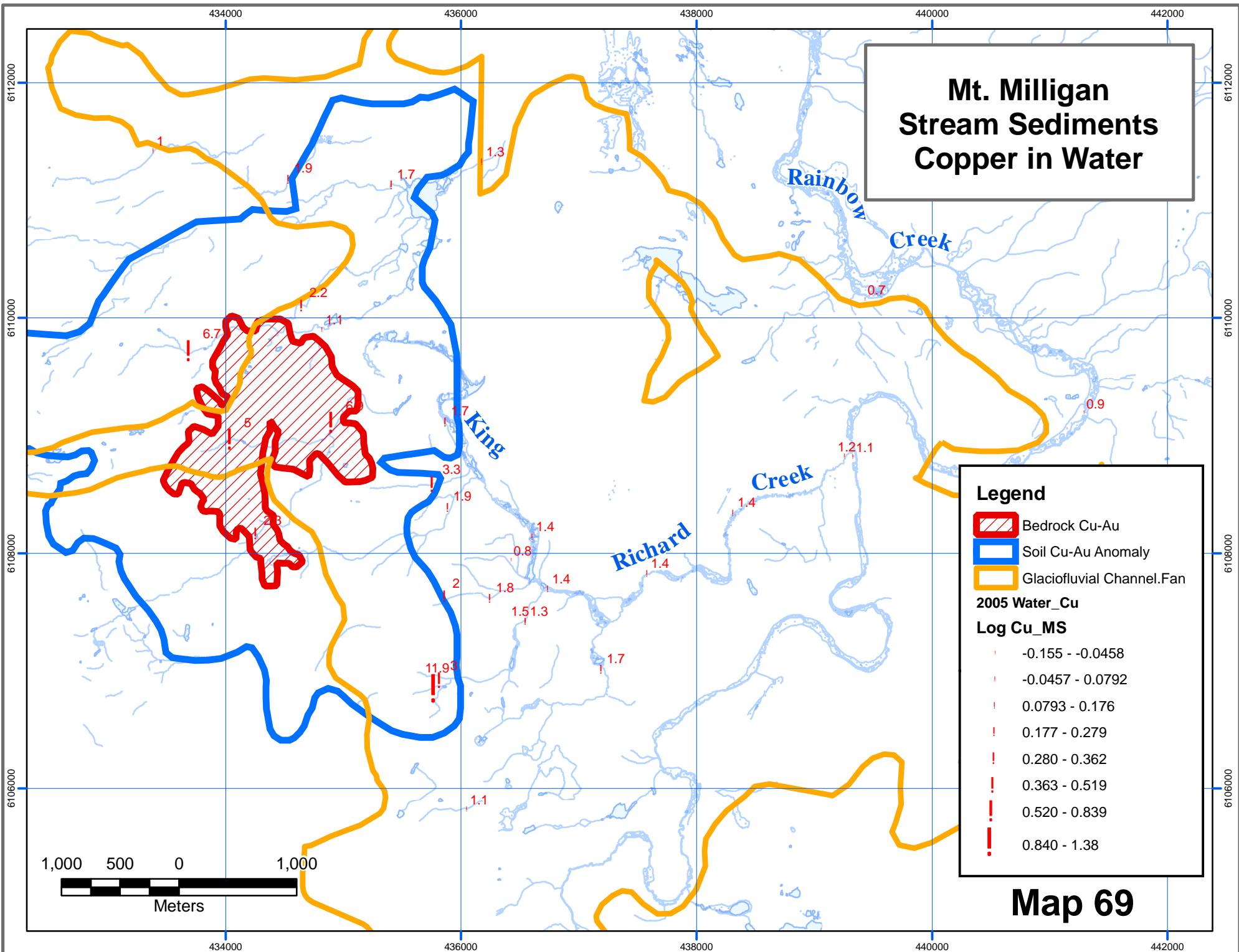
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005 Water\_Cu**

**Log Cu\_MS**

- |                  |
|------------------|
| -0.155 - -0.0458 |
| -0.0457 - 0.0792 |
| 0.0793 - 0.176   |
| 0.177 - 0.279    |
| 0.280 - 0.362    |
| 0.363 - 0.519    |
| 0.520 - 0.839    |
| 0.840 - 1.38     |

**Map 69**

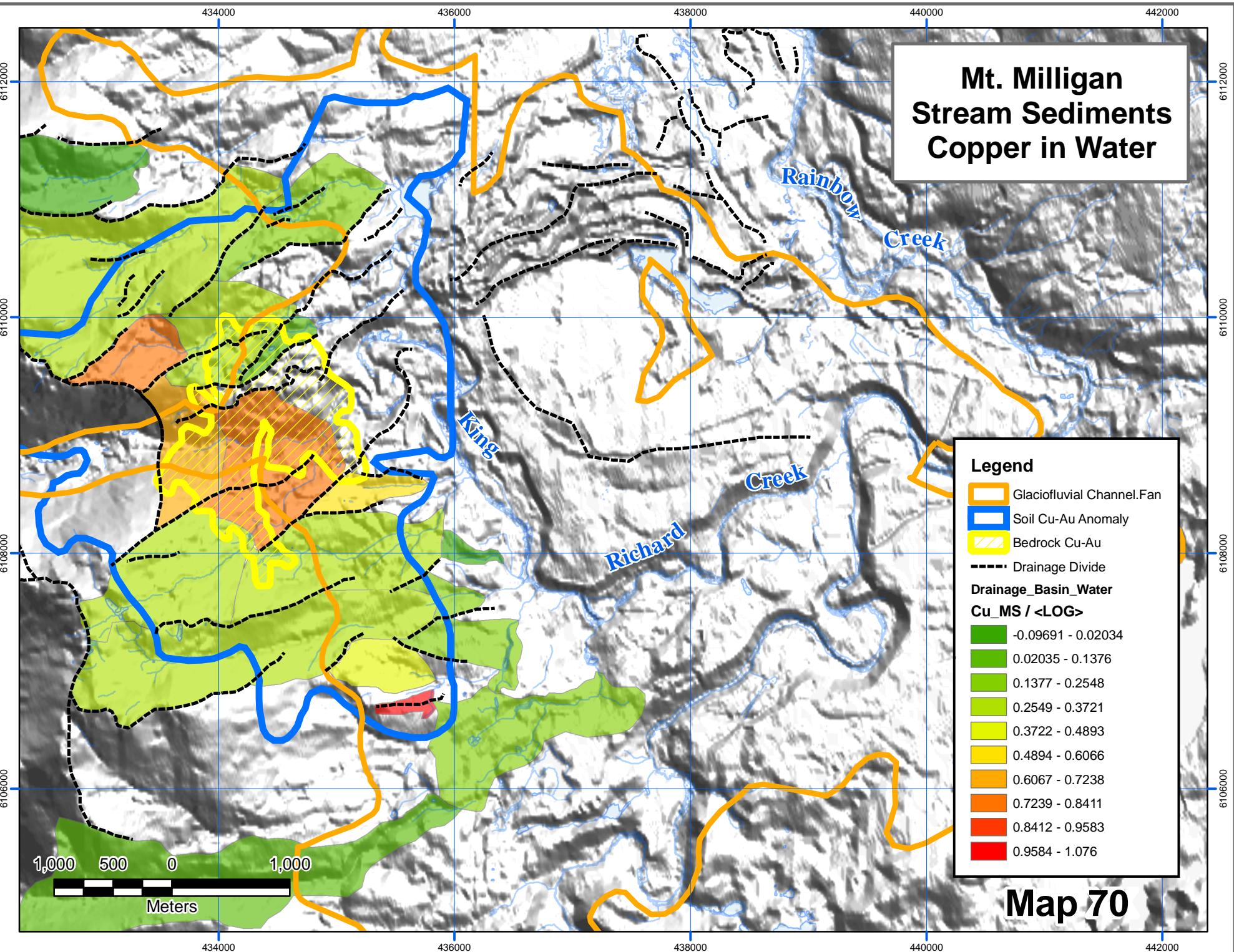


# Mt. Milligan Stream Sediments Copper in Water

## Legend

Glaciofluvial Channel.Fan
Soil Cu-Au Anomaly
Bedrock Cu-Au
Drainage Divide
Drainage_Basin_Water
Cu_MS / <LOG>
-0.09691 - 0.02034
0.02035 - 0.1376
0.1377 - 0.2548
0.2549 - 0.3721
0.3722 - 0.4893
0.4894 - 0.6066
0.6067 - 0.7238
0.7239 - 0.8411
0.8412 - 0.9583
0.9584 - 1.076

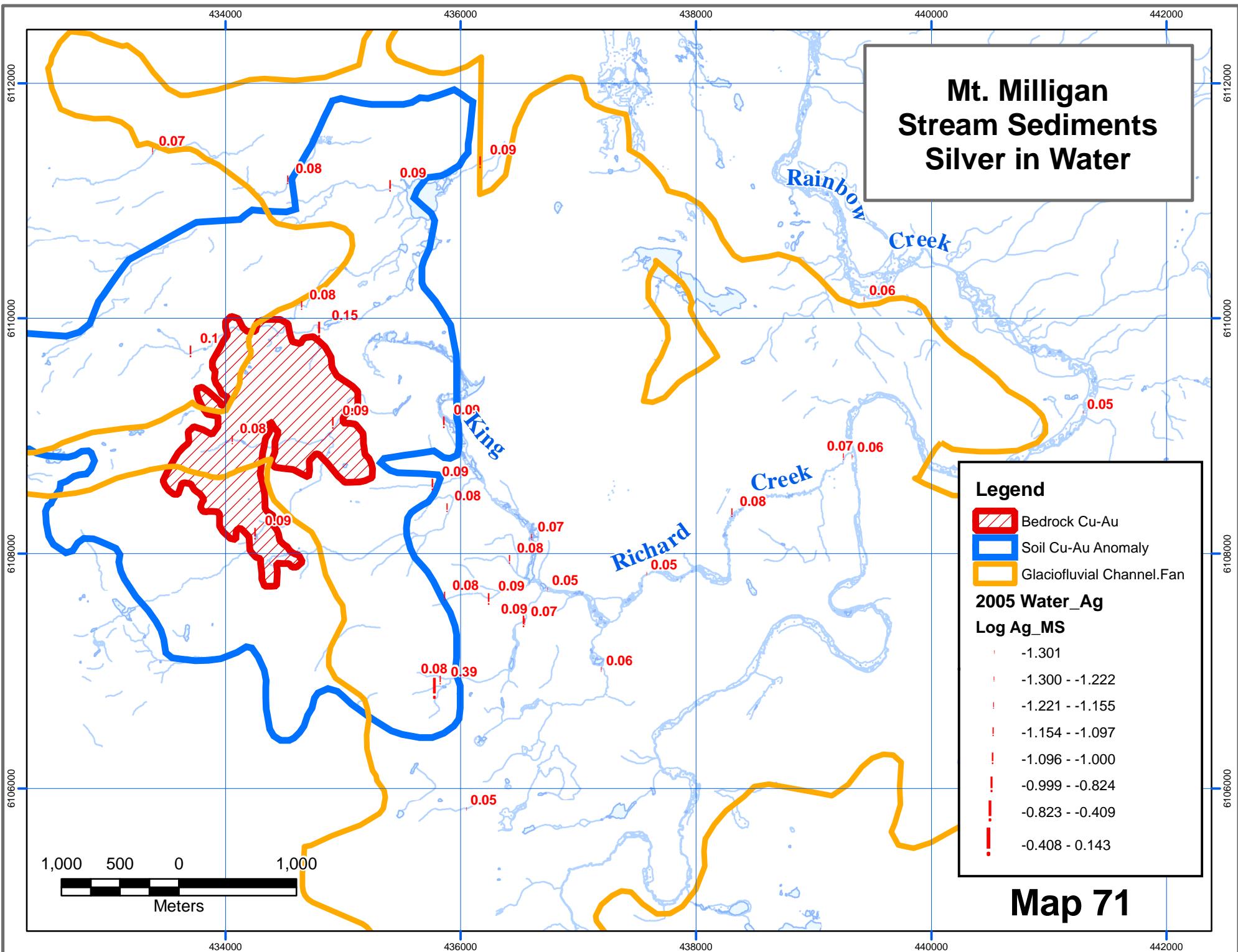
Map 70



**Mt. Milligan  
Stream Sediments  
Silver in Water**

Legend	
	Bedrock Cu-Au
	Soil Cu-Au Anomaly
	Glaciofluvial Channel.Fan
2005 Water_Ag	
Log Ag_MS	
-	-1.301
-	-1.300 - -1.222
-	-1.221 - -1.155
-	-1.154 - -1.097
-	-1.096 - -1.000
-	-0.999 - -0.824
-	-0.823 - -0.409
-	-0.408 - 0.143

**Map 71**



**Mt. Milligan  
Stream Sediments  
Nickel in Water**

**Legend**

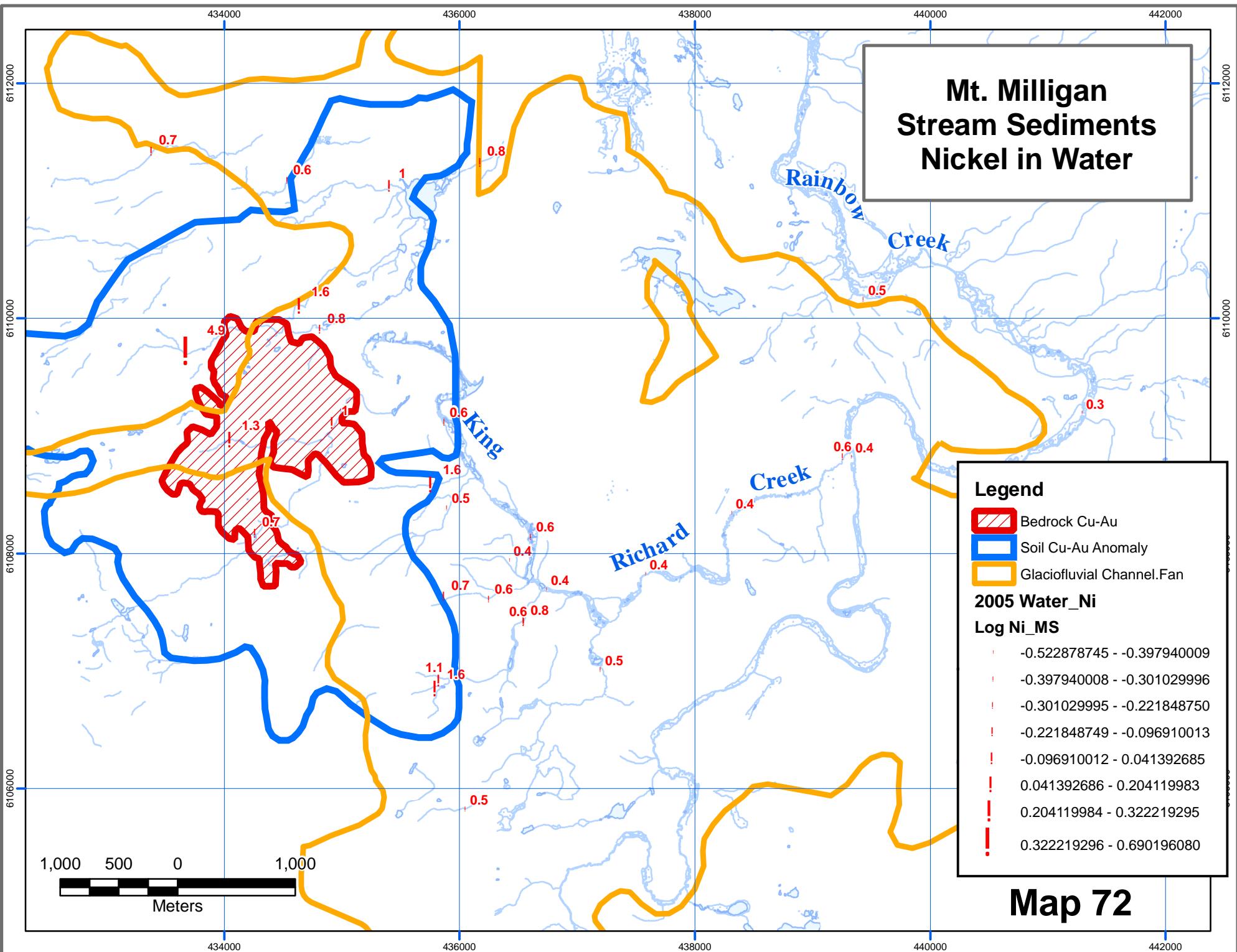
-  Bedrock Cu-Au
-  Soil Cu-Au Anomaly
-  Glaciofluvial Channel.Fan

**2005 Water\_Ni**

**Log Ni\_MS**

-0.522878745 - -0.397940009
-0.397940008 - -0.301029996
-0.301029995 - -0.221848750
! -0.221848749 - -0.096910013
! -0.096910012 - 0.041392685
0.041392686 - 0.204119983
0.204119984 - 0.322219295
0.322219296 - 0.690196080

**Map 72**



**Mt. Milligan  
Stream Sediments  
Water Factor 1  
Ca, Mg, Na, Sr**

**Legend**

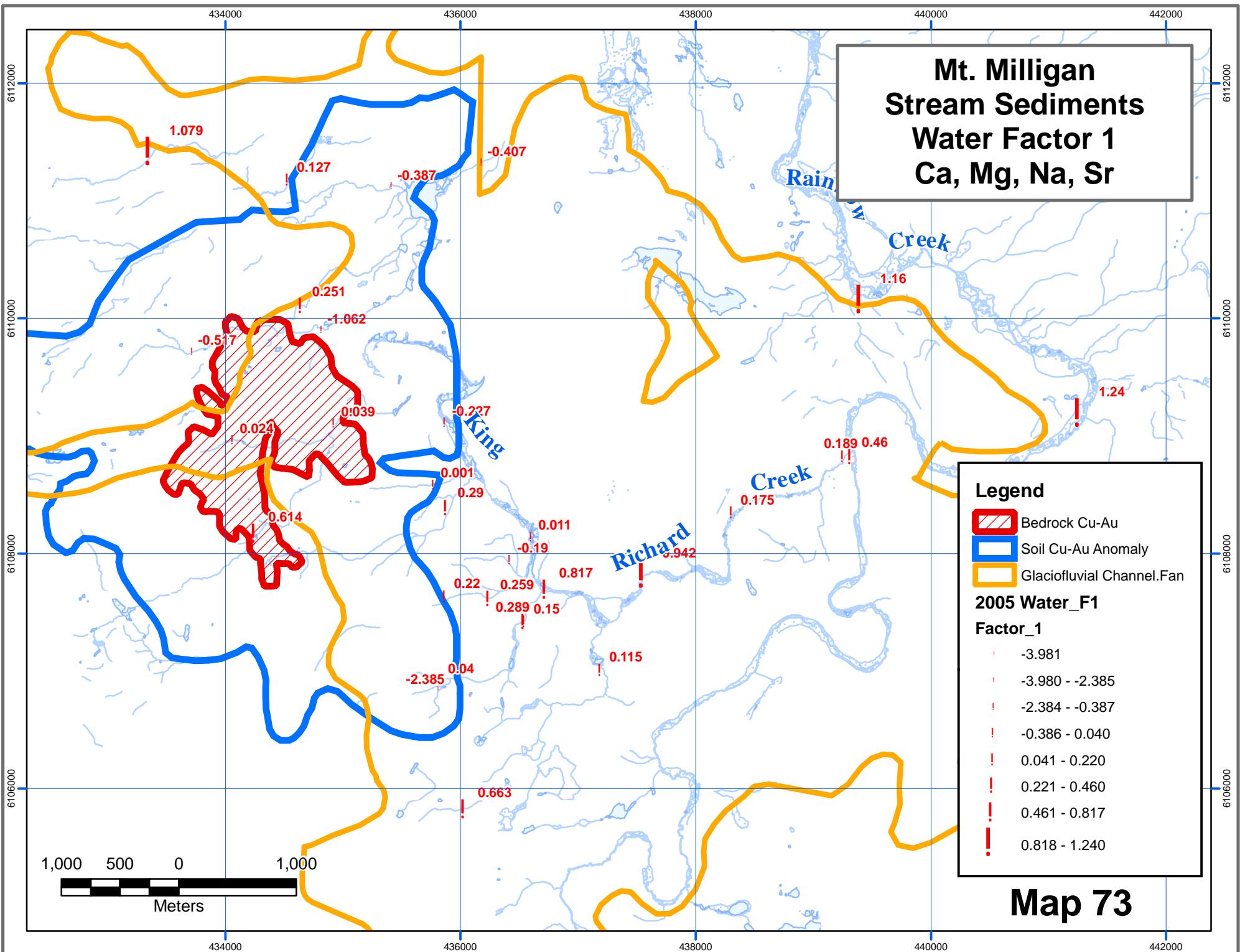
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005 Water\_F1**

**Factor\_1**

- 3.981
- 3.980 - -2.385
- 2.384 - -0.387
- 0.386 - -0.040
- 0.041 - 0.220
- 0.221 - 0.460
- 0.461 - 0.817
- 0.818 - 1.240

**Map 73**



**Mt. Milligan  
Stream Sediments  
Water Factor 2  
Ce, Fe, La, Mn, Na, Cs, Y, Cu**

**Legend**

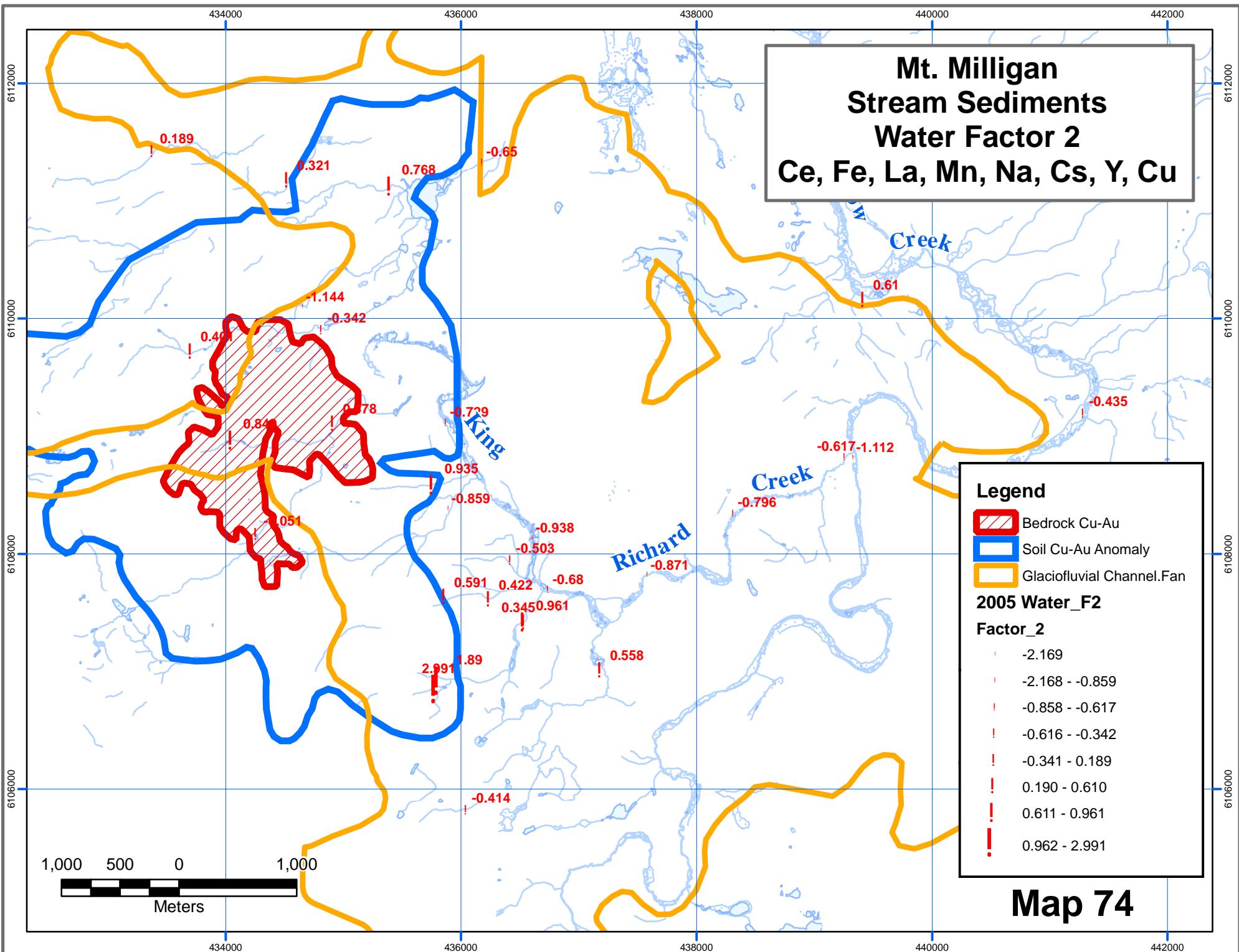
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005 Water\_F2**

**Factor\_2**

- 2.169
- 2.168 - -0.859
- 0.858 - -0.617
- 0.616 - -0.342
- 0.341 - 0.189
- 0.190 - 0.610
- 0.611 - 0.961
- 0.962 - 2.991

**Map 74**



**Mt. Milligan  
Stream Sediments  
Water Factor 3  
As, Cr, V**

**Legend**

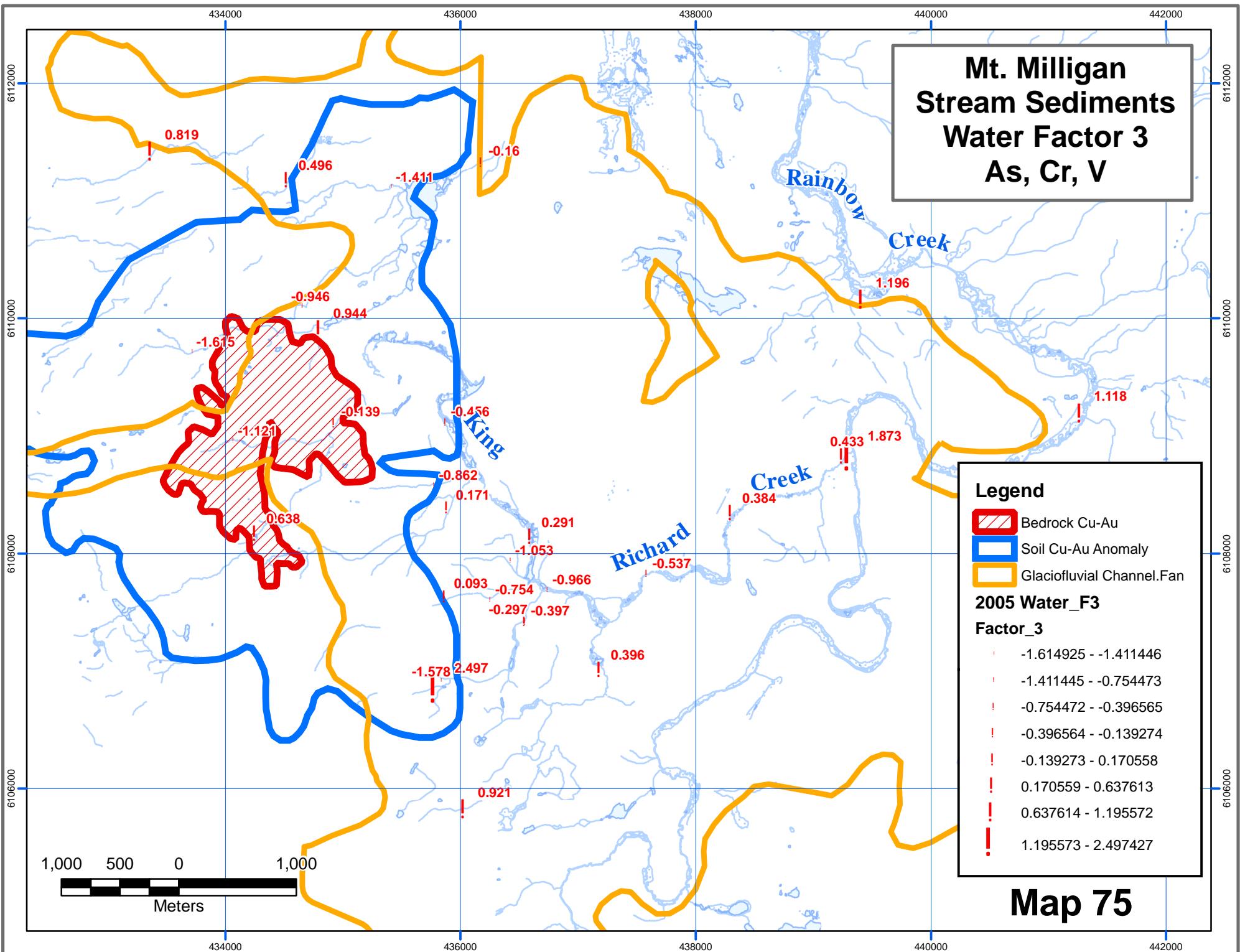
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005 Water\_F3**

**Factor\_3**

- 1.614925 - -1.411446
- 1.411445 - -0.754473
- 0.754472 - -0.396565
- 0.396564 - -0.139274
- 0.139273 - 0.170558
- 0.170559 - 0.637613
- 0.637614 - 1.195572
- 1.195573 - 2.497427

**Map 75**



**Mt. Milligan  
Stream Sediments  
Water Factor 4  
Ba, Fe, K, Mg, Rb, Sc**

**Legend**

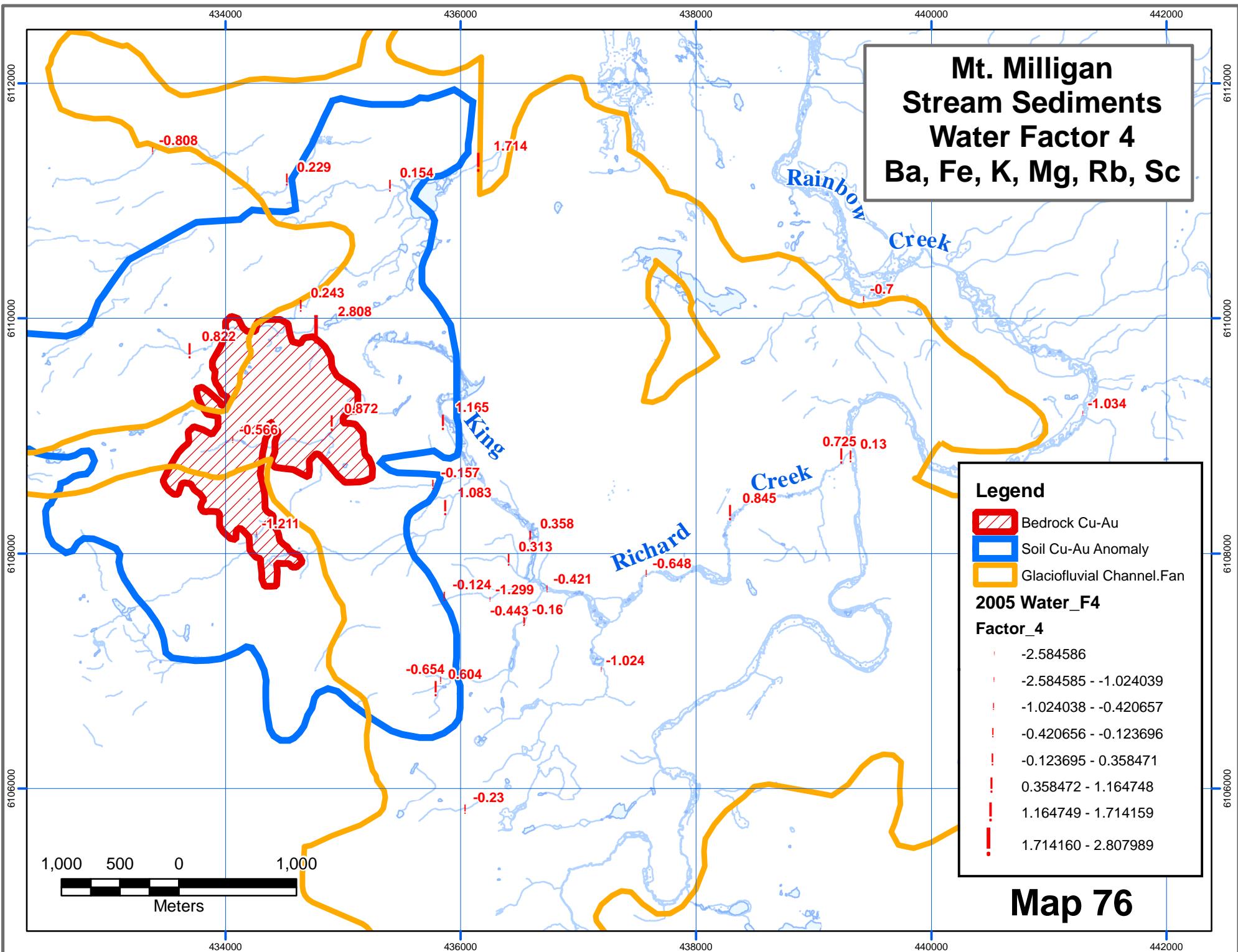
- Bedrock Cu-Au
- Soil Cu-Au Anomaly
- Glaciofluvial Channel.Fan

**2005 Water\_F4**

**Factor\_4**

- 2.584586
- 2.584585 - -1.024039
- 1.024038 - -0.420657
- 0.420656 - -0.123696
- 0.123695 - 0.358471
- 0.358472 - 1.164748
- 1.164749 - 1.714159
- 1.714160 - 2.807989

**Map 76**



**APPENDIX II**  
**Analytical Certificates**



**ALS Chemex**  
**EXCELLENCE IN ANALYTICAL CHEMISTRY**  
ALS Canada Ltd.

212 Brookbank Avenue  
North Vancouver BC V7J 2C1  
Phone: 604 964 0221 Fax: 604 964 0218 [www.alschemex.com](http://www.alschemex.com)

To: PLACER DOME INC.  
1600-1055 DUNSMUIR ST  
VANCOUVER BC V7X 1P1

Page: 1  
Finalized Date: 23-AUG-2005  
Account: QYY

**CERTIFICATE VA05057299**

Project: Mt. Milligan

P.O. No.:

This report is for 36 Stream Sediment samples submitted to our lab in Vancouver, BC, Canada on 20-JUL-2005.

The following have access to data associated with this certificate:

DARREN O BRIEN

**SAMPLE PREPARATION**

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-24	Pulp Login - Rod w/o Barcode
LOG-22	Sample login - Rod w/o BarCode
SCR-41	Screen to <180um and save both

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
Au-TL43	Trace Level Au - 25g AR	ICP-MS
ME-MS41	50 element aqua regia ICP-MS	

To: PLACER DOME INC.  
ATTN: DARREN O BRIEN  
1600-1055 DUNSMUIR ST  
VANCOUVER BC V7X 1P1

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:



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Page: 2 - A  
Total # Pages: 2 (A - D)  
Finalized Date: 23-AUG-2005  
Account: QYY

Project: Mt. Milligan

**CERTIFICATE OF ANALYSIS VA05057299**

Sample Description	Method Analyte Units Lot	ME-21	Au-TL43	ME-MS41													
	Revd. Wt.	Au	Au	Ag	Ag	As	As	B	Ba	Ba	Bi	Cd	Cd	Co	Cr	Cs	
	Ig	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
	0.02	0.004	0.01	0.01	0.1	10	10	10	0.05	0.01	0.01	0.31	0.02	0.1	1	0.05	
B 373451		2.46	0.032	1.19	2.50	21.9	<10	190	0.92	0.14	1.08	0.60	21.40	20.5	81	1.23	
B 373452		2.26	0.015	1.21	1.32	16.9	<10	140	0.47	0.07	1.72	1.31	21.10	11.6	30	0.29	
B 373453		1.62	0.094	0.30	1.04	7.7	<10	100	0.16	0.07	1.10	0.46	7.43	12.6	35	1.04	
B 373454		0.64	0.015	0.74	1.58	19.6	<10	190	0.23	0.12	2.03	0.88	10.65	22.6	50	1.18	
B 373455		1.64	0.013	0.44	0.90	4.1	<10	80	0.30	0.18	1.40	0.77	27.10	5.9	28	0.05	
B 373456		2.26	0.010	1.12	2.44	7.7	<10	120	0.42	0.13	0.74	0.28	13.35	19.6	60	0.88	
B 373457		1.80	0.018	0.38	1.84	13.7	<10	140	0.35	0.13	1.09	0.63	15.40	22.1	65	0.83	
B 373458		2.80	0.058	0.17	1.46	18.3	<10	100	0.31	0.20	0.78	0.26	17.45	17.4	48	0.85	
B 373459		3.00	0.025	0.16	1.32	11.6	<10	90	0.26	0.14	0.70	0.21	14.65	13.7	41	0.58	
B 373460		3.92	0.010	0.22	2.03	13.0	<10	100	0.40	0.10	0.98	0.59	15.20	23.2	60	0.76	
B 373461		2.12	0.008	0.16	1.33	31.3	<10	770	0.25	0.06	0.85	1.42	13.40	52.1	52	0.56	
B 373462	<0.02	NSS	0.16	1.25	35.8	<10	750	0.28	0.07	0.79	1.41	12.00	57.0	45	0.59		
B 373463		1.72	0.017	0.47	0.59	13.8	<10	90	0.16	0.05	1.50	1.00	6.30	7.7	37	0.30	
B 373464		1.76	0.007	1.07	1.02	6.3	<10	150	0.51	0.07	1.98	0.45	21.00	7.6	20	0.37	
B 373465		2.56	0.013	0.22	1.87	9.1	<10	100	0.36	0.15	0.73	0.18	13.75	16.1	58	0.85	
B 373466		2.10	0.069	0.24	1.10	5.9	<10	100	0.20	0.05	0.98	0.23	10.60	7.8	29	0.52	
B 373467		1.90	0.012	0.33	1.30	7.0	<10	140	0.32	0.06	1.69	0.98	12.10	16.5	28	0.62	
B 373468		3.54	0.421	0.12	1.40	6.6	<10	110	0.17	0.03	0.92	0.20	11.65	13.0	39	0.56	
B 373469		1.48	0.025	1.69	0.98	33.3	<10	60	0.37	0.21	2.79	2.46	6.67	37.2	25	1.39	
B 373551		2.04	0.358	0.34	1.70	13.6	<10	120	0.34	0.22	0.61	1.15	15.10	42.7	64	1.20	
B 373552		1.58	0.048	0.21	1.86	35.8	<10	90	0.32	0.23	0.83	0.38	17.33	29.6	76	0.90	
B 373553		1.42	0.009	0.31	2.13	13.9	<10	110	0.55	0.08	1.34	0.69	17.85	21.8	88	2.11	
B 373554		1.82	0.010	0.10	1.84	7.2	<10	70	0.29	0.06	0.98	0.20	12.90	16.1	68	0.57	
B 373555		2.14	0.098	0.16	1.36	3.3	<10	110	0.19	0.06	0.65	0.12	11.40	9.3	34	0.59	
B 373556		1.34	0.004	0.10	1.82	5.2	<10	120	0.26	0.03	0.97	0.17	12.80	12.8	37	0.66	
B 373557		2.00	0.016	0.16	1.51	4.6	<10	140	0.23	0.06	0.86	0.06	15.75	10.0	51	0.66	
B 373558		2.00	0.118	0.97	1.45	6.6	<10	100	0.23	0.04	0.90	0.07	12.95	11.2	40	0.56	
B 373559		1.48	0.146	0.08	1.32	8.8	<10	100	0.23	0.03	0.64	0.10	12.35	11.3	36	0.52	
B 373560	<0.02	0.011	0.97	1.23	7.6	<10	100	0.18	0.02	0.76	0.08	9.58	9.9	33	0.59		
B 373561		1.76	0.009	0.10	1.48	4.9	<10	120	0.20	0.03	0.87	0.09	11.65	11.0	42	0.52	
B 373562		1.58	0.151	0.17	1.40	6.5	<10	100	0.25	0.07	1.07	0.27	11.45	11.6	39	0.75	
B 373563		2.30	0.070	0.22	1.80	13.4	<10	160	0.27	0.07	0.99	0.57	14.60	22.8	58	0.92	
B 373564		1.68	0.018	0.24	1.49	10.2	<10	110	0.32	0.06	0.98	0.31	14.00	14.2	47	0.71	
B 373565		1.68	0.009	0.22	1.46	10.6	<10	110	0.33	0.06	0.95	0.31	13.85	14.4	46	0.70	
B 373566		2.18	0.184	0.13	1.54	4.9	<10	150	0.26	0.04	0.86	0.10	12.45	11.7	45	0.66	
B 373567		1.92	0.109	0.33	1.70	18.2	<10	170	0.39	0.16	1.01	0.75	15.20	47.4	73	1.51	

Comments: NSS is non-sufficient sample.



**ALS Chemex**  
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Page: 2 - B  
Total # Pages: 2 (A - B)  
Finalized Date: 23-AUG-2005  
Account: QYY

Project: Mt. Milligan

**CERTIFICATE OF ANALYSIS VA05057299**

Sample Description	Method Analysis Units Lot#	ME-MS41															
		Cu	Fe	Ge	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni
		ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm							
		0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05	0.05
B 373451		376.0	4.35	4.38	0.10	0.06	0.47	0.025	0.07	16.0	20.9	0.55	2600	2.20	0.02	0.47	
B 373452		227.0	3.77	1.20	0.10	0.06	0.45	0.013	0.01	12.4	1.9	0.17	932	3.72	0.01	0.31	
B 373453		94.3	1.77	2.83	0.07	0.03	0.09	0.011	0.03	4.0	6.5	0.54	1310	1.18	0.01	0.59	
B 373454		95.4	6.17	3.22	0.09	0.03	0.14	0.015	0.06	5.3	8.3	0.69	6020	2.75	0.02	0.44	
B 373455		59.2	1.04	2.03	0.05	0.05	0.16	0.017	0.02	13.7	2.5	0.35	256	1.60	0.01	1.02	
B 373456		120.0	3.63	4.91	<0.05	<0.02	0.1*	0.021	0.05	6.5	7.7	0.81	882	1.74	0.01	0.46	
B 373457		115.5	4.01	5.42	0.06	0.04	0.09	0.019	0.08	7.9	11.6	1.32	2460	2.73	0.02	0.78	
B 373458		77.1	3.98	4.33	0.09	0.04	0.05	0.017	0.06	8.1	8.3	0.74	2070	4.41	0.02	0.77	
B 373459		74.4	3.09	3.92	0.06	0.05	0.05	0.015	0.06	6.6	7.3	0.88	1315	2.64	0.01	0.72	
B 373460		66.6	4.16	6.12	0.06	0.05	0.06	0.017	0.05	7.4	13.2	1.14	1220	1.64	0.01	0.96	
B 373461		58.4	8.07	4.59	0.12	0.04	0.06	0.013	0.06	6.1	5.9	0.51	36200	50.10	0.02	0.71	
B 373462		61.4	7.62	5.99	0.16	0.04	0.06	0.014	0.06	6.6	7.0	0.35	33800	53.70	0.02	0.72	
B 373463		359.0	1.01	1.25	0.06	0.03	0.29	0.008	0.01	4.8	2.0	0.16	413	3.95	0.01	0.30	
B 373464		81.8	1.51	2.00	0.05	0.04	0.29	0.013	0.02	16.0	2.3	0.26	1985	9.29	0.01	0.31	
B 373465		79.1	4.07	5.72	0.06	0.03	0.04	0.021	0.07	7.1	9.2	0.71	912	1.48	0.02	1.00	
B 373466		124.5	1.27	3.06	<0.05	0.02	0.11	0.011	0.03	6.2	6.3	0.48	264	1.83	0.01	0.67	
B 373467		93.8	1.68	2.22	0.06	0.03	0.17	0.009	0.03	8.8	6.7	0.38	1330	2.47	0.01	0.36	
B 373468		30.6	3.14	4.58	0.07	0.04	0.04	0.014	0.05	6.0	9.7	0.61	1760	0.91	0.02	0.98	
B 373469		598.0	1.59	1.74	0.08	0.03	0.29	0.022	0.02	6.9	5.1	0.32	2460	2.02	0.01	0.26	
B 373551		219.0	5.43	5.34	0.10	0.03	0.23	0.023	0.07	7.5	10.1	0.86	3270	5.30	0.02	0.90	
B 373552		197.0	5.17	6.33	0.09	0.07	0.06	0.027	0.06	8.1	11.4	1.36	2050	7.90	0.01	0.87	
B 373553		95.6	3.95	6.68	0.08	0.05	0.11	0.023	0.06	9.4	19.0	1.14	1230	1.16	0.02	1.03	
B 373554		116.5	3.40	6.49	0.08	0.15	0.06	0.021	0.05	6.4	14.7	1.24	523	1.75	0.02	1.06	
B 373555		68.5	1.70	4.11	<0.05	0.03	0.07	0.013	0.04	6.2	8.6	0.79	312	0.54	0.01	0.75	
B 373556		43.9	2.86	5.30	0.05	0.05	0.06	0.015	0.04	6.6	10.6	0.92	780	0.76	0.02	0.93	
B 373557		46.5	2.07	4.57	0.06	0.07	0.07	0.017	0.04	8.3	9.5	0.71	273	0.43	0.02	0.87	
B 373558		34.6	2.19	5.10	0.07	0.06	0.05	0.014	0.06	6.8	13.6	0.87	315	0.96	0.02	1.04	
B 373559		29.4	2.48	4.74	0.08	0.06	0.04	0.013	0.04	6.2	10.0	0.79	676	0.72	0.02	0.90	
B 373560		27.9	2.14	4.20	0.08	0.05	0.03	0.011	0.03	5.7	9.3	0.66	613	0.71	0.02	0.78	
B 373561		24.5	2.19	4.80	0.06	0.05	0.04	0.014	0.04	6.1	11.4	0.87	431	0.31	0.02	0.69	
B 373562		37.0	2.51	4.35	0.07	0.03	0.06	0.013	0.06	6.5	10.8	0.75	695	0.62	0.02	0.82	
B 373563		51.6	4.28	5.39	0.09	0.04	0.06	0.016	0.06	7.2	12.0	1.04	2110	2.12	0.02	0.85	
B 373564		53.2	2.98	4.43	0.05	0.03	0.10	0.017	0.04	7.8	9.0	0.66	1210	1.08	0.02	0.76	
B 373565		53.1	2.95	4.55	0.05	0.03	0.12	0.019	0.04	7.7	9.2	0.65	1230	1.10	0.02	0.73	
B 373566		33.9	2.20	5.30	0.06	0.05	0.07	0.015	0.04	6.5	11.4	0.83	461	0.38	0.02	0.84	
B 373567		532.0	6.78	6.26	0.14	0.04	0.11	0.034	0.23	6.2	10.8	1.05	4180	9.15	0.02	0.77	

Comments: NSS is non-sufficient sample.



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Project: Mt. Milligan

**CERTIFICATE OF ANALYSIS VA05057299**

Sample Description	Method Analyte Unit Limit	ME-MS41															
		N	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Tl	Tl
		ppm	ppm	ppm	ppm	ppm	%	ppm	%								
B 373451		56.3	1730	8.9	12.5	0.009	0.12	0.85	13.4	3.3	0.5	58.3	0.01	0.12	0.4	0.058	
B 373452		25.7	2130	3.6	2.2	0.072	1.12	0.68	3.0	13.0	0.3	79.2	0.01	0.08	0.2	0.010	
B 373453		53.9	830	2.8	4.3	0.031	0.48	0.48	3.4	5.1	0.2	42.7	<0.01	0.05	0.3	0.068	
B 373454		51.4	1580	4.1	6.3	0.028	0.20	0.58	3.4	5.0	0.3	77.2	<0.01	0.11	0.2	0.044	
B 373455		14.2	750	10.1	1.4	0.003	0.32	0.80	2.9	1.6	0.9	46.8	0.02	0.05	1.2	0.024	
B 373456		25.4	1300	5.4	4.8	<0.001	0.05	0.39	3.3	0.9	0.3	38.3	<0.01	0.05	<0.2	0.062	
B 373457		40.2	1100	6.7	8.4	0.002	0.03	0.79	6.9	1.1	0.5	54.7	<0.01	0.07	0.7	0.116	
B 373458		25.7	1020	7.1	5.6	0.001	0.01	0.65	5.2	0.6	0.5	44.1	<0.01	0.11	1.2	0.114	
B 373459		23.7	970	5.3	4.8	0.001	0.01	0.61	4.6	0.4	0.3	41.2	<0.01	0.09	1.0	0.114	
B 373460		34.6	1060	7.1	7.7	0.002	0.03	0.63	6.3	0.9	0.4	50.4	<0.01	0.04	0.7	0.115	
B 373461		29.8	900	4.7	5.4	0.001	0.03	0.53	4.2	0.7	0.5	66.5	0.01	0.07	0.9	0.100	
B 373462		29.5	900	4.3	5.4	0.001	0.03	0.51	4.1	0.8	0.4	63.8	0.01	0.08	0.9	0.083	
B 373463		19.9	940	3.4	1.6	0.022	0.02	0.57	3.0	10.1	0.3	51.0	0.01	0.04	<0.2	0.017	
B 373464		9.5	1500	4.0	2.2	0.009	0.43	0.33	2.2	2.3	0.2	114.5	0.01	0.03	0.2	0.013	
B 373465		27.5	1010	6.0	9.8	<0.001	0.01	0.55	5.1	0.5	0.4	45.6	<0.01	0.07	1.0	0.124	
B 373466		16.6	890	2.6	2.7	0.007	0.27	0.30	3.9	2.9	0.2	45.3	<0.01	0.03	0.2	0.068	
B 373467		22.4	1410	3.0	3.9	0.017	0.48	0.45	2.5	4.8	0.2	76.3	<0.01	0.04	<0.2	0.023	
B 373468		25.9	1110	3.2	5.6	0.003	0.06	0.29	4.2	1.1	0.3	47.6	<0.01	0.02	0.6	0.114	
B 373469		176.0	1320	24.1	3.8	0.059	0.97	7.30	2.5	10.5	0.6	77.3	<0.01	0.08	<0.2	0.019	
B 373551		52.8	1170	7.4	9.0	0.008	0.06	0.98	5.6	1.8	0.4	46.7	<0.01	0.18	1.2	0.117	
B 373552		36.4	1120	15.8	7.9	0.002	0.01	1.80	6.2	12	0.7	49.4	<0.01	0.11	1.3	0.134	
B 373553		50.4	1220	7.4	11.0	0.002	0.05	0.81	6.8	1.9	0.5	79.6	<0.01	0.06	0.5	0.113	
B 373554		31.8	1040	4.9	4.8	0.003	0.03	0.42	7.3	1.1	0.4	47.6	<0.01	0.04	1.2	0.168	
B 373555		19.7	930	4.5	4.8	0.002	0.09	0.26	4.9	0.9	0.2	46.2	<0.01	0.03	0.5	0.095	
B 373556		23.0	1240	12.2	5.3	0.002	0.05	0.28	5.3	0.7	0.6	56.8	<0.01	0.01	0.9	0.124	
B 373557		19.8	1120	4.7	5.5	0.002	0.03	0.30	6.7	0.9	0.3	49.0	<0.01	0.01	1.2	0.118	
B 373558		23.1	1160	3.3	4.3	0.001	0.12	0.26	5.0	0.5	0.4	46.1	<0.01	0.02	1.0	0.144	
B 373559		20.9	1240	3.9	4.6	0.002	0.01	0.26	4.4	0.6	0.3	44.4	<0.01	0.02	0.9	0.123	
B 373560		17.7	1080	3.1	4.4	0.002	0.03	0.24	3.8	0.6	0.4	37.9	<0.01	0.02	0.6	0.102	
B 373561		20.4	1160	4.0	4.3	0.002	0.03	0.28	4.7	1.0	0.3	50.0	<0.01	0.02	0.6	0.116	
B 373562		20.9	770	4.7	7.9	0.001	0.04	0.30	4.1	0.7	0.3	61.1	<0.01	0.01	0.4	0.106	
B 373563		33.3	1130	6.8	8.0	0.003	0.04	0.35	5.3	0.9	0.3	50.3	<0.01	0.04	0.7	0.134	
B 373564		25.2	1020	4.3	5.9	0.001	0.06	0.42	5.7	1.3	0.3	54.0	<0.01	0.03	0.5	0.066	
B 373565		25.9	1000	4.4	5.7	0.002	0.06	0.42	5.8	1.2	0.3	54.5	<0.01	0.04	0.5	0.065	
B 373566		22.1	1160	4.4	5.4	0.002	0.04	0.29	5.5	0.8	0.3	51.3	<0.01	0.01	0.8	0.116	
B 373567		41.6	1400	8.9	20.5	0.010	0.18	1.30	8.1	2.7	0.6	66.1	<0.01	0.11	0.9	0.122	

Comments: NSS is non-sufficient sample.



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Page: 2 - D  
Total # Pages: 2 (A - D)  
Finalized Date: 23-AUG-2005  
Account: QYY

Project: Mt. Milligan

## CERTIFICATE OF ANALYSIS VA05057299

Sample Description	Method Analyte Units Lot#	ME-MS41	ME-WS41	ME-MS41	ME-WS41	ME-MS41	ME-WS41	ME-MS41	ME-WS41
		Tl	U	V	W	Y	Zn	Zr	
		ppm							
B 373451		0.17	1.84	114	0.35	52.00	98	0.9	
B 373452		0.14	0.70	92	0.35	22.80	49	1.0	
B 373453		0.13	0.30	45	0.22	5.56	53	0.7	
B 373454		0.15	0.32	80	0.20	8.26	104	0.6	
B 373455		0.13	3.08	27	0.46	14.20	49	0.7	
B 373456		0.09	0.63	90	0.19	5.99	52	<0.5	
B 373457		0.10	0.70	110	0.27	9.29	70	1.0	
B 373458		0.07	0.46	105	0.41	7.68	42	1.1	
B 373459		0.07	0.42	91	0.32	7.01	39	1.2	
B 373460		0.08	0.53	108	0.24	8.25	74	1.1	
B 373461		0.19	0.87	149	0.30	6.51	71	1.0	
B 373462		0.21	0.96	142	0.21	6.46	63	1.3	
B 373463		0.10	2.08	26	0.32	9.13	33	0.9	
B 373464		0.08	1.94	50	0.14	19.10	17	0.5	
B 373465		0.08	0.43	129	0.25	7.68	49	0.9	
B 373466		0.09	1.07	45	0.23	7.73	32	<0.5	
B 373467		0.14	1.18	41	0.13	13.70	36	<0.5	
B 373468		0.07	0.40	81	0.20	5.68	51	0.8	
B 373469		0.16	0.70	24	0.23	15.90	87	0.5	
B 373551		0.11	0.46	124	0.32	7.46	100	1.0	
B 373552		0.09	0.48	120	0.35	7.97	73	1.9	
B 373553		0.10	0.89	108	0.22	14.35	84	1.1	
B 373554		0.06	2.40	106	0.19	8.61	60	4.6	
B 373556		0.08	0.70	56	0.17	7.03	42	0.8	
B 373556		0.08	0.58	74	0.19	7.51	63	1.4	
B 373557		0.08	1.00	66	0.16	8.73	46	1.6	
B 373558		0.08	0.62	72	1.63	7.13	48	2.6	
B 373559		0.07	0.51	74	0.26	6.74	48	1.7	
B 373560		0.03	0.47	66	0.17	5.96	42	1.6	
B 373561		0.06	0.58	68	0.21	6.88	50	1.2	
B 373562		0.08	0.50	90	0.19	6.36	37	0.7	
B 373563		0.11	0.49	108	0.19	7.93	81	0.9	
B 373564		0.09	0.69	78	0.22	9.41	54	0.7	
B 373565		0.08	0.69	78	0.22	9.45	53	0.7	
B 373566		0.08	0.70	69	0.16	7.67	52	1.2	
B 373567		0.17	0.67	141	0.79	9.91	100	0.8	

Comments: NSS is non-sufficient sample.



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Page: 1  
Finalized Date: 2-SEP-2005  
Account: QYY

**CERTIFICATE VA05057298**

Project: Mt. Milligan

P.O. No.:

This report is for 36 Stream Sediment samples submitted to our lab in Vancouver, BC, Canada on 20-JUL-2005.

The following have access to data associated with this certificate:

GARY LUSTIG

DARREN O'BRIEN

**SAMPLE PREPARATION**

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
DRY-21	High Temperature Drying
SCR-45	Screen to -840um, discard plus
LOG-22	Sample login - Red w/o BarCode

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
AII-CN12	BLEG on 1 to 3Kg - bottle roll	ICP-MS

To: PLACER DOME INC.  
ATTN: DARREN O'BRIEN  
1600-1055 DUNSMUIR ST  
VANCOUVER BC V7X 1P1

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:



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Page: 2 - A  
Total # Pages: 2 (A)  
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**CERTIFICATE OF ANALYSIS VA05057298**

Sample Description	Method Analyte Units Lot#	WE-21 Recd wt.	Au-CH12 Au	Au-CH12 Cu
		kg	ppm	ppm
		0.42	0.0001	0.61
B 373401		13.98	0.2525	43.7
B 373402		8.70	0.0053	81.1
B 373403		9.50	0.0197	62.9
B 373404		6.68	0.0139	37.4
B 373405		10.42	0.0149	39.6
B 373406		10.06	0.0265	39.3
B 373407		7.80	0.0192	7.29
B 373408		13.14	0.0185	10.15
B 373409		12.20	0.0073	9.15
B 373410		12.24	0.0219	12.80
B 373411		10.16	0.0165	5.63
B 373412	Not Recd			
B 373413		8.34	0.0140	>100
B 373414		9.64	0.0021	23.9
B 373415		7.96	0.0093	6.88
B 373416		9.40	0.0156	45.6
B 373417		9.12	0.0060	72.8
B 373418		9.76	0.0068	2.42
B 373419		10.04	0.0231	>100
B 373501		6.16	0.1292	67.4
B 373502		7.10	0.0280	9.50
B 373503		7.30	0.0071	13.06
B 373504		8.94	0.0148	12.60
B 373505		8.38	0.0149	7.39
B 373506		7.92	0.0107	6.29
B 373507		7.28	0.0092	7.64
B 373508		7.18	0.0094	4.93
B 373509		7.72	0.0059	4.56
B 373510	Not Recd			
B 373511		7.58	0.0368	5.03
B 373512		7.00	0.0003	<0.01
B 373513		7.22	0.0051	5.68
B 373514		7.96	0.0088	5.90
B 373515		8.50	0.0035	6.10
B 373516		9.62	0.0088	2.80
B 373517		9.12	0.0441	63.1



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Page: 1  
Finalized Date: 9-AUG-2005  
Account: QYY

**CERTIFICATE VA05061060**

Project: Mr. Milligan-C48

P.O. No.:

This report is for 31 Solution samples submitted to our lab in Vancouver, BC, Canada on 26-JUL-2005.

The following have access to data associated with this certificate:

GARY LUSTIG

DARREN O BRIEN

**SAMPLE PREPARATION**

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rec w/o BarCode

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS14	Hydrogeochemistry ICP-MS	ICP-MS
ME-ICP14	Hydrogeochemistry ICP-AES	ICP-AES

To: PLACER DOME INC.  
ATTN: DARREN O BRIEN  
1600-1055 DUNSMUIR ST  
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:



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Project: Mr. Milligan-C48

**CERTIFICATE OF ANALYSIS VA05061060**

Sample Description	Method	ME-121	ME-MS14													
	Analyte	Recd Wt.	Ag	Al	As	B	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Dl	Ge
		kg	ug/L													
	Lot#	0.02	0.06	50	0.1	10	0.01	0.01	50	0.01	0.01	0.1	0.1	0.01	0.1	0.1
B373420		0.18	0.09	50	0.5	<10	8.57	0.1	<0.01	>1000	<0.01	0.05	<0.1	1.6	<0.01	3.3
B373421		0.16	0.08	<50	0.5	<10	7.64	<0.1	<0.01	>1000	<0.01	0.33	0.1	6.6	<0.01	2.0
B373422		0.16	0.08	50	0.6	<10	6.44	<0.1	<0.01	>1000	<0.01	0.33	<0.1	3.0	<0.01	1.5
B373423		0.16	0.07	50	0.3	<10	6.13	0.1	<0.01	>1000	<0.01	0.33	<0.1	3.2	<0.01	1.3
B373424		0.16	0.15	<50	0.5	<10	25.1	<0.1	<0.01	>1000	<0.01	0.02	<0.1	4.1	0.01	1.1
B373425		0.16	0.08	<50	0.4	<10	5.81	<0.1	<0.01	>1000	<0.01	0.01	<0.1	2.7	<0.01	1.3
B373426		0.16	0.08	120	<0.1	<10	7.24	0.1	<0.01	>1000	0.01	0.12	0.2	2.2	<0.01	3.0
B373427		0.16	0.09	<50	0.3	<10	7.93	<0.1	<0.01	>1000	<0.01	0.01	<0.1	2.5	<0.01	1.7
B373428		0.16	0.10	50	0.2	<10	4.61	<0.1	<0.01	>1000	0.01	0.02	0.1	2.5	0.02	6.7
B373429		0.16	0.08	<50	0.4	<10	4.83	<0.1	0.01	>1000	<0.01	0.01	<0.1	4.4	0.01	1.9
B373430		0.16	0.07	<50	0.8	<10	7.39	<0.1	<0.01	>1000	<0.01	0.01	<0.1	1.6	<0.01	1.4
B373431		0.16	1.39	<50	<0.1	<10	0.27	0.1	<0.01	143	0.05	<0.01	0.1	2.7	<0.01	24.2
B373432		0.16	0.08	<50	0.3	<10	11.60	0.1	<0.01	>1000	<0.01	<0.01	0.1	2.2	<0.01	2.2
B373433		0.16	0.09	60	0.1	<10	7.94	<0.1	<0.01	>1000	<0.01	0.04	0.1	1.0	<0.01	1.7
B373434		0.16	0.39	780	0.9	<10	11.20	0.1	<0.01	>1000	0.01	0.64	0.5	4.6	0.01	11.9
B373435		0.16	0.08	<50	0.6	<10	6.60	<0.1	<0.01	>1000	<0.01	0.02	<0.1	2.3	<0.01	1.8
B373436		0.16	0.08	50	0.2	<10	7.03	<0.1	<0.01	>1000	0.03	0.04	0.1	1.6	0.01	5.0
B373437		0.16	0.08	<50	<0.1	<10	5.13	<0.1	<0.01	>1000	<0.01	0.01	<0.1	2.4	<0.01	0.8
B373438		0.16	0.09	<50	0.7	<10	6.13	<0.1	<0.01	>1000	<0.01	0.01	0.1	3.9	<0.01	2.3
B373439		0.16	0.08	<50	0.3	<10	7.21	<0.1	<0.01	>1000	0.01	0.02	<0.1	2.5	0.01	6.9
B373440		0.16	0.07	<50	0.6	<10	8.59	<0.1	<0.01	>1000	<0.01	0.01	<0.1	2.6	<0.01	1.2
B373441		0.16	0.06	<50	0.9	<10	10.80	<0.1	<0.01	>1000	<0.01	0.06	<0.1	3.2	<0.01	0.7
B373442		0.16	0.08	50	0.5	<10	10.85	<0.1	<0.01	>1000	<0.01	0.03	0.1	2.4	<0.01	1.9
B373443		0.16	0.08	<50	0.4	<10	9.05	<0.1	<0.01	>1000	<0.01	<0.01	0.1	2.1	<0.01	1.4
B373444		0.16	0.07	<50	0.3	<10	12.55	<0.1	<0.01	>1000	<0.01	0.02	<0.1	2.4	<0.01	1.0
B373445		0.16	0.05	<50	0.4	<10	6.95	<0.1	<0.01	>1000	<0.01	0.01	<0.1	2.9	<0.01	1.1
B373446		0.16	0.05	<50	0.7	<10	9.34	<0.1	<0.01	>1000	<0.01	<0.01	0.1	3.1	<0.01	0.9
B373447		0.16	0.05	<50	0.4	<10	7.65	<0.1	<0.01	>1000	<0.01	<0.01	<0.1	2.3	<0.01	1.4
B373448		0.16	0.05	<50	0.4	<10	7.14	0.1	<0.01	>1000	<0.01	<0.01	<0.1	2.6	<0.01	1.4
B373449		0.16	0.06	<50	0.1	<10	6.96	<0.1	<0.01	>1000	<0.01	0.03	<0.1	2.2	<0.01	1.7
B373450		0.16	0.06	<50	0.9	<10	10.10	<0.1	<0.01	>1000	<0.01	0.01	<0.1	3.2	<0.01	1.1



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Project: Mr. Milligan-C48

**CERTIFICATE OF ANALYSIS VA05061060**

Sample Description	Method Analyte Units LDR	ME-MS14																
	Dy	ug/L	Er	ug/L	Eu	ug/L	Fe	ug/L	Ga	ug/L	Gd	ug/L	Hf	ug/L	Hg	ug/L	In	ug/L
	0.01	0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01	K	ug/L
B373420		0.02	0.02	0.09	60	<0.01	0.03	<0.01	<0.2	<0.01	0.03	210	0.06	<10	<0.05	>1000		
B373421		0.01	0.02	0.08	80	<0.01	0.02	<0.01	<0.2	<0.01	<0.01	190	0.03	<10	<0.05	>1000		
B373422		0.02	0.01	0.07	120	0.01	0.02	0.01	<0.2	<0.01	<0.01	210	0.03	<10	<0.05	>1000		
B373423		0.02	0.01	0.07	120	0.01	0.02	0.01	<0.2	<0.01	<0.01	200	0.04	<10	<0.05	>1000		
B373424		0.01	0.01	0.12	750	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	970	0.01	<10	<0.05	>1000		
B373425		<0.01	0.01	0.11	60	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	390	0.01	<10	<0.05	>1000		
B373426		0.04	0.03	0.08	180	<0.01	0.04	0.01	<0.2	0.01	<0.01	50	0.09	<10	<0.05	>1000		
B373427		<0.01	<0.01	0.09	60	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	320	0.01	<10	<0.05	>1000		
B373428		0.01	0.01	0.07	120	<0.01	0.02	0.01	<0.2	<0.01	<0.01	160	0.02	<10	<0.05	>1000		
B373429		<0.01	0.01	0.09	100	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	690	0.31	<10	<0.05	>1000		
B373430		<0.01	<0.01	0.10	60	0.01	0.02	0.01	<0.2	<0.01	<0.01	300	0.01	<10	<0.05	>1000		
B373431		<0.01	<0.01	0.04	10	<0.01	<0.01	0.01	<0.2	<0.01	<0.01	450	<0.01	<10	<0.05	24.3		
B373432		0.01	<0.01	0.05	90	0.01	0.02	<0.01	<0.2	<0.01	<0.01	180	0.31	<10	<0.05	>1000		
B373433		0.01	0.01	0.06	60	0.01	0.02	<0.01	<0.2	<0.01	<0.01	250	0.04	<10	<0.05	>1000		
B373434		0.15	0.06	0.13	810	0.09	0.16	0.03	<0.2	0.03	<0.01	370	0.44	<10	<0.05	>1000		
B373435		0.01	0.01	0.04	80	0.01	0.02	0.01	<0.2	<0.01	<0.01	150	0.04	<10	<0.05	>1000		
B373436		0.01	<0.01	0.10	60	0.01	0.01	<0.01	<0.2	<0.01	<0.01	160	0.03	<10	<0.05	>1000		
B373437		<0.01	<0.01	0.09	60	<0.01	0.01	0.01	<0.2	<0.01	<0.01	270	0.01	<10	<0.05	>1000		
B373438		0.01	0.01	0.06	100	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	110	0.01	<10	<0.05	>1000		
B373439		0.01	0.01	0.09	120	0.02	<0.01	<0.01	<0.2	<0.01	<0.01	360	0.02	<10	<0.05	>1000		
B373440		0.01	0.01	0.07	120	0.01	<0.01	0.01	<0.2	<0.01	<0.01	310	0.01	<10	<0.05	>1000		
B373441		0.01	0.01	0.09	90	<0.01	0.02	0.01	<0.2	<0.01	<0.01	440	0.06	<10	<0.05	>1000		
B373442		0.01	0.01	0.06	130	0.01	0.02	<0.01	<0.2	<0.01	<0.01	250	0.04	<10	<0.05	>1000		
B373443		<0.01	0.01	0.02	110	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	340	0.01	<10	<0.05	>1000		
B373444		0.01	0.01	0.06	80	<0.01	0.02	0.01	<0.2	<0.01	<0.01	250	0.03	<10	<0.05	>1000		
B373445		0.01	<0.01	0.07	60	0.01	<0.01	0.01	<0.2	<0.01	<0.01	240	0.01	<10	<0.05	>1000		
B373446		<0.01	0.01	0.03	70	0.01	0.01	<0.01	<0.2	<0.01	<0.01	360	0.01	<10	<0.05	>1000		
B373447		<0.01	<0.01	0.01	60	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	250	0.01	<10	<0.05	>1000		
B373448		<0.01	<0.01	0.12	60	<0.01	0.01	<0.01	<0.2	<0.01	<0.01	310	0.01	<10	<0.05	>1000		
B373449		0.02	0.01	0.06	100	0.01	0.02	<0.01	<0.2	<0.01	<0.01	170	0.05	<10	<0.05	>1000		
B373450		<0.01	<0.01	0.06	80	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	460	0.01	<10	<0.05	>1000		



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Project: Mr. Milligan-C48

**CERTIFICATE OF ANALYSIS VA05061060**

Sample Description	Method Analysis Units Lot#	ME-MS14 Mn	ME-MS14 Mo	ME-MS14 Na	ME-MS14 Nb	ME-MS14 Nd	ME-MS14 N	ME-MS14 F	ME-MS14 Pb	ME-MS14 Pr	ME-MS14 Rb	ME-MS14 Sb	ME-MS14 Sc	ME-MS14 Se	ME-MS14 Sm	ME-MS14 Sn
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		0.1	1	50	0.01	0.01	0.1	100	0.01	0.01	0.1	0.1	0.1	0.1	0.01	0.01
B373420		0.8	<1	>1000	<0.01	0.10	1.6	<100	0.06	0.01	0.2	<0.1	2.2	<0.1	0.01	<0.01
B373421		0.3	<1	>1000	<0.01	0.05	1.7	<100	<0.01	0.01	0.3	0.1	1.9	<0.1	0.01	0.04
B373422		1.9	1	>1000	<0.01	0.05	0.6	<100	0.11	0.01	0.2	<0.1	2.0	<0.1	0.02	0.07
B373423		0.4	1	>1000	<0.01	0.05	0.8	<100	<0.01	0.01	0.2	<0.1	2.1	<0.1	0.02	0.15
B373424		3.5	<1	>1000	<0.01	0.04	0.8	<100	0.02	<0.01	2.1	<0.1	2.3	<0.1	0.01	0.01
B373425		0.1	<1	>1000	<0.01	0.02	0.8	<100	<0.01	<0.01	0.6	<0.1	1.4	0.2	<0.01	0.01
B373426		10.9	<1	960	<0.01	0.16	1.1	<100	0.24	0.03	0.1	0.1	2.1	<0.1	0.04	0.05
B373427		1.0	<1	>1000	<0.01	0.03	0.6	<100	<0.01	<0.01	0.5	<0.1	1.9	0.3	0.01	0.07
B373428		16.1	<1	>1000	<0.01	0.04	4.9	<100	0.01	0.01	0.3	<0.1	2.4	0.2	0.01	0.01
B373429		3.3	<1	>1000	0.01	0.02	0.5	<100	<0.01	<0.01	0.9	<0.1	2.0	<0.1	<0.01	<0.01
B373430		0.3	<1	>1000	<0.01	0.01	0.6	<100	0.05	<0.01	0.4	<0.1	1.9	<0.1	<0.01	0.06
B373431		0.5	<1	<50	<0.01	<0.01	2.1	<100	0.97	<0.01	<0.1	<0.1	0.1	<0.1	0.01	<0.01
B373432		0.5	<1	>1000	<0.01	0.01	1.6	<100	0.01	<0.01	0.3	<0.1	1.9	0.1	0.01	0.03
B373433		3.3	<1	>1000	<0.01	0.05	1.0	<100	<0.01	0.01	0.4	<0.1	2.2	<0.1	<0.01	0.01
B373434		13.3	<1	690	0.03	0.58	1.6	100	0.25	0.14	0.4	0.1	2.5	<0.1	0.13	<0.01
B373435		1.7	<1	580	<0.01	0.06	0.6	<100	0.13	0.01	0.2	<0.1	1.4	0.2	0.02	0.03
B373436		2.1	<1	>1000	<0.01	0.04	1.3	<100	0.20	0.01	0.3	<0.1	2.2	<0.1	0.01	<0.01
B373437		0.6	<1	>1000	<0.01	0.02	0.4	<100	0.09	<0.01	0.1	<0.1	2.4	<0.1	0.01	<0.01
B373438		7.3	1	>1000	<0.01	0.03	0.7	<100	0.02	0.01	0.2	<0.1	1.2	0.2	0.01	<0.01
B373439		1.3	<1	>1000	<0.01	0.04	1.0	<100	0.34	0.01	0.7	0.1	2.0	<0.1	0.01	<0.01
B373440		0.4	<1	>1000	<0.01	0.01	0.6	<100	0.10	<0.01	0.4	<0.1	1.7	<0.1	0.01	0.01
B373441		0.5	1	>1000	<0.01	0.05	0.5	<100	0.46	0.01	0.3	0.1	1.7	<0.1	0.01	<0.01
B373442		3.4	<1	1000	<0.01	0.05	0.6	<100	0.34	0.01	0.3	<0.1	1.3	<0.1	0.01	0.01
B373443		0.8	<1	>1000	<0.01	0.02	0.4	<100	0.29	<0.01	0.4	<0.1	1.6	<0.1	<0.01	<0.01
B373444		0.3	<1	1000	<0.01	0.04	0.7	<100	0.06	0.01	0.3	<0.1	1.2	<0.1	0.01	0.04
B373445		0.1	<1	>1000	<0.01	0.04	0.5	<100	0.06	0.01	0.4	0.1	1.8	0.2	0.02	0.01
B373446		0.3	1	>1000	<0.01	0.02	0.3	<100	0.03	<0.01	0.2	0.1	1.4	<0.1	0.01	0.02
B373447		0.5	<1	>1000	<0.01	0.01	0.4	<100	0.03	<0.01	0.3	<0.1	1.4	<0.1	0.01	<0.01
B373448		0.1	<1	>1000	<0.01	0.02	0.4	<100	0.04	<0.01	0.4	<0.1	1.4	<0.1	0.02	<0.01
B373449		1.6	<1	820	<0.01	0.07	0.5	<100	0.09	0.02	0.2	<0.1	1.3	<0.1	0.01	<0.01
B373450		0.4	<1	>1000	<0.01	0.01	0.4	<100	0.16	<0.01	0.3	0.1	1.3	<0.1	<0.01	0.06



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Project: Mr. Milligan-C4B

**CERTIFICATE OF ANALYSIS VA05061060**

Sample Description	Method Analyte Units Lot	ME-MS14 Sr ug/L 0.01	ME-MS14 Ta ug/L 0.01	ME-MS14 Tb ug/L 0.01	ME-MS14 Te ug/L 0.1	ME-MS14 Th ug/L 0.01	ME-MS14 Tl ug/L 0.01	ME-MS14 Tm ug/L 0.01	ME-MS14 U ug/L 0.01	ME-MS14 V ug/L 0.1	ME-MS14 W ug/L 0.01	ME-MS14 Y ug/L 0.01	ME-MS14 Yb ug/L 0.01	ME-MS14 Zn ug/L 0.1	ME-MS14 Zr ug/L 0.1	ME-ICP14 Ag mg/L 0.01
B373420		33.7	<0.01	<0.01	3.2	0.01	0.01	<0.01	0.01	0.8	<0.01	0.14	0.01	1.5	0.1	<0.01
B373421		51.1	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	0.02	1.1	<0.01	0.10	0.01	0.7	0.1	<0.01
B373422		37.6	<0.01	<0.01	3.2	0.01	<0.01	<0.01	0.01	0.9	<0.01	0.08	0.01	4.3	0.1	<0.01
B373423		37.3	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	0.01	0.7	<0.01	0.11	0.01	3.1	0.1	<0.01
B373424		49.1	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	0.7	<0.01	0.06	<0.01	24.1	<0.1	<0.01
B373425		36.6	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	0.5	0.01	0.03	0.01	1.7	<0.1	<0.01
B373426		29.4	<0.01	0.01	<0.1	0.02	0.01	0.01	0.02	0.5	<0.01	0.27	0.03	2.6	0.2	<0.01
B373427		51.3	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.01	0.8	<0.01	0.02	0.01	1.2	<0.1	<0.01
B373428		44.3	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	<0.01	0.3	<0.01	0.09	<0.01	2.6	0.1	<0.01
B373429		52.2	0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	1.6	<0.01	0.03	0.01	0.5	<0.1	<0.01
B373430		51.3	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.01	0.6	<0.01	0.02	<0.01	1.4	<0.1	<0.01
B373431		0.46	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	12.8	<0.1	
B373432		60.3	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	0.7	<0.01	0.02	0.01	0.8	<0.1	<0.01
B373433		37.6	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	0.01	0.4	<0.01	0.10	0.01	0.7	<0.1	<0.01
B373434		24.2	<0.01	0.03	<0.1	0.12	<0.01	0.01	0.07	2.1	<0.01	0.80	0.08	2.7	1.0	<0.01
B373435		51.8	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	0.31	0.5	<0.01	0.10	0.01	1.4	0.1	<0.01
B373436		51.2	<0.01	<0.01	0.1	0.01	<0.01	<0.01	0.31	0.3	<0.01	0.09	0.01	6.4	0.1	<0.01
B373437		35.3	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.02	0.6	<0.01	0.03	<0.01	1.3	0.1	<0.01
B373438		74.6	<0.01	0.01	0.1	<0.01	<0.01	<0.01	0.01	0.6	0.01	0.05	<0.01	0.8	0.1	<0.01
B373439		57.8	0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.01	1.4	<0.01	0.08	0.01	1.3	0.1	<0.01
B373440		52.4	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.01	0.9	<0.01	0.04	<0.01	0.8	0.1	<0.01
B373441		80.2	0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.07	1.5	0.02	0.10	0.01	2.5	<0.1	<0.01
B373442		57.5	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	0.01	0.8	<0.01	0.10	0.01	1.1	0.1	<0.01
B373443		53.5	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.02	0.5	0.31	0.03	0.01	1.6	0.1	<0.01
B373444		86.3	<0.01	<0.01	<0.1	0.01	<0.01	<0.01	0.01	0.7	<0.01	0.07	0.01	2.9	0.1	<0.01
B373445		87.4	0.01	<0.01	0.1	<0.01	0.01	<0.01	0.02	1.8	<0.01	0.06	0.01	1.2	<0.1	<0.01
B373446		67.3	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.02	1.3	<0.01	0.04	0.01	1.4	<0.1	<0.01
B373447		52.1	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.01	1.0	<0.01	0.03	0.01	2.4	<0.1	<0.01
B373448		50.4	<0.01	<0.01	0.1	<0.01	0.01	<0.01	0.01	1.1	<0.01	0.03	0.01	1.3	<0.1	<0.01
B373449		42.9	<0.01	<0.01	0.1	0.01	<0.01	<0.01	0.01	0.7	<0.01	0.15	0.01	1.4	0.1	<0.01
B373450		83.1	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.03	1.0	0.01	0.02	<0.01	119.0	<0.1	<0.01



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Total # Pages: 2 (A - F)  
Finalized Date: 9-AUG-2005  
Account: QYY

Project: Mr. Milligan-C48

**CERTIFICATE OF ANALYSIS VA05061060**

Sample Description	Method Analyte Unit	ME-ICP14															
		Al	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Li	Mn	Mo	Na	Ni	P	
LOD	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
B373420	<1	<0.1	6.2	<0.001	<0.02	<0.02	<0.01	<1	<5	1.46	<0.01	<0.01	1	<0.01	<1	<1	
B373421	<1	<0.1	21.7	<0.001	<0.02	<0.02	<0.01	<1	<5	1.84	<0.01	<0.01	1	<0.01	<1	<1	
B373422	<1	<0.1	8.5	<0.001	<0.02	<0.02	<0.01	<1	<5	1.88	<0.01	<0.01	1	0.31	<1	<1	
B373423	<1	<0.1	11.1	<0.001	<0.02	<0.02	<0.01	<1	<5	2.18	<0.01	<0.01	1	<0.01	<1	<1	
B373424	<1	<0.1	11.0	<0.001	<0.02	<0.02	<0.01	1	<5	2.42	0.01	<0.01	1	<0.01	<1	<1	
B373425	<1	<0.1	12.9	<0.001	<0.02	<0.02	<0.01	<1	<5	2.07	<0.01	<0.01	1	<0.01	<1	<1	
B373426	<1	<0.1	10.3	<0.001	<0.02	<0.02	<0.01	<1	<5	2.12	0.01	<0.01	1	0.01	<1	<1	
B373427	<1	<0.1	16.7	<0.001	<0.02	<0.02	<0.01	<1	<5	2.46	<0.01	<0.01	1	0.01	<1	<1	
B373428	<1	<0.1	17.8	<0.001	<0.02	<0.02	<0.01	<1	<5	2.18	0.02	<0.01	1	<0.01	<1	<1	
B373429	<1	<0.1	14.6	<0.001	<0.02	<0.02	<0.01	<1	<5	2.25	0.01	<0.01	1	<0.01	<1	<1	
B373430	<1	<0.1	16.8	0.001	<0.02	<0.02	<0.01	<1	<5	2.50	<0.01	<0.01	1	<0.01	<1	<1	
B373431																	
B373432	<1	<0.1	21.5	<0.001	<0.02	<0.02	<0.01	<1	<5	2.50	<0.01	<0.01	1	0.01	<1	<1	
B373433	<1	<0.1	10.2	<0.001	<0.02	<0.02	<0.01	<1	<5	2.05	<0.01	<0.01	1	<0.01	<1	<1	
B373434	1	<0.1	5.8	<0.001	<0.02	<0.02	<0.01	1	<5	1.46	0.31	<0.01	1	<0.01	<1	<1	
B373435	<1	<0.1	21.2	<0.001	<0.02	<0.02	<0.01	<1	<5	1.82	<0.01	<0.01	1	<0.01	<1	<1	
B373436	<1	<0.1	15.7	0.001	<0.02	<0.02	0.02	<1	<5	2.14	<0.01	<0.01	1	<0.01	<1	<1	
B373437	<1	<0.1	10.4	<0.001	<0.02	<0.02	<0.01	<1	<5	2.23	<0.01	<0.01	1	<0.01	<1	<1	
B373438	<1	<0.1	27.6	<0.001	<0.02	<0.02	<0.01	<1	<5	2.01	<0.01	<0.01	1	<0.01	<1	<1	
B373439	<1	<0.1	18.4	<0.001	<0.02	<0.02	<0.01	<1	<5	2.37	<0.01	<0.01	1	0.02	<1	<1	
B373440	<1	<0.1	17.0	<0.001	<0.02	<0.02	<0.01	<1	<5	2.38	<0.01	<0.01	1	<0.01	<1	<1	
B373441	<1	<0.1	20.5	<0.001	<0.02	<0.02	<0.01	<1	<5	2.53	<0.01	<0.01	1	<0.01	<1	<1	
B373442	<1	<0.1	20.0	<0.001	<0.02	<0.02	0.01	<1	<5	1.86	<0.01	<0.01	1	<0.01	<1	<1	
B373443	<1	<0.1	17.3	<0.001	<0.02	<0.02	<0.01	<1	<5	2.44	<0.01	<0.01	1	<0.01	<1	<1	
B373444	<1	<0.1	23.0	<0.001	<0.02	<0.02	<0.01	<1	<5	2.20	<0.01	<0.01	1	<0.01	<1	<1	
B373445	<1	<0.1	24.0	<0.001	<0.02	<0.02	<0.01	<1	<5	2.12	<0.01	<0.01	1	<0.01	<1	<1	
B373446	<1	<0.1	17.7	<0.001	<0.02	<0.02	<0.01	<1	<5	2.13	<0.01	<0.01	1	<0.01	<1	<1	
B373447	<1	<0.1	17.6	<0.001	<0.02	<0.02	<0.01	<1	<5	2.40	<0.01	<0.01	1	<0.01	<1	<1	
B373448	<1	<0.1	15.9	<0.001	<0.02	<0.02	<0.01	<1	<5	2.23	<0.01	<0.01	1	<0.01	<1	<1	
B373449	<1	<0.1	14.5	<0.001	<0.02	<0.02	<0.01	<1	<5	1.86	<0.01	<0.01	1	<0.01	<1	<1	
B373450	<1	<0.1	20.3	<0.001	<0.02	<0.02	<0.01	<1	<5	2.35	<0.01	<0.01	1	<0.01	<1	<1	



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Project: Mr. Milligan-C48

**CERTIFICATE OF ANALYSIS VA05061060**

Sample Description	Method Analyte Units LOR	ME-ICP14 Pb mg/L	ME-ICP14 Sb mg/L	ME-ICP14 Sr mg/L	ME-ICP14 Ti mg/L	ME-ICP14 V mg/L	ME-ICP14 Zn mg/L
B373420		<0.05	<0.05	0.02	<1	<0.01	<0.01
B373421		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373422		<0.05	<0.05	0.02	<1	<0.01	<0.01
B373423		<0.05	<0.05	0.02	<1	<0.01	<0.01
B373424		<0.05	<0.05	0.04	<1	0.01	0.02
B373425		<0.05	<0.05	0.02	<1	<0.01	<0.01
B373426		<0.05	<0.05	0.01	<1	<0.01	<0.01
B373427		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373428		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373429		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373430		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373431		<0.05	<0.05	0.06	<1	<0.01	<0.01
B373432		<0.05	<0.05	0.03	<1	0.01	<0.01
B373433		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373434		<0.05	<0.05	0.01	<1	<0.01	<0.01
B373435		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373436		<0.05	<0.05	0.04	<1	0.01	<0.01
B373437		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373438		<0.05	<0.05	0.05	<1	0.01	<0.01
B373439		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373440		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373441		<0.05	<0.05	0.06	<1	<0.01	<0.01
B373442		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373443		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373444		<0.05	<0.05	0.08	<1	<0.01	<0.01
B373445		<0.05	<0.05	0.07	<1	<0.01	<0.01
B373446		<0.05	<0.05	0.05	<1	<0.01	<0.01
B373447		<0.05	<0.05	0.04	<1	<0.01	<0.01
B373448		<0.05	<0.05	0.03	<1	<0.01	<0.01
B373449		<0.05	<0.05	0.03	<1	0.01	<0.01
B373450		<0.05	<0.05	0.07	<1	0.01	0.11

**APPENDIX III**  
**Sample Descriptions**



**APPENDIX IV**  
**Descriptive Statistics**

**SILT**

## Silt - Statistics

XLSTAT 7.5.2 - Descriptive statistics - 9/2/2005 at 3:21:54 PM

Quantitative data description

Data: workbook = SILT\_load.xls / sheet = VA05057299 / range = \$B\$2:\$AX\$37 / 36 rows and 49 columns

Missing values in <Data> were ignored

Uniform weighting (default)

Confidence interval (%): 95.00

	Au_ppm	Ag_ppm	Al_pct	As_ppm	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Ce_ppm	C0_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Fe_pct	Ga_ppm	Ge_ppm	Hf_ppm
No. of values used	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	
No. of values ignored	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
No. of min. val.	1	2	1	1	2	2	1	1	1	1	1	1	1	1	1	1	3	
<b>% of min. val.</b>	<b>2.857</b>	<b>5.556</b>	<b>2.778</b>	<b>2.778</b>	<b>5.556</b>	<b>5.556</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>8.333</b>	<b>2.778</b>	
Minimum	0.004	0.070	0.590	3.300	60.000	0.160	0.020	0.700	0.060	6.300	5.900	20.000	0.050	24.500	1.010	1.200	0.025	
1st quartile	0.010	0.160	1.310	6.550	100.000	0.230	0.050	0.845	0.190	11.650	11.250	35.500	0.560	49.050	2.105	3.570	0.050	
Median	0.018	0.220	1.460	9.650	110.000	0.285	0.070	0.960	0.345	13.375	14.300	45.000	0.660	75.750	3.040	4.575	0.075	
3rd quartile	0.094	0.410	1.750	15.400	140.000	0.355	0.135	1.095	0.760	15.300	22.350	59.000	0.890	118.250	4.115	5.365	0.090	
Maximum	0.421	1.690	2.500	35.800	770.000	0.920	0.230	2.790	2.480	27.100	57.000	88.000	2.110	598.000	8.070	6.680	0.160	
Range	0.417	1.620	1.910	32.500	710.000	0.760	0.210	2.090	2.420	20.800	51.100	68.000	2.060	573.500	7.060	5.480	0.135	
Sum	2.230	14.000	54.270	459.300	5470.000	11.270	3.340	39.580	19.710	502.580	692.100	1703.000	27.480	4456.300	121.020	157.150	2.665	
<b>Mean</b>	<b>0.064</b>	<b>0.389</b>	<b>1.508</b>	<b>12.758</b>	<b>151.944</b>	<b>0.313</b>	<b>0.093</b>	<b>1.099</b>	<b>0.548</b>	<b>13.961</b>	<b>19.225</b>	<b>47.306</b>	<b>0.763</b>	<b>123.786</b>	<b>3.362</b>	<b>4.365</b>	<b>0.074</b>	
Geometric mean	0.029	0.260	1.453	10.383	124.728	0.291	0.076	1.036	0.358	13.370	16.218	44.602	0.665	84.082	2.939	4.027	0.068	
Harmonic mean	0.017	0.192	1.393	8.678	113.483	0.274	0.062	0.991	0.232	12.768	14.123	42.016	0.492	64.271	2.559	3.579	0.062	
Kurtosis (Pearson)	5.558	1.645	0.226	0.856	11.040	7.198	-0.484	3.888	3.142	1.296	1.460	-0.414	2.584	3.880	0.248	-0.596	0.946	
Skewness (Pearson)	2.393	1.637	0.388	1.345	3.482	2.298	0.878	1.985	1.661	0.834	1.542	0.615	1.328	2.141	0.935	-0.577	0.721	
Kurtosis	7.228	2.396	0.664	1.433	13.868	9.177	-0.203	5.135	4.224	1.971	2.171	-0.117	3.543	5.126	0.690	-0.340	1.543	
Skewness	2.612	1.783	0.422	1.464	3.792	2.503	0.956	2.162	1.809	0.908	1.679	0.670	1.446	2.332	1.019	-0.628	0.785	
<b>CV (standard deviation/mean)</b>	<b>1.489</b>	<b>1.037</b>	<b>0.268</b>	<b>0.706</b>	<b>1.004</b>	<b>0.449</b>	<b>0.645</b>	<b>0.407</b>	<b>0.948</b>	<b>0.300</b>	<b>0.669</b>	<b>0.350</b>	<b>0.500</b>	<b>1.104</b>	<b>0.531</b>	<b>0.343</b>	<b>0.391</b>	
Sample variance	0.009	0.158	0.159	78.852	22643.441	0.019	0.003	0.194	0.262	17.003	160.838	266.046	0.142	18162.155	3.095	2.182	0.001	
Estimated variance	0.009	0.163	0.164	81.105	23290.397	0.020	0.004	0.200	0.270	17.489	165.433	273.647	0.146	18681.073	3.184	2.244	0.001	
Sample standard deviation	0.094	0.398	0.399	8.880	150.477	0.139	0.059	0.441	0.512	4.123	12.682	16.311	0.377	134.767	1.759	1.477	0.029	
Estimated standard deviation	0.095	0.403	0.404	9.006	152.612	0.141	0.060	0.447	0.519	4.182	12.862	16.542	0.382	136.679	1.784	1.498	0.029	
Mean absolute deviation	0.064	0.298	0.303	6.740	72.685	0.092	0.050	0.313	0.390	2.983	9.382	13.262	0.271	91.234	1.392	1.147	0.022	
Median absolute deviation	0.009	0.105	0.220	4.100	15.000	0.055	0.030	0.125	0.245	1.825	4.700	11.000	0.140	35.300	1.000	0.790	0.015	
Standard-error	0.016	0.067	0.067	1.501	25.435	0.023	0.010	0.075	0.087	0.697	2.144	2.757	0.064	22.780	0.297	0.250	0.005	
Lower bound Mean CI	0.031	0.252	1.371	9.711	100.308	0.265	0.073	0.948	0.372	12.546	14.873	41.708	0.634	77.541	2.758	3.858	0.064	
Upper bound Mean CI	0.096	0.525	1.644	15.805	203.581	0.361	0.113	1.251	0.723	15.376	23.577	52.903	0.893	170.032	3.965	4.872	0.054	

## Silt - Correlation

XLSTAT 7.5.2 - Similarity/Dissimilarity Matrix (correlation...) - 9/5/2005 at 2:27:22 PM

Data: workbook = SILT\_Statistics.xls / sheet = Multi-Dataset / range = \$B\$2:\$AU\$37 / 36 rows and 46 columns

The calculations are made by crossing columns

Number of rows ignored by the calculations: 1

Pearson correlation coefficient (similarity within the interval [-1,+1])

Matrix (Pearson correlation coefficient):

	logAu_ppm	logAg_ppm	Al_pct	logAs_ppm	logBa_pct	logBe_ppm	logBi_ppm	logCa_pct	logCd_ppm	logCe_ppm	logCo_ppm	logCr_ppm	Cs_ppm	logCu_ppm	logFe_pct	Ga_ppm	logHg_ppm	logIn_ppm	logK_pct	logLa_ppm	Li_ppm	Mg_pct	logMn_ppm
logAu_ppm	1.000	-0.237	-0.080	-0.052	-0.105	-0.287	0.024	-0.260	-0.160	-0.157	0.071	0.039	0.113	-0.012	0.034	0.115	-0.141	0.034	0.283	-0.237	0.108	0.157	-0.041
logAg_ppm	-0.237	1.000	0.048	<b>0.382</b>	0.059	<b>0.588</b>	<b>0.549</b>	<b>0.708</b>	<b>0.745</b>	0.128	0.202	-0.119	0.242	<b>0.705</b>	-0.028	<b>-0.540</b>	<b>0.872</b>	0.143	-0.280	<b>0.474</b>	-0.283	<b>-0.504</b>	0.301
Al_pct	-0.080	0.048	1.000	0.216	0.192	<b>0.593</b>	0.288	<b>-0.347</b>	-0.059	<b>0.413</b>	<b>0.482</b>	<b>0.819</b>	<b>0.519</b>	0.086	<b>0.674</b>	<b>0.733</b>	-0.099	<b>0.671</b>	<b>0.655</b>	0.217	<b>0.782</b>	<b>0.663</b>	0.222
logAs_ppm	-0.052	<b>0.382</b>	0.216	1.000	0.289	<b>0.405</b>	<b>0.565</b>	0.239	<b>0.653</b>	0.026	<b>0.758</b>	<b>0.407</b>	<b>0.452</b>	<b>0.612</b>	<b>0.611</b>	0.059	0.311	<b>0.411</b>	0.244	0.093	0.099	0.067	<b>0.756</b>
logBa_pct	-0.105	0.059	0.192	0.289	1.000	0.125	-0.107	-0.080	0.210	0.159	<b>0.422</b>	0.233	0.080	-0.048	<b>0.531</b>	0.103	0.049	-0.050	0.282	0.059	0.060	-0.064	<b>0.661</b>
logBe_ppm	-0.287	<b>0.588</b>	<b>0.593</b>	<b>0.405</b>	0.125	1.000	<b>0.538</b>	0.247	<b>0.412</b>	<b>0.644</b>	<b>0.369</b>	<b>0.364</b>	<b>0.407</b>	<b>0.465</b>	<b>0.376</b>	0.144	<b>0.535</b>	<b>0.615</b>	0.189	<b>0.794</b>	<b>0.350</b>	0.049	0.312
logBi_ppm	0.024	<b>0.549</b>	0.288	<b>0.565</b>	-0.107	<b>0.538</b>	1.000	0.166	<b>0.550</b>	<b>0.348</b>	<b>0.523</b>	<b>0.355</b>	<b>0.392</b>	<b>0.647</b>	<b>0.363</b>	0.040	<b>0.389</b>	<b>0.639</b>	0.319	<b>0.351</b>	0.000	0.075	<b>0.397</b>
logCa_pct	-0.260	<b>0.708</b>	<b>-0.347</b>	0.239	-0.080	0.247	0.166	1.000	<b>0.652</b>	-0.111	0.000	<b>-0.410</b>	0.133	<b>0.438</b>	-0.273	<b>-0.634</b>	<b>0.692</b>	-0.136	<b>-0.490</b>	0.294	<b>-0.344</b>	<b>-0.503</b>	0.162
logCd_ppm	-0.160	<b>0.745</b>	-0.059	<b>0.653</b>	0.210	<b>0.412</b>	<b>0.550</b>	<b>0.652</b>	1.000	0.038	<b>0.522</b>	0.042	0.314	<b>0.696</b>	0.223	<b>-0.354</b>	<b>0.700</b>	0.150	-0.120	0.254	-0.236	-0.310	<b>0.609</b>
logCe_ppm	-0.157	0.128	<b>0.413</b>	0.026	0.159	<b>0.644</b>	<b>0.348</b>	-0.111	0.038	1.000	0.022	0.274	-0.059	-0.036	0.328	0.225	0.152	<b>0.445</b>	0.234	<b>0.831</b>	0.202	0.166	0.090
logCo_ppm	0.071	0.202	<b>0.482</b>	<b>0.758</b>	<b>0.422</b>	0.369	<b>0.523</b>	0.000	<b>0.522</b>	0.022	1.000	<b>0.605</b>	<b>0.653</b>	<b>0.454</b>	<b>0.793</b>	<b>0.441</b>	0.073	<b>0.612</b>	<b>0.619</b>	-0.046	0.332	<b>0.401</b>	<b>0.804</b>
logCr_ppm	0.039	-0.119	<b>0.819</b>	<b>0.407</b>	0.233	<b>0.364</b>	<b>0.355</b>	<b>-0.410</b>	0.042	0.274	<b>0.605</b>	1.000	<b>0.583</b>	0.195	<b>0.749</b>	<b>0.799</b>	-0.149	<b>0.693</b>	<b>0.741</b>	0.003	<b>0.757</b>	<b>0.734</b>	0.324
Cs_ppm	0.113	0.242	<b>0.519</b>	<b>0.452</b>	0.080	<b>0.407</b>	<b>0.392</b>	0.133	0.314	-0.059	<b>0.653</b>	<b>0.583</b>	1.000	<b>0.416</b>	<b>0.471</b>	<b>0.426</b>	0.142	<b>0.606</b>	<b>0.538</b>	-0.017	<b>0.578</b>	<b>0.405</b>	<b>0.405</b>
logCu_ppm	-0.012	<b>0.705</b>	0.086	<b>0.612</b>	-0.048	<b>0.465</b>	<b>0.647</b>	<b>0.438</b>	<b>0.696</b>	-0.036	<b>0.454</b>	0.195	<b>0.416</b>	1.000	0.147	-0.220	<b>0.727</b>	<b>0.402</b>	-0.007	0.242	-0.077	-0.187	0.314
logFe_pct	0.034	-0.028	<b>0.674</b>	<b>0.611</b>	<b>0.531</b>	<b>0.376</b>	<b>0.363</b>	-0.273	0.223	0.328	<b>0.793</b>	<b>0.749</b>	<b>0.471</b>	0.147	1.000	<b>0.617</b>	-0.141	<b>0.592</b>	<b>0.725</b>	0.037	<b>0.460</b>	<b>0.542</b>	<b>0.725</b>
Ga_ppm	0.115	<b>-0.540</b>	<b>0.733</b>	0.059	0.103	0.144	0.040	<b>-0.634</b>	<b>-0.354</b>	0.225	<b>0.441</b>	<b>0.799</b>	<b>0.426</b>	-0.220	<b>0.617</b>	1.000	<b>-0.582</b>	<b>0.605</b>	<b>0.808</b>	-0.128	<b>0.779</b>	<b>0.933</b>	0.119
logHg_ppm	-0.141	<b>0.872</b>	-0.099	0.311	0.049	<b>0.535</b>	<b>0.389</b>	<b>0.692</b>	<b>0.700</b>	0.152	0.073	-0.149	0.142	<b>0.727</b>	-0.141	<b>-0.582</b>	1.000	0.074	<b>-0.415</b>	<b>0.531</b>	-0.258	<b>-0.573</b>	0.166
logIn_ppm	0.034	0.143	<b>0.671</b>	<b>0.411</b>	-0.050	<b>0.615</b>	<b>0.639</b>	-0.136	0.150	<b>0.445</b>	<b>0.612</b>	<b>0.693</b>	<b>0.606</b>	<b>0.402</b>	<b>0.592</b>	<b>0.605</b>	0.074	1.000	<b>0.647</b>	<b>0.349</b>	<b>0.522</b>	<b>0.560</b>	0.300
logK_pct	0.283	-0.280	<b>0.655</b>	0.244	0.282	0.189	0.319	<b>-0.490</b>	-0.120	0.234	<b>0.619</b>	<b>0.741</b>	<b>0.538</b>	-0.007	<b>0.725</b>	<b>0.808</b>	<b>-0.415</b>	<b>0.647</b>	1.000	-0.064	<b>0.644</b>	<b>0.746</b>	<b>0.421</b>
logLa_ppm	-0.237	<b>0.474</b>	0.217	0.093	0.059	<b>0.794</b>	<b>0.351</b>	0.294	0.254	<b>0.831</b>	-0.046	0.003	-0.017	0.242	0.037	-0.128	<b>0.531</b>	<b>0.349</b>	-0.064	1.000	0.069	-0.189	0.058
Li_ppm	0.108	-0.283	<b>0.782</b>	0.099	0.060	<b>0.350</b>	0.000	<b>-0.344</b>	-0.236	0.202	0.332	<b>0.757</b>	<b>0.578</b>	-0.077	<b>0.460</b>	<b>0.779</b>	-0.258	<b>0.522</b>	<b>0.644</b>	0.069	1.000	<b>0.727</b>	0.063
Mg_pct	0.157	<b>-0.504</b>	<b>0.663</b>	0.067	-0.064	0.049	0.075	<b>-0.503</b>	-0.310	0.166	<b>0.401</b>	<b>0.734</b>	<b>0.405</b>	-0.187	<b>0.542</b>	<b>0.933</b>	<b>-0.573</b>	<b>0.560</b>	<b>0.746</b>	-0.189	<b>0.727</b>	1.000	0.058
logMn_ppm	-0.041	0.301	0.222	<b>0.756</b>	<b>0.661</b>	0.312	<b>0.397</b>	0.162	<b>0.609</b>	0.090	<b>0.804</b>	0.324	<b>0.405</b>	0.314	<b>0.725</b>	0.119	0.166	0.300	<b>0.421</b>	0.058	0.063	0.058	1.000
logMo_ppm	-0.126	<b>0.403</b>	-0.028	<b>0.693</b>	<b>0.485</b>	0.316	<b>0.509</b>	0.200	<b>0.673</b>	0.225	<b>0.555</b>	0.142	0.075	<b>0.548</b>	<b>0.447</b>	-0.113	<b>0.372</b>						

logMo_ppm	Nb_ppm	logNi_ppm	logP_ppm	logPb_ppm	logRb_ppm	logRe_ppm	logS_pct	logSb_ppm	logSc_ppm	logSe_ppm	logSn_ppm	logSr_ppm	logTe_ppm	Th_ppm	Ti_pct	logTi_ppm	logU_ppm	V_ppm	logW_ppm	logY_ppm	logZn_ppm	logZr_ppm
-0.126	0.209	0.126	-0.160	-0.113	0.236	0.041	-0.062	-0.037	0.117	-0.078	-0.157	-0.305	-0.023	0.095	0.273	0.019	<b>-0.366</b>	0.044	0.275	-0.278	0.070	0.044
<b>0.403</b>	<b>-0.782</b>	<b>0.352</b>	<b>0.502</b>	0.244	-0.148	<b>0.618</b>	<b>0.655</b>	<b>0.570</b>	-0.323	<b>0.747</b>	-0.023	<b>0.574</b>	<b>0.525</b>	<b>-0.500</b>	<b>-0.802</b>	<b>0.667</b>	0.295	-0.147	-0.091	<b>0.677</b>	0.050	<b>-0.645</b>
-0.028	0.292	0.311	0.326	0.317	<b>0.736</b>	<b>-0.384</b>	<b>-0.479</b>	0.075	<b>0.709</b>	-0.314	0.262	-0.106	0.238	-0.014	<b>0.451</b>	0.036	-0.170	<b>0.710</b>	0.009	0.146	<b>0.559</b>	0.143
<b>0.693</b>	-0.313	<b>0.666</b>	<b>0.337</b>	<b>0.472</b>	<b>0.349</b>	0.276	0.000	<b>0.763</b>	0.168	0.325	<b>0.441</b>	0.288	<b>0.738</b>	0.054	-0.089	<b>0.501</b>	-0.183	<b>0.494</b>	0.295	0.287	<b>0.517</b>	0.030
<b>0.485</b>	-0.170	-0.013	0.275	-0.176	0.275	-0.043	-0.061	-0.133	0.136	-0.048	-0.069	0.324	0.107	-0.167	0.011	<b>0.419</b>	-0.059	<b>0.487</b>	-0.026	0.057	0.194	-0.100
0.316	-0.191	0.290	<b>0.559</b>	<b>0.480</b>	<b>0.343</b>	0.065	0.051	<b>0.459</b>	<b>0.346</b>	0.173	<b>0.339</b>	<b>0.471</b>	<b>0.463</b>	-0.150	-0.186	<b>0.379</b>	0.281	<b>0.407</b>	0.104	<b>0.771</b>	0.266	-0.127
<b>0.509</b>	-0.150	<b>0.498</b>	0.066	<b>0.643</b>	0.284	0.118	0.004	<b>0.751</b>	0.124	0.197	<b>0.459</b>	0.122	<b>0.793</b>	0.182	-0.148	<b>0.504</b>	-0.004	<b>0.342</b>	0.297	0.308	<b>0.364</b>	-0.195
0.200	<b>-0.629</b>	0.306	<b>0.409</b>	0.159	<b>-0.353</b>	<b>0.768</b>	<b>0.780</b>	<b>0.461</b>	<b>-0.483</b>	<b>0.797</b>	-0.008	<b>0.789</b>	0.172	<b>-0.386</b>	<b>-0.738</b>	<b>0.517</b>	0.330	<b>-0.463</b>	-0.122	<b>0.569</b>	-0.009	<b>-0.350</b>
<b>0.673</b>	<b>-0.518</b>	<b>0.530</b>	0.253	<b>0.356</b>	-0.018	<b>0.607</b>	<b>0.546</b>	<b>0.706</b>	-0.224	<b>0.694</b>	0.247	<b>0.564</b>	<b>0.664</b>	-0.226	<b>-0.563</b>	<b>0.776</b>	0.182	0.097	0.068	<b>0.463</b>	0.341	<b>-0.410</b>
0.225	0.260	-0.257	0.257	0.250	0.152	-0.254	-0.224	0.008	<b>0.339</b>	-0.226	<b>0.348</b>	0.199	0.234	0.174	0.071	0.115	0.275	<b>0.420</b>	0.221	<b>0.463</b>	0.040	0.125
<b>0.555</b>	-0.009	<b>0.735</b>	0.264	<b>0.517</b>	<b>0.680</b>	0.055	-0.182	<b>0.624</b>	<b>0.345</b>	0.056	<b>0.425</b>	0.187	<b>0.609</b>	0.177	0.245	<b>0.490</b>	<b>-0.334</b>	<b>0.697</b>	0.185	0.026	<b>0.755</b>	0.019
0.142	<b>0.416</b>	<b>0.402</b>	0.074	0.322	<b>0.791</b>	<b>-0.344</b>	<b>-0.521</b>	0.196	<b>0.833</b>	-0.258	<b>0.404</b>	-0.194	<b>0.369</b>	0.249	<b>0.583</b>	0.113	-0.171	<b>0.802</b>	0.201	-0.013	<b>0.683</b>	<b>0.352</b>
0.075	0.024	<b>0.749</b>	0.249	<b>0.429</b>	<b>0.728</b>	0.132	-0.035	<b>0.499</b>	<b>0.462</b>	0.175	0.241	0.235	<b>0.406</b>	-0.123	0.170	<b>0.339</b>	-0.322	<b>0.385</b>	0.036	0.165	<b>0.675</b>	-0.075
<b>0.548</b>	<b>-0.537</b>	<b>0.571</b>	<b>0.359</b>	<b>0.449</b>	0.110	<b>0.606</b>	<b>0.487</b>	<b>0.794</b>	0.053	<b>0.697</b>	0.259	0.311	<b>0.706</b>	-0.100	<b>-0.407</b>	<b>0.617</b>	0.246	0.120	0.254	<b>0.531</b>	0.307	-0.239
<b>0.447</b>	0.209	<b>0.413</b>	0.327	0.271	<b>0.751</b>	-0.207	<b>-0.464</b>	0.255	<b>0.529</b>	-0.221	<b>0.343</b>	0.073	<b>0.506</b>	0.125	<b>0.446</b>	0.247	<b>-0.442</b>	<b>0.932</b>	0.195	-0.042	<b>0.652</b>	0.234
-0.113	<b>0.751</b>	0.152	-0.106	0.255	<b>0.780</b>	<b>-0.639</b>	<b>-0.759</b>	-0.103	<b>0.780</b>	<b>-0.651</b>	0.333	-0.321	-0.022	<b>0.390</b>	<b>0.892</b>	-0.281	-0.315	<b>0.726</b>	0.111	-0.331	<b>0.511</b>	<b>0.498</b>
<b>0.372</b>	<b>-0.712</b>	0.266	<b>0.490</b>	0.154	-0.255	<b>0.722</b>	<b>0.764</b>	<b>0.492</b>	-0.199	<b>0.824</b>	-0.023	<b>0.568</b>	<b>0.449</b>	<b>-0.402</b>	<b>-0.776</b>	<b>0.645</b>	<b>0.493</b>	-0.221	0.052	<b>0.781</b>	0.027	<b>-0.434</b>
0.179	0.298	<b>0.511</b>	0.217	<b>0.715</b>	<b>0.673</b>	-0.179	-0.311	<b>0.546</b>	<b>0.627</b>	-0.130	<b>0.623</b>	0.031	<b>0.473</b>	0.285	<b>0.359</b>	0.215	-0.074	<b>0.615</b>	0.291	0.243	<b>0.650</b>	0.197
0.144	<b>0.487</b>	0.283	-0.035	0.292	<b>0.895</b>	<b>-0.450</b>	<b>-0.600</b>	0.070	<b>0.676</b>	<b>-0.493</b>	0.305	-0.172	0.256	0.282	<b>0.691</b>	0.062	<b>-0.410</b>	<b>0.755</b>	0.236	-0.234	<b>0.569</b>	0.188
0.243	-0.134	-0.137	<b>0.443</b>	0.316	-0.022	0.099	0.175	0.224	0.140	0.156	0.279	<b>0.493</b>	0.236	-0.021	-0.319	0.265	<b>0.525</b>	0.105	0.132	<b>0.820</b>	-0.083	-0.096
-0.279	<b>0.500</b>	0.332	0.113	0.238	<b>0.763</b>	<b>-0.336</b>	<b>-0.500</b>	-0.030	<b>0.869</b>	<b>-0.341</b>	0.251	-0.139	-0.003	0.134	<b>0.627</b>	-0.130	-0.123	<b>0.512</b>	0.013	0.111	<b>0.563</b>	<b>0.401</b>
-0.146	<b>0.709</b>	0.199	-0.097	0.300	<b>0.684</b>	<b>-0.500</b>	<b>-0.681</b>	-0.035	<b>0.675</b>	<b>-0.544</b>	0.322	-0.308	-0.013	<b>0.384</b>	<b>0.854</b>	-0.295	<b>-0.354</b>	<b>0.593</b>	0.085	<b>-0.373</b>	<b>0.517</b>	<b>0.513</b>
<b>0.743</b>	-0.246	<b>0.495</b>	0.288	0.271	<b>0.440</b>	0.151	-0.055	<b>0.451</b>	0.081	0.130	0.245	<b>0.408</b>	<b>0.598</b>	-0.056	-0.037	<b>0.539</b>	-0.267	<b>0.578</b>	0.058	0.114	<b>0.483</b>	-0.133
1.000	<b>-0.347</b>	0.178	0.193	0.219	0.043	0.233	0.155	<b>0.477</b>	-0.113	0.268	0.267	<b>0.379</b>	<b>0.691</b>	0.067	-0.229	<b>0.540</b>	0.150	<b>0.434</b>	0.290	0.223	0.124	-0.143
<b>-0.347</b>	1.000	-0.152	<b>-0.459</b>	0.098	<b>0.362</b>	<b>-0.666</b>	<b>-0.672</b>	-0.321	<b>0.537</b>	<b>-0.724</b>	<b>0.347</b>	<b>-0.480</b>	-0.277	<b>0.588</b>	<b>0.834</b>	<b>-0.440</b>	-0.177	<b>0.360</b>	0.199	<b>-0.446</b>	0.243	<b>0.595</b>
0.178	-0.152	1.000	0.244	<b>0.548</b>	<b>0.475</b>	0.384	0.125	<b>0.770</b>	0.255	<b>0.382</b>	<b>0.358</b>	0.150	<b>0.546</b>	-0.005	0.015	<b>0.503</b>	-0.302	0.251	0.126	0.199	<b>0.766</b> </td	

Hg_ppm	In_ppm	K_pct	La_ppm	Li_ppm	Mg_%	Mn_ppm	Mo_ppm	Na_pct	Nb_ppm	Ni_ppm	P_ppm	Pb_ppm	Rb_ppm	Re_ppm	S_pct	Sb_ppm	Sc_ppm	Se_ppm	Sn_ppm	Sr_ppm
36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	2	1	1	1	1	1	13	1	1	1	1	1	2	5	1	1	1	5	
<b>2.778</b>	<b>2.778</b>	<b>5.556</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>36.111</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>5.556</b>	<b>13.889</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	
0.030	0.008	0.010	4.000	1.900	0.160	256.000	0.310	0.010	0.260	9.500	750.000	2.600	1.400	0.001	0.010	0.240	2.200	0.400	0.200	37.900
0.050	0.013	0.035	6.200	6.850	0.525	568.000	0.935	0.010	0.630	20.900	985.000	3.950	4.300	0.002	0.030	0.300	3.600	0.750	0.300	46.150
0.070	0.015	0.050	6.850	9.250	0.710	1225.000	1.745	0.020	0.775	25.700	1115.000	4.700	5.400	0.002	0.050	0.465	4.800	1.100	0.300	50.350
0.130	0.020	0.060	8.100	11.100	0.870	2090.000	3.235	0.020	0.900	35.500	1240.000	7.100	7.800	0.009	0.190	0.640	5.750	2.500	0.500	62.750
0.470	0.034	0.230	16.000	20.900	1.360	36200.000	53.700	0.020	1.060	176.000	2130.000	24.100	20.500	0.072	1.120	7.300	13.400	13.000	0.900	114.500
0.440	0.026	0.220	12.000	19.000	1.200	35944.000	53.390	0.010	0.800	166.500	1380.000	21.500	19.100	0.072	1.110	7.060	11.200	12.600	0.700	76.600
4.340	0.600	1.870	277.600	330.800	25.770	118538.000	185.350	0.590	26.610	1192.400	41520.000	221.100	217.700	0.316	6.500	26.240	181.300	84.300	13.900	2014.600
<b>0.121</b>	<b>0.017</b>	<b>0.052</b>	<b>7.711</b>	<b>9.189</b>	<b>0.716</b>	<b>3292.722</b>	<b>5.149</b>	<b>0.016</b>	<b>0.739</b>	<b>33.122</b>	<b>1153.333</b>	<b>6.142</b>	<b>6.047</b>	<b>0.009</b>	<b>0.181</b>	<b>0.729</b>	<b>5.036</b>	<b>2.342</b>	<b>0.386</b>	<b>55.961</b>
0.090	0.016	0.044	7.356	8.129	0.643	1252.425	1.991	0.016	0.692	28.325	1126.181	5.332	5.261	0.003	0.070	0.510	4.679	1.425	0.360	54.267
0.073	0.015	0.037	7.078	6.729	0.552	787.260	1.229	0.015	0.634	25.495	1102.060	4.820	4.522	0.002	0.035	0.436	4.369	1.053	0.337	52.871
2.621	1.224	13.978	2.859	1.051	-0.568	11.571	11.148	-1.739	-0.721	18.338	2.807	7.695	5.740	6.856	3.352	24.491	4.415	4.203	1.469	3.441
1.832	1.045	3.255	1.829	0.536	0.029	3.590	3.507	-0.554	-0.661	4.029	1.442	2.593	2.009	2.692	2.078	4.899	1.708	2.236	1.205	1.711
3.588	1.883	17.456	3.879	1.672	-0.306	14.518	14.001	-1.735	-0.493	22.780	3.815	9.784	7.397	8.760	4.481	30.293	5.779	5.520	2.181	4.589
1.996	1.138	3.545	1.992	0.584	0.032	3.909	3.820	-0.604	-0.720	4.388	1.570	2.824	2.188	2.932	2.263	5.336	1.860	2.435	1.313	1.863
<b>0.914</b>	<b>0.321</b>	<b>0.692</b>	<b>0.353</b>	<b>0.442</b>	<b>0.411</b>	<b>2.398</b>	<b>2.279</b>	<b>0.297</b>	<b>0.316</b>	<b>0.820</b>	<b>0.236</b>	<b>0.677</b>	<b>0.581</b>	<b>1.814</b>	<b>1.576</b>	<b>1.608</b>	<b>0.422</b>	<b>1.285</b>	<b>0.402</b>	<b>0.277</b>
0.012	0.000	0.001	7.205	16.059	0.084	60628392.090	133.799	0.000	0.053	717.453	72194.444	16.823	11.987	0.000	0.079	1.335	4.400	8.799	0.023	233.261
0.012	0.000	0.001	7.411	16.518	0.087	62360631.863	137.622	0.000	0.055	737.952	74257.143	17.304	12.330	0.000	0.081	1.373	4.525	9.051	0.024	239.926
0.109	0.005	0.035	2.684	4.007	0.290	7786.424	11.567	0.005	0.230	26.785	268.690	4.102	3.462	0.016	0.281	1.155	2.098	2.966	0.153	15.273
0.110	0.005	0.036	2.722	4.064	0.294	7896.875	11.731	0.005	0.234	27.165	272.502	4.160	3.511	0.016	0.284	1.172	2.127	3.008	0.155	15.490
0.078	0.004	0.021	1.787	2.868	0.226	3723.840	5.808	0.005	0.183	14.531	191.111	2.711	2.360	0.010	0.198	0.493	1.479	2.018	0.119	11.431
0.030	0.002	0.010	0.800	2.150	0.165	779.000	0.985	0.000	0.125	5.850	125.000	1.350	1.100	0.001	0.030	0.165	1.000	0.500	0.100	5.500
0.018	0.001	0.006	0.454	0.677	0.049	1316.146	1.955	0.001	0.039	4.528	45.417	0.693	0.585	0.003	0.047	0.195	0.355	0.501	0.026	2.582
0.083	0.015	0.040	6.790	7.814	0.616	620.804	1.179	0.015	0.660	23.931	1061.132	4.734	4.859	0.003	0.084	0.332	4.316	1.324	0.334	50.720
0.158	0.018	0.064	8.632	10.564	0.815	5964.640	9.118	0.018	0.818	42.314	1245.535	7.549	7.235	0.014	0.277	1.125	5.756	3.360	0.439	61.202

Te_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zn_ppm	Zr_ppm
36	36	36	36	36	36	36	36	36	36
0	0	0	0	0	0	0	0	0	0
4	1	1	1	1	1	1	1	1	3
<b>11.111</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>2.778</b>	<b>8.333</b>
0.010	0.100	0.010	0.030	0.300	24.000	0.130	5.560	17.000	0.250
0.025	0.500	0.064	0.080	0.485	67.000	0.190	6.945	42.000	0.700
0.040	0.700	0.110	0.090	0.660	80.000	0.220	7.830	52.000	0.950
0.080	0.950	0.118	0.130	0.865	108.000	0.320	9.430	73.500	1.200
0.180	1.300	0.168	0.210	3.080	149.000	1.630	52.000	104.000	4.600
0.170	1.200	0.158	0.180	2.780	125.000	1.500	46.440	87.000	4.350
1.990	26.000	3.290	3.700	30.750	3049.000	10.660	371.520	2112.000	39.450
<b>0.055</b>	<b>0.722</b>	<b>0.091</b>	<b>0.103</b>	<b>0.854</b>	<b>84.694</b>	<b>0.296</b>	<b>10.320</b>	<b>58.667</b>	<b>1.096</b>
0.042	0.620	0.076	0.096	0.714	77.212	0.253	8.995	54.684	0.922
0.031	0.488	0.053	0.089	0.630	68.448	0.232	8.339	50.561	0.771
0.803	-1.037	-0.739	0.063	3.194	-0.855	17.400	16.658	-0.693	9.758
1.051	-0.121	-0.616	0.898	1.965	0.020	4.020	3.881	0.533	2.756
1.368	-0.878	-0.515	0.465	4.288	-0.656	21.635	20.729	-0.458	12.303
1.145	-0.132	-0.671	0.978	2.140	0.021	4.378	4.226	0.580	3.001
<b>0.710</b>	<b>0.466</b>	<b>0.456</b>	<b>0.393</b>	<b>0.739</b>	<b>0.393</b>	<b>0.870</b>	<b>0.785</b>	<b>0.374</b>	<b>0.700</b>
0.001	0.110	0.002	0.002	0.387	1074.990	0.064	63.843	468.444	0.571
0.002	0.113	0.002	0.002	0.398	1105.704	0.066	65.667	481.829	0.588
0.039	0.332	0.041	0.040	0.622	32.787	0.254	7.990	21.644	0.756
0.039	0.336	0.042	0.040	0.631	33.252	0.258	8.104	21.951	0.767
0.031	0.273	0.034	0.032	0.432	27.272	0.130	4.423	18.148	0.459
0.020	0.200	0.019	0.020	0.185	27.000	0.040	1.310	12.500	0.250
0.007	0.056	0.007	0.007	0.105	5.542	0.043	1.351	3.658	0.128
0.042	0.608	0.077	0.089	0.641	73.444	0.209	7.578	51.240	0.836
0.069	0.836	0.106	0.116	1.068	95.945	0.383	13.062	66.094	1.355

**BLEG**

## BLEG Statistics

XLSTAT 7.5.2 - Descriptive statistics - 2/6/2006 at 9:57:57 PM

Quantitative data description

Data: workbook = bleg\_VA05057298.xls

/ sheet = Sheet1 / range = \$B\$2:\$C\$35 / 34 rows and 2 columns

Uniform weighting (default)

No missing values

Confidence interval (%): 95.00

	Au_ppm	Cu_ppm
No. of values	34	34
No. of values < 0	0	0
No. of min.	1	1
% of min. v	2.941	2.941
Minimum	0.000	2.420
1st quartile	0.007	6.100
Median	0.014	11.375
3rd quartile	0.020	45.600
Maximum	0.253	100.000
Range	0.252	97.580
Sum	0.833	1022.110
Mean	0.024	30.062
Geometric	0.013	16.141
Harmonic r	0.005	9.406
Kurtosis (P)	15.803	-0.435
Skewness	3.940	0.999
Kurtosis	19.946	-0.123
Skewness	4.313	1.093
CV (standard deviation)	1.872	1.067
Sample variance	0.002	998.243
Estimated s.d.	0.002	1028.493
Sample standard deviation	0.045	31.595
Estimated standard deviation	0.046	32.070
Mean absolute deviation	0.022	27.182
Median absolute deviation	0.007	6.620
Standard error	0.008	5.500
Lower bound	0.008	18.872
Upper bound	0.040	41.252

## **BLEG - CORRELATION**

XLSTAT 7.5.2 - Similarity/Dissimilarity Matrix (correlation...) - 2/6/2006 at 10:01:14 PM

Data: workbook = bleg\_VA05057298.xls

/ sheet = Sheet1 / range = \$B\$2:\$C\$35 / 34 rows and 2 columns

The calculations are made by crossing columns

No missing values

Pearson correlation coefficient (similarity within the interval [-1,+1])

Matrix (Pearson correlation coefficient):

	Au_ppm	Cu_ppm
Au_ppm	1.000	0.171
Cu_ppm	0.171	1.000

**WATER**

## Water - Statistics

XLSTAT 7.5.2 - Descriptive statistics - 9/5/2005 at 10:22:59 AM

Quantitative data description

Data: workbook = Water\_VA05061060\_STAT\_Sept5.xls / sheet = Multi-Dataset / range = \$B\$2:\$AU\$32 / 31 rows and 46 columns

Uniform weighting (default)

No missing values

Confidence interval (%): 95.00

	Ag_MS	logAg_MS	As_MS	logAs_MS	Ba_MS	logBa_MS	Ca_ICP	logCa_ICP	Ce_MS	logCe_MS	Cr_MS	logCr_MS	Cu_MS	logCu_MS	Eu_MS	logEu_MS	Fe_MS	logFe_MS
No. of values used	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	
No. of values ignored	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
No. of min. val.	4	4	3	3	1	1	1	1	6	6	1	1	1	1	1	1	1	
% of min. val.	12.903	12.903	9.677	9.677	3.226	3.226	3.226	3.226	19.355	19.355	3.226	3.226	3.226	3.226	3.226	3.226	3.226	
Minimum	0.050	-1.301	0.050	-1.301	0.270	-0.569	140.000	2.146	0.005	-2.301	1.000	0.000	0.700	-0.155	0.010	-2.000	10.000	
1st quartile	0.070	-1.155	0.300	-0.523	6.440	0.809	11000.000	4.041	0.010	-2.000	2.250	0.352	1.250	0.097	0.060	-1.222	60.000	
Median	0.080	-1.097	0.400	-0.398	7.390	0.869	16800.000	4.225	0.020	-1.699	2.500	0.398	1.700	0.230	0.070	-1.155	80.000	
3rd quartile	0.090	-1.046	0.600	-0.222	9.340	0.970	20300.000	4.307	0.030	-1.523	3.200	0.505	2.300	0.362	0.090	-1.046	120.000	
Maximum	1.390	0.143	0.900	-0.046	25.100	1.400	27600.000	4.441	0.840	-0.076	6.600	0.820	24.200	1.384	0.130	-0.886	810.000	
Range	1.340	1.444	0.850	1.255	24.830	1.968	27460.000	2.295	0.835	2.225	5.600	0.820	23.500	1.539	0.120	1.114	800.000	
Sum	4.050	-32.720	13.350	-14.717	254.180	26.429	486340.000	127.614	1.520	-54.231	86.900	13.055	95.800	9.222	2.290	-36.533	4080.000	
Mean	0.131	-1.055	0.431	-0.475	8.199	0.853	15688.387	4.117	0.049	-1.749	2.803	0.421	3.090	0.297	0.074	-1.178	131.613	
Geometric mean	0.088	0.335			7.121		13078.958	4.090	0.018		2.637		1.984		0.066		91.898	
Harmonic mean	0.078	-1.435	0.218	-0.210	4.041	0.958	3341.558	4.052	0.012	-1.012	2.480		1.595		0.054	-1.143	69.572	
Kurtosis (Pearson)	21.056	9.509	-0.814	0.175	8.268	13.552		-0.117	15.951	22.910	2.572	3.242	1.100	12.336	1.597	-0.468	3.032	
Skewness (Pearson)	4.624	2.949	0.288	-1.061	2.243	-3.178	-0.461	-3.815	4.858	1.321	1.521	-0.001	3.431	1.416	-0.182	-1.651	3.203	
Kurtosis	27.044	12.466	-0.566	0.684	10.900	17.570	0.314	20.598	29.383	3.709	4.554	1.850	16.034	2.478	-0.129	4.290	11.848	
Skewness	5.108	3.257	0.318	-1.172	2.478	-3.510	-0.509	-4.214	5.366	1.459	1.680	-0.001	3.790	1.564	-0.201	-1.824	3.538	
CV (standard deviation/mean)	1.846	-0.262	0.584	-0.765	0.484	0.352	0.382	0.097	3.030	-0.274	0.379	0.364	1.475	1.166	0.390	-0.199	1.338	
Sample variance	0.056	0.074	0.061	0.128	15.250	0.087	34697723.205	0.155	0.021	0.222	1.091	0.023	20.107	0.116	0.001	0.053	30019.979	
Estimated variance	0.058	0.076	0.063	0.132	15.758	0.090	35854313.978	0.161	0.022	0.229	1.127	0.024	20.778	0.120	0.001	0.055	31020.645	
Sample standard deviation	0.237	0.272	0.247	0.357	3.905	0.296	5890.477	0.394	0.146	0.471	1.044	0.151	4.484	0.341	0.028	0.231	173.263	
Estimated standard deviation	0.241	0.276	0.252	0.363	3.970	0.300	5987.847	0.401	0.149	0.479	1.062	0.153	4.558	0.347	0.029	0.235	176.127	
Mean absolute deviation	0.099	0.143	0.200	0.272	2.423	0.148	4685.203	0.213	0.056	0.359	0.733	0.109	2.546	0.248	0.023	0.164	86.785	
Median absolute deviation	0.010	0.051	0.200	0.176	1.260	0.081	3900.000	0.101	0.010	0.301	0.400	0.064	0.500	0.131	0.020	0.109	20.000	
Standard-error	0.043	0.050	0.045	0.065	0.713	0.054	1075.449	0.072	0.027	0.086	0.191	0.028	0.819	0.062	0.005	0.042	31.633	
Lower bound Mean CI	0.042	-1.157	0.338	-0.608	6.743	0.742	13492.027	3.970	-0.005	-1.925	2.414	0.365	1.418	0.170	0.063	-1.265	67.009	
Upper bound Mean CI	0.219	-0.954	0.523	-0.341	9.655	0.963	17884.747	4.264	0.104	-1.574	3.193	0.477	4.762	0.425	0.084	-1.092	196.217	

K_MS	logK_MS	La_MS	logLa_MS	Mg_ICP	logMg_ICP	Mn_MS	logMn_MS	Na_MS	logNa_MS	Nd_MS	logNd_MS	Ni_MS	logNi_MS	Pb_MS	logPb_MS	Rb_MS	logRb_MS	Sc_MS	logSc_MS	Sr_MS
31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	6	1	1	1	1	
3.226	3.226	3.226	3.226	3.226	3.226	3.226	3.226	3.226	3.226	3.226	3.226	3.226	19.355	19.355	3.226	3.226	3.226	3.226	3.226	
25.000	1.398	0.005	-2.301	24.300	1.386	0.050	-1.301	25.000	1.398	0.005	-2.301	0.300	-0.523	0.005	-2.301	0.050	-1.301	0.100	-1.000	0.460
185.000	2.267	0.010	-2.000	1945.000	3.289	0.400	-0.398	1000.000	3.000	0.020	-1.699	0.500	-0.301	0.010	-2.000	0.200	-0.699	1.400	0.146	38.300
250.000	2.398	0.010	-2.000	2180.000	3.338	0.800	-0.097	1000.000	3.000	0.040	-1.398	0.600	-0.222	0.060	-1.222	0.300	-0.523	1.900	0.279	51.300
360.000	2.556	0.040	-1.398	2380.000	3.377	3.300	0.519	1000.000	3.000	0.050	-1.301	1.000	0.000	0.180	-0.745	0.400	-0.398	2.100	0.322	57.800
970.000	2.987	0.440	-0.357	2530.000	3.403	16.100	1.207	1000.000	3.000	0.580	-0.237	4.900	0.690	0.970	-0.013	2.100	0.322	2.500	0.398	87.400
945.000	1.589	0.435	1.944	2505.700	2.018	16.050	2.508	975.000	1.602	0.575	2.064	4.600	1.213	0.965	2.288	2.050	1.623	2.400	1.398	86.940
8945.000	73.736	1.165	-52.608	64464.300	101.227	77.550	-0.713	29475.000	91.124	1.745	-46.144	28.600	-4.023	3.950	-40.721	11.950	-16.087	53.900	6.300	1582.660
288.548	2.379	0.038	-1.697	2079.494	3.265	2.502	-0.023	950.806	2.939	0.056	-1.489	0.923	-0.130	0.127	-1.314	0.385	-0.519	1.739	0.203	51.054
239.102	2.358	0.020		1842.365	3.235	0.948		869.936	2.918	0.032		0.742		0.049		0.303		1.597		43.246
175.188	2.333	0.015	-1.496	559.635	3.183	0.395		438.281	2.885	0.022	-1.247	0.644		0.018	-0.296	0.240	-0.385	1.125	0.203	11.073
4.601	2.584	20.820	1.451	8.951	22.629	3.777	-0.609	18.216	23.512	19.541	1.192	12.135	1.192	9.041	-1.143	13.330	1.576	1.777	16.458	0.396
1.854	-1.128	4.553	1.148	-2.679	-4.812	2.177	0.177	-4.256	-4.945	4.384	0.599	3.278	1.102	2.818	-0.111	3.438	0.071	-1.012	-3.853	-0.049
6.271	3.724	26.745	2.294	11.761	29.029	5.230	-0.307	23.458	30.143	25.131	1.967	15.782	1.967	11.875	-0.981	17.289	2.451	2.705	21.239	0.962
2.048	-1.245	5.029	1.268	-2.959	-5.315	2.404	0.195	-4.702	-5.462	4.842	0.661	3.621	1.217	3.113	-0.122	3.798	0.078	-1.117	-4.256	-0.054
0.628	0.125	2.055	-0.240	0.227	0.108	1.598	-27.074	0.193	0.098	1.811	-0.273	0.929	-2.000	1.518	-0.511	0.941	-0.568	0.281	1.196	0.367
31759.990	0.086	0.006	0.161	215306.275	0.121	15.466	0.375	32454.995	0.080	0.010	0.160	0.711	0.065	0.036	0.435	0.127	0.084	0.231	0.057	340.421
32818.656	0.088	0.006	0.166	222483.151	0.125	15.982	0.387	33536.828	0.083	0.010	0.165	0.735	0.067	0.037	0.450	0.132	0.087	0.239	0.059	351.768
178.213	0.293	0.076	0.401	464.011	0.348	3.933	0.612	180.153	0.283	0.100	0.400	0.843	0.255	0.190	0.660	0.357	0.290	0.481	0.239	18.450
181.159	0.297	0.077	0.407	471.681	0.354	3.998	0.622	183.131	0.288	0.102	0.407	0.857	0.260	0.193	0.671	0.363	0.295	0.489	0.243	18.755
120.572	0.201	0.033	0.332	292.912	0.135	2.651	0.504	84.995	0.108	0.044	0.303	0.509	0.197	0.123	0.558	0.192	0.196	0.383	0.129	13.060
80.000	0.143	0.005	0.301	200.000	0.038	0.500	0.419	0.000	0.000	0.020	0.243	0.200	0.125	0.050	0.477	0.100	0.125	0.300	0.064	9.000
32.537	0.053	0.014	0.073	84.716	0.064	0.718	0.112	32.891	0.052	0.018	0.073	0.154	0.047	0.035	0.120	0.065	0.053	0.088	0.044	3.369
222.099	2.269	0.009	-1.847	1906.479	3.135	1.035	-0.251	883.634	2.834	0.019	-1.638	0.608	-0.225	0.056	-1.560	0.252	-0.627	1.559	0.114	44.174
354.998	2.488	0.066	-1.548	2252.508	3.395	3.968	0.205	1017.979	3.045	0.094	-1.339	1.237	-0.035	0.198	-1.068	0.519	-0.411	1.918	0.292	57.933

logSr_MS	V_MS	logV_MS	Y_MS	logY_MS	Zn_MS	logZn_MS
31	31	31	31	31	31	31
0	0	0	0	0	0	0
1	1	1	1	1	1	1
3.226	3.226	3.226	3.226	3.226	3.226	3.226
-0.337	0.050	-1.301	0.005	-2.301	0.500	-0.301
1.583	0.500	-0.301	0.030	-1.523	1.200	0.079
1.710	0.700	-0.155	0.060	-1.222	1.400	0.146
1.762	1.100	0.041	0.100	-1.000	2.800	0.447
1.942	2.100	0.322	0.800	-0.097	119.000	2.076
2.279	2.050	1.623	0.795	2.204	118.500	2.377
50.714	26.450	-4.471	2.895	-38.517	207.900	9.897
1.636	0.853	-0.144	0.093	-1.242	6.706	0.319
		0.717	0.057		2.086	
2.098	0.493		0.037	-0.869	1.454	0.337
18.193	0.263	4.801	17.170	0.923	21.788	3.664
-4.120	0.846	-1.661	4.035	0.163	4.711	1.817
23.429	0.793	6.523	22.138	1.627	27.967	5.087
-4.551	0.935	-1.835	4.457	0.180	5.204	2.007
0.238	0.540	-2.078	1.515	-0.331	3.181	1.525
0.147	0.206	0.087	0.019	0.164	440.377	0.229
0.152	0.212	0.090	0.020	0.169	455.056	0.237
0.384	0.453	0.295	0.139	0.405	20.985	0.479
0.390	0.461	0.300	0.141	0.411	21.332	0.487
0.182	0.352	0.199	0.067	0.318	8.760	0.337
0.078	0.200	0.146	0.030	0.263	0.600	0.243
0.070	0.083	0.054	0.025	0.074	3.831	0.087
1.493	0.684	-0.254	0.041	-1.393	-1.118	0.141
1.779	1.022	-0.034	0.145	-1.092	14.531	0.498

## Water - Correlation

XLSTAT 7.5.2 - Similarity/Dissimilarity Matrix (correlation...) - 9/5/2005 at 10:33:20 AM

Data: workbook = Water\_VA05061060\_STAT\_Sept5.xls / sheet = Multi-Dataset Trans / range = \$B\$2:\$X\$32 / 31 rows and 23 columns

The calculations are made by crossing columns

No missing values

Pearson correlation coefficient (similarity within the interval [-1,+1])

Matrix (Pearson correlation coefficient):

	logAg_MS	As_MS	Ba_MS	Ca_ICP	logCe_MS	logCr_MS	logCu_MS	Eu_MS	logFe_MS	logK_MS	logLa_MS	Mg_ICP	logMn_MS	Na_MS	logNd_MS	logNi_MS	logPb_MS	logRb_MS	Sc_MS
logAg_MS	1.000	-0.133	-0.124	<b>-0.629</b>	0.213	0.145	<b>0.770</b>	0.094	-0.060	<b>-0.432</b>	0.089	<b>-0.801</b>	0.300	<b>-0.881</b>	0.044	<b>0.561</b>	0.307	-0.260	-0.257
As_MS	-0.133	1.000	0.326	0.298	0.144	<b>0.417</b>	-0.247	0.107	0.317	<b>0.462</b>	0.121	0.189	-0.084	0.215	0.069	-0.310	0.126	0.272	-0.025
Ba_MS	-0.124	0.326	1.000	0.136	0.181	0.161	-0.339	0.216	<b>0.680</b>	<b>0.572</b>	0.116	<b>0.393</b>	0.099	0.329	0.201	-0.118	-0.059	<b>0.598</b>	0.189
Ca_ICP	<b>-0.629</b>	0.298	0.136	1.000	-0.316	0.160	<b>-0.446</b>	-0.278	-0.004	0.219	-0.237	<b>0.573</b>	-0.203	<b>0.564</b>	-0.176	-0.347	-0.180	0.251	-0.126
logCe_MS	0.213	0.144	0.181	-0.316	1.000	0.074	0.312	<b>0.468</b>	<b>0.587</b>	-0.034	<b>0.946</b>	-0.174	<b>0.553</b>	-0.021	<b>0.900</b>	<b>0.368</b>	0.196	-0.019	<b>0.504</b>
logCr_MS	0.145	<b>0.417</b>	0.161	0.160	0.074	1.000	-0.013	0.214	0.327	0.218	-0.016	-0.060	-0.011	-0.079	0.104	-0.156	-0.121	0.186	-0.074
logCu_MS	<b>0.770</b>	-0.247	-0.339	<b>-0.446</b>	0.312	-0.013	1.000	0.104	-0.066	<b>-0.544</b>	0.250	<b>-0.677</b>	<b>0.457</b>	<b>-0.680</b>	0.196	<b>0.768</b>	0.293	-0.256	-0.046
Eu_MS	0.094	0.107	0.216	-0.278	<b>0.468</b>	0.214	0.104	1.000	<b>0.399</b>	0.337	0.292	0.082	0.104	0.094	<b>0.405</b>	0.178	-0.085	<b>0.404</b>	<b>0.474</b>
logFe_MS	-0.060	0.317	<b>0.680</b>	-0.004	<b>0.587</b>	0.327	-0.066	<b>0.399</b>	1.000	<b>0.480</b>	<b>0.519</b>	0.348	<b>0.534</b>	0.352	<b>0.623</b>	0.066	-0.073	<b>0.524</b>	<b>0.548</b>
logK_MS	<b>-0.432</b>	<b>0.462</b>	<b>0.572</b>	0.219	-0.034	0.218	<b>-0.544</b>	0.337	<b>0.480</b>	1.000	-0.082	<b>0.644</b>	-0.155	<b>0.585</b>	0.013	<b>-0.443</b>	-0.286	<b>0.823</b>	<b>0.360</b>
logLa_MS	0.089	0.121	0.116	-0.237	<b>0.946</b>	-0.016	0.250	0.292	<b>0.519</b>	-0.082	1.000	-0.162	<b>0.489</b>	0.031	<b>0.910</b>	0.289	0.188	-0.117	<b>0.432</b>
Mg_ICP	<b>-0.801</b>	0.189	<b>0.393</b>	<b>0.573</b>	-0.174	-0.060	<b>-0.677</b>	0.082	0.348	<b>0.644</b>	-0.162	1.000	-0.108	<b>0.864</b>	-0.094	<b>-0.413</b>	-0.311	<b>0.566</b>	<b>0.440</b>
logMn_MS	0.300	-0.084	0.099	-0.203	<b>0.553</b>	-0.011	<b>0.457</b>	0.104	<b>0.534</b>	-0.155	<b>0.489</b>	-0.108	1.000	-0.051	<b>0.520</b>	<b>0.474</b>	0.032	-0.002	<b>0.355</b>
Na_MS	<b>-0.881</b>	0.215	0.329	<b>0.564</b>	-0.021	-0.079	<b>-0.680</b>	0.094	0.352	<b>0.585</b>	0.031	<b>0.864</b>	-0.051	1.000	0.139	<b>-0.364</b>	<b>-0.427</b>	<b>0.482</b>	<b>0.533</b>
logNd_MS	0.044	0.069	0.201	-0.176	<b>0.900</b>	0.104	0.196	<b>0.405</b>	<b>0.623</b>	0.013	<b>0.910</b>	-0.094	<b>0.520</b>	0.139	1.000	0.248	0.076	0.038	<b>0.517</b>
logNi_MS	<b>0.561</b>	-0.310	-0.118	-0.347	<b>0.368</b>	-0.156	<b>0.768</b>	0.178	0.066	<b>-0.443</b>	0.289	<b>-0.413</b>	<b>0.474</b>	-0.364	0.248	1.000	-0.017	-0.133	0.237
logPb_MS	0.307	0.126	-0.059	-0.180	0.196	-0.121	0.293	-0.085	-0.073	-0.286	0.188	-0.311	0.032	<b>-0.427</b>	0.076	-0.017	1.000	<b>-0.384</b>	-0.264
logRb_MS	-0.260	0.272	<b>0.598</b>	0.251	-0.019	0.186	-0.256	<b>0.404</b>	<b>0.524</b>	<b>0.823</b>	-0.117	<b>0.566</b>	-0.002	<b>0.482</b>	0.038	-0.133	<b>-0.384</b>	1.000	0.319
Sc_MS	-0.257	-0.025	0.189	-0.126	<b>0.504</b>	-0.074	-0.046	<b>0.474</b>	<b>0.548</b>	<b>0.360</b>	<b>0.432</b>	<b>0.440</b>	<b>0.355</b>	<b>0.533</b>	<b>0.517</b>	0.237	-0.264	0.319	1.000
Sr_MS	<b>-0.659</b>	<b>0.427</b>	0.325	<b>0.879</b>	-0.257	0.140	<b>-0.588</b>	-0.194	0.054	<b>0.437</b>	-0.217	<b>0.615</b>	-0.313	<b>0.582</b>	-0.151	<b>-0.466</b>	-0.050	0.344	-0.093
V_MS	-0.182	<b>0.522</b>	0.182	0.175	0.270	<b>0.517</b>	-0.126	0.271	<b>0.375</b>	<b>0.519</b>	0.257	0.191	-0.136	0.176	0.320	-0.319	0.066	<b>0.365</b>	0.239
logY_MS	-0.103	0.113	0.221	-0.071	<b>0.890</b>	0.063	0.119	0.322	<b>0.665</b>	0.046	<b>0.923</b>	0.022	<b>0.506</b>	0.252	<b>0.946</b>	0.221	0.077	0.053	<b>0.546</b>
logZn_MS	0.299	0.154	0.298	-0.257	0.060	0.106	0.124	0.033	0.078	-0.007	-0.061	-0.165	0.037	-0.289	-0.115	0.104	<b>0.387</b>	-0.050	-0.209

In bold, significant values (except diagonal) at the level of significance alpha=0.050 (two-tailed test)

Sr_MS	V_MS	logY_MS	logZn_MS
<b>-0.659</b>	-0.182	-0.103	0.299
<b>0.427</b>	<b>0.522</b>	0.113	0.154
0.325	0.182	0.221	0.298
<b>0.879</b>	0.175	-0.071	-0.257
-0.257	0.270	<b>0.890</b>	0.060
0.140	<b>0.517</b>	0.063	0.106
<b>-0.588</b>	-0.126	0.119	0.124
-0.194	0.271	0.322	0.033
0.054	<b>0.375</b>	<b>0.665</b>	0.078
<b>0.437</b>	<b>0.519</b>	0.046	-0.007
-0.217	0.257	<b>0.923</b>	-0.061
<b>0.615</b>	0.191	0.022	-0.165
-0.313	-0.136	<b>0.506</b>	0.037
<b>0.582</b>	0.176	0.252	-0.289
-0.151	0.320	<b>0.946</b>	-0.115
<b>-0.466</b>	-0.319	0.221	0.104
-0.050	0.066	0.077	<b>0.387</b>
0.344	<b>0.365</b>	0.053	-0.050
-0.093	0.239	<b>0.546</b>	-0.209
1.000	<b>0.356</b>	-0.066	-0.025
<b>0.356</b>	1.000	0.320	-0.171
-0.066	0.320	1.000	-0.138
-0.025	-0.171	-0.138	1.000