



**GEOLOGICAL SURVEY OF CANADA  
OPEN FILE 6435**

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**M.B. Parsons<sup>1</sup>, M.E. Little<sup>1</sup>, A.J. Desbarats<sup>2</sup>, J.B. Percival<sup>2</sup>, K.W.G. LeBlanc<sup>1</sup>,  
J.E. Vaive<sup>2</sup> and P. Pelchat<sup>2</sup>**

<sup>1</sup>Geological Survey of Canada (Atlantic), PO Box 1006, Dartmouth, NS B2Y 4A2

<sup>2</sup>Geological Survey of Canada, 601 Booth Street, Ottawa, ON K1A OE8

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## **ABSTRACT**

Without appropriate environmental management controls and regulatory oversight, the mining and milling of gold (Au) can result in significant risks to the environment and human health. Orogenic lode Au deposits, hosted mainly by quartz-carbonate veins, occur in deformed greenstone and metasedimentary terranes around the world. These deposits are the main source of Au in Canada, and are presently a key focus for exploration and development. This Open File Report summarizes results from a three-year environmental geochemistry and mineralogy study of past-producing Au deposits in the Bridge River Mining District in British Columbia. From 2006 to 2008, samples of stream water, sediment, waste rock, tailings, and mine drainage were collected from the Bridge River District, including the Bralorne, King, and Pioneer Au mines near Bralorne, BC. Together, these three mines represent the largest historical Au producer in the Canadian Cordillera ( $> 4.15$  M oz. between 1932 and 1971). Samples were also collected from several nearby antimony (Sb) and mercury (Hg) deposits, which may represent the epizonal portions of the Bralorne-Pioneer hydrothermal system. Baseline concentrations of As, Sb, and Hg in stream sediments from the Bridge River District range from 0.6-168 mg/kg, 0.1-8.3 mg/kg, and 9-1010  $\mu$ g/kg, respectively. The distribution of these elements is strongly controlled by the original pattern of hydrothermal mineralization within the district. Historical tailings and sediments from underground mine workings have much higher concentrations of As (7.4-137,000 mg/kg; median, 3300 mg/kg), Sb (0.3-707 mg/kg; median, 12.6 mg/kg), and Hg (49->100,000  $\mu$ g/kg; median, 1200  $\mu$ g/kg). The highest Hg concentrations occur in tailings at former mill sites where Hg was used for Au amalgamation, and in stream sediments at an abandoned Hg mine. Baseline concentrations of As, Sb, and Hg in filtered stream waters throughout the district ranged from 0.1-4.5  $\mu$ g/L, 0.03-0.43  $\mu$ g/L, and 0.6-4.1 ng/L, respectively. Dissolved concentrations of As and Sb were typically much higher in waters draining from mine workings, whereas Hg concentrations were relatively low (<12 ng/L) in all waters sampled. Drainage from the main portal of the Bralorne Mine contains high concentrations of As (2250-2560  $\mu$ g/L) derived from the flooded mine workings, and this study provides new information on the key processes controlling the composition of this mine effluent. The results of this research can be used to better understand the environmental characteristics of orogenic lode Au deposits, and help to minimize the environmental impacts associated with Au extraction.

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## INTRODUCTION

### Background and Purpose of Study

Mining has been an important part of the Canadian economy for at least the last 150 years (Cranstone, 2002) and many early mines were operated before the enactment of modern environmental regulations. Approximately 10,000 orphaned and abandoned mine sites have been identified across Canada and many now present potential hazards including acid mine drainage, metal contamination, open mine shafts, and land subsidence (NOAMI, 2009). The environmental legacy of these historical mining practices has led to more stringent regulations and new technologies to improve environmental stewardship within the mining sector. However, there remain significant gaps in our understanding of baseline conditions in mining areas, the long-term behaviour of mine wastes, and uncertainty regarding the most appropriate strategies to monitor the success of remediation efforts.

In recent years, Canadians have demonstrated an increased awareness of the potential impacts of mining activity on the environment and human health. From 2006 to 2009, Natural Resources Canada carried out a project entitled “*Assessing and Reducing Risks from Metals in the Environment*” as part of the Environment and Health Program of the Earth Sciences Sector (ESS). The overall objective of this project was to provide geoscience data, geoenvironmental models, and improved environmental monitoring methods in support of risk assessment and management activities at environments of concern. Field and laboratory studies focused on regions and sites that were known to present potential risks to human and environmental health, and/or that required risk-management plans which rely in part on earth science knowledge. The project’s target outcome was to increase the use of ESS data by regulatory agencies during assessments of human and ecosystem health risks associated with environments of concern, and the development of appropriate risk-management strategies.

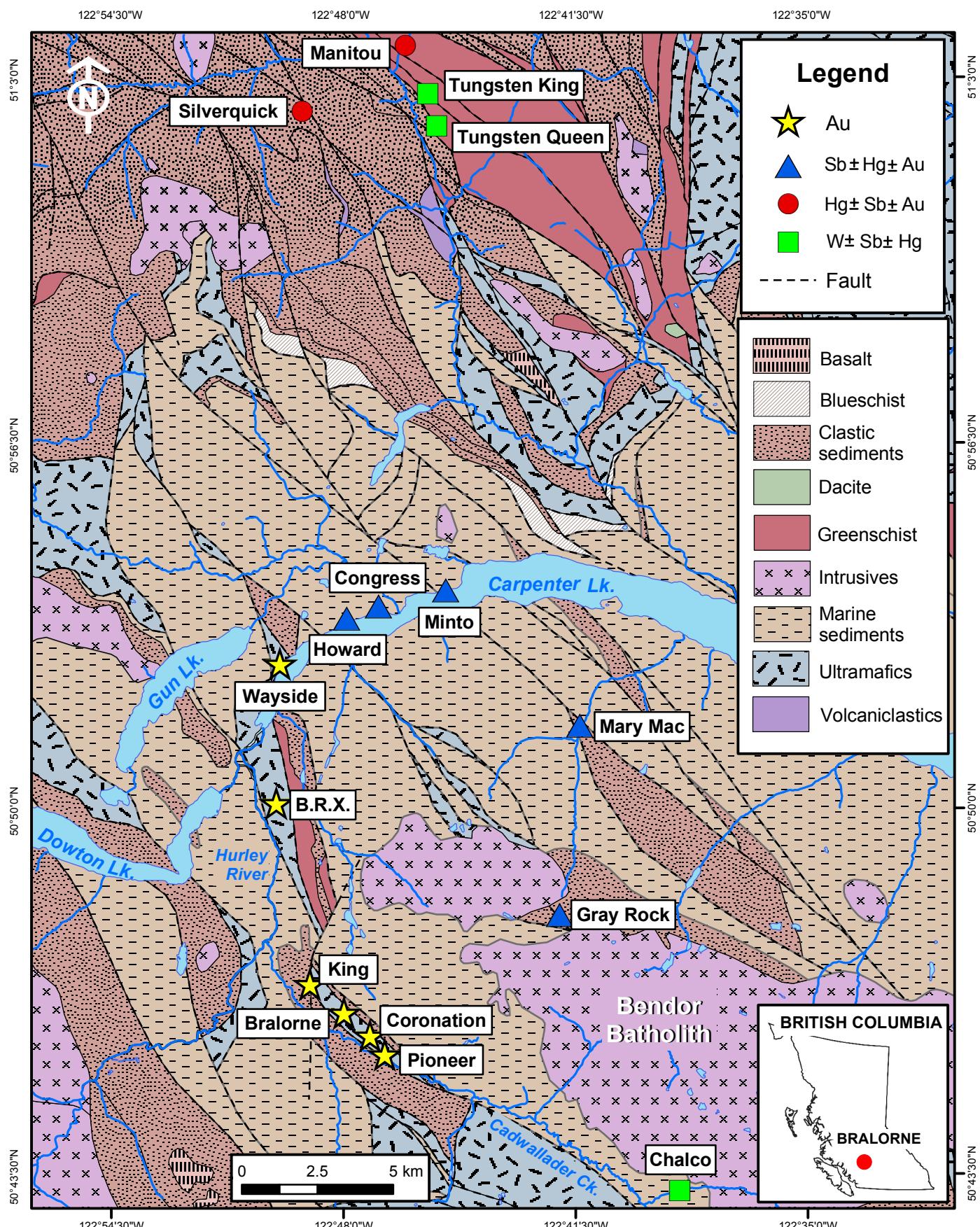
The “Abandoned Mines” component of this project focused on orogenic lode gold (Au) mines in Nova Scotia and British Columbia, where high concentrations of arsenic (As), mercury (Hg), and other metal(lloid)s are present as a result of natural mineralization, and historical mining and milling activities (Parsons et al., 2012). Orogenic lode Au deposits are hosted mainly by quartz-carbonate veins and are the primary source of Au in Canada (Dubé and Gosselin, 2007). With Au prices near record highs, orogenic Au deposits are presently the focus of much exploration and development. In British Columbia, ESS partnered with researchers from NRCan’s CanmetMINING Laboratories to define district-scale baseline metal levels, to characterize processes controlling metal(lloid) release, transport, and fate in mine wastes, soils, and waters, and to synthesize this information in a geoenvironmental model that could be used to improve environmental impact assessments for Au-mining projects.

Geoenvironmental mineral deposit models are compilations of geological, geochemical, geophysical, and hydrological knowledge pertaining to the environmental behaviour of a class of geologically similar mineral deposits through the exploration, mining, and post-closure phases of their development (Plumlee and Nash, 1995). These models provide information about natural geochemical variations associated with a particular deposit type, and the potential environmental impacts associated with its mining effluents, wastes, and mineral processing facilities (Seal et al.,

2002). At modern mines, geoenvironmental models can assist with the selection of mining and mineral processing methods that help to minimize environmental risks and impacts, reduce the overall project cost, and enhance sustainable development (Kwong, 2003). Geoenvironmental models can also be used to predict, qualitatively or semi-quantitatively, the environmental effects associated with the development of a particular class of mineral deposits at different locations if site-specific conditions (e.g. variations in climate) are considered.

The geoenvironmental characteristics of orogenic lode Au deposits, also known as “low-sulfide Au-quartz veins” or “mesothermal Au deposits” (Groves et al., 1998), have been reviewed by previous authors (Goldfarb et al., 1995; Ashley, 2002; Seal and Hammarstrom, 2003). These deposits occur in deformed greenstone and metasedimentary terranes ranging in age from the Archean to Tertiary and are the most widespread type of Au-bearing deposit in the world. Gold is hosted mainly by quartz-dominant vein systems with  $\leq 3\text{--}5\%$  sulphides (mainly Fe-sulphides), and  $\leq 5\text{--}15\%$  carbonate minerals. Arsenopyrite [FeAsS] is the most common sulphide mineral in metasedimentary host rocks, whereas pyrite [FeS<sub>2</sub>] or pyrrhotite [Fe<sub>1-x</sub>S] are more typical in metamorphosed igneous rocks (Groves et al., 1998). Minor ore minerals include galena [PbS], chalcopyrite [CuFeS<sub>2</sub>], sphalerite [ZnS], stibnite [Sb<sub>2</sub>S<sub>3</sub>], molybdenite [MoS<sub>2</sub>], tetrahedrite [(Cu,Fe,Ag,Zn)<sub>12</sub>Sb<sub>4</sub>S<sub>13</sub>], tellurides, and scheelite [CaWO<sub>4</sub>]. Gangue and alteration minerals vary with the host rock lithology, but commonly include quartz, Ca-Mg-Fe carbonate minerals, muscovite, chlorite, plagioclase, biotite and epidote (Goldfarb et al., 1995; Seal and Hammarstrom, 2003). The relatively high carbonate content and low sulphide content of the altered host rocks generally leads to circumneutral drainage, with pH values ranging from 6.0 to 8.0. Arsenic and antimony (Sb) are the elements of most environmental concern in mine wastes and effluents, but mercury (Hg) and cyanide (CN<sup>-</sup>) may also be present at elevated concentrations depending on the history of ore processing (Ashley, 2002; Parsons et al., 2012). The composition of mine drainage from orogenic lode Au deposits has been documented in a variety of mining districts, including the Mother Lode district of California (Savage et al., 2000; Ashley, 2002), the Juneau, Tintina and Fairbanks Gold Belts of Alaska (Goldfarb et al., 1997; Trainor et al., 2006; Verplanck et al., 2008) and the metasedimentary belts of Australia and New Zealand (Ashley et al., 2003; Craw et al., 2004; Wilson et al., 2004; Haffert and Craw, 2008).

The present study focuses on the past-producing Bralorne, King, and Pioneer orogenic lode Au mines in southwestern British Columbia (Fig. 1; Leitch, 1990; Church, 1996). Together, these three mines represent the largest historical Au producer in the Canadian Cordillera ( $>4.15$  million ounces Au between 1928 and 1971) and the Bralorne mine is once again being mined today (Bralorne Gold Mines, 2012). Samples were also collected from several Sb and Hg deposits in the Bridge River Mining District, which may represent the epizonal portions of the Bralorne-Pioneer Au system (Fig. 1; Woodsworth et al., 1977; Hart et al., 2008). The primary objectives of this study were: (1) to determine the range in baseline concentrations of As, Hg, and Sb in stream sediments and water from mineralized, but unmined, areas throughout the Bridge River Mining District; (2) to characterize the chemistry and mineralogy of mine wastes, and the composition of mine effluents, to understand the processes controlling metal(lod) release and transport; and (3) to summarize the geoenvironmental characteristics of orogenic lode Au deposits in a form that will assist regulators and industry to minimize the environmental impacts associated with the development of similar Au deposits throughout Canada.



**Fig. 1.** Geological map of the Bridge River mining district, showing the location of selected gold, antimony, mercury, and tungsten deposits. Bedrock geology from Massey et al. (2005); location of mineral deposits from Church (1996). Geographic centre of map (decimal degrees): 50.889563°, -122.729236°.

## Scope of Report

This report contains field observations, photographs, geochemical data, and mineralogical results for samples of stream sediments, mine tailings, waste rock and surface waters collected by the authors from 2006 to 2009 throughout the Bridge River Mining District, B.C. (Fig. 1). The concentrations of As, Au, Hg, Sb, and W in waters and/or solid samples are presented in a series of maps in the Results section, and the appendices contain brief descriptions of each sample site and tables of the full geochemical and mineralogical datasets for each sample. The Discussion section combines results from this study with data from previous exploration geochemistry surveys to estimate the baseline concentrations of As, Hg, and Sb in waters and sediments. This section also includes a discussion of controls on mine drainage composition from the 800-Level of the Bralorne Mine. Detailed results of hydrological and hydrogeochemical investigations of drainage from adits of the Bralorne Mine have recently been published elsewhere (Desbarats et al., 2010; 2011; Beauchemin et al., 2012) and not discussed herein. This report was prepared in partial fulfillment of the terms of a research agreement between NRCan and Bralorne Gold Mines Ltd., a copy of which is included as Appendix 1 in Desbarats et al. (2010).

## Acknowledgements

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## STUDY AREA

### Location and Geological Setting

The Bridge River Mining District is located in southwestern British Columbia, approximately 180 km north of Vancouver (Fig. 1; 50.889563°, -122.729236°). The district is accessible year-round via Highway 99 to Lillooet, then westward for 110 km on a partially paved secondary road to the community of Gold Bridge. Previously operating mines in this camp include two large Au producers, Bralorne and Pioneer; three small Au producers, Wayside, Minto, and Congress; two Hg mines (Manitou, Silverquick); and more than 60 small-scale mines and prospects (McCann, 1922; Church, 1996). All deposits are located in rugged terrain on the eastern edge of the southern Coast Mountains, with elevations ranging from 2880 m to the local base level of 650 m on Carpenter Lake (Fig. 1). Typically, valley walls are covered in glacial drift and colluvium, whereas valley bottoms contain glacial, fluvioglacial and recent stream deposits (Cairnes, 1937).

The bedrock geology of the Bridge River mining camp is structurally complex and includes several small lithotectonic terranes that were formed in the late Triassic and accreted to the west coast of North America in the mid-Jurassic or later times (Church, 1996). The study area shown in Figure 1 is comprised primarily of the Bridge River and Cadwallader terranes, and includes overlapping clastic successions and numerous Cretaceous and Tertiary volcanic and plutonic rocks (Drysdale and McCann, 1922; Journeay et al., 2000). The Bridge River Terrane consists mainly of ribbon chert, argillite, and pillow basalt with locally abundant volcaniclastic sandstone, siltstone and related serpentinite and ultramafic rocks (McCann, 1922; Cairnes, 1937; Potter, 1986; Schiarizza et al., 1997). This terrane is thought to represent a collapsed oceanic or marginal basin containing arc-related volcanic rocks (Rusmore et al., 1988; Monger et al., 1991). The Cadwallader Terrane comprises well-stratified pillow basalt and basaltic breccia with interbedded turbiditic limestone, volcanic and granitic conglomerate, and sandstone (McCann, 1922; Cairnes, 1937; Rusmore, 1987; Schiarizza et al., 1997). In contrast to the more distal ocean basin rocks of the Bridge River Terrane, the lower parts of the Cadwallader Terrane are interpreted to have formed in an intra-arc or back-arc setting (Rusmore et al., 1988; Monger et al., 1991). In the northern third of Figure 1, the Bridge River and Cadwallader terranes are overlain by Cretaceous conglomerates and coarse, clastic sedimentary rocks of the Taylor Creek Group and Silverquick Formation. The Bridge River Mining District has also been intruded by granitoid rocks of the Coast Plutonic Complex, including the late Cretaceous Bendor Plutonic Suite. These consist mainly of coarse-grained, hornblende-biotite and leucocratic granodiorites to quartz diorites (Woodsworth et al., 1977; Church, 1996; Hart et al., 2008).

### Mineral Deposits and Mining History of the Bridge River District

The Bridge River Mining District is the largest historical Au producer in British Columbia, with more than 4.17 million ounces of lode Au mined between 1898 and the present day (Table 1; Church, 1996). Although the district is best known for its Au production, it also contains many Sb-dominant and Hg-dominant mineral deposits that show a systematic geochemical zonation from southwest to northeast (Fig. 1). The Bralorne and Pioneer mines are part of a Au-dominant zone in the southwest, which grades into an Sb-dominant zone, then a Hg-dominant zone with increasing distance to the northeast (Woodsworth et al., 1977). Many previous studies have

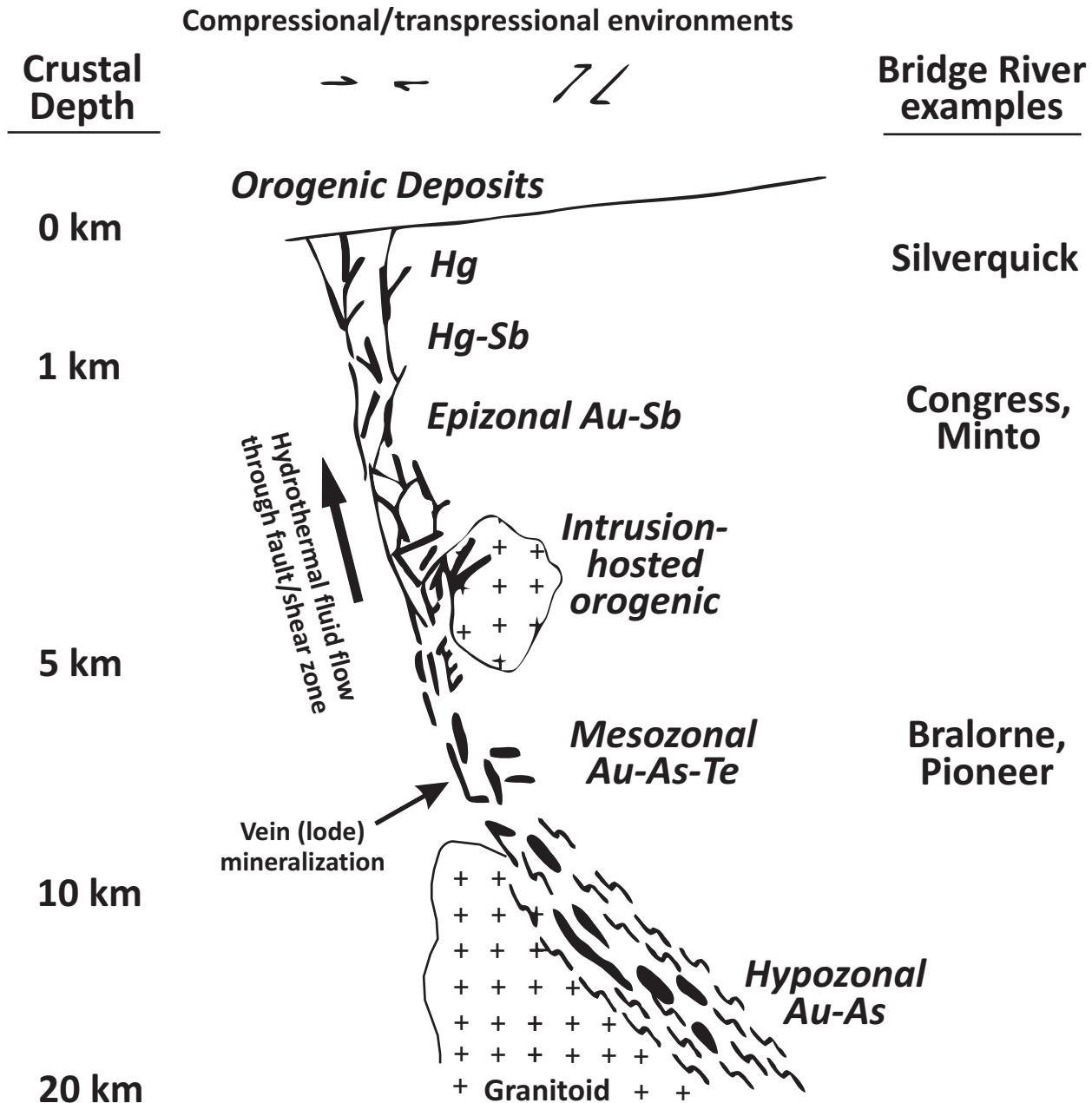
**Table 1.** Location and historical production from Au mines of the Bridge River District. The total tonnes of ore milled at each site is roughly equivalent to the total volume of tailings discharged to local creeks, or used to backfill the mine workings (Church, 1996).

Mine	Dates of Production	Latitude (dec. deg.)	Longitude (dec. deg.)	Ore Milled (tonnes)	Au produced (troy oz.)
Bralorne <sup>a</sup>	1898-present	50.778248	-122.820520	4,954,479	2,817,794
Congress	1913-1989	50.890061	-122.796830	943	84
Minto	1934-1940	50.898615	-122.751388	79,073	17,558
Pioneer	1900-1962	50.760277	-122.782009	2,240,626	1,333,500
Wayside	1915-1937	50.876389	-122.828913	36,992	5,340
<b>Totals:</b>				<b>7,312,113</b>	<b>4,174,276</b>

<sup>a</sup> Bralorne totals include production from the King, Empire, and Crown mine workings.

proposed a variety of geological models to account for this zonation (e.g. Woodworth et al., 1977; Leitch et al., 1991a, 1991b; Church, 1996; Schiarizza et al., 1997), which has important implications for mineral exploration programs. Recent studies using improved dating methods and analyses of sulphur isotopes provide evidence for a single, deep-crustal fluid source for the three dominant types of mineralization in the district (Hart et al., 2008; Moore et al., 2009). This model is similar to the crustal continuum model of Groves et al. (1998), which proposes that Sb and Hg mineralization represents the shallow crustal (epizonal) portions of deeper (mesozonal) orogenic Au deposits that formed from a single hydrothermal system (Fig. 2).

Most of the Au-dominant deposits in the Bridge River camp are located along the Bralorne Fault Zone between the Coast Plutonic Complex to the west and the Bendor Batholith to the east (Fig. 1). This area is underlain by cherts, argillites, greenstones and metasediments, with wedges of steeply dipping ultramafic rocks and felsic to basic intrusions. The Bralorne block, a 5.5 km long and 0.8 km wide domain containing most of the Au-quartz veins of the Bralorne and Pioneer mines, is bounded by the northwest-trending Fergusson and Cadwallader strike-slip faults (Cairnes, 1937; Leitch, 1990). Mineralized veins are hosted mainly in diorite, soda granite and greenstone and formed in the late Cretaceous to early Paleogene (*ca.* 68 to 64 Ma), long after emplacement of the host intrusions (Leitch et al., 1991a, 1991b; Hart et al., 2008). Most of the auriferous veins at Bralorne-Pioneer are 0.9 to 1.5 m wide and composed of quartz, carbonates (calcite, ferroan dolomite, ankerite), talc, and muscovite (sericite/illite), with accessory amounts of fuchsite/mariposite, hematite, scheelite and tourmaline. Sulphide minerals average 1 to 3% of the vein material and consist mainly of arsenopyrite and pyrite, with lesser amounts of sphalerite, chalcopyrite, pyrrhotite, galena, tetrahedrite, and stibnite (Fig. 3; Cairnes, 1937; Leitch, 1990; Church, 1996). Stibnite is more abundant in the Upper Peter workings at Bralorne as compared to the historical workings (Desbarats et al., 2011). Altered wall rocks contain up to 5%, or locally 10%, sulphides over widths of a few centimetres to a few metres (Fig. 3; Leitch, 1990).



**Fig. 2.** Schematic representation of crustal environments of orogenic gold deposits, showing depths of formation and structural settings within a convergent plate margin (modified from Groves et al., 1998; 2003). Application of this model to deposits from the Bridge River Mining District is based on the studies of Hart et al. (2008) and Moore et al. (2009).

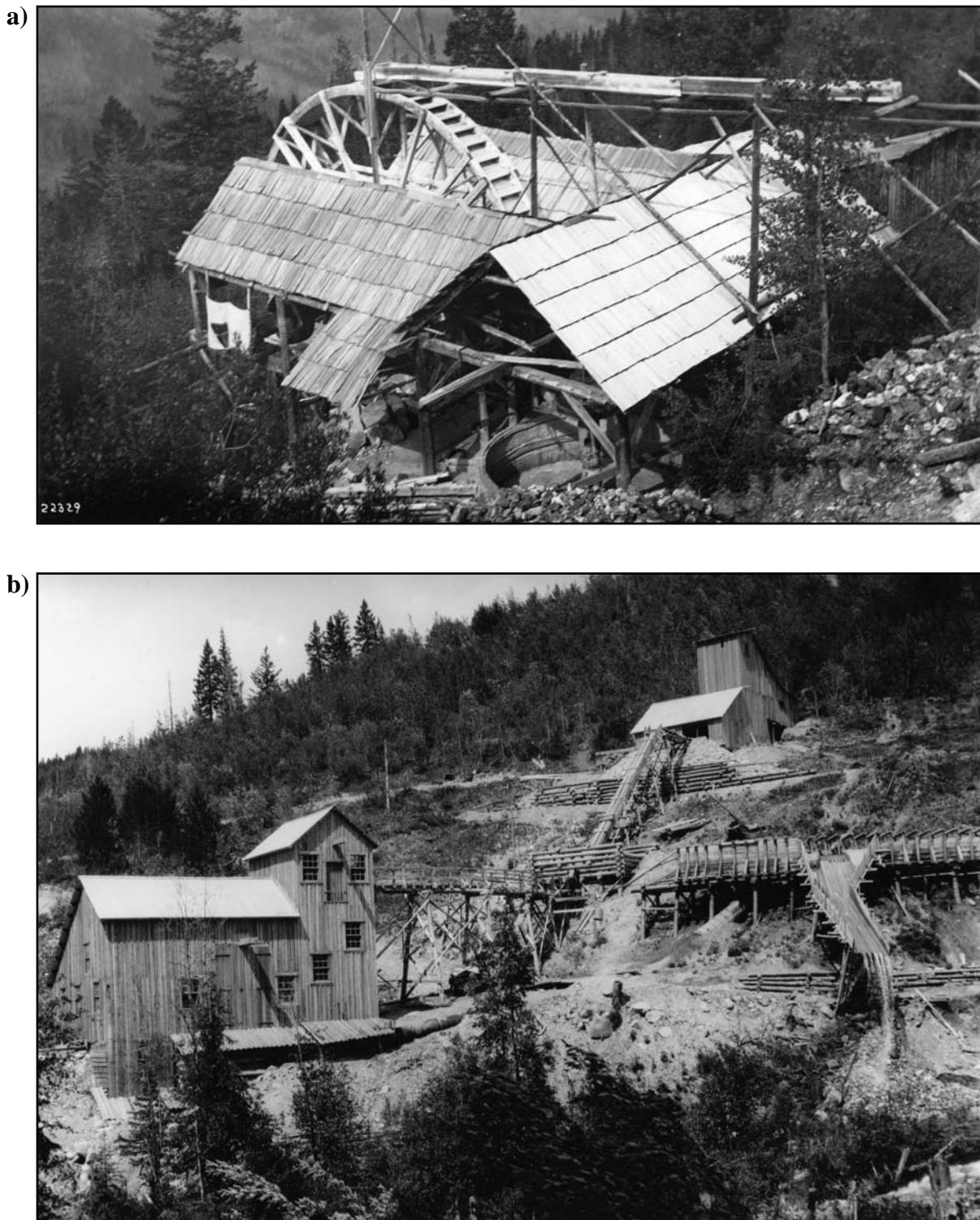
**a)****b)**

**Fig. 3.** (a) Coarse crystals of arsenopyrite in quartz-rich waste rock outside the Upper Peter adit at Bralorne. (b) Disseminated pyrite and arsenopyrite in carbonate-altered wall rock (diorite) bordering a Au-bearing quartz vein in the recently developed BK Zone at Bralorne.

Placer Au was first discovered in the Bridge River area in 1859, but it was not until 1896 that Au-quartz veins were located on the east bank of the Hurley River, just below the mouth of Cadwallader Creek (Fig. 1; McCann, 1922). Prospectors flocked to the Bridge River area in 1897 and by the end of the year, 175 claims had been staked along Cadwallader Creek and another 245 in the surrounding area. From 1898-1928, Au was recovered by crushing the ore using water-powered arrastras and 1- to 10-stamp mills, followed by Hg amalgamation (Figs. 4, 5; Green, 2000). Tailings from these early operations were disposed in unconfined dumps adjacent to the mills, or discharged directly into Cadwallader Creek. At the Wayside Mine on Carpenter Lake (formed by damming the Bridge River in 1960), tailings were placed on the banks of Bridge River from 1915 to 1937, alongside piles of waste rock from the underground mine (Fig. 6; Cairnes, 1937). In 1928, a 100-ton-per-day cyanide treatment plant was constructed at the Pioneer Mine on Cadwallader Creek to reprocess stamp mill tailings from previous operations, and to treat the arsenopyrite-rich ore (Fig. 5). In the early 1930s, Pioneer Mine was the leading Au producer in British Columbia and the mill capacity was eventually increased to 400 tons per day in 1934 (Cairnes, 1937). From 1900 to the closure of the mine in 1962, the Pioneer Mine generated approximately 2,240,626 tonnes of tailings, most of which were used to backfill stopes in the mine (Holland and King, 1959) or slurried directly into Cadwallader Creek (Table 1).

Development of the Bralorne Mine, comprising the King, Empire, and Crown workings, took place continuously from 1932 to 1971 (Church, 1996). A 100-ton-per-day blanket concentration and flotation mill was constructed in 1932 adjacent to Cadwallader Creek. In this mill, Hg amalgamation was used to recover free Au from the crushed ore, followed by flotation to produce a lower-grade sulphide concentrate that was shipped to a smelter in Tacoma, WA, for processing (Green, 2000). By 1935, the Bralorne Mill capacity had been increased to 475 tons per day. In 1961, a modern 600-ton-per day cyanide mill replaced the blanket tables and flotation plant, although Hg amalgamation was still used to treat concentrates from jigs in the plant until the mine closed in 1971 (Green, 2000). From 1898 to 1971, the various mills in the Bralorne area produced roughly 4,954,479 tonnes of tailings, most of which were also used as backfill for the mine (Robinson, 1965) or discharged into Cadwallader Creek (Table 1). The historical mine workings at the Bralorne mine extend over a vertical range of about 2 km, from the ‘0’ level at the surface (1400 m elevation) down to the ‘44’ level at 600 m below sea level (Leitch, 1990).

The most recent period of production at Bralorne began in 1990, when Avino Mines & Resources discovered previously unrecognized Au mineralization leading to a surge of exploration in the area. The present owners of the property, Bralorne Gold Mines Ltd., have focused on exploring mineralized zones located in the unmined gaps between the historic Bralorne, King, and Pioneer mines. In 2003-2004, the company constructed a 125 ton-per-day gravity-flotation mill and a tailings pond located 1.3 km northwest of the mill on the west side of Cadwallader Creek to allow five years of production (Fig. 7). This mill operated from April 2004 to November 2005, crushing 23,032 tonnes of material from low-grade ore stockpiles and historical tailings dumps (Ball, 2009). Unlike previous operations, tailings from this mill were disposed in an unlined tailings impoundment (Fig. 7), in keeping with modern environmental regulations. Since August 2007, this impoundment has also been used to manage effluent from the 800-Level adit of the Bralorne mine to reduce As loadings to Cadwallader Creek (Fig. 8; Lorax, 2008). In April 2011, Bralorne Gold Mines Ltd. re-started their milling operations and had crushed 16,803 tons of ore as of January 31, 2012 (Bralorne Gold Mines Ltd., 2012).



**Fig. 4.** (a) Water-powered arrastra at the Lorne Mine property in 1912 (now part of the Bralorne Mine). Ore was crushed in the circular pit near the bottom of this photo, then Au was recovered via Hg amalgamation (photo by A.M. Bateman, GSC, No. 22339). (b) Pioneer Mine and stamp mill on Cadwallader Creek in 1916 (photo by C.W. Drysdale, GSC, No. 38204). Reproduced with permission from the Natural Resources Canada Photo Database, Ottawa.

**a)****b)**

**Fig. 5.** (a) Remains of a flywheel, camshaft and cast iron mortar box from a former stamp mill (*ca.* 1900-1915) at the Lorne Mine property (now part of the Bralorne Mine). (b) Ruins of the former cyanide treatment plant (operated from 1928-1962) at the Pioneer Mine on Cadwallader Creek.

a)



b)



**Fig. 6.** (a) Gold mine tailings and waste rock (*ca.* 1915-1936) from the Wayside Mine along the shores of Carpenter Lake. (b) Close-up of oxidized Wayside tailings overlying darker stream sediments.

**a)****b)**

**Fig. 7.** (a) Effluent discharge point at the mouth of the 800-Level portal at the Bralorne Mine showing modern gravity-flotation mill in background (white building). (b) Modern tailings impoundment on the west side of Cadwallader Creek, 1.5 km northwest of the Bralorne mine site.

**a)****b)**

**Fig. 8.** (a) Upwelling point in the underground workings at the Bralorne Mine, where As-rich water rises from the flooded mine workings before discharging at the 800-Level portal. (b) Mine water from 800-Level portal (Fig. 7a) being discharged into the Bralorne tailings impoundment.

Antimony-dominant deposits in the Bridge River Mining District are located northeast of the Au-dominant deposits and are hosted by greenstones and sedimentary rocks (mainly chert and argillites) of the Cadwallader Group (Fig. 1). These deposits can be subdivided into two main groups on the basis of ore mineralogy: 1) Sb-Au-Ag±Hg deposits characterized by quartz-carbonate veins with massive stibnite (Fig. 9) as the dominant sulphide and lesser amounts of pyrite, arsenopyrite, tetrahedrite, and cinnabar (e.g. Congress, Howard mines); and 2) Ag-Au±Sb deposits with quartz-carbonate veins containing pyrite, arsenopyrite, chalcopyrite, and sphalerite, and subordinate jamesonite [ $Pb_4FeSb_6S_{14}$ ], stibnite, tetrahedrite, galena, pyrrhotite, and marcasite (e.g. Minto mine). The Sb-Au-Ag±Hg deposits also have higher Au to Ag ratios and lower base metal concentrations as compared to the Ag-Au±Sb deposits (Cairnes, 1937; Maheux, 1989; Church, 1996).

Gold-stibnite ore was first discovered near the Congress deposit in 1910, but its Au content was initially considered too low to be of commercial interest (Cairnes, 1937). From 1934 to 1937, underground development occurred on three adit levels and 940 tonnes of ore were transported to the Wayside mill for testing (Fig. 1). From 1946 to 1950, two additional underground levels and a shaft were developed at Congress, but production was on a test-scale only. In 1959, the Howard vein was discovered 900 m west of the Congress Mine and developed by Bralorne Pioneer Mines Ltd. from 1960 to 1964 (Maheux, 1989; Church, 1996). Stibnite-bearing waste rock from development of the Howard vein is located along the northern edge of Carpenter Lake (Fig. 9). The Minto deposit was discovered in 1910, but not developed until the 1930s. From 1931 to 1942, mining was undertaken from four adits and a winze to three deeper levels. In 1934, a 50-ton-per-day mill was constructed along the steep embankment above Bridge River; in 1935, the capacity of this mill was increased to 125 tons per day and remained in operation until the mine closed in 1937 (Maheux, 1989; Church, 1996). Approximately 79,073 tonnes of ore were milled at the Minto Mine from 1934 to 1940 (Table 1), and tailings were discharged directly into the Bridge River (Fig. 10). The Minto area, including both the townsite and the mill, was flooded in 1960 when the Bridge River was dammed to form Carpenter Lake. Intermittent exploration near the Congress and Minto deposits continues today.

Mercury-dominant deposits occur along the Yalakom and Relay Creek fault systems, north of the Sb-dominant deposits in the Bridge River Camp. The Hg mineralization is characterized by cinnabar veins and disseminations (Fig. 11), locally with minor stibnite, hosted mainly within coarse, clastic sedimentary rocks of the Taylor Creek Group and Silverquick Formation (Church, 1996). Most of the cinnabar occurs within brecciated conglomerate and is associated with quartz, calcite, limonite and clay minerals (McCammon, 1965).

Mercury occurrences were first discovered in 1932 near the junction between Mud, Relay, and Tyaughton creeks, near the Manitou mercury mine (Fig. 1). Approximately 543 kg of Hg were produced from 141 tonnes of ore using a 9-tonne-per-day Gould rotary kiln at Manitou from 1938 to 1939 (Stevenson, 1940; Schiarizza et al., 1997). At the Silverquick mine (Fig. 11), 3247 kg of Hg were produced from 272 tonnes of ore from 1955 to 1965 (McCammon, 1965; Church, 1996). Between 1964 and 1965, most of the cinnabar ore from the Silverquick Mine was trucked 15 km southeast to Mowson Pond, where it was processed using a 9-tonne-per-day Gould rotary furnace (Fig. 12). In these furnaces, Hg was extracted by heating the cinnabar ores to 600-700°C to volatilize Hg, followed by a condensing process to recover liquid elemental Hg. This roasting process oxidizes Fe in the ore, leaving behind brick-red mine wastes called calcines (Rytuba, 2003). These calcine wastes cover the hillside immediately downslope of the rotary furnace at Mowson Pond (Fig. 12).

**a)****b)**

**Fig. 9.** (a) Bluish-grey, radiating crystals of stibnite [ $\text{Sb}_2\text{S}_3$ ] in quartz vein with Fe-oxide staining near the Lou Zone decline, Congress Mine. (b) Stibnite-bearing waste rock and mining debris from the Howard Mine along the north shore of Carpenter Lake.



**Fig. 10.** Stamp mill at the Minto Mine in October 1937 (photo by C.E. Cairnes, GSC, No. 82986). The flat area in the lower left part of this photo is a delta composed of sulphide-rich tailings that are actively being deposited into the Bridge River from a sluice extending out of the mill. The remains of this mill are now flooded by Carpenter Lake (Fig. 1). Reproduced with permission from the Natural Resources Canada Photo Database, Ottawa.

a)



b)



**Fig. 11.** (a) Overview of open pit at the Silverquick mercury mine showing the entrance to one of the mine adits near the right-hand side of the photo (beneath the fallen tree). (b) Cinnabar [HgS] ore and conglomerate host rock at the Silverquick Mine.

**a)****b)**

**Fig. 12.** (a) Remains of rotary furnace near Mowson Pond, used from 1964 to 1965 to process cinnabar ore from the Silverquick mercury mine. (b) Calcine waste adjacent to the rotary furnace at Mowson Pond, produced during the roasting of cinnabar ore to recover elemental Hg.

## Previous Environmental Studies

There are relatively few published studies on the environmental impacts of mining in the Bridge River District. In September 2000, both the Congress and Wayside mines (Fig. 1) were visited by staff from the B.C. Ministry of Energy and Mines as part of an inventory of historic mine sites throughout the province (Barazzuol and Stewart, 2003). At Congress, waste rock dumps were documented near an adit above Carpenter Lake, and drainage was sampled from the mine portal. This drainage was flowing at ~1 L/min, with a pH of 8.5, 279 mg/L SO<sub>4</sub>, and dissolved As and Sb concentrations of 0.4 and <0.2 mg/L, respectively. At Wayside, this survey found two waste rock dumps and ~10,000 m<sup>3</sup> of tailings located along the shore of Carpenter Lake near the entrance to the No. 5 adit (Fig. 6). Drainage from this adit was flowing at ~1 L/min, with a pH of 8.5, 94 mg/L SO<sub>4</sub>, and dissolved As and Sb concentrations less than 0.2 mg/L. Barazzuol and Stewart (2003) concluded that both the Congress and Wayside mines were sources of localized metal leaching, but neither site was considered to be a high priority for remediation. The B.C. Crown Contaminated Sites Program has also evaluated Hg contamination at the Silverquick Mine (Fig. 11) and Mowson Pond (Fig. 12), leading to the designation of Mowson Pond as a Priority Site based on confirmed risk to human health and the environment (CCSB, 2008; 2012).

Since the late 1980s, several environmental surveys have been conducted near the Bralorne Mine (Fig. 1) as part of ongoing environmental assessments in support of recent exploration and mining activity. In September 2004, Golder Associates Ltd. conducted an Environmental Effects Monitoring (EEM) program to assess the environmental impacts associated with disposal of mining effluent to the tailings impoundment, and mine adit drainage to an infiltration pond adjacent to Cadwallader Creek (Figs. 7, 8). The EEM included sampling of water and stream sediment in Cadwallader Creek and an analysis of benthic invertebrate community structure at two locations upstream of Bralorne, and at two downstream sites. Water quality was similar at all four sites, with relatively low dissolved metal concentrations. The bulk concentrations of As, Cr, Fe and Ni in stream sediments exceeded provincial sediment quality criteria, but the variable grain size of the samples submitted for analysis made it challenging to separate the effects of mining activities from natural mineralization. Analyses of benthic invertebrates showed no clear indication of mining impacts in Cadwallader Creek (Golder Associates Ltd., 2005).

From 2006 to 2008, Lorax Environmental Services Ltd. carried out detailed analyses of (1) metal-loading from the 800-Level and Upper Peter adits at Bralorne; (2) groundwater and surface water discharges from the tailings management area; and (3) the potential for acid rock drainage and metal leaching from active and historic waste rock dumps and tailings deposits throughout the Bralorne property. The results of these studies show that the primary environmental concern at this site is mine drainage from the 800-Level adit, which contains an average of 2.9 mg/L total As. Results from acid-base accounting tests on waste rock and tailings indicate that all samples analyzed had no potential for acid generation, but contained relatively high concentrations of silver (Ag), As, Sb, and selenium (Se) (Lorax, 2006; 2008).

Detailed studies of the processes controlling As behaviour in the 800-Level workings at Bralorne have been conducted by Strand (2007). Results from recent NRCan investigations on the hydrology and geochemistry of mine drainage from the 800-Level and Upper Peter adits have recently been published by Desbarats et al. (2010, 2011) and Beauchemin et al. (2012).

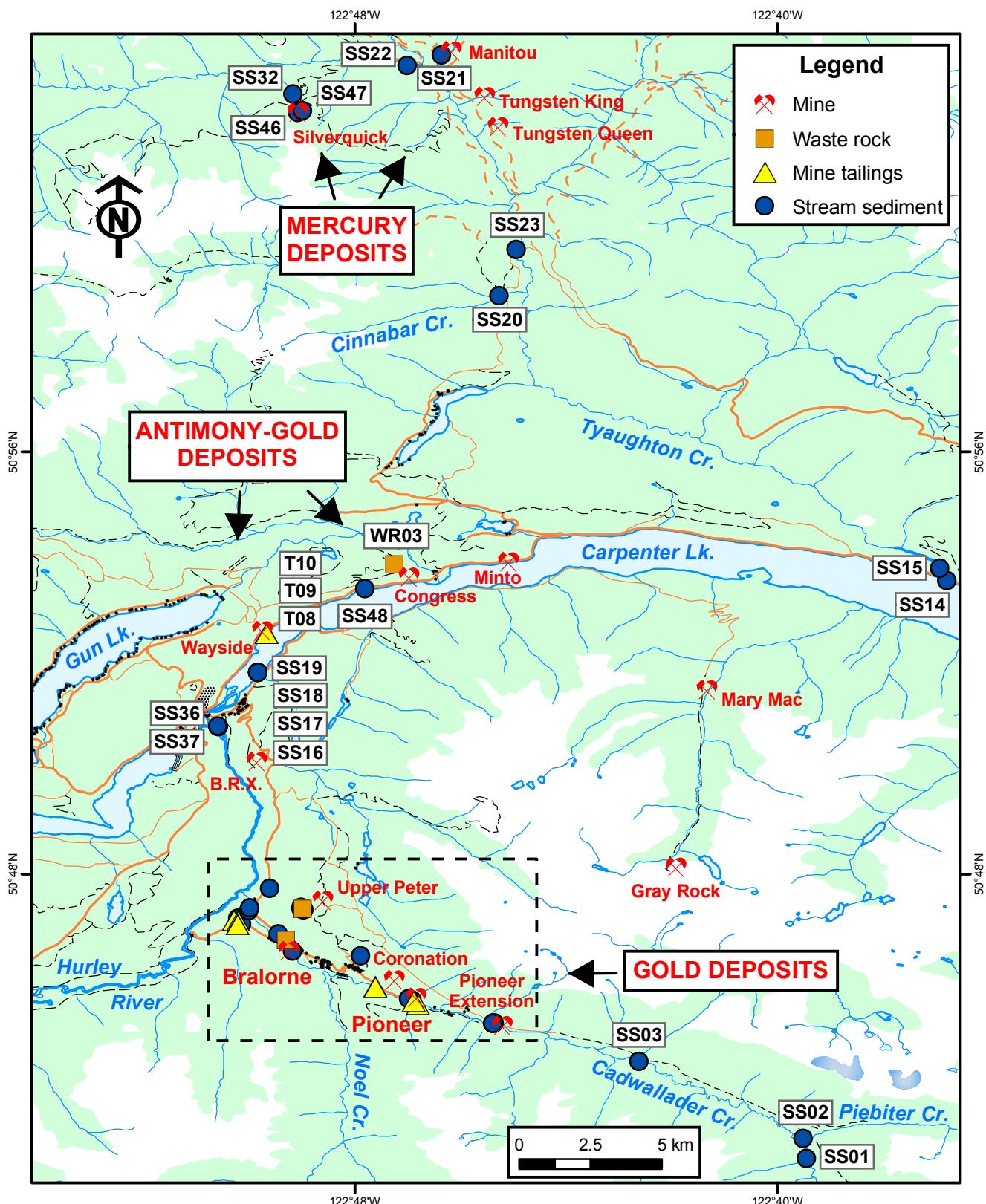
## STUDY DESIGN

### **Site selection and field sampling**

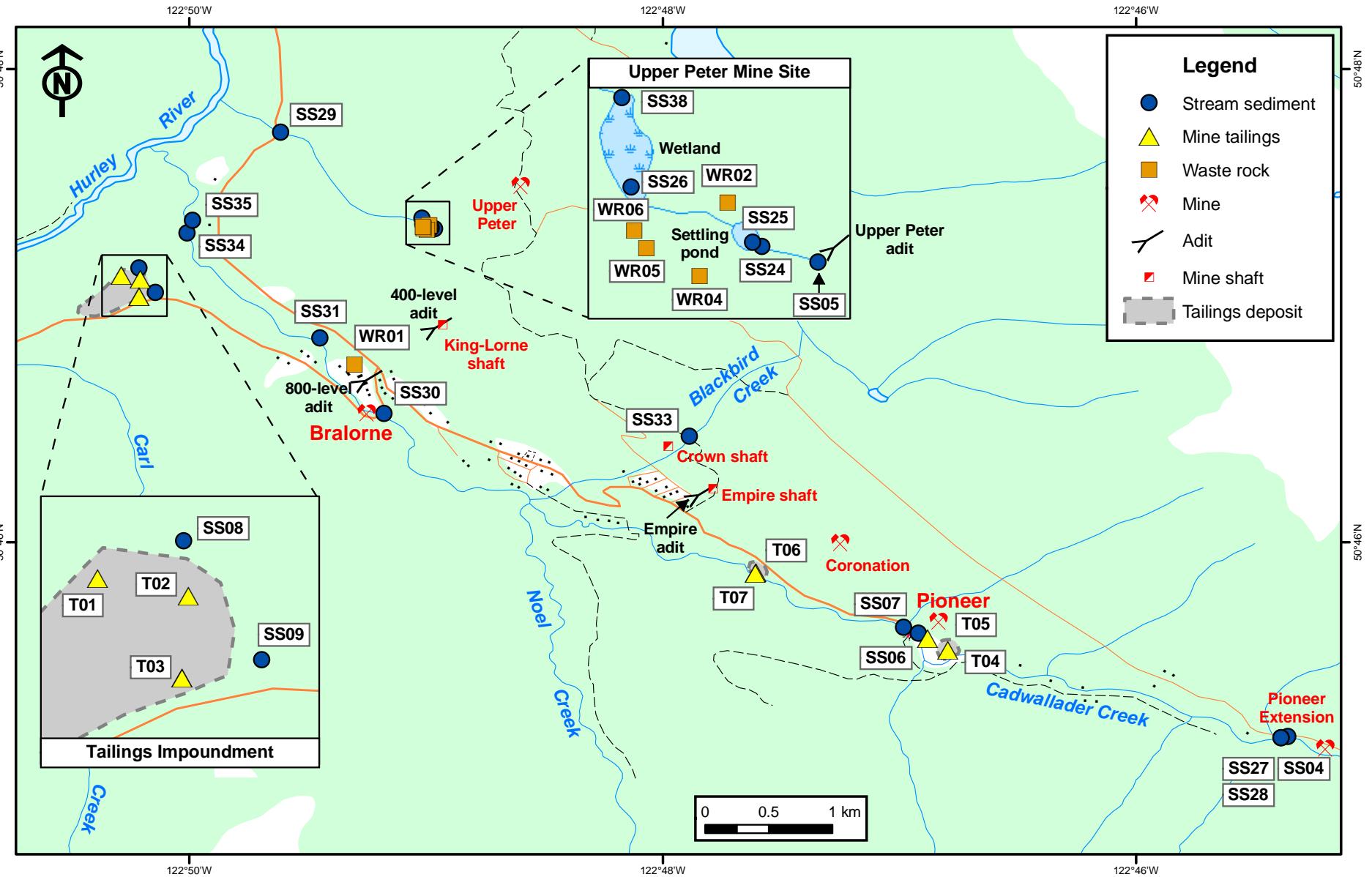
The primary objectives of this study were to identify the main sources of metal loading from historical mining activities throughout the Bridge River District, and to characterize the baseline geochemistry of surface waters and sediments. Sampling locations near the Bralorne, Pioneer and King mines, including sites in the underground workings, were chosen with the assistance of personnel from Bralorne Gold Mines, Ltd. during a site visit in November 2006. The location of sampling sites at other Au-, Sb-, and Hg-dominant deposits were selected following a thorough review of site descriptions in the British Columbia MINFILE Mineral Inventory database (<http://www.empr.gov.bc.ca/MINING/GEOSCIENCE/MINFILE/>), as well as information provided in various published maps and reports including Department of Mines (1935), Cairnes (1937), Church (1996), and Schiarizza et al. (1997). Results from previous exploration geochemistry surveys were also used to choose sampling locations that would capture the natural variability of metal(lloid) concentrations in stream waters and sediments within the district (Ballantyne et al., 1981; Jackaman and Matysek, 1994). Figures 13 to 15 show the locations of all sediment, tailings, and waste rock sampling sites throughout the Bridge River District, near the Bralorne and Pioneer mines, and in the 800-Level workings at Bralorne, respectively. The locations of all surface water and mine drainage samples are shown in Figures 16 to 18. Photographs and detailed descriptions of each of these sites are provided in Appendix A.

The water sampling program was designed to characterize the composition of stream waters and mine drainage under both high-flow and low-flow conditions. The Bridge River District lies within the “Interior Transition Ranges” ecoregion in British Columbia, a mountainous upland region on the eastern edge of the southern Coast Mountains (Ecological Stratification Working Group, 1995). Climate varies widely across this ecoregion, from the moist maritime climate of the coast to the semiarid continental climate of the southern interior near Lillooet. Desbarats et al. (2011) compiled historic meteorological data for Bralorne between 1934 and 1963 (more recent data are not available), which show that the mean annual precipitation was 652 mm, including an average snowfall equivalent of 244 mm. Mean temperatures during the hottest (July) and coldest (January) months of the year were 15 °C and -7.3 °C, respectively. The abundant snowfall at high elevation in this area leads to a strong freshet each year that typically occurs from April to July. The increased discharge from local streams and rivers during this time can have a pronounced effect on water quality. Figure 19 shows a discharge hydrograph for the Hurley River (Fig. 1) from July 1, 2006 to June 30, 2009. This is the only ‘real-time’ hydrometric water monitoring station located within the Bridge River District and is representative of the discharge patterns of most other streams in the study area. Water sampling for this study took place in July 2007 and June 2008 to collect samples during the freshet, and in October 2007 and October 2008 to obtain samples during low-flow conditions.

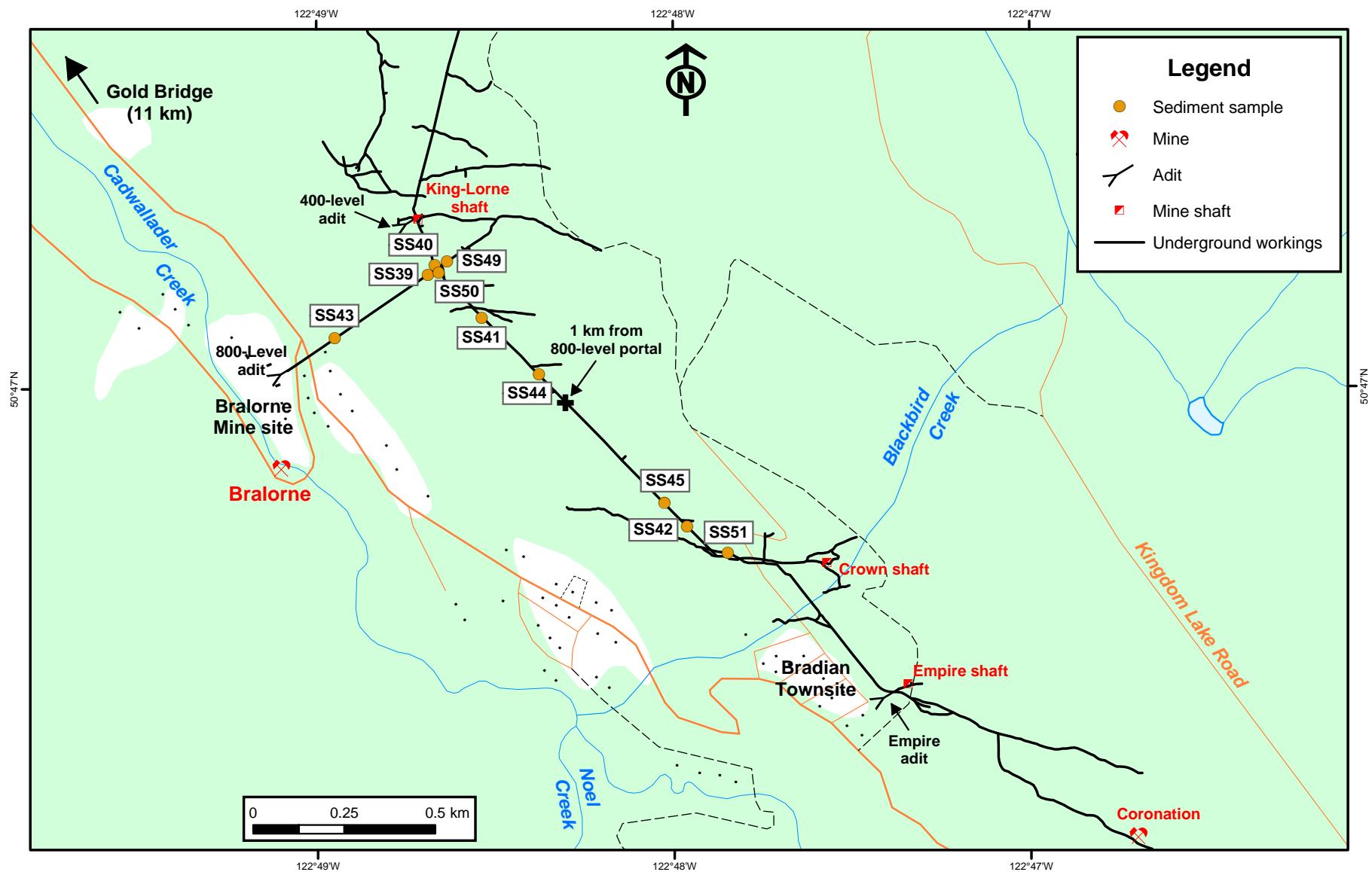
In 2007, sampling of waters and solids was conducted at baseline stream sites, and at mine drainage locations. In 2008, water sampling focused specifically on effluent from mine workings and the Bralorne tailings impoundment to better understand the main controls on drainage composition. Results from longer-term measurements of flow rates and water chemistry from the 800-Level and Upper Peter adits at Bralorne can be found in Desbarats et al. (2010, 2011).



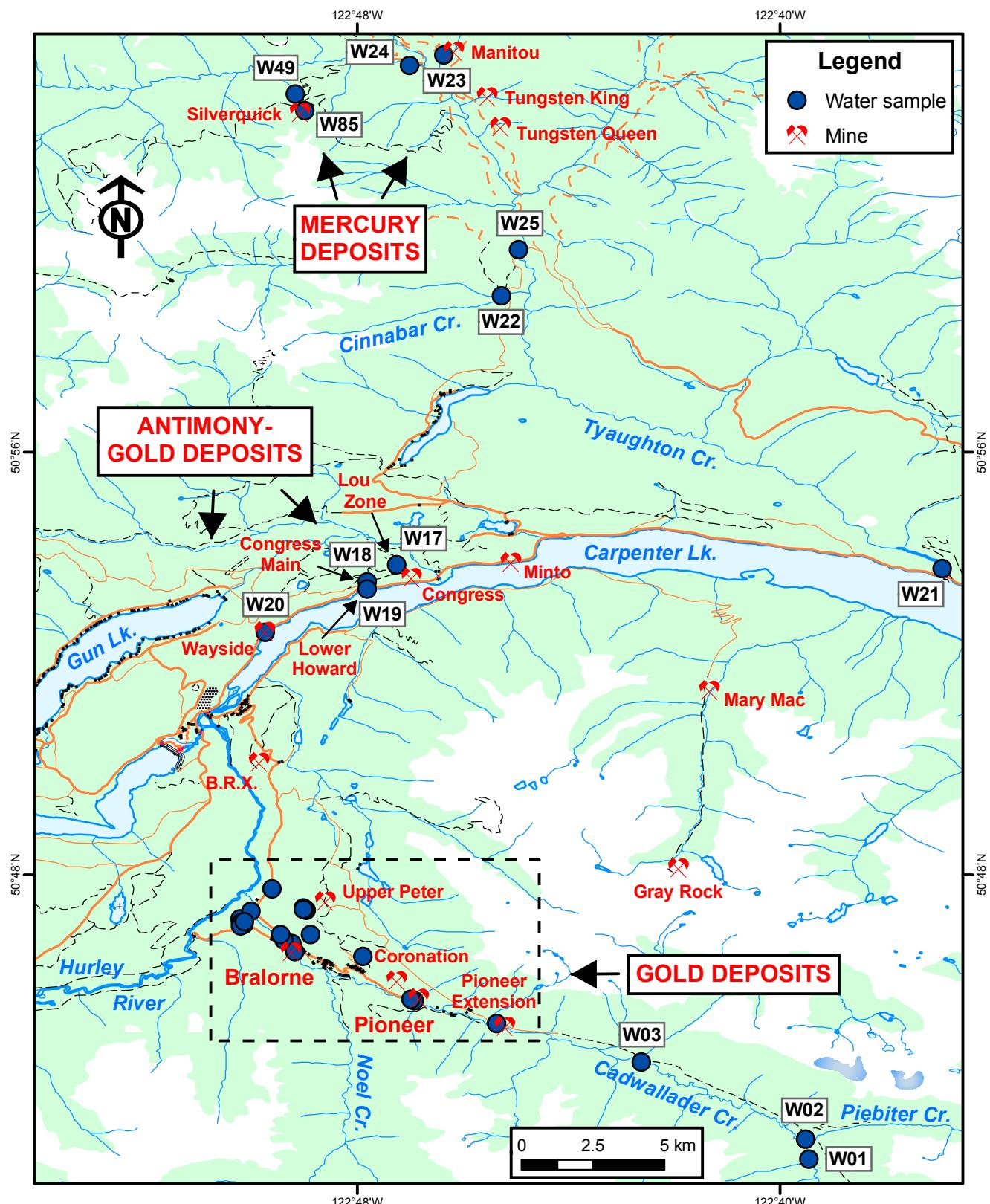
**Fig.13.** Stream sediment (SS), mine tailings (T), and waste rock (WR) sampling locations within the Bridge River mining district, 2006-2008. Figure 14 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer mine sites.



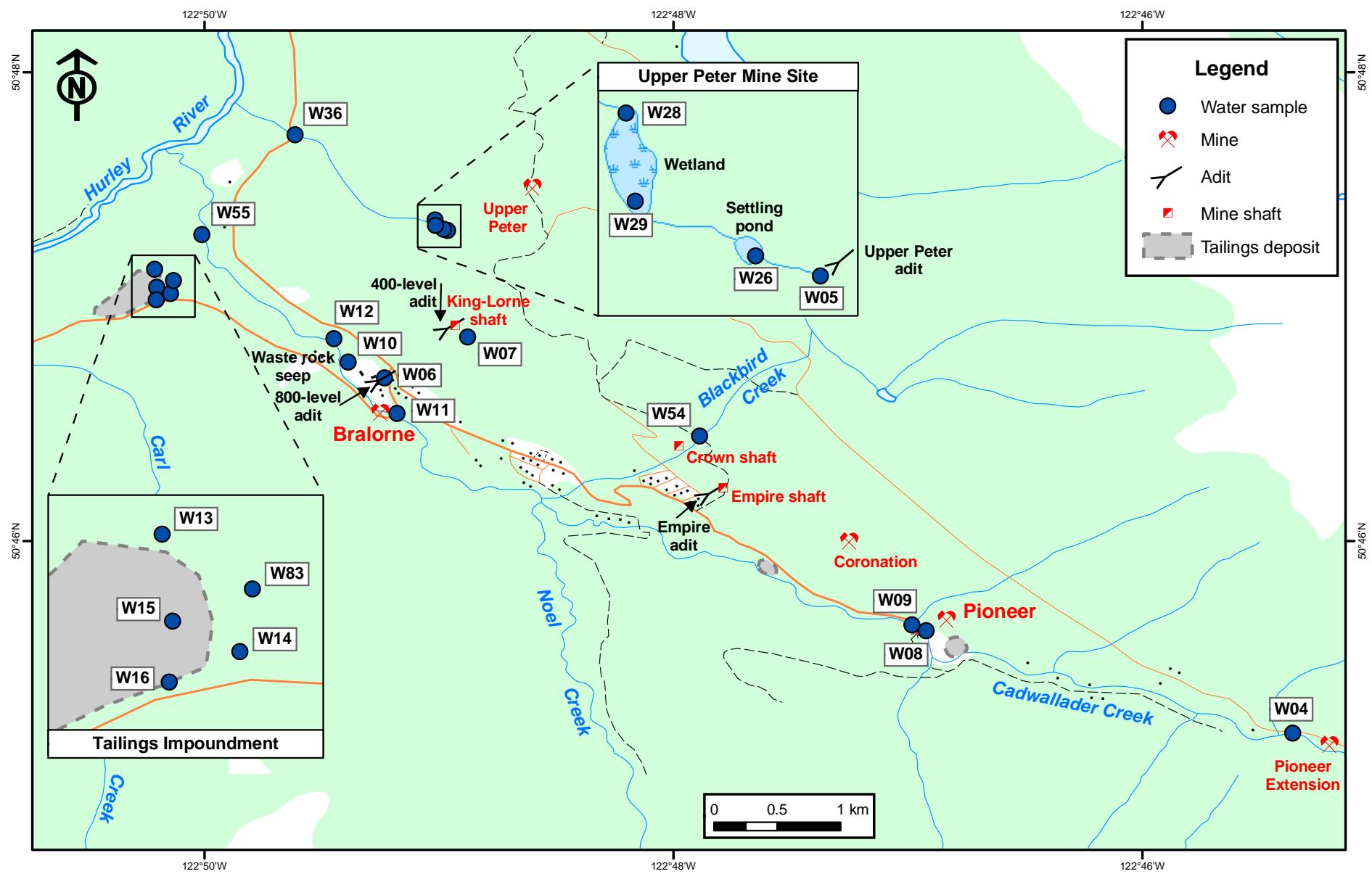
**Fig. 14.** Stream sediments (SS), mine tailings (T), and waste rock (WR) sampling locations in the vicinity of Bralorne and Pioneer mine sites, Bridge River Mining District, 2006-2008.



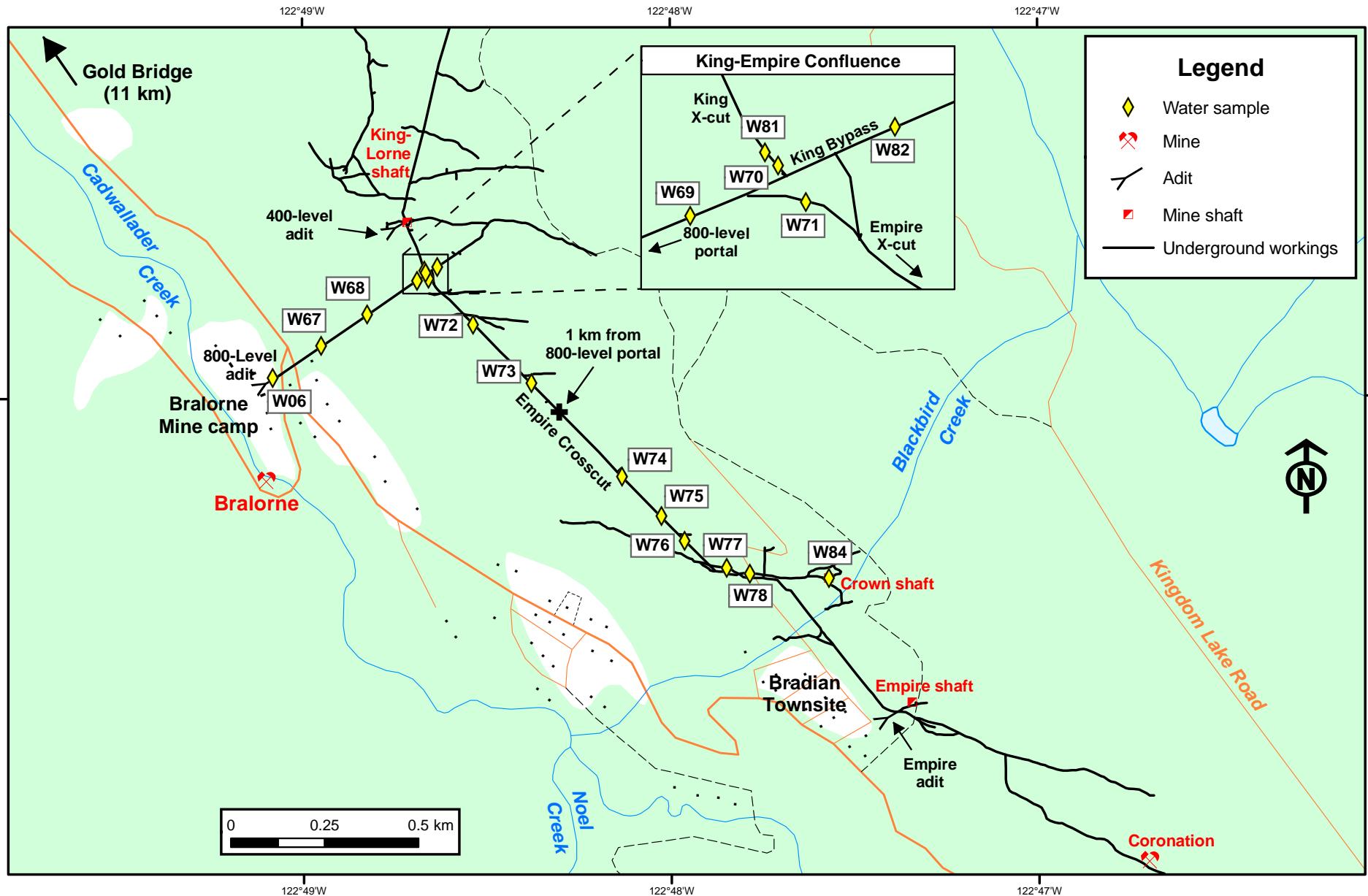
**Fig. 15.** Sediment (SS) sampling locations within the 800-Level underground workings, Bralorne Mine site, 2007-2008.



**Fig. 16.** Surface water (W) sampling locations within the Bridge River Mining District, 2007-2008.  
Figure 17 details those samples collected within the outlined area,  
in the vicinity of the Bralorne and Pioneer mine sites.



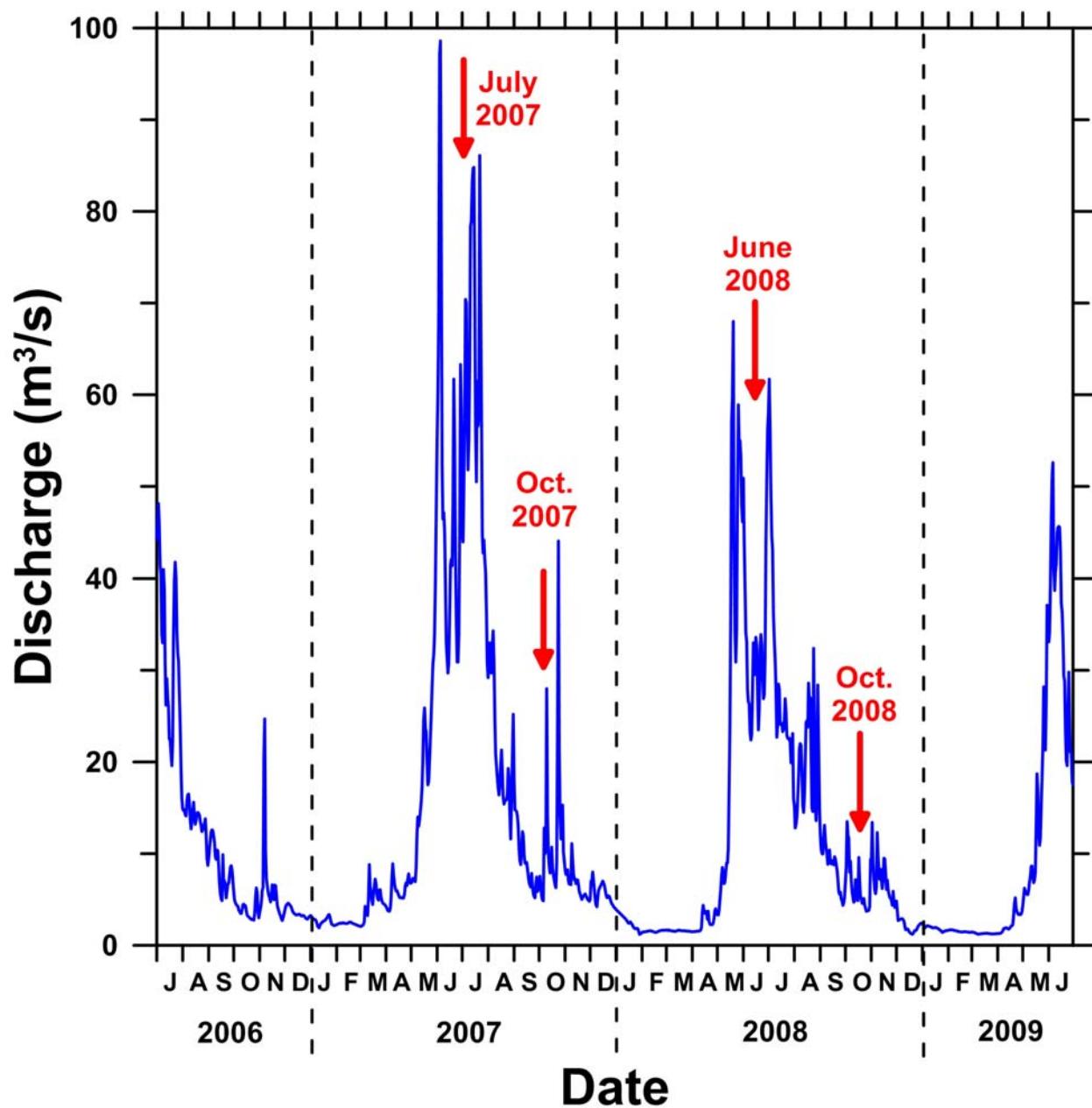
**Fig. 17.** Surface water (W) sampling locations in the vicinity of the Bralorne and Pioneer mine sites, Bridge River Mining District, 2007-2008.



**Fig. 18.** Water (W) sampling locations within the 800-Level underground workings, Bralorne Mine site, 2007-2008.

# Discharge of Hurley River, British Columbia

July 1, 2006 - June 30, 2009



**Fig. 19.** Hydrograph showing discharge from the Hurley River in British Columbia from July 1, 2006 to June 30, 2009. This monitoring site (08ME027) is located just below the confluence with Lone Goat Creek ( $50.731111^\circ$ ,  $-122.942222^\circ$ ). Vertical red arrows show the periods during which water samples were collected for this study. Hydrometric data from Environment Canada (2012).

### ***Crown Shaft Groundwater Monitoring***

As part of groundwater investigations conducted by the GSC at the Bralorne Mine, water levels and a suite of physico-chemical parameters were monitored in the flooded Crown shaft in the 800-Level workings (Fig. 15). The Crown shaft is a 550-m-deep internal shaft that connects the 800 Level (the main adit and haulage level) to the 2600 Level within the mine (Ball, 2009). The purpose of the monitoring was to identify any temporal parameter trends that might indicate deteriorating water quality or convective flow in the flooded workings. The monitoring period extended from June 21, 2008 to June 23, 2009. However, due to an instrument battery failure, no data are available between September 27, 2008 and October 17, 2008.

Between January 8, 2009 and March 9, 2009, as an As mitigation experiment, the mine operator injected compressed air into the standing water in the Crown shaft. The rationale for the experiment was that by creating oxidizing conditions, Fe oxyhydroxides in the mine water would precipitate thereby removing adsorbed As. Although the experiment appears to have been unsuccessful in reducing As concentrations, the physico-chemical response of the mine waters to the experiment was monitored by GSC instruments and results are discussed herein.

## **Field Methods**

### ***Sediments and mine waste***

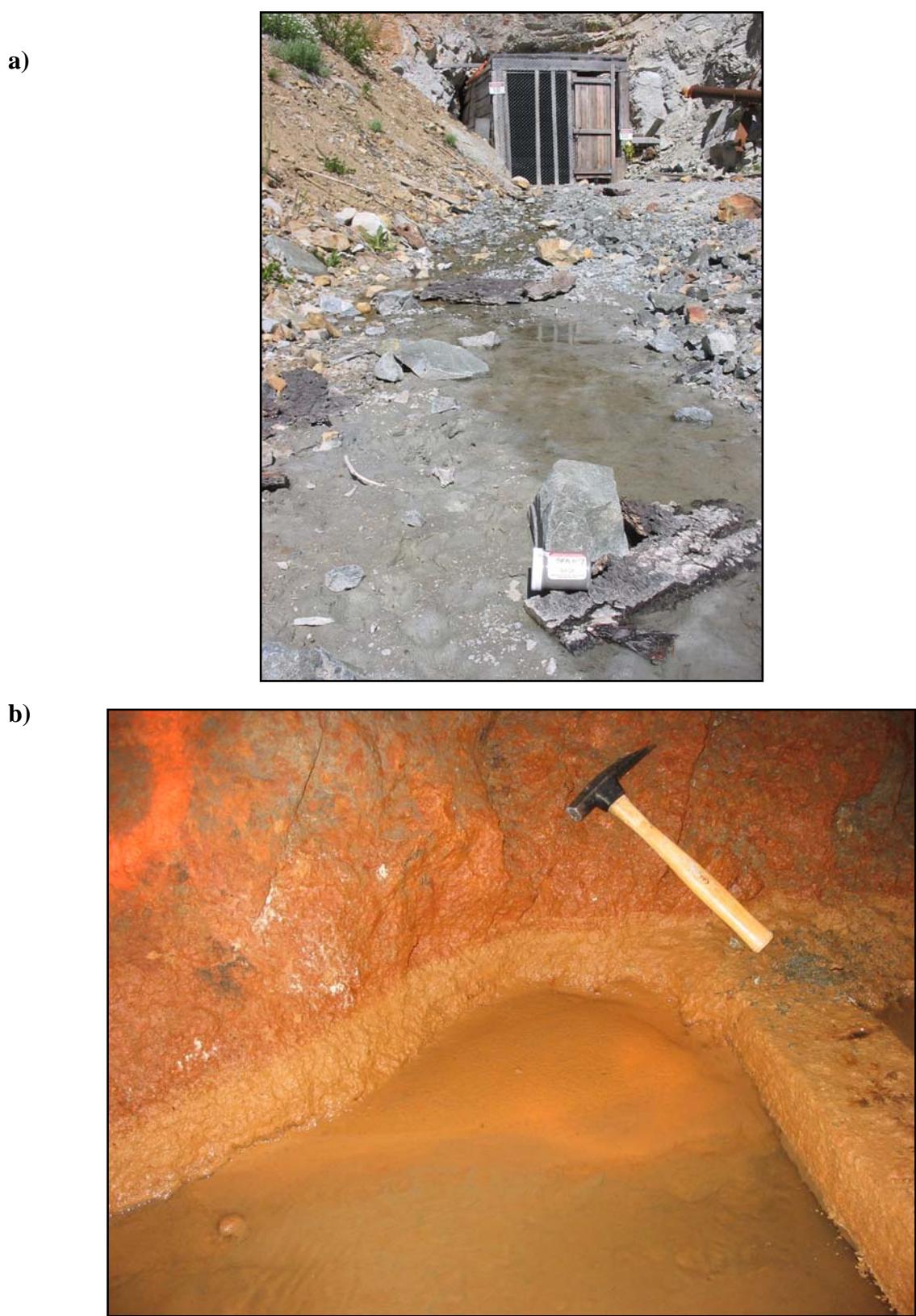
From 2006 to 2008, a total of 11 tailings samples were collected from the Bralorne tailings impoundment (Fig. 7), the Wayside Mine (Fig. 6), and from small deposits of historical stamp mill tailings near the Pioneer and Coronation mines (Fig. 14). Tailings-influenced streambank sediments were also located near the Pioneer Extension Mine on Cadwallader Creek, and on the floodplain of the Bridge River immediately upstream of Carpenter Lake (Fig. 20). A total of 48 sediment samples were taken from streams throughout the Bridge River District, from various adits draining flooded mine workings, and from the Fe-rich sediments located within the 800-Level underground workings at Bralorne (Fig. 21). Finally, three waste rock samples were collected from the Bralorne, Upper Peter and Congress (Lou Zone) mines to help characterize the bulk chemistry and mineralogy of these deposits (Figs. 13-15).

At each sampling site, a shovel or trowel was used to dig holes for sampling (Fig. 6) and samples were taken from the top 0-5 cm for stream sediments, and from 0-10 cm for mine tailings. At several sites with deeper sediments and/or tailings, samples were collected from 0-85 cm to check for down-hole variations in bulk chemistry and mineralogy.

All tailings and sediment samples were stored in air-tight, 125 mL high-density polyethylene (HDPE) vials in the field and placed in a cooler at 4°C during transport to the laboratory. Waste rock samples were stored in plastic bags before laboratory processing. Appendix B contains brief descriptions and coordinates for all sediment, tailings and waste rock sample sites, as well as the full geochemical dataset for each sample.

**a)****b)**

**Fig. 20.** (a) Floodplain deposits consisting of overgrown coarse, sandy sediments and tailings with abundant Fe-oxides along Cadwallader Creek, just downstream of the Pioneer Extension Mine (Sites SS27, SS28; Fig. 14, Appendix A). (b) Sediments on grassy floodplain of Bridge River, approximately  $\frac{3}{4}$  km northeast of Gold Bridge (Sites SS16-19; Fig. 13, Appendix A).



**Fig. 21.** (a) Fine-grained, grey sediments in mine drainage channel outside the Upper Peter adit, Bralorne Mine (Site SS05; Fig. 14, Appendix A). (b) Orange, Fe-rich sediments in the 800-Level workings at the Bralorne Mine (Site SS44; Fig. 15, Field ID PNA08-BRA08 in Appendix A).

### **Stream water and mine drainage**

All waters were collected using field and analytical protocols suitable for low-level (i.e.  $\mu\text{g/L}$ , or part-per-billion and  $\text{ng/L}$ , or part-per-trillion) trace element determinations (Hall 1998; Hall *et al.* 2002). Prior to fieldwork, bottle sets were prepared in the lab by triple-rinsing 60 mL HDPE bottles (Nalgene® 2114-0002) with Milli-Q® water for collection of cation and anion samples, and by triple-rinsing 60 mL polypropylene (PP) bottles (Nalgene® 2110-0002) with Milli-Q® water for collection of Hg samples. Each sampling kit was pre-loaded with five 60 mL bottles: two HDPE bottles for collection of filtered and unfiltered cation samples, one HDPE bottle for collection of samples for anion, dissolved organic carbon (DOC), and alkalinity analyses, and two PP bottles for collection of filtered and unfiltered Hg samples. The sampling kits were also pre-loaded with an all-plastic 50 mL syringe (Norm-Ject® Sterile Luer-Lock Syringe), and several Sterivex™ capsule filters with a  $0.45\ \mu\text{m}$  Durapore membrane.

Field sampling was carried out by a two-person team using a “clean-hands / dirty-hands” approach, whereby the “dirty-hands” person collected the surface water sample using a 1 L bottle and made all on-site water quality measurements (e.g. pH, specific conductance, temperature), and the “clean-hands” person carried out the water filtration on-site using non-powdered nitrile gloves and careful handling to prevent contamination of the water samples. To condition each bottle, the containers were rinsed on-site with the water that was to be sampled. Duplicate water samples were collected at every tenth sample site (or at least once per day), and travel blanks, acid blanks, and sample blanks were prepared two to three times per field program. Once all samples were processed, they were stored at  $4^\circ\text{C}$  in a cooler for transport to the field laboratory.

Within 12 hours of sample collection, 60 mL samples for cation analyses were preserved with 0.5 mL of 8 N ultrapure nitric acid (J.T. Baker® ULTREX II grade), and 60 mL samples for Hg analyses were preserved with 0.5 mL of ultrapure BrCl. Once removed from the field, the samples were stored in the dark at  $4^\circ\text{C}$ , and then shipped to the Analytical Method Development Laboratory at GSC Ottawa for analysis within 90 days.

In June and October 2008, water samples were also collected for analysis of inorganic arsenite [ $\text{As(III)}$ ] and arsenate [ $\text{As(V)}$ ] concentrations. Samples were filtered in the field to  $<0.45\ \mu\text{m}$  and collected in opaque 60 mL HDPE bottles (Nalgene® 2106-0002) to prevent photocatalyzed As(III) oxidation by Fe(III) (Hall *et al.* 1999; McCleskey *et al.* 2004). Within 12 hours of sample collection, the As species in each 60 mL sample were stabilized by adding 3 mL of 0.25 M EDTA, then storing the sample in the dark at  $4^\circ\text{C}$  until analysis at GSC Ottawa.

In June 2008, the concentrations of dissolved ferrous iron ( $\text{Fe}^{2+}$ ) and total dissolved sulphide ( $\text{H}_2\text{S} + \text{HS}^-$ ) were measured to assess the redox conditions controlling mine drainage compositions. Samples were filtered in the field to  $<0.45\ \mu\text{m}$  and collected in opaque 60 mL HDPE bottles (Nalgene® 2106-0002) to prevent Fe(II) oxidation (Ficklin and Mosier, 1999). Both  $\text{Fe}^{2+}$  and total sulphide were measured in the field within 12 hours of sample collection.

### ***Crown Shaft sampling***

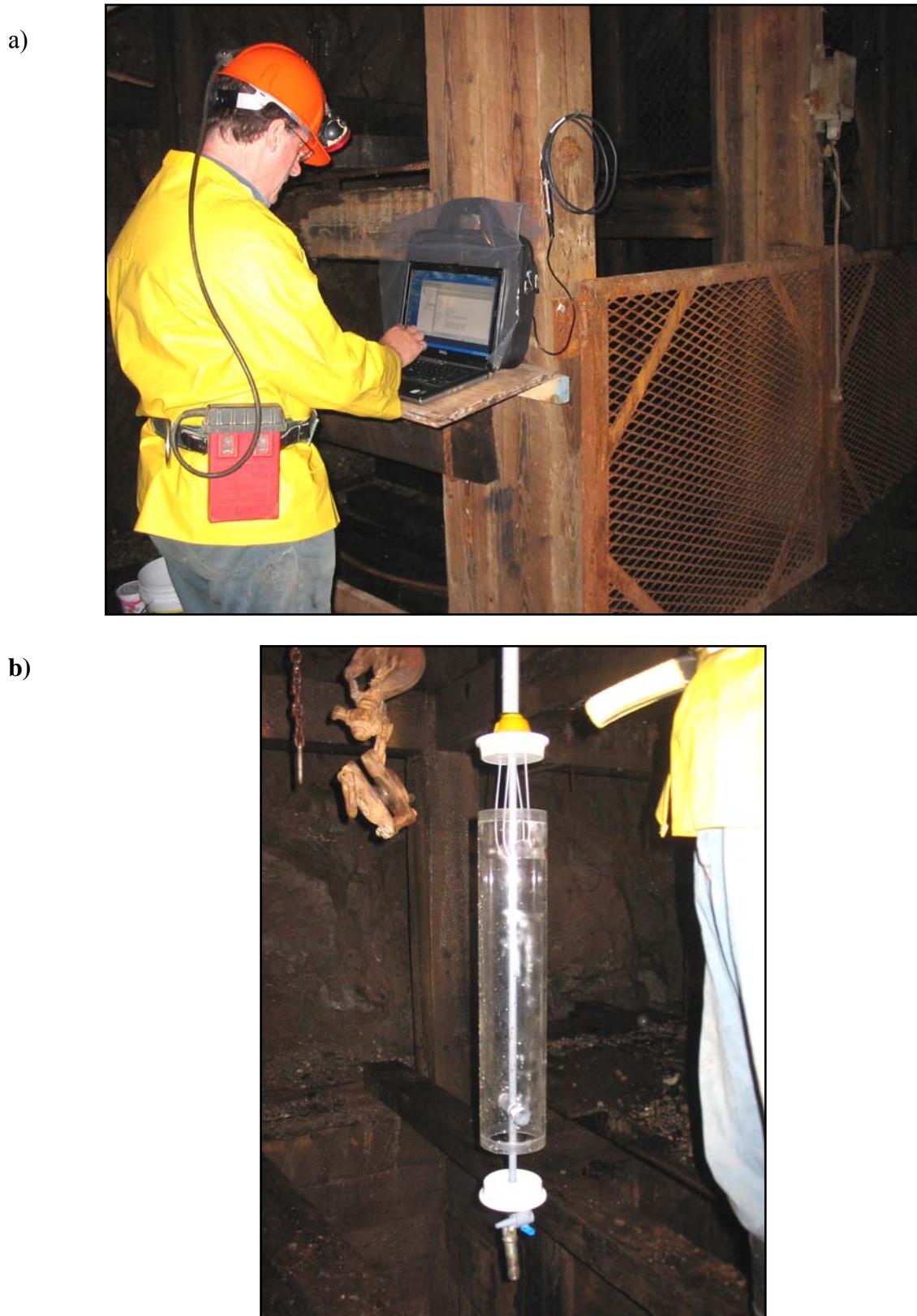
Water level and a suite of physico-chemical parameters were monitored in the Crown shaft using an In-Situ TROLL® 9500 submersible data-logger. The instrument was deployed from the shaft collar on the 800 Level, at a depth of approximately 14 m below the water surface (Fig. 22). The data-logger was configured with sensors for monitoring pressure (water level), electrical conductivity, temperature, pH and oxidation-reduction potential (ORP). Sensors were calibrated immediately prior to the first instrument deployment in June 2008 and again in October 2008, upon redeployment after a battery replacement. Measurement frequency was set at six hours. Instrument and sensor specifications can be found at the manufacturer's web site: <http://www.in-situ.com/products/Water-Quality/TROLL-9500-Instruments>.

In October 2008, water from the flooded Crown shaft was sampled from discrete depths using a Kemmerer bottle to check for down-shaft variations in water chemistry. Samples were collected from five depths: 1 m, 15 m, 30 m, 45 m, and 60 m (Fig. 22). Collection of water samples below this depth was not attempted, as the shaft was obstructed at approximately 90 m.

## **Laboratory Methods**

### ***Bulk chemistry of sediments and mine waste***

All tailings and sediment samples were homogenized, air dried at room temperature, and dry sieved to <177 µm at GSC Atlantic prior to chemical analysis. The <177 µm fraction was chosen for analysis to minimize the effects of grain-size variations on metal(loid) concentrations, and to allow direct comparison with results from previous exploration geochemistry surveys (Ballantyne et al., 1981; Jackaman and Matysek, 1994). Samples of waste rock were crushed to -100 mesh using a ceramic shatterbox. Analyses of major and trace elements were performed at Acme Analytical Laboratories in North Vancouver, BC. Samples were digested using modified *aqua regia* (0.50 g of sample digested in a solution containing 2.0 mL HCl, 2.0 mL HNO<sub>3</sub>, and 2.0 mL H<sub>2</sub>O at 95°C for one hour) and analyzed for 53 elements following the Acme 1F-MS Ultratrace Inductively Coupled Plasma – Mass Spectrometry (ICP-MS) protocol. Samples with concentrations of As, Hg, or Sb greater than the upper limit of the 1F-MS package were re-analyzed using Acme's 7AR Multi-Element Assay by Inductively Coupled Plasma – Emission Spectrometry (ICP-ES) protocol following *aqua regia* digestion (Appendix B). Certified reference materials STSDs 1-4 (Lynch 1990, 1999) and duplicate samples were used to monitor analytical accuracy and precision, which were generally within ± 5 to 10% of the expected values for most elements (Appendix B). Total carbon content of the tailings and soils was measured in 0.5 g sub-samples at GSC Atlantic using a LECO WR-112 carbon analyser. Organic carbon concentrations were analysed following removal of the inorganic carbon using 1 M HCl. Inorganic carbon concentrations were calculated by difference. Precision and accuracy were approximately ± 0.05 wt.% based on replicate analyses of calibration standards.



**Fig. 22.** (a) Laptop computer connected to submersible data-logger suspended 14 m below the water surface in the flooded Crown shaft, Bralorne Mine. (b) Kemmerer bottle used to sample water from discrete depths within the flooded Crown shaft in October 2008.

### ***Water analysis***

All surface water samples were sent to the Analytical Method Development labs at GSC Ottawa for measurement of cations, anions, Hg, alkalinity, and DOC concentrations. Major element concentrations were measured using a PerkinElmer model 3000 DV ICP-ES, and minor and trace elements were measured using a Thermo X7 Series II ICP-MS. Detection of Hg concentrations with values less than 10 ng/L was carried out using a Tekran 2600 Hg analyzer, with a detection limit of 0.5 ng/L. Determinations of anion concentrations were made with a Dionex DX-600 ion chromatograph using an AS-18 column and gradient elution. Dissolved organic carbon was measured on a Shimadzu TOC-5000 analyzer following removal of inorganic carbon using phosphoric acid. Alkalinity measurements of the waters were completed using a PC-Titrate system. Samples for As speciation were analyzed by liquid chromatography-ICP-MS in a similar manner to that described by Hall et al. (1999), but using a Dionex AS7 anion exchange column and gradient elution with 2.5 – 50 mM HNO<sub>3</sub> in 2% methanol as the mobile phase to separate As(III) and As(V). For each type of water analysis, measurements were routinely performed on one or more certified standards of known concentrations. Analytical results for field blanks from each trip were at or below detection limits for all analytes, except for B, Ba, Ca, Na, Si, and Zn in the laboratory water used to prepare acid and sample blanks in July 2007 (this water source was replaced from October 2007 onwards). The full geochemical dataset for all waters analyzed during this study is compiled in Appendix D.

In June 2008, total sulphide and Fe<sup>2+</sup> were analyzed in filtered waters in the field using a HACH DR/2400 spectrophotometer. Sulphide was measured at 665 nm wavelength using a methylene blue method (Hach method 8131). Ferrous Fe was measured at 562 nm wavelength using the FerroZine® method (Hach method 8147). The results of these measurements showed that the concentrations of sulphide and Fe<sup>2+</sup> were below the instrumental detection limits (~10 µg/L for both analytes) for all samples except for the upwelling point within the 800-Level workings.

### ***Mineralogy of sediments and mine waste***

The mineralogy of sediment, tailings, and waste rock samples was determined by X-ray powder diffraction (XRD) analysis. The bulk fraction (< 2 mm) was pressed into sample holders to make a random mount whereas 40-mg suspensions (in water) of the clay-size (<2 µm) separates were pipetted onto glass slides and air-dried overnight to produce oriented mounts. X-ray patterns were recorded on a Bruker D8 Advance powder diffractometer equipped with a monochromator and Co Kα radiation set at 40 kV and 40 mA. The clay-size samples were also X-rayed following saturation with ethylene glycol and heat treatment (2 hours, 550 °C). Scans were captured digitally and processed using JADE (Materials Data, Inc.) software. Semi-quantitative estimates of minerals (wt.%) were calculated by least-squares fitting based on a suite of reference minerals using quartz as an internal standard. For more methodological details see Percival et al. (2001).

## RESULTS

### Distribution of metal(loid)s in stream sediments and mine waste

The spatial distributions of As, Au, Hg, Sb, and W in sediments, tailings, and waste rock samples are shown in a series of proportional dot maps in Figures 23-37. Arsenic, Hg, and Sb were chosen for display as they represent the main contaminants of concern in the study area, whereas Au and W are both of economic interest and useful for tracking the dispersion of historical mine wastes. The concentrations of each element are illustrated on maps at three different scales: one covering most of the Bridge River Mining District, another showing Cadwallader Creek near the Bralorne and Pioneer mines, and one showing samples within the 800-Level underground workings at Bralorne. On these maps, the metal(loid) concentrations have been separated into six classes using the following percentile breakdown: minimum–25th, 25th–50th, 50th–75th, 75th–90th, 90th–95th, and 95th–maximum. These percentile ranges were calculated using the entire dataset for each element; therefore, some maps do not contain samples that fall into all six percentile classes. Appendix B provides summary statistics for metal(loid) concentrations in all sediment and mine waste samples analysed during this study.

The variability in element concentrations on these maps for a given sample type is controlled by numerous factors including differences in the underlying bedrock geology, the effects of natural mineralization, and disposal of wastes from past mining and mineral processing activities. These maps can be used to identify point sources of metal contamination, and to estimate the range in baseline concentrations for a given element in the Bridge River Mining District. In the subsequent Discussion section, results from this study are combined with data from exploration geochemistry surveys to calculate baseline ranges for As, Hg, and Sb.

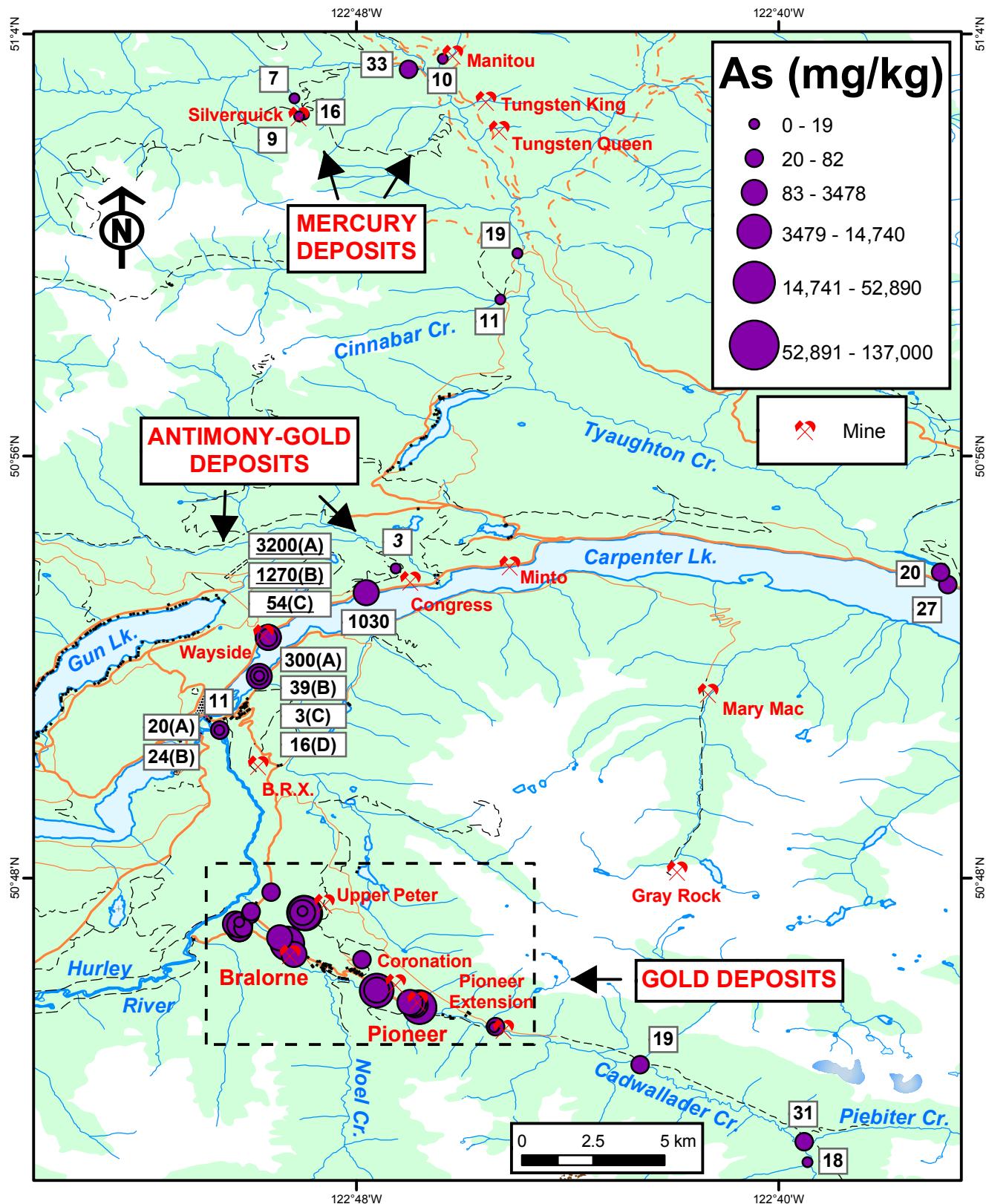
The distribution of As, Hg, and Sb in stream sediments throughout the Bridge River District reflects the geochemical zonation associated with regional hydrothermal mineralization during the Late Cretaceous (Hart et al., 2008; Moore et al., 2009). In general, the highest As and Au concentrations are found near Au-dominant deposits in the southwest (Figs. 23, 26), the highest Sb values are located near Sb-dominant deposits around Carpenter Lake (Fig. 32), and Hg concentrations are greatest in the northern part of the district near the Silverquick and Manitou Hg mines (Fig. 29). This zonation reflects the influence of a single, deep-crustal hydrothermal system that deposited As and Au from the hottest fluids, Sb from the intermediate and Hg from the coolest fluids (Fig. 2; Moore et al., 2009). The concentration of W is relatively low (<0.1–3.2 mg/kg) and uniform in stream sediments throughout the study area, with the highest value (3.5 mg/kg) found downstream of the Chalco skarn deposit on Piebiter Creek (Figs. 35–36).

One goal of the present study was to evaluate the dispersion of historical mine wastes throughout the Bridge River District, and to assess potential risks to ecosystem health. As expected, historical tailings located near the Bralorne, Pioneer, and Wayside mines have much higher concentrations of As (Fig. 38), Au, Sb (Fig. 40), and W as compared to the stream sediment samples collected during this study. Mercury concentrations are also elevated (up to 29.4 mg/kg; Fig. 39) in the historical mine tailings, reflecting the past use of Hg in Au recovery (Figs. 5, 6). As shown in Table 1, approximately 7,312,113 tonnes of tailings have been produced by the various milling operations in the Bridge River District since 1898. Until 1971, much of this

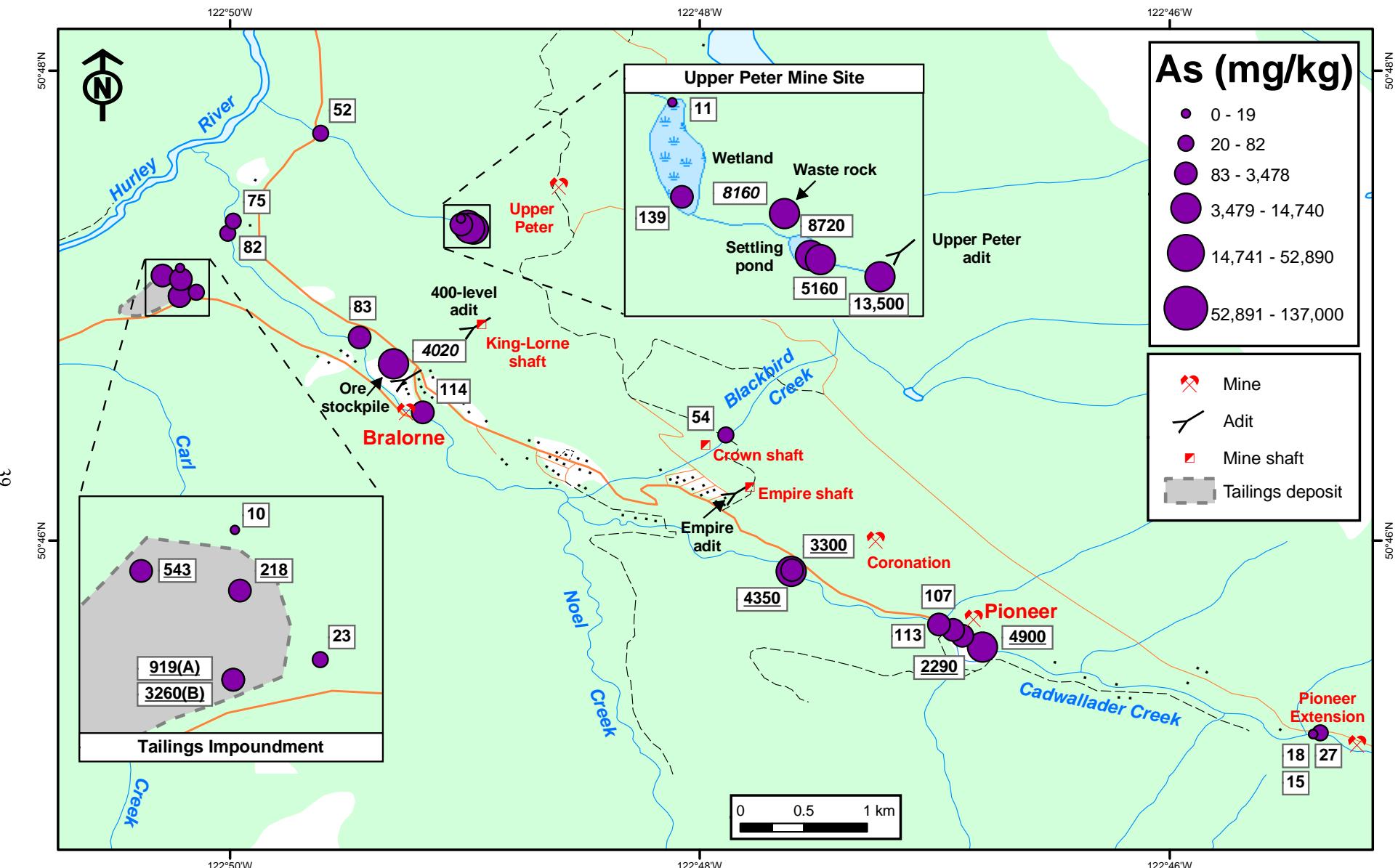
material was discharged directly into local creeks and rivers (Fig. 10). Several small tailings deposits are visible near the remains of former mill sites (Fig. 6); however, it is generally difficult to distinguish tailings from fine-grained natural sediments based on their appearance alone (Fig. 20). Figure 41 shows the concentrations of As, Au, Hg, Sb, and W in stream sediments collected from a 25-km-long stretch of Cadwallader Creek, from Piebiter Creek downstream to the confluence with the Hurley River (Figs. 13,14). Several mines are known to have discharged tailings into Cadwallader Creek in the past, including the Bralorne, Pioneer, and Pioneer Extension mines. Other sources of metal input to the creek include erosion of mineralized quartz veins and the Chalco skarn deposit (Fig. 1), and past discharges of As-rich mine drainage from the 800-Level workings of the Bralorne Mine (Fig. 7a).

As shown in Fig. 41, the concentrations of Sb in stream sediments from Cadwallader Creek are relatively low and consistent and show no obvious signs of mining-related impacts. The concentrations of Hg are also relatively low in most samples, with the exception of one anomalously high value (655 µg/kg) in streambank sediments adjacent to the Pioneer Extension Mine (samples SS27 and SS28 on Fig. 14). Sediments at this latter site are sandy and overgrown (Fig. 20a), but their relatively high Hg content and Fe-oxide staining suggests that they are tailings from the former milling operations at the Pioneer Extension Mine. Tungsten concentrations near the mouth of Piebiter Creek (3.5 mg/kg) are the highest measured in all stream sediments collected during this study, and the elevated W levels in sediments collected adjacent to the former mill at the Pioneer Mine (Fig. 5b) are likely from mining of scheelite veins reported in this deposit (Church, 1996). The concentrations of both As and Au are consistently higher in stream sediments collected downstream of the Pioneer Mine as compared to upstream sites (Fig. 41). Elevated As and Au values near the Pioneer Mine likely reflect the presence of tailings from the ruins of the cyanide plant, and possibly erosion of mineralized quartz veins in the creek bed. The significantly higher concentrations of As that persist in sediments near the Bralorne Mine and further downstream may also include a contribution from past releases of As-rich water from the 800-Level workings to Cadwallader Creek (Fig. 7a). Overall, the results of this study suggest that most of the tailings that were discharged directly to Cadwallader Creek during historical mining operations have been transported further downstream and may now form part of the sediments on the bottom of Carpenter Lake.

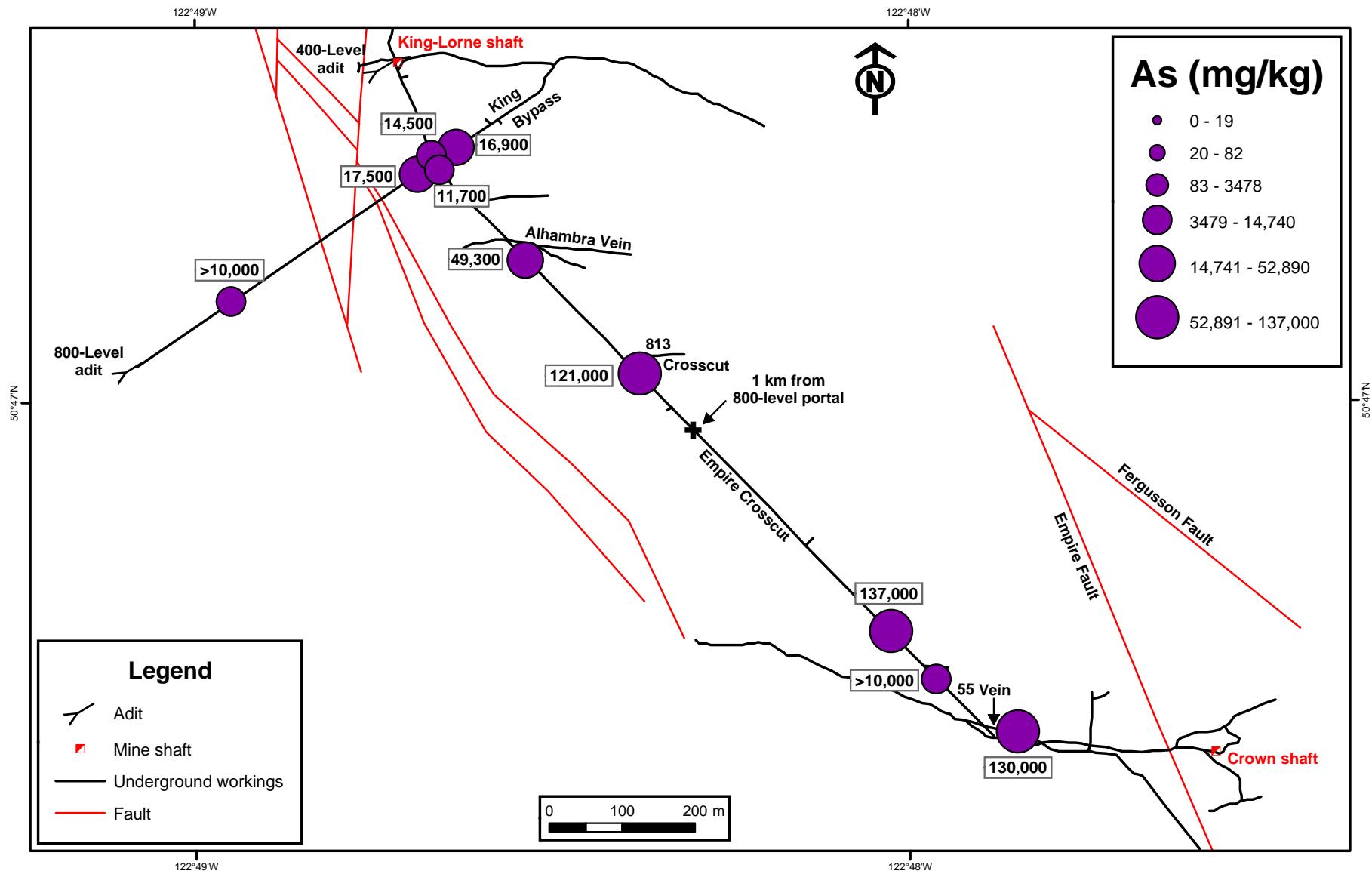
Sediments collected from the 800-Level underground workings of the Bralorne Mine contain very high concentrations of As (1.17-13.7 wt.%; median 3.34 wt.%; Fig. 25) and Au (58-5710 µg/kg; median 1010 µg/kg; Fig. 28), and moderately high levels of Hg (49-2950 µg/kg; median 1200 µg/kg; Fig. 31) and W (3-66 mg/kg; median 31 mg/kg; Fig. 37). The sediments throughout the 800-Level are very Fe-rich (Fig. 21b), and much of the As, Au, and W they contain was likely co-precipitated with hydrous ferric oxides during oxidation of the mine water (Strand, 2007). The presence of relatively high Hg levels in these sediments is surprising, and may reflect minor amounts of cinnabar in the Bralorne deposit, or perhaps weathering of historical Hg-bearing tailings that were used to backfill earlier mine workings. Antimony concentrations in the 800-Level sediments are also relatively high (6-27 mg/kg; median 14 mg/kg; Fig. 34), but lower than those found in sediments outside the Upper Peter adit at Bralorne (Fig. 21a). As discussed in Desbarats et al. (2011) and Beauchemin et al. (2012), mineralization in the Upper Peter workings contains a greater abundance of stibnite as compared to the workings of the historic Bralorne Mine and may represent a shallower part of the Bralorne hydrothermal system.



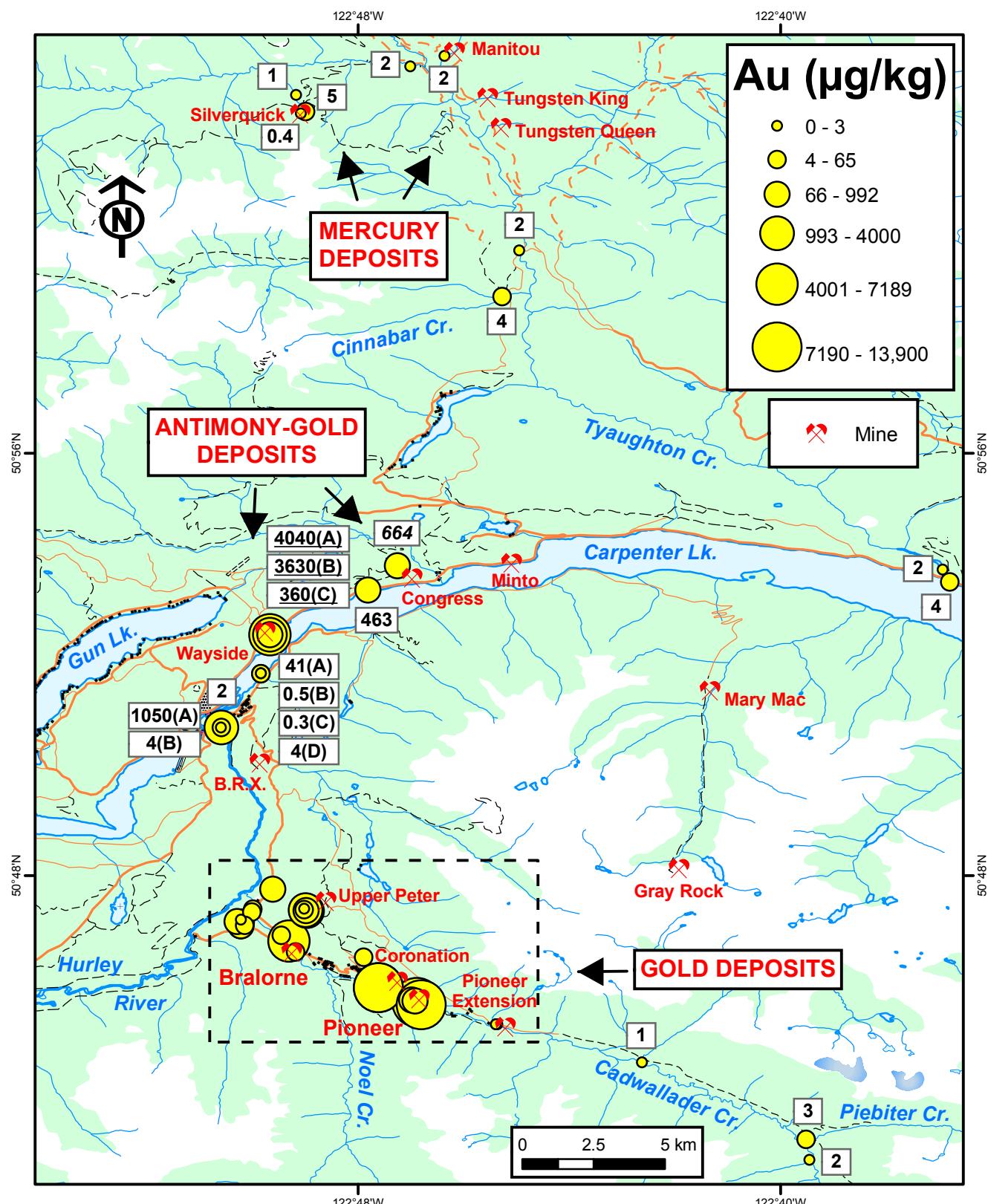
**Fig. 23.** Arsenic concentrations (mg/kg, <177 µm size fraction) in stream sediments, mine tailings (underlined values), and waste rock (*italicized*) collected from the Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-D. Figure 24 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer Mine sites.



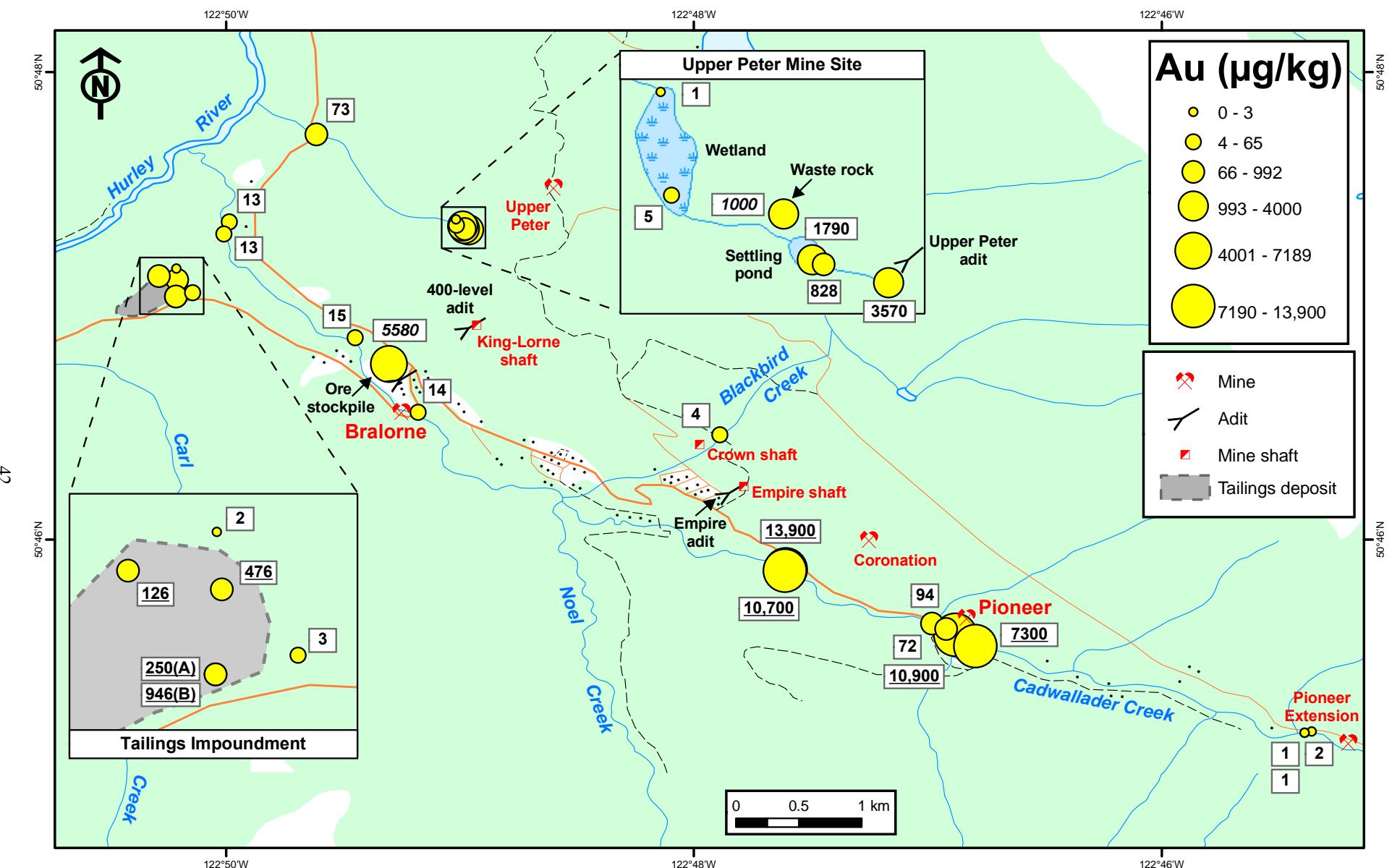
**Fig. 24.** Arsenic concentrations (mg/kg, <177 µm size fraction) in stream sediment, mine tailings (underlined values), and waste rock (*italicized*) samples collected in the vicinity of the Bralorne and Pioneer mine sites, Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-B.



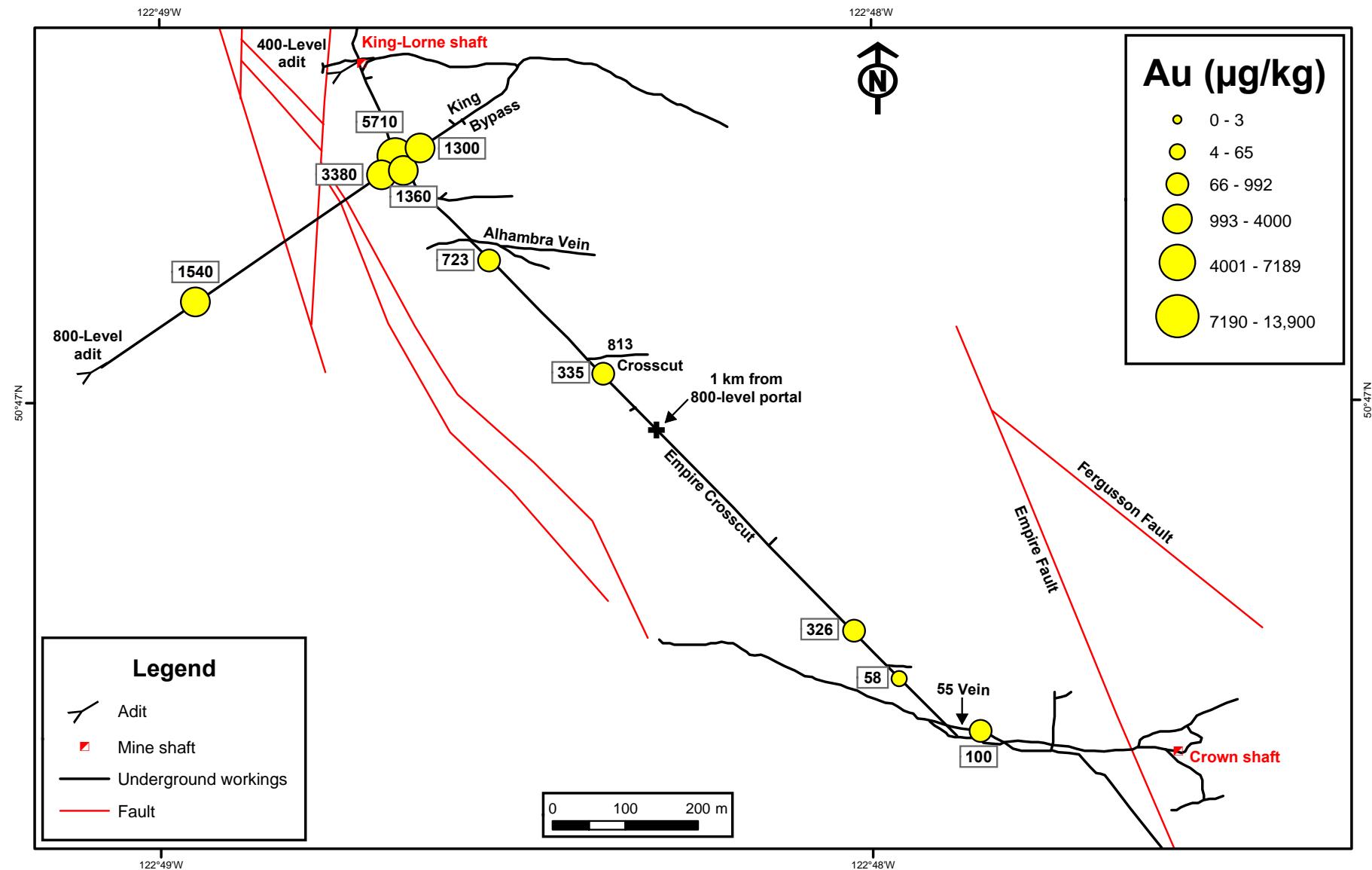
**Fig. 25.** Arsenic concentrations (mg/kg, <177 µm) in sediment samples collected within the 800-Level underground workings, Bralorne Mine site.



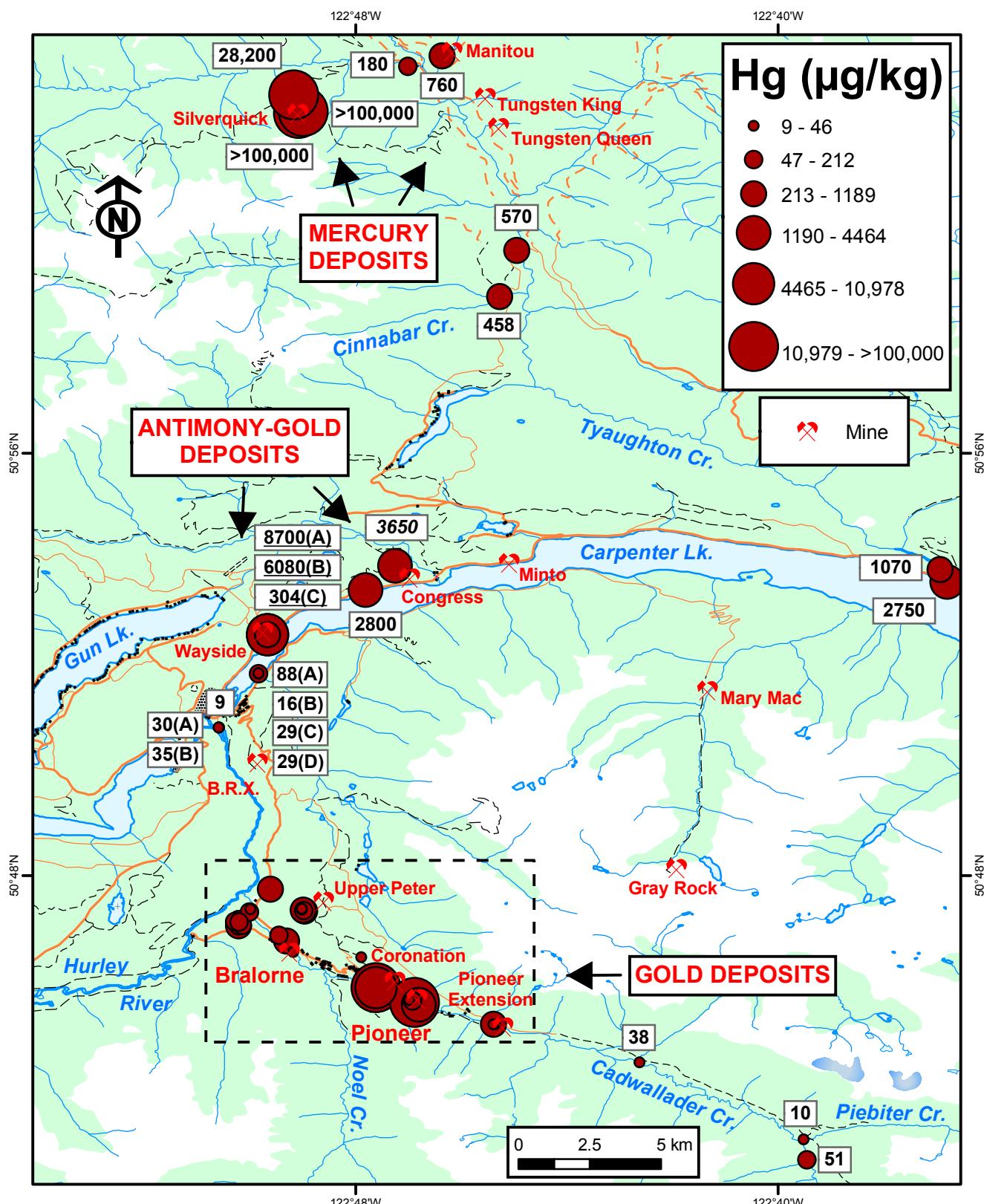
**Fig. 26.** Gold concentrations ( $\mu\text{g}/\text{kg}$ ,  $<177 \mu\text{m}$  size fraction) in stream sediments, mine tailings (underlined values), and waste rock (italicized) collected from the Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-D. Figure 27 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer Mine sites.



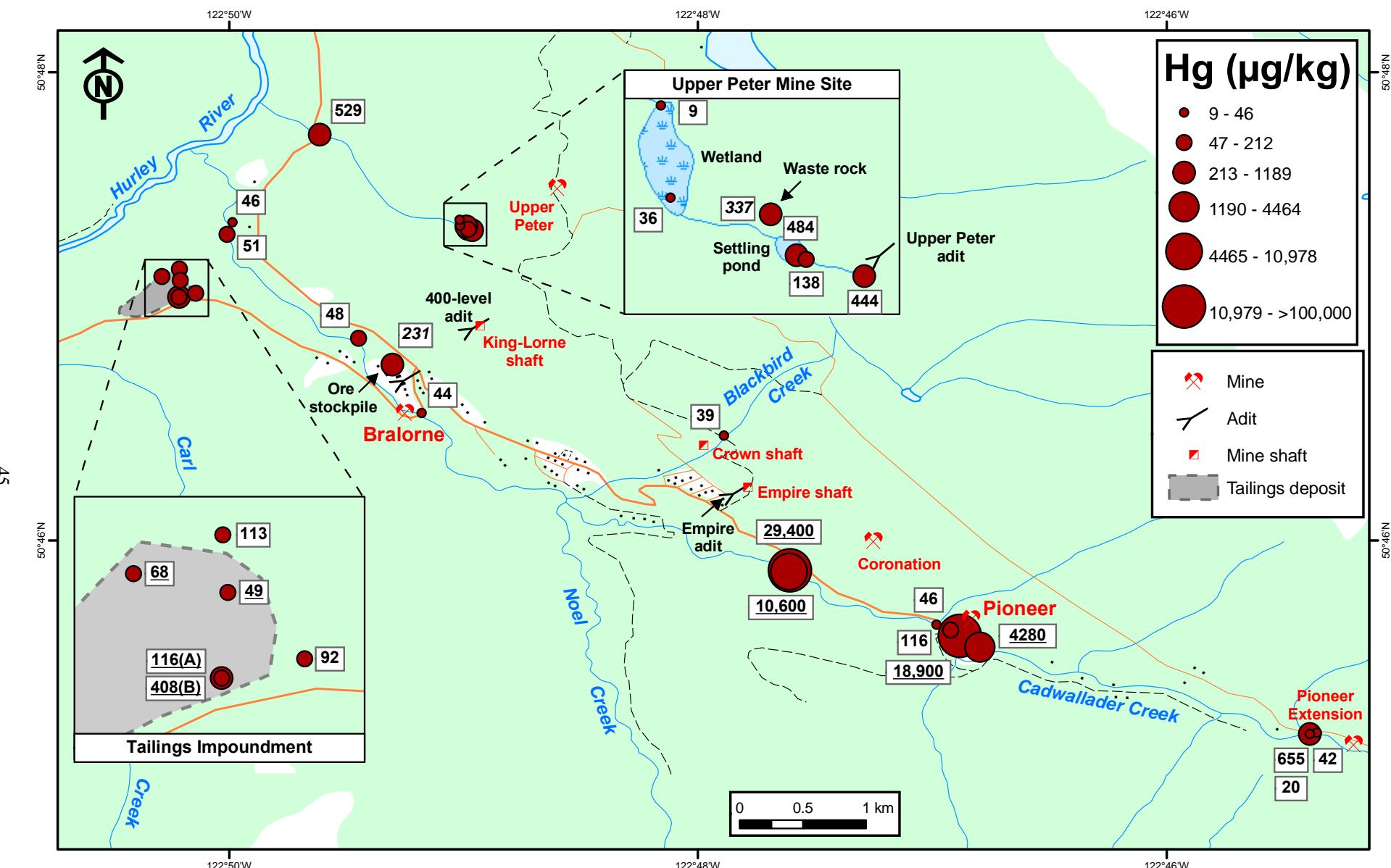
**Fig. 27.** Gold concentrations ( $\mu\text{g}/\text{kg}$ ,  $<177 \mu\text{m}$  size fraction) in stream sediment, mine tailings (underlined values), and waste rock (italicized) samples collected in the vicinity of the Bralorne and Pioneer mine sites, Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-B.



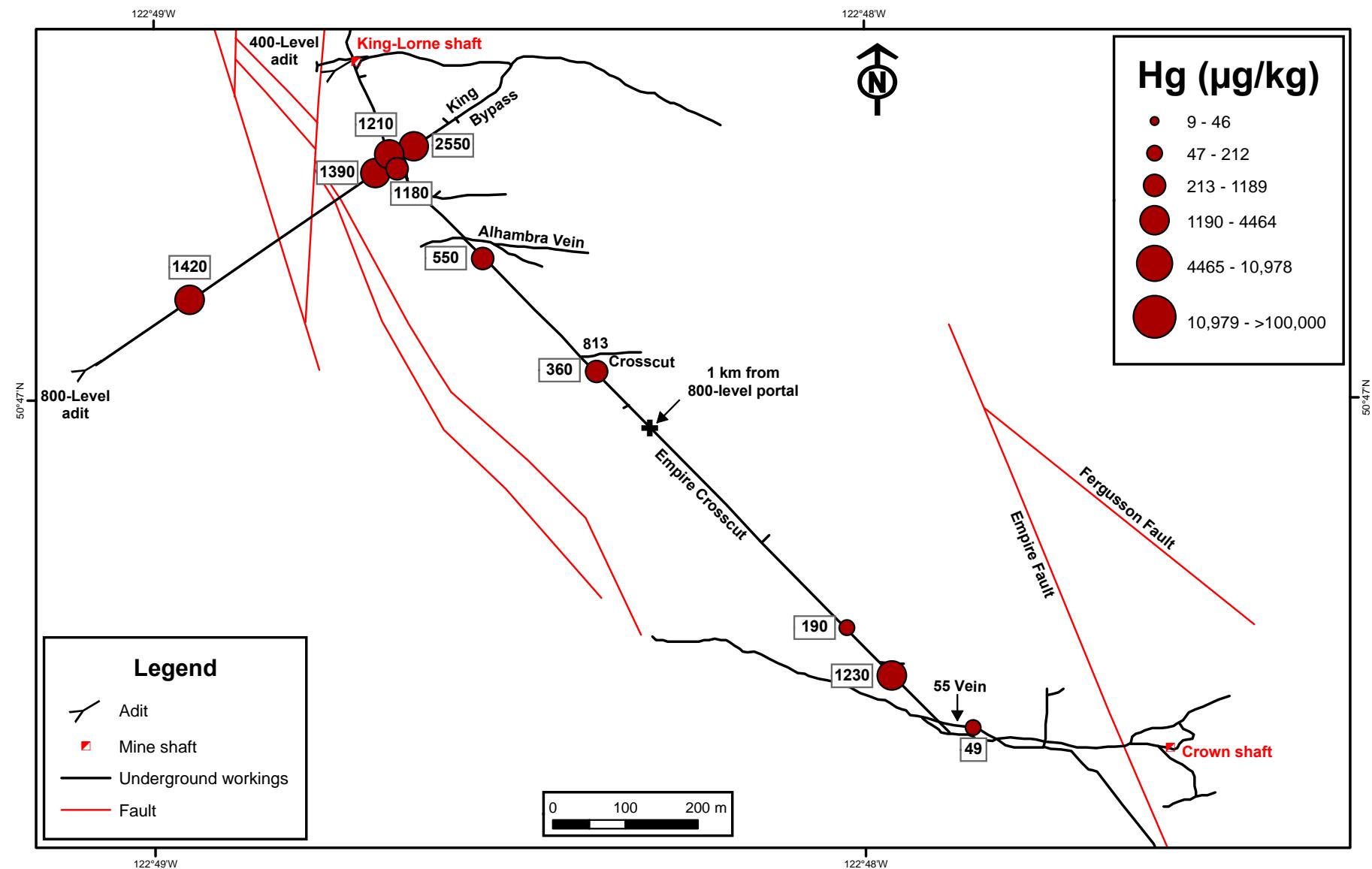
**Fig. 28.** Gold concentrations ( $\mu\text{g}/\text{kg}$ ,  $<177 \mu\text{m}$  size fraction) in sediment samples collected within the 800-Level underground workings, Bralorne Mine site.



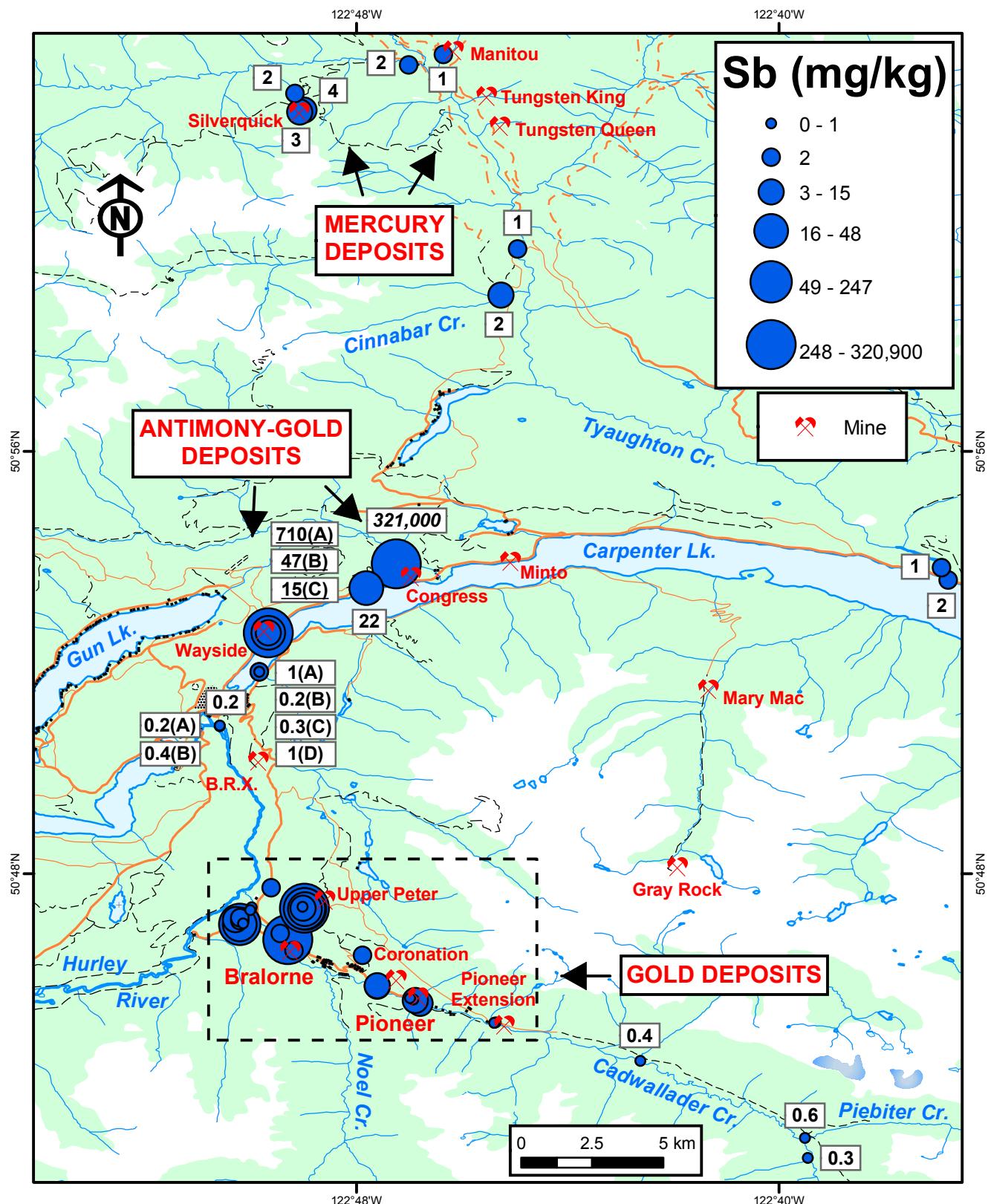
**Fig. 29.** Mercury concentrations ( $\mu\text{g}/\text{kg}$ ,  $<177 \mu\text{m}$  size fraction) in stream sediments, mine tailings (underlined values), and waste rock (*italicized*) collected from the Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-D. Figure 30 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer Mine sites.



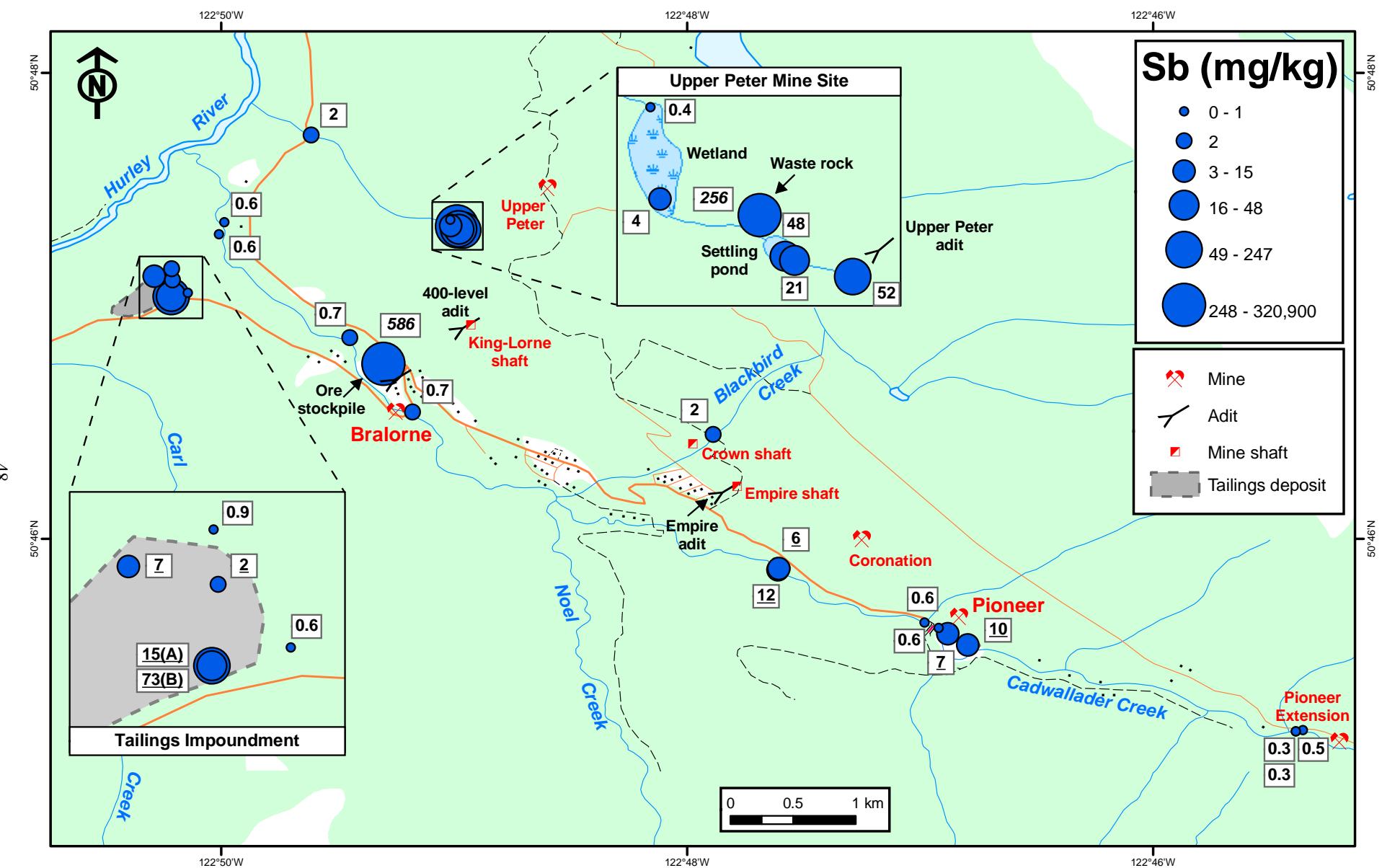
**Fig. 30.** Mercury concentrations ( $\mu\text{g}/\text{kg}$ ,  $<177 \mu\text{m}$  size fraction) in stream sediment, mine tailings (underlined values), and waste rock (italicized values) samples collected in the vicinity of the Bralorne and Pioneer Mine sites, Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-B.



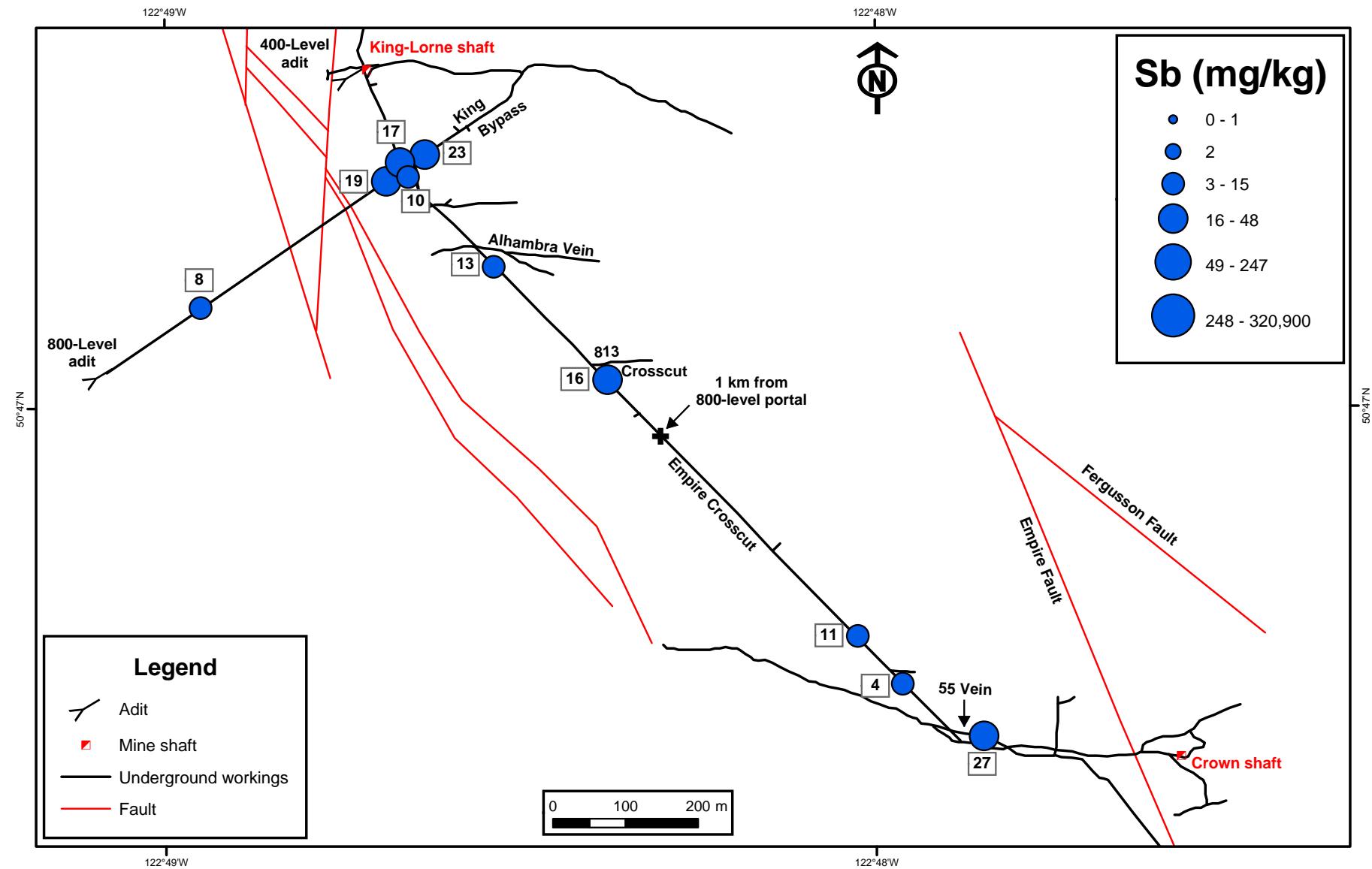
**Fig. 31.** Mercury concentrations ( $\mu\text{g}/\text{kg}$ ,  $<177$  size fraction) in sediment samples collected within the 800-Level underground workings, Bralorne Mine site.



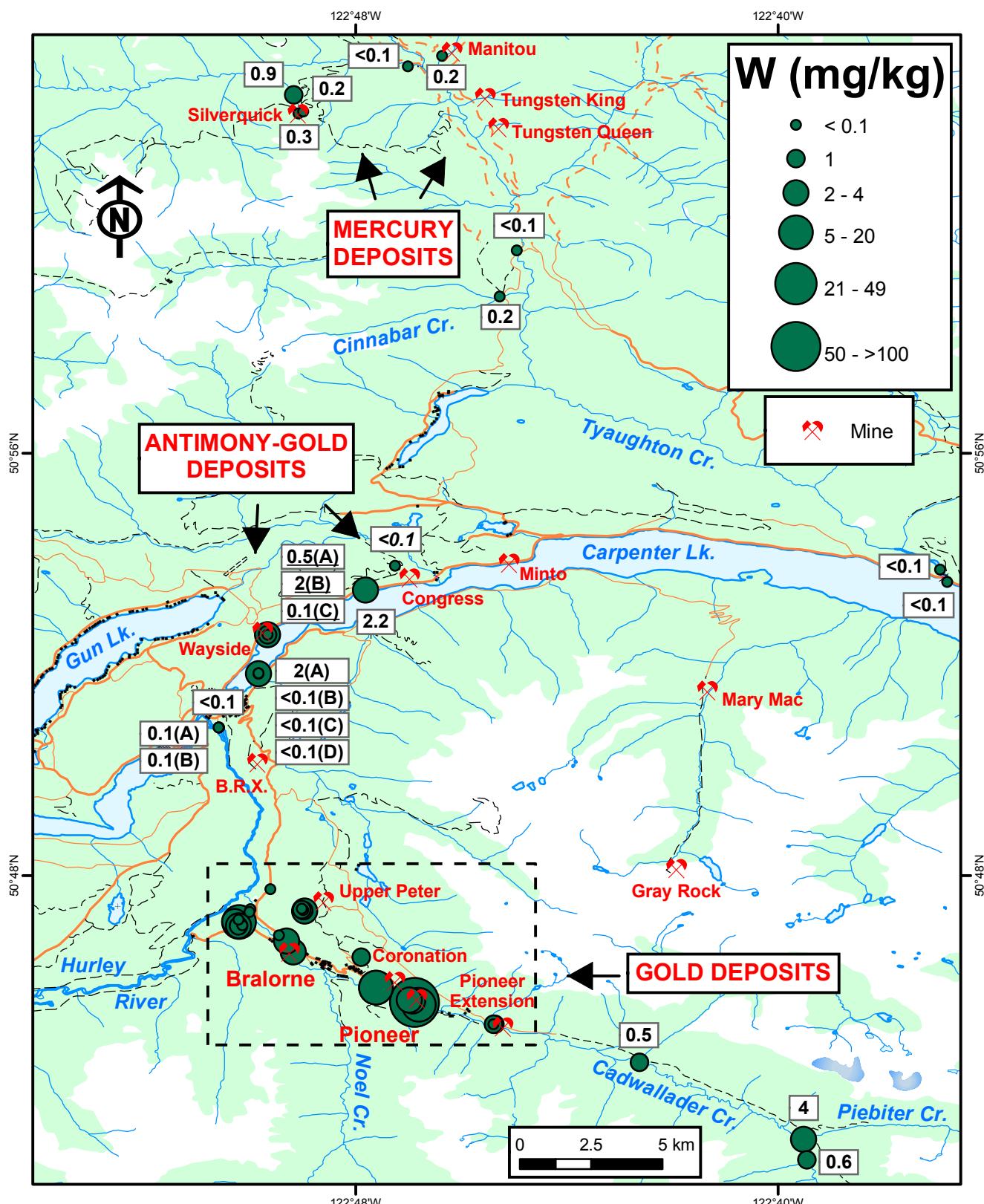
**Fig. 32** Antimony concentrations (mg/kg, <177 µm size fraction) in stream sediments, mine tailings (underlined values), and waste rock (*italicized*) collected from the Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-D. Figure 33 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer mine sites.



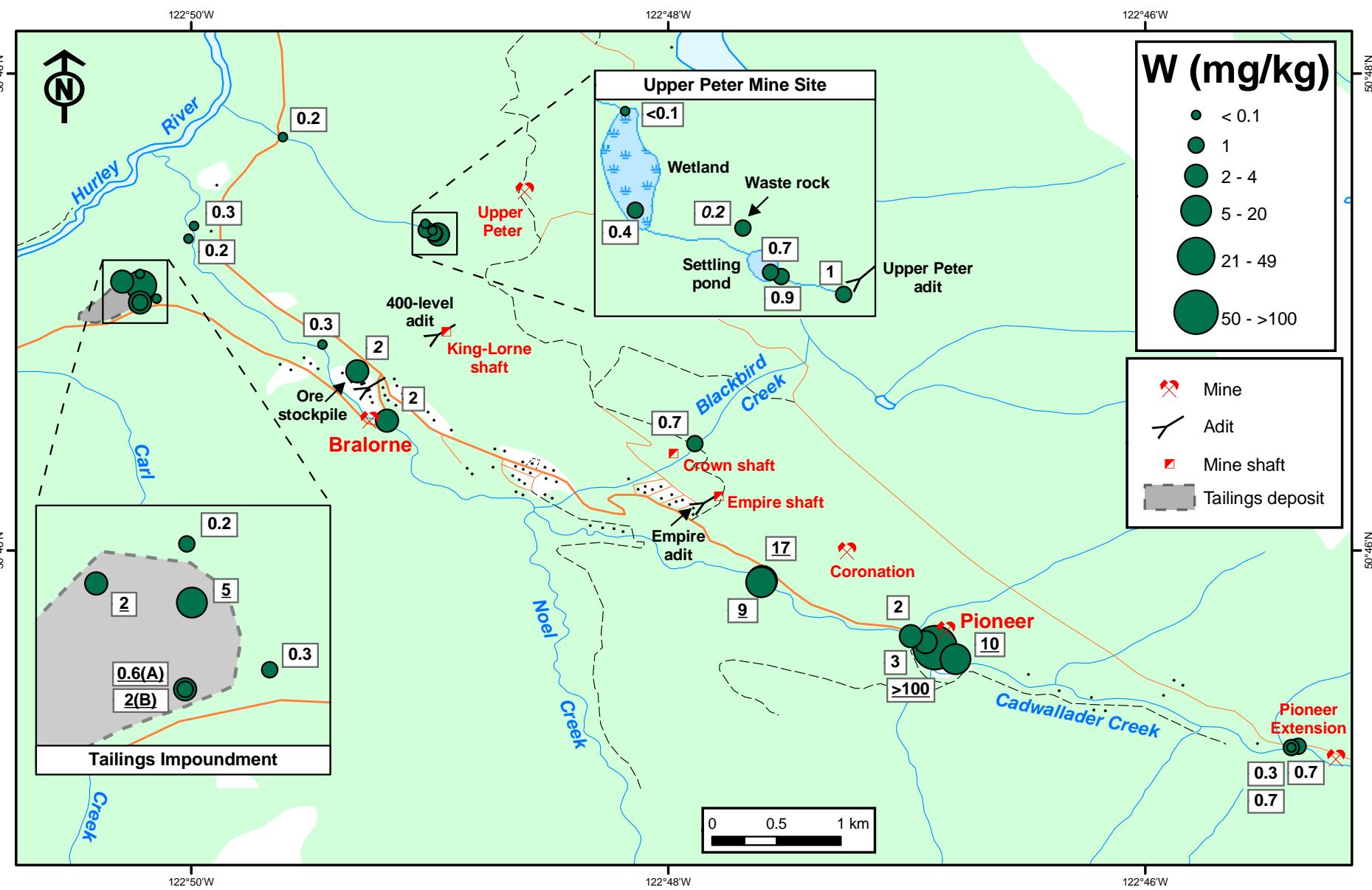
**Fig. 33.** Antimony concentrations (mg/kg, <177  $\mu\text{m}$  size fraction) in stream sediment, mine tailings (underlined values), and waste rock (italicized values) samples collected in the vicinity of the Bralorne and Pioneer Mine sites, Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-B.



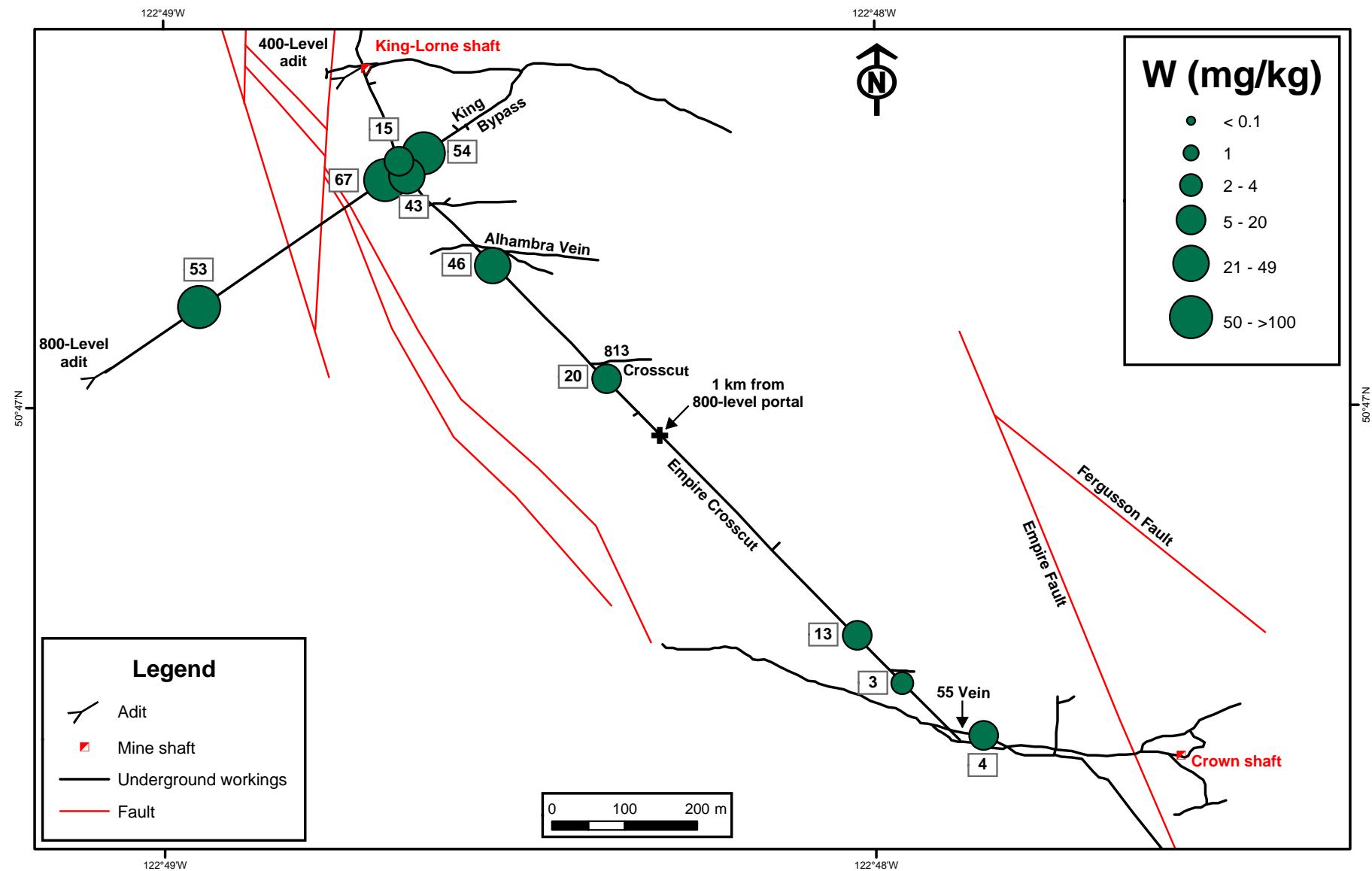
**Fig. 34.** Antimony concentrations (mg/kg, <177 µm size fraction) in sediment samples collected within the 800-Level underground workings, Bralorne Mine site.



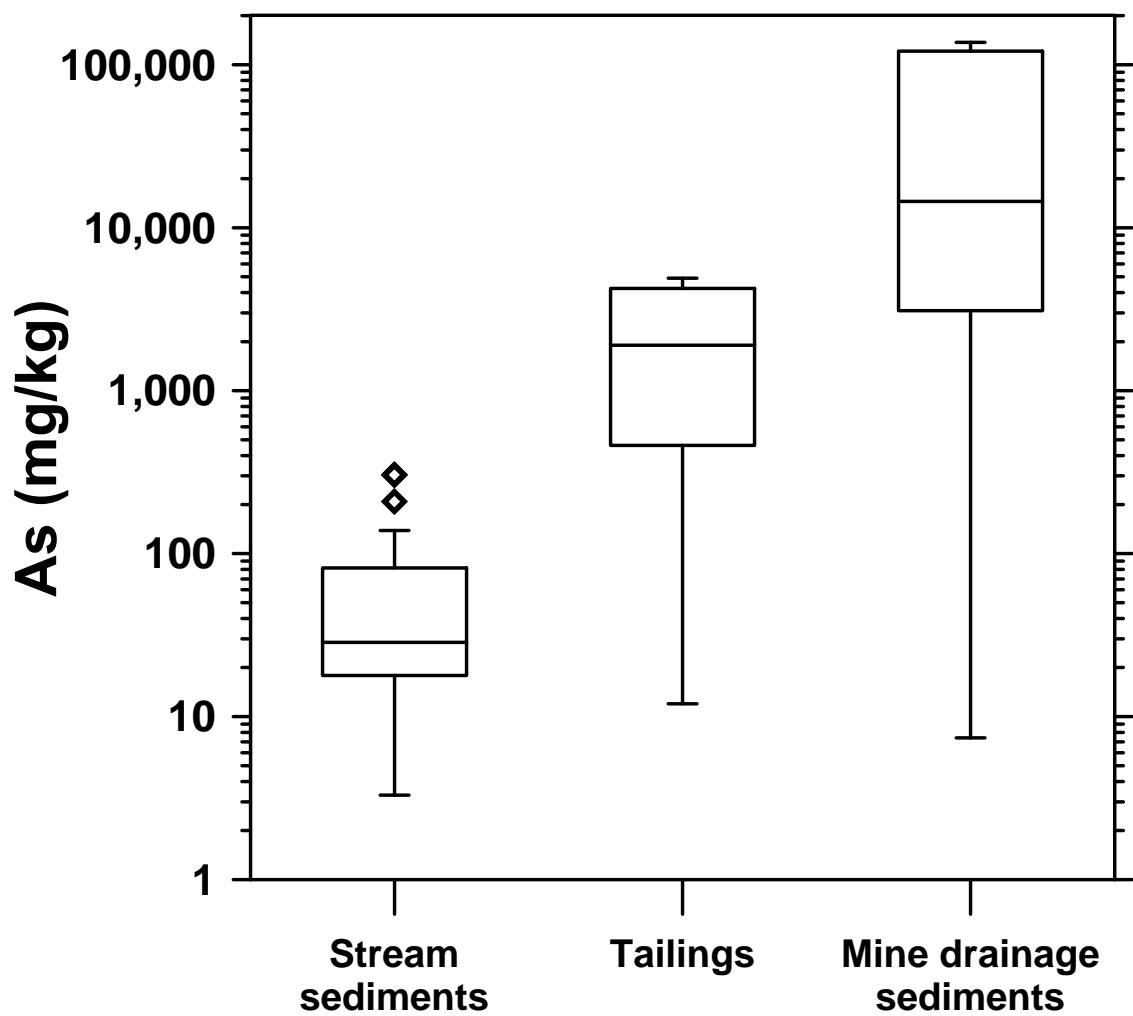
**Fig. 35.** Tungsten concentrations (mg/kg, <177  $\mu$ m size fraction) in stream sediments, mine tailings (underlined values), and waste rock (*italicized*) collected from the Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-D. Figure 36 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer mine sites.



**Fig. 36.** Tungsten concentrations (mg/kg,  $<177 \mu\text{m}$  size fraction) in stream sediment, mine tailings (underlined values), and waste rock (italicized values) samples collected in the vicinity of the Bralorne and Pioneer Mine sites, Bridge River mining district, 2006-2008. Horizon-based samples are indicated by letters, A-B.

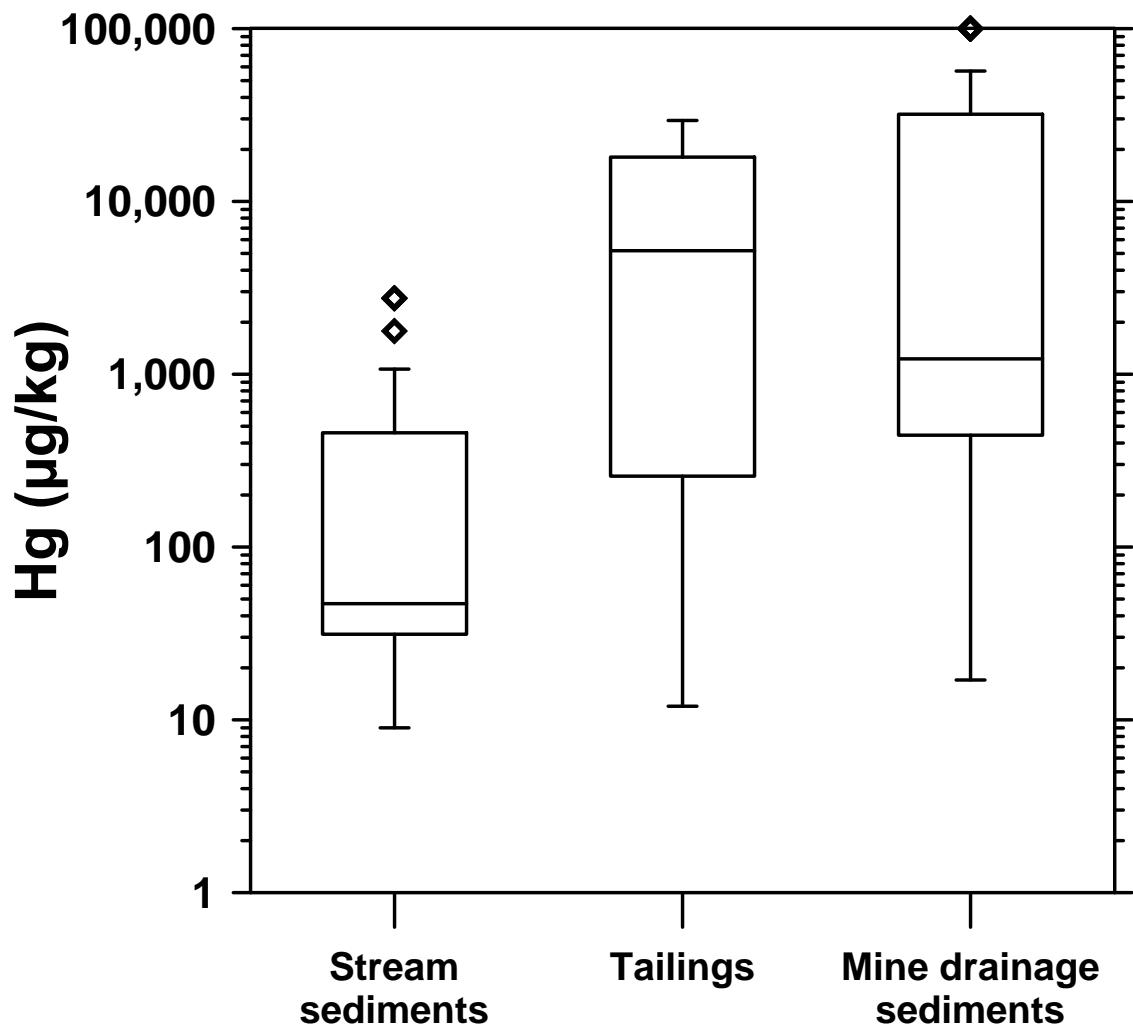


**Fig. 37.** Tungsten concentrations (mg/kg, <177 µm size fraction) in sediment samples collected within the 800-Level underground workings, Bralorne Mine site.



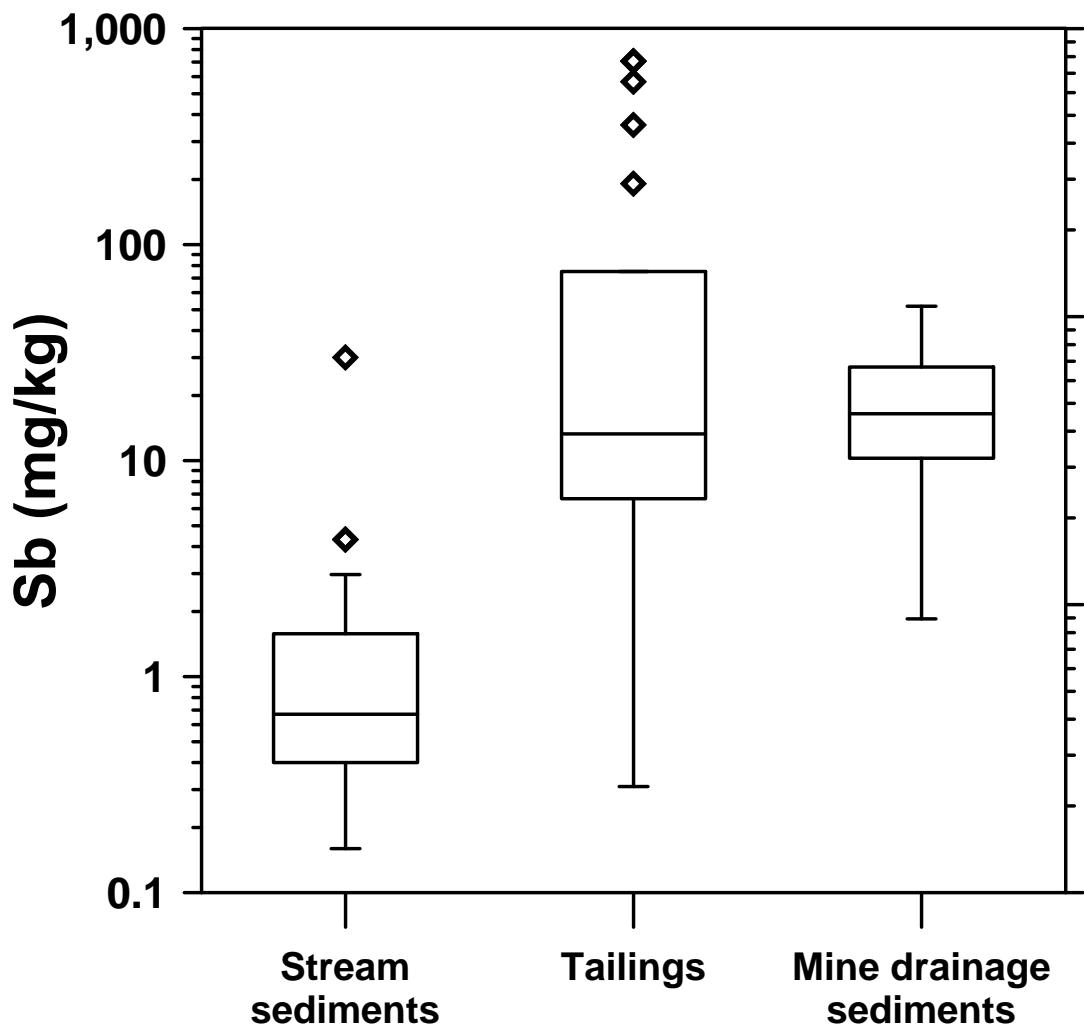
ARSENIC STATISTICS			
	Stream sediments	Tailings	Mine drainage sediments
Minimum (mg/kg)	3.3	18	7.4
Maximum (mg/kg)	304	4900	137,000
Mean (mg/kg)	50	2030	35,080
Median (mg/kg)	25	1780	13,500
# samples	30	12	15

**Fig. 38.** Box-and-whisker plot showing the concentration of As (mg/kg) in stream sediments, mine tailings, and sediments impacted by mine drainage collected throughout the Bridge River Mining District in British Columbia. On these plots, maximum and minimum values are shown by the whisker extents, upper and lower quartiles define the boxes, median values are given by the horizontal line within each box, and outliers are shown as diamonds.



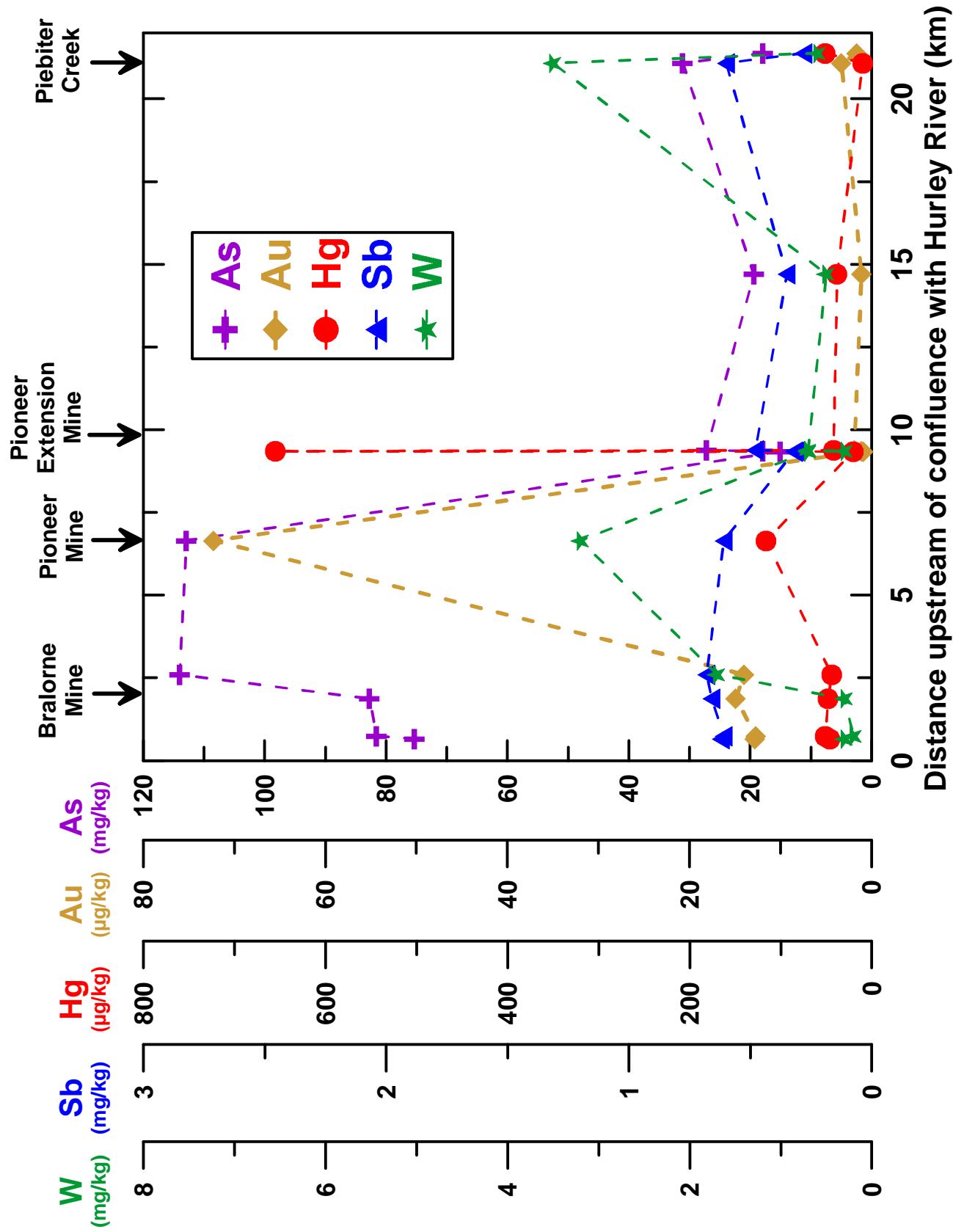
MERCURY STATISTICS			
	Stream sediments	Tailings	Mine drainage sediments
Minimum (µg/kg)	9.0	49	49
Maximum (µg/kg)	2749	29,400	>100,000
Mean (µg/kg)	245	6628	14,240
Median (µg/kg)	46	2470	1208
# samples	30	12	17

**Fig. 39.** Box-and-whisker plot showing the concentration of Hg (µg/kg) in stream sediments, mine tailings, and sediments impacted by mine drainage collected throughout the Bridge River Mining District in British Columbia.



ANTIMONY STATISTICS			
	Stream sediments	Tailings	Mine drainage sediments
Minimum (mg/kg)	0.2	0.3	1.9
Maximum (mg/kg)	4.3	707	52
Mean (mg/kg)	1.0	75	18
Median (mg/kg)	0.6	11	16
# samples	30	12	17

**Fig. 40.** Box-and-whisker plot showing the concentration of Sb (mg/kg) in stream sediments, mine tailings, and sediments impacted by mine drainage collected throughout the Bridge River Mining District in British Columbia.



**Fig. 41.** Concentrations of As, Au, Hg, Sb, and W in stream sediments collected from Cadwallader Creek in 2007. The locations of known sources of metal inputs (e.g. tailings and mine drainage) are shown above the plot.

## Distribution of metal(loid)s in surface waters and mine drainage

Figures 42-50 show the dissolved (<0.45 µm) concentrations of As, Hg, and Sb in stream waters and mine drainage from the Bridge River Mining District, and in overlying water and seepage at the Bralorne tailings pond. Water samples were collected in July and October 2007 to evaluate seasonal variations in water quality under different flow conditions, and samples of mine drainage and tailings pond seepage were collected again in June and October 2008 to further characterize the controls on drainage composition (Fig. 19). Appendix C contains brief descriptions of all water sampling locations and field parameters measured during this study. The full geochemical dataset for all waters is compiled in Appendix D.

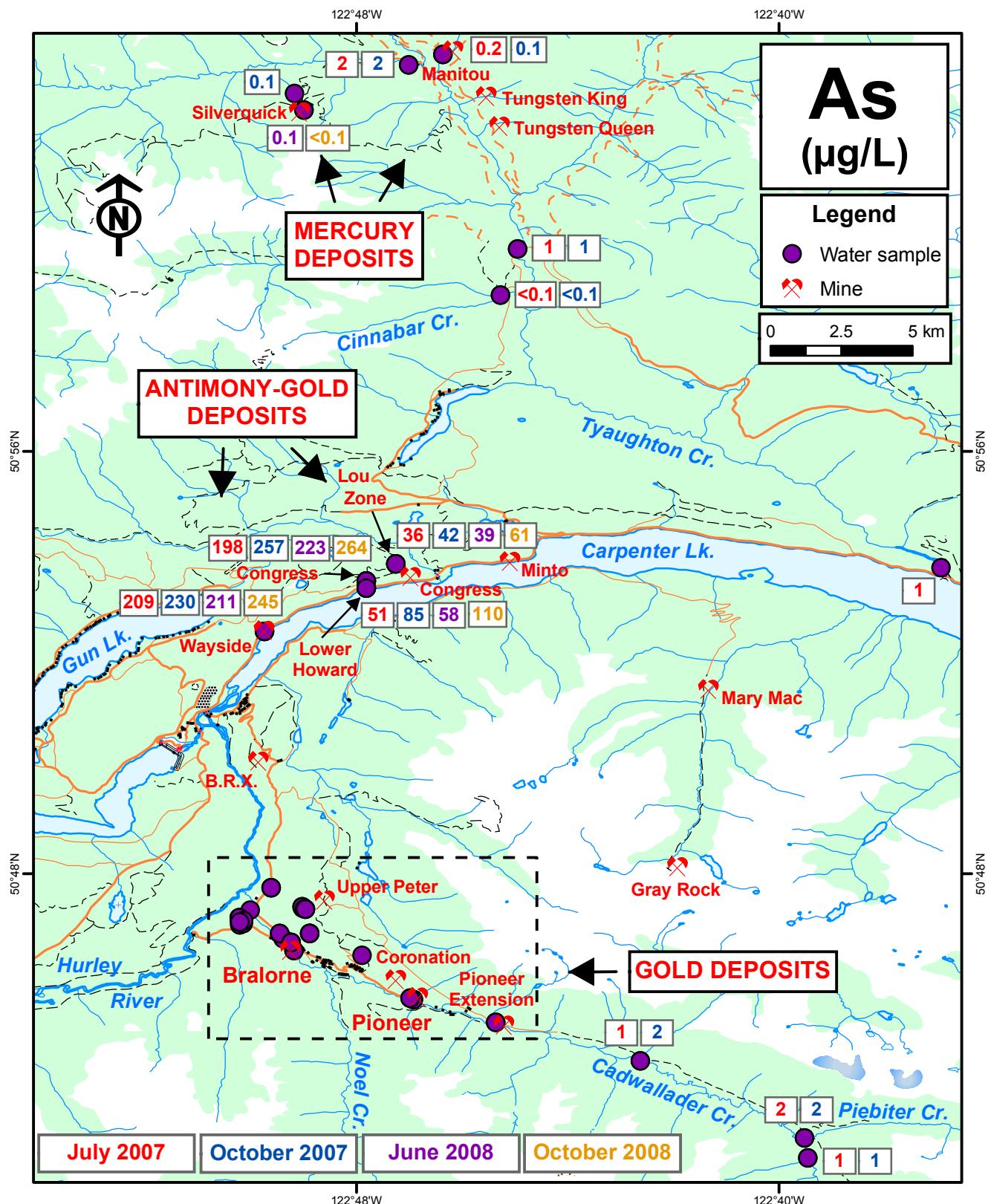
Chemical analyses of stream waters collected throughout the Bridge River District shows that they are generally dilute and influenced by snowmelt during the spring and early summer. Stream water alkalinities are higher in the Tyaughton Creek watershed (33-135 mg/L as CaCO<sub>3</sub>; median 77 mg/L as CaCO<sub>3</sub>) as compared to the Cadwallader Creek watershed (7.9-64 mg/L as CaCO<sub>3</sub>; median 21 mg/L as CaCO<sub>3</sub>), reflecting the greater abundance of limestone bedrock north of Carpenter Lake (Schiarizza et al., 1997). The concentrations of metals in stream waters from the Cadwallader Creek and Tyaughton Creek watersheds are low and show little seasonal variation between high water and low water conditions in 2007 (Figs. 42-50). As shown in Table 2, the concentrations of metalloids in filtered stream waters are all below regulatory guidelines, suggesting that runoff from naturally mineralized areas and historical mine workings is not having widespread negative impacts on aquatic biota living in these creeks. Variations in the underlying bedrock geology and the effects of regional hydrothermal mineralization impart subtle compositional differences to the stream waters north and south of Carpenter Lake that are similar to patterns observed in the stream sediments. In general, As concentrations are slightly higher in surface waters in the Cadwallader Creek watershed (Fig. 51), whereas median Hg and Sb concentrations are higher in the Tyaughton Creek watershed (Table 2). In general, the concentrations and distribution of metalloids in Cadwallader Creek are similar those observed in previous environmental effects monitoring programs (Golder Associates Ltd., 2005).

The compositions of mine drainage from Au, Sb, and Hg mineral deposits in the Bridge River District are controlled by a wide range of factors, including variations in host rock lithology, ore mineralogy, hydrology of the mine workings, and various hydrogeochemical processes. The relative proportions of major cations and anions in mine drainage samples and seepage from the Bralorne tailings impoundment are shown on a trilinear (Piper) diagram in Figure 52. Piper diagrams can be used to compare the major ion chemistry of different groundwater samples and investigate chemical changes along flow paths (Piper, 1944). As shown in Figure 52, most mine drainage from Au and Sb deposits throughout the Bridge River District contains a mixture of major cations (Ca<sup>2+</sup>, Na<sup>+</sup>, K<sup>+</sup>, Mg<sup>2+</sup>) with bicarbonate (HCO<sub>3</sub><sup>-</sup>) and sulphate (SO<sub>4</sub><sup>2-</sup>) as the major anions. Based on the hydrogeochemical facies defined by Back (1966), these mine drainage samples would be classified as mixed cation-bicarbonate-sulphate groundwaters. The slightly higher chloride content (6.6-9.1 % meq/L) in drainage from the 800-Level workings at Bralorne is noteworthy, as this likely reflects deep groundwater flow into the flooded Bralorne Mine (Desbarats et al., 2010). This elevated chloride content is also apparent in seepages from the toe of the Bralorne tailings impoundment (Sites W13, W14, W83 on Fig. 17), suggesting that mine waters discharged from the 800 Level to the tailings facility (Fig. 8b) are influencing the

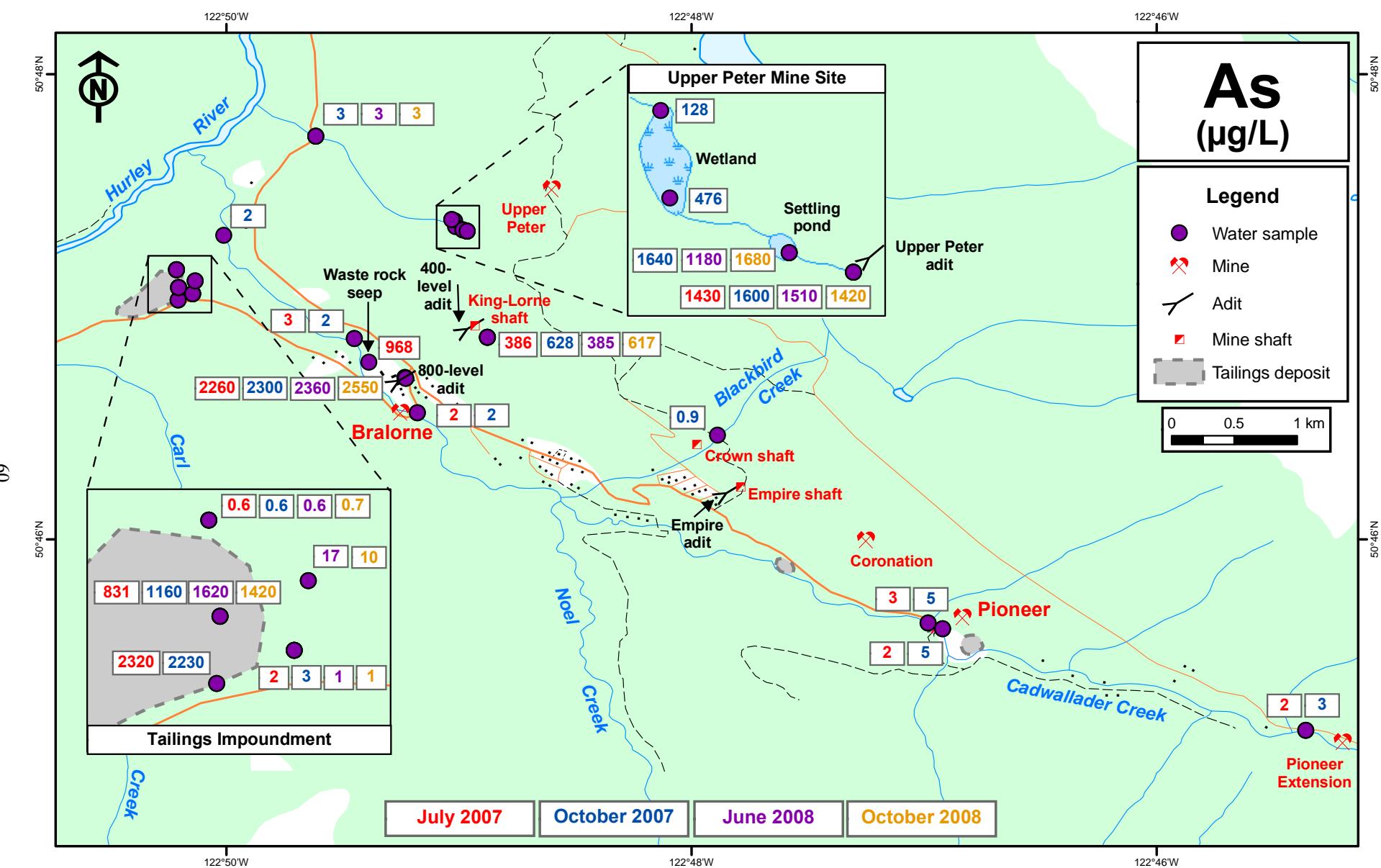
chemistry of these seeps. Drainage from both the 400 Level of the King shaft at the Bralorne Mine (Site W07, Fig. 17) and from the Silverquick Mercury Mine (Sites W49, W85, Fig. 16) are dominated by  $\text{HCO}_3^-$  and distinctly lower in  $\text{SO}_4^{2-}$ ,  $\text{Na}^+$ , and  $\text{K}^+$ , indicating that these groundwaters are probably derived from relatively shallow depths (Fig. 52).

Metal(lloid) concentrations in mine drainage from the Bridge River Mining District are primarily controlled by the mineral deposit type. The dissolved concentrations of As and Sb are generally highest in Au and Sb deposits, respectively; however, drainage from the Upper Peter adit at Bralorne contains anomalously high levels of both of these elements (Fig. 53). As noted previously, the Upper Peter workings contain more abundant stibnite as compared to the workings of the historic Bralorne Mine (Desbarats et al., 2011; Beauchemin et al., 2012), but it is unclear why the Sb concentrations at Upper Peter exceed those of other Sb-rich deposits. In 2007 and 2008, As concentrations ranged from 2300-2550  $\mu\text{g/L}$  in drainage from the 800-Level adit of the Bralorne Mine, and from 1420-1600  $\mu\text{g/L}$  in drainage from the Upper Peter adit (Fig. 43), exceeding the Metal Mining Effluent Regulation for As (500  $\mu\text{g/L}$ ; MMER, 2002) at both sites. In general, the concentrations of As and Sb do not show strong seasonal variations in most mine drainage samples. The exceptions to this are drainage from the 400-Level adit of the King Mine at Bralorne, and drainage from the Lower Howard zone of the Congress Mine, in which As and Sb concentrations are lower during freshet conditions in the early summer as compared to lower-water conditions in the fall (Figs. 42, 43, 48, 49). The dissolved concentrations of Hg are generally low in most mine drainage samples, reflecting the relatively low solubility of the major Hg-bearing minerals (primarily cinnabar) in these deposits.

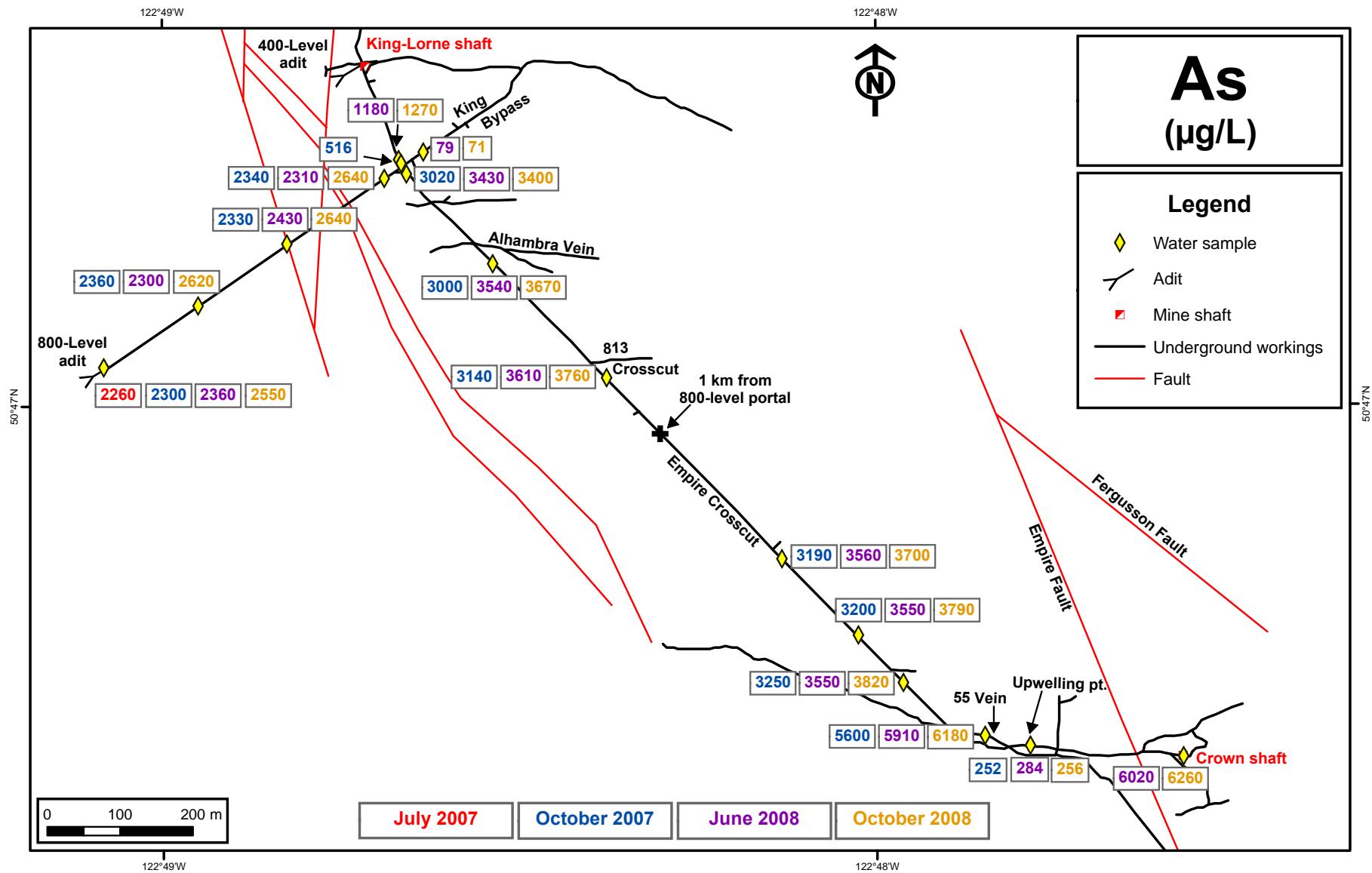
Samples collected from the Bralorne tailings impoundment (Fig. 7b) show that the overlying water cover is strongly influenced by mine drainage pumped from the 800-Level adit of the Bralorne Mine (Fig. 7a, 8b). Mine water has been pumped into the tailings impoundment since 2004 to minimize As loadings to Cadwallader Creek (Lorax, 2008). In 2007, the concentrations of As (Fig. 43) and Sb (Fig. 49) in mine waters entering the pond were 2230-2320  $\mu\text{g/L}$  and 2-3  $\mu\text{g/L}$ , respectively. In the standing water cover adjacent to the tailings dam, the concentrations of Sb were similar (2  $\mu\text{g/L}$ ) to those at the end of the discharge pipe, whereas As levels were lower, ranging from 831-1160  $\mu\text{g/L}$ . This decrease in As is accompanied by a decrease in chloride concentrations (from 35-36 mg/L to 11-19 mg/L), suggesting that the incoming mine water is diluted through mixing with rainwater and inflowing surface water. In the three seeps emanating from the base of the tailings dam, the concentrations of As (0.6-17  $\mu\text{g/L}$ ) and Sb (0.1-0.7  $\mu\text{g/L}$ ) are much lower than in the overlying water cover (Figs. 51, 53). These results are consistent with those from previous monitoring programs (Lorax, 2008), which show that adsorption and/or co-precipitation reactions within the tailings and the underlying substrate materials are presently reducing the concentrations of As, Sb, and other metal(lloid)s in seepage waters.



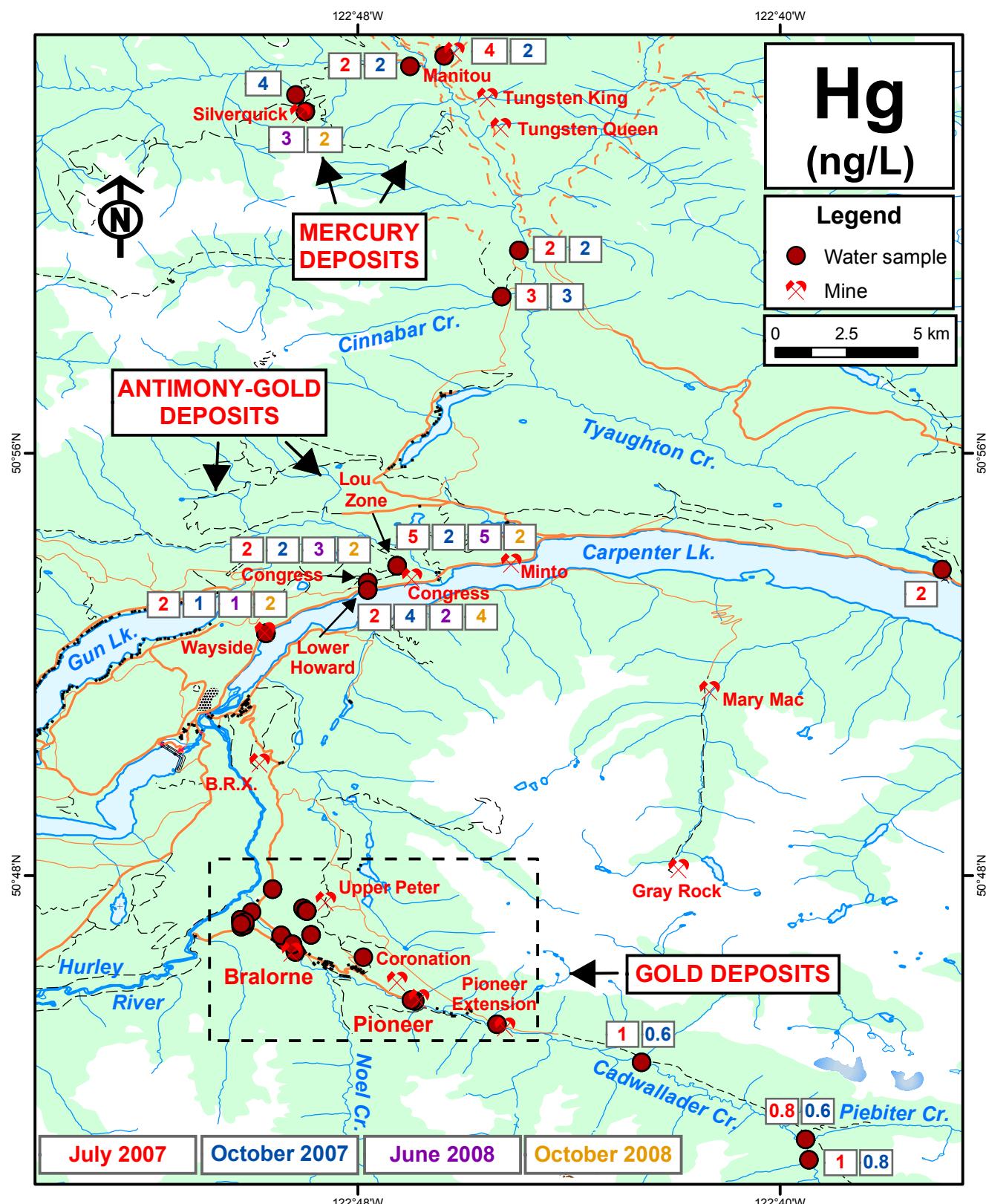
**Fig. 42.** Arsenic concentrations ( $\mu\text{g/L}$ ) in filtered ( $0.45 \mu\text{m}$ ) water samples collected from the Bridge River mining district, July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange). Figure 43 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer mine sites.



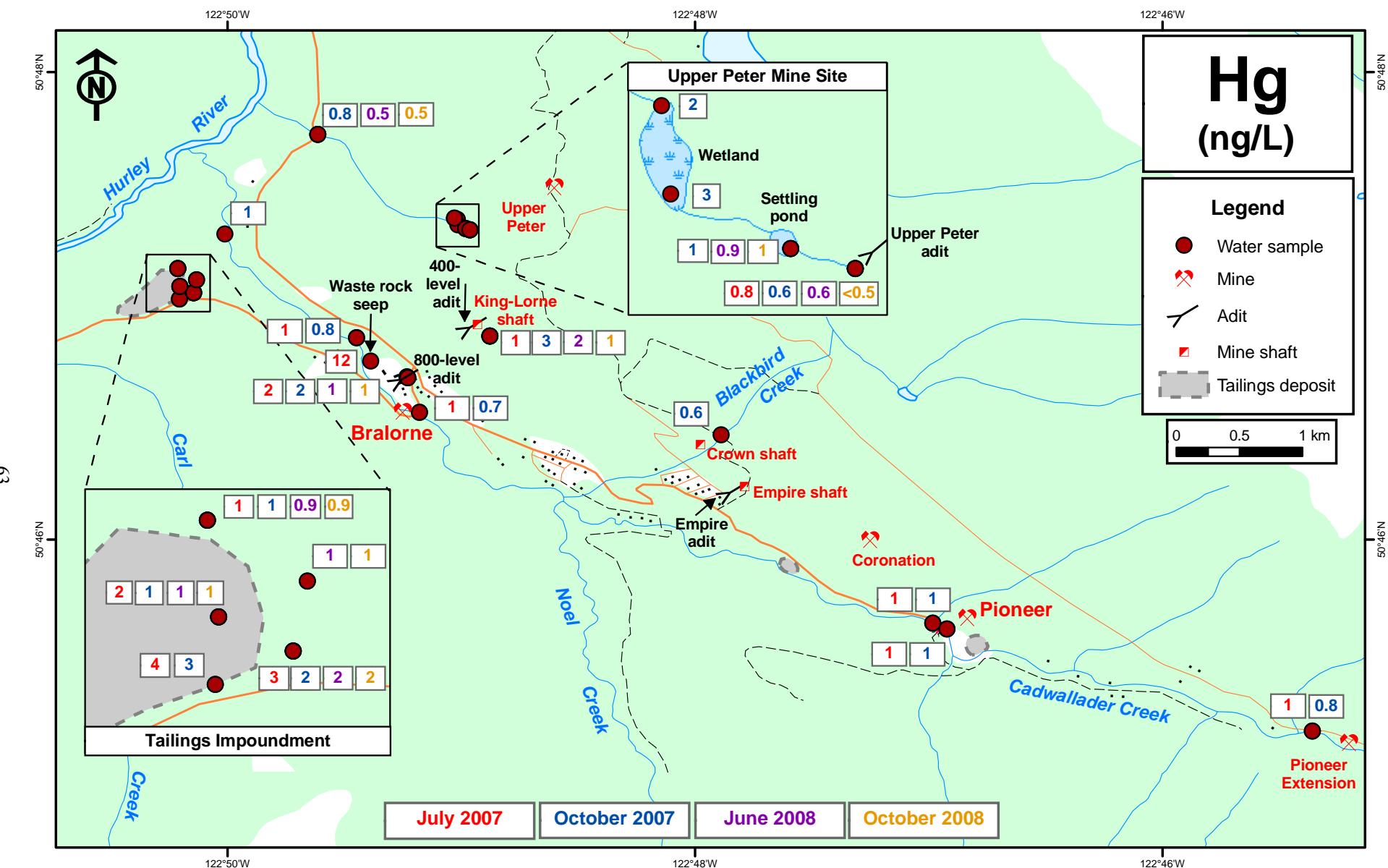
**Fig. 43.** Arsenic concentrations ( $\mu\text{g}/\text{L}$ ) in filtered ( $0.45 \mu\text{m}$ ) water samples collected in the vicinity of the Bralorne and Pioneer mine sites, Bridge River mining district; July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange).



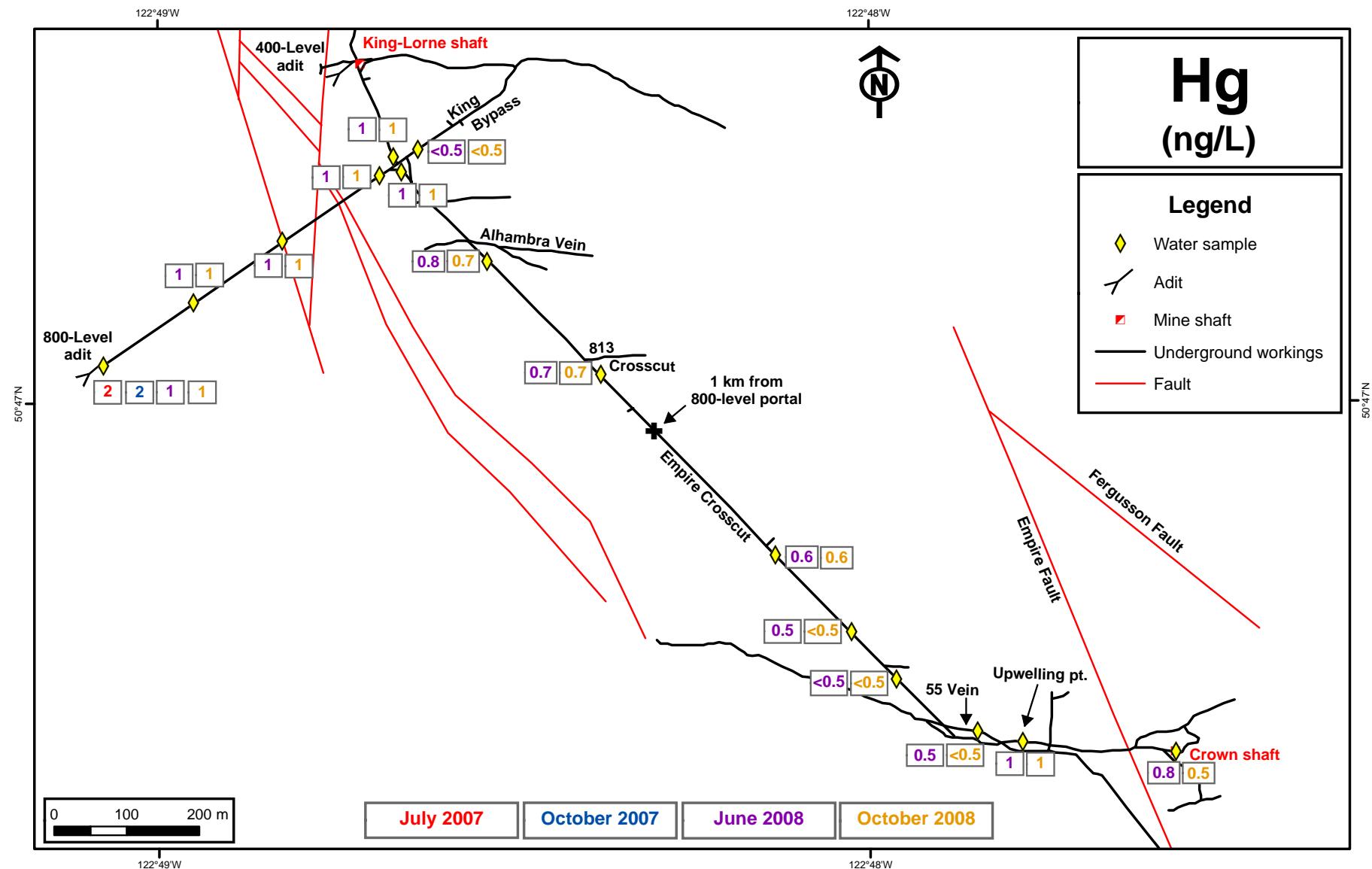
**Fig. 44.** Arsenic concentrations ( $\mu\text{g/L}$ ) in filtered ( $0.45 \mu\text{m}$ ) water samples collected within the 800-Level underground workings, Bralorne Mine site; July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange).



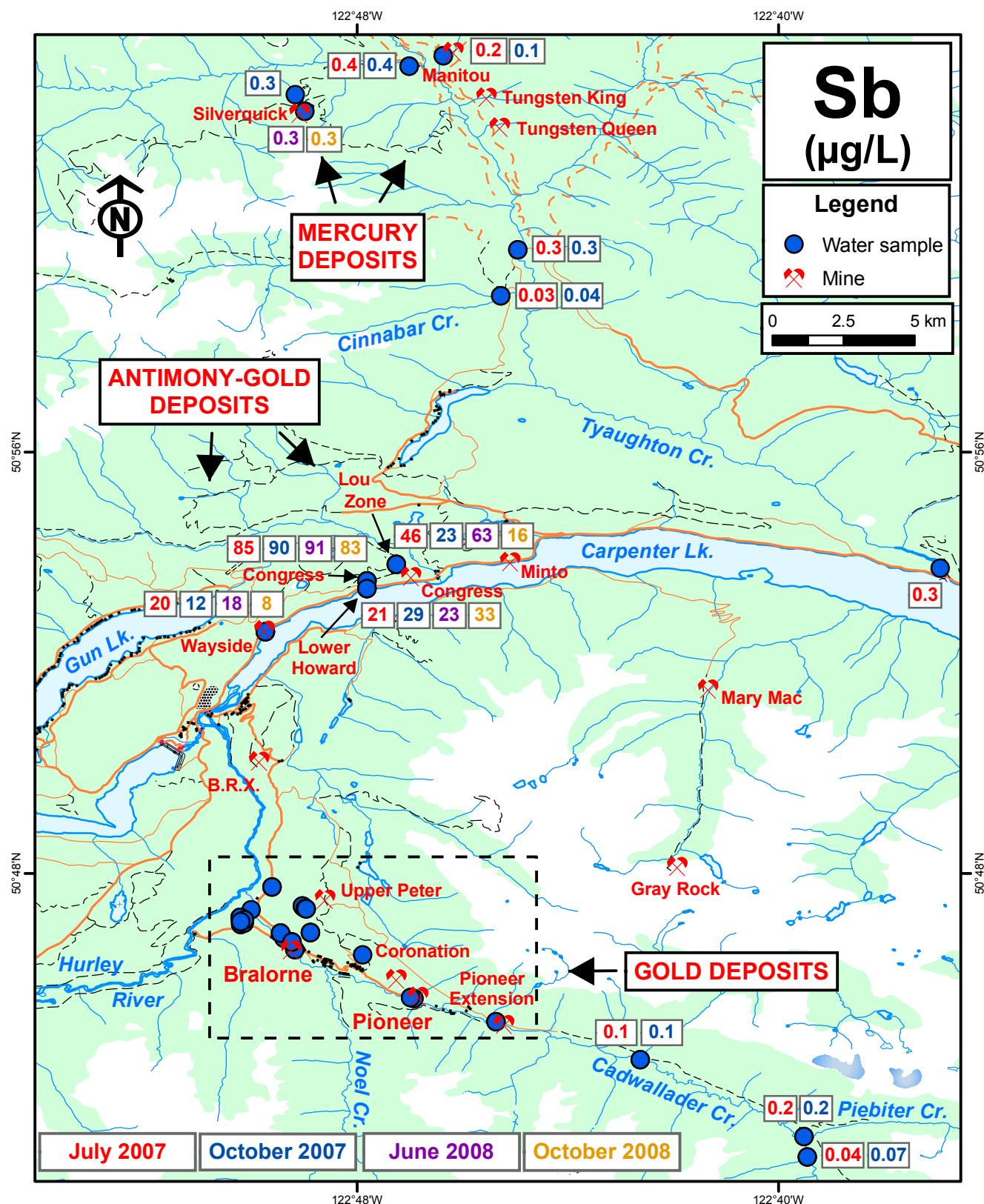
**Fig. 45.** Mercury concentrations (ng/L) in filtered (0.45 µm) water samples collected from the Bridge River mining district, July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange). Figure 46 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer mine sites.



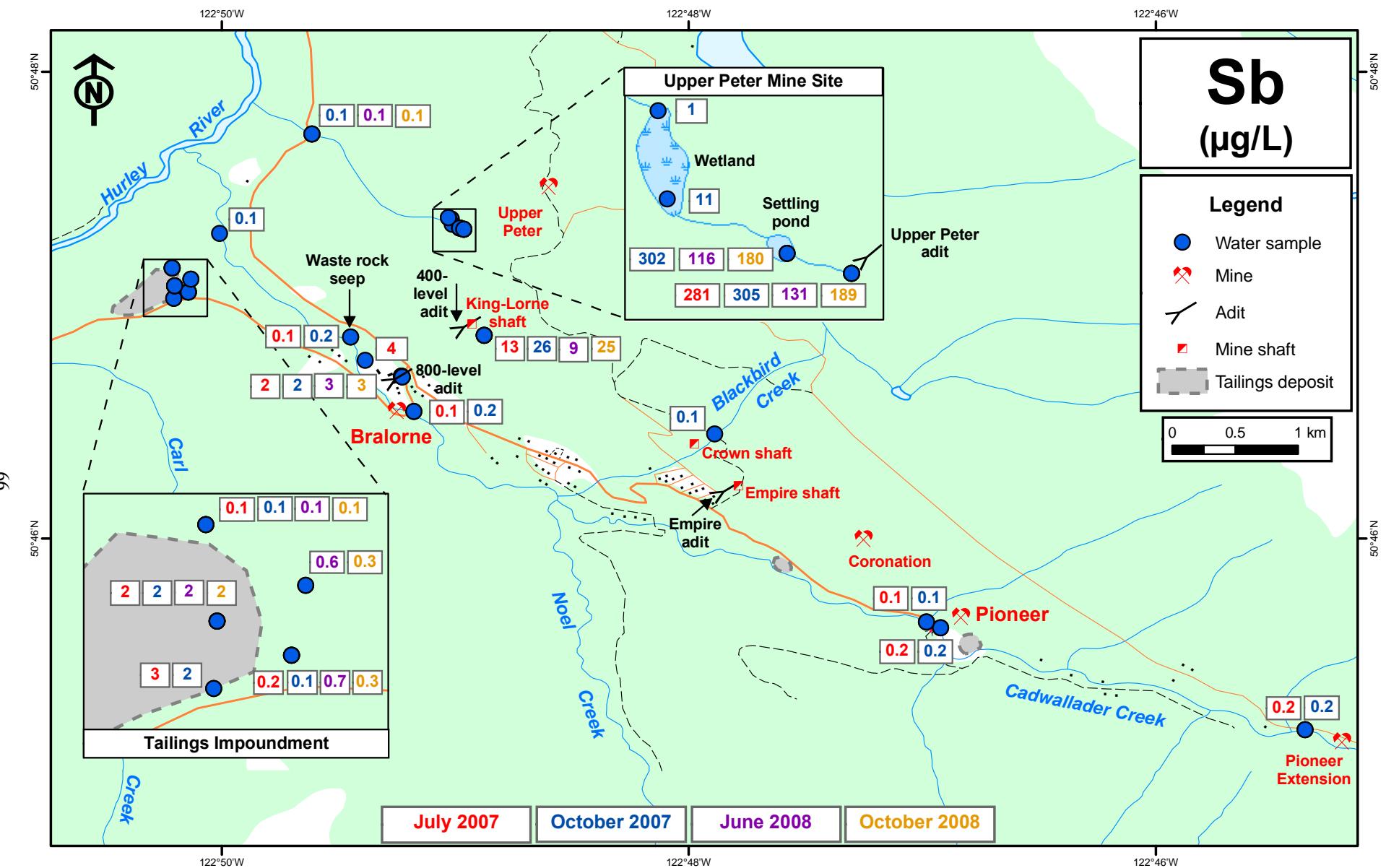
**Fig. 46.** Mercury concentrations (ng/L) in filtered (0.45 µm) water samples collected in the vicinity of the Bralorne and Pioneer mine sites, Bridge River mining district; July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange).



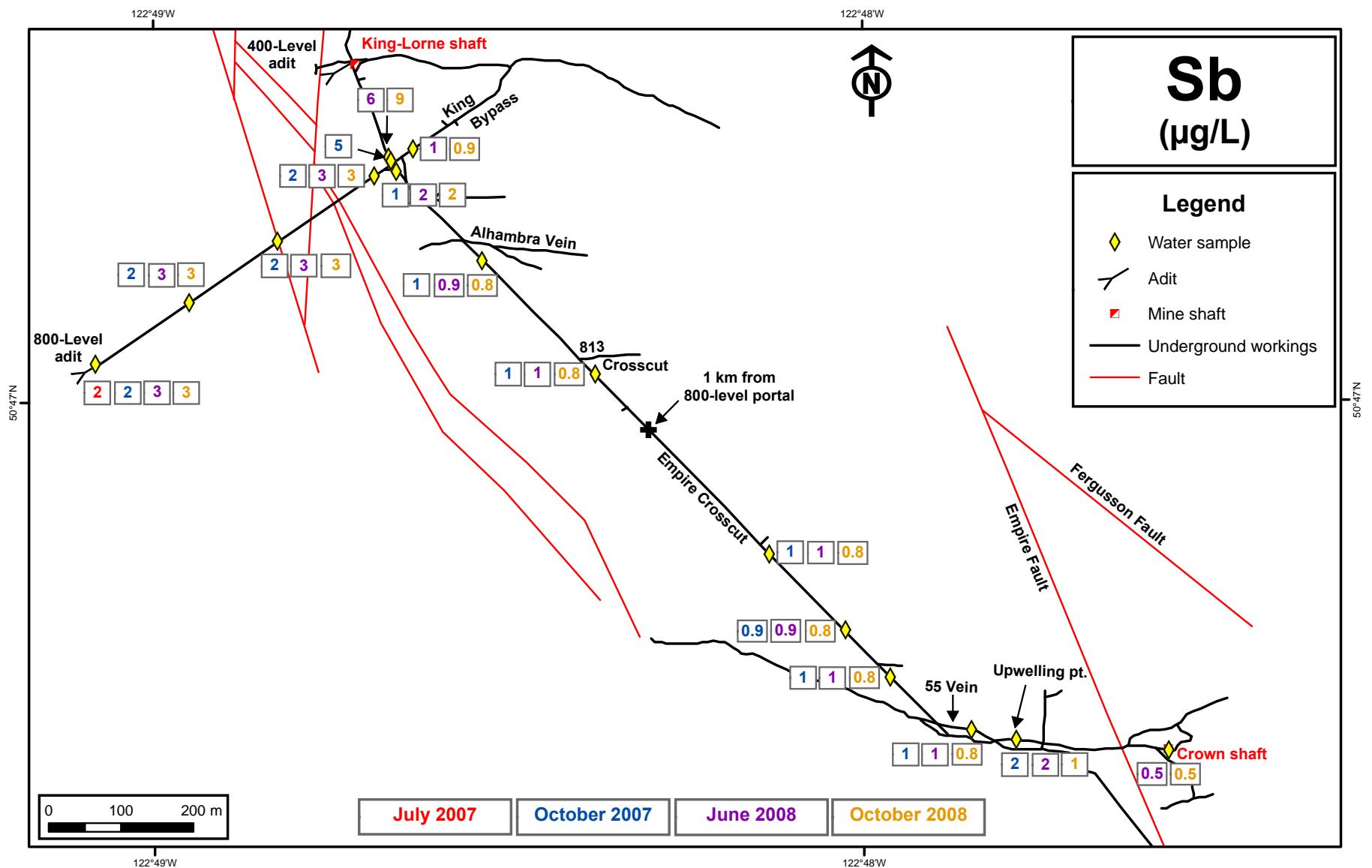
**Fig. 47.** Mercury concentrations (ng/L) in filtered ( $0.45 \mu\text{m}$ ) water samples collected within the 800-Level underground workings, Bralorne Mine site; July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange).



**Fig. 48.** Antimony concentrations ( $\mu\text{g/L}$ ) in filtered ( $0.45 \mu\text{m}$ ) water samples collected from the Bridge River mining district, July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange). Figure 49 details those samples collected within the outlined area, in the vicinity of the Bralorne and Pioneer mine sites.



**Fig. 49.** Antimony concentrations ( $\mu\text{g/L}$ ) in filtered ( $0.45 \mu\text{m}$ ) water samples collected in the vicinity of the Bralorne and Pioneer Mine sites, Bridge River mining district; July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange).

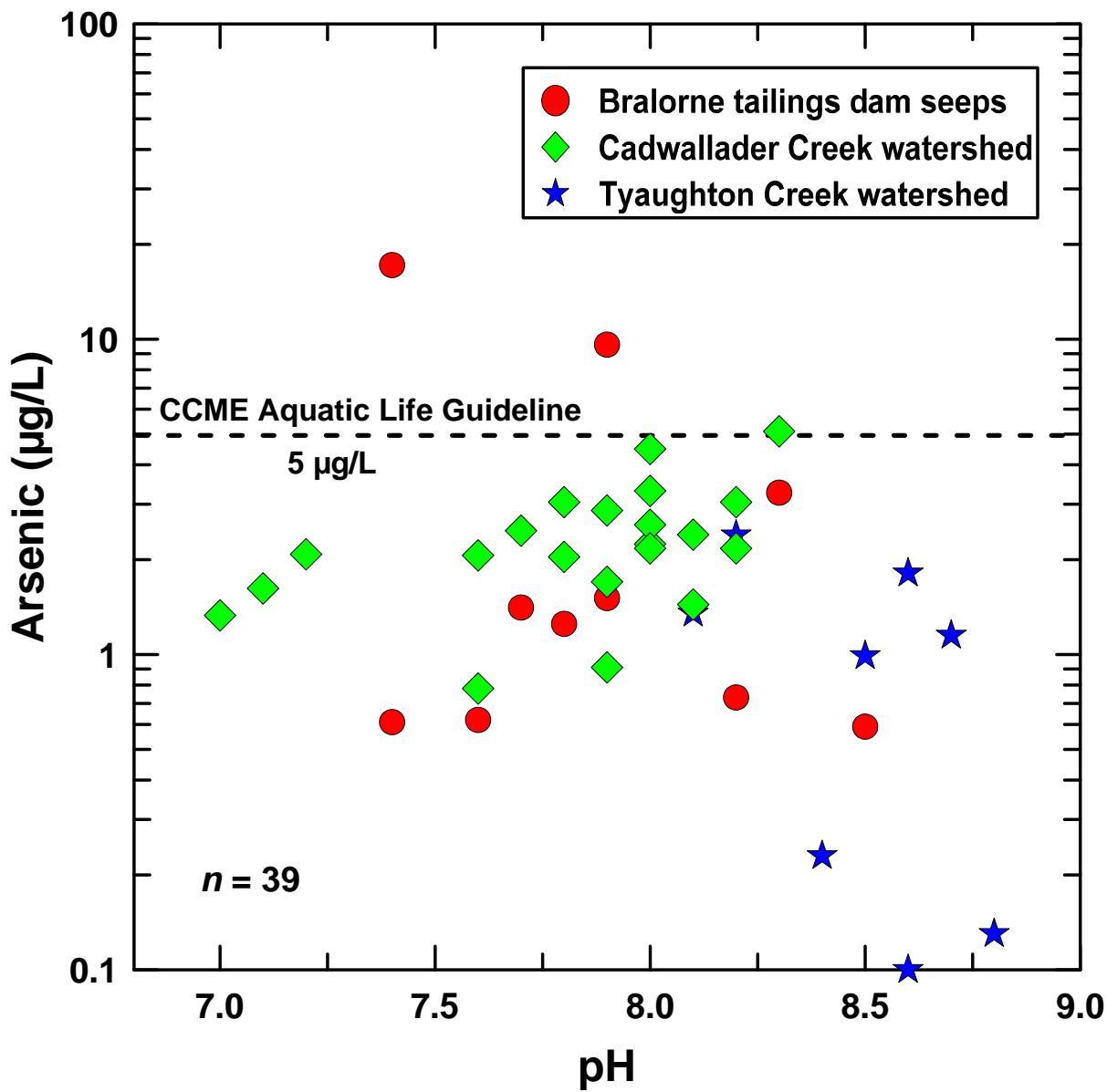


**Fig. 50.** Antimony concentrations ( $\mu\text{g/L}$ ) in filtered ( $0.45 \mu\text{m}$ ) water samples collected within the 800-Level underground workings, Bralorne Mine site; July 2007 (red), October 2007 (blue), June 2008 (purple), and October 2008 (orange).

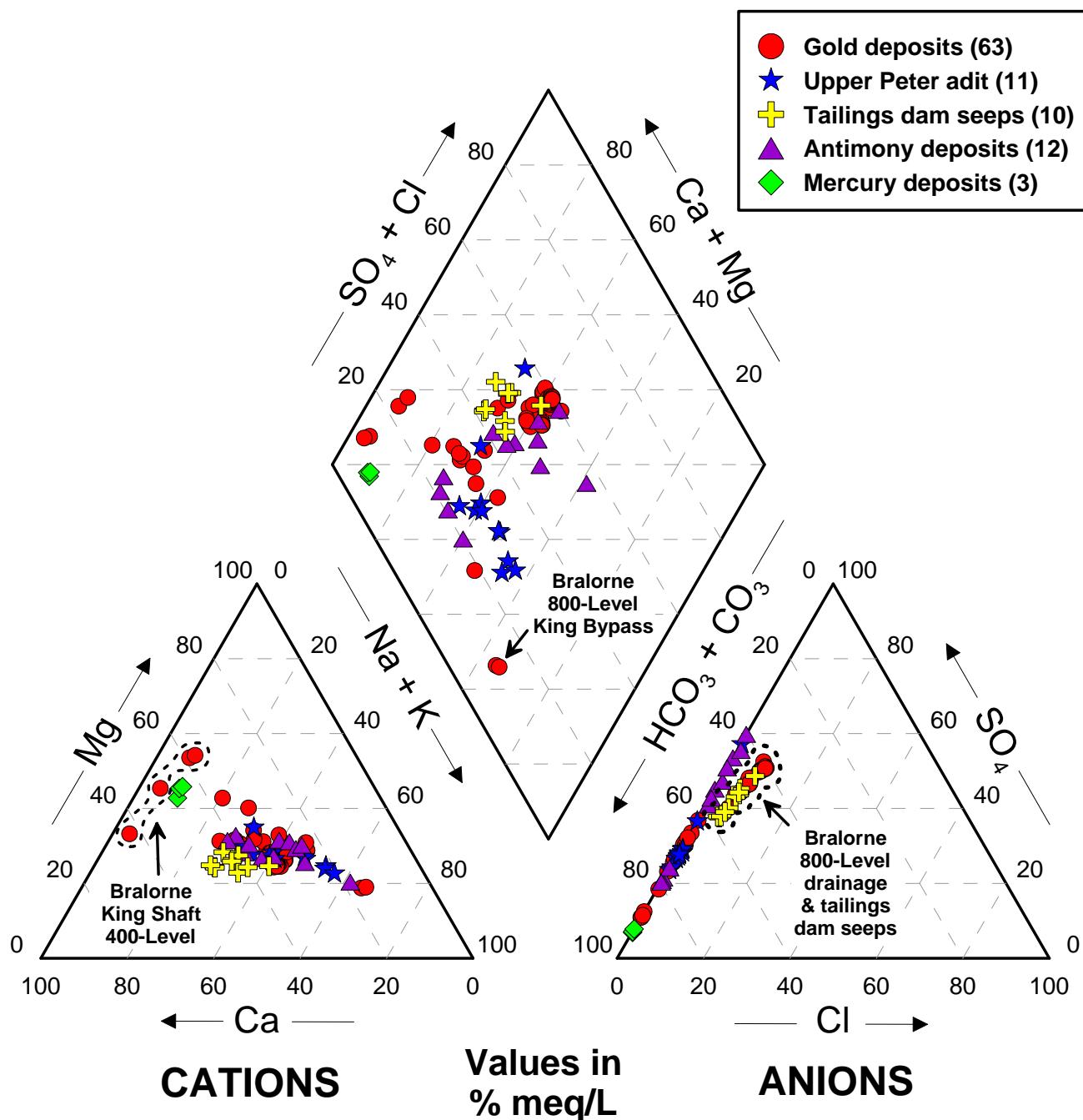
**Table 2.** Summary of filtered (<0.45 µm) metalloid concentrations in stream waters from the Cadwallader Creek and Tyaughton Creek watersheds as compared to regulatory guidelines.

<b>Parameter</b>	<b>Units</b>	<b>Water quality guideline<sup>a</sup></b>	<b>Cadwallader Creek watershed (n = 16)</b>			<b>Tyaughton Creek watershed (n = 10)</b>		
			<b>Min.</b>	<b>Max.</b>	<b>Median</b>	<b>Min.</b>	<b>Max.</b>	<b>Median</b>
Ag	µg/L	0.1	<0.005	<0.005	-	<0.005	<0.005	-
As	µg/L	5	0.8	4.5	2.1	0.1	2.4	1.1
Cd	µg/L	17	<0.02	<0.02	-	<0.02	<0.02	-
Cu	µg/L	2	0.2	0.4	0.3	0.2	0.5	0.3
Fe	µg/L	300	13	73	34	8	20	13
Hg	ng/L	26	0.6	1.3	0.9	1.6	4.1	2.0
Ni	µg/L	25	0.9	2.0	1.2	<0.2	1.3	0.5
Pb	µg/L	1	<0.01	<0.02	-	<0.01	<0.02	-
Sb	µg/L	20	0.04	0.20	0.14	0.03	0.43	0.27
Se	µg/L	1.0	<1.0	<1.0	-	<1.0	<1.0	1
Tl	µg/L	0.8	<0.005	<0.005	-	<0.005	<0.005	-
Zn	µg/L	30	<0.5	2.1	0.8	<0.5	1.0	-

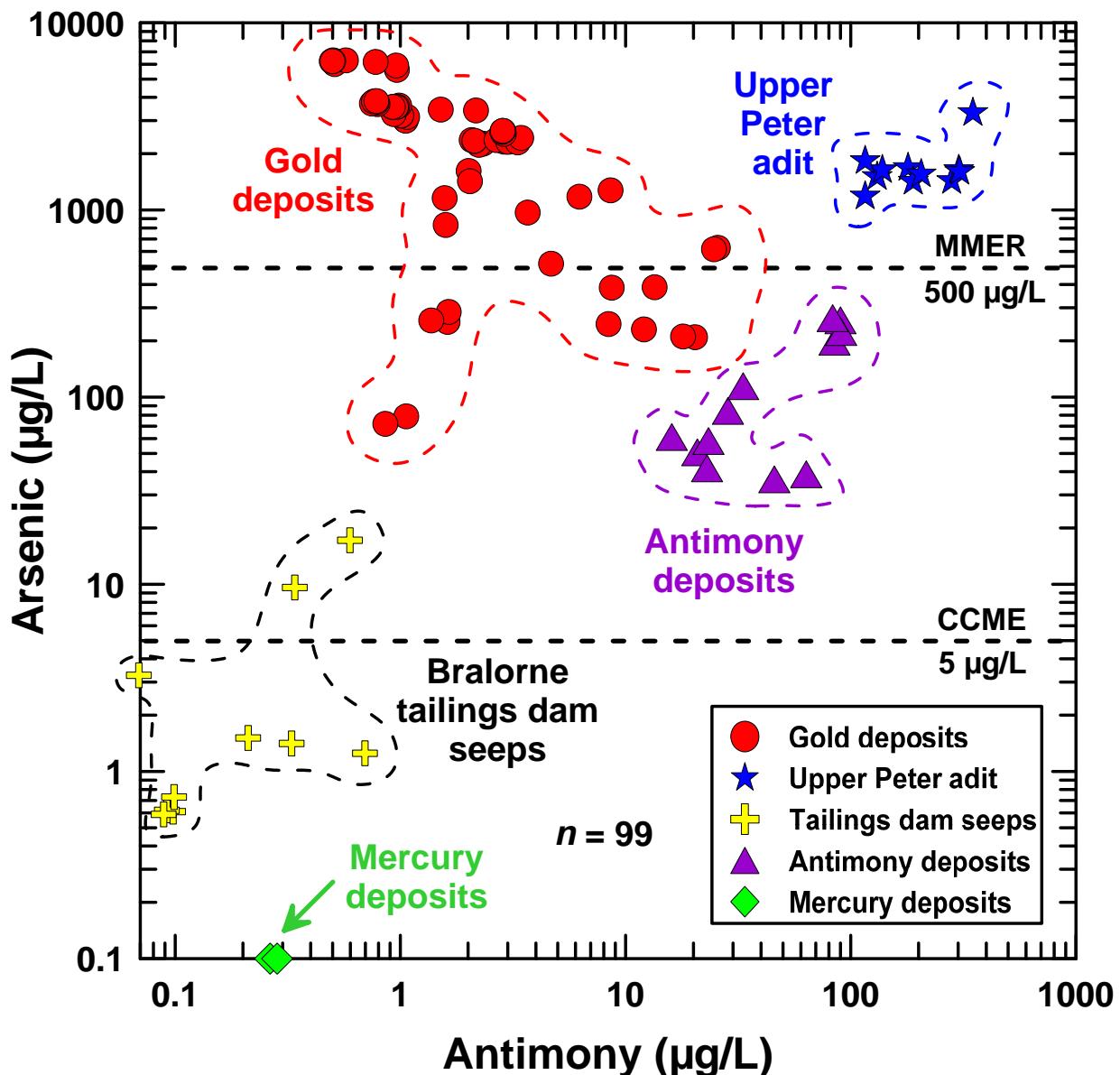
<sup>a</sup> Water quality guidelines for most elements are for the protection of freshwater aquatic life from CCME (2012). Provisional British Columbia guideline for Sb is from Nagpal et al. (2006).



**Fig. 51.** Filtered ( $<0.45 \mu\text{m}$ ) As concentrations versus pH in surface waters collected throughout the Bridge River Mining District from July 2007 to October 2008.



**Fig. 52.** Piper diagram showing the relative proportions of major cations and anions in percent milliequivalents per litre (% meq/L) in mine drainage from the Bridge River District and seepage from the Bralorne tailings impoundment. The number of samples from each mineral deposit type is shown in parentheses in the legend.



**Fig. 53.** Filtered As versus Sb concentrations in mine drainage from the Bridge River District and seepage from the Bralorne tailings impoundment in 2007 and 2008. The Metal Mining Effluent Regulation for As (500 µg/L) and the CCME As Guideline for the Protection of Aquatic Life (5 µg/L) are shown for reference.

## Water level and chemistry in Crown Shaft

Mine workings below the 800-Level at Bralorne have been flooded since the last dewatering effort in 1982 (Strand, 2007). Temporal monitoring of the flooded Crown shaft was carried out from June 21, 2008 to June 23, 2009 to investigate the controls on upwelling water chemistry in the mine (Site W84, Figs. 18, 22). This shaft is adjacent to an upwelling point (Fig. 8a) that is the main source of mine drainage emanating from the 800-Level portal. The water level hydrograph and chemographs for selected field parameters observed in the Crown shaft during this period are shown in Figure 54. The vertical dashed lines on these plots indicate the beginning and end of the compressed air injection experiment performed by the mine operator.

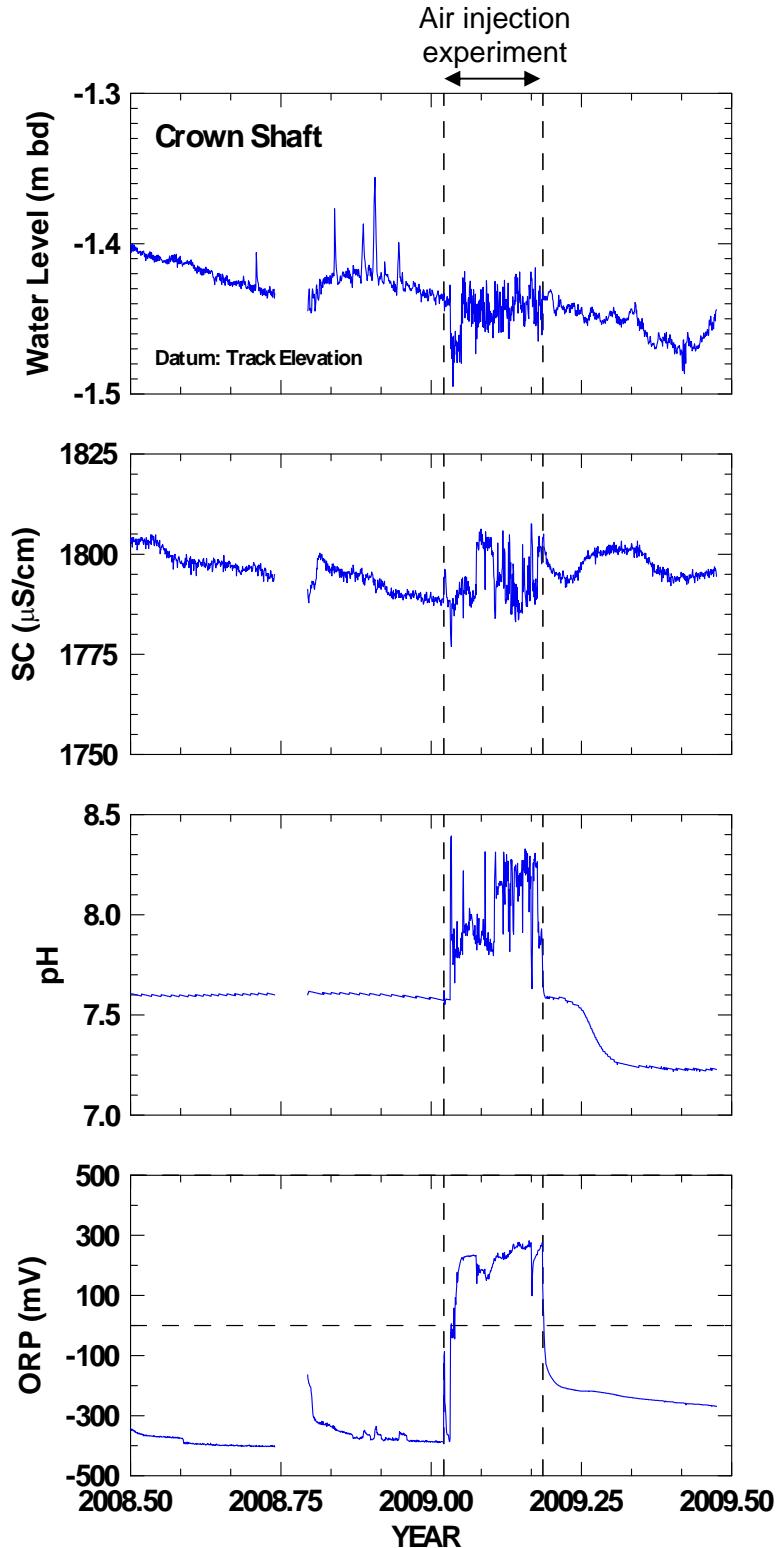
The water surface elevation in the shaft, measured as a distance below track elevation on 800-Level, shows little temporal variation (note vertical scale in metres below datum [mbd]). Indeed, the water level in the flooded workings is controlled by the invert elevation of the upwelling point (Fig. 8a) where the workings drain to 800-Level. The small spikes in water level during the late fall of 2008 suggest a shallow groundwater inflow component in response to intense precipitation or snow-melt events.

Electrical conductivity (EC) is a measure of the total dissolved solids content of the water and therefore, to some extent, of its quality. Groundwater chemistry analyses reported in Desbarats et al. (2010) show that the cations  $\text{Na}^+$  (40%),  $\text{Ca}^{2+}$  (30%),  $\text{Mg}^{2+}$  (30%), and anions  $\text{SO}_4^{2-}$  (50%),  $\text{HCO}_3^-$  (40%),  $\text{Cl}^-$  (10%), are the dominant dissolved charged species contributing to EC. Chloride concentrations, although minor, are significant in that they reflect inflow of groundwater from deep sources. The chemograph of EC shows that values remain close to the median of 1692  $\mu\text{S}/\text{cm}$  throughout most of the monitoring period although high-frequency oscillations are observed during the air injection experiment. This may be due to precipitation of various minerals in response to induced changes in pH and redox conditions.

pH is an important parameter in mine water systems because it controls many chemical reactions and the solubility of many dissolved species. Here, the pH chemograph shows stable, near-neutral ( $\text{pH} = 7.6$ ) conditions prior to the air injection experiment. Thereafter, pH rises sharply to mildly alkaline levels and exhibits high-frequency oscillations similar to those observed in EC.

Oxidation-Reduction Potential (ORP) provides a measure of the relative tendency of dissolved constituents in mine water to either release or gain electrons during chemical reactions. Oxidation involves the release of electrons whereas reduction involves gaining electrons. The ORP of waters is affected by the presence of redox-active species, including iron, arsenic, and sulphur. Before the air injection experiment, the chemograph indicates negative ORP reflecting strongly reducing conditions in the shaft water. Under these conditions, iron occurs dominantly as Fe(II) and arsenic as As(III). With the injection of compressed air, ORP levels increase sharply to positive values where Fe(III) and As(V) are stable.

Water temperatures throughout most of the monitoring period (not shown) remain within  $0.1^\circ\text{C}$  of a median value of  $21.96^\circ\text{C}$  although temperatures drop as much as  $0.5^\circ\text{C}$  during the air injection experiment. These temperatures are very warm, reflecting the dominant, deep groundwater inflows to the workings and the elevated geothermal gradient in the region.



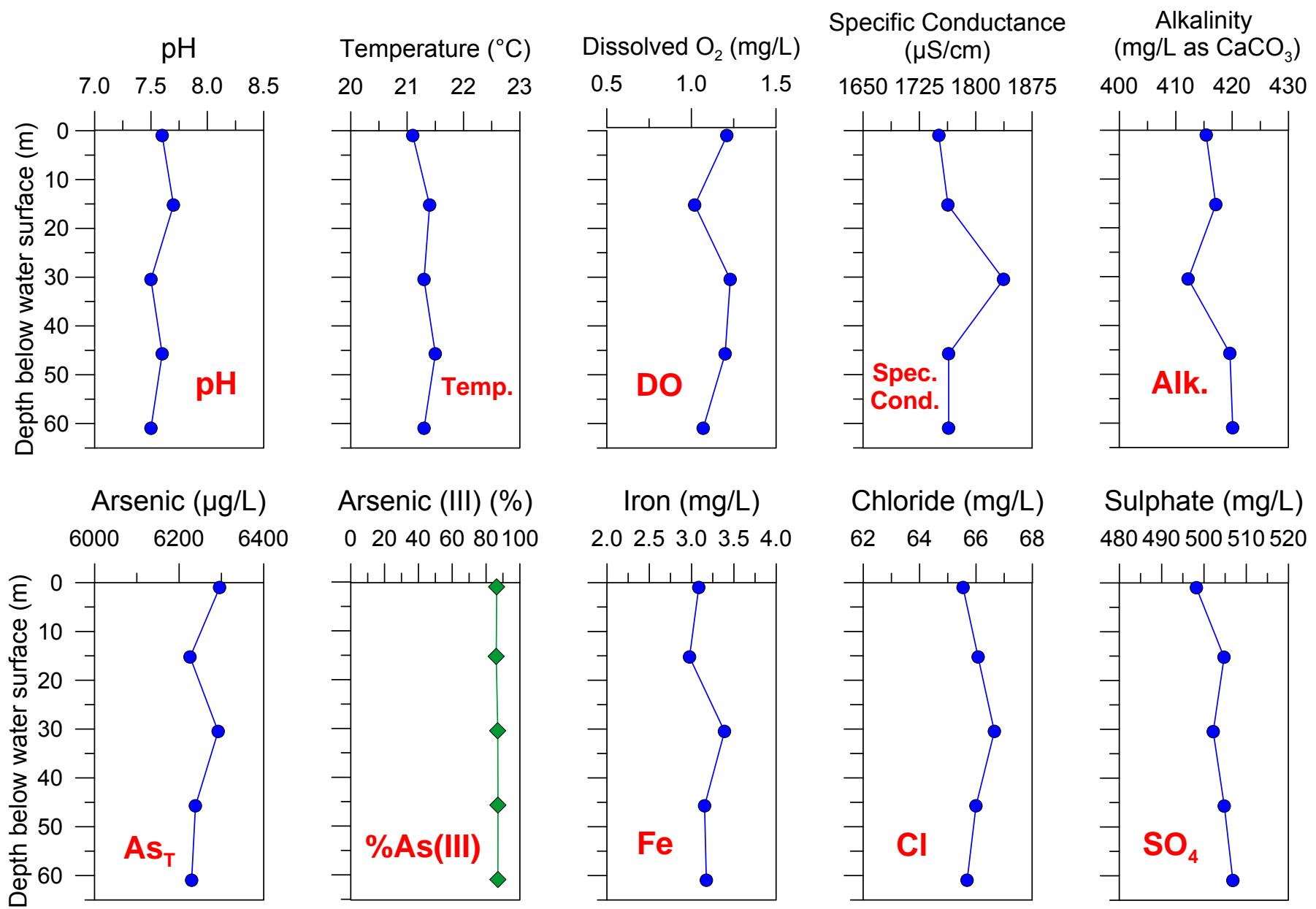
**Fig. 54.** Water level hydrograph and chemographs for selected field parameters observed in the Crown shaft of the Bralorne mine. No data are available between September 27 and October 17, 2008, due to an instrument battery failure. The vertical dashed lines denote the period during which compressed air was injected into the Crown shaft from January 8 to March 9, 2009.

Depth profiling of the flooded Crown shaft on October 16, 2008 indicates that waters in the top 60 m have a relatively constant chemical composition (Fig. 55). In general, the results of these measurements on water samples from discrete depths (Fig. 22b) are consistent with the long-term monitoring data discussed above. Mine waters in the top 60 m of this shaft are warm (~21.3 °C), have low levels of dissolved oxygen (1.0-1.2 mg/L), and an average pH of 7.6. The chloride concentrations in these waters (65-67 mg/L) are the highest of all samples collected during this study, reflecting the inflow of deep groundwater into this flooded mine shaft. The dissolved concentrations of As, Fe, and SO<sub>4</sub> are also the highest of all sites sampled during this study, suggesting that oxidation of arsenopyrite and/or reductive dissolution of Fe-oxides is ongoing in the flooded workings (Strand, 2007). Most of the dissolved As (85%) is present as As(III) in the top 60 m of this shaft, in keeping with the reducing ORP conditions shown in Figure 54. These results indicate that passive overflow from the flooded Crown shaft will continue to release As, Fe, and SO<sub>4</sub> to the 800-Level under the current mine conditions, but the composition of these waters should remain relatively constant as there is no evidence of a rising chemocline.

### **Mineralogy of sediments and mine waste**

Results from mineralogical analyses of 18 sediments, 6 tailings, and 19 waste rock samples using X-ray powder diffraction (XRD) are summarized in Appendix E. Seventeen of the sediment samples analyzed were collected from drainage channels in the 800-Level workings (Fig. 21b), and one sample was a biofilm-rich surface layer from a settling pond outside the Upper Peter portal. The predominant minerals identified by XRD in the 800-Level sediments include quartz, calcite, illite, and chlorite. Plagioclase feldspar, amphibole, and dolomite also occur as minor phases in some samples. However, XRD analyses also showed large quantities of amorphous material in some samples, and two samples of floating surface film and foam had no obvious crystalline phases. The only As-bearing mineral identified in the samples was arsenopyrite in trace amounts, despite the high bulk concentrations of As in these 800-Level sediments (up to 13.7 wt.%; Fig. 25). The 800-Level sediments also contain high concentrations of Fe (6.2-29 wt.%; median 12 wt.%; Appendix B) but exhibit only minor quantities of crystalline Fe-bearing minerals. This suggests that most of this sediment consists of amorphous Fe-oxides with large amounts of adsorbed and/or co-precipitated As. These XRD results are consistent with Rietveld-XRD analyses carried out on secondary precipitates from the 800-Level by Strand (2007). The biofilm-rich sediment from Upper Peter contains mostly quartz, plagioclase, illite, and dolomite.

Tailings from the Bralorne tailings impoundment (Fig. 8b) and the Wayside Mine (Fig. 6) are dominated by quartz, with subordinate plagioclase feldspar, illite, and dolomite (Appendix E). K-feldspar, amphibole, chlorite, and calcite are also present in minor quantities in some samples. Historical tailings from Wayside have distinctly lower amounts of quartz, but are higher in dolomite as compared to the modern tailings at Bralorne. Analyses of waste rock and ore samples from Congress and Bralorne are consistent with the bulk mineralogy reported for these deposits (Church, 1996). As expected, ore from the Lou Zone of the Congress Mine is dominated by stibnite (Fig. 9a), whereas a sample from the ore stockpile at Bralorne shows mainly quartz, plagioclase feldspar, illite and dolomite, with only a trace of arsenopyrite. Samples of waste rock from Upper Peter consist mostly of quartz, plagioclase, amphibole, illite and chlorite, but also contain substantial quantities of pyrite (up to 24 wt.%). Hand samples from the Upper Peter waste rock pile also contain visible arsenopyrite and stibnite (Fig. 3a).



**Fig. 55.** Vertical profiles of water chemistry parameters in the flooded Crown shaft of the Bralorne Mine on October 16, 2008. The surface elevation of the standing water in this shaft was approximately 1.4 m below track level on the 800-Level (Fig. 54).

## DISCUSSION

### **Baseline concentrations of As, Hg, and Sb in the Bridge River Mining District**

One of the primary objectives of this study was to establish the range in As, Hg, and Sb baseline concentrations in stream sediments throughout the Bridge River District. In this report, the term ‘baseline’ is used to refer to the current range in element concentrations in sediments, including contributions from both geogenic sources and anthropogenic activities (cf. Reimann and Garrett, 2005; Nordstrom, 2008; Tapia et al., 2012). Baseline information can be used to assess the effects of past mining activities within the district, to monitor the impacts of future resource development, and to set realistic remediation goals (e.g. Helgen and Moore, 1996). Accurate characterization of baseline conditions requires sufficient sample density to identify natural variations in metal(loid) concentrations related to changes in bedrock geology (Fig. 1) and the effects of regional hydrothermal mineralization (Fig. 2; Hart et al., 2008; Moore et al., 2009). Therefore, data from the present study (Appendix B) were combined with stream sediment results from previous exploration surveys by the GSC’s National Geochemical Reconnaissance program and the BC Regional Geochemical Survey in 1979, 1981, and 2009 (Ballantyne et al., 1981; Jackaman and Matysek, 1994; Geoscience BC, 2010a, 2010b). Data from these surveys should be directly comparable to results from this study, as the sample handling, grain size ( $<177\text{ }\mu\text{m}$ ) and digestion procedures (concentrated *aqua regia*) are nearly identical.

The spatial distributions of As, Sb, and Hg in stream sediments throughout the Bridge River Mining District are shown in Figures 56 to 58, respectively. As mentioned previously, the zonation in As, Sb, and Hg concentrations in these stream sediments is strongly influenced by the effects of regional hydrothermal mineralization (Fig. 2); thus, the map area was subdivided into three zones before calculating the ranges in baseline concentrations. The “As-rich zone” encompasses most of the southern portion of the district, and includes all of the major Au mines in this area (Fig. 56). The “Sb-rich” zone extends both north and south of Carpenter Lake (Fig. 57), and includes most of the historical Sb mines and Sb-rich prospects discussed in Church (1996). The “Hg-rich zone” comprises most of the northern part of the district (Fig. 58) and includes the Silverquick and Manitou Hg mines and other prospects with known cinnabar mineralization (Stevenson, 1940; Church, 1996). The boundaries of these three zones were restricted to the map area shown in Figures 56 to 58, and subdivided along the 1:50,000 watershed boundaries provided by the BC Ministry of Environment (BCMOE, 2005). On each map, the metal(loid) concentrations within the boundaries of the Bridge River District have been separated into six classes using the following percentile breakdown: minimum–25th, 25th–50th, 50th–75th, 75th–90th, 90th–95th, and 95th–maximum.

Figures 59 to 61 show box-and-whisker plots and statistical summaries for As, Sb, and Hg concentrations, respectively, in each of the three zones described above. On these plots, maximum and minimum values (excluding outliers) are shown by the whisker extents, upper ( $Q3$ ) and lower ( $Q1$ ) quartiles define the boxes, median values are given by the horizontal line within each box, and outliers are shown as diamonds. Outliers are defined on these graphs as any point that falls above the upper quartile plus 1.5 times the interquartile range (the difference between the upper and lower quartiles), following the convention established by Tukey (1977). This limit is known as the upper inner fence (*UIF*), and is represented by Equation 1:

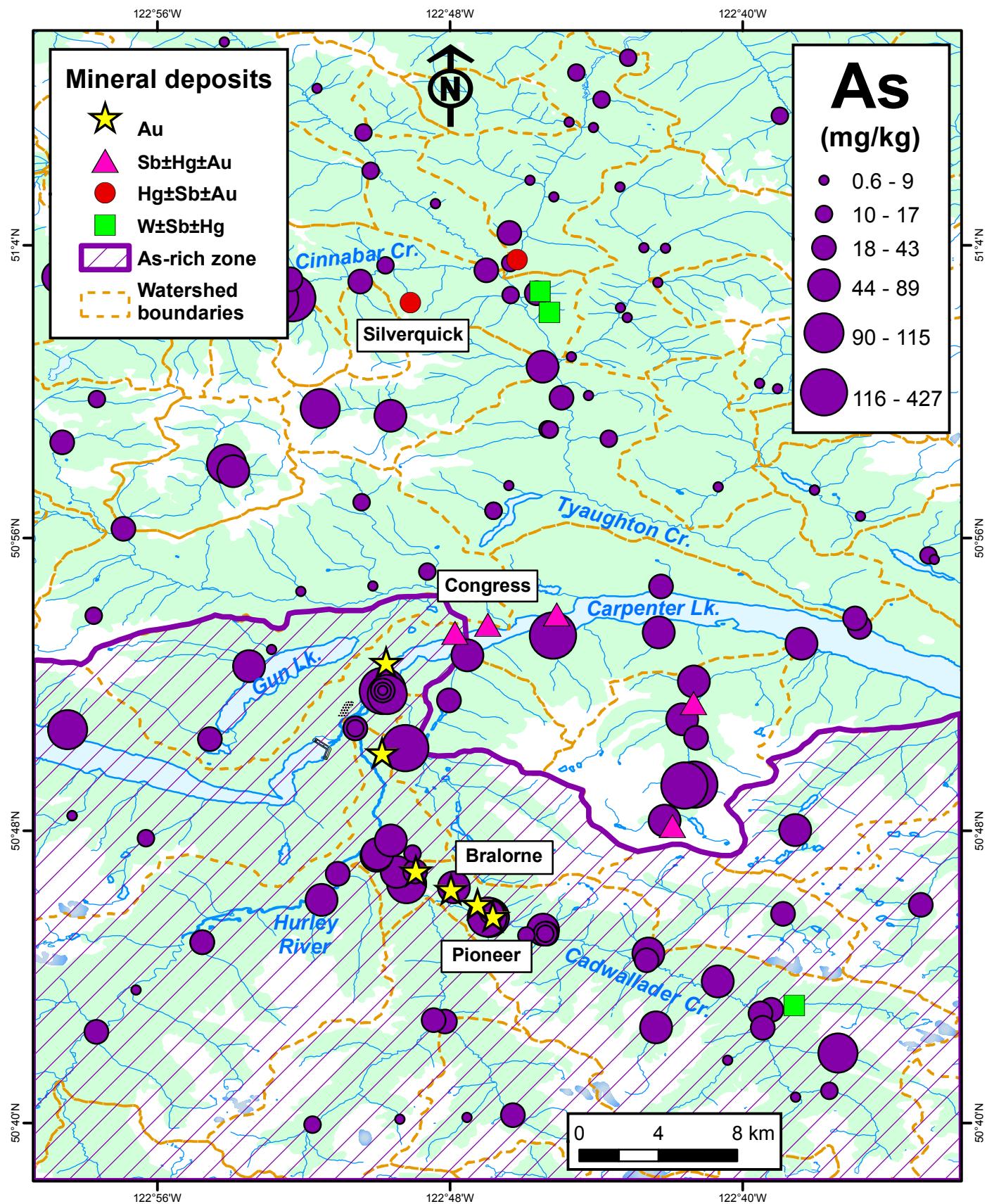
$$UIF = Q3 + 1.5 \times (Q3 - Q1) \quad (1)$$

For the datasets shown in Figures 59 to 61, the number of outliers is less than 15% of the total number of samples; therefore, based on the methods recommended by Reimann et al. (2005), the value of the upper inner fence on each of these plots was chosen as an estimate of the upper limit of baseline variation. This ‘threshold’ value represents the highest baseline concentration of As, Hg, or Sb in the stream sediments of each zone that would be expected based on the observed variability in each dataset. Values higher than these threshold concentrations are anomalous and likely represent a point source of metal(loid) input (e.g. runoff from a metal mine site, historical tailings, or erosion of locally mineralized surficial material).

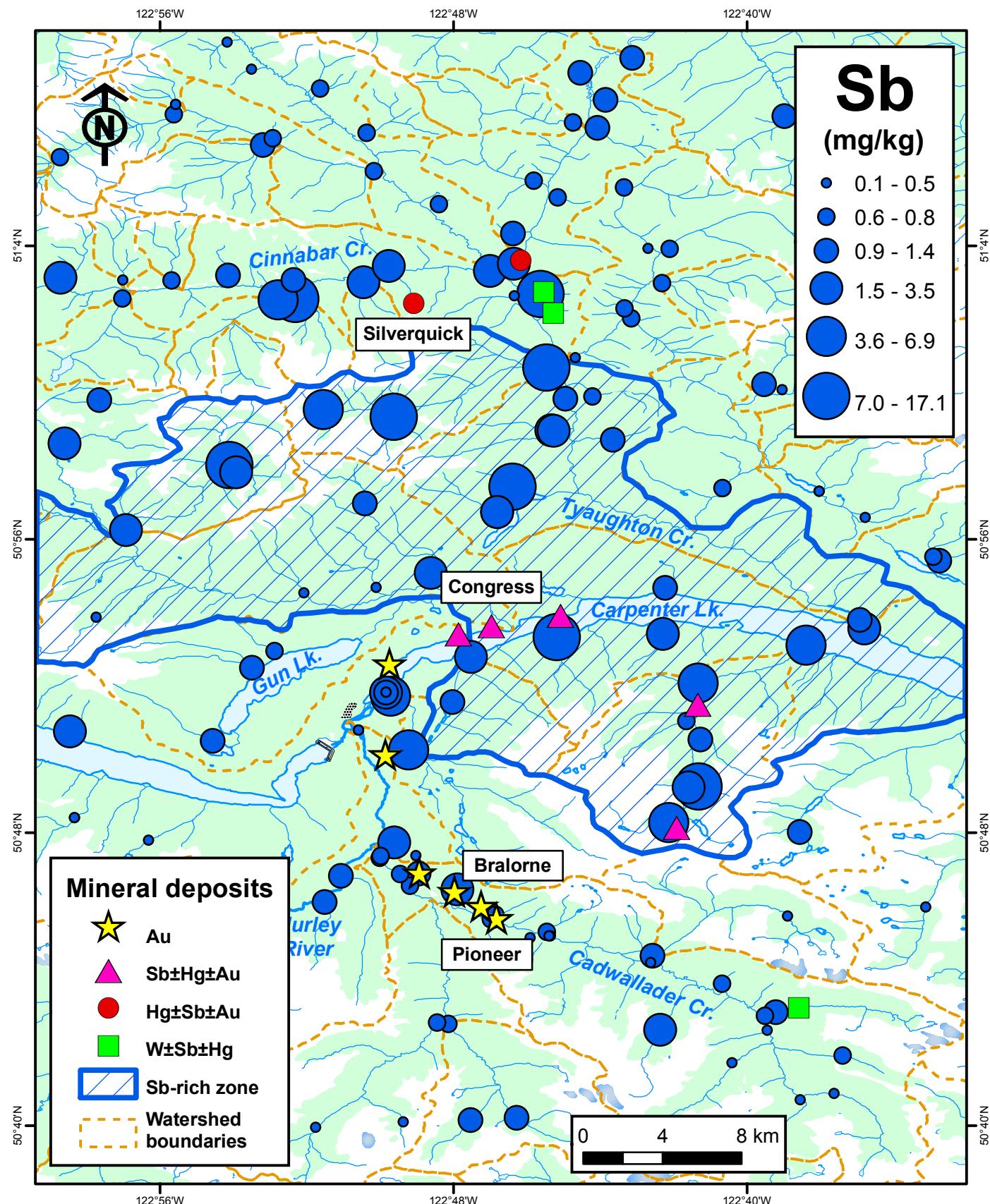
As shown in Figure 59, the median concentration of As (26 mg/kg) is highest in the As-rich zone, intermediate in the Sb-rich zone, and lowest in the Hg-rich zone. However, the highest As concentrations are actually found within the Sb-rich zone, reflecting the widespread abundance of arsenopyrite in both Au and Sb deposits throughout the district (Fig. 56). The median concentrations of As in all three zones are greater than the Canadian interim guideline for As in freshwater sediments (ISQG; 5.9 mg/kg) and median As concentrations in the As-rich and Sb-rich zones exceed the Canadian probable effect level for As (PEL; 17 mg/kg; CCME, 2012). This comparison shows that the concentrations of As in these sediments exceed recommended levels for the protection of aquatic life, but is not necessarily indicative of adverse biological effects (Chapman et al. 1999). The relatively high baseline concentrations of As in these sediments highlight the need for site-specific environmental quality guidelines in mineralized areas (Runnells et al., 1992; Helgen and Moore, 1996). The ranges in As baseline concentrations in stream sediments from the As-rich, Sb-rich, and Hg-rich zones in the Bridge River Mining District are 0.6-110 mg/kg, 4.9-168 mg/kg, and 2.9-25 mg/kg, respectively.

The median concentration of Sb is highest in the Sb-rich zone (2.0 mg/kg), intermediate in the Hg-rich zone (0.7 mg/kg) and lowest in the As-rich zone (0.6 mg/kg) (Fig. 60). As shown above for As, the boundaries between these zones are gradational, and there are stream sediments in all three zones with Sb concentrations that exceed the baseline threshold value (Eq. 1). Some of the highest Sb concentrations occur in areas of past mining activity (e.g. sediments in Truax Creek near the past-producing Gray Rock and Mary Mac Sb±Hg±Au deposits; Figs. 1, 57); however, most Sb ‘hot-spots’ are located away from mined areas. In Canada, no Sb guidelines currently exist for freshwater sediments, but Australia has established Sb interim quality criteria for stream sediments with a trigger value of 2 mg/kg and an action value of 25 mg/kg (NWQMS, 2000; Beuchemin et al., 2012). None of the stream sediments collected from the Bridge River District exceed the Australian action value, but there are Sb concentrations in all three zones that are greater than the 2 mg/kg trigger value. The ranges in Sb baseline concentrations in stream sediments from the As-rich, Sb-rich, and Hg-rich zones in the Bridge River Mining District are 0.1-2.0 mg/kg, 0.3-15 mg/kg, and 0.1-2.2 mg/kg, respectively (Fig. 60).

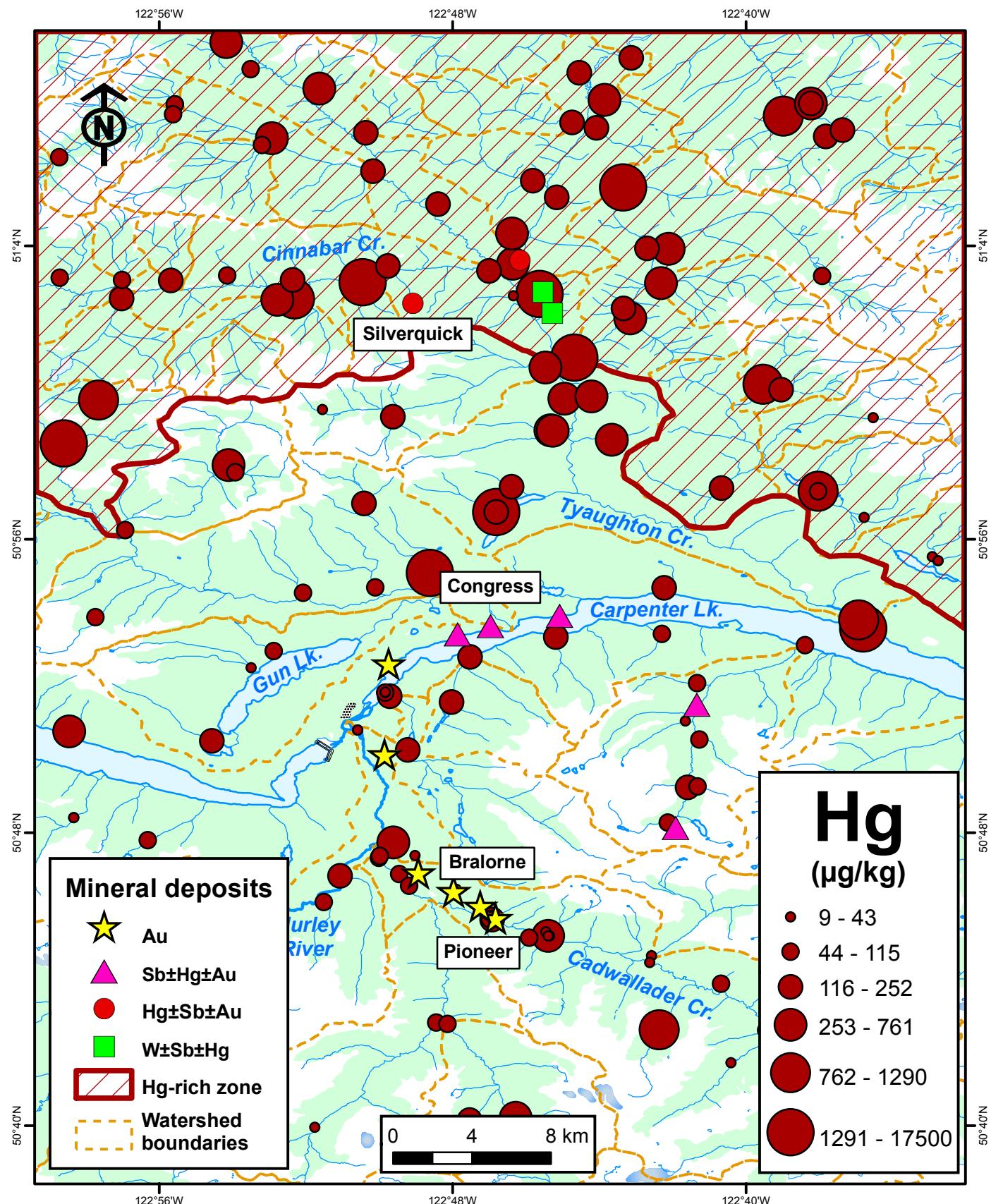
Mercury concentrations in stream sediments throughout the Bridge River District are highly variable, but generally greater north of Carpenter Lake (Fig. 58). The median concentration of Hg is highest in the Hg-rich zone (209 µg/kg), intermediate in the Sb-rich zone (157 µg/kg) and lowest in the As-rich zone (43 µg/kg) (Fig. 61). In the Hg-rich zone, the median concentration of Hg exceeds the Canadian ISQG (170 µg/kg), and there are numerous samples from each zone



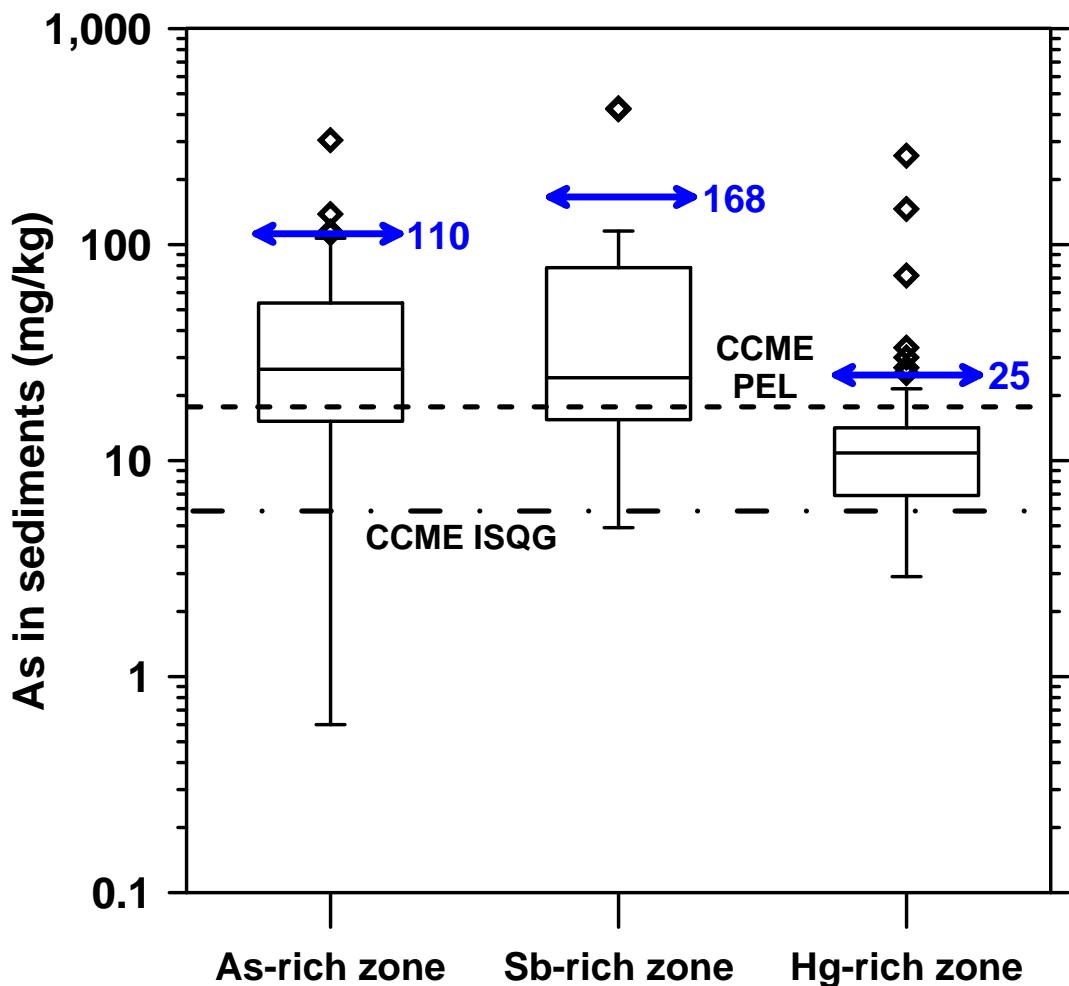
**Fig. 56.** Arsenic concentrations (mg/kg,  $<177 \mu\text{m}$ ) in stream sediments collected throughout the Bridge River Mining District by the National Geochemical Reconnaissance and BC Regional Geochemical Survey programs in 1979, 1981 and 2009, and during the present study from 2006-2008.



**Fig. 57.** Antimony concentrations (mg/kg, <177 µm) in stream sediments collected throughout the Bridge River Mining District by the National Geochemical Reconnaissance and BC Regional Geochemical Survey programs in 1979, 1981 and 2009, and during the present study from 2006-2008.

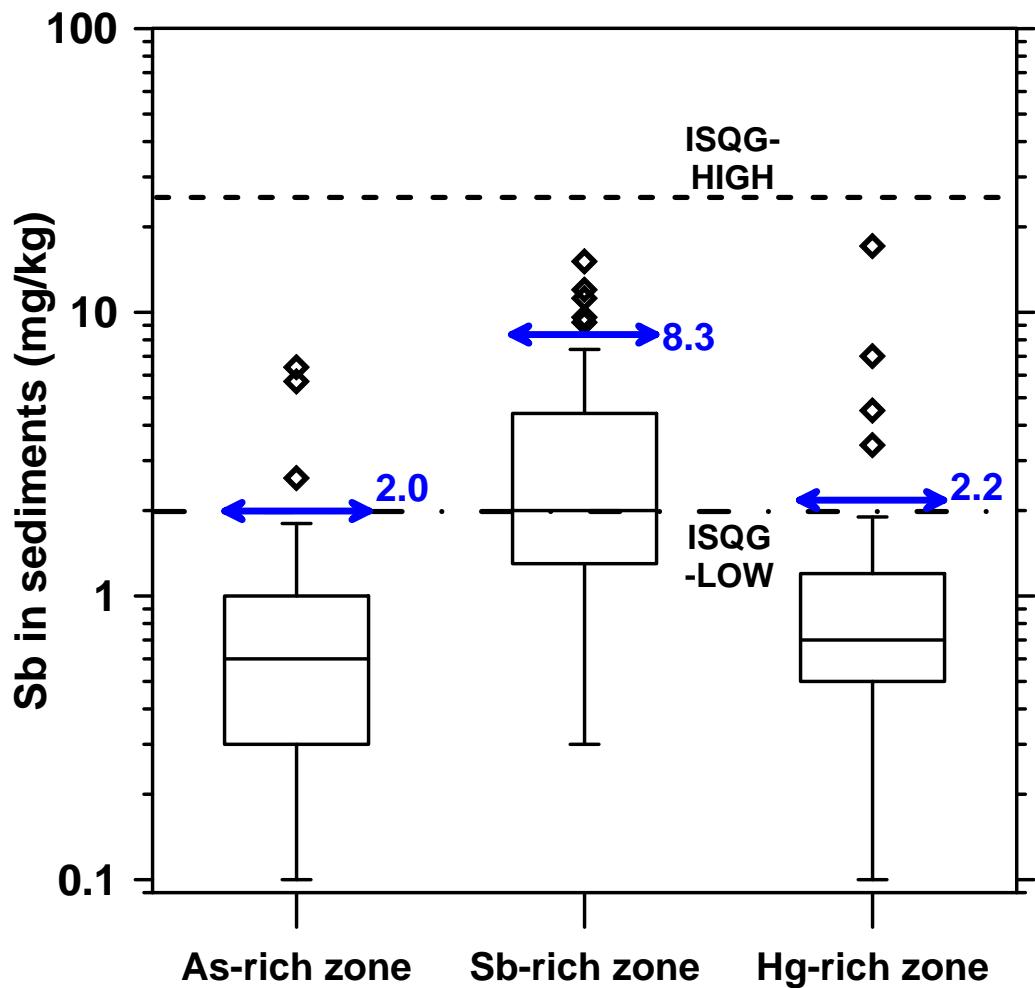


**Fig. 58.** Mercury concentrations ( $\mu\text{g/kg}$ ,  $<177 \mu\text{m}$ ) in stream sediments collected throughout the Bridge River Mining District by the National Geochemical Reconnaissance and BC Regional Geochemical Survey programs in 1979, 1981 and 2009, and during the present study from 2006-2008.

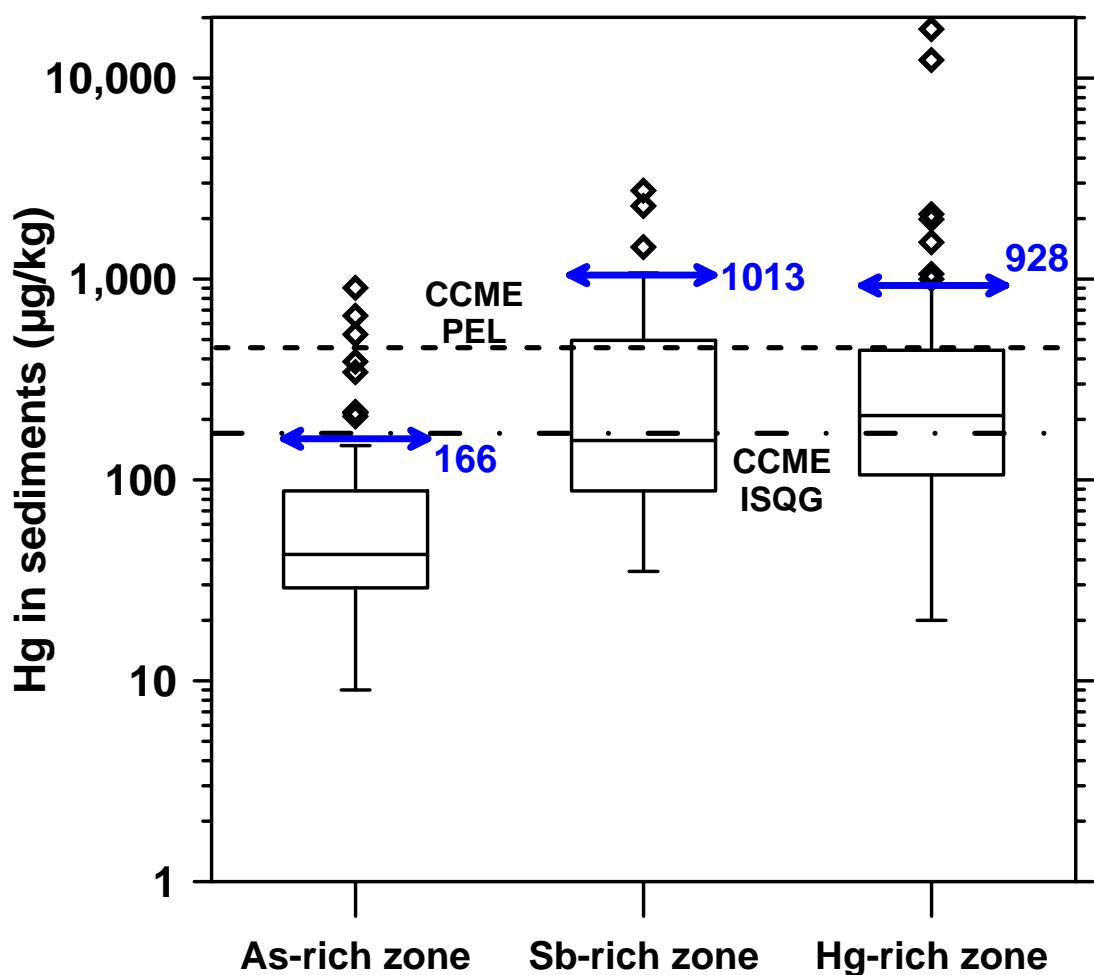


ARSENIC STATISTICS (mg/kg)			
	As-rich zone	Sb-rich zone	Hg-rich zone
<b>Minimum</b>	0.6	4.9	2.9
<b>Maximum</b>	304	427	258
<b>Mean</b>	44	63	19
<b>Median</b>	26	24	11
<b>Upper inner fence</b>	110	168	25
<b># samples</b>	58	33	58

**Fig. 59.** Box-and-whisker plot showing As (mg/kg) in stream sediments throughout the Bridge River Mining District. For reference, both the Canadian Interim Sediment Quality Guideline (ISQG) and the Probable Effect Level (PEL) for As in freshwater sediments are shown as horizontal dashed lines (CCME, 2012). The double-ended arrows show the upper inner fence on each plot, used in this study as an estimate of the upper limit of baseline variation.



**Fig. 60.** Box-and-whisker plot showing Sb (mg/kg) in stream sediments throughout the Bridge River Mining District. For reference, the Australian Low and High values of the Interim Sediment Quality Guidelines (ISQG) for Sb in freshwater sediments are shown as horizontal dashed lines (NWQMS, 2000). The double-ended arrows show the upper inner fence on each plot, used in this study as an estimate of the upper limit of baseline variation.



MERCURY STATISTICS (µg/kg)			
	As-rich zone	Sb-rich zone	Hg-rich zone
<b>Minimum</b>	9	35	20
<b>Maximum</b>	902	2750	17,500
<b>Mean</b>	102	399	857
<b>Median</b>	43	157	209
<b>Upper inner fence</b>	166	1013	928
<b># samples</b>	58	33	58

**Fig. 61.** Box-and-whisker plot showing Hg (µg/kg) in stream sediments throughout the Bridge River Mining District. For reference, both the Canadian Interim Sediment Quality Guideline (ISQG) and the Probable Effect Level (PEL) for Hg in freshwater sediments are shown as horizontal dashed lines (CCME, 2012). The double-ended arrows show the upper inner fence on each plot, used in this study as an estimate of the upper limit of baseline variation.

that exceed the PEL for Hg (486 µg/kg) (CCME, 2012). The ranges in Hg baseline concentrations in stream sediments from the As-rich, Sb-rich, and Hg-rich zones in the Bridge River District are 9-166 mg/kg, 35-1010 mg/kg, and 20-928 mg/kg, respectively (Fig. 61).

### Controls on mine drainage composition in the Bralorne 800-Level workings

Drainage of high-As mine waters from the 800-Level portal of the Bralorne Mine is one of the most significant environmental challenges facing the current mine operator (Lorax, 2008). Recent undergraduate theses at the University of British Columbia have examined the processes controlling As behaviour along the 800-Level adit (Strand, 2007) and the stability and water balance of the Bralorne tailings impoundment, which currently serves as a reservoir for the 800-Level mine drainage (Fig. 8b; Lefrançois, 2010). The main objectives of the present study at Bralorne were to collect detailed water chemistry analyses to document seasonal variations in water quality during a period of continuous flow monitoring in 2007 and 2008 (Desbarats et al., 2010), to characterize the changes in aqueous As speciation, and to further investigate the origins and fate of mine drainage from the 800 Level.

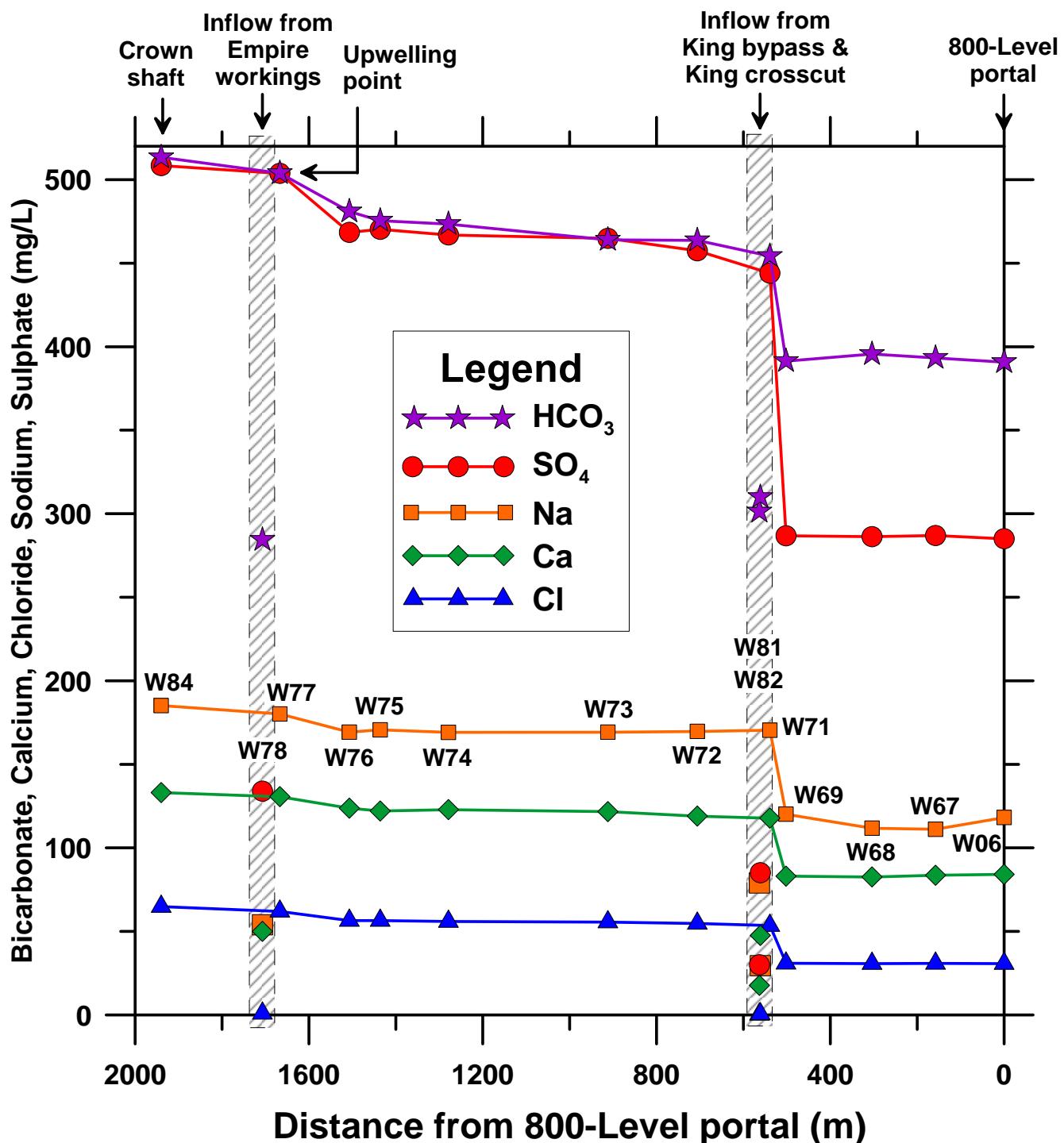
Figure 18 shows the locations of water sampling sites in the 800-Level underground workings. Passive overflow of mine water from the flooded Crown shaft is the main source of water to the 800 Level, but there are three other significant sources of relatively dilute water that mix with water from the Crown shaft. One of these inflows (W78) is located between the Crown shaft (W84) and the upwelling point (W77), and originates from workings located further southeast towards the Empire shaft (Fig. 18). The mixing zone between this relatively dilute water and the deeper mine waters is located immediately downstream of the upwelling point (i.e. between stations W77 and W76 on Fig. 18). Inflowing water also originates from the King Bypass (W82) and the King Crosscut (W81), which drain underground workings of the former King Mine. These waters mix with drainage from the Crown shaft just upstream of Site W69 (Fig. 18).

Changes in the concentrations of major cations and anions along the 800-Level adit in June 2008 are shown in Figure 62. Inflow of water from the Empire workings causes a slight decrease in the concentrations of major ions immediately downstream of the upwelling point, whereas the more voluminous inflows originating from the King Mine lead to a much greater decrease in ion concentrations (especially SO<sub>4</sub>) approximately 500 m upstream of the portal. Assuming that the chloride ion behaves conservatively during the mixing of these waters, the Cl content of each water can be used to calculate the relative volumes of each flow that are mixing at these two locations. The mixing of two waters can be described by the following mass-balance equation:

$$C_m = C_1 f_1 + C_2 f_2 \quad (2)$$

where the subscripts *m*, 1, and 2 denote concentrations (*C*) and volume fractions (*f*) of the mixture, and of end-member waters 1 and 2, respectively. The volume fractions of both waters involved in the mixture must equal 1 (i.e. *f*<sub>1</sub> + *f*<sub>2</sub> = 1); therefore, equation 2 can be rearranged to solve for the volume fraction of end-member water 1 (after Faure, 1998):

$$f_1 = \frac{(C_m - C_2)}{(C_1 - C_2)} \quad (3)$$



**Fig. 62.** Concentrations of major cations and anions in filtered ( $<0.45\ \mu m$ ) mine drainage samples collected along the 800-Level workings of the Bralorne Mine in June 2008. The vertical hatched rectangles show the locations of relatively dilute mine waters that join the upwelling waters from the Crown shaft at various locations along the 800-Level. The location of each water sampling site is shown on a map of the mine workings in Figure 18.

Using this approach for the water compositions measured in June 2008 (Appendix D) yields the following results for the main mixing points in the 800-Level workings:

#### MIXING OF WATERS FROM EMPIRE WORKINGS AND CROWN SHAFT

Concentration of Cl in upwelling waters from Crown shaft (W77,  $C_1$ ): 61.98 mg/L

Concentration of Cl in waters from Empire workings (W78,  $C_2$ ): 0.97 mg/L

Concentration of Cl in mixed waters downstream of upwelling point (W76,  $C_m$ ): 56.48 mg/L

$$f_1 = \frac{(56.48 - 0.97)}{(61.98 - 0.97)} = 0.91 \quad (3)$$

Therefore, assuming that Cl behaves conservatively during mixing, the mine waters downstream of the upwelling point on 800-Level (W76) represent a mixture of 9% (by volume) mine drainage from the Empire workings, and 91% (by volume) drainage from the Crown shaft.

#### MIXING OF WATERS FROM THE KING MINE AND CROWN SHAFT

Concentration of Cl in Crown shaft waters just above the King Mine confluence (W71,  $C_1$ ): 53.48 mg/L

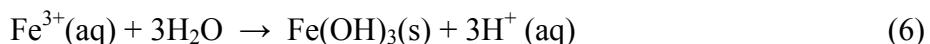
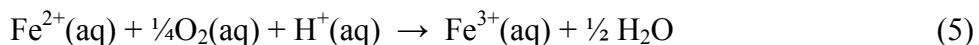
Average Cl concentration in waters from the King bypass and King crosscut (W81&W82,  $C_2$ ): 0.46 mg/L

Concentration of Cl in mixed waters downstream of King Mine confluence (W69,  $C_m$ ): 30.93 mg/L

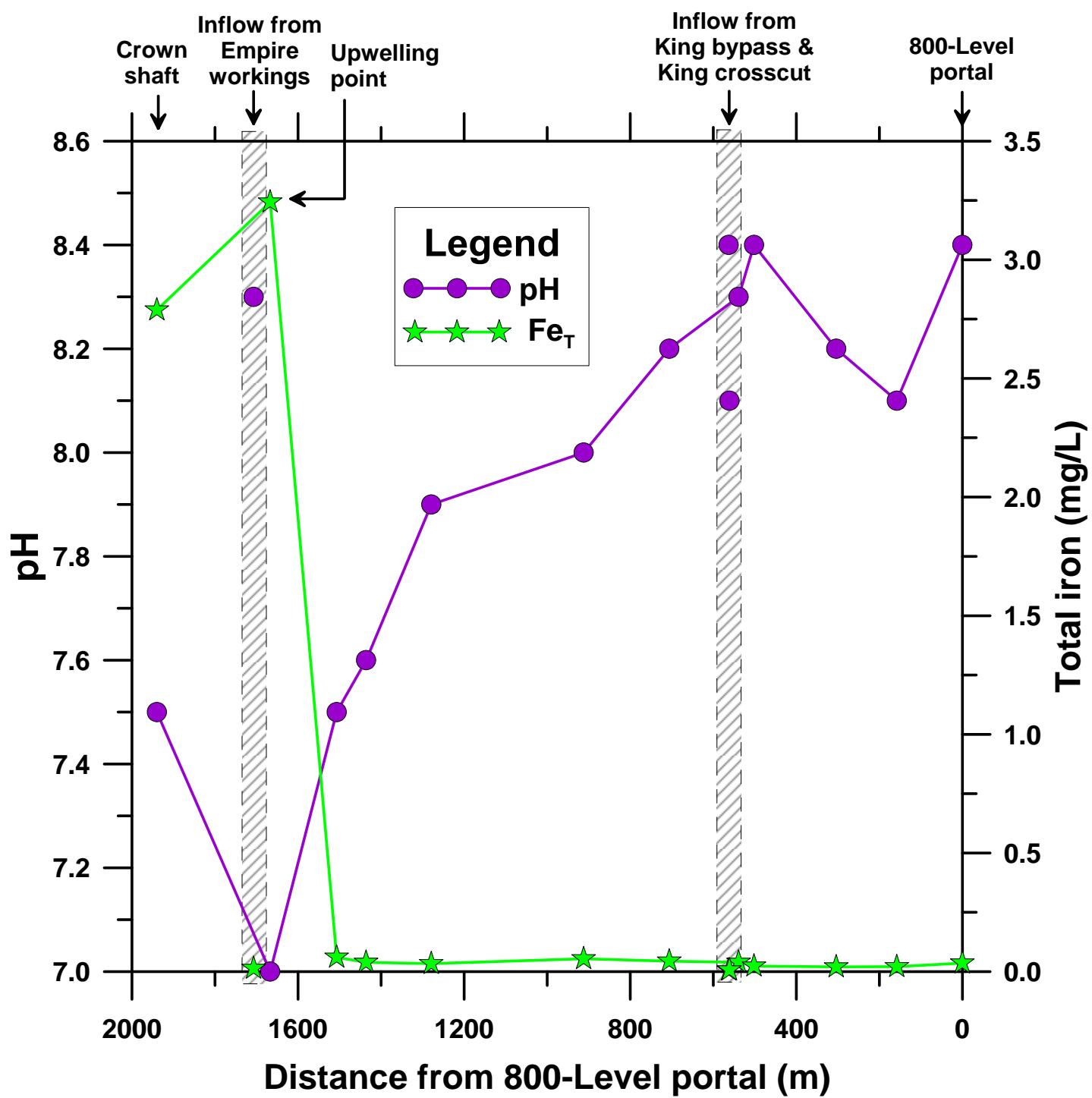
$$f_1 = \frac{(30.93 - 0.46)}{(53.48 - 0.46)} = 0.57 \quad (4)$$

Therefore, the mine waters downstream of the King Mine confluence (W69) are a mixture of 43% (by volume) water from the King Mine, and 57% (by volume) waters from the Crown shaft and Empire workings.

Waters upwelling from the Crown shaft at Site W77 (Fig. 8a) are suboxic (0.3-0.5 mg/L dissolved oxygen, DO), have circumneutral pH (7.0-7.6), and contain low concentrations of reduced species including ferrous Fe (0.33 mg/L) and total sulphide (11 µg/L). Once these waters mix with relatively oxygenated waters from the Empire workings (7.8-8.5 mg/L), the concentrations of dissolved Fe drop rapidly as large quantities of hydrous ferric oxides (HFO) precipitate from the mine waters via reactions 5 and 6 (Figs. 21b, 63):



Any acidity produced through the hydrolysis of Fe (Eq. 6) and other metals is quickly neutralized by reaction with carbonate minerals in the mine workings, leading to a progressive increase in pH between the upwelling point and the confluence with the King Mine drainage (Fig. 63). The



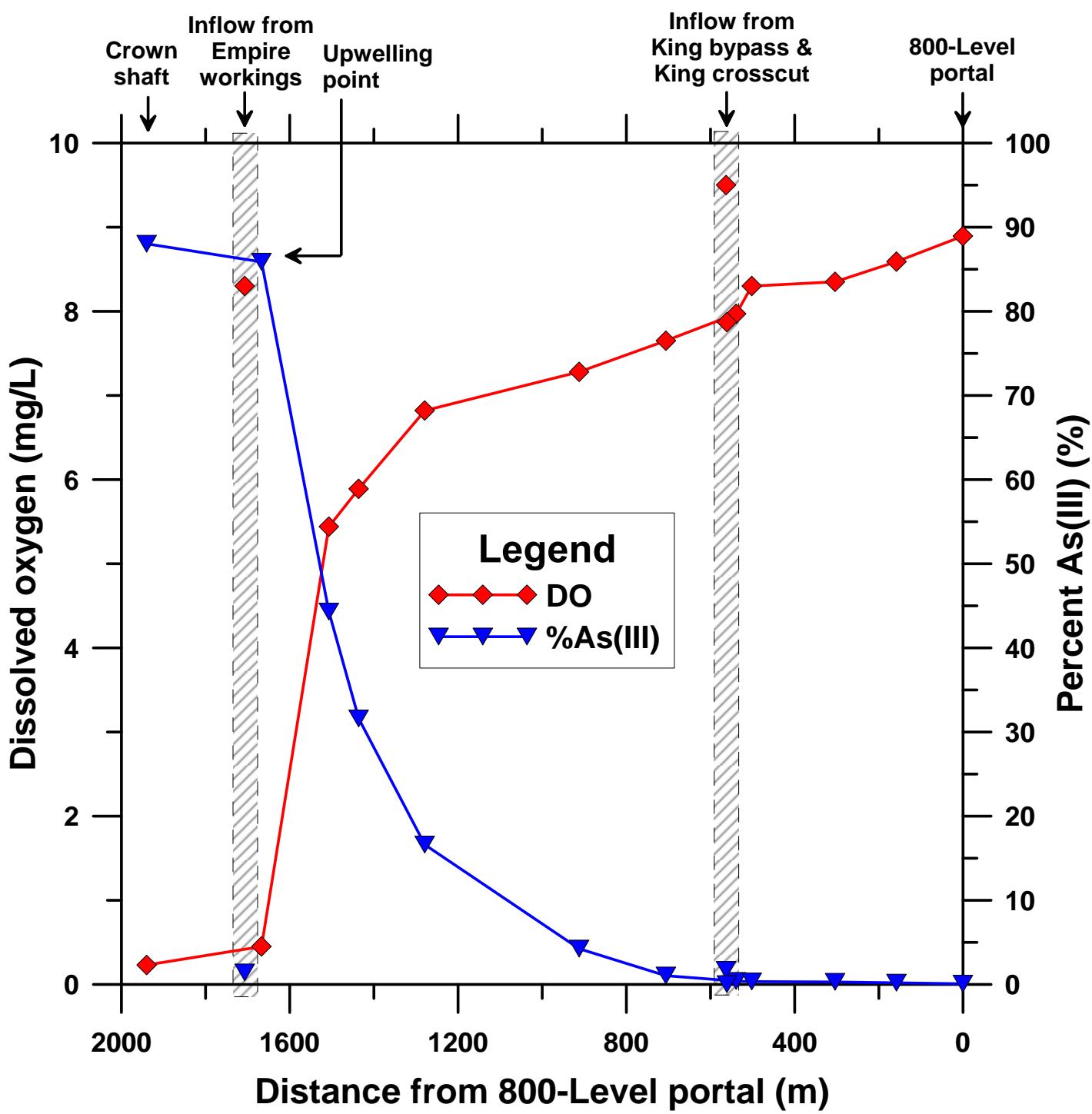
**Fig. 63.** pH and total Fe concentrations in filtered ( $<0.45 \mu\text{m}$ ) mine drainage samples collected along the 800-Level workings of the Bralorne Mine in June 2008. The vertical hatched rectangles show the locations of relatively dilute mine waters that join the upwelling waters from the Crown shaft at various locations along the 800-Level.

gradual oxygenation of the deep mine waters as they flow along the 800-Level has a pronounced impact on the aqueous speciation of As. In the waters of the Crown shaft, As(III) constitutes between 80 and 90% of the total As in solution, but this drops rapidly to less than 50% in mixed waters 160 m downstream of the upwelling point (Fig. 64). Over the next 1100 m, the %As(III) drops continuously until it is less than 0.5% of the total As in solution just above the confluence with the King Mine drainage, then it continues to decrease all the way to the 800-Level portal.

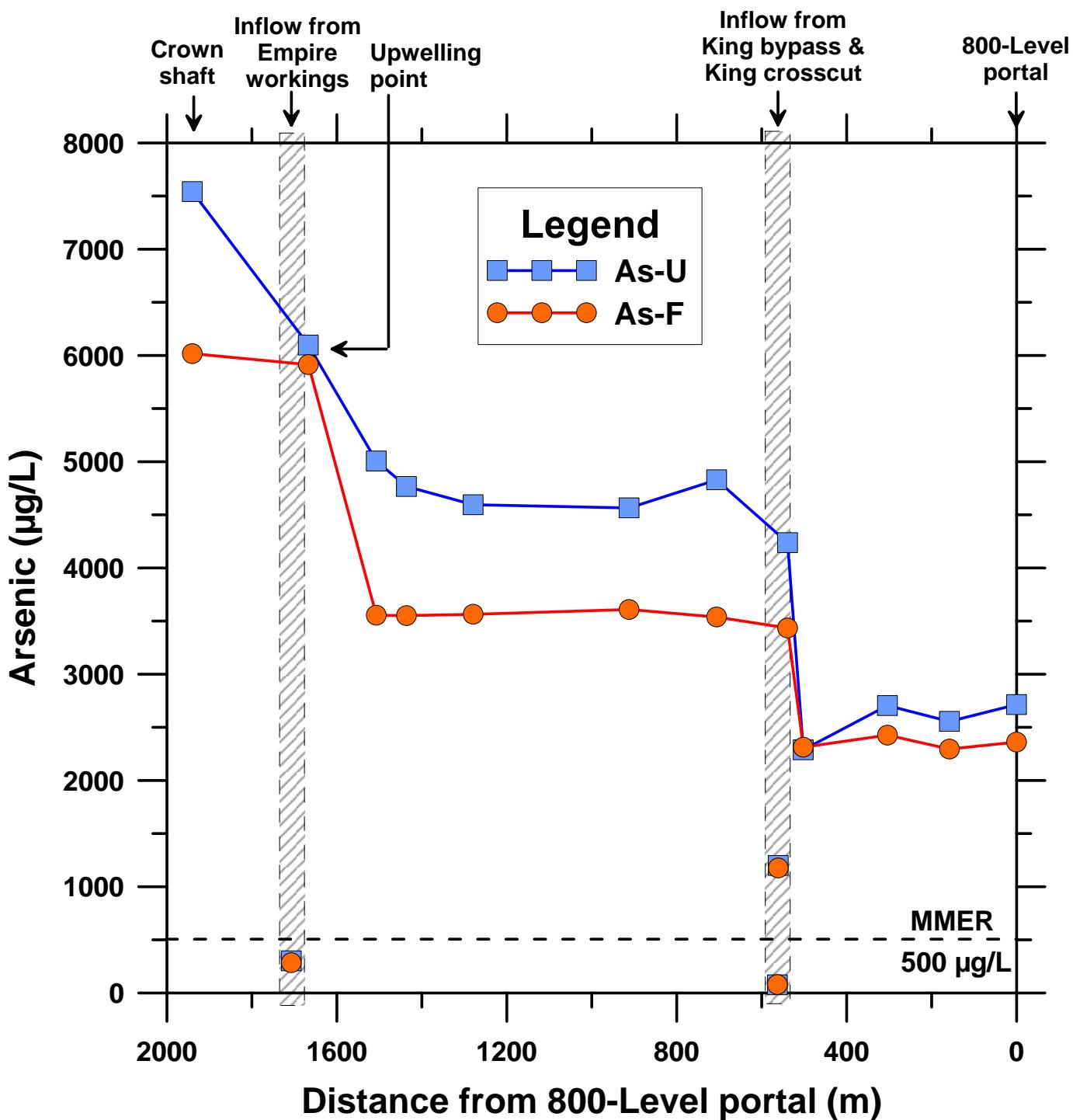
Both As(III) and As(V) are strongly sorbed to HFO over the pH range (7-9) in the 800-Level workings (Pierce and Moore, 1982). Adsorption and co-precipitation of As to HFO is likely responsible for much of the decrease in As concentrations in filtered waters in the mixing zone immediately downstream of the upwelling point (Fig. 65). However, competition for adsorption sites by competing anions (e.g. bicarbonate), kinetic limitations (Fuller et al., 1993), and the desorption of As(V) from HFO as pH increases above 7.0 (Wilkie and Hering, 1996) also help to maintain significant concentrations of As in solution (Strand, 2007). In June 2008, 71-100% of the As in waters along the 800-Level was either in dissolved form, or bound to colloids less than 0.45 µm in diameter (Fig. 65). The remaining As in unfiltered water samples was likely sorbed to suspended particulates, which help to transport As from the 800-Level workings. The combined effects of dilution and sorption to secondary precipitates resulted in a 60% decrease in the filtered concentrations of As between the upwelling point (5910 µg/L As) and the 800-Level portal (2360 µg/L As) in June 2008 (Fig. 65). However, the filtered and unfiltered concentrations of As measured at the portal are still 4.7 and 5.4 times greater, respectively, than the maximum authorized monthly mean concentration of As in mine effluent (500 µg/L; MMER, 2002).

Comparison of the composition of mine drainage collected along the 800-Level in October 2007, June 2008, and October 2008 shows that water quality was relatively constant over this 12-month period. Figure 66 shows the concentrations of As in filtered water samples on each of these three sampling dates. In general, the trends in As concentration in the underground workings are similar during all three synoptic surveys, reflecting the effects of dilution and sorption to HFO. However, the concentrations of As at most sites seem to increase slightly over this time period, particularly in the workings upstream of the King Mine confluence. Arsenic levels in filtered samples from the portal (Fig. 66) fall within the range (2200-2700 µg/L) measured during weekly sampling of the 800-Level effluent between October 15, 2007 and December 7, 2008 (Desbarats et al., 2010). The results of these studies suggest that the filtered concentrations of As in the 800-Level effluent should remain relatively steady over time, but that higher As loading can be expected when As-rich particulates are transported from the workings during periods of higher flow (i.e. during the spring freshet, or during active drilling or mining).

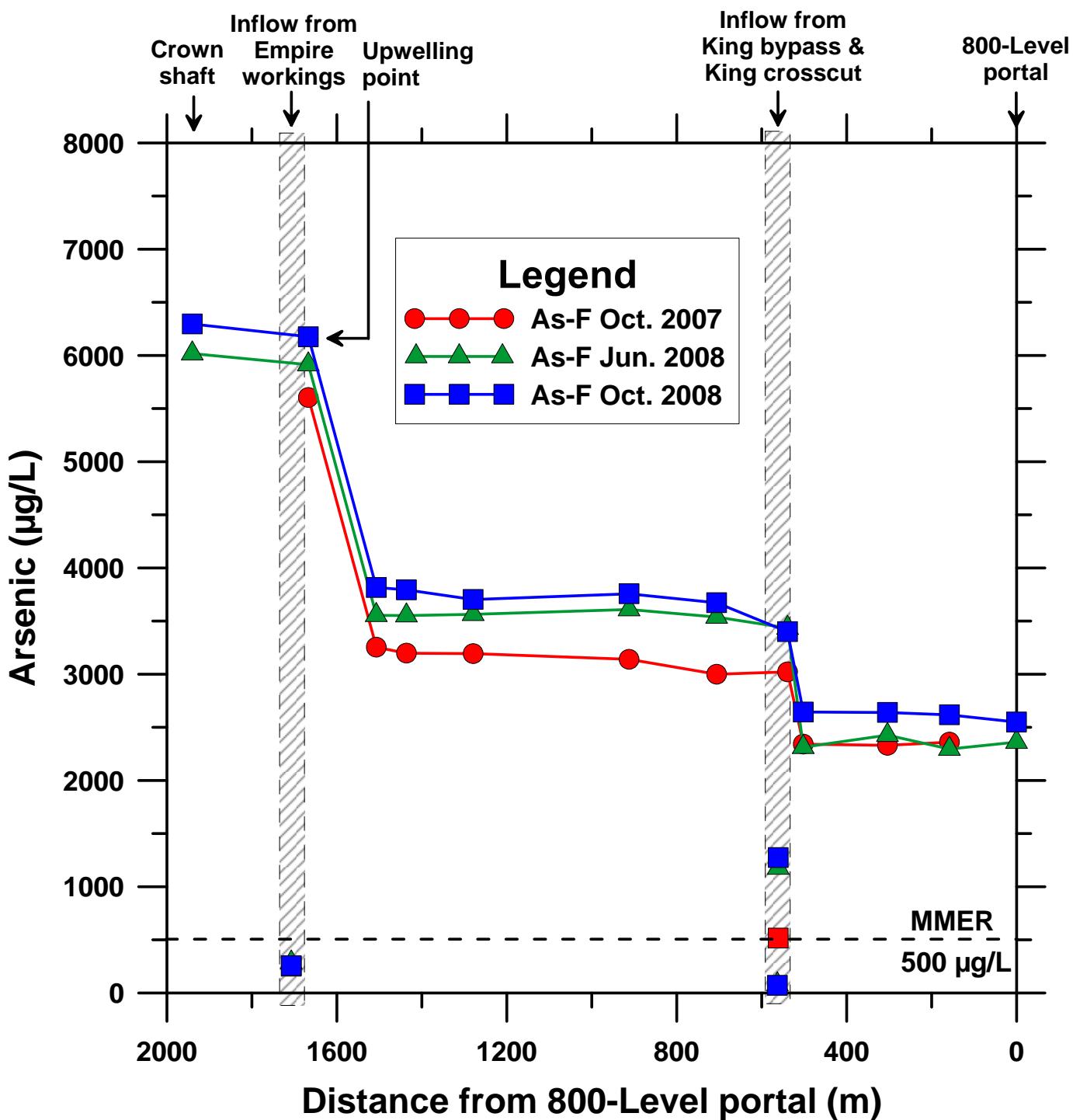
At present, disposal of the 800-Level effluent in the Bralorne tailings impoundment is providing an effective means of decreasing the concentrations of As in the mine waters before they are released to the environment through dam seepage (Figs. 43, 53; Lorax, 2008). However, an analysis of the sulphate to chloride ratios in the 800-Level workings and dam seepage (Fig. 67) shows that these mine waters are clearly the dominant source of water emanating from the foot of the tailings dam. Further investigation of the mechanisms controlling the attenuation of As and other metal(lloid)s within and beneath the tailings impoundment is warranted to assess the long-term effectiveness of this water management strategy.



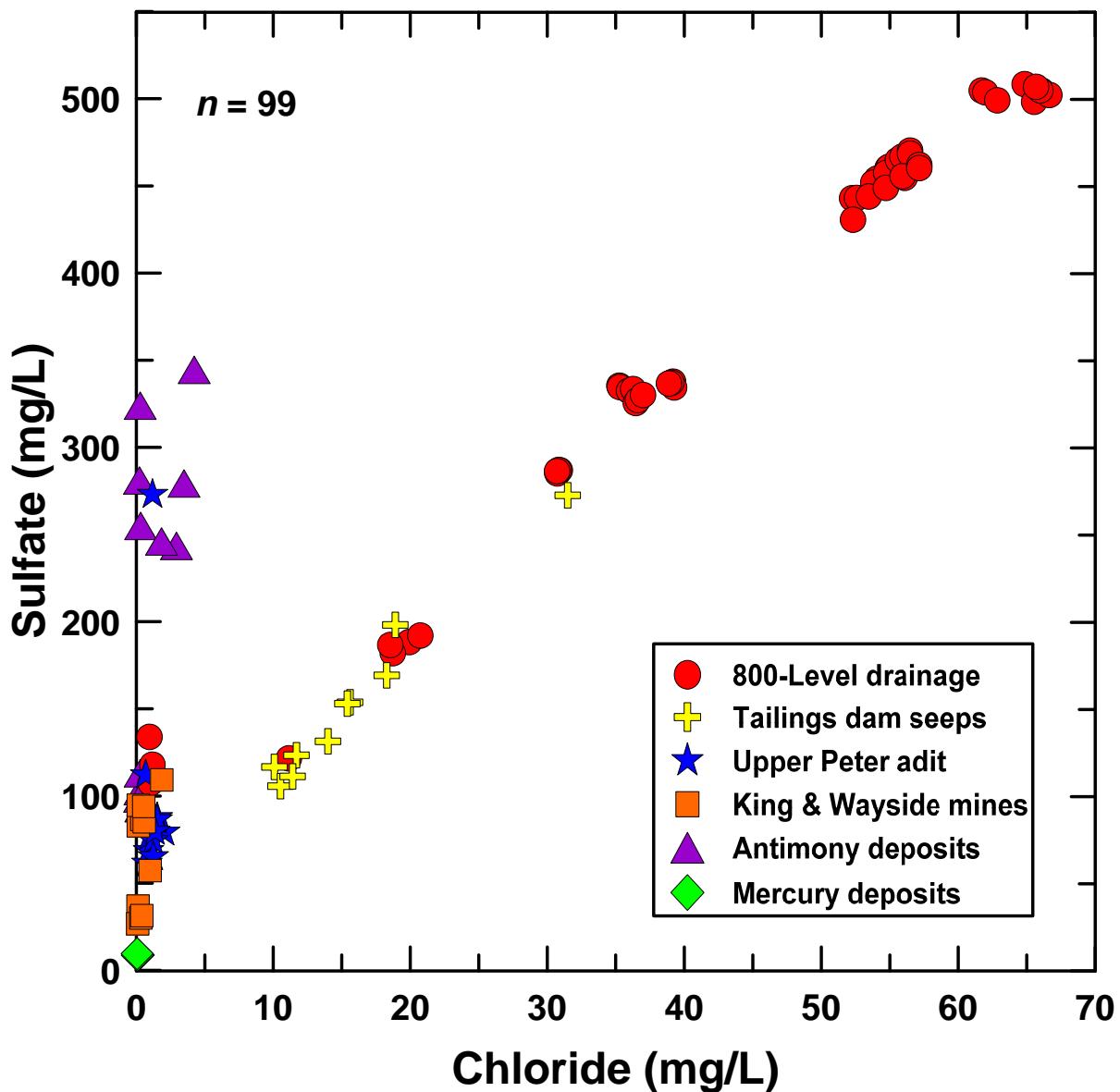
**Fig. 64.** Dissolved oxygen and percent arsenite [ $\text{As(III)}$ ] in filtered ( $<0.45 \mu\text{m}$ ) mine drainage samples collected along the 800-Level workings of the Bralorne Mine in June 2008. The vertical hatched rectangles show the locations of relatively dilute mine waters that join the upwelling waters from the Crown shaft at various locations along the 800-Level.



**Fig. 65.** Arsenic concentrations in filtered (<0.45 µm; As-F) vs. unfiltered (As-U) mine drainage samples collected along the 800-Level workings of the Bralorne Mine in June 2008. The vertical hatched rectangles show the locations of relatively dilute mine waters that join the upwelling waters from the Crown shaft at various locations along the 800-Level. The Metal Mining Effluent Regulation for As (500 µg/L) is shown for reference (MMER, 2002).



**Fig. 66.** Arsenic concentrations in filtered ( $<0.45\text{ }\mu\text{m}$ ; As-F) mine drainage samples collected along the 800-Level workings of the Bralorne Mine in October 2007, June 2008, and October 2008. The vertical hatched rectangles show the locations of relatively dilute mine waters that join the upwelling waters from the Crown shaft at various locations along the 800-Level. The Metal Mining Effluent Regulation for As (500  $\mu\text{g/L}$ ) is shown for reference (MMER, 2002).



**Fig. 67.** Concentrations of sulphate and chloride in mine drainage from the Bridge River District and seepage from the Bralorne tailings impoundment in 2007 and 2008.

## CONCLUSIONS AND RECOMMENDATIONS

The Bridge River Mining District in British Columbia has a rich history of mining activity dating back to the late 1800s, but it also bears the legacy of past mining practices which pre-date modern environmental regulations. The Bralorne and Pioneer Au mines are archetypal orogenic lode Au deposits, and their environmental characteristics are representative of many other Au deposits across Canada. The results of recent GSC investigations at these Au mines, and at other Au, Sb, and Hg deposits in the Bridge River District, have led to the following key conclusions:

- 1) The median concentrations of As, Sb, and Hg in stream sediments throughout much of the Bridge River Mining District exceed environmental guidelines for the protection of freshwater aquatic life in Canada (As, Hg) and Australia (Sb). The relatively high baseline concentrations of these elements highlight the importance of establishing site-specific environmental quality guidelines for sediments in mineralized areas.
- 2) The concentrations of metal(lloid)s in filtered stream waters collected from the Bridge River District are all below regulatory guidelines, suggesting that impacts from naturally mineralized areas and historical mine workings are very localized.
- 3) Most of the tailings that were discharged directly to Cadwallader Creek during historical Au mining operations have been transported further downstream and may now form part of the sediments on the bottom of Carpenter Lake. This situation is very different from similar historic Au mines in Nova Scotia (Parsons et al., 2012), where stream gradients are generally much lower, leading to an accumulation of tailings on floodplains and ongoing, long-term impacts on surface water quality.
- 4) Temporal monitoring of the flooded Crown shaft at Bralorne from June 2008 to June 2009 shows no evidence of systematic trends in water quality or of cyclic variations that might reflect thermally-driven convective flow in the flooded workings. Chemographs of EC, pH, and ORP indicate fairly stable chemical conditions in the shaft water.
- 5) Arsenic concentrations in mine drainage from the 800-Level workings of the Bralorne Mine will continue to exceed the Canadian mine effluent regulations ( $500 \mu\text{g/L}$  As) under current mine conditions. Disposal of this water in the tailings impoundment is currently providing an effective means of reducing the concentration of As in seepage water, but the long-term effectiveness of this water management strategy should be investigated.

This study has resulted in improved knowledge of the environmental characteristics of orogenic lode Au deposits that should simplify environmental assessments for similar Au deposits across Canada, and lead to more effective mining, waste-management, and mine-closure practices.

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## **APPENDICES**

## **APPENDIX A**

Field sheets and photographs of sediment and mine waste sample sites

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 6, 2007      Easting (NAD83): 524186  
Site ID: BRA07-SS01      Northing (NAD83): 5617651

---

Water chemistry: Site ID: W1 ; pH = 7.6 ; Cond. = 25.3 µS/cm ; T = 5.3 °C

---

Site description:

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**Cadwallader Creek, just upstream of confluence with Piebiter Creek**

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Sample description:

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**Poorly sorted sediment with some pebbles and roots**

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Field photograph:



**Overview of Cadwallader Creek, near confluence with Piebiter Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 6, 2007      Easting (NAD83): 524113  
Site ID: BRA07-SS02      Northing (NAD83): 5618364

---

Water chemistry: Site ID: W2 ; pH = 7.1 ; Cond. = 49.2 µS/cm ; T = 6.2 °C

---

Site description:

---

**Piebiter Creek, just above Kingdom Lake Road**

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---

Sample description:

---

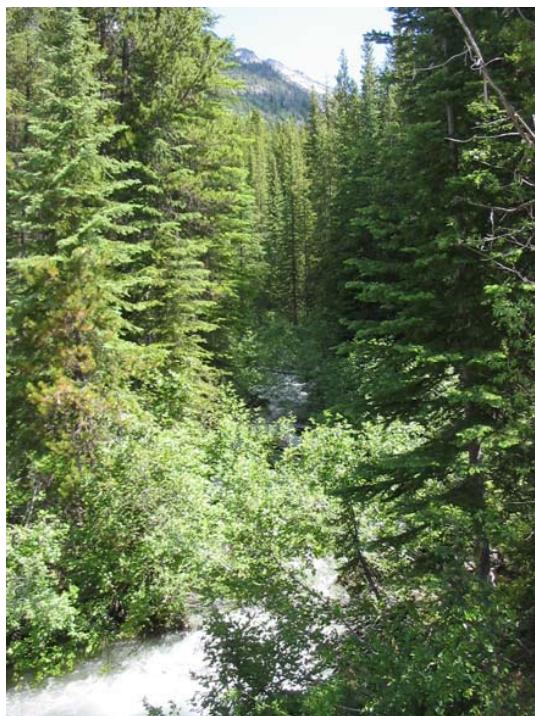
**Coarse, sandy sediments between boulders**

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---

Field photograph:



**Overview of Piebiter Creek, near Kingdom Lake Road**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 6, 2007      Easting (NAD83): 520436  
Site ID: BRA07-SS03      Northing (NAD83): 5621053

---

Water chemistry: Site ID: W3 ; pH = 7.0 ; Cond. = 37.8 µS/cm ; T = 7.8 °C

---

Site description:

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**Cadwallader Creek, immediately downstream of footbridge near campsites**

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Sample description:

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**Sandy sediments on bank**

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Field photograph:



**Overview of Cadwallader Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 6, 2007      Easting (NAD83): 517214  
Site ID: BRA07-SS04      Northing (NAD83): 5622386

---

Water chemistry: Site ID: W4 ; pH = 7.2 ; Cond. = 43.7 µS/cm ; T = 7.7 °C

---

Site description:

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**Cadwallader Creek, immediately downstream of Pioneer Extension mine site**

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Sample description:

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**Fine bank sediments with lots of roots**

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---

Field photograph:



Overview of Cadwallader Creek, downstream of historic Pioneer Extension mine site

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 6, 2007      Easting (NAD83): 512966  
Site ID: BRA07-SS05      Northing (NAD83): 5626349

---

Water chemistry: Site ID: W5 ; pH = 8.2 ; Cond. = 596 µS/cm ; T = 9.6 °C

---

Site description:

---

Outlet of portal at Upper Peter Mine

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---

Sample description:

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Light grey muddy sediments along drainage creek

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---

Field photograph:



**Upper Peter mine adit, with drainage creek and sample vial in foreground**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 7, 2007      Easting (NAD83): 515375  
Site ID: BRA07-SS06      Northing (NAD83): 5623190

---

Water chemistry: Site ID: W8 ; pH = 7.6 ; Cond. = 40.0 µS/cm ; T = 6.2 °C

---

Site description:

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**Cadwallader Creek, adjacent to ruins at Pioneer Mine**

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Sample description:

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**Sandy sediments along bank, near timbers**

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Field photograph:



**Cadwallader Creek with Pioneer Mine ruins in background**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 7, 2007      Easting (NAD83): 515303  
Site ID: BRA07-SS07      Northing (NAD83): 5623235

---

Water chemistry: Site ID: W9 ; pH = 7.8 ; Cond. = 98.1 µS/cm ; T = 7.1 °C

---

Site description:

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**Small creek cascading down bank, approximately 200 m south of Pioneer Mine**

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---

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Sample description:

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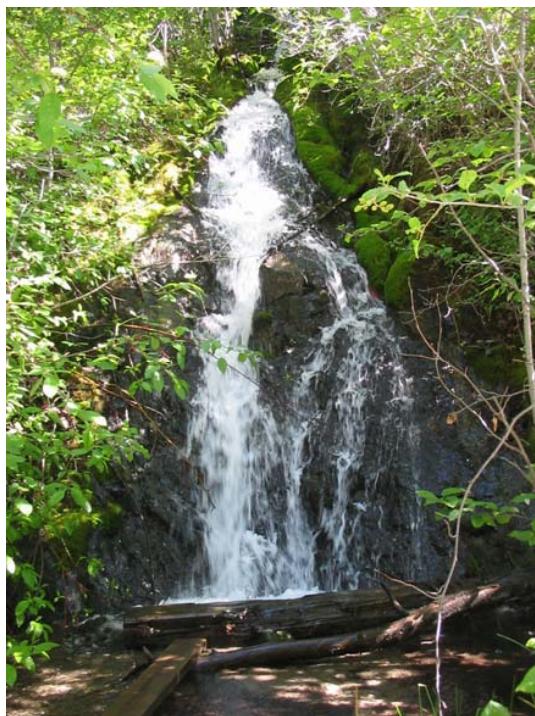
**Sandy sediments in drop pool at base of cascading creek**

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---

Field photograph:



**Roadside creek with drop pool, near Pioneer Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 7, 2007      Easting (NAD83): 511499  
Site ID: BRA07-SS08      Northing (NAD83): 5626039

---

Water chemistry: Site ID: W13 ; pH = 7.4 ; Cond. = 557 µS/cm ; T = 12.1 °C

---

Site description:

---

**Seepage from east edge of tailings impoundment; lots of algae in water**

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Sample description:

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**Fine grey sediments present below dam**

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Field photograph:



**Seepage creek downslope of tailings impoundment**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: July 7, 2007Easting (NAD83): 511580Site ID: BRA07-SS09Northing (NAD83): 5625846Water chemistry: Site ID: W14 ; pH = 7.9 ; Cond. = 539 µS/cm ; T = 19.1 °C**Site description:**Seepage pond below southeast corner of tailings impoundment (~ 1 m deep)**Sample description:**Thin (5 cm) layer of organic-rich sediments in pond**Field photograph:****Seepage pond, downslope of tailings impoundment**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 8, 2007      Easting (NAD83): 527206  
Site ID: BRA07-SS14      Northing (NAD83): 5637958

---

Water chemistry: na

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Site description:

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**Delta at mouth of Tyaughton Creek, along shoreline of Carpenter Lake**

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Sample description:

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**Dark brown, sand-silt sized sediments**

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Field photograph:

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**Deltaic deposit at mouth of Tyaughton Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 8, 2007      Easting (NAD83): 527049  
Site ID: BRA07-SS15      Northing (NAD83): 5638394

---

Water chemistry: Site ID: W21 ; pH = 8.7 ; Cond. = 155.0 µS/cm ; T = 9.1 °C

---

Site description:

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**Tyaughton Creek, upstream of Highway 40 bridge**

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Sample description:

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**Sandy-silty sediments on bank of creek**

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---

Field photograph:



**Tyaughton Creek bank sediments, upstream of BRA07-SS14**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: July 8, 2007Easting (NAD83): 511921Site ID: BRA07-SS16-19Northing (NAD83): 5634678Water chemistry: na

Site description:

**Sediments on grassy floodplain of Bridge River, approximately  $\frac{3}{4}$  km northeast  
of Gold Bridge**

Sample description:

**Four samples collected from vertical profile, SS16, SS17, SS18, and SS19**

**SS16 (78 - 84 cm) - Light grey, silty sediments with rusty mottles (minor roots)**

**SS17 (60 - 65 cm) - Light grey, silty sediments with rusty mottles (minor roots)**

**SS18 (41 - 48 cm) - Light grey, silty sediments with rusty mottles (minor roots)**

**SS19 (24 - 30 cm) - Rooted, brown sediments with rusty mottles**

Field photograph:



**Vertical profile of floodplain sediments at Bridge River shoreline**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 9, 2007      Easting (NAD83): 517239  
Site ID: BRA07-SS20      Northing (NAD83): 5647929

---

Water chemistry: Site ID: W22 ; pH = 7.8 ; Cond. = 62.6 µS/cm ; T = 5.5 °C

---

Site description:

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Cinnabar Creek, just upstream of Tygaughton Creek Road

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Sample description:

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Sandy-silty sediments trapped below fallen tree

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---

Field photograph:



**Sediment deposit along bank of Cinnabar Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: July 9, 2007      Easting (NAD83): 515938  
Site ID: BRA07-SS21      Northing (NAD83): 5656373

---

Water chemistry: Site ID: W23 ; pH = 8.4 ; Cond. = 197.7 µS/cm ; T = 8.6 °C

---

Site description:

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**Mud Creek, at historical Manitou mercury mine; no obvious HgS bearing mine waste**

---

Sample description:

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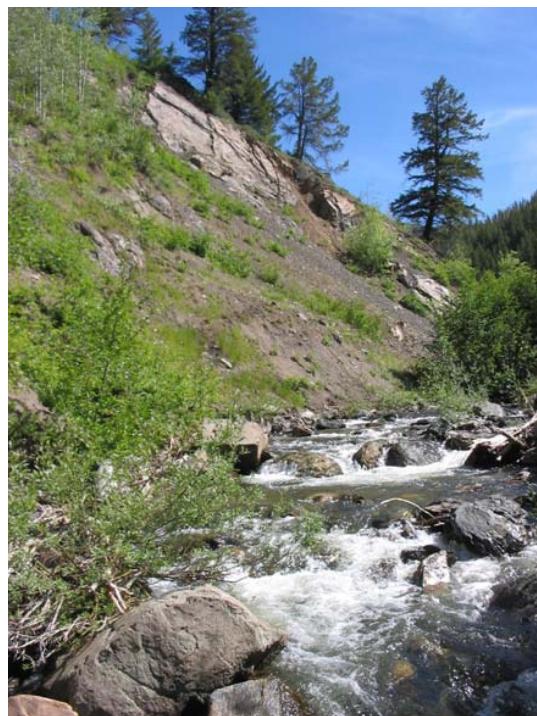
**Coarse, sandy stream sediments**

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Field photograph:



**Mud Creek, downslope of historical Manitou mercury mine site**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: July 9, 2007Easting (NAD83): 515176Site ID: BRA07-SS22Northing (NAD83): 5656005Water chemistry: Site ID: W24 ; pH = 8.2 ; Cond. = 147.2 µS/cm ; T = 7.6 °C

Site description:

**Tyaughton Creek, downstream of Quicksilver mercury mine; upstream of  
confluence with Relay Creek**

Sample description:

**Sandy-silty sediments from creek bank**

Field photograph:

**Sediment deposit along bank of Tyaughton Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: July 9, 2007Easting (NAD83): 517607Site ID: BRA07-SS23Northing (NAD83): 5649545Water chemistry: Site ID: W25 ; pH = 8.1 ; Cond. = 151.5 µS/cm ; T = 8.6 °C

Site description:

**Tyaughton Creek at bridge below Tungsten, Queen, King, and Manitou mines;  
upstream of Cinnabar Creek**

Sample description:

**Dark brown, sandy sediment trapped in pockets between boulders on bank**

Field photograph:

**Sediment deposit along bank of Tyaughton Creek, downstream of historic mercury and tungsten mines**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 5, 2007      Easting (NAD83): 512948  
Site ID: BRA07-SS24      Northing (NAD83): 5626357

---

Water chemistry: na

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Site description:

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**Creek draining Upper Peter adit**

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Sample description:

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**Fine grey sediment from creek**

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---

Field photograph:



**Upper Peter adit, with small drainage creek in foreground**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: Oct. 5, 2007Easting (NAD83): 512945Site ID: BRA07-SS25Northing (NAD83): 5626359Water chemistry: Site ID: W26 ; pH = 8.5 ; Cond. = 592 µS/cm ; T = 6.6 °C**Site description:**Settling pond just below Upper Peter adit**Sample description:**Medium grey sediments with biofilm layer**Field photograph:****Sediments from settling pond just below Upper Peter adit**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 5, 2007      Easting (NAD83): 512906  
Site ID: BRA07-SS26      Northing (NAD83): 5626387

---

Water chemistry: Site ID: W29 ; pH = 7.7 ; Cond. = 575 µS/cm ; T = 7.6 °C

---

Site description:

---

**Entrance of wetland below Upper Peter Mine**

---

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Sample description:

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**Strong smelling, rooty sediments; organic-rich mud**

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Field photograph:



**Wetland below Upper Peter Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 6, 2007      Easting (NAD83): 517180  
Site ID: BRA07-SS27      Northing (NAD83): 5622374

---

Water chemistry: na

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Site description:

---

**Cadwallader Creek bank sediments, just downstream of Pioneer Extension Mine**

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Sample description:

---

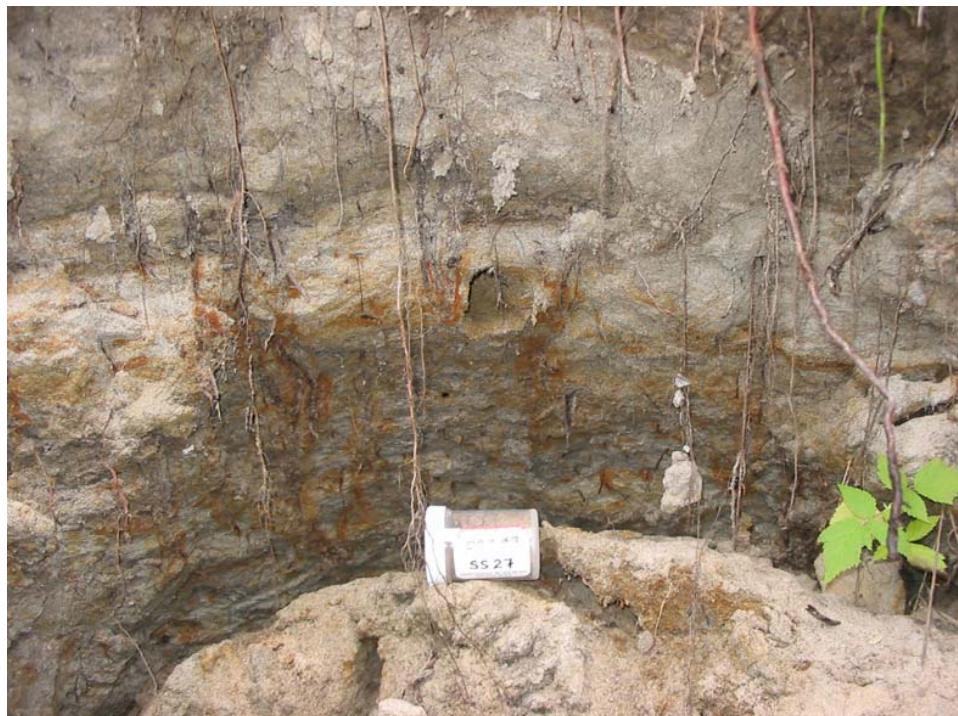
**Bank sediments composed of rusty, Fe-rich fine sands**

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Field photograph:

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**Bank sediments along Cadwallader Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date:	Oct. 6, 2007	Easting (NAD83):	517180
Site ID:	BRA07-SS28	Northing (NAD83):	5622374

---

Water chemistry: na

---

Site description:

---

Cadwallader Creek floodplain, just downstream of Pioneer Extension Mine

---

Sample description:

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Floodplain sediments consisting of coarse, sandy sediments with abundant  
Fe-oxides

---

Field photograph:



Floodplain sediments along Cadwallader Creek, next to site BRA07-SS27

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 6, 2007      Easting (NAD83): 512200  
Site ID: BRA07-SS29      Northing (NAD83): 5627103

---

Water chemistry: Site ID: W36 ; pH = 7.9 ; Cond. = 323 µS/cm ; T = 5.7 °C

---

**Site description:**

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**Small creek draining across road to Gold Bridge; receives input from wetland  
below Upper Peter adit**

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**Sample description:**

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**Organic-rich, dark brown mud**

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---

**Field photograph:**



**Small creek draining wetland below Upper Peter adit**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 7, 2007      Easting (NAD83): 512717  
Site ID: BRA07-SS30      Northing (NAD83): 5624902

---

Water chemistry: Site ID: W11 ; pH = 8.2 ; Cond. = 108.6 µS/cm ; T = 5.3 °C

---

Site description:

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**Cadwallader Creek, just upstream of Bralorne mine site (above bridge)**

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Sample description:

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**Fine to coarse sandy sediments between rocks on bank**

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---

Field photograph:



**Cadwallader Creek, with Bralorne mine site in background**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

Date:	<u>Oct. 7, 2007</u>	Easting (NAD83):	<u>512398</u>
Site ID:	<u>BRA07-SS31</u>	Northing (NAD83):	<u>5625491</u>

Water chemistry:      Site ID: W12 ; pH = 8.1 ; Cond. = 109.2  $\mu\text{S}/\text{cm}$  ; T = 5.2 °C

**Site description:**

Cadwallader Creek, immediately downstream of last waste rock dump (SS30)  
at Bralorne mine site

**Sample description:**

Fine to coarse sandy sediments between rocks in creek

**Field photograph:**

Cadwallader Creek, immediately downstream of site BRA07-SS30

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 8, 2007      Easting (NAD83): 512655  
Site ID: BRA07-SS32      Northing (NAD83): 5654989

---

Water chemistry: Site ID: W49 ; pH = 8.6 ; Cond. = 206 µS/cm ; T = 2.7 °C

---

Site description:

---

**Creek draining Silverquick mercury mine (~600 ft uphill)**

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Sample description:

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**Medium brown, silty-sandy sediments**

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Field photograph:



**Small creek draining Silverquick mercury mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 9, 2007      Easting (NAD83): 514234  
Site ID: BRA07-SS33      Northing (NAD83): 5624726

---

Water chemistry: Site ID: W54 ; pH = 7.9 ; Cond. = 157.3 µS/cm ; T = 2.7 °C

---

Site description:

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**Blackbird Creek above Bralorne town site - drinking water supply for town**

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---

Sample description:

---

**Medium brown, fine sand to pebbly sediments**

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Field photograph:



**Blackbird Creek (water supply for town of Bralorne)**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 9, 2007      Easting (NAD83): 511736  
Site ID: BRA07-SS34      Northing (NAD83): 5626312

---

Water chemistry: Site ID: W55 ; pH = 8.0 ; Cond. = 97.9 µS/cm ; T = 4.1 °C

---

Site description:

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**Cadwallader Creek, downslope of tailings dam near historical placer operation**

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---

Sample description:

---

**Sandy-pebbly sediments, sampled from west edge of creek**

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Field photograph:



**Cadwallader Creek, downslope of tailings dam near historical placer operation**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 9, 2007      Easting (NAD83): 511763  
Site ID: BRA07-SS35      Northing (NAD83): 5626411

---

Water chemistry: na

---

Site description:

---

**Bank sediments along Cadwallader Creek, immediately downstream of placer operation (amongst alders)**

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Sample description:

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**Medium-grained, well-sorted sand sampled from bank**

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Field photograph:

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**Sandy bank deposit along edge of Cadwallader Creek**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 9, 2007      Easting (NAD83): 511048  
Site ID: BRA07-SS36A-B      Northing (NAD83): 5632780

---

Water chemistry: na

---

Site description:

---

**East bank of Hurley River, due west of Gold Bridge and near placer operation**

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Sample description:

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**Medium-grey, well-sorted sand, covered with leaves and horsetails; two sample depths: SS36A (5 cm) and SS36B (75 cm)**

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Field photograph:

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**Sandy sediments covered with vegetation, next to Hurley River (back right)**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 9, 2007      Easting (NAD83): 511041  
Site ID: BRA07-SS37      Northing (NAD83): 5632783

---

Water chemistry: na

---

Site description:

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**Beach along east bank of Hurley River; deposition actively occurring behind  
small stand of trees**

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Sample description:

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**Light grey sands from beach**

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Field photograph:

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**Beach along east bank of Hurley River**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: Oct. 5, 2007      Easting (NAD83): 512903  
Site ID: BRA07-SS38      Northing (NAD83): 5626432

---

Water chemistry: Site ID: W28 ; pH = 7.7 ; Cond. = 408 µS/cm ; T = 7.2 °C

---

Site description:

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**Outlet of wetland below Upper Peter**

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Sample description:

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**Strong smelling sediments; mixture of organic-rich, brown mud, and fine to coarse granite-rich sand**

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Field photograph:



**Wetland below Upper Peter Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date:	<u>June 19, 2008</u>	Easting (NAD83):	<u>513034</u>
Site ID:	<u>PNA08-BRA01 (SS39)</u>	Northing (NAD83):	<u>5625443</u>

---

Water chemistry:      Site ID: W69; pH = 8.4 ; Cond. = 1174 µS/cm ; T = 12.0 °C

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Site description:

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800 level; 2007GSC3; just below King crosscut

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Sample description:

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Bulk sample of fine-grained, bright orange sediment

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Field photograph:



**800-Level; King crosscut on left, Empire crosscut on right**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: June 19, 2008      Easting (NAD83): 513053  
Site ID: PNA08-BRA02 (SS40)      Northing (NAD83): 5625469

---

Water chemistry: Site ID: W81 ; pH = 8.1 ; Cond. = 597 µS/cm ; T = 9.6 °C

---

Site description:

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**800 level; 2007GSC4; approximately 10 m upstream in King drift (labeled MJ2)**

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Sample description:

---

**Medium brown sediment**

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Field photograph:



**800-Level; King crosscut**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: June 19, 2008      Easting (NAD83): 513746  
Site ID: PNA08-BRA10 (SS42)      Northing (NAD83): 5624749

---

Water chemistry: Site ID: W76 ; pH = 7.5 ; Cond. = 1674 µS/cm ; T = 18.5 °C

---

Site description:

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800 level; 2007GSC10; near marker 49 on wall

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Sample description:

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Crusted foam floating on water

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Field photograph:



**Thin, Fe-rich crust floating on mine drainage adjacent to tracks**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: June 19, 2008      Easting (NAD83): 513339  
Site ID: PNA08-BRA08 (SS44)      Northing (NAD83): 5625169

---

Water chemistry: Site ID: W73 ; pH = 8.0 ; Cond. = 1745 µS/cm ; T = 17.1 °C

---

Site description:

---

**800 level; 2007GSC7; approximately 5 m upstream of 813 crosscut**

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---

Sample description:

---

**Bulk sediment and precipitate sample**

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Field photograph:



**800-Level; Fe-rich sediments adjacent to track in drainage channel**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

---

Date: June 19, 2008      Easting (NAD83): 513684  
Site ID: PNA08-BRA09 (SS45)      Northing (NAD83): 5624815

---

Water chemistry: Site ID: W75 ; pH = 7.6 ; Cond. = 1669 µS/cm ; T = 18.3 °C

---

**Site description:**

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**800 level; 2007GSC9; after 815 crosscut; small rock fall in centre of track**

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---

**Sample description:**

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**Bulk sample of Fe-rich, orange sediments**

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**Field photograph:**



**800-Level; clearing rock fall from sediment-covered tracks**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: June 22, 2008      Easting (NAD83): 512761  
Site ID: PSA08-SS01 (SS46)      Northing (NAD83): 5654343

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Water chemistry: na

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Site description:

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**Creek draining through Silverquick mine site, near collapsed portal**

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Sample description:

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**Stream sediment collected from creek - seems to be mostly natural sediment**

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Field photograph:



**Creek draining through Silverquick mine site (collapsed portal on right)**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: June 22, 2008      Easting (NAD83): 512761  
Site ID: PSA08-SS02 (SS47)      Northing (NAD83): 5654343

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Water chemistry: Site ID: W85 ; pH = 8.3 ; Cond. = 233 µS/cm ; T = 4.4 °C

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Site description:

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**Mine drainage from collapsed portal at Silverquick mercury mine**

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Sample description:

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**½ vial of fine sediment, collected near entrance to portal**

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Field photograph:



**Water flowing from collapsed portal at Silverquick mercury mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: June 20, 2008      Easting (NAD83): 514290  
Site ID: PNA08-LH1 (SS48)      Northing (NAD83): 5637619

---

Water chemistry: Site ID: W19 ; pH = 7.8 ; Cond. = 1041 µS/cm ; T = 8.9 °C

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Site description:

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**Inside Lower Howard mine adit, 1 - 2 m from entry way**

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Sample description:

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**Bulk sediment sample**

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Field photograph:



**View inside Lower Howard mine portal**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: June 19, 2008      Easting (NAD83): 513087  
Site ID: PNA08-BRA03 (SS49)      Northing (NAD83): 5625480

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Water chemistry: Site ID: W82 ; pH = 8.4 ; Cond. = 501 µS/cm ; T = 9.4 °C

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Site description:

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**800 level; new site, above King bypass; upstream from confluence of water  
diverted from Crown and King (MJ3)**

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Sample description:

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**Orange, FeOx-rich seds with intermixed filamentous algae**

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Field photograph:



**Orange, FeOx-rich seds with filamentous algae in King bypass**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: June 19, 2008      Easting (NAD83): 513064  
Site ID: PNA08-BRA04 (SS50)      Northing (NAD83): 5625449

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Water chemistry: Site ID: W71 ; pH = 8.3 ; Cond. = 1584 µS/cm ; T = 14.3 °C

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**Site description:**

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**800 level; 2007GSC5 (now MJ4); just upstream from the King crosscut, within  
the Crown drainage**

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**Sample description:**

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**Bulk sample of Fe-rich sediment**

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**Field photograph:**



**Fe-rich sediments with slowly flowing drainage from Crown shaft on left**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

Date:	<u>June 19, 2008</u>	Easting (NAD83):	<u>513858</u>
Site ID:	<u>PNA08-BRA11 (SS51)</u>	Northing (NAD83):	<u>5624677</u>

Water chemistry: Site ID: W77 ; pH = 7.0 ; Cond. = 1791 µS/cm ; T = 20.1 °C

**Site description:**

800 level; 2007GSC11/12; upwelling point from stope; water from Crown shaft flows to 800-Level from beneath waste rock berm and forms abundant sediment on adjacent tracks

**Sample description:**

Light brown, foamy sediment floating on water surface

**Field photograph:**

Upwelling point (under rock berm on left) where Crown shaft water reaches 800-Level

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Nov. 7, 2006      Easting (NAD83): 511411  
Site ID: BRA06-T1A      Northing (NAD83): 5625978

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Water chemistry: na

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Site description:

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**Northeast corner of Bralorne tailings impoundment**

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Sample description:

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**Sampled near edge of standing water; light grey, sandy tailings; no visible oxidation**

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Field photograph:

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**Overview of tailings impoundment**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Nov. 7, 2006      Easting (NAD83): 511504  
Site ID: BRA06-T2A      Northing (NAD83): 5625949

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Water chemistry: na

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Site description:

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**East edge of Bralorne tailings impoundment**

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Sample description:

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**Sampled near edge of standing water; light grey, sandy tailings; no visible oxidation**

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Field photograph:



**Anoxic tailings sampled at edge of impoundment**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: Nov. 7, 2006Easting (NAD83): 511498Site ID: BRA06-T3A-BNorthing (NAD83): 5625816Water chemistry: na

Site description:

**Southeast corner of Bralorne tailings impoundment, approximately 25 m from  
mine workings outflow; (represents tailings from milling of old waste rock  
dumps and old stamp mill tailings excavated from Pioneer Mine - Jasman Yee)**

Sample description:

**Two sample depths, 0 - 10 cm (T3A) and 15 cm (T3B):**

**T3A - light grey, sandy tailings; surface covered with 2 - 3 mm of Fe-oxides**

**T3B - dark grey slimes**

Field photograph:



**Oxic surface tailings underlain by anoxic tailings at impoundment**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Nov. 7, 2006

Easting (NAD83): 515522

Site ID: BRA06-T4A

Northing (NAD83): 5623058

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Water chemistry: na

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Site description:

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**Historical tailings at Pioneer Mine; tailings on road, excavated from mill feed in  
2004**

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Sample description:

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**Orange brown, sandy tailings with grey lenses**

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Field photograph:



**Recently excavated tailings exhibiting variable oxidation**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Nov. 7, 2006      Easting (NAD83): 515421  
Site ID: BRA06-T5A      Northing (NAD83): 5623146

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Water chemistry: na

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Site description:

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**Historical tailings at Pioneer Mine; sampled from cyanide leach tank**

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Sample description:

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**Light grey, silty tailings; some oxidation visible**

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Field photograph:

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**Historical tailings mound in cyanide leach tank**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Nov. 7, 2006      Easting (NAD83): 514568  
Site ID: BRA06-T6A      Northing (NAD83): 5623663

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Water chemistry: na

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Site description:

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**Historical tailings at Coronation Mine, downstream of Pioneer Mine; tailings  
recently excavated - variable oxidation**

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Sample description:

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**Rusty brown surface tailings at edge of creek**

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Field photograph:

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**Recently excavated tailings at historic Coronation Mine site**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Nov. 7, 2006      Easting (NAD83): 514563  
Site ID: BRA06-T7A      Northing (NAD83): 5623651

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Water chemistry: na

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Site description:

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**Historical tailings at Coronation Mine, sampled in excavated area**

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Sample description:

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**Rusty brown mucky tailings**

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Field photograph:



**Oxic tailings from historic Coronation Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: July 8, 2007      Easting (NAD83): 512115  
Site ID: BRA07-SS11-13 (T08-T10)      Northing (NAD83): 5636050

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Water chemistry: na

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Site description:

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Wayside Mine; tailings below portal, along shoreline of Carpenter Lake

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Sample description:

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Three sample depths, 80 - 85 cm (SS11), 48 - 53 cm (SS12), and 5 - 10 cm (SS13)

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SS11 - dark grey, sandy sediments

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SS12 - light brown, silty tailings with thin layers

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SS13 - light brown, silty tailings with thin layers

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Field photograph:

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**Vertical profile of tailings underlain by sandy sediments, at Wayside Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**Date: Oct. 6, 2007Easting (NAD83): 512569Site ID: PNA07-BRA01 (WR01)Northing (NAD83): 5625286Water chemistry: na

Site description:

Bralorne mine site, mineralized stockpile adjacent to 800-Level portal

Sample description:

Grab sample from mineralized stockpile

Field photograph:

**Ore stockpile adjacent to 800-Level portal at Bralorne Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: Oct. 5, 2007      Easting (NAD83): 512937  
Site ID: PNA07-UP13A (WR02)      Northing (NAD83): 5626379

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Water chemistry: na

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Site description:

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**Waste rock piles outside of Upper Peter Mine portal**

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Sample description:

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**Mineralized grab sample from waste rock pile**

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Field photograph:



**Waste rock pile at Upper Peter Mine**

**BRIDGE RIVER DISTRICT TAILINGS AND SEDIMENT SAMPLES: FIELD SHEET**

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Date: June 20, 2008      Easting (NAD83): 514945  
Site ID: PNA08-Lou01 (WR03)      Northing (NAD83): 5638478

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Water chemistry: na

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Site description:

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**Lou Zone-Congress; stibnite vein exposed during recent exploration activities**

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Sample description:

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**Rock samples of stibnite vein**

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Field photograph:

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**Massive stibnite crystals with limonite alteration at the Lou Zone, Congress Mine**

## **APPENDIX B**

Element concentrations in sediment, tailings and waste rock samples

ACME Analytical Laboratories, Ltd.

(Results based on *aqua regia* digestions)

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Date	Location	Sample depth (cm)	Size Fraction	Total carbon LECO (% dry wt.)	Organic carbon LECO (% dry wt.)
BRA07-SS01	SS01	20070005	524186	5617651	6-Jul-07	Cadwallader Ck, upstream Piebiter Ck	0-5	<177 um	1.13	0.97
BRA07-SS02	SS02	20070006	524113	5618364	6-Jul-07	Piebiter Ck, above Kingdom Lake Rd	0-5	<177 um	0.34	0.31
BRA07-SS03	SS03	20070007	520436	5621053	6-Jul-07	Bridge at Cadwallader Ck	0-5	<177 um	0.59	0.56
BRA07-SS04	SS04	20070008	517214	5622386	6-Jul-07	Cadwallader Ck, downstream Pioneer Ext	0-5	<177 um	1.02	0.91
BRA07-SS05	SS05	20070009	512966	5626349	6-Jul-07	Outlet of portal at Upper Peter Mine	0-2	<177 um	2.41	0.67
BRA07-SS06	SS06	20070010	515375	5623190	7-Jul-07	Cadwallader Ck, adjacent to Pioneer Mine ruins	0-5	<177 um	0.25	0.22
BRA07-SS07	SS07	20070011	515303	5623235	7-Jul-07	Cascading Ck, ~200 m South of Pioneer Mine	0-5	<177 um	1.92	1.84
BRA07-SS08	SS08	20070012	511499	5626039	7-Jul-07	East seepage at tailings impoundment	0-5	<177 um	1.61	1.53
BRA07-SS09	SS09	20070013	511580	5625846	7-Jul-07	Seepage pond below SE corner of tails. impound.	0-5	<177 um	0.71	0.67
BRA07-SS14	SS14	20070018	527206	5637958	8-Jul-07	Delta at mouth of Tyaughton Ck	0-5	<177 um	0.69	0.60
BRA07-SS15	SS15	20070019	527049	5638394	8-Jul-07	Tyaughton Ck, upstream of hwy 40 bridge	0-5	<177 um	0.75	0.69
BRA07-SS16	SS16	20070020	511921	5634678	8-Jul-07	Sediments on grassy floodplain of Bridge River	78-84	<177 um	0.19	0.18
BRA07-SS17	SS17	20070021	511921	5634687	8-Jul-07	Sediments on grassy floodplain of Bridge River	60-65	<177 um	0.11	0.11
BRA07-SS18	SS18	20070022	511921	5634687	8-Jul-07	Sediments on grassy floodplain of Bridge River	41-48	<177 um	0.08	0.08
BRA07-SS19	SS19	20070023	511921	5634678	8-Jul-07	Sediments on grassy floodplain of Bridge River	24-30	<177 um	0.46	0.42
BRA07-SS20	SS20	20070024	517239	5647929	9-Jul-07	Cinnabar Ck, upstream Tyaughton Ck. Rd.	0-5	<177 um	0.56	0.44
BRA07-SS21	SS21	20070025	515938	5656373	9-Jul-07	Mud Ck at Manitou Mine	0-5	<177 um	0.70	0.59
BRA07-SS22	SS22	20070026	515176	5656005	9-Jul-07	Tyaughton Ck, downstream Silverquick Mine	0-5	<177 um	0.83	0.38
BRA07-SS23	SS23	20070027	517607	5649545	9-Jul-07	Tyaughton Ck at bridge, below W/Hg mines	0-5	<177 um	0.66	0.42
BRA07-SS24	SS24	20070286	512948	5626357	5-Oct-07	Ck draining Upper Peter Mine	0-2	<177 um	2.24	0.57
BRA07-SS25	SS25	20070287	512945	5626359	5-Oct-07	Upper Peter settling pond	0-5	<177 um	2.99	1.00
BRA07-SS26	SS26	20070288	512906	5626387	5-Oct-07	Upper Peter wetland inlet	0-5	<177 um	26.50	21.70
BRA07-SS27	SS27	20070289	517180	5622374	6-Oct-07	Streambank, downstream of Pioneer Ext. Mine	0-5	<177 um	0.28	0.26
BRA07-SS28	SS28	20070290	517180	5622374	6-Oct-07	Floodplain sediments downstream Pioneer Ext Mine	0-5	<177 um	0.48	0.35
BRA07-SS29	SS29	20070291	512200	5627103	6-Oct-07	Stream across rd b/w Bralorne and Gold Bridge	0-5	<177 um	11.70	10.60
BRA07-SS30	SS30	20070292	512717	5624902	7-Oct-07	Cadwallader Ck, upstream of Bralorne Mine	0-5	<177 um	0.55	0.50
BRA07-SS31	SS31	20070293	512398	5625491	7-Oct-07	Cadwallader Ck, downstream of Bralorne Mine	0-5	<177 um	0.56	0.51
BRA07-SS32	SS32	20070294	512655	5654989	8-Oct-07	Ck draining Silverquick Mine	0-5	<177 um	0.81	0.78
BRA07-SS33	SS33	20070295	514234	5624726	9-Oct-07	Blackbird Ck, above Bralorne town site	0-5	<177 um	0.66	0.60
BRA07-SS34	SS34	20070296	511736	5626312	9-Oct-07	Cadwallader Ck, downslope of tailings dam	0-5	<177 um	0.33	0.29
BRA07-SS35	SS35	20070297	511763	5626411	9-Oct-07	Cadwallader Ck bank, downstream placer operation	0-5	<177 um	0.61	0.51
BRA07-SS36A	SS36	20070298	511048	5632780	9-Oct-07	Hurley River east bank deposit, west of Gold Bridge	3-7	<177 um	0.30	0.29
BRA07-SS36B	SS36	20070299	511048	5632780	9-Oct-07	Hurley River east bank deposit, west of Gold Bridge	73-77	<177 um	0.23	0.23
BRA07-SS37	SS37	20070300	511041	5632783	9-Oct-07	Beach along east bank of Hurley River	0-5	<177 um	0.09	0.09

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Date	Location	Sample depth (cm)	Size Fraction	Total carbon LECO (% dry wt.)	Organic carbon LECO (% dry wt.)
BRA07-SS38	SS38	20070301	512903	5626432	5-Oct-07	Upper Peter wetland outlet	0-5	<177 um	0.94	0.91
PNA08-BRA01	SS39	20080021	513034	5625443	19-Jun-08	800-level, just below King crosscut; GSC3	0-5	<177 um	3.04	0.68
PNA08-BRA02	SS40	20080022	513053	5625469	19-Jun-08	King crosscut, ~10 m upstream jct; MJ2	0-5	<177 um	3.16	1.34
PNA08-BRA05	SS41	20080023	513182	5625325	19-Jun-08	800-level; ~15 m upstream Alhambra vein; GSC6	0-5	<177 um	3.30	1.26
PNA08-BRA10	SS42	20080024	513746	5624749	19-Jun-08	800-level; near marker 49; GSC10	0-5	<177 um	6.05	0.74
PNA08-BRA06	SS43	20080025	512778	5625268	19-Jun-08	800-level; ~100 m from portal entrance; GSC1	0-5	<177 um	4.29	0.60
PNA08-BRA08	SS44	20080026	513339	5625169	19-Jun-08	800-level; ~5 m upstream of 813 crosscut; GSC7	0-5	<177 um	2.45	0.76
PNA08-BRA09	SS45	20080027	513684	5624815	19-Jun-08	800-level; at crosscut 815; GSC9; marker 47	0-5	<177 um	2.48	0.67
PSA08-SS01	SS46	20080028	512761	5654343	22-Jun-08	Ck draining through Silverquick Mine	0-5	<177 um	0.68	0.64
PSA08-SS02	SS47	20080029	512865	5654411	22-Jun-08	Collapsed portal at Silverquick Mine	0-5	<177 um	0.94	0.86
PNA08-LH1	SS48	20080030	514290	5637619	20-Jun-08	Lower Howard portal	0-5	<177 um	2.30	0.53
PNA08-BRA03	SS49	20080211	513087	5625480	19-Jun-08	King bypass, ~25 m upstream jct; MJ3	0-5	<177 um	3.62	2.17
PNA08-BRA04	SS50	20080212	513064	5625449	19-Jun-08	800-level; Empire crosscut above jct; MJ4	0-5	<177 um	2.59	0.89
PNA08-BRA11	SS51	20080213	513858	5624677	19-Jun-08	800-level; 55 vein; GSC 11/12	0-5	<177 um	1.79	1.40
BRA06-T1A	T01	20060174	511411	5625978	7-Nov-06	NE corner of tailings impoundment	0-10	Unsieved	1.46	0.02
BRA06-T2A	T02	20060175	511504	5625949	7-Nov-06	East edge of tailings impoundment	0-10	Unsieved	0.48	0.02
BRA06-T3A	T03	20060176	511498	5625816	7-Nov-06	SE corner of tailings impoundment	0-10	Unsieved	1.86	0.02
BRA06-T3B	T03	20060177	511498	5625816	7-Nov-06	SE corner of tailings impoundment	15	Unsieved	1.68	0.05
BRA06-T4A	T04	20060178	515522	5623058	7-Nov-06	Historical tailings at Pioneer Mine	0-10	Unsieved	1.11	0.04
BRA06-T5A	T05	20060179	515421	5623146	7-Nov-06	Historical tailings at Pioneer Mine	0-10	Unsieved	0.99	0.07
BRA06-T6A	T06	20060180	514568	5623663	7-Nov-06	Historical tailings at Coronation Mine	0-10	Unsieved	0.63	0.08
BRA06-T7A	T07	20060181	514563	5623651	7-Nov-06	Historical tailings at Coronation Mine	0-10	Unsieved	1.16	0.11
BRA07-SS11	T08	20070015	512115	5636050	8-Jul-07	Wayside Mine; tailings below portal, along shoreline	80-85	<177 um	0.48	0.04
BRA07-SS12	T09	20070016	512115	5636050	8-Jul-07	Wayside Mine; tailings below portal, along shoreline	48-53	<177 um	3.75	0.04
BRA07-SS13	T10	20070017	512115	5636050	8-Jul-07	Wayside Mine; tailings below portal, along shoreline	5-10	<177 um	3.66	0.08
PNA07-BRA01	WR01	20080231	512569	5625286	6-Oct-07	Bralorne mine site; ore stockpile near 800-level	0-5	<177 um	no sample	no sample
PNA07-UP13A	WR02	20080232	512937	5626379	5-Oct-07	Upper Peter Mine; waste rock	0-5	<177 um	0.83	0.05
PNA08-LOU1	WR03	20080233	514945	5638478	20-Jun-08	Lou-Zone Congress; hand sample of stibnite vein	0-5	<177 um	0.33	0.06

Summary Statistics	Min.								0.08	0.02
	Max.								26.50	21.70
	Mean								1.96	1.05
	Median								0.83	0.51
	n								61	61

95th									4.29	1.84
90th									3.62	1.34
75th									2.3	0.76
50th									0.83	0.51
25th									0.55	0.11

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Inorganic carbon LECO (% dry wt.)	Ag ICP-MS (µg/kg) DL = 2	Al ICP-MS (% dry wt.) 0.01	As ICP-MS (mg/kg) 0.1	Au ICP-MS (µg/kg) 0.2	B ICP-MS (mg/kg) 20	Ba ICP-MS (mg/kg) 0.5	Be ICP-MS (mg/kg) 0.1	Bi ICP-MS (mg/kg) 0.02	Ca ICP-MS (% dry wt.) 0.01	Cd ICP-MS (mg/kg) 0.01	Ce ICP-MS (mg/kg) 0.1	Co ICP-MS (mg/kg) 0.1	Cr ICP-MS (mg/kg) 0.5
BRA07-SS01	SS01	20070005	0.16	56	1.17	17.9	1.6	<20	84.3	0.1	0.26	0.27	0.11	11.9	17.2	61.7
BRA07-SS02	SS02	20070006	0.03	69	0.89	31.1	3.3	<20	101.3	0.1	0.20	0.36	0.13	9.9	12.6	79.3
BRA07-SS03	SS03	20070007	0.03	30	0.87	19.4	1.1	<20	79.0	0.1	0.13	0.27	0.08	9.1	11.7	58.0
BRA07-SS04	SS04	20070008	0.11	58	1.05	27.2	1.9	<20	98.6	0.2	0.17	0.36	0.11	11.7	13.2	70.1
BRA07-SS05	SS05	20070009	1.74	5982	1.22	13500	3568	<20	55.8	0.2	0.15	3.69	7.97	5.7	24.1	27.9
BRA07-SS06	SS06	20070010	0.03	60	0.69	112.9	72.3	<20	67.5	0.1	0.13	0.32	0.06	12.5	12.1	71.6
BRA07-SS07	SS07	20070011	0.08	73	0.82	107.2	94.1	<20	63.2	0.1	0.07	0.39	0.14	6.8	8.2	43.7
BRA07-SS08	SS08	20070012	0.08	69	1.64	9.5	2.1	<20	64.9	0.1	0.08	0.49	0.15	12.2	21.8	141.2
BRA07-SS09	SS09	20070013	0.04	58	1.89	22.6	3.2	<20	78.1	0.2	0.08	0.49	0.13	12.4	22.8	113.2
BRA07-SS14	SS14	20070018	0.09	113	1.85	26.8	4.0	<20	196.3	0.4	0.13	0.90	0.52	18	21.2	57.8
BRA07-SS15	SS15	20070019	0.06	102	1.99	20.4	2.2	<20	204.0	0.4	0.13	0.86	0.48	20	22.8	67.4
BRA07-SS16	SS16	20070020	0.01	38	0.92	16.0	3.8	<20	59.4	0.2	0.06	0.44	0.07	10.6	11.6	43.8
BRA07-SS17	SS17	20070021	0.00	42	0.86	3.3	0.3	<20	67.5	0.1	0.06	0.50	0.05	9.9	7.7	18.9
BRA07-SS18	SS18	20070022	0.00	36	0.74	39.1	0.5	<20	56.8	0.1	0.05	0.48	0.06	9.4	6.8	16.4
BRA07-SS19	SS19	20070023	0.04	95	0.95	304.3	41.2	<20	72.1	0.1	0.07	0.50	0.14	9.9	11.0	35.1
BRA07-SS20	SS20	20070024	0.12	66	1.69	11.3	4.0	<20	174.8	0.5	0.11	0.70	0.26	23.3	26.8	95.6
BRA07-SS21	SS21	20070025	0.11	48	1.70	10.3	1.9	<20	156.2	0.4	0.10	0.64	0.18	16.5	18.6	62.8
BRA07-SS22	SS22	20070026	0.45	102	1.57	33.3	1.9	<20	196.9	0.4	0.13	1.63	0.68	15.2	17.6	24.5
BRA07-SS23	SS23	20070027	0.24	94	1.80	18.8	1.7	<20	213.2	0.5	0.12	1.10	0.42	17.9	26.2	107.1
BRA07-SS24	SS24	20070286	1.67	2797	1.97	5158	827.9	32	58.1	0.3	0.07	3.85	3.33	7.6	22.2	34.2
BRA07-SS25	SS25	20070287	1.99	6155	1.50	8723	1789	<20	75.5	0.2	0.14	3.69	6.56	5.7	19.2	24.9
BRA07-SS26	SS26	20070288	4.80	27	0.26	138.9	4.6	30	26.0	<0.1	0.06	1.51	0.12	3.0	2.0	8.5
BRA07-SS27	SS27	20070289	0.02	12	0.46	17.9	1.1	<20	54.6	<0.1	0.08	0.20	0.03	6.5	6.8	27.6
BRA07-SS28	SS28	20070290	0.13	14	0.54	15.0	0.9	<20	57.3	<0.1	0.09	0.25	0.04	7.9	7.2	35.8
BRA07-SS29	SS29	20070291	1.10	146	1.00	51.8	73.4	<20	47.2	0.2	0.06	1.19	0.40	9.2	11.8	92.0
BRA07-SS30	SS30	20070292	0.05	60	1.21	114.0	14.0	<20	72.8	0.2	0.08	0.38	0.17	8.3	23.2	153.9
BRA07-SS31	SS31	20070293	0.05	55	1.23	82.7	14.9	<20	78.6	0.2	0.09	0.43	0.21	9.1	21.0	141.3
BRA07-SS32	SS32	20070294	0.03	44	1.30	7.4	1.1	<20	146.7	0.5	0.09	0.51	0.14	15.5	18.3	51.2
BRA07-SS33	SS33	20070295	0.06	65	1.10	53.7	3.9	<20	146.4	0.3	0.13	0.26	0.28	9.1	12.0	52.6
BRA07-SS34	SS34	20070296	0.04	49	1.10	81.6	12.7	<20	60.7	<0.1	0.10	0.37	0.15	8.5	21.3	137.5
BRA07-SS35	SS35	20070297	0.10	43	1.17	75.3	12.8	<20	48.9	0.1	0.12	0.46	0.13	8.5	19.3	129.3
BRA07-SS36A	SS36	20070298	0.01	226	0.65	20.0	1053	<20	36.8	<0.1	0.05	0.29	0.07	8.1	8.3	44.7
BRA07-SS36B	SS36	20070299	0.00	35	1.04	23.9	4.0	<20	40.6	0.1	0.05	0.28	0.12	8.1	16.7	125.1
BRA07-SS37	SS37	20070300	0.00	13	0.54	11.2	1.5	<20	20.1	<0.1	0.02	0.22	0.05	4.6	5.3	25.0

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Inorganic carbon LECO (% dry wt.)	Ag ICP-MS (µg/kg) DL = 2	Al ICP-MS (% dry wt.) 0.01	As ICP-MS (mg/kg) 0.1	Au ICP-MS (µg/kg) 0.2	B ICP-MS (mg/kg) 20	Ba ICP-MS (mg/kg) 0.5	Be ICP-MS (mg/kg) 0.1	Bi ICP-MS (mg/kg) 0.02	Ca ICP-MS (% dry wt.) 0.01	Cd ICP-MS (mg/kg) 0.01	Ce ICP-MS (mg/kg) 0.1	Co ICP-MS (mg/kg) 0.1	Cr ICP-MS (mg/kg) 0.5
BRA07-SS38	SS38	20070301	0.03	21	0.57	10.7	1.2	<20	49.5	<0.1	0.07	0.31	0.03	10.9	4.2	4.8
PNA08-BRA01	SS39	20080021	2.36	1884	0.83	17500	3382	21	101.0	0.1	0.11	8.74	0.61	1.8	27.3	46.6
PNA08-BRA02	SS40	20080022	1.82	3401	1.35	14500	5710	<20	138.1	0.2	0.15	3.99	0.70	2.7	51.5	58.9
PNA08-BRA05	SS41	20080023	2.04	9624	1.14	49300	722.8	75	331.0	<0.1	0.10	5.97	0.58	1.2	27.1	64.7
PNA08-BRA10	SS42	20080024	5.31	28	0.04	>10000 <sup>a</sup>	58.1	36	249.3	0.1	<0.02	16.15	0.07	0.3	8.9	10.8
PNA08-BRA06	SS43	20080025	3.69	1373	0.70	>10000 <sup>a</sup>	1539	<20	107.5	<0.1	0.13	11.61	0.69	2.3	35.1	97.0
PNA08-BRA08	SS44	20080026	1.69	342	0.23	121100	335.0	62	321.2	0.1	0.06	4.50	0.38	1.0	18.3	21.6
PNA08-BRA09	SS45	20080027	1.81	210	0.13	137000	325.8	65	368.5	<0.1	0.03	5.31	0.16	0.9	10.3	14.2
PSA08-SS01	SS46	20080028	0.04	70	0.72	9.2	0.4	39	126.8	0.6	0.13	0.29	0.21	10.4	18.4	41.1
PSA08-SS02	SS47	20080029	0.08	55	1.14	15.7	4.6	<20	146.2	0.5	0.13	0.27	0.22	14.9	22.9	54.3
PNA08-LH1	SS48	20080030	1.77	484	0.87	1028	463.2	42	106.6	0.7	<0.02	5.78	0.29	18.2	34.2	41.2
PNA08-BRA03	SS49	20080211	1.45	7387	1.66	16900	1300	<20	160.3	0.2	0.11	3.55	0.93	3.6	32.3	63.6
PNA08-BRA04	SS50	20080212	1.70	2340	0.74	11700	1361	<20	114.4	<0.1	0.07	6.78	1.15	2.1	25.2	79.4
PNA08-BRA11	SS51	20080213	0.39	35	0.02	129700	99.8	49	336.8	0.1	<0.02	4.80	0.02	0.7	2.0	5.7
BRA06-T1A	T01	20060174	1.44	399	0.20	542.7	125.6	<20	10.6	0.1	0.02	2.63	0.30	3.8	3.3	4.2
BRA06-T2A	T02	20060175	0.46	343	0.08	218.3	476.1	<20	8.5	0.1	0.02	1.29	0.16	4.0	0.9	3.4
BRA06-T3A	T03	20060176	1.84	793	0.23	919.0	249.9	<20	12.6	0.1	0.02	3.04	1.08	3.1	4.1	5.3
BRA06-T3B	T03	20060177	1.63	4056	0.87	3255	946.2	<20	35.7	0.1	0.07	3.29	6.73	4.3	10.1	14.8
BRA06-T4A	T04	20060178	1.07	1497	0.18	4907	7267	<20	8.8	0.2	1.07	2.04	1.05	2.9	7.3	17.8
BRA06-T5A	T05	20060179	0.92	1132	1.09	2285	10940	<20	9.7	0.2	0.17	3.26	0.43	2.2	13.4	44.6
BRA06-T6A	T06	20060180	0.55	3073	0.63	3299	13900	<20	6.7	0.1	0.05	1.69	0.12	0.8	10.1	29.4
BRA06-T7A	T07	20060181	1.05	3356	0.75	4346	10670	<20	5.0	0.1	0.05	3.15	0.19	1.1	13.8	9.2
BRA07-SS11	T08	20070015	0.44	155	0.50	54.4	360.0	<20	33.2	0.1	0.04	1.19	0.05	6.7	21.1	15.4
BRA07-SS12	T09	20070016	3.71	1040	0.12	1265	3630	<20	4.7	0.2	<0.02	6.31	0.04	1.1	17.0	15.4
BRA07-SS13	T10	20070017	3.58	1709	0.18	3200	4041	<20	9.7	0.2	0.66	6.40	1.11	1.7	21.3	23.3
PNA07-BRA01	WR01	20080231	no sample	6823	0.18	4018	5584	<20	17.1	<0.1	0.27	1.43	2.88	2.9	3.7	88.1
PNA07-UP13A	WR02	20080232	0.78	7890	0.24	8156	1007	<20	15.9	0.1	0.14	1.50	23.47	1.6	6.4	91.2
PNA08-LOU1	WR03	20080233	0.27	43060	0.03	3.0	664.1	<20	14.2	<0.1	0.05	<0.01	0.2	<0.1	0.4	77.0
Summary Statistics	Min.		0.00	12	0.02	3.0	0.3	<20	4.70	<0.1	<0.02	<0.01	0.02	<0.1	0.4	3.4
	Max.		5.31	43060	1.99	137000	13900	75	368.5	0.7	1.07	16.15	23.47	23.3	51.5	153.9
	Mean		0.91	1928	0.88	9402	1335	45	95.3	0.2	0.12	2.35	1.09	7.7	15.8	53.6
	Median		0.24	99	0.87	82.2	65.2	41	67.5	0.2	0.09	1.10	0.19	7.9	15.3	44.7
	n		61	62	62	62	62	62	62	62	62	62	62	62	62	62
	95th		3.69	7359	1.85	52890	7189	71	317.6	0.5	0.26	6.78	6.40	18	32.1	137.1
	90th		2.04	5789	1.69	14740	4000	66	203.3	0.5	0.17	5.97	1.15	15.5	26.7	112.6
	75th		1.67	1466	1.20	3478	991.8	59	135.3	0.2	0.13	3.55	0.57	10.6	21.7	75.7
	50th		0.24	98.5	0.87	82.2	65.2	41	67.5	0.2	0.09	1.10	0.19	7.9	15.3	44.7
	25th		0.04	50.5	0.51	19.3	2.5	33	36.0	0.1	0.06	0.38	0.11	2.9	8.2	22.0

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Cs ICP-MS (mg/kg) 0.02	Cu ICP-MS (mg/kg) 0.01	Fe ICP-MS (% dry wt.) 0.01	Ga ICP-MS (mg/kg) 0.1	Ge ICP-MS (mg/kg) 0.1	Hf ICP-MS (mg/kg) 0.02	Hg ICP-MS (µg/kg) 5	In ICP-MS (mg/kg) 0.02	K ICP-MS (% dry wt.) 0.01	La ICP-MS (mg/kg) 0.5	Li ICP-MS (mg/kg) 0.1	Mg ICP-MS (% dry wt.) 0.01	Mn ICP-MS (mg/kg) 1	Mo ICP-MS (mg/kg) 0.01
BRA07-SS01	SS01	20070005	1.21	25.71	2.31	3.9	<0.1	<0.02	51	<0.02	0.12	5.5	16.6	1.60	344	2.33
BRA07-SS02	SS02	20070006	1.58	29.76	3.78	4.0	0.1	<0.02	10	0.02	0.20	5.4	13.0	1.03	301	1.32
BRA07-SS03	SS03	20070007	1.19	22.08	1.72	3.0	0.1	<0.02	38	<0.02	0.14	4.4	13.2	1.26	218	1.14
BRA07-SS04	SS04	20070008	1.62	28.92	2.02	3.7	0.1	<0.02	42	0.02	0.17	6.3	15.6	1.28	279	1.33
BRA07-SS05	SS05	20070009	3.72	39.15	4.59	4.2	<0.1	0.04	444	0.08	0.11	2.3	13.5	1.74	887	2.72
BRA07-SS06	SS06	20070010	0.93	22.33	2.03	2.6	0.1	<0.02	116	<0.02	0.11	6.4	9.9	1.35	198	0.96
BRA07-SS07	SS07	20070011	0.63	28.40	1.62	2.4	<0.1	<0.02	46	<0.02	0.10	3.3	9.6	0.66	277	1.01
BRA07-SS08	SS08	20070012	0.93	55.01	2.67	4.7	<0.1	0.07	113	0.02	0.05	5.8	19.5	1.75	487	1.37
BRA07-SS09	SS09	20070013	1.15	75.99	3.61	5.3	0.1	0.05	92	0.02	0.15	6.0	18.2	1.54	521	0.80
BRA07-SS14	SS14	20070018	0.81	50.03	4.55	5.4	<0.1	0.10	2749	0.05	0.08	8.4	27.1	1.42	769	1.67
BRA07-SS15	SS15	20070019	0.89	52.73	4.69	5.7	0.1	0.13	1072	0.06	0.09	9.4	27.4	1.51	531	1.48
BRA07-SS16	SS16	20070020	0.58	23.49	2.25	3.1	<0.1	0.04	29	<0.02	0.12	5.0	8.5	0.84	335	0.86
BRA07-SS17	SS17	20070021	0.51	19.58	1.70	3.0	0.1	0.07	29	0.02	0.12	4.6	8.5	0.59	321	0.85
BRA07-SS18	SS18	20070022	0.40	16.72	1.55	2.7	0.1	0.08	16	<0.02	0.10	4.4	6.7	0.52	304	0.78
BRA07-SS19	SS19	20070023	0.83	26.52	2.01	3.2	<0.1	0.04	88	<0.02	0.09	4.6	9.3	0.79	307	0.73
BRA07-SS20	SS20	20070024	0.85	54.61	4.77	5.6	<0.1	0.07	458	0.04	0.09	11.0	19.9	1.32	875	1.18
BRA07-SS21	SS21	20070025	0.57	32.35	3.62	5.3	<0.1	0.09	760	0.04	0.08	7.8	22.6	1.08	612	0.68
BRA07-SS22	SS22	20070026	1.06	47.38	4.94	4.4	0.1	0.06	180	0.06	0.07	7.0	23.4	0.70	758	2.37
BRA07-SS23	SS23	20070027	0.76	49.05	4.65	5.1	0.1	0.11	570	0.05	0.07	8.3	26.5	2.21	712	1.39
BRA07-SS24	SS24	20070286	3.14	30.19	4.28	6.7	<0.1	0.05	138	0.04	0.08	2.8	19.5	1.92	920	3.71
BRA07-SS25	SS25	20070287	3.66	34.12	3.97	5.0	<0.1	0.05	484	0.06	0.13	2.1	15.3	1.72	880	3.57
BRA07-SS26	SS26	20070288	0.85	11.51	0.27	0.7	<0.1	0.03	36	<0.02	0.02	1.5	1.9	0.23	60	5.68
BRA07-SS27	SS27	20070289	0.77	9.56	1.09	1.9	<0.1	<0.02	655	<0.02	0.10	3.2	8.3	0.81	120	0.59
BRA07-SS28	SS28	20070290	0.91	12.37	1.13	2.2	<0.1	<0.02	20	<0.02	0.11	4.4	9.4	0.91	125	0.56
BRA07-SS29	SS29	20070291	3.79	60.78	2.10	3.3	0.2	<0.02	529	<0.02	0.08	6.1	15.3	0.95	425	1.04
BRA07-SS30	SS30	20070292	1.20	33.08	3.01	4.0	0.1	<0.02	44	<0.02	0.17	3.7	16.0	2.42	467	1.33
BRA07-SS31	SS31	20070293	1.23	33.03	2.78	4.0	0.1	0.02	48	<0.02	0.17	4.1	17.5	2.47	519	0.94
BRA07-SS32	SS32	20070294	0.48	38.17	3.66	4.6	<0.1	0.05	28150	0.04	0.07	7.0	18.9	0.77	660	0.71
BRA07-SS33	SS33	20070295	1.34	49.08	2.85	3.7	<0.1	<0.02	39	<0.02	0.23	4.3	13.7	0.73	1007	5.39
BRA07-SS34	SS34	20070296	1.11	43.24	2.85	3.6	<0.1	0.03	51	<0.02	0.12	3.9	14.8	2.47	455	0.86
BRA07-SS35	SS35	20070297	0.90	30.48	2.62	3.8	<0.1	<0.02	46	<0.02	0.10	3.8	15.7	2.24	496	0.83
BRA07-SS36A	SS36	20070298	0.41	18.27	2.04	2.4	<0.1	<0.02	30	<0.02	0.06	4.0	6.8	0.71	223	0.46
BRA07-SS36B	SS36	20070299	0.65	30.60	2.46	3.3	0.1	<0.02	35	<0.02	0.09	3.7	12.1	2.08	379	0.69
BRA07-SS37	SS37	20070300	0.22	15.11	1.12	1.5	<0.1	<0.02	9	<0.02	0.05	2.3	5.4	0.59	159	0.27

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Cs ICP-MS (mg/kg) 0.02	Cu ICP-MS (mg/kg) 0.01	Fe ICP-MS (% dry wt.) 0.01	Ga ICP-MS (mg/kg) 0.1	Ge ICP-MS (mg/kg) 0.1	Hf ICP-MS (mg/kg) 0.02	Hg ICP-MS (µg/kg) 5	In ICP-MS (mg/kg) 0.02	K ICP-MS (% dry wt.) 0.01	La ICP-MS (mg/kg) 0.5	Li ICP-MS (mg/kg) 0.1	Mg ICP-MS (% dry wt.) 0.01	Mn ICP-MS (mg/kg) 1	Mo ICP-MS (mg/kg) 0.01
BRA07-SS38	SS38	20070301	0.33	7.78	0.46	2.4	<0.1	0.05	9	<0.02	0.03	4.8	7.9	0.22	82	1.51
PNA08-BRA01	SS39	20080021	1.56	65.87	7.70	2.7	<0.1	<0.02	1392	<0.02	0.04	0.8	10.3	1.01	2275	2.82
PNA08-BRA02	SS40	20080022	5.74	94.25	7.48	4.7	<0.1	<0.02	1208	<0.02	0.07	1.1	17.6	1.81	1403	2.80
PNA08-BRA05	SS41	20080023	0.86	74.75	13.41	2.9	0.2	<0.02	548	0.03	0.05	<0.5	8.7	1.13	4012	3.97
PNA08-BRA10	SS42	20080024	0.12	10.09	11.66	0.2	<0.1	<0.02	1227	0.04	<0.01	<0.5	0.8	0.53	4226	0.69
PNA08-BRA06	SS43	20080025	1.45	65.72	6.25	2.3	<0.1	<0.02	1419	<0.02	0.03	1.0	9.2	1.78	2796	2.19
PNA08-BRA08	SS44	20080026	0.58	39.02	24.01	1.2	0.3	<0.02	357	0.05	0.03	<0.5	2.9	0.61	5186	1.52
PNA08-BRA09	SS45	20080027	0.47	17.58	24.60	0.7	0.2	<0.02	193	0.08	0.03	<0.5	2.0	0.62	2968	0.95
PSA08-SS01	SS46	20080028	0.83	56.35	3.74	2.8	0.2	0.02	>100000 <sup>a</sup>	<0.02	0.08	5.0	7.2	0.33	595	1.13
PSA08-SS02	SS47	20080029	0.58	52.98	4.57	4.2	<0.1	<0.02	>100000 <sup>a</sup>	0.04	0.07	6.5	16.7	0.41	883	1.68
PNA08-LH1	SS48	20080030	3.93	50.92	4.52	3.0	<0.1	0.06	2802	0.05	0.18	7.5	10.2	1.13	796	1.26
PNA08-BRA03	SS49	20080211	4.76	129.5	9.75	6.2	0.1	<0.02	2547	0.03	0.07	1.6	20.4	1.39	1712	2.97
PNA08-BRA04	SS50	20080212	1.16	129.2	12.02	3.6	0.2	<0.02	1183	<0.02	0.04	0.9	8.9	1.02	2706	8.66
PNA08-BRA11	SS51	20080213	0.22	14.89	29.04	0.2	0.8	<0.02	49	0.14	0.02	<0.5	0.4	0.37	615	0.49
BRA06-T1A	T01	20060174	0.58	12.14	1.37	0.7	<0.1	<0.02	68	0.02	0.04	1.4	2.0	0.97	619	0.25
BRA06-T2A	T02	20060175	0.31	11.10	0.47	0.3	<0.1	<0.02	49	<0.02	0.02	1.6	0.6	0.20	220	0.24
BRA06-T3A	T03	20060176	0.64	14.97	1.62	0.7	<0.1	<0.02	116	0.02	0.05	1.1	2.3	1.27	734	0.27
BRA06-T3B	T03	20060177	1.70	66.42	3.15	2.8	<0.1	0.02	408	0.05	0.10	1.6	7.8	1.47	865	1.19
BRA06-T4A	T04	20060178	0.81	73.06	2.62	0.9	<0.1	<0.02	4284	0.03	0.06	1.0	1.5	0.79	515	0.76
BRA06-T5A	T05	20060179	0.38	151.0	2.97	3.4	<0.1	<0.02	18910	0.02	0.07	0.8	9.0	1.19	618	0.59
BRA06-T6A	T06	20060180	0.20	31.02	2.03	1.5	<0.1	<0.02	29400	<0.02	0.03	<0.5	6.9	0.56	291	0.14
BRA06-T7A	T07	20060181	0.35	46.57	2.66	1.9	<0.1	<0.02	10560	<0.02	0.05	<0.5	9.0	0.60	398	0.11
BRA07-SS11	T08	20070015	0.27	17.99	1.66	1.8	<0.1	0.06	304	<0.02	0.05	3.2	3.9	0.73	232	0.24
BRA07-SS12	T09	20070016	0.35	62.11	3.04	0.3	<0.1	<0.02	6083	0.02	0.03	<0.5	1.0	2.36	561	0.15
BRA07-SS13	T10	20070017	0.39	103.0	4.02	0.5	<0.1	<0.02	8703	0.05	0.04	<0.5	1.7	2.74	662	0.28
PNA07-BRA01	WR01	20080231	0.50	14.24	1.53	0.6	<0.1	<0.02	231	0.02	0.09	1.0	1.4	0.40	304	4.79
PNA07-UP13A	WR02	20080232	0.49	22.72	1.98	0.9	<0.1	<0.02	337	0.04	0.07	0.6	2.0	0.67	392	4.75
PNA08-LOU1	WR03	20080233	<0.02	15.22	0.35	0.1	<0.1	<0.02	3647	<0.02	0.02	<0.5	0.2	0.21	437	0.02

Summary Statistics	Min.	<0.02	7.78	0.27	0.1	<0.1	<0.02	9	<0.02	<0.01	<0.5	0.2	0.20	60	0.02
	Max.	5.74	151.0	29.04	6.7	0.8	0.13	>100000	0.14	0.23	11.0	27.4	2.74	5186	8.66
	Mean	1.15	41.93	4.58	2.9	0.2	0.06	2221	0.04	0.08	4.1	10.8	1.14	855	1.58
	Median	0.83	32.69	2.85	3.0	0.1	0.05	212	0.04	0.08	4.1	9.4	1.02	520	1.03
	n	62	62	62	62	62	62	62	62	62	62	62	62	62	62

95th		3.79	102.5	13.34	5.6	0.3	0.11	10978	0.08	0.17	8.3	23.4	2.42	2959	4.79
	90th	3.14	74.58	9.55	5.3	0.2	0.10	4464	0.06	0.15	7.5	19.9	2.20	2219	3.70
	75th	1.20	54.20	4.57	4.0	0.2	0.07	1189	0.05	0.11	5.9	15.9	1.53	848	1.68
	50th	0.83	32.69	2.85	3.0	0.1	0.05	212	0.04	0.08	4.1	9.4	1.02	520	1.03
	25th	0.49	18.60	1.99	1.6	0.1	0.04	46	0.02	0.05	1.6	5.7	0.63	305	0.68

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Na ICP-MS (% dry wt.) 0.001	Nb ICP-MS (mg/kg) 0.02	Ni ICP-MS (mg/kg) 0.1	P ICP-MS (% dry wt.) 0.001	Pb ICP-MS (mg/kg) 0.01	Pd ICP-MS (µg/kg) 10	Pt ICP-MS (µg/kg) 2	Rb ICP-MS (mg/kg) 0.1	Re ICP-MS (µg/kg) 1	S ICP-MS (% dry wt.) 0.02	Sb ICP-MS (mg/kg) 0.02	Sc ICP-MS (mg/kg) 0.1	Se ICP-MS (mg/kg) 0.1	Sn ICP-MS (mg/kg) 0.1
BRA07-SS01	SS01	20070005	0.011	0.51	147.8	0.064	3.04	<10	<2	8.6	1	<0.02	0.28	3.1	0.1	0.3
BRA07-SS02	SS02	20070006	0.023	0.47	70.8	0.083	4.06	<10	<2	10.3	1	0.02	0.60	3.4	0.3	0.5
BRA07-SS03	SS03	20070007	0.014	0.35	105.3	0.068	3.33	<10	<2	8.7	<1.0	0.02	0.35	2.9	0.2	0.9
BRA07-SS04	SS04	20070008	0.018	0.58	108.5	0.073	7.97	<10	<2	11.2	1	0.02	0.48	3.3	0.3	1.3
BRA07-SS05	SS05	20070009	0.029	0.03	64.6	0.055	309.2	<10	<2	4.0	5	1.37	51.88	6.7	0.9	1.3
BRA07-SS06	SS06	20070010	0.013	0.24	130.4	0.092	8.53	<10	<2	6.5	<1.0	0.06	0.61	2.4	0.2	1.3
BRA07-SS07	SS07	20070011	0.019	0.91	49.3	0.035	9.69	<10	<2	6.3	2	0.06	0.58	2.1	0.8	5.2
BRA07-SS08	SS08	20070012	0.013	1.32	128.3	0.056	4.55	<10	<2	3.3	1	0.10	0.91	5.1	1.4	0.5
BRA07-SS09	SS09	20070013	0.034	0.50	124.3	0.053	4.13	<10	3	10.1	<1.0	0.05	0.62	6.1	0.2	0.5
BRA07-SS14	SS14	20070018	0.022	0.14	92.7	0.069	9.79	<10	<2	3.8	3	0.07	1.86	9.3	0.8	0.9
BRA07-SS15	SS15	20070019	0.025	0.18	104.2	0.071	9.26	<10	<2	4.2	4	0.03	1.44	10.0	0.9	0.7
BRA07-SS16	SS16	20070020	0.062	0.22	49.6	0.081	3.94	<10	<2	5.6	<1.0	<0.02	1.48	2.8	0.2	0.3
BRA07-SS17	SS17	20070021	0.088	0.19	17.8	0.079	3.65	<10	<2	6.1	<1.0	<0.02	0.25	2.4	0.1	0.3
BRA07-SS18	SS18	20070022	0.095	0.20	16.1	0.080	3.23	<10	<2	4.6	<1.0	<0.02	0.19	2.1	<0.1	0.2
BRA07-SS19	SS19	20070023	0.074	0.38	40.3	0.080	6.00	<10	<2	5.6	<1.0	<0.02	1.28	2.8	0.3	0.3
BRA07-SS20	SS20	20070024	0.014	0.23	115.6	0.076	6.23	<10	<2	5.0	2	0.07	2.00	9.3	0.5	0.5
BRA07-SS21	SS21	20070025	0.016	0.24	71.7	0.055	9.01	<10	<2	3.9	<1.0	0.04	1.47	7.6	0.4	1.4
BRA07-SS22	SS22	20070026	0.019	0.04	29.0	0.069	9.24	<10	<2	3.5	5	0.20	1.63	10.3	1.0	0.7
BRA07-SS23	SS23	20070027	0.020	0.11	181.4	0.065	7.84	<10	<2	3.7	3	0.10	1.17	9.3	0.8	0.5
BRA07-SS24	SS24	20070286	0.044	0.02	67.9	0.064	122.5	<10	<2	2.9	10	0.74	20.75	7.5	0.6	0.2
BRA07-SS25	SS25	20070287	0.036	<0.02	54.7	0.052	310.1	<10	<2	4.5	6	0.93	47.62	6.6	0.9	0.3
BRA07-SS26	SS26	20070288	0.035	0.26	41.9	0.055	4.79	<10	<2	0.8	14	1.11	4.31	1.4	1.5	1.3
BRA07-SS27	SS27	20070289	0.008	0.19	69.1	0.065	0.96	<10	<2	5.6	<1.0	<0.02	0.31	1.4	0.1	0.1
BRA07-SS28	SS28	20070290	0.009	0.22	75.8	0.081	1.08	<10	<2	5.8	<1.0	<0.02	0.32	1.6	0.1	0.1
BRA07-SS29	SS29	20070291	0.012	0.44	91.6	0.076	7.67	<10	<2	4.7	<1.0	0.06	1.82	3.3	3.4	0.3
BRA07-SS30	SS30	20070292	0.015	0.16	206.5	0.068	6.10	<10	<2	8.2	<1.0	0.06	0.68	3.8	0.5	0.5
BRA07-SS31	SS31	20070293	0.018	0.18	205.2	0.073	5.33	<10	<2	8.4	<1.0	0.04	0.66	4.3	0.4	0.2
BRA07-SS32	SS32	20070294	0.012	0.15	76.0	0.056	5.01	<10	<2	3.9	<1.0	<0.02	1.85	7.6	0.6	0.4
BRA07-SS33	SS33	20070295	0.021	0.44	86.8	0.057	3.46	<10	<2	13.3	<1.0	0.08	1.58	2.5	0.9	0.2
BRA07-SS34	SS34	20070296	0.015	0.11	210.9	0.069	8.38	<10	<2	6.4	<1.0	0.04	0.61	3.7	0.4	0.2
BRA07-SS35	SS35	20070297	0.008	0.21	182.2	0.060	14.87	<10	<2	6.0	<1.0	0.05	0.62	3.6	0.4	0.2
BRA07-SS36A	SS36	20070298	0.014	0.12	44.6	0.075	2.24	<10	<2	3.2	<1.0	<0.02	0.20	1.9	0.2	0.1
BRA07-SS36B	SS36	20070299	0.015	0.09	162.0	0.070	3.95	<10	<2	4.8	<1.0	<0.02	0.40	3.2	0.2	0.1
BRA07-SS37	SS37	20070300	0.010	0.08	30.0	0.041	1.39	<10	<2	1.7	<1.0	0.03	0.16	1.3	<0.1	<0.1

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Na ICP-MS (% dry wt.) 0.001	Nb ICP-MS (mg/kg) 0.02	Ni ICP-MS (mg/kg) 0.1	P ICP-MS (% dry wt.) 0.001	Pb ICP-MS (mg/kg) 0.01	Pd ICP-MS (µg/kg) 10	Pt ICP-MS (µg/kg) 2	Rb ICP-MS (mg/kg) 0.1	Re ICP-MS (µg/kg) 1	S ICP-MS (% dry wt.) 0.02	Sb ICP-MS (mg/kg) 0.02	Sc ICP-MS (mg/kg) 0.1	Se ICP-MS (mg/kg) 0.1	Sn ICP-MS (mg/kg) 0.1
BRA07-SS38	SS38	20070301	0.045	0.63	9.9	0.059	4.38	<10	<2	1.1	<1.0	0.04	0.39	1.1	<0.1	0.2
PNA08-BRA01	SS39	20080021	0.034	0.07	52.6	0.030	70.76	<10	<2	1.2	<1.0	0.41	18.59	4.4	2.8	2.7
PNA08-BRA02	SS40	20080022	0.030	0.05	96.6	0.037	102.8	<10	4	2.8	<1.0	0.40	16.5	9.4	2.2	3.3
PNA08-BRA05	SS41	20080023	0.083	0.09	52.1	0.029	57.14	<10	3	0.9	1	0.37	12.61	4.7	2.4	1.6
PNA08-BRA10	SS42	20080024	0.031	0.09	11.1	0.018	20.42	<10	<2	0.2	<1.0	0.17	3.57	1.3	0.9	0.7
PNA08-BRA06	SS43	20080025	0.023	0.06	149.5	0.023	98.22	<10	3	1.0	4	0.48	7.98	3.8	3.1	6.0
PNA08-BRA08	SS44	20080026	0.123	0.19	35.6	0.030	51.02	15	<2	0.8	<1.0	0.14	16.07	2.8	1.4	3.2
PNA08-BRA09	SS45	20080027	0.145	0.22	16.1	0.030	17.40	19	2	0.6	5	0.14	10.65	2.8	1.3	1.0
PSA08-SS01	SS46	20080028	0.008	0.09	77.9	0.029	21.37	<10	2	6.3	3	<0.02	2.73	11.0	2.1	5.7
PSA08-SS02	SS47	20080029	0.006	0.27	77.5	0.044	49.84	<10	<2	5.1	<1.0	0.03	3.80	10.2	1.1	7.9
PNA08-LH1	SS48	20080030	0.030	0.05	83.3	0.133	17.81	<10	<2	4.9	1	0.93	22.39	15.6	0.3	1.4
PNA08-BRA03	SS49	20080211	0.083	0.06	55.5	0.033	118.1	<10	<2	2.9	<1.0	0.26	23.43	8.1	1.8	4.4
PNA08-BRA04	SS50	20080212	0.044	0.10	70.6	0.025	63.56	<10	<2	1.9	2	0.12	10.26	3.5	1.8	5.7
PNA08-BRA11	SS51	20080213	0.066	0.14	5.7	0.057	2.41	<10	<2	0.3	5	0.04	27.11	1.8	1.0	0.5
BRA06-T1A	T01	20060174	0.004	0.03	5.9	0.031	29.15	<10	<2	1.4	<1.0	0.04	6.67	3.3	0.1	<0.1
BRA06-T2A	T02	20060175	0.004	0.04	2.0	0.013	42.62	<10	<2	0.6	<1.0	0.04	1.90	0.9	<0.1	0.1
BRA06-T3A	T03	20060176	0.006	0.02	5.7	0.035	54.56	<10	<2	1.5	<1.0	0.09	15.11	4.4	<0.1	0.1
BRA06-T3B	T03	20060177	0.027	0.04	15.4	0.047	264.7	<10	<2	3.3	2	0.46	73.11	5.6	0.1	0.3
BRA06-T4A	T04	20060178	0.004	0.02	21.2	0.020	26.58	<10	<2	1.9	<1.0	0.26	10.40	3.0	2.9	0.1
BRA06-T5A	T05	20060179	0.005	0.02	24.1	0.014	45.53	<10	<2	1.6	<1.0	0.92	6.93	5.0	2.7	1.1
BRA06-T6A	T06	20060180	0.001	<0.02	15.9	0.008	20.18	<10	<2	1.2	<1.0	<0.02	6.27	2.8	1.2	0.3
BRA06-T7A	T07	20060181	0.001	0.02	10.0	0.013	27.18	<10	<2	1.8	1	0.20	11.75	3.3	1.9	<0.1
BRA07-SS11	T08	20070015	0.077	0.16	40.4	0.071	2.58	<10	<2	2.2	<1.0	0.03	14.60	3.1	0.1	0.5
BRA07-SS12	T09	20070016	0.004	<0.02	24.3	0.008	2.66	<10	<2	0.7	<1.0	0.40	47.09	15.3	0.9	0.2
BRA07-SS13	T10	20070017	0.003	0.02	41.4	0.010	42.66	<10	<2	1.0	1	0.29	706.7	18.4	1.3	1.3
PNA07-BRA01	WR01	20080231	0.010	<0.02	8.6	0.036	1347	<10	<2	2.1	<1.0	0.64	586.5	1.1	1.0	0.1
PNA07-UP13A	WR02	20080232	0.005	<0.02	9.6	0.019	841.6	<10	<2	1.9	<1.0	0.97	255.6	2.0	0.7	<0.1
PNA08-LOU1	WR03	20080233	<0.001	<0.02	8.4	<0.001	<0.01	<10	<2	0.2	<1.0	8.02	320900	<0.1	0.3	<0.1
Summary Statistics	Min.		<0.001	<0.02	2.0	<0.001	<0.01	<10	<2	0.2	<1.0	<0.02	0.16	<0.1	<0.1	<0.1
	Max.		0.145	1.32	210.9	0.133	1347	19	4	13.3	14	8.02	320900	18.4	3.4	7.9
	Mean		0.029	0.21	69.0	0.052	71.52	17	3	4.0	3	0.42	5209	5.0	1.0	1.2
	Median		0.018	0.16	55.1	0.056	9.24	17	3	3.6	3	0.10	1.95	3.4	0.8	0.5
	n		62	62	62	62	62	62	62	62	62	62	62	62	62	62
	95th		0.088	0.59	182.2	0.081	309.2	19	4	10.0	9	1.05	246.5	11.0	2.8	5.7
	90th		0.077	0.49	149.3	0.080	118.1	19	4	8.4	6	0.93	47.57	10.0	2.3	3.7
	75th		0.034	0.24	95.6	0.070	45.53	18	3	5.6	5	0.40	14.98	6.7	1.3	1.3
	50th		0.018	0.16	55.1	0.056	9.24	17	3	3.6	3	0.1	1.95	3.4	0.8	0.5
	25th		0.010	0.06	21.9	0.030	4.13	16	2	1.5	1	0.04	0.62	2.5	0.3	0.2

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Sr ICP-MS (mg/kg) 0.5	Ta ICP-MS (mg/kg) 0.05	Te ICP-MS (mg/kg) 0.02	Th ICP-MS (mg/kg) 0.1	Ti ICP-MS (% dry wt.) 0.001	Tl ICP-MS (mg/kg) 0.02	U ICP-MS (mg/kg) 0.1	V ICP-MS (mg/kg) 2	W ICP-MS (mg/kg) 0.1	Y ICP-MS (mg/kg) 0.01	Zn ICP-MS (mg/kg) 0.1	Zr ICP-MS (mg/kg) 0.1
BRA07-SS01	SS01	20070005	16.7	<0.05	0.03	2.6	0.088	0.08	1.5	52	0.6	3.20	39.5	0.2
BRA07-SS02	SS02	20070006	15.1	<0.05	0.04	2.7	0.080	0.11	1.0	104	3.5	2.99	38.3	0.3
BRA07-SS03	SS03	20070007	15.3	<0.05	0.02	1.1	0.071	0.07	0.9	39	0.5	2.93	35.6	0.2
BRA07-SS04	SS04	20070008	18.9	<0.05	0.03	1.3	0.088	0.11	1.5	47	0.7	3.48	45.5	0.3
BRA07-SS05	SS05	20070009	137.3	<0.05	0.12	0.4	0.014	0.08	0.2	61	1.0	6.73	450.1	0.9
BRA07-SS06	SS06	20070010	16.1	<0.05	0.02	2.0	0.063	0.06	0.8	46	3.2	3.41	35.6	0.2
BRA07-SS07	SS07	20070011	24.1	<0.05	0.02	0.6	0.063	0.05	0.4	36	2.1	2.60	59.0	0.5
BRA07-SS08	SS08	20070012	23.2	<0.05	0.02	1.1	0.151	0.07	0.6	56	0.2	6.34	56.9	2.3
BRA07-SS09	SS09	20070013	25.5	<0.05	0.05	1.2	0.159	0.10	0.3	77	0.3	7.44	65.5	1.8
BRA07-SS14	SS14	20070018	55.8	<0.05	0.06	1.0	0.064	0.11	0.4	70	<0.1	10.09	112.4	3.6
BRA07-SS15	SS15	20070019	52.0	<0.05	0.06	1.0	0.069	0.12	0.4	76	<0.1	10.50	114.8	4.2
BRA07-SS16	SS16	20070020	32.7	<0.05	0.03	1.5	0.096	0.05	0.7	46	<0.1	4.41	38.1	2.1
BRA07-SS17	SS17	20070021	43.1	<0.05	0.02	1.1	0.103	0.05	0.6	39	<0.1	3.78	37.8	3.4
BRA07-SS18	SS18	20070022	40.1	<0.05	<0.02	1.0	0.092	0.04	0.7	35	<0.1	3.62	31.6	3.6
BRA07-SS19	SS19	20070023	37.3	<0.05	0.03	0.9	0.094	0.06	0.8	42	1.9	4.14	42.3	1.9
BRA07-SS20	SS20	20070024	43.5	<0.05	0.03	1.1	0.101	0.07	0.3	84	0.2	10.07	94.3	2.9
BRA07-SS21	SS21	20070025	50.3	<0.05	0.05	1.0	0.072	0.05	0.3	62	0.2	7.97	77.7	3.2
BRA07-SS22	SS22	20070026	65.6	<0.05	0.07	0.9	0.016	0.15	0.4	70	<0.1	10.38	136	2.1
BRA07-SS23	SS23	20070027	62.0	<0.05	0.07	1.0	0.063	0.10	0.4	70	<0.1	9.20	103.4	3.9
BRA07-SS24	SS24	20070286	111.4	<0.05	0.09	0.5	0.032	0.05	0.2	90	0.9	8.98	240.1	1.5
BRA07-SS25	SS25	20070287	135.2	<0.05	0.10	0.4	0.012	0.10	0.2	68	0.7	6.82	379.3	1.3
BRA07-SS26	SS26	20070288	63.1	<0.05	0.02	<0.1	0.019	0.04	0.2	7	0.4	1.34	33.0	1.6
BRA07-SS27	SS27	20070289	12.7	<0.05	<0.02	0.9	0.041	0.05	0.5	22	0.3	2.01	18.5	0.1
BRA07-SS28	SS28	20070290	11.8	<0.05	<0.02	1.1	0.044	0.05	0.5	24	0.7	2.37	22.5	0.1
BRA07-SS29	SS29	20070291	51.8	<0.05	0.02	0.4	0.035	0.08	0.3	36	0.2	10.84	57.9	0.7
BRA07-SS30	SS30	20070292	18.6	<0.05	0.03	0.9	0.079	0.08	0.5	55	1.7	4.35	57.8	0.6
BRA07-SS31	SS31	20070293	22.7	<0.05	0.03	1.3	0.087	0.09	0.6	48	0.3	4.35	55.6	0.7
BRA07-SS32	SS32	20070294	38.5	<0.05	0.03	0.8	0.028	0.04	0.2	65	0.9	8.32	73.6	1.3
BRA07-SS33	SS33	20070295	26.5	<0.05	0.10	1.2	0.067	0.14	0.3	40	0.7	3.03	60.7	0.7
BRA07-SS34	SS34	20070296	19.7	<0.05	0.03	0.9	0.070	0.06	0.4	47	0.2	4.58	52.0	0.8
BRA07-SS35	SS35	20070297	18.0	<0.05	0.05	0.8	0.078	0.06	0.4	41	0.3	4.97	49.7	0.8
BRA07-SS36A	SS36	20070298	16.6	<0.05	0.04	1.1	0.050	0.03	0.4	44	0.1	3.87	29.9	0.3
BRA07-SS36B	SS36	20070299	14.4	<0.05	0.03	1.2	0.068	0.05	0.4	43	0.1	4.38	42.6	0.7
BRA07-SS37	SS37	20070300	12.0	<0.05	0.02	0.6	0.037	<0.02	0.2	22	<0.1	2.07	19.5	0.4

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

## Bridge River Mining District: Stream sediment, tailings, and waste rock chemistry

Field ID	Map ID	Lab ID	Sr ICP-MS (mg/kg)	Ta ICP-MS (mg/kg)	Te ICP-MS (mg/kg)	Th ICP-MS (mg/kg)	Ti ICP-MS (% dry wt.)	Tl ICP-MS (mg/kg)	U ICP-MS (mg/kg)	V ICP-MS (mg/kg)	W ICP-MS (mg/kg)	Y ICP-MS (mg/kg)	Zn ICP-MS (mg/kg)	Zr ICP-MS (mg/kg)
			0.5	0.05	0.02	0.1	0.001	0.02	0.1	2	0.1	0.01	0.1	0.1
BRA07-SS38	SS38	20070301	19.3	<0.05	<0.02	0.5	0.080	0.04	0.2	14	<0.1	2.86	26.3	2.4
PNA08-BRA01	SS39	20080021	584.9	<0.05	0.18	0.1	0.006	0.04	<0.1	39	66.5	2.14	107.4	0.2
PNA08-BRA02	SS40	20080022	227.4	<0.05	0.20	0.1	0.004	0.27	<0.1	79	15.0	4.07	185.1	0.4
PNA08-BRA05	SS41	20080023	851.2	<0.05	0.17	<0.1	0.011	<0.02	<0.1	50	45.7	2.08	93.0	0.1
PNA08-BRA10	SS42	20080024	1611	<0.05	0.10	<0.1	0.001	<0.02	<0.1	10	3.1	1.33	24.8	0.2
PNA08-BRA06	SS43	20080025	702.2	<0.05	0.23	0.1	0.005	0.06	<0.1	29	52.6	2.09	100.3	0.3
PNA08-BRA08	SS44	20080026	1450	<0.05	0.19	<0.1	0.004	<0.02	<0.1	23	20.1	2.39	86.8	0.3
PNA08-BRA09	SS45	20080027	1705	<0.05	0.18	<0.1	0.002	<0.02	<0.1	20	12.8	2.65	56.6	0.3
PSA08-SS01	SS46	20080028	32.9	<0.05	<0.02	0.9	0.004	0.05	0.2	55	0.3	7.47	95.3	1.2
PSA08-SS02	SS47	20080029	31.0	<0.05	0.03	0.7	0.010	0.05	0.3	74	0.2	7.41	90.0	0.6
PNA08-LH1	SS48	20080030	136.5	<0.05	<0.02	0.8	0.013	0.19	<0.1	55	2.2	14.30	87.6	2.4
PNA08-BRA03	SS49	20080211	324.5	<0.05	0.14	0.2	0.008	0.04	<0.1	76	53.9	3.87	242.7	0.2
PNA08-BRA04	SS50	20080212	516.5	<0.05	0.17	0.2	0.009	<0.02	<0.1	37	43.0	1.84	99.5	0.3
PNA08-BRA11	SS51	20080213	1730	<0.05	0.11	<0.1	0.001	<0.02	<0.1	30	4.0	3.75	33.2	0.5
BRA06-T1A	T01	20060174	95.8	<0.05	0.03	0.1	0.002	0.02	<0.1	14	1.7	3.80	30.9	0.2
BRA06-T2A	T02	20060175	31.9	<0.05	0.07	0.2	0.003	<0.02	<0.1	3	5.3	2.23	13.5	0.4
BRA06-T3A	T03	20060176	117.4	<0.05	<0.02	0.1	0.002	<0.02	<0.1	17	0.6	3.83	60.8	0.2
BRA06-T3B	T03	20060177	109.9	<0.05	0.05	0.3	0.006	0.05	0.1	45	1.6	4.81	306.8	0.4
BRA06-T4A	T04	20060178	47.0	<0.05	0.57	0.1	0.002	0.04	<0.1	15	10.4	2.90	87.0	<0.1
BRA06-T5A	T05	20060179	61.5	<0.05	0.67	0.1	0.015	0.05	<0.1	47	>100	3.28	325.6	0.2
BRA06-T6A	T06	20060180	34.9	<0.05	0.09	<0.1	0.003	0.02	<0.1	28	16.9	1.40	30.4	<0.1
BRA06-T7A	T07	20060181	52.0	<0.05	0.05	0.1	0.005	0.03	<0.1	35	9.0	1.86	44.3	<0.1
BRA07-SS11	T08	20070015	53.3	<0.05	0.02	0.7	0.059	0.02	0.3	32	0.1	3.29	23.7	2.9
BRA07-SS12	T09	20070016	190.9	<0.05	0.06	<0.1	<0.001	<0.02	<0.1	22	1.6	3.57	43.4	<0.1
BRA07-SS13	T10	20070017	219.8	<0.05	0.14	0.1	0.001	0.03	<0.1	26	0.5	3.96	89.0	0.2
PNA07-BRA01	WR01	20080231	42.3	<0.05	1.59	0.1	<0.001	0.04	<0.1	4	1.7	2.76	151.1	0.2
PNA07-UP13A	WR02	20080232	55.3	<0.05	0.06	0.1	0.003	0.04	<0.1	12	0.2	2.27	923.8	0.3
PNA08-LOU1	WR03	20080233	<0.5	<0.05	<0.02	<0.1	<0.001	0.67	<0.1	<2	<0.1	0.71	36.0	<0.1
Summary Statistics	Min.		<0.5	<0.05	<0.02	<0.1	<0.001	<0.02	<0.1	<2	<0.1	0.71	13.5	<0.1
	Max.		1730	<0.05	1.59	2.7	0.159	0.67	1.5	104	>100	14.30	923.8	4.2
	Mean		203.0	<0.05	0.12	0.8	0.043	0.08	0.5	44	7.7	4.59	101.6	1.1
	Median		47.0	<0.05	0.05	0.8	0.035	0.05	0.4	42	0.9	3.77	57.9	0.6
	n		62	62	62	62	62	62	62	62	62	62	62	62
	95th		1450	<0.05	0.35	1.7	0.101	0.17	1.1	79	49.2	10.37	324.7	3.6
	90th		584.9	<0.05	0.19	1.3	0.092	0.12	0.8	76	20.1	9.18	234.6	3.0
	75th		117.4	<0.05	0.11	1.1	0.072	0.08	0.6	56	3.8	6.00	98.5	1.8
	50th		47.0	<0.05	0.05	0.8	0.035	0.05	0.4	42	0.9	3.77	57.9	0.6
	25th		23.2	<0.05	0.03	0.2	0.006	0.04	0.3	26	0.3	2.61	36.5	0.3

Notes: <sup>a</sup> Insufficient sample for re-analysis; DL = detection limit

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

CRM	Date	Lab ID	Ag ICP-MS (µg/kg) DL = 2	Al ICP-MS (% dry wt.) 0.01	As ICP-MS (mg/kg) 0.1	Au ICP-MS µg/kg 0.2	B ICP-MS (mg/kg) 20	Ba ICP-MS (mg/kg) 0.5	Be ICP-MS (mg/kg) 0.1	Bi ICP-MS (mg/kg) 0.02	Ca ICP-MS (% dry wt.) 0.01	Cd ICP-MS (mg/kg) 0.01	Ce ICP-MS (mg/kg) 0.1	Co ICP-MS (mg/kg) 0.1	Cr ICP-MS (mg/kg) 0.5	Cs ICP-MS (mg/kg) 0.02
<b>STSD-1</b>		<b>Certified Values<sup>a</sup></b>	<b>300</b>	<b>1.28</b>	<b>17</b>			<b>261</b>			<b>1.64</b>	<b>0.80</b>			<b>14</b>	<b>28</b>
STSD-1	Nov-06	20070001	281	1.11	18.7	16.2	<20	247.7	0.4	0.49	1.59	1.00	37.0	15.0	28.6	1.03
STSD-1	Jul-07	20070028	323	1.21	19.4	5.5	<20	262.5	0.4	0.51	1.70	1.06	38.8	16.3	31.2	1.15
STSD-1	Oct-07	20070282	247	0.82	17.6	4.9	<20	240.5	0.3	0.46	1.44	0.90	30.3	12.8	23.2	0.86
STSD-1	Oct-07	20070302	255	1.04	17.5	4.2	<20	242.1	0.4	0.42	1.48	0.91	31.0	13.1	23.3	0.85
STSD-1	Jun-08	20080017	279	1.04	20.4	2.3	<20	263.7	0.4	0.51	1.51	0.99	33.4	13.3	24.1	0.94
Summary Statistics	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Min	247	0.82	17.5	2.3	<20	240.5	0.3	0.42	1.44	0.90	30.3	12.8	23.2	0.85	
	Max	323	1.21	20.4	16.2	<20	263.7	0.4	0.51	1.70	1.06	38.8	16.3	31.2	1.15	
	Mean	277	1.04	18.7	6.6	<20	251.3	0.4	0.48	1.54	0.97	34.1	14.1	26.1	0.97	
	Med	279	1.04	18.7	4.9	<20	247.7	0.4	0.49	1.51	0.99	33.4	13.3	24.1	0.94	
	StDev	30	0.14	1.2	5.5	0	11.1	0	0.04	0.10	0.07	3.7	1.5	3.6	0.13	
	%RSD	11	14	7	83	0	4	12	8	7	7	11	11	14	13	
	% Error	-8	-18	10			-4			-6	22		1	-7		
<b>STSD-2</b>		<b>Certified Values</b>	<b>500</b>	<b>3.78</b>	<b>32</b>			<b>110</b>			<b>1.37</b>	<b>0.80</b>			<b>17</b>	<b>50</b>
STSD-2	Nov-06	20070002	505	3.13	36.0	2.3	<20	102.7	2.7	5.47	1.15	0.99	54.1	19.0	54.0	7.00
STSD-2	Jul-07	20070029	493	3.30	36.4	2.9	<20	104.4	3.3	4.39	1.19	0.99	58.6	19.6	58.7	7.25
STSD-2	Oct-07	20070283	432	2.68	32.9	2.5	<20	96.0	2.5	3.54	0.99	0.83	42.8	15.3	43.6	5.72
STSD-2	Oct-07	20070303	452	2.79	33.2	2.0	<20	97.5	2.5	3.49	1.00	0.90	44.1	16.0	46.4	5.66
STSD-2	Jun-08	20080018	466	2.92	37.0	1.2	<20	103.8	2.7	4.14	1.06	0.91	45.4	16.1	45.8	6.09
Summary Statistics	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Min	432	2.68	32.9	1.2	<20	96.0	2.5	3.49	0.99	0.83	42.8	15.3	43.6	5.66	
	Max	505	3.30	37.0	2.9	<20	104.4	3.3	5.47	1.19	0.99	58.6	19.6	58.7	7.25	
	Mean	470	2.96	35.1	2.2	<20	100.9	2.7	4.21	1.08	0.92	49.0	17.2	49.7	6.34	
	Med	466	2.92	36.0	2.3	<20	102.7	2.7	4.14	1.06	0.91	45.4	16.1	46.4	6.09	
	StDev	30	0.25	1.9	0.6	0	3.9	0.3	0.81	0.09	0.07	7.0	2.0	6.4	0.74	
	%RSD	6	8	5	29	0	4	12	19	8	7	14	11	13	12	
	% Error	-6	-22	10			-8			-21	16		1	-1		

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

CRM	Date	Lab ID	Cu ICP-MS (mg/kg) 0.01	Fe ICP-MS (% dry wt.) 0.01	Ga ICP-MS (mg/kg) 0.1	Ge ICP-MS (mg/kg) 0.1	Hf ICP-MS (mg/kg) 0.02	Hg ICP-MS (µg/kg) 5	In ICP-MS (mg/kg) 0.02	K ICP-MS (% dry wt.) 0.01	La ICP-MS (mg/kg) 0.5	Li ICP-MS (mg/kg) 0.1	Mg ICP-MS (% dry wt.) 0.01	Mn ICP-MS (mg/kg) 1	Mo ICP-MS (mg/kg) 0.01	Na ICP-MS (% dry wt.) 0.001
<b>STSD-1</b>		<b>Certified Values<sup>a</sup></b>	<b>36</b>					<b>110</b>						<b>0.82</b>	<b>3740</b>	<b>2.0</b>
STSD-1	Nov-06	20070001	38.23	3.35	3.7	0.1	<0.02	114	0.05	0.07	22.7	9.4	0.76	3661	0.92	0.025
STSD-1	Jul-07	20070028	40.16	3.52	3.7	0.1	<0.02	122	0.05	0.08	24.2	9.0	0.79	3814	1.00	0.029
STSD-1	Oct-07	20070282	30.63	2.86	3.3	0.1	<0.02	89	0.04	0.06	17.4	7.9	0.64	3230	0.91	0.019
STSD-1	Oct-07	20070302	32.13	2.98	3.3	0.1	<0.02	90	0.04	0.06	17.8	8.4	0.66	3400	0.84	0.023
STSD-1	Jun-08	20080017	35.05	3.11	3.3	<0.1	<0.02	109	0.04	0.07	20.9	8.4	0.72	3571	0.93	0.023
Summary Statistics	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Min	30.63	2.86	3.3	<0.1	<0.02	89	0.04	0.06	17.4	7.9	0.64	3230	0.84	0.019	
	Max	40.16	3.52	3.7	0.1	<0.02	122	0.05	0.08	24.2	9.4	0.79	3814	1.00	0.029	
	Mean	35.24	3.16	3.5	0.1	<0.02	105	0.04	0.07	20.6	8.6	0.71	3535	0.92	0.024	
	Med	35.05	3.11	3.3	0.1	<0.02	109	0.04	0.07	20.9	8.4	0.72	3571	0.92	0.023	
	StDev	4.00	0.27	0.2	0	0	15	0.01	0.01	3.0	0.6	0.06	227	0.06	0.004	
	%RSD	11	9	6	0	0	14	12	12	14	7	9	6	6	15	
	% Error	-2					-5					-13	-5	-54		
<b>STSD-2</b>		<b>Certified Values</b>	<b>43</b>	<b>4.1</b>				<b>46</b>						<b>1.42</b>	<b>720</b>	<b>13.0</b>
STSD-2	Nov-06	20070002	48.00	4.23	9.8	<0.1	0.04	38	0.10	0.18	34.6	51.4	1.32	784	11.63	0.062
STSD-2	Jul-07	20070029	47.59	4.24	10.3	0.1	0.05	43	0.09	0.20	36.3	49.7	1.35	782	12.06	0.068
STSD-2	Oct-07	20070283	36.95	3.59	8.9	<0.1	0.04	37	0.07	0.17	24.9	45.0	1.11	719	10.13	0.051
STSD-2	Oct-07	20070303	38.29	3.68	9.1	0.1	0.02	39	0.08	0.18	27.1	50.4	1.16	716	10.68	0.056
STSD-2	Jun-08	20080018	42.25	3.86	9.1	<0.1	0.03	29	0.09	0.19	29.9	47.3	1.22	716	10.26	0.059
Summary Statistics	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Min	36.95	3.59	8.9	<0.1	0.02	29	0.07	0.17	24.9	45.0	1.11	716	10.13	0.051	
	Max	48.00	4.24	10.3	0.1	0.05	43	0.10	0.20	36.3	51.4	1.35	784	12.06	0.068	
	Mean	42.62	3.92	9.4	0.1	0.04	37	0.09	0.18	30.6	48.8	1.23	743	10.95	0.059	
	Med	42.25	3.86	9.1	0.1	0.04	38	0.09	0.18	29.9	49.7	1.22	719	10.68	0.059	
	StDev	5.12	0.30	0.6	0	0.01	5	0.01	0.01	4.8	2.6	0.10	36	0.85	0.006	
	%RSD	12	8	6	0	32	14	13	6	16	5	8	5	8	11	
	% Error	-1	-4				-19					-13	3	-16		

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

CRM	Date	Lab ID	Nb ICP-MS (mg/kg) 0.02	Ni ICP-MS (mg/kg) 0.1	P ICP-MS (% dry wt.) 0.001	Pb ICP-MS (mg/kg) 0.01	Pd ICP-MS (µg/kg) 10	Pt ICP-MS (µg/kg) 2	Rb ICP-MS (mg/kg) 0.1	Re ICP-MS (µg/kg) 1	S ICP-MS (% dry wt.) 0.02	Sb ICP-MS (mg/kg) 0.02	Sc ICP-MS (mg/kg) 0.1	Se ICP-MS (mg/kg) 0.1	Sn ICP-MS (mg/kg) 0.1	Sr ICP-MS (mg/kg) 0.5
<b>STSD-1</b>		<b>Certified Values<sup>a</sup></b>	<b>18</b>	<b>0.168</b>	<b>34</b>						<b>0.18</b>	<b>2.0</b>				<b>28</b>
STSD-1	Nov-06	20070001	0.68	19.8	0.145	36.81	<10	<2	7.6	2	0.24	2.37	3.7	1.8	1.6	30.3
STSD-1	Jul-07	20070028	0.76	21.1	0.147	38.00	<10	<2	7.9	1	0.25	2.37	4.0	1.8	1.9	32.0
STSD-1	Oct-07	20070282	0.49	18.2	0.122	27.81	<10	<2	6.5	<1.0	0.18	1.95	2.7	2.0	1.6	26.8
STSD-1	Oct-07	20070302	0.51	18.3	0.140	30.22	<10	<2	6.3	<1.0	0.19	1.84	2.5	1.9	1.4	25.5
STSD-1	Jun-08	20080017	0.68	18.3	0.139	36.80	<10	<2	7.3	1	0.19	2.28	3.0	2.0	1.6	32.1
Summary Statistics	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Min	0.49	18.2	0.122	27.81	<10	<2	6.3	<1.0	0.18	1.84	2.5	1.8	1.4	25.5	
	Max	0.76	21.1	0.147	38.00	<10	<2	7.9	2	0.25	2.37	4.0	2.0	1.9	32.1	
	Mean	0.62	19.1	0.139	33.93	<10	<2	7.1	1	0.21	2.16	3.2	1.9	1.6	29.3	
	Med	0.68	18.3	0.140	36.80	<10	<2	7.3	1	0.19	2.28	3.0	1.9	1.6	30.3	
	StDev	0.12	1.3	0.010	4.59	0	0	0.7	1	0.03	0.25	0.6	0.1	0.2	3.0	
	%RSD	19	7	7	14	0	0	10	43	15	12	20	5	11	10	
	% Error	6	-18	0						17	8				5	
<b>STSD-2</b>		<b>Certified Values</b>	<b>47</b>	<b>0.145</b>	<b>66</b>						<b>0.06</b>	<b>2.6</b>				<b>144</b>
STSD-2	Nov-06	20070002	1.58	51.6	0.124	69.94	<10	<2	30.2	<1.0	0.06	2.47	6.4	0.4	1.5	145.3
STSD-2	Jul-07	20070029	1.63	52.8	0.122	69.65	<10	<2	31.4	<1.0	0.05	2.36	6.7	0.6	1.6	147.6
STSD-2	Oct-07	20070283	1.18	46.5	0.126	57.46	<10	<2	26.7	<1.0	0.04	1.95	5.1	0.7	1.2	126.7
STSD-2	Oct-07	20070303	1.19	47.0	0.121	59.47	<10	<2	26.6	<1.0	0.04	1.95	5.6	0.8	1.3	123.7
STSD-2	Jun-08	20080018	1.78	48.1	0.123	71.20	<10	<2	28.1	1	0.04	1.80	5.3	0.8	1.4	131.0
Summary Statistics	n	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Min	1.18	46.5	0.121	57.46	<10	<2	26.6	<1.0	0.04	1.80	5.1	0.4	1.2	123.7	
	Max	1.78	52.8	0.126	71.20	<10	<2	31.4	1	0.06	2.47	6.7	0.8	1.6	147.6	
	Mean	1.47	49.2	0.123	65.54	<10	<2	28.6	<1.0	0.05	2.11	5.8	0.7	1.4	134.9	
	Med	1.58	48.1	0.123	69.65	<10	<2	28.1	<1.0	0.04	1.95	5.6	0.7	1.4	131.0	
	StDev	0.27	2.8	0.002	6.53	0	0	2.1	0	0.01	0.29	0.7	0.2	0.2	10.9	
	%RSD	18	6	2	10	0	0	7	0	19	14	12	25	11	8	
	% Error	5	-15	-1						-23	-19				-6	

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

CRM	Date	Lab ID	Ta ICP-MS (mg/kg) 0.05	Te ICP-MS (mg/kg) 0.02	Th ICP-MS (mg/kg) 0.1	Ti ICP-MS (% dry wt.) 0.001	TI ICP-MS (mg/kg) 0.02	U ICP-MS (mg/kg) 0.1	V ICP-MS (mg/kg) 2	W ICP-MS (mg/kg) 0.1	Y ICP-MS (mg/kg) 0.01	Zn ICP-MS (mg/kg) 0.1	Zr ICP-MS (mg/kg) 0.1
<b>STSD-1</b>		<b>Certified Values<sup>a</sup></b>				<b>0.054</b>			<b>47</b>			<b>165</b>	
STSD-1	Nov-06	20070001	<0.05	0.06	0.6	0.031	0.26	7.5	45	0.6	21.83	160.3	0.6
STSD-1	Jul-07	20070028	<0.05	0.07	0.7	0.034	0.27	7.8	48	0.2	23.75	164.1	0.6
STSD-1	Oct-07	20070282	<0.05	0.05	0.5	0.023	0.22	5.8	38	0.1	18.89	137.2	0.5
STSD-1	Oct-07	20070302	<0.05	0.05	0.6	0.023	0.22	6.1	38	0.1	19.27	142.1	0.5
STSD-1	Jun-08	20080017	<0.05	0.05	0.5	0.027	0.24	7.1	42	0.3	21.58	155.6	0.8
<b>Summary Statistics</b>	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	<0.05	0.05	0.5	0.023	0.22	5.8	38	0.1	18.89	137.2	0.5	
	<b>Max</b>	<0.05	0.07	0.7	0.034	0.27	7.8	48	0.6	23.75	164.1	0.8	
	<b>Mean</b>	<0.05	0.06	0.6	0.028	0.24	6.9	42	0.3	21.06	151.9	0.6	
	<b>Med</b>	<0.05	0.05	0.6	0.027	0.24	7.1	42	0.2	21.58	155.6	0.6	
	<b>StDev</b>	0	0.01	0.1	0.005	0.02	0.9	4	0.2	2.00	11.7	0.1	
	<b>%RSD</b>	0	16	14	18	9	13	10	80	9	8	20	
	<b>% Error</b>				-49			-10				-8	
<b>STSD-2</b>		<b>Certified Values</b>				<b>0.172</b>			<b>58</b>			<b>216</b>	
STSD-2	Nov-06	20070002	<0.05	0.06	7.9	0.108	0.27	17.1	54	1.8	18.56	214.2	2.8
STSD-2	Jul-07	20070029	<0.05	0.04	8.6	0.120	0.27	17.1	56	1.9	19.95	215.2	2.6
STSD-2	Oct-07	20070283	<0.05	0.05	6.0	0.080	0.23	13.2	47	2.2	16.58	185.4	1.7
STSD-2	Oct-07	20070303	<0.05	0.04	6.6	0.086	0.23	13.7	46	1.7	17.01	192.6	1.9
STSD-2	Jun-08	20080018	<0.05	0.03	6.6	0.096	0.24	15.7	50	1.5	17.37	201.3	2.5
<b>Summary Statistics</b>	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	<0.05	0.03	6.0	0.080	0.23	13.2	46	1.5	16.58	185.4	1.7	
	<b>Max</b>	<0.05	0.06	8.6	0.120	0.27	17.1	56	2.2	19.95	215.2	2.8	
	<b>Mean</b>	<0.05	0.04	7.1	0.098	0.25	15.4	51	1.8	17.89	201.7	2.3	
	<b>Med</b>	<0.05	0.04	6.6	0.096	0.24	15.7	50	1.8	17.37	201.3	2.5	
	<b>StDev</b>	0	0.01	1.1	0.016	0.02	1.8	4	0.3	1.37	13.1	0.5	
	<b>%RSD</b>	0	26	15	17	8	12	9	14	8	6	21	
	<b>% Error</b>				-43			-13				-7	

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

CRM	Date	Lab ID	Ag ICP-MS (µg/kg) DL = 2	Al ICP-MS (% dry wt.) 0.01	As ICP-MS (mg/kg) 0.1	Au ICP-MS µg/kg 0.2	B ICP-MS (mg/kg) 20	Ba ICP-MS (mg/kg) 0.5	Be ICP-MS (mg/kg) 0.1	Bi ICP-MS (mg/kg) 0.02	Ca ICP-MS (% dry wt.) 0.01	Cd ICP-MS (mg/kg) 0.01	Ce ICP-MS (mg/kg) 0.1	Co ICP-MS (mg/kg) 0.1	Cr ICP-MS (mg/kg) 0.5	Cs ICP-MS (mg/kg) 0.02
<b>STSD-3</b>		<b>Certified Values</b>	<b>400</b>	<b>1.98</b>	<b>22</b>			<b>692</b>			<b>1.33</b>	<b>1.00</b>		<b>14</b>	<b>34</b>	
STSD-3	Nov-06	20070003	365	1.58	23.5	3.7	<20	547.1	1.2	1.39	1.23	1.29	39.9	15.3	32.6	2.75
STSD-3	Jul-07	20070031	379	1.69	24.1	4.4	<20	571.2	1.3	1.42	1.30	1.29	42.7	15.7	35.8	2.89
STSD-3	Oct-07	20070284	337	1.35	22.7	2.7	<20	516.6	0.9	1.28	1.09	1.13	31.9	13.1	26.7	2.18
STSD-3	Oct-07	20070304	338	1.38	21.3	3.4	<20	526.3	1.0	1.22	1.10	1.09	32.5	12.5	27.5	2.22
STSD-3	Jun-08	20080019	397	1.46	25.2	2.2	<20	588.9	1.2	1.54	1.18	1.18	35.5	12.9	27.5	2.46
Summary Statistics		n	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		Min	337	1.35	21.3	2.2	0	516.6	0.9	1.22	1.09	1.09	31.9	12.5	26.7	2.18
		Max	397	1.69	25.2	4.4	<20	588.9	1.3	1.54	1.30	1.29	42.7	15.7	35.8	2.89
		Mean	363	1.49	23.4	3.3	<20	550.0	1.1	1.37	1.18	1.20	36.5	13.9	30.0	2.50
		Med	365	1.46	23.5	3.4	<20	547.1	1.2	1.39	1.18	1.18	35.5	13.1	27.5	2.46
		StDev	26	0.14	1.5	0.9	0	30.2	0.2	0.12	0.09	0.09	4.7	1.5	4.0	0.32
		%RSD	7	10	6	26	0	5	15	9	8	8	13	11	13	13
		% Error	-9	-25	6			-21			-11	20		-1	-12	
<b>STSD-4</b>		<b>Certified Values</b>	<b>300</b>	<b>1.37</b>	<b>11</b>			<b>1280</b>			<b>1.23</b>	<b>0.60</b>		<b>11</b>	<b>30</b>	
STSD-4	Nov-06	20070004	282	1.07	11.4	2.0	<20	853.8	0.3	0.21	1.08	0.40	26.6	11.0	30.3	0.83
STSD-4	Jul-07	20070030	281	1.14	10.9	3.3	<20	869.7	0.3	0.20	1.16	0.41	27.4	11.5	33.0	0.85
STSD-4	Oct-07	20070285	267	0.87	9.8	8.2	<20	803.9	0.3	0.19	0.98	0.37	20.9	9.4	24.5	0.68
STSD-4	Oct-07	20070305	248	0.90	9.7	6.8	<20	736.5	0.2	0.16	0.95	0.35	20.4	9.0	24.6	0.64
STSD-4	Jun-08	20080020	292	1.05	12.8	2.1	<20	1004	0.3	0.22	1.06	0.40	24.4	9.2	28.0	0.78
Summary Statistics		n	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		Min	248	0.87	9.7	2.0	<20	736.5	0.2	0.16	0.95	0.35	20.4	9.0	24.5	0.64
		Max	292	1.14	12.8	8.2	<20	1004	0.3	0.22	1.16	0.41	27.4	11.5	33.0	0.85
		Mean	274	1.01	10.9	4.5	<20	853.6	0.3	0.20	1.05	0.39	23.9	10.0	28.1	0.76
		Med	281	1.05	10.9	3.3	<20	853.8	0.3	0.20	1.06	0.40	24.4	9.4	28.0	0.78
		StDev	17	0.12	1.3	2.8	0	98.8	0.0	0.02	0.08	0.03	3.2	1.1	3.7	0.09
		%RSD	6	12	12	64	0	12	16	12	8	7	13	11	13	12
		% Error	-9	-27	-1			-33			-15	-36		-9	-6	

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

### Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.

CRM	Date	Lab ID	Cu ICP-MS (mg/kg) 0.01	Fe ICP-MS (% dry wt.) 0.01	Ga ICP-MS (mg/kg) 0.1	Ge ICP-MS (mg/kg) 0.1	Hf ICP-MS (mg/kg) 0.02	Hg ICP-MS (µg/kg) 5	In ICP-MS (mg/kg) 0.02	K ICP-MS (% dry wt.) 0.01	La ICP-MS (mg/kg) 0.5	Li ICP-MS (mg/kg) 0.1	Mg ICP-MS (% dry wt.) 0.01	Mn ICP-MS (mg/kg) 1	Mo ICP-MS (mg/kg) 0.01	Na ICP-MS (% dry wt.) 0.001
<b>STSD-3</b>		<b>Certified Values</b>	<b>38</b>	<b>3.4</b>				<b>90</b>						<b>0.87</b>	<b>2630</b>	<b>7.0</b>
STSD-3	Nov-06	20070003	39.37	3.28	5.0	<0.1	0.02	87	0.05	0.12	24.5	19.7	0.77	2472	5.76	0.033
STSD-3	Jul-07	20070031	39.41	3.33	5.2	<0.1	<0.02	86	0.06	0.13	25.9	18.5	0.80	2564	5.83	0.037
STSD-3	Oct-07	20070284	32.57	2.81	4.7	0.1	<0.02	75	0.04	0.10	18.3	17.7	0.67	2197	5.22	0.030
STSD-3	Oct-07	20070304	32.64	2.83	4.6	<0.1	<0.02	76	0.05	0.11	19.2	18.8	0.66	2223	5.03	0.031
STSD-3	Jun-08	20080019	35.92	3.06	4.8	<0.1	0.02	82	0.04	0.12	21.8	19.2	0.71	2333	5.51	0.032
<b>Summary Statistics</b>	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	32.57	2.81	4.6	<0.1	<0.02	75	0.04	0.10	18.3	17.7	0.66	2197	5.03	0.030	
	<b>Max</b>	39.41	3.33	5.2	0.1	0.02	87	0.06	0.13	25.9	19.7	0.80	2564	5.83	0.037	
	<b>Mean</b>	35.98	3.06	4.9	0.1	0.02	81	0.05	0.12	21.9	18.8	0.72	2358	5.47	0.033	
	<b>Med</b>	35.92	3.06	4.8	0.1	0.02	82	0.05	0.12	21.8	18.8	0.71	2333	5.51	0.032	
	<b>StDev</b>	3.39	0.24	0.2	0	0	6	0.01	0.01	3.3	0.8	0.06	158	0.34	0.003	
	<b>%RSD</b>	9	8	5	0	0	7	17	10	15	4	9	7	6	8	
	<b>% Error</b>	-5	-10				-10					-17	-10	-22		
<b>STSD-4</b>		<b>Certified Values</b>	<b>66</b>	<b>2.6</b>				<b>930</b>						<b>0.75</b>	<b>1200</b>	<b>2.0</b>
STSD-4	Nov-06	20070004	68.35	2.58	3.4	0.1	0.03	719	0.03	0.09	13.9	9.1	0.66	1170	1.15	0.039
STSD-4	Jul-07	20070030	69.34	2.70	3.6	0.1	0.02	727	0.03	0.09	14.4	8.5	0.68	1224	1.17	0.041
STSD-4	Oct-07	20070285	56.10	2.26	3.1	<0.1	<0.02	755	0.02	0.08	10.7	8.1	0.59	1085	1.01	0.031
STSD-4	Oct-07	20070305	55.03	2.22	3.1	<0.1	0.02	628	0.03	0.09	10.6	8.4	0.57	1069	0.99	0.031
STSD-4	Jun-08	20080020	63.31	2.53	3.5	<0.1	0.03	840	0.03	0.10	13.2	9.1	0.63	1171	1.18	0.038
<b>Summary Statistics</b>	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	55.03	2.22	3.1	<0.1	<0.02	628	0.02	0.08	10.6	8.1	0.57	1069	0.99	0.031	
	<b>Max</b>	69.34	2.70	3.6	0.1	0.03	840	0.03	0.10	14.4	9.1	0.68	1224	1.18	0.041	
	<b>Mean</b>	62.43	2.46	3.3	<0.1	0.03	734	0.03	0.09	12.6	8.6	0.63	1144	1.10	0.036	
	<b>Med</b>	63.31	2.53	3.4	<0.1	0.03	727	0.03	0.09	13.2	8.5	0.63	1170	1.15	0.038	
	<b>StDev</b>	6.68	0.21	0.2	0	0.01	76	0.00	0.01	1.8	0	0.05	65	0.09	0.005	
	<b>%RSD</b>	11	8	7	0	23	10	16	8	14	5	7	6	8	13	
	<b>% Error</b>	-5	-5				-21					-17	-5	-45		

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

CRM	Date	Lab ID	Nb ICP-MS (mg/kg) 0.02	Ni ICP-MS (mg/kg) 0.1	P ICP-MS (% dry wt.) 0.001	Pb ICP-MS (mg/kg) 0.01	Pd ICP-MS (µg/kg) 10	Pt ICP-MS (µg/kg) 2	Rb ICP-MS (mg/kg) 0.1	Re ICP-MS (µg/kg) 1	S ICP-MS (% dry wt.) 0.02	Sb ICP-MS (mg/kg) 0.02	Sc ICP-MS (mg/kg) 0.1	Se ICP-MS (mg/kg) 0.1	Sn ICP-MS (mg/kg) 0.1	Sr ICP-MS (mg/kg) 0.5
<b>STSD-3</b>		<b>Certified Values</b>	<b>25</b>	<b>0.161</b>	<b>39</b>						<b>0.14</b>	<b>2.4</b>				<b>67</b>
STSD-3	Nov-06	20070003	1.19	26.8	0.131	44.40	<10	<2	14.7	1	0.18	2.75	3.5	1.6	1.8	67.6
STSD-3	Jul-07	20070031	1.26	27.4	0.131	44.06	<10	<2	15.7	1	0.18	2.71	3.6	1.6	1.7	69.3
STSD-3	Oct-07	20070284	1.00	25.4	0.126	35.30	<10	<2	12.8	<1.0	0.13	2.28	2.6	1.7	1.3	60.4
STSD-3	Oct-07	20070304	0.98	24.4	0.131	35.80	<10	<2	12.5	<1.0	0.13	2.28	2.8	1.7	2.0	58.4
STSD-3	Jun-08	20080019	1.27	25.7	0.135	43.85	<10	<2	13.9	2	0.14	2.55	2.7	1.9	1.7	65.0
Summary Statistics	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	0.98	24.4	0.126	35.30	<10	<2	12.5	<1.0	0.13	2.28	2.6	1.6	1.3	58.4	
	<b>Max</b>	1.27	27.4	0.135	44.40	<10	<2	15.7	2	0.18	2.75	3.6	1.9	2.0	69.3	
	<b>Mean</b>	1.14	25.9	0.131	40.68	<10	<2	13.9	1	0.15	2.51	3.0	1.7	1.7	64.1	
	<b>Med</b>	1.19	25.7	0.131	43.85	<10	<2	13.9	1	0.14	2.55	2.8	1.7	1.7	65.0	
	<b>StDev</b>	0.14	1.2	0.003	4.69	0	0	1.3	1	0.03	0.23	0.5	0.1	0.3	4.6	
	<b>%RSD</b>	12	5	2	12	0	0	10	43	17	9	16	7	15	7	
	<b>% Error</b>		4	-19	4						9	5			-4	
<b>STSD-4</b>		<b>Certified Values</b>	<b>23</b>	<b>0.098</b>	<b>13</b>						<b>0.09</b>	<b>3.6</b>				<b>71</b>
STSD-4	Nov-06	20070004	0.88	24.5	0.083	13.61	<10	<2	6.5	1	0.10	5.20	3.5	0.8	0.8	61.4
STSD-4	Jul-07	20070030	0.85	24.6	0.081	14.24	<10	<2	6.4	1	0.09	5.04	3.5	0.8	0.7	64.4
STSD-4	Oct-07	20070285	0.61	21.7	0.084	11.51	<10	<2	5.5	<1.0	0.07	4.55	2.6	0.8	0.6	53.5
STSD-4	Oct-07	20070305	0.61	21.4	0.076	10.86	<10	<2	5.3	<1.0	0.07	4.18	2.6	0.7	0.6	50.0
STSD-4	Jun-08	20080020	0.84	24.1	0.087	13.83	<10	<2	6.4	<1.0	0.08	4.96	3.0	0.6	0.8	67.1
Summary Statistics	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	0.61	21.4	0.076	10.86	<10	<2	5.3	<1.0	0.07	4.18	2.6	0.6	0.6	50.0	
	<b>Max</b>	0.88	24.6	0.087	14.24	<10	<2	6.5	1	0.10	5.20	3.5	0.8	0.8	67.1	
	<b>Mean</b>	0.76	23.3	0.082	12.81	<10	<2	6.0	1	0.08	4.79	3.0	0.7	0.7	59.3	
	<b>Med</b>	0.84	24.1	0.083	13.61	<10	<2	6.4	1	0.08	4.96	3.0	0.8	0.7	61.4	
	<b>StDev</b>	0.14	1.6	0.004	1.52	0	0	0.6	0	0.01	0.42	0.5	0.1	0.1	7.3	
	<b>%RSD</b>	18	7	5	12	0	0	9	0	16	9	15	12	14	12	
	<b>% Error</b>		1	-16	-1						-9	33			-17	

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

**Replicate analyses of Certified Reference Materials, ACME Analytical Laboratories, Ltd.**

<b>CRM</b>	<b>Date</b>	<b>Lab ID</b>	Ta ICP-MS (mg/kg) <b>0.05</b>	Te ICP-MS (mg/kg) <b>0.02</b>	Th ICP-MS (mg/kg) <b>0.1</b>	Ti ICP-MS (% dry wt.) <b>0.001</b>	Tl ICP-MS (mg/kg) <b>0.02</b>	U ICP-MS (mg/kg) <b>0.1</b>	V ICP-MS (mg/kg) <b>2</b>	W ICP-MS (mg/kg) <b>0.1</b>	Y ICP-MS (mg/kg) <b>0.01</b>	Zn ICP-MS (mg/kg) <b>0.1</b>	Zr ICP-MS (mg/kg) <b>0.1</b>
<b>STSD-3</b>		<b>Certified Values</b>			<b>0.061</b>				<b>61</b>			<b>192</b>	
STSD-3	Nov-06	20070003	<0.05	0.05	1.2	0.036	0.28	9.0	51	2.1	18.18	180.1	0.7
STSD-3	Jul-07	20070031	<0.05	0.05	1.3	0.040	0.30	9.3	55	1.9	19.57	184.6	0.7
STSD-3	Oct-07	20070284	<0.05	0.05	0.8	0.028	0.25	7.2	41	1.3	16.07	161.2	0.6
STSD-3	Oct-07	20070304	<0.05	0.06	0.8	0.030	0.25	7.4	40	0.7	16.28	161.0	0.5
STSD-3	Jun-08	20080019	<0.05	0.10	1.0	0.032	0.26	8.7	45	1.3	17.82	183.4	1.0
<b>Summary Statistics</b>	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	<0.05	0.05	0.8	0.028	0.25	7.2	40	0.7	16.07	161.0	0.5	
	<b>Max</b>	<0.05	0.10	1.3	0.040	0.30	9.3	55	2.1	19.57	184.6	1.0	
	<b>Mean</b>	<0.05	0.06	1.0	0.033	0.27	8.3	46	1.5	17.58	174.1	0.7	
	<b>Med</b>	<0.05	0.05	1.0	0.032	0.26	8.7	45	1.3	17.82	180.1	0.7	
	<b>StDev</b>	0	0.02	0.2	0.005	0.02	1.0	6	0.6	1.44	11.9	0.2	
	<b>%RSD</b>	0	35	22	15	8	12	14	38	8	7	27	
	<b>% Error</b>				-46			-24			-9		
						<b>0.107</b>			<b>51</b>			<b>82</b>	
<b>STSD-4</b>		<b>Certified Values</b>											
STSD-4	Nov-06	20070004	<0.05	0.05	1.1	0.062	0.12	2.1	47	0.3	10.03	77.0	1.2
STSD-4	Jul-07	20070030	<0.05	0.04	1.5	0.067	0.12	2.1	50	0.4	10.32	78.6	1.3
STSD-4	Oct-07	20070285	<0.05	0.03	0.8	0.043	0.10	1.6	39	0.2	8.57	73.8	0.9
STSD-4	Oct-07	20070305	<0.05	0.03	0.8	0.044	0.10	2.1	38	0.2	8.46	69.6	0.9
STSD-4	Jun-08	20080020	<0.05	<0.02	1.0	0.056	0.11	2.0	46	0.3	9.90	79.5	1.6
<b>Summary Statistics</b>	<b>n</b>	5	5	5	5	5	5	5	5	5	5	5	5
	<b>Min</b>	<0.05	<0.02	0.8	0.043	0.10	1.6	38	0.2	8.46	69.6	0.9	
	<b>Max</b>	<0.05	0.05	1.5	0.067	0.12	2.1	50	0.4	10.32	79.5	1.6	
	<b>Mean</b>	<0.05	0.04	1.0	0.054	0.11	2.0	44	0.3	9.46	75.7	1.2	
	<b>Med</b>	<0.05	0.04	1.0	0.056	0.11	2.1	46	0.3	9.90	77.0	1.2	
	<b>StDev</b>	0	0.01	0.3	0.011	0.01	0.2	5	0.1	0.87	4.0	0.3	
	<b>%RSD</b>	0	26	28	20	9	11	12	30	9	5	25	
	<b>% Error</b>				-49			-14			-8		

<sup>a</sup> Certified values for stream sediment reference materials from Lynch (1990,1999).

## **APPENDIX C**

Water sample site descriptions and field parameters

### Bridge River Mining District: Water sample locations and field parameters

Field ID	Map ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Date	Location	Sample Description
BRA07-W01	W01	524186	5617651	6-Jul-07	Cadwallader Ck, upstream Piebiter Ck	Clear water
BRA07-W02	W02	524113	5618364	6-Jul-07	Piebiter Ck, above Kingdom Lake Rd	Milky with suspended sediments
BRA07-W03	W03	520436	5621053	6-Jul-07	Bridge at Cadwallader Ck	
BRA07-W04	W04	517214	5622386	6-Jul-07	Cadwallader Ck, downstream Pioneer Ext	
BRA07-W05	W05	512966	5626349	6-Jul-07	Outlet of portal at Upper Peter Mine	Clear drainage water; 9.6 L/min flow rate
BRA07-W06	W06	512654	5625181	6-Jul-07	800-level portal	Clear pipe drainage; minor susp. sed.
BRA07-W07	W07	513070	5625505	7-Jul-07	King Shaft; drainage from 400-level adit	From PVC pipe at campsite; 17.4 L/min flow
BRA07-W08	W08	515375	5623190	7-Jul-07	Cadwallader Ck at Pioneer Mine	
BRA07-W09	W09	515303	5623235	7-Jul-07	Small waterfall ~200 m south of Pioneer Mine	No obvious contamination
BRA07-W10	W10	512471	5625305	7-Jul-07	Bralorne waste rock	Seepage from toe of infiltration pond
BRA07-W11	W11	512717	5624902	7-Jul-07	Cadwallader Ck, upstream Bralorne Mine	
BRA07-W12	W12	512398	5625491	7-Jul-07	Cadwallader Ck, downstream Bralorne Mine	
BRA07-W13	W13	511499	5626039	7-Jul-07	Tailings impoundment	East seepage; lots of green algae in water
BRA07-W14	W14	511580	5625846	7-Jul-07	Tailings impoundment	Seepage pond; 5 cm org-rich sed layer
BRA07-W15	W15	511510	5625896	7-Jul-07	Tailings impoundment	Standing water in impoundment
BRA07-W16	W16	511507	5625796	7-Jul-07	800-level pipe	Portal drainage into impoundment; strong flow
BRA07-W17	W17	514945	5638478	8-Jul-07	Congress Mine, Lou Zone decline	Standing water with surface film
BRA07-W18	W18	514291	5637879	8-Jul-07	Congress Mine pipe from collapsed portal	Drainage from steel pipe; 2.35 L/min
BRA07-W19	W19	514290	5637619	8-Jul-07	Congress Mine, Lower Howard Zone	Large water pool, just inside portal
BRA07-W20	W20	512037	5636093	8-Jul-07	Wayside Mine	Small portal drainage; slow flow
BRA07-W21	W21	527049	5638394	8-Jul-07	Tyaughton Ck, upstream hwy 40 bridge	Lots of suspended sediment in Ck
BRA07-W22	W22	517239	5647929	9-Jul-07	Cinnabar Ck, upstream Tyaughton Ck Rd	Very clear water; strong flow
BRA07-W23	W23	515938	5656373	9-Jul-07	Mud Ck at Manitou Mine	
BRA07-W24	W24	515176	5656005	9-Jul-07	Tyaughton Ck, downstream Silverquick Mine	High turbidity
BRA07-W25	W25	517607	5649545	9-Jul-07	Tyaughton Ck at bridge, below mines	
BRA07-W27	W05	512974	5626361	5-Oct-07	Upper Peter portal	Clear drainage; lower flow rate than July
BRA07-W28	W28	512903	5626432	5-Oct-07	Upper Peter wetland outlet	Clear waters entering forest (mixed cover)
BRA07-W29	W29	512906	5626387	5-Oct-07	Upper Peter wetland inlet	Clear, org-rich water on sphagnum moss mat
BRA07-W30	W01	524186	5617651	6-Oct-07	Cadwallader Ck, upstream Piebiter Ck	Clear water
BRA07-W31	W02	524113	5618364	6-Oct-07	Piebiter Ck at Kingdom Lake Rd	Clear water
BRA07-W32	W03	520436	5621053	6-Oct-07	Bridge at Cadwallader Ck	
BRA07-W33	W04	517214	5622386	6-Oct-07	Cadwallader Ck, downstream Pioneer Ext	
BRA07-W34	W08	515375	5623190	6-Oct-07	Cadwallader Ck at Pioneer; side channel	Water lower than July; metal and wood in channel
BRA07-W35	W09	515303	5623235	6-Oct-07	Small waterfall ~200 m south of Pioneer Mine	
BRA07-W36	W36	512200	5627103	6-Oct-07	Stream across rd b/w Bralorne and Gold Bridge	Captures runoff from wetland near Upper Peter
BRA07-W37	W07	513070	5625505	6-Oct-07	King Shaft; drainage from 400-level adit	From PVC pipe at campsite
BRA07-W38	W06	512654	5625181	7-Oct-07	800-level; sampled from Alec's new flume	All water pumped to tailings impoundment
BRA07-W39	W16	511509	5625796	7-Oct-07	800-level pipe	Portal drain into impoundment; strong, clear flow
BRA07-W40	W15	511510	5625896	7-Oct-07	Tailings impoundment	Standing water in impoundment
BRA07-W41	W14	511580	5625846	7-Oct-07	Tailings impoundment	Seepage pond full of green slime; slow flow
BRA07-W42	W13	511499	5626039	7-Oct-07	Tailings impoundment; brook draining dam	North seepage; green slime in drainage
BRA07-W43	W11	512717	5624902	7-Oct-07	Cadwallader Ck, upstream Bralorne Mine	
BRA07-W44	W12	512398	5625491	7-Oct-07	Cadwallader Ck, downstream Bralorne Mine	Water level much lower than July
BRA07-W45	W22	517239	5647929	8-Oct-07	Cinnabar Ck, upstream Tyaughton Ck Rd	Very clear water; very strong flow
BRA07-W46	W25	517607	5649545	8-Oct-07	Tyaughton Ck bridge; upstream Cinnabar Ck	Turbid; lots of suspended sediments
BRA07-W47	W24	515176	5656005	8-Oct-07	Tyaughton Ck, downstream Silverquick Mine	Slightly turbid
BRA07-W48	W23	515938	5656373	8-Oct-07	Mud Ck at Manitou Mine	Clear waters running past toe of waste rock dump

## Bridge River Mining District: Water sample locations and field parameters

Field ID	Map ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Date	Location	Sample Description
BRA07-W49	W49	512655	5654989	8-Oct-07	Ck draining Silverquick Mine	Clear water
BRA07-W50	W17	514945	5638478	9-Oct-07	Congress Mine, Lou Zone decline	Standing water in decline; murky, with insects
BRA07-W51	W18	514291	5637879	9-Oct-07	Congress Mine pipe from collapsed portal	Green slime in drainage; 1.33 L/min
BRA07-W52	W19	514290	5637619	9-Oct-07	Congress Mine, Lower Howard Zone	Clear water draining from boarded portal
BRA07-W53	W20	512037	5636093	9-Oct-07	Wayside Mine	Clear water, flowing inside culvert
BRA07-W54	W54	514234	5624726	9-Oct-07	Blackbird Ck, above Bralorne town site	Clear water, strong flow; drinking supply for town
BRA07-W55	W55	511736	5626312	9-Oct-07	Cadwallader Ck, downslope of tailings dam	Sample from west edge of Ck
PNA07-BRA-W1	W67	512778	5625268	8-Oct-07	800-level portal; near triangle 6 location; GSC1	
PNA07-BRA-W2	W68	512900	5625353	8-Oct-07	800-level; ~300 m from portal; GSC2	
PNA07-BRA-W3	W69	513034	5625443	8-Oct-07	800-level; dwnstrm. confl. of King and Crown-Empire drifts; GSC3	
PNA07-BRA-W4	W70	513056	5625464	8-Oct-07	800-level; King crosscut, upstream of confluence; GSC4	
PNA07-BRA-W5	W71	513064	5625449	8-Oct-07	800-level; Empire Crosscut upstrm. confl.; marker 1360; GSC5	
PNA07-BRA-W6	W72	513182	5625325	8-Oct-07	800-level; ~15 m upstream of Alhambra Vein; GSC6	
PNA07-BRA-W7	W73	513339	5625169	8-Oct-07	800-level; 4-5 m upstream of crosscut; marker 813; GSC7	
PNA07-BRA-W8	W74	513579	5624920	8-Oct-07	800-level; yellow marker 42; GSC8	
PNA07-BRA-W9	W75	513684	5624815	9-Oct-07	800-level; upstream marker 815, near crosscut; GSC9	
PNA07-BRA-W10	W76	513746	5624749	9-Oct-07	800-level; ~15 m upstream of marker 49; GSC10	
PNA07-BRA-W11	W77	513858	5624677	9-Oct-07	800-level; upwelling site; near marker 55 (55 vein); GSC11/12	
PNA07-BRA-W13	W78	513920	5624663	9-Oct-07	800-level; 10-12 m upstrm upwelling site; near marker 61; GSC13	
PSA08-W02	W05	512966	5626349	18-Jun-08	Outlet of portal at Upper Peter Mine	Very clear water
PSA08-W03	W79			18-Jun-08	Pool downstream of flume in Upper Peter	Very clear water
PSA08-W04	W80			18-Jun-08	Pool in flooded decline at Upper Peter	Clear water
PSA08-W05	W28	512888	5626441	18-Jun-08	Outlet of wetland below Upper Peter	Clear water; strong flow
PSA08-W06	W07	512997	5625517	18-Jun-08	Drainage from King Mine portal (400-level)	Moderate flow across waste rock (~30 L/min)
PSA08-W07	W15	511510	5625892	18-Jun-08	Tailings impoundment	Standing, clear water
PSA08-W08	W14	511592	5625845	18-Jun-08	South seepage pond below tailings impoundment	
PSA08-W09	W13	511527	5626060	18-Jun-08	North seepage pond below tailings impoundment	Sample below new flume; clear water; strong flow
PSA08-W10	W06	512654	5625181	19-Jun-08	Flume at mouth of 800-level portal	All water to tailings impoundment; strong flow
PSA08-W11	W69	513034	5625443	19-Jun-08	800-level, just below King crosscut; GSC3	
PSA08-W12	W81	513053	5625469	19-Jun-08	King crosscut, ~10 m upstream jct; MJ2	
PSA08-W13	W82	513087	5625480	19-Jun-08	King bypass, ~25 m upstream jct; MJ3	
PSA08-W14	W71	513064	5625449	19-Jun-08	800-level; Empire crosscut above jct; MJ4	
PSA08-W15	W72	513182	5625325	19-Jun-08	800-level; ~15 m upstream Alhambra vein; GSC6	Turbid water; lots of red susp. sed.; thin biofilm
PSA08-W16	W67	512778	5625268	19-Jun-08	800-level; ~100 m from portal entrance; GSC1	Very clear water; strong flow
PSA08-W17	W68	512900	5625353	19-Jun-08	800-level; ~300 m from portal entrance; GSC2	
PSA08-W18	W73	513339	5625169	19-Jun-08	800-level; ~5 m upstream of 813 crosscut; GSC7	Thin layer of slightly turbid water
PSA08-W19	W74	513579	5624920	19-Jun-08	800-level; near yellow marker 42; GSC8	Moderately turbid water overtop rusty brn, fluffy sed.
PSA08-W20	W75	513684	5624815	19-Jun-08	800-level; at crosscut 815; marker 47; GSC9	Clear water flowing over top of rusty red sed.
PSA08-W21	W76	513746	5624749	19-Jun-08	800-level; near marker 49; GSC10	
PSA08-W22	W77	513858	5624677	19-Jun-08	800-level; 55 vein; GSC11/12	Upwelling point from stope; foam on surface
PSA08-W23	W78	513920	5624663	19-Jun-08	800-level; ~10 m upstream upwelling pt; GSC13	Clear water, not much sediment
PSA08-W24	W20	512037	5636093	20-Jun-08	Wayside Mine portal	Low flow (<1 L/s)
PSA08-W25	W19	514290	5637619	20-Jun-08	Lower Howard portal	
PSA08-W26	W18	514291	5637879	20-Jun-08	Congress Mine pipe	Flow of ~1.5 L/min
PSA08-W27	W17	514945	5638478	20-Jun-08	Congress Mine, Lou Zone decline	Fully flooded, but relatively clear water

## Bridge River Mining District: Water sample locations and field parameters

Field ID	Map ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Date	Location	Sample Description
PSA08-W28	W36	512200	5627103	20-Jun-08	Stream across rd b/w Bralorne and Gold Bridge	Drainage from Upper Peter portal
PSA08-W29	W83	511593	5625949	20-Jun-08	New (middle) seep from tailings impoundment	Flowing at 5-6 L/s b/w N/S seepage ponds
PSA08-W30	W84	514131	5624649	20-Jun-08	Crown shaft; water level 1.40 m below track	Standing water; brown film on surface
PSA08-W31	W85	512865	5654411	22-Jun-08	Collapsed portal at Silverquick Mine	Very clear drainage from portal; ~1-2 L/s flow rate
PSA08-W33	W26	521954	5626182	14-Oct-08	Settling pond below Upper Peter adit	Water level relatively low; ice on surface
PSA08-W34	W05	512966	5626349	14-Oct-08	Outlet of portal at Upper Peter Mine	Clear water; low flow just outside gate
PSA08-W35	W07	513070	5625505	14-Oct-08	King Shaft; drainage from 400-level adit	From PVC pipe at campsite; 1.79 L/min flow rate
PSA08-W36	W79			14-Oct-08	Pool downstream of flume in Upper Peter	Small flow through flume
PSA08-W37	W80			14-Oct-08	Pool in flooded decline at Upper Peter	
PSA08-W38	W13	511527	5626060	14-Oct-08	North seepage pond below tailings impoundment	Strong flow thru. boulders; fine grey seds in seep.
PSA08-W39	W14	511592	5625845	14-Oct-08	South seepage pond below tailings impoundment	Partly covered with green slime
PSA08-W40	W83	511593	5625949	14-Oct-08	New (middle) seep from tailings impoundment	Strong flow; sampled just upstream of pipe
PSA08-W41	W15	511510	5625892	14-Oct-08	Tailings impoundment	Standing water; tails. slightly exposed
PSA08-W42	W06	512654	5625181	15-Oct-08	Flume at mouth of 800-level portal	Very clear water; moderate flow
PSA08-W43	W67	512778	5625268	15-Oct-08	800-level; ~100 m from portal entrance; GSC1	Clear water
PSA08-W44	W68	512900	5625353	15-Oct-08	800-level; ~300 m from portal entrance; GSC2	
PSA08-W45	W69	513034	5625443	15-Oct-08	800-level, just below King crosscut; GSC3	
PSA08-W46	W81	513053	5625469	15-Oct-08	King crosscut, ~10 m upstream jct; MJ2	
PSA08-W47	W82	513087	5625480	15-Oct-08	King bypass, ~25 m upstream jct; MJ3	Algae/FeO <sub>x</sub> in water; hydraulic fluid mixed w/ algae
PSA08-W48	W71	513064	5625449	15-Oct-08	800-level; Empire crosscut above jct; MJ4	Additional drill hole water since June 2007
PSA08-W49	W72	513182	5625325	15-Oct-08	800-level; ~15 m upstream Alhambra vein; GSC6	
PSA08-W50	W73	513339	5625169	15-Oct-08	800-level; ~5 m upstream of 813 crosscut; GSC7	
PSA08-W51	W74	513579	5624920	15-Oct-08	800-level; near yellow marker 42; GSC8	Turbid water with lots of seds
PSA08-W52	W75	513684	5624815	15-Oct-08	800-level; at crosscut 815; marker 47; GSC9	
PSA08-W53	W76	513746	5624749	15-Oct-08	800-level; near marker 49; GSC10	
PSA08-W54	W77	513858	5624677	15-Oct-08	800-level; 55 vein; GSC11/12	Surf. covered w/ rusty brown foam at upwelling pt.
PSA08-W55	W78	513920	5624663	15-Oct-08	800-level; ~10 m upstream upwelling pt; GSC13	Clear water; relatively low flow
PSA08-W56	W84	514131	5624649	16-Oct-08	Crown shaft; water level ~1 m below track	
PSA08-W57	W84	514131	5624649	16-Oct-08	Crown shaft; 50 ft below water level	
PSA08-W58	W84	514131	5624649	16-Oct-08	Crown shaft; 100 ft below water level	
PSA08-W59	W84	514131	5624649	16-Oct-08	Crown shaft; 150 ft below water level	
PSA08-W60	W84	514131	5624649	16-Oct-08	Crown shaft; 200 ft below water level	
PSA08-W61	W36	512200	5627103	16-Oct-08	Stream across rd b/w Bralorne and Gold Bridge	Captures runoff from wetland near Upper Peter
PSA08-W62	W20	512037	5636093	16-Oct-08	Wayside Mine portal	Standing water in culvert; very low flow
PSA08-W63	W18	514291	5637879	16-Oct-08	Congress Mine pipe	Trickle from pipe (0.79 L/min)
PSA08-W64	W17	514945	5638478	16-Oct-08	Congress Mine, Lou Zone decline	Standing water in decline
PSA08-W65	W19	514290	5637619	16-Oct-08	Congress Mine, Lower Howard Zone	Low flow
PSA08-W66	W85	512865	5654411	16-Oct-08	Collapsed portal at Silverquick Mine	Clear drainage from portal; strong flow

### Summary Statistics

Min.  
Max.  
Mean  
Median  
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### Bridge River Mining District: Water sample locations and field parameters

Field ID	Map ID	pH	Specific conductance ( $\mu\text{S}/\text{cm}$ )	Field temperature (°C)	Dissolved oxygen (mg/L)
BRA07-W01	W01	7.6	25.3	5.3	
BRA07-W02	W02	7.1	49.2	6.2	
BRA07-W03	W03	7.0	37.8	7.8	
BRA07-W04	W04	7.2	43.7	7.7	
BRA07-W05	W05	8.2	596	9.6	
BRA07-W06	W06	8.4	1322	13.5	
BRA07-W07	W07	8.3	487	6.2	
BRA07-W08	W08	7.6	40.0	6.2	
BRA07-W09	W09	7.8	98.1	7.1	
BRA07-W10	W10	7.8	788	10.1	
BRA07-W11	W11	7.9	46.3	7.7	
BRA07-W12	W12	7.7	47.7	7.7	
BRA07-W13	W13	7.4	557	12.1	
BRA07-W14	W14	7.9	539	19.1	
BRA07-W15	W15	9.0	486	21.9	
BRA07-W16	W16	8.6	1208	15.4	
BRA07-W17	W17	7.6	743	12.2	
BRA07-W18	W18	8.5	925	11.0	
BRA07-W19	W19	8.2	998	9.1	
BRA07-W20	W20	8.4	498	8.4	
BRA07-W21	W21	8.7	155	9.1	
BRA07-W22	W22	7.8	62.6	5.5	
BRA07-W23	W23	8.4	198	8.6	
BRA07-W24	W24	8.2	147	7.6	
BRA07-W25	W25	8.1	152	8.6	
BRA07-W27	W05	8.7	594	5.5	
BRA07-W28	W28	7.7	408	7.2	
BRA07-W29	W29	7.7	575	7.6	
BRA07-W30	W01	8.1	61.0	2.2	
BRA07-W31	W02	8.0	77.3	2.4	
BRA07-W32	W03	7.8	76.2	2.5	
BRA07-W33	W04	8.0	94.0	2.8	
BRA07-W34	W08	8.0	158	4.3	
BRA07-W35	W09	8.3	174	5.1	
BRA07-W36	W36	7.9	323	5.7	
BRA07-W37	W07	8.6	614	7.0	
BRA07-W38	W06	8.5	1289	11.6	8.4
BRA07-W39	W16	8.5	1297	10.4	
BRA07-W40	W15	8.8	748	7.3	
BRA07-W41	W14	8.3	761	9.2	
BRA07-W42	W13	7.6	593	9.1	5.7
BRA07-W43	W11	8.2	109	5.3	
BRA07-W44	W12	8.1	109	5.2	
BRA07-W45	W22	7.9	138	1.6	
BRA07-W46	W25	8.5	260	2.3	
BRA07-W47	W24	8.6	269	2.1	
BRA07-W48	W23	8.8	255	2.9	

### Bridge River Mining District: Water sample locations and field parameters

Field ID	Map ID	pH	Specific conductance ( $\mu\text{S}/\text{cm}$ )	Field temperature ( $^{\circ}\text{C}$ )	Dissolved oxygen (mg/L)
BRA07-W49	W49	8.6	206	2.7	
BRA07-W50	W17	7.2	833	7.0	
BRA07-W51	W18	8.6	1091	7.8	
BRA07-W52	W19	8.5	1037	7.1	
BRA07-W53	W20	8.3	555	5.7	
BRA07-W54	W54	7.9	157	2.7	
BRA07-W55	W55	8.0	98	4.1	
PNA07-BRA-W1	W67	8.4	1284	9.9	8.62
PNA07-BRA-W2	W68	8.4	1295	10.6	8.29
PNA07-BRA-W3	W69	8.4	1310	11.8	8.06
PNA07-BRA-W4	W70	8.4	552	9.5	8.37
PNA07-BRA-W5	W71	8.4	1590	13.0	7.86
PNA07-BRA-W6	W72	8.3	1596	14.0	7.37
PNA07-BRA-W7	W73	8.1	1620	15.6	6.37
PNA07-BRA-W8	W74	7.9	1631	16.9	6.01
PNA07-BRA-W9	W75	7.7	1635	17.6	4.92
PNA07-BRA-W10	W76	7.7	1633	18.0	4.19
PNA07-BRA-W11	W77	7.4	1769	19.6	0.42
PNA07-BRA-W13	W78	8.6	626	14.4	7.85
PSA08-W02	W05	9.0	522	5.3	9.7
PSA08-W03	W79	8.7	545	5.2	7.0
PSA08-W04	W80	8.5	648	5.0	2.4
PSA08-W05	W28	8.0	223	8.2	8.1
PSA08-W06	W07	8.8	451	5.8	11.0
PSA08-W07	W15	9.0	760	15.8	10.0
PSA08-W08	W14	7.8	826	13.6	16.1
PSA08-W09	W13	8.5	659	12.5	9.7
PSA08-W10	W06	8.4	1180	10.6	8.9
PSA08-W11	W69	8.4	1174	12.0	8.3
PSA08-W12	W81	8.1	597	9.6	7.9
PSA08-W13	W82	8.4	501	9.4	9.5
PSA08-W14	W71	8.3	1584	14.3	8.0
PSA08-W15	W72	8.2	1554	15.5	7.7
PSA08-W16	W67	8.1	1220	12.2	8.6
PSA08-W17	W68	8.2	1228	12.2	8.4
PSA08-W18	W73	8.0	1745	17.1	7.3
PSA08-W19	W74	7.9	1657	17.8	6.8
PSA08-W20	W75	7.6	1669	18.3	5.9
PSA08-W21	W76	7.5	1674	18.5	5.4
PSA08-W22	W77	7.0	1791	20.1	0.5
PSA08-W23	W78	8.3	675	15.0	8.3
PSA08-W24	W20	7.8	529	7.2	7.2
PSA08-W25	W19	7.8	1041	8.9	9.2
PSA08-W26	W18	8.3	1048	13.1	9.8
PSA08-W27	W17	7.5	836	11.8	6.3

### Bridge River Mining District: Water sample locations and field parameters

Field ID	Map ID	pH	Specific conductance ( $\mu\text{S}/\text{cm}$ )	Field temperature (°C)	Dissolved oxygen (mg/L)
PSA08-W28	W36	8.0	398	5.2	11.7
PSA08-W29	W83	7.4	682	9.1	7.9
PSA08-W30	W84	7.5	1793	20.9	0.2
PSA08-W31	W85	8.3	233	4.4	
PSA08-W33	W26	9.0	577	3.7	12.6
PSA08-W34	W05	8.9	531	2.9	11.2
PSA08-W35	W07	9.6	650	4.9	11.5
PSA08-W36	W79	8.6	579	4.2	7.8
PSA08-W37	W80	8.1	742	4.7	1.6
PSA08-W38	W13	8.2	642	9.0	9.7
PSA08-W39	W14	7.7	1053	6.4	13.2
PSA08-W40	W83	7.9	566	8.6	7.2
PSA08-W41	W15	9.5	790	9.1	13.3
PSA08-W42	W06	8.9	1332	10.1	9.6
PSA08-W43	W67	8.9	1419	10.2	9.4
PSA08-W44	W68	8.9	1343	11.2	9.0
PSA08-W45	W69	8.8	1334	11.9	8.9
PSA08-W46	W81	8.9	691	9.4	9.2
PSA08-W47	W82	9.0	532	9.7	9.5
PSA08-W48	W71	8.9	1564	12.7	8.5
PSA08-W49	W72	8.9	1585	13.6	8.5
PSA08-W50	W73	8.7	1604	15.0	8.1
PSA08-W51	W74	8.3	1700	16.3	7.5
PSA08-W52	W75	8.1	1718	17.4	6.3
PSA08-W53	W76	8.1	1740	17.7	6.1
PSA08-W54	W77	7.6	1758	20.3	0.3
PSA08-W55	W78	8.9	668	14.8	8.5
PSA08-W56	W84	7.6	1751	21.1	1.2
PSA08-W57	W84	7.7	1763	21.4	1.0
PSA08-W58	W84	7.5	1837	21.3	1.2
PSA08-W59	W84	7.6	1764	21.5	1.2
PSA08-W60	W84	7.5	1764	21.3	1.1
PSA08-W61	W36	8.2	363	4.7	11.5
PSA08-W62	W20	7.9	541	4.9	7.2
PSA08-W63	W18	8.4	1156	8.1	10.7
PSA08-W64	W17	7.9	808	6.2	2.2
PSA08-W65	W19	8.8	1198	7.1	10.1
PSA08-W66	W85	8.2	239	3.5	

<b>Summary Statistics</b>	Min.	7.0	25	1.6	0.2
	Max.	9.6	1837	21.9	16.1
	Mean	8.2	827	10.1	7.4
	Median	8.2	672	9.1	8.1
	n	130	130	130	76

## **APPENDIX D**

Element concentrations in waters

Analytical Method Development Laboratories, GSC Ottawa

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.005	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005	
Filtered	BRA07-W01	W01	<0.005	38	0.8	2.5	6.0	<0.005	2.79	<0.02	0.02	<0.05	0.1	<0.01	0.2	<0.005
	BRA07-W02	W02	<0.005	24	1.6	2.1	11.0	<0.005	5.80	<0.02	0.02	<0.05	0.1	0.02	0.4	<0.005
	BRA07-W03	W03	<0.005	28	1.3	1.6	7.2	<0.005	4.05	<0.02	0.02	<0.05	0.1	<0.01	0.3	<0.005
	BRA07-W04	W04	<0.005	26	2.1	2.2	6.7	<0.005	4.55	<0.02	0.02	<0.05	0.2	0.01	0.3	<0.005
	BRA07-W05	W05	<0.005	3	1432	1512	16.8	<0.005	36.77	0.04	<0.01	1.93	0.2	1.95	0.8	<0.005
	BRA07-W06	W06	<0.005	2	2260	1345	17.9	<0.005	93.02	<0.02	<0.01	<0.05	0.2	2.25	0.5	<0.005
	BRA07-W07	W07	<0.005	5	386.3	70.1	20.9	<0.005	56.98	0.06	<0.01	0.06	<0.1	3.71	0.8	<0.005
	BRA07-W08	W08	<0.005	26	2.1	3.8	6.6	<0.005	4.84	<0.02	0.02	<0.05	0.3	0.01	0.3	<0.005
	BRA07-W09	W09	<0.005	16	3.0	2.6	18.4	<0.005	11.90	<0.02	0.01	<0.05	0.3	<0.01	0.6	<0.005
	BRA07-W10	W10	<0.005	<2	967.8	672.9	19.0	<0.005	71.28	<0.02	<0.01	<0.05	0.6	22.75	0.9	<0.005
	BRA07-W10D	W10	<0.005	<2	966.1	684.9	23.3	<0.005	70.44	<0.02	<0.01	<0.05	0.7	0.77	0.8	<0.005
	BRA07-W11	W11	<0.005	37	1.7	5.0	7.0	<0.005	5.94	<0.02	0.03	<0.05	0.3	<0.01	0.3	<0.005
	BRA07-W12	W12	<0.005	41	2.5	4.6	7.2	<0.005	6.14	<0.02	0.03	<0.05	0.4	<0.01	0.4	0.005
	BRA07-W13	W13	<0.005	<2	0.6	428.5	34.6	<0.005	62.45	<0.02	<0.01	0.11	0.1	<0.01	0.5	<0.005
	BRA07-W14	W14	<0.005	4	1.5	413.5	36.0	<0.005	53.79	<0.02	0.02	0.12	0.2	<0.01	1.9	0.006
	BRA07-W15	W15	<0.005	5	830.7	444.0	9.2	<0.005	37.80	<0.02	<0.01	<0.05	1.0	0.58	0.5	<0.005
	BRA07-W16	W16	<0.005	2	2316	1334	18.0	<0.005	93.61	<0.02	<0.01	<0.05	<0.1	2.22	0.3	<0.005
	BRA07-W17	W17	<0.005	<2	36.4	1847	35.7	<0.005	70.35	<0.02	<0.01	0.78	0.4	0.22	0.3	<0.005
	BRA07-W18	W18	<0.005	8	197.6	5819	20.3	<0.005	63.17	<0.02	<0.01	<0.05	0.3	0.20	0.2	0.006
	BRA07-W19	W19	<0.005	<2	50.7	6762	31.1	<0.005	90.19	<0.02	<0.01	<0.05	0.1	0.14	0.3	<0.005
	BRA07-W20	W20	<0.005	<2	209.0	6479	3.4	<0.005	44.10	<0.02	<0.01	0.92	<0.1	0.03	0.8	<0.005
	BRA07-W20D	W20	<0.005	<2	208.5	6485	3.5	<0.005	44.38	<0.02	<0.01	0.93	<0.1	0.03	0.8	<0.005
	BRA07-W21	W21	<0.005	14	1.2	60.9	18.1	<0.005	19.09	<0.02	0.02	<0.05	0.4	<0.01	0.3	0.006
	BRA07-W22	W22	<0.005	20	<0.1	24.1	14.1	<0.005	7.34	<0.02	0.03	<0.05	0.2	<0.01	0.3	0.013
	BRA07-W23	W23	<0.005	12	0.2	125.5	26.7	<0.005	24.45	<0.02	0.02	<0.05	0.8	<0.01	0.5	0.012
	BRA07-W24	W24	<0.005	10	2.4	20.2	14.6	<0.005	20.65	<0.02	0.01	<0.05	0.1	<0.01	0.5	0.005
	BRA07-W25	W25	<0.005	12	1.4	31.0	17.0	<0.005	19.26	<0.02	0.02	<0.05	0.3	<0.01	0.3	0.006
Summary Statistics	Min. Max. Mean Median n	<0.005	<2	0.2	1.6	3.4	<0.005	2.79	<0.02	<0.01	<0.05	<0.1	<0.01	0.2	<0.005	
		<0.005	41	2316	6762	36.0	<0.005	93.61	0.06	0.03	1.93	1.0	22.75	1.9	0.013	
		<0.005	17	380.2	1281	16.7	<0.005	37.97	0.05	0.02	0.69	0.3	2.33	0.5	0.008	
		<0.005	13	2.8	125.5	17.0	<0.005	36.77	0.05	0.02	0.78	0.3	0.22	0.4	0.006	
		27	27	27	27	27	27	27	27	27	27	27	27	27	27	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

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Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ )	Eu ICP-MS ( $\mu\text{g/L}$ )	Fe ICP-ES (mg/L)	Ga ICP-MS ( $\mu\text{g/L}$ )	Gd ICP-MS ( $\mu\text{g/L}$ )	Ge ICP-MS ( $\mu\text{g/L}$ )	Hf ICP-MS ( $\mu\text{g/L}$ )	Hg Tekran (ng/L)	Ho ICP-MS ( $\mu\text{g/L}$ )	In ICP-MS ( $\mu\text{g/L}$ )	K ICP-ES (mg/L)	La ICP-MS ( $\mu\text{g/L}$ )	Li ICP-MS ( $\mu\text{g/L}$ )	Lu ICP-MS ( $\mu\text{g/L}$ )	Mg ICP-ES (mg/L)	Mn ICP-MS ( $\mu\text{g/L}$ )	
Filtered	BRA07-W01	W01	<0.005	<0.005	0.013	<0.01	<0.005	<0.02	<0.01	1.0	<0.005	<0.01	0.48	0.02	0.18	<0.005	0.833	0.7
	BRA07-W02	W02	<0.005	<0.005	0.033	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	0.94	0.02	0.33	<0.005	1.119	1.5
	BRA07-W03	W03	<0.005	<0.005	0.024	<0.01	<0.005	<0.02	<0.01	1.0	<0.005	<0.01	0.64	0.01	0.23	<0.005	1.324	1.3
	BRA07-W04	W04	<0.005	<0.005	0.020	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	0.68	0.01	0.32	<0.005	1.575	1.1
	BRA07-W05	W05	<0.005	<0.005	0.009	0.02	<0.005	0.30	<0.01	0.8	<0.005	<0.01	2.18	0.01	28.04	<0.005	19.62	24.1
	BRA07-W06	W06	<0.005	<0.005	0.016	<0.01	<0.005	0.17	<0.01	2.0	<0.005	<0.01	3.85	<0.01	33.98	<0.005	48.05	44.1
	BRA07-W07	W07	<0.005	<0.005	0.007	<0.01	<0.005	<0.02	<0.01	1.4	<0.005	<0.01	1.72	<0.01	14.87	<0.005	31.60	1.0
	BRA07-W08	W08	<0.005	<0.005	0.020	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	0.64	0.01	0.32	<0.005	1.784	0.9
	BRA07-W09	W09	<0.005	<0.005	0.025	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	3.44	<0.01	1.91	<0.005	2.957	0.7
	BRA07-W10	W10	<0.005	<0.005	<0.005	<0.01	<0.005	0.06	<0.01	12.4	<0.005	<0.01	3.32	<0.01	18.90	<0.005	34.27	1.1
	BRA07-W10D	W10	<0.005	<0.005	<0.005	<0.01	<0.005	0.06	<0.01	11.8	<0.005	<0.01	3.26	<0.01	18.89	<0.005	33.99	1.1
	BRA07-W11	W11	<0.005	<0.005	0.040	<0.01	0.006	<0.02	<0.01	1.1	<0.005	<0.01	0.67	0.02	0.36	<0.005	1.764	1.9
	BRA07-W12	W12	<0.005	<0.005	0.041	0.01	0.006	<0.02	<0.01	1.1	<0.005	<0.01	0.71	0.02	0.38	<0.005	1.811	2.0
	BRA07-W13	W13	<0.005	<0.005	0.035	<0.01	<0.005	0.02	<0.01	1.4	<0.005	<0.01	2.36	<0.01	2.24	<0.005	19.38	56.3
	BRA07-W14	W14	0.006	<0.005	0.061	<0.01	0.008	0.03	<0.01	2.7	<0.005	<0.01	2.85	0.02	0.74	<0.005	21.16	98.5
	BRA07-W15	W15	<0.005	<0.005	0.017	<0.01	<0.005	0.03	<0.01	1.6	<0.005	<0.01	1.91	<0.01	12.14	<0.005	23.27	3.8
	BRA07-W16	W16	<0.005	<0.005	0.016	<0.01	<0.005	0.16	<0.01	4.2	<0.005	<0.01	3.89	<0.01	34.19	<0.005	48.15	39.0
	BRA07-W17	W17	<0.005	<0.005	0.015	<0.01	<0.005	0.09	<0.01	4.5	<0.005	<0.01	2.19	<0.01	25.62	<0.005	36.36	52.6
	BRA07-W18	W18	<0.005	<0.005	<0.005	<0.01	<0.005	0.18	<0.01	1.9	<0.005	<0.01	1.98	<0.01	18.05	<0.005	41.42	1.6
	BRA07-W19	W19	<0.005	<0.005	<0.005	<0.01	<0.005	0.04	<0.01	2.1	<0.005	<0.01	1.41	<0.01	10.41	<0.005	39.68	0.8
	BRA07-W20	W20	<0.005	<0.005	<0.005	<0.01	<0.005	0.19	<0.01	1.5	<0.005	<0.01	0.37	<0.01	2.54	<0.005	21.46	0.4
	BRA07-W20D	W20	<0.005	<0.005	<0.01	<0.005	0.19	<0.01	1.6	<0.005	<0.01	0.39	<0.01	2.46	<0.005	21.01	0.5	
	BRA07-W21	W21	<0.005	<0.005	0.019	0.01	0.007	<0.02	<0.01	1.9	<0.005	<0.01	0.36	0.01	1.42	<0.005	6.789	1.6
	BRA07-W22	W22	0.007	<0.005	0.017	<0.01	0.015	<0.02	<0.01	2.8	<0.005	<0.01	0.19	0.03	0.34	<0.005	3.562	0.7
	BRA07-W23	W23	0.006	<0.005	0.013	<0.01	0.014	<0.02	<0.01	4.0	<0.005	<0.01	0.48	0.02	1.06	<0.005	10.81	0.3
	BRA07-W24	W24	<0.005	<0.005	0.011	<0.01	0.006	<0.02	<0.01	1.8	<0.005	<0.01	0.42	0.01	1.95	<0.005	4.770	1.4
	BRA07-W25	W25	<0.005	<0.005	0.013	<0.01	0.006	<0.02	<0.01	1.7	<0.005	<0.01	0.43	0.01	1.49	<0.005	5.970	1.4
Summary Statistics	Min. Max. Mean Median n	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	0.19	<0.01	0.181	<0.005	0.833	0.3	
		0.007	<0.005	0.061	0.02	0.015	0.30	<0.01	12.4	<0.005	<0.01	3.89	0.03	34.19	<0.005	48.15	98.5	
		0.006	<0.005	0.022	0.01	0.009	0.12	<0.01	2.6	<0.005	<0.01	1.55	0.02	8.64	<0.005	17.94	12.6	
		0.006	<0.005	0.017	0.01	0.007	0.09	<0.01	1.6	<0.005	<0.01	0.94	0.01	1.95	<0.005	19.38	1.4	
		27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

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Field ID	Map ID	Mo ICP-MS (µg/L) 0.05	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	
Filtered	BRA07-W01	W01	0.87	0.44	<0.01	0.020	0.9	<0.05	<0.01	<0.005	0.54	<0.005	0.70	0.04	<0.001	<1.0	1.80	<0.005
	BRA07-W02	W02	1.01	0.39	<0.01	0.020	1.1	<0.05	<0.01	<0.005	1.09	<0.005	3.09	0.19	<0.001	<1.0	1.64	<0.005
	BRA07-W03	W03	0.95	0.47	<0.01	0.019	1.2	<0.05	<0.01	<0.005	0.62	<0.005	1.27	0.09	<0.001	<1.0	1.92	<0.005
	BRA07-W04	W04	1.24	0.51	<0.01	0.018	1.0	<0.05	<0.01	<0.005	0.65	<0.005	1.38	0.17	<0.001	<1.0	1.96	<0.005
	BRA07-W05	W05	9.85	50.93	<0.01	<0.005	39.3	<0.05	0.35	<0.005	3.75	0.020	26.62	280.5	<0.001	<1.0	6.66	<0.005
	BRA07-W06	W06	1.92	120.5	<0.01	<0.005	1.3	<0.05	<0.01	<0.005	3.73	<0.005	110.6	2.33	<0.001	<1.0	6.22	<0.005
	BRA07-W07	W07	1.38	5.55	<0.01	<0.005	1.5	<0.05	<0.01	<0.005	2.98	<0.005	11.82	13.48	<0.001	<1.0	4.92	<0.005
	BRA07-W08	W08	1.17	0.53	<0.01	0.017	1.0	<0.05	<0.01	<0.005	0.62	<0.005	1.43	0.16	<0.001	<1.0	2.03	<0.005
	BRA07-W09	W09	1.75	1.86	<0.01	0.012	1.0	<0.05	0.01	<0.005	0.41	0.010	4.53	0.09	<0.001	<1.0	6.84	<0.005
	BRA07-W10	W10	2.13	63.42	<0.01	<0.005	3.8	<0.05	0.10	<0.005	2.13	<0.005	60.65	3.68	<0.001	<1.0	6.09	<0.005
	BRA07-W10D	W10	2.14	62.69	<0.01	<0.005	3.6	<0.05	0.09	<0.005	2.12	<0.005	62.42	3.66	<0.001	<1.0	6.11	<0.005
	BRA07-W11	W11	1.01	0.63	<0.01	0.024	0.9	<0.05	0.01	<0.005	0.54	<0.005	1.73	0.12	<0.001	<1.0	2.20	0.005
	BRA07-W12	W12	1.00	0.70	<0.01	0.023	1.0	<0.05	0.02	0.005	0.56	<0.005	1.82	0.13	<0.001	<1.0	2.20	0.006
	BRA07-W13	W13	1.87	40.69	<0.01	0.010	2.0	<0.05	<0.01	<0.005	0.40	<0.005	42.20	0.10	<0.001	<1.0	6.10	<0.005
	BRA07-W14	W14	2.91	38.06	<0.01	0.022	3.6	<0.05	0.02	<0.005	0.59	0.005	38.71	0.21	<0.001	<1.0	4.95	0.006
	BRA07-W15	W15	1.23	40.34	<0.01	<0.005	1.1	<0.05	<0.01	<0.005	1.45	<0.005	41.71	1.59	<0.001	<1.0	0.78	<0.005
	BRA07-W16	W16	1.87	119.3	<0.01	<0.005	1.2	<0.05	<0.01	<0.005	3.78	<0.005	114.7	2.89	<0.001	<1.0	6.20	<0.005
	BRA07-W17	W17	1.18	58.93	<0.01	<0.005	10.2	<0.05	0.02	<0.005	1.59	<0.005	33.86	45.78	<0.001	<1.0	3.90	<0.005
	BRA07-W18	W18	1.09	96.95	<0.01	0.005	3.7	<0.05	0.01	<0.005	0.81	0.007	86.80	84.74	<0.001	<1.0	6.44	<0.005
	BRA07-W19	W19	1.27	87.41	<0.01	<0.005	1.4	<0.05	0.01	<0.005	0.42	<0.005	83.14	20.86	<0.001	<1.0	5.68	<0.005
	BRA07-W20	W20	1.31	37.14	<0.01	<0.005	7.0	<0.05	0.02	<0.005	0.08	<0.005	29.03	20.38	<0.001	<1.0	8.58	<0.005
	BRA07-W20D	W20	1.34	37.45	<0.01	<0.005	7.1	<0.05	0.02	<0.005	0.08	<0.005	29.42	20.53	<0.001	<1.0	8.40	<0.005
	BRA07-W21	W21	0.33	2.74	<0.01	0.023	1.0	<0.05	<0.01	<0.005	0.18	<0.005	7.01	0.27	<0.001	<1.0	3.16	0.007
	BRA07-W22	W22	0.09	0.99	<0.01	0.048	0.2	<0.05	<0.01	0.009	0.07	<0.005	1.31	0.03	<0.001	<1.0	2.81	0.013
	BRA07-W23	W23	0.26	3.94	<0.01	0.041	1.3	<0.05	<0.01	0.008	0.12	<0.005	2.59	0.15	<0.001	<1.0	4.81	0.012
	BRA07-W24	W24	0.44	2.85	<0.01	0.017	<0.2	<0.05	0.02	<0.005	0.24	<0.005	8.73	0.43	<0.001	<1.0	2.97	0.006
	BRA07-W25	W25	0.35	2.71	<0.01	0.019	0.5	<0.05	<0.01	<0.005	0.19	<0.005	7.68	0.32	<0.001	<1.0	3.01	0.006
Summary Statistics	Min. Max. Mean Median n	0.09	0.39	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	0.07	<0.005	0.70	0.03	<0.001	<1.0	0.78	<0.005	
		9.85	120.5	<0.01	0.048	39.3	<0.05	0.35	0.009	3.78	0.020	114.7	280.5	<0.001	<1.0	8.58	0.013	
		1.55	32.52	<0.01	0.021	3.8	<0.05	0.05	0.007	1.10	0.011	30.18	18.63	<0.001	<1.0	4.38	0.007	
		1.23	5.55	<0.01	0.019	1.2	<0.05	0.02	0.008	0.59	0.009	11.82	0.32	<0.001	<1.0	4.81	0.006	
		27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

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Field ID	Map ID	Sn ICP-MS (µg/L) 0.01	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Ti ICP-MS (µg/L) 0.5	TI ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.1	V ICP-MS (µg/L) 0.2	W ICP-MS (µg/L) 0.01	Y ICP-MS (µg/L) 0.005	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05	
Filtered	BRA07-W01	W01	<0.01	10.7	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.045	0.3	<0.02	0.02	<0.005	<0.5	<0.05
	BRA07-W02	W02	<0.01	16.4	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.056	0.2	0.06	0.03	<0.005	2.1	<0.05
	BRA07-W03	W03	<0.01	12.5	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.046	0.3	<0.02	0.02	<0.005	0.8	<0.05
	BRA07-W04	W04	<0.01	15.3	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.085	0.3	0.02	0.02	<0.005	0.6	<0.05
	BRA07-W05	W05	<0.01	568.2	<0.01	<0.005	<0.02	0.5	0.010	<0.005	0.386	1.0	5.58	0.01	<0.005	20.7	<0.05
	BRA07-W06	W06	<0.01	1594	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.082	0.4	6.94	<0.01	<0.005	<0.5	<0.05
	BRA07-W07	W07	<0.01	553.8	<0.01	<0.005	<0.02	<0.5	0.065	<0.005	0.099	0.2	0.29	0.02	<0.005	12.9	<0.05
	BRA07-W08	W08	<0.01	15.7	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.082	0.3	0.03	0.02	<0.005	<0.5	<0.05
	BRA07-W09	W09	<0.01	57.5	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.016	0.3	<0.02	0.02	<0.005	1.3	<0.05
	BRA07-W10	W10	<0.01	832.6	<0.01	<0.005	0.79	<0.5	<0.005	<0.005	0.399	0.5	3.51	0.01	<0.005	6.3	<0.05
	BRA07-W10D	W10	<0.01	825.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.393	0.5	3.65	0.01	<0.005	5.5	<0.05
	BRA07-W11	W11	<0.01	19.8	<0.01	<0.005	<0.02	1.4	<0.005	<0.005	0.059	0.3	0.02	0.03	<0.005	<0.5	<0.05
	BRA07-W12	W12	<0.01	21.3	<0.01	<0.005	<0.02	1.5	<0.005	<0.005	0.062	0.3	0.02	0.03	<0.005	0.6	<0.05
	BRA07-W13	W13	<0.01	210.6	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.686	0.2	<0.02	0.03	<0.005	<0.5	<0.05
	BRA07-W14	W14	<0.01	193.2	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.377	0.3	<0.02	0.06	<0.005	0.7	<0.05
	BRA07-W15	W15	<0.01	550.9	<0.01	<0.005	<0.02	<0.5	0.005	<0.005	0.085	0.3	3.78	<0.01	<0.005	<0.5	<0.05
	BRA07-W16	W16	<0.01	1626	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.080	0.4	8.51	<0.01	<0.005	0.6	<0.05
	BRA07-W17	W17	<0.01	583.3	<0.01	<0.005	<0.02	<0.5	0.012	<0.005	0.096	0.2	0.36	0.02	<0.005	2.1	<0.05
	BRA07-W18	W18	<0.01	839.5	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.373	1.0	4.26	0.04	<0.005	0.8	<0.05
	BRA07-W19	W19	<0.01	673.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.211	0.4	2.84	0.02	<0.005	1.2	<0.05
	BRA07-W20	W20	<0.01	351.2	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.058	1.6	4.15	<0.01	<0.005	23.9	<0.05
	BRA07-W20D	W20	<0.01	350.9	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.060	1.6	4.19	<0.01	<0.005	26.0	<0.05
	BRA07-W21	W21	<0.01	117.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.058	0.2	<0.02	0.04	<0.005	<0.5	<0.05
	BRA07-W22	W22	<0.01	35.3	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.006	0.1	<0.02	0.07	0.006	<0.5	0.06
	BRA07-W23	W23	<0.01	164.9	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.034	0.3	<0.02	0.07	0.006	<0.5	0.08
	BRA07-W24	W24	<0.01	122.0	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.088	0.2	<0.02	0.03	<0.005	<0.5	<0.05
	BRA07-W25	W25	<0.01	121.3	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.058	0.2	<0.02	0.04	<0.005	<0.5	<0.05
Summary Statistics	Min. Max. Mean Median n	<0.01	10.7	<0.01	<0.005	<0.02	<0.5	0.005	<0.005	0.006	0.1	<0.02	<0.01	<0.005	<0.5	<0.05	
		<0.01	1626	<0.01	<0.005	0.79	1.5	0.065	<0.005	0.686	1.6	8.51	0.07	0.006	26.0	0.08	
		<0.01	388.3	<0.01	<0.005	0.79	0.8	0.018	<0.005	0.151	0.4	2.84	0.03	0.006	6.6	0.07	
		<0.01	193.2	<0.01	<0.005	0.79	0.7	0.010	<0.005	0.082	0.3	3.51	0.02	0.006	1.7	0.07	
		27	27	27	27	27	27	27	27	27	27	27	27	27	27		

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Br Dionex (mg/L) 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	NO3 Dionex (mg/L) 0.02	PO4 Dionex (mg/L) 0.02	SO4 Dionex (mg/L) 0.02	Alkalinity (mg/L as CaCO3) 1	DOC SHIMADZU (mg/L) 1
Filtered	BRA07-W01	W01	<0.02	0.05	0.01	<0.02	<0.02	2.11	8
	BRA07-W02	W02	<0.02	0.05	0.02	<0.02	<0.02	9.21	11
	BRA07-W03	W03	<0.02	0.07	0.02	<0.02	<0.02	3.81	<1.0
	BRA07-W04	W04	<0.02	0.07	0.01	<0.02	<0.02	4.14	12
	BRA07-W05	W05	<0.02	2.07	0.49	12.21	<0.02	79.13	14
	BRA07-W06	W06	0.05	35.26	0.35	0.64	<0.02	335.4	207
	BRA07-W07	W07	<0.02	0.12	0.20	0.16	<0.02	36.76	352
	BRA07-W08	W08	<0.02	0.08	0.02	<0.02	<0.02	4.26	270
	BRA07-W09	W09	<0.02	0.05	0.16	<0.02	<0.02	13.41	17
	BRA07-W10	W10	0.02	19.92	0.25	<0.02	<0.02	188.3	35
	BRA07-W10D	W10	0.03	19.93	0.25	<0.02	<0.02	189.7	265
	BRA07-W11	W11	<0.02	0.08	0.02	<0.02	<0.02	5.22	268
	BRA07-W12	W12	<0.02	0.11	0.02	<0.02	<0.02	5.52	18
	BRA07-W13	W13	<0.02	11.70	0.08	<0.02	<0.02	123.3	<1.0
	BRA07-W14	W14	<0.02	10.08	0.14	<0.02	<0.02	116.7	19
	BRA07-W15	W15	<0.02	11.15	0.17	<0.02	<0.02	121.5	2
	BRA07-W16	W16	0.04	35.30	0.36	0.64	<0.02	334.6	351
	BRA07-W17	W17	<0.02	0.26	0.43	0.07	<0.02	102.7	3
	BRA07-W18	W18	<0.02	0.32	0.37	1.85	<0.02	254.9	394
	BRA07-W19	W19	<0.02	2.94	0.40	0.77	<0.02	243.5	323
	BRA07-W20	W20	<0.02	0.55	0.22	0.22	<0.02	85.93	2
	BRA07-W20D	W20	<0.02	0.54	0.22	0.21	<0.02	86.62	112
	BRA07-W21	W21	<0.02	0.18	0.05	<0.02	<0.02	20.82	<1.0
	BRA07-W22	W22	<0.02	0.03	0.03	<0.02	<0.02	3.79	57
	BRA07-W23	W23	<0.02	0.12	0.06	<0.02	<0.02	7.37	27
	BRA07-W24	W24	<0.02	0.22	0.05	<0.02	<0.02	25.47	3
	BRA07-W25	W25	<0.02	0.19	0.05	0.03	<0.02	22.08	58
Summary Statistics		Min. Max. Mean Median n	<0.02	0.03	0.01	0.03	<0.02	2.11	<1.0
			0.05	35.30	0.49	12.21	<0.02	335.4	4
			0.03	5.61	0.16	1.68	<0.02	89.86	2
			0.03	0.22	0.14	0.43	<0.02	36.76	2
			27	27	27	27	<0.02	27	27

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.005	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005	
Unfiltered	BRA07-W01	W01	<0.005	114	0.8	<0.5	7.0	<0.005	2.79	<0.02	0.05	0.08	0.3	0.02	0.4	0.006
	BRA07-W02	W02	0.005	352	2.7	<0.5	15.8	0.005	6.07	<0.02	0.09	0.44	2.0	0.13	1.4	0.017
	BRA07-W03	W03	<0.005	166	1.7	<0.5	9.0	<0.005	4.14	<0.02	0.06	0.18	0.6	0.04	0.7	0.009
	BRA07-W04	W04	<0.005	146	2.5	0.9	8.4	<0.005	4.63	<0.02	0.06	0.15	0.7	0.05	0.6	0.007
	BRA07-W05	W05	<0.005	3	1416	1492	17.0	<0.005	36.27	0.05	<0.01	1.86	<0.1	1.92	0.3	<0.005
	BRA07-W06	W06	<0.005	22	2476	1305	18.8	<0.005	92.91	<0.02	<0.01	0.11	0.3	2.30	0.4	<0.005
	BRA07-W07	W07	<0.005	7	398.7	73.9	21.1	<0.005	56.60	0.08	<0.01	0.06	0.1	3.74	1.2	<0.005
	BRA07-W08	W08	<0.005	146	2.5	2.8	8.3	<0.005	4.81	<0.02	0.06	0.15	0.7	0.04	0.6	0.008
	BRA07-W09	W09	<0.005	106	3.5	2.0	19.8	<0.005	12.07	<0.02	0.05	0.10	0.7	0.02	1.2	0.010
	BRA07-W10	W10	<0.005	<2	990.3	679.7	23.2	<0.005	71.09	<0.02	<0.01	<0.05	0.7	0.78	1.2	<0.005
	BRA07-W10D	W10	<0.005	<2	989.7	686.6	23.3	<0.005	70.84	<0.02	<0.01	<0.05	0.6	0.79	1.0	<0.005
	BRA07-W11	W11	<0.005	518	2.1	4.8	12.6	0.008	6.18	<0.02	0.23	0.50	2.0	0.07	1.6	0.029
	BRA07-W12	W12	<0.005	445	2.8	4.4	11.9	0.006	6.28	<0.02	0.20	0.44	1.7	0.06	1.4	0.024
	BRA07-W13	W13	<0.005	28	0.7	429.1	35.7	<0.005	62.50	<0.02	0.03	0.16	0.3	0.01	0.6	0.006
	BRA07-W14	W14	<0.005	6	1.5	414.9	35.4	<0.005	53.85	<0.02	0.02	0.12	0.1	<0.01	1.3	0.008
	BRA07-W15	W15	<0.005	9	828.7	448.3	9.7	<0.005	37.96	<0.02	<0.01	<0.05	1.0	0.68	0.6	<0.005
	BRA07-W16	W16	<0.005	12	2490	1301	18.5	<0.005	93.21	<0.02	<0.01	<0.05	0.2	2.25	0.5	<0.005
	BRA07-W17	W17	<0.005	5	58.2	1861	36.6	<0.005	70.55	<0.02	<0.01	1.45	0.2	0.23	0.4	<0.005
	BRA07-W18	W18	<0.005	8	203.8	5956	20.6	<0.005	64.45	<0.02	<0.01	<0.05	0.2	0.21	0.4	0.007
	BRA07-W19	W19	<0.005	<2	53.1	6838	31.4	<0.005	90.02	<0.02	<0.01	<0.05	<0.1	0.14	0.3	<0.005
	BRA07-W20	W20	<0.005	35	221.4	6593	3.7	<0.005	44.84	0.08	0.02	1.35	0.2	0.04	2.2	<0.005
	BRA07-W20D	W20	<0.005	57	224.7	6655	4.0	<0.005	44.72	0.02	0.03	1.47	0.2	0.05	5.3	<0.005
	BRA07-W21	W21	0.006	897	1.4	61.4	27.4	0.025	20.08	0.02	0.74	0.73	2.0	0.04	1.5	0.119
	BRA07-W22	W22	<0.005	184	0.2	24.6	16.3	<0.005	7.51	<0.02	0.21	0.23	0.7	0.01	0.5	0.035
	BRA07-W23	W23	<0.005	26	0.2	126.8	27.3	<0.005	24.43	<0.02	0.03	<0.05	0.4	<0.01	0.5	0.014
	BRA07-W24	W24	<0.005	554	2.5	20.7	21.2	0.016	21.34	0.03	0.56	0.44	0.7	0.07	1.1	0.102
	BRA07-W25	W25	<0.005	844	1.5	35.2	25.5	0.020	20.01	0.02	0.69	0.64	1.6	0.05	1.4	0.114
Summary Statistics		Min.														
		Max.														
		Mean														
		Median														
		n														
Field Blanks	AB1-Cations	na	<0.005	<2	<0.1	47.1	42.3	<0.005	0.08	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	AB2-Cations	na	<0.005	<2	<0.1	48.5	43.4	<0.005	0.08	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	SB1-Cations	na	<0.005	<2	<0.1	49.8	42.7	<0.005	0.07	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	SB2-Cations	na	<0.005	<2	<0.1	51.1	43.9	<0.005	0.08	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	AB1-Hg	na														
	AB2-Hg	na														
	SB1-Hg	na														
	SB2-Hg	na														
Summary Statistics		Min.														
		Max.														
		Mean														
		Median														
		n														

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ )	Eu ICP-MS ( $\mu\text{g/L}$ )	Fe ICP-ES (mg/L)	Ga ICP-MS ( $\mu\text{g/L}$ )	Gd ICP-MS ( $\mu\text{g/L}$ )	Ge ICP-MS ( $\mu\text{g/L}$ )	Hf ICP-MS ( $\mu\text{g/L}$ )	Hg Tekran (ng/L)	Ho ICP-MS ( $\mu\text{g/L}$ )	In ICP-MS ( $\mu\text{g/L}$ )	K ICP-ES (mg/L)	La ICP-MS ( $\mu\text{g/L}$ )	Li ICP-MS ( $\mu\text{g/L}$ )	Lu ICP-MS ( $\mu\text{g/L}$ )	Mg ICP-ES (mg/L)	Mn ICP-MS ( $\mu\text{g/L}$ )				
BRA07-W01	W01	<0.005	<0.005	0.118	0.04	0.008	<0.02	<0.01	1.7	<0.005	<0.01	0.53	0.03	0.30	<0.005	0.896	3.8				
BRA07-W02	W02	0.009	<0.005	0.609	0.15	0.019	<0.02	<0.01	1.8	<0.005	<0.01	1.11	0.05	0.80	<0.005	1.425	11.3				
BRA07-W03	W03	0.006	<0.005	0.234	0.07	0.011	<0.02	<0.01	2.0	<0.005	<0.01	0.66	0.03	0.42	<0.005	1.431	5.4				
BRA07-W04	W04	<0.005	<0.005	0.209	0.06	0.010	<0.02	<0.01	1.9	<0.005	<0.01	0.67	0.03	0.50	<0.005	1.679	5.0				
BRA07-W05	W05	<0.005	<0.005	0.041	0.01	<0.005	0.26	<0.01	0.9	<0.005	<0.01	2.19	0.01	27.77	<0.005	19.35	23.8				
BRA07-W06	W06	<0.005	<0.005	0.352	<0.01	<0.005	0.17	<0.01	4.0	<0.005	<0.01	3.74	<0.01	34.34	<0.005	47.24	60.1				
BRA07-W07	W07	<0.005	<0.005	0.027	<0.01	<0.005	<0.02	<0.01	1.9	<0.005	<0.01	1.77	<0.01	15.10	<0.005	31.03	1.3				
BRA07-W08	W08	<0.005	<0.005	0.201	0.05	0.009	<0.02	<0.01	2.1	<0.005	<0.01	0.69	0.03	0.50	<0.005	1.867	4.6				
BRA07-W09	W09	0.007	<0.005	0.163	0.03	0.012	<0.02	<0.01	2.7	<0.005	<0.01	3.40	0.03	2.09	<0.005	2.983	4.8				
BRA07-W10	W10	<0.005	<0.005	0.005	<0.01	<0.005	0.06	<0.01	15.4	<0.005	<0.01	3.22	<0.01	19.17	<0.005	33.62	1.0				
BRA07-W10D	W10	<0.005	<0.005	0.006	<0.01	<0.005	0.05	<0.01	14.9	<0.005	<0.01	3.22	<0.01	19.22	<0.005	33.71	1.0				
BRA07-W11	W11	0.014	0.009	0.744	0.15	0.035	<0.02	<0.01	3.0	0.006	<0.01	0.80	0.11	0.77	<0.005	2.269	15.9				
BRA07-W12	W12	0.013	0.008	0.598	0.13	0.029	<0.02	<0.01	3.0	<0.005	<0.01	0.80	0.09	0.73	<0.005	2.195	14.1				
BRA07-W13	W13	<0.005	<0.005	0.098	<0.01	0.007	0.02	<0.01	1.8	<0.005	<0.01	2.25	0.02	2.27	<0.005	19.22	61.2				
BRA07-W14	W14	0.006	<0.005	0.085	<0.01	0.009	0.02	<0.01	2.9	<0.005	<0.01	2.75	0.02	0.83	<0.005	21.16	110.3				
BRA07-W15	W15	<0.005	<0.005	0.070	<0.01	<0.005	0.03	<0.01	2.1	<0.005	<0.01	1.88	<0.01	12.39	<0.005	22.86	31.1				
BRA07-W16	W16	<0.005	<0.005	0.302	<0.01	<0.005	0.16	<0.01	3.5	<0.005	<0.01	3.76	<0.01	34.63	<0.005	47.40	44.4				
BRA07-W17	W17	<0.005	<0.005	0.175	<0.01	<0.005	0.09	<0.01	6.9	<0.005	<0.01	2.09	<0.01	25.87	<0.005	36.38	73.8				
BRA07-W18	W18	<0.005	<0.005	0.011	<0.01	0.005	0.17	<0.01	2.2	<0.005	<0.01	1.94	<0.01	17.97	<0.005	41.59	1.9				
BRA07-W19	W19	<0.005	<0.005	0.015	<0.01	<0.005	0.04	<0.01	3.3	<0.005	<0.01	1.35	<0.01	10.75	<0.005	39.61	0.8				
BRA07-W20	W20	<0.005	<0.005	0.134	0.01	<0.005	0.20	<0.01	14.8	<0.005	<0.01	0.38	<0.01	2.57	<0.005	21.23	2.6				
BRA07-W20D	W20	<0.005	<0.005	0.208	0.02	<0.005	0.19	<0.01	15.9	<0.005	<0.01	0.37	0.01	2.66	<0.005	21.54	4.1				
BRA07-W21	W21	0.051	0.038	1.801	0.24	0.150	0.03	<0.01	14.9	0.021	<0.01	0.39	0.32	2.78	0.005	7.572	38.5				
BRA07-W22	W22	0.017	0.011	0.335	0.05	0.043	<0.02	<0.01	6.9	0.006	<0.01	0.18	0.10	0.52	<0.005	3.757	10.0				
BRA07-W23	W23	0.007	<0.005	0.036	<0.01	0.017	<0.02	<0.01	4.5	<0.005	<0.01	0.47	0.03	1.10	<0.005	10.97	0.9				
BRA07-W24	W24	0.043	0.032	1.132	0.15	0.127	<0.02	<0.01	9.5	0.017	<0.01	0.45	0.24	2.77	<0.005	5.159	33.6				
BRA07-W25	W25	0.049	0.037	1.687	0.23	0.141	0.02	<0.01	9.3	0.020	<0.01	0.49	0.29	2.86	<0.005	6.569	36.9				
Unfiltered Field Blanks	AB1-Cations	na				<0.005	<0.005	0.005	<0.01	<0.005	<0.02	<0.01	0.9	<0.005	<0.01	0.18	<0.01	0.30	<0.005	0.896	0.8
	AB2-Cations	na				0.051	0.038	1.801	0.24	0.150	0.26	<0.01	15.9	0.021	<0.01	3.76	0.32	34.63	0.005	47.40	110.3
	SB1-Cations	na				0.020	0.022	0.348	0.09	0.040	0.10	<0.01	5.7	0.014	<0.01	1.54	0.08	8.95	0.005	17.95	22.3
	SB2-Cations	na				0.013	0.022	0.175	0.06	0.014	0.06	<0.01	3.0	0.017	<0.01	1.11	0.03	2.66	0.005	19.22	10.0
	AB1-Hg	na				27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	
Field Blanks Summary Statistics	AB2-Hg	na				<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.3								
	SB1-Hg	na										1.2									
	SB2-Hg	na										1.3									
												1.1									
	Summary Statistics	Min. Max. Mean Median n				<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1
						<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.3	<0.005	<0.01	0.08	<0.01	<0.02	<0.005	<0.005	<0.1
						<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	0.08	<0.01	<0.02	<0.005	<0.005	<0.1
						<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	0.08	<0.01	<0.02	<0.005	<0.005	<0.1
						4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Mo ICP-MS (µg/L) 0.05	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	
Unfiltered	BRA07-W01	W01	0.85	0.46	<0.01	0.034	1.1	<0.05	0.03	0.008	0.64	<0.005	0.72	0.04	<0.001	<1.0	1.93	0.008
	BRA07-W02	W02	0.86	0.43	0.03	0.060	3.8	<0.05	0.09	0.014	1.65	<0.005	3.17	0.18	<0.001	<1.0	2.25	0.016
	BRA07-W03	W03	0.90	0.50	0.01	0.041	2.2	<0.05	0.04	0.010	0.81	<0.005	1.30	0.09	<0.001	<1.0	2.14	0.011
	BRA07-W04	W04	1.18	0.54	<0.01	0.038	1.8	<0.05	0.04	0.009	0.84	<0.005	1.43	0.16	<0.001	<1.0	2.16	0.009
	BRA07-W05	W05	9.66	51.04	<0.01	<0.005	36.3	<0.05	0.74	<0.005	3.72	0.021	26.98	274.9	<0.001	<1.0	6.54	<0.005
	BRA07-W06	W06	1.91	121.8	<0.01	<0.005	1.5	<0.05	0.10	<0.005	3.79	<0.005	110.0	3.09	<0.001	<1.0	6.24	<0.005
	BRA07-W07	W07	1.36	5.62	<0.01	<0.005	2.0	<0.05	0.02	<0.005	3.02	<0.005	12.34	13.46	<0.001	<1.0	4.88	<0.005
	BRA07-W08	W08	1.12	0.53	<0.01	0.040	1.9	<0.05	0.05	0.009	0.80	<0.005	1.48	0.15	<0.001	<1.0	2.21	0.010
	BRA07-W09	W09	1.63	1.89	<0.01	0.042	1.7	<0.05	0.12	0.009	0.54	0.010	4.57	0.08	<0.001	<1.0	6.94	0.010
	BRA07-W10	W10	2.17	63.43	<0.01	<0.005	3.0	<0.05	0.13	<0.005	2.15	<0.005	63.51	3.65	<0.001	<1.0	6.11	<0.005
	BRA07-W10D	W10	2.08	63.26	<0.01	<0.005	2.8	<0.05	0.13	<0.005	2.17	<0.005	62.46	3.69	<0.001	<1.0	6.08	<0.005
	BRA07-W11	W11	0.84	0.69	<0.01	0.144	3.8	<0.05	0.13	0.032	1.05	<0.005	1.84	0.12	<0.001	<1.0	3.12	0.031
	BRA07-W12	W12	0.90	0.72	<0.01	0.126	3.3	<0.05	0.12	0.028	1.00	<0.005	1.89	0.13	<0.001	<1.0	2.89	0.027
	BRA07-W13	W13	1.91	40.78	<0.01	0.024	1.8	<0.05	0.02	<0.005	0.52	0.006	42.16	0.10	<0.001	<1.0	6.15	0.005
	BRA07-W14	W14	2.91	38.12	<0.01	0.029	3.6	<0.05	0.02	0.005	0.62	<0.005	39.59	0.20	<0.001	<1.0	4.94	0.006
	BRA07-W15	W15	1.28	39.57	<0.01	<0.005	1.3	<0.05	0.04	<0.005	1.48	<0.005	41.24	1.62	<0.001	<1.0	0.78	<0.005
	BRA07-W16	W16	1.88	122.9	<0.01	<0.005	1.3	<0.05	0.07	<0.005	3.82	0.005	111.2	3.09	<0.001	<1.0	6.24	<0.005
	BRA07-W17	W17	1.19	58.87	<0.01	0.008	10.9	<0.05	0.04	<0.005	1.64	<0.005	34.89	47.01	<0.001	<1.0	3.93	<0.005
	BRA07-W18	W18	1.12	98.75	<0.01	0.009	2.7	<0.05	0.02	<0.005	0.82	0.008	86.20	85.87	<0.001	<1.0	6.48	<0.005
	BRA07-W19	W19	1.32	88.55	<0.01	<0.005	1.3	<0.05	<0.01	<0.005	0.42	<0.005	81.55	21.23	<0.001	<1.0	5.68	<0.005
	BRA07-W20	W20	1.29	37.58	<0.01	0.010	7.7	<0.05	0.23	<0.005	0.11	<0.005	29.17	20.53	<0.001	<1.0	8.48	<0.005
	BRA07-W20D	W20	1.29	37.47	<0.01	0.017	8.2	<0.05	0.42	<0.005	0.12	<0.005	29.31	20.76	<0.001	<1.0	8.55	<0.005
	BRA07-W21	W21	0.16	2.85	<0.01	0.542	3.9	<0.05	0.38	0.113	0.38	<0.005	7.20	0.29	<0.001	<1.0	4.64	0.140
	BRA07-W22	W22	0.06	0.99	<0.01	0.157	1.0	<0.05	0.06	0.033	0.15	<0.005	1.34	0.03	<0.001	<1.0	3.06	0.041
	BRA07-W23	W23	0.25	3.91	<0.01	0.052	0.4	<0.05	<0.01	0.010	0.13	<0.005	2.62	0.15	<0.001	<1.0	4.76	0.014
	BRA07-W24	W24	0.21	2.90	<0.01	0.418	0.9	<0.05	0.28	0.086	0.42	<0.005	8.78	0.40	<0.001	<1.0	3.76	0.114
	BRA07-W25	W25	0.16	2.78	<0.01	0.500	2.8	0.05	0.34	0.105	0.38	<0.005	7.63	0.29	<0.001	<1.0	4.31	0.138
Field Blanks	Summary Statistics	Min.	0.06	0.43	<0.01	<0.005	0.4	<0.05	<0.01	<0.005	0.11	<0.005	0.72	0.03	<0.001	<1.0	0.78	<0.005
		Max.	9.66	122.9	0.03	0.542	36.3	0.05	0.74	0.113	3.82	0.021	111.2	274.9	<0.001	<1.0	8.55	0.140
		Mean	1.50	32.85	0.02	0.121	4.2	0.05	0.15	0.034	1.23	0.010	30.17	18.57	<0.001	<1.0	4.64	0.039
		Median	1.19	5.62	0.02	0.041	2.2	0.05	0.09	0.012	0.81	0.008	12.34	0.29	<0.001	<1.0	4.76	0.014
		n	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	
Field Blanks	AB1-Cations	na	<0.05	0.10	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005
	AB2-Cations	na	<0.05	0.10	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005
	SB1-Cations	na	<0.05	0.09	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005
	SB2-Cations	na	<0.05	0.10	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005
	AB1-Hg	na																
	AB2-Hg	na																
	SB1-Hg	na																
	SB2-Hg	na																
Summary Statistics	Min.	<0.05	0.09	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005	
	Max.	<0.05	0.10	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005	
	Mean	<0.05	0.10	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005	
	Median	<0.05	0.10	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.06	<0.005	<0.05	<0.01	<0.001	<1.0	0.09	<0.005	
	n	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

Notes: D = field duplicate; na = not applicable; DL = detection limit

		Bridge River Mining District, July 2007: Filtered and unfiltered water chemistry																
		Field ID	Map ID	Sn ICP-MS ( $\mu\text{g/L}$ ) 0.01	Sr ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ta ICP-MS ( $\mu\text{g/L}$ ) 0.01	Tb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Te ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ti ICP-MS ( $\mu\text{g/L}$ ) 0.5	Tl ICP-MS ( $\mu\text{g/L}$ ) 0.005	Tm ICP-MS ( $\mu\text{g/L}$ ) 0.005	U ICP-MS ( $\mu\text{g/L}$ ) 0.005	V ICP-MS ( $\mu\text{g/L}$ ) 0.1	W ICP-MS ( $\mu\text{g/L}$ ) 0.02	Y ICP-MS ( $\mu\text{g/L}$ ) 0.01	Yb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Zn ICP-MS ( $\mu\text{g/L}$ ) 0.5	Zr ICP-MS ( $\mu\text{g/L}$ ) 0.05
Unfiltered	BRA07-W01		W01	0.05	10.2	<0.01	<0.005	<0.02	7.6	<0.005	<0.005	0.062	0.5	<0.02	0.03	<0.005	<0.5	<0.05
	BRA07-W02		W02	0.02	16.1	<0.01	<0.005	<0.02	28.7	0.009	<0.005	0.073	1.4	0.11	0.09	0.009	1.4	<0.05
	BRA07-W03		W03	0.01	12.4	<0.01	<0.005	<0.02	11.6	<0.005	<0.005	0.063	0.8	0.04	0.05	0.005	0.9	<0.05
	BRA07-W04		W04	<0.01	15.1	<0.01	<0.005	<0.02	11.4	<0.005	<0.005	0.104	0.7	0.04	0.04	<0.005	0.6	<0.05
	BRA07-W05		W05	<0.01	545.0	<0.01	<0.005	<0.02	<0.5	0.010	<0.005	0.385	0.9	6.87	0.02	<0.005	22.9	<0.05
	BRA07-W06		W06	<0.01	1641	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.082	0.4	7.68	0.01	<0.005	<0.5	<0.05
	BRA07-W07		W07	<0.01	561.9	<0.01	<0.005	<0.02	<0.5	0.074	<0.005	0.099	0.3	0.45	0.02	<0.005	13.8	<0.05
	BRA07-W08		W08	<0.01	15.6	<0.01	<0.005	<0.02	11.2	<0.005	<0.005	0.101	0.7	0.03	0.04	<0.005	0.7	<0.05
	BRA07-W09		W09	<0.01	59.2	<0.01	<0.005	<0.02	5.7	<0.005	<0.005	0.023	0.5	<0.02	0.06	0.005	1.5	<0.05
	BRA07-W10		W10	<0.01	839.3	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.393	0.6	3.71	0.01	<0.005	5.5	<0.05
	BRA07-W10D		W10	<0.01	840.3	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.395	0.5	3.47	0.01	<0.005	5.5	<0.05
	BRA07-W11		W11	<0.01	21.2	<0.01	<0.005	<0.02	30.6	0.006	<0.005	0.075	1.6	0.02	0.14	0.013	2.1	<0.05
	BRA07-W12		W12	<0.01	22.9	<0.01	<0.005	<0.02	26.2	0.006	<0.005	0.076	1.5	<0.02	0.12	0.012	1.9	<0.05
	BRA07-W13		W13	<0.01	218.6	<0.01	<0.005	<0.02	1.6	<0.005	<0.005	0.659	0.3	0.04	0.04	<0.005	<0.5	<0.05
	BRA07-W14		W14	<0.01	195.8	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.377	0.3	<0.02	0.07	<0.005	<0.5	<0.05
	BRA07-W15		W15	<0.01	541.6	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.080	0.3	2.90	0.01	<0.005	<0.5	<0.05
	BRA07-W16		W16	<0.01	1613	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.080	0.4	6.30	0.01	<0.005	<0.5	<0.05
	BRA07-W17		W17	<0.01	586.9	<0.01	<0.005	<0.02	<0.5	0.013	<0.005	0.093	0.1	0.36	0.03	<0.005	2.4	<0.05
	BRA07-W18		W18	<0.01	840.3	<0.01	<0.005	<0.02	<0.5	0.011	<0.005	0.365	0.9	3.04	0.05	<0.005	0.7	<0.05
	BRA07-W19		W19	<0.01	680.2	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.217	0.4	1.98	0.02	<0.005	0.6	<0.05
	BRA07-W20		W20	<0.01	356.3	<0.01	<0.005	<0.02	2.0	<0.005	<0.005	0.064	1.9	2.68	0.02	<0.005	27.0	<0.05
	BRA07-W20D		W20	<0.01	354.7	<0.01	<0.005	<0.02	2.9	<0.005	<0.005	0.065	1.9	2.68	0.02	<0.005	30.7	<0.05
	BRA07-W21		W21	<0.01	120.7	<0.01	0.022	<0.02	11.3	0.008	0.007	0.069	2.6	<0.02	0.53	0.037	3.9	0.06
	BRA07-W22		W22	<0.01	36.2	<0.01	0.006	<0.02	2.7	<0.005	<0.005	0.008	0.6	0.11	0.17	0.013	0.8	0.05
	BRA07-W23		W23	<0.01	167.8	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.033	0.3	<0.02	0.08	0.006	<0.5	0.06
	BRA07-W24		W24	<0.01	126.7	<0.01	0.018	<0.02	3.5	0.010	0.005	0.104	1.7	<0.02	0.44	0.030	3.2	<0.05
	BRA07-W25		W25	<0.01	124.0	<0.01	0.021	<0.02	8.8	0.008	0.006	0.071	2.4	<0.02	0.50	0.035	3.9	<0.05
Field Blanks	AB1-Cations		na	<0.01	10.2	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.008	0.1	0.02	<0.02	<0.005	<0.5	<0.05
	AB2-Cations		na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	34.7	<0.05
Field Blanks	SB1-Cations		na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	35.4	<0.05
	SB2-Cations		na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	36.4	<0.05
	AB1-Hg		na															
	AB2-Hg		na															
	SB1-Hg		na															
	SB2-Hg		na															
	Summary Statistics			<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	34.2	<0.05
	Summary Statistics			<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	36.4	<0.05

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, July 2007: Quality control for filtered and unfiltered waters**

Field ID		Ag ICP-MS ( $\mu\text{g/L}$ ) <b>DL = 0.005</b>	Al ICP-MS ( $\mu\text{g/L}$ ) <b>2</b>	As ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	B ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>	Ba ICP-MS ( $\mu\text{g/L}$ ) <b>0.2</b>	Be ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Cd ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Ce ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Co ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Cr ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	Cs ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Cu ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	Dy ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>
<b>Lab replicates</b>		<0.005	<2	<0.1	49.8	42.7	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
SB1-Cations		<0.005	<2	<0.1	51.1	42.8	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
SB1-Cations REP														
BRA07-W3 FA C		<0.005	28	1.3	1.6	7.2	<0.005	<0.02	0.02	<0.05	0.1	<0.01	0.3	<0.005
BRA07-W3 FA C REP		<0.005	27	1.3	1.0	6.9	<0.005	<0.02	0.02	<0.05	0.1	<0.01	0.3	<0.005
BRA07-W13 FA C		<0.005	<2	0.6	428.5	34.6	<0.005	<0.02	<0.01	0.11	0.1	<0.01	0.5	<0.005
BRA07-W13 FA C REP		<0.005	<2	0.7	417.5	34.2	<0.005	<0.02	<0.01	0.13	0.2	<0.01	0.5	<0.005
BRA07-W24 FA C		<0.005	10	2.4	20.2	14.6	<0.005	<0.02	0.01	<0.05	0.1	<0.01	0.5	0.005
BRA07-W24 FA C REP		<0.005	10	2.4	14.8	14.4	<0.005	<0.02	0.01	<0.05	0.1	<0.01	0.3	0.006
BRA07-W8 UA C		<0.005	146	2.5	2.8	8.3	<0.005	<0.02	0.06	0.15	0.7	0.04	0.6	0.008
BRA07-W8 UA C REP		<0.005	150	2.5	1.3	8.5	<0.005	<0.02	0.06	0.16	0.8	0.04	0.6	0.007
BRA07-W9 UA C		<0.005	106	3.5	2.0	19.8	<0.005	<0.02	0.05	0.10	0.7	0.02	1.2	0.010
BRA07-W9 UA C REP		<0.005	110	3.6	<0.5	20.4	<0.005	<0.02	0.05	0.11	0.7	0.02	1.2	0.011
BRA07-W19 UA C		<0.005	<2	53.1	6838	31.4	<0.005	<0.02	<0.01	<0.05	<0.1	0.14	0.3	<0.005
BRA07-W19 UA C REP		<0.005	2	54.8	6596	33.0	<0.005	<0.02	<0.01	<0.05	<0.1	0.15	0.5	<0.005
<b>Controls</b>		<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
BLANK		<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
BLANK		<0.005	<2	<0.1	9.2	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
BLANK														
SLRS-4		<0.005	53	0.8	4.9	12.3	0.007	<0.02	0.36	<0.05	0.3	<0.01	1.7	0.025
SLRS-4		<0.005	53	0.7	6.2	12.8	0.007	<0.02	0.37	<0.05	0.3	<0.01	1.8	0.024
<b>CERTIFIED</b>		<b>54 ± 4</b>	<b>0.68 ± 0.06</b>			<b>12.2 ± 0.6</b>	<b>0.007 ± 0.002</b>	<b>0.012 ± 0.002</b>		<b>0.033 ± 0.006</b>	<b>0.33 ± 0.02</b>			<b>1.81 ± 0.08</b>
TM 25.2		3.797	50	6.6	17.9	5.7	2.725	8.75	<0.01	13.05	7.1	0.03	11.5	<0.005
<b>CERTIFIED</b>										<b>13.2 ± 1.80</b>				<b>12.0 ± 2.24</b>
<b>INFORMATION</b>		<b>4.0</b>									<b>7.0</b>			

**Bridge River Mining District, July 2007: Quality control for filtered and unfiltered waters**

Field ID		Er ICP-MS ( $\mu\text{g/L}$ ) 0.005	Eu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ga ICP-MS ( $\mu\text{g/L}$ ) 0.01	Gd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ge ICP-MS ( $\mu\text{g/L}$ ) 0.02	Hf ICP-MS ( $\mu\text{g/L}$ ) 0.01	Ho ICP-MS ( $\mu\text{g/L}$ ) 0.005	In ICP-MS ( $\mu\text{g/L}$ ) 0.01	La ICP-MS ( $\mu\text{g/L}$ ) 0.01	Li ICP-MS ( $\mu\text{g/L}$ ) 0.02	Lu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mn ICP-MS ( $\mu\text{g/L}$ ) 0.1	Mo ICP-MS ( $\mu\text{g/L}$ ) 0.05	Nb ICP-MS ( $\mu\text{g/L}$ ) 0.01
<b>Lab replicates</b>		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
SB1-Cations		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
SB1-Cations REP		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BRA07-W3 FA C		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	0.01	0.23	<0.005	1.3	0.95	<0.01
BRA07-W3 FA C REP		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	0.01	0.23	<0.005	1.3	0.93	<0.01
BRA07-W13 FA C		<0.005	<0.005	<0.01	<0.005	0.02	<0.01	<0.005	<0.01	<0.01	2.24	<0.005	56.3	1.87	<0.01
BRA07-W13 FA C REP		<0.005	<0.005	<0.01	<0.005	0.02	<0.01	<0.005	<0.01	<0.01	2.19	<0.005	57.5	1.94	<0.01
BRA07-W24 FA C		<0.005	<0.005	<0.01	0.006	<0.02	<0.01	<0.005	<0.01	0.01	1.95	<0.005	1.4	0.44	<0.01
BRA07-W24 FA C REP		<0.005	<0.005	<0.01	0.007	<0.02	<0.01	<0.005	<0.01	0.01	1.98	<0.005	1.4	0.44	<0.01
BRA07-W8 UA C		<0.005	<0.005	0.05	0.009	<0.02	<0.01	<0.005	<0.01	0.03	0.50	<0.005	4.6	1.12	<0.01
BRA07-W8 UA C REP		<0.005	<0.005	0.05	0.010	<0.02	<0.01	<0.005	<0.01	0.03	0.51	<0.005	4.7	1.17	<0.01
BRA07-W9 UA C		0.007	<0.005	0.03	0.012	<0.02	<0.01	<0.005	<0.01	0.03	2.09	<0.005	4.8	1.63	<0.01
BRA07-W9 UA C REP		0.005	<0.005	0.03	0.011	<0.02	<0.01	<0.005	<0.01	0.03	2.17	<0.005	5.0	1.70	<0.01
BRA07-W19 UA C		<0.005	<0.005	<0.01	<0.005	0.04	<0.01	<0.005	<0.01	<0.01	10.75	<0.005	0.8	1.32	<0.01
BRA07-W19 UA C REP		<0.005	<0.005	<0.01	<0.005	0.04	<0.01	<0.005	<0.01	<0.01	11.52	<0.005	0.9	1.43	<0.01
<b>Controls</b>		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
SLRS-4		0.013	0.008	<0.01	0.034	<0.02	<0.01	<0.005	<0.01	0.28	0.49	<0.005	3.2	0.19	<0.01
SLRS-4		0.014	0.008	0.01	0.036	<0.02	<0.01	<0.005	<0.01	0.29	0.52	<0.005	3.3	0.20	<0.01
<b>CERTIFIED</b>													<b>3.37 ± 0.18</b>	<b>0.21 ± 0.02</b>	
TM 25.2		<0.005	<0.005	0.06	<0.005	<0.02	<0.01	<0.005	<0.01	3.88	<0.005	13.8	7.38	<0.01	
<b>CERTIFIED</b>													<b>3.9 ± 0.95</b>	<b>14.7 ± 1.83</b>	<b>7.3 ± 1.0</b>
<b>INFORMATION</b>															

**Bridge River Mining District, July 2007: Quality control for filtered and unfiltered waters**

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Field ID		Nd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ni ICP-MS ( $\mu\text{g/L}$ ) 0.2	Pb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Pr ICP-MS ( $\mu\text{g/L}$ ) 0.005	Rb ICP-MS ( $\mu\text{g/L}$ ) 0.05	Re ICP-MS ( $\mu\text{g/L}$ ) 0.005	Sb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Se ICP-MS ( $\mu\text{g/L}$ ) 1	Sm ICP-MS ( $\mu\text{g/L}$ ) 0.005	Sn ICP-MS ( $\mu\text{g/L}$ ) 0.01	Sr ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ta ICP-MS ( $\mu\text{g/L}$ ) 0.01	Tb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Te ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ti ICP-MS ( $\mu\text{g/L}$ ) 0.5
Lab replicates	SB1-Cations	<0.005	<0.2	0.01	<0.005	0.06	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	SB1-Cations REP	<0.005	<0.2	0.01	<0.005	0.06	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BRA07-W3 FA C	0.019	1.2	<0.01	<0.005	0.62	<0.005	0.09	<1.0	<0.005	<0.01	12.5	<0.01	<0.005	<0.02	0.6
	BRA07-W3 FA C REP	0.017	1.1	<0.01	<0.005	0.62	<0.005	0.09	<1.0	<0.005	<0.01	12.1	<0.01	<0.005	<0.02	0.6
	BRA07-W13 FA C	0.010	2.0	<0.01	<0.005	0.40	<0.005	0.10	<1.0	<0.005	<0.01	210.6	<0.01	<0.005	<0.02	<0.5
	BRA07-W13 FA C REP	0.012	2.0	0.02	<0.005	0.45	0.005	0.11	<1.0	<0.005	<0.01	212.7	<0.01	<0.005	<0.02	<0.5
	BRA07-W24 FA C	0.017	<0.2	0.02	<0.005	0.24	<0.005	0.43	<1.0	0.006	<0.01	122.0	<0.01	<0.005	<0.02	<0.5
	BRA07-W24 FA C REP	0.019	<0.2	<0.01	<0.005	0.24	<0.005	0.42	<1.0	<0.005	<0.01	121.0	<0.01	<0.005	<0.02	<0.5
	BRA07-W8 UA C	0.040	1.9	0.05	0.009	0.80	<0.005	0.15	<1.0	0.010	<0.01	15.6	<0.01	<0.005	<0.02	11.2
	BRA07-W8 UA C REP	0.042	2.0	0.05	0.009	0.85	<0.005	0.17	<1.0	0.008	<0.01	16.1	<0.01	<0.005	<0.02	11.2
	BRA07-W9 UA C	0.042	1.7	0.12	0.009	0.54	0.010	0.08	<1.0	0.010	<0.01	59.2	<0.01	<0.005	<0.02	5.7
	BRA07-W9 UA C REP	0.040	1.8	0.12	0.009	0.56	0.010	0.09	<1.0	0.010	<0.01	59.5	<0.01	<0.005	<0.02	5.7
	BRA07-W19 UA C	<0.005	1.3	<0.01	<0.005	0.42	<0.005	21.23	<1.0	<0.005	<0.01	680.2	<0.01	<0.005	<0.02	<0.5
	BRA07-W19 UA C REP	<0.005	1.4	0.02	<0.005	0.45	<0.005	22.16	<1.0	<0.005	<0.01	691.4	<0.01	<0.005	<0.02	<0.5
Controls	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	SLRS-4	0.272	0.6	0.08	0.069	1.45	0.007	0.24	<1.0	0.061	0.02	26.7	<0.01	<0.005	<0.02	1.2
	SLRS-4	0.276	0.7	0.08	0.070	1.49	0.007	0.25	<1.0	0.057	0.03	28.7	<0.01	<0.005	<0.02	1.3
	CERTIFIED					0.67±0.08	0.086±0.007									26.3±3.2
	TM 25.2	<0.005	9.2	15.77	<0.005	0.16	<0.005	1.85	4	<0.005	10.00	137.1	<0.01	<0.005	<0.02	4.8
	CERTIFIED					10.±1.7	15.4±2.49									141.±12.7
INFORMATION																

**Bridge River Mining District, July 2007: Quality control for filtered and unfiltered waters**

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Field ID		TI ICP-MS ( $\mu\text{g/L}$ ) 0.005	Tm ICP-MS ( $\mu\text{g/L}$ ) 0.005	U ICP-MS ( $\mu\text{g/L}$ ) 0.005	V ICP-MS ( $\mu\text{g/L}$ ) 0.1	W ICP-MS ( $\mu\text{g/L}$ ) 0.02	Y ICP-MS ( $\mu\text{g/L}$ ) 0.01	Yb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Zn ICP-MS ( $\mu\text{g/L}$ ) 0.5	Zr ICP-MS ( $\mu\text{g/L}$ ) 0.05	Field ID		Hg Tekran ( $\text{ng/L}$ ) DL = 0.5
<b>Lab replicates</b>	SB1-Cations	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	35.4	<0.05		AB2-Hg	1.2
	SB1-Cations REP	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	35.6	<0.05		AB2-Hg REP	1.3
	BRA07-W3 FA C	<0.005	<0.005	0.046	0.3	<0.02	0.02	<0.005	0.8	<0.05		BRA07-W6 FA Hg	2.0
	BRA07-W3 FA C REP	<0.005	<0.005	0.045	0.2	0.03	0.02	<0.005	0.7	<0.05		BRA07-W6 FA Hg REP	2.2
	BRA07-W13 FA C	<0.005	<0.005	0.686	0.2	<0.02	0.03	<0.005	<0.5	<0.05		BRA07-W12 FA Hg	1.1
	BRA07-W13 FA C REP	0.008	<0.005	0.674	0.2	0.03	0.03	<0.005	<0.5	<0.05		BRA07-W12 FA Hg REP	1.3
	BRA07-W24 FA C	<0.005	<0.005	0.088	0.2	<0.02	0.03	<0.005	<0.5	<0.05		BRA07-W23 FA Hg	4.0
	BRA07-W24 FA C REP	<0.005	<0.005	0.088	0.2	<0.02	0.03	<0.005	<0.5	<0.05		BRA07-W23 FA Hg REP	4.0
	BRA07-W8 UA C	<0.005	<0.005	0.101	0.7	0.03	0.04	<0.005	0.7	<0.05		BRA07-W6 UA Hg	4.0
	BRA07-W8 UA C REP	<0.005	<0.005	0.103	0.7	0.03	0.04	<0.005	0.7	<0.05		BRA07-W6 UA Hg REP	3.7
	BRA07-W9 UA C	<0.005	<0.005	0.023	0.5	<0.02	0.06	0.005	1.5	<0.05		BRA07-W12 UA Hg	3.0
	BRA07-W9 UA C REP	<0.005	<0.005	0.025	0.5	<0.02	0.06	0.005	1.6	<0.05		BRA07-W12 UA Hg REP	2.8
<b>Controls</b>	BRA07-W19 UA C	<0.005	<0.005	0.217	0.4	1.98	0.02	<0.005	0.6	<0.05		BRA07-W23 UA Hg	4.5
	BRA07-W19 UA C REP	<0.005	<0.005	0.223	0.4	2.29	0.02	<0.005	<0.5	<0.05		BRA07-W23 UA Hg REP	4.8
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	SLRS-4	0.006	<0.005	0.048	0.3	<0.02	0.13	0.012	1.0	0.08		ORMS-3	12.3
	SLRS-4	0.006	<0.005	0.049	0.3	<0.02	0.14	0.013	1.0	0.10		ORMS-3	11.9
<b>CERTIFIED</b>	<b>CERTIFIED</b>			<b>0.050 ± 0.003</b>	<b>0.32 ± 0.03</b>				<b>0.93 ± 0.1</b>			<b>ORMS-3</b>	12.2
	TM 25.2	6.482	<0.005	6.171	10.4	<0.02	<0.01	<0.005	29.0	<0.05		<b>CERTIFIED (ng/L)</b>	<b>12.6 ± 1.1</b>
	<b>CERTIFIED</b>	<b>6.5 ± 1.0</b>		<b>6.2 ± 1.2</b>	<b>10.8 ± 1.59</b>								
	<b>INFORMATION</b>								<b>27.</b>				

**Bridge River Mining District, July 2007: Quality control for filtered and unfiltered waters**

Field ID	Ca ICP-ES (mg/L) <b>DL = 0.02</b>	Fe ICP-ES (mg/L) <b>0.005</b>	K ICP-ES (mg/L) <b>0.05</b>	Mg ICP-ES (mg/L) <b>0.005</b>	Na ICP-ES (mg/L) <b>0.05</b>	P ICP-ES (mg/L) <b>0.05</b>	S ICP-ES (mg/L) <b>0.05</b>	Sc ICP-ES (mg/L) <b>0.001</b>	Si ICP-ES (mg/L) <b>0.02</b>
<b>Lab Replicates</b>	SB2-Cations	0.08	<0.005	<0.05	<0.005	0.10	<0.05	<0.05	<0.001
	SB2-Cations REP	0.08	<0.005	<0.05	<0.005	0.11	<0.05	<0.05	<0.001
	BRA07-W8 FA C	4.84	0.020	0.64	1.784	0.53	<0.05	1.43	<0.001
	BRA07-W8 FA C REP	4.81	0.019	0.66	1.777	0.54	<0.05	1.48	<0.001
	BRA07-W21 FA C	19.09	0.019	0.36	6.789	2.74	<0.05	7.01	<0.001
	BRA07-W21 FA C REP	19.28	0.019	0.38	6.692	2.72	<0.05	6.89	<0.001
	BRA07-W2 UA C	6.07	0.609	1.11	1.425	0.43	<0.05	3.17	<0.001
	BRA07-W2 UA C REP	6.02	0.607	1.07	1.436	0.42	<0.05	3.20	<0.001
	BRA07-W11 UA C	6.18	0.744	0.80	2.269	0.69	<0.05	1.84	<0.001
	BRA07-W11 UA C REP	6.18	0.741	0.80	2.252	0.68	<0.05	1.82	<0.001
<b>Controls</b>	BRA07-W22 UA C	7.51	0.335	0.18	3.757	0.99	<0.05	1.34	<0.001
	BRA07-W22 UA C REP	7.54	0.330	0.21	3.716	0.98	<0.05	1.33	<0.001
	BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.001	<0.02
	BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.001	<0.02
	BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.001	<0.02
	SLRS-4	5.94	0.104	0.64	1.646	2.28	<0.05	2.58	<0.001
	SLRS-4	5.98	0.106	0.69	1.657	2.28	<0.05	2.60	<0.001
	<b>CERTIFIED</b>	<b>6.2 ± 0.2</b>		<b>0.68 ± 0.02</b>	<b>1.6 ± 0.1</b>	<b>2.4 ± 0.2</b>			
	<b>CERTIFIED (µg/L)</b>		<b>103 ± 5</b>						
	TMDA-52.2	7.11	0.437	0.29	1.666	2.72	<0.05	2.13	<0.001
	<b>CERTIFIED (µg/L)</b>		<b>423 ± 42.3</b>						
	<b>INFORMATION (mg/L)</b>	<b>7.1</b>		<b>0.3</b>	<b>1.6</b>	<b>2.6</b>			

**Bridge River Mining District, July 2007: Quality control for filtered and unfiltered waters**

Field ID		Br Dionex (mg/L) DL = 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	NO3 Dionex (mg/L) 0.02	PO4 Dionex (mg/L) 0.02	SO4 Dionex (mg/L) 0.02	Field ID	Alkalinity (mg/L as CaCO3) DL = 1	Field ID	DOC SHIMADZU (mg/L) DL = 1		
<b>Lab replicates</b>	BRA07-W19 FU A	<0.02	2.94	0.40	0.77	<0.02	243.5	<b>Lab replicates</b>	BRA07-W6 FU A	352	<b>Lab replicates</b>	BRA07-W4 FU A	1
	BRA07-W19 FU A REP	<0.02	3.04	0.40	0.83	<0.02	244.1		BRA07-W6 FU A REP	352		BRA07-W4 FU A REP	<1.0
<b>Controls</b>	BRA07-W20D FU A	<0.02	0.54	0.22	0.21	<0.02	86.62	<b>Lab replicates</b>	BRA07-W9 FU A	35	<b>Controls</b>	BRA07-W13 FU A	2
	BRA07-W20D FU A REP	<0.02	0.54	0.22	0.22	<0.02	86.66		BRA07-W9 FU A REP	37		BRA07-W13 FU A REP	2
<b>Controls</b>	BRA07-W24 FU A	<0.02	0.22	0.05	<0.02	<0.02	25.47	<b>Lab replicates</b>	BRA07-W15 FU A	147	<b>Controls</b>	BRA07-W21 FU A	<1.0
	BRA07-W24 FU A REP	<0.02	0.22	0.05	<0.02	<0.02	25.44		BRA07-W15 FU A REP	150		BRA07-W21 FU A REP	<1.0
<b>Controls</b>	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<b>Controls</b>	BRA07-W23 FU A	112	<b>Controls</b>	BLANK	<1.0
	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02		BRA07-W23 FU A REP	113		ION-96.2	4
<b>Controls</b>	HAMILTON-20	0.12	64.72	0.42	9.84	<0.02	46.10	<b>Controls</b>	Hamilton-94	101	<b>Controls</b>	CERTIFIED	4.4 ± 1.2
	CERTIFIED		64.6 ± 4.6	0.42 ± 0.08	10.85 ± 1.02		46 ± 3.1		Hamilton-94	102			
<b>Controls</b>	ONTARIO-99	0.03	20.92	0.64	1.94	<0.02	26.40	<b>Controls</b>	CERTIFIED	100. ± 5.40			
	INFORMATION		20.8 ± 1.4	0.63 ± 0.10			2.08						

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005
BRA07-W26	W26	<0.005	3	1637	1975	18.6	<0.005	30.89	<0.02	<0.01	1.37	0.2	1.92	0.2	<0.005
BRA07-W27	W05	<0.005	3	1600	1969	19.6	<0.005	30.83	0.03	<0.01	2.38	0.2	2.15	0.1	<0.005
BRA07-W28	W28	<0.005	3	127.9	226	17.9	<0.005	49.27	<0.02	<0.01	<0.05	0.4	0.11	0.3	<0.005
BRA07-W29	W29	<0.005	<2	475.7	159	14.9	<0.005	65.46	<0.02	<0.01	<0.05	0.5	0.22	<0.1	<0.005
BRA07-W30	W01	<0.005	21	1.4	<5	10.8	<0.005	6.82	<0.02	0.02	<0.05	0.3	0.01	0.3	<0.005
BRA07-W31	W02	<0.005	9	2.2	<5	16.5	<0.005	9.36	<0.02	<0.01	<0.05	0.2	0.02	0.4	<0.005
BRA07-W32	W03	<0.005	14	2.0	<5	12.2	<0.005	8.46	<0.02	0.01	<0.05	0.3	0.01	0.3	<0.005
BRA07-W33	W04	<0.005	12	2.6	<5	11.5	<0.005	9.90	<0.02	0.01	<0.05	0.5	0.02	0.2	<0.005
BRA07-W34	W08	<0.005	8	4.5	9	23.3	<0.005	18.21	<0.02	<0.01	<0.05	0.9	0.01	0.4	<0.005
BRA07-W35	W09	<0.005	4	5.1	<5	27.9	<0.005	21.26	<0.02	<0.01	<0.05	0.6	<0.01	0.6	<0.005
BRA07-W36	W36	<0.005	<2	2.9	49	14.3	<0.005	49.55	<0.02	<0.01	<0.05	3.3	0.23	0.2	<0.005
BRA07-W36D	W36	<0.005	<2	2.9	50	14.6	<0.005	49.30	<0.02	<0.01	<0.05	3.1	0.23	0.2	<0.005
BRA07-W37	W07	<0.005	6	627.8	168	28.1	<0.005	54.18	0.05	<0.01	<0.05	0.2	4.84	3.9	<0.005
BRA07-W38	W06	<0.005	2	2300	1381	19.6	<0.005	93.10	<0.02	<0.01	0.08	0.2	2.21	0.4	<0.005
BRA07-W39	W16	<0.005	<2	2226	1400	19.4	<0.005	90.95	<0.02	<0.01	0.08	0.3	2.21	0.3	<0.005
BRA07-W40	W15	<0.005	<2	1158	753	10.5	<0.005	43.75	<0.02	<0.01	<0.05	0.6	0.93	0.4	<0.005
BRA07-W41	W14	<0.005	5	3.3	568	36.7	<0.005	64.99	<0.02	0.03	1.04	0.1	<0.01	0.6	0.009
BRA07-W42	W13	<0.005	<2	0.6	357	31.6	<0.005	56.18	<0.02	<0.01	0.13	0.9	0.01	0.3	<0.005
BRA07-W43	W11	<0.005	9	2.2	18	12.2	<0.005	13.01	<0.02	<0.01	<0.05	0.6	0.01	0.3	<0.005
BRA07-W44	W12	<0.005	9	2.4	14	12.0	<0.005	12.87	<0.02	<0.01	<0.05	0.6	0.01	0.4	<0.005
BRA07-W45	W22	<0.005	26	<0.1	52	24.2	<0.005	13.85	<0.02	0.04	<0.05	0.5	<0.01	0.5	0.014
BRA07-W46	W25	<0.005	5	1.0	61	24.6	<0.005	29.56	<0.02	0.01	<0.05	0.7	<0.01	0.3	<0.005
BRA07-W46D	W25	<0.005	5	1.0	60	24.3	<0.005	29.54	<0.02	0.01	<0.05	0.6	<0.01	0.3	<0.005
BRA07-W47	W24	<0.005	6	1.8	31	21.6	<0.005	34.04	<0.02	0.01	<0.05	0.4	<0.01	0.3	<0.005
BRA07-W48	W23	<0.005	3	0.1	135	30.2	<0.005	29.85	<0.02	<0.01	<0.05	0.8	<0.01	0.3	<0.005
BRA07-W49	W49	<0.005	2	0.1	82	28.2	<0.005	24.14	<0.02	<0.01	<0.05	0.6	<0.01	0.2	<0.005
BRA07-W50	W17	<0.005	<2	41.6	2106	35.1	<0.005	66.92	<0.02	<0.01	2.64	0.3	0.26	<0.1	<0.005
BRA07-W51	W18	<0.005	7	256.8	7648	19.9	<0.005	65.09	<0.02	<0.01	<0.05	0.4	0.21	0.4	<0.005
BRA07-W52	W19	<0.005	2	84.5	9640	23.3	<0.005	60.77	<0.02	<0.01	<0.05	0.6	0.14	0.5	<0.005
BRA07-W53	W20	<0.005	2	229.8	6643	4.8	<0.005	44.78	<0.02	<0.01	1.01	0.5	0.03	1.1	<0.005
BRA07-W54	W54	<0.005	2	0.9	28	11.5	<0.005	19.89	<0.02	<0.01	<0.05	0.2	<0.01	0.2	<0.005
BRA07-W55	W55	<0.005	20	2.2	21	10.8	<0.005	11.45	<0.02	0.02	<0.05	0.5	0.01	0.4	<0.005
PNA07-BRA-W01	W67	<0.005	3	2360	1445	19.3	<0.005	91.57	<0.02	<0.01	0.08	<1	2.20	0.2	<0.005
PNA07-BRA-W02	W68	<0.005	3	2330	1475	19.4	<0.005	92.41	<0.02	<0.01	0.08	<1	2.17	0.3	<0.005
PNA07-BRA-W03	W69	<0.005	2	2342	1459	19.4	<0.005	92.61	<0.02	<0.01	0.06	<1	2.12	0.2	<0.005
PNA07-BRA-W04	W70	<0.005	5	515.9	6468	18.6	<0.005	28.75	<0.02	<0.01	0.07	<1	2.34	0.4	<0.005
PNA07-BRA-W05	W71	<0.005	<2	3022	1865	19.7	<0.005	121.8	<0.02	<0.01	0.06	<1	1.98	0.2	<0.005
PNA07-BRA-W06	W72	<0.005	<2	2999	1860	20.0	<0.005	122.0	<0.02	<0.01	0.06	<1	2.03	0.2	<0.005
PNA07-BRA-W07	W73	<0.005	<2	3140	1836	21.0	<0.005	123.8	<0.02	<0.01	0.07	<1	2.06	0.1	<0.005
PNA07-BRA-W08	W74	<0.005	<2	3194	1806	21.5	<0.005	123.6	<0.02	<0.01	0.09	<1	2.08	0.1	<0.005
PNA07-BRA-W09	W75	<0.005	<2	3198	1805	21.7	<0.005	126.2	<0.02	<0.01	0.10	<1	2.10	0.1	<0.005
PNA07-BRA-W10	W76	<0.005	<2	3254	1786	22.3	<0.005	123.7	<0.02	<0.01	0.10	<1	2.08	<0.1	<0.005
PNA07-BRA-W11	W77	<0.005	<2	5603	1957	26.7	<0.005	134.7	<0.02	<0.01	0.14	<1	2.22	<0.1	<0.005
PNA07-BRA-W12D	W77	<0.005	<2	5541	1972	26.9	<0.005	134.3	<0.02	<0.01	0.14	<1	2.20	<0.1	<0.005
PNA07-BRA-W13	W78	<0.005	3	252.3	0.488	22.3	<0.005	45.39	<0.02	<0.01	<0.05	<1	1.22	0.3	<0.005
Summary Statistics		Min.	Max.	Mean	Median	n									
		<0.005	<2	<0.1	<5	4.8	<0.005	6.82	<0.02	<0.01	<0.05	<1	<0.01	<0.1	<0.005
		<0.005	26	5603	9640	36.7	<0.005	134.70	0.05	0.04	2.64	3.3	4.84	3.9	0.014
		<0.005	7	1103.5	891	20.2	<0.005	57.09	0.04	0.02	0.49	0.6	1.18	0.4	0.011
		<0.005	5	178.9	50	19.7	<0.005	49.27	0.04	0.01	0.09	0.5	1.07	0.3	0.011
		45	45	45	45	45	45	45	45	45	45	45	45	45	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005
BRA07-W26	W26	<0.005	7	1717	1977	18.5	<0.005	29.98	0.04	<0.01	1.34	0.3	1.87	0.2	<0.005
BRA07-W27	W05	<0.005	4	1663	1970	19.0	<0.005	29.84	0.05	<0.01	2.21	0.2	2.10	0.1	<0.005
BRA07-W28	W28	<0.005	3	124.3	219	17.6	<0.005	49.25	<0.02	<0.01	<0.05	0.4	0.10	0.3	<0.005
BRA07-W29	W29	<0.005	<2	480.4	185	14.2	<0.005	63.93	<0.02	<0.01	<0.05	0.4	0.22	<0.1	<0.005
BRA07-W30	W01	<0.005	28	1.5	<5	10.7	<0.005	6.81	<0.02	<0.05	0.2	0.01	0.3	<0.005	
BRA07-W31	W02	<0.005	26	2.3	<5	16.1	<0.005	9.50	<0.02	0.01	<0.05	0.2	0.02	0.5	<0.005
BRA07-W32	W03	<0.005	23	2.1	<5	12.1	<0.005	8.31	<0.02	0.02	<0.05	0.3	0.01	0.3	<0.005
BRA07-W33	W04	<0.005	23	2.7	5	11.6	<0.005	9.54	<0.02	0.01	<0.05	0.4	0.02	0.3	<0.005
BRA07-W34	W08	<0.005	10	4.4	10	23.2	<0.005	17.75	<0.02	<0.01	<0.05	0.7	0.02	0.4	<0.005
BRA07-W35	W09	<0.005	37	5.2	<5	27.8	<0.005	20.77	<0.02	0.02	<0.05	0.5	<0.01	0.8	0.005
BRA07-W36	W36	<0.005	<2	2.7	53	14.2	<0.005	47.94	<0.02	<0.01	<0.05	2.4	0.23	0.3	<0.005
BRA07-W36D	W36	<0.005	<2	2.8	54	14.4	<0.005	48.17	<0.02	<0.01	<0.05	2.4	0.23	0.2	<0.005
BRA07-W37	W07	<0.005	20	709.1	180	28.5	<0.005	53.45	0.10	<0.01	0.38	0.4	4.33	4.7	<0.005
BRA07-W38	W06	<0.005	15	2827	1524	20.6	<0.005	91.25	<0.02	<0.01	0.21	0.6	1.95	0.6	<0.005
BRA07-W39	W16	<0.005	19	2834	1469	20.2	<0.005	91.57	<0.02	<0.01	0.21	0.6	1.99	0.6	<0.005
BRA07-W40	W15	<0.005	7	1307	845	11.0	<0.005	43.74	<0.02	<0.01	<0.05	0.7	0.89	0.6	<0.005
BRA07-W41	W14	<0.005	97	3.8	613	39.2	<0.005	64.40	<0.02	0.10	1.24	0.7	0.01	1.3	0.018
BRA07-W42	W13	<0.005	21	0.7	382	32.0	<0.005	56.26	<0.02	0.03	0.16	0.8	0.01	0.5	0.006
BRA07-W43	W11	<0.005	55	2.3	18	12.6	<0.005	13.01	<0.02	0.04	0.06	0.7	0.02	0.4	0.006
BRA07-W44	W12	<0.005	63	2.6	15	12.7	<0.005	12.79	<0.02	0.04	0.07	0.7	0.02	0.5	0.006
BRA07-W45	W22	<0.005	37	0.2	56	24.4	<0.005	13.97	<0.02	0.06	<0.05	0.5	<0.01	0.5	0.016
BRA07-W46	W25	<0.005	141	1.2	65	26.4	<0.005	30.02	<0.02	0.15	0.12	0.7	0.01	0.6	0.026
BRA07-W46D	W25	<0.005	141	1.2	65	27.6	0.005	30.04	<0.02	0.15	0.12	0.7	0.02	0.6	0.026
BRA07-W47	W24	<0.005	71	2.0	32	23.4	<0.005	34.21	<0.02	0.09	<0.05	0.3	0.02	0.4	0.018
BRA07-W48	W23	<0.005	5	0.2	138	30.9	<0.005	30.39	<0.02	<0.01	<0.05	0.6	<0.01	0.4	0.006
BRA07-W49	W49	<0.005	10	0.1	80	29.1	<0.005	24.85	<0.02	0.01	<0.05	0.6	<0.01	0.2	<0.005
BRA07-W50	W17	<0.005	4	158.6	2105	36.6	<0.005	67.18	<0.02	0.02	2.78	0.5	0.27	0.2	0.007
BRA07-W51	W18	<0.005	6	259.4	7427	20.1	<0.005	65.38	<0.02	<0.01	<0.05	0.4	0.22	0.4	<0.005
BRA07-W52	W19	<0.005	4	90.7	9670	24.0	<0.005	62.29	<0.02	<0.01	0.06	0.2	0.14	0.6	<0.005
BRA07-W53	W20	<0.005	7	239.3	6878	5.0	<0.005	46.46	<0.02	<0.01	1.11	0.2	0.03	1.6	<0.005
BRA07-W54	W54	<0.005	25	1.2	27	12.2	<0.005	20.22	<0.02	0.01	<0.05	0.2	<0.01	0.4	<0.005
BRA07-W55	W55	<0.005	50	2.5	19	11.4	<0.005	11.77	<0.02	0.03	<0.05	0.6	0.02	0.6	0.005
PNA07-BRA-W01	W67	<0.005	18	2662	1.527	20.9	<0.005	92.77	<0.02	<0.01	0.17	<1	2.24	0.7	<0.005
PNA07-BRA-W02	W68	<0.005	10	2604	1.475	21.3	<0.005	94.66	<0.02	<0.01	0.12	<1	2.19	0.4	<0.005
PNA07-BRA-W03	W69	<0.005	7	2629	1.504	21.0	<0.005	93.58	<0.02	<0.01	0.08	<1	2.14	0.3	<0.005
PNA07-BRA-W04	W70	<0.005	6	524.9	0.632	18.8	<0.005	28.52	<0.02	<0.01	0.06	<1	2.40	0.5	<0.005
PNA07-BRA-W05	W71	<0.005	7	3509	1.896	21.2	<0.005	121.9	<0.02	<0.01	0.08	<1	2.00	0.2	<0.005
PNA07-BRA-W06	W72	<0.005	13	3572	1.885	21.7	<0.005	122.0	<0.02	<0.01	0.10	<1	1.85	0.3	<0.005
PNA07-BRA-W07	W73	<0.005	<2	3695	1.848	22.3	<0.005	128.0	<0.02	<0.01	0.08	<1	1.93	0.2	<0.005
PNA07-BRA-W08	W74	<0.005	<2	4082	1.797	22.5	<0.005	122.5	<0.02	<0.01	0.11	<1	1.95	0.1	<0.005
PNA07-BRA-W09	W75	<0.005	4	4416	1.818	24.5	<0.005	126.4	<0.02	<0.01	0.13	<1	2.04	0.2	<0.005
PNA07-BRA-W10	W76	<0.005	2	4415	1.919	24.6	<0.005	132.2	<0.02	<0.01	0.13	<1	1.94	0.2	<0.005
PNA07-BRA-W11	W77	<0.005	<2	5596	2.086	27.0	<0.005	138.0	<0.02	<0.01	0.13	<1	1.98	<0.1	<0.005
PNA07-BRA-W12D	W77	<0.005	<2	5626	2.056	26.7	<0.005	139.2	<0.02	<0.01	0.13	<1	2.10	<0.1	<0.005
PNA07-BRA-W13	W78	<0.005	22	287.4	0.496	23.4	<0.005	45.69	<0.02	0.02	0.10	<1	1.23	0.7	<0.005
Summary Statistics		Min.	Max.	Mean	Median	n									
		<0.005	<2	0.1	<5	5.0	<0.005	6.81	<0.02	<0.01	<0.05	0.2	<0.01	0.1	<0.005
		<0.005	141	5626	9670	39.2	0.005	139.16	0.10	0.15	2.78	2.4	4.33	4.7	0.026
		<0.005	28	1246.0	880	21.0	0.005	57.56	0.06	0.05	0.43	0.6	1.02	0.5	0.012
		<0.005	17	158.6	53	21.2	0.005	47.94	0.05	0.03	0.13	0.5	0.25	0.4	0.007
		45	45	45	45	45	45	45	45	45	45	45	45	45	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

201

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 5	Ba ICP-MS (µg/L) 0.005	Be ICP-ES (mg/L) 0.02	Ca ICP-MS (µg/L) 0.02	Cd ICP-MS (µg/L) 0.01	Ce ICP-MS (µg/L) 0.05	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005	
Field Blanks	TB1	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	AB1	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	SB1	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	TB2	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	AB2	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	SB2	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PNA07-BRA-AB1	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PNA07-BRA-SB1	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PNA07-BRA-AB2	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PNA07-BRA-SB2	na	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
Summary Statistics	Min. Max. Mean Median n	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005	
		<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005	
		<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005	
		<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005	
		10	10	10	10	10	10	10	10	10	10	10	10	10	10	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS (µg/L) 0.005	Eu ICP-MS (µg/L) 0.005	Fe ICP-ES (mg/L) 0.005	Ga ICP-MS (µg/L) 0.01	Gd ICP-MS (µg/L) 0.005	Ge ICP-MS (µg/L) 0.02	Hf ICP-MS (µg/L) 0.01	Hg Tekran (ng/L) 0.5	Ho ICP-MS (µg/L) 0.005	In ICP-MS (µg/L) 0.01	K ICP-ES (mg/L) 0.05	La ICP-MS (µg/L) 0.01	Li ICP-MS (µg/L) 0.02	Lu ICP-MS (µg/L) 0.005	Mg ICP-ES (mg/L) 0.005	Mn ICP-MS (µg/L) 0.1	
BRA07-W26	W26	<0.005	<0.005	0.020	0.01	<0.005	0.32	<0.01	1.1	<0.005	<0.01	2.42	0.01	35.12	<0.005	19.48	33.3	
BRA07-W27	W05	<0.005	<0.005	0.016	0.01	<0.005	0.34	<0.01	0.6	<0.005	<0.01	2.43	0.01	36.48	<0.005	19.70	35.1	
BRA07-W28	W28	<0.005	<0.005	0.030	<0.01	<0.005	<0.02	<0.01	2.2	<0.005	<0.01	1.60	<0.01	4.18	<0.005	12.75	8.7	
BRA07-W29	W29	<0.005	<0.005	0.031	<0.01	<0.005	<0.02	<0.01	2.8	<0.005	<0.01	1.08	<0.01	8.46	<0.005	22.58	57.4	
BRA07-W30	W01	<0.005	<0.005	0.020	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.08	0.01	0.39	<0.005	2.043	1.1	
BRA07-W31	W02	<0.005	<0.005	0.053	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	1.45	<0.01	0.52	<0.005	1.689	2.3	
BRA07-W32	W03	<0.005	<0.005	0.073	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	1.19	<0.01	0.45	<0.005	2.762	4.6	
BRA07-W33	W04	<0.005	<0.005	0.048	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.35	<0.01	0.72	<0.005	3.341	2.5	
BRA07-W34	W08	<0.005	<0.005	0.035	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	1.85	<0.01	1.25	<0.005	6.126	2.5	
BRA07-W35	W09	<0.005	<0.005	0.011	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	4.43	<0.01	2.57	<0.005	4.836	0.6	
BRA07-W36	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.16	<0.01	2.94	<0.005	11.24	<0.1	
BRA07-W36D	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.16	<0.01	2.98	<0.005	11.35	<0.1	
BRA07-W37	W07	<0.005	<0.005	0.007	<0.01	<0.005	<0.02	<0.01	2.5	<0.005	<0.01	2.00	<0.01	28.58	<0.005	45.34	0.1	
BRA07-W38	W06	<0.005	<0.005	0.016	<0.01	<0.005	<0.02	<0.01	2.2	<0.005	<0.01	3.73	<0.01	37.19	<0.005	44.97	70.5	
BRA07-W39	W16	<0.005	<0.005	0.018	<0.01	<0.005	<0.02	<0.01	2.8	<0.005	<0.01	3.79	<0.01	35.94	<0.005	45.71	55.9	
BRA07-W40	W15	<0.005	<0.005	0.009	<0.01	<0.005	0.07	<0.01	1.2	<0.005	<0.01	2.22	<0.01	19.19	<0.005	28.82	5.4	
BRA07-W41	W14	0.007	<0.005	0.089	<0.01	0.009	0.04	<0.01	1.9	<0.005	<0.01	3.23	0.01	1.16	<0.005	24.40	808.1	
BRA07-W42	W13	<0.005	<0.005	0.034	<0.01	<0.005	0.02	<0.01	1.1	<0.005	<0.01	2.44	<0.01	1.74	<0.005	17.29	56.3	
BRA07-W43	W11	<0.005	<0.005	0.033	<0.01	<0.005	<0.02	<0.01	0.7	<0.005	<0.01	1.19	<0.01	0.82	<0.005	3.815	1.4	
BRA07-W44	W12	<0.005	<0.005	0.034	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.22	<0.01	0.81	<0.005	3.785	1.4	
BRA07-W45	W22	0.008	<0.005	0.020	<0.01	0.017	<0.02	<0.01	3.3	<0.005	<0.01	0.26	0.03	0.70	<0.005	7.204	0.5	
BRA07-W46	W25	<0.005	<0.005	0.008	<0.01	0.005	<0.02	<0.01	1.6	<0.005	<0.01	0.54	<0.01	3.00	<0.005	9.664	1.3	
BRA07-W46D	W25	<0.005	<0.005	0.009	<0.01	<0.005	<0.02	<0.01	1.5	<0.005	<0.01	0.54	<0.01	2.94	<0.005	9.709	1.3	
BRA07-W47	W24	<0.005	<0.005	0.009	<0.01	0.005	<0.02	<0.01	1.6	<0.005	<0.01	0.60	<0.01	5.36	<0.005	8.049	1.4	
BRA07-W48	W23	<0.005	<0.005	<0.005	<0.01	0.006	<0.02	<0.01	2.1	<0.005	<0.01	0.48	<0.01	1.20	<0.005	13.11	0.2	
BRA07-W49	W49	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	4.1	<0.005	<0.01	0.38	<0.01	1.94	<0.005	13.33	0.2	
BRA07-W50	W17	<0.005	<0.005	0.018	<0.01	<0.005	0.11	<0.01	1.5	<0.005	<0.01	2.21	<0.01	30.49	<0.005	33.72	204.2	
BRA07-W51	W18	<0.005	<0.005	<0.005	<0.01	0.005	<0.02	<0.01	1.5	<0.005	<0.01	2.02	<0.01	19.19	<0.005	45.60	1.5	
BRA07-W52	W19	<0.005	<0.005	0.008	0.01	<0.005	0.09	<0.01	3.8	<0.005	<0.01	1.43	<0.01	16.64	<0.005	36.00	3.6	
BRA07-W53	W20	<0.005	<0.005	0.031	<0.01	<0.005	0.21	<0.01	1.1	<0.005	<0.01	0.49	<0.01	2.92	<0.005	21.89	19.1	
BRA07-W54	W54	<0.005	<0.005	0.047	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	3.41	<0.01	3.07	<0.005	3.363	4.8	
BRA07-W55	W55	<0.005	<0.005	0.034	<0.01	<0.005	<0.02	<0.01	1.3	<0.005	<0.01	1.06	0.01	0.71	<0.005	3.451	1.5	
PNA07-BRA-W01	W67	<0.005	<0.005	0.017	<0.01	<0.005	0.25	0.01	na	<0.005	<0.01	3.35	<0.01	36.26	<0.005	47.95	65.1	
PNA07-BRA-W02	W68	<0.005	<0.005	0.015	<0.01	<0.005	0.25	<0.01	na	<0.005	<0.01	3.57	<0.01	36.17	<0.005	48.12	64.8	
PNA07-BRA-W03	W69	<0.005	<0.005	0.020	<0.01	<0.005	0.25	<0.01	na	<0.005	<0.01	3.70	<0.01	35.78	<0.005	47.88	66.8	
PNA07-BRA-W04	W70	<0.005	<0.005	0.019	0.02	<0.005	0.35	<0.01	na	<0.005	<0.01	1.95	<0.01	48.21	<0.005	20.97	4.6	
PNA07-BRA-W05	W71	<0.005	<0.005	0.040	<0.01	<0.005	0.21	<0.01	na	<0.005	<0.01	4.56	<0.01	28.18	<0.005	60.27	91.3	
PNA07-BRA-W06	W72	<0.005	<0.005	0.029	<0.01	<0.005	0.21	<0.01	na	<0.005	<0.01	4.56	<0.01	28.37	<0.005	60.59	95.7	
PNA07-BRA-W07	W73	<0.005	<0.005	0.044	<0.01	<0.005	0.19	<0.01	na	<0.005	<0.01	4.56	<0.01	28.38	<0.005	61.30	113.4	
PNA07-BRA-W08	W74	<0.005	<0.005	0.045	<0.01	<0.005	0.18	<0.01	na	<0.005	<0.01	4.64	<0.01	28.89	<0.005	61.09	137.4	
PNA07-BRA-W09	W75	<0.005	<0.005	0.063	<0.01	<0.005	0.16	<0.01	na	<0.005	<0.01	4.40	<0.01	28.42	<0.005	62.33	151.9	
PNA07-BRA-W10	W76	<0.005	<0.005	0.112	<0.01	<0.005	0.15	<0.01	na	<0.005	<0.01	4.39	<0.01	28.39	<0.005	61.14	154.0	
PNA07-BRA-W11	W77	<0.005	<0.005	3.503	<0.01	<0.005	0.12	<0.01	na	<0.005	<0.01	5.13	<0.01	27.40	<0.005	65.72	192.8	
PNA07-BRA-W12D	W77	<0.005	<0.005	3.643	<0.01	<0.005	0.13	<0.01	na	<0.005	<0.01	5.25	<0.01	26.92	<0.005	65.36	188.7	
PNA07-BRA-W13	W78	<0.005	<0.005	0.016	<0.01	<0.005	0.43	<0.01	na	<0.005	<0.01	2.10	<0.01	29.43	<0.005	26.01	1.6	
<b>Summary Statistics</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>	<b>n</b>	<0.005	<0.005	<0.005	<0.01	<0.005	<0.01	0.6	<0.005	<0.01	0.39	<0.005	1.689	<0.1
	0.008	<0.005	3.643	0.02	0.017	0.43	0.01	4.1	<0.005	<0.01	5.25	0.03	48.21	<0.005	65.72	808.1		
	0.007	<0.005	0.208	0.01	0.008	0.20	0.01	1.6	<0.005	<0.01	2.37	0.02	16.01	<0.005	27.24	63.1		
	0.007	<0.005	0.029	0.01	0.006	0.21	0.01	1.3	<0.005	<0.01	2.02	0.01	8.46	<0.005	20.97	5.4		
	45	45	45	45	45	45	45	45	32	45	45	45	45	45	45	45		

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ ) 0.005	Eu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Fe ICP-ES (mg/L) 0.005	Ga ICP-MS ( $\mu\text{g/L}$ ) 0.01	Gd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ge ICP-MS ( $\mu\text{g/L}$ ) 0.02	Hf ICP-MS ( $\mu\text{g/L}$ ) 0.01	Hg Tekran (ng/L) 0.5	Ho ICP-MS ( $\mu\text{g/L}$ ) 0.005	In ICP-MS ( $\mu\text{g/L}$ ) 0.01	K ICP-ES (mg/L) 0.05	La ICP-MS ( $\mu\text{g/L}$ ) 0.01	Li ICP-MS ( $\mu\text{g/L}$ ) 0.02	Lu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mg ICP-ES (mg/L) 0.005	Mn ICP-MS ( $\mu\text{g/L}$ ) 0.1
<b>Unfiltered</b>																	
BRA07-W26	W26	<0.005	<0.005	0.091	0.02	<0.005	0.31	<0.01	1.4	<0.005	<0.01	2.35	0.01	34.81	<0.005	19.49	33.8
BRA07-W27	W05	<0.005	<0.005	0.055	0.01	<0.005	0.35	<0.01	1.0	<0.005	<0.01	2.34	0.01	35.90	<0.005	19.85	33.3
BRA07-W28	W28	<0.005	<0.005	0.036	<0.01	<0.005	<0.02	<0.01	2.5	<0.005	<0.01	1.60	<0.01	4.21	<0.005	12.86	9.3
BRA07-W29	W29	<0.005	<0.005	0.030	<0.01	<0.005	<0.02	<0.01	2.9	<0.005	<0.01	1.05	<0.01	8.73	<0.005	22.90	57.5
BRA07-W30	W01	<0.005	<0.005	0.032	<0.01	<0.005	<0.02	<0.01	1.0	<0.005	<0.01	1.07	0.01	0.39	<0.005	2.038	1.5
BRA07-W31	W02	<0.005	<0.005	0.098	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.47	<0.01	0.52	<0.005	1.723	2.7
BRA07-W32	W03	<0.005	<0.005	0.095	<0.01	<0.005	<0.02	<0.01	0.7	<0.005	<0.01	1.11	0.01	0.45	<0.005	2.767	4.8
BRA07-W33	W04	<0.005	<0.005	0.066	<0.01	<0.005	<0.02	<0.01	0.8	<0.005	<0.01	1.27	<0.01	0.74	<0.005	3.282	2.9
BRA07-W34	W08	<0.005	<0.005	0.047	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	1.85	<0.01	1.31	<0.005	6.079	2.7
BRA07-W35	W09	<0.005	<0.005	0.090	<0.01	<0.006	<0.02	<0.01	2.0	<0.005	<0.01	4.29	0.01	2.64	<0.005	4.808	3.6
BRA07-W36	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	1.09	<0.01	2.91	<0.005	11.17	<0.1
BRA07-W36D	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	1.10	<0.01	2.96	<0.005	11.30	<0.1
BRA07-W37	W07	<0.005	<0.005	0.270	<0.01	<0.005	0.02	<0.01	7.4	<0.005	<0.01	1.95	<0.01	29.63	<0.005	45.05	6.3
BRA07-W38	W06	<0.005	<0.005	0.895	0.01	<0.005	0.23	<0.01	6.0	<0.005	<0.01	3.87	<0.01	37.48	<0.005	47.06	75.6
BRA07-W39	W16	<0.005	<0.005	0.941	0.01	<0.005	0.23	<0.01	7.3	<0.005	<0.01	3.91	<0.01	36.67	<0.005	46.53	67.7
BRA07-W40	W15	<0.005	<0.005	0.158	<0.01	<0.005	0.07	<0.01	2.8	<0.005	<0.01	2.24	<0.01	20.17	<0.005	29.71	14.4
BRA07-W41	W14	0.012	<0.005	0.351	0.03	0.019	0.04	<0.01	3.3	<0.005	<0.01	3.25	0.04	1.22	<0.005	24.80	874.4
BRA07-W42	W13	<0.005	<0.005	0.111	<0.01	0.006	0.03	<0.01	1.7	<0.005	<0.01	2.41	0.02	1.86	<0.005	18.26	64.1
BRA07-W43	W11	<0.005	<0.005	0.134	0.02	0.007	<0.02	<0.01	1.2	<0.005	<0.01	1.22	0.02	0.84	<0.005	3.865	3.2
BRA07-W44	W12	<0.005	<0.005	0.145	0.02	0.007	<0.02	<0.01	1.9	<0.005	<0.01	1.23	0.02	0.87	<0.005	3.858	3.6
BRA07-W45	W22	0.009	<0.005	0.053	<0.01	0.019	<0.02	<0.01	3.6	<0.005	<0.01	0.29	0.04	0.74	<0.005	7.338	1.2
BRA07-W46	W25	0.013	0.008	0.375	0.03	0.034	<0.02	<0.01	3.9	<0.005	<0.01	0.51	0.07	3.29	<0.005	9.774	9.0
BRA07-W46D	W25	0.012	0.008	0.362	0.03	0.034	<0.02	<0.01	3.8	<0.005	<0.01	0.54	0.07	3.53	<0.005	9.897	9.8
BRA07-W47	W24	0.009	0.006	0.186	0.02	0.023	<0.02	<0.01	3.6	<0.005	<0.01	0.61	0.04	5.94	<0.005	8.203	6.2
BRA07-W48	W23	<0.005	<0.005	0.007	<0.01	0.006	<0.02	<0.01	2.2	<0.005	<0.01	0.49	<0.01	1.26	<0.005	13.04	0.4
BRA07-W49	W49	<0.005	<0.005	0.017	<0.01	0.005	<0.02	<0.01	5.8	<0.005	<0.01	0.39	<0.01	1.97	<0.005	13.18	0.7
BRA07-W50	W17	<0.005	<0.005	0.740	<0.01	0.006	0.11	<0.02	6.5	<0.005	<0.01	2.24	<0.01	31.62	<0.005	33.94	218.0
BRA07-W51	W18	<0.005	<0.005	0.009	<0.01	<0.005	0.20	<0.01	2.4	<0.005	<0.01	2.02	<0.01	20.35	<0.005	44.79	2.0
BRA07-W52	W19	<0.005	<0.005	0.028	0.01	<0.005	0.06	<0.01	5.9	<0.005	<0.01	1.46	<0.01	17.42	<0.005	35.08	4.2
BRA07-W53	W20	<0.005	<0.005	0.069	<0.01	<0.005	0.19	<0.01	2.2	<0.005	<0.01	0.51	<0.01	2.99	<0.005	22.16	20.2
BRA07-W54	W54	<0.005	<0.005	0.175	<0.01	<0.005	<0.02	<0.01	0.7	<0.005	<0.01	3.44	<0.01	3.21	<0.005	3.372	9.2
BRA07-W55	W55	<0.005	<0.005	0.118	0.01	0.006	<0.02	<0.01	1.5	<0.005	<0.01	1.14	0.02	0.75	<0.005	3.565	2.8
PNA07-BRA-W01	W67	<0.005	<0.005	0.700	0.01	<0.005	0.24	<0.01	na	<0.005	<0.01	3.56	<0.01	36.96	<0.005	48.45	72.1
PNA07-BRA-W02	W68	<0.005	<0.005	0.622	<0.01	<0.005	0.25	<0.01	na	<0.005	<0.01	3.62	<0.01	35.85	<0.005	49.26	70.9
PNA07-BRA-W03	W69	<0.005	<0.005	0.680	<0.01	<0.005	0.24	<0.01	na	<0.005	<0.01	3.88	<0.01	35.91	<0.005	48.47	73.1
PNA07-BRA-W04	W70	<0.005	<0.005	0.045	0.02	<0.005	0.36	<0.01	na	<0.005	<0.01	1.91	<0.01	48.35	<0.005	20.33	4.6
PNA07-BRA-W05	W71	<0.005	<0.005	0.938	<0.01	<0.005	0.20	<0.01	na	<0.005	<0.01	4.48	<0.01	27.81	<0.005	60.25	99.9
PNA07-BRA-W06	W72	<0.005	<0.005	1.184	<0.01	<0.005	0.20	<0.01	na	<0.005	<0.01	4.74	<0.01	27.32	<0.005	60.31	107.0
PNA07-BRA-W07	W73	<0.005	<0.005	1.105	<0.01	<0.005	0.18	<0.01	na	<0.005	<0.01	4.62	<0.01	27.19	<0.005	63.19	117.1
PNA07-BRA-W08	W74	<0.005	<0.005	1.552	<0.01	<0.005	0.18	<0.01	na	<0.005	<0.01	4.72	<0.01	28.93	<0.005	60.19	139.7
PNA07-BRA-W09	W75	<0.005	<0.005	2.189	<0.01	<0.005	0.17	<0.01	na	<0.005	<0.01	4.59	<0.01	27.96	<0.005	62.15	160.7
PNA07-BRA-W10	W76	<0.005	<0.005	2.181	<0.01	<0.005	0.17	<0.01	na	<0.005	<0.01	4.80	<0.01	27.28	<0.005	65.10	159.4
PNA07-BRA-W11	W77	<0.005	<0.005	3.544	<0.01	<0.005	0.12	<0.01	na	<0.005	<0.01	5.11	<0.01	25.94	<0.005	67.14	186.7
PNA07-BRA-W12D	W77	<0.005	<0.005	3.647	<0.01	<0.005	0.13	<0.01	na	<0.005	<0.01	5.22	<0.01	26.25	<0.005	67.72	186.6
PNA07-BRA-W13	W78	<0.005	<0.005	0.335	0.01	<0.005	0.43	<0.01	na	<0.005	<0.01	2.12	<0.01	28.35	<0.005	26.17	10.4
<b>Summary Statistics</b>		<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>
		<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.7	<0.005	<0.01	0.29	<0.01	0.39	<0.005	1.723	0.4
		0.013	0.008	3.647	0.03	0.034	0.43	0.02	7.4	<0.005	<0.01	5.22	0.07	48.35	<0.005	67.72	874.4
		0.011	0.007	0.570	0.02	0.014	0.19	0.01	2.8	<0.005	<0.01	2.39	0.03	16.03	<0.005	27.57	68.2
		0.012	0.008	0.158	0.02	0.007	0.19	0.01	2.2	<0.005	<0.01	2.02	0.02	8.73	<0.005	20.33	10.4
		45	45	45	45	45	45	45	32	45	45	45	45	45	45	45	45

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

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Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ )	Eu ICP-MS ( $\mu\text{g/L}$ )	Fe ICP-ES (mg/L)	Ga ICP-MS ( $\mu\text{g/L}$ )	Gd ICP-MS ( $\mu\text{g/L}$ )	Ge ICP-MS ( $\mu\text{g/L}$ )	Hf ICP-MS ( $\mu\text{g/L}$ )	Hg Tekran (ng/L)	Ho ICP-MS ( $\mu\text{g/L}$ )	In ICP-MS ( $\mu\text{g/L}$ )	K ICP-ES ( $\mu\text{g/L}$ )	La ICP-MS (mg/L)	Li ICP-MS ( $\mu\text{g/L}$ )	Lu ICP-MS ( $\mu\text{g/L}$ )	Mg ICP-ES (mg/L)	Mn ICP-MS ( $\mu\text{g/L}$ )					
TB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
AB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
SB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.0	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
TB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
AB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	0.07	<0.01	<0.02	<0.005	<0.005	<0.1					
SB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
PNA07-BRA-AB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	na	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
PNA07-BRA-SB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	na	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
PNA07-BRA-AB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	na	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
PNA07-BRA-SB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	na	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1					
Field Blanks	Summary Statistics	Min.	Max.	Mean	Median	n	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1
							<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	0.07	<0.01	<0.02	<0.005	<0.005	<0.1
							<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.0	<0.005	<0.01	0.07	<0.01	<0.02	<0.005	<0.005	<0.1
							<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	na	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1
							<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	na	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Mo ICP-MS (µg/L) 0.05	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	Sn ICP-MS (µg/L) 0.01	
BRA07-W26	W26	11.30	65.35	<0.01	<0.005	36.2	<0.05	0.22	<0.005	4.37	0.025	29.34	302.1	<0.001	<1.0	5.65	<0.005	<0.01	
BRA07-W27	W05	11.65	64.20	<0.01	<0.005	43.5	<0.05	0.43	<0.005	4.47	0.025	29.42	304.9	<0.001	<1.0	6.20	<0.005	<0.01	
BRA07-W28	W28	2.32	14.09	<0.01	0.011	3.1	<0.05	0.03	<0.005	1.21	0.005	9.96	1.11	<0.001	<1.0	9.50	<0.005	<0.01	
BRA07-W29	W29	2.36	23.98	<0.01	<0.005	3.2	<0.05	0.03	<0.005	1.44	0.013	20.40	10.81	<0.001	<1.0	9.87	<0.005	<0.01	
BRA07-W30	W01	1.85	0.95	<0.01	0.014	1.4	<0.05	<0.01	<0.005	0.92	<0.005	1.97	0.07	<0.001	<1.0	2.93	<0.005	<0.01	
BRA07-W31	W02	1.77	0.73	<0.01	0.009	1.4	<0.05	<0.01	<0.005	1.48	<0.005	4.53	0.17	<0.001	<1.0	2.37	<0.005	<0.01	
BRA07-W32	W03	1.79	0.99	<0.01	0.012	1.8	<0.05	<0.01	<0.005	0.94	<0.005	2.62	0.11	<0.001	<1.0	3.00	<0.005	<0.01	
BRA07-W33	W04	1.96	1.14	<0.01	0.010	1.3	<0.05	<0.01	<0.005	0.87	<0.005	3.19	0.18	<0.001	<1.0	3.12	<0.005	<0.01	
BRA07-W34	W08	1.76	1.66	<0.01	0.007	2.0	<0.05	0.02	<0.005	0.87	<0.005	5.11	0.20	<0.001	<1.0	4.03	<0.005	<0.01	
BRA07-W35	W09	1.89	2.43	<0.01	0.006	0.9	<0.05	<0.01	<0.005	0.51	0.012	7.30	0.09	<0.001	<1.0	7.30	<0.005	<0.01	
BRA07-W36	W36	0.80	3.36	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.62	0.008	4.46	0.14	<0.001	<1.0	7.14	<0.005	<0.01	
BRA07-W36D	W36	0.82	3.29	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.62	0.009	4.49	0.14	<0.001	<1.0	7.19	<0.005	<0.01	
BRA07-W37	W07	3.38	11.13	<0.01	<0.005	2.3	<0.05	0.02	<0.005	4.17	0.007	27.69	25.69	<0.001	<1.0	4.60	<0.005	<0.01	
BRA07-W38	W06	1.90	137.0	<0.01	<0.005	3.3	<0.05	<0.01	<0.005	3.99	<0.005	111.2	2.19	<0.001	<1.0	6.19	<0.005	<0.01	
BRA07-W39	W16	1.85	135.9	<0.01	<0.005	3.1	<0.05	0.01	<0.005	3.96	<0.005	111.9	2.23	<0.001	<1.0	6.30	<0.005	<0.01	
BRA07-W40	W15	1.51	69.01	<0.01	<0.005	1.3	<0.05	<0.01	<0.005	2.01	<0.005	62.31	1.57	<0.001	<1.0	1.41	<0.005	<0.01	
BRA07-W41	W14	3.34	53.03	<0.01	0.023	9.2	<0.05	<0.01	<0.005	0.55	<0.005	56.10	0.07	<0.001	<1.0	6.70	0.006	<0.01	
BRA07-W42	W13	2.06	36.76	<0.01	0.010	1.4	<0.05	<0.01	<0.005	0.49	0.006	35.25	0.09	<0.001	<1.0	6.39	<0.005	<0.01	
BRA07-W43	W11	1.67	1.28	<0.01	0.010	1.0	<0.05	<0.01	<0.005	0.74	<0.005	3.67	0.15	<0.001	<1.0	3.20	<0.005	<0.01	
BRA07-W44	W12	1.63	1.28	<0.01	0.009	1.0	<0.05	0.01	<0.005	0.74	<0.005	3.67	0.16	<0.001	<1.0	3.18	<0.005	<0.01	
BRA07-W45	W22	0.18	2.15	<0.01	0.056	0.3	<0.05	0.01	0.012	0.11	<0.005	2.58	0.04	<0.001	<1.0	2.99	0.015	<0.01	
BRA07-W46	W25	0.42	4.99	<0.01	0.016	0.5	<0.05	<0.01	<0.005	0.23	<0.005	11.86	0.31	<0.001	<1.0	3.38	<0.005	<0.01	
BRA07-W46D	W25	0.41	4.99	<0.01	0.015	0.4	<0.05	<0.01	<0.005	0.22	<0.005	11.48	0.29	<0.001	<1.0	3.30	<0.005	<0.01	
BRA07-W47	W24	0.50	6.35	<0.01	0.015	<0.2	<0.05	<0.01	<0.005	0.31	<0.005	13.96	0.39	<0.001	<1.0	3.34	<0.005	<0.01	
BRA07-W48	W23	0.31	5.03	<0.01	0.016	<0.2	<0.05	<0.01	<0.005	0.11	<0.005	3.55	0.14	<0.001	<1.0	4.36	<0.005	<0.01	
BRA07-W49	W49	0.38	5.80	<0.01	0.010	<0.2	<0.05	<0.01	<0.005	0.13	<0.005	3.01	0.26	<0.001	<1.0	3.67	<0.005	<0.01	
BRA07-W50	W17	0.88	67.76	<0.01	<0.005	7.8	<0.05	<0.01	<0.005	1.71	<0.005	32.79	23.04	<0.001	<1.0	4.17	<0.005	<0.01	
BRA07-W51	W18	1.25	115.3	<0.01	<0.005	4.2	<0.05	<0.01	<0.005	0.89	0.008	108.3	90.01	<0.001	<1.0	6.33	<0.005	<0.01	
BRA07-W52	W19	2.03	128.3	<0.01	<0.005	2.3	<0.05	<0.01	<0.005	0.49	<0.005	93.04	28.53	<0.001	<1.0	4.74	<0.005	<0.01	
BRA07-W53	W20	1.30	37.86	<0.01	<0.005	5.8	<0.05	0.01	<0.005	0.13	<0.005	29.87	12.08	<0.001	<1.0	7.70	<0.005	<0.01	
BRA07-W54	W54	2.57	3.06	<0.01	<0.005	1.7	<0.05	<0.01	<0.005	0.81	0.019	14.97	0.09	<0.001	<1.0	8.82	<0.005	<0.01	
BRA07-W55	W55	1.45	1.23	<0.01	0.016	1.2	<0.05	<0.01	<0.005	0.70	<0.005	3.24	0.13	<0.001	<1.0	3.06	<0.005	<0.01	
PNA07-BRA-W01	W67	1.75	136.3	<0.01	<0.005	1.9	<0.05	0.01	<0.005	3.97	<0.005	113.9	2.08	<0.001	<1.0	6.05	<0.005	0.05	
PNA07-BRA-W02	W68	1.74	137.0	<0.01	<0.005	1.8	<0.05	0.02	<0.005	3.93	0.005	114.8	2.13	<0.001	<1.0	5.67	<0.005	0.02	
PNA07-BRA-W03	W69	1.79	136.7	<0.01	<0.005	0.4	<0.05	0.02	<0.005	3.83	0.006	114.3	2.13	<0.001	<1.0	6.36	<0.005	<0.01	
PNA07-BRA-W04	W70	1.19	63.81	<0.01	<0.005	1.4	<0.05	0.02	<0.005	2.65	<0.005	18.63	4.67	<0.001	<1.0	5.56	<0.005	0.09	
PNA07-BRA-W05	W71	2.02	167.0	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.32	0.006	156.8	1.05	<0.001	<1.0	6.53	<0.005	<0.01	
PNA07-BRA-W06	W72	2.01	167.2	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.32	0.006	157.1	1.06	<0.001	<1.0	6.46	<0.005	<0.01	
PNA07-BRA-W07	W73	2.01	166.9	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.42	0.006	159.5	1.07	<0.001	<1.0	6.58	<0.005	<0.01	
PNA07-BRA-W08	W74	1.98	166.8	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.33	0.006	158.7	1.01	<0.001	<1.0	6.29	<0.005	<0.01	
PNA07-BRA-W09	W75	1.97	166.5	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.48	0.006	159.7	1.01	<0.001	<1.0	6.22	<0.005	<0.01	
PNA07-BRA-W10	W76	1.81	163.1	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.34	0.006	158.5	0.94	<0.001	<1.0	6.02	<0.005	<0.01	
PNA07-BRA-W11	W77	1.91	176.2	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.85	0.006	176.1	0.97	<0.001	<1.0	6.68	<0.005	<0.01	
PNA07-BRA-W12D	W77	1.91	178.7	<0.01	0.005	<0.2	<0.05	<0.01	<0.005	4.78	0.006	176.2	0.97	<0.001	<1.0	6.90	<0.005	<0.01	
PNA07-BRA-W13	W78	1.97	55.51	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	1.53	<0.005	34.71	1.62	<0.001	<1.0	6.46	<0.005	<0.01	
Summary Statistics		Min.	0.18	0.73	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.11	<0.005	1.97	0.04	<0.001	<1.0	1.41	<0.005	<0.01
		Max.	11.65	178.7	<0.01	0.056	43.5	<0.05	0.43	0.012	4.85	0.025	176.2	304.9	<0.001	<1.0	9.87	0.015	0.09
		Mean	2.07	64.27	<0.01	0.014	4.6	<0.05	0.05	0.012	2.06	0.009	56.94	18.41	<0.001	<1.0	5.42	0.011	0.05
		Median	1.81	37.86	<0.01	0.011	1.7	<0.05	0.02	0.012	1.21	0.006	29.34	0.97	<0.001	<1.0	6.05	0.011	0.05
		Median	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Mo ICP-MS (µg/L) 0.05	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	Sn ICP-MS (µg/L) 0.01	
BRA07-W26	W26	11.01	62.74	<0.01	<0.005	34.5	<0.05	0.72	<0.005	4.25	0.024	28.51	308.3	<0.001	<1.0	5.51	<0.005	<0.01	
BRA07-W27	W05	11.11	62.97	<0.01	<0.005	41.0	<0.05	0.80	<0.005	4.29	0.025	28.72	307.3	<0.001	<1.0	6.04	<0.005	<0.01	
BRA07-W28	W28	2.14	14.07	<0.01	0.011	2.9	<0.05	0.03	<0.005	1.16	0.005	10.11	1.02	<0.001	<1.0	9.59	<0.005	<0.01	
BRA07-W29	W29	2.17	23.40	<0.01	<0.005	3.3	<0.05	0.02	<0.005	1.43	0.012	20.42	10.38	<0.001	<1.0	9.86	<0.005	<0.01	
BRA07-W30	W01	1.78	0.94	<0.01	0.015	1.4	<0.05	0.01	<0.005	0.89	<0.005	1.92	0.06	<0.001	<1.0	2.88	<0.005	<0.01	
BRA07-W31	W02	1.68	0.76	<0.01	0.011	1.5	<0.05	<0.01	<0.005	1.47	<0.005	4.49	0.16	<0.001	<1.0	2.39	<0.005	<0.01	
BRA07-W32	W03	1.73	0.98	<0.01	0.013	1.8	<0.05	<0.01	<0.005	0.94	<0.005	2.55	0.10	<0.001	<1.0	2.97	<0.005	<0.01	
BRA07-W33	W04	1.91	1.09	<0.01	0.012	1.4	<0.05	<0.01	<0.005	0.89	<0.005	3.07	0.17	<0.001	<1.0	2.99	<0.005	<0.01	
BRA07-W34	W08	1.69	1.64	<0.01	0.008	2.0	<0.05	0.02	<0.005	0.86	<0.005	5.02	0.20	<0.001	<1.0	3.95	<0.005	<0.01	
BRA07-W35	W09	1.71	2.37	<0.01	0.019	1.2	<0.05	0.07	<0.005	0.54	0.012	7.15	0.08	<0.001	<1.0	7.12	<0.005	<0.01	
BRA07-W36	W36	0.77	3.22	<0.01	0.006	<0.2	<0.05	<0.01	<0.005	0.60	0.008	4.41	0.14	<0.001	<1.0	6.98	<0.005	<0.01	
BRA07-W36D	W36	0.80	3.25	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.61	0.008	4.37	0.15	<0.001	<1.0	7.01	<0.005	<0.01	
BRA07-W37	W07	3.20	10.89	<0.01	0.007	2.6	<0.05	0.19	<0.005	4.11	0.006	27.28	25.73	<0.001	<1.0	4.57	<0.005	<0.01	
BRA07-W38	W06	1.89	134.1	<0.01	0.006	3.6	<0.05	0.34	<0.005	3.92	<0.005	113.5	2.28	<0.001	<1.0	6.68	<0.005	<0.01	
BRA07-W39	W16	1.80	132.2	<0.01	0.006	3.7	<0.05	0.37	<0.005	3.88	<0.005	111.3	2.23	<0.001	<1.0	6.56	<0.005	<0.01	
BRA07-W40	W15	1.49	68.62	<0.01	<0.005	1.5	<0.05	0.09	<0.005	2.07	<0.005	61.45	1.59	<0.001	<1.0	1.41	<0.005	<0.01	
BRA07-W41	W14	3.17	52.31	<0.01	0.065	9.9	<0.05	0.06	0.013	0.61	<0.005	55.35	0.08	<0.001	<1.0	6.84	0.016	<0.01	
BRA07-W42	W13	2.04	36.64	<0.01	0.025	1.5	<0.05	0.01	0.005	0.51	0.006	36.38	0.10	<0.001	<1.0	6.61	0.006	<0.01	
BRA07-W43	W11	1.59	1.28	<0.01	0.029	1.3	<0.05	0.03	0.006	0.78	<0.005	3.66	0.15	<0.001	<1.0	3.29	0.006	<0.01	
BRA07-W44	W12	1.59	1.27	<0.01	0.031	1.5	<0.05	0.04	0.007	0.81	<0.005	3.68	0.15	<0.001	<1.0	3.27	0.007	<0.01	
BRA07-W45	W22	0.17	2.17	<0.01	0.066	0.5	<0.05	0.04	0.013	0.12	<0.005	2.62	0.04	<0.001	<1.0	3.08	0.017	<0.01	
BRA07-W46	W25	0.36	5.02	<0.01	0.115	0.9	<0.05	0.07	0.023	0.26	<0.005	11.74	0.29	<0.001	<1.0	3.65	0.031	<0.01	
BRA07-W46D	W25	0.39	5.00	<0.01	0.117	1.0	<0.05	0.07	0.023	0.27	<0.005	11.77	0.31	<0.001	<1.0	3.66	0.031	<0.01	
BRA07-W47	W24	0.49	6.30	<0.01	0.074	<0.2	<0.05	0.04	0.014	0.36	<0.005	14.07	0.39	<0.001	<1.0	3.50	0.022	<0.01	
BRA07-W48	W23	0.31	5.07	<0.01	0.017	<0.2	<0.05	0.02	<0.005	0.12	<0.005	3.57	0.14	<0.001	<1.0	4.47	0.005	<0.01	
BRA07-W49	W49	0.39	5.95	<0.01	0.014	<0.2	<0.05	<0.01	<0.005	0.13	<0.005	3.07	0.25	<0.001	<1.0	3.70	<0.005	<0.01	
BRA07-W50	W17	0.90	68.83	<0.01	0.014	8.6	<0.05	0.02	<0.005	1.75	<0.005	33.30	25.58	<0.001	<1.0	4.27	<0.005	<0.01	
BRA07-W51	W18	1.27	115.1	<0.01	0.005	4.2	<0.05	<0.01	<0.005	0.93	0.008	107.0	90.12	<0.001	<1.0	6.28	<0.005	<0.01	
BRA07-W52	W19	2.11	130.6	<0.01	<0.005	2.4	<0.05	0.03	<0.005	0.51	<0.005	92.99	28.83	<0.001	<1.0	4.74	<0.005	<0.01	
BRA07-W53	W20	1.39	39.40	<0.01	<0.005	6.7	<0.05	0.06	<0.005	0.14	<0.005	31.43	12.62	<0.001	<1.0	8.10	<0.005	<0.01	
BRA07-W54	W54	2.63	3.11	<0.01	0.010	2.0	<0.05	<0.01	<0.005	0.85	0.020	15.37	0.09	<0.001	<1.0	9.09	<0.005	<0.01	
BRA07-W55	W55	1.50	1.29	<0.01	0.025	1.4	<0.05	0.03	0.005	0.76	<0.005	3.42	0.13	<0.001	<1.0	3.30	0.006	<0.01	
PNA07-BRA-W01	W67	1.81	137.8	<0.01	<0.005	2.5	<0.05	0.25	<0.005	3.96	0.005	116.7	2.18	<0.001	<1.0	5.92	<0.005	0.02	
PNA07-BRA-W02	W68	1.80	138.8	<0.01	<0.005	2.0	<0.05	0.13	<0.005	3.85	0.005	115.4	2.16	<0.001	<1.0	6.10	<0.005	<0.01	
PNA07-BRA-W03	W69	1.70	137.2	<0.01	<0.005	0.4	<0.05	0.07	<0.005	3.88	<0.005	117.9	2.09	<0.001	<1.0	6.28	<0.005	<0.01	
PNA07-BRA-W04	W70	1.16	61.47	<0.01	<0.005	1.5	<0.05	0.03	<0.005	2.69	<0.005	17.92	4.75	<0.001	<1.0	5.37	<0.005	0.02	
PNA07-BRA-W05	W71	1.89	167.7	<0.01	<0.005	<0.2	<0.05	0.07	<0.005	4.26	0.006	159.9	1.03	<0.001	<1.0	6.62	<0.005	<0.01	
PNA07-BRA-W06	W72	1.86	169.3	<0.01	<0.005	<0.2	<0.05	0.13	<0.005	4.22	0.005	159.9	1.03	<0.001	<1.0	6.89	<0.005	<0.01	
PNA07-BRA-W07	W73	1.90	172.1	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.28	0.006	162.4	1.06	<0.001	<1.0	6.47	<0.005	<0.01	
PNA07-BRA-W08	W74	1.94	166.2	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.23	0.006	159.9	1.04	<0.001	<1.0	6.54	<0.005	<0.01	
PNA07-BRA-W09	W75	1.97	167.1	<0.01	<0.005	<0.2	<0.05	0.04	<0.005	4.29	0.006	163.0	1.09	<0.001	<1.0	6.50	<0.005	<0.01	
PNA07-BRA-W10	W76	1.90	178.4	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.33	0.006	170.3	1.02	<0.001	<1.0	6.63	<0.005	<0.01	
PNA07-BRA-W11	W77	1.79	182.5	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	4.63	0.006	184.9	0.98	<0.001	<1.0	6.57	<0.005	<0.01	
PNA07-BRA-W12D	W77	1.89	182.5	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.66	0.005	183.5	1.03	<0.001	<1.0	6.72	<0.005	<0.01	
PNA07-BRA-W13	W78	1.98	55.55	<0.01	0.016	0.5	<0.05	0.22	<0.005	1.56	<0.005	35.26	1.68	<0.001	<1.0	6.65	<0.005	<0.01	
Summary Statistics		Min.	0.17	0.76	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.12	<0.005	1.92	0.04	<0.001	<1.0	1.41	<0.005	<0.01
		Max.	11.11	182.5	<0.01	0.117	41.0	<0.05	0.80	0.023	4.66	0.025	184.9	308.3	<0.001	<1.0	9.86	0.031	<0.01
		Mean	2.02	64.87	<0.01	0.028	4.7	<0.05	0.12	0.012	2.04	0.009	58.01	18.67	<0.001	<1.0	5.50	0.015	<0.01
		Median	1.79	39.40	<0.01	0.014	1.9	<0.05	0.04	0.013	1.16	0.006	28.51	1.02	<0.001	<1.0	6.10	0.011	<0.01
		Standard Deviation	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Mo ICP-MS ( $\mu\text{g/L}$ ) 0.05	Na ICP-ES (mg/L) 0.05	Nb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Nd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ni ICP-MS ( $\mu\text{g/L}$ ) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Pr ICP-MS ( $\mu\text{g/L}$ ) 0.005	Rb ICP-MS ( $\mu\text{g/L}$ ) 0.05	Re ICP-MS ( $\mu\text{g/L}$ ) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS ( $\mu\text{g/L}$ ) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS ( $\mu\text{g/L}$ ) 0.005	Sn ICP-MS ( $\mu\text{g/L}$ ) 0.01	
2007 Field Blanks	TB1	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	AB1	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	SB1	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	TB2	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	AB2	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	SB2	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	PNA07-BRA-AB1	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	PNA07-BRA-SB1	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	PNA07-BRA-AB2	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
	PNA07-BRA-SB2	na	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01
Summary Statistics	Min. Max. Mean Median n	<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01	
		<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01	
		<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01	
		<0.05	<0.05	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005	<0.01	
		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Ti ICP-MS (µg/L) 0.5	Tl ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.005	V ICP-MS (µg/L) 0.1	W ICP-MS (µg/L) 0.02	Y ICP-MS (µg/L) 0.01	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05
BRA07-W26	W26	623.5	<0.01	<0.005	<0.02	<0.5	0.010	<0.005	0.409	1.0	6.26	0.01	<0.005	16.3	<0.05
BRA07-W27	W05	647.7	<0.01	<0.005	<0.02	<0.5	0.011	<0.005	0.413	1.0	6.61	<0.01	<0.005	24.1	<0.05
BRA07-W28	W28	193.8	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.040	0.3	0.07	0.03	<0.005	<0.5	<0.05
BRA07-W29	W29	375.0	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.032	0.3	0.06	0.01	<0.005	1.4	<0.05
BRA07-W30	W01	25.6	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.086	0.4	0.02	0.02	<0.005	<0.5	<0.05
BRA07-W31	W02	28.2	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.070	0.2	0.12	0.02	<0.005	<0.5	<0.05
BRA07-W32	W03	26.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.067	0.4	0.04	0.02	<0.005	<0.5	<0.05
BRA07-W33	W04	31.9	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.114	0.4	0.05	0.02	<0.005	0.6	<0.05
BRA07-W34	W08	61.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.246	0.5	0.05	0.01	<0.005	2.0	<0.05
BRA07-W35	W09	103.1	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.045	0.4	<0.02	0.02	<0.005	0.9	<0.05
BRA07-W36	W36	176.6	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.105	0.7	<0.02	0.02	<0.005	<0.5	<0.05
BRA07-W36D	W36	179.0	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.105	0.6	<0.02	0.02	<0.005	<0.5	<0.05
BRA07-W37	W07	945.9	<0.01	<0.005	<0.02	<0.5	0.100	<0.005	0.125	0.3	0.53	<0.01	<0.005	17.5	<0.05
BRA07-W38	W06	1756	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.078	0.4	6.76	<0.01	<0.005	0.6	<0.05
BRA07-W39	W16	1669	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.081	0.4	6.96	<0.01	<0.005	6.7	<0.05
BRA07-W40	W15	818.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.083	0.3	4.45	<0.01	<0.005	0.7	<0.05
BRA07-W41	W14	256.9	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.439	0.3	<0.02	0.08	0.006	0.5	<0.05
BRA07-W42	W13	189.8	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.603	0.4	<0.02	0.03	<0.005	<0.5	<0.05
BRA07-W43	W11	44.3	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.087	0.4	0.04	0.02	<0.005	<0.5	<0.05
BRA07-W44	W12	43.8	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.087	0.4	0.04	0.02	<0.005	1.2	<0.05
BRA07-W45	W22	72.5	<0.01	<0.005	<0.02	1.6	<0.005	<0.005	0.018	0.3	<0.02	0.09	0.007	<0.5	0.08
BRA07-W46	W25	196.4	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.090	0.3	<0.02	0.03	<0.005	<0.5	<0.05
BRA07-W46D	W25	188.7	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.089	0.3	<0.02	0.03	<0.005	<0.5	<0.05
BRA07-W47	W24	201.8	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.135	0.3	<0.02	0.03	<0.005	0.5	<0.05
BRA07-W48	W23	201.6	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.060	0.4	<0.02	0.03	<0.005	0.9	<0.05
BRA07-W49	W49	154.8	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.052	0.4	<0.02	0.02	<0.005	1.0	<0.05
BRA07-W50	W17	560.2	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.090	0.5	0.42	0.02	<0.005	1.9	<0.05
BRA07-W51	W18	848.2	<0.01	<0.005	<0.02	0.6	0.008	<0.005	0.344	1.0	3.50	0.04	<0.005	1.0	<0.05
BRA07-W52	W19	749.6	<0.01	<0.005	<0.02	<0.5	0.006	<0.005	0.130	0.6	2.97	<0.01	<0.005	1.0	<0.05
BRA07-W53	W20	367.6	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.053	1.3	2.59	<0.01	<0.005	4.1	<0.05
BRA07-W54	W54	54.6	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.008	<0.1	0.02	<0.01	<0.005	1.2	<0.05
BRA07-W55	W55	38.8	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.086	0.3	0.03	0.03	<0.005	0.5	<0.05
PNA07-BRA-W01	W67	1737	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.088	0.8	7.31	<0.01	<0.005	<0.5	<0.05
PNA07-BRA-W02	W68	1767	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.087	0.7	7.57	<0.01	<0.005	0.9	<0.05
PNA07-BRA-W03	W69	1731	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.090	0.9	7.57	<0.01	<0.005	0.5	<0.05
PNA07-BRA-W04	W70	600.4	<0.01	<0.005	<0.02	<0.5	0.008	<0.005	0.033	0.4	11.87	<0.01	<0.005	0.6	<0.05
PNA07-BRA-W05	W71	2182	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.113	0.9	5.16	0.01	<0.005	0.5	<0.05
PNA07-BRA-W06	W72	2185	<0.01	<0.005	0.05	0.5	<0.005	<0.005	0.113	1.1	4.67	0.01	<0.005	<0.5	<0.05
PNA07-BRA-W07	W73	2273	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.118	1.0	3.82	0.01	<0.005	<0.5	<0.05
PNA07-BRA-W08	W74	2279	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.116	1.0	3.37	0.01	<0.005	1.0	<0.05
PNA07-BRA-W09	W75	2275	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.114	1.0	2.17	0.01	<0.005	1.1	<0.05
PNA07-BRA-W10	W76	2281	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.108	0.9	2.10	0.01	<0.005	1.3	<0.05
PNA07-BRA-W11	W77	2440	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.119	1.3	0.84	0.04	<0.005	1.1	<0.05
PNA07-BRA-W12D	W77	2451	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.118	1.4	0.84	0.04	<0.005	0.6	<0.05
PNA07-BRA-W13	W78	1109	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.069	0.5	10.80	0.01	<0.005	2.2	<0.05
Summary Statistics		Min.	Max.	Mean	Median	n									
		25.6	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.008	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
		2451	<0.01	<0.005	0.05	1.6	0.100	<0.005	0.603	1.4	11.87	0.09	0.007	24.1	0.08
		825.4	<0.01	<0.005	0.05	0.7	0.024	<0.005	0.128	0.6	3.23	0.02	0.006	3.0	0.08
		375.0	<0.01	<0.005	0.05	0.6	0.009	<0.005	0.090	0.4	2.38	0.02	0.006	1.0	0.08
		45	45	45	45	45	45	45	45	45	45	45	45	45	45

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Ti ICP-MS (µg/L) 0.5	Tl ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.005	V ICP-MS (µg/L) 0.1	W ICP-MS (µg/L) 0.02	Y ICP-MS (µg/L) 0.01	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05
<b>Unfiltered</b>															
BRA07-W26	W26	602.1	<0.01	<0.005	<0.02	<0.5	0.010	<0.005	0.403	1.0	6.22	0.02	<0.005	21.0	<0.05
BRA07-W27	W05	611.0	<0.01	<0.005	<0.02	<0.5	0.011	<0.005	0.403	1.0	6.52	<0.01	<0.005	28.1	<0.05
BRA07-W28	W28	180.0	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.038	0.3	0.07	0.03	<0.005	<0.5	<0.05
BRA07-W29	W29	354.3	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.030	0.2	0.05	0.01	<0.005	<0.5	<0.05
BRA07-W30	W01	24.2	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.086	0.3	0.02	0.02	<0.005	<0.5	<0.05
BRA07-W31	W02	26.8	<0.01	<0.005	<0.02	1.7	<0.005	<0.005	0.071	0.2	0.12	0.02	<0.005	<0.5	<0.05
BRA07-W32	W03	25.8	<0.01	<0.005	<0.02	1.1	<0.005	<0.005	0.068	0.4	0.04	0.02	<0.005	<0.5	<0.05
BRA07-W33	W04	31.2	<0.01	<0.005	<0.02	1.5	<0.005	<0.005	0.116	0.4	0.05	0.02	<0.005	<0.5	<0.05
BRA07-W34	W08	58.9	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.245	0.4	0.05	0.01	<0.005	1.3	<0.05
BRA07-W35	W09	105.2	<0.01	<0.005	<0.02	2.5	<0.005	<0.005	0.049	0.4	<0.02	0.03	<0.005	1.2	<0.05
BRA07-W36	W36	182.7	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.103	0.5	<0.02	0.02	<0.005	<0.5	<0.05
BRA07-W36D	W36	187.8	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.103	0.5	<0.02	0.02	<0.005	<0.5	<0.05
BRA07-W37	W07	879.3	<0.01	<0.005	<0.02	0.5	0.105	<0.005	0.126	0.4	0.52	0.03	<0.005	25.4	<0.05
BRA07-W38	W06	1799	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.080	0.5	6.48	0.02	<0.005	0.6	<0.05
BRA07-W39	W16	1737	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.081	0.6	6.56	0.02	<0.005	0.6	<0.05
BRA07-W40	W15	817.0	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.080	0.3	4.18	<0.01	<0.005	<0.5	<0.05
BRA07-W41	W14	256.2	<0.01	<0.005	<0.02	4.2	<0.005	<0.005	0.461	0.5	0.06	0.14	0.011	0.7	<0.05
BRA07-W42	W13	200.5	<0.01	<0.005	<0.02	1.4	<0.005	<0.005	0.603	0.5	<0.02	0.05	<0.005	<0.5	<0.05
BRA07-W43	W11	43.8	<0.01	<0.005	<0.02	3.6	<0.005	<0.005	0.088	0.5	0.03	0.03	<0.005	<0.5	<0.05
BRA07-W44	W12	44.1	<0.01	<0.005	<0.02	4.3	<0.005	<0.005	0.088	0.5	0.03	0.03	<0.005	0.5	<0.05
BRA07-W45	W22	74.0	<0.01	<0.005	<0.02	1.2	<0.005	<0.005	0.018	0.3	<0.02	0.09	0.006	<0.5	0.05
BRA07-W46	W25	197.4	<0.01	<0.005	<0.02	1.8	<0.005	<0.005	0.092	0.6	<0.02	0.13	0.008	0.9	<0.05
BRA07-W46D	W25	212.1	<0.01	<0.005	<0.02	1.9	<0.005	<0.005	0.096	0.6	<0.02	0.14	0.009	0.9	<0.05
BRA07-W47	W24	219.4	<0.01	<0.005	<0.02	1.0	<0.005	<0.005	0.138	0.4	<0.02	0.10	0.006	0.7	<0.05
BRA07-W48	W23	214.8	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.059	0.4	<0.02	0.04	<0.005	<0.5	<0.05
BRA07-W49	W49	159.4	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.052	0.4	<0.02	0.03	<0.005	<0.5	<0.05
BRA07-W50	W17	583.5	<0.01	<0.005	<0.02	<0.5	0.016	<0.005	0.089	0.2	0.44	0.06	<0.005	2.8	<0.05
BRA07-W51	W18	889.4	<0.01	<0.005	<0.02	<0.5	0.010	<0.005	0.338	1.1	3.55	0.04	<0.005	1.3	<0.05
BRA07-W52	W19	776.9	<0.01	<0.005	<0.02	<0.5	0.007	<0.005	0.134	0.6	2.99	0.01	<0.005	0.9	<0.05
BRA07-W53	W20	398.2	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	1.1	2.55	<0.01	<0.005	4.6	<0.05
BRA07-W54	W54	56.2	<0.01	<0.005	<0.02	2.2	<0.005	<0.005	0.010	0.2	0.02	0.02	<0.005	0.7	<0.05
BRA07-W55	W55	40.8	<0.01	<0.005	<0.02	2.8	<0.005	<0.005	0.091	0.4	0.03	0.03	<0.005	0.6	<0.05
PNA07-BRA-W01	W67	1772	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.084	0.8	6.80	0.02	<0.005	1.4	<0.05
PNA07-BRA-W02	W68	1711	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.085	0.8	6.94	0.02	<0.005	<0.5	<0.05
PNA07-BRA-W03	W69	1710	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.080	0.9	6.72	0.02	<0.005	0.5	<0.05
PNA07-BRA-W04	W70	595.1	<0.01	<0.005	<0.02	<0.5	0.008	<0.005	0.030	0.4	12.03	<0.01	<0.005	0.5	<0.05
PNA07-BRA-W05	W71	2206	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.102	1.1	4.51	0.02	<0.005	<0.5	<0.05
PNA07-BRA-W06	W72	2164	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.104	1.1	4.25	0.02	<0.005	0.6	<0.05
PNA07-BRA-W07	W73	2249	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.108	1.0	3.49	0.02	<0.005	<0.5	<0.05
PNA07-BRA-W08	W74	2255	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.107	1.1	3.18	0.03	<0.005	1.1	<0.05
PNA07-BRA-W09	W75	2284	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.112	1.2	2.15	0.03	<0.005	1.0	<0.05
PNA07-BRA-W10	W76	2276	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.110	1.1	2.16	0.03	<0.005	0.6	<0.05
PNA07-BRA-W11	W77	2430	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.112	1.2	0.81	0.04	<0.005	<0.5	<0.05
PNA07-BRA-W12D	W77	2397	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.116	1.3	0.85	0.05	<0.005	<0.5	<0.05
PNA07-BRA-W13	W78	1110	<0.01	<0.005	<0.02	1.0	<0.005	<0.005	0.071	0.6	10.21	0.03	<0.005	3.7	<0.05
Summary Statistics		Min.	Max.	Mean	Median										
		24.2	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.010	0.2	<0.02	<0.01	<0.005	<0.5	<0.05
		2430	<0.01	<0.005	<0.02	4.3	0.105	<0.005	0.603	1.3	12.03	0.14	0.011	28.1	0.05
		825.5	<0.01	<0.005	<0.02	1.2	0.024	<0.005	0.127	0.6	2.99	0.04	0.008	3.9	0.05
		398.2	<0.01	<0.005	<0.02	0.8	0.010	<0.005	0.091	0.5	2.16	0.03	0.008	0.9	0.05
		45	45	45	45	45	45	45	45	45	45	45	45	45	45

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

210

Field ID	Map ID	Sr ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ta ICP-MS ( $\mu\text{g/L}$ ) 0.01	Tb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Te ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ti ICP-MS ( $\mu\text{g/L}$ ) 0.5	Tl ICP-MS ( $\mu\text{g/L}$ ) 0.005	Tm ICP-MS ( $\mu\text{g/L}$ ) 0.005	U ICP-MS ( $\mu\text{g/L}$ ) 0.005	V ICP-MS ( $\mu\text{g/L}$ ) 0.1	W ICP-MS ( $\mu\text{g/L}$ ) 0.02	Y ICP-MS ( $\mu\text{g/L}$ ) 0.01	Yb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Zn ICP-MS ( $\mu\text{g/L}$ ) 0.5	Zr ICP-MS ( $\mu\text{g/L}$ ) 0.05	
Field Blanks	TB1	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	AB1	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	SB1	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	TB2	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	AB2	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	SB2	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	PNA07-BRA-AB1	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	PNA07-BRA-SB1	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	PNA07-BRA-AB2	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
	PNA07-BRA-SB2	na	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
Summary Statistics	Min. Max. Mean Median n	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05	
		<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05	
		<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05	
		<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05	
		10	10	10	10	10	10	10	10	10	10	10	10	10	10	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Filtered and unfiltered water chemistry**

Field ID	Map ID	Br Dionex (mg/L) 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	NO3 Dionex (mg/L) 0.02	PO4 Dionex (mg/L) 0.02	SO4 Dionex (mg/L) 0.02	Alkalinity (mg/L as CaCO3) 1
Filtered	BRA07-W26	W26	<0.02	1.53	0.59	11.07	<0.02	87.49
	BRA07-W27	W05	<0.02	1.52	0.59	11.89	<0.02	86.16
	BRA07-W28	W28	<0.02	0.68	0.08	0.14	<0.02	29.52
	BRA07-W29	W29	<0.02	1.02	0.13	0.35	<0.02	59.99
	BRA07-W30	W01	<0.02	0.28	0.02	0.02	<0.02	5.70
	BRA07-W31	W02	<0.02	0.18	0.02	0.17	<0.02	13.37
	BRA07-W32	W03	<0.02	0.22	0.02	<0.02	<0.02	7.67
	BRA07-W33	W04	<0.02	0.27	0.02	<0.02	<0.02	9.21
	BRA07-W34	W08	<0.02	0.40	0.03	0.03	<0.02	15.04
	BRA07-W35	W09	<0.02	0.08	0.17	<0.02	<0.02	21.32
	BRA07-W36	W36	<0.02	0.35	0.09	1.96	<0.02	12.72
	BRA07-W36D	W36	<0.02	0.35	0.10	1.94	<0.02	13.13
	BRA07-W37	W07	<0.02	0.14	0.33	0.30	<0.02	82.92
	BRA07-W38	W06	0.06	35.97	0.44	0.83	<0.02	332.4
	BRA07-W39	W16	0.06	36.27	0.45	0.99	<0.02	333.4
	BRA07-W40	W15	<0.02	18.73	0.25	0.03	<0.02	181.9
	BRA07-W41	W14	<0.02	18.28	0.13	0.04	<0.02	169.2
	BRA07-W42	W13	<0.02	10.52	0.08	0.04	<0.02	105.6
	BRA07-W43	W11	<0.02	0.33	0.03	0.03	<0.02	10.62
	BRA07-W44	W12	<0.02	0.34	0.03	0.03	<0.02	10.52
	BRA07-W45	W22	<0.02	0.14	0.05	<0.02	<0.02	7.50
	BRA07-W46	W25	<0.02	0.78	0.06	<0.02	<0.02	35.18
	BRA07-W46D	W25	<0.02	0.85	0.06	0.47	<0.02	36.16
	BRA07-W47	W24	<0.02	1.67	0.06	<0.02	<0.02	41.92
	BRA07-W48	W23	<0.02	0.24	0.07	0.03	<0.02	10.42
	BRA07-W49	W49	<0.02	0.16	0.09	<0.02	<0.02	8.79
	BRA07-W50	W17	<0.02	0.24	0.54	0.08	<0.02	98.55
	BRA07-W51	W18	<0.02	0.28	0.51	1.74	<0.02	323.9
	BRA07-W52	W19	<0.02	3.48	0.70	1.64	<0.02	279.3
	BRA07-W53	W20	<0.02	0.53	0.24	<0.02	<0.02	90.87
	BRA07-W54	W54	<0.02	0.09	0.15	0.03	<0.02	44.53
	BRA07-W55	W55	<0.02	0.36	0.03	0.13	<0.02	9.55
	PNA07-BRA-W01	W67	0.06	36.47	0.45	1.03	<0.02	325.5
	PNA07-BRA-W02	W68	0.06	36.62	0.45	0.81	<0.02	327.1
	PNA07-BRA-W03	W69	0.07	36.99	0.46	0.79	<0.02	330.0
	PNA07-BRA-W04	W70	<0.02	1.01	0.47	0.75	<0.02	57.13
	PNA07-BRA-W05	W71	0.10	52.26	0.44	0.86	<0.02	442.9
	PNA07-BRA-W06	W72	0.10	52.61	0.44	0.58	<0.02	443.1
	PNA07-BRA-W07	W73	0.10	54.07	0.45	0.44	<0.02	454.1
	PNA07-BRA-W08	W74	0.10	53.81	0.44	0.29	<0.02	451.9
	PNA07-BRA-W09	W75	0.10	54.85	0.43	0.24	<0.02	460.3
	PNA07-BRA-W10	W76	0.11	54.96	0.43	0.21	<0.02	461.0
	PNA07-BRA-W11	W77	0.12	61.72	0.41	<0.02	<0.02	504.7
	PNA07-BRA-W12D	W77	0.12	61.21	0.42	<0.02	<0.02	500.4
	PNA07-BRA-W13	W78	<0.02	1.05	0.46	1.23	<0.02	107.4
Summary Statistics		Min.	<0.02	0.08	0.02	<0.02	<0.02	5.70
		Max.	0.12	61.72	0.70	11.89	<0.02	504.7
		Mean	0.09	15.42	0.26	1.18	<0.02	165.34
		Median	0.10	1.01	0.24	0.35	<0.02	86.16
		n	45	45	45	45	45	45

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2007: Quality control for filtered and unfiltered waters**

212

Field ID		Ag ICP-MS (µg/L) <b>DL = 0.005</b>	Al ICP-MS (µg/L) <b>2</b>	As ICP-MS (µg/L) <b>0.1</b>	B ICP-MS (µg/L) <b>5</b>	Ba ICP-MS (µg/L) <b>0.2</b>	Be ICP-MS (µg/L) <b>0.005</b>	Cd ICP-MS (µg/L) <b>0.02</b>	Ce ICP-MS (µg/L) <b>0.01</b>	Co ICP-MS (µg/L) <b>0.05</b>	Cr ICP-MS (µg/L) <b>0.1</b>	Cs ICP-MS (µg/L) <b>0.01</b>	Cu ICP-MS (µg/L) <b>0.1</b>	Dy ICP-MS (µg/L) <b>0.005</b>
Lab replicates	BRA07-W29 FA C	<0.005	<2	475.7	159	14.9	<0.005	<0.02	<0.01	<0.05	0.5	0.22	<0.1	<0.005
	BRA07-W29 FA C REP	<0.005	<2	476.9	182	14.2	<0.005	<0.02	<0.01	<0.05	0.8	0.20	0.1	<0.005
	BRA07-W44 FA C	<0.005	9	2.4	14	12.0	<0.005	<0.02	<0.01	<0.05	0.6	0.01	0.4	<0.005
	BRA07-W44 FA C REP	<0.005	10	2.4	16	11.8	<0.005	<0.02	<0.01	<0.05	0.6	0.01	0.3	<0.005
	BRA07-W31 UA C	<0.005	26	2.3	<5	16.1	<0.005	<0.02	0.01	<0.05	0.2	0.02	0.5	<0.005
	BRA07-W31 UA C REP	<0.005	26	2.4	8	16.5	<0.005	<0.02	0.01	<0.05	0.2	0.02	0.5	<0.005
	BRA07-W51 UA C	<0.005	6	259.4	7427	20.1	<0.005	<0.02	<0.01	<0.05	0.4	0.22	0.4	<0.005
	BRA07-W51 UA C REP	<0.005	6	249.3	6827	19.6	<0.005	<0.02	<0.01	<0.05	0.3	0.21	0.5	<0.005
	PNA07-BRA-W2 FA C	<0.005	3	2330	1836	19.4	<0.005	<0.02	<0.01	0.08	<1	2.17	0.3	<0.005
	PNA07-BRA-W2 FA C REP	<0.005	3	2284	1835	19.0	<0.005	<0.02	<0.01	0.08	<1	2.12	0.3	<0.005
	PNA07-BRA-W4 FA C	<0.005	5	515.9	488	18.6	<0.005	<0.02	<0.01	0.07	<1	2.34	0.4	<0.005
	PNA07-BRA-W4 FA C REP	<0.005	5	516.3	457	18.5	<0.005	<0.02	<0.01	0.07	<1	2.35	0.4	<0.005
	PNA07-BRA-W4 UA C	<0.005	6	524.9	1818	18.8	<0.005	<0.02	<0.01	0.06	<1	2.40	0.5	<0.005
	PNA07-BRA-W4 UA C REP	<0.005	6	520.1	1822	18.7	<0.005	<0.02	<0.01	0.07	<1	2.37	0.5	<0.005
Controls	BLANK	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	BLANK	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	SLRS-4	<0.005	54	0.7	<5	12.3	0.006	<0.02	0.35	<0.05	0.3	<0.01	1.8	0.023
	SLRS-4	<0.005	53	0.7	6	11.7	0.006	<0.02	0.33	<0.05	0.3	<0.01	1.7	0.022
	CERTIFIED	<b>54 ± 4</b>	<b>0.68 ± 0.06</b>		<b>12.2 ± 0.6</b>	<b>0.007 ± 0.002</b>	<b>0.012 ± 0.002</b>		<b>0.033 ± 0.006</b>	<b>0.33 ± 0.02</b>			<b>1.81 ± 0.08</b>	
	TM-25.2	3.728	54	6.9	20	5.5	2.800	8.93	<0.01	13.55	7.7	0.03	12.5	<0.005
	CERTIFIED	<b>51. ± 9.</b>	<b>7.1 ± 1.3</b>		<b>5.9 ± 0.65</b>	<b>2.8 ± 0.49</b>	<b>8.7 ± 1.1</b>		<b>13.2 ± 1.80</b>				<b>12.0 ± 2.24</b>	
	INFORMATION	<b>4.0</b>									<b>7.0</b>			
	BLANK	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.01	<0.05	<1	<0.01	<0.1	<0.005
	BLANK	<0.005	<2	<0.1	<5	<0.2	<0.005	<0.02	<0.01	<0.05	<1	<0.01	<0.1	<0.005
	SLRS-4	<0.005	54	0.7	<5	12.1	0.007	<0.02	0.34	<0.05	<1	<0.01	1.8	0.022
	CERTIFIED	<b>54 ± 4</b>	<b>0.68 ± 0.06</b>		<b>12.2 ± 0.6</b>	<b>0.007 ± 0.002</b>	<b>0.012 ± 0.002</b>		<b>0.033 ± 0.006</b>	<b>0.33 ± 0.02</b>			<b>1.81 ± 0.08</b>	
	TM25.2	3.652	54	7.1	81	5.6	2.889	8.54	<0.01	13.42	170.00	0.03	12.4	<0.005
	CERTIFIED	<b>51. ± 9.</b>	<b>7.1 ± 1.3</b>		<b>5.9 ± 0.65</b>	<b>2.8 ± 0.49</b>	<b>8.7 ± 1.1</b>		<b>13.2 ± 1.80</b>	<b>165 ± 13.0</b>			<b>12.0 ± 2.24</b>	
	INFORMATION	<b>4.0</b>												

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Field ID		Er ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Eu ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ga ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Gd ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ge ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Hf ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Ho ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	In ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	La ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Li ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Lu ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Mn ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	Mo ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Nb ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>
<b>Lab replicates</b>		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	8.46	<0.005	57.4	2.36	<0.01
BRA07-W29 FA C		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	8.62	<0.005	58.0	2.35	<0.01
BRA07-W29 FA C REP															
BRA07-W44 FA C		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	0.81	<0.005	1.4	1.63	<0.01
BRA07-W44 FA C REP		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	0.84	<0.005	1.5	1.65	<0.01
BRA07-W31 UA C		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	0.52	<0.005	2.7	1.68	<0.01
BRA07-W31 UA C REP		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	0.51	<0.005	2.9	1.76	<0.01
BRA07-W51 UA C		<0.005	<0.005	<0.01	<0.005	0.20	<0.01	<0.005	<0.01	<0.01	20.35	<0.005	2.0	1.27	<0.01
BRA07-W51 UA C REP		<0.005	<0.005	<0.01	<0.005	0.20	<0.01	<0.005	<0.01	<0.01	19.74	<0.005	1.8	1.26	<0.01
PNA07-BRA-W2 FA C		<0.005	<0.005	<0.01	<0.005	0.25	<0.01	<0.005	<0.01	<0.01	36.17	<0.005	64.8	1.74	<0.01
PNA07-BRA-W2 FA C REP		<0.005	<0.005	<0.01	<0.005	0.25	<0.01	<0.005	<0.01	<0.01	36.46	<0.005	65.8	1.79	<0.01
PNA07-BRA-W4 FA C		<0.005	<0.005	0.02	<0.005	0.35	<0.01	<0.005	<0.01	<0.01	48.21	<0.005	4.6	1.19	<0.01
PNA07-BRA-W4 FA C REP		<0.005	<0.005	0.02	<0.005	0.36	<0.01	<0.005	<0.01	<0.01	47.05	<0.005	4.5	1.17	<0.01
PNA07-BRA-W4 UA C		<0.005	<0.005	0.02	<0.005	0.36	<0.01	<0.005	<0.01	<0.01	48.35	<0.005	4.6	1.16	<0.01
PNA07-BRA-W4 UA C REP		<0.005	<0.005	0.02	<0.005	0.35	<0.01	<0.005	<0.01	<0.01	47.90	<0.005	4.6	1.14	<0.01
<b>Controls</b>		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK															
SLRS-4		0.013	0.008	<0.01	0.034	<0.02	<0.01	<0.005	<0.01	0.28	0.51	<0.005	3.3	0.19	<0.01
SLRS-4		0.012	0.007	<0.01	0.031	<0.02	<0.01	<0.005	<0.01	0.26	0.51	<0.005	3.3	0.18	<0.01
<b>CERTIFIED</b>													<b>3.37 ± 0.18</b>	<b>0.21 ± 0.02</b>	
TM-25.2		<0.005	<0.005	0.04	<0.005	<0.02	<0.01	<0.005	<0.01	4.04	<0.005	15.0	7.32	<0.01	
<b>CERTIFIED</b>													<b>3.9 ± 0.95</b>	<b>14.7 ± 1.83</b>	<b>7.3 ± 1.0</b>
<b>INFORMATION</b>															
BLANK		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01	
BLANK		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01	
SLRS-4		0.012	0.007	0.01	0.031	<0.02	<0.01	<0.005	<0.01	0.27	0.49	<0.005	3.2	0.19	<0.01
<b>CERTIFIED</b>													<b>3.37 ± 0.18</b>	<b>0.21 ± 0.02</b>	
TM25.2		<0.005	<0.005	0.04	<0.005	<0.02	<0.01	<0.005	<0.01	3.88	<0.005	14.9	7.20	<0.01	
<b>CERTIFIED</b>													<b>3.9 ± 0.95</b>	<b>14.7 ± 1.83</b>	<b>7.3 ± 1.0</b>
<b>INFORMATION</b>															

**Bridge River Mining District, October 2007: Quality control for filtered and unfiltered waters**

Field ID	Nd ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ni ICP-MS ( $\mu\text{g/L}$ ) <b>0.2</b>	Pb ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Pr ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Rb ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Re ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Sb ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Se ICP-MS ( $\mu\text{g/L}$ ) <b>1</b>	Sm ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Sn ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Sr ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>	Ta ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Tb ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Te ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Ti ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>
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Lab replicates	BRA07-W29 FA C	<0.005	3.2	0.03	<0.005	1.44	0.013	10.81	<1.0	<0.005	<0.01	375.0	<0.01	<0.005	<0.02	0.8
	BRA07-W29 FA C REP	<0.005	3.1	0.02	<0.005	1.46	0.012	10.50	<1.0	<0.005	<0.01	365.4	<0.01	<0.005	<0.02	0.8
	BRA07-W44 FA C	0.009	1.0	0.01	<0.005	0.74	<0.005	0.16	<1.0	<0.005	<0.01	43.8	<0.01	<0.005	<0.02	0.5
	BRA07-W44 FA C REP	0.010	1.1	0.01	<0.005	0.76	<0.005	0.15	<1.0	<0.005	<0.01	44.4	<0.01	<0.005	<0.02	0.6
	BRA07-W31 UA C	0.011	1.5	<0.01	<0.005	1.47	<0.005	0.16	<1.0	<0.005	<0.01	26.8	<0.01	<0.005	<0.02	1.7
	BRA07-W31 UA C REP	0.011	1.5	<0.01	<0.005	1.47	<0.005	0.17	<1.0	<0.005	<0.01	27.8	<0.01	<0.005	<0.02	1.8
	BRA07-W51 UA C	0.005	4.2	<0.01	<0.005	0.93	0.008	90.12	<1.0	<0.005	<0.01	889.4	<0.01	<0.005	<0.02	<0.5
	BRA07-W51 UA C REP	0.005	4.2	<0.01	<0.005	0.88	0.009	88.71	<1.0	<0.005	<0.01	844.6	<0.01	<0.005	<0.02	<0.5
	PNA07-BRA-W2 FA C	<0.005	1.8	0.02	<0.005	3.93	0.005	2.13	<1.0	<0.005	0.02	1767	<0.01	<0.005	<0.02	<0.5
	PNA07-BRA-W2 FA C REP	<0.005	1.8	0.02	<0.005	3.84	0.005	2.17	<1.0	<0.005	0.01	1692	<0.01	<0.005	<0.02	<0.5
	PNA07-BRA-W4 FA C	<0.005	1.4	0.02	<0.005	2.65	<0.005	4.67	<1.0	<0.005	0.09	600.4	<0.01	<0.005	<0.02	<0.5
	PNA07-BRA-W4 FA C REP	<0.005	1.5	0.02	<0.005	2.71	<0.005	4.71	<1.0	<0.005	0.03	606.7	<0.01	<0.005	<0.02	<0.5
	PNA07-BRA-W4 UA C	<0.005	1.5	0.03	<0.005	2.69	<0.005	4.75	<1.0	<0.005	0.02	595.1	<0.01	<0.005	<0.02	<0.5
	PNA07-BRA-W4 UA C REP	<0.005	1.4	0.03	<0.005	2.66	<0.005	4.66	<1.0	<0.005	<0.01	595.5	<0.01	<0.005	<0.02	<0.5

Controls	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	SLRS-4	0.256	0.7	0.08	0.066	1.50	0.007	0.26	<1.0	0.055	0.03	27.6	<0.01	<0.005	<0.02	1.4
	SLRS-4	0.251	0.6	0.07	0.064	1.42	0.006	0.24	<1.0	0.054	<0.01	26.6	<0.01	<0.005	<0.02	1.3
	CERTIFIED	<b>0.67± 0.08    0.086± 0.007</b>				<b>0.23 ± 0.04</b>				<b>26.3 ± 3.2</b>						
	TM-25.2	<0.005	10.0	15.17	<0.005	0.17	<0.005	1.93	5	<0.005	6.60	134.6	<0.01	<0.005	<0.02	5.1
	CERTIFIED	<b>10. ± 1.7    15.4 ± 2.49</b>				<b>1.9 ± 0.47    4.9 ± 1.4</b>				<b>141. ± 12.7</b>						
	INFORMATION															
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	SLRS-4	0.260	0.6	0.08	0.067	1.47	0.006	0.24	<1.0	0.055	0.01	27.5	<0.01	<0.005	<0.02	1.3
	CERTIFIED	<b>0.67± 0.08    0.086± 0.007</b>				<b>0.23 ± 0.04</b>				<b>26.3 ± 3.2</b>						
	TM25.2	<0.005	9.9	15.18	<0.005	0.17	<0.005	1.97	4	<0.005	6.17	139.0	<0.01	<0.005	<0.02	5.2
	CERTIFIED	<b>10. ± 1.7    15.4 ± 2.49</b>				<b>1.9 ± 0.47    4.9 ± 1.4</b>				<b>141. ± 12.7</b>						
	INFORMATION															

### Bridge River Mining District, October 2007: Quality control for filtered and unfiltered waters

Field ID		TI ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Tm ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	U ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	V ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	W ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Y ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Yb ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Zn ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>	Zr ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Field ID		Hg Tekran ( $\text{ng/L}$ ) <b>DL = 0.5</b>
<b>Lab replicates</b>	BRA07-W29 FA C	<0.005	<0.005	0.032	0.3	0.06	0.01	<0.005	1.4	<0.05	<b>Lab replicates</b>	SB1 Hg	1.0
	BRA07-W29 FA C REP	<0.005	<0.005	0.032	0.2	0.05	0.01	<0.005	1.3	<0.05		SB1 Hg REP	0.9
	BRA07-W44 FA C	<0.005	<0.005	0.087	0.4	0.04	0.02	<0.005	1.2	<0.05		BRA07-W30 FA Hg	0.8
	BRA07-W44 FA C REP	<0.005	<0.005	0.086	0.3	0.04	0.02	<0.005	1.3	<0.05		BRA07-W30 FA Hg REP	0.7
	BRA07-W31 UA C	<0.005	<0.005	0.071	0.2	0.12	0.02	<0.005	<0.5	<0.05		BRA07-W38 FA Hg	2.2
	BRA07-W31 UA C REP	<0.005	<0.005	0.073	0.2	0.12	0.02	<0.005	<0.5	<0.05		BRA07-W38 FA Hg REP	2.1
	BRA07-W51 UA C	0.010	<0.005	0.338	1.1	3.55	0.04	<0.005	1.3	<0.05		BRA07-W45 FA Hg	3.3
	BRA07-W51 UA C REP	0.010	<0.005	0.344	1.1	3.54	0.04	<0.005	0.7	<0.05		BRA07-W45 FA Hg REP	3.3
	PNA07-BRA-W2 FA C	<0.005	<0.005	0.087	0.7	7.57	<0.01	<0.005	0.9	<0.05		BRA07-W30 UA Hg	1.0
	PNA07-BRA-W2 FA C REP	<0.005	<0.005	0.088	0.7	7.53	<0.01	<0.005	0.8	<0.05		BRA07-W30 UA Hg REP	1.0
	PNA07-BRA-W4 FA C	0.008	<0.005	0.033	0.4	11.87	<0.01	<0.005	0.6	<0.05		BRA07-W38 UA Hg	6.0
	PNA07-BRA-W4 FA C REP	0.007	<0.005	0.029	0.4	11.88	<0.01	<0.005	0.6	<0.05		BRA07-W38 UA Hg REP	6.0
	PNA07-BRA-W4 UA C	0.008	<0.005	0.030	0.4	12.03	<0.01	<0.005	0.5	<0.05		BRA07-W45 UA Hg	3.6
	PNA07-BRA-W4 UA C REP	0.008	<0.005	0.028	0.4	11.77	<0.01	<0.005	<0.5	<0.05		BRA07-W45 UA Hg REP	3.5
<b>Controls</b>	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05	<b>Controls</b>	BLANK	<0.5
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	SLRS-4	0.006	<0.005	0.048	0.3	<0.02	0.14	0.011	1.0	0.09		BLANK	<0.5
	SLRS-4	0.006	<0.005	0.046	0.3	<0.02	0.13	0.012	1.0	0.09		BLANK	<0.5
	<b>CERTIFIED</b>			<b>0.050 ± 0.003</b>	<b>0.32 ± 0.03</b>				<b>0.93 ± 0.1</b>			ORMS-3	13.0
	TM-25.2	6.467	<0.005	6.335	11.0	<0.02	<0.01	<0.005	31.4	<0.05		ORMS-3	12.9
	<b>CERTIFIED</b>	<b>6.5 ± 1.0</b>		<b>6.2 ± 1.2</b>	<b>10.8 ± 1.59</b>							ORMS-3	13.2
	<b>INFORMATION</b>								<b>27.</b>			<b>CERTIFIED</b>	<b>12.6 ± 1.1</b>
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		NIST 1641d	1576000
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		NIST 1641d	1552000
	SLRS-4	0.006	<0.005	0.047	0.3	<0.02	0.13	0.012	1.0	0.09		<b>CERTIFIED (mg/L)</b>	<b>1.590 ± 0.018</b>
	<b>CERTIFIED</b>			<b>0.050 ± 0.003</b>	<b>0.32 ± 0.03</b>				<b>0.93 ± 0.1</b>				
	<b>INFORMATION</b>								<b>27.</b>				
	TM25.2	6.488	<0.005	6.360	10.8	<0.02	<0.01	<0.005	30.7	<0.05			
	<b>CERTIFIED</b>	<b>6.5 ± 1.0</b>		<b>6.2 ± 1.2</b>	<b>10.8 ± 1.59</b>								
	<b>INFORMATION</b>								<b>27.</b>				

**Bridge River Mining District, October 2007: Quality control for filtered and unfiltered waters**

Field ID	Ca ICP-ES (mg/L) DL = 0.02	Fe ICP-ES (mg/L) 0.005	K ICP-ES (mg/L) 0.05	Mg ICP-ES (mg/L) 0.005	Na ICP-ES (mg/L) 0.05	P ICP-ES (mg/L) 0.05	S ICP-ES (mg/L) 0.05	Sc ICP-ES (mg/L) 0.001	Si ICP-ES (mg/L) 0.02	
Lab replicates	SB2-Cations	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
	SB2-Cations REP	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
	BRA07-W31 FA C	9.36	0.053	1.45	1.689	0.73	<0.05	4.53	<0.001	2.37
	BRA07-W31 FA C REP	9.39	0.053	1.38	1.688	0.76	<0.05	4.53	<0.001	2.32
	BRA07-W55 FA C	11.45	0.034	1.06	3.451	1.23	<0.05	3.24	<0.001	3.06
	BRA07-W55 FA C REP	11.55	0.034	1.14	3.533	1.26	<0.05	3.42	<0.001	3.17
	BRA07-W50 UA C	67.18	0.740	2.24	33.94	68.83	<0.05	33.30	<0.001	4.27
	BRA07-W50 UA C REP	67.36	0.744	2.25	33.96	68.50	<0.05	33.58	<0.001	4.28
	PNA07-BRA-W7 FA C	123.8	0.044	4.56	61.30	166.9	<0.05	159.5	<0.001	6.58
	PNA07-BRA-W7 FA C REP	124.6	0.043	4.68	61.57	169.5	<0.05	161.4	<0.001	6.55
	PNA07-BRA-W13 FA C	45.39	0.016	2.10	26.01	55.51	<0.05	34.71	<0.001	6.46
	PNA07-BRA-W13 FA C REP	45.04	0.016	2.05	25.81	54.60	<0.05	34.14	<0.001	6.41
	PNA07-BRA-W9 UA C	126.4	2.189	4.59	62.15	167.1	<0.05	163.0	<0.001	6.50
	PNA07-BRA-W9 UA C REP	126.5	2.224	4.75	62.77	168.8	<0.05	162.6	<0.001	6.61
Controls	BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
	BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
	SLRS-4	6.07	0.106	0.68	1.655	2.30	<0.05	2.57	<0.001	2.07
	CERTIFIED (mg/L)	<b>6.2 ± 0.2</b>		<b>0.68 ± 0.02</b>	<b>1.6 ± 0.1</b>	<b>2.4 ± 0.2</b>				
	CERTIFIED (µg/L)		<b>103 ± 5</b>							
	TMDA-A4752.2	7.27	0.436	0.32	1.648	2.61	<0.05	2.09	<0.001	0.78
	CERTIFIED (µg/L)		<b>423 ± 42.3</b>							
	INFORMATION (mg/L)		<b>7.1</b>		<b>0.3</b>	<b>1.6</b>	<b>2.6</b>			
	BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
	SLRS-4	6.12	0.105	0.64	1.667	2.31	<0.05	2.64	<0.001	2.06
	CERTIFIED (mg/L)	<b>6.2 ± 0.2</b>		<b>0.68 ± 0.02</b>	<b>1.6 ± 0.1</b>	<b>2.4 ± 0.2</b>				
	CERTIFIED (µg/L)		<b>103 ± 5</b>							
	TMDA-52.2	7.29	0.431	0.30	1.658	2.66	<0.05	2.11	<0.001	0.79
	CERTIFIED (µg/L)		<b>423 ± 42.3</b>							
	INFORMATION (mg/L)		<b>7.1</b>		<b>0.3</b>	<b>1.6</b>	<b>2.6</b>			

**Bridge River Mining District, October 2007: Quality control for filtered and unfiltered waters**

Field ID		Br Dionex (mg/L) DL = 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	NO3 Dionex (mg/L) 0.02	PO4 Dionex (mg/L) 0.02	SO4 Dionex (mg/L) 0.02	Field ID		Alkalinity (mg/L as CaCO3) DL = 1
<b>Lab replicates</b>	BRA07-W27 FU A	<0.02	1.52	0.59	11.89	<0.02	86.16	<b>Lab replicates</b>	BRA07-W36 FU A	143
	BRA07-W27 FU A REP	<0.02	1.52	0.59	11.90	<0.02	86.17		BRA07-W36 FU A REP	144
	BRA07-W31 FU A	<0.02	0.18	0.02	0.17	<0.02	13.37		BRA07-W36D FU A	173
	BRA07-W31 FU A REP	<0.02	0.18	0.02	0.16	<0.02	13.27		BRA07-W36D FU A REP	167
	BRA07-W41 FU A	<0.02	18.28	0.13	0.04	<0.02	169.2		BRA07-W37 FU A	286
	BRA07-W41 FU A REP	<0.02	18.25	0.13	0.04	<0.02	169.8		BRA07-W37 FU A REP	286
	BRA07-W53 FU A	<0.02	0.53	0.24	<0.02	<0.02	90.87		BRA07-W47 FU A	89
	BRA07-W53 FU A REP	<0.02	0.53	0.24	<0.02	<0.02	90.89		BRA07-W47 FU A REP	91
	PNA07-BRA-W12 FU A	0.12	61.21	0.42	<0.02	<0.02	500.4		PNA07-BRA-W3 FU A	348
	PNA07-BRA-W12 FU A REP	0.12	61.16	0.42	<0.02	<0.02	500.0		PNA07-BRA-W3 FU A REP	344
<b>Controls</b>	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<b>Controls</b>	ION-915	43
	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02		CERTIFIED	42.3. ± 3.24
	HAMILTON-20	0.12	64.57	0.42	9.91	<0.02	45.73		Hamilton-94	103
	CERTIFIED		64.6 ± 4.6	0.42 ± 0.08	10.85 ± 1.02		46 ± 3.1		CERTIFIED	100. ± 5.40
	ONTARIO-99	0.03	20.94	0.63	1.93	<0.02	26.16		TROIS-94	4
	CERTIFIED		20.8 ± 1.4	0.63 ± 0.10			26 ± 2.1		INFORMATION	6.2
	INFORMATION				2.08				ION-96.3	192
	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02		CERTIFIED	184. ± 8.7
	HAMILTON-20	0.12	64.49	0.42	9.90	<0.02	45.66		Hamilton-94	103
	CERTIFIED		64.6 ± 4.6	0.42 ± 0.08	10.85 ± 1.02		46 ± 3.1		CERTIFIED	100. ± 5.40

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005		
Filtered	PSA08-W01	W26	<0.005	3	1184	1320	16.2	<0.005	39.39	<0.02	<0.01	0.78	0.9	1.08	0.5	<0.005	
	PSA08-W02	W05	<0.005	3	1505	1499	16.3	<0.005	35.63	0.02	<0.01	1.41	1.9	1.47	0.2	<0.005	
	PSA08-W03	W79	<0.005	3	1634	1648	16.6	<0.005	35.76	<0.02	<0.01	1.54	1.5	1.69	0.1	<0.005	
	PSA08-W04	W80	<0.005	3	1829	1379	15.0	<0.005	48.35	<0.02	<0.01	1.40	1.3	1.23	0.2	<0.005	
	PSA08-W05	W28	<0.005	4	109.4	147.3	9.0	<0.005	30.21	<0.02	<0.01	<0.05	0.9	0.07	0.6	0.005	
	PSA08-W06	W07	<0.005	<2	384.8	49.0	14.9	<0.005	62.96	<0.02	<0.01	<0.05	1.8	2.07	1.1	<0.005	
	PSA08-W07	W15	<0.005	6	1617	785.1	11.9	<0.005	44.40	<0.02	<0.01	<0.05	1.0	1.57	0.8	<0.005	
	PSA08-W08	W14	<0.005	4	1.3	752.5	27.5	<0.005	70.67	<0.02	0.01	<0.05	1.0	<0.01	1.0	<0.005	
	PSA08-W09	W13	<0.005	<2	0.6	391.5	35.9	<0.005	66.84	<0.02	<0.01	<0.05	1.0	0.01	0.5	<0.005	
	PSA08-W09D	W13	<0.005	<2	0.5	394.5	35.7	<0.005	67.88	<0.02	<0.01	<0.05	0.8	0.01	0.4	<0.005	
	PSA08-W10	W06	<0.005	<2	2361	1241	19.4	<0.005	84.13	<0.02	<0.01	0.10	0.7	2.74	0.4	<0.005	
	PSA08-W11	W69	<0.005	<2	2313	1207	18.7	<0.005	83.06	<0.02	<0.01	0.11	1.9	2.61	0.4	<0.005	
	PSA08-W12	W81	<0.005	<2	1176	346.9	16.4	<0.005	47.54	<0.02	<0.01	0.19	2.0	3.53	0.7	<0.005	
	PSA08-W13	W82	<0.005	4	79.0	624.2	24.5	<0.005	17.70	<0.02	<0.01	<0.05	2.4	1.85	0.3	<0.005	
	PSA08-W14	W71	<0.005	<2	3434	1829	21.3	<0.005	117.8	<0.02	<0.01	0.09	0.4	2.39	<0.1	<0.005	
	PSA08-W15	W72	<0.005	2	3538	1831	21.0	<0.005	119.0	<0.02	<0.01	<0.05	0.8	1.99	<0.1	<0.005	
	PSA08-W16	W67	<0.005	<2	2295	1192	18.7	<0.005	83.60	<0.02	<0.01	0.13	0.9	2.61	0.2	<0.005	
	PSA08-W17	W68	<0.005	<2	2426	1281	20.0	<0.005	82.57	<0.02	<0.01	0.15	1.6	2.76	0.2	<0.005	
	PSA08-W18	W73	<0.005	<2	3609	1817	21.9	<0.005	121.7	<0.02	<0.01	<0.05	<0.1	2.01	<0.1	<0.005	
	PSA08-W18D	W73	<0.005	<2	3543	1766	21.6	<0.005	121.3	<0.02	<0.01	0.05	<0.1	1.97	<0.1	<0.005	
	PSA08-W19	W74	<0.005	<2	3564	1778	21.2	<0.005	122.8	<0.02	<0.01	0.07	<0.1	1.96	<0.1	<0.005	
	PSA08-W20	W75	<0.005	<2	3551	1737	21.8	<0.005	122.1	<0.02	<0.01	<0.05	<0.1	1.95	<0.1	<0.005	
	PSA08-W21	W76	<0.005	<2	3554	1728	21.7	<0.005	123.8	<0.02	<0.01	0.07	<0.1	1.97	<0.1	<0.005	
	PSA08-W22	W77	<0.005	<2	5914	1864	26.8	<0.005	130.6	<0.02	<0.01	0.12	<0.1	2.07	<0.1	<0.005	
	PSA08-W23	W78	<0.005	3	284.9	439.1	21.6	<0.005	50.00	<0.02	<0.01	<0.05	0.9	1.17	0.5	<0.005	
	PSA08-W24	W20	<0.005	3	211.1	5305	4.7	<0.005	48.08	<0.02	<0.01	0.45	1.2	0.02	1.1	<0.005	
	PSA08-W25	W19	<0.005	<2	58.2	6414	30.8	<0.005	81.67	<0.02	<0.01	<0.05	1.5	0.14	0.5	<0.005	
	PSA08-W26	W18	<0.005	7	222.5	5899	18.4	<0.005	60.09	<0.02	<0.01	<0.05	1.0	0.17	0.4	<0.005	
	PSA08-W27	W17	<0.005	<2	38.7	1782	40.7	<0.005	75.38	<0.02	<0.01	1.01	1.7	0.26	0.4	<0.005	
	PSA08-W27D	W17	<0.005	<2	38.3	1815	40.4	<0.005	74.87	<0.02	<0.01	1.01	1.9	0.25	0.3	<0.005	
	PSA08-W28	W36	<0.005	<2	3.3	79.9	18.9	<0.005	60.16	<0.02	<0.01	<0.05	2.3	0.27	0.2	<0.005	
	PSA08-W29	W83	<0.005	<2	17.2	572.8	33.5	<0.005	59.52	<0.02	<0.01	<0.05	1.0	<0.01	0.5	<0.005	
	PSA08-W30	W84	<0.005	<2	6017	1912	28.0	<0.005	133.1	<0.02	<0.01	<0.05	<0.1	2.25	<0.1	<0.005	
	PSA08-W31	W85	<0.005	<2	0.1	74.7	42.8	<0.005	22.34	<0.02	<0.01	<0.05	1.1	<0.01	<0.1	<0.005	
Summary Statistics		Min.		<0.005	<2	0.1	49.0	4.7	<0.005	17.70	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
		Max.		<0.005	7	6017	6414	42.8	<0.005	133.1	0.02	0.01	1.54	2.4	3.53	1.1	0.005
		Mean		<0.005	4	1662	1556	22.7	<0.005	74.85	0.02	0.01	0.51	1.3	1.49	0.5	0.005
		Median		<0.005	3	1345	1350	21.2	<0.005	69.28	0.02	0.01	0.15	1.1	1.85	0.4	0.005
		n		34	34	34	34	34	34	34	34	34	34	34	34	34	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Eu ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Fe ICP-ES ( $\text{mg/L}$ ) <b>0.005</b>	Ga ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Gd ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ge ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Hf ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Hg Tekran ( $\text{ng/L}$ ) <b>0.5</b>	Ho ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	In ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	K ICP-ES ( $\text{mg/L}$ ) <b>0.05</b>	La ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Li ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Lu ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Mg ICP-ES ( $\text{mg/L}$ ) <b>0.005</b>	Mn ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	Mo ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	
Filtered	PSA08-W01	W26	<0.005	<0.005	0.024	0.01	<0.005	0.24	<0.01	0.9	<0.005	<0.01	1.61	<0.01	23.87	<0.005	17.73	158.5	8.19
	PSA08-W02	W05	<0.005	<0.005	0.011	0.01	<0.005	0.32	<0.01	0.6	<0.005	<0.01	1.82	<0.01	26.58	<0.005	17.56	22.3	9.37
	PSA08-W03	W79	<0.005	<0.005	0.013	0.01	<0.005	0.37	<0.01	0.5	<0.005	<0.01	1.93	<0.01	28.41	<0.005	17.65	24.1	7.19
	PSA08-W04	W80	<0.005	<0.005	0.008	0.01	<0.005	0.35	<0.01	<0.5	<0.005	<0.01	1.85	<0.01	29.61	<0.005	22.37	26.7	6.97
	PSA08-W05	W28	<0.005	<0.005	0.007	<0.01	<0.005	<0.02	<0.01	1.4	<0.005	<0.01	1.35	<0.01	1.85	<0.005	7.001	2.5	1.49
	PSA08-W06	W07	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	2.0	<0.005	<0.01	1.69	<0.01	9.00	<0.005	20.18	0.1	0.98
	PSA08-W07	W15	<0.005	<0.005	0.017	<0.01	<0.005	0.09	<0.01	1.3	<0.005	<0.01	2.61	<0.01	25.44	<0.005	31.11	3.7	1.48
	PSA08-W08	W14	<0.005	<0.005	0.020	<0.01	<0.006	0.05	<0.01	1.5	<0.005	<0.01	2.87	<0.01	0.82	<0.005	28.95	102.6	2.68
	PSA08-W09	W13	<0.005	<0.005	0.016	<0.01	<0.005	0.03	<0.01	0.9	<0.005	<0.01	2.47	<0.01	1.92	<0.005	20.82	33.8	2.09
	PSA08-W09D	W13	<0.005	<0.005	0.019	<0.01	<0.005	0.03	<0.01	0.9	<0.005	<0.01	2.37	<0.01	1.94	<0.005	20.89	33.9	2.05
	PSA08-W10	W06	<0.005	<0.005	0.036	<0.01	<0.005	0.20	<0.01	1.4	<0.005	<0.01	4.06	<0.01	36.37	<0.005	43.54	50.5	1.72
	PSA08-W11	W69	<0.005	<0.005	0.023	<0.01	<0.005	0.21	<0.01	1.1	<0.005	<0.01	4.01	<0.01	34.45	<0.005	43.11	51.6	1.65
	PSA08-W12	W81	<0.005	<0.005	0.007	<0.01	<0.005	0.06	<0.01	1.0	<0.005	<0.01	2.29	<0.01	45.80	<0.005	33.75	2.6	0.89
	PSA08-W13	W82	<0.005	<0.005	0.006	0.02	<0.005	0.48	<0.01	<0.5	<0.005	<0.01	1.78	<0.01	59.69	<0.005	12.23	1.3	0.81
	PSA08-W14	W71	<0.005	<0.005	0.039	<0.01	<0.005	0.14	<0.01	1.1	<0.005	<0.01	5.18	<0.01	30.00	<0.005	53.19	92.1	2.48
	PSA08-W15	W72	<0.005	<0.005	0.044	<0.01	<0.005	0.14	<0.01	0.8	<0.005	<0.01	4.73	<0.01	29.08	<0.005	53.26	101.1	2.06
	PSA08-W16	W67	<0.005	<0.005	0.021	<0.01	<0.005	0.14	<0.01	1.2	<0.005	<0.01	3.66	<0.01	34.70	<0.005	43.37	49.0	1.68
	PSA08-W17	W68	<0.005	<0.005	0.020	<0.01	<0.005	0.14	<0.01	1.2	<0.005	<0.01	3.65	<0.01	37.47	<0.005	43.26	52.5	1.75
	PSA08-W18	W73	<0.005	<0.005	0.054	<0.01	<0.005	0.19	<0.01	0.7	<0.005	<0.01	4.73	<0.01	27.28	<0.005	54.26	108.5	2.07
	PSA08-W18D	W73	<0.005	<0.005	0.052	<0.01	<0.005	0.21	<0.01	0.7	<0.005	<0.01	4.66	<0.01	26.90	<0.005	54.63	106.2	2.04
	PSA08-W19	W74	<0.005	<0.005	0.034	<0.01	<0.005	0.16	<0.01	0.6	<0.005	<0.01	4.49	<0.01	26.34	<0.005	54.36	122.5	2.04
	PSA08-W20	W75	<0.005	<0.005	0.039	<0.01	<0.005	0.14	<0.01	0.5	<0.005	<0.01	4.71	<0.01	26.13	<0.005	54.56	139.1	2.02
	PSA08-W21	W76	<0.005	<0.005	0.060	<0.01	<0.005	0.15	<0.01	<0.5	<0.005	<0.01	4.77	<0.01	26.22	<0.005	54.98	147.2	2.03
	PSA08-W22	W77	<0.005	<0.005	3.244	<0.01	<0.005	0.12	<0.01	<0.5	<0.005	<0.01	5.68	<0.01	25.69	<0.005	57.04	195.2	2.01
	PSA08-W23	W78	<0.005	<0.005	0.014	<0.01	<0.005	0.36	<0.01	1.0	<0.005	<0.01	2.26	<0.01	31.24	<0.005	27.78	1.0	2.27
	PSA08-W24	W20	<0.005	<0.005	<0.005	<0.01	<0.005	0.13	<0.01	1.0	<0.005	<0.01	0.44	<0.01	2.51	<0.005	21.23	2.1	1.25
	PSA08-W25	W19	<0.005	<0.005	0.009	<0.01	<0.005	0.05	<0.01	2.4	<0.005	<0.01	1.77	<0.01	11.13	<0.005	36.99	1.5	1.43
	PSA08-W26	W18	<0.005	<0.005	0.007	<0.01	<0.005	0.14	<0.01	2.6	<0.005	<0.01	2.49	<0.01	17.67	<0.005	40.45	2.5	1.23
	PSA08-W27	W17	<0.005	<0.005	0.012	<0.01	<0.005	0.09	<0.01	4.7	<0.005	<0.01	2.18	<0.01	26.63	<0.005	34.92	85.5	1.34
	PSA08-W27D	W17	<0.005	<0.005	0.012	<0.01	<0.005	0.09	<0.01	4.3	<0.005	<0.01	2.26	<0.01	26.24	<0.005	34.86	82.0	1.30
	PSA08-W28	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.5	<0.005	<0.01	1.15	<0.01	3.69	<0.005	14.07	0.2	0.83
	PSA08-W29	W83	<0.005	<0.005	<0.005	<0.01	<0.005	0.03	<0.01	1.3	<0.005	<0.01	2.27	<0.01	2.65	<0.005	21.72	31.9	1.76
	PSA08-W30	W84	<0.005	<0.005	2.789	<0.01	<0.005	0.13	<0.01	0.8	<0.005	<0.01	5.77	<0.01	25.12	<0.005	58.08	188.9	2.07
	PSA08-W31	W85	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	3.1	<0.005	<0.01	0.29	<0.01	2.37	<0.005	13.56	<0.1	0.34
Summary Statistics	n	Min.	Max.	Mean	Median														
		<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	0.29	<0.01	0.82	<0.005	7.001	<0.1	0.34	
		<0.005	<0.005	3.244	0.02	0.006	0.48	<0.01	4.7	<0.005	<0.01	5.77	<0.01	59.69	<0.005	58.08	195.2	9.37	
		<0.005	<0.005	0.229	0.01	0.006	0.16	<0.01	1.4	<0.005	<0.01	2.94	<0.01	22.49	<0.005	34.22	61.3	2.40	
		<0.005	<0.005	0.020	0.01	0.006	0.14	<0.01	1.0	<0.005	<0.01	2.42	<0.01	26.23	<0.005	34.31	49.0	1.89	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	
Filtered	PSA08-W01	W26	41.60	<0.01	<0.005	20.8	<0.05	0.06	<0.005	2.79	0.015	20.63	116.0	<0.001	<1.0	6.15	<0.005
	PSA08-W02	W05	46.96	<0.01	<0.005	28.7	<0.05	0.30	<0.005	3.05	0.017	22.75	131.1	<0.001	<1.0	6.25	<0.005
	PSA08-W03	W79	50.54	<0.01	<0.005	28.7	<0.05	0.35	<0.005	3.30	0.019	25.21	138.2	<0.001	<1.0	5.69	<0.005
	PSA08-W04	W80	44.90	<0.01	<0.005	23.0	<0.05	0.31	<0.005	2.75	0.017	37.41	116.0	<0.001	<1.0	6.29	<0.005
	PSA08-W05	W28	5.19	<0.01	0.013	2.0	<0.05	<0.01	<0.005	0.71	<0.005	3.60	1.45	<0.001	<1.0	7.35	<0.005
	PSA08-W06	W07	3.53	<0.01	<0.005	1.4	<0.05	<0.01	<0.005	2.09	<0.005	9.08	8.70	<0.001	<1.0	5.22	<0.005
	PSA08-W07	W15	67.60	<0.01	<0.005	1.5	<0.05	0.01	<0.005	2.76	<0.005	61.77	2.01	<0.001	<1.0	2.64	<0.005
	PSA08-W08	W14	62.30	<0.01	0.013	3.7	<0.05	<0.01	<0.005	0.44	<0.005	66.04	0.70	<0.001	<1.0	5.46	<0.005
	PSA08-W09	W13	41.21	<0.01	0.006	2.0	<0.05	0.01	<0.005	0.51	<0.005	47.11	0.09	<0.001	<1.0	5.56	<0.005
	PSA08-W09D	W13	40.26	<0.01	0.006	2.1	<0.05	<0.01	<0.005	0.48	<0.005	47.82	0.08	<0.001	<1.0	5.63	<0.005
	PSA08-W10	W06	118.1	<0.01	<0.005	2.9	<0.05	<0.01	<0.005	4.12	0.005	95.38	2.68	<0.001	<1.0	5.84	<0.005
	PSA08-W11	W69	120.1	<0.01	<0.005	1.7	<0.05	<0.01	<0.005	3.96	0.006	93.73	3.01	<0.001	<1.0	5.78	<0.005
	PSA08-W12	W81	29.47	<0.01	<0.005	4.3	<0.05	<0.01	<0.005	3.68	<0.005	27.38	6.24	<0.001	<1.0	4.38	<0.005
	PSA08-W13	W82	78.93	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	2.37	<0.005	9.86	1.06	<0.001	<1.0	6.73	<0.005
	PSA08-W14	W71	170.4	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.71	<0.005	147.1	1.51	<0.001	<1.0	6.51	<0.005
	PSA08-W15	W72	169.7	<0.01	<0.005	<0.2	<0.05	0.05	<0.005	4.33	<0.005	148.4	0.93	<0.001	<1.0	6.54	<0.005
	PSA08-W16	W67	111.1	<0.01	<0.005	2.7	<0.05	<0.01	<0.005	4.03	<0.005	95.78	3.33	<0.001	<1.0	5.80	<0.005
	PSA08-W17	W68	111.8	<0.01	<0.005	3.1	<0.05	<0.01	<0.005	4.27	0.005	94.12	3.44	<0.001	<1.0	5.73	<0.005
	PSA08-W18	W73	169.2	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.43	<0.005	152.9	0.99	<0.001	<1.0	6.53	<0.005
	PSA08-W18D	W73	168.8	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.28	0.005	151.5	0.93	<0.001	<1.0	6.47	<0.005
	PSA08-W19	W74	169.1	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.29	0.006	152.7	0.97	<0.001	<1.0	6.50	<0.005
	PSA08-W20	W75	170.7	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.22	0.005	151.6	0.96	<0.001	<1.0	6.49	<0.005
	PSA08-W21	W76	169.3	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.36	0.005	156.2	0.93	<0.001	<1.0	6.59	<0.005
	PSA08-W22	W77	180.1	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.61	<0.005	164.6	0.96	<0.001	<1.0	6.57	<0.005
	PSA08-W23	W78	53.95	<0.01	<0.005	0.7	<0.05	<0.01	<0.005	1.62	0.005	45.27	1.64	<0.001	<1.0	6.52	<0.005
	PSA08-W24	W20	32.87	<0.01	<0.005	5.6	<0.05	0.01	<0.005	0.11	<0.005	28.10	18.03	<0.001	<1.0	7.92	<0.005
	PSA08-W25	W19	98.47	<0.01	<0.005	2.2	<0.05	<0.01	<0.005	0.45	<0.005	81.07	23.35	<0.001	<1.0	5.39	<0.005
	PSA08-W26	W18	114.7	<0.01	<0.005	2.5	<0.05	<0.01	<0.005	0.85	0.007	92.59	90.71	<0.001	<1.0	5.89	<0.005
	PSA08-W27	W17	56.52	<0.01	<0.005	11.7	<0.05	0.02	<0.005	1.60	<0.005	37.87	63.46	<0.001	<1.0	3.75	<0.005
	PSA08-W27D	W17	57.32	<0.01	<0.005	11.9	<0.05	<0.01	<0.005	1.62	<0.005	37.33	64.15	<0.001	<1.0	3.76	<0.005
	PSA08-W28	W36	3.69	<0.01	<0.005	0.3	<0.05	<0.01	<0.005	0.73	0.009	6.61	0.13	<0.001	<1.0	7.16	<0.005
	PSA08-W29	W83	48.43	<0.01	<0.005	5.3	<0.05	<0.01	<0.005	0.15	<0.005	51.81	0.60	<0.001	<1.0	5.27	<0.005
	PSA08-W30	W84	185.2	<0.01	<0.005	<0.2	<0.05	0.05	<0.005	4.72	0.005	169.0	0.51	<0.001	<1.0	6.76	<0.005
	PSA08-W31	W85	5.13	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	0.17	<0.005	2.90	0.28	<0.001	<1.0	3.41	<0.005
Summary Statistics	Min. Max. Mean Median n	3.53	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.11	<0.005	2.90	0.08	<0.001	<1.0	2.64	<0.005	
		185.2	<0.01	0.013	28.7	<0.05	0.35	<0.005	4.72	0.019	169.0	138.2	<0.001	<1.0	7.92	<0.005	
		88.15	<0.01	0.010	7.3	<0.05	0.11	<0.005	2.60	0.009	74.57	23.68	<0.001	<1.0	5.84	<0.005	
		64.95	<0.01	0.010	2.9	<0.05	0.05	<0.005	2.77	0.006	56.79	1.58	<0.001	<1.0	6.02	<0.005	
		34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sn ICP-MS ( $\mu\text{g/L}$ ) 0.01	Sr ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ta ICP-MS ( $\mu\text{g/L}$ ) 0.01	Tb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Te ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ti ICP-MS ( $\mu\text{g/L}$ ) 0.5	Tl ICP-MS ( $\mu\text{g/L}$ ) 0.005	Tm ICP-MS ( $\mu\text{g/L}$ ) 0.005	U ICP-MS ( $\mu\text{g/L}$ ) 0.005	V ICP-MS ( $\mu\text{g/L}$ ) 0.1	W ICP-MS ( $\mu\text{g/L}$ ) 0.02	Y ICP-MS ( $\mu\text{g/L}$ ) 0.01	Yb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Zn ICP-MS ( $\mu\text{g/L}$ ) 0.5	Zr ICP-MS ( $\mu\text{g/L}$ ) 0.05	
Filtered	PSA08-W01	W26	<0.01	496.7	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.250	0.8	4.02	0.03	<0.005	11.0	<0.05
	PSA08-W02	W05	<0.01	524.5	<0.01	<0.005	<0.02	0.5	0.007	<0.005	0.278	1.2	5.02	<0.01	<0.005	20.4	<0.05
	PSA08-W03	W79	<0.01	534.9	<0.01	<0.005	<0.02	0.5	0.009	<0.005	0.293	1.1	5.32	<0.01	<0.005	21.2	<0.05
	PSA08-W04	W80	<0.01	611.0	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.277	1.1	4.97	0.02	<0.005	21.2	<0.05
	PSA08-W05	W28	<0.01	121.5	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.008	0.5	0.06	0.04	<0.005	0.7	<0.05
	PSA08-W06	W07	<0.01	409.8	<0.01	<0.005	<0.02	0.6	0.037	<0.005	0.094	0.8	0.22	0.03	<0.005	4.0	<0.05
	PSA08-W07	W15	<0.01	916.8	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.080	0.6	2.79	<0.01	<0.005	<0.5	<0.05
	PSA08-W08	W14	<0.01	359.0	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.833	0.6	<0.02	0.05	<0.005	0.7	<0.05
	PSA08-W09	W13	<0.01	252.5	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.788	0.4	<0.02	0.03	<0.005	1.6	<0.05
	PSA08-W09D	W13	<0.01	250.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.805	0.4	<0.02	0.02	<0.005	0.5	<0.05
	PSA08-W10	W06	<0.01	1528	<0.01	<0.005	<0.02	<0.5	0.006	<0.005	0.070	0.6	4.23	<0.01	<0.005	<0.5	<0.05
	PSA08-W11	W69	<0.01	1461	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.077	0.9	4.06	<0.01	<0.005	0.7	<0.05
	PSA08-W12	W81	<0.01	696.0	<0.01	<0.005	<0.02	<0.5	0.016	<0.005	0.048	0.9	1.61	<0.01	<0.005	0.8	<0.05
	PSA08-W13	W82	<0.01	623.1	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	<0.005	0.8	14.02	<0.01	<0.005	0.9	<0.05
	PSA08-W14	W71	<0.01	2155	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.103	0.5	4.19	0.01	<0.005	<0.5	<0.05
	PSA08-W15	W72	<0.01	2154	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.099	0.6	3.53	0.01	<0.005	21.0	<0.05
	PSA08-W16	W67	<0.01	1458	<0.01	<0.005	<0.02	<0.5	0.006	<0.005	0.070	0.6	3.79	<0.01	<0.005	<0.5	<0.05
	PSA08-W17	W68	<0.01	1551	<0.01	<0.005	<0.02	<0.5	0.006	<0.005	0.077	0.8	4.08	0.01	<0.005	<0.5	<0.05
	PSA08-W18	W73	<0.01	2211	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.096	0.5	2.91	0.01	<0.005	0.5	<0.05
	PSA08-W18D	W73	<0.01	2144	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.097	0.6	2.82	0.01	<0.005	0.5	<0.05
	PSA08-W19	W74	<0.01	2165	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.100	0.5	2.54	0.01	<0.005	<0.5	<0.05
	PSA08-W20	W75	<0.01	2170	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.099	0.5	1.74	0.01	<0.005	1.0	<0.05
	PSA08-W21	W76	<0.01	2182	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.099	0.5	1.75	0.01	<0.005	<0.5	<0.05
	PSA08-W22	W77	<0.01	2312	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.095	0.9	0.70	0.05	<0.005	0.5	<0.05
	PSA08-W23	W78	<0.01	1256	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.124	0.6	9.23	0.01	<0.005	2.3	<0.05
	PSA08-W24	W20	<0.01	363.3	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.074	1.7	2.27	<0.01	<0.005	32.5	<0.05
	PSA08-W25	W19	<0.01	678.4	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.203	0.9	2.00	0.02	<0.005	0.9	<0.05
	PSA08-W26	W18	<0.01	820.5	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.355	1.1	3.20	0.02	<0.005	0.8	<0.05
	PSA08-W27	W17	<0.01	579.0	<0.01	<0.005	<0.02	<0.5	0.008	<0.005	0.102	0.6	0.38	0.02	<0.005	3.3	<0.05
	PSA08-W27D	W17	<0.01	576.1	<0.01	<0.005	<0.02	<0.5	0.008	<0.005	0.101	0.7	0.38	0.03	<0.005	3.0	<0.05
	PSA08-W28	W36	<0.01	233.6	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.169	0.4	<0.02	0.03	<0.005	<0.5	<0.05
	PSA08-W29	W83	<0.01	304.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.399	0.5	0.04	0.02	<0.005	0.7	<0.05
	PSA08-W30	W84	<0.01	2356	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.060	0.8	0.79	0.04	<0.005	2.7	<0.05
	PSA08-W31	W85	<0.01	158.1	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.028	0.5	<0.02	<0.01	<0.005	<0.5	<0.05
Summary Statistics	Min. Max. Mean Median n	<0.01	121.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.008	0.4	<0.02	<0.01	<0.005	<0.5	<0.05	
		<0.01	2356	<0.01	<0.005	<0.02	0.9	0.037	<0.005	0.833	1.7	14.02	0.05	<0.005	32.5	<0.05	
		<0.01	1077	<0.01	<0.005	<0.02	0.6	0.010	<0.005	0.196	0.7	3.19	0.02	<0.005	6.1	<0.05	
		<0.01	687.2	<0.01	<0.005	<0.02	0.6	0.007	<0.005	0.099	0.6	2.82	0.02	<0.005	1.0	<0.05	
		34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	As(III) ICP-MS Dionex AS7 ( $\mu\text{g/L}$ ) 0.5	As(V) ICP-MS Dionex AS7 ( $\mu\text{g/L}$ ) 0.5	Total As ICP-MS Dionex AS7 ( $\mu\text{g/L}$ ) 1.0	Br Dionex ( $\text{mg/L}$ ) 0.02	Cl Dionex ( $\text{mg/L}$ ) 0.01	F Dionex ( $\text{mg/L}$ ) 0.01	$\text{NO}_3$ Dionex ( $\text{mg/L}$ ) 0.02	$\text{PO}_4$ Dionex ( $\text{mg/L}$ ) 0.02	$\text{SO}_4$ Dionex ( $\text{mg/L}$ ) 0.02	Alkalinity ( $\text{mg/L}$ as $\text{CaCO}_3$ ) 1	DOC SHIMADZU ( $\text{mg/L}$ ) 1	
Filtered	PSA08-W01	W26	23.4	1134	1157	<0.02	0.78	0.38	4.81	<0.02	61.32	207	3
	PSA08-W02	W05	<0.5	1445	1445	<0.02	0.89	0.44	6.60	<0.02	68.51	197	6
	PSA08-W03	W79	<0.5	1560	1560	<0.02	0.96	0.49	5.29	<0.02	76.84	205	4
	PSA08-W04	W80	<0.5	1704	1704	<0.02	0.69	0.42	9.18	<0.02	112.0	202	3
	PSA08-W05	W28	1.1	104.3	105	<0.02	0.08	0.07	<0.02	<0.02	10.38	107	8
	PSA08-W06	W07	<0.5	378.9	379	<0.02	0.11	0.13	<0.02	<0.02	26.70	227	4
	PSA08-W07	W15	<0.5	1555	1555	0.03	18.54	0.23	5.05	<0.02	186.6	184	4
	PSA08-W08	W14	<0.5	<0.5	<1.0	<0.02	18.92	0.12	3.65	<0.02	198.2	223	5
	PSA08-W09	W13	<0.5	<0.5	<1.0	0.02	15.60	0.08	0.05	<0.02	153.7	190	3
	PSA08-W09D	W13	<0.5	<0.5	<1.0	<0.02	14.72	0.08	0.03	<0.02	143.2	187	3
	PSA08-W10	W06	1.8	2427	2429	<0.02	30.74	0.35	17.23	<0.02	285.0	329	4
	PSA08-W11	W69	8.5	2503	2512	<0.02	30.93	0.38	16.24	<0.02	286.8	329	3
	PSA08-W12	W81	<0.5	1187	1187	<0.02	0.58	0.25	0.16	<0.02	85.13	258	3
	PSA08-W13	W82	1.3	76.5	78	<0.02	0.33	0.45	1.91	<0.02	30.00	254	1
	PSA08-W14	W71	13.4	3390	3403	0.08	53.48	0.43	26.93	<0.02	444.0	380	4
	PSA08-W15	W72	36.2	3451	3487	0.05	54.74	0.43	0.88	<0.02	457.4	386	4
	PSA08-W16	W67	4.6	2431	2436	0.04	30.84	0.39	16.53	<0.02	287.0	327	4
	PSA08-W17	W68	6.8	2331	2338	0.04	30.72	0.39	16.37	<0.02	286.3	330	4
	PSA08-W18	W73	150.8	3404	3555	0.06	55.60	0.44	0.54	<0.02	464.9	384	4
	PSA08-W18D	W73	135.2	3361	3496	0.07	55.69	0.44	0.54	<0.02	461.4	394	4
	PSA08-W19	W74	583.6	2930	3514	0.06	55.93	0.45	0.40	<0.02	466.9	391	4
	PSA08-W20	W75	1197	2592	3789	0.07	56.49	0.45	0.30	<0.02	470.3	392	4
	PSA08-W21	W76	1699	2136	3835	0.08	56.48	0.45	0.25	<0.02	468.4	396	4
	PSA08-W22	W77	5371	883.5	6255	0.08	61.98	0.44	<0.02	<0.02	503.7	414	4
	PSA08-W23	W78	4.1	283.7	288	<0.02	0.97	0.43	1.43	<0.02	133.9	238	2
	PSA08-W24	W20	<0.5	223.6	224	<0.02	0.40	0.20	<0.02	<0.02	86.51	206	3
	PSA08-W25	W19	0.9	59.8	61	<0.02	1.85	0.48	0.86	<0.02	246.0	341	2
	PSA08-W26	W18	<0.5	241.5	242	<0.02	0.23	0.44	1.31	<0.02	281.0	283	2
	PSA08-W27	W17	0.8	37.4	38	<0.02	0.29	0.49	0.61	<0.02	113.0	370	2
	PSA08-W27D	W17	0.7	38.0	39	<0.02	0.29	0.48	0.69	<0.02	113.6	373	2
	PSA08-W28	W36	<0.5	2.6	3	<0.02	0.38	0.10	1.67	<0.02	19.23	202	3
	PSA08-W29	W83	<0.5	17.7	18	0.02	15.42	0.12	1.25	<0.02	153.0	179	3
	PSA08-W30	W84	5821	792.4	6613	0.12	64.85	0.44	<0.02	<0.02	508.4	422	5
	PSA08-W31	W85	<0.5	<0.5	<1.0	<0.02	0.07	0.09	0.09	<0.02	8.62	117	2
Summary Statistics	Min. Max. Mean Median n	<0.5	<0.5	<1.0	<0.02	0.07	0.07	<0.02	<0.02	8.62	107	1	
		5821	3451	6613	0.12	64.85	0.49	26.93	<0.02	508.4	422	8	
		753.1	1423	1925	0.06	21.49	0.34	4.86	<0.02	226.4	283	3	
		11.0	1316	1558	0.06	15.07	0.43	1.31	<0.02	170.2	270	4	
		34	34	34	34	34	34	34	34	34	34	34	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS ( $\mu\text{g/L}$ ) DL = 0.005	Al ICP-MS ( $\mu\text{g/L}$ ) 2	As ICP-MS ( $\mu\text{g/L}$ ) 0.1	B ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ba ICP-MS ( $\mu\text{g/L}$ ) 0.2	Be ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ca ICP-ES ( $\text{mg/L}$ ) 0.02	Cd ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ce ICP-MS ( $\mu\text{g/L}$ ) 0.01	Co ICP-MS ( $\mu\text{g/L}$ ) 0.05	Cr ICP-MS ( $\mu\text{g/L}$ ) 0.1	Cs ICP-MS ( $\mu\text{g/L}$ ) 0.01	Cu ICP-MS ( $\mu\text{g/L}$ ) 0.1	Dy ICP-MS ( $\mu\text{g/L}$ ) 0.005	
Unfiltered	PSA08-W01	W26	<0.005	7	1306	1304	16.4	<0.005	39.77	0.03	0.01	0.82	1.3	1.05	0.4	0.009
	PSA08-W02	W05	<0.005	3	1488	1459	15.7	<0.005	35.97	0.04	<0.01	1.42	0.8	1.12	0.2	<0.005
	PSA08-W03	W79	<0.005	4	1632	1726	17.0	<0.005	35.18	0.05	<0.01	1.66	1.2	1.68	0.3	<0.005
	PSA08-W04	W80	<0.005	4	1825	1285	14.8	<0.005	47.97	0.04	<0.01	1.40	1.5	1.23	0.3	<0.005
	PSA08-W05	W28	<0.005	4	104.8	136.0	8.8	<0.005	30.04	<0.02	<0.01	<0.05	1.0	0.06	0.7	<0.005
	PSA08-W06	W07	<0.005	3	379.0	46.1	16.3	<0.005	62.11	<0.02	<0.01	<0.05	2.1	2.26	1.2	<0.005
	PSA08-W07	W15	<0.005	10	1662	753.2	11.9	<0.005	44.14	<0.02	0.01	<0.05	1.1	1.57	1.0	<0.005
	PSA08-W08	W14	<0.005	12	1.2	717.4	32.1	<0.005	70.71	<0.02	0.02	0.07	1.2	<0.01	1.3	0.006
	PSA08-W09	W13	<0.005	9	0.6	423.9	36.0	<0.005	65.55	<0.02	0.01	0.08	1.2	<0.01	0.5	<0.005
	PSA08-W09D	W13	<0.005	8	0.6	399.2	34.7	<0.005	67.14	<0.02	0.01	0.05	0.8	<0.01	0.5	<0.005
	PSA08-W10	W06	<0.005	3	2714	1266	20.5	<0.005	83.60	<0.02	<0.01	0.18	1.0	2.82	0.5	<0.005
	PSA08-W11	W69	<0.005	<2	2288	903.3	18.4	<0.005	83.23	<0.02	<0.01	0.11	1.3	2.40	0.3	<0.005
	PSA08-W12	W81	<0.005	2	1199	358.3	16.6	<0.005	47.71	<0.02	<0.01	0.23	1.3	3.65	0.8	<0.005
	PSA08-W13	W82	<0.005	6	76.7	607.9	23.7	<0.005	17.39	<0.02	<0.01	<0.05	2.4	1.71	0.3	<0.005
	PSA08-W14	W71	<0.005	3	4238	1885	23.9	<0.005	117.9	<0.02	<0.01	0.15	1.1	2.56	<0.1	<0.005
	PSA08-W15	W72	<0.005	3	4829	1825	24.8	<0.005	121.9	<0.02	<0.01	0.12	1.3	2.05	0.2	<0.005
	PSA08-W16	W67	<0.005	4	2556	1191	19.3	<0.005	83.02	<0.02	<0.01	0.16	1.0	2.62	0.4	<0.005
	PSA08-W17	W68	<0.005	11	2704	1239	21.0	<0.005	84.27	<0.02	0.03	0.20	1.1	2.81	0.6	<0.005
	PSA08-W18	W73	<0.005	3	4565	1710	23.2	<0.005	119.8	<0.02	<0.01	<0.05	<0.1	1.93	<0.1	<0.005
	PSA08-W18D	W73	<0.005	3	4614	1743	23.0	<0.005	122.4	<0.02	<0.01	<0.05	<0.1	1.98	<0.1	<0.005
	PSA08-W19	W74	<0.005	2	4595	1741	23.3	<0.005	121.6	<0.02	<0.01	<0.05	<0.1	1.94	<0.1	<0.005
	PSA08-W20	W75	<0.005	<2	4766	1714	24.0	<0.005	124.0	<0.02	<0.01	<0.05	<0.1	1.98	<0.1	<0.005
	PSA08-W21	W76	<0.005	2	5006	1783	24.7	<0.005	122.9	<0.02	<0.01	<0.05	<0.1	2.05	<0.1	<0.005
	PSA08-W22	W77	<0.005	2	6098	1878	26.9	<0.005	131.1	<0.02	<0.01	0.07	<0.1	2.10	<0.1	<0.005
	PSA08-W23	W78	<0.005	13	302.5	448.9	23.4	<0.005	49.75	<0.02	<0.01	0.05	1.4	1.21	0.7	<0.005
	PSA08-W24	W20	<0.005	19	215.5	5567	5.0	<0.005	48.33	<0.02	0.01	0.61	1.4	0.02	1.5	<0.005
	PSA08-W25	W19	<0.005	3	59.6	6628	31.9	<0.005	83.70	<0.02	<0.01	<0.05	1.6	0.14	0.4	<0.005
	PSA08-W26	W18	<0.005	7	225.4	6029	19.1	<0.005	61.22	<0.02	<0.01	<0.05	1.7	0.18	0.4	<0.005
	PSA08-W27	W17	<0.005	4	66.9	2052	41.0	<0.005	74.90	<0.02	<0.01	1.41	2.4	0.24	0.7	<0.005
	PSA08-W27D	W17	<0.005	3	64.2	1824	40.2	<0.005	75.78	<0.02	<0.01	1.45	2.2	0.26	0.4	<0.005
	PSA08-W28	W36	<0.005	<2	3.4	109.7	19.6	<0.005	59.40	<0.02	<0.01	<0.05	2.3	0.28	0.3	<0.005
	PSA08-W29	W83	<0.005	4	18.5	731.9	33.9	<0.005	58.87	<0.02	<0.01	<0.05	1.0	<0.01	0.4	<0.005
	PSA08-W30	W84	<0.005	55	7542	1913	32.9	0.008	134.4	0.03	0.05	0.08	1.2	2.34	2.3	0.013
	PSA08-W31	W85	<0.005	6	0.1	79.3	44.4	<0.005	22.11	<0.02	<0.01	<0.05	1.2	<0.01	<0.1	<0.005
Summary Statistics		Min.														
		Max.														
		Mean														
		Median														
		n														

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ ) 0.005	Eu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Fe ICP-ES (mg/L) 0.005	Ga ICP-MS ( $\mu\text{g/L}$ ) 0.01	Gd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ge ICP-MS ( $\mu\text{g/L}$ ) 0.02	Hf ICP-MS ( $\mu\text{g/L}$ ) 0.01	Hg Tekran (ng/L) 0.5	Ho ICP-MS ( $\mu\text{g/L}$ ) 0.005	In ICP-MS ( $\mu\text{g/L}$ ) 0.005	K ICP-ES (mg/L) 0.05	La ICP-MS ( $\mu\text{g/L}$ ) 0.01	Li ICP-MS ( $\mu\text{g/L}$ ) 0.02	Lu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mg ICP-ES (mg/L) 0.1	Mn ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mo ICP-MS ( $\mu\text{g/L}$ ) 0.05	
Unfiltered	PSA08-W01	W26	0.007	<0.005	0.333	0.01	0.006	0.22	<0.01	1.4	<0.005	<0.01	1.54	0.01	22.89	<0.005	17.82	190.1	7.63
	PSA08-W02	W05	<0.005	<0.005	0.037	0.01	<0.005	0.34	<0.01	0.5	<0.005	<0.01	1.86	<0.01	26.01	<0.005	17.84	22.2	8.89
	PSA08-W03	W79	<0.005	<0.005	0.055	0.01	<0.005	0.26	<0.01	0.5	<0.005	<0.01	1.90	<0.01	28.63	<0.005	17.61	24.9	7.09
	PSA08-W04	W80	<0.005	<0.005	0.036	0.01	<0.005	0.34	<0.01	<0.5	<0.005	<0.01	1.87	<0.01	28.07	<0.005	22.46	25.3	6.85
	PSA08-W05	W28	<0.005	<0.005	0.010	<0.01	<0.005	<0.02	<0.01	1.5	<0.005	<0.01	1.15	<0.01	1.59	<0.005	7.006	2.5	1.40
	PSA08-W06	W07	<0.005	<0.005	0.007	<0.01	<0.005	<0.02	<0.01	2.3	<0.005	<0.01	1.45	<0.01	8.33	<0.005	20.02	0.2	1.02
	PSA08-W07	W15	<0.005	<0.005	0.120	<0.01	<0.005	0.10	<0.01	1.8	<0.005	<0.01	2.48	<0.01	24.82	<0.005	30.34	17.2	1.45
	PSA08-W08	W14	<0.005	<0.005	0.055	<0.01	0.006	0.05	<0.01	1.8	<0.005	<0.01	2.82	0.01	0.66	<0.005	28.87	99.4	2.62
	PSA08-W09	W13	<0.005	<0.005	0.061	<0.01	<0.005	0.04	<0.01	1.2	<0.005	<0.01	2.23	<0.01	2.04	<0.005	20.78	36.3	2.04
	PSA08-W09D	W13	<0.005	<0.005	0.062	<0.01	<0.005	0.03	<0.01	1.2	<0.005	<0.01	2.41	<0.01	1.94	<0.005	20.89	34.2	1.95
	PSA08-W10	W06	<0.005	<0.005	0.508	<0.01	<0.005	0.21	<0.01	1.7	<0.005	<0.01	4.08	<0.01	38.07	<0.005	43.63	57.2	1.79
	PSA08-W11	W69	<0.005	<0.005	0.548	<0.01	<0.005	0.18	<0.01	1.4	<0.005	<0.01	4.06	<0.01	30.45	<0.005	43.04	52.8	1.56
	PSA08-W12	W81	<0.005	<0.005	0.018	<0.01	<0.005	0.06	<0.01	1.3	<0.005	<0.01	2.14	<0.01	46.74	<0.005	34.07	2.8	0.87
	PSA08-W13	W82	<0.005	<0.005	0.017	0.02	<0.005	0.54	<0.01	<0.5	<0.005	<0.01	1.75	<0.01	60.92	<0.005	12.28	1.5	0.78
	PSA08-W14	W71	<0.005	<0.005	0.942	<0.01	<0.005	0.13	<0.01	1.2	<0.005	<0.01	5.24	<0.01	31.34	<0.005	52.60	102.6	2.56
	PSA08-W15	W72	<0.005	<0.005	1.883	<0.01	<0.005	0.14	<0.01	1.3	<0.005	<0.01	4.90	<0.01	29.80	<0.005	53.56	182.5	2.15
	PSA08-W16	W67	<0.005	<0.005	0.560	<0.01	<0.005	0.13	<0.01	2.1	<0.005	<0.01	3.95	<0.01	34.59	<0.005	43.53	53.8	1.67
	PSA08-W17	W68	<0.005	<0.005	0.683	<0.01	<0.005	0.14	<0.01	4.8	<0.005	<0.01	4.11	0.01	36.11	<0.005	43.50	58.6	1.80
	PSA08-W18	W73	<0.005	<0.005	1.488	<0.01	<0.005	0.16	<0.01	0.9	<0.005	<0.01	4.99	<0.01	25.73	<0.005	54.33	112.4	1.97
	PSA08-W18D	W73	<0.005	<0.005	1.346	<0.01	<0.005	0.15	<0.01	0.9	<0.005	<0.01	5.05	<0.01	26.23	<0.005	54.24	112.9	2.03
	PSA08-W19	W74	<0.005	<0.005	1.663	<0.01	<0.005	0.15	<0.01	0.8	<0.005	<0.01	4.93	<0.01	25.97	<0.005	54.74	127.9	1.95
	PSA08-W20	W75	<0.005	<0.005	1.795	<0.01	<0.005	0.13	<0.01	0.7	<0.005	<0.01	4.82	<0.01	25.66	<0.005	54.62	142.3	1.96
	PSA08-W21	W76	<0.005	<0.005	2.065	<0.01	<0.005	0.14	<0.01	0.6	<0.005	<0.01	5.01	<0.01	26.61	<0.005	55.24	148.9	1.96
	PSA08-W22	W77	<0.005	<0.005	3.332	<0.01	<0.005	0.11	<0.01	<0.5	<0.005	<0.01	4.94	<0.01	25.86	<0.005	57.26	205.9	1.95
	PSA08-W23	W78	<0.005	<0.005	0.146	<0.01	<0.005	0.38	<0.01	2.2	<0.005	<0.01	2.25	<0.01	32.35	<0.005	27.66	10.1	1.92
	PSA08-W24	W20	<0.005	<0.005	0.062	<0.01	<0.005	0.12	<0.01	2.8	<0.005	<0.01	0.55	<0.01	2.69	<0.005	21.23	2.8	1.35
	PSA08-W25	W19	<0.005	<0.005	0.019	<0.01	<0.005	0.05	<0.01	3.5	<0.005	<0.01	1.43	<0.01	11.50	<0.005	36.96	1.6	1.48
	PSA08-W26	W18	<0.005	<0.005	0.010	<0.01	<0.005	0.14	<0.01	2.8	<0.005	<0.01	2.02	<0.01	18.64	<0.005	40.63	2.7	1.24
	PSA08-W27	W17	<0.005	<0.005	0.184	<0.01	<0.005	0.09	<0.01	7.0	<0.005	<0.01	2.08	<0.01	27.71	<0.005	34.72	86.4	1.35
	PSA08-W27D	W17	<0.005	<0.005	0.194	<0.01	<0.005	0.10	<0.01	6.8	<0.005	<0.01	2.15	<0.01	26.01	<0.005	34.81	88.1	1.27
	PSA08-W28	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	1.36	<0.01	3.67	<0.005	14.01	0.2	0.86
	PSA08-W29	W83	<0.005	<0.005	0.009	<0.01	<0.005	0.03	<0.01	1.6	<0.005	<0.01	2.49	<0.01	2.80	<0.005	21.50	34.4	1.75
	PSA08-W30	W84	0.009	<0.005	7.042	0.01	0.015	0.12	<0.01	18.0	<0.005	<0.01	4.93	0.03	25.79	<0.005	58.28	200.5	2.08
	PSA08-W31	W85	<0.005	<0.005	0.006	<0.01	<0.005	<0.02	<0.01	6.5	<0.005	<0.01	0.24	<0.01	2.49	<0.005	13.38	0.2	0.35
Summary Statistics	Min. Max. Mean Median n	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	0.24	<0.01	0.66	<0.005	7.006	0.2	0.35	
		0.009	<0.005	7.042	0.02	0.015	0.54	<0.01	18.0	<0.005	<0.01	5.24	0.03	60.92	<0.005	58.28	205.9	8.89	
		0.008	<0.005	0.766	0.01	0.009	0.16	<0.01	2.6	<0.005	<0.01	2.92	0.02	22.43	<0.005	34.22	65.9	2.34	
		0.008	<0.005	0.146	0.01	0.006	0.13	<0.01	1.5	<0.005	<0.01	2.33	0.01	25.91	<0.005	34.40	44.6	1.86	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	
Unfiltered	PSA08-W01	W26	40.61	<0.01	0.014	20.7	<0.05	0.46	<0.005	2.69	0.014	20.69	142.3	<0.001	<1.0	6.19	0.005
	PSA08-W02	W05	46.59	<0.01	<0.005	27.6	<0.05	0.69	<0.005	3.01	0.016	22.86	166.7	<0.001	<1.0	6.32	<0.005
	PSA08-W03	W79	51.67	<0.01	<0.005	29.8	<0.05	0.98	<0.005	3.38	0.018	25.23	173.0	<0.001	<1.0	5.61	<0.005
	PSA08-W04	W80	45.99	<0.01	<0.005	22.3	<0.05	0.68	<0.005	2.71	0.017	37.20	154.4	<0.001	<1.0	6.27	<0.005
	PSA08-W05	W28	5.16	<0.01	0.013	2.0	<0.05	<0.01	<0.005	0.69	<0.005	3.58	1.43	<0.001	<1.0	7.35	<0.005
	PSA08-W06	W07	3.50	<0.01	<0.005	1.4	<0.05	<0.01	<0.005	2.13	<0.005	8.91	8.92	<0.001	<1.0	5.18	<0.005
	PSA08-W07	W15	68.26	<0.01	0.005	1.6	<0.05	0.09	<0.005	2.75	<0.005	60.94	1.98	<0.001	<1.0	2.62	<0.005
	PSA08-W08	W14	62.74	<0.01	0.018	3.6	<0.05	0.01	<0.005	0.46	<0.005	66.07	0.69	<0.001	<1.0	5.52	<0.005
	PSA08-W09	W13	40.90	<0.01	0.013	2.3	<0.05	0.01	<0.005	0.48	<0.005	47.14	0.08	<0.001	<1.0	5.50	<0.005
	PSA08-W09D	W13	40.98	<0.01	0.012	2.1	<0.05	<0.01	<0.005	0.48	<0.005	47.98	0.08	<0.001	<1.0	5.60	<0.005
	PSA08-W10	W06	122.7	<0.01	<0.005	3.2	<0.05	0.03	<0.005	4.28	0.006	95.37	2.83	<0.001	<1.0	5.77	<0.005
	PSA08-W11	W69	122.7	<0.01	<0.005	1.1	<0.05	0.02	<0.005	3.52	0.005	95.22	2.79	<0.001	<1.0	5.75	<0.005
	PSA08-W12	W81	29.90	<0.01	<0.005	4.5	<0.05	0.01	<0.005	3.73	<0.005	27.15	7.40	<0.001	<1.0	4.41	<0.005
	PSA08-W13	W82	78.66	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	2.36	<0.005	9.92	1.11	<0.001	<1.0	6.62	<0.005
	PSA08-W14	W71	169.1	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.90	<0.005	147.4	1.54	<0.001	<1.0	6.45	<0.005
	PSA08-W15	W72	172.1	<0.01	<0.005	0.4	<0.05	0.06	<0.005	4.33	<0.005	149.9	0.92	<0.001	<1.0	6.65	<0.005
	PSA08-W16	W67	120.4	<0.01	<0.005	2.9	<0.05	0.06	<0.005	3.93	<0.005	95.20	3.14	<0.001	<1.0	5.73	<0.005
	PSA08-W17	W68	124.2	<0.01	0.015	3.4	<0.05	0.17	<0.005	4.22	<0.005	95.70	3.42	<0.001	<1.0	5.85	<0.005
	PSA08-W18	W73	169.8	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.21	0.005	150.9	0.93	<0.001	<1.0	6.54	<0.005
	PSA08-W18D	W73	169.6	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.26	0.005	151.8	0.95	<0.001	<1.0	6.55	<0.005
	PSA08-W19	W74	171.9	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	4.24	0.005	152.2	0.87	<0.001	<1.0	6.61	<0.005
	PSA08-W20	W75	173.5	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.25	0.005	153.7	0.91	<0.001	<1.0	6.60	<0.005
	PSA08-W21	W76	171.7	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.41	<0.005	154.8	0.88	<0.001	<1.0	6.57	<0.005
	PSA08-W22	W77	182.1	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	4.62	<0.005	164.4	0.83	<0.001	<1.0	6.65	<0.005
	PSA08-W23	W78	54.94	<0.01	0.009	0.8	<0.05	0.10	<0.005	1.63	0.005	43.92	1.75	<0.001	<1.0	6.53	<0.005
	PSA08-W24	W20	33.41	<0.01	0.007	5.9	<0.05	0.06	<0.005	0.12	<0.005	28.10	19.04	<0.001	<1.0	7.99	<0.005
	PSA08-W25	W19	93.48	<0.01	<0.005	2.3	<0.05	0.02	<0.005	0.37	<0.005	81.20	23.78	<0.001	<1.0	5.52	<0.005
	PSA08-W26	W18	104.3	<0.01	<0.005	2.7	<0.05	<0.01	<0.005	0.87	0.008	93.43	93.02	<0.001	<1.0	5.99	<0.005
	PSA08-W27	W17	57.38	<0.01	0.007	11.9	<0.05	0.03	<0.005	1.63	<0.005	36.74	64.25	<0.001	<1.0	3.61	<0.005
	PSA08-W27D	W17	59.80	<0.01	0.007	11.7	<0.05	0.03	<0.005	1.55	<0.005	37.17	64.01	<0.001	<1.0	3.80	<0.005
	PSA08-W28	W36	3.95	<0.01	0.008	0.4	<0.05	0.02	<0.005	0.72	0.009	6.44	0.19	<0.001	<1.0	7.09	<0.005
	PSA08-W29	W83	51.89	<0.01	<0.005	5.6	<0.05	0.01	<0.005	0.14	<0.005	50.83	0.53	<0.001	<1.0	5.25	<0.005
	PSA08-W30	W84	198.5	<0.01	0.045	<0.2	<0.05	1.12	0.009	4.66	<0.005	168.8	0.57	<0.001	<1.0	7.12	0.011
	PSA08-W31	W85	5.42	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.19	<0.005	2.89	0.29	<0.001	<1.0	3.41	<0.005
Summary Statistics	Min. Max. Mean Median n	3.50	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.12	<0.005	2.89	0.08	<0.001	<1.0	2.62	<0.005	
		198.5	<0.01	0.045	29.8	<0.05	1.12	0.009	4.90	0.018	168.8	173.0	<0.001	<1.0	7.99	0.011	
		89.64	<0.01	0.013	7.1	<0.05	0.18	0.009	2.59	0.009	74.53	27.81	<0.001	<1.0	5.86	0.008	
		65.50	<0.01	0.012	3.1	<0.05	0.03	0.009	2.73	0.006	55.88	1.65	<0.001	<1.0	6.09	0.008	
		34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sn ICP-MS (µg/L) 0.01	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Tl ICP-MS (µg/L) 0.5	Tl ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.005	V ICP-MS (µg/L) 0.1	W ICP-MS (µg/L) 0.02	Y ICP-MS (µg/L) 0.01	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05	
Unfiltered	PSA08-W01	W26	<0.01	481.5	<0.01	<0.005	<0.02	0.6	0.006	<0.005	0.243	1.0	3.90	0.08	0.006	15.8	<0.05
	PSA08-W02	W05	<0.01	509.8	<0.01	<0.005	<0.02	<0.5	0.008	<0.005	0.277	0.9	4.85	<0.01	<0.005	25.0	<0.05
	PSA08-W03	W79	<0.01	538.9	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.287	1.0	5.00	<0.01	<0.005	31.0	<0.05
	PSA08-W04	W80	<0.01	597.7	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.275	1.2	4.78	0.01	<0.005	24.6	<0.05
	PSA08-W05	W28	<0.01	110.7	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.008	0.5	0.06	0.04	<0.005	<0.5	<0.05
	PSA08-W06	W07	<0.01	392.8	<0.01	<0.005	<0.02	0.7	0.039	<0.005	0.097	0.9	0.16	0.04	<0.005	3.8	<0.05
	PSA08-W07	W15	<0.01	873.7	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.080	0.7	2.60	0.01	<0.005	<0.5	<0.05
	PSA08-W08	W14	<0.01	346.6	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.855	0.6	<0.02	0.07	<0.005	0.9	<0.05
	PSA08-W09	W13	<0.01	250.9	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.788	0.5	<0.02	0.03	<0.005	0.6	<0.05
	PSA08-W09D	W13	<0.01	241.8	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.755	0.4	<0.02	0.03	<0.005	<0.5	<0.05
	PSA08-W10	W06	<0.01	1553	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.075	0.7	3.92	0.02	<0.005	0.5	<0.05
	PSA08-W11	W69	<0.01	1348	<0.01	<0.005	<0.02	0.5	0.005	<0.005	0.074	0.8	3.89	0.01	<0.005	<0.5	<0.05
	PSA08-W12	W81	<0.01	713.7	<0.01	<0.005	<0.02	<0.5	0.016	<0.005	0.050	0.6	1.62	<0.01	<0.005	0.6	<0.05
	PSA08-W13	W82	<0.01	623.1	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	<0.005	0.8	13.68	<0.01	<0.005	<0.5	<0.05
	PSA08-W14	W71	<0.01	2242	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.103	0.7	4.25	0.02	<0.005	<0.5	<0.05
	PSA08-W15	W72	<0.01	2195	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.099	0.8	3.74	0.02	<0.005	1.1	<0.05
	PSA08-W16	W67	<0.01	1446	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.069	0.7	3.79	0.02	<0.005	0.6	<0.05
	PSA08-W17	W68	<0.01	1538	<0.01	<0.005	<0.02	0.6	0.007	<0.005	0.074	0.7	3.96	0.03	<0.005	0.7	<0.05
	PSA08-W18	W73	<0.01	2136	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.092	0.7	2.72	0.03	<0.005	<0.5	<0.05
	PSA08-W18D	W73	<0.01	2157	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.098	0.7	2.71	0.03	<0.005	0.7	<0.05
	PSA08-W19	W74	<0.01	2139	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.096	0.7	2.49	0.03	<0.005	0.6	<0.05
	PSA08-W20	W75	<0.01	2148	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.097	0.7	1.71	0.03	<0.005	<0.5	<0.05
	PSA08-W21	W76	<0.01	2242	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.099	0.8	1.71	0.04	<0.005	0.5	<0.05
	PSA08-W22	W77	<0.01	2329	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.092	0.9	0.82	0.05	<0.005	0.6	<0.05
	PSA08-W23	W78	<0.01	1274	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.123	0.7	9.72	0.02	<0.005	4.1	<0.05
	PSA08-W24	W20	<0.01	379.7	<0.01	<0.005	<0.02	1.3	<0.005	<0.005	0.075	1.7	2.49	0.01	<0.005	35.2	<0.05
	PSA08-W25	W19	<0.01	694.7	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.207	1.0	2.10	0.02	<0.005	0.7	<0.05
	PSA08-W26	W18	<0.01	853.8	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.356	1.3	3.20	0.03	<0.005	0.6	<0.05
	PSA08-W27	W17	<0.01	582.8	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.096	0.3	0.42	0.04	<0.005	3.4	<0.05
	PSA08-W27D	W17	<0.01	563.3	<0.01	<0.005	<0.02	<0.5	0.009	<0.005	0.096	0.3	0.41	0.04	<0.005	2.9	<0.05
	PSA08-W28	W36	<0.01	235.0	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.175	0.5	<0.02	0.03	<0.005	<0.5	<0.05
	PSA08-W29	W83	<0.01	296.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.378	0.5	0.03	0.02	<0.005	0.6	<0.05
	PSA08-W30	W84	0.03	2362	<0.01	<0.005	<0.02	2.8	<0.005	<0.005	0.063	1.3	0.79	0.12	0.011	9.5	<0.05
	PSA08-W31	W85	<0.01	165.9	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.030	0.5	<0.02	0.01	<0.005	<0.5	<0.05
Summary Statistics	Min. Max. Mean Median n	<0.01	110.7	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	0.3	<0.02	<0.01	<0.005	<0.5	<0.05	
		0.03	2362	<0.01	<0.005	<0.02	2.8	0.04	<0.005	0.855	1.7	13.68	0.12	0.011	35.2	<0.05	
		0.03	1075	<0.01	<0.005	<0.02	0.8	0.01	<0.005	0.193	0.8	3.16	0.03	0.008	6.9	<0.05	
		0.03	704.2	<0.01	<0.005	<0.02	0.8	0.01	<0.005	0.097	0.7	2.71	0.03	0.008	0.8	<0.05	
		34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005	
Field Blanks	PSA08-TB1	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-AB1	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-SB1	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-TB2	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-AB2	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-SB2	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-TB3	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-AB3	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	PSA08-SB3	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
	Summary Statistics	Min. Max. Mean Median n	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
			<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
			<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
			<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
			<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
			9	9	9	9	9	9	9	9	9	9	9	9	9	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS ( $\mu\text{g/L}$ ) 0.005	Eu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Fe ICP-ES ( $\text{mg/L}$ ) 0.005	Ga ICP-MS ( $\mu\text{g/L}$ ) 0.01	Gd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ge ICP-MS ( $\mu\text{g/L}$ ) 0.02	Hf ICP-MS ( $\mu\text{g/L}$ ) 0.01	Hg Tekran ( $\text{ng/L}$ ) 0.5	Ho ICP-MS ( $\mu\text{g/L}$ ) 0.005	In ICP-MS ( $\mu\text{g/L}$ ) 0.01	K ICP-ES ( $\text{mg/L}$ ) 0.05	La ICP-MS ( $\mu\text{g/L}$ ) 0.01	Li ICP-MS ( $\mu\text{g/L}$ ) 0.02	Lu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mg ICP-ES ( $\text{mg/L}$ ) 0.005	Mn ICP-MS ( $\mu\text{g/L}$ ) 0.1	Mo ICP-MS ( $\mu\text{g/L}$ ) 0.05	
Field Blanks	PSA08-TB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	PSA08-AB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.150	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.1	<0.1	<0.05
	PSA08-SB1	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.030	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.1	<0.1	<0.05
	PSA08-TB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	PSA08-AB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.2	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	PSA08-SB2	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.1	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	PSA08-TB3	na	<0.005	<0.005	0.009	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	PSA08-AB3	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	1.0	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	PSA08-SB3	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.91	<0.005	<0.01	0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
	Summary Statistics	Min. Max. Mean Median n	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05
			<0.005	<0.005	0.009	<0.01	<0.005	<0.02	<0.01	1.15	<0.005	<0.01	0.05	<0.01	<0.02	<0.005	<0.1	<0.05	
			<0.005	<0.005	0.009	<0.01	<0.005	<0.02	<0.01	1.05	<0.005	<0.01	0.05	<0.01	<0.02	<0.005	<0.1	<0.05	
			<0.005	<0.005	0.009	<0.01	<0.005	<0.02	<0.01	1.07	<0.005	<0.01	0.05	<0.01	<0.02	<0.005	<0.1	<0.05	
			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005
PSA08-TB1	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-AB1	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-SB1	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-TB2	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-AB2	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-SB2	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-TB3	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-AB3	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
PSA08-SB3	na	<0.05	<0.01	<0.005	<0.2	<0.05	0.03	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
<b>Field Blanks</b>		Min.														
		Summary Statistics	Max.													
		Mean														
		Median														
		n														

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sn ICP-MS ( $\mu\text{g/L}$ ) 0.01	Sr ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ta ICP-MS ( $\mu\text{g/L}$ ) 0.01	Tb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Te ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ti ICP-MS ( $\mu\text{g/L}$ ) 0.5	Tl ICP-MS ( $\mu\text{g/L}$ ) 0.005	Tm ICP-MS ( $\mu\text{g/L}$ ) 0.005	U ICP-MS ( $\mu\text{g/L}$ ) 0.005	V ICP-MS ( $\mu\text{g/L}$ ) 0.1	W ICP-MS ( $\mu\text{g/L}$ ) 0.02	Y ICP-MS ( $\mu\text{g/L}$ ) 0.01	Yb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Zn ICP-MS ( $\mu\text{g/L}$ ) 0.5	Zr ICP-MS ( $\mu\text{g/L}$ ) 0.05			
PSA08-TB1	na	0.03	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-AB1	na	0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-SB1	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-TB2	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-AB2	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-SB2	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-TB3	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-AB3	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
PSA08-SB3	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05			
<b>Field Blanks</b>		<b>Min.</b>																	
		<b>Summary Statistics</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>	<b>n</b>	0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5
		0.03	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		
		0.02	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		
		0.02	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, June 2008: Quality control for filtered and unfiltered waters**

Field ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005	
Lab replicates	PSA08-SB3 C	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.01	<0.005
	PSA08-SB2 C REP	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.01	<0.005
	PSA08-W6 FA C	<0.005	<2	384.8	49.0	14.9	<0.005	<0.02	<0.01	<0.05	1.8	2.07	1.1	<0.005
	PSA08-W6 FA C REP	<0.005	<2	376.5	53.8	14.4	<0.005	0.02	<0.01	<0.05	1.7	2.01	1.1	<0.005
	PSA08-W22 FA C	<0.005	<2	5914	1864	26.8	<0.005	<0.02	<0.01	0.12	<0.1	2.07	<0.01	<0.005
	PSA08-W22 FA C REP	<0.005	<2	5928	1838	26.6	<0.005	<0.02	<0.01	0.10	<0.1	2.05	<0.01	<0.005
	PSA08-W6 UA C	<0.005	3	379.0	46.1	16.3	<0.005	<0.02	<0.01	<0.05	2.1	2.26	1.2	<0.005
	PSA08-W6 UA C REP	<0.005	3	390.8	51.3	16.3	<0.005	0.02	<0.01	<0.05	2.2	2.29	1.4	<0.005
	PSA08-W22 UA C	<0.005	2	6098	1878	26.9	<0.005	<0.02	<0.01	0.07	<0.1	2.10	<0.01	<0.005
	PSA08-W22 UA C REP	<0.005	<2	6014	1839	27.5	<0.005	<0.02	<0.01	0.07	<0.1	2.12	<0.01	<0.005
Controls	BLANK	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.01	<0.005
	BLANK	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.01	<0.005
	BLANK	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.01	<0.005
	BLANK	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.01	<0.005
	SLRS-4	<0.005	51	0.7	4.7	12.4	0.007	<0.02	0.36	<0.05	0.3	<0.01	1.7	0.023
	SLRS-4	<0.005	50	0.7	4.2	12.2	0.008	<0.02	0.35	<0.05	0.3	<0.01	1.7	0.023
	SLRS-4	<0.005	51	0.7	4.3	12.2	0.008	<0.02	0.35	<0.05	0.3	<0.01	1.7	0.023
	CERTIFIED		54 ± 4	0.68 ± 0.06		12.2 ± 0.6	0.007 ± 0.002	0.012 ± 0.002		0.033 ± 0.006	0.33 ± 0.02		1.81 ± 0.08	
	TM-28.2	2.748	49	5.6	8.7	16.0	2.587	1.41	<0.01	3.79	4.9	<0.01	6.5	<0.005
	TM-28.2	2.703	47	5.9	9.2	15.8	2.569	1.40	<0.01	3.61	4.6	<0.01	6.4	<0.005
	TM-28.2	2.617	47	5.9	8.7	15.6	2.530	1.36	<0.01	3.60	4.6	<0.01	6.3	<0.005
	CERTIFIED		48. ± 8.5	5.8 ± 1.4		15.6 ± 1.83	2.5 ± 0.49	1.3 ± 0.44		3.6 ± 0.78	4.7 ± 1.5		6.3 ± 1.7	
	INFORMATION	3.30												

**Bridge River Mining District, June 2008: Quality control for filtered and unfiltered waters**

Field ID		Er ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Eu ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ga ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Gd ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ge ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Hf ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Ho ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	In ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	La ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Li ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Lu ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Mn ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	Mo ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Nb ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	
Lab replicates		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01	
		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01	
		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	9.00	<0.005	0.1	0.98	<0.01	
		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	8.53	<0.005	<0.1	0.92	<0.01	
		<0.005	<0.005	<0.01	<0.005	0.12	<0.01	<0.005	<0.01	<0.01	25.69	<0.005	195.2	2.01	<0.01	
		<0.005	<0.005	<0.01	<0.005	0.12	<0.01	<0.005	<0.01	<0.01	25.24	<0.005	195.2	1.96	<0.01	
		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	8.33	<0.005	0.2	1.02	<0.01	
		<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	8.75	<0.005	0.2	1.02	<0.01	
		<0.005	<0.005	<0.01	<0.005	0.11	<0.01	<0.005	<0.01	<0.01	25.86	<0.005	205.9	1.95	<0.01	
		<0.005	<0.005	<0.01	<0.005	0.12	<0.01	<0.005	<0.01	<0.01	26.03	<0.005	203.4	1.93	<0.01	
Controls		BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
		BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
		BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
		BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
		SLRS-4	0.013	0.008	<0.01	0.034	<0.02	<0.01	<0.005	<0.01	0.28	0.51	<0.005	3.2	0.19	<0.01
		SLRS-4	0.013	0.007	<0.01	0.032	<0.02	<0.01	<0.005	<0.01	0.27	0.50	<0.005	3.0	0.19	<0.01
		SLRS-4	0.012	0.008	<0.01	0.033	<0.02	<0.01	<0.005	<0.01	0.28	0.50	<0.005	3.1	0.19	<0.01
		CERTIFIED												<b>3.37 ± 0.18</b>	<b>0.21 ± 0.02</b>	
		TM-28.2	<0.005	<0.005	0.03	<0.005	<0.02	<0.01	<0.005	<0.01	3.59	<0.005	7.4	4.20	<0.01	
		TM-28.2	<0.005	<0.005	0.03	<0.005	<0.02	<0.01	<0.005	<0.01	3.56	<0.005	7.0	4.19	<0.01	
		TM-28.2	<0.005	<0.005	0.03	<0.005	<0.02	<0.01	<0.005	<0.01	3.49	<0.005	7.0	4.10	<0.01	
		CERTIFIED												<b>3.6 ± 1.0</b>	<b>7.2 ± 1.4</b>	
		INFORMATION													<b>4.1 ± 1.4</b>	

**Bridge River Mining District, June 2008: Quality control for filtered and unfiltered waters**

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Field ID		Nd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ni ICP-MS ( $\mu\text{g/L}$ ) 0.2	Pb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Pr ICP-MS ( $\mu\text{g/L}$ ) 0.005	Rb ICP-MS ( $\mu\text{g/L}$ ) 0.05	Re ICP-MS ( $\mu\text{g/L}$ ) 0.005	Sb ICP-MS ( $\mu\text{g/L}$ ) 0.01	Se ICP-MS ( $\mu\text{g/L}$ ) 1	Sm ICP-MS ( $\mu\text{g/L}$ ) 0.005	Sn ICP-MS ( $\mu\text{g/L}$ ) 0.01	Sr ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ta ICP-MS ( $\mu\text{g/L}$ ) 0.01	Tb ICP-MS ( $\mu\text{g/L}$ ) 0.005	Te ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ti ICP-MS ( $\mu\text{g/L}$ ) 0.5
Lab replicates	PSA08-SB3 C	<0.005	<0.2	0.03	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	PSA08-SB2 C REP	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	PSA08-W6 FA C	<0.005	1.4	<0.01	<0.005	2.09	<0.005	8.70	<1.0	<0.005	<0.01	409.8	<0.01	<0.005	<0.02	0.6
	PSA08-W6 FA C REP	<0.005	1.4	<0.01	<0.005	2.04	<0.005	8.69	<1.0	<0.005	<0.01	396.4	<0.01	<0.005	<0.02	0.6
	PSA08-W22 FA C	<0.005	<0.2	<0.01	<0.005	4.61	<0.005	0.96	<1.0	<0.005	<0.01	2312	<0.01	<0.005	<0.02	0.9
	PSA08-W22 FA C REP	<0.005	<0.2	<0.01	<0.005	4.50	0.005	0.91	<1.0	<0.005	<0.01	2260	<0.01	<0.005	<0.02	0.9
	PSA08-W6 UA C	<0.005	1.4	<0.01	<0.005	2.13	<0.005	8.92	<1.0	<0.005	<0.01	392.8	<0.01	<0.005	<0.02	0.7
	PSA08-W6 UA C REP	<0.005	1.4	0.01	<0.005	2.18	<0.005	9.01	<1.0	<0.005	<0.01	410.0	<0.01	<0.005	<0.02	0.7
	PSA08-W22 UA C	<0.005	<0.2	<0.01	<0.005	4.62	<0.005	0.83	<1.0	<0.005	<0.01	2329	<0.01	<0.005	<0.02	0.8
	PSA08-W22 UA C REP	<0.005	<0.2	<0.01	<0.005	4.63	<0.005	0.81	<1.0	<0.005	<0.01	2297	<0.01	<0.005	<0.02	0.9
Controls	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	SLRS-4	0.267	0.6	0.08	0.069	1.48	0.007	0.26	<1.0	0.059	<0.01	27.8	<0.01	<0.005	<0.02	1.3
	SLRS-4	0.256	0.6	0.08	0.068	1.45	0.007	0.24	<1.0	0.056	<0.01	27.4	<0.01	<0.005	<0.02	1.2
	SLRS-4	0.260	0.6	0.08	0.068	1.47	0.007	0.24	<1.0	0.057	<0.01	26.5	<0.01	<0.005	<0.02	1.3
	CERTIFIED						0.23 ± 0.04							26.3 ± 3.2		
	TM-28.2	<0.005	11.5	4.17	<0.005	0.23	<0.005	3.03	3	<0.005	3.76	51.2	<0.01	<0.005	<0.02	4.2
	TM-28.2	<0.005	11.1	4.11	<0.005	0.23	<0.005	3.23	3	<0.005	4.04	50.5	<0.01	<0.005	<0.02	4.1
	TM-28.2	<0.005	11.0	4.04	<0.005	0.23	<0.005	3.18	4	<0.005	3.77	49.7	<0.01	<0.005	<0.02	4.1
	CERTIFIED						3.1 ± 0.74							50.5 ± 6.62		
	INFORMATION															

**Bridge River Mining District, June 2008: Quality control for filtered and unfiltered waters**

Field ID		Tl ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Tm ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	U ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	V ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	W ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Y ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Yb ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Zn ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>	Zr ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Field ID		Hg Tekran ( $\text{ng/L}$ ) <b>DL = 0.5</b>
<b>Lab replicates</b>	PSA08-SB3 C	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		PSA08-W11 FA Hg	1.1
	PSA08-SB2 C REP	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		PSA08-W11 FA Hg REP	0.9
	PSA08-W6 FA C	0.037	<0.005	0.094	0.8	0.22	0.03	<0.005	4.0	<0.05		PSA08-W16 FA Hg	1.2
	PSA08-W6 FA C REP	0.038	<0.005	0.096	0.7	0.20	0.03	<0.005	3.8	<0.05		PSA08-W16 FA Hg REP	1.2
	PSA08-W22 FA C	<0.005	<0.005	0.095	0.9	0.70	0.05	<0.005	0.5	<0.05		PSA08-W30 FA Hg	0.8
	PSA08-W22 FA C REP	<0.005	<0.005	0.096	0.8	0.72	0.05	<0.005	0.6	<0.05		PSA08-W30 FA Hg REP	0.7
	PSA08-W6 UA C	0.039	<0.005	0.097	0.9	0.16	0.04	<0.005	3.8	<0.05		PSA08-W7 UA Hg	1.8
	PSA08-W6 UA C REP	0.039	<0.005	0.099	0.9	0.17	0.03	<0.005	4.1	<0.05		PSA08-W7 UA Hg REP	1.8
	PSA08-W22 UA C	<0.005	<0.005	0.092	0.9	0.82	0.05	<0.005	0.6	<0.05		PSA08-W16 UA Hg	2.1
	PSA08-W22 UA C REP	<0.005	<0.005	0.095	0.9	0.83	0.05	<0.005	<0.5	<0.05		PSA08-W16 UA Hg REP	2.1
<b>Controls</b>	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		PSA08-W30 UA Hg	18.0
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		PSA08-W30 UA Hg REP	18.0
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	SLRS-4	0.006	<0.005	0.050	0.3	<0.02	0.14	0.012	1.0	0.09		BLANK	<0.5
	SLRS-4	0.006	<0.005	0.047	0.3	<0.02	0.13	0.011	0.9	0.09		BLANK	<0.5
	SLRS-4	0.006	<0.005	0.047	0.3	<0.02	0.13	0.012	1.0	0.08		NIST 1641d /200000	7.9
	CERTIFIED			<b>0.050 ± 0.003</b>	<b>0.32 ± 0.03</b>				<b>0.93 ± 0.1</b>			NIST 1641d /200000	7.8
	TM-28.2	3.848	<0.005	6.083	2.5	<0.02	<0.01	<0.005	18.9	<0.05		NIST 1641d /200000	7.9
	TM-28.2	3.750	<0.005	6.154	2.4	<0.02	<0.01	<0.005	18.0	<0.05		NIST 1641d /200000	7.9
	TM-28.2	3.692	<0.005	5.986	2.4	<0.02	<0.01	<0.005	18.0	<0.05		<b>INFORMATION</b>	
	CERTIFIED	<b>3.7 ± 0.47</b>		<b>5.7 ± 0.72</b>	<b>2.5 ± 0.86</b>				<b>14.1 ± 4.05</b>				
	INFORMATION												

**Bridge River Mining District, June 2008: Quality control for filtered and unfiltered waters**

Field ID		As(III) ICP-MS Dionex AS7 (µg/L) DL = 0.5	As(V) ICP-MS Dionex AS7 (µg/L) 0.5	Total As ICP-MS Dionex AS7 (µg/L) 1.0	Field ID		Ca ICP-ES (mg/L) DL = 0.02	Fe ICP-ES (mg/L) 0.005	K ICP-ES (mg/L) 0.05	Mg ICP-ES (mg/L) 0.005	Na ICP-ES (mg/L) 0.05	P ICP-ES (mg/L) 0.05	S ICP-ES (mg/L) 0.05	Sc ICP-ES (mg/L) 0.001	Si ICP-ES (mg/L) 0.02
Lab replicates	PSA08-W3 FA C	35.76	0.013	1.93	17.65	50.54	<0.05	25.21	<0.001	5.69					
	PSA08-W3 FA C REP	35.29	0.013	2.08	17.65	51.04	<0.05	25.29	<0.001	5.65					
Lab replicates	PSA08-W25 FA C	81.67	0.009	1.77	36.99	98.47	<0.05	81.07	<0.001	5.39					
	PSA08-W25 FA C REP	81.82	0.006	1.58	36.38	98.05	<0.05	80.18	<0.001	5.40					
Lab replicates	PSA08-W7 UA C	44.14	0.120	2.48	30.34	68.26	<0.05	60.94	<0.001	2.62					
	PSA08-W7 UA C REP	43.50	0.118	2.69	30.69	72.01	<0.05	60.78	<0.001	2.64					
Lab replicates	PSA08-W24 UA C	48.33	0.062	0.55	21.23	33.41	<0.05	28.10	<0.001	7.99					
	PSA08-W24 UA C REP	48.27	0.062	0.56	21.20	36.65	<0.05	27.72	<0.001	8.05					
235		BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02				
Controls		BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02				
Controls		BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02				
Controls		BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02				
Controls		Batt-01	39.97	<0.005	7.84	16.22	49.61	<0.05	27.35	<0.001	0.67				
Controls		CERTIFIED (mg/L)	<b>40.5 ± 4.03</b>		<b>8.2 ± 0.85</b>	<b>16.5 ± 1.85</b>	<b>52.4 ± 5.27</b>			<b>27.14 ± 2.48</b>					<b>0.67 ± 0.071</b>
Controls		SLRS-4	6.03	0.105	0.68	1.592	2.22	<0.05	2.44	<0.001	1.99				
Controls		SLRS-4	6.10	0.104	0.68	1.600	2.14	<0.05	2.46	<0.001	1.99				
Controls		CERTIFIED (mg/L)	<b>6.2 ± 0.2</b>		<b>0.68 ± 0.02</b>	<b>1.6 ± 0.1</b>	<b>2.4 ± 0.2</b>								
Controls		CERTIFIED (µg/L)			<b>103 ± 5</b>										
Controls		TMDA-52.2	7.03	0.420	0.27	1.608	2.58	<0.05	1.68	<0.001	0.75				
Controls		CERTIFIED (µg/L)			<b>423 ± 42.3</b>										
Controls		INFORMATION (mg/L)			<b>7.1</b>		<b>0.3</b>	<b>1.6</b>	<b>2.6</b>						

**Bridge River Mining District, June 2008: Quality control for filtered and unfiltered waters**

Field ID		Br Dionex (mg/L) DL = 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	NO3 Dionex (mg/L) 0.02	PO4 Dionex (mg/L) 0.02	SO4 Dionex (mg/L) 0.02	Field ID	Alkalinity (mg/L as CaCO3) DL = 1	Field ID	DOC SHIMADZU (mg/L) DL = 1
Lab replicates	PSA08-W3 FU	<0.02	0.96	0.49	5.29	<0.02	76.84	PSA08-W6 FU	227	PSA08-W10 FU	4
	PSA08-W3 FU REP	<0.02	0.96	0.49	5.56	<0.02	77.21				
	PSA08-W17 FU	0.04	30.72	0.39	16.37	<0.02	286.3	PSA08-W6 FU REP	226	PSA08-W10 FU REP	3
	PSA08-W17 FU REP	0.04	30.71	0.38	16.78	<0.02	286.3				
	PSA08-W26 FU	<0.02	0.23	0.44	1.31	<0.02	281.0	PSA08-W16 FU	327	PSA08-W17 FU	4
	PSA08-W26 FU REP	<0.02	0.23	0.44	1.31	<0.02	281.3				
Controls	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	PSA08-W28 FU	202	PSA08-W29 FU	3
	ION-915	<0.02	1.38	0.03	1.69	<0.02	3.41				
	CERTIFIED		1.39 ± 0.284	0.048 ± 0.049	1.52 ± 0.27		3.4 ± 0.64	PSA08-W28 FU REP	197	PSA08-W29 FU REP	3
	HAMILTON-20	0.09	64.57	0.42	9.91	<0.02	45.67				
	CERTIFIED		64.7 ± 4.5	0.42 ± 0.08	10.85 ± 0.93		45.8 ± 3.2	BLANK	<1.0	BLANK	<1.0
Controls								HAMILTON-94	98	ION-96.3	184
								CERTIFIED	100. ± 5.40	CERTIFIED	4.4 ± 1.2

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005
PSA08-W32	W28	<0.005	3	75.4	158.5	20.0	<0.005	47.46	<0.02	<0.01	<0.05	0.2	0.07	<0.1	<0.005
PSA08-W33	W26	<0.005	2	1679	1874	15.5	<0.005	25.87	<0.02	<0.01	0.28	<0.1	1.23	<0.1	<0.005
PSA08-W34	W05	<0.005	2	1418	1892	17.3	<0.005	25.89	0.04	<0.01	1.06	<0.1	1.51	<0.1	<0.005
PSA08-W35	W07	<0.005	5	616.6	197.3	25.8	<0.005	52.77	0.06	<0.01	<0.05	<0.1	4.42	1.0	<0.005
PSA08-W36	W79	<0.005	2	1550	2100	18.9	<0.005	25.82	<0.02	<0.01	1.42	<0.1	1.83	<0.1	<0.005
PSA08-W37	W80	<0.005	2	3304	1450	23.6	<0.005	66.81	<0.02	<0.01	2.85	<0.1	1.91	<0.1	<0.005
PSA08-W38	W13	<0.005	<2	0.7	544.5	33.3	<0.005	58.14	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
PSA08-W39	W14	<0.005	2	1.4	1015	54.6	<0.005	80.85	<0.02	<0.01	0.08	0.1	<0.01	0.4	<0.005
PSA08-W40	W83	<0.005	<2	9.6	512.4	23.1	<0.005	47.12	<0.02	<0.01	<0.05	0.5	<0.01	0.2	<0.005
PSA08-W40D	W83	<0.005	<2	9.8	507.1	22.9	<0.005	46.68	<0.02	<0.01	<0.05	0.5	<0.01	0.2	<0.005
PSA08-W41	W15	<0.005	6	1423	797.9	9.2	<0.005	36.13	<0.02	<0.01	0.08	0.5	0.86	0.5	<0.005
PSA08-W42	W06	<0.005	<2	2550	1514	19.6	<0.005	90.34	<0.02	<0.01	0.09	<0.1	2.26	<0.1	<0.005
PSA08-W43	W67	<0.005	<2	2618	1529	19.5	<0.005	89.90	<0.02	<0.01	0.09	<0.1	2.25	<0.1	<0.005
PSA08-W44	W68	<0.005	<2	2640	1449	19.6	<0.005	89.68	<0.02	<0.01	0.10	<0.1	2.20	<0.1	<0.005
PSA08-W45	W69	<0.005	<2	2644	1489	20.0	<0.005	89.75	<0.02	<0.01	0.08	<0.1	2.22	<0.1	<0.005
PSA08-W46	W81	<0.005	<2	1274	711.7	17.5	<0.005	46.83	<0.02	<0.01	0.18	<0.1	3.65	0.2	<0.005
PSA08-W47	W82	<0.005	4	71.9	656.3	23.8	<0.005	18.21	<0.02	<0.01	<0.05	<0.1	1.81	0.1	<0.005
PSA08-W48	W71	<0.005	<2	3400	1777	19.8	<0.005	115.1	<0.02	<0.01	0.09	<0.1	2.06	<0.1	<0.005
PSA08-W49	W72	<0.005	<2	3673	1836	20.6	<0.005	118.4	<0.02	<0.01	0.06	<0.1	1.96	<0.1	<0.005
PSA08-W49D	W72	<0.005	<2	3653	1854	20.8	<0.005	118.2	<0.02	<0.01	0.06	<0.1	1.96	<0.1	<0.005
PSA08-W50	W73	<0.005	<2	3757	1829	21.1	<0.005	120.0	<0.02	<0.01	0.07	<0.1	1.96	<0.1	<0.005
PSA08-W51	W74	<0.005	<2	3703	1835	21.4	<0.005	120.9	<0.02	<0.01	0.08	<0.1	1.98	<0.1	<0.005
PSA08-W52	W75	<0.005	<2	3793	1854	22.0	<0.005	123.7	<0.02	<0.01	0.09	<0.1	2.00	<0.1	<0.005
PSA08-W53	W76	<0.005	<2	3816	1860	22.5	<0.005	123.5	<0.02	<0.01	0.13	<0.1	1.99	<0.1	<0.005
PSA08-W54	W77	<0.005	<2	6176	1991	27.2	<0.005	133.0	0.06	<0.01	0.13	<0.1	2.11	<0.1	<0.005
PSA08-W55	W78	<0.005	<2	256.3	523.2	23.3	<0.005	42.69	<0.02	<0.01	<0.05	<0.1	1.31	<0.1	<0.005
PSA08-W56	W84	<0.005	<2	6296	2077	29.6	<0.005	133.9	<0.02	<0.01	0.08	0.1	2.35	<0.1	<0.005
PSA08-W57	W84	<0.005	<2	6226	2035	29.5	<0.005	134.9	<0.02	<0.01	0.06	<0.1	2.33	<0.1	<0.005
PSA08-W58	W84	<0.005	<2	6292	2096	30.4	<0.005	134.8	<0.02	<0.01	0.07	0.1	2.37	<0.1	0.005
PSA08-W58D	W84	<0.005	<2	6143	2112	30.1	0.009	134.4	<0.02	<0.01	0.06	0.1	2.41	<0.1	<0.005
PSA08-W59	W84	<0.005	<2	6239	2135	30.6	0.005	135.3	<0.02	<0.01	0.06	<0.1	2.45	<0.1	<0.005
PSA08-W60	W84	<0.005	<2	6230	2160	30.7	<0.005	134.6	<0.02	<0.01	<0.05	0.1	2.46	<0.1	<0.005
PSA08-W61	W36	<0.005	<2	3.0	59.6	16.0	<0.005	54.06	<0.02	<0.01	<0.05	1.5	0.20	<0.1	<0.005
PSA08-W62	W20	<0.005	5	245.3	6391	5.8	<0.005	45.05	<0.02	<0.01	0.37	<0.1	0.02	0.5	<0.005
PSA08-W63	W18	<0.005	4	264.1	8631	18.6	<0.005	62.57	<0.02	<0.01	<0.05	0.1	0.16	<0.1	<0.005
PSA08-W64	W17	<0.005	<2	61.2	2333	35.8	<0.005	61.10	<0.02	<0.01	1.81	<0.1	0.23	0.5	<0.005
PSA08-W65	W19	<0.005	2	114.4	13480	18.3	<0.005	46.71	<0.02	<0.01	<0.05	<0.1	0.14	0.9	<0.005
PSA08-W66	W85	<0.005	<2	<0.1	88.5	38.8	<0.005	22.27	<0.02	<0.01	<0.05	0.2	<0.01	<0.1	<0.005
<b>Summary Statistics</b>		Min.	Max.	Mean											
		Median	n												
		<0.005	<2	<0.1	59.6	5.8	<0.005	18.21	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
		<0.005	6	6296	13480	54.6	0.009	135.3	0.06	<0.01	2.85	1.5	4.42	1.0	0.005
		<0.005	3	2493	2036	23.6	0.007	80.35	0.05	<0.01	0.37	0.3	1.78	0.4	0.005
		<0.005	3	2550	1832	21.7	0.007	73.83	0.06	<0.01	0.09	0.2	1.98	0.5	0.005
		38	38	38	38	38	38	38	38	38	38	38	38	38	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS (µg/L) 0.005	Eu ICP-MS (µg/L) 0.005	Fe ICP-ES (mg/L) 0.005	Ga ICP-MS (µg/L) 0.01	Gd ICP-MS (µg/L) 0.005	Ge ICP-MS (µg/L) 0.02	Hf ICP-MS (µg/L) 0.01	Hg Tekran (ng/L) 0.5	Ho ICP-MS (µg/L) 0.005	In ICP-MS (µg/L) 0.01	K ICP-ES (mg/L) 0.05	La ICP-MS (µg/L) 0.01	Li ICP-MS (µg/L) 0.02	Lu ICP-MS (µg/L) 0.005	Mg ICP-ES (mg/L) 0.005	Mn ICP-MS (µg/L) 0.1	Mo ICP-MS (µg/L) 0.05					
PSA08-W32	W28	<0.005	<0.005	0.077	<0.01	<0.005	<0.02	<0.01	1.8	<0.005	<0.01	1.66	<0.01	3.06	<0.005	12.07	16.2	1.10					
PSA08-W33	W26	<0.005	<0.005	0.017	0.01	<0.005	0.24	<0.01	1.0	<0.005	<0.01	2.29	<0.01	30.06	<0.005	17.67	10.0	9.45					
PSA08-W34	W05	<0.005	<0.005	0.009	0.01	<0.005	0.32	<0.01	<0.5	<0.005	<0.01	2.20	<0.01	29.35	<0.005	16.82	20.9	9.50					
PSA08-W35	W07	<0.005	<0.005	0.006	<0.01	<0.005	<0.02	<0.01	1.4	<0.005	<0.01	2.18	<0.01	25.87	<0.005	46.58	0.5	3.25					
PSA08-W36	W79	<0.005	<0.005	0.012	0.01	<0.005	0.39	<0.01	<0.5	<0.005	<0.01	2.46	<0.01	32.60	<0.005	17.06	27.0	7.70					
PSA08-W37	W80	<0.005	<0.005	0.018	0.02	<0.005	0.22	<0.01	<0.5	<0.005	<0.01	3.18	0.02	43.34	<0.005	42.49	77.8	14.48					
PSA08-W38	W13	<0.005	<0.005	0.019	<0.01	<0.005	0.03	<0.01	0.9	<0.005	<0.01	2.69	<0.01	1.77	<0.005	18.76	21.5	2.48					
PSA08-W39	W14	<0.005	<0.005	0.030	<0.01	0.005	0.05	<0.01	1.5	<0.005	<0.01	3.78	<0.01	0.87	<0.005	34.53	118.1	3.93					
PSA08-W40	W83	<0.005	<0.005	<0.005	<0.01	<0.005	0.03	<0.01	1.1	<0.005	<0.01	2.29	<0.01	1.89	<0.005	17.37	35.3	1.96					
PSA08-W40D	W83	<0.005	<0.005	0.006	<0.01	<0.005	0.03	<0.01	1.1	<0.005	<0.01	2.31	<0.01	1.79	<0.005	17.19	35.1	1.93					
PSA08-W41	W15	<0.005	<0.005	0.031	<0.01	<0.005	0.08	<0.01	1.4	<0.005	<0.01	2.52	<0.01	17.21	<0.005	29.15	3.5	1.61					
PSA08-W42	W06	<0.005	<0.005	0.021	<0.01	<0.005	0.26	<0.01	1.1	<0.005	<0.01	4.28	<0.01	31.17	<0.005	46.99	45.9	1.84					
PSA08-W43	W67	<0.005	<0.005	0.023	<0.01	<0.005	0.25	<0.01	1.1	<0.005	<0.01	4.29	<0.01	32.81	<0.005	47.27	46.9	1.87					
PSA08-W44	W68	<0.005	<0.005	0.050	<0.01	<0.005	0.25	<0.01	1.0	<0.005	<0.01	4.26	<0.01	32.69	<0.005	46.88	48.9	1.86					
PSA08-W45	W69	<0.005	<0.005	0.025	<0.01	<0.005	0.25	<0.01	0.9	<0.005	<0.01	4.28	<0.01	33.83	<0.005	46.81	52.5	1.83					
PSA08-W46	W81	<0.005	<0.005	0.011	<0.01	<0.005	0.09	<0.01	1.0	<0.005	<0.01	2.54	<0.01	48.95	<0.005	35.78	1.6	1.56					
PSA08-W47	W82	<0.005	<0.005	0.005	0.01	<0.005	0.43	<0.01	<0.5	<0.005	<0.01	2.01	<0.01	56.26	<0.005	13.69	2.4	0.80					
PSA08-W48	W71	<0.005	<0.005	0.057	<0.01	<0.005	0.24	<0.01	0.9	<0.005	<0.01	4.97	<0.01	26.46	<0.005	53.22	72.4	2.04					
PSA08-W49	W72	<0.005	<0.005	0.043	<0.01	<0.005	0.24	<0.01	0.7	<0.005	<0.01	5.00	<0.01	25.94	<0.005	56.11	83.1	1.97					
PSA08-W49D	W72	<0.005	<0.005	0.061	<0.01	<0.005	0.24	<0.01	0.7	<0.005	<0.01	5.03	<0.01	25.73	<0.005	56.26	84.1	2.02					
PSA08-W50	W73	<0.005	<0.005	0.053	<0.01	<0.005	0.21	<0.01	0.7	<0.005	<0.01	5.14	<0.01	26.36	<0.005	57.35	96.3	1.96					
PSA08-W51	W74	<0.005	<0.005	0.047	<0.01	<0.005	0.20	<0.01	0.6	<0.005	<0.01	5.13	<0.01	25.51	<0.005	56.25	109.3	1.98					
PSA08-W52	W75	<0.005	<0.005	0.046	<0.01	<0.005	0.18	<0.01	<0.5	<0.005	<0.01	5.22	<0.01	25.69	<0.005	56.99	132.0	1.99					
PSA08-W53	W76	<0.005	<0.005	0.070	<0.01	<0.005	0.18	<0.01	<0.5	<0.005	<0.01	5.18	<0.01	25.98	<0.005	57.47	142.3	1.98					
PSA08-W54	W77	<0.005	<0.005	3.274	<0.01	<0.005	0.15	<0.01	<0.5	<0.005	<0.01	5.55	<0.01	26.25	<0.005	60.15	185.5	2.02					
PSA08-W55	W78	<0.005	<0.005	0.013	<0.01	<0.005	0.49	<0.01	0.8	<0.005	<0.01	2.33	<0.01	33.70	<0.005	25.46	0.9	1.87					
PSA08-W56	W84	<0.005	<0.005	3.085	<0.01	<0.005	0.17	<0.01	0.5	<0.005	<0.01	5.56	<0.01	27.23	<0.005	60.60	197.0	2.19					
PSA08-W57	W84	<0.005	<0.005	2.975	<0.01	<0.005	0.17	<0.01	<0.5	<0.005	<0.01	5.61	<0.01	27.33	<0.005	61.12	193.1	2.13					
PSA08-W58	W84	<0.005	<0.005	3.389	<0.01	<0.005	0.17	<0.01	0.6	<0.005	<0.01	5.59	<0.01	26.55	<0.005	60.91	190.1	2.18					
PSA08-W58D	W84	<0.005	<0.005	2.847	<0.01	<0.005	0.16	<0.01	0.6	<0.005	<0.01	5.56	<0.01	26.06	<0.005	60.70	191.5	2.20					
PSA08-W59	W84	<0.005	<0.005	3.154	<0.01	<0.005	0.17	<0.01	<0.5	<0.005	<0.01	5.60	<0.01	26.62	<0.005	60.86	191.6	2.25					
PSA08-W60	W84	<0.005	<0.005	3.175	<0.01	<0.005	0.17	<0.01	<0.5	<0.005	<0.01	5.54	<0.01	26.56	<0.005	60.51	192.8	2.25					
PSA08-W61	W36	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.5	<0.005	<0.01	1.27	<0.01	2.58	<0.005	12.42	<0.1	0.75						
PSA08-W62	W20	<0.005	<0.005	0.020	<0.01	<0.005	0.12	<0.01	1.7	<0.005	<0.01	0.68	<0.01	1.91	<0.005	21.11	21.4	1.29					
PSA08-W63	W18	<0.005	<0.005	0.006	<0.01	<0.005	0.17	<0.01	2.4	<0.005	<0.01	2.27	<0.01	19.07	<0.005	46.69	0.7	1.29					
PSA08-W64	W17	<0.005	<0.005	0.007	<0.01	<0.005	0.12	<0.01	1.5	<0.005	<0.01	2.46	<0.01	30.43	<0.005	30.82	203.8	0.79					
PSA08-W65	W19	<0.005	<0.005	0.008	0.01	<0.005	0.08	<0.01	3.6	<0.005	<0.01	1.63	<0.01	19.27	<0.005	31.64	1.0	2.96					
PSA08-W66	W85	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	2.4	<0.005	<0.01	0.32	<0.01	2.07	<0.005	13.97	<0.1	0.34					
<b>Summary Statistics</b>		<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>	<b>n</b>	<0.005	<0.005	<0.005	<0.01	<0.005	<0.01	<0.5	<0.005	<0.01	0.32	<0.01	0.87	<0.005	12.07	<0.1	0.34	
							<0.005	<0.005	3.389	0.02	0.005	0.49	<0.01	3.6	<0.005	<0.01	5.61	0.02	56.26	<0.005	61.12	203.8	14.48
							<0.005	<0.005	0.648	0.01	0.005	0.19	<0.01	1.2	<0.005	<0.01	3.55	0.02	23.71	<0.005	39.68	79.3	2.78
							<0.005	<0.005	0.030	0.01	0.005	0.17	<0.01	1.0	<0.005	<0.01	3.48	0.02	26.31	<0.005	46.64	50.7	1.98
							38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005
PSA08-W32	W28	14.97	<0.01	0.008	2.2	<0.05	1.05	<0.005	1.07	<0.005	6.54	0.74	<0.001	<1.0	9.34	<0.005
PSA08-W33	W26	71.86	<0.01	<0.005	17.5	<0.05	0.17	<0.005	3.27	0.023	24.39	179.8	<0.001	<1.0	4.42	<0.005
PSA08-W34	W05	70.46	<0.01	<0.005	26.7	<0.05	0.29	<0.005	3.30	0.023	21.15	189.4	<0.001	<1.0	5.81	<0.005
PSA08-W35	W07	12.76	<0.01	<0.005	2.1	<0.05	0.02	<0.005	3.69	0.007	30.68	24.72	<0.001	<1.0	4.37	<0.005
PSA08-W36	W79	79.43	<0.01	<0.005	30.8	<0.05	0.32	<0.005	3.75	0.023	25.90	205.5	<0.001	<1.0	5.21	<0.005
PSA08-W37	W80	71.65	<0.01	<0.005	37.5	<0.05	1.30	<0.005	4.39	0.034	90.82	348.7	<0.001	<1.0	5.70	<0.005
PSA08-W38	W13	51.66	<0.01	<0.005	2.1	<0.05	<0.01	<0.005	0.53	0.006	43.20	0.10	<0.001	<1.0	6.34	<0.005
PSA08-W39	W14	105.6	<0.01	0.012	5.0	<0.05	<0.01	<0.005	0.21	0.005	91.17	0.33	<0.001	<1.0	5.36	<0.005
PSA08-W40	W83	47.02	<0.01	<0.005	4.7	<0.05	<0.01	<0.005	0.10	0.005	35.73	0.34	<0.001	<1.0	5.64	<0.005
PSA08-W40D	W83	47.73	<0.01	<0.005	4.7	<0.05	<0.01	<0.005	0.09	0.005	35.32	0.34	<0.001	<1.0	5.60	<0.005
PSA08-W41	W15	80.49	<0.01	<0.005	2.0	<0.05	0.06	<0.005	2.19	<0.005	64.23	2.04	<0.001	<1.0	3.66	<0.005
PSA08-W42	W06	143.2	<0.01	<0.005	2.8	<0.05	<0.01	<0.005	3.96	0.005	111.5	2.88	<0.001	<1.0	6.26	<0.005
PSA08-W43	W67	143.0	<0.01	<0.005	2.8	<0.05	<0.01	<0.005	3.98	0.005	110.7	2.84	<0.001	<1.0	6.24	<0.005
PSA08-W44	W68	144.8	<0.01	<0.005	2.8	<0.05	<0.01	<0.005	3.90	0.005	110.3	2.87	<0.001	<1.0	6.20	<0.005
PSA08-W45	W69	143.9	<0.01	<0.005	0.8	<0.05	0.04	<0.005	3.93	0.005	110.0	2.85	<0.001	<1.0	6.20	<0.005
PSA08-W46	W81	45.74	<0.01	<0.005	3.8	<0.05	<0.01	<0.005	3.71	0.005	35.66	8.58	<0.001	<1.0	4.41	<0.005
PSA08-W47	W82	88.70	<0.01	<0.005	<0.2	<0.05	0.01	<0.005	2.36	<0.005	10.46	0.86	<0.001	<1.0	6.86	<0.005
PSA08-W48	W71	174.5	<0.01	<0.005	0.4	<0.05	<0.01	<0.005	4.24	0.005	138.9	2.17	<0.001	<1.0	6.35	<0.005
PSA08-W49	W72	176.0	<0.01	<0.005	0.3	<0.05	<0.01	<0.005	4.24	0.006	147.6	0.79	<0.001	<1.0	6.63	<0.005
PSA08-W49D	W72	176.3	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	4.23	0.006	149.6	0.79	<0.001	<1.0	6.68	<0.005
PSA08-W50	W73	175.2	<0.01	<0.005	0.3	<0.05	<0.01	<0.005	4.29	0.006	150.5	0.79	<0.001	<1.0	6.58	<0.005
PSA08-W51	W74	175.6	<0.01	<0.005	0.3	<0.05	0.14	<0.005	4.27	0.005	151.3	0.75	<0.001	<1.0	6.54	<0.005
PSA08-W52	W75	179.6	<0.01	<0.005	0.3	<0.05	<0.01	<0.005	4.34	0.006	151.5	0.76	<0.001	<1.0	6.53	<0.005
PSA08-W53	W76	178.0	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	4.34	0.006	153.3	0.78	<0.001	<1.0	6.60	<0.005
PSA08-W54	W77	187.5	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	4.63	0.006	163.4	0.78	<0.001	<1.0	6.62	<0.005
PSA08-W55	W78	71.31	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	1.65	<0.005	38.82	1.37	<0.001	<1.0	6.58	<0.005
PSA08-W56	W84	194.4	<0.01	<0.005	0.2	<0.05	<0.01	<0.005	4.87	0.006	167.6	0.50	<0.001	<1.0	6.89	<0.005
PSA08-W57	W84	194.2	<0.01	<0.005	<0.2	<0.05	0.02	<0.005	4.87	0.006	166.9	0.50	<0.001	<1.0	6.85	<0.005
PSA08-W58	W84	192.6	<0.01	0.007	0.4	<0.05	0.06	<0.005	4.97	0.006	167.0	0.57	<0.001	<1.0	6.88	<0.005
PSA08-W58D	W84	194.4	<0.01	0.014	0.3	<0.05	0.02	<0.005	5.05	0.006	167.0	0.51	<0.001	<1.0	6.88	<0.005
PSA08-W59	W84	193.5	<0.01	0.005	<0.2	<0.05	<0.01	<0.005	5.07	0.006	165.7	0.50	<0.001	<1.0	6.84	<0.005
PSA08-W60	W84	193.7	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	5.07	0.006	167.7	0.50	<0.001	<1.0	6.91	<0.005
PSA08-W61	W36	3.58	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.63	0.008	5.57	0.13	<0.001	<1.0	7.08	<0.005
PSA08-W62	W20	44.87	<0.01	<0.005	5.2	<0.05	<0.01	<0.005	0.18	<0.005	30.58	8.40	<0.001	<1.0	7.87	<0.005
PSA08-W63	W18	131.5	<0.01	<0.005	3.2	<0.05	<0.01	<0.005	0.89	0.007	123.7	83.19	<0.001	<1.0	5.79	<0.005
PSA08-W64	W17	85.32	<0.01	<0.005	5.4	<0.05	<0.01	<0.005	1.73	<0.005	30.31	16.06	<0.001	<1.0	4.02	<0.005
PSA08-W65	W19	179.9	<0.01	<0.005	2.3	<0.05	0.01	<0.005	0.52	<0.005	112.6	33.27	<0.001	<1.0	3.98	<0.005
PSA08-W66	W85	5.52	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.16	<0.005	3.05	0.26	<0.001	<1.0	3.40	<0.005
<b>Summary Statistics</b>		Min.	Max.	Mean	Median	n										
		3.58	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.09	<0.005	3.05	0.10	<0.001	<1.0	3.40	<0.005
		194.4	<0.01	0.014	37.5	<0.05	1.30	<0.005	5.07	0.034	167.7	348.7	<0.001	<1.0	9.34	<0.005
		117.6	<0.01	0.009	5.2	<0.05	0.25	<0.005	3.02	0.008	92.38	29.64	<0.001	<1.0	6.06	<0.005
		137.2	<0.01	0.008	2.2	<0.05	0.06	<0.005	3.83	0.006	110.1	0.79	<0.001	<1.0	6.35	<0.005
		38	38	38	38	38	38	38	38	38	38	38	38	38	38	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sn ICP-MS (µg/L) 0.01	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Ti ICP-MS (µg/L) 0.5	TI ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.005	V ICP-MS (µg/L) 0.1	W ICP-MS (µg/L) 0.02	Y ICP-MS (µg/L) 0.01	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05	
PSA08-W32	W28	0.02	166.6	<0.01	<0.005	<0.02	1.3	<0.005	<0.005	0.039	0.2	0.02	0.02	<0.005	<0.5	<0.05	
PSA08-W33	W26	<0.01	528.1	<0.01	<0.005	<0.02	0.5	0.006	<0.005	0.289	0.8	5.46	0.01	<0.005	10.9	<0.05	
PSA08-W34	W05	<0.01	535.7	<0.01	<0.005	<0.02	0.7	0.010	<0.005	0.293	0.8	5.92	<0.01	<0.005	21.8	<0.05	
PSA08-W35	W07	<0.01	874.9	<0.01	<0.005	<0.02	0.5	0.102	<0.005	0.133	0.3	0.58	0.01	<0.005	11.6	<0.05	
PSA08-W36	W79	<0.01	578.1	<0.01	<0.005	<0.02	0.6	0.010	<0.005	0.321	0.8	6.69	<0.01	<0.005	18.8	<0.05	
PSA08-W37	W80	<0.01	1195	<0.01	<0.005	<0.02	0.6	0.006	<0.005	0.512	1.4	4.60	<0.01	<0.005	31.5	<0.05	
PSA08-W38	W13	<0.01	219.3	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.651	0.2	0.03	0.02	<0.005	<0.5	<0.05	
PSA08-W39	W14	<0.01	425.9	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	1.159	0.3	<0.02	0.06	<0.005	0.7	<0.05	
PSA08-W40	W83	<0.01	211.3	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.272	0.4	0.03	0.01	<0.005	0.6	<0.05	
PSA08-W40D	W83	<0.01	208.1	<0.01	<0.005	<0.02	0.6	<0.005	<0.005	0.269	0.4	0.02	0.01	<0.005	<0.5	<0.05	
PSA08-W41	W15	<0.01	728.2	<0.01	<0.005	<0.02	0.5	<0.005	<0.005	0.092	0.7	3.05	0.01	<0.005	<0.5	<0.05	
PSA08-W42	W06	<0.01	1668	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.075	0.4	6.19	0.01	<0.005	<0.5	<0.05	
PSA08-W43	W67	<0.01	1700	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.072	0.4	6.02	0.01	<0.005	<0.5	<0.05	
PSA08-W44	W68	<0.01	1719	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.073	0.5	6.18	0.01	<0.005	<0.5	<0.05	
PSA08-W45	W69	<0.01	1700	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.072	0.5	6.25	0.01	<0.005	1.4	<0.05	
PSA08-W46	W81	<0.01	724.7	<0.01	<0.005	<0.02	<0.5	0.015	<0.005	0.065	0.3	3.11	<0.01	<0.005	0.7	<0.05	
PSA08-W47	W82	<0.01	632.7	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	13.27	<0.01	<0.005	1.1	<0.05	
PSA08-W48	W71	0.02	2059	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.086	0.6	5.25	0.01	<0.005	<0.5	<0.05	
PSA08-W49	W72	<0.01	2134	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.089	0.6	4.52	0.01	<0.005	1.3	<0.05	
PSA08-W49D	W72	<0.01	2140	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.088	0.6	4.50	0.01	<0.005	<0.5	<0.05	
PSA08-W50	W73	<0.01	2190	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.091	0.6	3.64	0.01	<0.005	0.6	<0.05	
PSA08-W51	W74	<0.01	2181	<0.01	<0.005	<0.02	0.8	0.006	<0.005	0.089	0.6	3.20	0.01	<0.005	0.5	<0.05	
PSA08-W52	W75	<0.01	2248	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.092	0.6	2.11	0.01	<0.005	<0.5	<0.05	
PSA08-W53	W76	<0.01	2238	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.092	0.6	2.16	0.01	<0.005	<0.5	<0.05	
PSA08-W54	W77	<0.01	2419	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.095	0.9	0.85	0.05	<0.005	1.3	<0.05	
PSA08-W55	W78	<0.01	1187	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.054	0.2	12.23	0.01	<0.005	2.1	<0.05	
PSA08-W56	W84	0.01	2464	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.057	0.8	0.90	0.05	<0.005	1.3	<0.05	
PSA08-W57	W84	<0.01	2474	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	0.8	0.91	0.04	<0.005	1.0	<0.05	
PSA08-W58	W84	0.02	2452	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	0.9	0.92	0.06	<0.005	1.8	<0.05	
PSA08-W58D	W84	0.01	2451	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	0.8	0.92	0.04	<0.005	1.3	<0.05	
PSA08-W59	W84	<0.01	2465	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.057	0.9	0.92	0.05	<0.005	0.9	<0.05	
PSA08-W60	W84	<0.01	2465	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.057	0.9	0.92	0.05	<0.005	0.9	<0.05	
PSA08-W61	W36	<0.01	195.7	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.115	0.3	0.06	0.02	<0.005	<0.5	<0.05	
PSA08-W62	W20	<0.01	353.9	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	0.9	1.97	0.01	<0.005	5.3	<0.05	
PSA08-W63	W18	<0.01	860.0	<0.01	<0.005	<0.02	0.6	0.010	<0.005	0.281	0.9	3.56	0.02	<0.005	0.5	<0.05	
PSA08-W64	W17	0.04	537.1	<0.01	<0.005	<0.02	<0.5	0.008	<0.005	0.078	<0.1	0.52	0.01	<0.005	1.0	<0.05	
PSA08-W65	W19	0.16	744.4	<0.01	<0.005	<0.02	<0.5	0.007	<0.005	0.073	0.7	4.19	<0.01	<0.005	0.7	<0.05	
PSA08-W66	W85	<0.01	160.0	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.026	0.2	0.03	<0.01	<0.005	<0.5	<0.05	
<b>Summary Statistics</b>		<b>Min.</b>	160.0	<b>Max.</b>	<0.01	<b>Mean</b>	2474	<b>Median</b>	1322	<b>n</b>	1191	38	38	38	38	38	38

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	As(III) ICP-MS Dionex AS7 ( $\mu\text{g/L}$ ) 0.5	As(V) ICP-MS Dionex AS7 ( $\mu\text{g/L}$ ) 0.5	Total As ICP-MS Dionex AS7 ( $\mu\text{g/L}$ ) 1.0	Br Dionex (mg/L) 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	$\text{NO}_3$ Dionex (mg/L) 0.02	$\text{PO}_4$ Dionex (mg/L) 0.02	$\text{SO}_4$ Dionex (mg/L) 0.02	Alkalinity (mg/L as $\text{CaCO}_3$ ) 1	DOC SHIMADZU (mg/L) 1
PSA08-W32	W28	6.1	65.4	72	<0.02	0.61	0.08	0.13	<0.02	19.68	184	8
PSA08-W33	W26	11.5	1639	1650	<0.02	1.24	0.57	6.33	<0.02	74.32	206	3
PSA08-W34	W05	4.4	1366	1371	<0.02	1.23	0.57	7.03	<0.02	65.07	211	2
PSA08-W35	W07	2.5	659.1	662	<0.02	0.14	0.36	0.35	<0.02	94.65	276	2
PSA08-W36	W79	7.4	1574	1581	<0.02	1.37	0.64	7.38	<0.02	79.55	216	2
PSA08-W37	W80	11.9	3166	3178	<0.02	1.18	0.55	19.50	<0.02	273.0	212	2
PSA08-W38	W13	<0.5	<0.5	<1.0	0.03	13.99	0.10	0.04	<0.02	131.4	185	2
PSA08-W39	W14	<0.5	<0.5	<1.0	<0.02	31.49	0.16	0.02	<0.02	272.4	255	4
PSA08-W40	W83	<0.5	7.7	8	0.02	11.42	0.11	0.15	<0.02	111.2	165	2
PSA08-W40D	W83	<0.5	8.2	8	<0.02	11.11	0.11	0.10	<0.02	108.3	165	2
PSA08-W41	W15	7.7	1409	1417	<0.02	20.74	0.26	1.72	<0.02	192.0	154	3
PSA08-W42	W06	14.0	2484	2498	0.05	39.18	0.49	7.08	<0.02	337.7	344	3
PSA08-W43	W67	15.3	2517	2532	0.06	39.27	0.50	7.09	<0.02	334.4	346	3
PSA08-W44	W68	15.0	2448	2463	0.06	39.06	0.50	6.56	<0.02	337.1	347	3
PSA08-W45	W69	17.8	2478	2496	0.06	38.88	0.50	6.03	<0.02	336.7	349	4
PSA08-W46	W81	6.3	1195	1201	<0.02	1.87	0.42	0.41	<0.02	109.2	261	3
PSA08-W47	W82	3.6	66.2	70	<0.02	0.41	0.45	1.88	<0.02	31.34	252	1
PSA08-W48	W71	14.7	3203	3218	0.08	52.32	0.50	7.55	<0.02	430.6	375	3
PSA08-W49	W72	21.8	3254	3276	0.08	54.72	0.48	0.80	<0.02	448.9	387	4
PSA08-W49D	W72	23.3	3325	3349	0.08	54.72	0.48	0.80	<0.02	446.3	381	4
PSA08-W50	W73	92.5	3341	3433	0.09	56.10	0.48	0.58	<0.02	454.6	387	4
PSA08-W51	W74	290.0	3213	3503	0.09	55.94	0.48	0.42	<0.02	455.6	394	4
PSA08-W52	W75	678.4	2881	3560	0.08	57.17	0.46	0.32	<0.02	462.0	392	4
PSA08-W53	W76	1055	2397	3452	0.09	57.16	0.46	0.30	<0.02	460.2	395	4
PSA08-W54	W77	5344	888.0	6232	0.09	62.85	0.45	<0.02	<0.02	499.2	408	4
PSA08-W55	W78	6.3	259.2	266	<0.02	1.19	0.54	1.86	<0.02	118.0	243	1
PSA08-W56	W84	5491	872.6	6364	0.10	65.54	0.47	<0.02	<0.02	498.2	415	4
PSA08-W57	W84	5618	914.9	6533	0.10	66.08	0.47	<0.02	<0.02	504.8	417	4
PSA08-W58	W84	5910	891.0	6801	0.10	66.65	0.46	<0.02	<0.02	502.2	412	5
PSA08-W58D	W84	5365	887.3	6252	0.10	65.80	0.46	<0.02	<0.02	505.2	416	4
PSA08-W59	W84	5868	872.2	6740	0.10	66.00	0.46	<0.02	<0.02	504.8	420	4
PSA08-W60	W84	5783	862.6	6645	0.08	65.69	0.47	0.02	<0.02	506.8	420	4
PSA08-W61	W36	<0.5	1.9	2	<0.02	0.38	0.09	2.22	<0.02	16.46	177	2
PSA08-W62	W20	3.8	265.5	269	<0.02	0.54	0.24	0.11	<0.02	93.98	206	3
PSA08-W63	W18	0.7	283.9	285	<0.02	<0.01	0.64	1.71	<0.02	382.9	269	1
PSA08-W64	W17	1.6	60.8	62	<0.02	0.33	0.64	0.03	<0.02	92.94	380	4
PSA08-W65	W19	2.0	119.9	122	<0.02	4.23	1.04	2.15	<0.02	344.5	283	2
PSA08-W66	W85	<0.5	<0.5	<1.0	<0.02	0.06	0.09	0.07	<0.02	9.57	118	<1.0
Summary Statistics	Min. Max. Mean Median n	<0.5	<0.5	<1.0	<0.02	<0.01	0.08	<0.02	<0.02	9.57	118	<1.0
		5910	3341	6801	0.10	66.65	1.04	19.50	<0.02	506.8	420	8
		1303	1425	2616	0.08	29.91	0.43	2.84	<0.02	280.1	301	3
		14.9	914.9	2496	0.08	31.49	0.47	0.80	<0.02	335.5	313	3
		38	38	38	38	38	38	38	38	38	38	38

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Ag ICP-MS ( $\mu\text{g/L}$ ) DL = 0.005	Al ICP-MS ( $\mu\text{g/L}$ ) 2	As ICP-MS ( $\mu\text{g/L}$ ) 0.1	B ICP-MS ( $\mu\text{g/L}$ ) 0.5	Ba ICP-MS ( $\mu\text{g/L}$ ) 0.2	Be ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ca ICP-ES ( $\text{mg/L}$ ) 0.02	Cd ICP-MS ( $\mu\text{g/L}$ ) 0.02	Ce ICP-MS ( $\mu\text{g/L}$ ) 0.01	Co ICP-MS ( $\mu\text{g/L}$ ) 0.05	Cr ICP-MS ( $\mu\text{g/L}$ ) 0.1	Cs ICP-MS ( $\mu\text{g/L}$ ) 0.01	Cu ICP-MS ( $\mu\text{g/L}$ ) 0.1	Dy ICP-MS ( $\mu\text{g/L}$ ) 0.005
PSA08-W32	W28	<0.005	3	75.5	161.2	20.1	<0.005	48.04	<0.02	<0.01	0.05	0.2	0.06	0.2	<0.005
PSA08-W33	W26	<0.005	17	1631	1930	15.2	<0.005	25.87	0.03	<0.01	0.32	<0.1	1.22	0.2	<0.005
PSA08-W34	W05	<0.005	4	1464	1982	17.4	<0.005	25.89	0.05	<0.01	1.15	<0.1	1.51	0.2	<0.005
PSA08-W35	W07	<0.005	6	633.5	207.5	25.7	<0.005	52.34	0.06	<0.01	0.06	<0.1	4.40	1.2	<0.005
PSA08-W36	W79	<0.005	5	1580	2183	19.0	<0.005	25.69	0.03	0.03	1.50	<0.1	1.79	0.2	<0.005
PSA08-W37	W80	<0.005	3	3183	1553	23.2	<0.005	64.52	<0.02	<0.01	2.91	<0.1	1.83	0.2	<0.005
PSA08-W38	W13	<0.005	8	0.8	556.7	34.0	<0.005	58.00	<0.02	<0.01	0.09	<0.1	0.01	0.8	<0.005
PSA08-W39	W14	<0.005	11	1.4	1043	56.4	<0.005	79.45	<0.02	0.01	0.12	0.1	<0.01	0.9	0.006
PSA08-W40	W83	<0.005	2	9.6	523.6	23.5	<0.005	47.63	<0.02	<0.01	0.09	0.5	<0.01	0.4	<0.005
PSA08-W40D	W83	<0.005	2	9.8	521.9	23.3	<0.005	46.98	<0.02	<0.01	0.07	0.5	<0.01	0.4	<0.005
PSA08-W41	W15	<0.005	15	1425	794.3	9.6	<0.005	35.74	<0.02	0.02	0.14	0.5	0.81	0.7	<0.005
PSA08-W42	W06	<0.005	2	2707	1491	20.1	<0.005	88.84	<0.02	<0.01	0.10	<0.1	2.24	0.2	<0.005
PSA08-W43	W67	<0.005	3	2727	1528	20.1	<0.005	89.10	<0.02	<0.01	0.11	<0.1	2.25	1.0	<0.005
PSA08-W44	W68	<0.005	2	2777	1555	20.4	<0.005	90.19	<0.02	<0.01	0.10	<0.1	2.25	0.2	<0.005
PSA08-W45	W69	<0.005	7	2820	1573	20.8	<0.005	89.31	<0.02	<0.01	0.11	<0.1	2.24	0.2	<0.005
PSA08-W46	W81	<0.005	2	1275	720.9	17.6	<0.005	47.09	<0.02	<0.01	0.22	<0.1	3.41	0.5	<0.005
PSA08-W47	W82	0.006	48	75.1	637.7	25.1	<0.005	18.18	<0.02	0.01	0.10	<0.1	1.71	0.6	<0.005
PSA08-W48	W71	<0.005	15	3578	1835	21.0	<0.005	111.2	<0.02	<0.01	0.14	0.1	2.09	0.3	<0.005
PSA08-W49	W72	<0.005	<2	3759	1906	21.5	<0.005	117.6	<0.02	<0.01	0.08	<0.1	1.97	<0.1	<0.005
PSA08-W49D	W72	<0.005	2	3786	1885	21.6	<0.005	114.4	<0.02	<0.01	0.08	<0.1	1.98	<0.1	<0.005
PSA08-W50	W73	<0.005	<2	4034	1913	22.7	<0.005	119.8	<0.02	<0.01	0.10	<0.1	2.00	<0.1	<0.005
PSA08-W51	W74	<0.005	<2	4253	1804	23.4	<0.005	120.9	<0.02	<0.01	0.11	<0.1	2.04	<0.1	<0.005
PSA08-W52	W75	<0.005	<2	4348	1835	24.5	<0.005	121.4	<0.02	<0.01	0.12	<0.1	2.04	<0.1	<0.005
PSA08-W53	W76	<0.005	2	4447	1826	25.6	<0.005	121.9	<0.02	<0.01	0.15	<0.1	2.03	0.3	<0.005
PSA08-W54	W77	<0.005	<2	5995	2028	27.5	<0.005	131.2	<0.02	<0.01	0.14	<0.1	2.11	<0.1	<0.005
PSA08-W55	W78	<0.005	7	263.7	520.6	23.8	<0.005	42.22	<0.02	<0.01	<0.05	<0.1	1.23	0.4	<0.005
PSA08-W56	W84	<0.005	32	6264	2107	30.1	<0.005	131.2	<0.02	0.03	0.17	0.9	2.38	1.6	0.010
PSA08-W57	W84	<0.005	4	6224	2105	30.1	0.005	132.7	<0.02	<0.01	0.07	0.1	2.38	0.2	0.006
PSA08-W58	W84	<0.005	7	6247	2122	30.6	<0.005	133.7	<0.02	0.01	0.10	0.2	2.41	0.8	<0.005
PSA08-W58D	W84	<0.005	6	6315	2147	30.5	<0.005	133.3	<0.02	<0.01	0.10	0.2	2.43	0.8	<0.005
PSA08-W59	W84	<0.005	2	6237	2107	31.1	0.005	133.6	<0.02	<0.01	0.07	<0.1	2.40	<0.1	<0.005
PSA08-W60	W84	<0.005	2	6246	2114	30.2	<0.005	133.0	<0.02	<0.01	0.06	<0.1	2.42	<0.1	<0.005
PSA08-W61	W36	<0.005	<2	2.5	54.0	16.4	<0.005	53.79	<0.02	<0.01	<0.05	1.7	0.21	0.2	<0.005
PSA08-W62	W20	<0.005	111	253.9	6576	6.4	<0.005	44.79	<0.02	0.04	0.76	0.5	0.03	1.4	0.006
PSA08-W63	W18	<0.005	5	262.0	8233	18.5	<0.005	63.47	<0.02	<0.01	<0.05	0.1	0.16	0.3	<0.005
PSA08-W64	W17	<0.005	<2	132.4	2314	37.3	<0.005	60.98	<0.02	<0.01	1.93	<0.1	0.24	0.1	<0.005
PSA08-W65	W19	<0.005	9	113.4	12430	18.3	<0.005	47.04	<0.02	<0.01	0.05	<0.1	0.14	0.5	<0.005
PSA08-W66	W85	<0.005	<2	<0.1	86.9	39.4	<0.005	21.92	<0.02	<0.01	<0.05	0.3	<0.01	<0.1	<0.005
Summary Statistics		Min.													
		Max.													
		Mean													
		Median													
		n													

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Er ICP-MS (µg/L) 0.005	Eu ICP-MS (µg/L) 0.005	Fe ICP-ES (mg/L) 0.005	Ga ICP-MS (µg/L) 0.01	Gd ICP-MS (µg/L) 0.005	Ge ICP-MS (µg/L) 0.02	Hf ICP-MS (µg/L) 0.01	Hg Tekran (ng/L) 0.5	Ho ICP-MS (µg/L) 0.005	In ICP-MS (µg/L) 0.01	K ICP-ES (mg/L) 0.05	La ICP-MS (µg/L) 0.01	Li ICP-MS (µg/L) 0.02	Lu ICP-MS (µg/L) 0.005	Mg ICP-ES (mg/L) 0.005	Mn ICP-MS (µg/L) 0.1	Mo ICP-MS (µg/L) 0.05
PSA08-W32	W28	<0.005	<0.005	0.070	<0.01	<0.005	<0.02	<0.01	2.1	<0.005	<0.01	1.65	<0.01	3.10	<0.005	12.12	16.2	1.08
PSA08-W33	W26	<0.005	<0.005	0.061	0.02	<0.005	0.24	<0.01	1.4	<0.005	<0.01	2.26	0.01	30.58	<0.005	17.76	11.2	9.44
PSA08-W34	W05	<0.005	<0.005	0.028	0.01	<0.005	0.33	<0.01	<0.5	<0.005	<0.01	2.19	<0.01	30.07	<0.005	16.65	20.8	9.43
PSA08-W35	W07	<0.005	<0.005	0.023	<0.01	<0.005	0.02	<0.01	2.4	<0.005	<0.01	2.14	<0.01	27.27	<0.005	46.01	0.9	3.24
PSA08-W36	W79	<0.005	<0.005	0.049	0.02	<0.005	0.40	<0.01	<0.5	<0.005	<0.01	2.44	0.03	34.84	<0.005	17.52	27.4	7.64
PSA08-W37	W80	<0.005	<0.005	0.051	0.02	<0.005	0.23	<0.01	<0.5	<0.005	<0.01	3.13	0.02	44.68	<0.005	42.11	76.6	14.61
PSA08-W38	W13	<0.005	<0.005	0.032	<0.01	<0.005	0.03	<0.01	1.0	<0.005	<0.01	2.70	<0.01	1.82	<0.005	18.39	23.0	2.61
PSA08-W39	W14	<0.005	<0.005	0.049	<0.01	0.005	0.05	<0.01	1.7	<0.005	<0.01	3.73	<0.01	0.86	<0.005	33.77	125.1	4.08
PSA08-W40	W83	<0.005	<0.005	0.008	<0.01	<0.005	0.03	<0.01	1.4	<0.005	<0.01	2.27	<0.01	1.92	<0.005	17.28	43.6	1.92
PSA08-W40D	W83	<0.005	<0.005	0.007	<0.01	<0.005	0.03	<0.01	1.5	<0.005	<0.01	2.20	<0.01	1.89	<0.005	17.00	41.3	1.97
PSA08-W41	W15	<0.005	<0.005	0.063	0.01	<0.005	0.08	<0.01	2.0	<0.005	<0.01	2.48	<0.01	17.70	<0.005	29.16	16.3	1.63
PSA08-W42	W06	<0.005	<0.005	0.375	<0.01	<0.005	0.25	<0.01	1.3	<0.005	<0.01	4.36	<0.01	33.43	<0.005	45.74	48.8	1.89
PSA08-W43	W67	<0.005	<0.005	0.310	<0.01	<0.005	0.25	<0.01	1.3	<0.005	<0.01	4.30	<0.01	34.17	<0.005	45.67	50.2	1.86
PSA08-W44	W68	<0.005	<0.005	0.356	<0.01	<0.005	0.24	<0.01	1.1	<0.005	<0.01	4.29	<0.01	33.78	<0.005	46.40	53.4	1.86
PSA08-W45	W69	<0.005	<0.005	0.437	<0.01	<0.005	0.24	<0.01	1.7	<0.005	<0.01	4.24	<0.01	33.64	<0.005	46.05	59.6	1.79
PSA08-W46	W81	<0.005	<0.005	0.016	<0.01	<0.005	0.09	<0.01	1.2	<0.005	<0.01	2.55	<0.01	49.86	<0.005	35.42	2.0	1.60
PSA08-W47	W82	<0.005	<0.005	0.149	0.03	<0.005	0.46	<0.01	2.5	<0.005	<0.01	1.99	<0.01	57.10	<0.005	13.59	20.5	0.79
PSA08-W48	W71	<0.005	<0.005	0.728	<0.01	<0.005	0.24	<0.01	4.1	<0.005	<0.01	5.02	<0.01	26.98	<0.005	53.56	85.0	2.02
PSA08-W49	W72	<0.005	<0.005	0.733	<0.01	<0.005	0.25	<0.01	0.9	<0.005	<0.01	4.98	<0.01	26.71	<0.005	55.36	92.4	1.95
PSA08-W49D	W72	<0.005	<0.005	0.797	<0.01	<0.005	0.24	<0.01	0.8	<0.005	<0.01	5.06	<0.01	26.46	<0.005	55.73	95.4	1.97
PSA08-W50	W73	<0.005	<0.005	1.013	<0.01	<0.005	0.21	<0.01	0.7	<0.005	<0.01	5.06	<0.01	27.10	<0.005	56.61	111.8	1.98
PSA08-W51	W74	<0.005	<0.005	1.304	<0.01	<0.005	0.21	<0.01	0.7	<0.005	<0.01	5.14	<0.01	26.99	<0.005	56.85	129.5	1.97
PSA08-W52	W75	<0.005	<0.005	1.476	<0.01	<0.005	0.18	<0.01	0.6	<0.005	<0.01	5.29	<0.01	27.02	<0.005	57.79	143.8	2.00
PSA08-W53	W76	<0.005	<0.005	2.251	<0.01	<0.005	0.19	<0.01	0.6	<0.005	<0.01	5.23	<0.01	26.47	<0.005	58.39	165.0	1.98
PSA08-W54	W77	<0.005	<0.005	3.347	<0.01	<0.005	0.15	<0.01	<0.5	<0.005	<0.01	5.52	<0.01	25.60	<0.005	60.75	182.5	1.97
PSA08-W55	W78	<0.005	<0.005	0.154	<0.01	<0.005	0.52	<0.01	1.1	<0.005	<0.01	2.31	<0.01	34.48	<0.005	25.48	1.8	1.89
PSA08-W56	W84	0.006	<0.005	3.558	0.01	0.009	0.16	<0.01	8.9	<0.005	<0.01	5.63	0.02	26.56	<0.005	61.31	196.0	2.10
PSA08-W57	W84	<0.005	<0.005	3.438	<0.01	<0.005	0.16	<0.01	1.2	<0.005	<0.01	5.58	<0.01	26.24	<0.005	61.46	190.9	2.11
PSA08-W58	W84	<0.005	<0.005	3.434	<0.01	<0.005	0.16	<0.01	2.5	<0.005	<0.01	5.68	<0.01	26.20	<0.005	61.38	191.6	2.16
PSA08-W58D	W84	<0.005	<0.005	3.414	<0.01	<0.005	0.16	<0.01	2.1	<0.005	<0.01	5.66	<0.01	26.84	<0.005	61.27	192.1	2.17
PSA08-W59	W84	<0.005	<0.005	3.454	<0.01	<0.005	0.16	<0.01	0.6	<0.005	<0.01	5.55	<0.01	26.67	<0.005	61.09	190.8	2.19
PSA08-W60	W84	<0.005	<0.005	3.477	<0.01	<0.005	0.16	<0.01	<0.5	<0.005	<0.01	5.62	<0.01	26.88	<0.005	61.66	191.0	2.16
PSA08-W61	W36	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	1.27	<0.01	2.83	<0.005	12.60	0.2	0.74
PSA08-W62	W20	<0.005	<0.005	0.163	0.03	0.007	0.13	<0.01	5.9	<0.005	<0.01	0.69	0.02	2.29	<0.005	21.48	28.0	1.23
PSA08-W63	W18	<0.005	<0.005	0.010	<0.01	<0.005	0.17	<0.01	2.6	<0.005	<0.01	2.29	<0.01	19.64	<0.005	48.21	0.9	1.31
PSA08-W64	W17	<0.005	<0.005	0.409	<0.01	<0.005	0.13	<0.01	3.9	<0.005	<0.01	2.43	<0.01	31.28	<0.005	31.31	198.9	0.81
PSA08-W65	W19	<0.005	<0.005	0.031	0.02	<0.005	0.07	<0.01	5.5	<0.005	<0.01	1.64	<0.01	19.31	<0.005	31.85	2.0	2.92
PSA08-W66	W85	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	3.2	<0.005	<0.01	0.31	<0.01	2.26	<0.005	14.09	<0.1	0.34
Summary Statistics		Min.	Max.	Mean	Median	n												
		0.006	<0.005	3.558	0.03	0.009	0.52	0.01	8.9	<0.005	<0.01	5.68	0.03	57.10	<0.005	61.66	198.9	14.61
		0.006	<0.005	0.980	0.02	0.007	0.19	0.01	2.1	<0.005	<0.01	3.55	0.02	24.25	<0.005	39.71	81.8	2.77
		0.006	<0.005	0.333	0.02	0.007	0.17	0.01	1.4	<0.005	<0.01	3.43	0.02	26.77	<0.005	45.71	53.4	1.97
		38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005
PSA08-W32	W28	14.77	<0.01	0.007	2.4	<0.05	<0.01	<0.005	1.08	<0.005	6.66	0.72	<0.001	<1.0	9.50	<0.005
PSA08-W33	W26	69.10	<0.01	<0.005	18.5	<0.05	0.50	<0.005	3.34	0.022	24.64	179.2	<0.001	<1.0	4.45	<0.005
PSA08-W34	W05	69.50	<0.01	<0.005	28.5	<0.05	0.53	<0.005	3.45	0.022	21.32	186.7	<0.001	<1.0	5.84	<0.005
PSA08-W35	W07	12.54	<0.01	<0.005	2.3	<0.05	0.01	<0.005	3.82	0.007	30.72	25.00	<0.001	<1.0	4.36	<0.005
PSA08-W36	W79	78.70	<0.01	0.014	32.4	<0.05	0.80	<0.005	3.85	0.023	26.06	202.1	<0.001	<1.0	5.20	<0.005
PSA08-W37	W80	71.23	<0.01	<0.005	38.6	<0.05	1.60	<0.005	4.46	0.033	88.31	326.8	<0.001	<1.0	5.67	<0.005
PSA08-W38	W13	51.94	<0.01	0.008	2.3	<0.05	0.04	<0.005	0.54	0.006	43.65	0.11	<0.001	<1.0	6.38	<0.005
PSA08-W39	W14	103.9	<0.01	0.016	5.6	<0.05	0.01	<0.005	0.21	<0.005	90.56	0.31	<0.001	<1.0	5.39	<0.005
PSA08-W40	W83	46.72	<0.01	<0.005	5.1	<0.05	<0.01	<0.005	0.10	<0.005	36.62	0.33	<0.001	<1.0	5.78	<0.005
PSA08-W40D	W83	46.03	<0.01	<0.005	5.2	<0.05	<0.01	<0.005	0.09	<0.005	36.11	0.33	<0.001	<1.0	5.74	<0.005
PSA08-W41	W15	78.93	<0.01	0.010	2.0	<0.05	0.13	<0.005	2.23	0.005	64.16	2.03	<0.001	<1.0	3.71	<0.005
PSA08-W42	W06	144.6	<0.01	<0.005	3.0	<0.05	0.02	<0.005	3.98	<0.005	110.5	2.78	<0.001	<1.0	6.28	<0.005
PSA08-W43	W67	143.8	<0.01	<0.005	3.0	<0.05	0.03	<0.005	4.00	<0.005	110.8	2.73	<0.001	<1.0	6.27	<0.005
PSA08-W44	W68	144.2	<0.01	<0.005	3.0	<0.05	0.01	<0.005	3.99	0.005	112.2	2.72	<0.001	<1.0	6.34	<0.005
PSA08-W45	W69	143.4	<0.01	<0.005	1.0	<0.05	0.05	<0.005	4.02	0.005	110.9	2.76	<0.001	<1.0	6.30	<0.005
PSA08-W46	W81	45.44	<0.01	<0.005	3.9	<0.05	<0.01	<0.005	3.86	0.005	36.04	8.73	<0.001	<1.0	4.50	<0.005
PSA08-W47	W82	86.80	<0.01	0.008	0.4	<0.05	0.17	<0.005	2.33	<0.005	10.19	0.91	<0.001	<1.0	6.94	<0.005
PSA08-W48	W71	174.3	<0.01	<0.005	0.8	<0.05	0.15	<0.005	4.33	0.005	141.3	2.08	<0.001	<1.0	6.52	<0.005
PSA08-W49	W72	178.3	<0.01	<0.005	0.6	<0.05	<0.01	<0.005	4.25	0.005	148.4	0.78	<0.001	<1.0	6.69	<0.005
PSA08-W49D	W72	173.4	<0.01	<0.005	0.6	<0.05	<0.01	<0.005	4.28	0.005	147.4	0.78	<0.001	<1.0	6.66	<0.005
PSA08-W50	W73	174.7	<0.01	<0.005	0.5	<0.05	0.01	<0.005	4.39	0.006	150.2	0.78	<0.001	<1.0	6.61	<0.005
PSA08-W51	W74	175.2	<0.01	<0.005	0.6	<0.05	0.02	<0.005	4.36	0.005	152.1	0.80	<0.001	<1.0	6.66	<0.005
PSA08-W52	W75	175.8	<0.01	<0.005	0.6	<0.05	0.05	<0.005	4.43	0.005	152.3	0.81	<0.001	<1.0	6.61	<0.005
PSA08-W53	W76	176.8	<0.01	<0.005	0.6	<0.05	0.05	<0.005	4.39	0.006	152.1	0.82	<0.001	<1.0	6.62	<0.005
PSA08-W54	W77	187.9	<0.01	<0.005	0.5	<0.05	<0.01	<0.005	4.67	0.006	163.2	0.77	<0.001	<1.0	6.65	<0.005
PSA08-W55	W78	71.06	<0.01	<0.005	0.4	<0.05	0.04	<0.005	1.71	<0.005	38.49	1.44	<0.001	<1.0	6.56	<0.005
PSA08-W56	W84	192.0	<0.01	0.025	0.7	<0.05	0.37	<0.005	4.92	0.005	165.8	0.53	<0.001	<1.0	6.87	0.008
PSA08-W57	W84	193.4	<0.01	0.010	0.5	<0.05	0.11	<0.005	4.89	0.005	165.6	0.50	<0.001	<1.0	6.86	<0.005
PSA08-W58	W84	192.8	<0.01	0.009	0.7	<0.05	0.23	<0.005	4.96	0.006	164.8	0.59	<0.001	<1.0	6.84	<0.005
PSA08-W58D	W84	193.8	<0.01	0.009	0.8	<0.05	0.24	<0.005	5.01	0.006	164.8	0.58	<0.001	<1.0	6.84	<0.005
PSA08-W59	W84	193.3	<0.01	0.008	0.5	<0.05	0.03	<0.005	4.92	0.006	167.0	0.50	<0.001	<1.0	6.91	<0.005
PSA08-W60	W84	193.9	<0.01	0.008	0.6	<0.05	0.02	<0.005	5.02	0.006	167.7	0.51	<0.001	<1.0	6.95	<0.005
PSA08-W61	W36	3.61	<0.01	0.006	0.2	<0.05	<0.01	<0.005	0.63	0.008	5.48	0.14	<0.001	<1.0	7.11	<0.005
PSA08-W62	W20	45.15	<0.01	0.027	6.7	<0.05	0.11	0.006	0.23	<0.005	30.21	8.86	<0.001	<1.0	7.98	0.006
PSA08-W63	W18	134.2	<0.01	<0.005	3.3	<0.05	<0.01	<0.005	0.90	0.008	125.0	82.01	<0.001	<1.0	5.87	<0.005
PSA08-W64	W17	83.89	<0.01	0.006	5.8	<0.05	0.01	<0.005	1.76	<0.005	30.10	17.39	<0.001	<1.0	4.04	<0.005
PSA08-W65	W19	180.1	<0.01	0.006	2.5	<0.05	0.05	<0.005	0.54	<0.005	112.5	32.50	<0.001	<1.0	4.00	<0.005
PSA08-W66	W85	5.62	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.16	<0.005	2.97	0.27	<0.001	<1.0	3.33	<0.005
Summary Statistics		Min.	Max.	Mean	Median	n										
		3.61	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	0.09	<0.005	2.97	0.11	<0.001	<1.0	3.33	<0.005
		193.9	<0.01	0.027	38.6	<0.05	1.60	0.006	5.02	0.033	167.7	326.8	<0.001	<1.0	9.50	0.008
		117.1	<0.01	0.011	5.0	<0.05	0.19	0.006	3.05	0.009	92.29	28.89	<0.001	<1.0	6.10	0.007
		138.8	<0.01	0.009	2.0	<0.05	0.05	0.006	3.92	0.006	110.7	0.81	<0.001	<1.0	6.45	0.007
		38	38	38	38	38	38	38	38	38	38	38	38	38	38	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Sn ICP-MS (µg/L) 0.01	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Ti ICP-MS (µg/L) 0.5	TI ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.005	V ICP-MS (µg/L) 0.1	W ICP-MS (µg/L) 0.02	Y ICP-MS (µg/L) 0.01	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05
PSA08-W32	W28	0.04	170.2	<0.01	<0.005	<0.02	1.3	<0.005	<0.005	0.038	0.2	0.02	0.02	<0.005	<0.5	<0.05
PSA08-W33	W26	<0.01	540.1	<0.01	<0.005	<0.02	0.7	0.007	<0.005	0.292	0.9	5.62	0.02	<0.005	13.3	<0.05
PSA08-W34	W05	<0.01	543.1	<0.01	<0.005	<0.02	0.7	0.009	<0.005	0.299	0.8	6.05	<0.01	<0.005	26.5	<0.05
PSA08-W35	W07	<0.01	880.2	<0.01	<0.005	<0.02	0.6	0.101	<0.005	0.136	0.3	0.60	0.01	<0.005	12.8	<0.05
PSA08-W36	W79	<0.01	586.6	<0.01	<0.005	<0.02	0.7	0.010	<0.005	0.325	0.9	6.96	0.01	<0.005	28.2	<0.05
PSA08-W37	W80	<0.01	1185	<0.01	<0.005	<0.02	0.7	0.007	<0.005	0.505	1.4	4.83	<0.01	<0.005	38.3	<0.05
PSA08-W38	W13	<0.01	218.3	<0.01	<0.005	<0.02	1.0	<0.005	<0.005	0.640	0.2	0.03	0.02	<0.005	0.7	<0.05
PSA08-W39	W14	<0.01	431.2	<0.01	<0.005	<0.02	1.0	<0.005	<0.005	1.159	0.3	<0.02	0.07	<0.005	<0.5	<0.05
PSA08-W40	W83	<0.01	213.3	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.278	0.4	0.03	0.01	<0.005	<0.5	<0.05
PSA08-W40D	W83	<0.01	214.0	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.275	0.4	0.02	0.01	<0.005	<0.5	<0.05
PSA08-W41	W15	<0.01	737.2	<0.01	<0.005	<0.02	0.8	0.011	<0.005	0.091	0.7	3.18	0.01	<0.005	<0.5	<0.05
PSA08-W42	W06	<0.01	1711	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.072	0.5	6.21	0.01	<0.005	<0.5	<0.05
PSA08-W43	W67	<0.01	1731	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.073	0.4	5.94	0.01	<0.005	<0.5	<0.05
PSA08-W44	W68	<0.01	1722	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.074	0.4	5.98	0.02	<0.005	<0.5	<0.05
PSA08-W45	W69	<0.01	1735	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.075	0.5	6.18	0.02	<0.005	<0.5	<0.05
PSA08-W46	W81	<0.01	731.4	<0.01	<0.005	<0.02	0.5	0.016	<0.005	0.069	0.2	3.24	<0.01	<0.005	<0.5	<0.05
PSA08-W47	W82	<0.01	632.3	<0.01	<0.005	<0.02	1.1	<0.005	<0.005	<0.005	0.2	13.24	0.02	<0.005	1.5	<0.05
PSA08-W48	W71	<0.01	2087	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.087	0.6	4.78	0.02	<0.005	<0.5	<0.05
PSA08-W49	W72	<0.01	2182	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.088	0.6	4.42	0.02	<0.005	<0.5	<0.05
PSA08-W49D	W72	<0.01	2182	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.093	0.6	4.41	0.02	<0.005	<0.5	<0.05
PSA08-W50	W73	<0.01	2240	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.094	0.6	3.59	0.03	<0.005	<0.5	<0.05
PSA08-W51	W74	<0.01	2267	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.095	0.7	3.24	0.03	<0.005	<0.5	<0.05
PSA08-W52	W75	<0.01	2291	<0.01	<0.005	<0.02	0.7	<0.005	<0.005	0.096	0.7	2.17	0.03	<0.005	<0.5	<0.05
PSA08-W53	W76	<0.01	2260	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.097	0.7	2.16	0.04	<0.005	0.7	<0.05
PSA08-W54	W77	<0.01	2394	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.099	0.9	0.84	0.05	<0.005	<0.5	<0.05
PSA08-W55	W78	<0.01	1161	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.055	0.3	12.53	0.01	<0.005	2.8	<0.05
PSA08-W56	W84	0.01	2477	<0.01	<0.005	<0.02	1.7	<0.005	<0.005	0.059	1.0	0.88	0.09	0.006	3.0	<0.05
PSA08-W57	W84	0.01	2467	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	0.9	0.89	0.06	<0.005	1.3	<0.05
PSA08-W58	W84	0.03	2482	<0.01	<0.005	<0.02	1.0	<0.005	<0.005	0.059	0.9	0.91	0.06	<0.005	4.0	<0.05
PSA08-W58D	W84	0.03	2502	<0.01	<0.005	<0.02	1.0	<0.005	<0.005	0.060	0.9	0.93	0.05	<0.005	3.0	<0.05
PSA08-W59	W84	<0.01	2498	<0.01	<0.005	<0.02	0.8	<0.005	<0.005	0.057	0.9	0.91	0.06	<0.005	0.8	<0.05
PSA08-W60	W84	<0.01	2487	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.058	0.9	0.94	0.06	<0.005	0.5	<0.05
PSA08-W61	W36	<0.01	196.3	<0.01	<0.005	<0.02	0.9	<0.005	<0.005	0.116	0.3	0.07	0.02	<0.005	<0.5	<0.05
PSA08-W62	W20	<0.01	364.2	<0.01	<0.005	<0.02	4.0	<0.005	<0.005	0.062	1.2	1.67	0.04	<0.005	8.6	<0.05
PSA08-W63	W18	<0.01	858.9	<0.01	<0.005	<0.02	0.6	0.011	<0.005	0.298	0.9	3.63	0.02	<0.005	1.1	<0.05
PSA08-W64	W17	<0.01	542.8	<0.01	<0.005	<0.02	0.5	0.010	<0.005	0.082	<0.1	0.54	0.04	<0.005	0.9	<0.05
PSA08-W65	W19	<0.01	747.2	<0.01	<0.005	<0.02	0.6	0.007	<0.005	0.076	0.7	4.18	0.01	<0.005	0.6	<0.05
PSA08-W66	W85	<0.01	157.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	0.027	0.2	0.03	<0.01	<0.005	<0.5	<0.05
<b>Summary Statistics</b>		<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>	<b>n</b>										
		<0.01	157.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
		0.04	2502	<0.01	<0.005	<0.02	4.0	0.101	<0.005	1.159	1.4	13.24	0.09	0.006	38.3	<0.05
		0.02	1338	<0.01	<0.005	<0.02	0.9	0.019	<0.005	0.168	0.6	3.29	0.03	0.006	7.8	<0.05
		0.03	1173	<0.01	<0.005	<0.02	0.7	0.010	<0.005	0.088	0.6	3.18	0.02	0.006	2.8	<0.05
		38	38	38	38	38	38	38	38	38	38	38	38	38	38	38

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

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Field ID	Map ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Ca ICP-ES (mg/L) 0.02	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005									
PSA08-TB	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-AB4	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-SB4	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-TB5	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-AB5	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-SB5	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-TB6	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-AB6	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
PSA08-SB6	na	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005									
Field Blanks	Summary Statistics	Min.		Max.		Mean		Median		n	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
											<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
											<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
											<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
											9	9	9	9	9	9	9	9	9	9	9	9	9	9

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

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Field ID		Map ID		Er ICP-MS ( $\mu\text{g/L}$ ) 0.005	Eu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Fe ICP-ES (mg/L) 0.005	Ga ICP-MS ( $\mu\text{g/L}$ ) 0.01	Gd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ge ICP-MS ( $\mu\text{g/L}$ ) 0.02	Hf ICP-MS ( $\mu\text{g/L}$ ) 0.01	Hg Tekran (ng/L) 0.5	Ho ICP-MS ( $\mu\text{g/L}$ ) 0.005	In ICP-MS (ng/L) 0.01	K ICP-ES ( $\mu\text{g/L}$ ) 0.05	La ICP-MS (mg/L) 0.01	Li ICP-MS ( $\mu\text{g/L}$ ) 0.02	Lu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mg ICP-ES (mg/L) 0.005	Mn ICP-MS ( $\mu\text{g/L}$ ) 0.1	Mo ICP-MS ( $\mu\text{g/L}$ ) 0.05
Field Blanks	PSA08-TB	na	<0.005	<0.005	0.017	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-AB4	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-SB4	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-TB5	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-AB5	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-SB5	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-TB6	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-AB6	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	PSA08-SB6	na	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
	Summary Statistics	Min. Max. Mean Median n	<0.005	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.5	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
			<0.005	<0.005	0.017	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
			<0.005	<0.005	0.017	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
			<0.005	<0.005	0.017	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
			<0.005	<0.005	0.017	<0.01	<0.005	<0.02	<0.01	0.6	<0.005	<0.01	<0.05	<0.01	<0.02	<0.005	<0.005	<0.1	<0.05	
			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

Field ID	Map ID	Na ICP-ES (mg/L) 0.05	Nb ICP-MS (µg/L) 0.01	Nd ICP-MS (µg/L) 0.005	Ni ICP-MS (µg/L) 0.2	P ICP-ES (mg/L) 0.05	Pb ICP-MS (µg/L) 0.01	Pr ICP-MS (µg/L) 0.005	Rb ICP-MS (µg/L) 0.05	Re ICP-MS (µg/L) 0.005	S ICP-ES (mg/L) 0.05	Sb ICP-MS (µg/L) 0.01	Sc ICP-ES (mg/L) 0.001	Se ICP-MS (µg/L) 1	Si ICP-ES (mg/L) 0.02	Sm ICP-MS (µg/L) 0.005	
Field Blanks	PSA08-TB	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-AB4	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-SB4	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-TB5	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-AB5	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-SB5	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-TB6	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-AB6	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	PSA08-SB6	na	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
	Summary Statistics	Min. Max. Mean Median n	<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
			<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
			<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
			<0.05	<0.01	<0.005	<0.2	<0.05	<0.01	<0.005	<0.05	<0.005	<0.05	<0.01	<0.001	<1.0	<0.02	<0.005
			9	9	9	9	9	9	9	9	9	9	9	9	9	9	

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Filtered and unfiltered water chemistry**

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Field ID	Map ID	Sn ICP-MS (µg/L) 0.01	Sr ICP-MS (µg/L) 0.5	Ta ICP-MS (µg/L) 0.01	Tb ICP-MS (µg/L) 0.005	Te ICP-MS (µg/L) 0.02	Ti ICP-MS (µg/L) 0.5	Tl ICP-MS (µg/L) 0.005	Tm ICP-MS (µg/L) 0.005	U ICP-MS (µg/L) 0.005	V ICP-MS (µg/L) 0.1	W ICP-MS (µg/L) 0.02	Y ICP-MS (µg/L) 0.01	Yb ICP-MS (µg/L) 0.005	Zn ICP-MS (µg/L) 0.5	Zr ICP-MS (µg/L) 0.05
PSA08-TB	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-AB4	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-SB4	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-TB5	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-AB5	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-SB5	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-TB6	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-AB6	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
PSA08-SB6	na	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
<b>Field Blanks</b>		<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>Median</b>											
		<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
<b>Summary Statistics</b>	<b>n</b>	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
		<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
		<0.01	<0.5	<0.01	<0.005	<0.02	<0.5	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

Notes: D = field duplicate; na = not applicable; DL = detection limit

**Bridge River Mining District, October 2008: Quality control for filtered and unfiltered waters**

Field ID	Ag ICP-MS (µg/L) DL = 0.005	Al ICP-MS (µg/L) 2	As ICP-MS (µg/L) 0.1	B ICP-MS (µg/L) 0.5	Ba ICP-MS (µg/L) 0.2	Be ICP-MS (µg/L) 0.005	Cd ICP-MS (µg/L) 0.02	Ce ICP-MS (µg/L) 0.01	Co ICP-MS (µg/L) 0.05	Cr ICP-MS (µg/L) 0.1	Cs ICP-MS (µg/L) 0.01	Cu ICP-MS (µg/L) 0.1	Dy ICP-MS (µg/L) 0.005
PSA08-TB5 C	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
PSA08-TB5 C REP	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
PSA08-W34 FA C	<0.005	2	1418	1892	17.3	<0.005	0.04	<0.01	1.06	<0.1	1.51	<0.1	<0.005
PSA08-W34 FA C REP	<0.005	2	1572	2177	17.2	<0.005	0.03	<0.01	1.05	<0.1	1.50	<0.1	<0.005
PSA08-W50 FA C	<0.005	<2	3757	1829	21.1	<0.005	<0.02	<0.01	0.07	<0.1	1.96	<0.1	<0.005
PSA08-W50 FA C REP	<0.005	<2	3693	1936	22.0	<0.005	<0.02	<0.01	0.07	<0.1	2.08	<0.1	<0.005
PSA08-W66 FA C	<0.005	<2	<0.1	88.5	38.8	<0.005	<0.02	<0.01	<0.05	0.2	<0.01	<0.1	<0.005
PSA08-W66 FA C REP	<0.005	<2	<0.1	89.5	41.0	<0.005	<0.02	<0.01	<0.05	0.2	<0.01	<0.1	<0.005
PSA08-W34 FU C	<0.005	4	1464	1982	17.4	<0.005	0.05	<0.01	1.15	<0.1	1.51	0.2	<0.005
PSA08-W34 FU C REP	<0.005	4	1464	1983	17.2	<0.005	0.05	<0.01	1.12	<0.1	1.49	0.1	<0.005
PSA08-W50 FU C	<0.005	<2	4034	1913	22.7	<0.005	<0.02	<0.01	0.10	<0.1	2.00	<0.1	<0.005
PSA08-W50 FU C REP	<0.005	<2	3996	1813	22.5	<0.005	<0.02	<0.01	0.09	<0.1	2.02	<0.1	<0.005
PSA08-W66 FU C	<0.005	<2	<0.1	86.9	39.4	<0.005	<0.02	<0.01	<0.05	0.3	<0.01	<0.1	<0.005
PSA08-W66 FU C REP	<0.005	<2	<0.1	84.9	39.8	<0.005	<0.02	<0.01	<0.05	0.3	<0.01	<0.1	<0.005
BLANK	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
BLANK	<0.005	<2	<0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
BLANK	<0.005	<2	0.1	<0.5	<0.2	<0.005	<0.02	<0.01	<0.05	<0.1	<0.01	<0.1	<0.005
SLRS-4	<0.005	50	0.6	4.2	11.7	0.005	<0.02	0.34	<0.05	0.3	<0.01	1.6	0.022
SLRS-4	<0.005	50	0.6	4.3	11.9	0.007	<0.02	0.35	<0.05	0.3	0.02	1.7	0.023
<b>CERTIFIED</b>		<b>54 ± 4</b>	<b>0.68 ± 0.06</b>		<b>12.2 ± 0.6</b>	<b>0.007 ± 0.002</b>	<b>0.012 ± 0.002</b>		<b>0.033 ± 0.006</b>	<b>0.33 ± 0.02</b>		<b>1.81 ± 0.08</b>	
TM28.2	2.762	48	5.9	8.5	15.9	2.566	1.39	<0.01	3.73	4.9	<0.01	6.6	<0.005
<b>CERTIFIED</b>		<b>48. ± 8.5</b>	<b>5.8 ± 1.4</b>		<b>15.6 ± 1.83</b>	<b>2.5 ± 0.49</b>	<b>1.3 ± 0.44</b>		<b>3.6 ± 0.78</b>	<b>4.7 ± 1.5</b>		<b>6.3 ± 1.7</b>	
<b>INFORMATION</b>		<b>3.30</b>											

**Bridge River Mining District, October 2008: Quality control for filtered and unfiltered waters**

Field ID	Er ICP-MS ( $\mu\text{g/L}$ ) 0.005	Eu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ga ICP-MS ( $\mu\text{g/L}$ ) 0.01	Gd ICP-MS ( $\mu\text{g/L}$ ) 0.005	Ge ICP-MS ( $\mu\text{g/L}$ ) 0.02	Hf ICP-MS ( $\mu\text{g/L}$ ) 0.01	Ho ICP-MS ( $\mu\text{g/L}$ ) 0.005	In ICP-MS ( $\mu\text{g/L}$ ) 0.01	La ICP-MS ( $\mu\text{g/L}$ ) 0.01	Li ICP-MS ( $\mu\text{g/L}$ ) 0.02	Lu ICP-MS ( $\mu\text{g/L}$ ) 0.005	Mn ICP-MS ( $\mu\text{g/L}$ ) 0.1	Mo ICP-MS ( $\mu\text{g/L}$ ) 0.05	Nb ICP-MS ( $\mu\text{g/L}$ ) 0.01
PSA08-TB5 C	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
PSA08-TB5 C REP	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
PSA08-W34 FA C	<0.005	<0.005	0.01	<0.005	0.32	<0.01	<0.005	<0.01	<0.01	29.35	<0.005	20.9	9.50	<0.01
PSA08-W34 FA C REP	<0.005	<0.005	0.01	<0.005	0.32	<0.01	<0.005	<0.01	<0.01	29.49	<0.005	20.8	9.38	<0.01
PSA08-W50 FA C	<0.005	<0.005	<0.01	<0.005	0.21	<0.01	<0.005	<0.01	<0.01	26.36	<0.005	96.3	1.96	<0.01
PSA08-W50 FA C REP	<0.005	<0.005	<0.01	<0.005	0.21	<0.01	<0.005	<0.01	<0.01	26.21	<0.005	101.4	2.10	<0.01
PSA08-W66 FA C	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	2.07	<0.005	<0.1	0.34	<0.01
PSA08-W66 FA C REP	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	1.97	<0.005	<0.1	0.39	<0.01
PSA08-W34 FU C	<0.005	<0.005	0.01	<0.005	0.33	<0.01	<0.005	<0.01	<0.01	30.07	<0.005	20.8	9.43	<0.01
PSA08-W34 FU C REP	<0.005	<0.005	0.02	<0.005	0.33	<0.01	<0.005	<0.01	0.01	30.18	<0.005	20.8	9.37	<0.01
PSA08-W50 FU C	<0.005	<0.005	<0.01	<0.005	0.21	<0.01	<0.005	<0.01	<0.01	27.10	<0.005	111.8	1.98	<0.01
PSA08-W50 FU C REP	<0.005	<0.005	<0.01	<0.005	0.21	<0.01	<0.005	<0.01	<0.01	26.93	<0.005	111.9	1.97	<0.01
PSA08-W66 FU C	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	2.26	<0.005	<0.1	0.34	<0.01
PSA08-W66 FU C REP	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	2.23	<0.005	<0.1	0.33	<0.01
BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
BLANK	<0.005	<0.005	<0.01	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	<0.02	<0.005	<0.1	<0.05	<0.01
SLRS-4	0.012	0.008	<0.01	0.033	<0.02	<0.01	<0.005	<0.01	0.27	0.42	<0.005	3.0	0.18	<0.01
SLRS-4	0.013	0.008	<0.01	0.033	<0.02	<0.01	<0.005	<0.01	0.27	0.42	<0.005	3.1	0.18	<0.01
CERTIFIED												3.37 ± 0.18	0.21 ± 0.02	
TM28.2	<0.005	<0.005	0.03	<0.005	<0.02	<0.01	<0.005	<0.01	<0.01	3.60	<0.005	7.3	4.21	<0.01
CERTIFIED												3.6 ± 1.0		7.2 ± 1.4
INFORMATION														4.1 ± 1.4

**Bridge River Mining District, October 2008: Quality control for filtered and unfiltered waters**

Field ID		Nd ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Ni ICP-MS ( $\mu\text{g/L}$ ) <b>0.2</b>	Pb ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Pr ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Rb ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Re ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Sb ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Se ICP-MS ( $\mu\text{g/L}$ ) <b>1</b>	Sm ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Sn ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Sr ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>	Ta ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Tb ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Te ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Ti ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>
Lab replicates	PSA08-TB5 C	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	PSA08-TB5 C REP	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	PSA08-W34 FA C	<0.005	26.7	0.29	<0.005	3.30	0.023	189.4	<1.0	<0.005	<0.01	535.7	<0.01	<0.005	<0.02	0.7
	PSA08-W34 FA C REP	<0.005	27.3	0.29	<0.005	3.60	0.023	189.2	<1.0	<0.005	<0.01	531.9	<0.01	<0.005	<0.02	0.7
	PSA08-W50 FA C	<0.005	0.3	<0.01	<0.005	4.29	0.006	0.79	<1.0	<0.005	<0.01	2190	<0.01	<0.005	<0.02	0.7
	PSA08-W50 FA C REP	<0.005	0.3	<0.01	<0.005	4.21	0.005	0.79	<1.0	<0.005	<0.01	2168	<0.01	<0.005	<0.02	0.7
	PSA08-W66 FA C	<0.005	<0.2	<0.01	<0.005	0.16	<0.005	0.26	<1.0	<0.005	<0.01	160.0	<0.01	<0.005	<0.02	<0.5
	PSA08-W66 FA C REP	<0.005	<0.2	<0.01	<0.005	0.17	<0.005	0.24	<1.0	<0.005	<0.01	166.5	<0.01	<0.005	<0.02	<0.5
	PSA08-W34 FU C	<0.005	28.5	0.53	<0.005	3.45	0.022	186.7	<1.0	<0.005	<0.01	543.1	<0.01	<0.005	<0.02	0.7
	PSA08-W34 FU C REP	<0.005	28.3	0.52	<0.005	3.44	0.023	186.6	<1.0	<0.005	<0.01	539.6	<0.01	<0.005	<0.02	0.7
	PSA08-W50 FU C	<0.005	0.5	0.01	<0.005	4.39	0.006	0.78	<1.0	<0.005	<0.01	2240	<0.01	<0.005	<0.02	0.7
	PSA08-W50 FU C REP	<0.005	0.6	0.01	<0.005	4.35	0.006	0.79	<1.0	<0.005	<0.01	2232	<0.01	<0.005	<0.02	0.7
	PSA08-W66 FU C	<0.005	<0.2	<0.01	<0.005	0.16	<0.005	0.27	<1.0	<0.005	<0.01	157.5	<0.01	<0.005	<0.02	<0.5
	PSA08-W66 FU C REP	<0.005	<0.2	<0.01	<0.005	0.16	<0.005	0.26	<1.0	<0.005	<0.01	158.3	<0.01	<0.005	<0.02	<0.5
Controls	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	BLANK	<0.005	<0.2	<0.01	<0.005	<0.05	<0.005	<0.01	<1.0	<0.005	<0.01	<0.5	<0.01	<0.005	<0.02	<0.5
	SLRS-4	0.250	0.6	0.08	0.065	1.39	0.007	0.25	<1.0	0.055	<0.01	25.7	<0.01	<0.005	<0.02	1.3
	SLRS-4	0.256	0.6	0.08	0.067	1.43	0.007	0.24	<1.0	0.056	<0.01	26.2	<0.01	<0.005	<0.02	1.2
	CERTIFIED	<b>0.67 ± 0.08</b> <b>0.086 ± 0.007</b>					<b>0.23 ± 0.04</b>					<b>26.3 ± 3.2</b>				
	TM28.2	<0.005	11.5	4.03	<0.005	0.23	<0.005	3.30	3	<0.005	3.82	51.2	<0.01	<0.005	<0.02	4.3
	CERTIFIED	<b>11.2 ± 1.69</b> <b>4.1 ± 1.0</b>					<b>3.1 ± 0.74</b> <b>3.9 ± 0.83</b>					<b>50.5 ± 6.62</b>				
INFORMATION																

**Bridge River Mining District, October 2008: Quality control for filtered and unfiltered waters**

Field ID		TI ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Tm ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	U ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	V ICP-MS ( $\mu\text{g/L}$ ) <b>0.1</b>	W ICP-MS ( $\mu\text{g/L}$ ) <b>0.02</b>	Y ICP-MS ( $\mu\text{g/L}$ ) <b>0.01</b>	Yb ICP-MS ( $\mu\text{g/L}$ ) <b>0.005</b>	Zn ICP-MS ( $\mu\text{g/L}$ ) <b>0.5</b>	Zr ICP-MS ( $\mu\text{g/L}$ ) <b>0.05</b>	Field ID		Hg Tekran ( $\text{ng/L}$ ) <b>DL = 0.5</b>
<b>Lab replicates</b>	PSA08-TB5 C	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		PSA08-AB4-Hg	0.6
	PSA08-TB5 C REP	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		PSA08-AB4-Hg REP	0.6
	PSA08-W34 FA C	0.010	<0.005	0.293	0.8	5.92	<0.01	<0.005	21.8	<0.05		PSA08-W35 FA Hg	1.4
	PSA08-W34 FA C REP	0.010	<0.005	0.294	0.8	5.90	<0.01	<0.005	22.0	<0.05		PSA08-W35 FA Hg REP	1.4
	PSA08-W50 FA C	<0.005	<0.005	0.091	0.6	3.64	0.01	<0.005	0.6	<0.05		PSA08-W47 FA Hg	<0.5
	PSA08-W50 FA C REP	<0.005	<0.005	0.091	0.5	3.63	0.02	<0.005	0.5	<0.05		PSA08-W47 FA Hg REP	<0.5
	PSA08-W66 FA C	<0.005	<0.005	0.026	0.2	0.03	<0.01	<0.005	<0.5	<0.05		PSA08-W34 UA Hg	<0.5
	PSA08-W66 FA C REP	<0.005	<0.005	0.025	0.2	0.02	<0.01	<0.005	<0.5	<0.05		PSA08-W34 UA Hg REP	<0.5
	PSA08-W34 FU C	0.009	<0.005	0.299	0.8	6.05	<0.01	<0.005	26.5	<0.05		PSA08-W47 UA Hg	2.5
	PSA08-W34 FU C REP	0.010	<0.005	0.299	0.8	6.10	<0.01	<0.005	26.1	<0.05		PSA08-W47 UA Hg REP	2.5
	PSA08-W50 FU C	<0.005	<0.005	0.094	0.6	3.59	0.03	<0.005	<0.5	<0.05		PSA08-W56 UA Hg	8.9
	PSA08-W50 FU C REP	<0.005	<0.005	0.092	0.6	3.58	0.02	<0.005	<0.5	<0.05		PSA08-W56 UA Hg REP	8.7
	PSA08-W66 FU C	<0.005	<0.005	0.027	0.2	0.03	<0.01	<0.005	<0.5	<0.05			
	PSA08-W66 FU C REP	<0.005	<0.005	0.025	0.2	0.02	<0.01	<0.005	<0.5	<0.05			
<b>Controls</b>	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		BLANK	<0.5
	BLANK	<0.005	<0.005	<0.005	<0.1	<0.02	<0.01	<0.005	<0.5	<0.05		NIST 1641d /200000	7.8
	SLRS-4	0.006	<0.005	0.047	0.3	<0.02	0.12	0.012	0.9	0.08		NIST 1641d /200000	7.7
	SLRS-4	0.006	<0.005	0.046	0.3	<0.02	0.13	0.012	0.9	0.08		NIST 1641d /200000	7.8
	<b>CERTIFIED</b>			<b>0.050 ± 0.003</b>	<b>0.32 ± 0.03</b>				<b>0.93 ± 0.1</b>			<b>Information</b>	<b>7.95 ± 0.14</b>
	TM28.2	3.705	<0.005	5.850	2.5	<0.02	<0.01	<0.005	18.6	<0.05			
	<b>CERTIFIED</b>	<b>3.7 ± 0.47</b>		<b>5.7 ± 0.72</b>	<b>2.5 ± 0.86</b>				<b>14.1 ± 4.05</b>				
<b>INFORMATION</b>													

**Bridge River Mining District, October 2008: Quality control for filtered and unfiltered waters**

Field ID	As(III) ICP-MS Dionex AS7 (µg/L) DL = 0.5	As(V) ICP-MS Dionex AS7 (µg/L) 0.5	Total As ICP-MS Dionex AS7 (µg/L) 1.0
PSA 08 W45 As (III/V)	17.8	2478	2496
PSA 08 W45 As (III/V) REP	18.5	2517	2536
PSA 08 W55 As (III/V)	6.3	259.2	266
PSA 08 W55 As (III/V) REP	6.2	260.9	267
PSA 08 W60 As (III/V)	5783	862.6	6645
PSA 08 W60 As (III/V) REP	5714	847.0	6562

**Lab replicates**

Field ID	Ca ICP-ES (mg/L) DL = 0.02	Fe ICP-ES (mg/L) 0.005	K ICP-ES (mg/L) 0.05	Mg ICP-ES (mg/L) 0.005	Na ICP-ES (mg/L) 0.05	P ICP-ES (mg/L) 0.05	S ICP-ES (mg/L) 0.05	Sc ICP-ES (mg/L) 0.001	Si ICP-ES (mg/L) 0.02
PSA 08 W37 FA C	66.81	0.018	3.18	42.49	71.65	<0.05	90.82	<0.001	5.70
PSA 08 W37 FA C REP	66.81	0.018	3.21	42.38	71.49	<0.05	90.57	<0.001	5.65
PSA 08 W52 FA C	123.7	0.046	5.22	56.99	179.6	<0.05	151.5	<0.001	6.53
PSA 08 W52 FA C REP	123.7	0.045	5.23	56.79	177.4	<0.05	151.8	<0.001	6.64
PSA 08 W41 UA C	35.74	0.063	2.48	29.16	78.93	<0.05	64.16	<0.001	3.71
PSA 08 W41 UA C REP	35.74	0.062	2.47	29.18	79.39	<0.05	63.52	<0.001	3.65
PSA 08 W64 UA C	60.98	0.409	2.43	31.31	83.89	<0.05	30.10	<0.001	4.04
PSA 08 W64 UA C REP	61.51	0.411	2.45	31.51	84.38	<0.05	30.45	<0.001	4.07
BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
BLANK	<0.02	<0.005	<0.05	<0.005	<0.05	<0.05	<0.05	<0.001	<0.02
SLRS-4	5.97	0.102	0.68	1.597	2.22	<0.05	2.47	<0.001	2.02
SLRS-4	5.96	0.101	0.68	1.605	2.23	<0.05	2.43	<0.001	2.03
CERTIFIED (mg/L)	<b>6.2 ± 0.2</b>		<b>0.68 ± 0.02</b>	<b>1.6 ± 0.1</b>	<b>2.4 ± 0.2</b>				
CERTIFIED (µg/L)		<b>103 ± 5</b>							
TMDA-51.3	14.22	0.109	0.66	3.462	5.18	<0.05	4.22	<0.001	0.25
TMDA-51.3	14.18	0.109	0.66	3.471	5.19	<0.05	4.16	<0.001	0.25
CERTIFIED (µg/L)		<b>109 ± 12.8</b>							

**Bridge River Mining District, October 2008: Quality control for filtered and unfiltered waters**

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Field ID		Br Dionex (mg/L) DL = 0.02	Cl Dionex (mg/L) 0.01	F Dionex (mg/L) 0.01	NO3 Dionex (mg/L) 0.02	PO4 Dionex (mg/L) 0.02	SO4 Dionex (mg/L) 0.02
<b>Lab replicates</b>	PSA08-W39 FU	<0.02	31.49	0.16	0.02	<0.02	272.4
	PSA08-W39 FU REP	0.02	31.49	0.16	0.02	<0.02	272.4
<b>Controls</b>	PSA08-W41 FU	<0.02	20.74	0.26	1.72	<0.02	192.0
	PSA08-W41 FU REP	<0.02	20.32	0.23	1.84	<0.02	192.4
<b>Lab replicates</b>	PSA08-W46 FU	<0.02	1.87	0.42	0.41	<0.02	109.2
	PSA08-W46 FU REP	<0.02	1.86	0.42	0.41	<0.02	109.2
<b>Controls</b>	PSA08-W60 FU	0.08	65.69	0.47	0.02	<0.02	506.8
	PSA08-W60 FU REP	0.08	65.93	0.42	0.02	<0.02	507.0
<b>Lab replicates</b>	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02
	BLANK	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02
<b>Controls</b>	HAMILTON-20	0.11	64.61	0.42	9.76	<0.02	45.91
	CERTIFIED		<b>64.7 ± 4.5</b>	<b>0.42 ± 0.08</b>	<b>10.85 ± 0.93</b>		<b>45.8 ± 3.2</b>
<b>Lab replicates</b>	ION 96.2	<0.02	78.67	0.17	14.35	<0.02	107.9
	CERTIFIED		<b>78.2 ± 6.66</b>	<b>0.18 ± 0.058</b>	<b>15.6 ± 1.156</b>		<b>106. ± 9.24</b>

Field ID		Alkalinity (mg/L as CaCO <sub>3</sub> ) DL = 1
PSA08-W38 FU	185	
PSA08-W38 FU REP	186	

Field ID		Alkalinity (mg/L as CaCO <sub>3</sub> ) DL = 1
PSA08-W50 FU	387	
PSA08-W50 FU REP	390	
PSA08-W62 FU	206	
PSA08-W62 FU REP	204	

Field ID		Alkalinity (mg/L as CaCO <sub>3</sub> ) DL = 1
BLANK	<1.0	
ION-915	42	
CERTIFIED	<b>42.3 ± 3.24</b>	
ION-96.3	183	
CERTIFIED	<b>184 ± 8.7</b>	

Field ID		DOC SHIMADZU (mg/L) DL = 1
PSA08-W32 FU	8	
PSA08-W32 FU REP	8	

Field ID		DOC SHIMADZU (mg/L) DL = 1
PSA08-W37 FU	2	
PSA08-W37 FU REP	2	
PSA08-W48 FU	3	
PSA08-W48 FU REP	4	
PSA08-W58 FU	5	
PSA08-W58 FU REP	5	
PSA08-W59 FU	4	
PSA08-W59 FU REP	4	

Field ID		DOC SHIMADZU (mg/L) DL = 1
BLANK	<1.0	
Ion-96.2	4	
CERTIFIED	<b>4.4 ± 1.2</b>	
Ion-96.2	4	

## **APPENDIX E**

Mineralogical data for sediment, tailings, waste rock, and ore samples

Mineralogy and Physical Properties Laboratories, GSC Ottawa

**Location and description of solids collected for mineralogical analyses from the Bridge River Mining District, 2007-2008**

Sample ID	Map ID <sup>a</sup>	Easting (10U NAD 83)	Northing (10U NAD 83)	Date	Location/Sample Description
<b>Sediments and precipitates</b>					
PNA07-UP13	SS25	512945	5626359	5-Oct-07	Upper Peter; biofilm
PNA08-BRA01	SS39	513034	5625443	19-Jun-08	800-Level, just below King crosscut; bulk sediment sample; GSC3
PNA08-BRA02	SS40	513053	5625469	19-Jun-08	King crosscut, ~10 m upstream of junction; MJ2
PNA07-BRA13	SS41	513182	5625325	8-Oct-07	800-Level; brown on grey, bulk sediment sample
PNA08-BRA05	SS41	513182	5625325	19-Jun-08	800-Level; just upstream of 812 crosscut; GSC6
PNA07-BRA18	SS42	513746	5624749	9-Oct-07	800-Level; pale surface scum, found in large clump
PNA07-BRA17	SS42	513746	5624749	9-Oct-07	800-Level; surface scum; Fe-oxide stained; composite sample
PNA07-BRA17A	SS42	513746	5624749	9-Oct-07	800-Level; bulk sediment sample; Fe-oxide stained, dark brown material
PNA08-BRA10	SS42	513746	5624749	19-Jun-08	800-Level; near marker 49; scum/sediment sample; GSC10
PNA07-BRA09A	SS43	512778	5625268	8-Oct-07	800-Level; grey, bulk sediment sample
PNA08-BRA06	SS43	512778	5625268	19-Jun-08	800-Level; ~100 m from portal entrance, near triangle 6; bulk sediment sample; GSC1
PNA07-BRA14	SS44	513339	5625169	8-Oct-07	800-Level; sediment sample with precipitate; fine-grained, soupy consistency
PNA08-BRA08	SS44	513339	5625169	19-Jun-08	800-Level; ~5 m upstream of 813 crosscut; bulk sediment/precipitate sample; GSC7
PNA07-BRA16	SS45	513684	5624815	8-Oct-07	800-Level; bulk sediment material
PNA08-BRA09	SS45	513684	5624815	19-Jun-08	800-Level; after 815 crosscut, small cave-in on rail; bulk sediment sample; GSC9
PNA08-BRA03	SS49	513087	5625480	19-Jun-08	King bypass; ~25 m upstream of junction; MJ3
PNA08-BRA04	SS50	513064	5625449	19-Jun-08	800-Level; just upstream of King crosscut, within the Crown drainage; bulk sediment sample; MJ4
PNA08-BRA11	SS51	513858	5624677	19-Jun-08	800-Level; SS vein; upwelling area; foam sampled; GSC11/12
<b>Tailings</b>					
PNA07-BRA08A	T01	511405	5625985	7-Oct-07	NE corner of tailings impoundment; Modern tailings; pale colour; surface tailings (0-2 cm)
PNA07-BRA08B	T01	511405	5625985	7-Oct-07	NE corner of tailings impoundment; Modern tailings; pale colour; lower tailings (2-20 cm)
PNA07-BRA07A	T03	511521	5625818	7-Oct-07	SE corner of tailings impoundment; surface tailings (0-3 cm); oxic. orange organic layer, yellowish colour below
PNA07-BRA07B	T03	511521	5625818	7-Oct-07	SE corner of tailings impoundment; historic tailings at depth (3-19 cm); grey colour
PNA07-WS01	T10	512115	5636050	8-Oct-07	Wayside; surface tailings (0-10 cm); grey colour; sandier than underlying tailings
PNA07-WS02	T10	512115	5636050	8-Oct-07	Wayside; lower tailings (10-20 cm); oxic, overlying grey lake sediments and waste rock
<b>Waste rock &amp; ore</b>					
PNA07-BRA01	WR01	512569	5625286	6-Oct-07	Grab sample from mineralized stockpile at Bralorne mine site
PNA08-LOU1	WR03	514945	5638478	20-Jun-08	Lou Zone-Congress; rock samples of stibnite vein
PNA08-LOU2	WR03	514945	5638478	20-Jun-08	Lou Zone-Congress; altered material of stibnite vein
PNA08-UP1	WR04	512928	5626342	18-Jun-08	Upper Peter; Pit 4 (avg depth of 1.2 m); 7 kg material reduced to 1 kg using coarse (3 mm) sieve
PNA08-UP1A	WR04	512928	5626342	18-Jun-08	Upper Peter; Pit 4 (avg depth of 1.2 m); <2 mm size fraction
PNA08-UP1B	WR04	512928	5626342	18-Jun-08	Upper Peter; Pit 4 (avg depth of 1.2 m); <0.25 mm (60 mesh) size fraction
PNA08-UP1C	WR04	512928	5626342	18-Jun-08	Upper Peter; Pit 4 (avg depth of 1.2 m); < 0.177 mm (80 mesh) size fraction
PNA08-UP2	WR05	512911	5626356	18-Jun-08	Upper Peter; Pit 7 (avg depth of 1.2 m); 7.5 kg material reduced to 1.2 kg using coarse (3 mm) sieve
PNA08-UP2A	WR05	512911	5626356	18-Jun-08	Upper Peter; Pit 7 (avg depth of 1.2 m); <2 mm size fraction
PNA08-UP2B	WR05	512911	5626356	18-Jun-08	Upper Peter; Pit 7 (avg depth of 1.2 m); <0.25 mm (60 mesh) size fraction
PNA08-UP2C	WR05	512911	5626356	18-Jun-08	Upper Peter; Pit 7 (avg depth of 1.2 m); < 0.177 mm (80 mesh) size fraction
PNA08-UP3	WR06	512907	5626365	18-Jun-08	Upper Peter; Pit 10 (avg depth of 1.2 m); 7 kg material reduced to 1.1 kg using coarse (3 mm) sieve
PNA08-UP3A	WR06	512907	5626365	18-Jun-08	Upper Peter; Pit 10 (avg depth of 1.2 m); <2 mm size fraction
PNA08-UP3B	WR06	512907	5626365	18-Jun-08	Upper Peter; Pit 10 (avg depth of 1.2 m); <0.25 mm (60 mesh) size fraction
PNA08-UP3C	WR06	512907	5626365	18-Jun-08	Upper Peter; Pit 10 (avg depth of 1.2 m); < 0.177 mm (80 mesh) size fraction
PNA08-UP3D	WR06	512907	5626365	18-Jun-08	Upper Peter; Pit 10 (avg depth of 1.2 m); <0.125 mm (120 mesh) size fraction
PNA08-UP3E	WR06	512907	5626365	18-Jun-08	Upper Peter; Pit 10 (avg depth of 1.2 m); < 0.088 mm (170 mesh) size fraction

<sup>a</sup> Sample locations shown on Figures 13-15.

**Whole-rock mineralogy of solids collected from the Bridge River Mining District, 2007-2008**

Sample ID	Mineral percentages in whole rock <sup>a</sup>															Comments
	Qtz	Pl	Kfs	Am	Px	III	Chl	Tlc	ML	Cal	Dol	Gp	Hem	Py	Apy	Stb
<b>Sediments and precipitates</b>																
PNA07-UP13	72	9				8	3			2	6			tr	tr	
PNA08-BRA01	55	10				tr	7			26	2					
PNA08-BRA02	43	12				19	12			7	7			tr		
PNA07-BRA13	39	9		7		3	11			24		tr	7			
PNA08-BRA05	51	11		4		tr	5			27	2					
PNA07-BRA18	m-tr									m-tr			tr			
PNA07-BRA17	tr									m						
PNA07-BRA17A	77	9					4			10						
PNA08-BRA10	4	tr	tr				tr			96		tr				
PNA07-BRA09A	39	9		3		5	11		tr?	33	tr					
PNA08-BRA06	36	5		tr		tr	3	2		53	1			tr		
PNA07-BRA14	69					19	12									
PNA08-BRA08	54	12	tr			19	9			6						
PNA07-BRA16	53	10		5		9	9			14						
PNA08-BRA09	53	10				7	3			25	2			tr		
PNA08-BRA03	75	6				5				14						
PNA08-BRA04	46	11		11		2	5			24	1			tr		
PNA08-BRA11																Highly, amorphous Fe-oxides, no phases could be identified
<b>Tailings</b>																
PNA07-BRA08A	71	15				7	tr			7						Clay size originally could not be calibrated; repeated with 50% internal standard Qtz
PNA07-BRA08B	86	9				tr				3	2					
PNA07-BRA07A	76	10				2	3			9						
PNA07-BRA07B	66	9				13	3			2	7					
PNA07-WS01	42	21	7	5		3	5			4	13					
PNA07-WS02	46	18		2		9	2			5	18					
<b>Waste rock &amp; ore</b>																
PNA07-BRA01	62	17				8	4			1	8			tr		
PNA08-LOU1	M		m											M		Major Stb, but no userfile available to determine proportions
PNA08-LOU2	100					tr	tr									
PNA08-UP1	25	30		8		8	17			7	5					
PNA08-UP1A	25	30		8		7	18			8	4			tr		
PNA08-UP1B	24	26		6		8	25			7	4			m		
PNA08-UP1C	25	27		6		11	16			10	5			tr		
PNA08-UP2	16	29	7	10		5	14			10				9	tr	
PNA08-UP2A	14	26	4	24		5	13			8	1			5	tr	Possible ML
PNA08-UP2B	12	21	4	28		6	11			11	2			5		
PNA08-UP2C	11	18	5	25		6	13			11	2			9		
PNA08-UP3	41	11		5		11	6			4	9			13	tr	
PNA08-UP3A	42	10		5		12	6			3	9			13		
PNA08-UP3B	35	10		3		13	6			4	8			21		
PNA08-UP3C	29	10		3		20	7			4	6			21		
PNA08-UP3D	33	9		4		10	8			5	7			24		
PNA08-UP3E																Almost entirely amorphous material, could not be analysed

<sup>a</sup>Abbreviations:

Qtz, quartz; Pl, plagioclase feldspar; Kfs, potassium feldspar; Am, amphibole; Px, pyroxene; III, illite; Chl, chlorite; Tlc, talc; ML, mixed-layer clay minerals; Cal, calcite; Dol, dolomite; Gp, gypsum; Hem, hematite; Py, pyrite; Apy, arsenopyrite; Stb, stibnite; tr, trace; m, minor; M, major.

**Clay (<2 µm) mineralogy of solids collected from the Bridge River Mining District, 2007-2008**

Sample ID	Mineral percentages in clay-size fraction <sup>a</sup>																Comments
	Qtz	Pl	Kfs	Am	Px	III	Chl	Kln	Tlc	ML	Cal	Dol	Sd	Hem	Gt	Apy	Stb
<b>Sediments and precipitates</b>																	
PNA07-UP13	38	4			47	7				4							
PNA08-BRA01	39	14		3		10	11			16			7	tr			
PNA08-BRA02	21	9		9		19	15	19		5	3		tr		tr		
PNA07-BRA13	20	23		7		11	32			7							
PNA08-BRA05	31	12		5		5	20		4	12			11				
PNA07-BRA17	m-tr									m-tr							Whole rock is mostly amorphous with trace Qtz and minor Cal
PNA07-BRA17A	27	30				29	14										
PNA08-BRA10	m-tr	tr	tr				tr			m-tr			tr				Highly amorphous, guessed as possible Cal, Qtz, Pl, Kfs, Hem, Chl, and amorphous iron oxides or possibly organic material
PNA07-BRA09A	24	23		tr		22	22			9							
PNA08-BRA06	36	12				8	16		4	24			tr		tr		Amorphous Fe-oxides
PNA07-BRA14	100																
PNA08-BRA08	m-tr	tr								m-tr							Highly amorphous, most likely Qtz, Cal, amorphous Fe-oxides, and some feldspar
PNA07-BRA16	tr	tr		tr	tr	tr	tr			tr			tr				Mostly amorphous in clay size fraction
PNA08-BRA09	m-tr	tr	tr			tr				m-tr			m-tr				Highly amorphous, Fe-oxides
PNA08-BRA03	19	23	12	tr		23	17			6			tr				
PNA08-BRA04	34	12	11	12		6	9			14	2		tr				
PNA08-BRA11																	Amorphous Fe-oxides, no phases could be identified
<b>Tailings</b>																	
PNA07-BRA08B	13	6			77	4											
PNA07-BRA07A	47	14				31	8										
PNA07-BRA07B	35	25				25	10			5			tr				
PNA07-WS01	10	23		5		46	16			tr							
PNA07-WS02	25	26				25	3			4	13		4				
<b>Waste rock &amp; ore</b>																	
PNA07-BRA01	34	21			30	6				3	6	tr			tr		
PNA08-LOU1	M	M	M							m					M		Major Stb, but no userfile available to determine proportions
PNA08-LOU2	90				5	5				tr							
PNA08-UP1	18	16		tr		22	25			16	3			tr	tr		
PNA08-UP1A																	
PNA08-UP1B																	
PNA08-UP1C																	
PNA08-UP2	15	15	15		13	28			11		3	m					Possible ML
PNA08-UP2A																	
PNA08-UP2B																	
PNA08-UP2C																	
PNA08-UP3	21				55	18			2	4		m					
PNA08-UP3A																	
PNA08-UP3B																	
PNA08-UP3C																	
PNA08-UP3D																	
PNA08-UP3E																	Almost entirely amorphous material, could not be analysed

<sup>a</sup> Abbreviations:

Qtz, quartz; Pl, plagioclase feldspar; Kfs, potassium feldspar; Am, amphibole; Px, pyroxene; III, illite; Chl, chlorite; Kln, kaolinite; Tlc, talc; ML, mixed-layer clay minerals; Cal, calcite; Dol, dolomite; Sd, siderite; Hem, hematite; Gt, goethite; Apy, arsenopyrite; Stb, stibnite; tr, trace; m, minor; M, major

**Thin section descriptions for waste rock and ore samples from the Bridge River Mining District, 2007**

Sample ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Composition	Modal %	Description
<b>Samples from mineralized ore stockpile near the 800-Level adit, Bralorne Mine</b>					
PNA07-BRA02	512569	5625286	Quartz Chlorite Plagioclase Calcite Sericite Arsenopyrite Amphibole	80 5 10 0.5 4 0.5 tr	The matrix is mostly composed of fine grained quartz, however minor amounts of sericite, plagioclase, amphibole, and chlorite are also visible, as well as a trace of calcite. The only opaque mineral present is arsenopyrite, as a trace.
PNA07-BRA03	512569	5625286	Quartz Muscovite Plagioclase Calcite Dolomite Sericite Arsenopyrite	40 5 38 4 1 5 7	The matrix of this slide is made up of nearly equal amounts of very coarse-grained quartz and altered plagioclase, with significant amounts of calcite, sericite, muscovite (not an alteration product), and dolomite as the other transparent minerals. The only sulphide mineral present is arsenopyrite, as subhedral crystals scattered throughout the matrix.
PNA07-BRA04	512569	5625286	Quartz Muscovite Plagioclase Calcite Dolomite Sericite Arsenopyrite Hematite Amphibole	40 1 42 3 1 7 3 3 tr	Matrix is composed of quartz and a significant amount of plagioclase, there is also a minor amount of calcite, dolomite, and sericite. Hematite occurs in veins and fractures. At higher magnifications, small euhedral crystals of amphibole can be identified. In this slide the only sulphide identified is arsenopyrite.
PNA07-BRA05(1)	512569	5625286	Quartz	100	This slide is entirely quartz, while the majority of crystals are euhedral and very coarse grained, small crystals are found clustered in the spaces in between the coarse grains, so there is a broad range of crystal sizes.
PNA07-BRA05(2)	512569	5625286	Quartz Muscovite Plagioclase Sericite Chalcopyrite Arsenopyrite	96 1 1 1.5 tr 0.5	This slide is mostly made up of quartz, in fractures and veins there is a trace amount of arsenopyrite, and a minor to trace amount of plagioclase and sericite as part of the matrix. As in BRA05(1), the quartz grains range from very coarse to tiny, often euhedral, with the major part of the matrix being composed of the coarser grain sizes.

## Thin section descriptions for waste rock and ore samples from the Bridge River Mining District, 2007

Sample ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Composition	Modal %	Description
PNA07-BRA06	512569	5625286	Quartz	84	The slide is almost entirely composed of coarse-grained quartz, with veinlets of quartz, sericite, plagioclase, calcite and arsenopyrite.
			Sericite	5	
			Plagioclase	2	
			Calcite	2	
			Arsenopyrite	7	

### Samples of waste rock from Congress Mine (Main and Lou Zones)

PNA07-CG01	waste rock	dump site	Quartz	49	At least 50% of this slide is made up of opaque and nearly opaque minerals, the remainder is quartz. The opaque minerals are arsenopyrite, pyrite, and a substantial amount of hematite.
			Sericite	1	
			Pyrite	10	
			Arsenopyrite	25	
			Hematite	15	
PNA07-GB01(1)	511072	5632821	Quartz	80	The sample consists mostly of quartz and hematite. Hematite occurs in fractures and small veinlets that crosscut the entire section. In addition, there are coarser-grained euhedral chromite grains that have been overgrown by euhedral hematite grains.
			Hematite	12	
			Chromite	3	
			Sericite	5	
PNA07-GB01(2)	511072	5632821	Quartz	83	The sample consists mostly of quartz and hematite and is similar in composition and texture to GB01(1). Note the chromite and hematite grains in Fig. F1.
			Muscovite	5	
			Hematite	10	
			Chromite	2	
PNA07-LOU01	waste rock	dump site	Quartz	30	This slide is mostly hematite, the only non-opaque mineral visible is quartz, as very tiny crystals.
			Hematite	70	
PNA07-LOU02(1)	waste rock	dump site	Quartz	40	The one corner of the slide that consists of opaque species is hematite. Small crystals of arsenopyrite are scattered throughout the matrix, which is composed of two separate sections/components: sericite and quartz, each occupying about half of the slide.
			Sericite	50	
			Hematite	10	
PNA07-LOU02(2)	waste rock	dump site	Quartz	79	The slide appears to be quartz with some sericite, opaque species are pyrite, arsenopyrite, and galena.
			Sericite	20	
			Arsenopyrite	1	

### Samples from waste rock pile near the Upper Peter adit, Bralorne Mine

PNA07-UP01	512937	5626349	Quartz	5	The matrix is quite diverse in comparison with the majority of the other slides, which were mostly quartz. In this case, the matrix is mostly composed of altered feldspar, with minor amounts of sericite, calcite, quartz and chlorite, but a major amount of amphibole. Arsenopyrite was only present as a trace, but was still visible under reflected light.
			Sericite	3	
			Plagioclase	55	
			Chlorite	2	
			Amphibole	30	
			Arsenopyrite	5	
			Caclite	tr	

## Thin section descriptions for waste rock and ore samples from the Bridge River Mining District, 2007

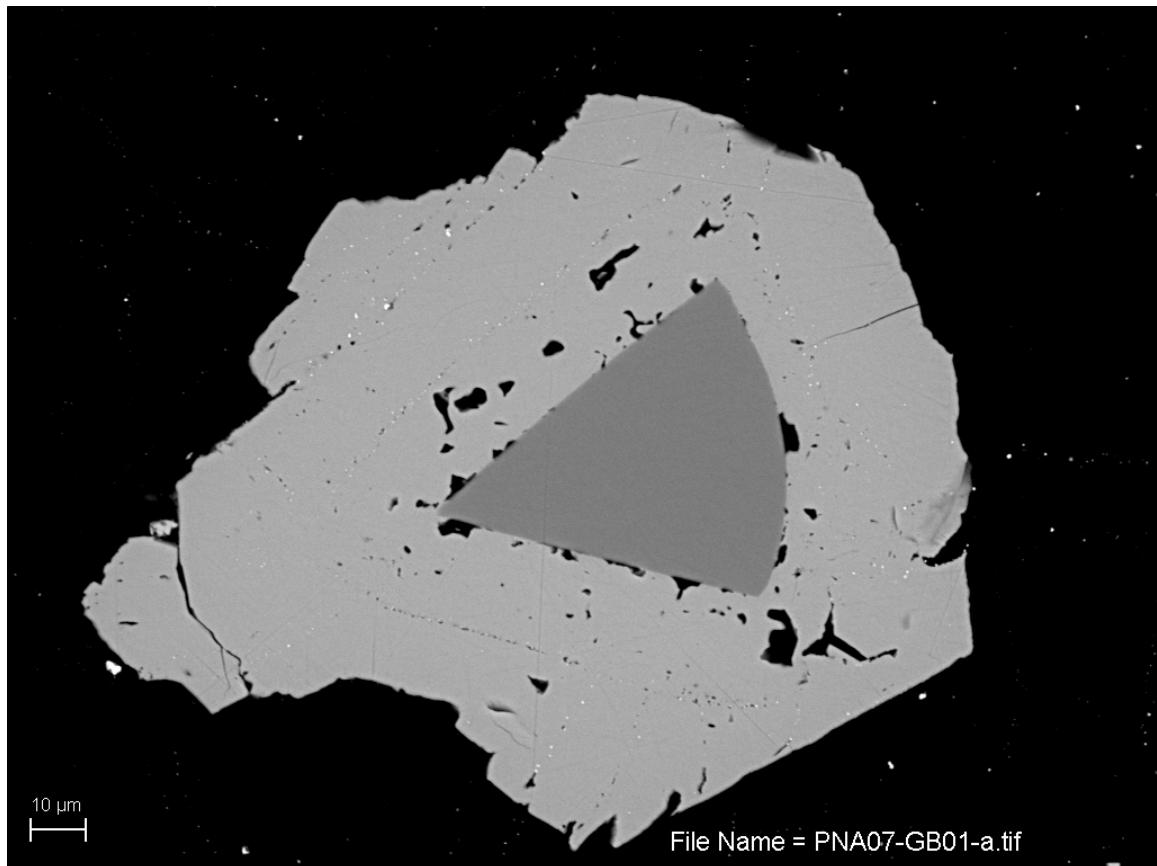
Sample ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Composition	Modal %	Description
PNA07-UP02	512937	5626349	Quartz	30	Similar to the previous section, the matrix is mostly feldspar; however there is no amphibole species present in this slide. There is a major amount of quartz intergrown with the feldspar, and minor amounts of sericite and calcite are also observed. A very tiny amount of arsenopyrite is seen in a single crystal.
			Sericite	5	
			Plagioclase	60	
			Calcite	5	
			Arsenopyrite	tr	
PNA07-UP03(1)	512937	5626349	Quartz	20	The matrix of the section is highly altered feldspar with sericite as an alteration product of the feldspar. Quartz is also present, intergrown with the feldspar, and a trace amount of hematite is visible in veins and cracks.
			Sericite	6	
			Plagioclase	73	
			Hematite	1	
PNA07-UP03(2)	512937	5626349	Quartz	20	As in slide UP03(1), the section is dominated by altered feldspar, with sericite as an alteration product, a minor amount of quartz, and a trace amount of hematite along veins and cracks in the section.
			Sericite	8	
			Plagioclase	70	
			Hematite	1	
			Arsenopyrite	1	
PNA07-UP04	512937	5626349	Quartz	25	Similar to the previous two slides, the matrix is dominated by altered feldspar, with a minor amount of quartz and traces of sericite as an alteration product. There is one large crystal of arsenopyrite, and several tiny ones scattered throughout the section.
			Sericite	3	
			Plagioclase	63	
			Arsenopyrite	8	
			Hematite	tr	
PNA07-UP05	512937	5626349	Quartz	38	Matrix is composed of altered feldspars (altered to sericite) and quartz, in more or less equal proportions, there is a significant amount of chlorite visible. Calcite fills veins within the section.
			Sericite	4	
			Plagioclase	42	
			Calcite	10	
			Chlorite	5	
			Arsenopyrite	1	
			Pyrite	tr	
			Hematite	tr	
PNA07-UP06	512937	5626349	Quartz	30	Graphitic gneiss with quartz grains of variable size within alternating layers with the graphite.
			Muscovite	2	
			Plagioclase	5	
			Pyrite	2	
			Arsenopyrite	8	
			Graphite	58	
PNA07-UP07(1)	512937	5626349	Quartz	80	Very coarse-grained quartz, with small grains filling in the spaces in between, even the large crystals are subhedral to euhedral. Arsenopyrite is observed as a clumps within veins or surrounded by an alteration product, sericite.
			Sericite	15	
			Pyrite	1	
			Arsenopyrite	3	
			Chalcopyrite	1	

## Thin section descriptions for waste rock and ore samples from the Bridge River Mining District, 2007

Sample ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Composition	Modal %	Description
PNA07-UP07(2)	512937	5626349	Quartz Sericite Pyrite Arsenopyrite Chalcopyrite	80 15 1 3 1	Identical composition to UP07(1); Very coarse-grained quartz, with small grains filling in the spaces in between, even the large crystals are subhedral to euhedral. Arsenopyrite is observed as clumps within veins, or surrounded by an alteration product, sericite.
PNA07-UP08(1)	512937	5626349	Quartz Sericite Plagioclase Muscovite Dolomite Calcite Arsenopyrite	15 15 60 4 3 2 5	The quartz occurs in thick veins, it is very coarse-grained, and sub-to-euhedral, a minor amount of dolomite is visible as well. There is a minor amount of quartz in the matrix as well, but mostly the matrix is composed of feldspar altered to sericite. Arsenopyrite occurs as part of the matrix, but none is visible in the quartz vein which runs through the very centre of the slide.
PNA07-UP08(2)	512937	5626349	Quartz Sericite Plagioclase Muscovite Dolomite Calcite Arsenopyrite	15 15 60 4 3 2 5	This slide is almost identical to UP08(1), however in addition to a vein of quartz with calcite/dolomite, there are veins of muscovite and sericite which crosscut both the matrix and the quartz vein.
PNA07-UP09(1)	512937	5626349	Quartz Muscovite Plagioclase Sericite Dolomite Arsenopyrite	45 2 15 30 1 7	The arsenopyrite in this slide occurs in the veins, rather than in the matrix; the veins are coarse-grained quartz, and take up a significant portion of the slide's surface area, the spaces in between the coarse quartz is filled with smaller quartz crystals, as well as sericite.
PNA07-UP09(2)	512937	5626349	Quartz Muscovite Plagioclase Calcite Arsenopyrite Amphibole Sericite	19 2 65 1 5 1 7	Huge vein of coarse-grained quartz running right down the middle of the slide. Other than that, the matrix material consists almost entirely of altered feldspar, there is a minor amount of an amphibole species present, as well as a minor amount of calcite occurring in the vein along with the quartz.
PNA07-UP10A	512937	5626349	Quartz Sericite Arsenopyrite Hematite	75 3 21 1	About one quarter of the width of this slide is taken up by sulfides on one edge that runs the entire length of the slide. The cracks in the sulfide minerals are filled with sericite as an alteration product. The rest of the slide is quartz.

## Thin section descriptions for waste rock and ore samples from the Bridge River Mining District, 2007

Sample ID	Easting (10U NAD 83)	Northing (10U NAD 83)	Composition	Modal %	Description
PNA07-UP10B(1)	512937	5626349	Quartz	90	The slide is composed almost exclusively of subhedral quartz, with crystal size ranging from very coarse to very small, all randomly distributed throughout the matrix. The sulfides occur in medium size crystals scattered regularly throughout the matrix.
			Muscovite	2	
			Calcite	tr	
			Hematite	1	
			Chalcopyrite	0.5	
			Arsenopyrite	6.5	
PNA07-UP10B(2)	512937	5626349	Quartz	61	This thin section is similar to 10A in that the length of one side is composed exclusively of sulfides; the proportion of sulfides is even higher here. There are also sulfide crystals scattered throughout the matrix.
			Sericite	5	
			Calcite	tr	
			Hematite	10	
			Arsenopyrite	23	
			Galena	1	
PNA07-UP11(1)	512937	5626349	Quartz	76	This slide is predominantly quartz, however a significant amount of opaque minerals are present.
			Calcite	3	
			Hematite	8	
			Arsenopyrite	8	
			Galena	4	
PNA07-UP11(2)	512937	5626349	Quartz	92	This section is almost exclusively quartz with a minor amount of calcite and hematite as what appear to be alteration products, and arsenopyrite, in small crystals scattered throughout the matrix.
			Calcite	2	
			Hematite	1	
			Arsenopyrite	5	
PNA07-UP12	512937	5626349	Quartz	85	All the sulfides on this slide are concentrated at the very end of the section; there is very little material that is not quartz in the matrix. Calcite is found in the veinlets. Very coarse and very small crystals of quartz are intermixed without any apparent texture.
			Calcite	7	
			Hematite	1	
			Pyrite	3	
			Arsenopyrite	3	
			Galena	1	
PNA07-UP16(1)	512937	5626349	Quartz	90	The opaque minerals on the slide are concentrated at one end; they are arsenopyrite, pyrite, and hematite. The rest of the slide is composed of quartz with subhedral grains ranging in size from very small to coarse, with the smaller grains filling in the spaces in between the largest. A trace amount of calcite is present in minute fractures within the section.
			Caclite	2	
			Hematite	1	
			Arsenopyrite	6	
			Pyrite	1	
PNA07-UP16(2)	512937	5626349	Quartz	57	Hematite and quartz predominate this section,
			Calcite	3	
			Hematite	20	
			Galena	6	
			Pyrite	8	
			Arsenopyrite	6	



**Fig. F1.** Sample PNA07-GB01(2) showing euhedral chromite (Cr-spinel) in centre overgrown by euhedral hematite (Fe-oxide). The small bright grains are Fe-Ni composition and appear to outline different overgrowth stages (SEM BSI).