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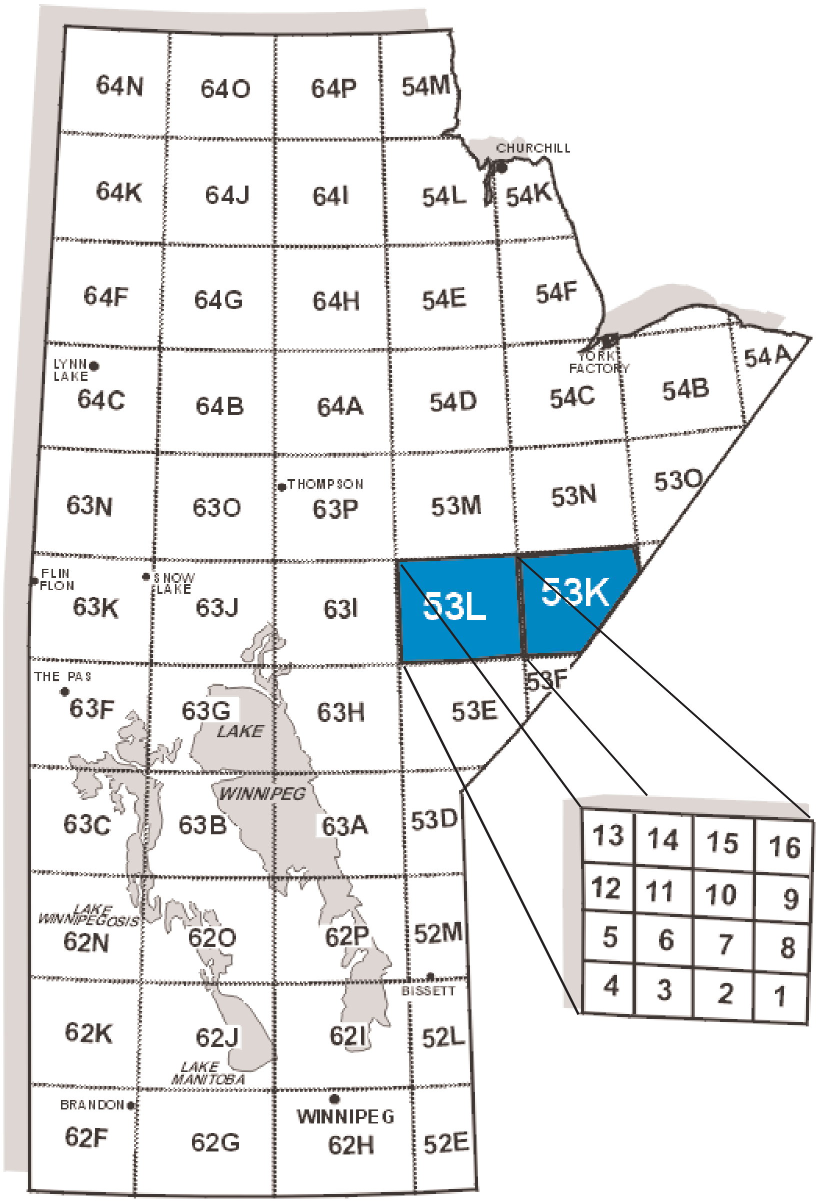

Open File Report OF99-8

Operation Superior: Multimedia Geochemical Survey Results from the Webber Lake, Knife Lake, Goose Lake and Echimamish River Greenstone Belts, Northern Superior Province, Manitoba (NTS 53L and 53K)

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INTRODUCTION

In 1996 the Manitoba Geological Services Branch embarked upon a five year program of helicopter- and fixed wing-assisted multimedia geochemical sampling, designed to assist in the definition of exploration targets and the assessment of mineral resource potential in the northern Superior Province. This initiative has been called Operation Superior and preliminary results for the areas surveyed in 1996 and 1997 were released in Fedikow et al. (1997a, b; 1998).

The application of belt-scale and regional geochemical surveys to relatively under explored terrane has been extensively documented. Usually these surveys have utilized one or two sampling media, such as soil or rock, with generally positive results in reducing large tracts of ground to more localized areas of higher exploration prospectivity. Operation Superior belt-scale multimedia geochemical surveys specifically address the relatively under explored Archean greenstone belts in the Superior province of northeastern Manitoba by systematically collecting rock, till, b-horizon soil, humus and vegetation samples from sample sites established at 1 km centers, within mapped boundaries of the greenstone belts. The results of surveys conducted in year three of this project are presented in this report, representing geochemical survey results for rock, till, b-horizon soil, humus, and vegetation plus kimberlite indicator mineral survey results for diamonds.

One of the non-geochemical benefits of landing a helicopter every 1 km during sampling is the opportunity to make geological observations at outcrop sample sites and in areas of recent burn. Forest fires in 1988 and 1989 have exposed large areas of outcrop in the northern Superior Province that were covered with vegetation and/or soil. An excellent example of this benefit has been described in Fedikow et al. (1997a, b) and Fedikow and Nielsen (1997), where an areally extensive, hydrothermally altered base and precious metal depositional environment was recognized.

A complimentary project was initiated by the Geological Survey of Canada (GSC) in 1996. In the GSC survey, which focussed on the predominantly intrusive geological terrane separating the greenstone belts, till samples were collected on a 40 km sample spacing to provide a regional framework for interpretation of the more detailed multimedia program. This survey was undertaken by Harvey Thorleifson of the Geological Survey of Canada and Gaywood Matile of the Manitoba Geological Services Branch and has been released as Open File Report OF97-3.

Historically, the commodity focus in Manitoba has been base and precious metals, with lesser interest in the pegmatite-hosted rare element deposits such as those at Bernic Lake. This multimedia geochemical survey is designed to address base and precious metals, pegmatite and carbonatite-hosted rare element deposits as well as diamonds. The approach is to collect a variety of sample media at each site and analyze these samples in a multi-element manner using the most advanced technological instrumentation and innovative digestion techniques available. Instrumental neutron activation (INA), inductively coupled plasma-atomic emission spectrometry (ICP-AES), and inductively coupled plasma-mass spectrometry (ICP-MS) are the main analytical techniques chosen for this purpose. Additionally, pH and conductivity measurements (converted to H^+ and specific conductance, respectively) assess water-extractable components in rock, b-horizon soil and humus samples in this survey. The pH measurements were done using a VWR model 8000 pH meter with a Ross #8165 BN Combination pH electrode. Conductivity was measured with an Orion model 125 conductivity meter with an Orion #011020 glass conductivity cell.

The enzyme leach selective extraction process has once again been applied to b-horizon soil samples in this survey. This approach utilizes a phase-specific dissolution that liberates metals adsorbed onto the amorphous Mn-oxide coatings of individual mineral grains in the b-horizon. The leachate is analyzed using ICP-MS, and element concentrations are reported at parts per billion concentration levels. Because of the relative abundance of thick and compositionally variable surficial deposits in this year's study area and the successful application of this technique in years one and two of the project, year three b-horizon soils were analyzed using only the enzyme leach-ICP-MS technology.

An unique opportunity to assess the diamond potential for greenstone belts of the northern Superior Province in Manitoba has been extended by cooperative efforts with MONOPROS Ltd. Eleven litre pails of till collected at each sampling site were concentrated, mineralogically picked and microprobed to provide mineral chemistry for classification purposes. Sample locations were withheld until release of the 1998 open file report to ensure security and equal opportunities for follow-up by all interested parties in the exploration community. This approach permitted diamond potential to be assessed in the 1998 survey area which under normal circumstances would have been too costly for the Geological Services Branch to undertake.

In another beneficial cooperative arrangement with the Geological Survey of Canada, crown twig samples collected from black spruce trees were ashed in the GSC laboratories under the direct supervision of Dr. Colin Dunn. The vegetation geochemical samples were prepared with good control on ashing temperatures and contamination. Analyses were bracketed with vegetation geochemical standards prepared in these same laboratories, resulting in the development of a well constrained vegetation geochemical database.

The element Hg was analyzed in outcrop rock chip and humus samples as a specialty element. The analysis was undertaken at Activation Laboratories Ltd. (Ancaster, Ontario) using a flow injection mercury system (FIMS) designed by Perkin Elmer Ltd. Till was analyzed for Hg by cold vapour – atomic absorption spectrometry (AAS).

The interpretation of exploration geochemical data often relies upon the recognition of localized patterns of element variation. This approach to data interpretation is strongly recommended for the data presented from the 1998 Operation Superior multimedia geochemical survey. The interpretation of enzyme leach data is premised on the ability to recognize central lows or zones of low metal concentrations surrounded by elevated metal contents. This approach to interpretation is somewhat more difficult with irregularly distributed data, such as those collected during this survey, however the identification of a geochemical "cell" using the enzyme leach approach is most desirable.

The format of the 1998 multimedia geochemical survey report has been significantly modified from that produced in 1996. Data and preliminary interpretations for results from each of the sampling media are included in one binder. This was achieved by producing element-and media-specific percentile bubble plots for all greenstone belts sampled in 1998 (NTS 53K and 53L) on the same page. This significantly reduces hardcopy volume. Finally, all text and graphical data is presented on CD-ROM for ease of computer applications. The design and construction of the CD-ROM was undertaken by Paul Lenton of the Geological Services Branch.

METHODOLOGY

Multimedia geochemical samples were collected on approximately 1 km centres or as dictated by access to landing sites using a float equipped helicopter (Bell Jet Ranger 206B). The procedure at each site was to establish, by way of hand augering, the location from which a till sample was to be collected. All other samples were collected in and around the immediate area of the till pit. Sample site locations were plotted on airphotos while viewing the sites from the helicopter subsequent to sample collection.

The specifics of sample collection, preparation and analyses, including data and derived products are described individually for each media type.

DATA DISPLAY

Geochemical data for all sample types are presented in table format with site identification and UTM coordinates (Zone 15, NAD83). This same data is presented as delimited ASCII, EXCEL 4.0 files and ARCVIEW Tables on CD-ROM enclosed in the back of this report. The variation in concentration of the various elements throughout the survey areas is presented as percentile interval bubble plots produced using ARCVIEW GIS software, digitized sample locations and analytical data. Percentile values represent the percentage of data points that fall below a certain analytical value; e.g., a 25^{th} percentile value of 30 ppm Cu indicates that 25% of the data points have values for Cu that are less than 30 ppm. Likewise, at a 95^{th} percentile value of 200 ppm Cu, only 5% of the data points would have values in excess of 200 ppm. Geochemical data from each of the greenstone belts is presented separately as percentile bubble plots. This was done to preserve any geochemical characteristics in the datasets attributable to geological variations between the belts.

The graphical display is a preliminary attempt to identify areas of high metal contents and thereby reduce the large areas surveyed to smaller areas for follow-up work. Although for any given area and sample medium the number of samples may be low for the calculation of percentiles, the user can still quickly assess geochemical response by examining non-transformed geochemical data. Users can manipulate the geochemical data in the manner they feel appropriate to their needs by accessing the data on CD-ROM. Elements consistently below the Lower Limit of Detection (LLD) have been excluded from the data tables and are not discussed further. Samples with concentrations below the LLD for any particular element are assumed to have metal contents equivalent to ½ of the stated LLD. This value was also used for all plotting purposes. For brevity and simplicity in the graphical display of geochemical data only total REE (TREE) is plotted for rock, humus and vegetation data. Concentrations for individual REE as well as total REE are presented in the Appendices.

Users will note that the boundaries of the greenstone belts as well as simplified geology are presented on the percentile bubble plots. This was accomplished using a digital version of the 1:1 000 000 bedrock map of the province (Map 79-2) and the 1:250 000 Bedrock Geology Compilation Map Series maps for NTS 53K and 53L. The UTM coordinates for sample sites are accurately derived from 1:50 000 topographic maps. Mylar sample site location map overlays are provided to enable sample numbers to be derived by overlaying on the bubble plots. A comprehensive listing and description of the contents of the CD-ROM can be found as a README document in the root directory of the CD-ROM.

BEDROCK GEOLOGY AND MINERAL DEPOSITS OF THE 1998 SURVEY AREAS

Multimedia geochemical and mineralogical surveys were conducted in the Webber Lake, Knife Lake, Goose Lake and Echimamish River greenstone belts in 1998 (Figure 1). The simplified regional geology in the survey areas is presented in Figure 2. A sample site location map for these belts is presented in Figure 3a and a mylar overlay depicting sample

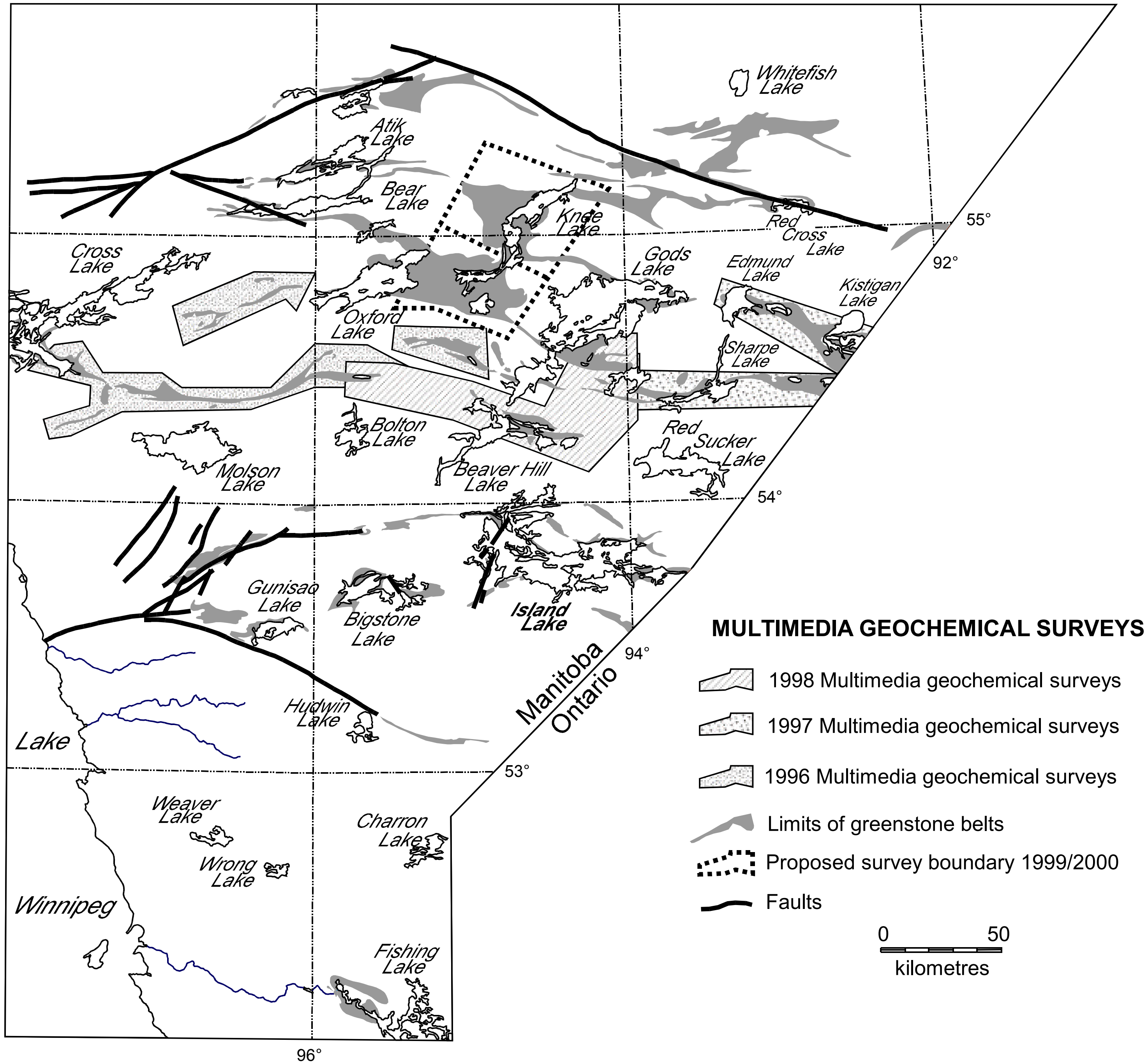

Figure 1: Location of multimedia geochemical surveys.

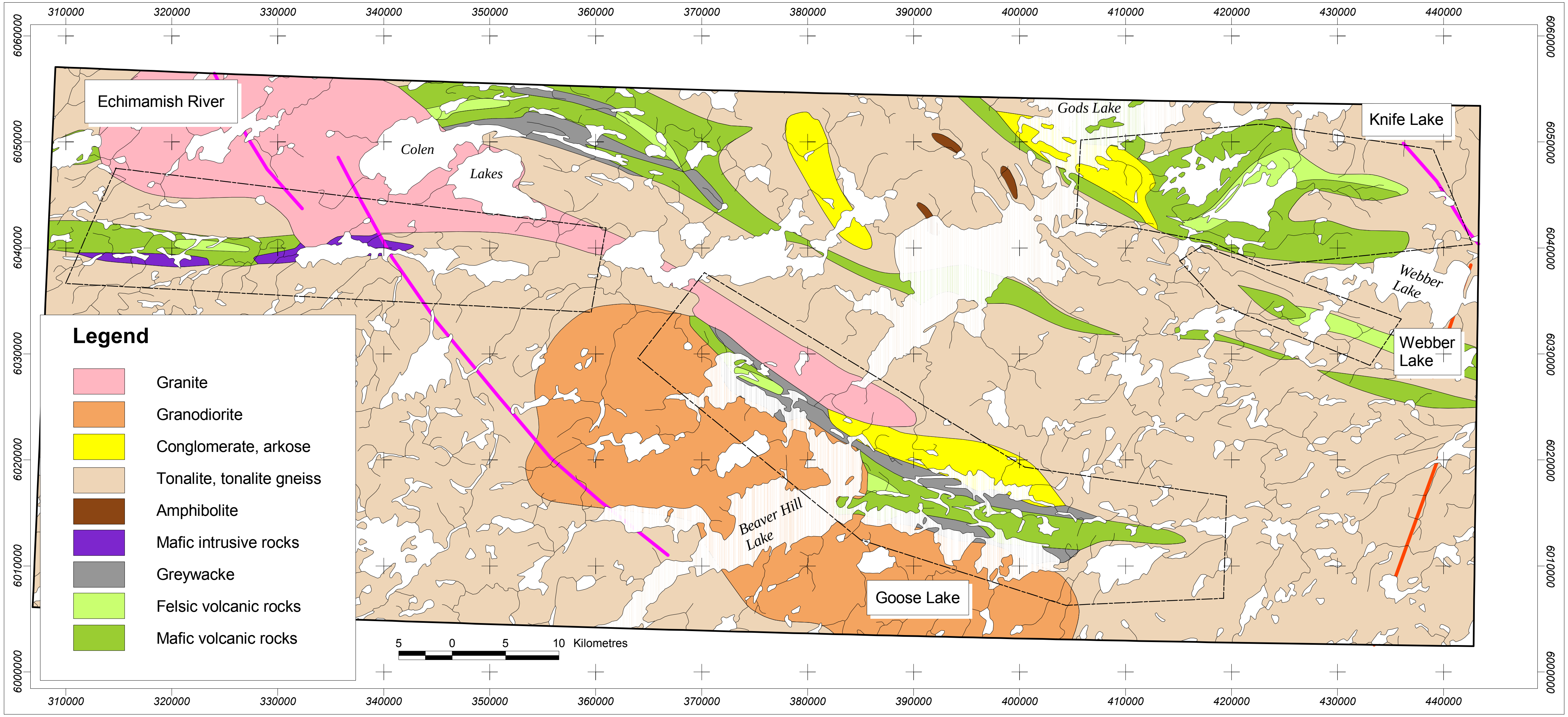

Figure 2: Regional geology in the 1998 survey areas.

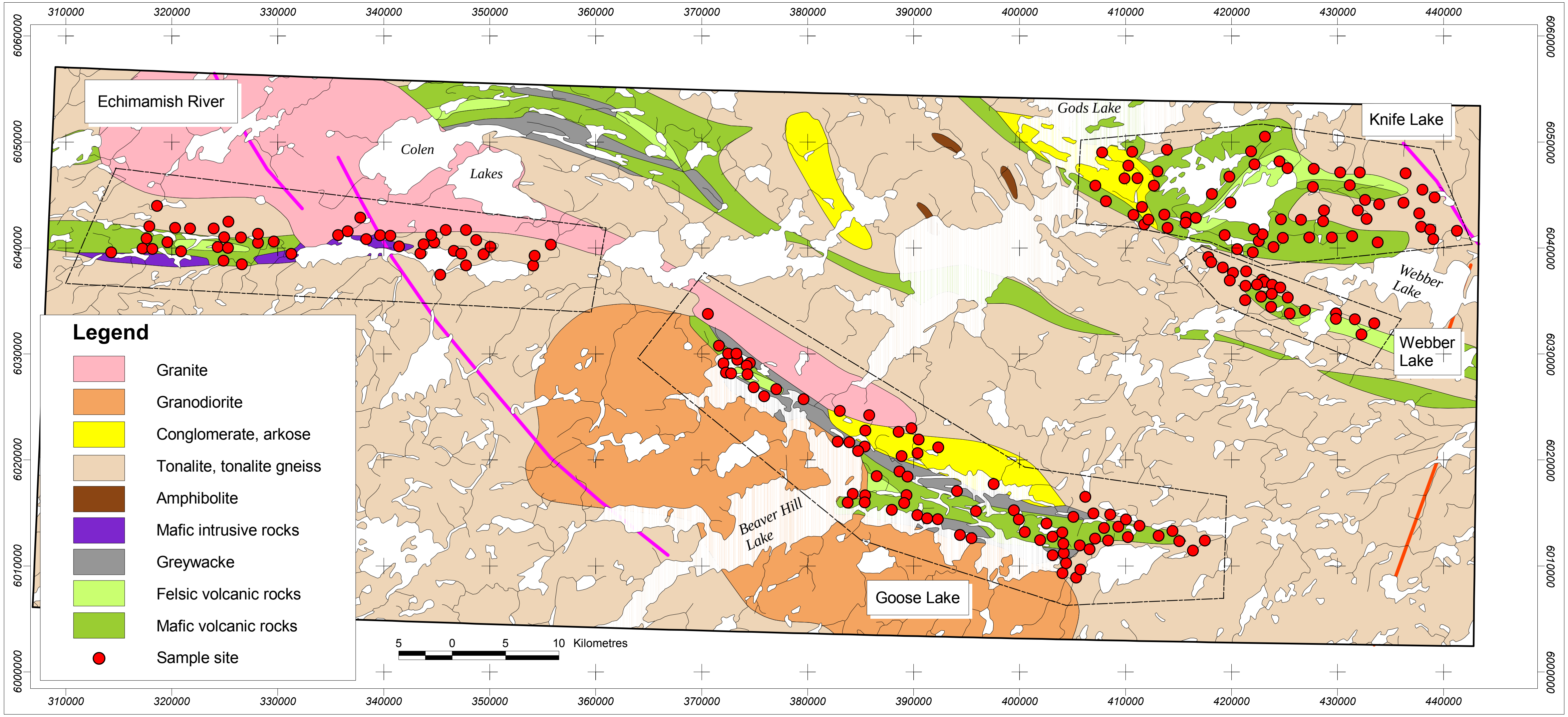

Figure 3a: Regional geology and multimedia sampling sites in the 1998 survey areas.

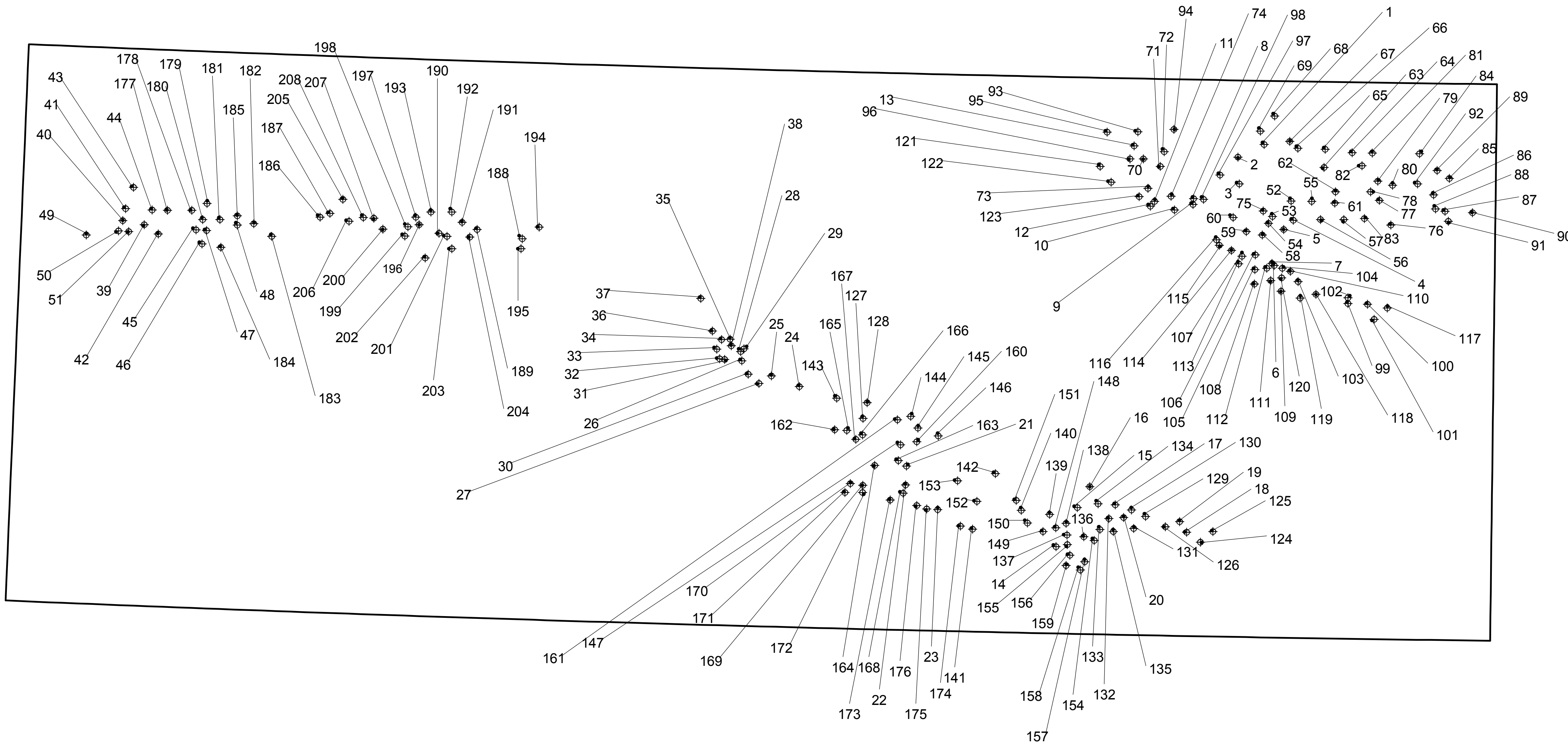

Figure 3b: Station location overlay to be printed on transparency material.

site locations in Figure 3b. (in back pocket) The greenstone belts sampled in 1998 extend from the south end of Webber Lake westwards to the east end of the Echimamish River belt just west of Aswapiswanan Lake for an approximate distance of 120 km. The west end of Munro Lake was sampled in 1996 and although the east end of Munro Lake was targeted for multimedia geochemical surveys in 1998 work in this area was not undertaken because of the inability to safely access landing sites in the area. Ground based multimedia geochemical surveys are recommended for this area.

Webber Lake Belt

The Webber Lake belt (Marten, 1992) comprises fine grained schistose metabasalt, ultramafic rocks (intrusions?), gabbro, and their sheared equivalents. The northern margin of the belt is marked by schistose mafic metavolcanic rocks and mafic xenoliths in granodiorite intrusions. The southern contact is marked by strongly foliated granodiorite that grades to a blastomylonite between Webber and Sharpe Lakes. Strongly flattened pillows occur in the belt and are marked by variable mineral assemblages of hornblende-plagioclase-quartz to tremolite-actinolite and/or chlorite-epidote-plagioclase. An amphibolite facies metamorphic mineral assemblage is dominant in the belt and mafic metavolcanic rocks are generally fine grained, dark green to grey and foliated or schistose. Fine grained, grey-green chloritic and tremolitic/actinolitic-chloritic schist is concentrated in localized shear zones in the Webber Lake area along the southern margin of the belt.

The basaltic rocks are intruded by schistose, sericitic, greenish grey, quartz and quartz-feldspar rhyolite porphyry. Quartz phenocrysts can be milky blue and up to 4 mm, however, these crystals are more often present as flattened lenses in a fine grained quartzofeldspathic groundmass with sericite, chlorite and minor epidote. These rocks are interpreted to be intrusions based on contact relationships with metagabbro and metabasalt although similar rocks documented in diamond drill core are in association with banded chert and graphitic sulphide facies iron formation and may be sills or felsic volcanic rocks (Manitoba Energy and Mines Cancelled Assessment File 91806).

Gale et al. (1980; Map ER79-1-8) assign a medium potential for the belt to contain base metal massive sulphide type deposits. This was based on favourable geology or litho-domains and evidence of massive sulphide-type alteration zones and/or stringer sulphide mineralization, but without known associated base metal massive sulphide type mineralization.

Knife Lake Belt

The following abbreviated discussion of the geology of the Knife Lake area is derived in its entirety from Marten (1992). Mineral deposit information is from Gale et al. (1980). For more complete information the reader is referred to these two publications.

The Knife Lake greenstone belt comprises Hayes River Group metamorphosed mafic volcanic and related sub-volcanic rocks as well as minor ultramafic and sedimentary rocks. Volumetrically lesser felsic volcanic and related sub-volcanic rocks and sedimentary rocks are also present. Metamorphosed conglomerate and greywacke of the Oxford Lake Group occur west of Chataway Lake.

The volcanic and related rocks of the Hayes River Group form a steep dipping, northwest-facing, homoclinal sequence with an approximate thickness of 8 km. The dominant lithology is metamorphosed pillow basalt, however, felsic to intermediate volcanic rocks characterize the stratigraphy in the Knife Lake area. The pillow basalts are dark greyish green and fine grained, with pillow elongation that parallels the regional strike of schistosity. Pillow basalts at Chataway Lake tend to be equidimensional. Pillows are amygdaloidal and are characterized by 1 cm wide, pale green, epidote-bearing selvages. Pillow interstices contain fine grained quartz- rich material or carbonate. Pillow breccia, consisting of isolated pillows and fragments of broken pillows in a matrix of aquagene tuff, is also present and occurs as lenses up to 3 m thick. Rare, fine grained and laminated argillitic mafic tuff and iron formation are present as 30 cm – 3 m layers within the basalt. Oxide facies iron formation is documented from the uppermost Hayes River Group in the area and consists of 0.5-2.5 cm thick, black, very fine grained, magnetiferous argillite with bands of chert.

Pillowed, pale green weathering andesite forms a 450 m thick unit on Chataway Lake. An altered metabasalt is documented from an area between Knife Lake and Chataway Lake and has been mapped along strike by Dix (1948) as “rhyolite”. Altered basalts from this area tend to be depleted in alkali metals, total iron and magnesium and enriched in calcium. The elevated magnesium (8.62%) from a sample crosscut by anastomosing chlorite veins collected from these altered basalts is reminiscent of hydrothermal alteration usually associated with massive sulphide type mineralization.

Felsic volcanic rocks in the Knife Lake area are aphanitic, flinty, pale grey weathering rocks that are particularly well exposed on islands in the west side of Knife Lake. Rhyolite breccia is common and varies texturally from 0.5-30 cm fragments that merge into 1 m or larger rhyolite masses. The fragments are deformed into ellipsoids in western Knife Lake and contain a strong penetrative foliation defined by biotite near the Knife River/Gods Lake confluence. Garnetiferous banded rhyolite, host to massive pyrite layers, is exposed at the mouth of the Knife River.

Banded iron formation (BIF) occurs in gossaned outcrop at two stratigraphic levels in the Knife Lake area. The iron formation is characterized by 1-6 cm layers of meta-chert alternating with massive pyrite, pyrite-graphite and magnetite-rich layers. Airborne geophysical surveys (Manitoba Energy and Mines Cancelled Assessment File 91799) in the Knife Lake area document linear responses associated with the iron formations. The lowermost BIF is up to 20 m thick and has been mapped for 640 m along the west shore of an island in western Knife Lake. The upper BIF extends from the neck of the long peninsula in the west side of Knife Lake to 1 km west of the rapids at the outlet of Knife Lake.

Massive, poorly bedded, fine grained, grey weathering homogenous greywacke with local alteration is documented from the east shore of Knife Lake. Epidotized and silicified greywacke occurs as a pale greenish siliceous rock with disseminated pyrite and irregular (less altered?) siltstone relicts. Pebble conglomerate is locally interbedded with greywacke on islands in western Knife Lake. At these locations the conglomerate is massive and varies from clast- to matrix-supported. Quartzite, andesite and dacite pebbles averaging 2 cm in diameter and range up to 30 cm.

Gale et al. (1980; Map ER 79-1-8) assign a high potential for the southern half of the belt centered on Knife Lake to contain base metal massive sulphide type deposits . This determination was based on favourable geology or litho-domains and the presence of massive to semi-massive sulphide lenses with and without associated alteration zones and/or stringer mineralized zones. The northern half of the belt at Knee Lake is assigned a moderate potential to contain base metal massive sulphide type deposits and is based on favourable geology or litho-domains but without known massive sulphide type mineralization and associated alteration. The Chataway Lake portion of the belt is assigned a low potential rating on the basis of unfavourable geology or litho-domains. The rocks in this area include Oxford Lake group fluviatile arkose and conglomerate, plutonic rocks and derived gneisses.

Multiple occurrences of diamond drill indicated base metal massive sulphide type mineralization as well as sulphide facies iron formation and apparently isolated massive sulphide-type alteration are documented by Gale et al. (1980) in the Knife Lake area (cf. Map ER79-1-8).

Goose Lake Belt

Details of the geology of the Goose Lake belt are taken from Elbers (1972) and Elbers (unpublished). This east-west trending, up to 7 km wide belt extends from the southwest end of Touchwood Lake for 50 km to Portage Lake. The volcanic, volcaniclastic and sedimentary rocks of the Goose Lake-Beaver Hill Lake greenstone belt have undergone middle amphibolite facies metamorphism and multiple deformations. As a result they are devoid of most original primary characteristics. Peak metamorphism was recorded early in the tectonic evolution of the area and is marked by the development of a steeply dipping to subvertical penetrative foliation subparallel to the layering in the supracrustal rocks. This event was followed by porphyroblastic growth under amphibolite facies conditions. Subsequently, three low grade metamorphic events effected the area. A lower grade schistosity was superimposed on rocks of the northern part of the area and is only locally developed in the south. A thermal event, related to granite intrusion, produced widespread porphyroblastic growth under hornblende hornfels facies conditions.

North of Goose Lake, conglomerate, feldspathic- and quartz-wacke, arkose and protoquartzite are exposed. At the greenstone belt-sediment contact to the south the feldspathic wacke is interlayered with slaty argillite and mafic volcanogenic sedimentary rocks. Oxide facies iron formation occurs near the greenstone belt contact and is exposed at the west end of the northernmost bay of Goose Lake.

Massive and pillowed basalt in the belt is vesicular and plagioclase phyric, containing localized fragmental units and coarser-grained gabbro sills. Thin layers of sheared, mylonitized basalt with a penetrative slaty cleavage are also present. Thin section examination reveals these units are amphibolites, which have been partly or totally retrogressed to chlorite. Rusty-brown weathered calcareous layers are interlayered with basalt in southern Goose Lake and have been interpreted as carbonate facies iron formation. Mafic tuff, now recrystallized to amphibolite, comprises a minor but recognizable portion of the stratigraphic sequence. These tuffaceous units are layered and locally contain lapilli and interlayers of felsic tuff. Garnetiferous amphibolite is present in the northwest Beaver Hill Lake area.

Mafic volcanogenic sedimentary rocks, argillite, and minor greywacke and cordierite-bearing schists occur in the northern half of the Goose Lake belt and extend westwards into northwestern Beaver Hill Lake. The mafic sedimentary rocks may be interlayered with basalt. Garnet-cordierite-andalusite-amphibole bearing schists (metamorphosed greywacke) are exposed in a small bay off northwestern Beaver Hill Lake. Well foliated to granoblastic greywacke also occurs as interbeds in mafic volcanic sequences.

Two major occurrences of felsic volcanic rocks are documented in the belt. Plagioclase crystal tuff with mafic to intermediate fragments are interlayered with buff-weathering rhyolite flows in northwestern Beaver Hill Lake. Felsic volcanic rocks exposed east of Beaver Hill Lake are grey weathering quartz-mica schists with local lapilli. The eastern end of this felsic unit was diamond drill tested by Phelps-Dodge Corporation in 1961. Drill holes intersected altered mafic volcanic rocks (altered rhyolite?) with disseminated pyrite, pyrrhotite and chalcopyrite. A third, lesser occurrence of felsic volcanic rocks occurs in the complex bay system that leads to northern Goose Lake. In the western portion of this area a section comprising 170 m of massive, grey-weathering, fine grained quartz- and feldspar phyric rhyolite tuff is documented. Fragments up to 10 cm long are present in this unit that is up to 1800 m long and trends oblique to the regional foliation.

A 12 km long and 5 km wide, dextrally folded, differentiated mafic-ultramafic intrusion occurs in documented from the Beaver Hill Lake area. The lowermost portion of the mafic-ultramafic intrusion is serpentinized peridotite with subordinate clinopyroxenite and gabbro. The intrusion is characterized by a near vertical foliation that parallels igneous layering in the flanks and crestal areas of the dextral fold. This foliation is crosscut by a later foliation that parallels the axial plane of the fold. The intrusion occurs close to the contact between volcanic and sedimentary rocks. A lenticular positive aeromagnetic anomaly defines this intrusion (Geophysical Paper 4042, Goose Lake, Manitoba, Sheet 53L-2) and coincides with a 110^{o}-trending lineament that trends through the northernmost bay of Goose Lake. The lineament is parallel to bedding in the area and may represent a strike-slip fault along which the ultramafic rocks were intruded.

Gale et al. (1980; Map ER 79-1-8), based on favourable geology or litho-domains, assign a high potential for the belt to contain base metal massive sulphide type deposits. There are no known base metal massive sulphide type deposits in the belt; however, massive to semi-massive sulphide stratum or sulphide facies iron formation are documented from diamond drilling.

Echimamish River Belt

The Echimamish River greenstone belt is an east-west trending belt comprising massive to pillow basalt, felsic to intermediate tuff, felsic feldspar-quartz porphyritic intrusions, anorthosite, anorthositic gabbro, sandstone and greywacke. The belt is flanked to the north and south by the largely meta-plutonic Gods Lake and Molson Lake Domains. Of particular interest in this belt is the presence of an areally extensive zone of silicified, rusty- weathered and epidotized pillow basalts, oxide and silicate facies iron formation (locally sulphidized), and a highly altered felsic volcaniclastic rock termed garnetite (locally 100% garnet). This area is located south of Max Lake and is well exposed due to intense forest fires that swept the area in 1988 and 1989.

From north to south the exposed section is characterized by massive to feldspar-porphyritic basalt and intermediate to mafic sedimentary rocks interlayered with locally sulphidized (pyrite, sphalerite, arsenopyrite) oxide facies iron formation. Southwards, a 5-7 m wide unit of highly altered felsic tuff or volcaniclastic rock is in probable fault contact with locally sulphidized oxide facies iron formation. Further south is a sequence of massive to pillowed basalt and quartz phyric intrusions. The southernmost exposures progress from visually unaltered pillow basalt to weakly-rusty weathered equivalents. Rusty weathering is confined to pillow selvages. These rocks become progressively more strongly altered to silicified and epidotized pillow basalt. In the most intensely altered pillow basalts primary features are obliterated. Strongly rusty-weathered felsic rocks are interlayered with these altered basalts. Locally the pillow basalts are crosscut by chlorite-garnet veins. Further south in the sequence the altered basalts and sedimentary rocks are intruded by ultramafic dykes that contain immiscible chalcopyrite and pyrrhotite ovoids (immiscible sulphide segregations?). Brief traverses through this stratigraphy indicate the rocks have been isoclinally folded and transected by high angle faults. Anomalous geochemical responses in every sample media were obtained in 1996 from this ca 10 km by 2 km portion of the and as such the area is considered to have good base and precious metal potential (Fedikow et al., 1997a). The ultramafic dykes and associated rocks should be assessed for platinum group element (PGE) potential.

In 1998 the remainder of the Echimamish River belt was sampled in an attempt to define the limits of the areally extensive alteration zone identified in 1996. Multimedia geochemical surveys in the belt had previously been undertaken between Butterfly and Hairy Lakes (on the west) to east of Max Lake. East of the altered pillow basalts that occur south of Max Lake, additional altered sequences were identified in which the mafic volcanic rocks have been silicified, rusty weathered and epidotized. The absence of significant forest fires in this part of the belt and recent geological mapping precludes a definitive statement regarding the relationship of this alteration to that identified in 1996.

Gale et al. (1980; Map ER79-1-8) assign a medium potential for the belt to contain base metal massive sulphide potential primarily on the basis of favourable geology or litho-domains but without evidence of massive sulphide deposits and associated alteration zones and/or stringer sulphide mineralization. It should be noted that this assessment was undertaken without the aid of new exposure created by the forest fires that exposed the Max Lake alteration zone. Based on this new information the massive sulphide potential would be re-interpreted as high.

QUATERNARY GEOLOGY OF THE 1998 SURVEY AREAS

Introduction

During the summer of 1998, till samples for geochemical and kimberlite indicator mineral analyses were collected in the Webber Lake, Knife-Chataway lakes, Beaverhill-Goose lakes and eastern Aswapiswanan Lake greenstone belts. Observations on the sediment composition, texture, geomorphology, as well as striae and drumlin orientations, relevant to the interpretation of the geochemistry and kimberlite indicator mineral distribution, were an integral part of the field work.

Stratigraphy

As in other parts of the northern Superior Province sampled in previous years, the Quaternary sediments in this region consist of a single till sheet blanketed by glaciolacustrine silt and clay and organic wetland deposits. The wetlands are underlain by fine-textured glaciolacustrine sediments that also drape many of the surrounding hills, in places forming an impenetrable obstacle to sampling the underlying till from hand-dug pits. The wetlands and the widespread glaciolacustrine sediments are the greatest impediments to till sampling from hand-dug pits in the area. Wetlands and glaciolacustrine sediments are widespread in the low relief areas west of Webber Lake, east of Knife Lake and north of Aswapiswanan Lake. Relatively high relief areas with widespread bedrock outcroppings occur in the Knife-Chataway lakes area, throughout much of the Beaverhill-Goose lakes area and west of Aswapiswanan Lake. The high relief in these areas was not conducive to deposition and/or preservation of till, making sampling difficult due to the general scarcity of suitable materials.

Two distinct till facies were recognized in the region. The most widespread facies, similar to that described previously by Fedikow et al. (1997a, 1997b), consists of highly calcareous, beige to gray, silty to sandy till. In bedrock-dominated and high-relief terrain this till facies forms thick accumulations of lee-side till, down ice from bedrock obstructions, but elsewhere it occurs as drumlins or drumlinoid ridges up to tens of metres high and several kilometres long. A large proportion of the till is allochthonous, having been derived from the Paleozoic carbonate terrain of the Hudson Bay Lowland to the north and northeast.

The second facies is sandy textured till, composed of material derived from local Precambrian bedrock sources. This locally derived till, with no apparent carbonate erratics, occurs primarily in the area north of Rochon Lake where it was found at seven sites (16, 17, 19, 20, 139, 140 and 148). At sites 16 and 17 the sandy, locally derived till facies comprises a large area of ribbed moraine, although drumlins composed of silty, allochthonous calcareous till are found nearby. Elsewhere, such as north of Island Lake and west of Red Sucker Lake, the locally derived, sandy till facies forms extensive areas of hummocky stagnation moraine. Glaciolacustrine sediments are not widespread in the Island Lake-Red Sucker Lake area suggesting remnant glacier ice, associated with the hummocky moraine, may have remained in this area after the rest of the region was deglaciated and inundated by glacial Lake Agassiz.

Ice Flow Direction

In the Knife-Chataway lakes area, striae measured at eight locations range between 218° and 230°, with a single spurious value towards 200°. Drumlins and drumlinoid ridges occurring to the north, along the shores of God’s Lake, are orientated towards 208°. The difference or apparent discrepancy between the orientation of the drumlins and striae directions suggests the trajectory of the ice flow changed slightly between the erosion of the bedrock and the final till deposition or molding of the till surface. This observation highlights the need for care in using ice-flow indicators for detailed or property scale mineral tracing studies in the area.

Striae, measured at eight sites in the Beaverhill-Goose lakes area vary between 206° and 230°. Drumlins and drumlinoid ridges orientated towards 208° are in close agreement with the striae directions. Striae trending 195° (site 30) and 260° (site 32) record older ice-flow events not associated with the deposition of the regional till sheet.

In the eastern part of the Aswapiswanan Lake belt striae directions ranging between 218° and 234° were measured at seven sites. These striae directions are consistent with the orientation of drumlins and drumlin ridges trending 228° in the area immediately to the north of the belt.

Methods

Field Methods

Till samples were collected from hand-dug pits or small (generally less than one metre high) naturally exposed sections. Pits were dug to bedrock, to a maximum depth of about one metre, or until the first unoxidized gray to buff C-horizon till was intersected. Of the 177 sites sampled for till geochemical analyses, seven samples (13, 21, 73, 149, 153, 161 and 163) are definitely not till and another nine samples (5, 91, 93, 96, 125, 139, 146, 151 and 171) are of problematic origin and may not be till. Of the 177 till samples, 129 were obtained from beneath a relatively impervious layer of fine-textured glaciolacustrine clay or silty clay. For this reason these samples are considered to be relatively unweathered C-horizon till. Of the remaining 48 samples, five samples were collected from beneath sand, 17 samples were collected under more than 20 cm of humus and eight samples were collected under a heavy boulder lag. Only 14 samples (16, 17, 20, 28, 55, 73, 79, 124, 139, 140, 146, 148, 151, 153, 163 and 166) showed visible signs of oxidation and, of these, four samples (28, 139, 148 and 151) were collected under glaciolacustrine clay or silty clay.

From each site a half-kilogram till sample was collected for geochemical analyses and an 11-litre pail of till was collected for diamond indicator mineral processing.

Laboratory Methods

Two size fractions, a <2μm (clay) fraction and a <63μm (silt + clay) fraction, were prepared in the Manitoba Energy and Mines Rock Laboratory. The <2μm fraction was prepared following standard procedures of centrifuging and decanting. The <63μm fraction was prepared by dry sieving on a 63μm stainless steel sieve. The <2μm fraction was analyzed by ICP-AES (34 element suite). Arsenic was analyzed by hydride generation and mercury was analyzed by cold vapour. The <63μm fraction was analyzed by INAA (Au +34 element suite). The sample preparation techniques and analytical procedures (including the analytical laboratories) were the same as those used in the first two years of this survey (Fedikow et al. 1997a, 1997b).

A separate 4 g split of the <63μm fraction was submitted to the Geological Survey of Canada for carbonate analysis using the Chittick apparatus. The percent calcite, dolomite and total carbonate, as determined by the Chittick method, are now also available for the 1996 and 1997 northern Superior till samples (Fedikow and Nielsen, unpublished).

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ROCK GEOCHEMICAL SURVEY

Sample Collection, Preparation and Analysis

Outcrop rock chip samples were collected from the Echimamish River, Goose Lake, Webber Lake and Knife Lake greenstone belts after moss mats and soil were removed from the outcrop. A representative sample consisted of 3-4 fist-sized chips. These chips were jaw crushed to maximum 5 mm fragments and powdered in a tungsten carbide swing mill. The powders were homogenized by rolling and then split and placed into vials each weighing approximately 55 grams. Vials were then submitted for INA and ICP-AES analyses at Activation Laboratories Ltd. The ICP-AES analyses are based upon a four acid total digestion. Hg was analyzed using a flow injection mercury system developed by Perkin-Elmer Ltd. Hydrogen ion (H^+) and specific conductance were analyzed in the Geological Services Branch laboratory. Descriptions of outcrop rock chip samples are given in Appendix 1. Geochemical data is presented in Appendices 2 (ICP-AES, H^+, *K* and Hg) and 5 (INAA); geochemical data for sites where more than one sample was collected is presented in Appendices 3 (ICP-AES, H^+, *K* and Hg) and 6 (INAA). Percentile bubble plots are in Appendices 4 (ICP-AES, H^+, *K* and Hg) and 7 (INAA). Appendices 8 and 9 contain silicate whole rock and trace element analyses of selected lithologies. In Appendix I the user will notice there are occasionally two or more outcrop rock chip samples collected from a single site. In this case the sample with the highest analysis of a particular element was used for plotting purposes.

Format

Rock geochemical data is described and presented as a geochemical narrative for samples collected from the four individual greenstone belts sampled in 1998. This narrative takes the form of relating the variation in concentration of individual elements to geological features such as rock types or structures. In a subsequent section entitled “synthesis” a detailed discussion and summary of element variations integrating specific geophysical signatures, mineral deposits and geological characteristics, is presented. Elements are grouped and discussed in turn according to their analytical technique. Accordingly, the descriptions proceed from Hg (FIMS) to INA to ICP-AES and finally H^+ and specific conductance results.

Results

Flow Injection Mercury System (FIMS)

Hg: The highest Hg values occur in the western portion of the Knife Lake belt where a sample of green, rusty weathered massive gabbro with 1% disseminated pyrite (site 9) contains 19 ppb Hg. A 98^{th} percentile response of 14 ppb was obtained from site 12 in association with a rusty-weathered, silicified basalt with non-mineralized blue and white quartz veins. Hg in samples from Webber Lake are all below the limits of detection. A maximum concentration of 13 ppb was obtained for a float chip sample of grey, silicified rhyolite (?) with 15% disseminated and stringer pyrite and 2% pyrrhotite as late fracture fillings.

Instrumental Neutron Activation (INA)

Au: The west end of the portion of the Echimamish River greenstone belt sampled in 1998 is marked by two significant Au responses of 514 ppb (100^{th} percentile; site 50) and 199 ppb (95^{th} percentile; site 206); a third 95^{th} percentile response occurs towards the east end of the belt.

A 100^{th} percentile response of 75 ppb (site 33) and a 95^{th} percentile of 24 ppb occurs at the west end of Goose Lake. The area is also marked by two 90^{th} percentile responses of 18 ppb. A 98^{th} percentile response of 59 ppb (site 34) occurs near the north margin of the central portion of the belt.

Gold responses are lower in the Webber Lake belt, with no analysis >5 ppb. The 100^{th} percentile of 19 ppb (site 72) in the Knife Lake belt occurs at the west end of Knife Lake.

As: Exceptional As concentrations are documented from the central portion of the Goose Lake belt. Two samples containing 13300 ppm (100th percentile; site 22) and 2790 ppm (98^{th} percentile; site 21) occur close to the southern margin of the belt. The west end of the belt is marked by a two-sample response of 550 ppb (95^{th} percentile) and a five sample cluster of 148 ppm (90^{th} percentile) occurs at the east end of the belt.

The Knife Lake belt is marked by a four sample As anomaly that straddles the southern margin of the belt and is marked by two responses of 374 ppm (100^{th} percentile; site 12), a 98^{th} percentile of 69 ppm and a 95^{th} percentile of 47 ppm.

As contents in each of the Webber Lake and Echimamish River belts are similar with 100^{th} percentiles of 40 and 42 ppm, respectively. The Webber Lake response occurs at the west end of the belt adjacent to a major shear zone that separates the Webber Lake belt from the Knife Lake belt. The 100^{th} percentile (42 ppm) in the Echimamish River belt occurs to the east of the known limits of the greenstone belt in a sample of dark green, rusty-weathered, carbonate-altered gabbro with a few percent pyrite and lesser chalcopyrite.

Ba: The highest Ba responses in the Knife Lake belt occur at the western extremity of the sampling, where a one sample 100^{th} percentile response of 910 ppm and a two-sample 98^{th} percentile response of 510 ppm were obtained. A single sample response of 860 ppm (100^{th} percentile) occurs at the west end of the Webber Lake belt and the south-central portion of the Goose Lake belt is marked by 780 ppm and 500 ppm Ba responses (100^{th} and 98^{th} percentiles, respectively). The eastern portion of the Echimamish River belt is marked by a single 100^{th} percentile response of 580 ppm.

Br: The Goose Lake belt is marked by the highest Br contents, which are expressed as a more or less uniform distribution of 95^{th} and 90^{th} percentile responses across the belt. Two higher values of 16.5 ppm (100^{th} percentile; site 17) and 11 ppm (98^{th} percentile) occur at the east end and the west-central portion of the belt, respectively.

A single sample 100^{th} percentile response of 11 ppm (site 178) occurs near the north margin of the Echimamish River belt near the east end of the mapped metavolcanic rocks. A diffuse non-focussed distribution of Br responses characterizes the Knife lake belt. A 100^{th} percentile response of 5.8 ppm occurs at the northeast corner of the belt. All Br values in the Webber Lake belt were below the limits of detection.

Ca: A 100^{th} percentile response of 15% (site 204) characterizes the east end of the Echimamish River greenstone belt. The sample was an olive green, rusty-weathered and fractured basalt. The west end of the Goose Lake greenstone belt is marked by a four sample cluster of 8-10% Ca representing 90^{th} – 100^{th} percentile responses. The Knife Lake belt contains three 100^{th} percentile responses of 9%. Two of these responses occur at the north end of the peninsula that separates the Knife Lake and Chataway Lake belts. The third response occurs near the southern margin of the belt in proximity to a major shear zone. Responses in the Webber Lake belt are low and occur over a restricted range of concentrations (4-8%; 50th-90^{th} percentiles).

Co: A 100^{th} percentile of 153 ppm (site 29) occurs at the east end of the Goose Lake belt and a 98^{th} percentile of 129 ppm (site 148) occurs near the southeastern belt margin. Each of the Echimamish River, Webber Lake and Knife Lake greenstone belts are characterized by a single anomalous or 100^{th} percentile response. The north-central margin of the Echimamish River belt (109 ppm; site 177), the south shore of Knife Lake in the Knife Lake belt (85 ppm; site 75) and the central portion of the Webber Lake belt (64 ppm; site 103) are all marked by single point anomalies.

Cr: An ultramafic lithology is indicated at site 177 in the north-central portion of the Echimamish River belt (100^{th} percentile; 2990 ppm). This lithology was described in the field as a chloritic basalt with disseminated magnetite. 100^{th} and 98^{th} percentile responses were obtained from samples collected at the south east end of Goose Lake. The southwest margin of the Knife Lake belt is characterized by 100^{th} (521 ppm) and 98^{th} (508 ppm) rock geochemical responses. A single 100^{th} percentile response occurs at the northwestern edge of the Webber Lake belt (241 ppm; site 107). Both the Knife Lake and Webber Lake responses are localized near the northwest-trending shear zone that separates these two belts.

Cs: The Goose Lake belt contains significantly higher Cs contents than the other belts sampled in 1998. A 306 ppm 100^{th} percentile response (site 157) occurs at the southeast margin of the belt in a sample described in the field as a dense, massive, dark green ultramafic lithology. The 98th percentile response of 66 ppm occurs at the east end of the belt. The Echimamish River belt is marked by a single high response of 25 ppm (100^{th} percentile; site 198) near the east end of the belt. Both the Knife Lake and Webber Lake belts have low Cs responses of 5 and 4 ppm, respectively.

Fe: The 100^{th} percentile response of 36.3% Fe at site 164 from the Goose Lake belt reflects a chlorite-garnet-magnetite iron formation sampled at this locality. A 98^{th} percentile response of 18.8% occurs at the east end of the belt (site 126) and also reflects a sulphide-rich lithology at this location, within a sequence of basalt, chert and sulphide facies iron formation. The sample is representative of the iron formation. The analyses of three other samples collected at this site are presented in Appendix 3. A 100th percentile of 18.2% occurs at the north-central margin of the Echimamish River belt at site 44 where rusty-weathered chert-magnetite-garnet-muscovite chemical sedimentary rocks interlayered with massive and pillowed basalts. The sample was representative of the chemical sedimentary unit. Single point 100^{th} percentile responses (15.8%; site 75) and 9.83%; site 103) were obtained in both the Knife Lake and Webber Lake belts, respectively.

Hf: Moderate to low contrast Hf responses (4-12 ppm) representing 90^{th}-100^{th} percentiles are observed for the four belts sampled in 1998. The 100^{th} percentile value of 12 ppm occurs at site 22 on the south-central shore of Goose Lake.

Mo: An exceptionally high value of 376 ppm occurs in the west end of the Goose Lake belt. This 100^{th} percentile response (site 32) is correlated to a sample of disseminated molybdenite that occurs in a rusty weathered aplite dyke that crosscuts a diorite intrusion. A 100^{th} percentile response of 64 ppm (site 109) occurs near the west end of the Webber Lake belt in a sample of medium grained diorite crosscut by numerous rusty-weathered fractures. The Echimamish River belt is marked by a two sample cluster of 100^{th} and 98^{th} percentile Mo responses at sites 185 (32 ppm) and 48 (19 ppm), respectively. Two low values of 3.5 ppm were obtained from samples in the Knife Lake belt.

Na: Areally extensive zones of significant Na depletion were not detected in any of the belts sampled in 1998. However, a number of low Na values (25th percentile; 0.50%) are documented from the portion of the Echimamish River belt sampled this year. These low values may represent the eastward continuation of hydrothermal alteration documented from the Max Lake area in 1996. High Na responses include 100th percentile responses of 4.76% (site 59; rusty weathered aplite dyke), 4.40% (site 28; white pegmatite) and 3.45% (site 104; white-grey, micaceous altered granite?).

Ni: In the Echimamish River belt elevated Ni responses (100th percentile , 709 ppm and 98th percentile, 535 ppm) occur in the central and eastern portions of the belt. The 709 ppm response correlates to the high Cr ultramafic lithology sampled on the north margin of the belt. An east-trending string of 95th-100th percentile responses (230-325 ppm; sites 126, 131, 133 and 157) occur at the east end of the Goose Lake belt. A low contrast 100th percentile of 77 ppm is documented from the east end of Webber Lake as well as a 218 ppm 100th percentile response from the northeast corner of the Knife Lake belt.

Rb: In the Goose Lake belt a single elevated Rb response (100th percentile; 330 ppm) occurs at the southeast margin of the belt at site 157. A similar observation is made for the Echimamish River belt where a single 100th percentile of 320 ppm occurs at the east end of the belt (site 189; grey, unaltered granite). The 100th percentile responses in the Webber Lake belt (132 ppm; site 104-altered granite?) and Knife Lake belt (103 ppm; site 73-rusty-weathered, cherty, black, fine grained argillite) are low contrast.

Sb: The distribution of elevated Sb in the Knife Lake belt is restricted to a single very high analysis of 32.7 ppm (100th percentile; site 10) from a sample of rusty-weathered, carbonatized basalt that occurs on the southern margin of the belt adjacent to the shear zone that separates the Knife Lake and Webber Lake belts. Two clusters of high Sb responses occur in the central and eastern portions of the Goose lake belt. The central area is characterized by 6.1-13.5 ppm analyses (90th-100th percentiles) and the eastern portion of the belt by 2.7-8 ppm (75th-95th percentiles) responses. Both areas represent multi-sample anomalies. The Sb responses for the Echimamish River and Webber Lake belts are low.

Sc: The 100th percentile Sc responses in each of the four belts are essentially the same and range between 45 ppm at Goose Lake to a high of 51 ppm at Knife Lake. The Sc contents are reflecting the similarity in lithologies sampled at these sites (basalt, gabbro, ultramafic).

Ta: Low contrast Ta responses are apparent from the Echimamish River (100th percentile response=4.1 ppm), Webber Lake (100th percentile response=1.8ppm) and the Knife Lake (100th percentile response=3.5 ppm) greenstone belts. The Goose Lake belt has significantly higher Ta levels with a 100th percentile response of 18.7 ppm (site 32; rusty weathered aplite dyke with disseminated molybdenite) as well as a 98th percentile response of 16.4 ppm from a sample of white pegmatite at site 28. Both of these responses are located in the western end of the belt.

Th: Two sites of elevated Th are documented from the Echimamish River belt. These responses (100th percentile response of 41.9 ppm at site 205 (pink pegmatitic granite) and a 95th percentile response of 35 ppm at site 189 (pink granite) are situated in the east end of the belt. A three sample anomaly comprising 100th-95th percentile responses occurs in the central portion of the Goose lake belt. The responses are characterized by analyses of 25.8 ppm (site 22; silicified diorite with 5% disseminated and veinlet arsenopyrite), 20.6 ppm (site 167; silicified white granite?) and 17.1 ppm (site 170; grey weathering, fine grained siltstone with 10% disseminated and veinlet pyrite). A 100th percentile of 20.1 ppm occurs in the western portion of the Knife Lake belt and a 12.7 ppm analysis represents the 100th percentile in the Webber Lake belt.

U: The U responses are broadly similar between the four belts. Two 100th percentiles of 9.8 ppm (sites 189 and 205) are noted for the east end of the Echimamish River belt in samples of granite and pegmatitic granite, respectively. A similar 100th percentile response of 9.4 ppm is obtained from a silicified granite at site in the west-central portion of the Goose Lake belt. Lesser values of 6.1 ppm and 3 ppm for 100th percentile responses were obtained for the Knife Lake and Webber Lake belts, respectively.

W: Broadly similar results were obtained for each of the belts. The highest W contents were documented from the Goose Lake belt with a 100th percentile response of 796 ppm (site 27; blue-black quartz vein). The extremely abrasive nature of this sample and its preparation in the tungsten carbide dish probably indicates a significant degree of contamination has occurred. The 100th percentile response of 501 ppm at site 42 in the Echimamish River belt is attributable to a rusty-weathered black gabbro. The 100th percentile responses of 515 ppm at the east end of the Knife Lake belt and 404 ppm at the west end of the Webber Lake belt are from the analysis of a sample of rusty-weathered gabbro and an altered, white-grey weathering, micaceous granite, respectively.

Zn: The 100th percentile response (4790 ppm) for Zn in the Goose Lake belt occurs in a sample of sulphide facies iron formation exposed at the east end of the belt. The 98th percentile response of 629 ppm occurs in the west central portion of the belt at site 164 from a sample of chlorite-garnet-magnetite iron formation. A significant response of 1500 ppm Zn was obtained from a sample of rusty-weathered, green basalt with 1% disseminated pyrite collected from the southern edge of the western portion of the Echimamish greenstone belt. This response represents the 100th percentile. The Zn contents in both the Knife Lake and Webber Lake belts are much lower than for the previous two belts. The 100th percentile responses for these belts are 610 ppm and 127 ppm, respectively. The Knife Lake response is from a sample of rusty-weathered and silicified basalt at site 12 and the Webber Lake response is from an altered, white-grey weathering micaceous granite at site 104.

TREE: The rare earth element response is presented as the “total” or summation of individual REE for purposes of simplicity and brevity in this report. Individual REE analyses are presented in the Appendices. The Echimamish River belt has the highest 100th percentile response of the belts sampled in 1998. A value of 235 ppm was obtained from a sample of pegmatitic granite on the northeast margin of the belt. Similar analyses of 213 ppm (100th percentile response; site 13) and 202 ppm (98th percentile response; site 96) were obtained from samples collected in the western end of the Knife Lake belt. These responses were from a rusty-weathered, carbonatized greywacke (?) at site 13 and an “unaltered” basalt at site 96. The 100th percentile response (191 ppm) from the Goose Lake belt is from a silicified diorite with 5% disseminated and veinlet arsenopyrite at site 22, on the south-central portion of the belt. TREE contents in the Webber Lake belt are marked by a 100th percentile response of 81 ppm. This analysis was obtained from an altered white-grey micaceous granite at site 104.

Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)

Mo: Mo concentrations are highest in the Goose Lake belt with a 374 ppm (100th percentile) response at site 32 in the west end of the belt. This is a single sample anomaly and the only significant Mo response in the belt. A 62 ppm single sample (100th percentile) response occurs as the west end of the Webber Lake belt at site 109 in a rusty-weathered diorite. A low contrast response of 23 ppm occurs in the Echimamish River belt at its northeast margin. This 100th percentile response is associated with a 95th percentile response of 12 ppm and a 90th percentile response of 4 ppm. The highest Mo response in the Knife Lake belt is 3 ppm that occurs on the south margin of the belt.

Cu: One main area of Cu enrichment is noted from the Echimamish River belt close to its northern margin. A 100th percentile response of 3591 ppm (site 41) occurs at this site in association with a two sample 90th percentile response of 526 ppm. A 95th percentile response of 1220 ppm occurs at the west end of the belt. The 3591 ppm Cu response is from a rusty-weathered and silicified pillow basalt containing 2-5% disseminated and veinlet chalcopyrite. A five sample high contrast Cu anomaly is documented from the west end of the Goose Lake belt. The responses from this area range from 928 ppm to 554 ppm (100th-90th percentiles) with the highest Cu analysis from site 33 in a 3-4 cm wide rusty-weathered shear with blue and white quartz veins containing 1-2% pyrite. The mineralized and deformed host rock is a gabbro. A 98th percentile response of 823 ppm is documented from site 126 in the east end of the belt. A two sample 100th and 98th percentile response occurs near the south margin of the Knife Lake belt at sites 5 and 75, respectively. The sample at site 5 is a rusty-weathered blue quartz vein hosted by a rusty-weathered strongly foliated feldspar porphyry. Due south of this response at site 6 in the Webber Lake belt is a 100th percentile response of 255 ppm.

Zn: The 100th percentile Zn response in the Goose Lake belt (4691 ppm) is from site 126 at the east end of the belt. This site is characterized by sulphide facies iron formation, chemical sedimentary rocks and basalt. A 98th percentile response of 539 ppm occurs in the south-central portion of the belt at site 164. A 100th percentile of 1223 ppm occurs at the southwest margin of the Echimamish River belt at site 49. Zn responses are lower in both the Knife Lake belt (100th percentile of 432 ppm at site 12) and the Webber Lake belt (100th percentile of 141 ppm at site 112).

Ag: Ag values in all of the belts are low with the exception of a 10.8 ppm response at site 22 in the south central portion of the Goose Lake belt. At this site a silicified, sheared and rusty-weathered diorite with 5% disseminated and veinlet arsenopyrite is exposed. Prior work in the area is indicated by the presence of an old grid.

Pb: The Pb responses in the Knife Lake belt are clustered at the west end of the belt in an eight sample grouping that includes a 100th percentile of 21319 ppm at site 123. At this location a chip sample was collected from rusty-weathered and silicified, green weathering basaltic float that contains 5% disseminated and veinlet pyrrhotite, pyrite and chalcopyrite. The remainder of the responses in this belt vary between 9 and 32 ppm (90th-98th percentiles). The 100th percentile (891 ppm) in the Goose Lake belt occurs in the south central portion of the belt at site 22. Other significant responses include a 98th percentile of 49 ppm at the east end of the belt (site 126) and a 95th percentile response of 43 ppm at site 170 in the south central portion of the belt. Lower responses were obtained from the Echimamish River belt (100th percentile of 36 ppm at site 205) and a two sample 100th percentile anomaly of 21 ppm in the Webber Lake belt at its east end.

Ni: The 100th percentile (651 ppm) in the Echimamish River belt occurs at the northern belt boundary (site 177; chloritic basalt with disseminated magnetite). A 95th percentile response of 538 ppm occurs further east at site 206 (538 ppm). A four sample cluster of 95th-100th percentile responses (190-346 ppm) is documented from the east end of the Goose Lake belt. The 100th percentile of 346 ppm at site 133 is representative of an ultramafic lithology at that site. Lower 100th percentile responses are noted for both the Knife Lake belt (216 ppm at site 79) and for the Webber Lake belt (77 ppm at site 12).

Mn: Significant Mn responses in the Goose Lake belt are clustered in the south central portion of the belt where a 100th percentile of 10984 ppm (site 164) and a 98th percentile of 4316 (site 172) are documented. The Echimamish River belt is marked by a 100th percentile response at its northern belt margin (site 44; 6934 ppm). Lower 100th percentiles for Mn are noted for the Knife Lake belt (site 58;2214 ppm) and the Webber Lake belt (site 112;2483 ppm). Both of these responses are situated in close proximity to a major shear zone that separates the belts.

Sr: Significant Sr responses in the Echimamish River belt are limited to a single sample 100th percentile of 1495 ppm at site 204 in the east end of the belt. The lithology sampled at this site was a highly fractured and rusty-weathered, olive green basalt. A four sample cluster of 90th-100th percentile responses (575-1321 ppm) is documented from the west end of the Knife Lake belt. The 100th percentile response (site 13) is from a rusty-weathered biotite-bearing greywacke crosscut by calcite fracture-fillings and 1% disseminated pyrite. The highest responses from the Goose Lake belt occur at its eastern end (site 139; 100th percentile of 666 ppm) and at the west end of the belt (site 36; 826 ppm). A single 100th percentile of 298 ppm (site 113) is documented from the west end of the Webber Lake belt.

Be: Low contents of Be were documented in samples collected from all belts with the exception of the Goose Lake belt. A three sample cluster of 90th-100th percentile responses is documented from the west end of this belt. The 100th percentile response is from a sample of an aplite dyke with disseminated molybdenite and pyrite that intrudes a locally rusty-weathered diorite.

Bi: Bi responses in outcrop chip samples are below the limits of detection for samples from all belts except the Goose Lake belt. A 100th percentile of 17 ppm (site 22) and a 98th percentile of 6 ppm (site 164) occur in the south central portion of the belt.

V: Similar levels of V responses were documented from each of the belts sampled in 1998. A 100th percentile response of 379 ppm (site 46; green, rusty-weathered basalt with 1% pyrite) occurs at the southeast margin of the Echimamish River belt. The 100th percentile for the Goose Lake belt occurs at site 149 (378 ppm in a rusty-weathered, silicified and partly epidotized gabbro) in the southeast portion of the belt. A 359 ppm 100th percentile response from the Knife Lake belt occurs in the eastern portions of the belt (site 61; rusty-weathered basalt with <1% disseminated pyrite) and a 289 ppm 100th percentile response occurs at site 12 (rusty-weathered basalt with 1% disseminated pyrite) from the western end of the Webber Lake belt.

Ca: The 100th percentile response (15.49%) in the Echimamish River belt occurs at its east end at site 204. The lithology sampled at this site was a strongly fractured and rusty-weathered basalt. The Goose Lake belt is characterized by a 100th percentile response of 11.34% (site 152; rusty-weathered, silicified and carbonatized pillow basalt). A 98th percentile response of 10.36% occurs at site 34 in the west end of the belt. The 100th percentile responses in the Knife Lake and Webber Lake belts are somewhat lower and are characterized by single point anomalies. The 100th percentile response in the Knife Lake belt occurs at the northeast end of Knife Lake at site 67 (10.21%) and the highest Ca response in the Webber Lake belt occurs at site 112 (10.92%) in a rusty-weathered, sheared basalt.

Cd: The 100th percentile response in the Goose Lake belt occurs at site 126 (9.6 ppm) in the east end of the belt. Additionally, a four sample cluster of 90th-98th percentile responses (0.7-3.2 ppm) occurs in the southwest central portion of the belt. A 7.4 ppm 100th percentile response is documented from site 49 at the southwest edge of the Echimamish River belt. At this site a sequence of rusty-weathered and silicified basalts intruded by aplite dykes is exposed. A low contrast 100th percentile response of 1.7 ppm is noted at site 12 at the southwest margin of the Knife Lake belt adjacent to a major shear zone that separates the Knife Lake belt from the Webber Lake belt. All Cd analyses from the Webber lake belt were <LLD.

P: Phosphorus responses in the Goose Lake and Knife Lake belts are similar with 100th percentile responses of 0.199% at site 148 (strongly oxidized, fractured basalt) and 0.219% at site 5 (blue, rusty-weathered quartz vein in a feldspar porphyry), respectively. A single 100th percentile response of 0.129% occurs at site 49 at the southwest margin of the Echimamish River belt. A low contrast 100th percentile response of 0.046% is present at site 109 (rusty-weathered and fractured diorite) near the east end of the Webber Lake belt.

Mg: A single area of Mg enrichment is recognized in the Echimamish River at site 177 near the belts northern margin. At this site a light green-weathering chloritic basalt with disseminated magnetite was sampled. A three sample cluster of 98th-100th percentile responses (5.57-8.77%) occur at the east end of the Goose Lake belt (sites 131-gabbro, 133-pyroxenite, 157-ultramafic?). The 100th percentile response (5.63%) for the Knife Lake belt occurs at the southwest margin of the belt at site 9 where a medium grained gabbro with 1% pyrite was sampled. The Webber Lake belt is also marked by a single site 100th percentile response of 3.93% (site 133; pyroxenite?). The Mg responses in all belts appears to be identifying high-Mg lithologies such as ultramafic rocks rather than enriched zones related to mineralizing processes.

Ti: Ti contents for all belts are generally moderate to low contrast. A 100th percentile response of 1.39% (site 42; gabbro) is documented from the south margin of the Echimamish River belt. In the Goose Lake belt the highest responses come from a gabbro at site 151 in the eastern portion of the belt. This gabbro contains <1% disseminated pyrite. Single site 100th percentile responses for the Knife Lake belt (site 75; 1.23% in a rusty-weathered and silicified basalt with up to 5% disseminated pyrite, pyrrhotite and chalcopyrite) and the Webber Lake belt site 112; 0.73% in a rusty-weathered and sheared basalt) are also noted.

Al: Elevated Al (100th percentile, 11.04%) in the Knife Lake belt occurs at its western end at site 121 (massive basalt with 2-3% disseminated pyrite). A three sample cluster of 95th-100th percentile responses (8.73-10.26%) is developed at the west end of the Goose Lake belt. At this location the rocks sampled comprise a massive, structureless quartz-feldspar-biotite rock at site 36, a strongly foliated diorite intruded by aplite and pegmatite dykes at site

32, and at site 30 an extensive (>50 m) long rusty-weathered sequence of basaltic volcanic rocks. A single sample 100th percentile response of 9.57% occurs at site 177 at the north margin of the Echimamish River belt and another single site response (100th percentile) occurs at the west end of the Webber Lake belt at site 113 (grey-green-weathering altered granite).

K: Significant K enrichment in the Webber Lake belt is present at site 104 (100th percentile, 2.68%) close to the shear zone that separates the Knife Lake and Webber Lake belts. The 100th percentile response in the Knife Lake belt occurs at site 64 (2.03%) in the northeast portion of the belt from a sample of grey-green-weathering, mottled (silicified?) basalt with 1-3% disseminated pyrite. An exposure of interlayered sulphide facies iron formation, chemical sedimentary rocks and aphyric to porphyritic basalt at the east end of the Goose Lake belt represents the site of the 100th percentile response (2.03%) in the belt. The highest K analysis is documented from a pink granite at site 189 in the east end of the Echimamish River belt.

Y: The highest Y in the Goose Lake area is documented from site 48 (100th percentile of 90 ppm) and from site 151 (98th percentile of 78 ppm) in the southeast portion of the belt. The 100th percentile (62 ppm) for the Echimamish River belt occurs at site 49 at the southwestern belt margin. This site is characterized by a very rusty-weathered sequence of mafic to intermediate volcanic rocks and mafic sedimentary rocks, intruded by aplite and granite dykes. The rocks generally contain 1% pyrite. Low contrast 100th percentile responses are noted for the Knife Lake belt (34 ppm at site 68) and for the Webber Lake belt (29 ppm at site 112).

S: Moderate to low contrast responses were observed for most rock samples collected in 1998. Site 126 in the Goose Lake belt is marked by a 100th percentile response of 6.65% and reflects the abundant sulphide in the sample collected from sulphide facies iron formation at this location. Other significant responses include a 98th percentile response of 2.79% at site 173 in the south central portion of the belt as well as a two sample 95th percentile response (2.69%) at the west end of the belt. A 100th percentile response of 1.64% occurs at site 12 in the Knife Lake belt and a single site 100th percentile occurs at site 112 in the Webber Lake belt. Both site 12 and 112 are in close proximity to the major shear zone that separates the Knife Lake and Webber Lake belts. A low contrast response of 0.56% (site 47) is documented from the Echimamish River belt.

Hydrogen Ion (H^+)

H^+: Hydrogen ion, the corrected form of pH, is significantly elevated at four sites in the Goose Lake belt. The 100% percentile response of 106 ppb occurs at site 173 in the south-central portion of the belt. The sample collected at this location is a float sample of grey-weathering, strongly silicified rock with 15% disseminated and stringer pyrite mineralization as well as 2% pyrrhotite as late fracture fillings. Glacial striae at this site trend 208°. The remainder of the significant responses are somewhat dispersed along the southern margin of the belt. These include a 98th percentile of 38.8 ppb at site 126, and two 95th percentiles of 27.6 ppb at sites 141 and 29. No significant H^+ responses are noted from the remainder of the belts.

Specific Conductance (Water-Extractable Metal)

K: A 100th percentile response of 93.7 mhos cm^{-1} occurs in the east end of the Goose Lake belt. This correlates with a sample of sulphide facies iron formation at site 126. A 98th percentile response of 75 mhos cm^{-1} occurs at site 141 and represents a rusty-weathered basalt float sample with 15% pyrite. The west end of the belt is marked by a four sample cluster of 90th and 95th responses (50.1-71.4 mhos cm^{-1}). The Knife Lake belt has a 100th percentile response at site 75 and a 98th percentile response of 64.8 mhos cm^{-1} at site 12 at or very close to a major, northwest-trending shear zone. Close by, to the southeast of this response, is a 95th percentile of 42.6 mhos cm^{-1} at site 5. The Webber Lake belt has a 100th percentile response of 47.2 mhos cm^{-1} at site 112 in the western portion of the belt. A 100th percentile response of 30 mhos cm^{-1} occurs at site 204 at the east end of the Echimamish River belt. The sample at this site was a rusty-weathered basalt without visible sulphide mineralization.

Synthesis

There is significant rock geochemical flux in 1998 multimedia geochemical survey areas that can be attributed to the presence of known mineralization defined by previous exploration, geochemically unique lithologies, geological structures and geophysical signatures. These features are reviewed in relation to their individual rock geochemical responses in each of the belts sampled in 1998.

Echimamish River Belt

The portion of the Echimamish River greenstone belt sampled in 1998 is characterized by significant base and precious metal rock geochemical signatures that represent an extension of the geochemically anomalous hydrothermal alteration documented in Fedikow et al. (1997a) for the Max Lake portion of the belt. The 1998 survey area does not include the quality of outcrop produced by forest fires in the Max Lake area, but base and precious metal signatures are generally high-contrast and multi-sample in character. These signatures are 100th percentile responses for Au (514 ppb), Cu (3591 ppm), Zn (1500 ppm by INA; 1223 ppm by ICP-AES), Cd (7.4 ppm), Mo (32 ppm by INA; 23 ppm by ICP-AES) and Co (109 ppm). Host rocks to these anomalous sites reflect similar styles of alteration to those observed at Max Lake, albeit in less spectacular outcrop exposures. Silicified and rusty-weathered, massive and pillowed basalts with anastomosing chlorite–sulphide veinlets were observed in the eastern end of the belt. Representative types of alteration observed in this survey are exposed at sites 40 and 41. It is of interest that anomalous signatures are often observed in strongly foliated rocks at the north and south belt margins, probably reflecting high strain zones at the contact between greenstone belts and plutons. East of the maximum limits of mapped volcanic rocks there are significant, albeit lower 100^{th} percentile responses, for As (42 ppm) and Pb (36 ppm). This suggests the continuation of potentially highly prospective, structurally controlled hydrothermal alteration and mineralization to the east, outside the mapped supracrustal terrain. In fact, geological observations at sites 198, 202 and 204 document basaltic volcanic rocks in areas where previously only intrusions have been mapped, demonstrating that supracrustal rocks probably exist beneath a variable cover of surficial materials. Two samples of an ultramafic lithology at site 206 in the east end of the belt contained 35 and 64 ppb Pd, 93 and 101 ppb Pt and 5 and 33 ppb Au. A chlorite-rich basalt from site 177 in the west end of the belt contained 17 ppb Pd, 16 ppb Pt and 1 ppb Au.

Goose Lake Belt

Multi-element, high contrast base and precious metal rock geochemical responses are present along the east-west trending Goose Lake belt. The highest metal contents of the four belts sampled in 1998 come from this belt. Hosain (1997) summarized the geophysical characteristics of this belt and exploration results to date (cf. Map OF-97-4-17) and indicated the presence of abundant, weak to strong, long and short strike length ground electromagnetic conductors in the western part of the belt. Many of these ground EM conductors are coincident with, or flank, airborne magnetic anomalies. Additionally, a major deformation zone is recognized in the belt which appears to transect many of the geophysical ground conductors. An area at the east end of the belt (site 126) as well as a review of the diamond drilling results indicate that processes of chemical sedimentation and hydrothermal activity are widespread. Site 126 provides an outstanding example of these processes of chemical sedimentation together with excellent exposure produced by forest fires. At this site, near solid to solid pyrite-pyrrhotite with lesser sphalerite is present as a sulphide facies iron formation interlayered with chert and massive, amygdular and porphyritic basalt. This sequence has been overprinted by a later shear fabric that has mobilized iron sulphides into white to grey crosscutting quartz veins. Multiple deformation and alteration processes are evident from the cursory examination given to this exposure. Rock geochemical responses in the east end of the belt include Zn (4790 ppm by INA; 4691 ppm by ICP-AES), Cd (9.6 ppm), S (6.65%), Br (16.5 ppm) and specific conductance of 93.7 mhos cm^{-1}.

The west end of the belt is marked by the presence of abundant geophysical conductors and airborne magnetic anomalies as well as pegmatite and a layered mafic-ultramafic intrusion. Significant geochemical responses include Au (75 ppb), Cu (928 ppm), Mo (376 ppm by INA; 374 by ICP-AES), Co (153 ppm), Be (22 ppm), Ta (18.7 ppm) and the elements Ca (10%) and Al (10.26%) both of which are observed in sheared, silicified and carbonatized rocks.

The most significant area of the belt in terms of rock geochemical response is the central portion where base and precious metal response is both high contrast and multi-sample in character. Responses include Au (59 ppb), As (13300 ppm), Ag (10.8 ppm), Sb (13.5 and 11.6 ppm), Pb (891 ppm), Zn (539 ppm), Cd (1.8-3.2 ppm), Bi (17 ppm), Hg (13 ppb), Ba (780 ppm), Mn (10984 ppm) and H^+ (106 ppb). Interestingly, these responses are documented from an area of insignificant geophysical relief.

A review of the regional geological map of the Sachigo domain in Manitoba depicts the separation of the Echimamish River belt from the Goose Lake belt by intrusive terrain. The similarities between the two belts in terms of their base and precious metal rock geochemical signatures, geophysical characteristics and general geology is suggestive of a similar depositional history for the two belts. A sample of pyroxenite from site 133 in the east end of the belt was analyzed for Au, Pt and Pd and contained 0.4 ppb, 2.8 ppb and 2 ppb of these elements.

Knife Lake Belt

The geophysical characteristics of the Knife Lake belt are similar to those of the Goose Lake belt in that abundant, weak to strong, long and short strike length, ground EM conductors have been delineated by previous exploration efforts (cf. Hosain, 1997; Map OF97-4-8). This is particularly apparent on the narrow peninsula that separates Knife Lake from Chataway Lake. East of Knife Lake, in the eastern portion of the belt, diamond drill testing of a ground EM conductor intersected 1 m of iron formation with associated 1% disseminated chalcopyrite, indicating that processes of chemical sedimentation have been active. Additionally, a major shear zone is situated at the southern belt margin and effectively separates the Knife Lake belt from the Webber Lake belt to the south. This structure is referred to as the Gods Lake Narrows Shear Belt (Marten, 1992). On the basis of the spatial association of observed rock geochemical signatures with this shear zone (and associated faults/shears?) the general area of deformation appears to be the focus of significant metal enrichment either as mobilisate from pre-existing mineralization or as a primary site of base and precious mineralization. This is demonstrated by significant 98^{th}-100^{th} percentile responses for Pb (21319 ppm), Zn (610 ppm by INA; 432 ppm by ICP-AES), Cd (1.7 ppm), Hg (20 ppb), S (1.64%), As (374 ppm), Sb (32.7 ppm) and H^+ (2.8 ppb) in proximity to this structure. Elevated metal signatures are also present in other areas of the belt such as 100^{th} percentiles for U (6 ppm), Th (20 ppm) and Ba (910 ppm) in the western portions although the preponderance of high contrast and multi-sample signatures are situated close to the Gods Lake Narrows Shear Belt.

Webber Lake Belt

The Webber Lake belt is the most geochemically subdued of those sampled in the 1998 multimedia geochemical survey. A limited number of elements are enriched to significant levels; these include Mo (62 ppm), Cu (255 ppm), Zn (141 ppm) and As (40 ppm).

Interestingly, many of the highest responses, including the 100th percentile for As (40 ppm), occur in the west or northwestern portion of the belt, near the south side of the shear zone that separates this belt from the Knife Lake belt. This spatial association suggests that similar processes generated elevated metal signatures in the deformed rocks, namely post depositional hydrothermal overprinting of structurally prepared rock and/or the re-distribution of metals from a primary depositional site.

Conclusions and Recommendations

The following conclusions flow from a preliminary assessment of 1998 rock geochemical data:

1. The central portion of the Goose Lake belt contains numerous rock geochemical indications of base and precious metal mineralization. This area should be prospected in detail with the application of surficial geochemical surveys to assist in overburden covered areas. Certain areas in the east and western portions of the belt also deserve close attention. An areally extensive pegmatite exposed in the western portion of the belt should also be assessed. A particularly interesting series of large angular boulders was observed at sites 172 and 173 in the Goose Lake belt in an area of little or no outcrop. These boulders are characterized by strongly altered mafic sedimentary or volcanic rocks, crosscut by chlorite-garnet-pyrrhotite-chalcopyrite veins and with up to 15% disseminated and stringer pyrite and 2% pyrrhotite as late fracture fillings. The area should be reconnoitered for more boulders or a boulder train that might be traced to source, as this style of alteration is similar to that associated with massive sulphide-type mineralization.

2. The easternmost portion of the Echimamish River belt is characterized by hydrothermal alteration similar to that exposed in the Max Lake area to the west. The highest Au response (514 ppb) in the 1998 survey was documented from a rusty-weathered, sheared and silicified gabbro containing approximately 5% pyrite, pyrrhotite and chalcopyrite. Abundant high contrast and multi-sample base metal geochemical signatures indicate the high prospectivity of this portion of the belt. Observations of basaltic rocks with low contrast 100th percentile responses for Pb and As east of the previously recognized end of the belt indicates a larger area of prospective ground is available for prospecting than originally thought. The belt is interpreted to be highly prospective for base and precious metals.

3. Unique lithologies in the 1998 survey area, such as high-Mg ultramafic lithologies (5 sites) as well as gabbro (20 sites), should be prospected to determine if these rocks are massive or layered and if they are mineralized. It is noteworthy that the highest Au response in the 1998 survey was associated with a sheared and altered gabbro.

4. The metallogenetic potential of the shear zone that separates the Knife Lake and Webber Lake belts appears to be significant on the basis of associated rock geochemical signatures. The general area of the shear zone should be prospected with the aim of delineating associated structures and related alteration and mineralization. The prospective areas include the south margin of the Knife Lake belt and the northwest margin of the Webber Lake belt, as well as the northwest and southeast extension of this high strain zone.

APPENDIX I

Rock Geochemistry: Outcrop Rock Chip Sample Descriptions

SITE	ROCK SAMPLE DESCRIPTION
98R-1	pillow basalt; rusty-weathered patches; calcite-filled fractures; no visible sulphide minerals
98R-2	silicified, grey-weathering pillow basalt with rusty-weathered pillow selvages; 1% disseminated pyrrhotite and pyrite
98R-3	very fine grained, aphyric, felsic intrusion (?) with zones of chlorite mottling, no visible sulphide minerals
98R-4 and	strongly foliated, feldspar phyric to aphyric felsic to intermediate rock; patchy rusty 98R-4-2 weathering with 1–2% disseminated pyrite
98R-5	blue quartz vein (3-4 cm wide) with rusty-weathered patches; hosted by a rusty-weathered and strongly foliated feldspar porphyry; sample represents a composite of these two components
98R-6	mesoscopically unaltered and unmineralized medium grained grey granite
98R-8	intermediate, feldspar phyric, elongate clasts in an aphyric, fine grained felsic matrix; clast supported; minor but persistent rusty-weathered surface; 1% pyrite
98R-9	unaltered, medium grained gabbro with 1% disseminated pyrite
98R-10	rusty-weathered, green-weathering massive basalt crosscut by numerous 0.25 cm calcite-filled fractures; 1% disseminated pyrite
98R-12	strongly flattened, rusty-weathered, fine grained, light green weathering basalt with foliation–parallel, non-mineralized blue and white quartz veins; also a persistent 5-6 cm wide strongly rusty-weathered layer that contains 3-4% disseminated pyrite and is representative of sample 98R-12; adjacent outcrops display tight folding
98R-13	biotite-rich, rusty-weathered intermediate to mafic rock (altered basalt?), calcite-filled fractures, 1% disseminated pyrite
98R-14	rusty-weathered green-gray weathering basalt with calcite-filled fractures and 1% disseminated pyrite
98R-17	strongly foliated, rusty-weathered granite with white, non-mineralized quartz veins
98R-18	sample representative of a rusty-weathered layer within a sequence of basaltic tuff and massive basalt; 0.5 cm white non-mineralized quartz veins and 1% disseminated pyrite occur in the bleached, rusty layer
98R-19	rusty-weathered shear zone in amygdular basalt; outcrop also contains massive and tuffaceous basalt; 1% disseminated pyrite in sample
98R-20	green rusty-weathered basalt with 1% disseminated pyrite and thin calcite-filled fractures
98R-21	dark green, rusty-weathered basalt with 3-4% disseminated and veinlet pyrite
98R-22	sample collected from a silicified and rusty-weathered granodiorite/diorite with up to 5% blocky, euhedral to anhedral arsenopyrite that occurs as fracture fillings; mineralization occurs at or near the sheared contact between diorite and basalt; both lithologies are silicified and rusty-weathered and are crosscut by white “bull” quartz veins; evidence for multiple deformational – alteration processes
98R-23	biotitic, medium grained basalt/gabbro with thin (5 mm) carbonate veinlets
98R-25	gabbro, non-mineralized
98R-26	rusty-weathered and silicified basaltic tuff; no visible sulphide minerals

98R-27	dark blue to black quartz vein with 1% disseminated pyrite concentrated in later fractures within quartz; this sample is float
98R-28	white, coarse grained pegmatite
98R-29	strongly rusty-weathered massive basalt and basaltic tuff; tightly folded; non-mineralized blue and white quartz veins parallel to foliation; disseminated (1-5%) pyrite-pyrrhotite-chalcopyrite; one 0.75 cm layer of near solid pyrite
98R-30	shoreline exposure of rusty-weathered, highly strained, intermediate to mafic sedimentary rocks intruded by pink, rusty-weathered pegmatite; 1-5% disseminated pyrite, chalcopyrite and arsenopyrite
98R-31	shoreline float sample of biotite-rich metasedimentary rock with 1% disseminated pyrite; possible trace sphalerite and galena; rusty weathered quartz vein but no visible sulphides
98R-32	sugary-textured to medium grained, rusty-weathered aplite dyke intruding strongly foliated diorite; diorite is rusty-weathered for 0.25 m on either side of aplite dyke; dyke is 2-3 cm wide and contains 1% disseminated pyrite and blebs of molybdenite
98R-33	2 cm wide, rusty-weathered shear zone in a strongly foliated gabbro; 1% pyrite associated with blue and white quartz veins; 2-3 cm of sulphide oxidation on either side of the shear
98R-34	3-4 cm wide, rusty-weathered shear zone in strongly foliated gabbro; 1% pyrite associated with rusty-weathered blue and white quartz veins within shear
98R-36	massive, structureless and featureless, foliated felsic sedimentary rock (?), biotite-foliation, non-mineralized and mesoscopically unaltered
98R-39	blue quartz vein (0.5 m wide) crosscutting foliated, rusty-weathered chloritic gabbro; no visible sulphide minerals in quartz vein or gabbro
98R-40	highly strained, rusty-weathered pillowed and massive basalt; silicified and epidotized pillows; 1-2% disseminated pyrrholite and chalcopyrite
98R-41	pillow basalt with rusty-weathered, silicified and epidotized selvages; 2-5% disseminated chalcopyrite along fractures in selvages
98R-42	rusty-weathered gabbro; no visible sulphide minerals
98R-44	burned outcrop ridge exposes highly strained, massive and pillowed basalt and very tightly folded chert-magnetite-garnet rich and muscovite-rich layers as well as quartz-feldspathic layers; the chemical and epiclastic (?) or volcaniclastic sedimentary rocks are weakly to strongly rusty-weathered; outcrop chip sample is representative of the most strongly oxidized layers; sulphide minerals were not observed; some transposed layering is present in the sequence
98R-45	silicified and rusty-weathered basalt with non-mineralized white and blue quartz veins; chip sample represents the basalt; no visible sulphide minerals
98R-46	rusty-weathered basalt with 1% disseminated euhedral to anhedral pyrite
98R-47	rusty-weathered fracture with 1% disseminated pyrite; crosscutting massive and epidotized pillow basalts; sequence is highly strained and pillows are flattened
98R-48	strongly foliated, fine grained, rusty-weathered basalt with siliceous stringers parallel to foliation; 1% disseminated pyrrhotite in stringers
98R-49	intermediate to mafic volcaniclastic rocks; intruded by numerous aplite and granite dykes; rusty-weathered with 1% disseminated pyrrhotite
98R-50	rusty-weathered, fractured gabbro, 1-2% disseminated chalcopyrite and pyrite in silicified zones along selected fractures
98R-51	rusty-weathered, fine grained, aphyric felsic volcaniclastic (?) sedimentary rock interbedded with felsic pyroclastics, fine grained mafic dykes and feldspar porphyritic dykes; no visible sulphide minerals in sample of felsic volcaniclastic rock; rusty-weathered quartz vein in felsic volcaniclastic sampled for analysis; sample is a composite of quartz vein and felsic volcaniclastic rock
98R-52	finely quartz and feldspar phyric (less than 1 mm) rhyolite; weakly rusty-weathered; no visible sulphide minerals
98R-53	fissile, rusty-weathered, sheared basalt with less than 1% pyrite and abundant carbonate as fracture fillings and shear coatings

98R-54	rusty-weathered gabbro; iron oxide confined to fracture surfaces; no visible sulphide minerals
98R-58-1	dark green, rusty-weathered pillow basalt with fracture-controlled disseminated pyrrhotite and chalcopyrite; white non-mineralized quartz lenses.
98R-58-2	blue, rusty-weathered quartz vein; no visible sulphide minerals
98R-59	rusty-weathered, white-grey fine grained aplite dyke with rusty-weathered white quartz veins; 1-2% disseminated pyrite in the quartz veins; sample collected for analysis is a composite of the above
98R-60	sheared, rusty-weathered gabbro with less than 1% disseminated pyrite, non-mineralized quartz veins and abundant carbonate stringers along shear planes
98R61	melagabbro with less than 1% disseminated pyrite along fractures
98R-62	foliated, medium grained granite with rare 1 mm chalcopyrite grains
98R-64	grey-green weathering mottled basalt; silicified with patchy rusty-weathered zones; rare pyrite
98R-66	very fine grained siliceous matrix with 1 mm amphibole grains; no visible sulphide minerals
98R-66-2	very fine grained mafic rock locally with up to 5% disseminated pyrrhotite and chalcopyrite
98R-67	fractured gabbro with 1-2 cm wide white, non-mineralized quartz veins, locally 2-3 mm blebs of chalcopyrite in gabbro
98R-68	medium grained, non-foliated melagabbro with rusty-weathered fractures; rare pyrite grain
98R-69	silicified and rusty-weathered pillow basalt and pillow breccia; strongly rusty-weathered pillow selvages; pillows are locally crosscut by rusty-weathered quartz veins and brown carbonate veinlets; sample is representative of the pillow selvages
98R-71	light green, “bleached”, silicified and rusty-weathered basalt; no visible sulphide minerals
98R-72	rusty-weathered, highly strained conglomerate; no visible sulphide minerals
98R-73	rusty-weathered, pyritic (5%) cherty argillite with 0.5 cm wide non-mineralized, white quartz veins
98R-75	rusty-weathered, silicified, mafic cobble with 1-2% pyrite ± chalcopyrite; this sample is float
98R-77	frost heaved gabbro; no visible sulphide minerals
98R-78	grey foliated granite; no visible sulphide minerals
98R-79	rusty-weathered basalt (pillowed?) with brown carbonate veinlets and non-mineralized white and dark grey quartz veins
98R-81	rusty-weathered, fine grained, dark green basalt; brown carbonate veinlets and white to dark grey non-mineralized quartz veinlets (0.5 cm wide), no visible sulphide minerals
98R-82	medium grained, rusty-weathered, melagabbro with fracture controlled pyrite (less than 1 mm) veinlets
98R-91	grey-pink foliated granite; no visible sulphide minerals
98R-93	rusty-weathered dark green basalt with pyrrhotite and chalcopyrite veinlets
98R-94	silicified, sheared, fractured green–dark green basalt with 5-10% disseminated and veinlet pyrite
98R-95	grey, fine grained, strongly foliated dacite (?)/altered basalt with minor rusty-weathered patches and thin (approximately 1 mm) non-mineralized white quartz veins parallel to foliation; no visible sulphide minerals
98R-96	mesoscopically unaltered, lineated green-black basalt with rare chalcopyrite-pyrrhotite

98R-97	light green weathering pillowed basalt with white to blue quartz veins and local rusty-weathered patches; no visible sulphide minerals
98R-99	fine grained, green basalt, amphibole porphyroblastic, no visible sulphide minerals
98R-103	locally rusty-weathered and silicified high-Mg basalt or ultramafic intrusion; no visible sulphide minerals
98R-104	aphyric felsic intrusion; no visible sulphide minerals despite local rusty-weathered patches and fractures
98R-105	sheared granite with white non-mineralized quartz veins; 1-5% pyrite in granite wallrock adjacent to quartz veins
98R-107	strongly foliated basalt with elongate rusty-weathered zones and white non-mineralized quartz veins parallel to foliation; 1% disseminated pyrite in basalt, usually adjacent to quartz veins
98R-109	medium grained diorite with localized rusty-weathered fractures; no visible sulphide minerals
98R-111	sheared, rusty-weathered basalt with white non-mineralized quartz veins; 1% disseminated pyrite adjacent to quartz veins
98R-112	rusty-weathered sheared basalt; no visible sulphide minerals
98R-113	strongly foliated granite with 1 cm wide, white, sparsely mineralized quartz veins; rare pyrite associated with veins
98R-116	strongly foliated, brecciated basalt with white, non-mineralized quartz veins that have been pulled apart; elongate quartz blebs are parallel to foliation; 1-5% disseminated pyrite in basalt adjacent to quartz veins
98R-121	fine grained, silicified basalt with 2-3% disseminated pyrite
98R-123	fine grained, rusty-weathered massive basalt with 5% disseminated and fracture controlled pyrrhotite-pyrite-chalcopyrite mineralization; sample collected from a 1 m X 1 m X 0.5 m subangular float
98R-126	4 rock chip samples collected along a 100 m exposure of disseminated to near solid sulphide mineralization hosted by porphyritic and amygdular basalt and inter flow (?) sedimentary rocks and quartz veins
98R-126-1	near solid sulphide pyrrhotite-pyrite chalcopyrite
98R-126-2	disseminated pyrite and pyrrhotite (10%) in rusty-weathered interflow sedimentary rock
98R-126-3	white, sugary-textured quartz vein with 10% disseminated pyrite
98R-126-4	rusty-weathered massive and/or amygdular basalt with 5% disseminated pyrite and pyrrhotite; minor, thin quartz veins
98R-131	medium grained gabbro with rusty-weathered fractures; no visible sulphide minerals
98R-132	medium grained amphibolite with rusty-weathered fractures; 1-2% disseminated pyrite in the matrix of the rock
98R-133	pyroxenite; no visible sulphide minerals
98R-135	light green, fine grained, rusty-weathered basalt with white, non-mineralized quartz veins and 1% disseminated pyrite
98R-136	rusty-weathered, fractured and silicified basalt with 1% disseminated pyrite
98R-139	rusty-weathered basalt with fracture–controlled silicification; no visible sulphide minerals
98R-140	light green, rusty-weathered, fine grained basalt with 1-2% disseminated and veinlet pyrrhotite, pyrite and chalcopyrite
98R-141	rusty-weathered, silicified basalt (?) with 15% pyrite as blebs and laminae; marcasite rosettes; sample was collected as float
98R-146	rusty-weathered, blue and white interlaminated 0.25-2 cm wide quartz veins; no visible sulphide minerals; host rock is a strongly foliated, mesoscopically unaltered basalt; sampled quartz veins are parallel to foliation

98R-148	strongly rusty-weathered, fractured diorite; silicification and rusty-weathered character is fracture controlled; 5% disseminated pyrite
98R-149	rusty-weathered, silicified and epidotized gabbro; 1% disseminated pyrite
98R-150	rusty-weathered, carbonate-veined, green-black gabbro; most intense alteration and 1% disseminated pyrite is fracture controlled
98R-151	rusty-weathered, green-black gabbro with 1% disseminated pyrite
98R-152	highly strained pillow basalt; localized elongate zones of rusty weathered silicified and carbonate veined rock; no visible sulphide minerals
98R-153	white, locally rusty-weathered quartz vein in sheared rusty-weathered gabbro; quartz vein contains no visible sulphide minerals but has rusty weathered boxworks and gabbro wallrock inclusions; sample is representative of the quartz vein; gabbro is strongly foliated at the vein-wallrock contact
98R-157	dense, heavy, dark green ultramafic lithology (or gabbro?); no visible sulphide minerals
98R-163	mesoscopically unaltered gabbro with 1% disseminated pyrite along fractures
98R-164	chlorite-garnet-magnetite silicate facies iron formation; locally rusty-weathered; non-mineralized quartz filled tension gashes present locally
98R-165	deep blue, rusty-weathered quartz veins approximately parallel to bedding and regional foliation in phyllitic siltstone and quartzite; 1% disseminated pyrite ± pyrrhotite in quartz veins and adjacent wallrocks
98R-167	silicified and quartz veined, very fine grained, grey granite (?); massive, featureless; localized rusty patches associated with regional foliation–parallel, non-mineralized white translucent quartz veins
98R-168	strongly foliated, fine grained, intermediate to mafic volcanic (?) rock; no visible sulphide minerals; rusty-weathered shear planes
98R-170	rusty-weathered siltstone(?) grey weathering and fine grained, 10% pyrite as veinlets and disseminations; sample is float
98R-171	strongly foliated basalt (?) with 5% pyrrhotite disseminated along foliation planes; basalt is intruded by fine grained aplite and pegmatitic granite dykes
98R-172	massive boulders (5 X 5 X 2 m) of strongly altered sedimentary or volcanic rocks; suspect basalts; silicification and veins/veinlets of chlorite – garnet – pyrrhotite – chalcopyrite crosscut the rock; glacial direction is 208°; sample may be float
98R-173	grey, fine grained, silicified rock with 15% pyrite as stringers and 2% pyrrhotite as later fracture fillings; sample is float
98R-177	light green, very soft and chlorite-rich basalt; no visible sulphide minerals; disseminated magnetite
98R-178	weakly rusty-weathered feldspar porphyry
98R-181	massive melagabbro; no visible sulphide minerals
98R-182	fine grained, rusty-weathered basalt; rusty fractures; no visible sulphide minerals
98R-185	strongly foliated, partly rusty-weathered basalt (?) with 1-2% disseminated and veinlet pyrrhotite; 1 deformed grain (0.5 cm) galena or molybdenite
98R-189	pink granite with occasional rusty patch; no visible sulphide minerals
98R-198	rusty-weathered, strongly foliated basalt; 1% disseminated pyrrhotite and chalcopyrite; 1-2 mm foliation-parallel white, non-mineralized quartz veins
98R-202	rusty-weathered and partially epidotized amphibolite with non-mineralized deep blue quartz vein
98R-204	rusty-weathered, olive green, highly fractured basalt; intense rusty weathering confined to fracture planes; relict box works also present long fractures; no visible sulphide minerals
98R-205	pink pegmatite granite; no visible sulphide minerals

98R-206-1	rusty-weathered, silicified and carbonatized, coarse grained gabbro or ultramafic rock; up to 5% disseminated chalcopyrite ± pyrrhotite; some mineralization appears fracture controlled; outcrop is marked by 20-30 cm rusty patches
98R-206-2	same lithology but relatively less altered; sample collected for silicate whole rock analysis

Appendix 2

Rock Geochemistry: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), Hydrogen Ion (H^+), Specific Conductance (K) and Hg (FIMS) Analyses.

Sample Site	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	S	K	H^+	Hg
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	%	mhos cm^{-1}	ppb	ppb
98R-1	422175.00	6047885.00	1	88	2.5	91	0.2	105	1728	41	0.50	2.5	278	10.00	0.027	1.91	0.67	8.49	0.05	23	1	0.20	23.9	-1.9	2.5
98R-2	419789.00	6046717.00	1	134	2.5	83	0.2	109	1060	50	0.25	2.5	282	5.81	0.019	2.65	0.60	8.10	0.09	20	1	0.26	15.4	-1.9	2.5
98R-3	419903.00	6044273.00	1	13	2.5	24	0.5	45	458	107	0.25	2.5	91	3.20	0.053	0.25	0.35	8.11	0.40	8	1	0.05	15.8	-1.9	2.5
98R-4-1	424854.00	6040934.00	1	52	2.5	37	0.2	27	658	151	0.25	2.5	111	4.50	0.081	1.42	0.42	8.42	0.12	18	1	0.13	9.0	-1.9	2.5
98R-4-2	424854.00	6040934.00	1	80	2.5	40	0.4	28	902	115	0.25	2.5	92	4.21	0.081	1.12	0.38	8.04	0.21	18	1	0.71	35.8	-0.3	2.5
98R-5	423967.00	6040083.00	1	396	5.0	20	0.7	4	401	388	0.25	2.5	59	4.26	0.219	1.07	0.28	6.07	0.28	11	1	0.62	42.6	-1.8	2.5
98R-6	423110.50	6036780.50	1	2	21.0	36	0.7	3	132	242	0.25	2.5	13	1.51	0.022	0.25	0.13	7.33	2.41	4	1	0.01	7.5	-1.9	2.5
98R-8	415727.00	6042908.00	1	30	5.0	75	0.2	26	655	229	0.25	2.5	121	4.86	0.120	1.22	0.53	8.83	1.01	19	1	0.17	23.6	-1.9	2.5
98R-9	415673.00	6042377.00	1	131	2.5	84	0.2	161	1444	140	0.25	2.5	183	9.79	0.013	5.63	0.30	7.57	0.23	14	1	0.09	5.3	-1.9	19.5
98R-10	413976.00	6041879.00	1	129	2.5	82	0.2	82	1732	115	0.25	2.5	282	9.06	0.020	2.70	0.54	8.07	0.38	19	1	0.17	26.6	-1.9	4.5
98R-12	411756.00	6042217.00	1	239	10.0	432	0.2	142	1299	105	1.70	2.5	226	6.16	0.027	3.73	0.50	7.91	1.04	18	1	1.64	64.8	2.8	14.1
98R-13	410273.00	6047753.00	1	94	32.0	64	1.0	37	533	1321	0.25	2.5	117	2.93	0.203	1.65	0.41	9.69	1.86	20	2	0.31	24.9	-1.9	2.5
98R-14	403125.44	6011007.50	1	111	6.0	134	0.4	16	2237	117	0.25	2.5	292	5.81	0.044	2.09	0.74	6.86	1.18	34	1	0.10	11.9	-1.9	2.5
98R-17	408555.38	6014841.50	2	44	7.0	42	0.2	9	305	33	0.25	2.5	53	0.97	0.017	0.78	0.17	3.19	0.59	4	1	0.05	8.7	-1.9	2.5
98R-18	415078.09	6012325.00	2	186	7.0	238	0.2	59	1854	42	0.70	2.5	75	3.42	0.038	1.68	0.21	5.87	1.45	13	3	0.48	25.5	-1.8	2.5
98R-19	414432.16	6013288.00	1	147	2.5	277	0.2	48	1391	141	0.60	2.5	258	6.31	0.047	3.16	0.76	7.93	0.39	30	1	0.13	13.4	-1.9	2.5
98R-20	409312.34	6013691.50	1	89	2.5	125	0.4	21	1350	81	0.25	2.5	278	4.64	0.048	2.29	0.74	7.61	0.61	36	1	0.04	22.7	-1.9	2.5
98R-21	389429.00	6018411.00	1	252	5.0	124	0.2	68	2085	81	0.60	2.5	302	6.02	0.054	2.07	1.20	6.86	0.40	38	1	0.60	20.6	-1.8	5.2
98R-22	389344.00	6016674.00	3	30	891.0	81	10.8	4	556	59	1.10	17.0	8	1.52	0.002	0.36	0.15	7.07	1.28	25	2	0.94	13.5	-1.9	2.5
98R-23	392288.00	6014396.00	1	161	2.5	100	0.5	111	1564	259	0.25	2.5	171	6.22	0.060	2.96	0.73	7.10	0.54	20	1	0.04	5.4	-1.9	2.5
98R-25	377057.00	6026670.00	1	35	2.5	43	0.2	120	946	93	0.25	2.5	141	10.08	0.007	5.57	0.19	7.70	0.17	8	1	0.06	2.7	-1.9	2.5
98R-26	374339.00	6028062.00	1	34	2.5	103	0.2	126	1292	44	0.25	2.5	48	8.09	0.016	2.30	0.13	5.27	0.17	10	1	0.08	4.6	-1.9	2.5
98R-27	375906.00	6025997.00	1	59	2.5	2	0.2	9	18	2	0.25	2.5	2	0.01	0.004	0.03	0.01	0.20	0.11	2	1	0.11	6.4	-1.3	2.5
98R-28	374248.00	6028877.00	1	2	29.0	27	0.2	2	114	4	0.25	2.5	2	0.50	0.011	0.02	0.01	6.18	1.77	13	4	0.01	2.9	-1.9	2.5
98R-29	374547.00	6029138.00	2	590	2.5	64	0.2	151	806	170	0.50	2.5	145	9.74	0.019	1.61	0.23	6.68	0.07	13	1	2.69	71.4	10.9	2.5
98R-30	374926.00	6026839.00	1	542	44.0	158	1.0	96	774	121	0.25	2.5	105	2.63	0.017	1.11	0.36	8.57	1.44	19	3	1.59	38.6	-1.7	2.5
RE 98R-30	374926.00	6026839.00	1	566	42.0	159	1.0	97	808	128	0.25	2.5	106	2.70	0.017	1.15	0.37	8.89	1.48	19	3	1.63			
98R-31	372780.00	6028156.00	1	157	2.5	56	0.2	74	1288	94	0.25	2.5	239	8.48	0.021	3.88	0.45	7.34	0.25	14	1	0.19	6.7	-1.9	2.5
98R-32	372307.00	6028232.00	374	33	11.0	5	0.2	2	544	219	0.25	2.5	6	4.28	0.002	0.10	0.03	10.26	0.49	59	22	0.07	3.4	-1.9	2.5
98R-33	372056.00	6029102.00	1	928	2.5	24	0.4	48	564	64	0.25	2.5	114	5.14	0.010	2.24	0.19	4.21	0.21	8	1	0.37	46.8	-1.9	2.5
98R-34	372498.00	6030016.00	1	811	5.0	68	0.2	29	1356	137	0.25	2.5	252	10.36	0.030	2.69	0.54	7.64	0.13	22	1	0.63	34.2	-1.9	2.5
98R-36	371637.00	6030765.00	1	21	7.0	23	0.5	27	441	384	0.25	2.5	76	4.91	0.044	0.95	0.28	9.18	0.71	12	1	0.04	3.6	-1.9	2.5
98R-39	319606.97	6040534.00	1	2	2.5	4	0.2	11	104	2	0.25	2.5	12	0.40	0.002	0.36	0.01	0.39	0.07	2	1	0.01	4.8	-1.9	2.5
98R-40	317629.00	6040882.50	1	221	2.5	65	0.2	31	1245	90	0.25	2.5	303	8.15	0.038	3.24	0.61	6.36	0.05	22	1	0.26	26.9	-1.9	2.5
98R-41	317884.00	6042024.50	1	3591	2.5	123	4.0	75	1402	96	0.50	2.5	278	7.58	0.027	1.34	0.51	7.27	0.46	23	1	0.32	15.7	-1.9	5.1
98R-42	320886.94	6039672.00	1	156	2.5	120	0.2	15	1941	234	0.60	2.5	345	7.30	0.036	2.85	1.39	5.58	0.55	10	1	0.07	4.4	-1.9	2.5
98R-44	320323.97	6041882.00	1	89	2.5	564	0.9	23	6934	22	2.30	2.5	29	4.42	0.045	1.98	0.11	4.48	0.16	12	1	0.18	18.9	-1.8	2.5
98R-45	324338.88	6040074.00	1	172	2.5	88	0.2	51	1267	42	0.25	2.5	270	6.94	0.013	4.59	0.39	8.44	0.17	18	1	0.19	13.4	-1.9	2.5
98R-46	324880.84	6038786.00	1	144	2.5	107	0.2	41	2577	95	0.60	2.5	379	12.70	0.062	0.93	1.02	7.31	0.08	37	1	0.10	7.1	-1.9	2.5
98R-47	325306.88	6039999.00	4	142	5.0	88	0.2	26	1454	115	0.25	2.5	284	8.69	0.045	3.86	0.63	5.93	0.15	24	1	0.56	23.6	-1.9	2.5
98R-48	328136.84	6040488.00	12	123	2.5	69	0.2	74	1357	113	0.50	2.5	226	11.32	0.017	3.52	0.38	7.48	0.10	17	1	0.14	7.9	-1.9	2.5
98R-49	314291.00	6039571.50	1	72	10.0	1223	0.2	4	2068	124	7.40	2.5	81	6.73	0.129	1.79	1.06	5.86	0.64	62	1	0.24	28.1	-1.8	2.5

Sample Site	UTM Easting	UTM Northing	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Mn ppm	Sr ppm	Cd ppm	Bi ppm	V ppm	Ca %	P %	Mg %	Ti %	Al %	K %	Y ppm	Be ppm	S %	K mhos cm^{-1}	H^+ ppb	Hg ppb
98R-50	317241.97	6039935.50	1	526	2.5	80	0.4	31	1510	362	0.25	2.5	354	7.97	0.024	2.74	1.03	6.80	0.56	6	1	0.22	18.6	-1.8	2.5
98R-51	318170.97	6039892.50	1	43	5.0	32	0.6	16	349	164	0.25	2.5	47	2.71	0.034	0.79	0.24	7.29	1.39	8	1	0.23	18.4	-1.8	2.5
98R-52	424658.00	6042698.00	2	14	2.5	17	0.2	2	167	165	0.25	2.5	6	2.24	0.008	0.23	0.13	6.53	0.50	32	1	0.07	8.6	-1.9	2.5
98R-54	422577.00	6040642.00	1	101	2.5	84	0.2	115	1395	79	0.25	2.5	266	6.44	0.024	2.89	0.53	6.98	0.30	11	1	0.10	33.6	-1.9	2.5
98R-55	426549.00	6042653.00	1	78	2.5	92	0.2	74	1393	96	0.25	2.5	334	8.64	0.019	3.12	0.73	8.46	0.26	23	1	0.16	10.0	-1.9	2.5
98R-58-1	422017.59	6039578.50	3	144	2.5	105	0.2	68	4097	8	0.60	2.5	288	8.12	0.011	3.87	0.48	6.76	0.37	19	1	0.10	7.4	-1.9	2.5
98R-58-2	422017.59	6039578.50	2	20	2.5	12	0.2	7	330	10	0.25	2.5	68	1.80	0.012	0.31	0.04	1.01	0.02	2	1	0.02	7.2	-1.9	2.5
98R-59	420543.00	6039880.00	1	15	8.0	22	0.2	5	142	268	0.25	2.5	12	1.94	0.014	0.26	0.09	7.57	0.43	2	1	0.07	23.1	-1.9	2.5
98R-60	419349.00	6041198.00	1	98	2.5	79	0.2	94	1287	39	0.25	2.5	250	6.50	0.024	3.33	0.58	7.57	0.07	22	1	0.04	36.8	-1.9	2.5
98R-61	428648.00	6042511.00	1	97	2.5	87	0.2	92	1402	89	0.25	2.5	359	8.50	0.014	3.53	0.75	8.00	0.39	17	1	0.15	9.8	-1.9	2.5
98R-62	428719.00	6043536.00	1	35	5.0	44	0.2	4	333	144	0.25	2.5	25	2.46	0.024	0.34	0.15	7.11	1.21	10	1	0.02	4.0	-1.9	2.5
98R-64	430255.00	6047124.00	1	48	2.5	80	0.2	32	893	143	0.25	2.5	136	6.16	0.073	2.20	0.45	7.64	2.03	22	1	0.04	9.6	-1.9	2.5
98R-66-1	425278.00	6047515.00	1	6	10.0	36	0.5	4	150	455	0.25	2.5	17	1.86	0.020	0.28	0.11	8.11	1.36	2	1	0.03	19.0	-1.9	2.5
98R-66-2	425278.00	6047515.00	2	96	2.5	109	0.2	114	1420	231	0.25	2.5	161	7.18	0.094	2.98	0.59	8.35	0.69	20	1	0.33	12.3	-1.9	2.5
98R-67	424531.00	6048166.00	1	28	2.5	59	0.2	57	1284	732	0.25	2.5	244	10.21	0.027	3.61	0.42	8.07	0.01	19	1	0.08	6.0	-1.9	2.5
98R-68	423147.00	6050489.00	1	85	2.5	54	0.2	50	1495	95	0.25	2.5	343	7.88	0.052	3.21	0.85	7.32	0.10	34	1	0.17	5.0	-1.9	2.5
98R-69	421846.00	6049098.00	1	116	2.5	91	0.2	95	1402	89	0.25	2.5	281	9.07	0.019	2.77	0.58	8.44	0.11	20	1	0.14	32.0	-1.9	2.5
98R-71	412676.00	6045877.00	2	29	11.0	28	0.6	25	673	341	0.25	2.5	57	3.59	0.027	0.82	0.18	5.93	0.47	14	1	0.06	36.6	-1.9	5.3
RE 98R-71	412676.00	6045877.00	2	29	12.0	29	0.6	24	677	345	0.25	2.5	58	3.61	0.027	0.82	0.18	6.01	0.47	14	1	0.07			
98R-72	413024.00	6047216.00	1	86	2.5	77	0.2	75	1046	173	0.25	2.5	216	3.50	0.028	2.00	0.43	8.54	0.77	19	1	0.12	31.3	-1.9	2.5
98R-73	411549.00	6043862.00	2	16	8.0	41	0.4	10	294	321	0.25	2.5	23	2.08	0.036	0.72	0.13	6.48	1.86	6	1	0.30	26.6	-1.9	2.5
98R-75	422108.00	6041765.00	1	384	2.5	129	0.2	49	2003	198	0.25	2.5	329	7.06	0.042	2.32	1.23	7.09	0.31	23	1	0.45	98.3	0.6	2.5
98R-77	432746.00	6042736.00	1	61	2.5	104	0.2	39	1059	403	0.25	2.5	252	7.42	0.164	2.51	0.74	8.74	0.57	17	1	0.12	4.5	-1.9	2.5
98R-78	431930.00	6043534.00	1	6	5.0	32	0.4	3	256	155	0.25	2.5	22	2.48	0.023	0.29	0.14	7.44	1.05	8	1	0.03	5.7	-1.9	2.5
98R-79	432599.00	6044519.00	2	75	2.5	72	0.2	216	1272	253	0.25	2.5	209	9.92	0.012	3.08	0.41	10.75	0.65	14	1	0.23	23.7	-1.9	2.5
98R-81	432096.00	6047105.00	1	73	2.5	85	0.2	91	1421	63	0.25	2.5	276	9.18	0.030	4.03	0.61	7.16	0.17	20	1	0.08	12.7	-1.9	2.5
98R-82	431155.00	6045908.00	1	72	2.5	100	0.2	84	1668	125	0.25	2.5	295	9.35	0.032	3.87	0.63	7.57	0.29	23	1	0.16	3.6	-1.9	2.5
98R-91	439048.03	6040825.50	1	2	9.0	30	0.5	2	142	575	0.25	2.5	14	1.92	0.027	0.22	0.11	8.19	1.43	4	1	0.02	3.1	-1.9	2.5
98R-93	410621.00	6049058.00	1	80	2.5	67	0.2	45	1139	147	0.25	2.5	214	7.44	0.021	4.26	0.35	7.79	0.33	17	1	0.22	27.0	-1.9	2.5
98R-94	413909.00	6049263.00	1	101	2.5	75	0.2	70	1441	139	0.25	2.5	324	7.80	0.026	4.05	0.63	7.45	0.31	25	1	0.36	28.0	-1.9	5.8
98R-95	407798.00	6049007.00	1	25	9.0	77	0.4	69	694	670	0.25	2.5	104	4.24	0.098	2.66	0.28	8.16	1.48	8	1	0.03	28.9	-1.9	2.5
98R-96	409899.00	6046556.00	1	72	9.0	77	0.2	110	783	826	0.25	2.5	144	6.82	0.177	2.31	0.52	11.04	0.88	17	1	0.05	11.7	-1.9	2.5
98R-97	418140.00	6045082.00	1	106	2.5	85	0.2	110	1318	65	0.25	2.5	277	7.36	0.023	2.96	0.58	8.19	0.15	22	1	0.11	24.4	-1.9	2.5
98R-99	429858.16	6033292.50	1	75	2.5	66	0.2	75	1023	167	0.25	2.5	208	8.93	0.024	3.64	0.38	8.08	0.40	14	1	0.07	14.4	-1.9	2.5
98R-103	425307.38	6035317.50	1	110	2.5	81	0.2	73	1247	171	0.25	2.5	219	9.17	0.017	3.92	0.43	7.97	0.08	16	1	0.09	26.0	-1.9	2.5
98R-104	423848.47	6036518.50	1	2	21.0	32	0.8	3	132	295	0.25	2.5	13	1.62	0.022	0.23	0.12	8.27	2.68	4	1	0.01	7.1	-1.9	2.5
98R-105	421335.53	6036410.50	1	24	5.0	38	0.2	10	369	209	0.25	2.5	57	3.02	0.032	0.81	0.23	8.56	1.22	8	1	0.06	25.4	-1.9	2.5
98R-107	420147.63	6037637.50	1	62	5.0	63	0.2	66	1167	147	0.25	2.5	185	8.88	0.027	3.30	0.40	7.88	0.33	17	1	0.07	20.0	-1.9	2.5
98R-109	423732.41	6034418.50	62	49	2.5	80	0.2	51	830	267	0.25	2.5	139	5.28	0.046	1.83	0.61	9.28	0.76	10	1	0.08	6.1	-1.9	2.5
98R-111	422790.47	6035391.50	1	255	2.5	61	0.2	31	966	71	0.25	2.5	269	5.82	0.030	2.76	0.64	5.96	0.34	25	1	0.11	32.7	-1.9	2.5
98R-112	422413.50	6036539.50	1	113	2.5	141	0.2	77	2483	152	0.25	2.5	289	10.92	0.042	2.45	0.73	7.44	0.19	29	1	0.42	47.2	-1.9	2.5
98R-113	419846.59	6036918.50	1	29	2.5	55	0.2	16	514	298	0.25	2.5	78	4.12	0.042	1.00	0.28	9.30	0.75	11	1	0.04	8.0	-1.9	2.5
98R-116	417811.72	6039129.50	1	71	2.5	73	0.2	52	1002	186	0.25	2.5	193	5.84	0.031	3.09	0.42	7.97	0.52	17	1	0.28	34.1	-1.9	2.5
98R-121	407150.00	6045862.00	1	72	9.0	73	0.2	28	743	459	0.25	2.5	208	4.76	0.056	2.01	0.45	8.63	0.94	13	1	0.73	22.7	-1.9	2.5
98R-123	410744.00	6043110.00	1	141	21319.0	81	0.2	76	1060	92	0.25	2.5	304	8.39	0.034	3.42	0.70	8.04	0.30	28	1	0.84	19.1	-1.9	2.5
98R-126-1	413132.19	6012836.00	2	823	49.0	4691	1.5	223	760	22	9.60	2.5	70	0.41	0.013	1.86	0.36	5.97	2.54	41	1	6.65	93.7	38.8	2.5
98R-126-2	413132.19	6012836.00	2	278	6.0	317	0.2	43	2779	22	0.90	2.5	68	3.61	0.017	1.64	0.23	4.53	0.25	18	1	1.09	99.9	95.8	2.5
98R-126-3	413132.19	6012836.00	1	117	2.5	5	0.2	23	23	3	0.25	2.5	7	0.07	0.008	0.05	0.02	0.28	0.09	2	1	0.84	29.9	81.2	2.5
98R-126-4	413132.19	6012836.00	1	162	2.5	194	0.2	20	1496	5	0.25	2.5	11	5.10	0.026	1.16	0.04	0.38	0.04	8	1	0.52	51.2	64.1	2.5
98R-131	410227.28	6012701.50	1	80	2.5	93	0.2	190	1408	123	0.25	2.5	201	8.52	0.031	4.73	0.54	8.71	0.20	22	1	0.11	5.8	-1.9	2.5
98R-132	407970.38	6013576.50	1	131	2.5	108	0.5	48	1466	154	0.25	2.5	320	7.15	0.087	2.70	0.98	7.29	0.40	35	1	0.28	24.6	-1.9	2.5

Sample Site	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	S	K	H^+	Hg
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	%	mhos cm^{-1}	ppb	ppb
98R-133	407131.38	6012572.50	1	112	2.5	90	0.2	346	1724	17	0.25	2.5	178	7.62	0.016	8.77	0.32	4.59	0.06	13	1	0.11	15.0	-1.9	2.5
98R-135	408359.31	6012394.50	1	121	6.0	92	0.2	59	1180	170	0.25	2.5	169	7.94	0.030	3.17	0.34	7.80	0.46	16	1	0.07	9.5	-1.9	2.5
98R-136	405675.38	6011926.50	1	146	2.5	124	0.2	103	1761	127	0.25	2.5	246	9.97	0.040	2.16	0.71	8.50	0.19	28	1	0.30	39.2	-1.9	2.5
98R-139	402538.53	6013989.50	1	133	2.5	87	0.4	39	1302	666	0.25	2.5	169	8.18	0.042	1.68	0.64	6.87	0.22	14	1	0.09	32.3	-1.9	2.5
98R-140	399933.00	6014368.00	1	112	2.5	117	0.2	61	1694	149	0.25	2.5	315	6.49	0.066	3.94	0.98	8.46	0.10	38	1	0.16	8.7	-1.9	2.5
98R-141	395466.00	6012618.00	1	103	2.5	89	0.2	52	1377	100	0.25	2.5	287	8.11	0.046	3.29	0.80	7.81	0.30	30	1	0.88	75.3	27.6	2.5
98R-146	392335.00	6021175.00	1	47	2.5	13	0.2	9	206	8	0.25	2.5	32	0.88	0.003	0.51	0.06	0.83	0.02	2	1	0.02	8.6	-1.9	2.5
RE 98R-146	392335.00	6021175.00	1	46	2.5	13	0.2	10	208	9	0.25	2.5	33	0.88	0.003	0.51	0.06	0.83	0.02	2	1	0.02			
98R-148	403100.47	6012742.50	8	113	8.0	179	1.4	5	1317	129	0.25	2.5	18	3.22	0.199	0.55	0.97	6.70	0.26	90	1	0.63	40.8	5.8	2.5
98R-149	401935.00	6012422.00	1	90	2.5	121	0.4	45	1643	187	0.50	2.5	378	7.78	0.070	2.54	1.13	7.98	0.50	37	1	0.14	9.6	-1.9	2.5
98R-150	400497.00	6013199.00	1	93	2.5	94	0.2	65	1498	123	0.25	2.5	281	8.95	0.041	2.54	0.74	8.02	0.19	26	1	0.10	32.2	-1.9	2.5
98R-151	399476.00	6015250.00	2	25	2.5	180	0.9	7	2315	137	0.25	2.5	49	6.44	0.166	1.69	1.35	6.66	0.39	78	1	0.09	5.1	-1.9	2.5
98R-152	395886.00	6015171.00	1	122	2.5	88	0.2	145	1840	71	0.25	2.5	236	11.34	0.028	3.00	0.57	7.61	0.38	25	1	0.26	50.1	-3.3	2.5
98R-153	394104.00	6017050.00	1	4	2.5	2	0.2	2	82	3	0.25	2.5	5	0.30	0.002	0.02	0.01	0.04	0.01	2	1	0.01	16.7	-3.3	2.5
98R-157	405746.31	6009647.50	1	42	2.5	135	0.2	161	1724	96	0.50	2.5	210	8.58	0.030	5.26	0.54	7.29	0.59	17	1	0.06	5.7	-3.3	2.5
98R-163	388677.00	6018912.00	1	71	2.5	99	0.2	93	1439	166	0.25	2.5	259	7.10	0.060	3.48	0.85	8.44	0.12	34	1	0.07	5.6	-3.3	2.5
98R-164	386509.00	6018460.00	1	26	2.5	539	0.2	30	10984	2	3.20	6.0	24	3.22	0.007	3.38	0.07	0.88	0.02	30	1	0.06	4.2	-2.8	2.5
98R-165	383945.00	6021656.00	1	28	8.0	29	0.6	32	634	64	0.25	2.5	50	2.68	0.007	1.00	0.15	4.46	1.43	8	1	0.13	13.0	-3.3	2.5
98R-167	384775.00	6020830.00	1	2	10.0	14	1.0	2	129	36	0.25	2.5	2	1.06	0.002	0.51	0.09	5.89	0.62	44	2	0.01	4.4	-3.3	2.5
98R-168	389115.00	6015922.00	1	100	15.0	107	0.2	114	1476	142	0.25	2.5	232	7.97	0.065	3.90	0.79	8.29	0.48	25	1	0.06	6.5	-3.3	2.5
98R-170	384273.00	6016794.00	2	9	34.0	41	1.8	2	232	75	0.25	2.5	3	1.03	0.032	0.58	0.18	5.69	2.30	29	1	1.10	28.1	-1.2	2.5
98R-171	383788.00	6015968.00	1	103	13.0	149	0.6	84	1693	103	0.25	2.5	269	4.72	0.128	3.74	1.27	7.66	0.16	38	1	0.50	22.8	-3.3	2.5
98R-172	385394.00	6015986.00	1	205	7.0	356	0.5	97	4316	65	1.80	2.5	297	8.08	0.058	2.55	0.92	6.19	0.32	37	1	0.79	17.2	-2.2	2.5
98R-173	387942.00	6015283.00	2	63	23.0	96	0.9	82	2100	33	0.25	2.5	60	0.12	0.026	0.48	0.19	4.63	0.92	13	1	2.79	65.0	106.3	13.2
98R-177	321735.97	6041833.00	1	8	2.5	133	0.2	651	1481	19	0.25	2.5	274	2.87	0.016	10.20	0.49	9.57	0.05	11	1	0.04	6.2	-3.3	5.5
98R-178	323967.94	6041833.00	1	48	7.0	66	0.6	28	830	494	0.25	2.5	114	6.35	0.088	1.56	0.48	9.03	0.57	18	1	0.09	25.3	-3.3	2.5
98R-181	326531.88	6040989.00	1	105	2.5	49	0.2	209	1073	135	0.25	2.5	135	10.37	0.006	6.06	0.20	8.59	0.15	7	1	0.08	8.7	-3.3	2.5
98R-182	329630.81	6040599.00	1	104	2.5	66	0.2	78	1481	82	0.25	2.5	255	8.93	0.017	3.79	0.43	8.00	0.20	18	1	0.10	9.6	-3.3	2.5
98R-185	328134.84	6041330.00	23	70	5.0	93	0.2	100	1557	79	0.25	2.5	174	9.77	0.027	3.08	0.34	7.82	1.50	14	1	0.24	13.9	-3.3	2.5
98R-189	350083.38	6040090.00	1	2	28.0	27	0.7	2	197	70	0.25	2.5	7	0.62	0.009	0.11	0.08	6.72	3.95	13	2	0.01	6.7	-3.3	2.5
98R-198	343762.53	6040329.00	1	282	2.5	105	0.2	50	1527	121	0.25	2.5	305	10.00	0.027	2.69	0.56	7.55	0.42	25	1	0.16	25.3	-3.3	2.5
98R-202	345340.41	6037467.00	1	35	5.0	63	0.2	39	833	118	0.25	2.5	127	4.82	0.042	1.84	0.40	6.27	0.33	12	1	0.05	6.4	-3.3	2.5
98R-204	349428.38	6039387.00	1	2	2.5	42	0.4	30	1350	1495	0.50	2.5	202	15.49	0.038	3.09	0.44	8.91	0.04	22	4	0.21	30.0	-3.3	2.5
98R-205	337801.72	6042848.00	1	2	36.0	43	1.3	2	325	88	0.25	2.5	14	0.86	0.025	0.23	0.13	6.92	3.88	19	2	0.01	8.3	-3.3	2.5
98R-206-1	338357.66	6040821.00	1	1220	2.5	61	0.7	538	848	58	0.25	2.5	100	11.00	0.002	6.85	0.09	8.47	0.17	4	1	0.32	22.8	-3.3	2.5
98R-206-2	338357.66	6040821.00	1	260	2.5	139	0.2	345	923	46	0.25	2.5	111	10.75	0.002	7.80	0.09	8.62	0.26	5	1	0.12	17.0	-3.3	2.5

Appendix 3

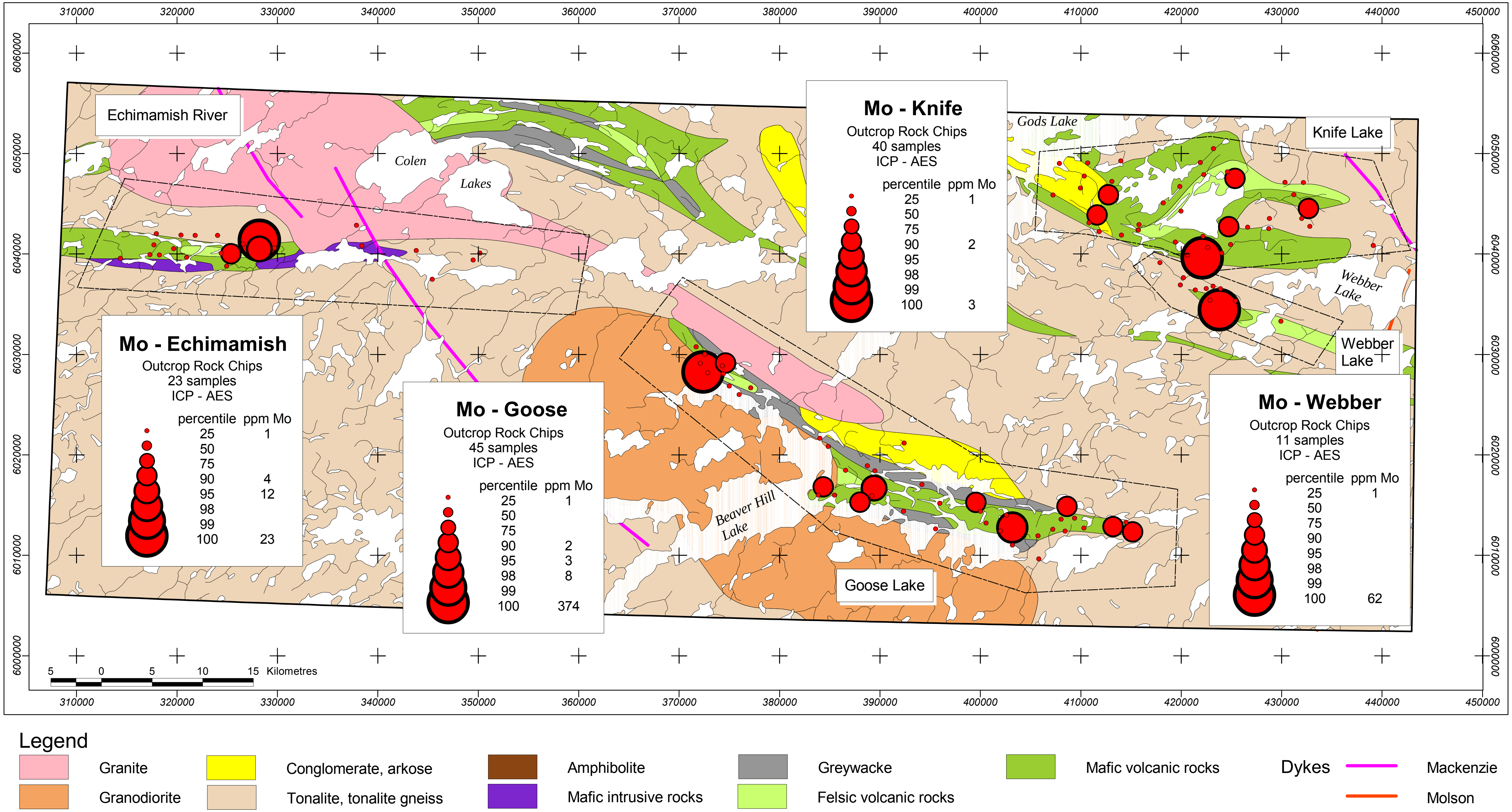
Rock Geochemistry: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), Hydrogen Ion (H^+), Specific Conductance (K) and Hg (FIMS) Analyses, Multiple Samples.

Sample Site	UTM Easting	UTM Northing	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Mn ppm	Sr ppm	Cd ppm	Bi ppm	V ppm	Ca %	P %	Mg %	Ti %	Al %	K %	Y ppm	Be ppm	S %	K mhos cm^{-1}	H^+ ppb	Hg ppb
98R-4-1	424854.00	6040934.00	1	52	2.5	37	0.2	27	658	151	0.25	2.5	111	4.50	0.081	1.42	0.42	8.42	0.12	18	1	0.13	9.0	-1.9	2.5
98R-4-2	424854.00	6040934.00	1	80	2.5	40	0.4	28	902	115	0.25	2.5	92	4.21	0.081	1.12	0.38	8.04	0.21	18	1	0.71	35.8	-0.3	2.5
98R-30	374926.00	6026839.00	1	542	44.0	158	1.0	96	774	121	0.25	2.5	105	2.63	0.017	1.11	0.36	8.57	1.44	19	3	1.59	38.6	-1.7	2.5
RE 98R-30	374926.00	6026839.00	1	566	42.0	159	1.0	97	808	128	0.25	2.5	106	2.70	0.017	1.15	0.37	8.89	1.48	19	3	1.63			
98R-58-1	422017.59	6039578.50	3	144	2.5	105	0.2	68	4097	8	0.60	2.5	288	8.12	0.011	3.87	0.48	6.76	0.37	19	1	0.10	7.4	-1.9	2.5
98R-58-2	422017.59	6039578.50	2	20	2.5	12	0.2	7	330	10	0.25	2.5	68	1.80	0.012	0.31	0.04	1.01	0.02	2	1	0.02	7.2	-1.9	2.5
98R-66-1	425278.00	6047515.00	1	6	10.0	36	0.5	4	150	455	0.25	2.5	17	1.86	0.020	0.28	0.11	8.11	1.36	2	1	0.03	19.0	-1.9	2.5
98R-66-2	425278.00	6047515.00	2	96	2.5	109	0.2	114	1420	231	0.25	2.5	161	7.18	0.094	2.98	0.59	8.35	0.69	20	1	0.33	12.3	-1.9	2.5
98R-71	412676.00	6045877.00	2	29	11.0	28	0.6	25	673	341	0.25	2.5	57	3.59	0.027	0.82	0.18	5.93	0.47	14	1	0.06	36.6	-1.9	5.3
RE 98R-71	412676.00	6045877.00	2	29	12.0	29	0.6	24	677	345	0.25	2.5	58	3.61	0.027	0.82	0.18	6.01	0.47	14	1	0.07			
98R-126-1	413132.19	6012836.00	2	823	49.0	4691	1.5	223	760	22	9.60	2.5	70	0.41	0.013	1.86	0.36	5.97	2.54	41	1	6.65	93.7	38.8	2.5
98R-126-2	413132.19	6012836.00	2	278	6.0	317	0.2	43	2779	22	0.90	2.5	68	3.61	0.017	1.64	0.23	4.53	0.25	18	1	1.09	99.9	95.8	2.5
98R-126-3	413132.19	6012836.00	1	117	2.5	5	0.2	23	23	3	0.25	2.5	7	0.07	0.008	0.05	0.02	0.28	0.09	2	1	0.84	29.9	81.2	2.5
98R-126-4	413132.19	6012836.00	1	162	2.5	194	0.2	20	1496	5	0.25	2.5	11	5.10	0.026	1.16	0.04	0.38	0.04	8	1	0.52	51.2	64.1	2.5
98R-146	392335.00	6021175.00	1	47	2.5	13	0.2	9	206	8	0.25	2.5	32	0.88	0.003	0.51	0.06	0.83	0.02	2	1	0.02	8.6	-1.9	2.5
RE 98R-146	392335.00	6021175.00	1	46	2.5	13	0.2	10	208	9	0.25	2.5	33	0.88	0.003	0.51	0.06	0.83	0.02	2	1	0.02			
98R-206-1	338357.66	6040821.00	1	1220	2.5	61	0.7	538	848	58	0.25	2.5	100	11.00	0.002	6.85	0.09	8.47	0.17	4	1	0.32	22.8	-3.3	2.5
98R-206-2	338357.66	6040821.00	1	260	2.5	139	0.2	345	923	46	0.25	2.5	111	10.75	0.002	7.80	0.09	8.62	0.26	5	1	0.12	17.0	-3.3	2.5

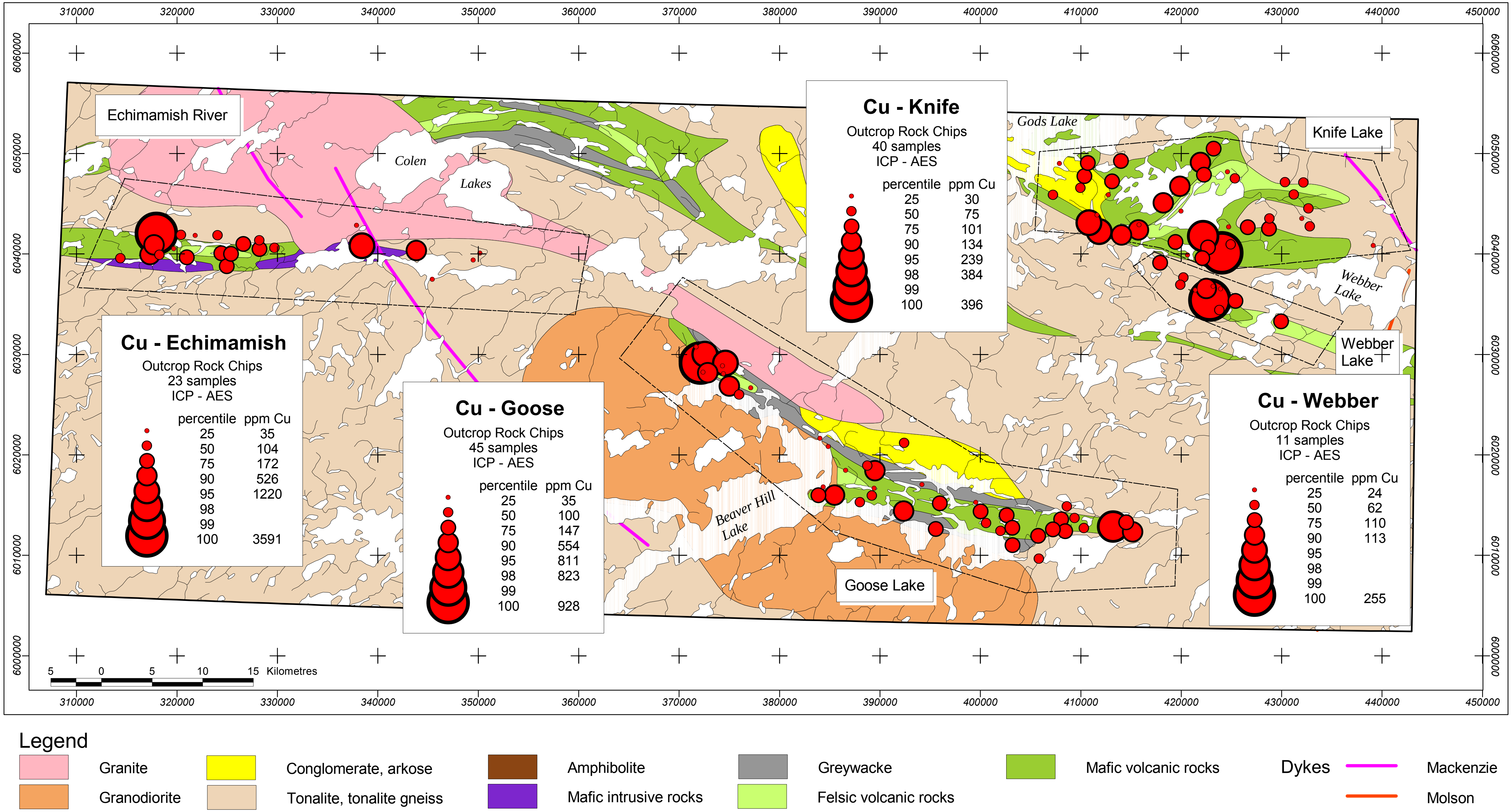
Appendix 4

Rock Geochemistry: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), H^+, *K* and Hg Percentile Bubble Plots.

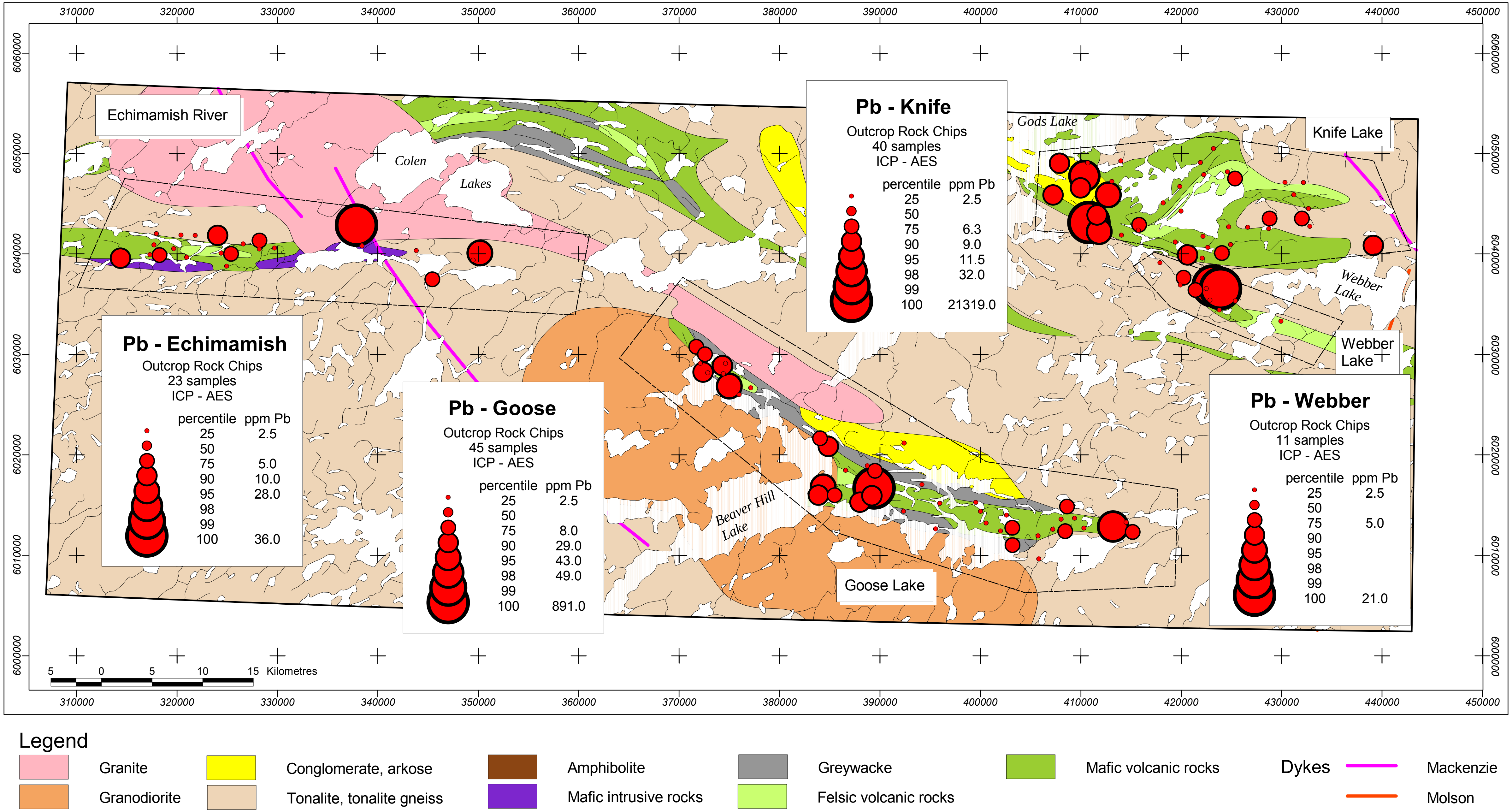
Mo	Cu	Pb	Zn	Ag
Ni	Mn	Sr	Cd	Bi
V	Ca	P	Mg	Ti
Al	K	Y	Be	S
K- specific conductance		Hydrogen Ion – H^+	Hg	
Contents				



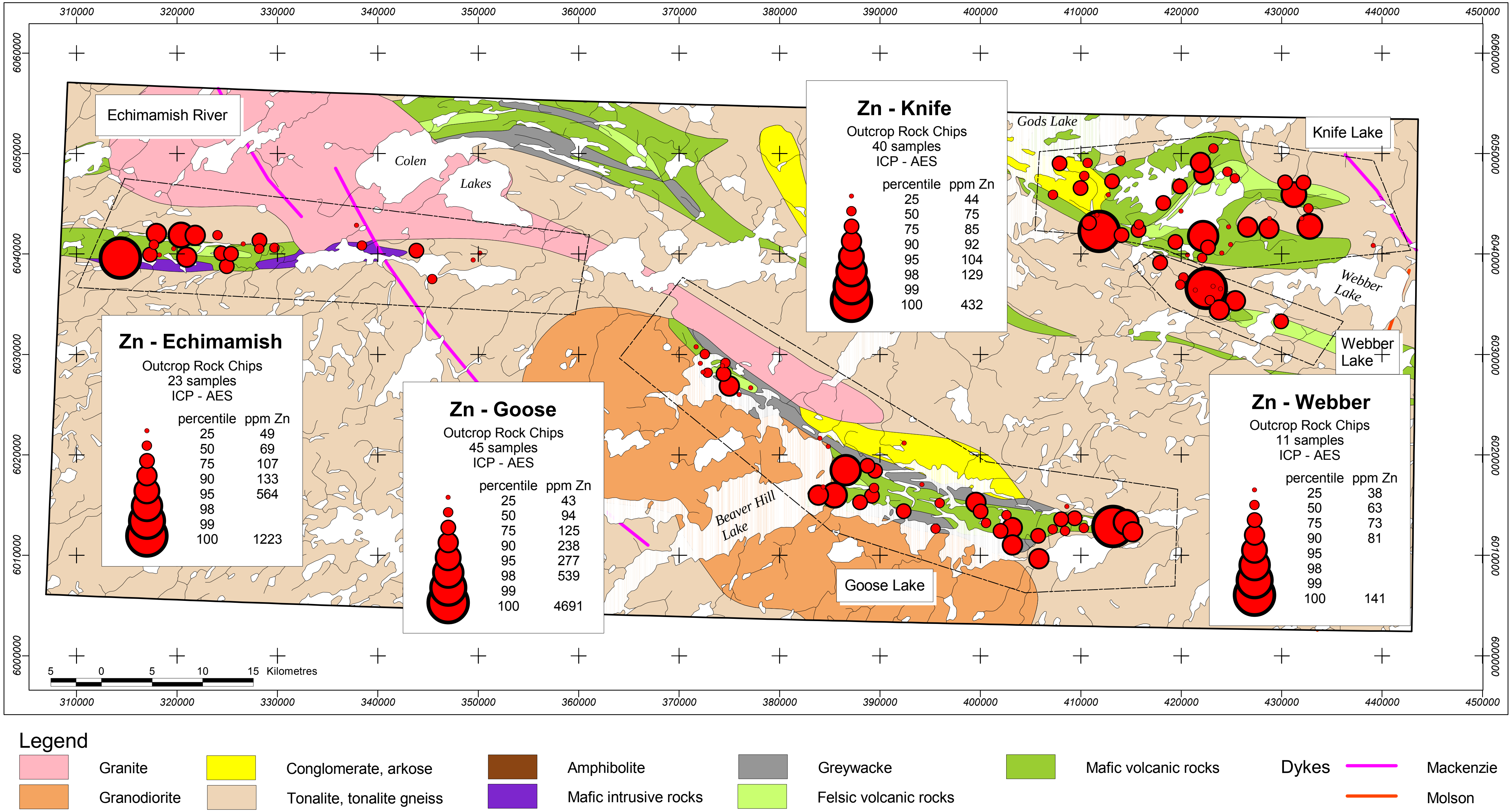
Echimamish River
Colen
Lakes
Mo - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Mo
25 1
50
75
90 2
95
98
99
100 3
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Mo - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Mo
25 1
50
75
90 4
95 12
98
99
100 23
Mo - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Mo
25 1
50
75
90 2
95 3
98 8
99
100 374
Beaver Hill Lake
Goose Lake
Mo - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Mo
25 1
50
75
90
95
98
99
100 62
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



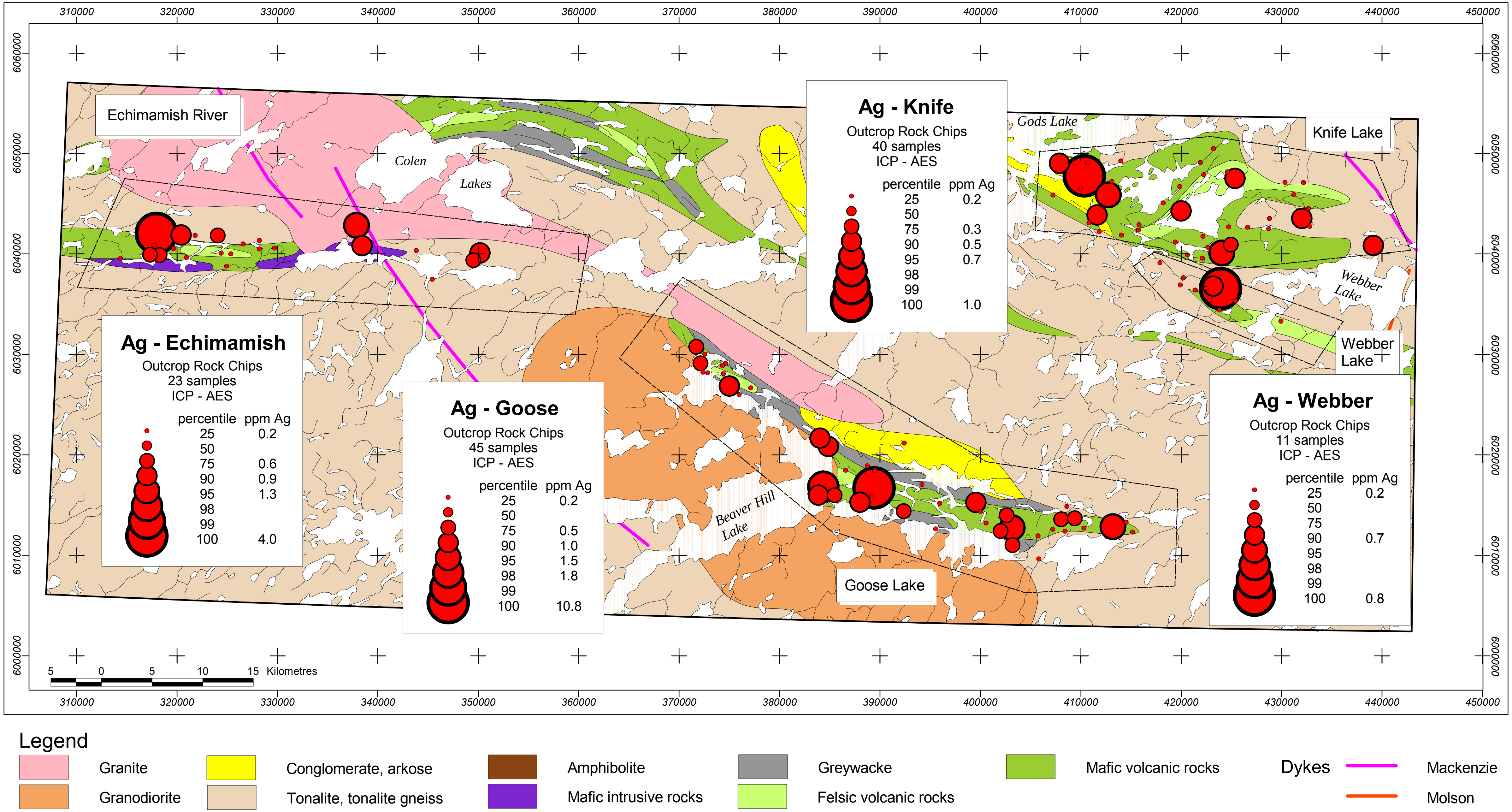
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cu - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Cu
25 30
50 75
75 101
90 134
95 239
98 384
99
100 396
Cu - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Cu
25 35
50 104
75 172
90 526
95 1220
98
99
100 3591
Cu - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Cu
25 35
50 100
75 147
90 554
95 811
98 823
99
100 928
Cu - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Cu
25 24
50 62
75 110
90 113
95
98
99
100 255
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



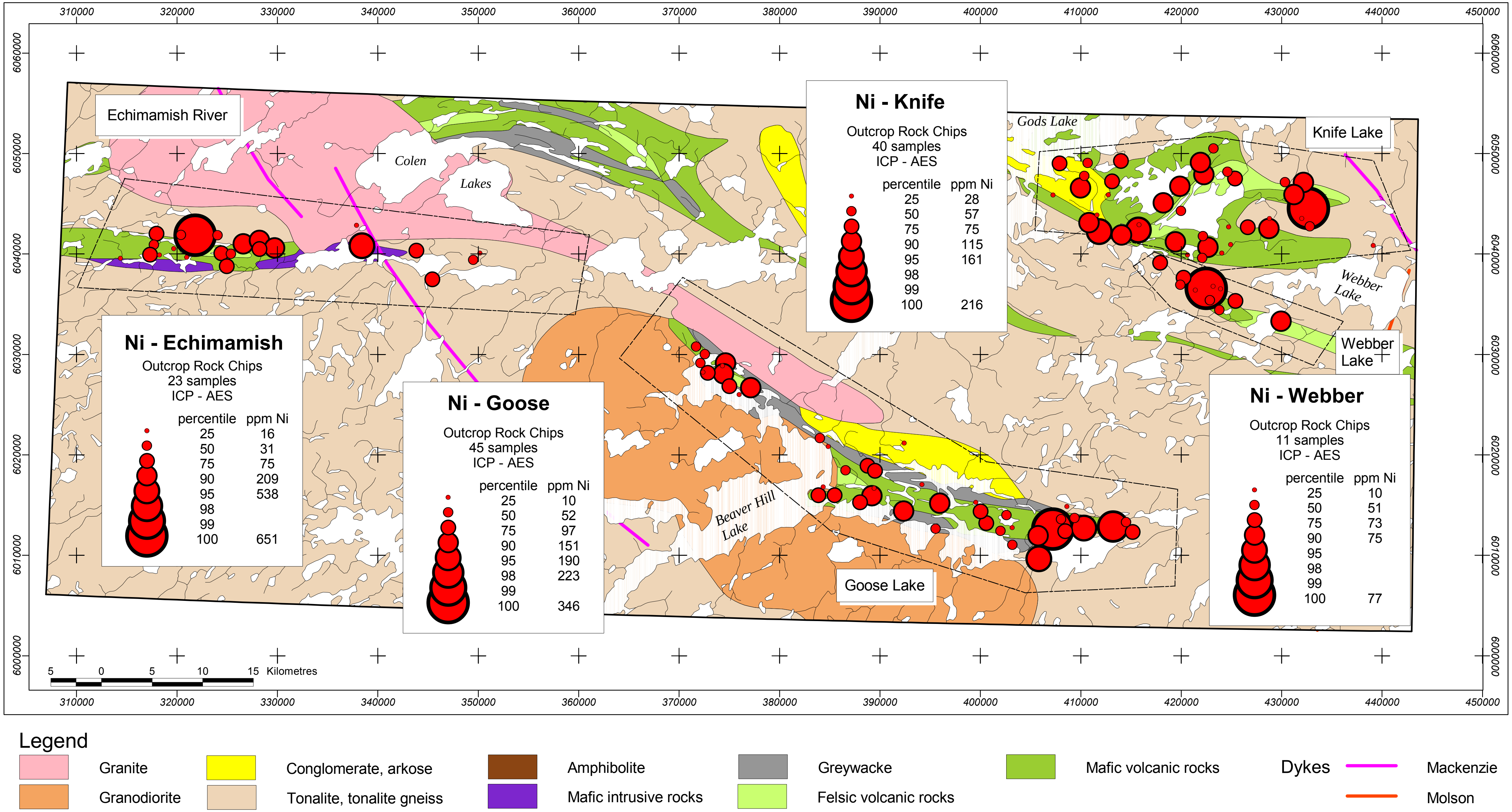
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
310000
320000
330000
340000
350000
360000
370000
380000
390000
400000
410000
420000
430000
440000
450000
6060000
6050000
6040000
6030000
6020000
6010000
6000000
5 0 5 10 15 Kilometres
Pb - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Pb
25 2.5
50
75 5.0
90 10.0
95 28.0
98
99
100 36.0
Pb - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Pb
25 2.5
50
75 8.0
90 29.0
95 43.0
98 49.0
99
100 891.0
Pb - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Pb
25 2.5
50
75 6.3
90 9.0
95 11.5
98 32.0
99
100 21319.0
Pb - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Pb
25 2.5
50
75 5.0
90
95
98
99
100 21.0
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



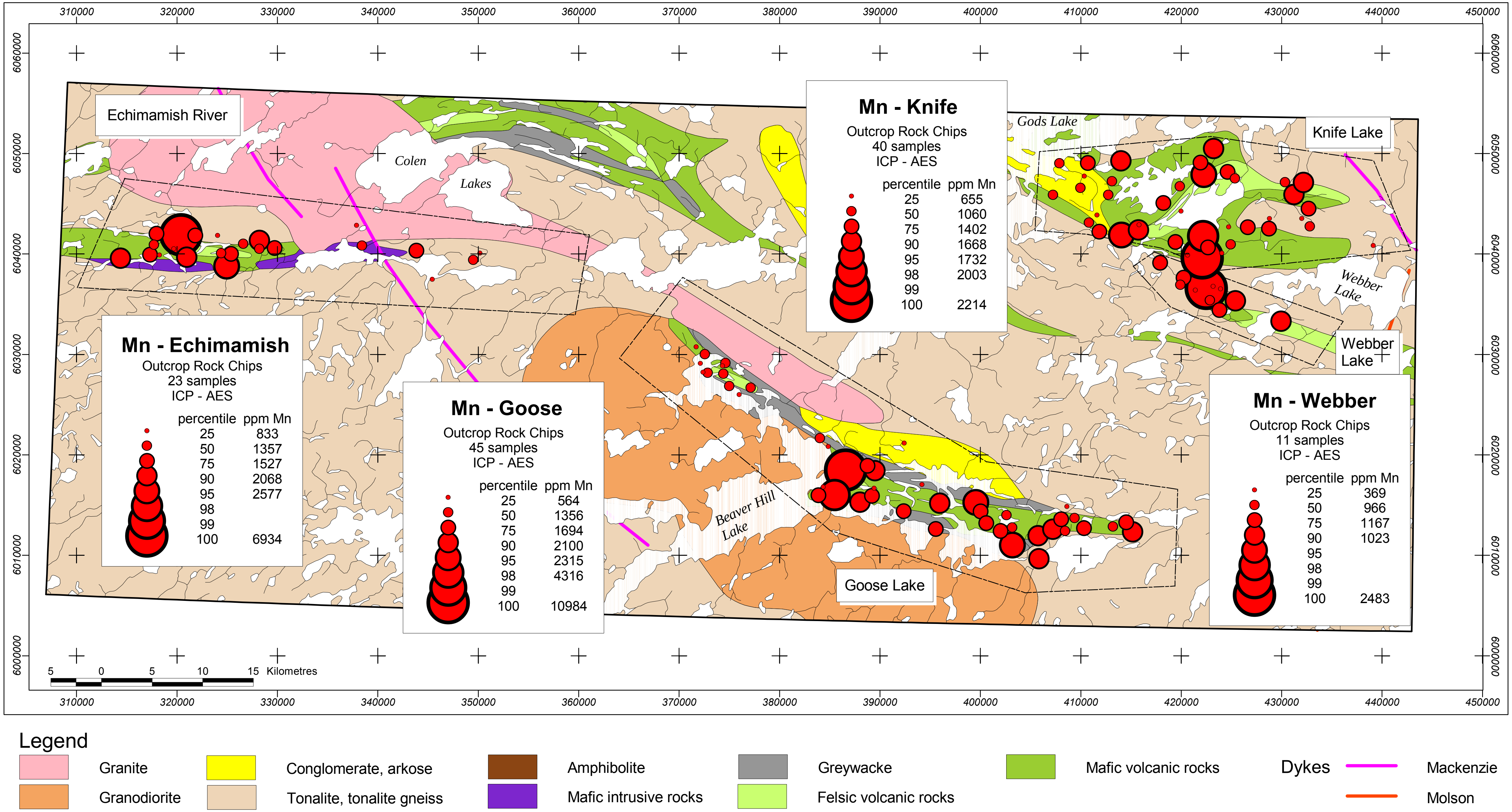
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Zn
25 49
50 69
75 107
90 133
95 564
98
99
100 1223
Zn - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Zn
25 43
50 94
75 125
90 238
95 277
98 539
99
100 4691
Zn - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Zn
25 44
50 75
75 85
90 92
95 104
98 129
99
100 432
Zn - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Zn
25 38
50 63
75 73
90 81
95
98
99
100 141
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

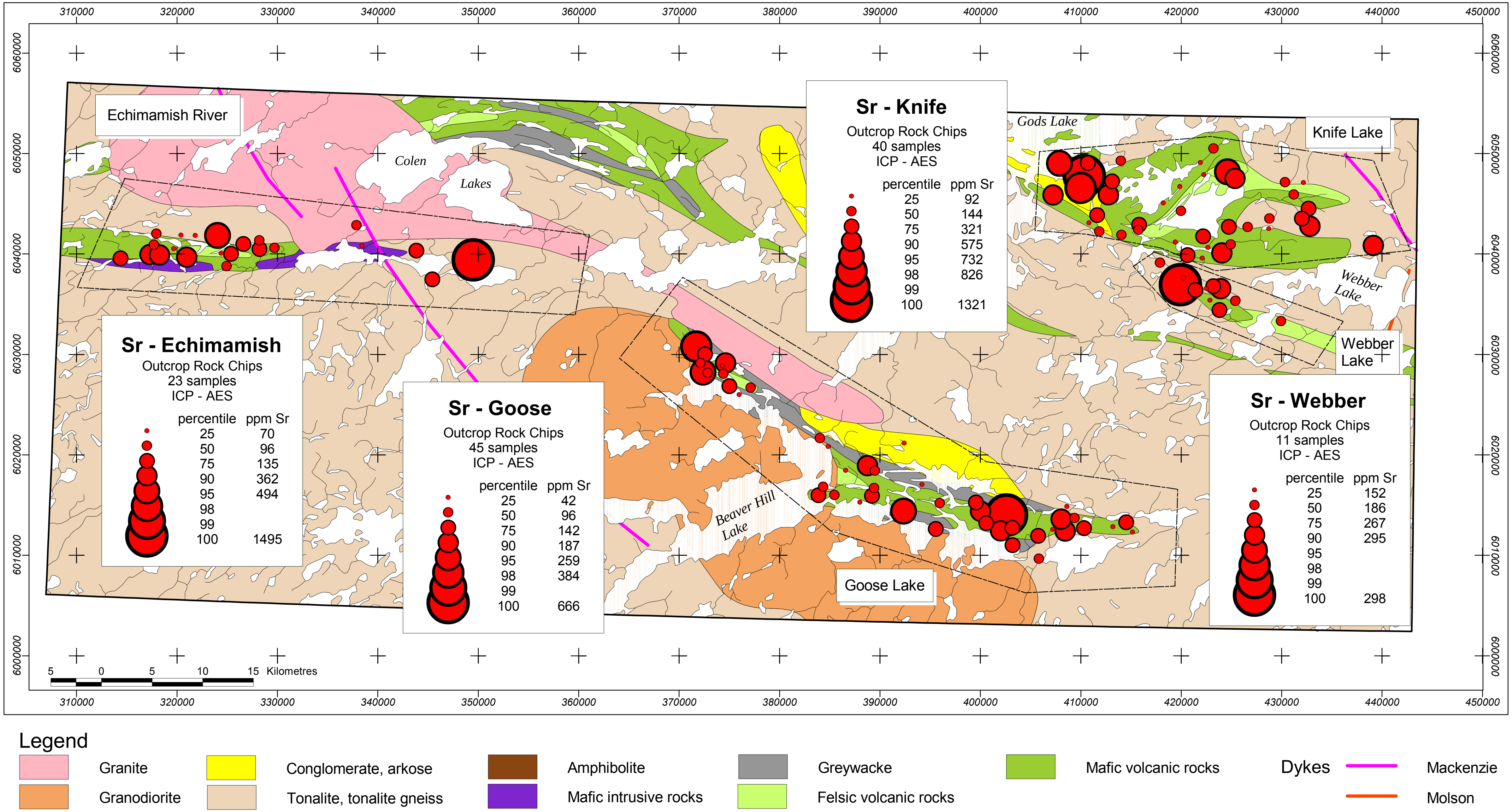


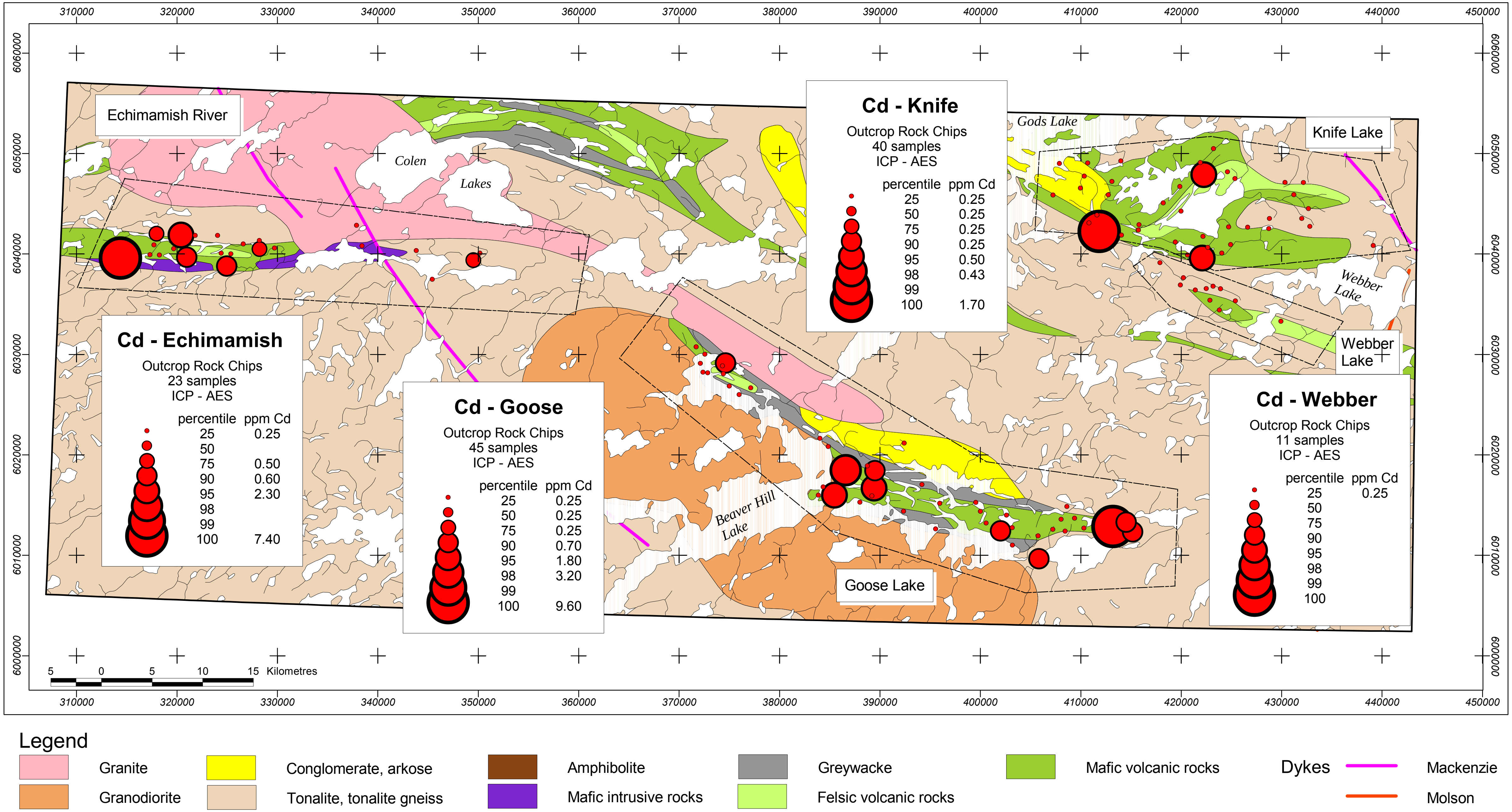
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ag - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Ag
25 0.2
50
75 0.3
90 0.5
95 0.7
98
99
100 1.0
Ag - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Ag
25 0.2
50
75 0.6
90 0.9
95 1.3
98
99
100 4.0
Ag - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Ag
25 0.2
50
75 0.5
90 1.0
95 1.5
98 1.8
99
100 10.8
Ag - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Ag
25 0.2
50
75
90 0.7
95
98
99
100 0.8
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



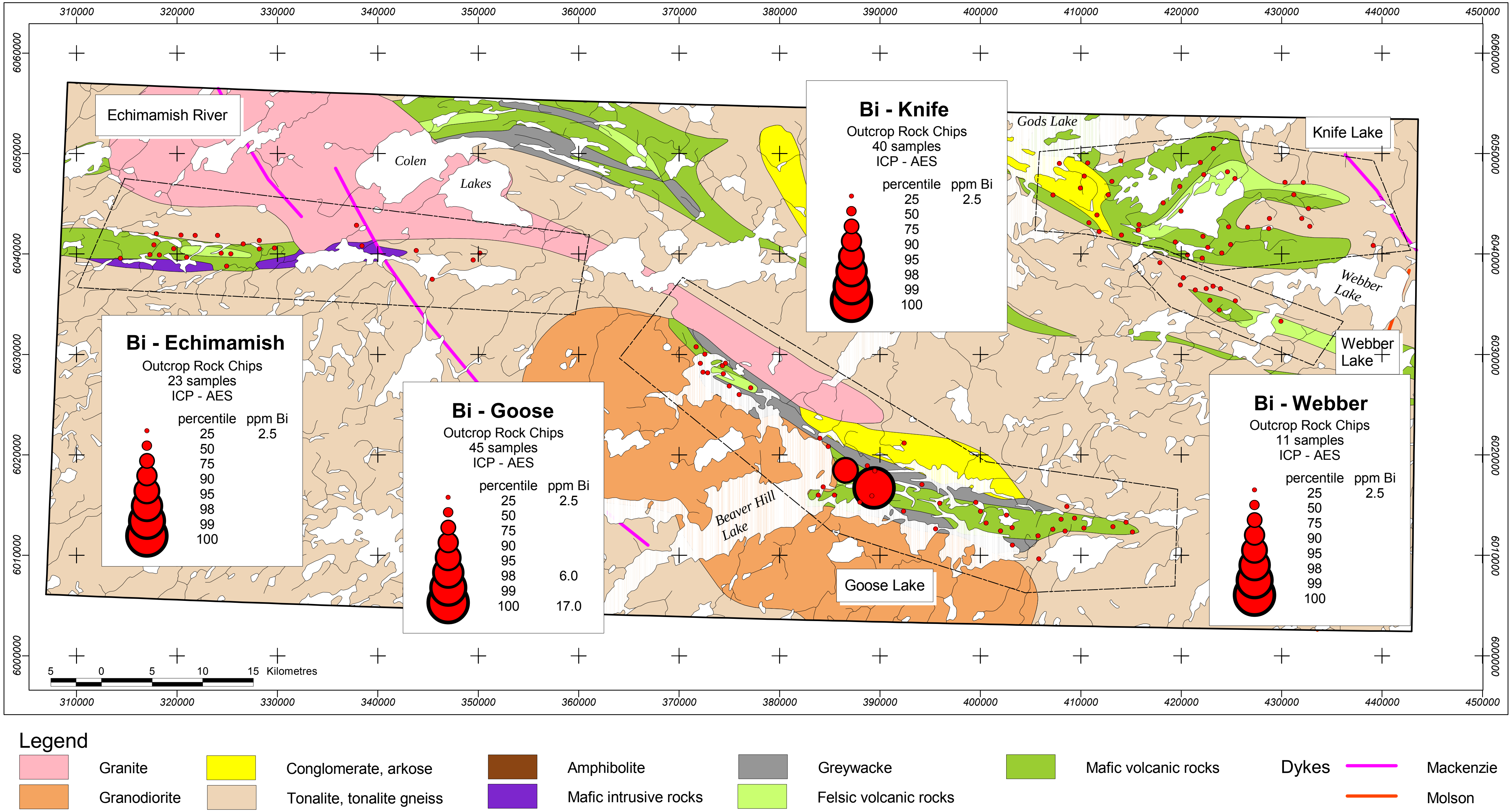
Echimamish River
Colen
Lakes
Ni - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Ni
25 28
50 57
75 75
90 115
95 161
98
99
100 216
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Ni - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Ni
25 16
50 31
75 75
90 209
95 538
98
99
100 651
Ni - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Ni
25 10
50 52
75 97
90 151
95 190
98 223
99
100 346
Beaver Hill Lake
Goose Lake
Ni - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Ni
25 10
50 51
75 73
90 75
95
98
99
100 77
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mn - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Mn
25 833
50 1357
75 1527
90 2068
95 2577
98
99
100 6934
Mn - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Mn
25 564
50 1356
75 1694
90 2100
95 2315
98 4316
99
100 10984
Mn - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Mn
25 655
50 1060
75 1402
90 1668
95 1732
98 2003
99
100 2214
Mn - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Mn
25 369
50 966
75 1167
90 1023
95
98
99
100 2483
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

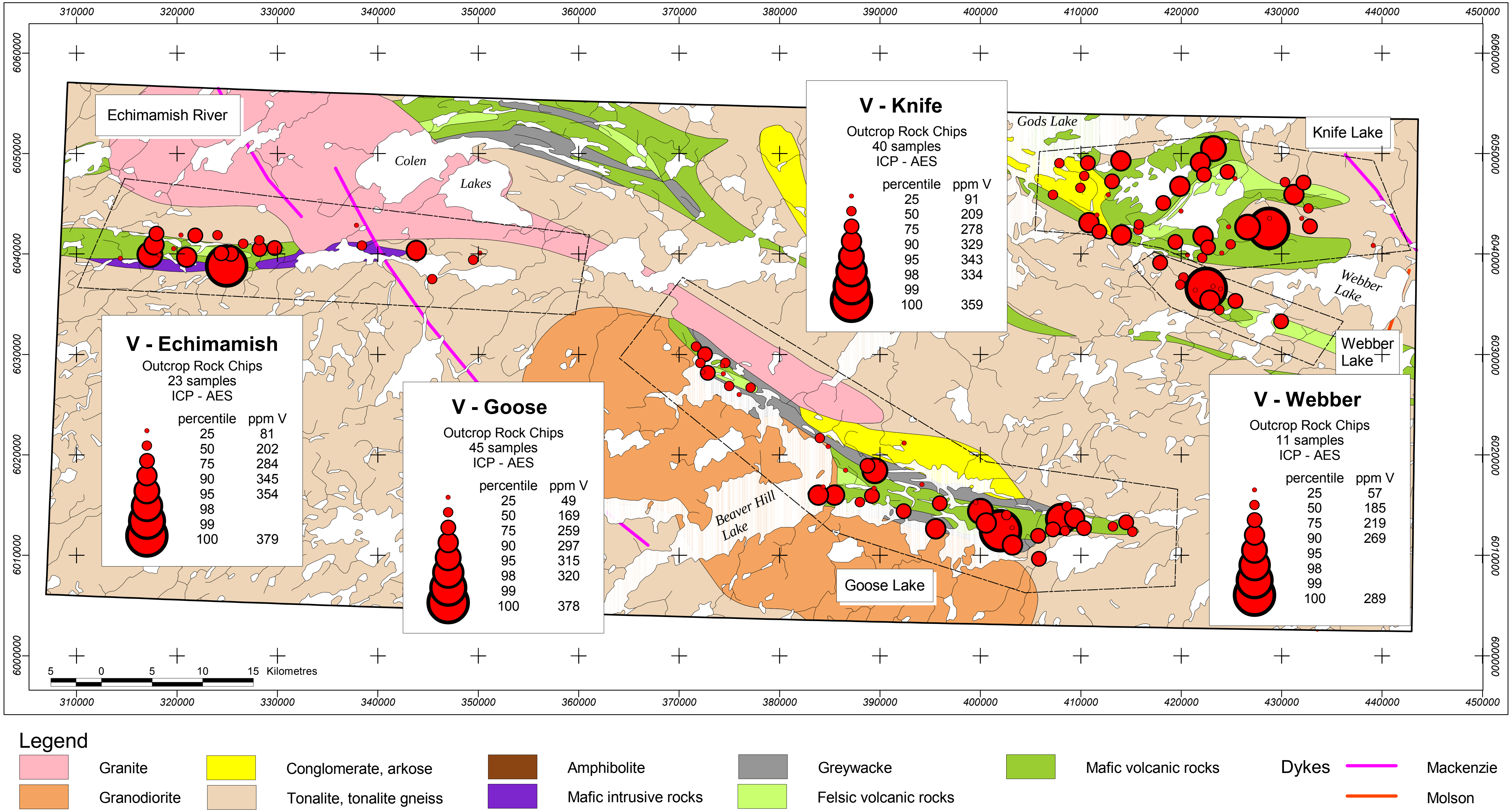

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sr - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Sr
25 70
50 96
75 135
90 362
95 494
98
99
100 1495
Sr - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Sr
25 42
50 96
75 142
90 187
95 259
98 384
99
100 666
Sr - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Sr
25 92
50 144
75 321
90 575
95 732
98 826
99
100 1321
Sr - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Sr
25 152
50 186
75 267
90 295
95
98
99
100 298
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



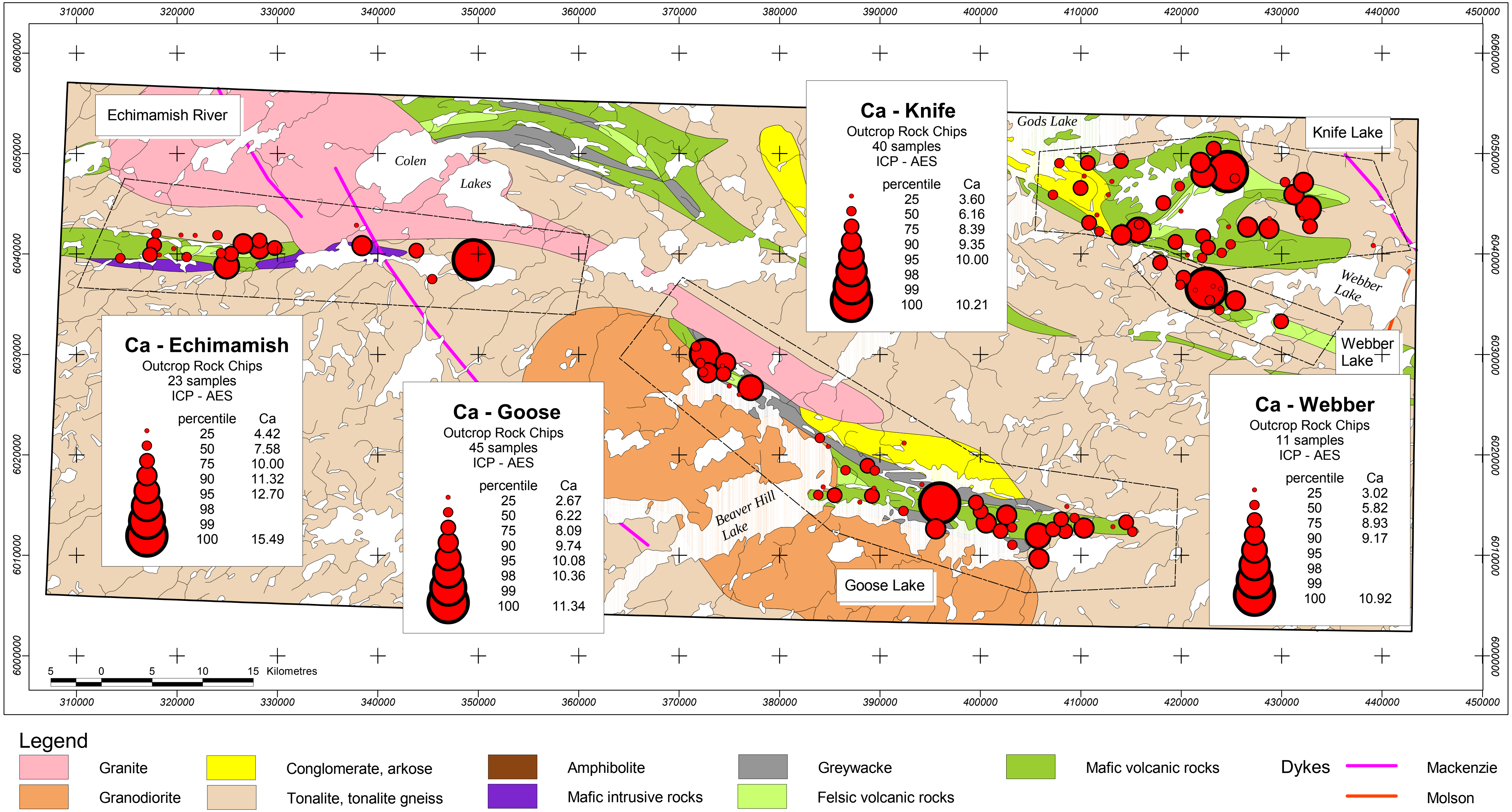
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cd - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Cd
25 0.25
50
75 0.50
90 0.60
95 2.30
98
99
100 7.40
Cd - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Cd
25 0.25
50 0.25
75 0.25
90 0.70
95 1.80
98 3.20
99
100 9.60
Cd - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Cd
25 0.25
50 0.25
75 0.25
90 0.25
95 0.50
98 0.43
99
100 1.70
Cd - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Cd
25 0.25
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



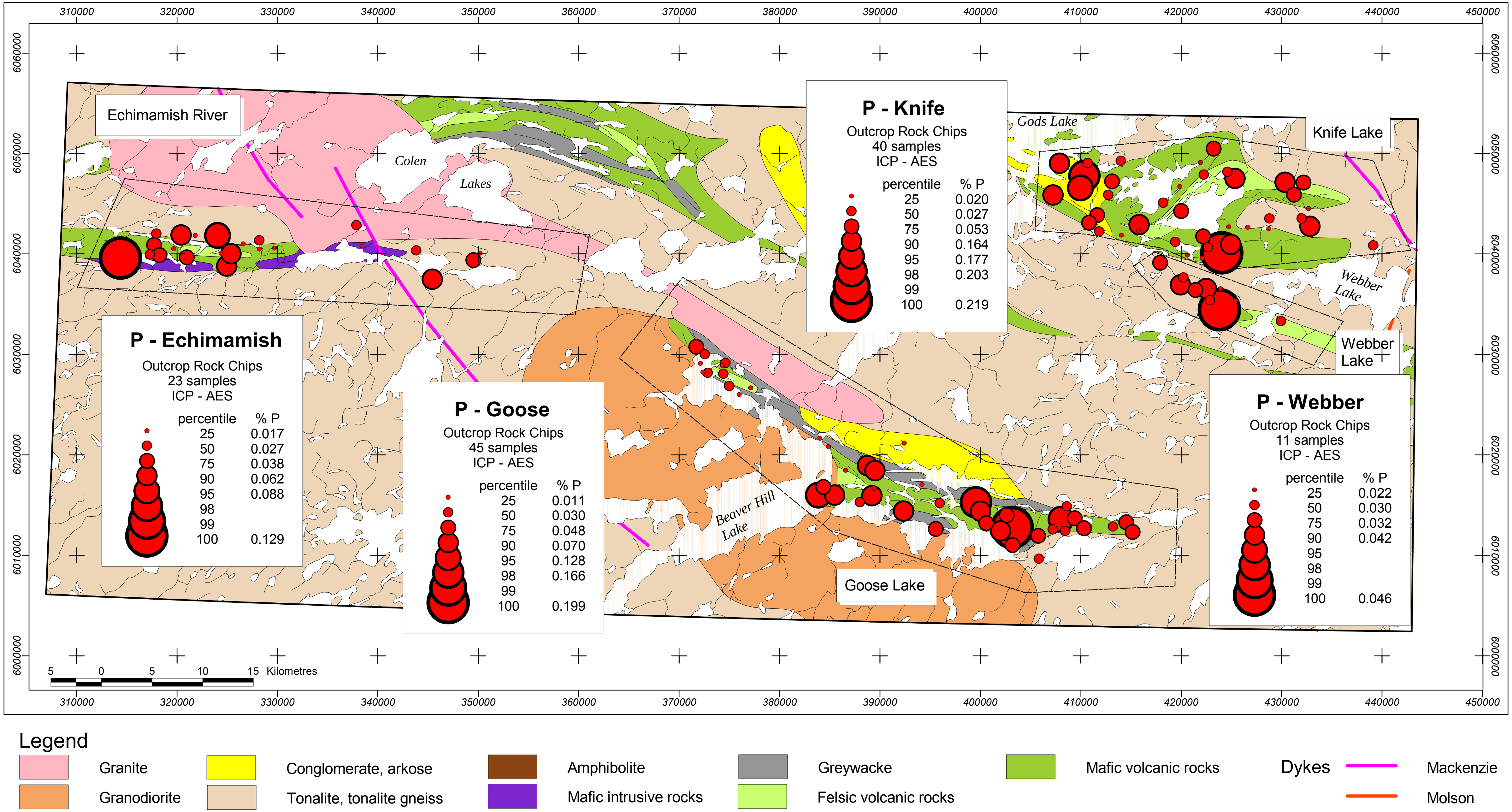
Echimamish River
Colen
Lakes
Bi - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Bi
25 2.5
50
75
90
95
98
99
100
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Bi - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Bi
25 2.5
50
75
90
95
98
99
100
Bi - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Bi
25 2.5
50
75
90
95
98 6.0
99
100 17.0
Beaver Hill Lake
Goose Lake
Bi - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Bi
25 2.5
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

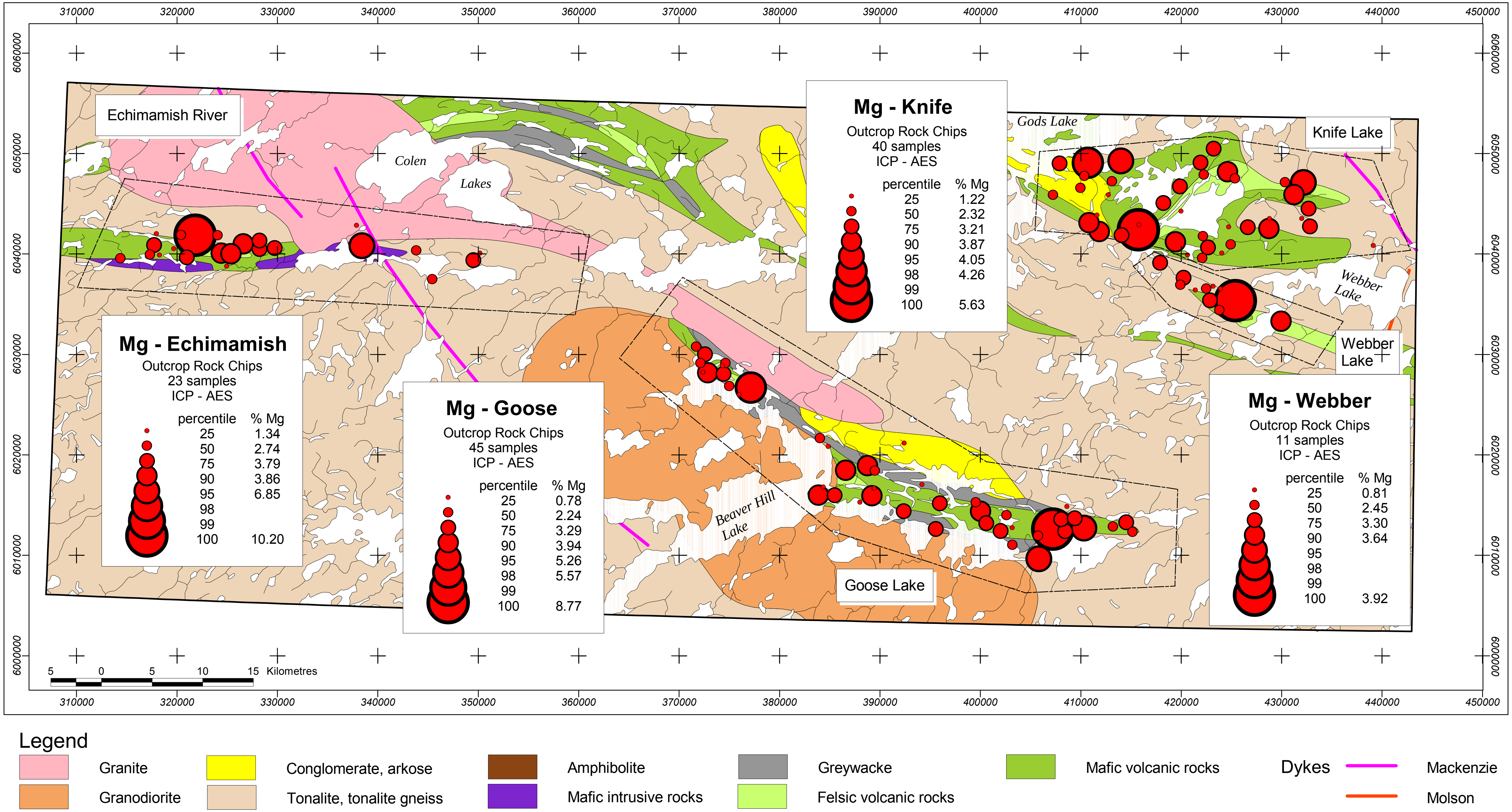


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
V - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile / ppm V
25 91
50 209
75 278
90 329
95 343
98 334
99
100 359
V - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile / ppm V
25 81
50 202
75 284
90 345
95 354
98
99
100 379
V - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile / ppm V
25 49
50 169
75 259
90 297
95 315
98 320
99
100 378
V - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile / ppm V
25 57
50 185
75 219
90 269
95
98
99
100 289
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

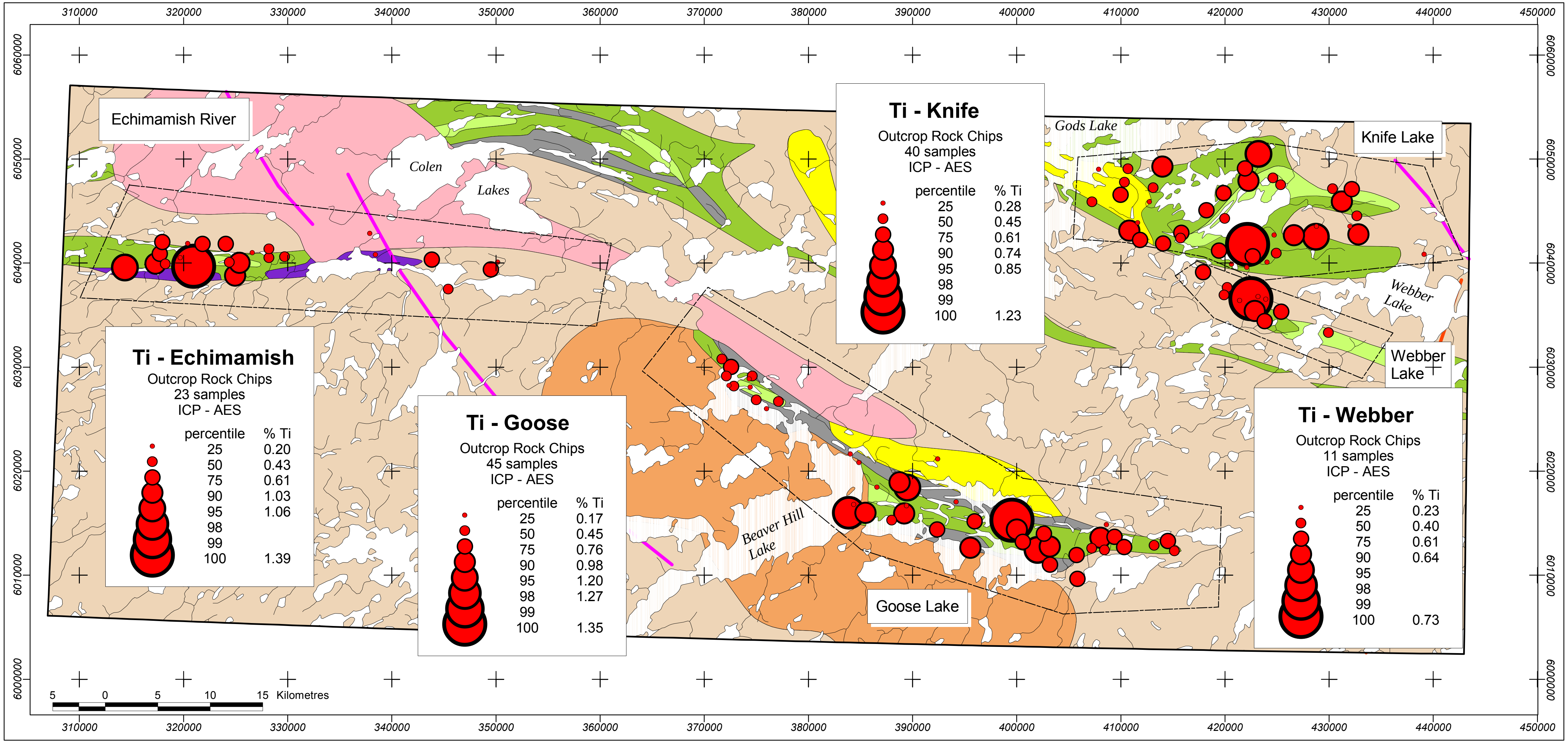


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile Ca
25 3.60
50 6.16
75 8.39
90 9.35
95 10.00
98
99
100 10.21
Ca - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile Ca
25 4.42
50 7.58
75 10.00
90 11.32
95 12.70
98
99
100 15.49
Ca - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile Ca
25 2.67
50 6.22
75 8.09
90 9.74
95 10.08
98 10.36
99
100 11.34
Ca - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile Ca
25 3.02
50 5.82
75 8.93
90 9.17
95
98
99
100 10.92
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
P - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile % P
25 0.020
50 0.027
75 0.053
90 0.164
95 0.177
98 0.203
99
100 0.219
P - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile % P
25 0.017
50 0.027
75 0.038
90 0.062
95 0.088
98
99
100 0.129
P - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile % P
25 0.011
50 0.030
75 0.048
90 0.070
95 0.128
98 0.166
99
100 0.199
P - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile % P
25 0.022
50 0.030
75 0.032
90 0.042
95
98
99
100 0.046
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

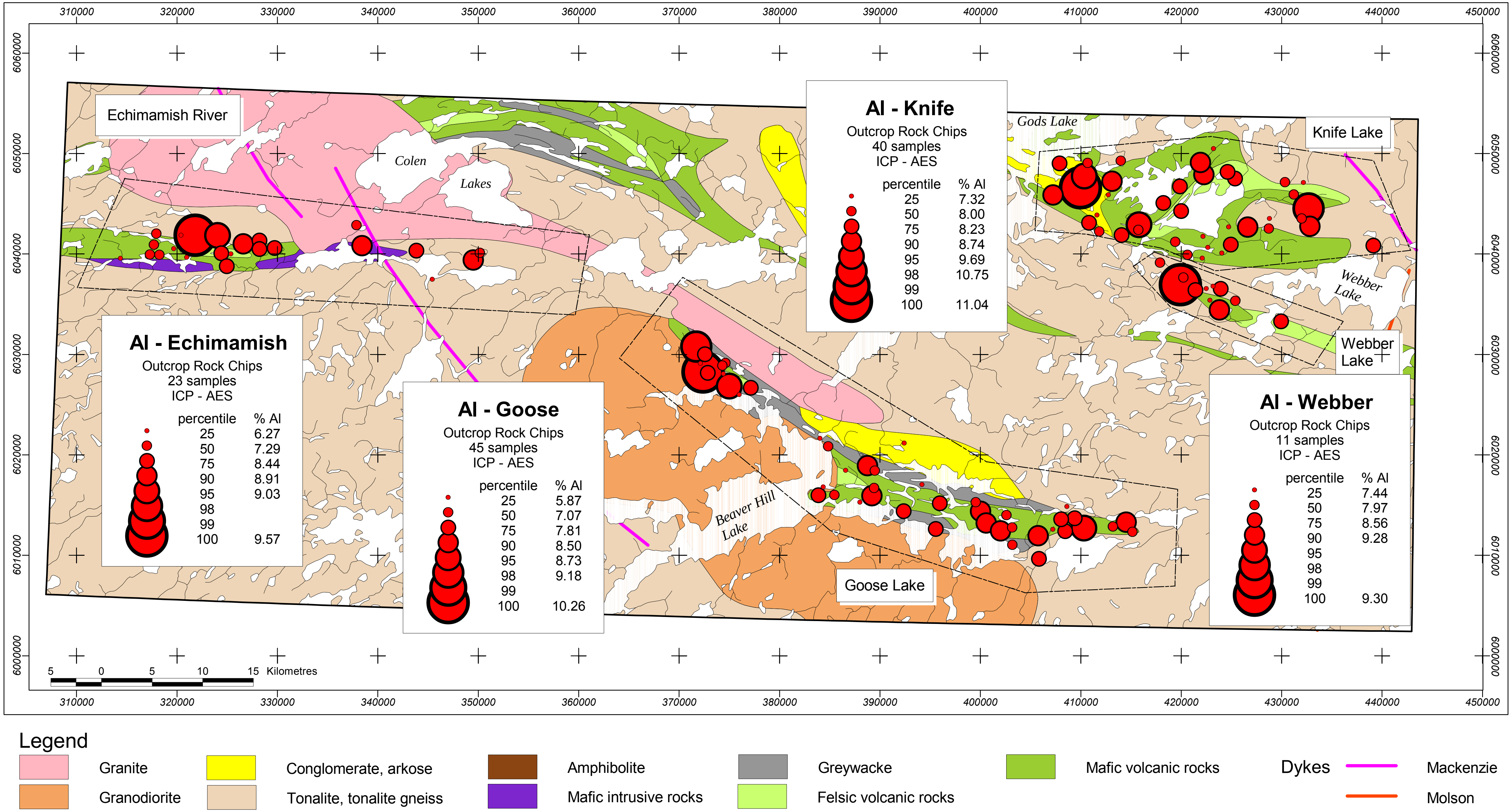


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mg - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile % Mg
25 1.22
50 2.32
75 3.21
90 3.87
95 4.05
98 4.26
99
100 5.63
Mg - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile % Mg
25 1.34
50 2.74
75 3.79
90 3.86
95 6.85
98
99
100 10.20
Mg - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile % Mg
25 0.78
50 2.24
75 3.29
90 3.94
95 5.26
98 5.57
99
100 8.77
Mg - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile % Mg
25 0.81
50 2.45
75 3.30
90 3.64
95
98
99
100 3.92
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

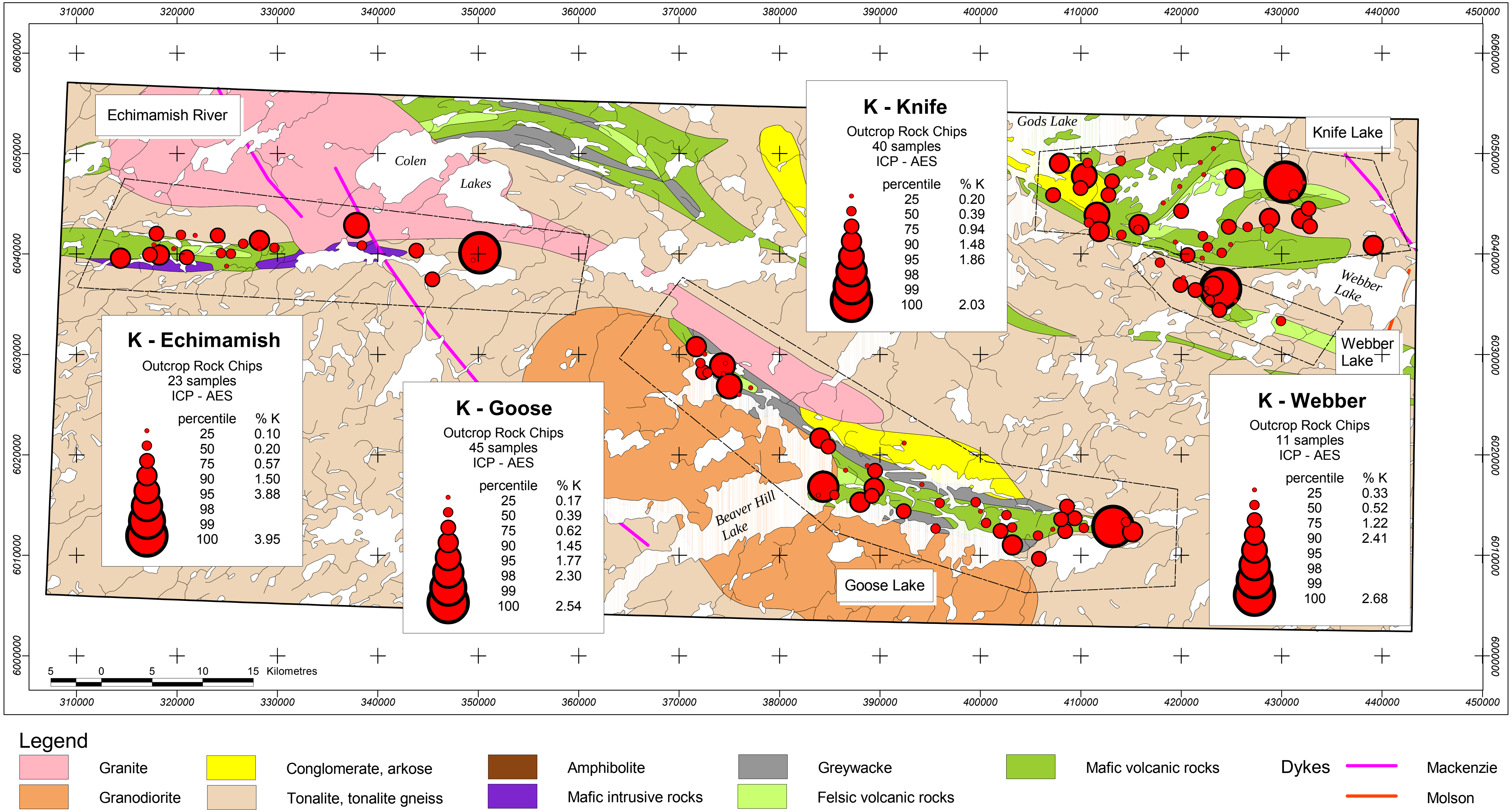


Legend

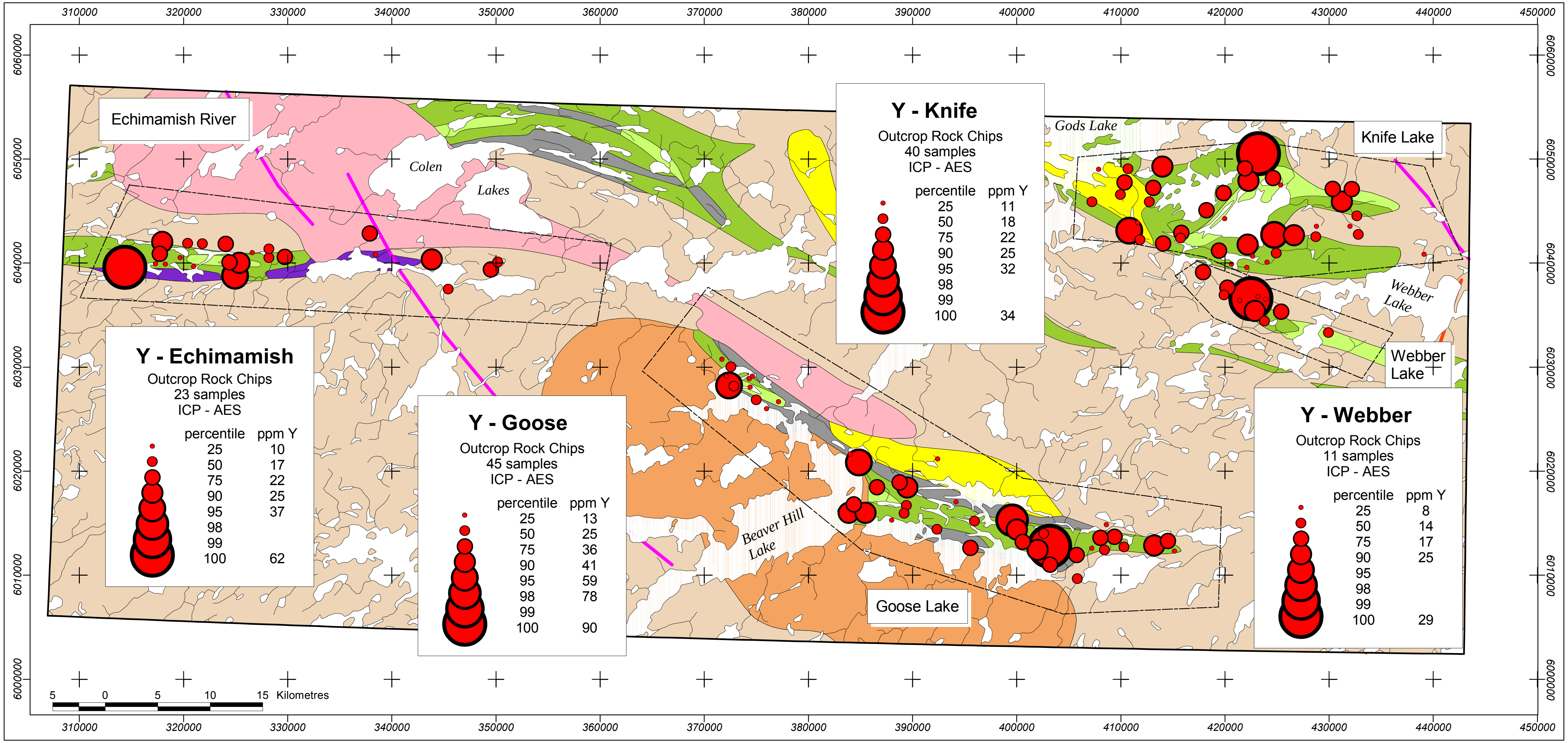
Granite	Conglomerate, arkose	Amphibolite	Greywacke	Mafic volcanic rocks	Dykes: Mackenzie
Granodiorite	Tonalite, tonalite gneiss	Mafic intrusive rocks	Felsic volcanic rocks		Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Al - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile % Al
25 7.32
50 8.00
75 8.23
90 8.74
95 9.69
98 10.75
99
100 11.04
Al - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile % Al
25 6.27
50 7.29
75 8.44
90 8.91
95 9.03
98
99
100 9.57
Al - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile % Al
25 5.87
50 7.07
75 7.81
90 8.50
95 8.73
98 9.18
99
100 10.26
Al - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile % Al
25 7.44
50 7.97
75 8.56
90 9.28
95
98
99
100 9.30
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

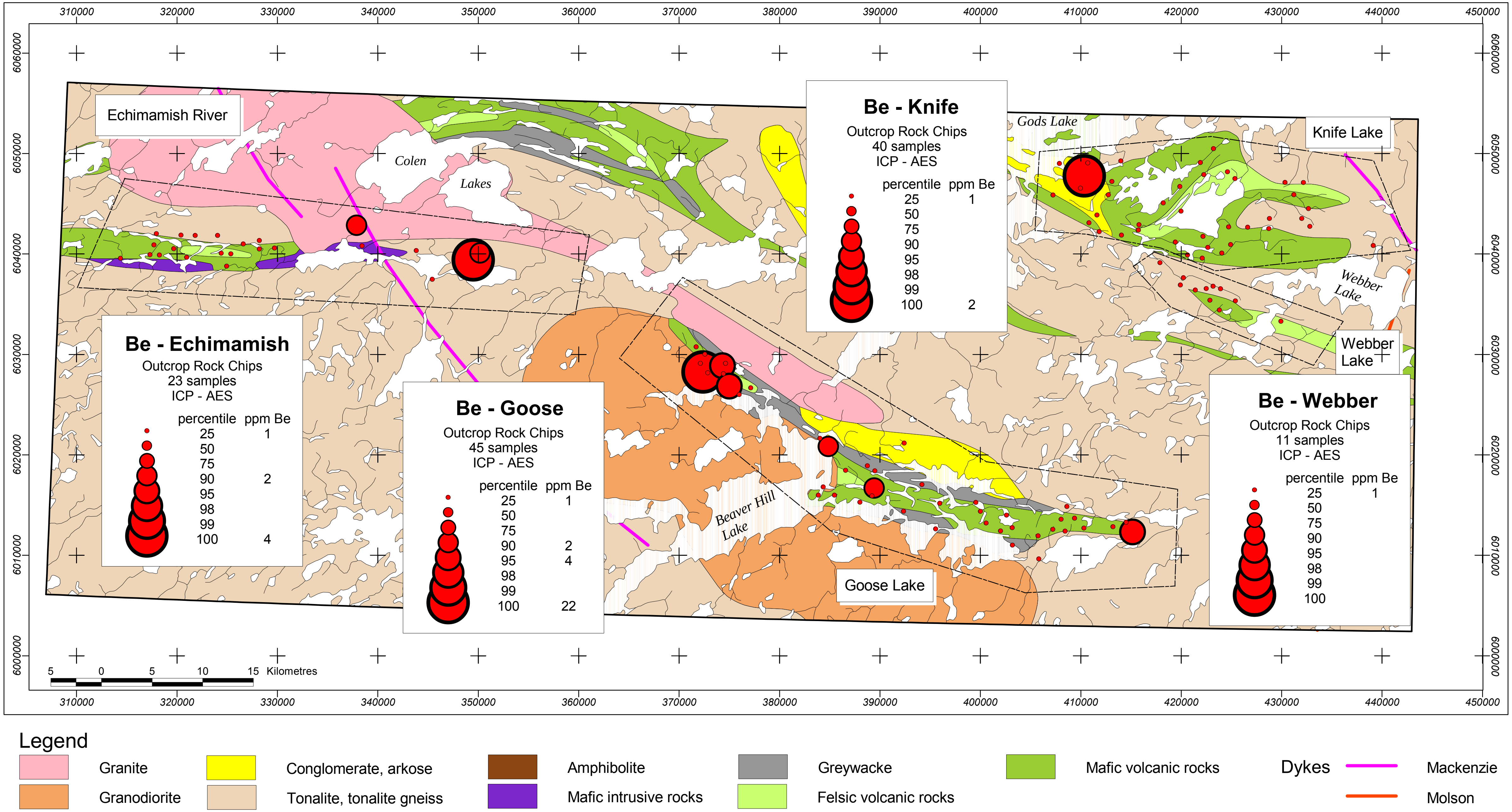


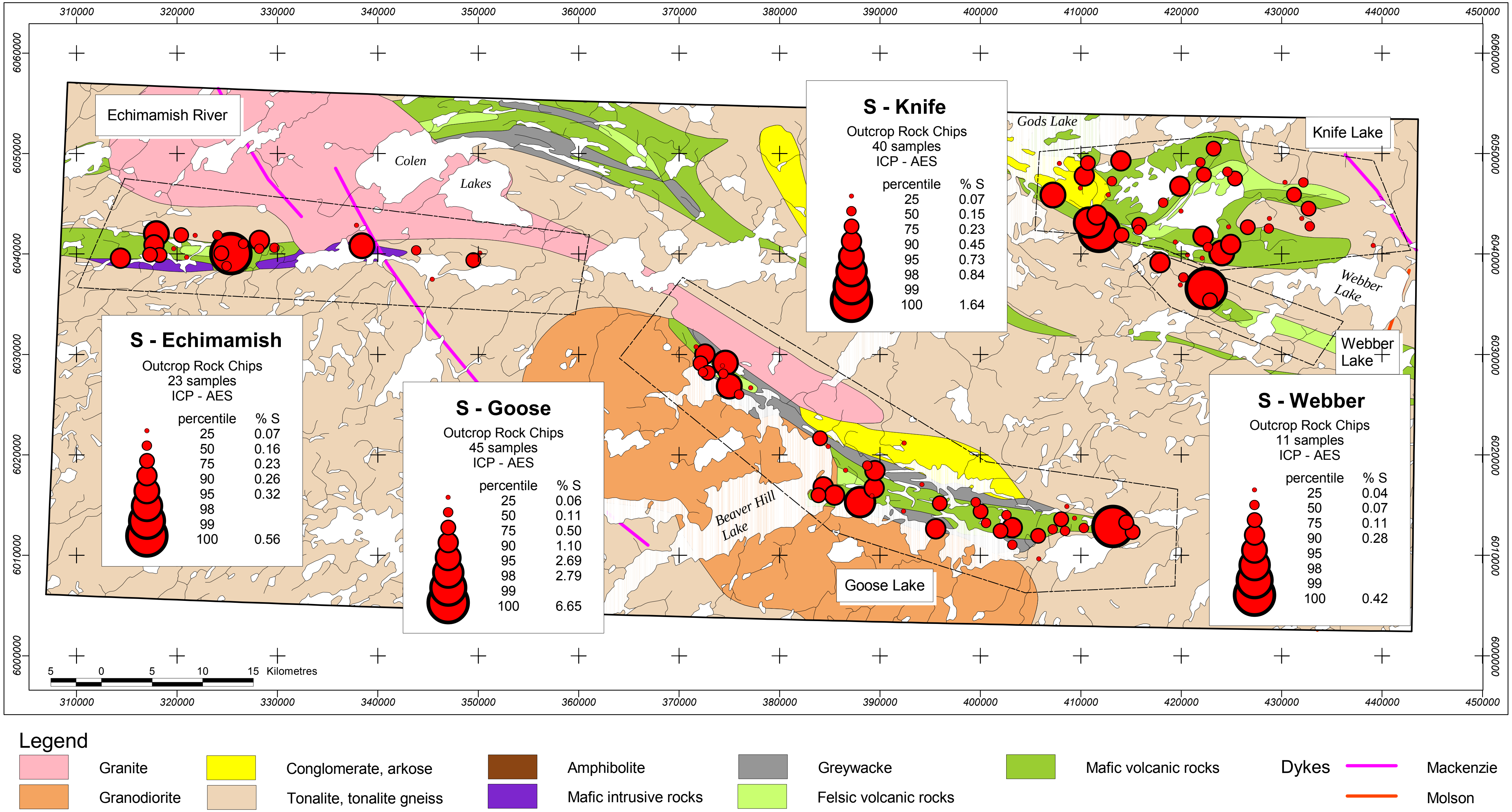
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
K - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile % K
25 0.20
50 0.39
75 0.94
90 1.48
95 1.86
98
99
100 2.03
K - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile % K
25 0.10
50 0.20
75 0.57
90 1.50
95 3.88
98
99
100 3.95
K - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile % K
25 0.17
50 0.39
75 0.62
90 1.45
95 1.77
98 2.30
99
100 2.54
K - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile % K
25 0.33
50 0.52
75 1.22
90 2.41
95
98
99
100 2.68
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



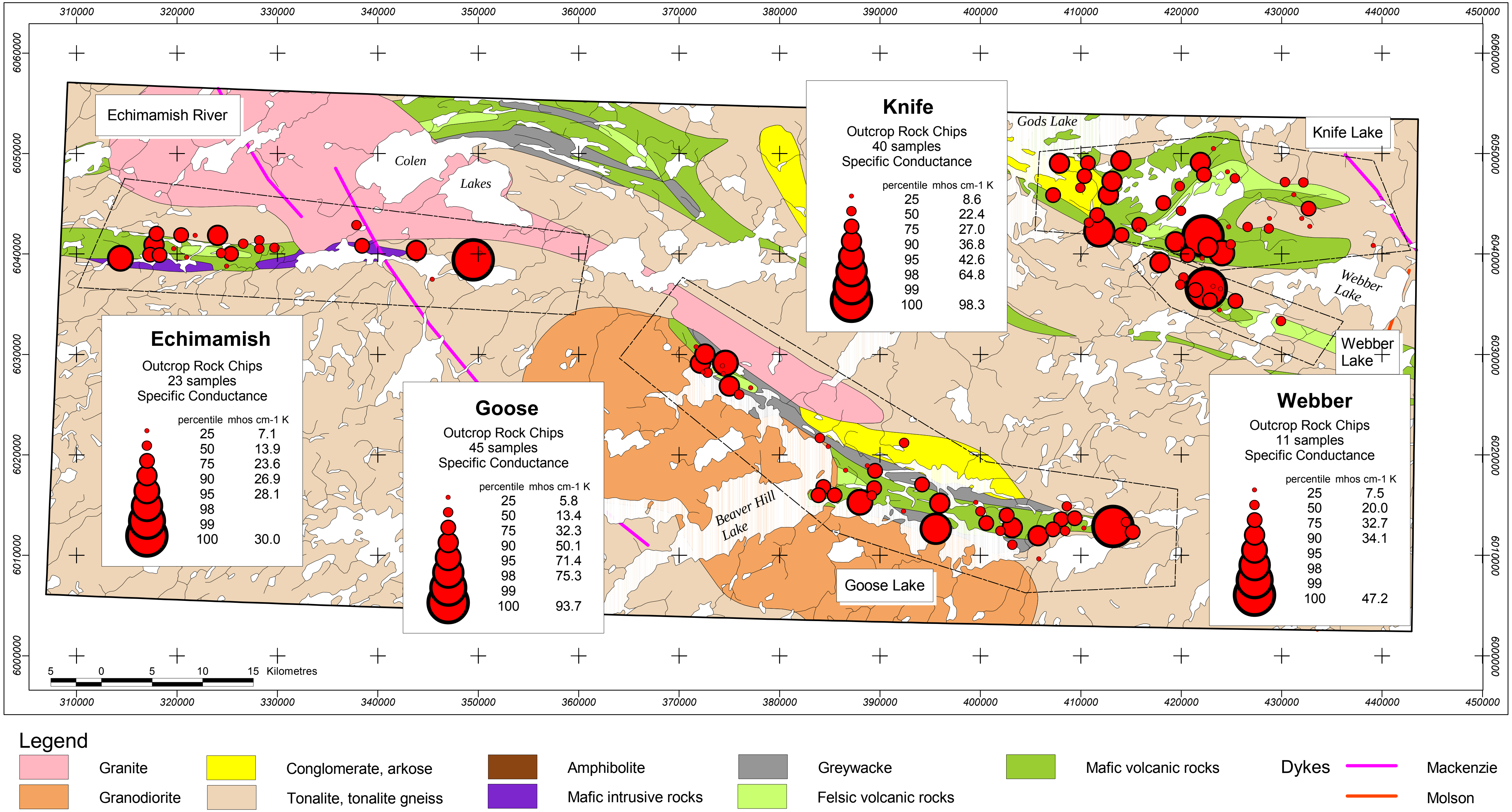
Legend

Granite		Conglomerate, arkose		Amphibolite		Greywacke		Mafic volcanic rocks	Dykes	Mackenzie
Granodiorite		Tonalite, tonalite gneiss		Mafic intrusive rocks		Felsic volcanic rocks				Molson

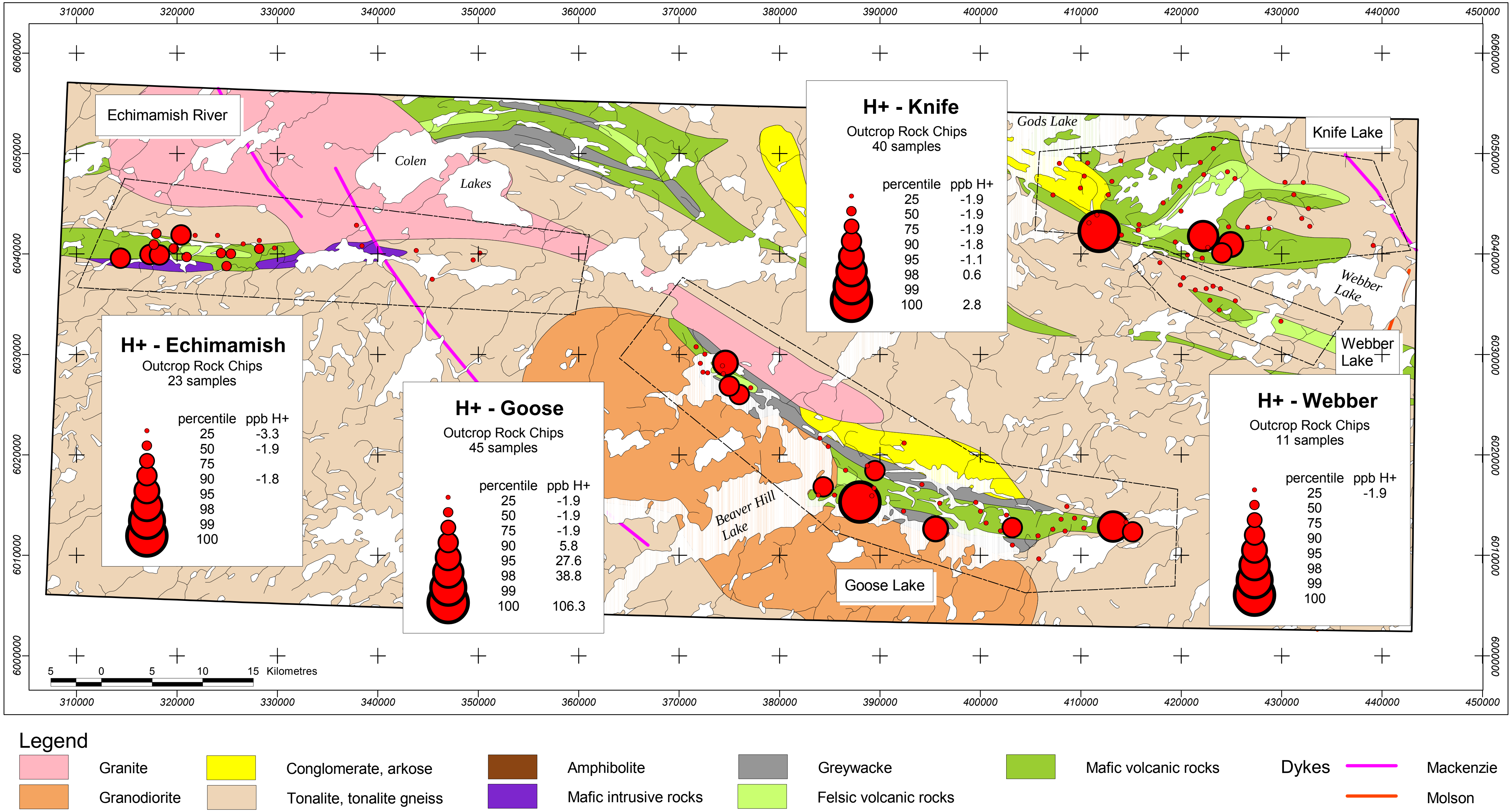

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Be - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile ppm Be
25 1
50
75
90
95
98
99
100 2
Be - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile ppm Be
25 1
50
75
90 2
95
98
99
100 4
Be - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile ppm Be
25 1
50
75
90 2
95 4
98
99
100 22
Be - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile ppm Be
25 1
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



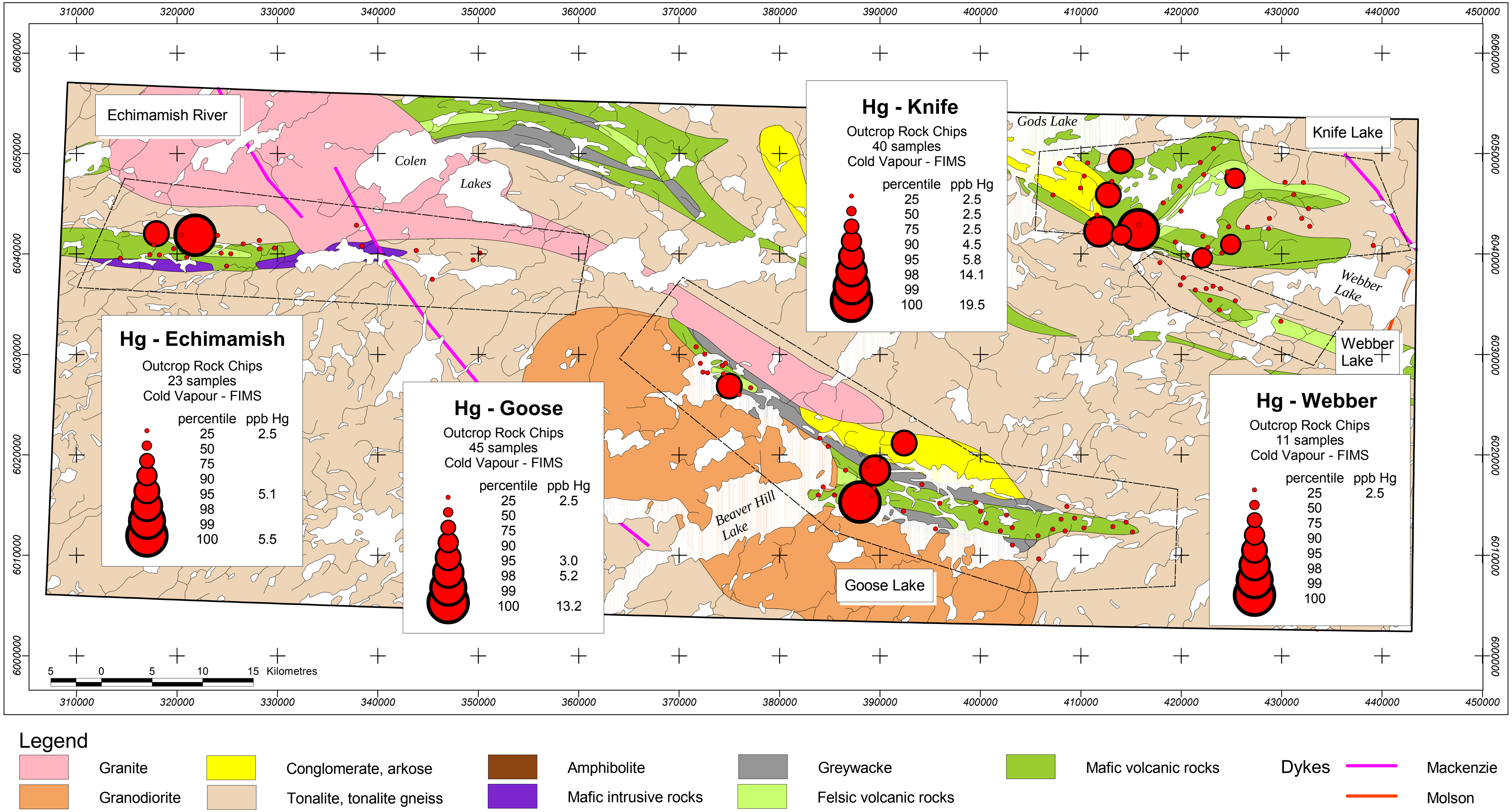
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
S - Echimamish
Outcrop Rock Chips
23 samples
ICP - AES
percentile % S
25 0.07
50 0.16
75 0.23
90 0.26
95 0.32
98
99
100 0.56
S - Goose
Outcrop Rock Chips
45 samples
ICP - AES
percentile % S
25 0.06
50 0.11
75 0.50
90 1.10
95 2.69
98 2.79
99
100 6.65
S - Knife
Outcrop Rock Chips
40 samples
ICP - AES
percentile % S
25 0.07
50 0.15
75 0.23
90 0.45
95 0.73
98 0.84
99
100 1.64
S - Webber
Outcrop Rock Chips
11 samples
ICP - AES
percentile % S
25 0.04
50 0.07
75 0.11
90 0.28
95
98
99
100 0.42
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Echimamish
Outcrop Rock Chips
23 samples
Specific Conductance
percentile mhos cm-1 K
25 7.1
50 13.9
75 23.6
90 26.9
95 28.1
98
99
100 30.0
Goose
Outcrop Rock Chips
45 samples
Specific Conductance
percentile mhos cm-1 K
25 5.8
50 13.4
75 32.3
90 50.1
95 71.4
98 75.3
99
100 93.7
Knife
Outcrop Rock Chips
40 samples
Specific Conductance
percentile mhos cm-1 K
25 8.6
50 22.4
75 27.0
90 36.8
95 42.6
98 64.8
99
100 98.3
Webber
Outcrop Rock Chips
11 samples
Specific Conductance
percentile mhos cm-1 K
25 7.5
50 20.0
75 32.7
90 34.1
95
98
99
100 47.2
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
H+ - Echimamish
Outcrop Rock Chips
23 samples
percentile ppb H+
25 -3.3
50 -1.9
75
90 -1.8
95
98
99
100
H+ - Goose
Outcrop Rock Chips
45 samples
percentile ppb H+
25 -1.9
50 -1.9
75 -1.9
90 5.8
95 27.6
98 38.8
99
100 106.3
H+ - Knife
Outcrop Rock Chips
40 samples
percentile ppb H+
25 -1.9
50 -1.9
75 -1.9
90 -1.8
95 -1.1
98 0.6
99
100 2.8
H+ - Webber
Outcrop Rock Chips
11 samples
percentile ppb H+
25 -1.9
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hg - Knife
Outcrop Rock Chips
40 samples
Cold Vapour - FIMS
percentile ppb Hg
25 2.5
50 2.5
75 2.5
90 4.5
95 5.8
98 14.1
99
100 19.5
Hg - Echimamish
Outcrop Rock Chips
23 samples
Cold Vapour - FIMS
percentile ppb Hg
25 2.5
50
75
90
95 5.1
98
99
100 5.5
Hg - Goose
Outcrop Rock Chips
45 samples
Cold Vapour - FIMS
percentile ppb Hg
25 2.5
50
75
90
95 3.0
98 5.2
99
100 13.2
Hg - Webber
Outcrop Rock Chips
11 samples
Cold Vapour - FIMS
percentile ppb Hg
25 2.5
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

Appendix 5

Rock Geochemistry: Instrumental Neutron Activation Analyses (INAA).

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98R-1	422175.00	6047885.00	1.0	2.5	0.25	25.0	0.25	9.0	70	191	0.5	8.33	2.0	0.5	2.5	0.5	0.31	120	8	0.05	43.4	1.5	0.005	0.025	1.30	0.1	1.70
98R-2	419789.00	6046717.00	1.0	2.5	1.60	25.0	0.25	5.0	62	273	0.5	7.28	0.5	0.5	2.5	0.5	2.95	110	8	0.30	48.6	1.5	0.010	0.025	0.25	0.1	0.25
98R-3	419903.00	6044273.00	1.0	2.5	9.70	170.0	0.25	2.0	48	43	2.0	1.41	4.0	0.5	2.5	0.5	3.77	16	8	0.70	11.4	1.5	0.005	0.025	0.25	2.4	0.25
98R-4-1	424854.00	6040934.00	1.0	2.5	0.25	70.0	0.25	3.0	44	58	0.5	4.93	4.0	0.5	2.5	4.0	2.12	16	8	0.05	15.4	1.5	0.005	0.025	2.10	2.0	0.25
98R-4-2	424854.00	6040934.00	1.0	2.5	0.25	360.0	0.25	4.0	48	67	0.5	4.55	4.0	0.5	2.5	3.0	2.71	17	8	0.05	14.8	1.5	0.005	0.025	2.30	2.2	0.25
98R-5	423967.00	6040083.00	4.0	2.5	1.40	230.0	0.25	5.0	57	2.5	3.0	3.69	3.0	0.5	2.5	0.5	2.18	15	8	0.80	4.9	1.5	0.005	0.025	1.50	8.5	0.25
98R-6	423110.50	6036780.50	1.0	2.5	4.90	640.0	0.25	1.0	27	7	3.0	1.14	4.0	0.5	2.5	0.5	3.38	13	117	0.20	2.0	1.5	0.005	0.025	1.30	12.6	3.00
98R-8	415727.00	6042908.00	1.0	2.5	0.25	270.0	0.25	5.0	44	46	0.5	4.39	6.0	0.5	2.5	0.5	2.65	15	8	0.30	16.0	1.5	0.005	0.025	1.60	2.3	0.80
98R-9	415673.00	6042377.00	1.0	2.5	2.60	65.0	0.25	9.0	67	508	0.5	8.72	1.0	0.5	2.5	0.5	1.18	160	8	1.00	45.1	1.5	0.005	0.025	0.25	0.1	0.25
98R-10	413976.00	6041879.00	10.0	2.5	69.60	71.0	0.25	7.0	65	165	0.5	9.24	2.0	0.5	2.5	0.5	2.04	80	8	32.70	48.7	1.5	0.010	0.050	0.25	0.9	0.25
98R-12	411756.00	6042217.00	1.0	2.5	374.00	280.0	0.25	6.0	77	521	5.0	9.66	2.0	0.5	2.5	0.5	1.16	177	54	0.30	37.6	5.0	0.005	0.025	0.80	1.5	1.20
98R-13	410273.00	6047753.00	2.0	2.5	0.25	910.0	0.25	3.0	37	89	5.0	4.58	6.0	0.5	2.5	0.5	3.98	17	72	0.50	11.9	1.5	0.005	0.140	0.25	20.1	6.10
98R-14	403125.44	6011007.50	1.0	2.5	16.60	300.0	0.25	6.0	59	9	4.0	12.60	5.0	0.5	2.5	0.5	1.75	19	47	1.30	38.2	1.5	0.005	0.025	1.30	6.5	2.00
98R-17	408555.38	6014841.50	1.0	2.5	3.30	140.0	16.50	1.0	75	30	3.0	2.08	2.0	0.5	2.5	0.5	0.80	11	33	0.20	7.2	1.5	0.005	0.025	2.70	3.7	1.20
98R-18	415078.09	6012325.00	9.0	2.5	27.70	310.0	0.25	3.0	46	171	66.0	11.90	2.0	0.5	2.5	0.5	1.34	62	126	1.60	13.0	1.5	0.005	0.025	1.50	5.7	1.00
98R-19	414432.16	6013288.00	1.0	2.5	18.70	220.0	5.60	6.0	48	124	0.5	11.80	3.0	0.5	2.5	4.0	2.42	47	27	3.50	38.3	1.5	0.005	0.025	1.20	2.9	0.80
98R-20	409312.34	6013691.50	1.0	2.5	14.40	110.0	0.25	5.0	76	2.5	0.5	11.30	5.0	0.5	2.5	0.5	2.73	20	8	4.30	43.4	1.5	0.005	0.025	0.25	6.4	0.25
98R-21	389429.00	6018411.00	1.0	2.5	2790.00	240.0	0.25	5.0	89	125	0.5	12.10	4.0	0.5	2.5	0.5	0.99	60	8	13.50	41.3	1.5	0.010	0.025	1.10	2.6	1.40
98R-22	389344.00	6016674.00	1.0	2.5	13300.00	780.0	0.25	2.0	37	2.5	0.5	4.08	12.0	0.5	2.5	0.5	3.17	10	8	11.60	3.6	1.5	0.005	0.025	2.30	25.8	0.25
98R-23	392288.00	6014396.00	7.0	2.5	2.10	210.0	6.20	6.0	73	52	2.0	10.40	4.0	0.5	2.5	0.5	3.13	152	8	0.05	20.2	1.5	0.005	0.025	2.00	3.5	0.25
98R-25	377057.00	6026670.00	1.0	2.5	2.00	25.0	1.90	10.0	55	173	8.0	5.66	1.0	0.5	2.5	3.0	0.95	130	8	0.70	36.0	1.5	0.005	0.025	-0.50	0.6	0.25
98R-26	374339.00	6028062.00	1.0	2.5	12.30	240.0	1.30	7.0	50	103	12.0	3.78	2.0	0.5	2.5	0.5	1.11	150	8	0.30	8.2	1.5	0.005	0.025	1.00	1.9	1.00
98R-27	375906.00	6025997.00	1.0	2.5	7.90	25.0	0.25	0.5	80	2.5	0.5	0.39	0.5	0.5	2.5	2.0	0.01	10	8	1.10	0.3	1.5	0.005	0.025	3.20	0.1	0.25
98R-28	374248.00	6028877.00	1.0	2.5	3.10	130.0	0.25	0.5	47	2.5	15.0	0.41	0.5	0.5	2.5	0.5	4.40	12	293	0.30	3.8	1.5	0.005	0.025	16.40	8.6	8.30
98R-29	374547.00	6029138.00	4.0	2.5	1.30	25.0	6.00	9.0	153	165	0.5	8.81	0.5	0.5	2.5	4.0	0.25	156	8	0.70	20.0	1.5	0.005	0.025	1.50	2.1	0.25
98R-30	374926.00	6026839.00	18.0	2.5	369.00	210.0	0.25	3.0	61	146	14.0	6.48	4.0	0.5	2.5	0.5	2.99	100	99	0.40	16.5	1.5	0.005	0.025	1.80	17.1	7.20
98R-31	372780.00	6028156.00	11.0	2.5	8.60	160.0	1.30	8.0	69	38	2.0	8.48	2.0	0.5	2.5	0.5	1.57	105	8	0.30	45.0	1.5	0.005	0.025	0.25	1.5	0.25
98R-32	372307.00	6028232.00	1.0	2.5	1.50	70.0	0.25	3.0	42	2.5	2.0	0.67	5.0	0.5	2.5	376.0	4.22	12	8	0.05	11.8	1.5	0.005	0.025	18.70	8.1	4.90
98R-33	372056.00	6029102.00	75.0	2.5	550.00	25.0	1.20	4.0	84	28	2.0	4.22	0.5	0.5	2.5	0.5	0.83	13	8	0.05	19.3	1.5	0.005	0.025	1.50	0.9	0.25
98R-34	372498.00	6030016.00	24.0	2.5	0.25	25.0	2.30	9.0	57	21	0.5	9.67	2.0	0.5	2.5	0.5	0.27	16	8	0.30	42.0	1.5	0.005	0.025	0.50	0.7	0.80
98R-36	371637.00	6030765.00	1.0	2.5	0.25	250.0	0.25	4.0	33	23	0.5	2.97	4.0	0.5	2.5	0.5	3.02	13	8	0.05	10.9	1.5	0.005	0.025	1.40	8.9	3.60
98R-39	319606.97	6040534.00	1.0	2.5	0.25	25.0	1.30	0.5	60	11	0.5	0.59	0.5	0.5	2.5	0.5	0.08	10	8	0.05	1.5	1.5	0.005	0.025	1.40	0.1	0.25
98R-40	317629.00	6040882.50	1.0	2.5	0.25	25.0	0.25	8.0	59	37	0.5	10.10	2.0	0.5	2.5	0.5	2.10	19	8	0.05	46.7	1.5	0.005	0.025	0.25	1.6	0.25
98R-41	317884.00	6042024.50	199.0	2.5	3.00	230.0	0.25	7.0	67	140	0.5	8.94	2.0	0.5	2.5	4.0	2.55	76	8	0.40	45.2	1.5	0.005	0.025	0.25	0.6	0.25
98R-42	320886.94	6039672.00	1.0	2.5	0.70	150.0	0.25	6.0	77	2.5	1.0	14.20	2.0	0.5	2.5	0.5	1.72	14	8	0.20	32.8	1.5	0.005	0.025	1.10	1.4	0.25
98R-44	320323.97	6041882.00	2.0	2.5	2.70	25.0	1.20	3.0	29	30	0.5	18.20	2.0	0.5	2.5	0.5	0.08	68	8	0.80	5.3	1.5	0.005	0.025	1.00	4.2	2.20
98R-45	324338.88	6040074.00	4.0	2.5	0.25	25.0	0.25	6.0	60	188	0.5	9.81	1.0	0.5	2.5	0.5	1.41	52	8	0.05	40.4	1.5	0.005	0.025	0.25	0.7	0.25
98R-46	324880.84	6038786.00	3.0	2.5	1.50	25.0	0.25	12.0	53	99	0.5	9.21	3.0	0.5	2.5	0.5	1.20	41	8	0.30	40.3	1.5	0.005	0.025	1.00	0.6	1.60
98R-47	325306.88	6039999.00	1.0	2.5	4.80	150.0	0.25	7.0	57	69	2.0	9.44	3.0	0.5	2.5	4.0	1.98	17	8	0.05	39.6	1.5	0.005	0.025	0.25	1.7	1.80
98R-48	328136.84	6040488.00	1.0	2.5	2.30	25.0	4.00	11.0	65	200	0.5	8.18	1.0	0.5	2.5	19.0	0.50	70	8	0.05	41.4	1.5	0.005	0.025	0.25	0.1	0.25
98R-49	314291.00	6039571.50	1.0	2.5	0.25	250.0	4.50	7.0	53	2.5	1.0	9.40	6.0	0.5	2.5	2.0	1.56	20	42	0.20	32.7	1.5	0.010	0.025	0.25	2.3	0.25
98R-50	317241.97	6039935.50	514.0	2.5	0.70	190.0	1.00	8.0	59	33	1.0	13.90	2.0	0.5	2.5	0.5	2.15	20	33	0.30	26.8	1.5	0.005	0.025	0.25	1.2	0.25
98R-51	318170.97	6039892.50	1.0	2.5	0.25	180.0	2.10	3.0	46	27	2.0	2.95	4.0	0.5	2.5	0.5	2.09	15	65	0.20	8.2	1.5	0.005	0.025	2.40	9.4	2.50
98R-52	424658.00	6042698.00	1.0	2.5	0.25	270.0	0.25	3.0	38	2.5	1.0	1.76	5.0	0.5	2.5	0.5	3.34	17	41	0.20	6.5	1.5	0.005	0.025	0.25	6.6	1.70
98R-54	422577.00	6040642.00	1.0	2.5	26.30	100.0	0.25	7.0	59	306	0.5	10.40	2.0	0.5	2.5	0.5	1.87	125	32	0.05	41.0	1.5	0.010	0.025	0.25	0.2	0.25

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98R-55	426549.00	6042653.00	1.0	2.5	0.25	25.0	0.25	7.0	58	101	1.0	10.10	2.0	0.5	2.5	0.5	1.82	79	8	0.05	44.7	1.5	0.005	0.025	0.25	0.8	0.60
98R-58-1	422017.59	6039578.50	1.0	2.5	1.60	150.0	0.25	7.0	45	133	0.5	16.10	1.0	0.5	2.5	4.0	0.76	65	8	0.05	39.4	1.5	0.005	0.025	0.25	0.1	0.25
98R-58-2	422017.59	6039578.50	1.0	2.5	0.25	50.0	0.25	1.0	65	10	0.5	1.46	0.5	0.5	2.5	3.0	0.08	10	8	0.05	3.8	1.5	0.005	0.025	2.30	0.1	0.25
98R-59	420543.00	6039880.00	1.0	2.5	2.90	280.0	3.80	2.0	62	7	0.5	1.12	1.0	0.5	2.5	0.5	4.76	19	8	0.05	2.0	1.5	0.010	0.025	3.50	2.5	0.25
98R-60	419349.00	6041198.00	1.0	2.5	0.25	25.0	0.25	7.0	52	174	0.5	9.36	1.0	0.5	2.5	3.0	2.40	102	8	0.05	41.5	1.5	0.005	0.025	0.25	0.1	0.25
98R-61	428648.00	6042511.00	1.0	2.5	6.80	25.0	2.30	8.0	64	139	0.5	10.40	1.0	0.5	2.5	0.5	1.52	100	8	0.05	45.4	1.5	0.005	0.025	0.25	0.1	0.25
98R-62	428719.00	6043536.00	11.0	2.5	0.25	330.0	0.25	2.0	37	7	3.0	2.22	4.0	0.5	2.5	0.5	3.42	11	65	0.05	5.0	1.5	0.005	0.025	0.25	4.9	1.30
98R-64	430255.00	6047124.00	1.0	2.5	1.60	450.0	5.80	6.0	54	64	2.0	6.52	4.0	0.5	2.5	0.5	1.86	13	48	0.05	22.5	1.5	0.005	0.025	0.25	1.9	0.25
98R-66-1	425278.00	6047515.00	1.0	2.5	0.25	510.0	0.25	2.0	30	6	2.0	1.21	2.0	0.5	2.5	0.5	4.44	12	44	0.05	2.8	1.5	0.005	0.025	0.25	2.5	1.30
98R-66-2	425278.00	6047515.00	1.0	2.5	0.25	100.0	0.25	6.0	60	266	0.5	8.31	3.0	0.5	2.5	0.5	2.27	119	8	0.05	30.7	1.5	0.005	0.025	0.25	1.1	0.25
98R-67	424531.00	6048166.00	1.0	2.5	0.25	25.0	0.25	9.0	65	49	0.5	9.24	2.0	0.5	2.5	0.5	0.05	58	15	0.05	48.5	1.5	0.005	0.090	0.90	2.0	0.25
98R-68	423147.00	6050489.00	1.0	2.5	0.25	25.0	0.25	7.0	71	27	0.5	13.00	3.0	0.5	2.5	0.5	2.52	54	8	0.05	51.4	1.5	0.005	0.025	0.25	0.1	0.25
98R-69	421846.00	6049098.00	1.0	2.5	2.50	120.0	0.25	8.0	68	280	0.5	8.75	2.0	0.5	2.5	0.5	1.07	100	8	0.05	49.9	1.5	0.005	0.025	0.25	0.5	0.25
98R-71	412676.00	6045877.00	1.0	2.5	5.70	240.0	0.25	3.0	42	58	1.0	2.42	3.0	0.5	2.5	0.5	3.29	12	8	1.10	8.9	1.5	0.005	0.025	1.20	7.3	1.10
98R-72	413024.00	6047216.00	19.0	2.5	3.30	220.0	0.25	4.0	55	149	3.0	8.75	3.0	0.5	2.5	0.5	1.19	80	36	0.80	37.0	1.5	0.005	0.025	0.25	1.3	0.25
98R-73	411549.00	6043862.00	1.0	2.5	47.20	440.0	0.25	2.0	38	13	4.0	4.43	3.0	0.5	2.5	0.5	1.07	10	103	1.40	4.5	1.5	0.005	0.025	1.40	4.0	0.90
98R-75	422108.00	6041765.00	1.0	2.5	2.30	56.0	0.25	6.0	85	32	0.5	15.80	3.0	0.5	2.5	0.5	2.46	51	8	0.05	27.9	1.5	0.005	0.025	0.90	0.7	0.25
98R-77	432746.00	6042736.00	1.0	2.5	0.25	200.0	0.25	6.0	56	47	0.5	8.21	2.0	0.5	2.5	0.5	2.10	13	25	0.05	22.9	1.5	0.005	0.025	0.25	2.6	0.25
98R-78	431930.00	6043534.00	1.0	2.5	0.25	360.0	0.25	2.0	59	2.5	1.0	1.88	3.0	0.5	2.5	0.5	2.97	10	43	0.05	3.9	1.5	0.005	0.025	2.00	3.5	0.25
98R-79	432599.00	6044519.00	2.0	2.5	0.25	150.0	0.25	8.0	69	378	0.5	6.50	0.5	0.5	2.5	0.5	1.94	218	40	0.20	37.5	1.5	0.005	0.025	0.25	0.4	0.25
98R-81	432096.00	6047105.00	2.0	2.5	1.00	25.0	0.25	8.0	79	126	2.0	9.24	2.0	0.5	2.5	0.5	1.28	105	8	0.05	34.0	1.5	0.005	0.025	0.25	0.1	0.25
98R-82	431155.00	6045908.00	1.0	2.5	0.25	25.0	0.25	7.0	64	146	0.5	10.30	2.0	0.5	2.5	3.0	1.30	88	8	0.05	40.0	1.5	0.005	0.025	0.25	0.1	0.25
98R-91	439048.03	6040825.50	2.0	2.5	0.90	380.0	2.30	1.0	39	2.5	0.5	1.00	2.0	0.5	2.5	0.5	3.84	10	40	0.05	2.0	1.5	0.005	0.060	0.25	1.3	0.25
98R-93	410621.00	6049058.00	2.0	2.5	4.00	80.0	0.25	5.0	50	184	0.5	7.52	1.0	0.5	2.5	0.5	0.96	15	20	0.40	41.7	1.5	0.005	0.025	0.25	0.9	0.25
98R-94	413909.00	6049263.00	1.0	2.5	4.50	180.0	0.25	6.0	53	63	0.5	9.54	1.0	0.5	2.5	0.5	1.60	102	35	0.05	42.4	1.5	0.005	0.025	0.25	0.1	0.25
98R-95	407798.00	6049007.00	6.0	2.5	1.00	490.0	0.25	4.0	35	240	2.0	4.24	2.0	0.5	2.5	0.5	2.71	80	39	0.90	16.1	1.5	0.005	0.060	0.25	5.7	0.25
98R-96	409899.00	6046556.00	1.0	2.5	2.50	510.0	0.25	5.0	54	106	2.0	7.33	3.0	0.5	2.5	0.5	2.89	114	8	0.05	24.7	1.5	0.005	0.090	0.25	6.9	2.50
98R-97	418140.00	6045082.00	6.0	2.5	3.70	70.0	0.25	6.0	62	242	0.5	6.84	2.0	0.5	2.5	0.5	2.42	119	8	0.05	45.2	1.5	0.005	0.025	0.25	0.1	0.25
98R-99	429858.16	6033292.50	1.0	2.5	3.50	82.0	0.25	8.0	57	222	0.5	7.55	2.0	0.5	2.5	0.5	1.05	77	8	0.05	37.8	1.5	0.005	0.025	0.25	1.4	1.20
98R-103	425307.38	6035317.50	1.0	2.5	26.40	25.0	0.25	8.0	64	178	0.5	9.83	0.5	0.5	2.5	0.5	1.91	75	8	0.70	47.0	1.5	0.005	0.070	0.25	0.1	0.25
98R-104	423848.47	6036518.50	5.0	2.5	1.30	860.0	0.25	1.0	39	2.5	4.0	1.05	4.0	0.5	2.5	0.5	3.45	11	132	0.05	2.1	1.5	0.005	0.025	0.25	12.7	2.40
98R-105	421335.53	6036410.50	1.0	2.5	2.30	210.0	0.25	2.0	35	11	2.0	2.50	3.0	0.5	2.5	0.5	3.20	11	41	0.20	7.0	1.5	0.005	0.025	1.40	3.0	0.25
98R-107	420147.63	6037637.50	1.0	2.5	5.90	130.0	0.25	7.0	59	241	0.5	6.84	2.0	0.5	2.5	0.5	1.36	66	8	0.70	33.7	1.5	0.005	0.025	1.60	2.1	1.10
98R-109	423732.41	6034418.50	1.0	2.5	1.10	160.0	0.25	4.0	62	44	0.5	6.38	2.0	0.5	2.5	64.0	2.74	56	41	0.05	19.6	1.5	0.005	0.025	1.80	0.5	0.25
98R-111	422790.47	6035391.50	1.0	2.5	0.25	180.0	0.25	4.0	50	57	0.5	6.97	2.0	0.5	2.5	0.5	0.64	13	18	0.30	35.2	1.5	0.005	0.025	0.60	1.3	0.25
98R-112	422413.50	6036539.50	1.0	2.5	7.80	25.0	0.25	8.0	56	143	0.5	9.36	2.0	0.5	2.5	0.5	1.48	76	8	0.05	37.5	1.5	0.005	0.025	1.00	0.9	0.25
98R-113	419846.59	6036918.50	1.0	2.5	1.50	220.0	0.25	4.0	52	12	1.0	3.42	4.0	0.5	2.5	1.0	3.36	12	8	0.05	11.4	1.5	0.005	0.025	1.60	1.7	0.90
98R-116	417811.72	6039129.50	2.0	2.5	40.40	170.0	0.25	5.0	43	119	0.5	7.25	2.0	0.5	2.5	0.5	2.07	58	36	0.05	33.7	1.5	0.005	0.025	0.80	2.2	0.25
98R-121	407150.00	6045862.00	1.0	2.5	1.50	350.0	5.70	4.0	55	52	0.5	5.52	2.0	0.5	2.5	0.5	2.50	13	23	0.05	25.6	1.5	0.005	0.025	0.25	2.6	0.25
98R-123	410744.00	6043110.00	10.0	2.5	19.10	76.0	0.25	7.0	76	114	2.0	9.25	2.0	0.5	2.5	0.5	2.12	79	8	1.30	42.6	1.5	0.005	0.025	0.25	0.1	0.25
98R-126-1	413132.19	6012836.00	8.0	2.5	4.70	390.0	2.20	0.5	111	113	3.0	18.80	4.0	0.5	2.5	2.0	0.62	230	115	0.60	7.6	3.0	0.005	0.025	1.40	7.3	2.20
98R-126-2	413132.19	6012836.00	1.0	2.5	1.50	25.0	0.25	3.0	79	104	0.5	16.60	2.0	0.5	2.5	2.0	0.29	43	8	1.00	9.2	1.5	0.005	0.025	1.10	4.5	0.90
98R-126-3	413132.19	6012836.00	1.0	2.5	2.40	25.0	2.00	0.5	92	5	0.5	1.75	0.5	0.5	2.5	0.5	0.06	45	8	0.30	0.6	1.5	0.005	0.025	1.30	0.2	0.25
98R-126-4	413132.19	6012836.00	1.0	2.5	4.60	25.0	1.60	4.0	53	9	0.5	8.94	0.5	0.5	2.5	0.5	0.07	66	8	0.80	1.4	1.5	0.005	0.025	1.20	0.4	0.25
98R-131	410227.28	6012701.50	1.0	2.5	6.20	25.0	0.25	7.0	70	168	0.5	9.71	2.0	0.5	2.5	0.5	1.50	245	8	0.60	31.4	1.5	0.005	0.025	0.25	1.2	0.25
98R-132	407970.38	6013576.50	1.0	2.5	0.25	170.0	0.25	6.0	56	123	0.5	10.30	3.0	0.5	2.5	0.5	2.30	48	8	2.80	38.3	1.5	0.005	0.025	1.50	2.6	0.25
98R-133	407131.38	6012572.50	1.0	2.5	20.00	76.0	0.25	6.0	92	627	1.0	11.30	1.0	0.5	2.5	0.5	0.32	325	8	1.40	43.2	1.5	0.005	0.025	0.25	0.1	0.25
98R-135	408359.31	6012394.50	1.0	2.5	35.80	170.0	3.00	6.0	58	89	4.0	6.82	3.0	0.5	2.5	0.5	1.77	54	8	2.70	29.4	1.5	0.005	0.025	0.70	4.0	0.25
98R-136	405675.38	6011926.50	1.0	2.5	10.10	100.0	0.25	8.0	70	199	0.5	8.60	2.0	0.5	2.5	0.5	2.11	105	8	8.00	34.9	1.5	0.005	0.025	1.10	2.4	0.25
98R-139	402538.53	6013989.50	1.0	2.5	2.20	25.0	0.25	6.0	65	11	0.5	8.52	2.0	0.5	2.5	0.5	2.01	11	8	1.10	16.1	1.5	0.005	0.060	1.20	3.1	0.25
98R-140	399933.00	6014368.00	1.0	2.5	0.25	25.0	0.25	4.0	62	118	0.5	12.20	3.0	0.5	2.5	0.5	2.08	60	8	1.20	45.1	1.5	0.005	0.025	0.25	1.8	0.25
98R-141	395466.00	6012618.00	1.0	2.5	4.20	130.0	3.30	6.0	115	161	0.5	11.30	2.0	0.5	2.5	0.5	2.12	59	8	3.80	39.8	1.5	0.005	0.025	0.25	1.6	1.10

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98R-146	392335.00	6021175.00	59.0	2.5	3.00	25.0	0.25	1.0	62	36	0.5	1.09	0.5	0.5	2.5	0.5	0.22	10	8	0.05	4.7	1.5	0.005	0.025	1.60	0.3	0.25
98R-148	403100.47	6012742.50	1.0	2.5	3.00	220.0	0.25	1.0	129	2.5	0.5	9.10	7.0	0.5	2.5	8.0	2.87	14	8	0.60	27.0	1.5	0.005	0.025	1.60	5.0	1.00
98R-149	401935.00	6012422.00	1.0	2.5	1.20	160.0	5.50	6.0	53	61	0.5	10.70	3.0	0.5	2.5	0.5	2.08	47	8	1.10	39.6	1.5	0.005	0.025	0.70	2.2	0.25
98R-150	400497.00	6013199.00	1.0	2.5	3.90	25.0	2.50	7.0	69	218	0.5	9.65	2.0	0.5	2.5	0.5	2.39	69	8	0.60	41.6	1.5	0.005	0.025	0.25	1.0	0.25
98R-151	399476.00	6015250.00	3.0	2.5	2.00	150.0	0.25	4.0	48	2.5	1.0	12.70	6.0	0.5	2.5	1.0	1.37	13	8	1.70	32.5	1.5	0.005	0.025	1.30	4.4	0.25
98R-152	395886.00	6015171.00	1.0	2.5	4.60	100.0	0.25	9.0	58	191	1.0	9.74	1.0	0.5	2.5	0.5	1.07	145	27	1.80	37.8	1.5	0.005	0.025	0.25	1.0	0.25
98R-153	394104.00	6017050.00	1.0	2.5	1.30	25.0	7.90	0.5	55	2.5	0.5	0.13	0.5	0.5	2.5	0.5	0.01	10	8	1.00	0.6	1.5	0.005	0.025	1.60	0.1	0.25
98R-157	405746.31	6009647.50	4.0	2.5	41.20	150.0	0.25	7.0	77	318	306.0	11.40	0.5	0.5	2.5	0.5	0.96	167	330	6.20	44.3	1.5	0.005	0.025	0.25	0.7	0.25
98R-163	388677.00	6018912.00	1.0	2.5	72.10	25.0	2.30	5.0	61	112	0.5	10.00	3.0	0.5	2.5	0.5	2.39	97	8	6.10	38.7	1.5	0.005	0.025	0.25	1.6	0.25
98R-164	386509.00	6018460.00	1.0	2.5	7.10	25.0	0.25	3.0	27	13	0.5	36.30	0.5	0.5	2.5	0.5	0.09	12	8	0.70	5.5	1.5	0.005	0.025	0.25	0.1	0.25
98R-165	383945.00	6021656.00	8.0	2.5	148.00	260.0	11.40	2.0	33	128	27.0	1.77	0.5	0.5	2.5	0.5	0.70	10	123	3.40	6.8	1.5	0.005	0.025	0.70	7.5	1.90
98R-167	384775.00	6020830.00	1.0	2.5	1.20	100.0	0.25	1.0	25	2.5	7.0	1.19	5.0	0.5	2.5	0.5	2.84	12	8	0.05	1.1	1.5	0.005	0.025	2.90	20.6	9.40
98R-168	389115.00	6015922.00	2.0	2.5	15.50	150.0	4.20	7.0	47	229	9.0	9.05	2.0	0.5	2.5	0.5	1.78	158	59	0.80	30.9	1.5	0.005	0.025	0.25	1.0	0.25
98R-170	384273.00	6016794.00	1.0	2.5	9.70	500.0	0.25	1.0	27	2.5	1.0	2.90	7.0	0.5	2.5	2.0	1.43	11	49	3.00	10.5	1.5	0.005	0.025	2.30	14.9	4.10
98R-171	383788.00	6015968.00	1.0	2.5	2.70	25.0	0.25	4.0	49	140	2.0	10.40	4.0	0.5	2.5	0.5	2.07	85	8	0.40	37.1	1.5	0.005	0.025	1.20	2.0	0.25
98R-172	385394.00	6015986.00	1.0	2.5	15.30	130.0	0.25	8.0	55	86	0.5	14.10	3.0	0.5	2.5	0.5	0.80	97	8	0.30	37.7	1.5	0.005	0.025	1.10	0.9	0.25
98R-173	387942.00	6015283.00	18.0	2.5	3.90	180.0	0.25	0.5	78	67	3.0	9.48	3.0	0.5	2.5	4.0	0.32	126	35	2.20	7.4	1.5	0.005	0.025	1.00	6.7	4.60
98R-177	321735.97	6041833.00	7.0	2.5	2.50	150.0	0.25	2.0	109	2990	0.5	14.20	0.5	0.5	2.5	0.5	0.30	709	8	0.05	47.2	1.5	0.005	0.025	0.25	0.6	0.25
98R-178	323967.94	6041833.00	1.0	2.5	1.40	440.0	11.30	5.0	42	28	1.0	3.86	0.5	0.5	2.5	0.5	2.06	14	8	0.50	13.8	1.5	0.005	0.025	0.25	6.0	1.60
98R-181	326531.88	6040989.00	1.0	2.5	2.20	160.0	0.25	8.0	67	364	2.0	6.50	0.5	0.5	2.5	0.5	1.06	206	8	0.05	32.2	1.5	0.005	0.025	0.25	0.6	0.25
98R-182	329630.81	6040599.00	1.0	2.5	0.25	180.0	0.25	7.0	68	214	1.0	9.05	0.5	0.5	2.5	0.5	1.71	201	8	0.30	50.7	1.5	0.005	0.025	0.25	0.1	0.25
98R-185	328134.84	6041330.00	1.0	2.5	0.25	340.0	2.40	8.0	67	240	2.0	9.15	2.0	0.5	2.5	32.0	0.35	105	93	0.20	32.9	1.5	0.005	0.025	1.10	3.4	2.20
98R-189	350083.38	6040090.00	3.0	2.5	4.00	500.0	0.25	1.0	48	2.5	14.0	0.97	4.0	0.5	2.5	3.0	2.68	12	320	0.05	3.6	1.5	0.005	0.025	4.00	35.0	9.80
98R-198	343762.53	6040329.00	1.0	2.5	0.90	240.0	0.25	8.0	60	58	25.0	10.10	0.5	0.5	2.5	0.5	0.75	15	56	0.40	49.5	1.5	0.005	0.025	0.25	0.7	0.25
98R-202	345340.41	6037467.00	1.0	2.5	0.25	290.0	0.25	3.0	56	56	2.0	5.66	0.5	0.5	2.5	0.5	2.16	12	21	0.10	21.1	1.5	0.005	0.025	1.60	2.3	0.25
98R-204	349428.38	6039387.00	1.0	2.5	1.50	25.0	0.25	15.0	55	2.5	0.5	8.61	2.0	0.5	2.5	3.0	0.04	13	8	0.05	41.3	1.5	0.005	0.170	0.90	3.3	0.25
98R-205	337801.72	6042848.00	1.0	2.5	2.70	580.0	0.25	1.0	56	2.5	5.0	1.42	6.0	0.5	2.5	0.5	2.47	13	272	0.05	4.8	1.5	0.005	0.025	4.10	41.9	9.80
98R-206	338357.66	6040821.00	35.0	2.5	41.90	60.0	2.30	11.0	81	423	1.0	6.74	0.5	0.5	2.5	0.5	0.75	535	8	0.20	32.0	1.5	0.005	0.025	0.25	0.4	0.25
98R-206-2	338357.66	6040821.00	1.0	2.5	9.10	25.0	0.25	11.0	83	380	0.5	6.40	0.5	0.5	2.5	0.5	1.10	359	8	0.05	33.1	1.5	0.005	0.025	0.25	0.1	0.25

Sample Site	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98R-1	113	180	3.50	11.0	5.0	2.00	0.9	0.80	3.1	0.470	26.77
98R-2	91	162	2.50	9.0	7.0	2.10	0.8	0.25	2.6	0.460	24.71
98R-3	193	59	15.50	31.0	9.0	2.30	0.9	0.25	0.7	0.130	59.78
98R-4-1	206	65	14.50	31.0	11.0	2.80	1.2	0.25	2.0	0.340	63.09
98R-4-2	215	25	17.00	36.0	14.0	3.10	0.9	0.25	2.0	0.310	73.56
98R-5	375	70	51.30	101.0	39.0	6.70	2.1	0.25	1.2	0.180	201.73
98R-6	215	25	25.20	37.0	15.0	2.10	0.6	0.25	0.5	0.080	80.73
98R-8	161	111	31.60	71.0	27.0	5.00	1.8	0.70	2.1	0.380	139.58
98R-9	58	120	3.60	9.0	6.0	1.50	0.6	0.25	1.7	0.260	22.91
98R-10	106	132	2.60	8.0	2.5	1.80	0.7	0.25	2.6	0.440	18.89
98R-12	66	610	6.60	14.0	5.0	2.00	0.8	0.25	2.5	0.320	31.47
98R-13	138	138	53.10	104.0	43.0	7.70	2.7	0.25	2.0	0.340	213.09
98R-14	196	210	11.90	28.0	10.0	3.80	1.2	0.90	4.6	0.650	61.05
98R-17	602	84	11.30	20.0	2.5	1.20	0.5	0.25	0.8	0.170	36.72
98R-18	283	336	10.30	23.0	8.0	1.60	0.9	0.25	1.8	0.250	46.10
98R-19	71	418	8.90	19.0	7.0	3.10	1.1	0.70	3.7	0.560	44.06
98R-20	171	214	21.50	46.0	21.0	4.60	1.3	0.25	4.8	0.680	100.13
98R-21	163	228	14.30	31.0	2.5	4.40	1.7	1.00	4.9	0.690	60.49
98R-22	260	102	45.50	98.0	35.0	4.00	1.7	0.90	5.3	0.860	191.26
98R-23	137	158	14.60	35.0	17.0	4.10	1.4	0.25	2.3	0.310	74.96
98R-25	67	116	3.30	8.0	6.0	1.00	0.3	0.25	1.2	0.150	20.20
98R-26	217	137	8.00	18.0	2.5	1.30	0.7	0.25	0.9	0.150	31.80
98R-27	796	25	5.90	9.0	2.5	0.30	0.1	0.25	0.1	0.025	18.18
98R-28	364	72	6.10	16.0	2.5	1.80	0.1	0.60	3.2	0.440	30.74
98R-29	287	129	8.10	17.0	9.0	1.60	0.9	0.25	1.5	0.200	38.55
98R-30	261	212	15.30	34.0	13.0	3.00	1.1	0.90	3.9	0.590	71.79
98R-31	129	148	3.80	10.0	2.5	1.60	0.6	0.50	2.1	0.310	21.41
98R-32	291	25	4.50	20.0	2.5	2.70	0.1	1.10	13.0	1.800	45.70
98R-33	442	69	3.10	6.0	2.5	0.90	0.4	0.25	1.1	0.110	14.36
98R-34	129	162	6.00	13.0	6.0	1.80	1.0	0.60	2.6	0.400	31.40
98R-36	168	25	21.90	38.0	19.0	2.30	0.8	0.25	1.4	0.190	83.84
98R-39	501	25	0.25	1.5	2.5	0.05	0.1	0.25	0.1	0.025	4.78
98R-40	85	137	5.50	12.0	8.0	2.00	0.6	0.25	2.8	0.420	31.57
98R-41	179	235	3.00	11.0	2.5	1.60	0.8	0.25	2.9	0.430	22.48
98R-42	68	161	6.20	15.0	9.0	2.40	1.0	0.25	1.3	0.170	35.32
98R-44	199	593	6.20	14.0	2.5	0.90	0.7	0.25	1.0	0.170	25.72
98R-45	54	163	4.10	10.0	2.5	1.50	0.8	0.25	2.2	0.320	21.67
98R-46	129	182	7.40	19.0	12.0	3.50	1.4	0.80	4.5	0.620	49.22
98R-47	106	141	7.20	15.0	9.0	2.10	0.9	0.25	2.7	0.450	37.60
98R-48	134	93	2.80	7.0	2.5	1.30	0.7	0.60	2.1	0.320	17.32
98R-49	235	1500	13.30	36.0	20.0	6.10	2.4	1.50	8.3	1.160	88.76
98R-50	75	134	4.60	13.0	2.5	1.80	0.9	0.25	1.0	0.160	24.21
98R-51	349	25	20.70	34.0	11.0	2.00	0.9	0.25	1.3	0.210	70.36
98R-52	319	25	26.80	53.0	20.0	4.60	0.9	0.25	3.6	0.580	109.73
98R-54	46	126	3.50	12.0	8.0	2.10	0.8	0.25	2.5	0.370	29.52

Sample Site	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98R-55	126	117	3.10	13.0	9.0	2.40	1.0	0.60	3.2	0.470	32.77
98R-58-1	37	144	2.40	4.0	2.5	1.50	0.7	0.25	2.3	0.380	14.03
98R-58-2	545	25	0.60	1.5	2.5	0.20	0.2	0.25	0.4	0.025	5.68
98R-59	476	65	7.40	12.0	2.5	1.00	0.1	0.25	0.6	0.070	23.92
98R-60	60	92	2.70	11.0	2.5	2.30	0.8	0.25	2.8	0.380	22.73
98R-61	76	25	2.30	5.0	2.5	1.70	0.8	0.25	2.3	0.310	15.16
98R-62	271	69	15.70	29.0	8.0	1.80	0.7	0.25	1.1	0.150	56.70
98R-64	245	84	17.00	40.0	19.0	4.00	1.3	0.25	2.7	0.370	84.62
98R-66-1	218	25	11.40	22.0	2.5	1.50	0.5	0.25	0.1	0.025	38.28
98R-66-2	157	64	11.30	29.0	14.0	3.50	1.1	0.70	2.3	0.310	62.21
98R-67	136	78	9.60	18.0	6.0	2.20	0.8	0.25	2.3	0.320	39.47
98R-68	92	25	4.10	11.0	10.0	3.50	1.1	0.25	3.8	0.590	34.34
98R-69	195	66	3.30	10.0	2.5	2.10	0.8	0.25	2.5	0.350	21.80
98R-71	280	25	25.30	48.0	13.0	2.80	0.7	0.25	1.6	0.220	91.87
98R-72	125	119	8.10	20.0	9.0	2.80	0.8	0.50	2.4	0.330	43.93
98R-73	308	50	20.40	39.0	12.0	2.20	0.7	0.60	0.7	0.090	75.69
98R-75	97	108	5.80	16.0	2.5	3.50	1.5	0.50	2.5	0.350	32.65
98R-77	138	64	17.80	38.0	17.0	3.80	1.2	0.25	1.6	0.240	79.89
98R-78	515	25	8.10	18.0	7.0	1.20	0.4	0.25	0.9	0.130	35.98
98R-79	166	54	5.70	14.0	2.5	1.70	0.6	0.25	1.6	0.260	26.61
98R-81	233	94	2.80	10.0	2.5	2.10	0.8	0.25	2.1	0.310	20.86
98R-82	101	126	2.90	8.0	2.5	2.00	0.9	0.50	2.3	0.360	19.46
98R-91	280	25	9.30	18.0	9.0	1.40	0.4	0.25	0.5	0.060	38.91
98R-93	75	25	5.40	13.0	2.5	1.70	0.6	0.25	2.0	0.260	25.71
98R-94	87	25	5.50	11.0	2.5	2.30	0.8	0.25	2.5	0.360	25.21
98R-95	124	70	30.80	66.0	24.0	5.00	1.3	0.25	0.7	0.120	128.17
98R-96	128	77	50.20	107.0	33.0	7.30	2.0	0.70	2.0	0.290	202.49
98R-97	114	92	2.70	8.0	2.5	1.90	0.5	0.25	2.3	0.310	18.46
98R-99	119	73	6.70	15.0	2.5	1.70	0.6	0.25	1.8	0.270	28.82
98R-103	108	74	3.40	10.0	9.0	1.90	0.7	0.50	2.0	0.300	27.80
98R-104	404	51	24.80	43.0	2.5	2.10	0.5	0.25	0.6	0.025	73.78
98R-105	265	59	13.50	26.0	2.5	1.80	0.5	0.25	1.0	0.150	45.70
98R-107	190	56	11.20	22.0	2.5	2.20	0.7	0.25	1.9	0.260	41.01
98R-109	324	75	8.60	19.0	2.5	1.80	0.6	0.25	1.3	0.170	34.22
98R-111	278	75	5.60	15.0	2.5	2.10	0.8	0.25	2.7	0.380	29.33
98R-112	104	127	5.40	14.0	8.0	2.50	0.8	0.50	2.9	0.440	34.54
98R-113	351	25	12.30	26.0	10.0	2.40	0.8	0.25	1.0	0.190	52.94
98R-116	75	25	10.60	22.0	12.0	2.20	0.8	0.25	1.8	0.290	49.94
98R-121	187	81	12.90	26.0	11.0	2.70	0.9	0.25	1.5	0.200	55.45
98R-123	166	25	4.60	10.0	9.0	2.70	0.9	0.25	3.1	0.450	31.00
98R-126-1	108	4790	32.50	65.0	20.0	6.00	1.0	1.10	5.1	0.760	131.46
98R-126-2	244	315	10.00	17.0	2.5	1.30	0.8	0.25	1.5	0.240	33.59
98R-126-3	648	25	2.00	4.0	2.5	0.30	0.1	0.25	0.3	0.025	9.48
98R-126-4	319	186	2.70	4.0	2.5	0.30	0.1	0.25	0.8	0.110	10.76
98R-131	95	92	5.30	13.0	7.0	2.30	0.8	0.25	2.4	0.360	31.41
98R-132	144	25	11.90	23.0	9.0	3.10	1.0	0.60	3.4	0.480	52.48
98R-133	27	103	2.40	7.0	2.5	1.10	0.5	0.25	1.4	0.180	15.33
98R-135	207	76	14.40	27.0	10.0	2.20	0.7	0.25	1.6	0.220	56.37
98R-136	176	52	9.40	19.0	2.5	2.90	1.0	0.60	2.8	0.430	38.63
98R-139	216	54	15.00	31.0	13.0	3.00	1.0	0.25	1.6	0.200	65.05
98R-140	66	88	8.50	21.0	7.0	3.50	1.1	0.25	4.1	0.620	46.07
98R-141	118	74	7.50	19.0	9.0	2.90	1.0	0.25	3.0	0.460	43.11

Sample Site	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98R-146	531	25	0.80	1.5	2.5	0.20	0.1	0.25	0.3	0.025	5.68
98R-148	270	142	19.50	45.0	22.0	7.20	2.1	1.50	9.0	1.330	107.63
98R-149	140	96	9.80	24.0	10.0	3.80	1.1	0.70	3.6	0.540	53.54
98R-150	186	90	6.50	15.0	5.0	2.60	0.9	0.50	2.8	0.420	33.72
98R-151	111	174	23.60	54.0	27.0	8.20	2.4	1.70	7.5	1.090	125.49
98R-152	55	76	7.10	16.0	11.0	2.90	1.3	0.60	2.3	0.370	41.57
98R-153	573	25	0.70	1.5	2.5	0.10	0.1	0.25	0.1	0.025	5.28
98R-157	55	96	4.20	12.0	2.5	1.80	0.7	0.25	1.9	0.260	23.61
98R-163	81	96	8.30	19.0	9.0	3.30	1.1	0.70	3.3	0.500	45.20
98R-164	496	629	1.60	1.5	2.5	0.90	0.3	0.70	2.3	0.360	10.16
98R-165	269	25	14.70	32.0	10.0	1.80	0.8	0.25	0.8	0.170	60.52
98R-167	226	25	50.70	93.0	25.0	5.10	0.7	1.40	5.2	0.820	181.92
98R-168	62	122	5.00	13.0	9.0	2.90	1.0	0.25	2.5	0.430	34.08
98R-170	211	56	33.70	56.0	20.0	3.80	1.3	0.25	3.8	0.680	119.53
98R-171	74	120	9.90	27.0	2.5	4.20	1.5	0.80	4.0	0.680	50.58
98R-172	147	300	11.10	29.0	13.0	4.10	1.3	0.90	4.0	0.700	64.10
98R-173	207	87	16.40	36.0	15.0	2.20	0.6	0.25	1.4	0.290	72.14
98R-177	9	187	1.00	4.0	2.5	1.00	0.3	0.25	1.5	0.260	10.81
98R-178	229	81	24.70	53.0	20.0	3.80	1.5	0.70	2.1	0.370	106.17
98R-181	87	77	2.60	6.0	2.5	1.00	0.5	0.25	0.9	0.180	13.93
98R-182	104	25	2.50	7.0	2.5	1.60	0.6	0.25	2.1	0.380	16.93
98R-185	157	133	10.30	25.0	12.0	2.00	0.8	0.25	1.8	0.280	52.43
98R-189	497	25	39.30	79.0	24.0	4.80	0.4	0.25	2.4	0.390	150.54
98R-198	136	149	3.30	9.0	2.5	1.90	0.8	0.50	3.0	0.490	21.49
98R-202	266	73	8.10	19.0	2.5	1.80	0.6	0.25	1.3	0.210	33.76
98R-204	149	25	14.80	35.0	15.0	3.60	1.2	0.25	2.9	0.460	73.21
98R-205	440	25	58.40	123.0	43.0	8.00	0.5	0.25	1.8	0.250	235.20
98R-206	113	92	1.30	4.0	2.5	0.50	0.1	0.25	0.6	0.070	9.32
98R-206-2	47	179	1.20	1.5	2.5	0.50	0.1	0.25	0.6	0.100	6.75

Appendix 6

Rock Geochemistry: Instrumental Neutron Activation Analyses (INAA), Multiple Samples.

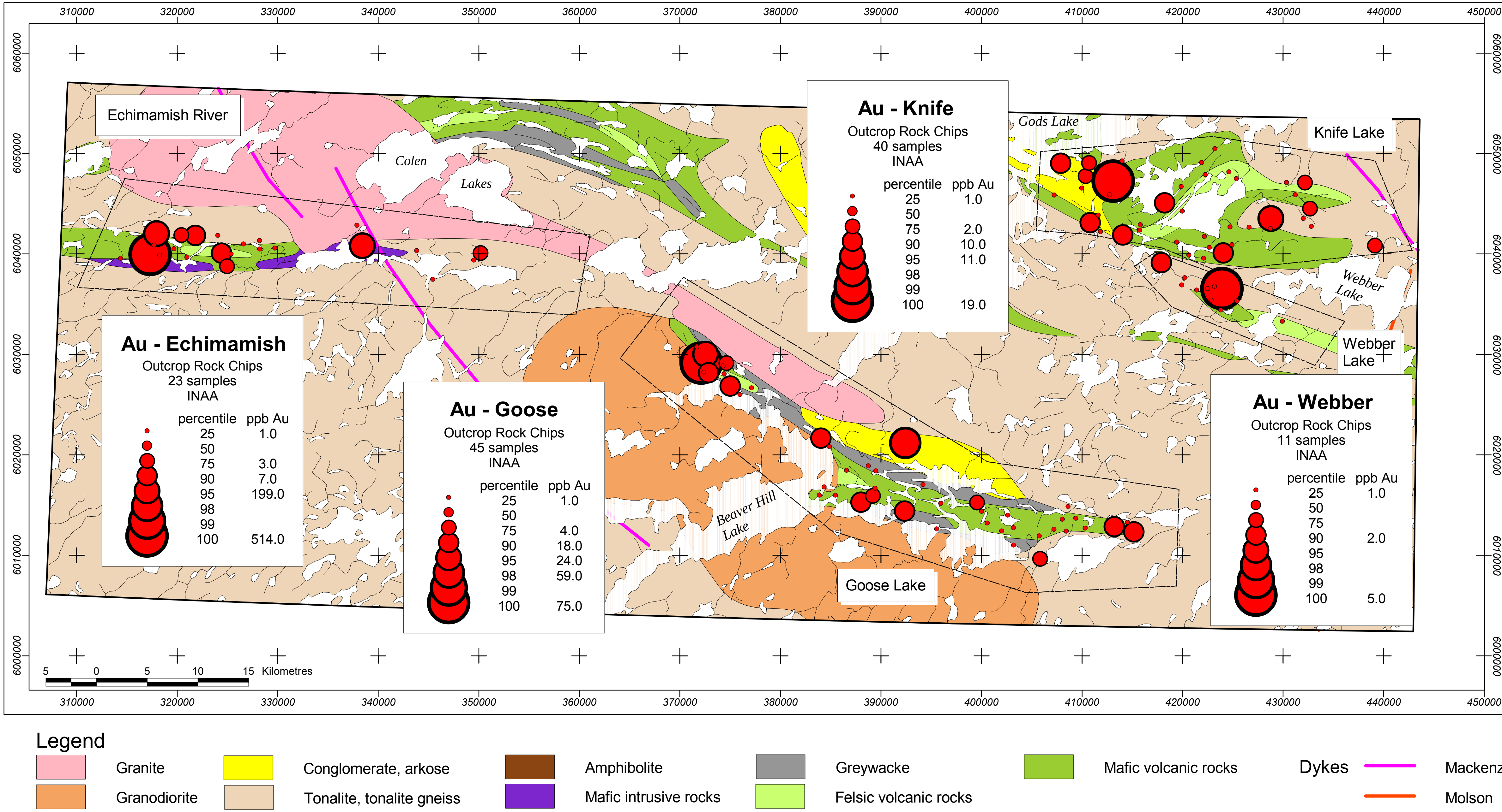
Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U	W	Zn
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm
98R-4-1	424854.00	6040934.00	1.0	2.5	0.25	70.0	0.25	3.0	44	58	0.5	4.93	4.0	0.5	2.5	4.0	2.12	16	8	0.05	15.4	1.5	0.005	0.025	2.10	2.0	0.25	206	65
98R-4-2	424854.00	6040934.00	1.0	2.5	0.25	360.0	0.25	4.0	48	67	0.5	4.55	4.0	0.5	2.5	3.0	2.71	17	8	0.05	14.8	1.5	0.005	0.025	2.30	2.2	0.25	215	25
98R-58-1	422017.59	6039578.50	1.0	2.5	1.60	150.0	0.25	7.0	45	133	0.5	16.10	1.0	0.5	2.5	4.0	0.76	65	8	0.05	39.4	1.5	0.005	0.025	0.25	0.1	0.25	37	144
98R-58-2	422017.59	6039578.50	1.0	2.5	0.25	50.0	0.25	1.0	65	10	0.5	1.46	0.5	0.5	2.5	3.0	0.08	10	8	0.05	3.8	1.5	0.005	0.025	2.30	0.1	0.25	545	25
98R-66-1	425278.00	6047515.00	1.0	2.5	0.25	510.0	0.25	2.0	30	6	2.0	1.21	2.0	0.5	2.5	0.5	4.44	12	44	0.05	2.8	1.5	0.005	0.025	0.25	2.5	1.30	218	25
98R-66-2	425278.00	6047515.00	1.0	2.5	0.25	100.0	0.25	6.0	60	266	0.5	8.31	3.0	0.5	2.5	0.5	2.27	119	8	0.05	30.7	1.5	0.005	0.025	0.25	1.1	0.25	157	64
98R-126-1	413132.19	6012836.00	8.0	2.5	4.70	390.0	2.20	0.5	111	113	3.0	18.80	4.0	0.5	2.5	2.0	0.62	230	115	0.60	7.6	3.0	0.005	0.025	1.40	7.3	2.20	108	4790
98R-126-2	413132.19	6012836.00	1.0	2.5	1.50	25.0	0.25	3.0	79	104	0.5	16.60	2.0	0.5	2.5	2.0	0.29	43	8	1.00	9.2	1.5	0.005	0.025	1.10	4.5	0.90	244	315
98R-126-3	413132.19	6012836.00	1.0	2.5	2.40	25.0	2.00	0.5	92	5	0.5	1.75	0.5	0.5	2.5	0.5	0.06	45	8	0.30	0.6	1.5	0.005	0.025	1.30	0.2	0.25	648	25
98R-126-4	413132.19	6012836.00	1.0	2.5	4.60	25.0	1.60	4.0	53	9	0.5	8.94	0.5	0.5	2.5	0.5	0.07	66	8	0.80	1.4	1.5	0.005	0.025	1.20	0.4	0.25	319	186
98R-206-1	338357.66	6040821.00	35.0	2.5	41.90	60.0	2.30	11.0	81	423	1.0	6.74	0.5	0.5	2.5	0.5	0.75	535	8	0.20	32.0	1.5	0.005	0.025	0.25	0.4	0.25	113	92
98R-206-2	338357.66	6040821.00	1.0	2.5	9.10	25.0	0.25	11.0	83	380	0.5	6.40	0.5	0.5	2.5	0.5	1.10	359	8	0.05	33.1	1.5	0.005	0.025	0.25	0.1	0.25	47	179

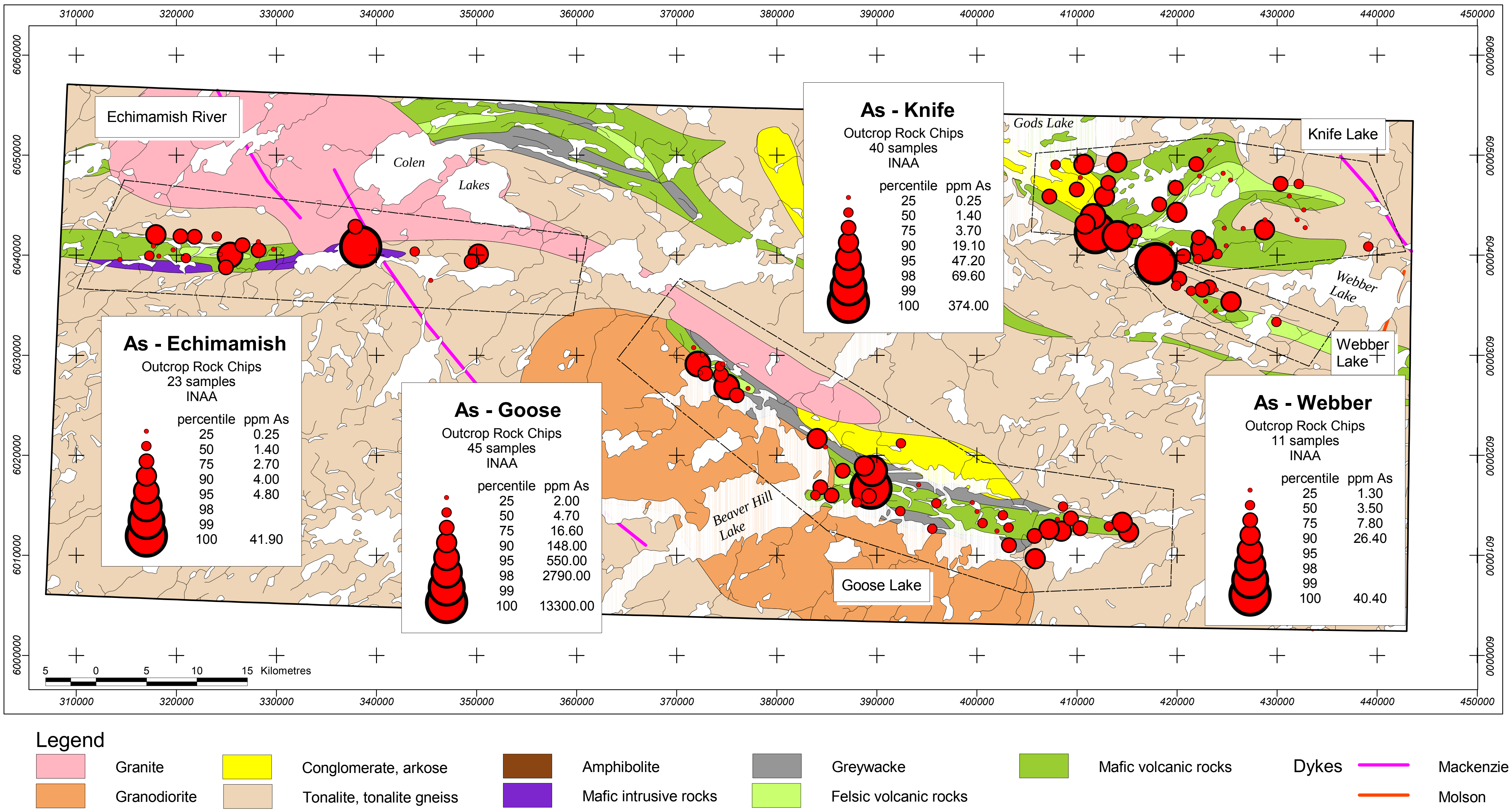
Sample Site	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98R-4-1	14.50	31.0	11.0	2.80	1.2	0.25	2.0	0.340	63.09
98R-4-2	17.00	36.0	14.0	3.10	0.9	0.25	2.0	0.310	73.56
98R-58-1	2.40	4.0	2.5	1.50	0.7	0.25	2.3	0.380	14.03
98R-58-2	0.60	1.5	2.5	0.20	0.2	0.25	0.4	0.025	5.68
98R-66-1	11.40	22.0	2.5	1.50	0.5	0.25	0.1	0.025	38.28
98R-66-2	11.30	29.0	14.0	3.50	1.1	0.70	2.3	0.310	62.21
98R-126-1	32.50	65.0	20.0	6.00	1.0	1.10	5.1	0.760	131.46
98R-126-2	10.00	17.0	2.5	1.30	0.8	0.25	1.5	0.240	33.59
98R-126-3	2.00	4.0	2.5	0.30	0.1	0.25	0.3	0.025	9.48
98R-126-4	2.70	4.0	2.5	0.30	0.1	0.25	0.8	0.110	10.76
98R-206-1	1.30	4.0	2.5	0.50	0.1	0.25	0.6	0.070	9.32
98R-206-2	1.20	1.5	2.5	0.50	0.1	0.25	0.6	0.100	6.75

Appendix 7

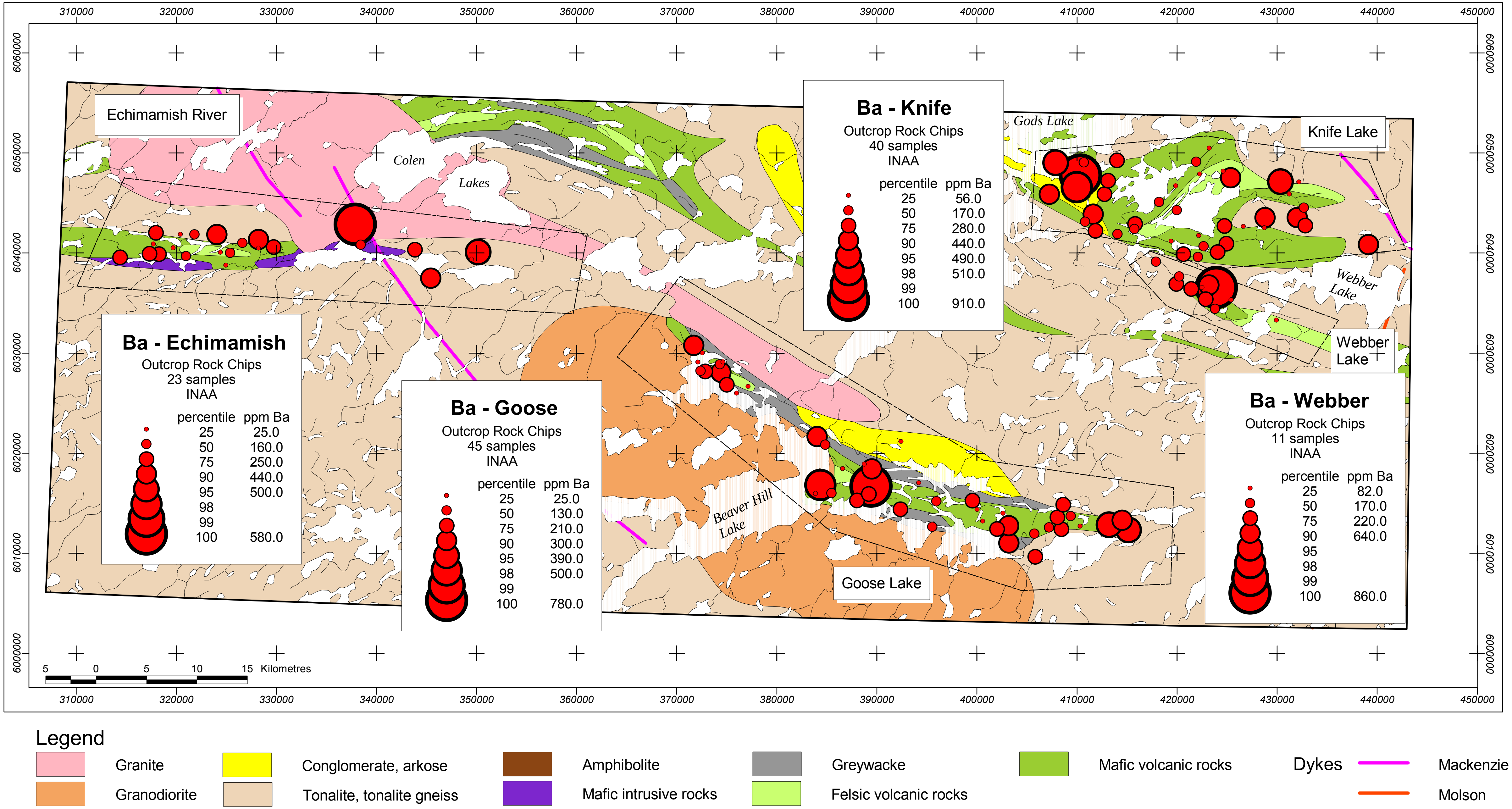
Rock Geochemistry: INAA Percentile Bubble Plots.

Au	As	Ba	Br	Ca
Co	Cr	Cs	Fe	Hf
Mo	Na	Ni	Rb	Sb
Sc	Ta	Th	U	W
Zn	Total REE			
Contents				

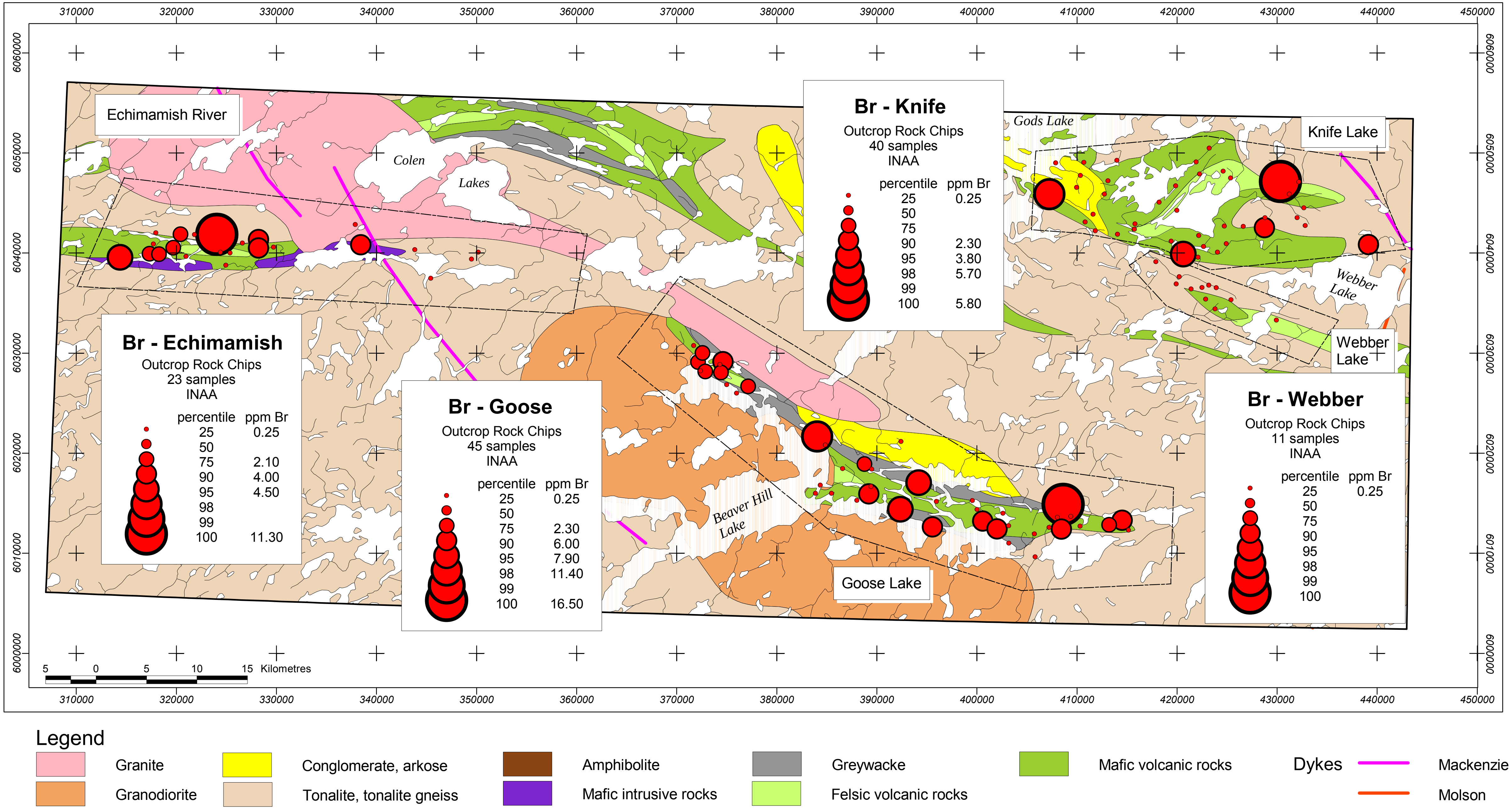

Echimamish River
Au - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppb Au
25 1.0
50
75 2.0
90 10.0
95 11.0
98
99
100 19.0
Gods Lake
Knife Lake
Colen
Lakes
Webber Lake
Webber Lake
Au - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppb Au
25 1.0
50
75 3.0
90 7.0
95 199.0
98
99
100 514.0
Au - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppb Au
25 1.0
50
75 4.0
90 18.0
95 24.0
98 59.0
99
100 75.0
Beaver Hill Lake
Goose Lake
Au - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppb Au
25 1.0
50
75
90 2.0
95
98
99
100 5.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



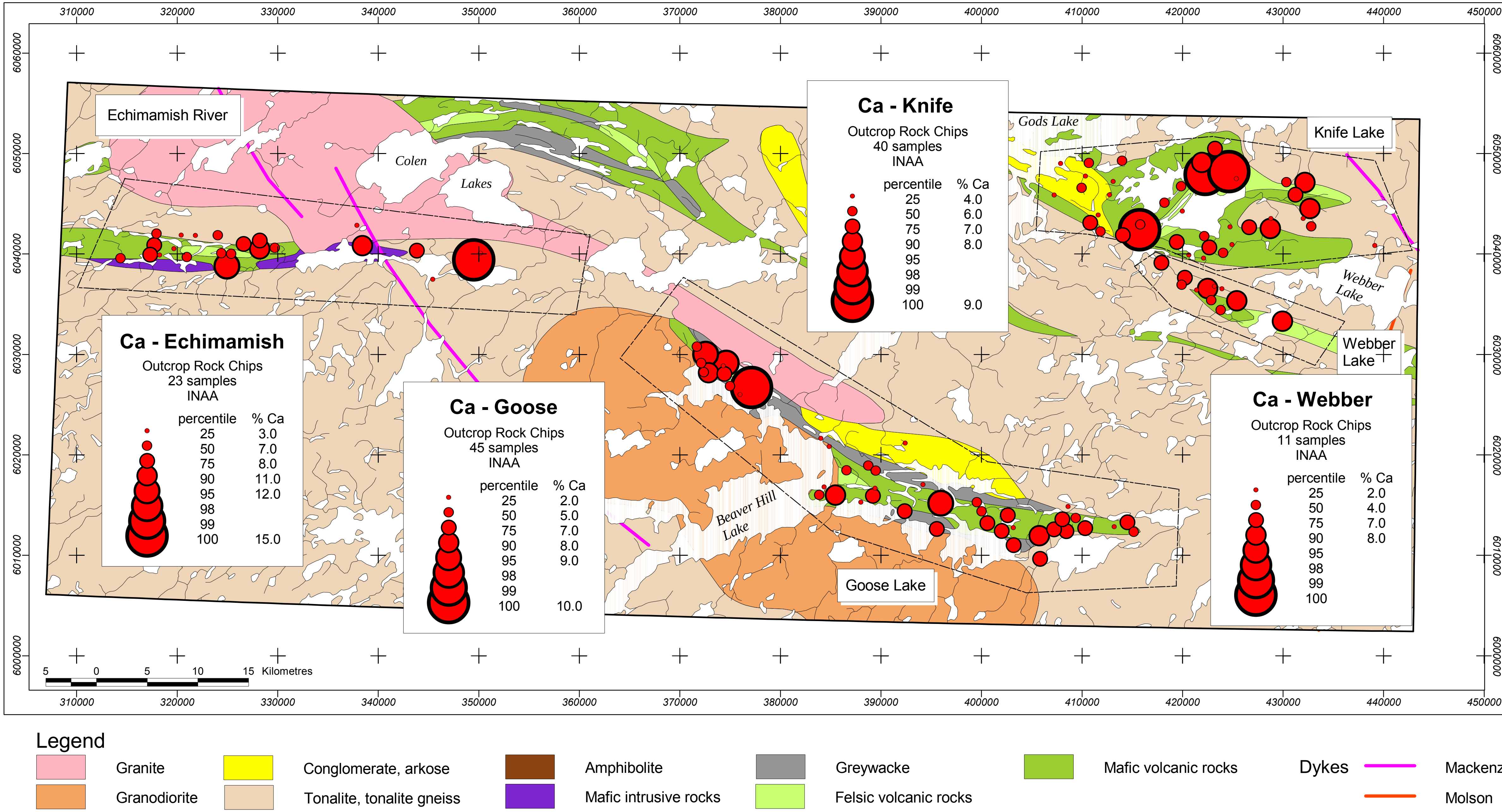
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
As - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm As
25 0.25
50 1.40
75 2.70
90 4.00
95 4.80
98
99
100 41.90
As - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm As
25 2.00
50 4.70
75 16.60
90 148.00
95 550.00
98 2790.00
99
100 13300.00
As - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm As
25 0.25
50 1.40
75 3.70
90 19.10
95 47.20
98 69.60
99
100 374.00
As - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm As
25 1.30
50 3.50
75 7.80
90 26.40
95
98
99
100 40.40
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



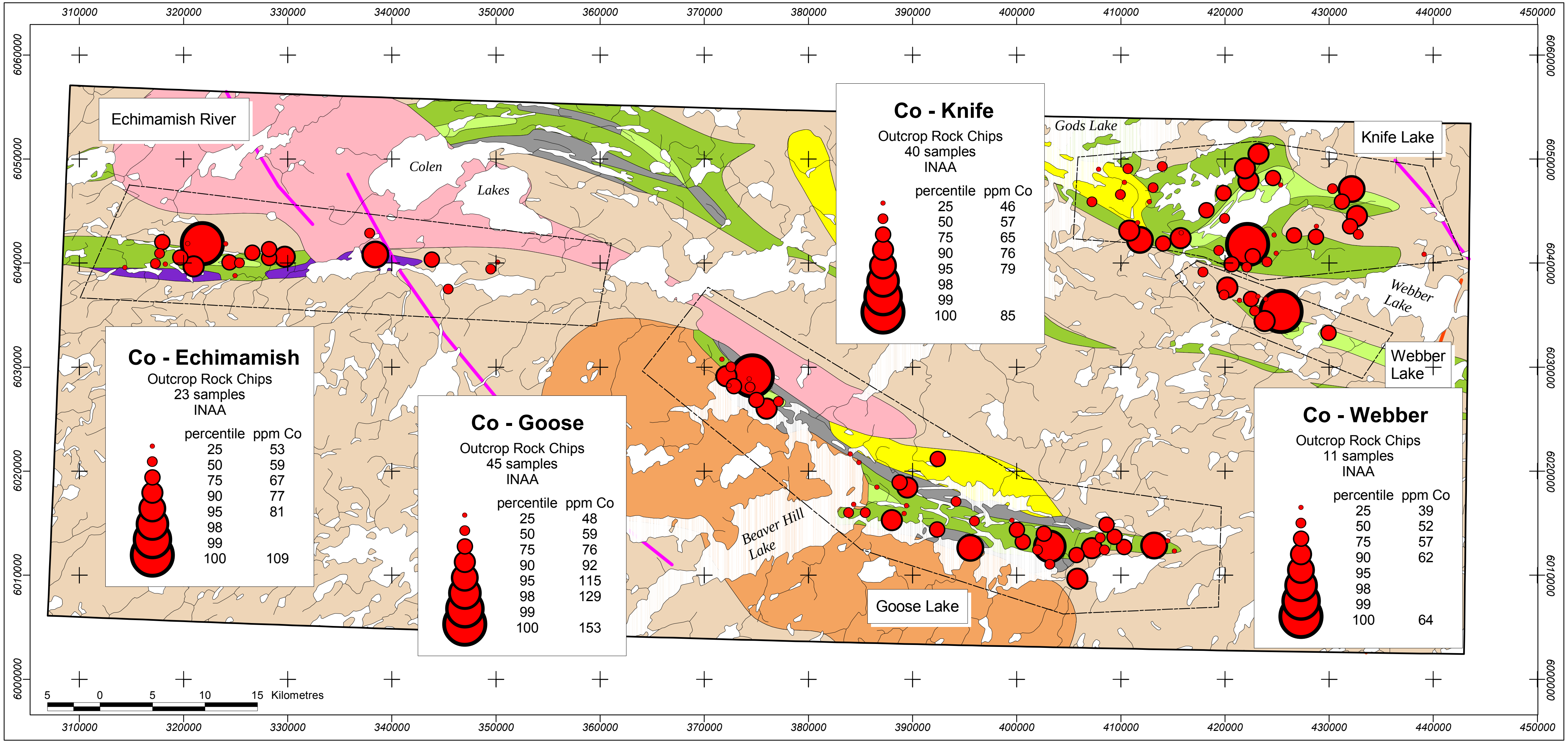
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ba - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Ba
25 25.0
50 160.0
75 250.0
90 440.0
95 500.0
98
99
100 580.0
Ba - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Ba
25 25.0
50 130.0
75 210.0
90 300.0
95 390.0
98 500.0
99
100 780.0
Ba - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Ba
25 56.0
50 170.0
75 280.0
90 440.0
95 490.0
98 510.0
99
100 910.0
Ba - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Ba
25 82.0
50 170.0
75 220.0
90 640.0
95
98
99
100 860.0
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Br - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Br
25 0.25
50
75 2.10
90 4.00
95 4.50
98
99
100 11.30
Br - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Br
25 0.25
50
75 2.30
90 6.00
95 7.90
98 11.40
99
100 16.50
Br - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Br
25 0.25
50
75
90 2.30
95 3.80
98 5.70
99
100 5.80
Br - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Br
25 0.25
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

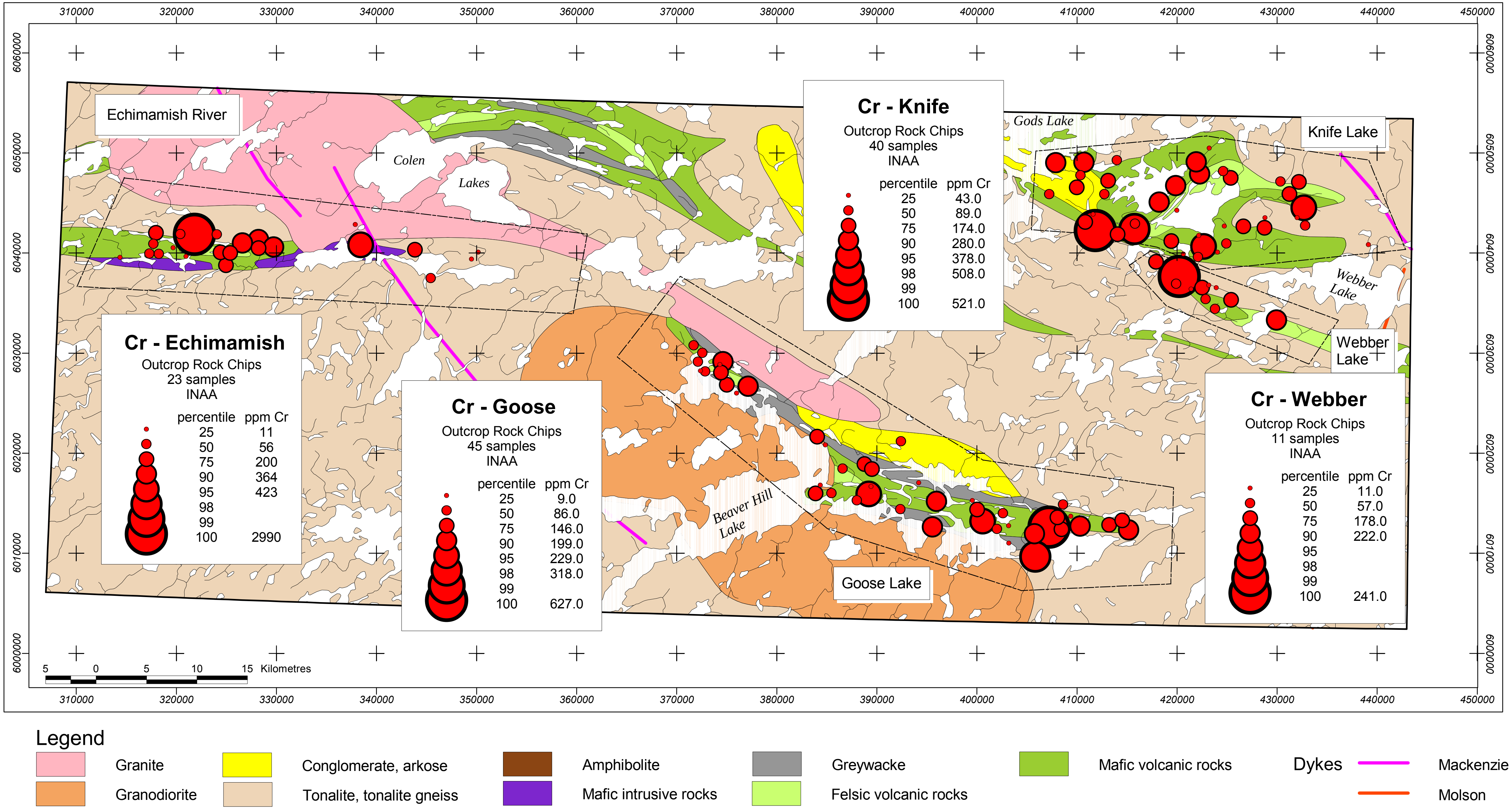


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile % Ca
25 3.0
50 7.0
75 8.0
90 11.0
95 12.0
98
99
100 15.0
Ca - Goose
Outcrop Rock Chips
45 samples
INAA
percentile % Ca
25 2.0
50 5.0
75 7.0
90 8.0
95 9.0
98
99
100 10.0
Ca - Knife
Outcrop Rock Chips
40 samples
INAA
percentile % Ca
25 4.0
50 6.0
75 7.0
90 8.0
95
98
99
100 9.0
Ca - Webber
Outcrop Rock Chips
11 samples
INAA
percentile % Ca
25 2.0
50 4.0
75 7.0
90 8.0
95
98
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

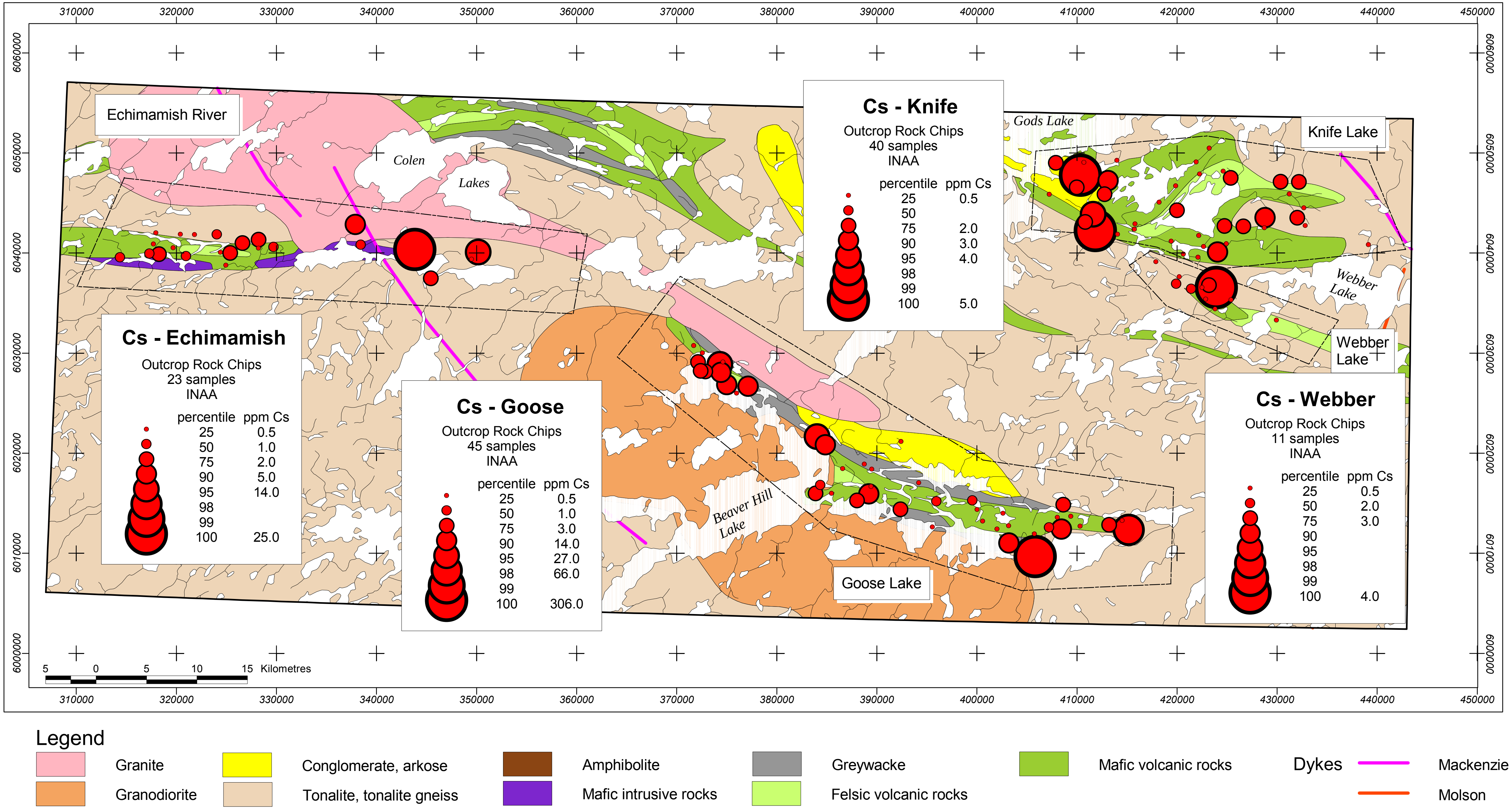


Legend

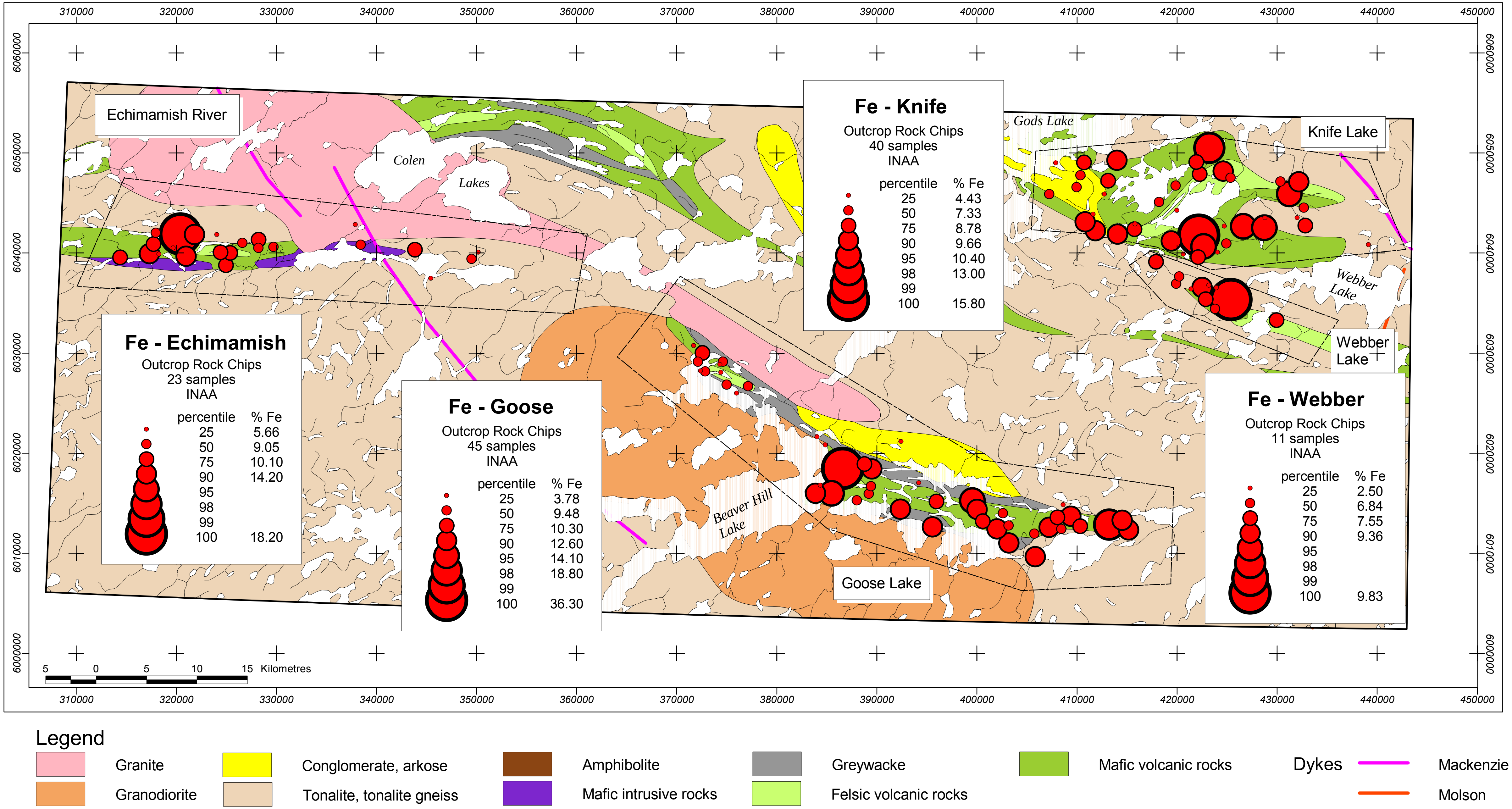
	Granite		Conglomerate, arkose		Amphibolite		Greywacke		Mafic volcanic rocks	Dykes		Mackenzie
	Granodiorite		Tonalite, tonalite gneiss		Mafic intrusive rocks		Felsic volcanic rocks					Molson



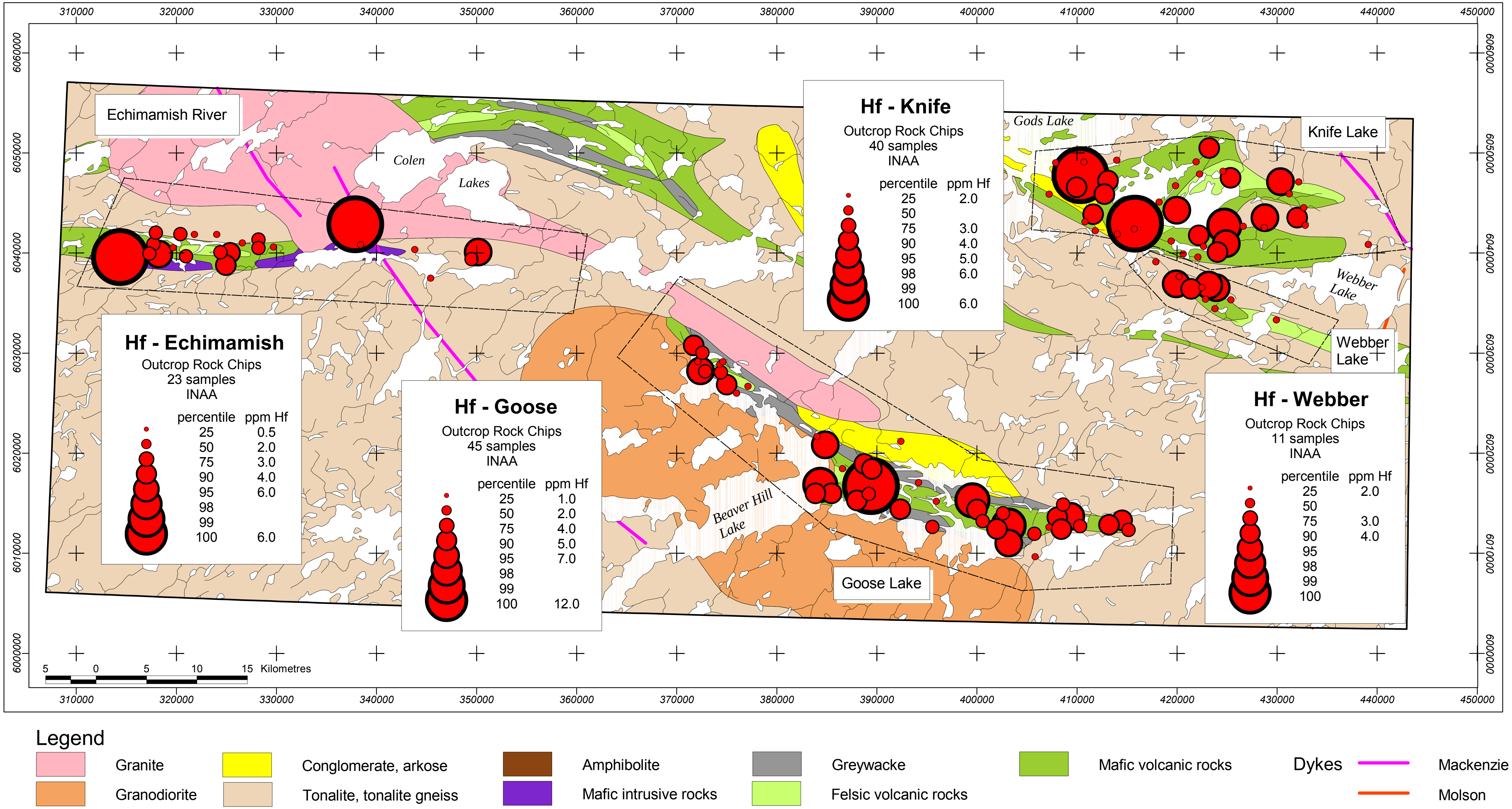
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cr - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Cr
25 43.0
50 89.0
75 174.0
90 280.0
95 378.0
98 508.0
99
100 521.0
Cr - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Cr
25 11
50 56
75 200
90 364
95 423
98
99
100 2990
Cr - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Cr
25 9.0
50 86.0
75 146.0
90 199.0
95 229.0
98 318.0
99
100 627.0
Cr - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Cr
25 11.0
50 57.0
75 178.0
90 222.0
95
98
99
100 241.0
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

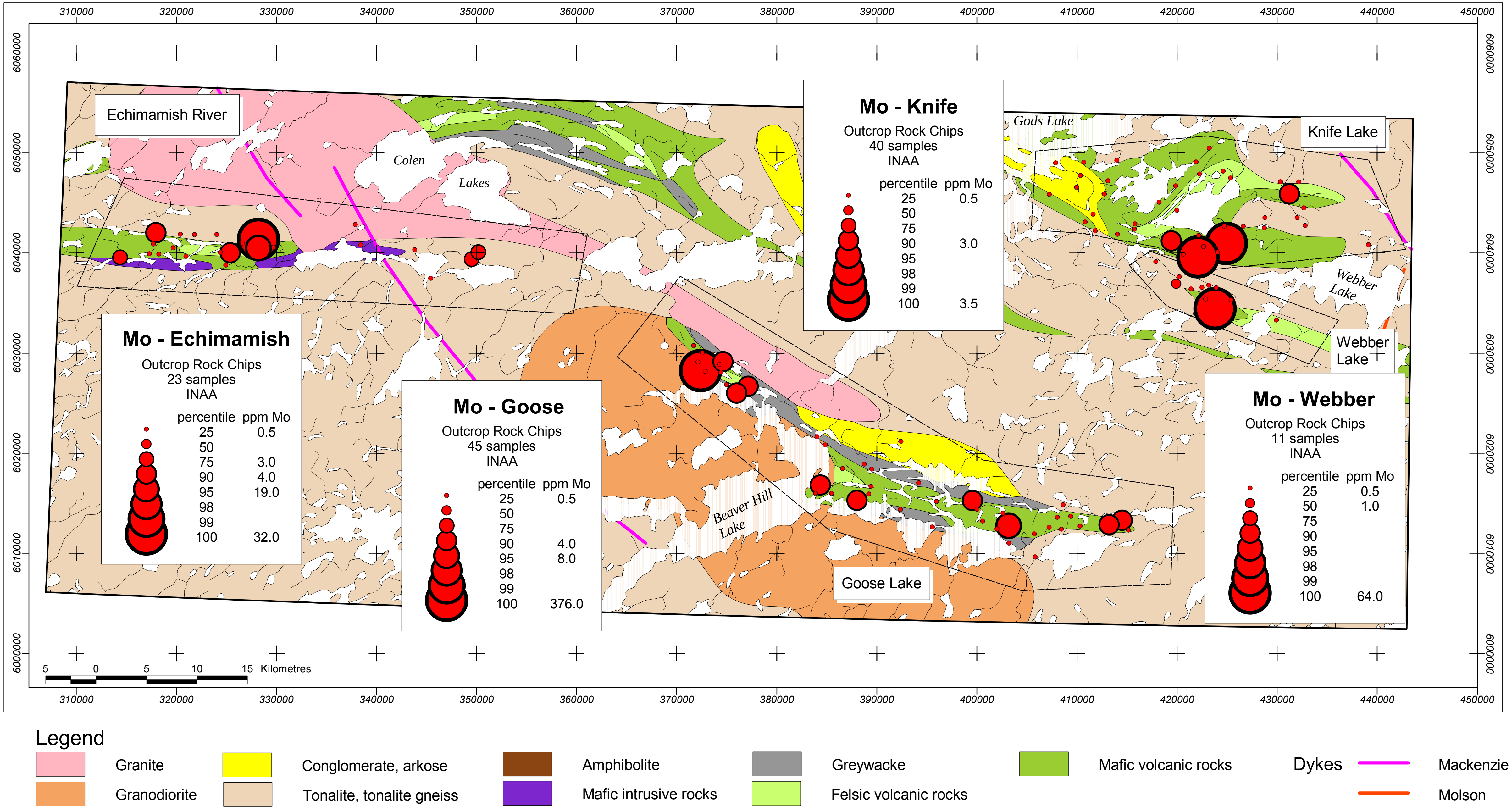


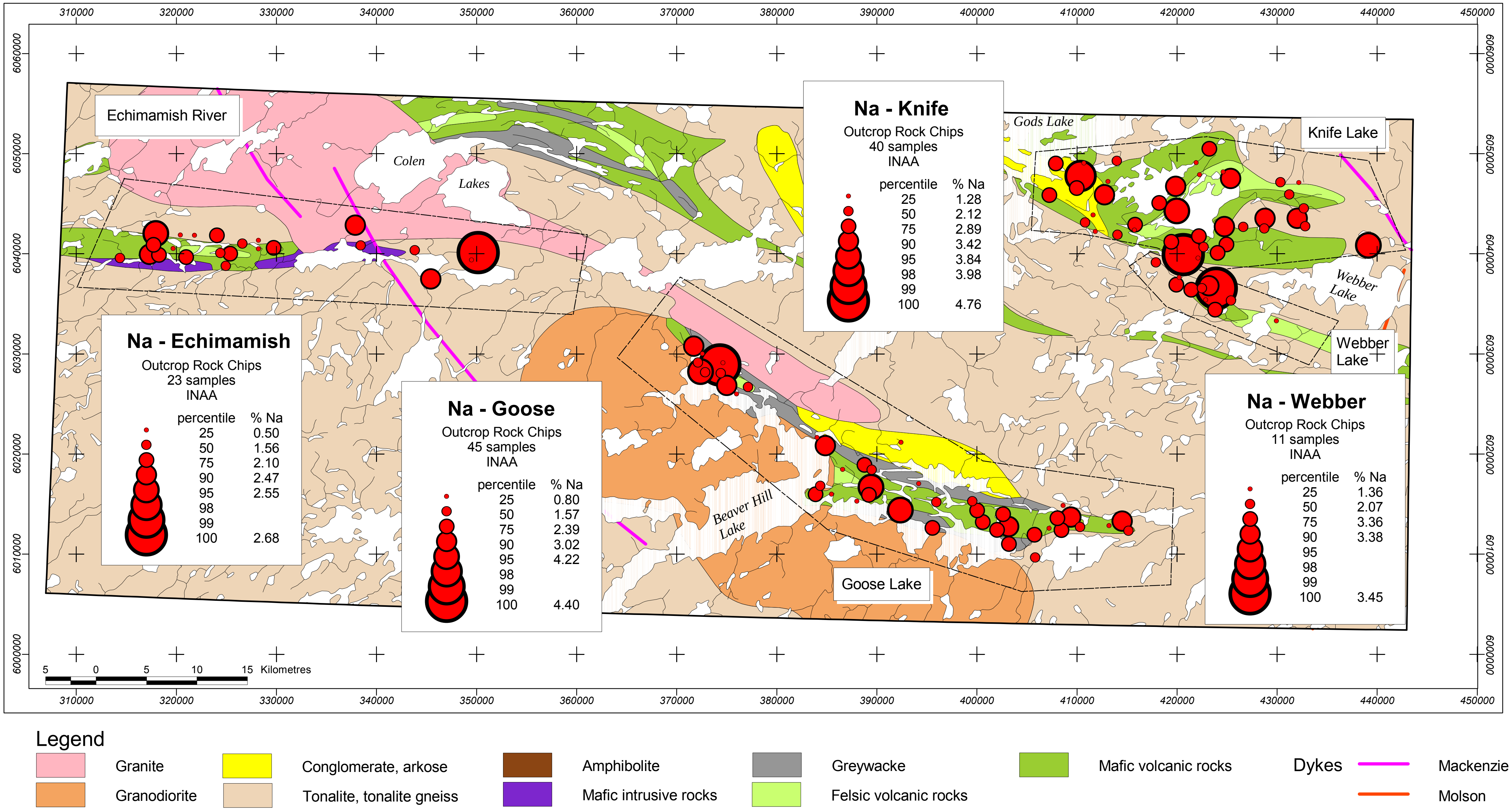
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cs - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Cs
25 0.5
50 1.0
75 2.0
90 5.0
95 14.0
98
99
100 25.0
Cs - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Cs
25 0.5
50 1.0
75 3.0
90 14.0
95 27.0
98 66.0
99
100 306.0
Cs - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Cs
25 0.5
50
75 2.0
90 3.0
95 4.0
98
99
100 5.0
Cs - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Cs
25 0.5
50 2.0
75 3.0
90
95
98
99
100 4.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



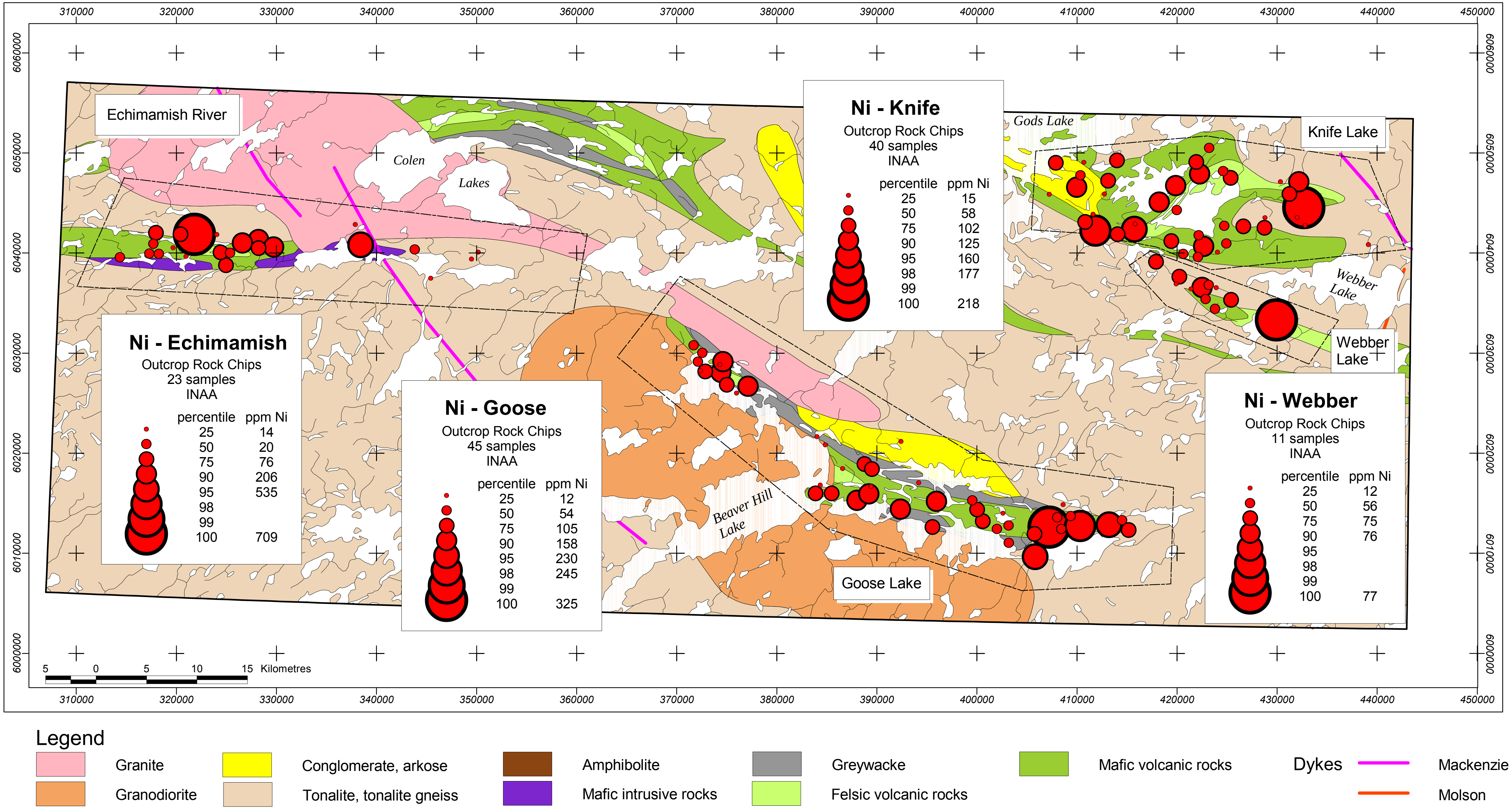
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Fe - Knife
Outcrop Rock Chips
40 samples
INAA
percentile % Fe
25 4.43
50 7.33
75 8.78
90 9.66
95 10.40
98 13.00
99
100 15.80
Fe - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile % Fe
25 5.66
50 9.05
75 10.10
90 14.20
95
98
99
100 18.20
Fe - Goose
Outcrop Rock Chips
45 samples
INAA
percentile % Fe
25 3.78
50 9.48
75 10.30
90 12.60
95 14.10
98 18.80
99
100 36.30
Fe - Webber
Outcrop Rock Chips
11 samples
INAA
percentile % Fe
25 2.50
50 6.84
75 7.55
90 9.36
95
98
99
100 9.83
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

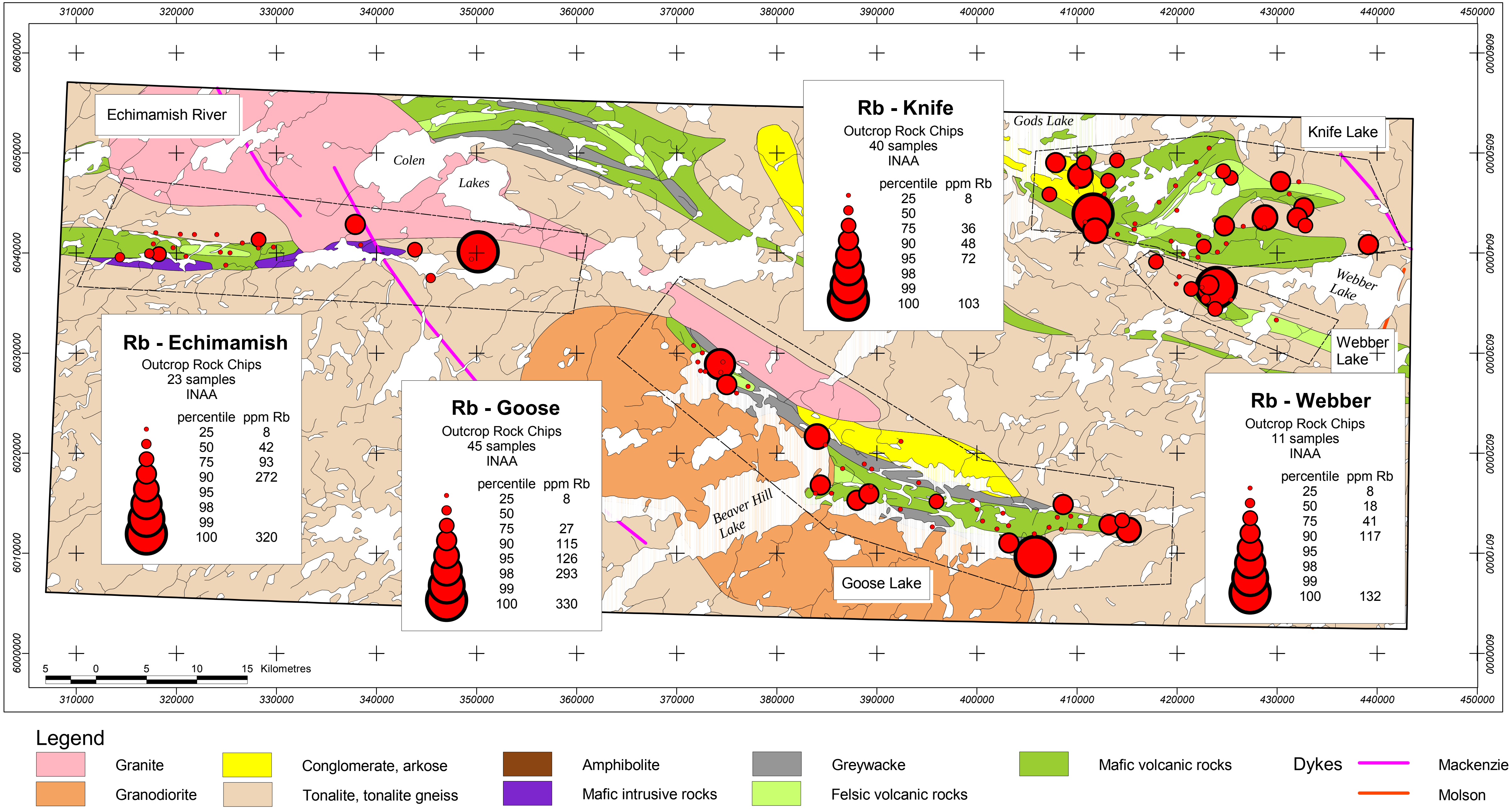

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hf - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Hf
25 0.5
50 2.0
75 3.0
90 4.0
95 6.0
98
99
100 6.0
Hf - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Hf
25 1.0
50 2.0
75 4.0
90 5.0
95 7.0
98
99
100 12.0
Hf - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Hf
25 2.0
50
75 3.0
90 4.0
95 5.0
98 6.0
99
100 6.0
Hf - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Hf
25 2.0
50
75 3.0
90 4.0
95
98
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mo - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Mo
25 0.5
50
75
90 3.0
95
98
99
100 3.5
Mo - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Mo
25 0.5
50
75 3.0
90 4.0
95 19.0
98
99
100 32.0
Mo - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Mo
25 0.5
50
75
90 4.0
95 8.0
98
99
100 376.0
Mo - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Mo
25 0.5
50 1.0
75
90
95
98
99
100 64.0
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

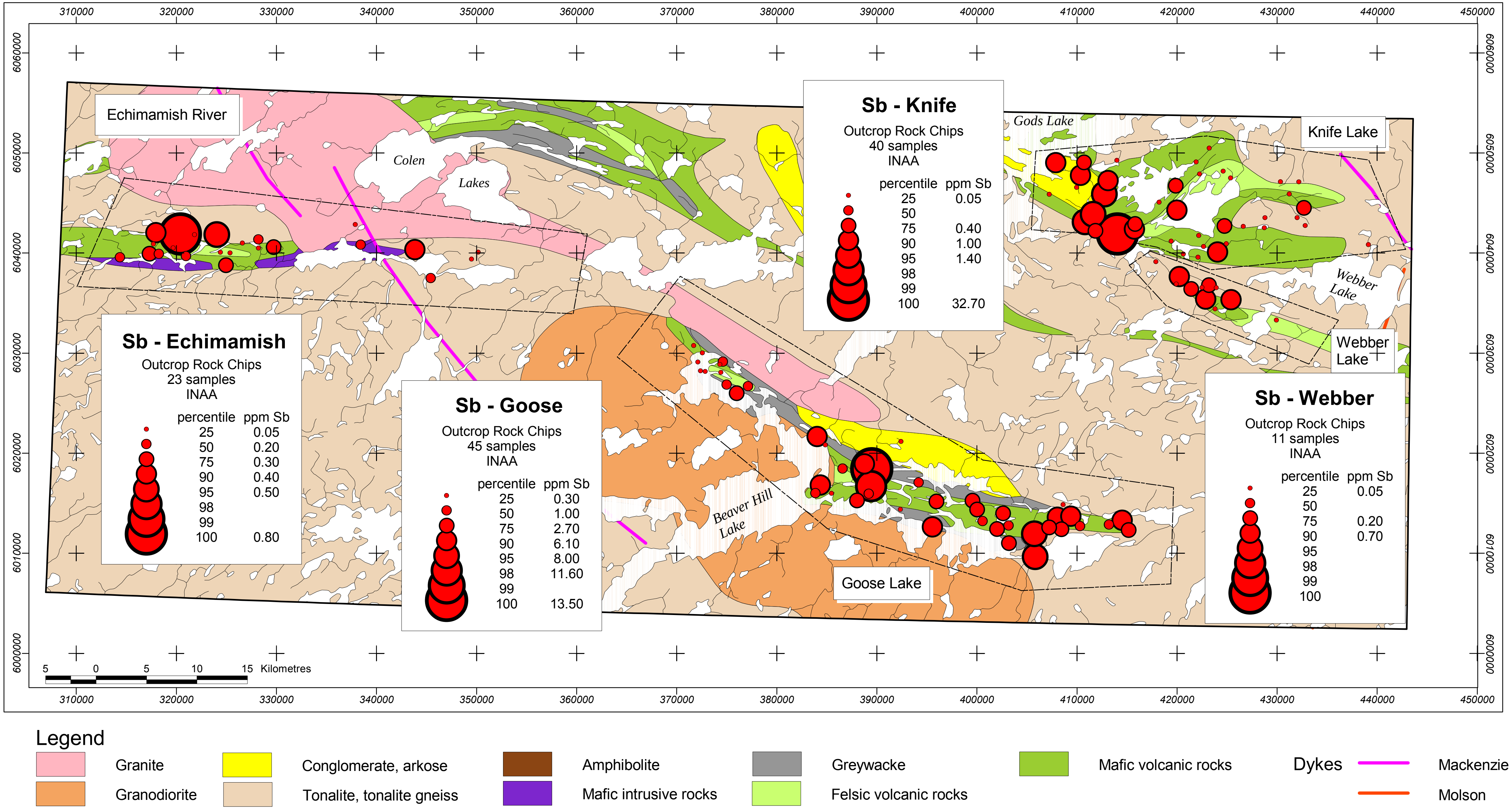


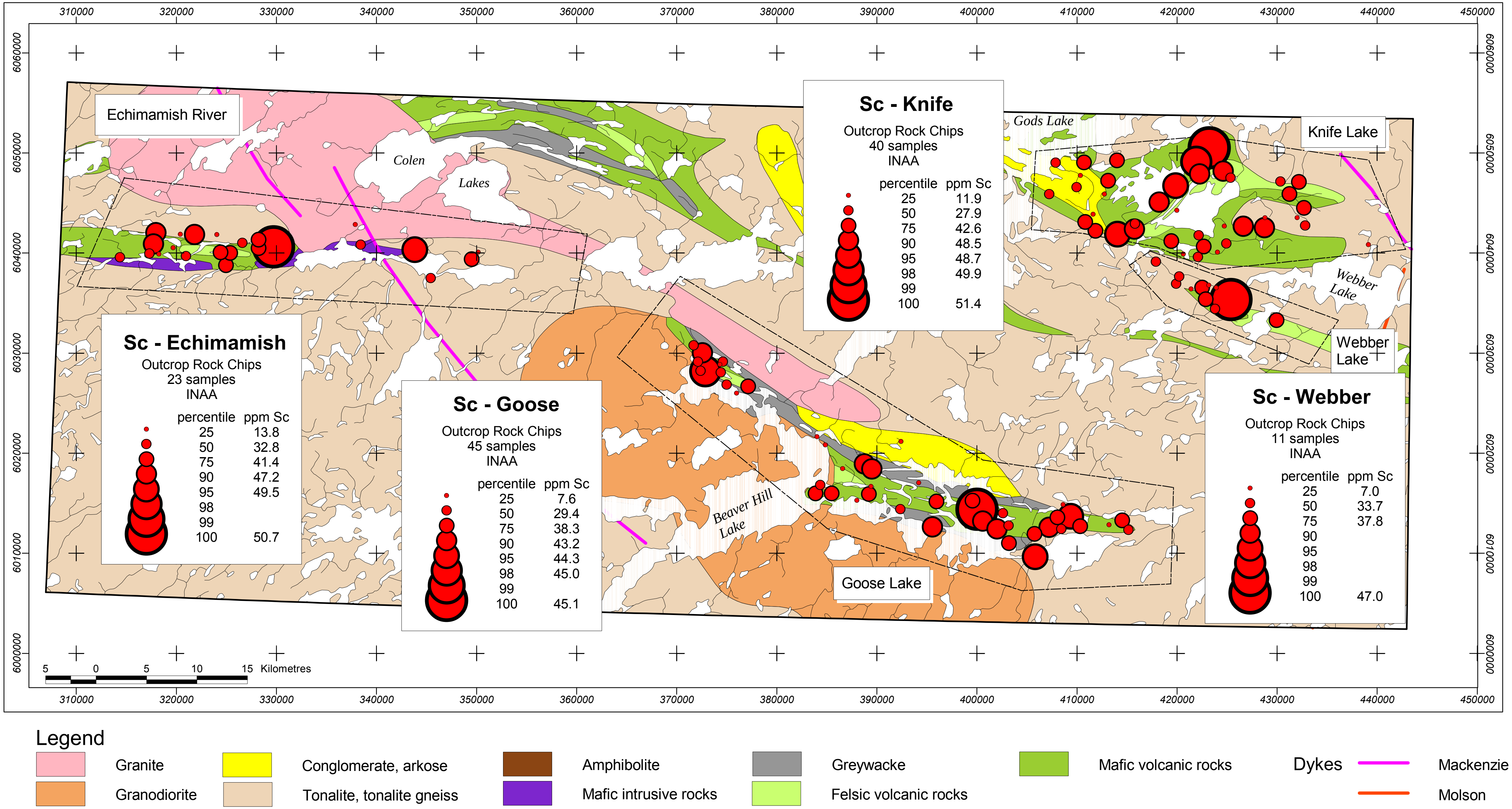
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Na - Knife
Outcrop Rock Chips
40 samples
INAA
percentile % Na
25 1.28
50 2.12
75 2.89
90 3.42
95 3.84
98 3.98
99
100 4.76
Na - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile % Na
25 0.50
50 1.56
75 2.10
90 2.47
95 2.55
98
99
100 2.68
Na - Goose
Outcrop Rock Chips
45 samples
INAA
percentile % Na
25 0.80
50 1.57
75 2.39
90 3.02
95 4.22
98
99
100 4.40
Na - Webber
Outcrop Rock Chips
11 samples
INAA
percentile % Na
25 1.36
50 2.07
75 3.36
90 3.38
95
98
99
100 3.45
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Ni
25 15
50 58
75 102
90 125
95 160
98 177
99
100 218
Ni - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Ni
25 14
50 20
75 76
90 206
95 535
98
99
100 709
Ni - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Ni
25 12
50 54
75 105
90 158
95 230
98 245
99
100 325
Ni - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Ni
25 12
50 56
75 75
90 76
95
98
99
100 77
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

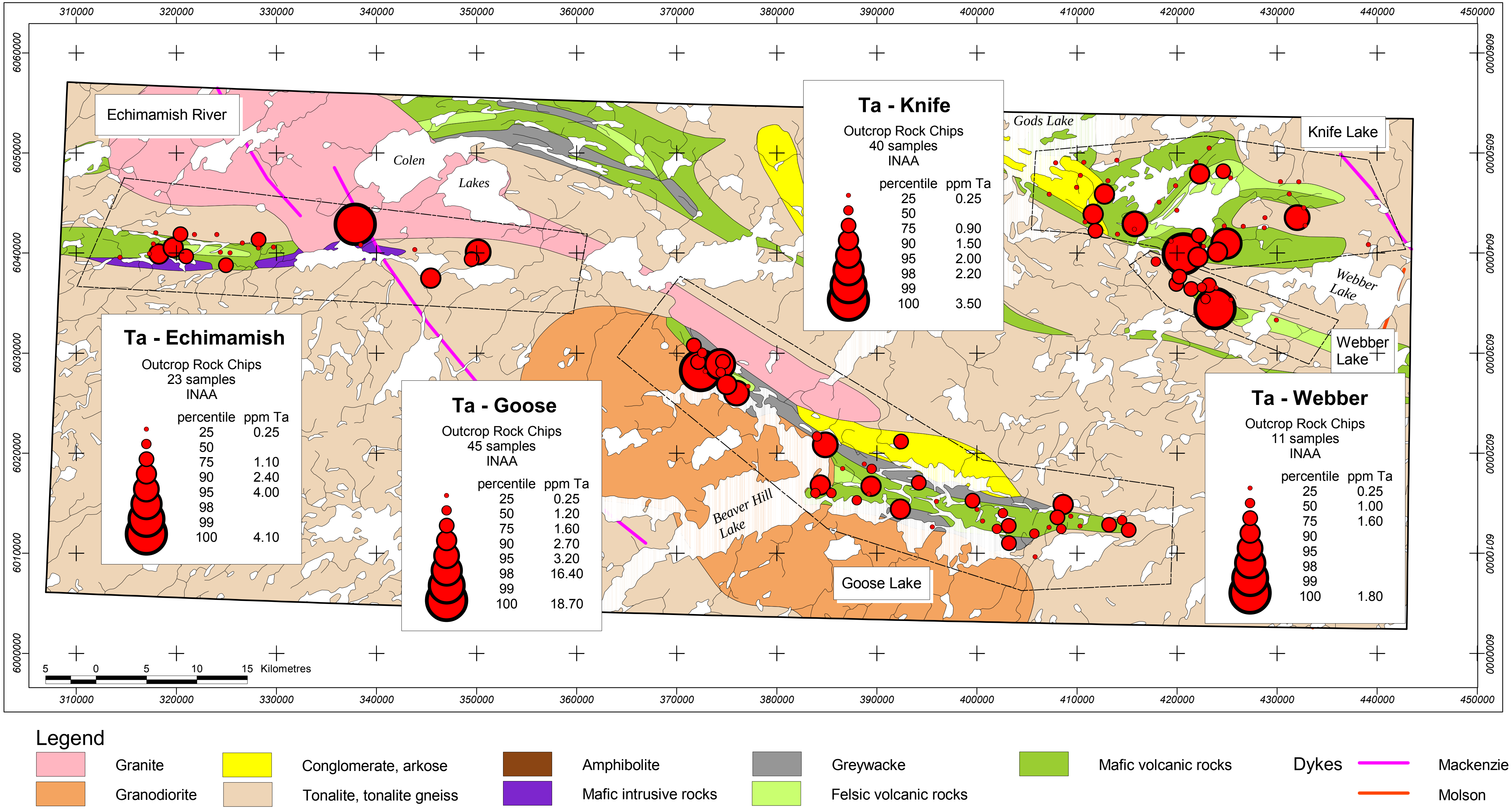


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Rb - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Rb
25 8
50 42
75 93
90 272
95
98
99
100 320
Rb - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Rb
25 8
50
75 27
90 115
95 126
98 293
99
100 330
Rb - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Rb
25 8
50
75 36
90 48
95 72
98
99
100 103
Rb - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Rb
25 8
50 18
75 41
90 117
95
98
99
100 132
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

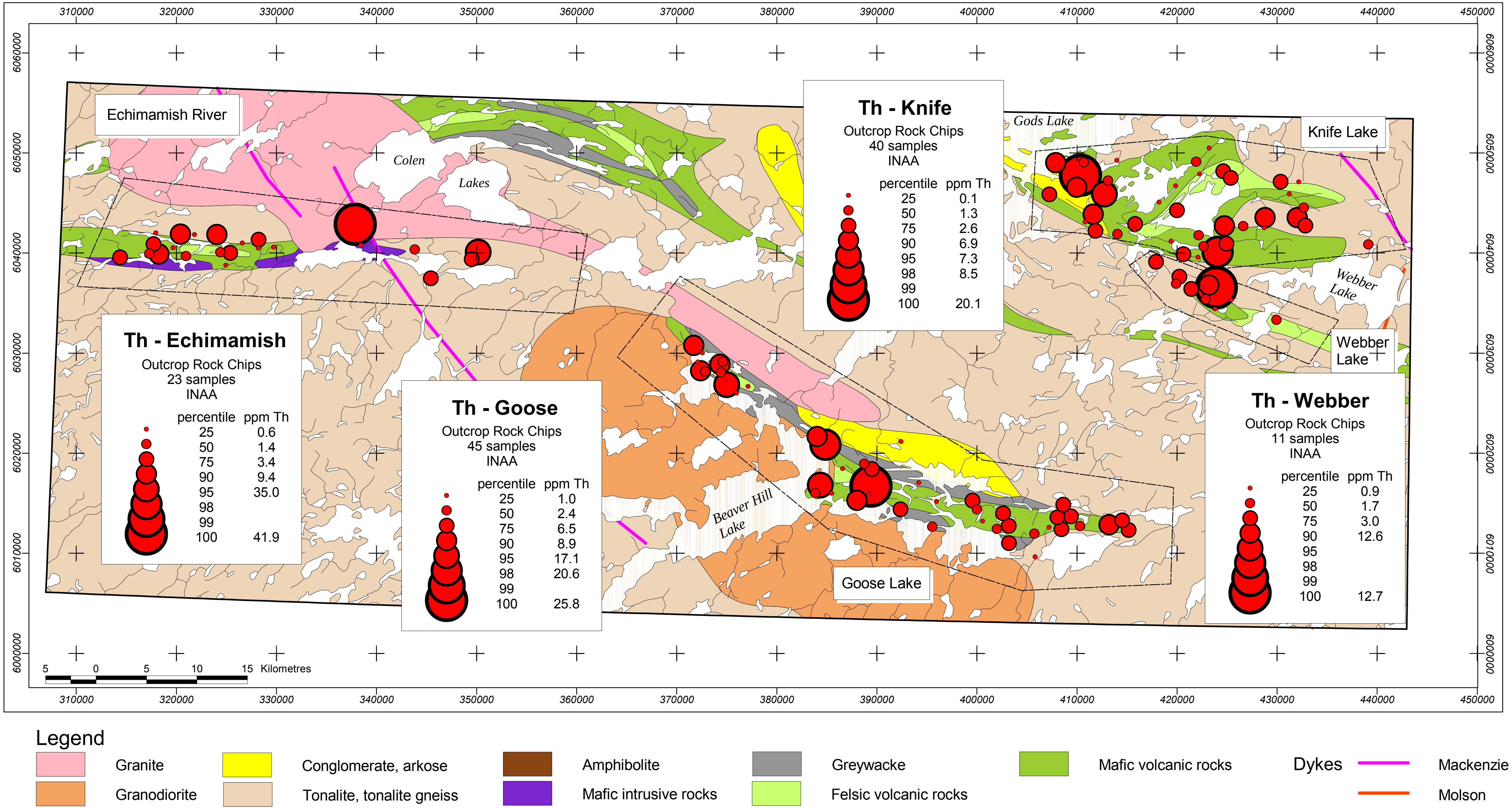

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sb - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Sb
25 0.05
50
75 0.40
90 1.00
95 1.40
98
99
100 32.70
Sb - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Sb
25 0.05
50 0.20
75 0.30
90 0.40
95 0.50
98
99
100 0.80
Sb - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Sb
25 0.30
50 1.00
75 2.70
90 6.10
95 8.00
98 11.60
99
100 13.50
Sb - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Sb
25 0.05
50
75 0.20
90 0.70
95
98
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



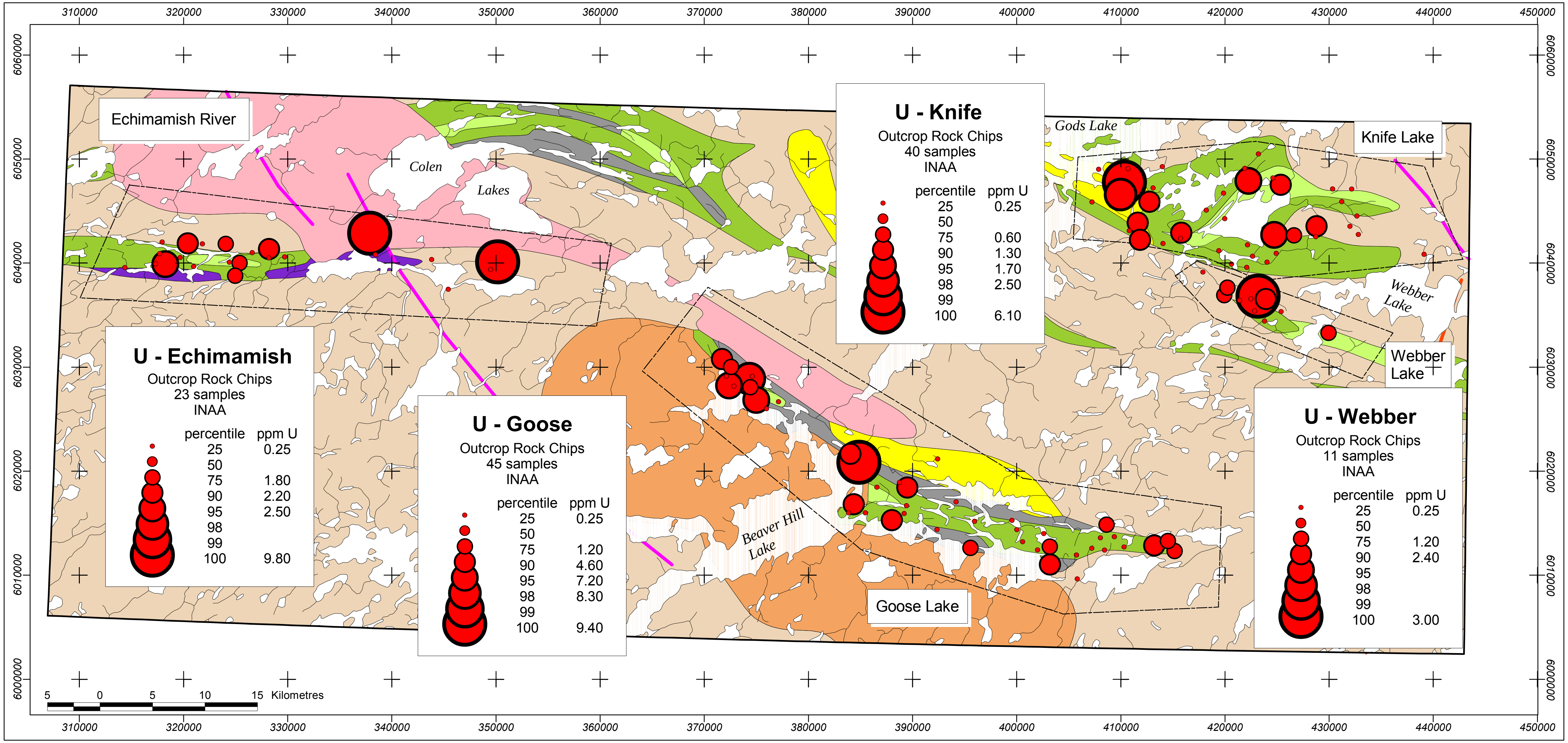
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sc - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Sc
25 11.9
50 27.9
75 42.6
90 48.5
95 48.7
98 49.9
99
100 51.4
Sc - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Sc
25 13.8
50 32.8
75 41.4
90 47.2
95 49.5
98
99
100 50.7
Sc - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Sc
25 7.6
50 29.4
75 38.3
90 43.2
95 44.3
98 45.0
99
100 45.1
Sc - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Sc
25 7.0
50 33.7
75 37.8
90
95
98
99
100 47.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ta - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Ta
25 0.25
50
75 0.90
90 1.50
95 2.00
98 2.20
99
100 3.50
Ta - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Ta
25 0.25
50
75 1.10
90 2.40
95 4.00
98
99
100 4.10
Ta - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Ta
25 0.25
50 1.20
75 1.60
90 2.70
95 3.20
98 16.40
99
100 18.70
Ta - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Ta
25 0.25
50 1.00
75 1.60
90
95
98
99
100 1.80
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

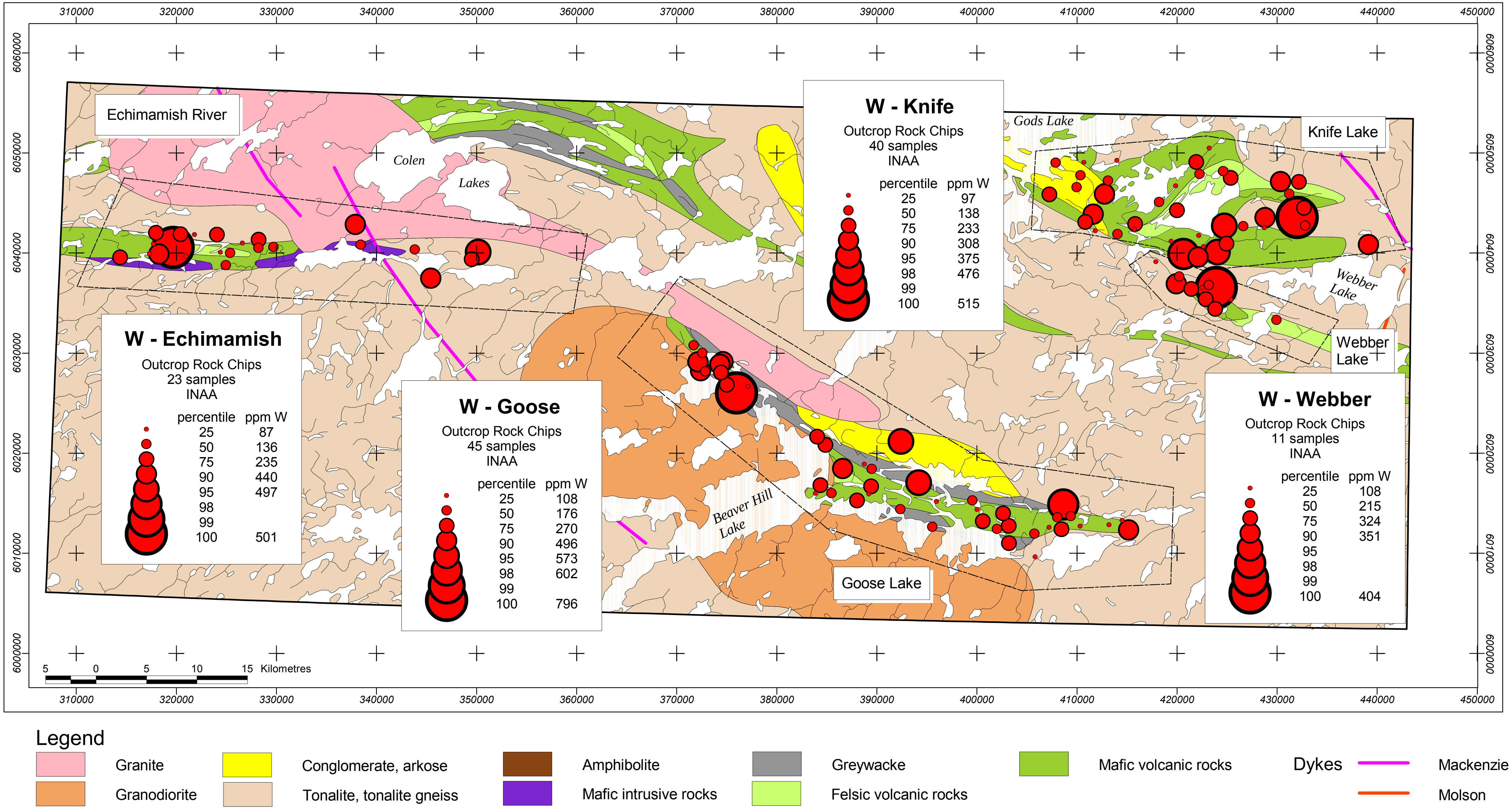


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Th - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Th
25 0.1
50 1.3
75 2.6
90 6.9
95 7.3
98 8.5
99
100 20.1
Th - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Th
25 0.6
50 1.4
75 3.4
90 9.4
95 35.0
98
99
100 41.9
Th - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Th
25 1.0
50 2.4
75 6.5
90 8.9
95 17.1
98 20.6
99
100 25.8
Th - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Th
25 0.9
50 1.7
75 3.0
90 12.6
95
98
99
100 12.7
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

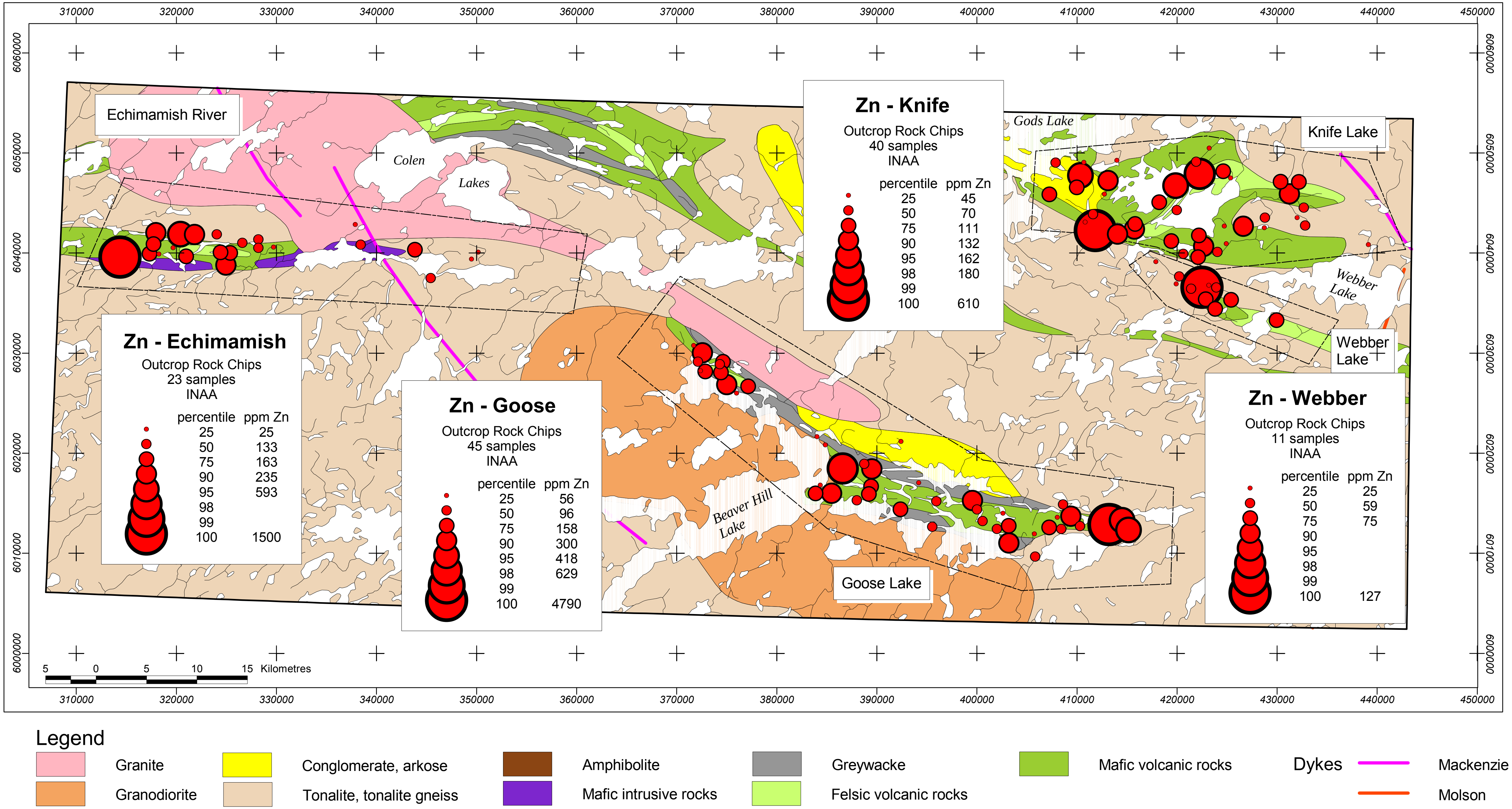


Legend

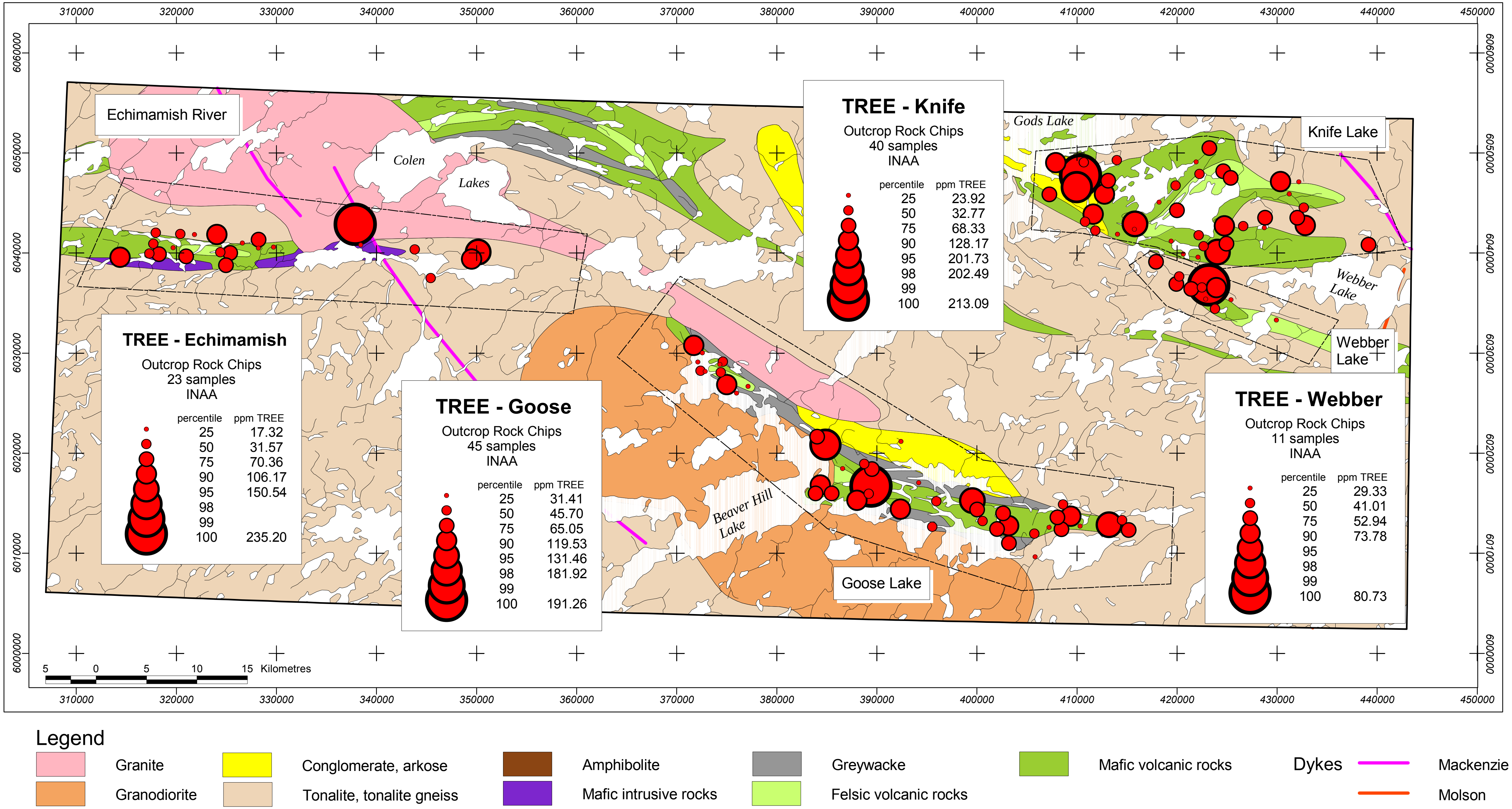
Granite	Conglomerate, arkose	Amphibolite	Greywacke	Mafic volcanic rocks	Dykes	Mackenzie
Granodiorite	Tonalite, tonalite gneiss	Mafic intrusive rocks	Felsic volcanic rocks			Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
W - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm W
25 87
50 136
75 235
90 440
95 497
98
99
100 501
W - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm W
25 108
50 176
75 270
90 496
95 573
98 602
99
100 796
W - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm W
25 97
50 138
75 233
90 308
95 375
98 476
99
100 515
W - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm W
25 108
50 215
75 324
90 351
95
98
99
100 404
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm Zn
25 45
50 70
75 111
90 132
95 162
98 180
99
100 610
Zn - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm Zn
25 25
50 133
75 163
90 235
95 593
98
99
100 1500
Zn - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm Zn
25 56
50 96
75 158
90 300
95 418
98 629
99
100 4790
Zn - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm Zn
25 25
50 59
75 75
90
95
98
99
100 127
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
TREE - Knife
Outcrop Rock Chips
40 samples
INAA
percentile ppm TREE
25 23.92
50 32.77
75 68.33
90 128.17
95 201.73
98 202.49
99
100 213.09
TREE - Echimamish
Outcrop Rock Chips
23 samples
INAA
percentile ppm TREE
25 17.32
50 31.57
75 70.36
90 106.17
95 150.54
98
99
100 235.20
TREE - Goose
Outcrop Rock Chips
45 samples
INAA
percentile ppm TREE
25 31.41
50 45.70
75 65.05
90 119.53
95 131.46
98 181.92
99
100 191.26
TREE - Webber
Outcrop Rock Chips
11 samples
INAA
percentile ppm TREE
25 29.33
50 41.01
75 52.94
90 73.78
95
98
99
100 80.73
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

Appendix 8

Rock Geochemistry: Silicate Whole Rock and Trace Element Analyses.

Sample Site	SiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	TOTAL	Ba	Sr	Y	Sc	Zr	Be	V	S	CO2
	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
98R-2	57.02	15.00	9.65	0.15	4.57	6.88	3.88	0.11	1.02	0.06	2.05	100.38	30	56	23	48	58	-1	315	0.34	0.20
98R-3	72.90	14.42	1.85	0.06	0.41	3.61	5.25	0.49	0.54	0.13	0.89	100.55	143	114	12	12	145	-1	94	0.04	0.38
98R-25	50.64	15.25	7.99	0.14	10.43	13.04	1.30	0.24	0.35	0.03	0.97	100.37	36	103	11	37	23	-1	160	0.01	-0.05
98R-36	65.10	16.80	3.90	0.06	1.65	5.85	4.01	0.86	0.45	0.13	1.36	100.18	239	427	15	11	139	1	79	0.01	-0.05
98R-40	49.65	12.70	14.54	0.19	6.10	10.60	2.90	0.06	1.10	0.13	1.77	99.74	8	105	25	49	82	-1	343	0.31	0.11
98R-52	77.13	12.40	2.32	0.02	0.36	2.53	4.32	0.59	0.21	0.04	0.44	100.37	229	182	34	7	230	1	8	0.05	-0.05
98R-61	48.46	15.12	14.31	0.21	6.53	10.73	2.01	0.48	1.31	0.06	1.10	100.32	40	97	21	46	44	-1	414	0.13	0.02
98R-66	73.65	14.48	1.42	0.02	0.46	2.11	5.10	1.60	0.17	0.06	0.90	99.96	581	445	6	2	89	-1	15	0.02	0.34
98R-68	49.87	13.46	16.46	0.21	5.74	9.40	3.14	0.10	1.44	0.14	0.40	100.37	20	97	35	47	86	1	382	0.17	0.02
98R-77	53.88	15.25	11.89	0.15	4.33	8.46	2.94	0.65	1.26	0.41	0.46	99.69	159	404	20	23	106	1	269	0.08	-0.05
98R-82	48.71	13.83	15.19	0.24	6.89	11.00	1.84	0.35	1.07	0.10	1.02	100.23	64	128	25	42	67	-1	326	0.13	0.14
98R-95	60.69	14.20	5.57	0.10	4.56	5.02	3.56	1.76	0.45	0.24	4.13	100.27	625	672	12	16	102	-1	109	0.01	2.20
98R-96	53.41	18.35	9.32	0.11	4.03	7.82	3.61	1.05	0.85	0.46	0.96	99.98	490	836	21	23	131	1	155	0.01	0.15
98R-103	48.33	14.67	12.81	0.19	7.25	11.23	2.39	0.08	0.74	0.07	3.07	100.84	20	184	19	43	46	-1	248	0.03	0.09
98R-104	72.84	14.63	1.38	0.02	0.40	1.94	4.28	3.16	0.19	0.08	0.77	99.69	821	307	7	2	117	1	14	-0.01	0.12
98R-123	50.00	14.58	12.96	0.16	6.23	10.02	2.91	0.39	1.21	0.11	1.94	100.49	69	98	30	42	75	1	343	1.00	0.09
98R-131	47.14	15.84	13.97	0.21	8.67	10.34	2.10	0.25	0.92	0.09	1.20	100.72	53	125	25	31	71	-1	225	0.07	0.02
98R-133	44.00	8.73	17.21	0.25	16.30	9.15	0.49	0.06	0.53	0.05	3.43	100.21	16	18	16	46	34	-1	196	0.07	0.27
98R-140	45.46	15.68	17.54	0.25	7.15	7.66	2.81	0.13	1.69	0.20	1.89	100.45	49	154	41	44	126	1	355	0.14	0.08
98R-151	52.97	12.27	19.31	0.33	2.94	7.25	1.98	0.48	2.27	0.42	-0.02	100.20	154	140	75	35	268	1	52	0.07	-0.05
98R-157	45.88	13.79	16.58	0.25	9.50	10.04	1.35	0.74	0.92	0.09	1.16	100.31	102	100	20	45	62	-1	235	0.03	-0.05
98R-163	48.68	15.94	14.62	0.21	6.31	8.25	3.39	0.15	1.49	0.16	1.07	100.26	61	176	37	40	119	1	295	0.03	-0.05
98R-164	29.64	2.04	56.24	1.83	6.21	4.27	0.16	-0.01	0.13	0.03	-0.91	99.65	7	2	31	6	16	-1	41	0.05	0.07
98R-172	47.76	12.09	21.75	0.64	4.57	9.42	1.17	0.40	1.61	0.16	0.45	100.03	145	69	39	42	120	1	329	0.99	0.05
98R-173	71.09	8.62	12.83	0.27	0.81	0.16	0.45	1.10	0.30	0.07	4.78	100.48	179	33	15	8	106	-1	59	3.35	-0.05
98R-177	30.33	18.03	19.14	0.22	20.03	3.68	0.40	0.04	0.83	0.07	7.36	100.14	48	20	14	46	52	-1	323	0.05	0.05
98R-181	49.00	15.26	8.81	0.16	11.06	12.33	1.42	0.16	0.31	0.04	1.20	99.75	29	140	9	33	25	-1	146	0.02	-0.05
98R-206-2	41.94	16.62	8.61	0.14	14.84	13.34	1.45	0.31	0.16	0.01	3.00	100.42	28	51	7	32	15	-1	125	0.06	0.14

Appendix 9

Rock Geochemistry: Trace Elements.

Sample	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
98R-2	283	256	59	111	128	102	12	-1	-5	-2	56	20	63	2	-2	-0.5	-0.2	-1	-0.5	-0.5	25	2.5	7.7	1.20	6.7	2.4	0.73	2.8	0.6
98R-3	83	43	50	41	13	-30	17	1	5	13	120	10	163	7	-2	-0.5	-0.2	-1	0.6	1.1	126	16.3	33.6	3.43	13.6	2.6	0.97	2.4	0.4
98R-25	154	182	54	135	42	52	12	2	-5	13	105	9	20	-1	-2	-0.5	-0.2	1	0.5	7.8	34	3.3	7.2	0.84	4.1	1.1	0.42	1.4	0.3
98R-36	71	23	32	21	21	-30	18	1	9	27	427	12	139	7	-2	-0.5	-0.2	1	-0.5	0.4	214	21.3	38.8	3.77	13.6	2.5	0.74	2.4	0.4
98R-40	304	40	57	36	239	84	17	1	-5	-2	105	24	81	3	-2	-0.5	-0.2	-1	-0.5	-0.5	5	5.7	13.6	1.66	7.6	2.4	0.76	3.0	0.6
98R-52	-5	-20	43	-15	14	-30	17	1	-5	18	188	33	250	9	2	-0.5	-0.2	1	-0.5	1.4	203	28.9	58.9	6.45	24.5	5.0	0.95	5.2	0.9
98R-61	360	127	63	89	96	96	18	1	-5	15	95	18	44	1	-2	-0.5	-0.2	-1	-0.5	-0.5	35	2.2	6.2	0.92	5.2	1.9	0.77	2.4	0.5
98R-66	15	-20	28	-15	-10	-30	21	-1	-5	45	446	3	94	2	-2	-0.5	-0.2	-1	-0.5	1.1	517	10.4	19.9	2.06	8.0	1.5	0.48	1.2	0.1
98R-68	334	-20	65	47	86	73	20	2	-5	-2	108	34	84	4	-2	-0.5	-0.2	-1	-0.5	-0.5	17	4.3	12.8	1.99	11.3	3.7	1.24	4.8	0.9
98R-77	251	62	59	84	62	137	21	1	-5	14	413	19	109	8	-2	-0.5	-0.2	1	-0.5	0.8	145	18.9	45.7	5.61	23.5	4.6	1.47	4.3	0.6
98R-82	308	162	73	100	78	120	20	1	-5	6	135	25	67	3	3	-0.5	-0.2	-1	-0.5	-0.5	58	2.9	8.2	1.24	6.7	2.3	0.96	3.2	0.6
98R-82 REP	295	157	71	83	74	113	19	2	-5	6	130	24	63	3	3	-0.5	-0.2	-1	-0.5	-0.5	57	3.1	9.1	1.36	7.3	2.6	1.04	3.4	0.7
98R-95	107	233	35	64	28	90	20	1	-5	45	690	10	98	4	-2	-0.5	-0.2	-1	0.6	1.6	548	30.3	63.1	7.25	29.1	5.1	1.33	3.6	0.4
98R-96	153	101	54	108	82	110	23	2	-5	31	906	21	139	7	-2	-0.5	-0.2	-1	-0.5	1.2	467	48.7	103.6	11.59	46.5	7.9	2.10	6.1	0.7
98R-103	236	158	58	66	129	99	17	2	8	-2	196	18	41	2	-2	-0.5	-0.2	-1	0.6	-0.5	18	3.1	7.8	1.15	6.0	2.0	0.74	2.3	0.4
98R-104	12	-20	38	-15	-10	41	22	-1	-5	128	320	5	116	6	-2	-0.5	-0.2	1	-0.5	3.0	859	25.6	42.1	3.94	13.9	2.3	0.50	1.7	0.2
98R-123	337	126	77	55	156	88	21	2	10	12	104	30	72	4	-2	-0.5	-0.2	-1	1.0	1.6	60	5.0	12.9	1.84	9.9	3.2	1.18	4.0	0.8
98R-131	226	191	77	204	97	146	19	2	-5	5	134	24	70	4	-2	-0.5	-0.2	1	0.6	-0.5	48	5.5	13.3	1.77	8.6	2.7	0.97	3.2	0.6
98R-133	195	707	109	390	127	104	12	2	15	-2	19	15	31	2	-2	-0.5	-0.2	-1	1.1	-0.5	13	2.6	6.5	0.89	4.6	1.5	0.58	1.8	0.4
98R-140	343	129	66	25	122	146	24	2	-5	4	162	42	123	7	-2	-0.5	-0.2	1	0.9	0.5	39	9.2	22.4	2.86	13.4	4.4	1.49	5.3	1.0
98R-151	42	-20	52	-15	26	239	27	2	-5	9	150	80	276	16	-2	-0.5	-0.2	4	1.4	1.1	133	27.1	62.7	7.99	37.0	10.8	3.21	12.5	2.2
98R-157	236	344	87	156	50	175	17	2	24	418	102	20	60	3	-2	-0.5	-0.2	-1	-0.5	281.8	90	4.7	11.4	1.50	7.3	2.2	0.88	2.7	0.5
98R-163	285	127	61	75	72	116	21	2	39	-2	185	37	117	6	-2	-0.5	-0.2	1	4.4	0.5	52	8.7	20.6	2.67	13.4	4.1	1.37	5.0	0.9
98R-164	32	-20	27	73	31	649	12	5	6	-2	-2	29	19	-1	-2	-0.5	-0.2	7	0.7	-0.5	-3	1.7	1.8	0.23	1.5	1.2	0.38	2.9	0.7
98R-172	327	104	66	65	206	459	24	2	10	8	76	42	126	8	-2	-0.5	-0.2	2	-0.5	1.5	139	13.1	28.8	3.86	18.9	5.3	1.59	6.3	1.1
98R-173	59	65	84	51	55	122	13	1	-5	35	36	14	108	5	-2	-0.5	-0.2	1	1.8	2.2	161	18.4	33.6	3.40	13.1	2.5	0.64	2.2	0.4
98R-177	320	2905	121	709	11	168	26	1	-5	-2	20	13	50	3	-2	-0.5	-0.2	-1	-0.5	-0.5	41	0.8	3.5	0.37	2.2	0.9	0.24	1.5	0.3
98R-177 REP	329	2978	122	681	-10	186	26	2	-5	-2	20	13	50	3	-2	-0.5	-0.2	1	-0.5	-0.5	42	0.7	3.1	0.35	2.0	0.9	0.23	1.5	0.3
98R-181	151	371	75	238	127	66	13	2	-5	5	154	8	22	1	-2	-0.5	-0.2	-1	-0.5	1.3	24	2.5	5.5	0.68	3.0	1.0	0.40	1.2	0.2
98R-206-2	128	367	85	403	297	170	13	2	9	8	54	5	9	-1	-2	-0.5	-0.2	3	-0.5	0.6	24	1.0	2.4	0.31	1.5	0.5	0.20	0.6	0.1
Standards																													
Blank	-5	-20	-1	-15	-10	-30	-1	-1	-5	-2	-2	-1	-5	-1	-2	-0.5	-0.2	-1	-0.5	-0.5	-3	-0.1	-0.2	-0.05	-0.1	-0.1	-0.05	-0.1	-0.1
Standard STM1	-5	-20	-1	-15	-10	230	35	2	-5	117	689	46	1,210	268	5	-0.5	-0.2	7	1.5	1.5	575	150	257	20.1	79	13	3.61	9.8	1.5
Certified STM1	(8.7)	(4.3)	0.9	(3)	(4.6)	235*	36*	(1.4)	4.6	118*	700*	46*	1210*	268*	5.2	0.079*	(0.12)	6.8	1.66*	1.54*	560*	150*	259*	19*	79*	12.6*	3.6*	9.5*	1.55*
Standard MAG1	135	97	22	48	27	126	23	1	11	152	148	28	121	16	-2	-0.5	-0.2	3	0.9	8.2	483	44	89	9.79	38	7.5	1.51	5.6	1.0
Certified MAG1	140*	97*	20.4*	53*	30*	130*	20.4*		9.2	149*	146*	28*	126*	12	1.6	0.08	(0.18)	3.6	0.96*	8.6*	479*	43*	88*	9.3	38*	7.5*	1.55*	5.8*	0.96*
Standard BIR1	312	390	51	161	125	75	16	1	-5	-2	112	16	15	1	-2	-0.5	-0.2	-1	0.5	-0.1	7	0.7	2.2	0.37	2.4	1.1	0.56	1.8	0.4
Certified BIR1	313*	382*	51.4*	166*	126*	71*	16	1.5	(0.4)	0.25*	108*	16*	16	0.6	(0.5)	(0.036)		0.65	0.58	0.005	7	0.62*	1.95*	0.38*	2.5*	1.1*	0.54*	1.85*	0.36*
Standard DNC1	152	274	55	252	90	66	13	1	-5	3	147	18	36	2	-2	-0.5	-0.2	2	0.9	0.2	106	3.8	9	1.22	4.9	1.3	0.59	2.0	0.4
Certified DNC1	148*	285*	54.7*	247*	96*	66*	15	(1.3)	(0.2)	(4.5)	145*	18*	41*	3	(0.7)	(0.027)			0.96*	(0.34)	114*	3.8*	10.6	1.3	4.9*	1.38*	0.59*	2	0.41*
Standard SY3	47	-40	4	-30	32	225	34	3	19	207	312	718	332	146	-4	-1	-0.4	8	0.6	2.5	442	1,340	2,233	223	671	109	17.0	105	18
Certified SY3	50	(11)	8.8	11	17	244*	27*	1.4	18.8	206*	302*	718*	320	148	(1.0)	(1.5)		(6.5)	0.31	2.5	450	1340*	2230*	223*	670	109	17*	105*	18
Standard GXR1	82	-40	8	53	1,115	780	14	3	427	-4	313	33	31	-2	19	31	0.8	54	122	2.8	693	7.9	16	1.96	8.6	2.7	0.69	4.3	0.9
Certified GXR1	80	12	8.2	41	1,110	760	13.8		427	(14)	275	32	(38)	(0.8)	18	31	0.77	54	122	3	750	7.5	17		(18)	2.7	0.69	4.2	0.83

Sample	V ppb	Cr ppb	Co ppb	Ni ppb	Cu ppb	Zn ppb	Ga ppb	Ge ppb	As ppb	Rb ppb	Sr ppb	Y ppb	Zr ppb	Nb ppb	Mo ppb	Ag ppb	In ppb	Sn ppb	Sb ppb	Cs ppb	Ba ppb	La ppb	Ce ppb	Pr ppb	Nd ppb	Sm ppb	Eu ppb	Gd ppb	Tb ppb

NOTE: ' * ' = RECOMMENDED VALUES
' ( ) ' = INFORMATION VALUES
ALL OTHER VALUES ARE PROPOSED

Sample	Dy ppb	Ho ppb	Er ppb	Tm ppb	Yb ppb	Lu ppb	Hf ppb	Ta ppb	W ppb	Tl ppb	Pb ppb	Bi ppb	Th ppb	U ppb
98R-2	3.8	0.8	2.4	0.38	2.2	0.35	2.0	0.5	110	-0.1	-5	-0.2	0.3	-0.1
98R-3	1.9	0.3	0.9	0.13	0.7	0.11	4.1	1.4	248	-0.1	6	-0.2	3.0	0.6
98R-25	1.5	0.3	1.0	0.15	1.0	0.15	0.7	0.4	90	0.1	-5	0.3	0.8	0.2
98R-36	2.1	0.4	1.3	0.20	1.2	0.20	3.5	1.3	194	0.1	8	0.2	10.1	2.5
98R-40	4.0	0.9	2.6	0.44	2.5	0.41	2.4	0.6	112	-0.1	-5	0.2	1.9	0.4
98R-52	5.4	1.1	3.4	0.55	3.3	0.54	6.7	2.1	381	0.1	16	-0.2	8.1	1.5
98R-61	3.3	0.7	2.0	0.33	1.9	0.31	1.4	0.4	96	-0.1	-5	-0.2	0.3	-0.1
98R-66	0.6	-0.1	0.3	0.04	0.2	-0.04	2.7	0.9	220	0.2	6	-0.2	2.7	0.9
98R-68	5.9	1.2	3.7	0.57	3.4	0.56	2.6	0.6	110	-0.1	-5	-0.2	0.5	-0.1
98R-77	3.4	0.6	1.9	0.27	1.6	0.25	2.7	1.0	179	-0.1	7	-0.2	2.8	0.4
98R-82	4.0	0.8	2.4	0.37	2.2	0.35	2.0	0.6	131	0.2	-5	-0.2	0.4	0.1
98R-82 REP	4.4	0.9	2.6	0.42	2.4	0.41	2.0	0.6	143	-0.1	-5	-0.2	0.4	0.1
98R-95	1.8	0.3	0.8	0.12	0.8	0.11	2.7	0.6	142	0.3	9	-0.2	6.1	1.3
98R-96	3.8	0.7	1.8	0.26	1.6	0.23	3.4	0.8	148	0.2	12	-0.2	7.2	1.5
98R-103	2.7	0.6	1.8	0.28	1.7	0.27	1.2	0.6	122	-0.1	-5	-0.2	0.4	-0.1
98R-104	0.8	0.1	0.4	0.06	0.3	0.05	3.5	2.0	432	1.0	19	-0.2	13.0	3.0
98R-123	5.1	1.1	3.2	0.51	3.0	0.48	2.3	0.9	228	0.2	-5	-0.2	0.6	0.1
98R-131	3.8	0.8	2.4	0.39	2.3	0.40	2.0	0.7	126	-0.1	8	-0.2	1.4	0.3
98R-133	2.5	0.5	1.6	0.24	1.4	0.23	1.0	0.2	41	0.1	-5	-0.2	0.6	0.1
98R-140	7.0	1.5	4.3	0.71	4.1	0.65	3.7	0.7	90	-0.1	-5	-0.2	2.3	0.6
98R-151	13.6	2.9	8.1	1.31	7.9	1.19	8.2	1.5	156	-0.1	-5	-0.2	5.6	1.5
98R-157	3.1	0.7	2.0	0.32	1.8	0.28	1.7	0.4	81	5.0	8	-0.2	1.1	0.3
98R-163	5.9	1.3	3.7	0.59	3.5	0.57	3.5	0.8	113	0.3	-5	-0.2	2.1	0.5
98R-164	4.5	1.0	2.7	0.41	2.4	0.37	0.5	0.1	681	-0.1	-5	0.3	0.3	0.1
98R-172	7.1	1.5	4.4	0.68	4.2	0.72	3.9	1.1	210	0.1	8	-0.2	2.5	0.7
98R-173	2.2	0.4	1.4	0.23	1.4	0.23	3.0	1.1	248	1.0	17	-0.2	7.2	4.7
98R-177	2.2	0.5	1.4	0.24	1.4	0.21	1.4	0.2	17	0.1	-5	-0.2	0.9	0.2
98R-177 REP	2.1	0.5	1.3	0.22	1.4	0.22	1.6	0.2	13	-0.1	38	-0.2	0.8	0.2
98R-181	1.3	0.3	0.8	0.13	0.8	0.13	0.6	0.5	105	0.2	7	-0.2	0.6	0.2
98R-206-2	0.8	0.2	0.5	0.08	0.6	0.09	0.3	0.2	61	0.5	9	0.5	0.3	-0.1
Standards														
Blank	-0.1	-0.1	-0.1	-0.05	-0.1	-0.04	-0.2	-0.1	-0.5	-0.1	-5	-0.2	-0.1	-0.1
Standard STM1	8.1	1.7	4.3	0.69	4.2	0.61	29	19	3.4	0.3	17	-0.2	31	8.8
Certified STM1	8.1*	1.9	4.2*	0.69	4.4*	0.60	28*	18.6*	3.6*	0.26	17.7*	0.13	31*	9.06*
Standard MAG1	5.2	1.0	2.8	0.44	2.6	0.37	3.7	1.2	1.5	0.2	20	0.2	13	2.9
Certified MAG1	5.2*	1.02*	3	0.43*	2.6*	0.40*	3.7*	1.1	1.4	(0.59)	24*	0.34	11.9*	2.7*
Standard BIR1	2.6	0.6	1.8	0.27	1.7	0.27	0.6	-0.1	-0.5	-0.1	-5	-0.2	-0.1	-0.1
Certified BIR1	2.5*	0.57*	1.7*	0.26*	1.65	0.26*	0.6*	0.04	0.07	(0.01)	3	(0.02)	0.03	0.01
Standard DNC1	2.8	0.6	2.0	0.31	2.0	0.33	1.0	-0.1	0.7	-0.1	-5	-0.2	0.2	0.1
Certified DNC1	2.7	0.62	2*	(0.33)	2.01*	0.32*	1.01*	0.098*	(0.2)	(0.026)	6.3	(0.02)	(0.2)	(0.1)
Standard SY3	118	29	68	11.6	62	7.91	10	25	2.0	1.5	136	0.9	1,003	650
Certified SY3	118	29.5*	68	11.6*	(62)	7.9	9.7	30*	1.1*	1.5	133*	(0.8)	1003*	650*
Standard GXR1	4.7	1.0	2.9	0.43	2.1	0.31	0.9	-0.2	164	0.5	732	1,380	2.9	35
Certified GXR1	4.3			(0.43)	1.9	0.28	0.96	0.175	164	(0.39)	730	1380	2.44	34.90

TILL GEOCHEMICAL SURVEY

Introduction

Till samples were collected for geochemical and kimberlite indicator mineral analyses at 152 of the 287 field stops made in the Edmund Lake and Sharpe Lake greenstone belts. Observations on the ice-flow history, indicated by the orientation of glacial striations and drumlins, as well as observations on the Quaternary geology and sediment provenance relevant to the interpretation of the till geochemistry and kimberlite indicator mineral distribution, were an integral component of the field work. As in previous years, particular attention and effort was made to collect only those sediment samples that met the most rigorous criteria of what might be classified as till.

Methods

Field Methods

All till samples were collected from hand-dug pits. The pits were either dug to bedrock, or to a maximum depth of about one metre, or until the first unoxidized gray to buff, silty C-horizon till was intersected. Of the 152 till samples collected, 121 were obtained from under a relatively impervious layer of fine textured glaciolacustrine clay or silty clay. For this reason these samples are considered to be relatively unweathered C-horizon tills. Of the remaining 31 samples only 11 (6, 23, 28, 62, 79, 95, 109, 189, 196, 199 and 256) showed visible signs of oxidation. A half kilogram of till was collected for geochemical analyses and an 11 litre pail of till was collected for diamond indicator mineral processing from each site.

Laboratory Methods

Two size fractions, a <2µm (clay-sized) fraction and a <63µm (silt and clay) sized fraction, were prepared in the Manitoba Energy and Mines rock laboratory. The <2µm fraction was prepared following standard procedures of centrifuging and decanting. The <63µm fraction was prepared by dry sieving on a 63µm stainless steel sieve. The <2µm fraction was analyzed by ICP-AES (34 element suite). In addition arsenic was analyzed by hydride generation and mercury was analyzed by cold vapour. The <63µm fraction was analyzed by INAA (Au +34 element suite).

Results

Clay Fraction (<2µm)

The results of the analysis on the clay-sized fraction are listed in Appendix 1 and the percentile bubble plots for the analytical data are presented in Appendix 2. The results of analysis of duplicate samples are listed in Appendix 3. For ease of comparison, the elements displayed in the bubble plots are the same as those presented in the report for the adjoining area (Fedikow et al., 1998).

Goose Lake Belt

A single prominent high Cu value (320 ppm), coincident with elevated Hg and As, is found at site 157, between Rochon and Goose lakes. Elevated Cu levels also occur at sites 148, 126 and 172. Samples 16, 17 and 130, collected from ribbed moraine over granite bedrock, north of the greenstone belt, show elevated Cu values compared to more calcareous samples from within the greenstone belt, such as in the area at the west end of Beaverhill Lake. Sample 16 also has the highest Pb value (55 ppm) and with samples 17 and 130 shows elevated levels of Ni, Co, Fe, Ba, Cr, V, Na, K, Nb, Ti and Hg. A multi-element, multi-sample anomaly of Cu, Pb, Zn, Co, Mn, Mg, K, Zr and As is found at sites 170 and 172. Samples 144, 145 and 161 have slightly elevated levels of Pb, Zn, Mn, Mg and K. Sites 21, 162 and 163 have slightly elevated levels of Co, Fe, Ba, Cr, V, Al, Na and Zr. High values of Pb, Zn and As (248 ppm) are found in sample 124, near the east end of Rochon Lake.

Webber Lake Belt

Only 22 till samples were collected from the Webber Lake belt and care must be exercised in interpreting percentiles calculated from such a small sample population.

Site 99, near the eastern margin of the sampling area has slightly elevated levels of Cu, Fe, Cr, La, Na, Y, Sc and Hg.

Knife Lake Belt

Nickel, Co, Fe, Ba, Cr, V, Al, Li, Nb, Sc and As are marginally elevated at sites 73 and 96. Lead, Mn, Na, Y and Hg are slightly elevated at site 85, north of Webber Lake.

Echimamish River Belt

Till samples overlying mainly granitic rocks and minor supracrustal rocks between Colen Lakes and Aswapiswanan Lake, in the eastern half of the belt sampled in 1998, are noticeably enriched in most elements compared to the western end of the belt. Copper, Pb, Zn, Ni, Co, Fe, Mn, Ba, Cr, La, Al, Na, K, Sr, Y, Li, Hg and As values are elevated in the eastern end of the belt. The highest Cu value (95 ppm) is coincident with the highest Cr value (88 ppm) at site 201. Elevated Pb (51 ppm) and Zn (84 ppm) are coincident at site 197. Only Nb, with a maximum value of 3 ppm at site 40, can be considered marginally enriched in the western end of the belt.

Silt Plus Clay Fraction (<63µm)

Analytical data (INAA) for the silt plus clay fraction is listed in Appendix 4 and the duplicate pair analysis are listed in Appendix 5. The percentile bubble plots are shown in Appendix 6.

Goose Lake Belt

Gold is not anomalous in any of the till samples collected in the1998 field season. Arsenic is anomalous at three sites near the eastern end of Rochon Lake (sites 18, 124 and 126), as well as at sites 21, 158 and 172 near the west end of Goose Lake. Sample 172 also has the highest values of Co, Sb, Th, U and TREE. Bromine and Ca have their highest values near the western end of Beaverhill Lake. A multi-element anomaly of Cr, Fe, Mo Sc occurs at site 153. Sample 163, north of Goose Lake, has 117 ppm Cr.

Webber Lake Belt

The highest Au value (9 ppb) obtained in the1998 till sampling survey, was from site 118 in the Webber Lake belt. Nickel, with a value of 115 ppm at site 106 may be marginally anomalous, as is Zn with a value of 73 ppm, at site 111.

Knife Lake Belt

Sites 70, 73, 96 and 123, immediately west of Chataway Lake define a multi-element, multi-sample area of higher concentrations of As, Ba, Co, Cr, Fe, Rb, Sb, Sc, Th and TREE.

Echimamish River Belt

Elevated levels of Ba are found at sites 48 and 181 near the western end of Aswapiswanan Lake, and a high Br value occurs at site 47. Otherwise, the highest levels of Co, Cr, Cs, Fe, Na, Ni, Rb, Ta, Th and U occur north of Aswapiswanan Lake.

Carbonate Content

The results of the carbonate analyses are listed in Appendix 7 and the percentile bubble plots are presented in Appendix 8.

The total carbonate content (calcite plus dolomite) is thought to be a reliable indicator of long distance glacial transport of material from the Hudson Bay Lowland to the north and northeast of the area. Variations in the calcite and dolomite content may reflect differences in the source areas, but may also reflect pedogenic processes as proposed by Matile and Thorleifson (1997) who felt that only the dolomite was a reliable indicator of the primary carbonate content. Appendix 9 shows the relationship between the percent calcite and the percent dolomite in all till samples collected in the 1998 survey. Dolomite concentrations vary between relatively narrow limits (10% and 25%) whereas calcite ranges between slightly wider limits (5% and 25%). There is no apparent relationship between calcite and dolomite concentrations suggesting significant pedogenic alteration and confirming the conclusion of Matile and Thorleifson (1997). A small group of samples have less than 3% of both calcite and dolomite indicating either severe carbonate leaching or a local provenance of the till samples. Of these, 13 samples (16, 17, 21, 25, 138, 140, 146, 148, 149, 151, 153, 163 and 166) are from the Goose Lake belt and two samples (73 and 96) are from the Knife Lake belt. Field relations indicate the majority of these samples are locally derived and have little or no allochthonous component.

The carbonate content of till samples from the Knife Lake, Webber Lake and Echimamish River belts are similar with maximum values of 44-45% and a mean value of about 38%. This is in sharp contrast to the Goose Lake Belt where the mean carbonate content is only 26%, reflecting the sandier texture and the higher local bedrock contribution to many of the till samples in the area.

Goose Lake Belt

A cluster of samples with relatively high levels of calcite and dolomite that are not representative of the belt occurs along the north side of Beaverhill Lake, near the western end of the Goose Lake belt. The rest of the samples in the belt have relatively low carbonate values with the exception of sample 168, on the north side of Goose Lake, which has the highest calcite value in the belt (23.80 %) and sample 175 which has the second highest dolomite content (28%).

The calcite content of the till samples from this belt ranges from 0.20% to 23.8% with a mean of 12.3%. Dolomite ranges from 0.00% to 28.9% with a mean of 14.2% and the total carbonate content ranges from 0.48% to 47.6% with a mean of 26.4%.

Webber Lake Belt

The Webber Lake samples are all relatively high in carbonate with total carbonate ranging between 27-44%. Sample 103 is high in dolomite and sample 112 is high in calcite.

Knife Lake Belt
The range of calcite and dolomite values for the Knife River belt is similar to that of the Webber Lake belt. Calcite values are relatively high between Knife and Chataway lakes and dolomite values are marginally lower in the same area.

Echimamish River Belt
Calcite values range between 10.36% and 24.50% in the Echimamish belt with the highest value of 24.50% occurring in sample 39. Dolomite values range between 16.11% and 24.93% with the highest value occurring in sample 49. The eastern end of the belt has slightly lower dolomite and total carbonate values compared to the western end of the belt.

Discussion

Appendix 10 shows the relationship between total carbonate and the geochemistry of the clay-sized fraction of the till samples. Most elements are negatively correlated with total carbonate, so that as the carbonate content increases, elemental concentrations decrease. Only magnesium and strontium are positively correlated with total carbonate indicating these elements were derived from the same source as the carbonate, namely the limestone and dolomite bedrock the Hudson Bay Lowland. The local elemental signature of the till sheet is clearly diluted with allochthonous carbonate material from the Hudson Bay Lowland.

From visual examination of Appendix 10 the following till samples, with values above those predicted from the carbonate content, may be considered anomalous;

- samples 126, 148, 157 and 175 are anomalous in copper in the Goose Lake belt,
- samples 16, 124, 143, 144, 145, 161, 171, 172, 175, in the Goose Lake belt and samples 190, 193, 197 and 205 in the Echimamish River belt are anomalous in lead,
- samples 126, 171, 172 and 175 in the Goose lake belt are anomalous in zinc,
- samples 17, 152 and 175 in the Goose Lake belt are anomalous in nickel,
- samples 16, 17, 126, 136, 148, 155, 165, 172 and 175 in the Goose Lake belt are anomalous in cobalt,
- sample 175 in the Goose Lake area is anomalous in barium,
- sample 190 from the Echimamish River area is anomalous in chromium,
- sample 175 from the Goose Lake belt is anomalous in vanadium,
- samples 85 from the Knife Lake, 99 from the Webber lake and 193 from the Echimamish River belts have elevated sodium,
- samples 128, 134, 172 and 175 are anomalous in potassium in the Goose Lake belt,
- samples 99, 146, 175 from the Goose Lake belt and sample 205 from the Echimamish River belt are anomalous in yttrium,
- samples 23, 145, 172 and 175 are anomalous in lithium in the Goose Lake belt and
- samples 21, 124 and 126 in the Goose Lake belt are anomalous in arsenic.

Appendix 1

Till Geochemistry: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), Hg (cold vapour - AAS) and As (hydride generation) <2 micron fraction.

Sample Site	UTM		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	Hg	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm
98T-1	422175.00	6047885.00	0.7	36	8	46	0.5	25	9	0.1	2.5	2.5	2.5	3.00	384	5	82	43	37	10	10	0.059	27	1.81	1.58	10.00	0.52	0.27	77	10	6	29
98T-2	419789.00	6046717.00	0.6	26	8	44	0.5	25	10	0.1	2.5	2.5	2.5	2.78	403	5	80	38	38	10	10	0.053	30	1.74	1.63	10.00	0.55	0.20	73	11	5	26
98T-3	419903.00	6044273.00	0.6	23	9	44	0.5	25	9	0.1	2.5	2.5	2.5	2.69	457	5	64	34	36	10	10	0.045	28	1.56	1.70	10.00	0.45	0.26	86	10	4	26
98T-4	424854.00	6040934.00	0.3	40	10	53	0.5	28	12	0.1	2.5	6.0	2.5	3.06	484	5	99	43	43	10	10	0.049	33	1.81	1.82	10.00	0.55	0.27	86	11	6	30
98T-5	423967.00	6040083.00	0.4	35	12	58	0.5	28	14	0.2	2.5	2.5	2.5	3.33	625	5	114	42	47	10	10	0.032	31	1.88	1.97	10.00	0.69	0.27	75	10	6	31
98T-6	423110.50	6036780.50	0.4	30	8	44	0.5	23	10	0.1	2.5	2.5	2.5	2.78	424	5	95	36	37	10	10	0.039	33	1.70	1.68	10.00	0.48	0.24	81	11	5	27
98T-8	415727.00	6042908.00	0.3	32	8	50	0.5	28	11	0.1	2.5	2.5	2.5	3.06	452	5	94	43	41	10	10	0.043	30	1.96	1.70	10.00	0.58	0.30	71	11	6	29
98T-9	415673.00	6042377.00	0.2	34	11	59	0.5	32	14	0.1	2.5	6.0	2.5	3.27	695	5	97	44	48	10	10	0.048	33	1.86	1.92	9.14	0.50	0.25	81	11	6	32
98T-10	413976.00	6041879.00	0.1	38	10	60	0.5	34	13	0.1	2.5	2.5	2.5	3.73	480	5	100	55	53	10	10	0.051	35	2.40	1.93	6.34	0.67	0.28	59	13	7	35
98T-11	412154.00	6042663.00	0.3	48	10	52	0.5	31	13	0.1	2.5	7.0	2.5	3.09	549	5	86	46	41	10	10	0.076	29	1.82	1.84	8.99	0.57	0.18	66	12	6	28
98T-12	411756.00	6042217.00	0.2	29	11	60	0.5	31	12	0.1	2.5	2.5	2.5	3.52	506	5	97	49	48	10	10	0.026	34	2.11	1.89	8.79	0.52	0.36	71	12	6	34
98T-13	410273.00	6047753.00	0.1	28	9	46	0.5	26	10	0.1	2.5	5.0	2.5	2.94	410	5	66	41	43	10	10	0.047	36	1.76	1.79	7.20	0.56	0.17	64	14	5	25
98T-15	405071.47	6014609.50	0.1	49	13	86	0.5	44	18	0.1	2.5	2.5	2.5	4.07	486	5	100	62	62	10	10	0.015	44	2.44	2.28	3.43	0.44	0.71	48	12	8	54
98T-16-1	406208.50	6016505.50	0.1	152	55	94	2.0	62	34	0.1	2.5	12.0	2.5	7.10	668	5	215	74	88	10	10	0.072	53	5.02	1.06	0.31	1.39	0.43	22	20	12	54
98T-17	408555.38	6014841.50	0.1	123	17	77	1.0	134	35	0.1	2.5	26.0	2.5	6.54	589	5	260	128	82	10	10	0.046	48	5.53	1.33	0.36	1.22	0.41	23	12	10	65
98T-18	415078.09	6012325.00	0.2	84	18	72	0.5	34	20	0.1	2.5	53.0	2.5	4.22	575	5	131	51	51	10	10	0.042	37	2.30	2.02	8.84	0.81	0.44	58	11	7	47
98T-19	414432.16	6013288.00	0.1	87	13	71	0.5	34	16	0.1	2.5	11.0	2.5	4.10	584	5	151	57	56	10	10	0.113	45	2.50	2.13	6.97	0.89	0.33	54	16	8	44
98T-20	409312.34	6013691.50	0.1	78	11	79	1.0	44	18	0.1	2.5	14.0	2.5	5.01	488	5	162	74	69	10	10	0.067	72	3.17	2.09	2.03	0.79	0.63	33	26	10	52
98T-21	389429.00	6018411.00	0.1	67	11	72	1.0	65	25	0.4	2.5	244.0	2.5	4.92	591	5	259	87	70	10	10	0.052	66	4.95	1.22	0.62	0.85	0.22	30	20	11	56
98T-22	389344.00	6016674.00	0.4	34	8	36	0.5	19	8	0.1	2.5	13.0	2.5	2.25	380	5	74	30	30	10	10	0.045	36	1.21	1.61	10.00	0.47	0.15	87	12	4	21
98T-23	392288.00	6014396.00	0.1	137	13	83	0.5	57	18	0.1	2.5	8.0	2.5	4.03	455	5	203	63	50	10	10	0.102	53	2.93	1.76	5.67	0.76	0.43	43	18	8	88
98T-24	379613.00	6025712.00	0.4	20	15	42	0.5	21	9	0.1	2.5	2.5	2.5	2.47	458	5	96	33	29	10	10	0.015	35	1.50	1.65	10.00	0.37	0.33	92	11	5	31
98T-25	377057.00	6026670.00	0.1	23	9	71	0.5	43	15	0.1	2.5	2.5	2.5	4.23	369	5	154	71	52	10	10	0.072	52	3.48	1.36	0.79	0.84	0.46	32	21	9	51
98T-26	374339.00	6028062.00	0.4	26	10	46	0.5	23	11	0.1	2.5	2.5	2.5	2.61	397	5	101	34	33	10	10	0.014	27	1.56	1.63	10.00	0.57	0.29	123	9	5	28
98T-27	375906.00	6025997.00	0.3	33	11	58	0.5	26	10	0.1	2.5	6.0	2.5	3.00	537	5	101	39	37	10	10	0.020	36	1.72	1.99	10.00	0.44	0.38	90	12	5	35
98T-28	374248.00	6028877.00	0.5	28	11	45	0.5	19	10	0.1	2.5	6.0	2.5	2.24	421	5	75	26	27	10	10	0.034	26	1.17	1.66	10.00	0.65	0.22	113	9	4	22
98T-29	374547.00	6029138.00	0.4	34	11	54	0.5	25	11	0.1	2.5	5.0	2.5	3.17	377	5	97	43	40	10	10	0.021	28	1.97	1.58	10.00	0.65	0.34	75	10	6	32
98T-30	374926.00	6026839.00	0.2	80	12	77	0.5	40	14	0.3	2.5	9.0	2.5	3.38	495	5	126	50	46	10	10	0.033	35	2.16	1.77	8.72	0.59	0.42	75	12	7	38
98T-31	372780.00	6028156.00	0.2	38	11	67	0.5	31	13	0.1	2.5	6.0	2.5	3.67	554	5	106	49	46	10	10	0.046	35	2.20	1.90	8.52	0.60	0.46	75	12	6	39
98T-32	372307.00	6028232.00	0.1	23	10	57	0.5	29	12	0.1	2.5	2.5	2.5	3.25	432	5	113	44	45	10	10	0.005	35	1.97	1.86	8.96	0.41	0.47	85	11	6	38
98T-33	372056.00	6029102.00	0.2	40	14	62	0.5	46	16	0.1	2.5	23.0	2.5	3.20	607	5	74	55	42	10	10	0.030	36	1.69	2.18	9.10	0.39	0.40	75	11	5	40
98T-34	372498.00	6030016.00	0.4	25	11	49	0.5	24	10	0.1	2.5	2.5	2.5	2.97	474	5	114	39	36	10	10	0.025	32	1.83	1.78	10.00	0.47	0.35	92	12	5	32
98T-35	373283.00	6030024.00	0.3	29	10	53	0.5	28	11	0.1	2.5	2.5	2.5	3.02	606	5	98	42	38	10	10	0.038	32	1.68	1.89	10.00	0.46	0.35	92	12	5	31
98T-36-1	371637.00	6030765.00	0.6	23	8	37	0.5	20	7	0.1	2.5	2.5	2.5	2.42	404	5	98	32	29	10	10	0.029	25	1.57	1.46	10.00	0.53	0.25	78	10	4	21
98T-36-2	371637.00	6030765.00	0.4	26	8	40	0.5	21	9	0.1	2.5	2.5	2.5	2.83	410	5	98	37	34	10	10	0.045	28	1.87	1.60	10.00	0.59	0.27	77	10	5	24
98T-37	370589.00	6033766.00	0.5	24	10	37	0.5	20	8	0.1	2.5	2.5	2.5	2.35	424	5	74	31	31	10	10	0.054	27	1.41	1.63	10.00	0.61	0.17	83	10	4	20
98T-38	373372.00	6029446.00	0.3	29	8	54	0.5	27	11	0.1	2.5	2.5	2.5	3.02	534	5	90	40	40	10	10	0.016	31	1.89	1.93	10.00	0.49	0.41	81	11	5	31
98T-39	319606.97	6040534.00	0.5	21	8	43	0.5	24	9	0.1	2.5	2.5	2.5	2.68	359	5	82	35	34	10	10	0.021	27	1.78	1.61	10.00	0.45	0.29	78	9	5	27
98T-40	317629.00	6040882.50	0.3	55	11	52	0.5	35	13	0.1	2.5	8.0	2.5	3.27	399	5	101	47	41	10	10	0.055	38	2.15	1.88	10.00	0.71	0.36	67	13	6	34
98T-41	317884.00	6042024.50	0.1	28	9	56	0.5	29	11	0.1	2.5	2.5	2.5	3.41	403	5	125	50	45	10	10	0.018	39	2.28	1.96	8.51	0.55	0.43	74	12	7	38
98T-42	320886.94	6039672.00	0.1	29	10	59	0.5	31	12	0.1	2.5	2.5	2.5	3.44	464	5	110	50	47	10	10	0.014	39	2.29	1.97	8.54	0.66	0.40	70	12	7	38
98T-43	318611.03	6043950.00	0.6	17	8	41	0.5	22	8	0.1	2.5	5.0	2.5	2.35	416	5	81	30	29	10	10	0.024	27	1.57	1.85	10.00	0.44	0.30	94	10	4	22
98T-44	320323.97	6041882.00	0.3	28	10	50	0.5	25	11	0.1	2.5	6.0	2.5	2.98	504	5	92	38	40	10	10	0.017	33	1.85	2.00	10.00	0.51	0.34	84	11	5	29
98T-45	324338.88	6040074.00	0.5	21	9	44	0.5	24	9	0.1	2.5	2.5	2.5	2.48	440	5	89	34	31	10	10	0.016	27	1.67	1.74	10.00	0.52	0.33	82	10	5	26
98T-46	324880.84	6038786.00	0.3	28	12	47	0.5	26	11	0.1	2.5	6.0	2.5	2.89	527	5	106	39	35	10	10	0.029	35	1.87	1.93	10.00	0.57	0.32	88	12	5	28
98T-47	325306.88	6039999.00	0.2	34	8	50	0.5	28	11	0.1	2.5	2.5	2.5	3.20	371	5	92	44	41	10	10	0.049	30	2.23	1.81	8.43	0.67	0.30	63	11	6	30
98T-48	328136.84	6040488.00	0.4	22	11	44	0.5	23	10	0.1	2.5	2.5	2.5	2.68	445	5	103	36	35	10	10	0.034	32	1.72	1.85	10.00	0.48	0.28	79	12	5	27

Sample Site	UTM		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	Hg	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm
98T-49	314291.00	6039571.50	0.6	17	9	27	0.5	16	7	0.1	2.5	2.5	2.5	2.10	315	5	58	25	29	10	10	0.044	28	1.21	1.67	10.00	0.54	0.13	83	10	3	16
98T-51	318170.97	6039892.50	0.1	45	7	64	0.5	33	12	0.1	2.5	5.0	2.5	4.10	361	5	88	61	52	10	10	0.092	34	2.88	1.72	5.00	0.84	0.36	52	13	9	38
98T-52	424658.00	6042698.00	0.2	30	11	53	0.5	28	13	0.1	2.5	2.5	2.5	3.06	580	5	97	38	41	10	10	0.038	33	1.85	1.89	9.36	0.51	0.33	77	12	6	30
98T-53	422939.00	6041290.00	0.7	34	10	40	0.5	20	9	0.1	2.5	2.5	2.5	2.30	364	5	96	30	33	10	10	0.040	27	1.44	1.50	10.00	0.56	0.21	87	10	4	22
98T-54	422577.00	6040642.00	0.3	48	13	46	0.5	25	11	0.1	2.5	6.0	2.5	3.02	468	5	92	38	48	10	10	0.052	27	1.69	2.00	10.00	0.79	0.25	72	10	5	25
98T-55	426549.00	6042653.00	0.1	57	12	54	0.5	34	18	0.1	2.5	6.0	2.5	3.70	981	5	89	47	51	10	10	0.108	35	2.27	1.74	6.63	0.86	0.25	54	16	7	31
98T-57	429478.00	6040983.00	0.3	31	9	56	0.5	31	12	0.1	2.5	5.0	2.5	3.42	511	5	89	50	47	10	10	0.037	31	2.23	1.87	9.78	0.57	0.30	74	12	7	33
98T-58	422017.59	6039578.50	0.3	37	8	54	0.5	30	11	0.1	2.5	2.5	2.5	3.37	470	5	106	48	46	10	10	0.038	33	2.32	1.85	9.63	0.64	0.33	73	12	7	33
98T-59	420543.00	6039880.00	0.5	33	9	40	0.5	19	8	0.1	2.5	2.5	2.5	2.49	311	5	98	31	33	10	10	0.053	28	1.58	1.29	10.00	0.67	0.24	68	10	5	22
98T-60	419349.00	6041198.00	0.6	36	14	78	0.5	23	10	0.3	2.5	5.0	2.5	3.04	424	5	89	38	39	10	10	0.062	29	1.88	1.60	10.00	0.66	0.24	83	11	6	26
98T-61-1	428648.00	6042511.00	0.2	40	8	56	0.5	29	11	0.1	2.5	5.0	2.5	3.32	392	5	123	45	44	10	10	0.065	33	2.30	1.72	8.37	0.71	0.29	60	12	7	36
98T-61-2	428648.00	6042511.00	0.4	35	10	48	0.5	25	12	0.1	2.5	5.0	2.5	2.82	555	5	90	36	38	10	10	0.055	30	1.59	1.85	10.00	0.63	0.22	74	11	4	26
98T-62	428719.00	6043536.00	0.5	39	6	63	0.5	32	14	0.1	2.5	2.5	2.5	3.65	504	5	107	46	49	10	10	0.053	32	2.29	2.10	7.85	0.75	0.31	71	13	6	33
98T-64	430255.00	6047124.00	0.4	26	9	44	0.5	23	10	0.1	2.5	2.5	2.5	2.79	431	5	89	36	38	10	10	0.044	32	1.80	1.74	10.00	0.68	0.29	75	11	5	27
98T-66	425278.00	6047515.00	0.1	44	10	61	0.5	32	13	0.1	2.5	5.0	2.5	3.48	487	5	83	53	48	10	10	0.038	31	2.14	1.93	8.51	0.60	0.38	75	11	6	36
98T-67	424531.00	6048166.00	0.2	36	10	61	0.5	31	11	0.3	2.5	2.5	2.5	3.39	539	5	103	46	45	10	10	0.022	33	2.09	1.87	9.73	0.53	0.41	78	12	6	33
98T-68	423147.00	6050489.00	0.1	38	9	57	0.5	31	13	0.1	2.5	5.0	2.5	3.49	563	5	111	52	48	10	10	0.037	35	2.21	1.89	8.65	0.61	0.37	73	12	6	35
98T-70	411122.00	6046567.00	0.1	52	10	67	0.5	38	15	0.1	2.5	8.0	2.5	3.67	528	5	92	57	49	10	10	0.037	32	2.23	1.98	7.57	0.59	0.39	68	11	6	35
98T-71	412676.00	6045877.00	0.1	29	8	56	0.5	32	11	0.1	2.5	6.0	2.5	3.47	433	5	103	52	46	10	10	0.041	34	2.31	1.86	8.00	0.62	0.36	67	12	7	33
98T-72	413024.00	6047216.00	0.1	49	7	66	0.5	41	14	0.1	2.5	2.5	2.5	4.13	421	5	129	62	57	10	10	0.075	36	2.92	1.86	2.83	0.78	0.38	44	14	8	42
98T-73	411549.00	6043862.00	0.1	38	10	70	0.5	51	19	0.1	2.5	15.0	2.5	4.82	654	5	214	76	66	10	10	0.058	54	4.16	1.36	0.95	0.82	0.30	34	18	10	49
98T-74	413657.00	6043128.00	0.1	30	9	56	0.5	29	11	0.1	2.5	2.5	2.5	3.36	508	5	96	52	47	10	10	0.017	32	2.10	1.82	8.66	0.54	0.37	71	11	6	33
98T-75	422108.00	6041765.00	0.1	56	11	73	0.5	39	16	0.1	2.5	6.0	2.5	4.12	522	5	129	61	58	10	10	0.082	36	2.64	2.18	3.40	0.81	0.42	46	13	8	41
98T-77	432746.00	6042736.00	0.3	51	11	56	0.5	33	15	0.1	2.5	2.5	2.5	3.21	521	5	103	43	46	10	10	0.069	30	1.93	2.02	8.69	0.56	0.32	70	12	5	31
98T-78	431930.00	6043534.00	0.1	38	9	71	0.5	41	14	0.1	2.5	6.0	2.5	4.35	363	5	146	67	63	10	10	0.055	48	3.22	1.93	1.66	0.71	0.45	42	20	9	42
98T-79	432599.00	6044519.00	0.1	49	12	80	0.5	44	16	0.1	2.5	6.0	2.5	4.57	769	5	122	59	57	10	10	0.056	37	2.85	1.85	4.05	0.66	0.48	56	14	8	43
98T-81	432096.00	6047105.00	0.1	36	9	72	0.5	34	12	0.1	2.5	6.0	2.5	3.63	387	5	104	52	52	10	10	0.038	32	2.36	2.07	5.29	0.59	0.39	62	12	7	34
98T-82	431155.00	6045908.00	0.3	30	11	43	0.5	22	10	0.1	2.5	2.5	2.5	2.35	510	5	79	29	35	10	10	0.044	28	1.33	1.71	10.00	0.73	0.17	86	10	4	19
98T-83	431374.00	6041096.00	0.1	28	10	68	0.5	32	12	0.1	2.5	2.5	2.5	3.27	568	5	90	44	43	10	10	0.039	35	1.95	1.88	7.52	0.40	0.43	88	11	6	33
98T-85-1	439153.13	6044766.50	0.1	34	15	69	0.5	35	15	0.1	2.5	6.0	2.5	3.83	637	5	95	58	47	10	10	0.117	57	2.57	1.96	3.25	1.21	0.35	54	27	7	32
98T-85-2	439153.13	6044766.50	0.1	39	15	64	0.5	32	18	0.2	2.5	7.0	2.5	3.29	815	5	84	46	41	10	10	0.144	33	2.04	1.90	5.87	1.34	0.28	62	14	6	26
98T-87	438758.06	6041729.50	0.3	34	9	60	0.5	31	12	0.1	2.5	2.5	2.5	3.12	495	5	101	46	44	10	10	0.033	33	2.04	1.66	10.00	0.50	0.25	95	11	6	31
98T-88	437893.09	6041978.50	0.4	39	12	58	0.5	27	12	0.1	2.5	5.0	2.5	3.03	572	5	109	37	41	10	10	0.042	30	1.70	1.62	10.00	0.55	0.26	140	10	5	28
98T-90	441264.97	6041603.50	0.1	33	11	95	0.5	52	21	0.2	2.5	5.0	2.5	4.80	486	5	158	75	64	10	10	0.087	43	3.82	1.71	1.42	0.85	0.41	44	18	11	56
98T-91	439048.03	6040825.50	0.1	44	8	73	1.0	36	14	0.1	2.5	2.5	2.5	3.79	482	5	112	56	51	10	10	0.066	32	2.40	1.77	7.33	0.57	0.37	78	12	7	40
98T-93	410621.00	6049058.00	0.6	27	7	30	0.5	17	6	0.1	2.5	2.5	2.5	1.68	226	5	119	21	21	10	10	0.023	21	1.01	1.27	10.00	0.44	0.16	100	8	3	15
98T-94	413909.00	6049263.00	0.1	35	10	66	0.5	34	12	0.1	2.5	5.0	2.5	3.61	382	5	109	50	49	10	10	0.017	34	2.49	1.68	7.44	0.53	0.44	69	11	8	37
98T-95	407798.00	6049007.00	0.1	49	9	54	0.5	33	11	0.1	2.5	6.0	2.5	3.14	428	5	90	46	45	10	10	0.096	44	1.91	1.97	7.25	0.55	0.22	79	15	6	27
98T-96	409899.00	6046556.00	0.1	56	9	88	1.0	61	22	0.3	2.5	16.0	2.5	5.14	621	5	162	92	76	10	10	0.014	36	3.58	1.60	0.70	0.75	0.38	44	11	10	45
98T-97	418140.00	6045082.00	0.1	33	9	61	0.5	34	11	0.1	2.5	2.5	2.5	3.44	402	5	88	49	46	10	10	0.035	31	2.38	1.76	7.63	0.52	0.38	69	11	7	33
98T-98	416634.00	6042840.00	0.1	45	10	74	0.5	38	13	0.1	2.5	2.5	2.5	3.83	525	5	104	53	49	10	10	0.029	33	2.48	1.90	8.47	0.44	0.45	83	11	8	40
98T-99	429858.16	6033292.50	0.1	83	10	69	0.5	37	16	0.1	2.5	6.0	2.5	4.27	558	5	110	67	57	10	10	0.085	57	2.57	1.96	3.65	1.16	0.35	50	37	8	34
98T-100	431644.06	6033251.50	0.2	37	9	66	0.5	35	12	0.3	2.5	2.5	2.5	3.27	496	5	101	44	40	10	10	0.033	34	2.28	1.83	9.71	0.60	0.33	84	12	6	33
98T-101	432256.00	6031840.50	0.3	48	10	71	1.0	37	13	0.3	2.5	2.5	2.5	3.33	606	5	116	45	39	10	10	0.030	36	2.16	1.76	10.00	0.48	0.45	91	12	6	34
98T-102	429871.16	6033829.50	0.2	40	11	65	0.5	35	14	0.1	2.5	6.0	2.5	3.35	514	5	107	45	42	10	10	0.046	33	2.09	1.78	9.42	0.63	0.35	79	11	6	33
98T-103	425307.38	6035317.50	0.1	40	8	70	0.5	33	12	0.1	2.5	2.5	2.5	3.41	498	5	108	48	45	10	10	0.033	37	2.25	1.81	6.21	0.57	0.40	68	11	7	37
98T-104-1	423848.47	6036518.50	0.1	37	10	69	0.5	31	12	0.1	2.5	2.5	2.5	3.23	537	5	91	43	42	10	10	0.040	32	1.94	1.78	8.23	0.49	0.34	80	11	6	32
98T-104-2	423848.47	6036518.50	0.1	38	10	68	0.5	32	13	0.2	2.5	2.5	2.5	3.19	585	5	89	43	42	10	10	0.039	33	1.91	1.80	8.70	0.54	0.35	82	11	6	32
98T-105	421335.53	6036410.50	0.1	40	10	60	0.5	31	10	0.1	2.5	2.5	2.5	3.23	458	5	79	44	42	10	10	0.043	31	2.13	1.76	9.98	0.54	0.34	83	11	6	30
98T-106	421383.56	6037781.50	0.1	67	9	75	1.0	34	13	0.1	2.5	12.0	2.5	3.68	467	5	97	50	48	10	10	0.056	32	2.40	1.80	6.76	0.59	0.39	70	10	7	39
98T-107	420147.63	6037637.50	0.1	37	12	60	0.5	31	12	0.1	2.5	2.5	2.5	3.17	459	5	83	41	43	10	10	0.038	31	1.93	1.88	8.05	0.60	0.28	74	11	6	29
98T-108	421291.50	6035072.50	0.1	38	9	58	0.5	30	12	0.1	2.5	2.5	2.5	3.16	526	5	88	43	41	10	10	0.043	34	1.88	1.76	7.89	0.49	0.40	81	11	6	33
98T-109	423732.41	6034418.50	0.1	38	10	60	0.5	30	14	0.1	2.5	2.5	2.5	3.31	619	5	106	45	48	10	10	0.047	34	2.07	1.87	8.04	0.62	0.24	76	12	6	30
98T-110	424600.44	6036265.50	0.1	43	11	68	0.5	35	15	0.1	2.5	2.5	2.5	3.57	622	5	110	50	47	10	10	0.050	35	2.19	1.91	7.85	0.61	0.37	75	12	7	34
98T-111	422790.47	6035391.50	0.3	35	10	53	0.5	32	10	0.1	2.5	2.5	2.5	2.88	449	5	83	37	35	10	10	0.045	33	1.87	1.73	10.00	0.59	0.25	81	12	5	27
98T-112	422413.50	6036539.50	0.2	30	10	53	0.5	28	11	0.1	2.5	2.5	2.5	2.84	536	5	91	40	39	10	10	0.036	32	1.80	1.85	10.00	0.50	0.23	89	11	5	27

Sample Site	UTM		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	Hg	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm
98T-113	419846.59	6036918.50	0.1	46	10	82	0.5	39	13	0.1	2.5	7.0	2.5	4.13	412	5	100	63	56	10	10	0.026	31	2.82	1.88	5.74	0.63	0.41	60	12	8	38
98T-114	419177.66	6038148.50	0.1	52	10	78	0.5	40	15	0.1	2.5	2.5	2.5	3.96	542	5	103	60	54	10	10	0.063	33	2.40	1.79	6.62	0.61	0.40	71	12	7	39
98T-115	418088.72	6038642.50	0.1	49	9	66	0.5	34	13	0.1	2.5	6.0	2.5	3.52	506	5	84	52	46	10	10	0.061	32	2.18	1.81	8.65	0.61	0.28	72	12	6	34
98T-116	417811.72	6039129.50	0.1	49	8	71	0.5	39	14	0.1	2.5	2.5	2.5	3.92	459	5	99	62	53	10	10	0.049	32	2.54	1.90	6.51	0.68	0.38	64	13	7	40
98T-118	426929.28	6034129.50	0.1	40	10	64	0.5	32	14	0.3	2.5	6.0	2.5	3.32	679	5	104	46	43	10	10	0.050	33	1.95	1.97	9.61	0.45	0.35	87	11	6	33
98T-119	425480.31	6033803.50	0.1	25	10	73	0.5	38	16	0.3	2.5	2.5	2.5	3.53	499	5	118	58	52	10	10	0.024	34	2.66	1.98	2.11	0.53	0.41	42	11	8	39
98T-120	423790.44	6035660.50	0.1	35	10	80	0.5	40	17	0.1	2.5	6.0	2.5	4.05	578	5	122	62	57	10	10	0.082	32	3.16	1.86	2.58	0.72	0.39	42	14	9	45
98T-122	408163.00	6044404.00	0.1	37	10	66	0.5	32	13	0.1	2.5	6.0	2.5	3.38	444	5	88	50	47	10	10	0.032	31	2.23	2.05	5.86	0.43	0.41	64	11	6	36
98T-123	410744.00	6043110.00	0.1	42	9	55	0.5	31	15	0.1	2.5	6.0	2.5	3.10	511	5	100	48	46	10	10	0.038	29	2.21	1.78	8.18	0.55	0.27	66	9	6	32
98T-124	416359.03	6011437.00	0.1	78	45	112	1.0	39	18	0.9	13.0	248.0	2.5	4.78	608	5	199	60	66	10	10	0.054	45	3.46	1.90	1.81	0.65	0.58	37	27	10	66
98T-125	417489.03	6012396.00	0.3	29	8	67	0.5	33	13	0.1	2.5	2.5	2.5	3.64	461	5	137	54	51	10	10	0.020	36	2.76	1.95	6.82	0.47	0.47	62	11	7	39
98T-126	413132.19	6012836.00	0.1	200	17	125	1.0	67	29	0.5	2.5	81.0	2.5	4.83	834	5	140	66	67	10	10	0.150	46	2.89	2.12	4.70	0.60	0.47	49	18	8	46
98T-127	385444.00	6022763.00	0.1	27	11	59	0.5	29	11	0.1	2.5	2.5	2.5	3.16	312	5	128	50	44	10	10	0.055	41	2.60	1.47	8.04	0.53	0.43	73	13	7	42
98T-128	385814.00	6024219.00	0.3	34	23	97	0.5	23	12	0.2	2.5	2.5	2.5	3.88	608	5	160	35	42	10	10	0.013	66	2.41	1.88	9.75	0.44	0.77	104	14	8	70
98T-129-1	411318.28	6013772.50	0.1	55	11	57	0.5	23	11	0.1	2.5	5.0	2.5	3.01	389	5	161	37	41	10	10	0.052	43	1.93	1.58	10.00	0.57	0.46	84	12	6	36
98T-129-2	411318.28	6013772.50	0.1	53	12	64	0.5	30	13	0.1	2.5	7.0	2.5	3.47	383	5	155	48	48	10	10	0.064	45	2.42	1.65	9.58	0.43	0.45	70	14	7	41
98T-130	410039.31	6014382.50	0.2	27	11	53	0.5	20	10	0.1	2.5	2.5	2.5	2.65	448	5	126	28	33	10	10	0.021	39	1.79	1.71	10.00	0.41	0.41	76	10	6	30
98T-132	407970.38	6013576.50	0.3	44	12	72	0.5	32	14	0.1	2.5	5.0	2.5	3.62	506	5	135	48	48	10	10	0.028	37	2.70	1.94	6.40	0.53	0.48	59	10	8	42
98T-133	407131.38	6012572.50	0.4	70	9	36	0.5	20	10	0.1	2.5	10.0	2.5	2.21	249	5	123	27	29	10	10	0.042	33	1.54	1.22	10.00	0.37	0.20	87	10	4	23
98T-134	406971.44	6014940.50	0.1	106	17	101	0.5	43	19	0.1	2.5	6.0	2.5	5.83	603	5	218	75	70	10	10	0.158	70	3.90	2.39	2.14	0.86	0.86	47	27	13	61
98T-135	408359.31	6012394.50	0.3	38	10	41	0.5	16	8	0.1	2.5	7.0	2.5	2.35	350	5	130	27	28	10	10	0.021	33	1.49	1.61	10.00	0.46	0.28	117	10	4	23
98T-136	405675.38	6011926.50	0.3	94	11	30	0.5	22	34	0.1	2.5	13.0	2.5	2.18	563	5	124	24	25	10	10	0.069	42	1.19	1.25	10.00	0.98	0.15	96	16	3	16
98T-137	404124.44	6012087.50	0.1	73	12	77	0.5	37	16	0.1	2.5	7.0	2.5	4.16	478	5	179	56	58	10	10	0.053	53	3.13	1.99	7.98	0.99	0.55	63	17	9	51
98T-138	404041.47	6013160.50	0.1	75	12	96	0.5	45	19	0.1	2.5	8.0	2.5	4.83	555	5	176	70	71	10	10	0.052	52	3.46	2.40	3.65	0.79	0.63	54	17	10	55
98T-139	402538.53	6013989.50	0.1	62	10	97	0.5	48	20	0.1	2.5	6.0	2.5	5.01	468	5	198	76	77	10	10	0.019	39	4.25	1.79	0.58	0.84	0.40	39	9	12	64
98T-140	399933.00	6014368.00	0.1	18	15	88	1.0	36	16	0.1	2.5	2.5	2.5	4.36	325	5	141	62	86	10	10	0.016	25	4.68	1.23	0.48	0.83	0.25	33	6	17	61
98T-141	395466.00	6012618.00	0.3	89	15	57	0.5	63	19	0.1	2.5	10.0	2.5	3.19	600	5	136	45	40	10	10	0.043	39	1.81	2.03	10.00	0.58	0.35	173	11	5	34
98T-142	397559.00	6017711.00	0.1	46	25	71	0.5	32	13	0.1	2.5	7.0	2.5	3.51	470	5	120	47	47	10	10	0.030	49	2.51	1.92	10.00	0.73	0.46	84	13	8	48
98T-143	383035.00	6024618.00	0.4	19	28	30	0.5	9	5	0.1	2.5	6.0	2.5	1.59	246	5	76	15	19	10	10	0.040	65	0.98	0.94	10.00	0.46	0.20	118	24	3	25
98T-144	389806.00	6022975.00	0.1	40	32	74	0.5	27	12	0.1	2.5	8.0	2.5	3.52	662	5	124	40	45	10	10	0.026	71	2.31	1.88	10.00	0.52	0.60	101	18	8	54
98T-145	390474.00	6021912.00	0.1	67	34	101	1.0	37	15	0.1	2.5	8.0	2.5	4.40	592	5	189	52	60	10	10	0.039	59	3.10	2.29	7.25	0.79	0.70	66	27	9	103
98T-146	392335.00	6021175.00	0.1	63	11	100	1.0	63	20	0.1	2.5	7.0	2.5	5.20	489	5	237	111	74	10	10	0.111	180	5.88	1.91	1.42	1.21	0.43	50	47	15	99
98T-147	388878.00	6020355.00	0.1	66	25	64	1.0	32	15	0.1	2.5	14.0	2.5	3.08	455	5	107	37	40	10	10	0.034	57	2.02	1.75	10.00	0.64	0.36	87	14	6	36
98T-148	403100.47	6012742.50	0.1	257	16	92	1.0	62	32	0.2	2.5	13.0	2.5	6.15	428	5	255	81	87	10	10	0.041	54	6.80	1.44	0.44	1.11	0.40	28	15	13	84
98T-149	401935.00	6012422.00	0.1	115	8	91	0.5	49	17	0.1	2.5	11.0	2.5	5.41	382	5	232	82	67	10	10	0.082	62	4.52	1.79	0.98	1.01	0.70	46	23	12	58
98T-150-1	400497.00	6013199.00	0.1	75	11	66	0.5	35	17	0.1	2.5	8.0	2.5	3.84	550	5	122	50	52	10	10	0.034	42	2.52	2.05	10.00	0.66	0.39	85	13	7	39
98T-150-2	400497.00	6013199.00	0.1	81	13	75	0.5	39	20	0.1	2.5	10.0	2.5	4.28	605	5	130	60	58	10	10	0.040	45	2.81	2.19	9.10	0.76	0.45	80	14	8	44
98T-151	399476.00	6015250.00	0.1	77	20	96	0.5	62	23	0.1	2.5	9.0	2.5	6.23	702	5	223	87	91	10	10	0.043	78	5.14	1.85	0.81	0.92	0.64	43	31	14	73
98T-152	395886.00	6015171.00	0.5	50	13	33	0.5	83	15	0.1	2.5	11.0	2.5	1.84	347	5	130	29	22	10	10	0.032	26	1.11	1.70	10.00	0.42	0.17	173	8	2	21
98T-153	394104.00	6017050.00	0.1	47	12	85	0.5	81	23	0.1	2.5	6.0	2.5	4.66	463	5	154	86	72	10	10	0.020	37	4.44	1.75	0.44	0.77	0.35	36	7	11	57
98T-154	406616.34	6011560.50	0.1	88	15	89	1.0	35	17	0.4	2.5	41.0	2.5	3.82	673	5	140	47	50	10	10	0.043	58	2.22	2.45	10.00	0.55	0.55	108	15	7	41
98T-155	404165.41	6011197.50	0.1	116	13	91	1.0	46	25	0.1	2.5	51.0	2.5	4.78	673	5	156	58	68	10	10	0.040	49	2.87	2.41	8.19	0.76	0.64	80	14	8	48
98T-156	404389.38	6010246.50	0.1	102	18	74	1.0	30	18	0.4	2.5	59.0	2.5	3.45	565	5	178	39	44	10	10	0.046	54	1.94	2.08	10.00	0.71	0.44	108	14	5	35
98T-157	405746.31	6009647.50	0.1	320	12	83	0.5	72	22	0.9	2.5	32.0	2.5	4.05	484	5	139	56	47	10	10	0.125	51	2.68	2.40	7.72	0.80	0.57	78	20	8	48
98T-158	405343.31	6008893.50	0.1	71	19	85	0.5	38	20	0.2	2.5	37.0	2.5	4.01	640	5	139	53	54	10	10	0.036	48	2.55	2.37	9.00	0.60	0.56	81	16	8	63
98T-160	390377.00	6020623.00	0.1	93	21	64	2.0	34	17	0.2	2.5	32.0	2.5	3.77	572	5	122	44	46	10	10	0.101	81	2.20	1.75	10.00	0.99	0.42	75	19	6	38
98T-161	388589.00	6022651.46	0.1	58	34	108	1.0	47	18	0.1	2.5	9.0	2.5	4.20	755	5	132	50	50	10	10	0.036	74	2.68	2.62	5.61	0.73	0.66	57	18	9	70
98T-163	388677.00	6018912.00	0.1	57	22	92	0.5	65	27	0.1	2.5	19.0	2.5	6.72	523	5	274	98	103	10	10	0.030	43	6.63	1.60	0.30	1.25	0.42	37	9	15	74
98T-164	386509.00	6018460.00	0.1	72	13	82	0.5	37	16	0.1	2.5	24.0	2.5	3.89	693	5	147	53	53	10	10	0.070	50	2.57	2.26	7.70	0.64	0.41	68	18	7	44
98T-166	385391.00	6021255.00	0.1	50	32	83	0.5	61	31	0.2	2.5	22.0	2.5	7.07	419	5	244	95	101	10	10	0.029	75	6.09	1.47	0.38	1.06	0.40	41	13	14	75
98T-168-1	389115.00	6015922.00	0.1	48	9	65	0.5	32	12	0.1	2.5	2.5	2.5	3.44	502	5	106	52	46	10	10	0.039	36	2.34	1.97	10.00	0.52	0.34	90	12	6	36
98T-168-2	389115.00	6015922.00	0.1	33	9	69	0.5	32	12	0.1	2.5	2.5	2.5	3.41	469	5	96	52	45	10	10	0.038	33	2.38	1.83	10.00	0.65	0.33	86	11	6	35
98T-170	384273.00	6016794.00	0.1	50	15	78	1.0	31	13	0.2	2.5	10.0	2.5	3.61	507	5	83	45	50	10	10	0.029	48	2.23	2.38	9.20	0.61	0.50	88	14	6	46
98T-171	383788.00	6015968.00	0.1	141	35	142	2.0	38	17	0.8	2.5	29.0	2.5	3.62	740	5	117	46	59	10	10	0.073	55	2.10	2.20	10.00	0.63	0.39	100	18	6	41
98T-172	385394.00	6015986.00	0.1	159	32	177	2.0	77	34	0.5	2.5	64.0	2.5	6.19	910	5	211	69	78	10	10	0.045	72	3.79	2.80	3.20	0.63	0.91	47	20	12	97
98T-173	387942.00	6015283.00	0.1	78	20	103	1.0	41	18	0.1	2.5	22.0	2.5	4.05	654	5	120	56	57	10	10	0.025	49	2.43	2.45	9.72	0.62	0.52	91	15	7	54

Sample Site	UTM		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	Hg	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm
98T-174	394375.00	6012910.00	0.5	38	13	34	0.5	51	12	0.1	2.5	2.5	2.5	2.06	316	5	141	27	24	10	10	0.028	24	1.25	1.91	10.00	0.47	0.17	308	8	3	26
98T-175	391283.00	6014472.00	0.1	148	33	73	0.5	39	20	0.3	2.5	20.0	2.5	4.07	579	5	186	44	60	10	10	0.039	47	2.38	2.11	10.00	0.58	0.52	99	27	7	61
98T-178	323967.94	6041833.00	0.3	19	9	45	0.5	24	9	0.1	2.5	2.5	2.5	2.84	423	5	137	36	34	10	10	0.034	31	2.04	1.96	10.00	0.59	0.37	99	11	5	28
98T-180	324945.91	6041004.00	0.1	34	10	62	0.5	33	13	0.1	2.5	13.0	2.5	3.70	473	5	107	54	49	10	10	0.052	40	2.59	2.30	9.82	0.68	0.43	84	15	7	39
98T-181	326531.88	6040989.00	0.1	53	16	73	1.0	38	14	0.1	2.5	10.0	2.5	4.27	461	5	129	62	56	10	10	0.077	37	2.94	2.72	5.87	0.78	0.45	59	18	7	44
98T-184	326621.81	6038449.00	0.1	36	11	68	0.5	33	13	0.1	2.5	7.0	2.5	3.42	492	5	108	44	43	10	10	0.030	39	2.36	2.45	10.00	0.53	0.41	92	14	6	37
98T-185-1	328134.84	6041330.00	0.1	30	13	66	0.5	29	11	0.1	2.5	5.0	2.5	3.36	495	5	128	43	42	10	10	0.020	44	2.43	2.29	10.00	0.57	0.48	99	15	6	40
98T-185-2	328134.84	6041330.00	0.1	29	13	61	0.5	25	10	0.1	2.5	6.0	2.5	3.02	494	5	118	37	37	10	10	0.024	43	2.25	2.26	10.00	0.46	0.44	111	15	6	36
98T-189	350083.38	6040090.00	0.3	25	10	40	0.5	21	8	0.1	2.5	5.0	2.5	2.29	363	5	86	30	30	10	10	0.031	31	1.47	1.74	10.00	0.52	0.19	100	12	3	23
98T-190	346618.44	6039718.00	0.1	32	29	54	0.5	35	11	0.1	2.5	5.0	2.5	2.53	409	5	74	88	32	10	10	0.039	37	1.63	2.19	10.00	0.62	0.28	94	15	4	30
98T-191	348726.41	6040743.00	0.1	53	26	82	0.5	40	18	0.1	2.5	8.0	2.5	4.27	515	5	125	60	55	10	10	0.069	43	2.96	2.29	7.80	0.79	0.55	63	15	8	71
98T-192	347772.47	6041683.00	0.1	62	15	75	1.0	36	16	0.1	2.5	7.0	2.5	3.82	612	5	116	53	49	10	10	0.070	34	2.40	2.37	9.60	0.63	0.43	82	13	6	42
98T-193	345860.50	6041687.00	0.9	56	35	75	1.0	40	19	0.1	2.5	15.0	2.5	4.05	616	5	112	56	55	10	10	0.100	45	2.48	2.61	10.00	1.60	0.38	71	18	6	53
98T-194	355771.22	6040295.50	0.1	60	15	77	0.5	38	16	0.1	2.5	9.0	2.5	3.97	756	5	121	54	51	10	10	0.037	41	2.39	2.52	10.00	0.65	0.49	94	13	7	47
98T-196	344776.50	6040524.00	0.1	41	13	52	0.5	30	13	0.1	2.5	8.0	2.5	3.05	441	5	91	40	39	10	10	0.069	34	2.01	1.87	10.00	0.85	0.28	86	12	5	32
98T-197	344483.53	6041202.00	0.1	35	51	84	0.5	28	11	0.1	2.5	8.0	2.5	3.27	471	5	92	39	38	10	10	0.031	74	2.13	2.43	10.00	0.61	0.43	88	25	6	57
98T-198	343762.53	6040329.00	0.3	26	8	41	0.5	22	9	0.1	2.5	5.0	2.5	2.41	407	5	82	31	30	10	10	0.025	28	1.59	1.96	10.00	0.41	0.26	129	10	3	25
98T-199	343462.50	6039483.00	0.4	33	15	33	0.5	18	7	0.1	2.5	5.0	2.5	1.91	260	5	85	25	24	10	10	0.026	27	1.17	1.42	10.00	0.42	0.19	120	11	3	26
98T-200	341465.56	6040134.00	0.1	52	15	65	0.5	30	11	0.2	2.5	7.0	2.5	3.22	480	5	100	45	41	10	10	0.023	39	2.09	2.34	10.00	0.50	0.42	100	15	5	45
98T-201	347331.41	6039448.00	0.1	95	14	71	0.5	35	16	0.1	2.5	7.0	2.5	3.80	513	5	127	55	51	10	10	0.072	40	2.67	2.13	9.76	0.80	0.37	73	15	7	46
98T-204	349428.38	6039387.00	0.1	71	6	63	0.5	35	12	0.1	2.5	2.5	2.5	3.61	365	5	115	57	49	10	10	0.099	37	2.92	2.13	8.00	0.92	0.28	73	15	7	41
98T-205	337801.72	6042848.00	0.1	29	30	50	0.5	23	10	0.1	2.5	5.0	2.5	2.99	328	5	87	36	37	10	10	0.059	47	2.27	1.59	10.00	0.96	0.35	75	27	6	42
98T-206	338357.66	6040821.00	0.1	34	12	40	1.0	21	9	0.1	2.5	6.0	2.5	2.62	446	5	86	33	34	10	10	0.048	41	1.63	2.18	10.00	0.50	0.23	106	14	4	29
98T-207	340633.63	6041136.00	0.1	72	26	75	0.5	37	17	0.1	2.5	10.0	2.5	4.29	541	5	144	54	59	10	10	0.060	58	2.95	1.99	9.83	0.77	0.52	71	19	9	58
98T-208	339675.63	6041192.00	0.1	48	10	69	0.5	39	15	0.1	2.5	6.0	2.5	4.30	433	5	145	63	59	10	10	0.066	48	3.16	2.16	7.00	0.83	0.51	66	18	9	52

Sample Site	Nb ppm	Sc ppm	Ta ppm	Ti %	Zr ppm	As HY ppm
98T-1	2.0	2.5	5	0.10	6.0	3.6
98T-2	2.0	2.5	5	0.10	4.0	5.2
98T-3	2.0	2.5	5	0.10	7.0	5.0
98T-4	2.0	2.5	5	0.12	8.0	5.5
98T-5	2.0	2.5	5	0.12	13.0	6.9
98T-6	2.0	2.5	5	0.11	7.0	4.2
98T-8	3.0	2.5	5	0.11	3.0	5.7
98T-9	2.0	2.5	5	0.14	15.0	6.7
98T-10	2.0	6.0	5	0.14	9.0	6.7
98T-11	2.0	2.5	5	0.12	5.0	7.3
98T-12	2.0	5.0	5	0.13	22.0	5.7
98T-13	2.0	2.5	5	0.13	8.0	5.7
98T-15	3.0	6.0	5	0.17	32.0	4.7
98T-16-1	7.0	5.0	5	0.20	0.5	14.6
98T-17	8.0	7.0	5	0.21	25.0	37.2
98T-18	2.0	5.0	5	0.12	9.0	53.0
98T-19	3.0	6.0	5	0.14	6.0	13.6
98T-20	5.0	8.0	5	0.17	6.0	17.6
98T-21	5.0	8.0	5	0.11	6.0	244.0
98T-22	2.0	2.5	5	0.09	3.0	15.6
98T-23	3.0	6.0	5	0.10	4.0	8.3
98T-24	2.0	2.5	5	0.09	7.0	3.2
98T-25	4.0	7.0	5	0.12	7.0	2.6
98T-26	1.0	2.5	5	0.09	13.0	4.3
98T-27	2.0	2.5	5	0.11	15.0	7.2
98T-28	1.0	2.5	5	0.08	5.0	8.7
98T-29	2.0	2.5	5	0.10	14.0	5.6
98T-30	2.0	2.5	5	0.13	16.0	12.2
98T-31	2.0	5.0	5	0.13	20.0	6.8
98T-32	3.0	2.5	5	0.12	20.0	3.6
98T-33	2.0	2.5	5	0.13	21.0	27.3
98T-34	1.0	2.5	5	0.10	8.0	3.4
98T-35	2.0	2.5	5	0.11	15.0	5.1
98T-36-1	2.0	2.5	5	0.08	5.0	3.2
98T-36-2	2.0	2.5	5	0.08	3.0	3.4
98T-37	2.0	2.5	5	0.08	2.0	4.4
98T-38	2.0	2.5	5	0.11	20.0	4.4
98T-39	2.0	2.5	5	0.09	13.0	3.6
98T-40	3.0	2.5	5	0.10	3.0	9.4
98T-41	2.0	5.0	5	0.13	15.0	3.4
98T-42	2.0	5.0	5	0.13	19.0	4.0
98T-43	2.0	2.5	5	0.08	5.0	5.7
98T-44	2.0	2.5	5	0.11	14.0	6.3
98T-45	2.0	2.5	5	0.09	11.0	4.2
98T-46	1.0	2.5	5	0.10	11.0	8.1
98T-47	2.0	2.5	5	0.11	4.0	5.0
98T-48	2.0	2.5	5	0.10	10.0	5.1

Sample Site	Nb ppm	Sc ppm	Ta ppm	Ti %	Zr ppm	As HY ppm
98T-49	2.0	2.5	5	0.07	1.0	4.8
98T-51	2.0	7.0	5	0.13	10.0	4.4
98T-52	2.0	2.5	5	0.12	8.0	6.4
98T-53	2.0	2.5	5	0.08	2.0	5.6
98T-54	3.0	2.5	5	0.11	4.0	7.3
98T-55	3.0	6.0	5	0.11	0.5	6.7
98T-57	2.0	5.0	5	0.13	9.0	5.2
98T-58	2.0	5.0	5	0.12	11.0	4.2
98T-59	2.0	2.5	5	0.07	2.0	3.7
98T-60	0.5	5.0	5	0.10	3.0	3.2
98T-61-1	3.0	2.5	5	0.12	6.0	3.5
98T-61-2	2.0	2.5	5	0.11	8.0	5.3
98T-62	0.5	7.0	5	0.14	7.0	5.2
98T-64	2.0	2.5	5	0.10	3.0	3.8
98T-66	1.0	5.0	5	0.14	16.0	4.4
98T-67	2.0	5.0	5	0.13	19.0	5.1
98T-68	3.0	5.0	5	0.13	13.0	4.7
98T-70	2.0	5.0	5	0.14	11.0	8.0
98T-71	2.0	5.0	5	0.13	8.0	4.1
98T-72	3.0	6.0	5	0.12	5.0	3.7
98T-73	5.0	8.0	5	0.13	7.0	15.9
98T-74	2.0	2.5	5	0.13	17.0	6.3
98T-75	3.0	6.0	5	0.16	13.0	6.0
98T-77	2.0	2.5	5	0.13	7.0	5.3
98T-78	4.0	8.0	5	0.16	17.0	5.2
98T-79	0.5	7.0	5	0.15	10.0	6.0
98T-81	0.5	6.0	5	0.15	11.0	4.4
98T-82	0.5	2.5	5	0.09	3.0	4.3
98T-83	0.5	6.0	5	0.14	17.0	4.3
98T-85-1	0.5	9.0	5	0.09	2.0	6.2
98T-85-2	0.5	5.0	5	0.08	1.0	8.6
98T-87	0.5	5.0	5	0.12	11.0	4.5
98T-88	0.5	2.5	5	0.11	10.0	6.3
98T-90	0.5	10.0	5	0.14	9.0	3.7
98T-91	0.5	6.0	5	0.14	11.0	5.3
98T-93	0.5	2.5	5	0.06	2.0	1.7
98T-94	0.5	6.0	5	0.12	14.0	4.3
98T-95	0.5	6.0	5	0.13	2.0	6.4
98T-96	0.5	9.0	5	0.18	16.0	16.0
98T-97	0.5	6.0	5	0.13	13.0	5.2
98T-98	0.5	6.0	5	0.13	24.0	5.8
98T-99	0.5	11.0	5	0.12	4.0	5.7
98T-100	0.5	6.0	5	0.11	7.0	4.7
98T-101	0.5	6.0	5	0.11	16.0	5.6
98T-102	0.5	5.0	5	0.11	10.0	6.9
98T-103	0.5	6.0	5	0.14	14.0	3.9
98T-104-1	0.5	5.0	5	0.13	16.0	4.5
98T-104-2	0.5	5.0	5	0.13	16.0	5.4
98T-105	0.5	5.0	5	0.11	9.0	4.7
98T-106	0.5	6.0	5	0.13	9.0	14.8
98T-107	0.5	2.5	5	0.13	8.0	5.6
98T-108	0.5	5.0	5	0.13	15.0	4.7
98T-109	0.5	5.0	5	0.13	10.0	5.0
98T-110	0.5	6.0	5	0.14	13.0	5.2
98T-111	0.5	2.5	5	0.10	4.0	3.2
98T-112	0.5	2.5	5	0.12	11.0	3.7

Sample Site	Nb ppm	Sc ppm	Ta ppm	Ti %	Zr ppm	As HY ppm
98T-113	0.5	7.0	5	0.14	17.0	6.4
98T-114	0.5	6.0	5	0.15	15.0	5.1
98T-115	0.5	5.0	5	0.13	8.0	5.9
98T-116	0.5	6.0	5	0.14	11.0	5.3
98T-118	0.5	5.0	5	0.13	14.0	5.8
98T-119	0.5	6.0	5	0.15	19.0	4.2
98T-120	0.5	7.0	5	0.14	9.0	4.8
98T-122	0.5	6.0	5	0.14	15.0	4.6
98T-123	0.5	2.5	5	0.11	6.0	7.9
98T-124	0.5	8.0	5	0.14	23.0	248.1
98T-125	0.5	6.0	5	0.14	24.0	4.6
98T-126	0.5	8.0	5	0.16	10.0	80.6
98T-127	0.5	5.0	5	0.10	5.0	3.7
98T-128	0.5	6.0	5	0.15	39.0	3.2
98T-129-1	0.5	2.5	5	0.11	5.0	4.7
98T-129-2	0.5	5.0	5	0.12	9.0	5.6
98T-130	0.5	2.5	5	0.11	6.0	2.6
98T-132	0.5	6.0	5	0.13	19.0	5.4
98T-133	0.5	2.5	5	0.06	3.0	12.3
98T-134	0.5	12.0	5	0.20	15.0	4.2
98T-135	0.5	2.5	5	0.09	7.0	6.6
98T-136	0.5	2.5	5	0.04	1.0	13.6
98T-137	0.5	6.0	5	0.14	8.0	6.4
98T-138	0.5	8.0	5	0.19	13.0	6.9
98T-139	0.5	8.0	5	0.18	12.0	3.6
98T-140	0.5	7.0	5	0.14	7.0	2.5
98T-141	0.5	2.5	5	0.10	7.0	11.1
98T-142	0.5	5.0	5	0.12	7.0	4.8
98T-143	0.5	2.5	5	0.05	3.0	5.0
98T-144	0.5	2.5	5	0.14	22.0	6.4
98T-145	1.0	6.0	5	0.16	10.0	6.8
98T-146	0.5	15.0	5	0.13	7.0	3.4
98T-147	0.5	2.5	5	0.11	8.0	13.4
98T-148	0.5	8.0	5	0.19	19.0	11.0
98T-149	0.5	12.0	5	0.14	17.0	9.9
98T-150-1	0.5	6.0	5	0.14	8.0	8.3
98T-150-2	0.5	6.0	5	0.15	9.0	9.7
98T-151	0.5	12.0	5	0.16	20.0	8.5
98T-152	0.5	2.5	5	0.06	3.0	11.8
98T-153	0.5	8.0	5	0.16	20.0	3.8
98T-154	0.5	6.0	5	0.16	14.0	41.8
98T-155	0.5	7.0	5	0.17	24.0	51.3
98T-156	0.5	2.5	5	0.13	14.0	59.0
98T-157	0.5	6.0	5	0.14	5.0	36.7
98T-158	0.5	6.0	5	0.16	20.0	42.7
98T-160	0.5	2.5	5	0.11	6.0	35.1
98T-161	0.5	5.0	5	0.17	17.0	8.4
98T-163	0.5	9.0	5	0.18	34.0	17.6
98T-164	0.5	6.0	5	0.15	10.0	25.2
98T-166	0.5	8.0	5	0.16	39.0	19.4
98T-168-1	0.5	5.0	5	0.13	10.0	4.4
98T-168-2	0.5	5.0	5	0.12	8.0	4.1
98T-170	0.5	5.0	5	0.14	11.0	9.6
98T-171	0.5	5.0	5	0.14	9.0	29.2
98T-172	0.5	7.0	5	0.20	37.0	64.2
98T-173	0.5	6.0	5	0.16	26.0	23.8

Sample Site	Nb ppm	Sc ppm	Ta ppm	Ti %	Zr ppm	As HY ppm
98T-174	0.5	2.5	5	0.07	4.0	4.1
98T-175	0.5	6.0	5	0.14	13.0	20.9
98T-178	0.5	2.5	5	0.09	8.0	3.5
98T-180	0.5	6.0	5	0.14	9.0	13.1
98T-181	0.5	7.0	5	0.14	8.0	10.8
98T-184	0.5	5.0	5	0.13	14.0	7.1
98T-185-1	0.5	5.0	5	0.12	23.0	5.3
98T-185-2	0.5	2.5	5	0.11	20.0	4.9
98T-189	0.5	2.5	5	0.09	5.0	5.6
98T-190	0.5	2.5	5	0.08	3.0	6.2
98T-191	0.5	6.0	5	0.12	5.0	8.6
98T-192	0.5	6.0	5	0.14	14.0	9.2
98T-193	2.0	5.0	5	0.11	5.0	15.9
98T-194	0.5	6.0	5	0.15	21.0	9.2
98T-196	0.5	2.5	5	0.08	3.0	9.2
98T-197	0.5	2.5	5	0.10	12.0	7.9
98T-198	0.5	2.5	5	0.09	12.0	5.1
98T-199	0.5	2.5	5	0.06	3.0	5.6
98T-200	0.5	2.5	5	0.11	15.0	8.2
98T-201	0.5	6.0	5	0.12	7.0	7.3
98T-204	0.5	6.0	5	0.12	6.0	4.1
98T-205	2.0	2.5	5	0.08	5.0	3.9
98T-206	0.5	2.5	5	0.10	6.0	7.2
98T-207	0.5	6.0	5	0.14	7.0	8.6
98T-208	0.5	7.0	5	0.15	7.0	6.0

Appendix 2

Till Geochemistry: Duplicate Pair ICP-AES, Hg (cold vapour - AAS) and As (hydride generation) analyses (<2 micron fraction).

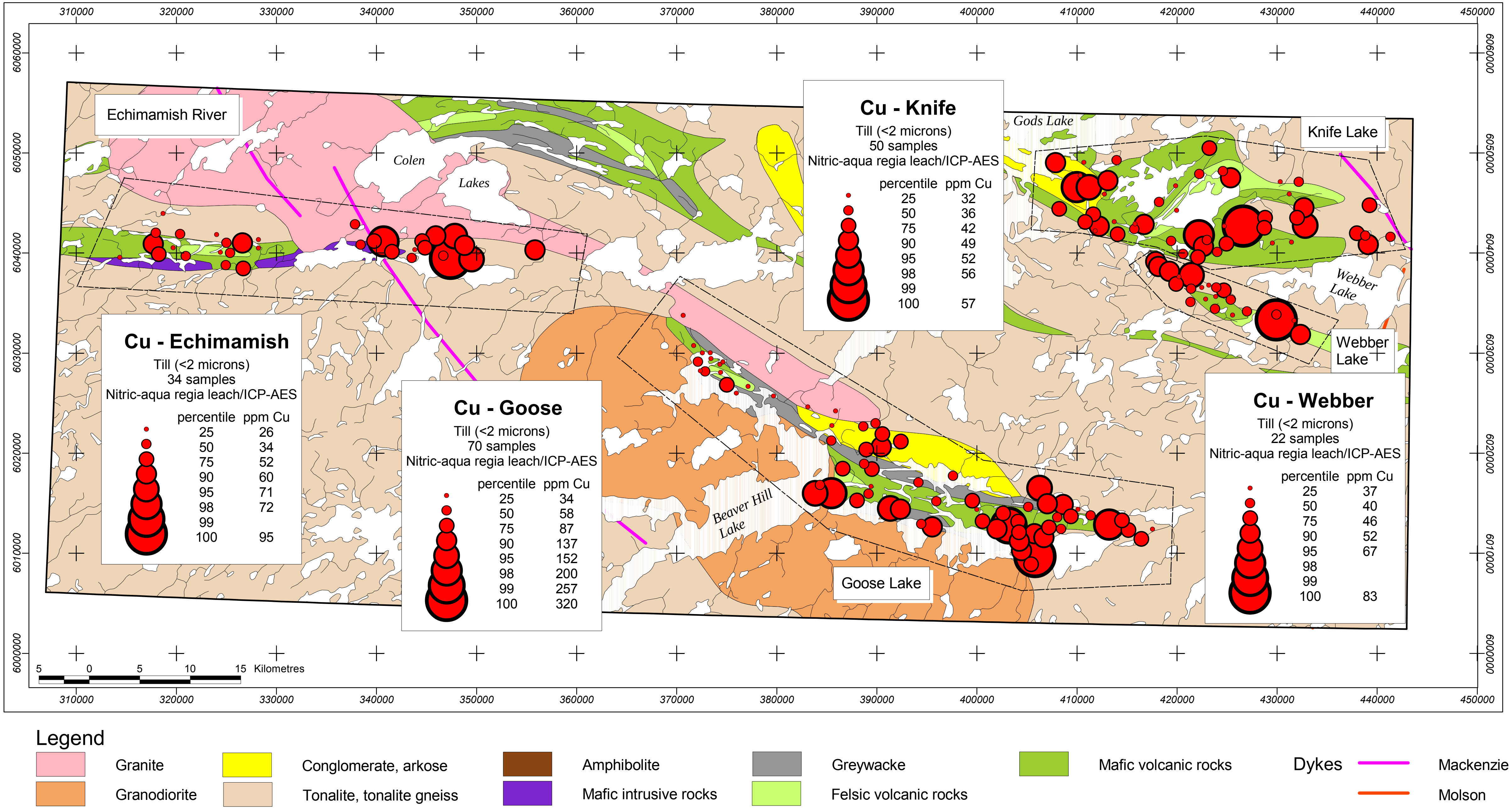
Sample Site	UTM		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	Hg	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb
	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
98T-36-1	371637.00	6030765.00	0.6	23	8	37	0.5	20	7	0.1	2.5	2.5	2.5	2.42	404	5	98	32	29	10	10	0.029	25	1.57	1.46	10.00	0.53	0.25	78	10	4	21	2.0
98T-36-2	371637.00	6030765.00	0.4	26	8	40	0.5	21	9	0.1	2.5	2.5	2.5	2.83	410	5	98	37	34	10	10	0.045	28	1.87	1.60	10.00	0.59	0.27	77	10	5	24	2.0
98T-61-1	428648.00	6042511.00	0.2	40	8	56	0.5	29	11	0.1	2.5	5.0	2.5	3.32	392	5	123	45	44	10	10	0.065	33	2.30	1.72	8.37	0.71	0.29	60	12	7	36	3.0
98T-61-2	428648.00	6042511.00	0.4	35	10	48	0.5	25	12	0.1	2.5	5.0	2.5	2.82	555	5	90	36	38	10	10	0.055	30	1.59	1.85	10.00	0.63	0.22	74	11	4	26	2.0
98T-85-1	439153.13	6044766.50	0.1	34	15	69	0.5	35	15	0.1	2.5	6.0	2.5	3.83	637	5	95	58	47	10	10	0.117	57	2.57	1.96	3.25	1.21	0.35	54	27	7	32	0.5
98T-85-2	439153.13	6044766.50	0.1	39	15	64	0.5	32	18	0.2	2.5	7.0	2.5	3.29	815	5	84	46	41	10	10	0.144	33	2.04	1.90	5.87	1.34	0.28	62	14	6	26	0.5
98T-104-1	423848.47	6036518.50	0.1	37	10	69	0.5	31	12	0.1	2.5	2.5	2.5	3.23	537	5	91	43	42	10	10	0.040	32	1.94	1.78	8.23	0.49	0.34	80	11	6	32	0.5
98T-104-2	423848.47	6036518.50	0.1	38	10	68	0.5	32	13	0.2	2.5	2.5	2.5	3.19	585	5	89	43	42	10	10	0.039	33	1.91	1.80	8.70	0.54	0.35	82	11	6	32	0.5
98T-129-1	411318.28	6013772.50	0.1	55	11	57	0.5	23	11	0.1	2.5	5.0	2.5	3.01	389	5	161	37	41	10	10	0.052	43	1.93	1.58	10.00	0.57	0.46	84	12	6	36	0.5
98T-129-2	411318.28	6013772.50	0.1	53	12	64	0.5	30	13	0.1	2.5	7.0	2.5	3.47	383	5	155	48	48	10	10	0.064	45	2.42	1.65	9.58	0.43	0.45	70	14	7	41	0.5
98T-150-1	400497.00	6013199.00	0.1	75	11	66	0.5	35	17	0.1	2.5	8.0	2.5	3.84	550	5	122	50	52	10	10	0.034	42	2.52	2.05	10.00	0.66	0.39	85	13	7	39	0.5
98T-150-2	400497.00	6013199.00	0.1	81	13	75	0.5	39	20	0.1	2.5	10.0	2.5	4.28	605	5	130	60	58	10	10	0.040	45	2.81	2.19	9.10	0.76	0.45	80	14	8	44	0.5
98T-168-1	389115.00	6015922.00	0.1	48	9	65	0.5	32	12	0.1	2.5	2.5	2.5	3.44	502	5	106	52	46	10	10	0.039	36	2.34	1.97	10.00	0.52	0.34	90	12	6	36	0.5
98T-168-2	389115.00	6015922.00	0.1	33	9	69	0.5	32	12	0.1	2.5	2.5	2.5	3.41	469	5	96	52	45	10	10	0.038	33	2.38	1.83	10.00	0.65	0.33	86	11	6	35	0.5
98T-185-1	328134.84	6041330.00	0.1	30	13	66	0.5	29	11	0.1	2.5	5.0	2.5	3.36	495	5	128	43	42	10	10	0.020	44	2.43	2.29	10.00	0.57	0.48	99	15	6	40	0.5
98T-185-2	328134.84	6041330.00	0.1	29	13	61	0.5	25	10	0.1	2.5	6.0	2.5	3.02	494	5	118	37	37	10	10	0.024	43	2.25	2.26	10.00	0.46	0.44	111	15	6	36	0.5

Sample Site	Sc ppm	Ta ppm	Ti %	Zr ppm	As HY ppm
98T-36-1	2.5	5	0.08	5.0	3.2
98T-36-2	2.5	5	0.08	3.0	3.4
98T-61-1	2.5	5	0.12	6.0	3.5
98T-61-2	2.5	5	0.11	8.0	5.3
98T-85-1	9.0	5	0.09	2.0	6.2
98T-85-2	5.0	5	0.08	1.0	8.6
98T-104-1	5.0	5	0.13	16.0	4.5
98T-104-2	5.0	5	0.13	16.0	5.4
98T-129-1	2.5	5	0.11	5.0	4.7
98T-129-2	5.0	5	0.12	9.0	5.6
98T-150-1	6.0	5	0.14	8.0	8.3
98T-150-2	6.0	5	0.15	9.0	9.7
98T-168-1	5.0	5	0.13	10.0	4.4
98T-168-2	5.0	5	0.12	8.0	4.1
98T-185-1	5.0	5	0.12	23.0	5.3
98T-185-2	2.5	5	0.11	20.0	4.9

Appendix 3

Till Geochemistry: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), Hg (cold vapour - AAS) and As (hydride generation) Percentile Bubble Plots (<2 micron fraction).

Cu	Pb	Zn	Ni	Co
Fe	Mn	Ba	Cr	V
Hg	La	Al	Mg	Na
K	Sr	Y	Li	Nb
Sc	Ti	Zr	As hydride	
Contents				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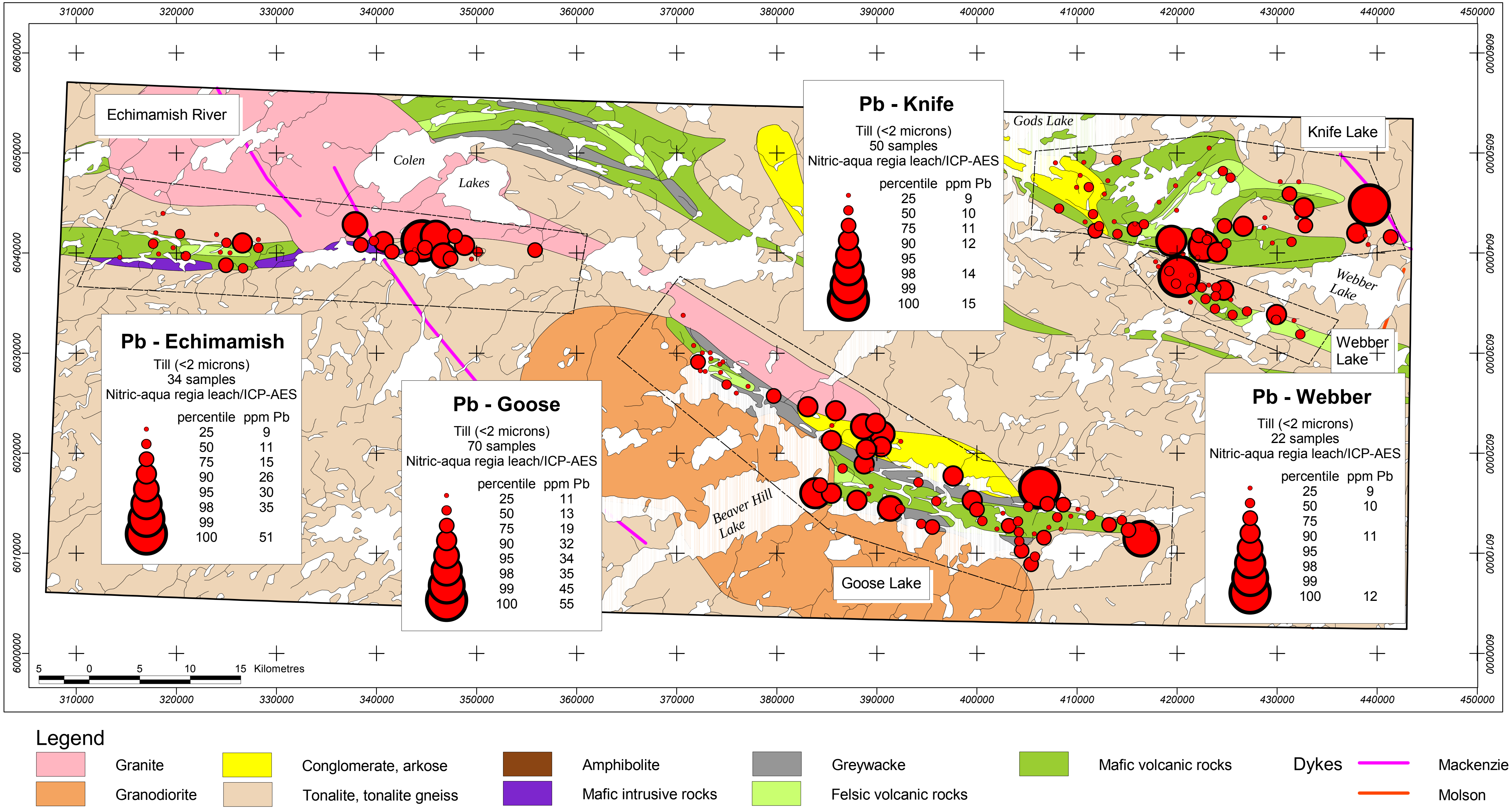
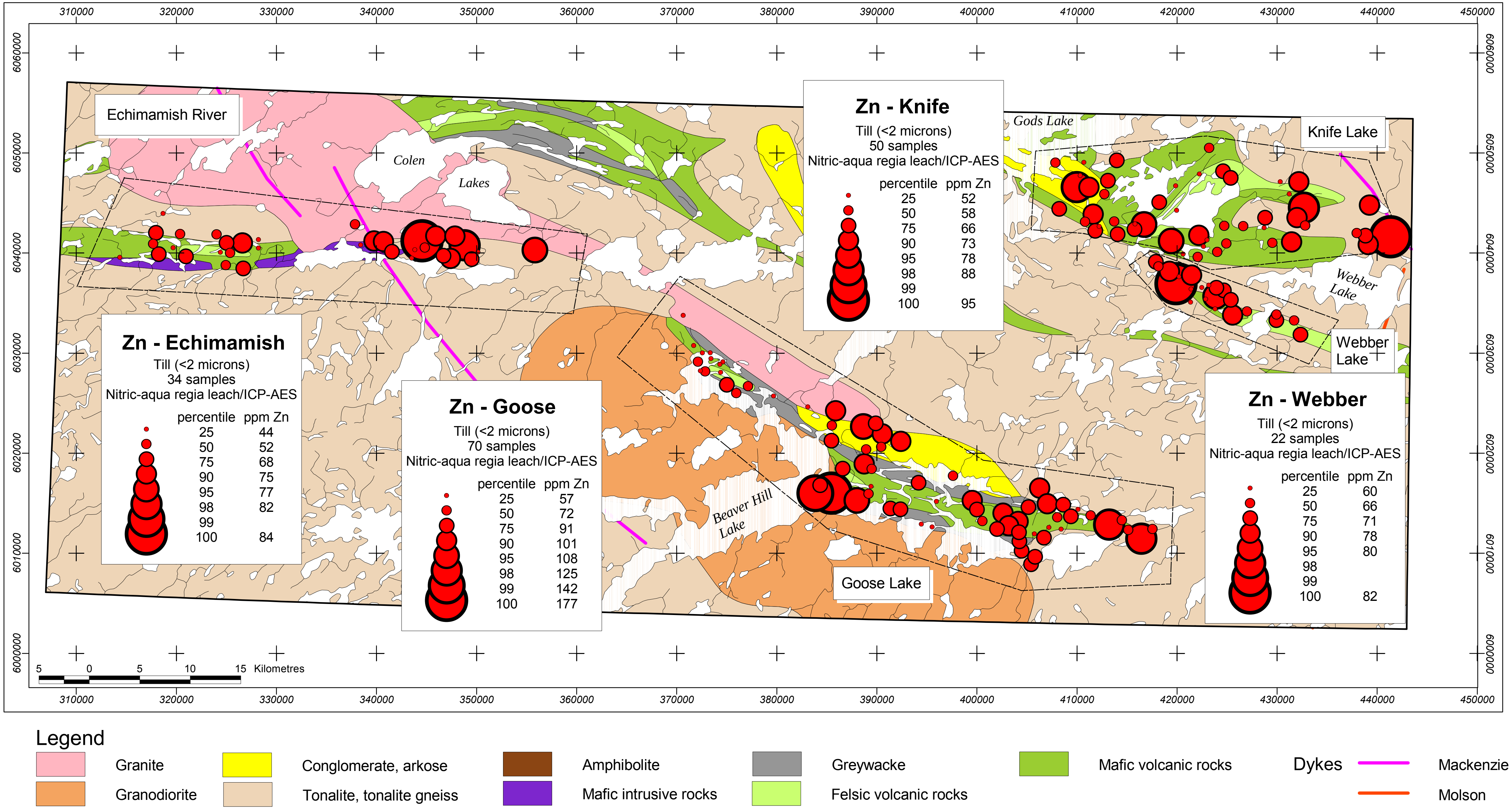
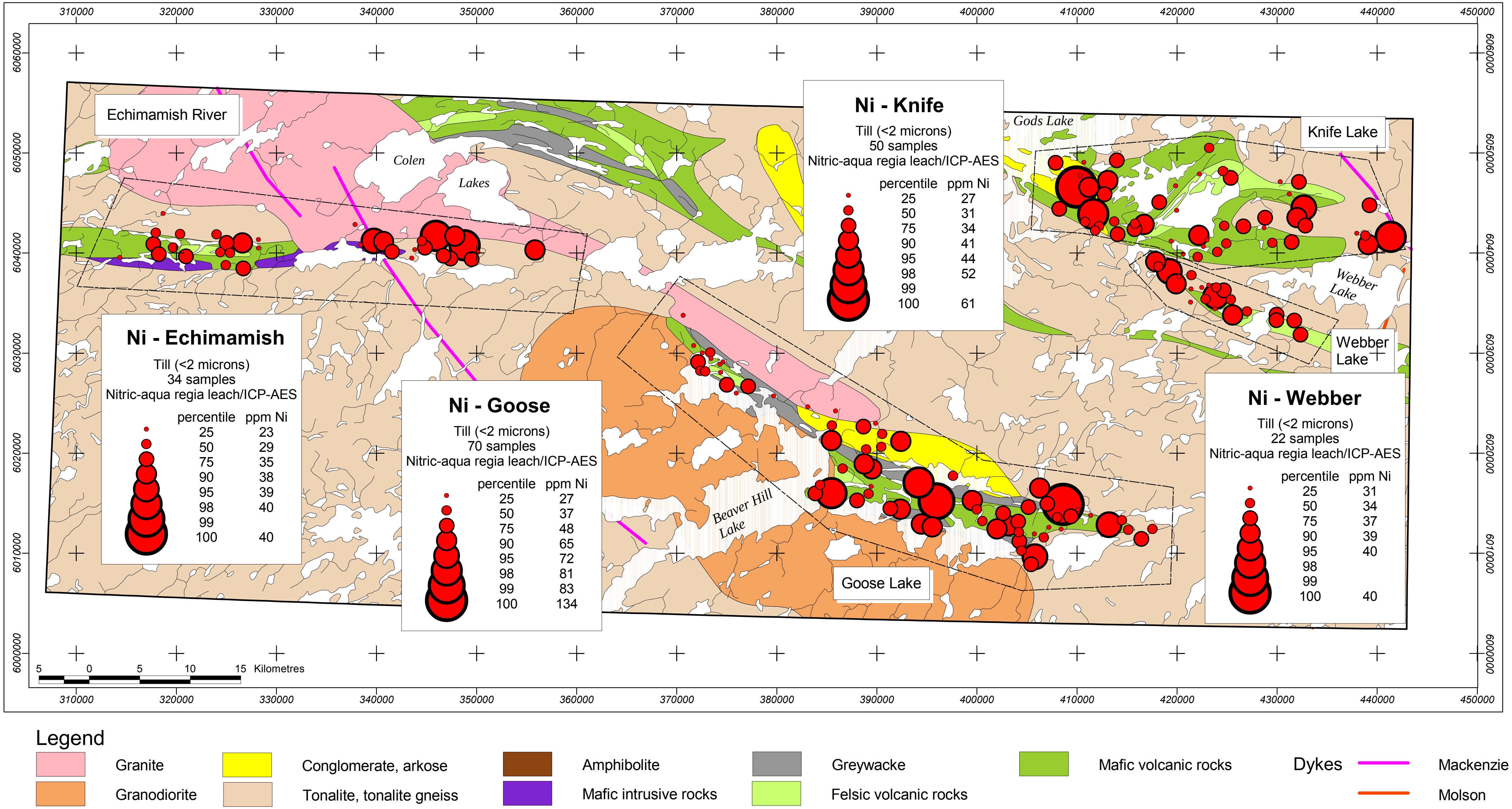
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cu - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cu
25 32
50 36
75 42
90 49
95 52
98 56
99
100 57
Cu - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cu
25 26
50 34
75 52
90 60
95 71
98 72
99
100 95
Cu - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cu
25 34
50 58
75 87
90 137
95 152
98 200
99 257
100 320
Cu - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cu
25 37
50 40
75 46
90 52
95 67
98
99
100 83
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

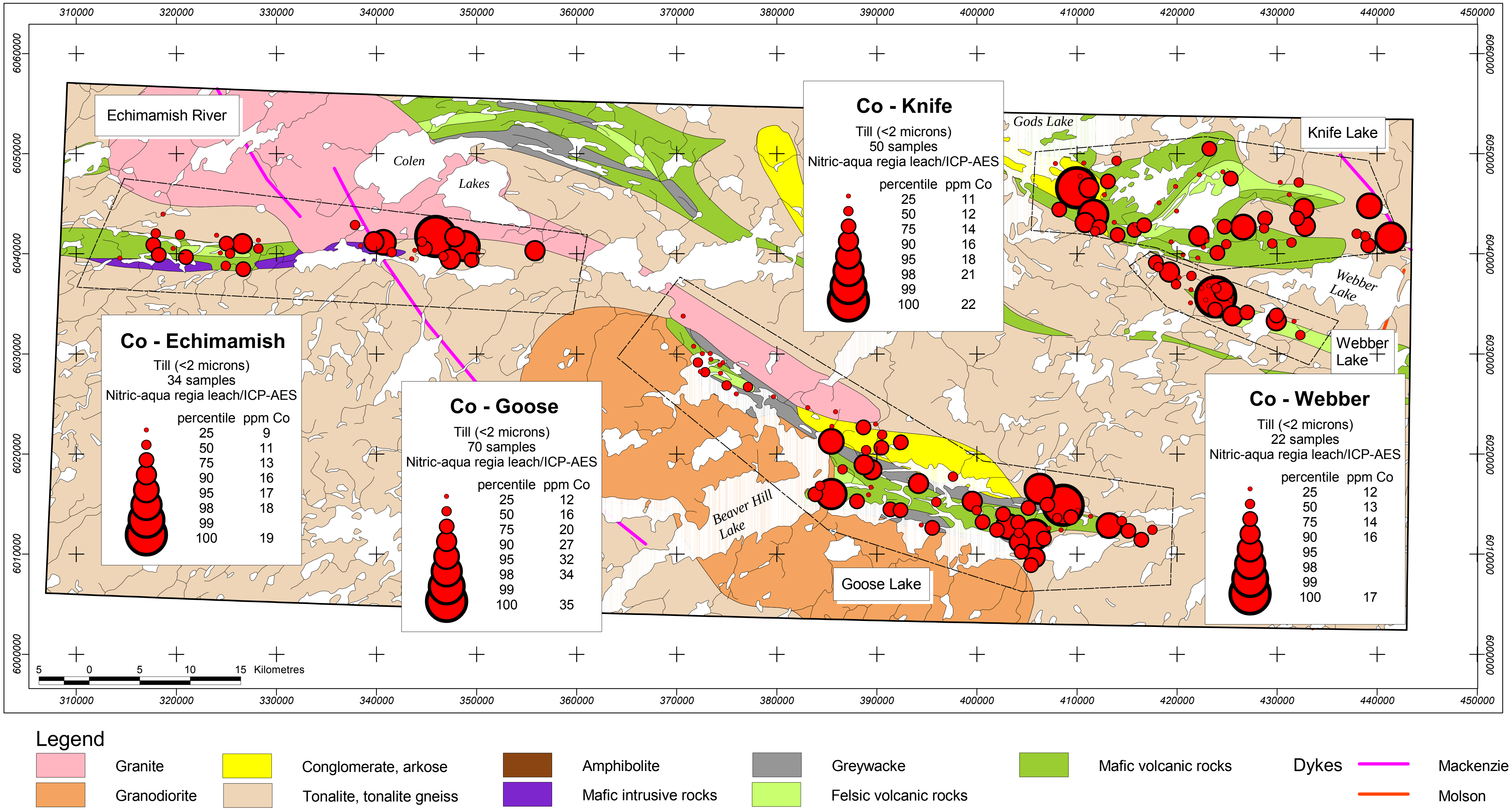

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Pb - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Pb
25 9
50 10
75 11
90 12
95
98 14
99
100 15
Pb - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Pb
25 9
50 11
75 15
90 26
95 30
98 35
99
100 51
Pb - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Pb
25 11
50 13
75 19
90 32
95 34
98 35
99 45
100 55
Pb - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Pb
25 9
50 10
75
90 11
95
98
99
100 12
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



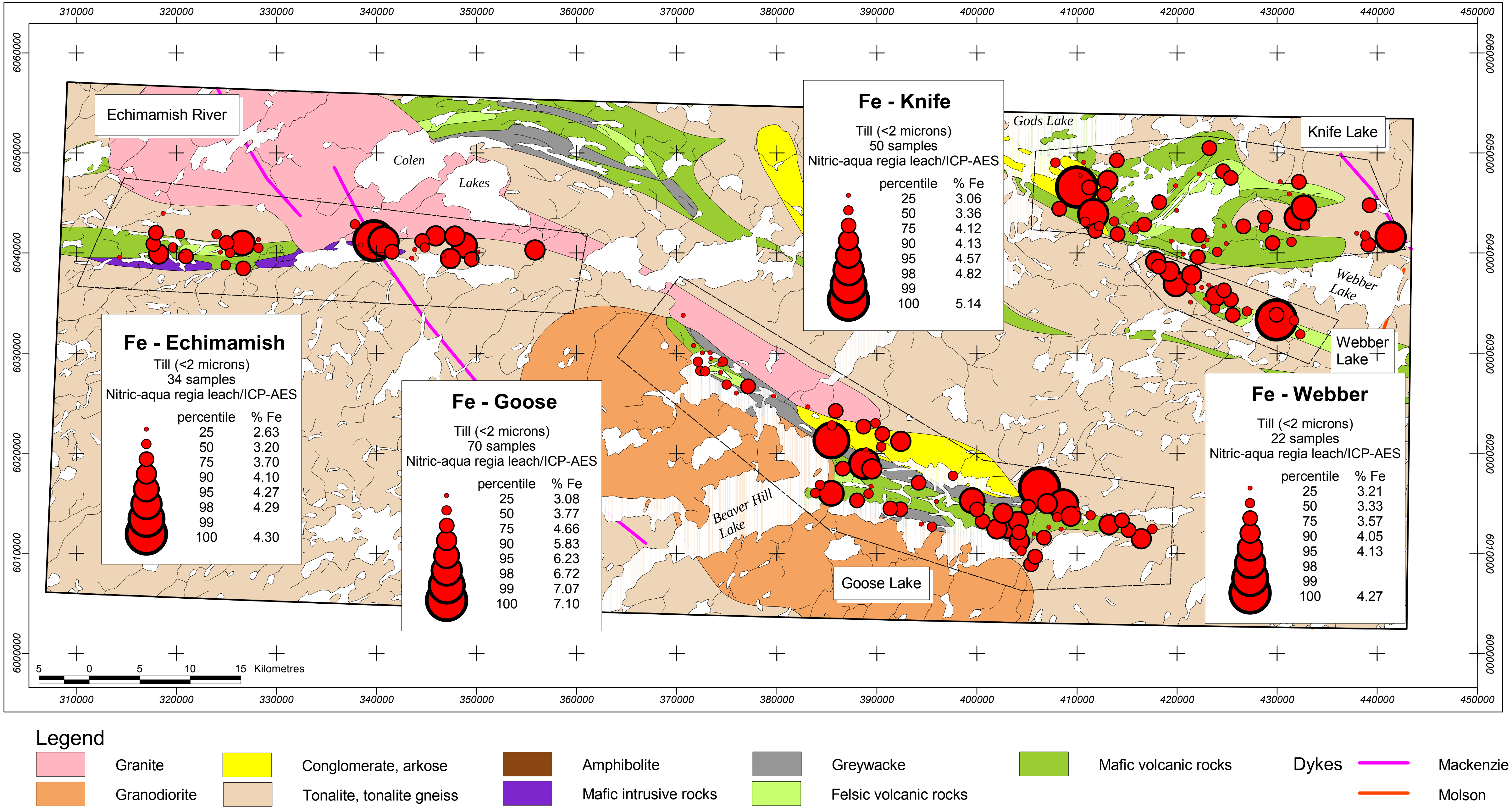
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zn
25 52
50 58
75 66
90 73
95 78
98 88
99
100 95
Zn - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zn
25 44
50 52
75 68
90 75
95 77
98 82
99
100 84
Zn - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zn
25 57
50 72
75 91
90 101
95 108
98 125
99 142
100 177
Zn - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zn
25 60
50 66
75 71
90 78
95 80
98
99
100 82
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



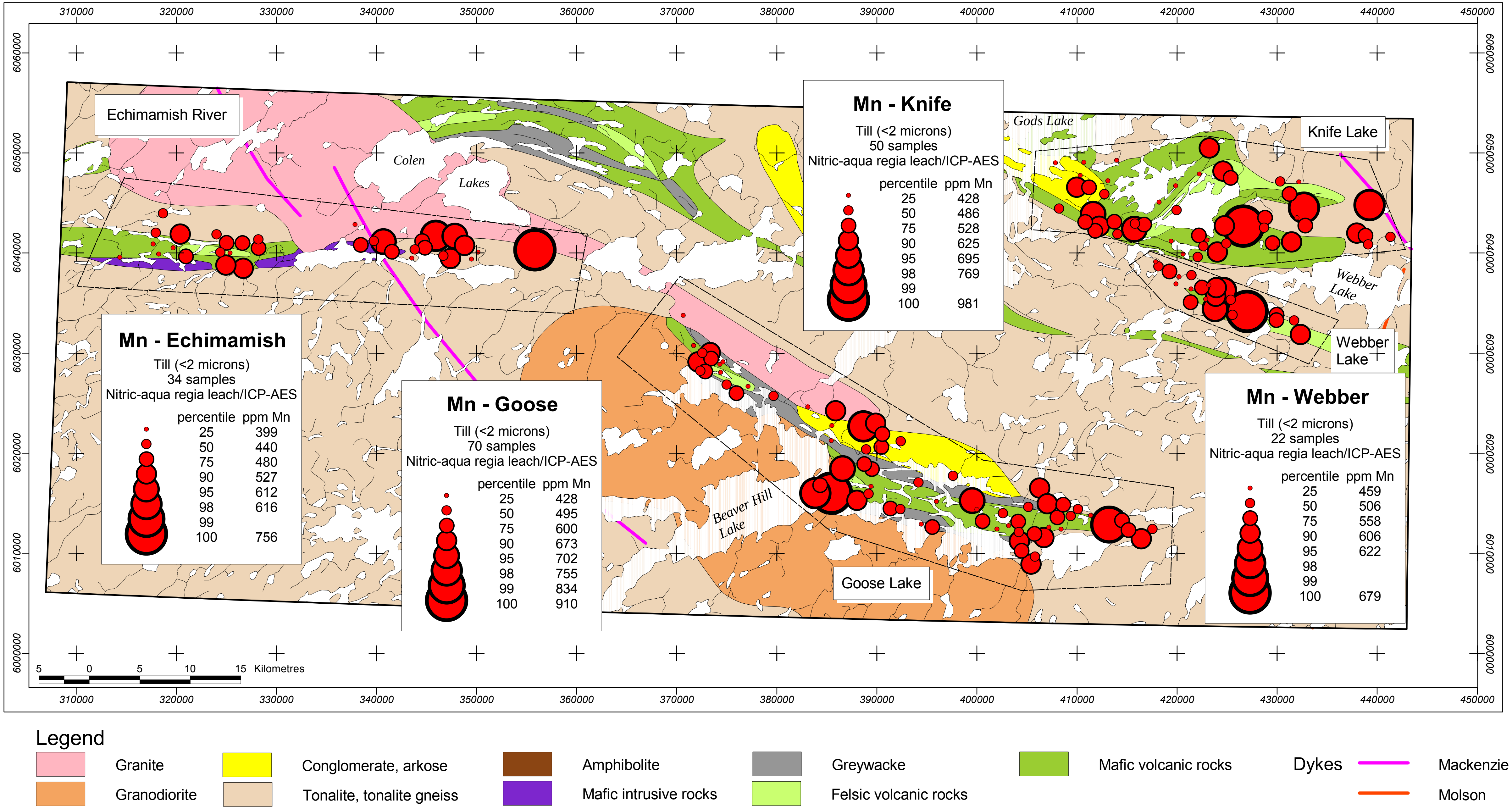
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ni
25 27
50 31
75 34
90 41
95 44
98 52
99
100 61
Ni - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ni
25 23
50 29
75 35
90 38
95 39
98 40
99
100 40
Ni - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ni
25 27
50 37
75 48
90 65
95 72
98 81
99 83
100 134
Ni - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ni
25 31
50 34
75 37
90 39
95 40
98
99
100 40
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



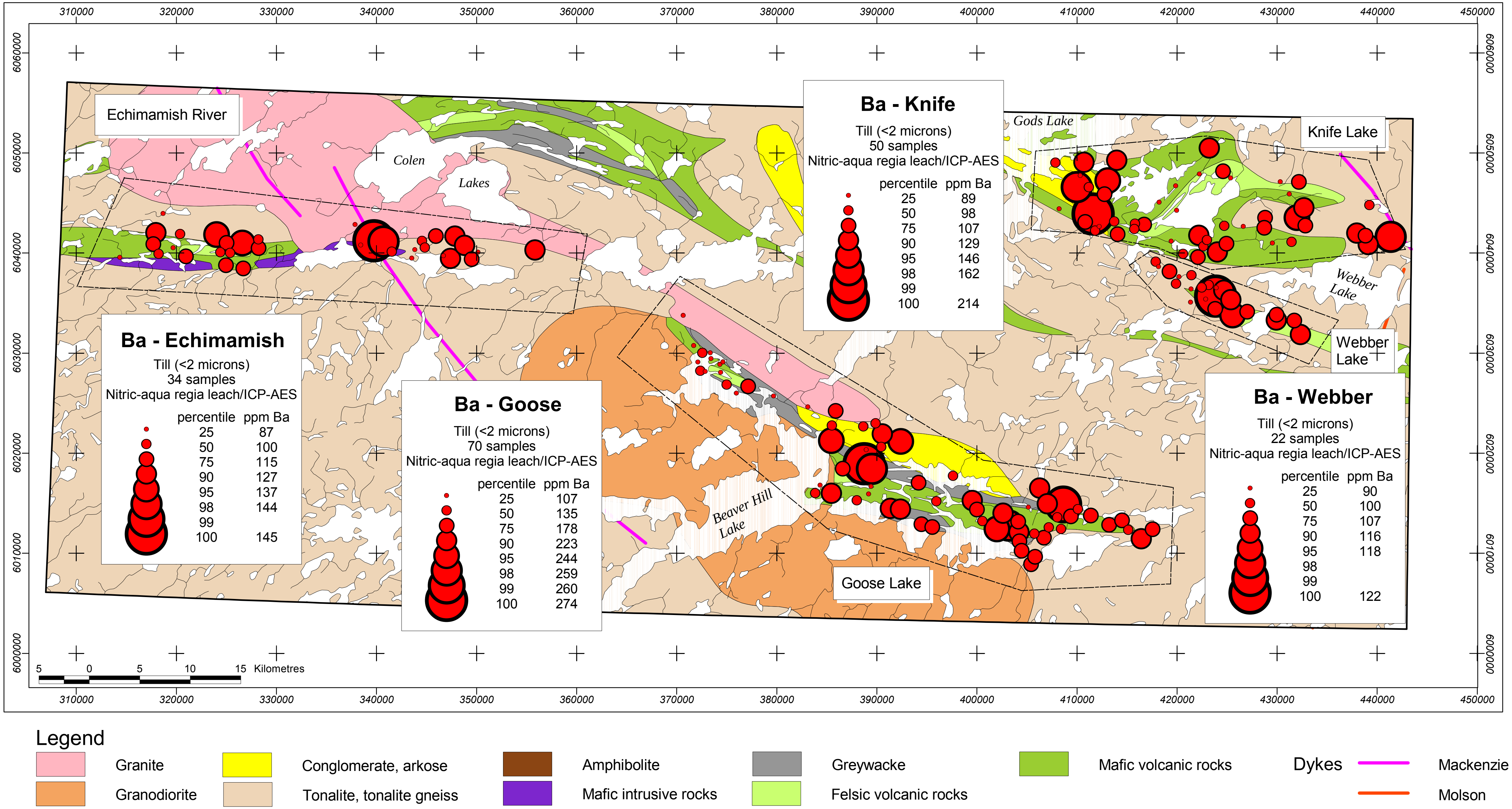
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Co - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Co
25 11
50 12
75 14
90 16
95 18
98 21
99
100 22
Co - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Co
25 9
50 11
75 13
90 16
95 17
98 18
99
100 19
Co - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Co
25 12
50 16
75 20
90 27
95 32
98 34
99
100 35
Co - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Co
25 12
50 13
75 14
90 16
95
98
99
100 17
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



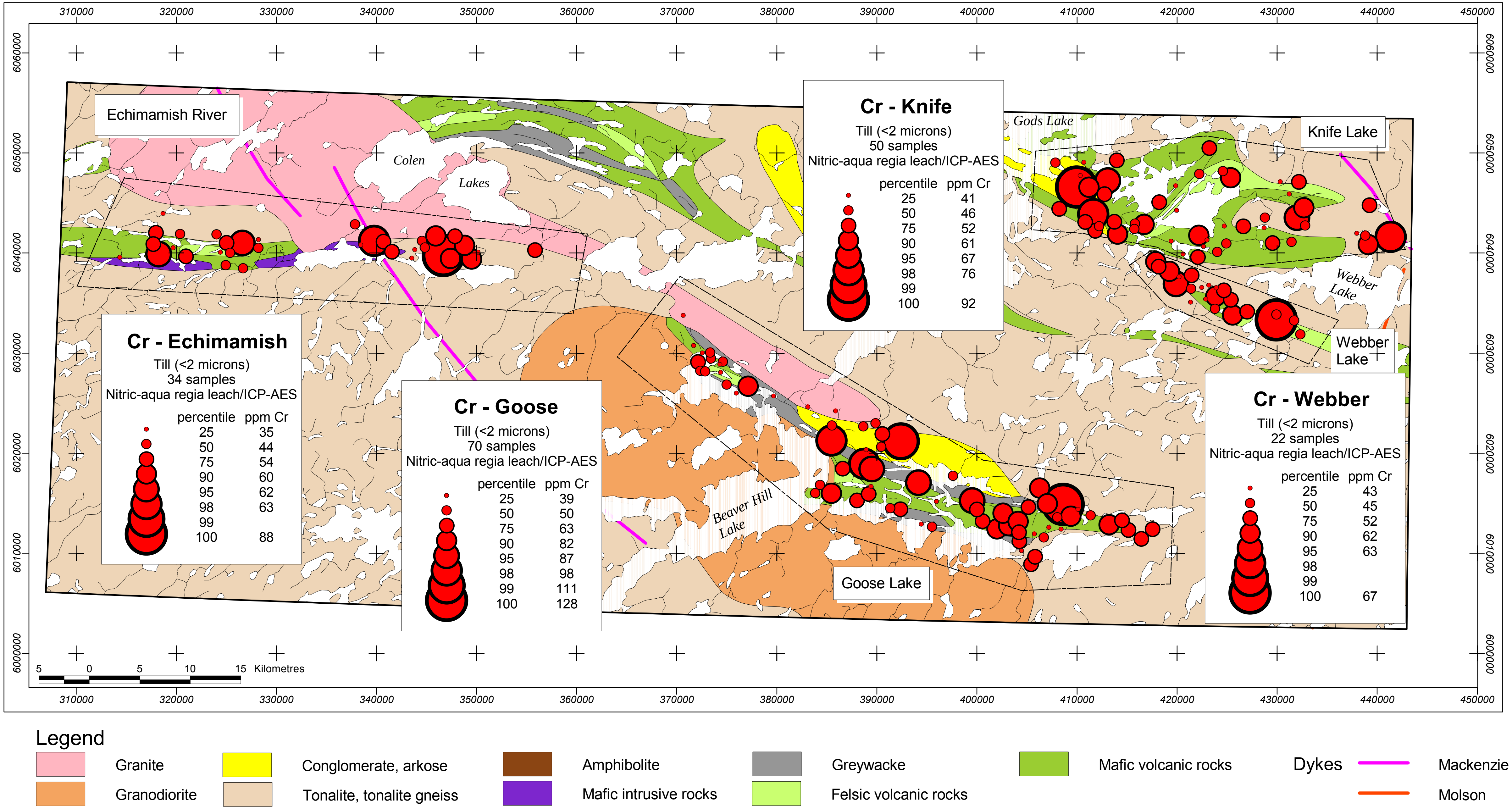
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Fe - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile % Fe
25 2.63
50 3.20
75 3.70
90 4.10
95 4.27
98 4.29
99
100 4.30
Fe - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile % Fe
25 3.08
50 3.77
75 4.66
90 5.83
95 6.23
98 6.72
99 7.07
100 7.10
Fe - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile % Fe
25 3.06
50 3.36
75 4.12
90 4.13
95 4.57
98 4.82
99
100 5.14
Fe - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile % Fe
25 3.21
50 3.33
75 3.57
90 4.05
95 4.13
98
99
100 4.27
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



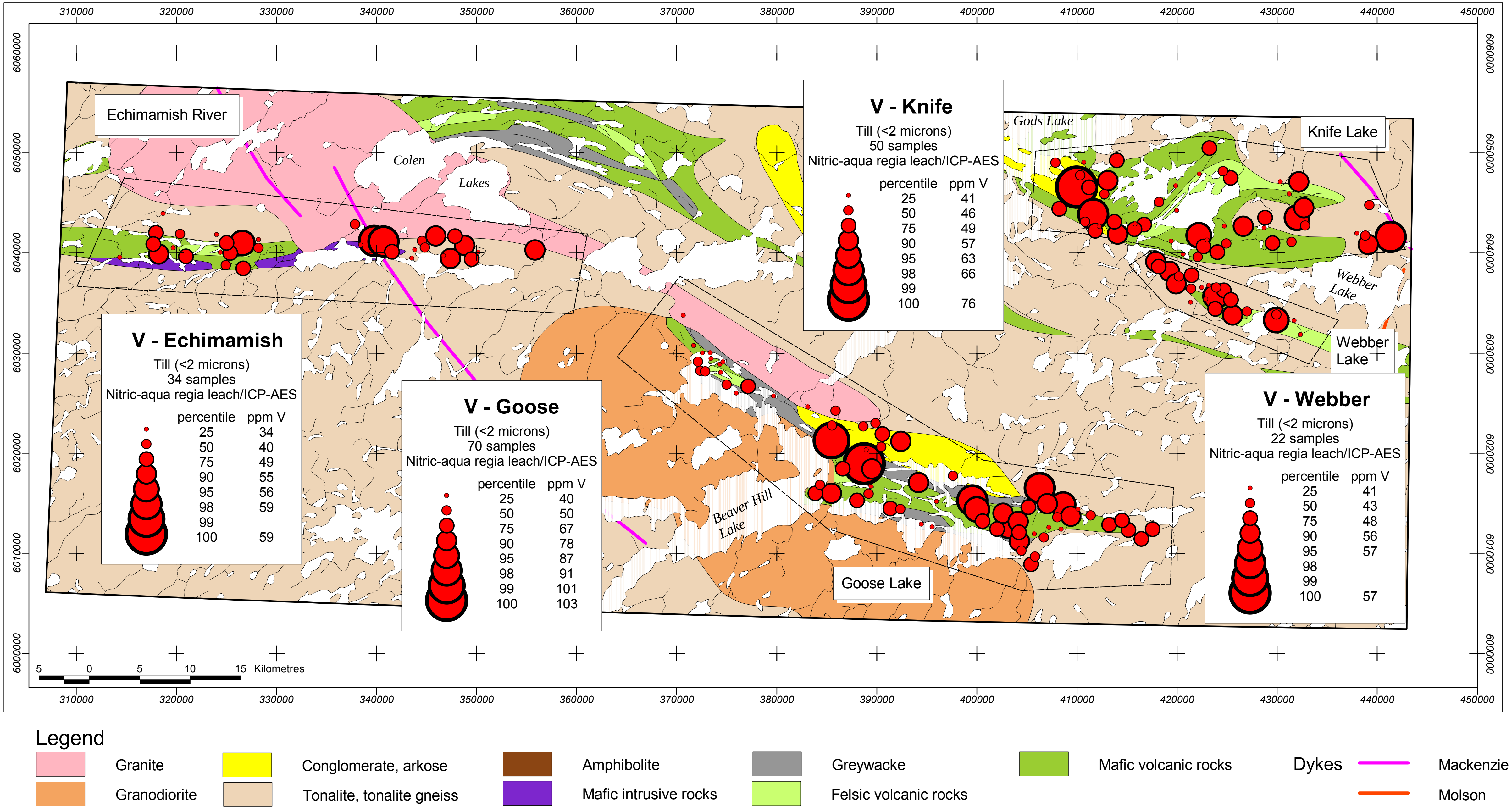
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mn - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Mn
25 428
50 486
75 528
90 625
95 695
98 769
99
100 981
Mn - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Mn
25 399
50 440
75 480
90 527
95 612
98 616
99
100 756
Mn - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Mn
25 428
50 495
75 600
90 673
95 702
98 755
99 834
100 910
Mn - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Mn
25 459
50 506
75 558
90 606
95 622
98
99
100 679
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



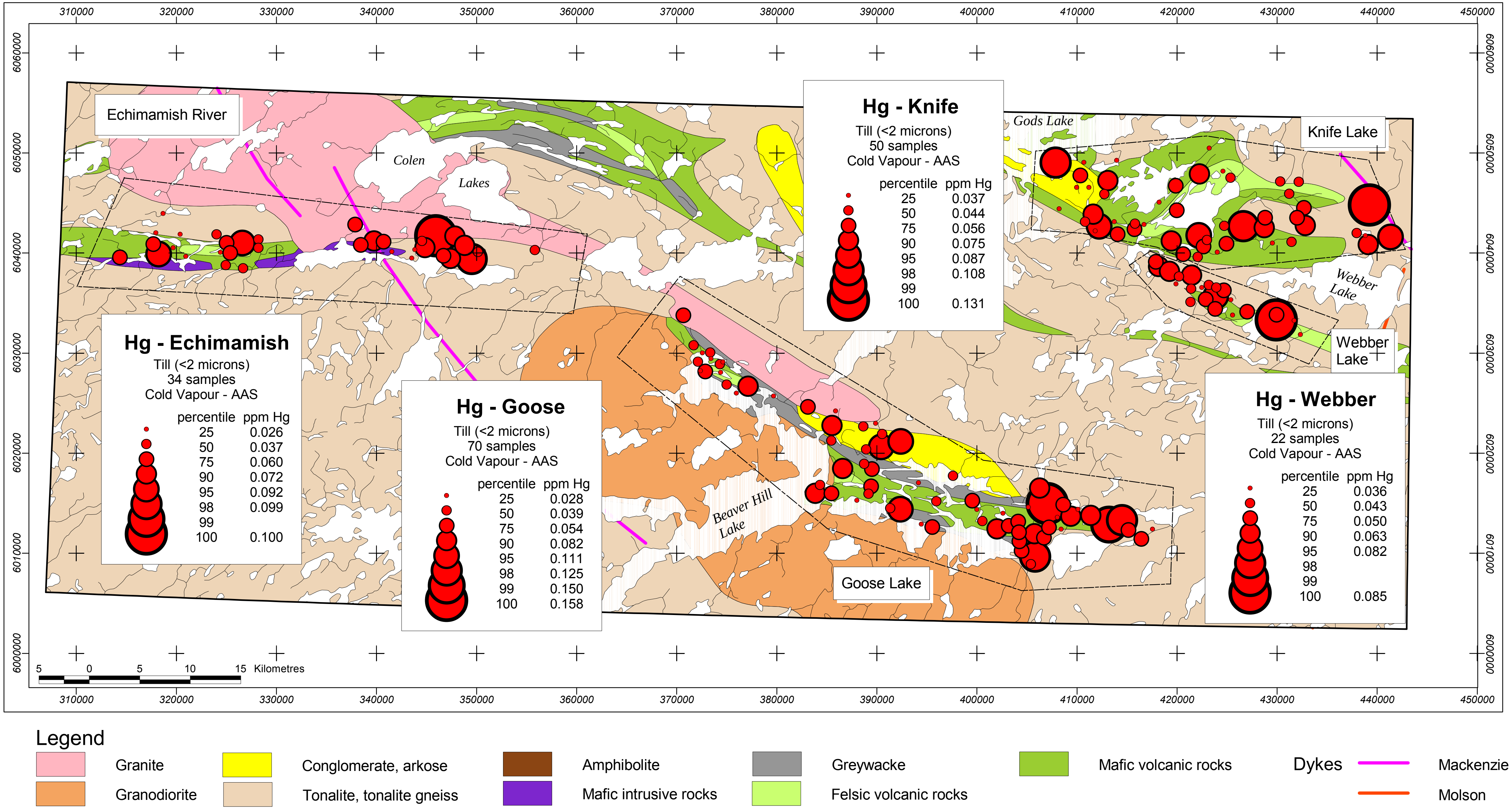
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ba - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ba
25 89
50 98
75 107
90 129
95 146
98 162
99
100 214
Ba - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ba
25 87
50 100
75 115
90 127
95 137
98 144
99
100 145
Ba - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ba
25 107
50 135
75 178
90 223
95 244
98 259
99 260
100 274
Ba - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Ba
25 90
50 100
75 107
90 116
95 118
98
99
100 122
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



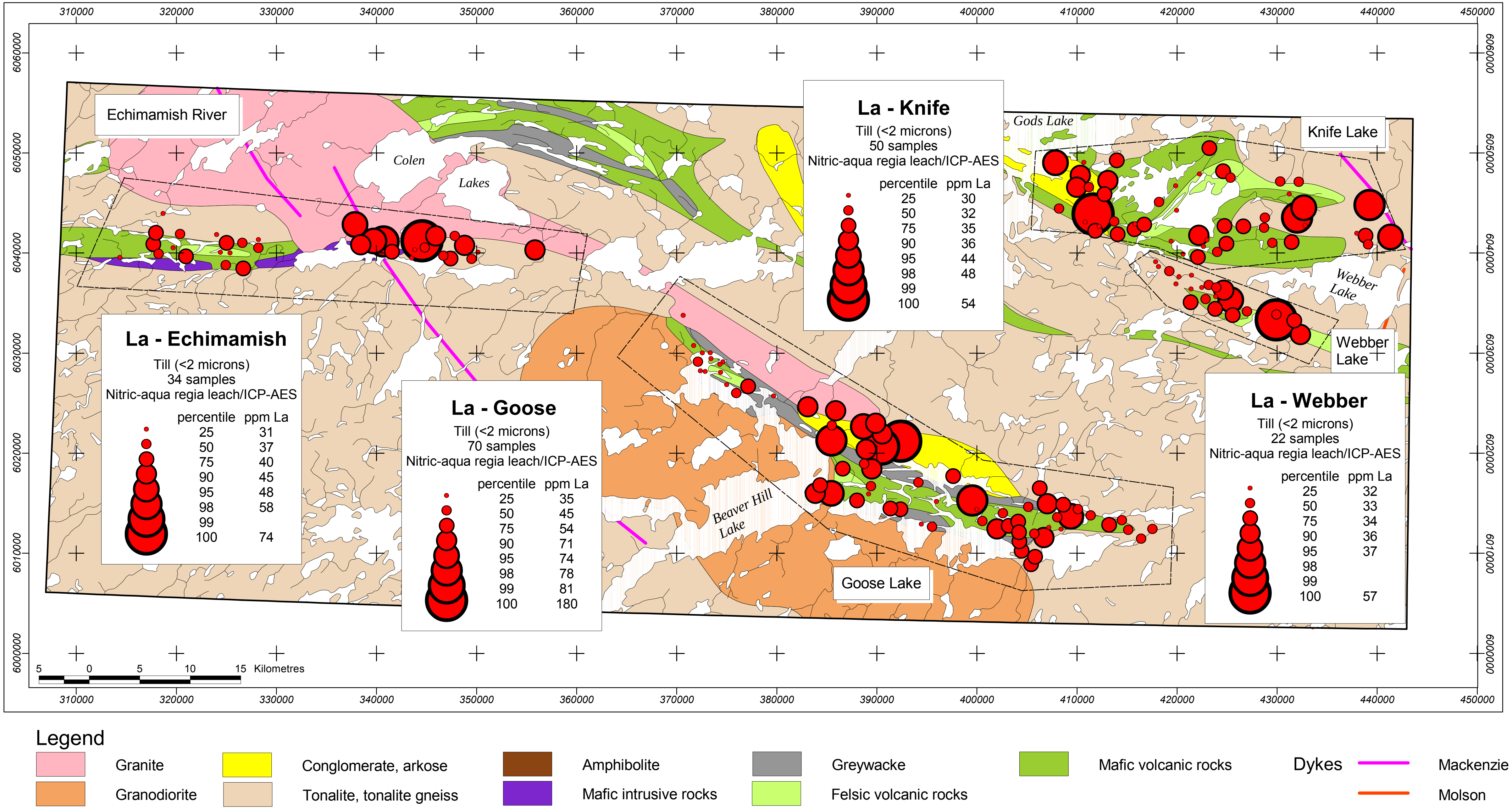
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cr - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cr
25 41
50 46
75 52
90 61
95 67
98 76
99
100 92
Cr - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cr
25 35
50 44
75 54
90 60
95 62
98 63
99
100 88
Cr - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cr
25 39
50 50
75 63
90 82
95 87
98 98
99 111
100 128
Cr - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Cr
25 43
50 45
75 52
90 62
95 63
98
99
100 67
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



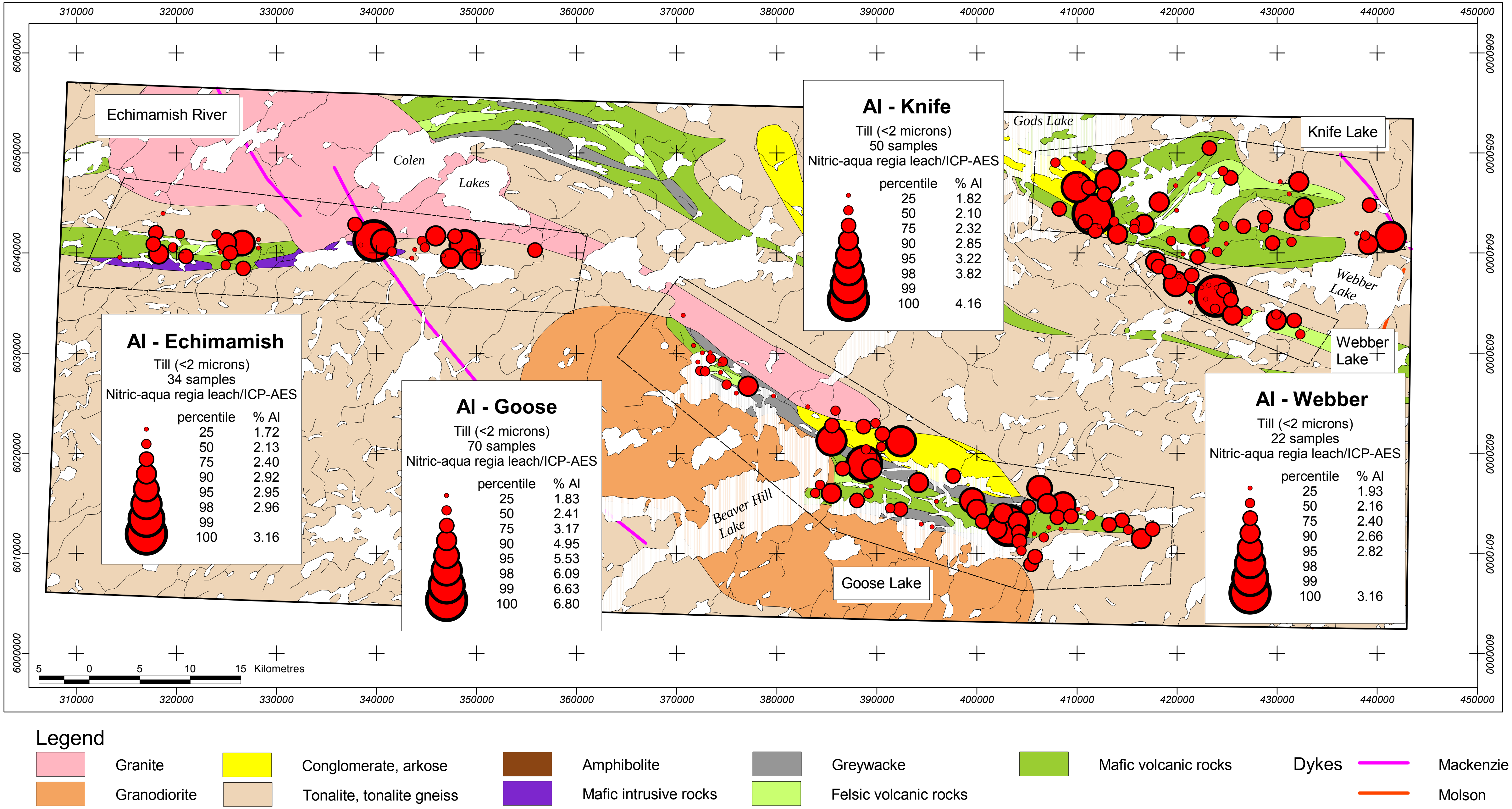
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
V - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm V
25 41
50 46
75 49
90 57
95 63
98 66
99
100 76
V - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm V
25 34
50 40
75 49
90 55
95 56
98 59
99
100 59
V - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm V
25 40
50 50
75 67
90 78
95 87
98 91
99 101
100 103
V - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm V
25 41
50 43
75 48
90 56
95 57
98
99
100 57
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



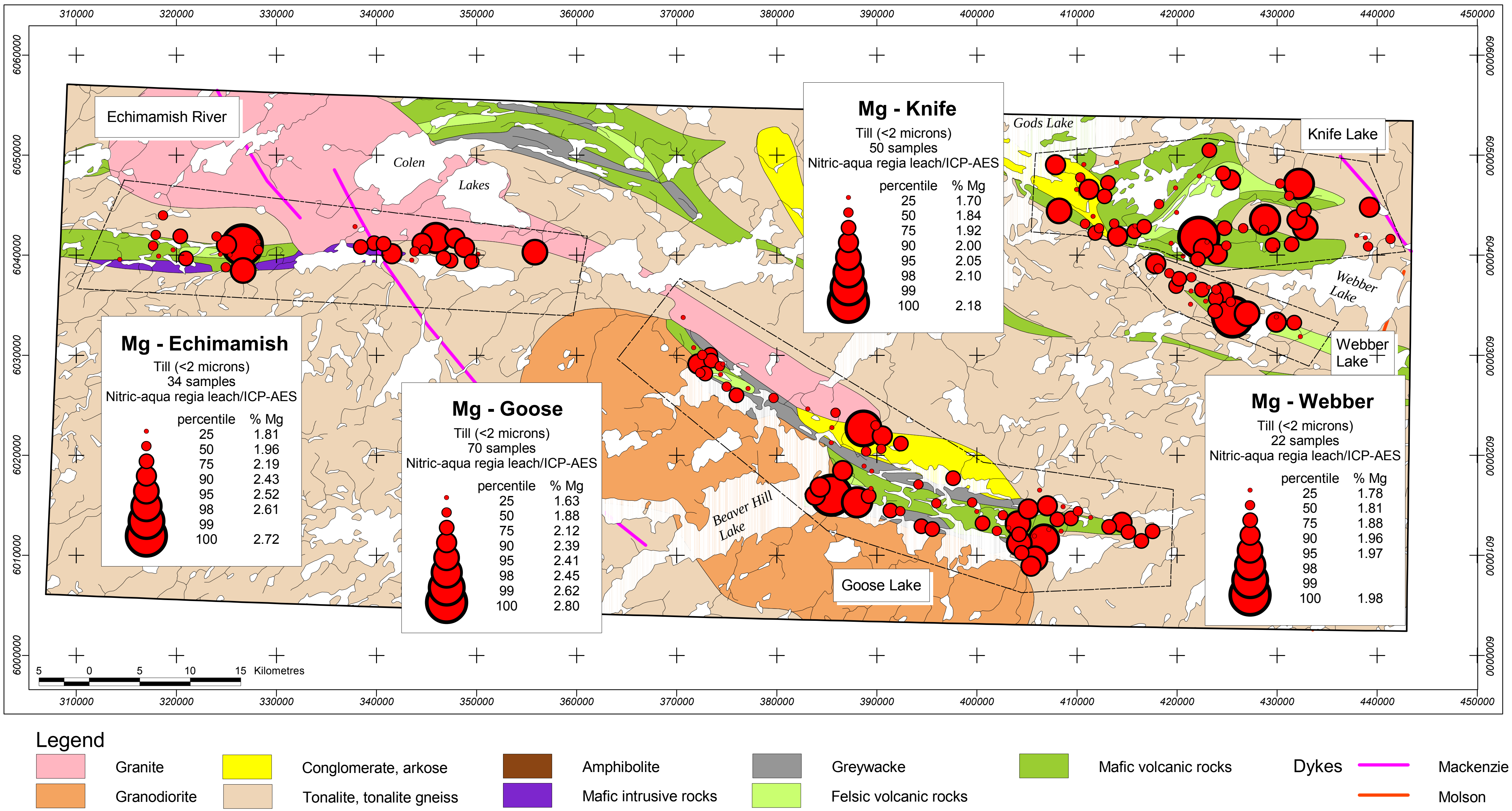
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hg - Echimamish
Till (<2 microns)
34 samples
Cold Vapour - AAS
percentile ppm Hg
25 0.026
50 0.037
75 0.060
90 0.072
95 0.092
98 0.099
99
100 0.100
Hg - Goose
Till (<2 microns)
70 samples
Cold Vapour - AAS
percentile ppm Hg
25 0.028
50 0.039
75 0.054
90 0.082
95 0.111
98 0.125
99 0.150
100 0.158
Hg - Knife
Till (<2 microns)
50 samples
Cold Vapour - AAS
percentile ppm Hg
25 0.037
50 0.044
75 0.056
90 0.075
95 0.087
98 0.108
99
100 0.131
Hg - Webber
Till (<2 microns)
22 samples
Cold Vapour - AAS
percentile ppm Hg
25 0.036
50 0.043
75 0.050
90 0.063
95 0.082
98
99
100 0.085
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



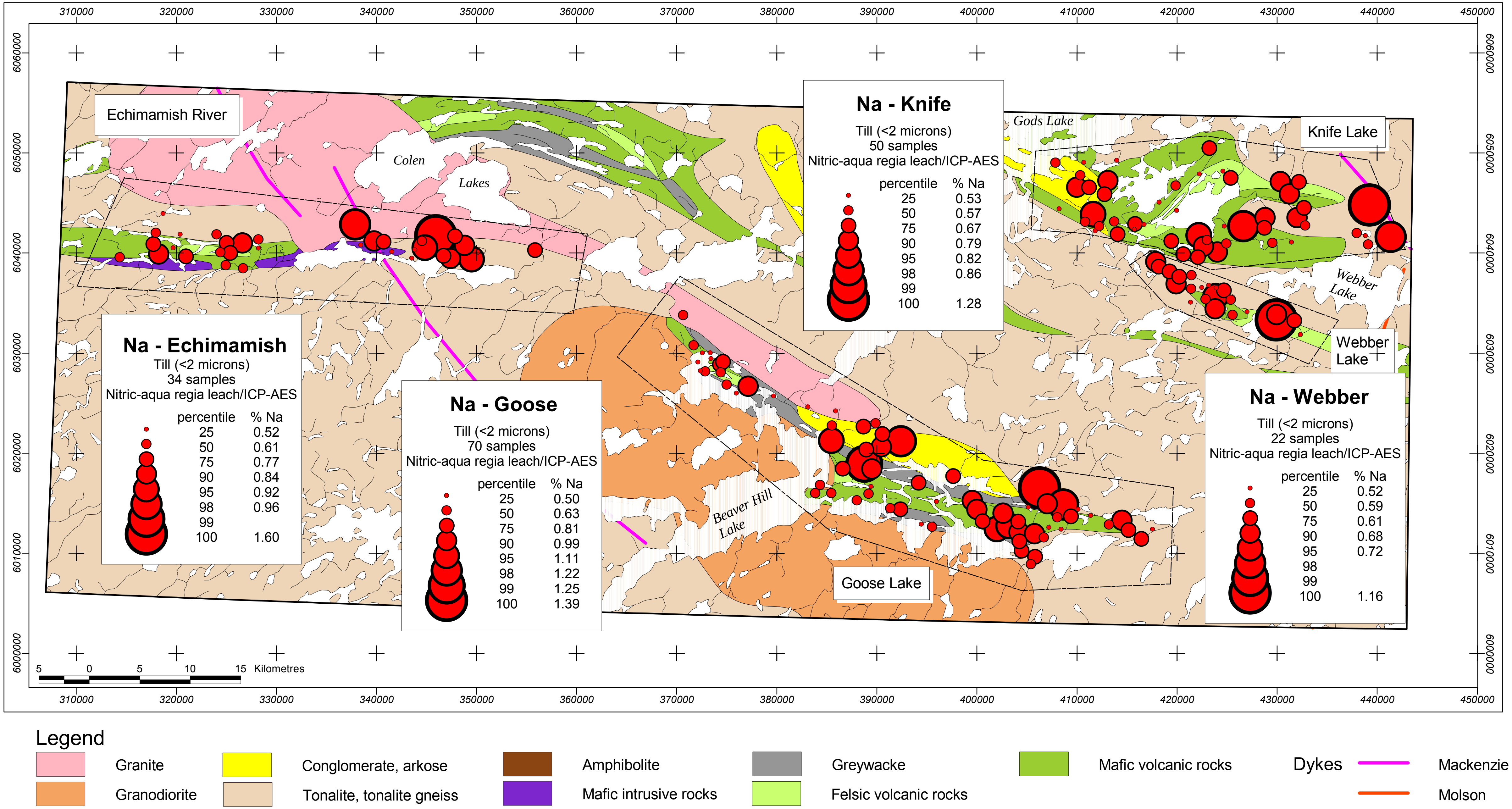
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
La - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm La
25 30
50 32
75 35
90 36
95 44
98 48
99
100 54
La - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm La
25 31
50 37
75 40
90 45
95 48
98 58
99
100 74
La - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm La
25 35
50 45
75 54
90 71
95 74
98 78
99 81
100 180
La - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm La
25 32
50 33
75 34
90 36
95 37
98
99
100 57
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



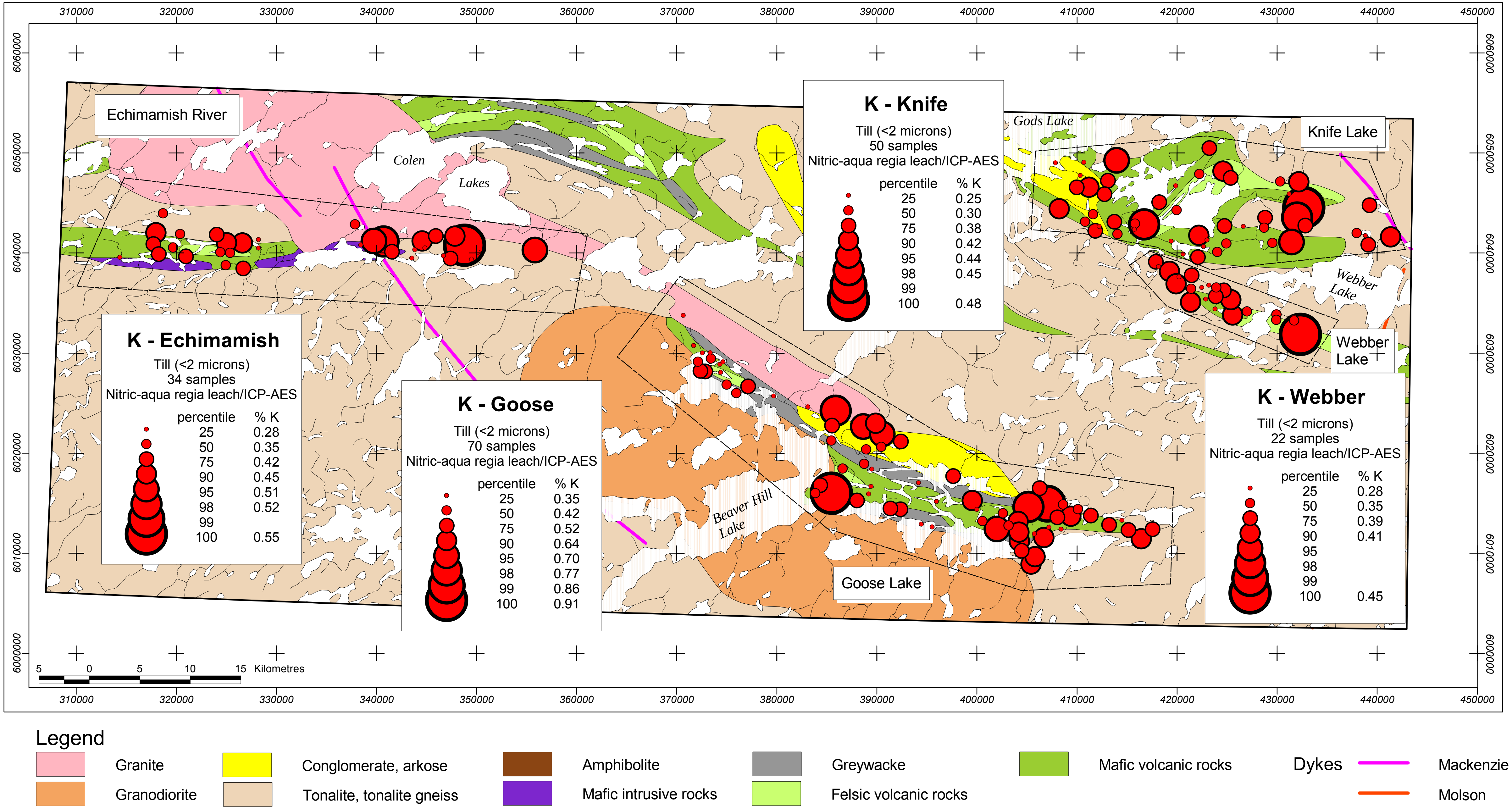
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber
Lake
Beaver Hill
Lake
Goose Lake
Al - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile % Al
25 1.82
50 2.10
75 2.32
90 2.85
95 3.22
98 3.82
99
100 4.16
Al - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile % Al
25 1.72
50 2.13
75 2.40
90 2.92
95 2.95
98 2.96
99
100 3.16
Al - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile % Al
25 1.83
50 2.41
75 3.17
90 4.95
95 5.53
98 6.09
99 6.63
100 6.80
Al - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile % Al
25 1.93
50 2.16
75 2.40
90 2.66
95 2.82
98
99
100 3.16
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



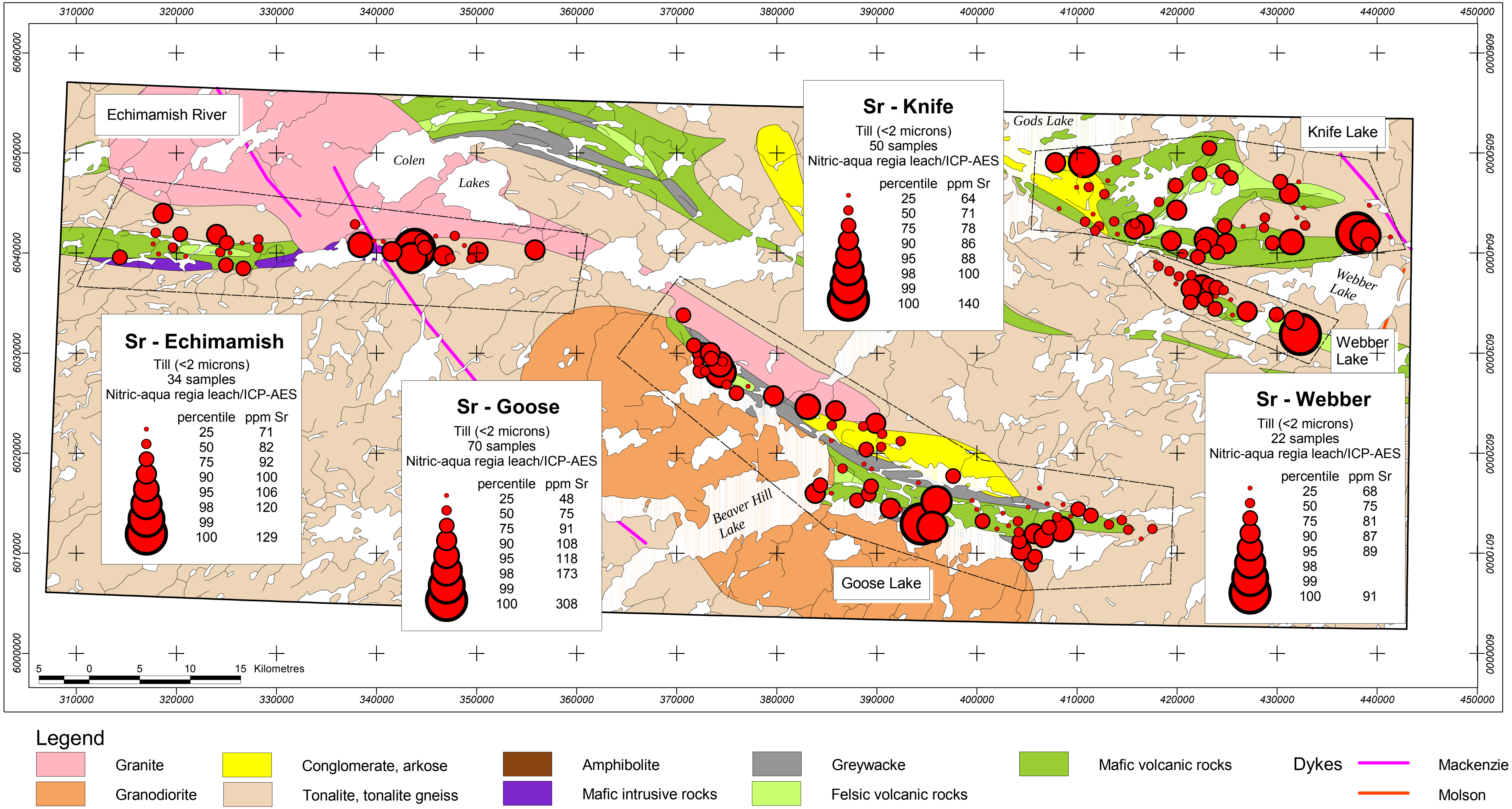
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mg - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile % Mg
25 1.70
50 1.84
75 1.92
90 2.00
95 2.05
98 2.10
99
100 2.18
Mg - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile % Mg
25 1.81
50 1.96
75 2.19
90 2.43
95 2.52
98 2.61
99
100 2.72
Mg - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile % Mg
25 1.63
50 1.88
75 2.12
90 2.39
95 2.41
98 2.45
99 2.62
100 2.80
Mg - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile % Mg
25 1.78
50 1.81
75 1.88
90 1.96
95 1.97
98
99
100 1.98
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



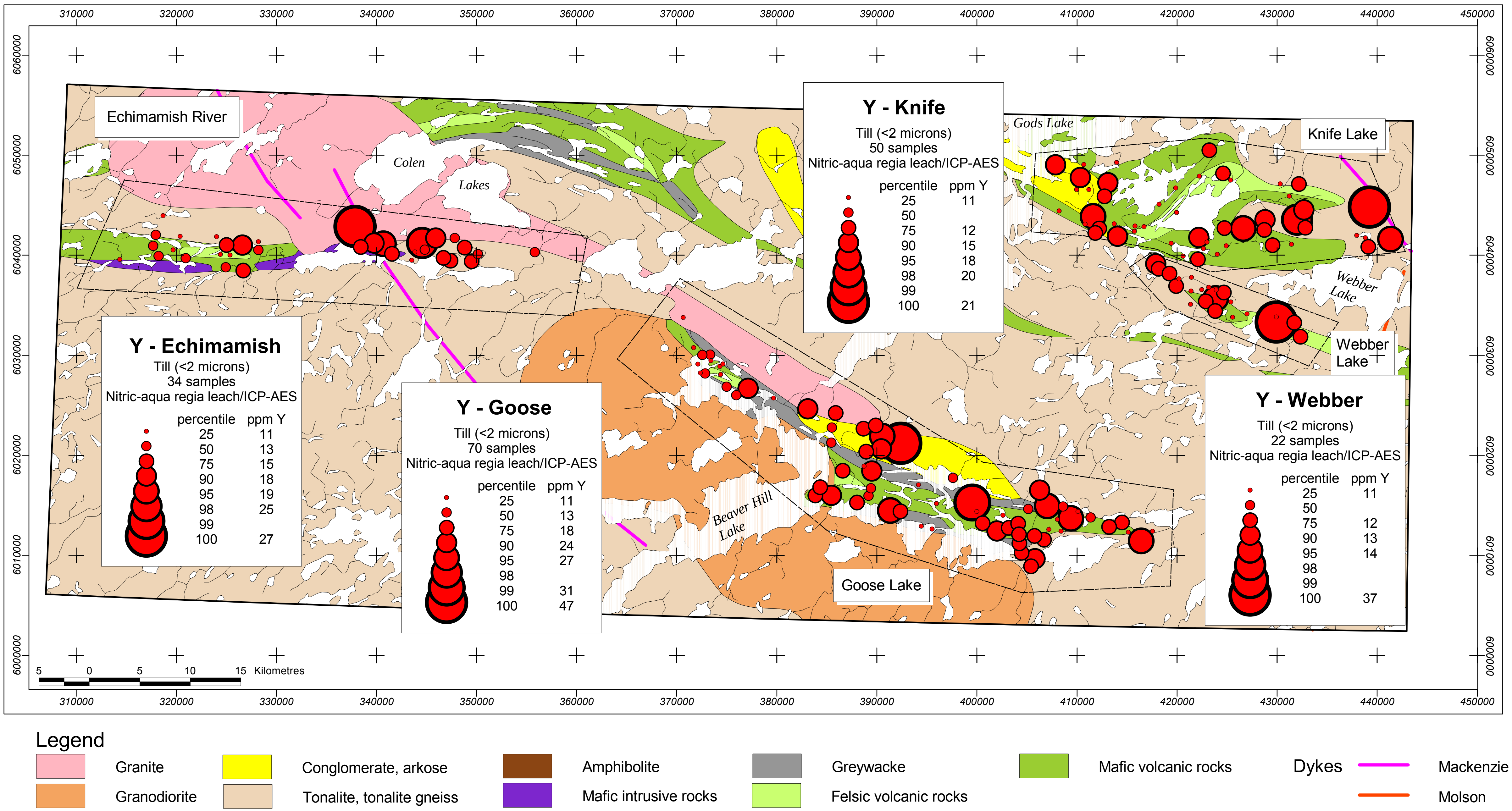
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Na - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile % Na
25 0.53
50 0.57
75 0.67
90 0.79
95 0.82
98 0.86
99
100 1.28
Na - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile % Na
25 0.52
50 0.61
75 0.77
90 0.84
95 0.92
98 0.96
99
100 1.60
Na - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile % Na
25 0.50
50 0.63
75 0.81
90 0.99
95 1.11
98 1.22
99 1.25
100 1.39
Na - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile % Na
25 0.52
50 0.59
75 0.61
90 0.68
95 0.72
98
99
100 1.16
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



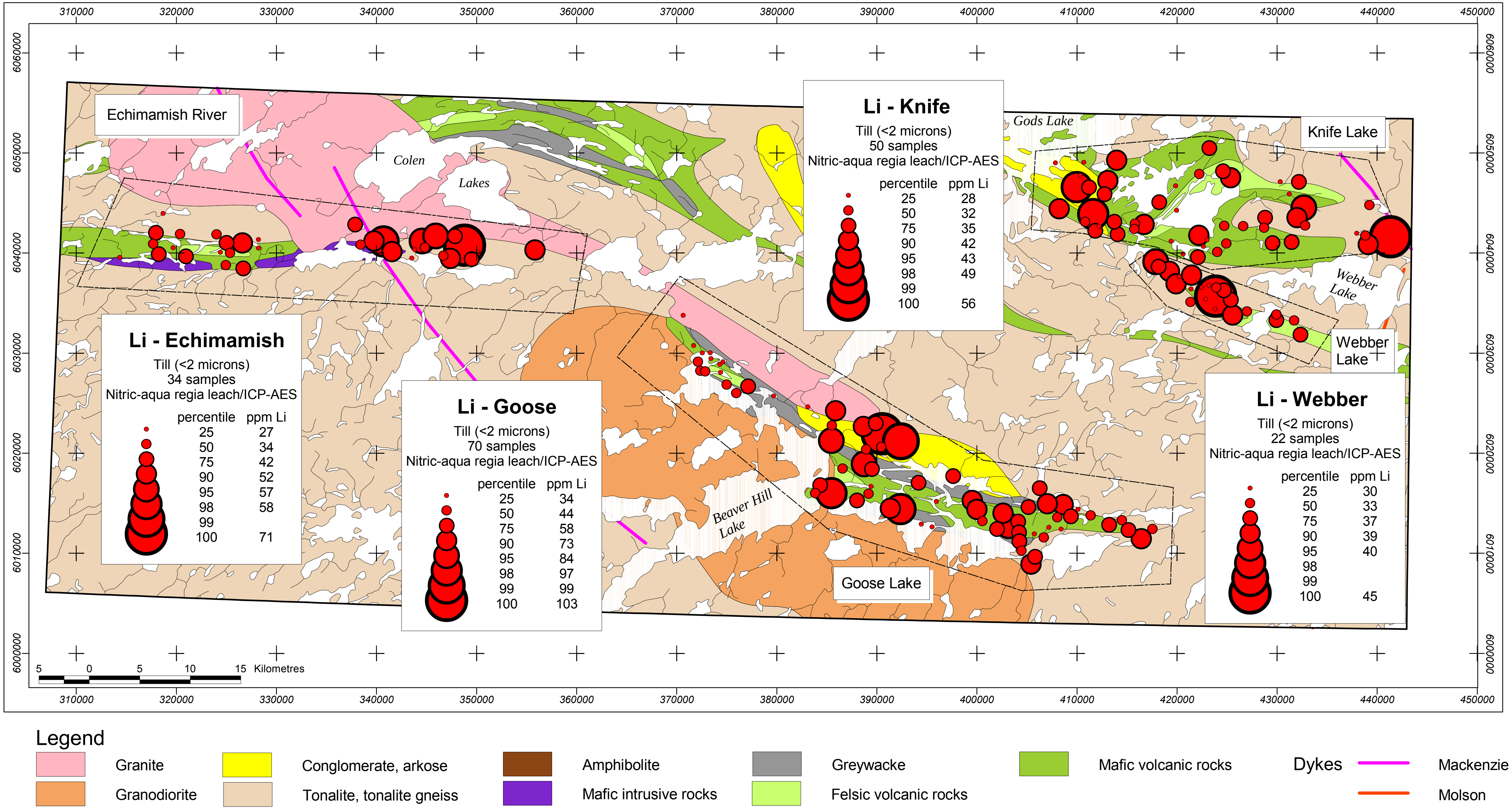
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
K - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile % K
25 0.25
50 0.30
75 0.38
90 0.42
95 0.44
98 0.45
99
100 0.48
K - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile % K
25 0.28
50 0.35
75 0.42
90 0.45
95 0.51
98 0.52
99
100 0.55
K - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile % K
25 0.35
50 0.42
75 0.52
90 0.64
95 0.70
98 0.77
99 0.86
100 0.91
K - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile % K
25 0.28
50 0.35
75 0.39
90 0.41
95
98
99
100 0.45
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



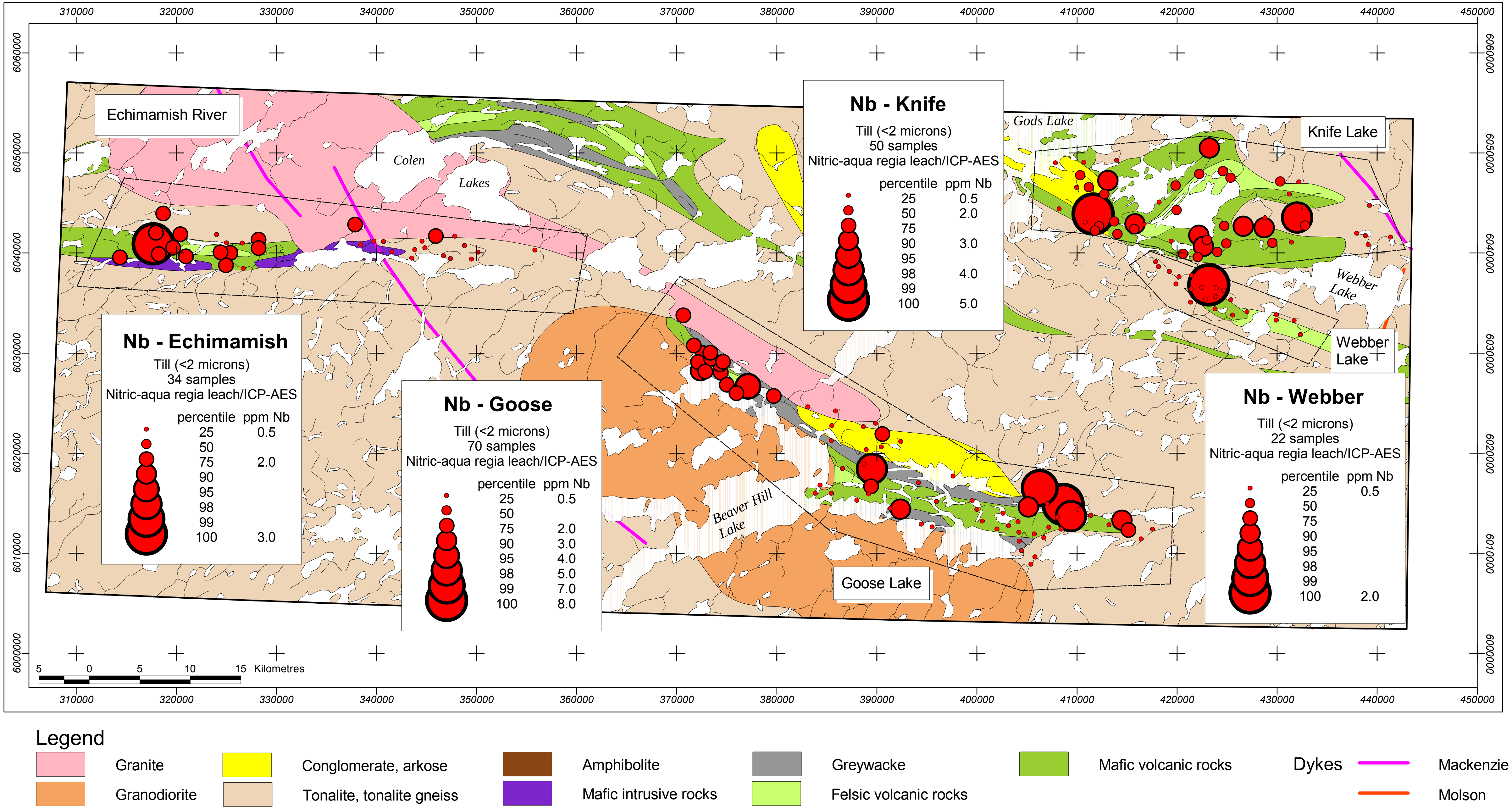
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sr - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Sr
25 64
50 71
75 78
90 86
95 88
98 100
99
100 140
Sr - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Sr
25 71
50 82
75 92
90 100
95 106
98 120
99
100 129
Sr - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Sr
25 48
50 75
75 91
90 108
95 118
98 173
99
100 308
Sr - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Sr
25 68
50 75
75 81
90 87
95 89
98
99
100 91
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



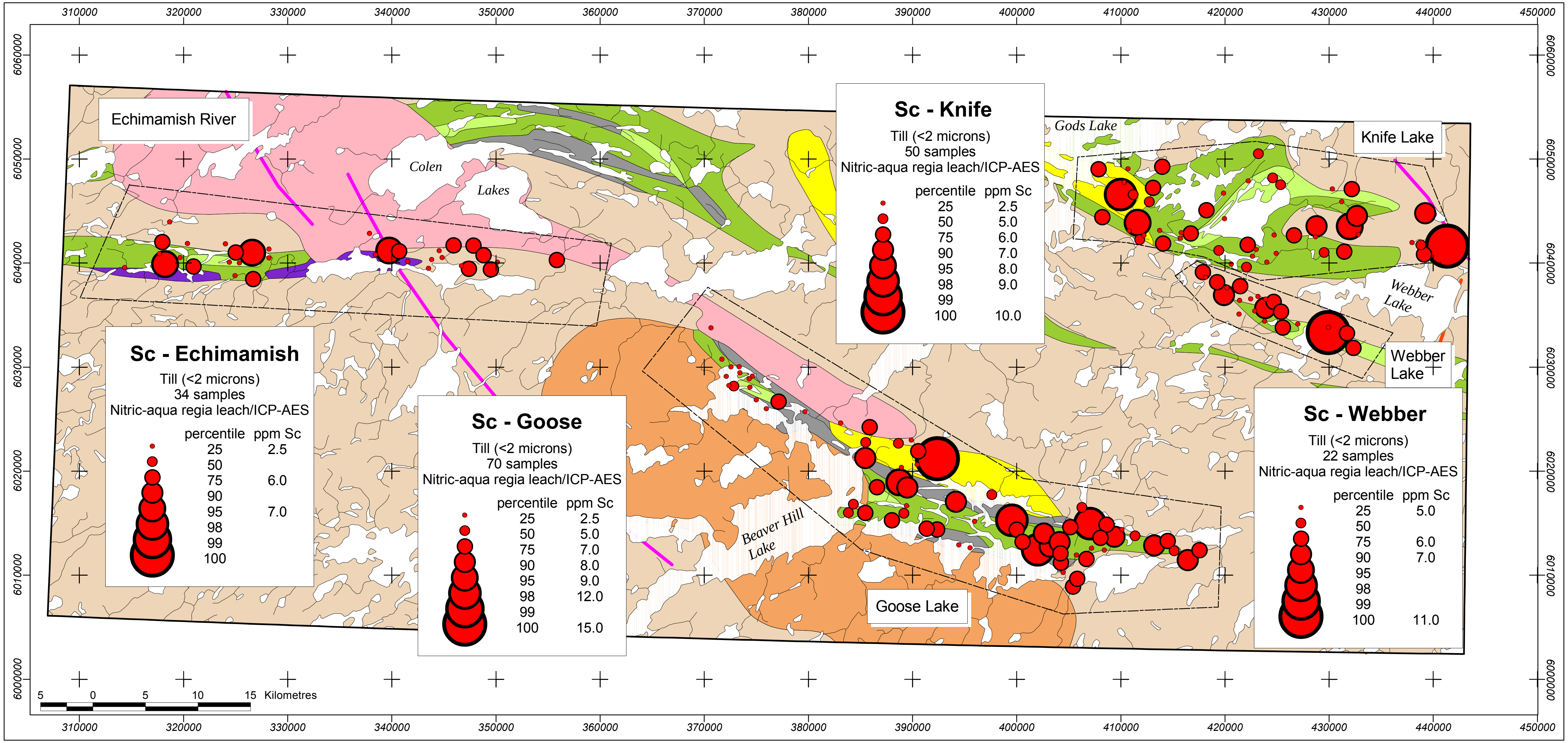
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Y - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Y
25 11
50
75 12
90 15
95 18
98 20
99
100 21
Y - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Y
25 11
50 13
75 15
90 18
95 19
98 25
99
100 27
Y - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Y
25 11
50 13
75 18
90 24
95 27
98
99 31
100 47
Y - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Y
25 11
50
75 12
90 13
95 14
98
99
100 37
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Li - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Li
25 28
50 32
75 35
90 42
95 43
98 49
99
100 56
Li - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Li
25 27
50 34
75 42
90 52
95 57
98 58
99
100 71
Li - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Li
25 34
50 44
75 58
90 73
95 84
98 97
99 99
100 103
Li - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Li
25 30
50 33
75 37
90 39
95 40
98
99
100 45
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

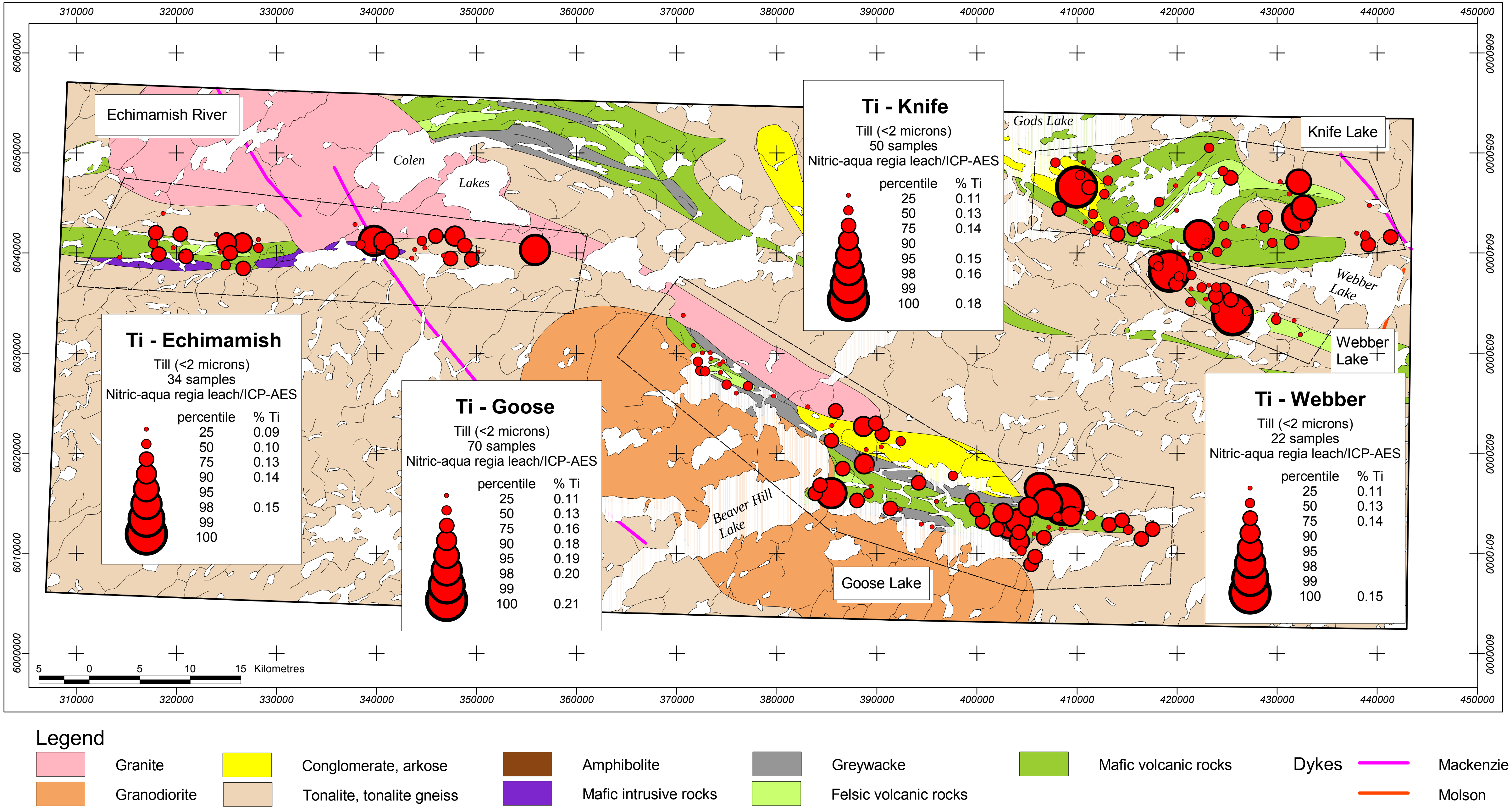


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Nb - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Nb
25 0.5
50
75 2.0
90
95
98
99
100 3.0
Nb - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Nb
25 0.5
50
75 2.0
90 3.0
95 4.0
98 5.0
99 7.0
100 8.0
Nb - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Nb
25 0.5
50 2.0
75
90 3.0
95
98 4.0
99
100 5.0
Nb - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Nb
25 0.5
50
75
90
95
98
99
100 2.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

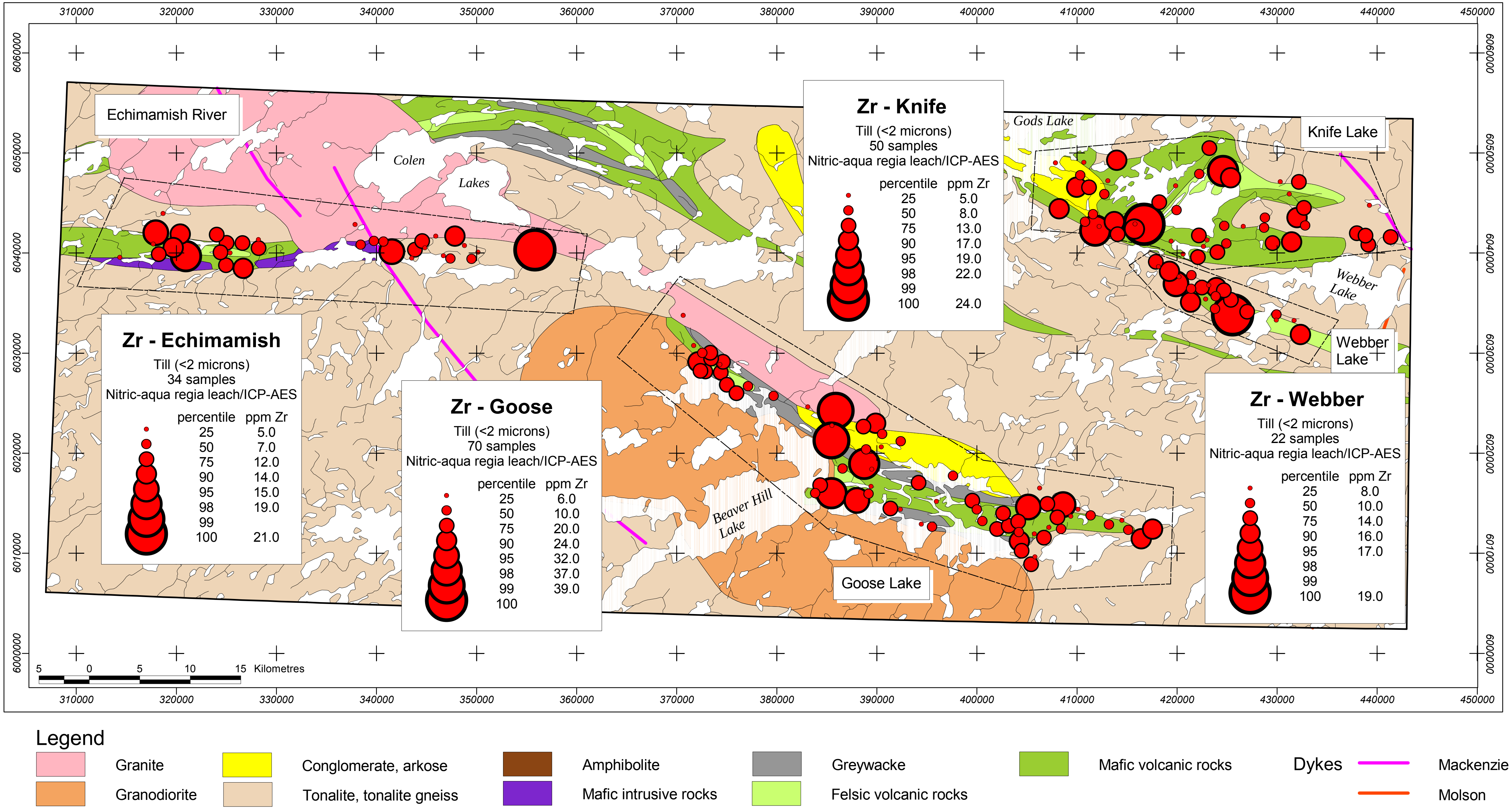


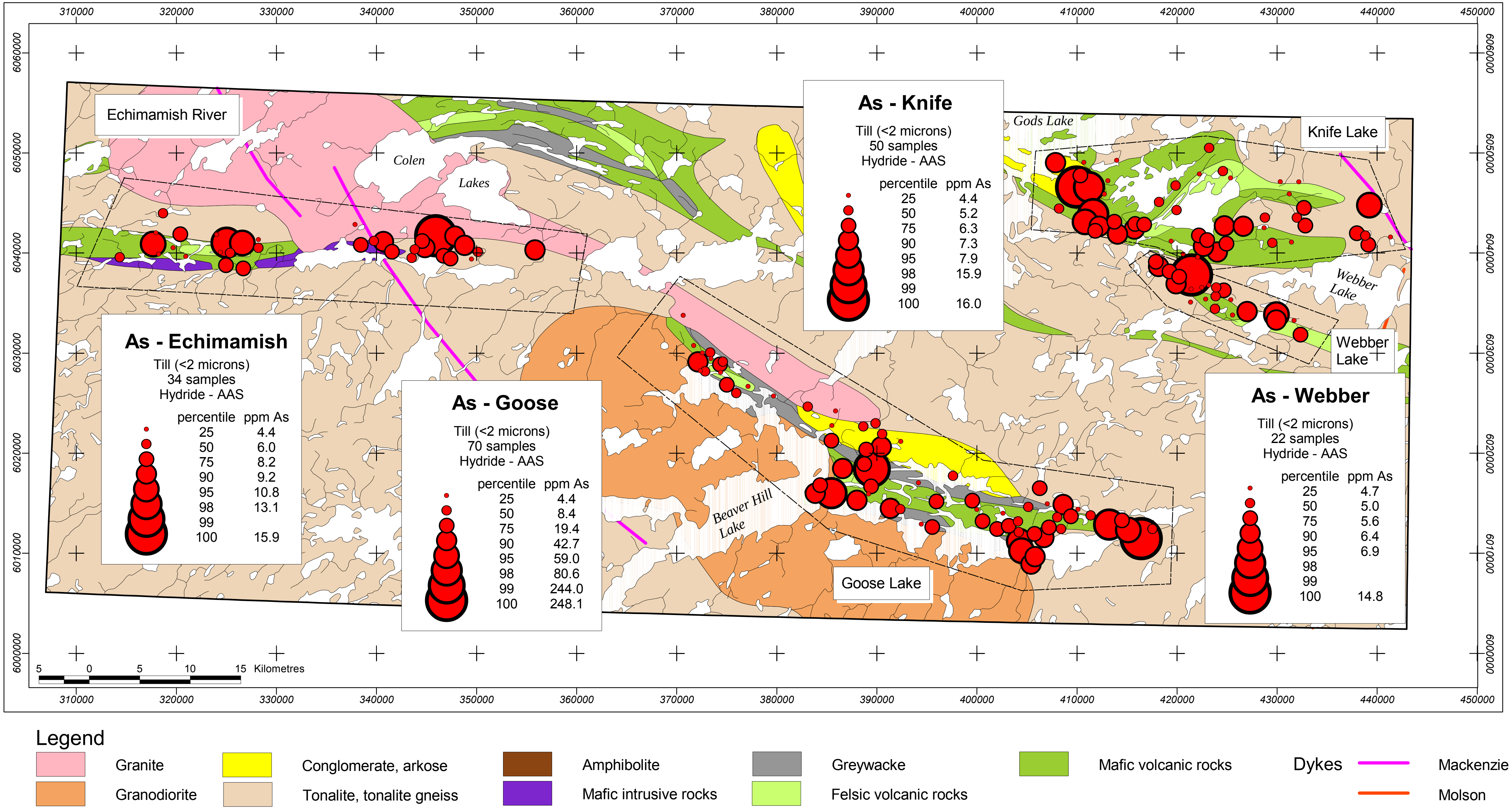
Legend

Granite	Conglomerate, arkose	Amphibolite	Greywacke	Mafic volcanic rocks	Dykes: Mackenzie
Granodiorite	Tonalite, tonalite gneiss	Mafic intrusive rocks	Felsic volcanic rocks		Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ti - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile % Ti
25 0.09
50 0.10
75 0.13
90 0.14
95
98 0.15
99
100
Ti - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile % Ti
25 0.11
50 0.13
75 0.16
90 0.18
95 0.19
98 0.20
99
100 0.21
Ti - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile % Ti
25 0.11
50 0.13
75 0.14
90
95 0.15
98 0.16
99
100 0.18
Ti - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile % Ti
25 0.11
50 0.13
75 0.14
90
95
98
99
100 0.15
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Zr - Knife
Till (<2 microns)
50 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zr
25 5.0
50 8.0
75 13.0
90 17.0
95 19.0
98 22.0
99
100 24.0
Gods Lake
Knife Lake
Webber Lake
Zr - Echimamish
Till (<2 microns)
34 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zr
25 5.0
50 7.0
75 12.0
90 14.0
95 15.0
98 19.0
99
100 21.0
Zr - Goose
Till (<2 microns)
70 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zr
25 6.0
50 10.0
75 20.0
90 24.0
95 32.0
98 37.0
99 39.0
100
Beaver Hill Lake
Goose Lake
Zr - Webber
Till (<2 microns)
22 samples
Nitric-aqua regia leach/ICP-AES
percentile ppm Zr
25 8.0
50 10.0
75 14.0
90 16.0
95 17.0
98
99
100 19.0
Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
As - Knife
Till (<2 microns)
50 samples
Hydride - AAS
percentile | ppm As
25 | 4.4
50 | 5.2
75 | 6.3
90 | 7.3
95 | 7.9
98 | 15.9
99 |
100 | 16.0
As - Echimamish
Till (<2 microns)
34 samples
Hydride - AAS
percentile | ppm As
25 | 4.4
50 | 6.0
75 | 8.2
90 | 9.2
95 | 10.8
98 | 13.1
99 |
100 | 15.9
As - Goose
Till (<2 microns)
70 samples
Hydride - AAS
percentile | ppm As
25 | 4.4
50 | 8.4
75 | 19.4
90 | 42.7
95 | 59.0
98 | 80.6
99 | 244.0
100 | 248.1
As - Webber
Till (<2 microns)
22 samples
Hydride - AAS
percentile | ppm As
25 | 4.7
50 | 5.0
75 | 5.6
90 | 6.4
95 | 6.9
98 |
99 |
100 | 14.8
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

Appendix 4

Till Geochemistry: Instrumental Neutron Activation analyses (INAA) <63 micron fraction.

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U	W	Zn	La	Ce	Nd
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98T-1	422175.00	6047885.00	3	2.5	2.4	400	7.6	19.0	7	43	3.0	1.71	5	0.5	2.5	0.5	1.13	11.5	40	0.40	6.3	1.5	0.005	0.025	0.25	7.3	1.9	0.5	25	25.3	49	23
98T-2	419789.00	6046717.00	5	2.5	2.4	420	6.1	17.0	6	34	1.0	1.49	4	0.5	2.5	0.5	1.10	10.0	64	0.30	5.9	1.5	0.005	0.025	0.25	6.6	1.2	0.5	25	22.9	42	17
98T-3	419903.00	6044273.00	1	2.5	2.5	390	6.0	19.0	7	39	2.0	1.39	5	0.5	2.5	1.0	1.15	10.5	48	0.20	5.5	1.5	0.005	0.025	0.25	6.3	1.2	0.5	25	23.0	45	19
98T-4	424854.00	6040934.00	4	2.5	2.2	400	5.7	14.0	7	36	1.0	1.44	7	0.5	2.5	0.5	1.22	10.0	53	0.30	5.4	1.5	0.005	0.025	0.25	6.5	1.7	0.5	25	22.4	45	19
98T-5	423967.00	6040083.00	1	2.5	1.7	420	5.5	15.0	5	37	1.0	1.27	8	0.5	2.5	0.5	1.28	10.0	48	0.30	4.9	1.5	0.005	0.025	0.25	5.9	1.4	0.5	67	22.0	43	18
98T-6	423110.50	6036780.50	1	2.5	2.6	400	5.4	17.0	6	32	2.0	1.32	5	0.5	2.5	3.0	1.12	10.0	61	0.20	5.2	1.5	0.005	0.025	0.25	6.2	1.1	0.5	25	23.2	46	25
98T-8	415727.00	6042908.00	1	2.5	3.2	400	6.6	16.0	7	37	2.0	1.58	5	0.5	2.5	0.5	1.10	10.5	64	0.05	5.9	1.5	0.005	0.025	0.25	7.2	1.0	0.5	25	23.7	48	22
98T-9	415673.00	6042377.00	1	2.5	2.8	320	4.8	16.0	6	38	1.0	1.48	4	0.5	2.5	0.5	1.11	10.0	56	0.20	5.7	1.5	0.005	0.025	0.25	5.9	1.4	0.5	25	22.6	43	19
98T-10	413976.00	6041879.00	1	2.5	2.6	440	6.4	15.0	6	42	2.0	1.61	4	0.5	2.5	0.5	1.15	10.0	59	0.20	6.0	1.5	0.005	0.025	1.40	6.7	1.8	0.5	66	24.0	48	17
98T-11	412154.00	6042663.00	3	2.5	2.8	400	5.4	15.0	6	37	2.0	1.33	5	0.5	2.5	1.0	1.27	10.0	46	0.20	5.6	1.5	0.005	0.025	1.50	5.4	1.2	0.5	25	20.8	40	17
98T-12	411756.00	6042217.00	1	2.5	3.5	470	5.7	18.0	7	49	2.0	1.85	5	0.5	2.5	0.5	1.05	11.0	60	0.05	6.5	1.5	0.005	0.050	0.70	8.2	1.8	0.5	25	26.0	52	18
98T-13	410273.00	6047753.00	1	2.5	1.8	370	6.4	17.0	6	38	2.0	1.59	4	0.5	2.5	2.0	1.09	11.0	71	0.30	6.4	1.5	0.005	0.025	1.40	7.9	1.0	0.5	56	32.0	57	26
98T-15	405071.47	6014609.50	1	2.5	4.0	530	3.3	9.0	8	43	2.0	1.78	6	0.5	2.5	4.0	1.77	11.5	85	0.05	7.4	1.5	0.005	0.025	0.25	10.9	3.3	0.5	25	29.5	58	23
98T-16-1	406208.50	6016505.50	1	2.5	3.5	650	1.4	3.0	9	46	3.0	2.53	10	0.5	2.5	3.0	2.42	12.0	87	0.30	9.2	1.5	0.005	0.025	1.50	14.8	2.8	0.5	82	29.7	69	18
98T-17	408555.38	6014841.50	1	2.5	5.0	630	4.0	0.5	13	101	4.0	2.79	9	0.5	2.5	5.0	2.31	12.5	117	0.05	10.8	1.5	0.005	0.025	0.25	16.1	2.1	0.5	98	30.2	93	25
98T-18	415078.09	6012325.00	1	2.5	16.6	450	4.8	14.0	9	52	4.0	1.88	9	0.5	2.5	2.0	1.60	10.5	47	0.40	7.0	1.5	0.005	0.025	1.40	8.6	1.9	0.5	95	24.8	48	22
98T-19	414432.16	6013288.00	2	2.5	3.2	400	5.4	13.0	6	37	2.0	1.44	6	0.5	2.5	1.0	1.42	10.0	53	0.20	5.8	1.5	0.005	0.025	1.40	7.1	1.4	0.5	25	23.3	49	20
98T-20	409312.34	6013691.50	1	2.5	6.3	510	6.8	8.0	9	48	3.0	2.09	6	0.5	2.5	0.5	1.77	13.0	90	0.50	8.7	1.5	0.005	0.025	1.70	11.8	1.7	0.5	94	37.5	60	26
98T-21	389429.00	6018411.00	1	5.0	62.0	650	3.0	2.0	10	86	2.0	2.28	8	0.5	2.5	2.0	2.17	11.5	115	0.30	8.8	1.5	0.005	0.025	1.70	11.1	2.2	0.5	55	30.5	60	25
98T-22	389344.00	6016674.00	1	2.5	6.7	360	5.5	14.0	7	50	2.0	1.61	5	0.5	2.5	2.0	1.31	11.0	64	0.20	6.3	1.5	0.005	0.025	0.25	9.3	2.3	0.5	66	29.2	51	26
98T-23	392288.00	6014396.00	2	2.5	3.7	480	4.5	10.0	11	55	5.0	2.23	5	0.5	2.5	0.5	1.63	11.0	78	0.30	8.1	1.5	0.005	0.025	0.25	8.2	2.4	0.5	77	27.9	53	22
98T-24	379613.00	6025712.00	3	2.5	3.0	430	6.2	19.0	8	46	4.0	1.87	6	0.5	2.5	0.5	1.22	91.0	70	0.40	6.3	1.5	0.005	0.025	0.25	12.7	2.5	0.5	70	30.4	61	25
98T-25	377057.00	6026670.00	5	2.5	2.9	710	4.1	1.0	9	69	5.0	2.32	10	0.5	2.5	4.0	1.97	12.0	85	0.40	9.0	1.5	0.005	0.025	0.25	12.4	2.4	2.0	111	36.3	69	32
98T-26	374339.00	6028062.00	1	2.5	2.6	420	5.3	16.0	6	37	1.0	1.16	8	0.5	2.5	0.5	1.17	10.0	46	0.05	4.6	1.5	0.005	0.025	0.25	6.6	2.1	0.5	25	22.4	45	19
98T-27	375906.00	6025997.00	1	2.5	3.1	450	4.6	17.0	6	43	2.0	1.45	6	0.5	2.5	2.0	1.19	10.0	34	0.05	5.6	1.5	0.005	0.025	0.25	7.4	2.4	0.5	25	24.7	49	23
98T-28	374248.00	6028877.00	1	2.5	3.3	350	4.8	15.0	4	34	0.5	1.13	9	0.5	2.5	3.0	1.12	10.0	48	0.30	4.4	1.5	0.005	0.025	1.40	6.5	1.5	0.5	25	23.0	47	19
98T-29	374547.00	6029138.00	4	2.5	2.7	350	4.9	15.0	5	37	1.0	1.24	7	0.5	2.5	4.0	1.12	10.0	45	0.20	4.6	1.5	0.005	0.025	0.25	6.3	1.9	0.5	25	21.7	42	19
98T-30	374926.00	6026839.00	1	2.5	5.1	460	6.0	17.0	6	33	2.0	1.31	7	0.5	2.5	3.0	1.17	10.0	53	0.20	5.3	1.5	0.005	0.025	0.25	7.2	1.4	0.5	58	23.0	46	21
98T-31	372780.00	6028156.00	1	2.5	1.3	400	4.6	16.0	5	38	1.0	1.23	7	0.5	2.5	1.0	1.29	10.0	47	0.20	4.9	1.5	0.005	0.025	0.90	6.1	1.3	0.5	25	21.8	42	19
98T-32	372307.00	6028232.00	1	2.5	4.0	440	7.2	16.0	10	48	3.0	2.26	6	0.5	2.5	8.0	1.12	64.0	85	0.05	7.6	1.5	0.005	0.025	0.25	12.3	1.0	0.5	68	34.0	71	33
98T-33	372056.00	6029102.00	1	2.5	10.5	520	4.4	14.0	11	85	3.0	1.91	5	0.5	2.5	0.5	1.66	11.0	80	0.30	7.3	1.5	0.005	0.050	1.30	10.0	2.5	0.5	80	28.8	54	23
98T-34	372498.00	6030016.00	1	2.5	1.3	450	6.2	15.0	6	41	2.0	1.62	6	0.5	2.5	5.0	1.09	10.0	62	0.05	5.8	1.5	0.005	0.025	0.25	8.2	2.2	0.5	25	26.2	54	23
98T-35	373283.00	6030024.00	1	2.5	3.0	420	4.4	14.0	5	33	2.0	1.20	4	0.5	2.5	0.5	1.05	10.0	46	0.20	5.1	1.5	0.005	0.025	0.25	5.9	1.3	0.5	25	22.2	42	14
98T-36-1	371637.00	6030765.00	2	2.5	2.5	390	7.3	15.0	4	32	2.0	1.32	5	0.5	2.5	1.0	1.02	10.0	43	0.30	5.1	1.5	0.005	0.025	0.25	6.4	1.2	0.5	25	23.5	49	22
98T-36-2	371637.00	6030765.00	1	2.5	2.4	380	7.8	15.0	4	34	2.0	1.32	5	0.5	2.5	0.5	1.03	10.0	48	0.30	5.1	1.5	0.005	0.025	0.25	6.3	1.3	0.5	25	23.7	49	23
98T-37	370589.00	6033766.00	1	2.5	1.8	420	6.2	12.0	4	31	0.5	1.02	5	0.5	2.5	0.5	1.12	10.0	40	0.30	4.5	1.5	0.005	0.025	0.25	5.3	1.2	0.5	25	20.8	40	17
98T-38	373372.00	6029446.00	3	2.5	2.3	410	4.8	13.0	5	34	1.0	1.19	5	0.5	2.5	0.5	1.05	10.0	48	0.05	5.0	1.5	0.005	0.025	0.25	6.1	1.5	0.5	25	22.6	43	16
98T-39	319606.97	6040534.00	1	2.5	3.2	330	5.6	15.0	7	36	2.0	1.43	4	0.5	2.5	0.5	0.94	10.0	62	0.30	5.3	1.5	0.005	0.025	0.25	7.2	2.0	0.5	25	24.4	47	18
98T-40	317629.00	6040882.50	6	2.5	2.6	410	5.2	12.0	4	38	1.0	1.21	7	0.5	2.5	1.0	1.18	10.0	41	0.20	4.9	1.5	0.005	0.025	0.25	6.4	1.6	0.5	25	21.8	38	16
98T-41	317884.00	6042024.50	1	2.5	1.9	430	6.0	12.0	6	37	1.0	1.45	7	0.5	2.5	0.5	1.12	10.0	44	0.20	5.8	1.5	0.005	0.025	0.25	9.1	1.9	0.5	25	29.4	58	20
98T-42	320886.94	6039672.00	1	2.5	3.1	350	5.4	13.0	6	39	2.0	1.47	5	0.5	2.5	0.5	1.06	10.0	42	0.05	6.0	1.5	0.005	0.025	0.25	8.2	1.5	0.5	25	28.2	51	18
98T-43	318611.03	6043950.00	1	2.5	2.5	310	6.0	12.0	5	32	1.0	1.17	7	0.5	2.5	0.5	1.03	10.0	29	0.10	4.6	1.5	0.005	0.025	0.25	6.2	1.7	0.5	25	22.0	40	18
98T-44	320323.97	6041882.00	1	2.5	2.0	340	4.3	13.0	4	30	1.0	1.10	7	0.5	2.5	0.5	1.02	10.0	47	0.05	4.5	1.5	0.005	0.025	0.25	6.1	1.2	0.5	25	21.9	43	17
98T-45	324338.88	6040074.00	1	2.5	2.6	400	5.0	13.0	5	34	1.0	1.20	5	0.5	2.5	0.5	0.96	10.0	47	0.20	4.8	1.5	0.005	0.025	0.25	6.4	1.1	0.5	25	21.7	40	14
98T-46	324880.84	6038786.00	5	2.5	3.2	410	4.3	11.0	5	34	0.5	1.15	7	0.5	2.5	0.5	1.08	10.0	42	0.20	4.6	1.5	0.005	0.025	0.25	7.0	1.1	0.5	25	24.0	46	17
98T-47	325306.88	6039999.00	2	2.5	2.9	370	6.9	12.0	5	37	2.0	1.30	5	0.5	2.5	0.5	1.09	10.0	49	0.30	5.4	1.5	0.005	0.025	0.25	7.5	1.7	0.5	25	24.6	43	18
98T-48	328136.84	6040488.00	1	2.5	2.3	460	5.6	12.0	6	37	1.0	1.27	6	0.5	2.5	0.5	1.15	10.0	43	0.20	5.1	1.5	0.005	0.025	0.25	7.0	2.2	0.5	25	23.9	47	16
98T-49	314291.00	6039571.50	5	2.5	0.8	350	5.7	14.0	4	35	1.0	1.08	8	0.5	2.5	0.5	0.95	10.0	24	0.20	4.7	1.5	0.005	0.025	0.25	7.2	1.6	0.5	25	27.7	48	21

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U	W	Zn	La	Ce	Nd
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98T-51	318170.97	6039892.50	1	2.5	1.9	380	6.2	11.0	5	36	1.0	1.35	6	0.5	2.5	0.5	1.08	10.0	44	0.05	5.7	1.5	0.005	0.025	0.25	8.3	1.4	0.5	25	27.8	48	22
98T-52	424658.00	6042698.00	1	2.5	2.3	350	4.2	13.0	5	29	0.5	1.08	5	0.5	2.5	0.5	1.09	10.0	43	0.20	4.6	1.5	0.005	0.025	0.25	5.3	1.3	0.5	25	21.8	40	14
98T-53	422939.00	6041290.00	1	2.5	1.0	330	5.4	13.0	4	28	1.0	1.11	5	0.5	2.5	0.5	1.12	10.0	43	0.20	4.7	1.5	0.005	0.025	0.80	5.4	1.7	0.5	25	20.6	37	16
98T-54	422577.00	6040642.00	1	2.5	2.2	350	5.1	13.0	5	28	0.5	1.16	6	0.5	2.5	0.5	1.19	10.0	51	0.20	4.9	1.5	0.005	0.025	0.50	4.7	1.4	0.5	25	19.7	38	16
98T-55	426549.00	6042653.00	1	2.5	1.8	370	6.3	12.0	5	32	1.0	1.29	6	0.5	2.5	0.5	1.25	10.0	47	0.05	5.8	1.5	0.005	0.025	0.25	6.0	1.3	0.5	25	23.8	44	19
98T-57	429478.00	6040983.00	1	2.5	2.0	400	5.7	13.0	4	36	1.0	1.37	5	0.5	2.5	0.5	1.10	10.0	33	0.20	5.5	1.5	0.005	0.025	0.25	5.6	1.6	0.5	25	23.0	43	16
98T-58	422017.59	6039578.50	4	2.5	2.3	370	5.0	13.0	6	40	2.0	1.48	4	0.5	2.5	0.5	1.11	10.0	39	0.20	5.9	1.5	0.005	0.025	0.25	6.5	1.6	0.5	25	23.8	46	15
98T-59	420543.00	6039880.00	1	2.5	1.4	320	5.8	12.0	5	28	0.5	1.21	5	0.5	2.5	0.5	1.13	10.0	33	0.10	5.0	1.5	0.005	0.025	0.25	4.6	1.3	0.5	25	18.7	35	15
98T-60	419349.00	6041198.00	1	2.5	2.2	310	5.7	13.0	5	30	1.0	1.28	4	0.5	2.5	3.0	1.09	62.0	44	0.20	5.2	1.5	0.005	0.025	0.25	5.8	1.0	0.5	51	22.3	42	16
98T-61-1	428648.00	6042511.00	1	2.5	1.8	350	5.2	13.0	4	32	0.5	1.10	6	0.5	2.5	0.5	1.14	10.0	38	0.20	4.8	1.5	0.005	0.025	0.25	5.6	1.5	0.5	25	21.6	45	19
98T-61-2	428648.00	6042511.00	1	2.5	1.8	360	5.4	13.0	4	29	0.5	1.09	6	0.5	2.5	0.5	1.12	10.0	35	0.20	4.5	1.5	0.005	0.025	0.25	5.4	1.4	0.5	25	20.8	44	19
98T-62	428719.00	6043536.00	1	2.5	1.4	390	5.2	12.0	4	34	1.0	1.13	5	0.5	2.5	0.5	1.15	10.0	32	0.20	4.9	1.5	0.005	0.025	0.25	5.8	1.5	0.5	25	21.9	41	19
98T-64	430255.00	6047124.00	4	2.5	1.3	440	4.9	14.0	5	29	1.0	1.15	5	0.5	2.5	0.5	1.07	10.0	51	0.20	4.8	1.5	0.005	0.025	0.25	5.9	1.4	0.5	25	22.1	43	19
98T-66	425278.00	6047515.00	1	2.5	2.3	350	8.0	13.0	6	38	1.0	1.53	4	0.5	2.5	0.5	1.12	10.0	52	0.20	6.0	1.5	0.005	0.025	0.25	6.8	1.3	0.5	25	24.7	47	16
98T-67	424531.00	6048166.00	1	2.5	2.6	400	4.9	16.0	6	35	0.5	1.35	6	0.5	2.5	0.5	1.10	10.0	44	0.20	5.4	1.5	0.005	0.025	0.25	6.2	0.9	0.5	69	23.6	45	18
98T-68	423147.00	6050489.00	1	2.5	2.6	380	5.9	16.0	6	35	2.0	1.49	5	0.5	2.5	0.5	1.07	10.0	48	0.30	5.6	1.5	0.005	0.025	0.25	6.5	1.5	0.5	51	24.0	48	23
98T-70	411122.00	6046567.00	1	2.5	3.5	380	5.4	16.0	6	38	2.0	1.49	5	0.5	2.5	0.5	1.12	10.0	59	0.20	5.7	1.5	0.005	0.025	0.25	6.1	1.6	0.5	25	22.1	44	20
98T-71	412676.00	6045877.00	1	2.5	2.8	410	5.8	15.0	6	45	1.0	1.70	4	0.5	2.5	0.5	1.06	11.0	61	0.10	6.5	1.5	0.005	0.025	1.10	7.2	1.4	0.5	85	27.0	50	20
98T-72	413024.00	6047216.00	1	2.5	2.6	450	8.8	12.0	6	40	2.0	1.56	6	0.5	2.5	0.5	1.16	11.0	56	0.30	6.3	1.5	0.005	0.025	0.25	7.5	2.4	0.5	114	26.2	50	27
98T-73	411549.00	6043862.00	6	2.5	9.4	700	7.3	2.0	12	71	4.0	2.58	9	0.5	2.5	3.0	1.66	14.5	84	0.50	10.3	1.5	0.005	0.025	0.25	11.6	1.7	0.5	25	44.6	84	33
98T-74	413657.00	6043128.00	5	2.5	2.9	340	5.5	16.0	8	42	2.0	1.71	5	0.5	2.5	0.5	1.04	10.5	45	0.20	6.2	1.5	0.005	0.025	0.25	7.1	1.6	0.5	25	24.8	50	17
98T-75	422108.00	6041765.00	1	2.5	2.3	410	5.6	13.0	5	32	0.5	1.26	7	0.5	2.5	1.0	1.20	10.0	47	0.20	4.9	1.5	0.005	0.025	0.25	5.6	1.2	0.5	25	21.3	43	20
98T-77	432746.00	6042736.00	1	2.5	1.5	400	5.2	15.0	6	32	1.0	1.27	7	0.5	2.5	0.5	1.15	10.0	47	0.20	5.1	1.5	0.005	0.025	1.40	6.1	1.6	0.5	25	22.0	43	18
98T-78	431930.00	6043534.00	3	2.5	2.9	440	9.1	10.0	6	41	2.0	1.71	7	0.5	2.5	2.0	1.21	10.5	55	0.05	6.4	1.5	0.005	0.025	0.25	8.7	1.3	0.5	25	27.7	50	23
98T-79	432599.00	6044519.00	1	2.5	2.2	410	4.7	13.0	6	37	2.0	1.46	6	0.5	2.5	0.5	1.05	10.0	68	0.20	5.5	1.5	0.005	0.025	0.25	7.3	1.4	0.5	25	23.6	45	14
98T-81	432096.00	6047105.00	1	2.5	2.9	340	6.8	13.0	5	33	1.0	1.31	6	0.5	2.5	0.5	1.07	10.0	51	0.20	5.3	1.5	0.005	0.025	0.25	5.9	1.2	0.5	25	22.7	44	22
98T-82	431155.00	6045908.00	1	2.5	1.6	350	5.8	15.0	3	27	0.5	0.94	5	0.5	2.5	0.5	1.05	10.0	40	0.20	4.1	1.5	0.005	0.025	0.25	4.7	1.2	0.5	25	18.7	35	15
98T-83	431374.00	6041096.00	3	2.5	2.5	360	4.8	15.0	5	36	1.0	1.44	6	0.5	2.5	3.0	1.11	10.0	41	0.30	5.4	1.5	0.005	0.025	0.25	6.4	1.0	0.5	25	23.8	47	20
98T-85-1	439153.13	6044766.50	3	2.5	2.1	390	7.5	12.0	5	37	1.0	1.25	8	0.5	2.5	0.5	1.25	10.0	44	0.20	5.5	1.5	0.005	0.025	0.25	6.5	1.5	0.5	25	26.4	50	22
98T-85-2	439153.13	6044766.50	3	2.5	1.9	380	6.7	13.0	4	35	2.0	1.13	8	0.5	2.5	0.5	1.16	10.0	41	0.20	5.2	1.5	0.005	0.025	0.25	5.4	1.4	0.5	25	21.7	46	21
98T-87	438758.06	6041729.50	1	2.5	1.7	360	5.8	14.0	6	34	2.0	1.33	7	0.5	2.5	0.5	1.02	10.0	33	0.20	5.0	1.5	0.005	0.025	0.25	5.9	1.4	0.5	58	23.4	45	20
98T-88	437893.09	6041978.50	3	2.5	1.7	340	5.2	15.0	5	30	0.5	1.16	6	0.5	2.5	2.0	1.06	10.0	28	0.20	4.3	1.5	0.005	0.025	0.25	4.9	1.7	0.5	25	18.8	38	14
98T-90	441264.97	6041603.50	5	2.5	1.7	420	4.7	10.0	4	34	1.0	1.22	7	0.5	2.5	0.5	1.22	10.0	59	0.20	5.2	1.5	0.005	0.025	0.25	5.8	1.2	0.5	25	22.1	43	14
98T-91	439048.03	6040825.50	1	2.5	2.1	430	7.1	14.0	6	38	1.0	1.52	6	0.5	2.5	0.5	1.22	10.0	50	0.30	5.7	1.5	0.005	0.025	0.25	6.2	1.8	0.5	25	23.4	45	18
98T-93	410621.00	6049058.00	1	2.5	2.0	320	5.3	18.0	4	29	0.5	0.99	4	0.5	2.5	0.5	0.99	10.0	43	0.20	4.5	1.5	0.005	0.025	0.25	4.4	1.4	0.5	25	17.4	35	14
98T-94	413909.00	6049263.00	1	2.5	3.4	410	5.7	13.0	9	49	3.0	2.15	6	0.5	2.5	2.0	1.11	11.0	63	0.30	7.2	1.5	0.005	0.025	1.40	10.4	1.9	0.5	25	31.5	72	28
98T-95	407798.00	6049007.00	1	2.5	2.5	380	5.8	16.0	5	38	2.0	1.41	4	0.5	2.5	0.5	1.12	10.0	52	0.30	5.9	1.5	0.005	0.025	0.25	6.6	1.8	0.5	25	26.2	48	23
98T-96	409899.00	6046556.00	1	2.5	15.0	670	4.9	2.0	19	112	5.0	4.47	4	0.5	2.5	0.5	1.91	15.5	112	0.40	14.9	1.5	0.005	0.025	0.25	10.0	1.9	0.5	25	33.4	79	29
98T-97	418140.00	6045082.00	3	2.5	3.1	310	6.2	15.0	7	35	2.0	1.63	5	0.5	2.5	0.5	1.07	10.0	45	0.20	6.2	1.5	0.005	0.025	0.25	6.7	1.6	0.5	25	24.9	45	22
98T-98	416634.00	6042840.00	1	2.5	2.3	370	4.8	18.0	6	39	2.0	1.53	4	0.5	2.5	0.5	1.09	10.0	47	0.20	5.7	1.5	0.005	0.025	0.25	6.1	1.2	0.5	25	23.6	47	17
98T-99	429858.16	6033292.50	1	2.5	1.9	460	5.6	13.0	4	35	1.0	1.21	7	0.5	2.5	0.5	1.34	10.0	50	0.20	5.7	1.5	0.005	0.025	0.25	5.3	1.0	0.5	25	23.3	41	18
98T-100	431644.06	6033251.50	1	2.5	2.0	420	5.9	14.0	6	35	1.0	1.30	5	0.5	2.5	2.0	1.23	10.0	45	0.05	5.4	1.5	0.005	0.025	0.25	5.4	1.5	0.5	25	22.1	43	16
98T-101	432256.00	6031840.50	3	2.5	2.1	370	4.8	13.0	5	33	0.5	1.24	6	0.5	2.5	0.5	1.17	10.0	33	0.20	5.0	1.5	0.005	0.025	0.25	5.3	1.5	0.5	25	21.0	40	16
98T-102	429871.16	6033829.50	1	2.5	3.0	400	5.0	14.0	6	34	1.0	1.24	5	0.5	2.5	0.5	1.09	10.0	55	0.05	4.7	1.5	0.005	0.025	0.25	5.0	1.5	0.5	25	19.7	38	16
98T-103	425307.38	6035317.50	1	2.5	2.1	340	4.9	14.0	5	34	1.0	1.31	6	0.5	2.5	2.0	1.12	10.0	41	0.20	5.1	1.5	0.005	0.025	0.25	6.6	1.2	0.5	70	23.8	47	23
98T-104-1	423848.47	6036518.50	1	2.5	2.3	390	4.8	15.0	5	34	1.0	1.24	5	0.5	2.5	1.0	1.16	10.0	42	0.20	5.0	1.5	0.005	0.025	0.25	5.6	1.3	0.5	25	22.6	46	17
98T-104-2	423848.47	6036518.50	2	2.5	2.5	380	4.9	15.0	5	36	1.0	1.26	5	0.5	2.5	1.0	1.16	10.0	41	0.30	5.1	1.5	0.005	0.025	0.25	5.9	1.6	0.5	52	22.8	45	18
98T-105	421335.53	6036410.50	1	2.5	2.1	410	5.4	14.0	6	36	1.0	1.43	5	0.5	2.5	0.5	1.19	10.0	44	0.30	5.5	1.5	0.005	0.025	0.25	5.5	1.6	0.5	25	20.7	41	15
98T-106	421383.56	6037781.50	3	2.5	6.1	360	6.5	14.0	7	37	2.0	1.68	5	0.5	2.5	2.0	1.25	115.0	50	0.05	6.2	1.5	0.005	0.025	0.70	5.7	1.3	0.5	25	23.0	47	19
98T-107	420147.63	6037637.50	1	2.5	2.1	320	5.3	15.0	4	31	0.5	1.09	6	0.5	2.5	0.5	1.09	10.0	42	0.10	4.5	1.5	0.005	0.025	0.25	5.2	1.2	0.5	25	20.0	39	18
98T-108	421291.50	6035072.50	1	2.5	2.3	400	5.1	16.0	6	32	1.0	1.29	5	0.5	2.5	0.5	1.07	10.0	37	0.20	5.1	1.5	0.005	0.025	0.25	6.1	1.3	0.5	25	23.0	43	18
98T-109	423732.41	6034418.50	1	2.5	2.0	390	5.3	16.0	5	31	0.5	1.19	5	0.5	2.5	0.5	1.11	10.0	41	0.20	4.9	1.5	0.005	0.025	0.25	5.5	1.2	0.5	25	21.5	43	20
98T-110	424600.44	6036265.50	1	2.5	2.2	360	5.0	14.0	5	33	1.0	1.23	6	0.5	2.5	0.5	1.15	10.0	39	0.20	4.8	1.5	0.005	0.025	0.25	5.4	1.0	0.5	25	21.3	42	18
98T-111	422790.47	6035391.50	1	2.5	1.7	340	6.6	15.0	5	32	1.0	1.21	6	0.5	2.5	0.5	1.10	10.0	50	0.20	4.9	1.5	0.005	0.025	0.25	5.9	1.2	0.5	73	22.8	44	19
98T-112	422413.50	6036539.50	1	2.5	1.7	340	4.9	15.0	5	36	1.0	1.31	4	0.5	2.5	1.0	1.00	10.0	44	0.20	5.1	1.5	0.005	0.025	0.25	5.7	1.1	0.5	25	21.6	41	16
98T-113	419846.59	6036918.50	1	2.5	3.7	360	5.3	13.0	7	43	2.0	1.73	5	0.5	2.5	0.5	1.11	10.0	59	0.20	6.4	1.5	0.005	0.025	0.25	6.5	1.5	0.5	25	24.3	45	18

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U	W	Zn	La	Ce	Nd
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98T-114	419177.66	6038148.50	1	2.5	2.4	410	5.4	15.0	5	39	2.0	1.45	5	0.5	2.5	0.5	1.14	10.0	43	0.05	5.5	1.5	0.005	0.025	0.25	6.4	1.3	0.5	25	22.2	43	19
98T-115	418088.72	6038642.50	1	2.5	2.7	340	5.2	16.0	7	39	1.0	1.56	5	0.5	2.5	2.0	1.13	85.0	37	0.20	5.9	1.5	0.005	0.025	0.80	6.3	1.2	0.5	25	23.2	44	18
98T-116	417811.72	6039129.50	2	2.5	3.3	420	5.5	15.0	7	43	2.0	1.62	5	0.5	2.5	0.5	1.19	10.0	33	0.30	6.4	1.5	0.005	0.025	0.25	6.8	1.3	0.5	25	24.5	47	20
98T-118	426929.28	6034129.50	9	2.5	2.6	380	4.9	14.0	6	34	1.0	1.28	6	0.5	2.5	0.5	1.14	10.0	38	0.20	5.1	1.5	0.005	0.025	0.25	5.8	1.5	0.5	25	21.4	42	20
98T-119	425480.31	6033803.50	3	2.5	3.3	530	4.8	11.0	10	46	3.0	2.17	6	0.5	2.5	0.5	1.24	10.5	71	0.30	7.6	1.5	0.005	0.025	0.25	10.6	1.6	0.5	25	33.1	62	27
98T-120	423790.44	6035660.50	1	2.5	2.2	390	4.7	12.0	5	34	2.0	1.33	6	0.5	2.5	0.5	1.15	10.0	55	0.20	5.4	1.5	0.005	0.025	0.25	6.2	1.6	0.5	25	22.5	41	18
98T-122	408163.00	6044404.00	1	2.5	2.9	430	5.2	17.0	6	36	2.0	1.70	5	0.5	2.5	5.0	1.10	10.0	53	0.40	6.2	1.5	0.005	0.025	0.25	7.3	0.5	0.5	25	26.0	54	23
98T-123	410744.00	6043110.00	1	2.5	5.0	410	5.9	16.0	8	41	1.0	1.64	5	0.5	2.5	0.5	1.13	10.0	37	0.30	6.1	1.5	0.005	0.025	0.25	6.3	1.5	0.5	58	24.1	46	22
98T-124	416359.03	6011437.00	2	2.5	65.6	470	4.6	9.0	8	45	4.0	2.09	9	0.5	2.5	3.0	1.58	10.0	74	0.20	7.5	1.5	0.005	0.025	1.30	12.5	2.0	0.5	25	30.1	58	21
98T-125	417489.03	6012396.00	1	2.5	3.6	480	5.8	17.0	11	48	3.0	2.27	5	0.5	2.5	2.0	1.19	10.5	79	0.40	7.4	1.5	0.005	0.025	0.25	10.9	1.7	0.5	70	32.1	66	25
98T-126	413132.19	6012836.00	2	2.5	16.8	390	4.6	13.0	9	50	2.0	1.90	6	0.5	2.5	5.0	1.41	10.0	38	0.70	6.9	1.5	0.005	0.025	0.80	6.7	1.7	0.5	59	24.4	50	20
98T-127	385444.00	6022763.00	1	2.5	1.7	410	6.6	13.0	6	52	2.0	1.88	5	0.5	2.5	0.5	1.24	10.5	72	0.30	6.9	1.5	0.005	0.025	0.25	9.8	1.2	0.5	63	29.4	57	27
98T-128	385814.00	6024219.00	1	2.5	3.1	440	4.4	11.0	6	49	4.0	1.66	7	0.5	2.5	0.5	1.54	10.5	116	0.20	5.9	1.5	0.005	0.025	0.25	22.6	3.1	3.0	91	39.9	76	28
98T-129-1	411318.28	6013772.50	1	2.5	2.5	440	5.0	12.0	7	43	3.0	1.89	6	0.5	2.5	1.0	1.43	10.0	82	0.20	6.9	1.5	0.005	0.025	1.00	8.8	2.1	0.5	25	30.9	51	23
98T-129-2	411318.28	6013772.50	1	2.5	2.4	420	5.5	12.0	7	45	3.0	2.03	6	0.5	2.5	1.0	1.44	10.0	78	0.20	7.2	1.5	0.005	0.025	1.10	9.6	2.1	0.5	25	31.6	52	23
98T-130	410039.31	6014382.50	1	2.5	1.9	460	5.7	14.0	8	38	2.0	1.85	6	0.5	2.5	5.0	1.44	10.0	70	0.05	6.3	1.5	0.005	0.025	0.25	9.4	1.8	0.5	25	28.3	53	23
98T-132	407970.38	6013576.50	6	2.5	3.9	480	5.1	13.0	8	39	3.0	2.00	5	0.5	2.5	5.0	1.44	102.0	50	0.30	7.1	1.5	0.005	0.025	0.25	10.2	1.4	0.5	79	30.5	59	26
98T-133	407131.38	6012572.50	1	2.5	6.3	440	5.8	13.0	9	37	2.0	1.73	5	0.5	2.5	2.0	1.47	10.0	51	0.20	6.2	1.5	0.005	0.025	0.25	7.4	1.4	0.5	25	23.2	42	17
98T-134	406971.44	6014940.50	1	2.5	1.6	510	6.5	7.0	6	41	2.0	1.83	6	0.5	2.5	3.0	1.80	10.5	77	0.05	7.9	1.5	0.005	0.025	0.25	10.0	1.6	0.5	25	30.9	63	24
98T-135	408359.31	6012394.50	1	2.5	3.4	360	3.9	13.0	6	35	2.0	1.61	5	0.5	2.5	5.0	1.34	10.0	57	0.20	5.8	3.0	0.005	0.025	0.25	8.2	1.0	0.5	25	24.3	53	21
98T-136	405675.38	6011926.50	1	2.5	4.1	450	5.2	12.0	7	40	2.0	1.61	7	0.5	2.5	3.0	1.48	10.0	46	0.40	6.7	1.5	0.005	0.025	0.25	8.7	1.4	0.5	25	26.8	58	28
98T-137	404124.44	6012087.50	1	2.5	0.9	470	4.3	11.0	5	33	1.0	1.53	5	0.5	2.5	0.5	1.62	10.0	66	0.30	6.3	1.5	0.005	0.025	0.25	7.9	1.3	0.5	25	26.6	55	24
98T-138	404041.47	6013160.50	3	2.5	2.6	550	5.0	10.0	7	43	3.0	1.94	6	0.5	2.5	0.5	1.75	10.5	81	0.20	7.7	1.5	0.005	0.025	0.25	9.4	1.6	0.5	79	30.9	66	30
98T-139	402538.53	6013989.50	1	2.5	2.1	620	4.1	1.0	10	56	3.0	2.73	7	0.5	2.5	6.0	2.04	12.5	97	0.30	10.1	1.5	0.005	0.025	1.20	9.6	2.2	0.5	82	33.5	72	27
98T-140	399933.00	6014368.00	1	2.5	1.8	600	3.0	0.5	6	50	3.0	1.96	7	0.5	2.5	0.5	1.81	10.5	80	0.30	7.9	1.5	0.005	0.025	0.25	7.3	2.0	0.5	67	22.9	51	22
98T-141	395466.00	6012618.00	1	2.5	4.3	460	4.6	11.0	10	67	2.0	2.05	6	0.5	2.5	0.5	1.51	10.0	57	0.50	7.0	1.5	0.005	0.025	1.00	8.7	2.5	0.5	65	25.8	55	24
98T-142	397559.00	6017711.00	1	2.5	2.3	570	4.4	9.0	6	45	3.0	1.52	6	0.5	2.5	2.0	1.81	10.0	87	0.30	6.2	1.5	0.005	0.025	0.25	12.5	2.6	0.5	50	31.3	68	34
98T-143	383035.00	6024618.00	3	2.5	1.8	450	4.4	13.0	3	32	3.0	1.28	6	0.5	2.5	3.0	1.41	10.0	89	0.20	5.2	1.5	0.005	0.025	0.25	16.7	2.7	0.5	25	34.5	73	28
98T-144	389806.00	6022975.00	1	2.5	2.9	490	5.0	11.0	6	65	3.0	1.62	6	0.5	2.5	2.0	1.64	10.5	101	0.05	5.8	1.5	0.005	0.025	0.25	23.9	3.2	0.5	25	42.2	88	33
98T-145	390474.00	6021912.00	1	2.5	2.4	580	4.0	9.0	6	60	5.0	1.55	5	0.5	2.5	3.0	1.66	10.0	79	0.05	5.9	1.5	0.005	0.025	0.25	14.3	2.2	0.5	25	31.6	61	29
98T-146	392335.00	6021175.00	3	2.5	1.8	690	4.6	3.0	7	66	3.0	2.09	10	0.5	2.5	3.0	2.13	10.5	97	0.30	9.1	1.5	0.005	0.025	0.25	14.3	2.7	0.5	25	44.3	69	40
98T-147	388878.00	6020355.00	3	2.5	4.8	470	4.3	12.0	7	63	2.0	1.61	6	0.5	2.5	5.0	1.55	10.0	66	0.05	6.1	1.5	0.005	0.025	0.25	13.1	2.5	0.5	25	33.2	71	33
98T-148	403100.47	6012742.50	1	2.5	4.0	600	3.6	3.0	12	46	3.0	2.86	7	0.5	2.5	0.5	2.46	10.5	93	0.05	9.8	1.5	0.005	0.025	0.25	8.9	2.3	0.5	52	27.0	56	25
98T-149	401935.00	6012422.00	1	2.5	5.5	560	3.8	2.0	7	56	4.0	2.46	7	0.5	2.5	2.0	1.84	10.5	100	0.30	9.8	1.5	0.005	0.025	0.25	12.0	2.2	0.5	81	38.5	69	36
98T-150-1	400497.00	6013199.00	3	2.5	4.7	460	4.8	10.0	8	40	2.0	1.87	5	0.5	2.5	2.0	1.66	10.0	64	0.40	7.3	1.5	0.005	0.025	0.25	7.6	2.0	0.5	83	25.3	53	26
98T-150-2	400497.00	6013199.00	4	2.5	5.1	470	4.9	10.0	8	47	2.0	2.13	5	0.5	2.5	2.0	1.61	10.0	64	0.40	7.7	1.5	0.005	0.025	0.25	8.3	2.0	0.5	25	25.8	55	25
98T-151	399476.00	6015250.00	3	2.5	4.2	650	3.0	4.0	15	81	5.0	4.03	6	0.5	2.5	4.0	1.86	10.0	98	0.50	13.8	4.0	0.005	0.025	0.25	14.5	2.8	0.5	91	52.5	93	48
98T-152	395886.00	6015171.00	2	2.5	6.3	480	4.4	12.0	9	73	1.0	1.63	5	0.5	2.5	3.0	1.52	10.0	58	0.50	6.1	1.5	0.005	0.025	0.25	8.2	1.9	0.5	25	23.6	52	23
98T-153	394104.00	6017050.00	4	2.5	5.5	730	3.5	2.0	14	121	5.0	3.41	8	0.5	2.5	6.0	1.63	12.0	116	0.40	10.9	1.5	0.005	0.025	1.20	16.5	2.9	0.5	92	51.2	103	38
98T-154	406616.34	6011560.50	1	2.5	12.4	490	3.8	11.0	6	38	2.0	1.54	5	0.5	2.5	0.5	1.49	10.0	57	0.40	6.2	1.5	0.005	0.025	0.25	7.5	1.6	0.5	25	25.1	54	28
98T-155	404165.41	6011197.50	1	2.5	11.7	450	4.2	11.0	8	36	1.0	1.81	5	0.5	2.5	0.5	1.48	10.0	43	0.30	6.8	1.5	0.005	0.025	0.50	7.1	1.4	0.5	25	24.3	51	23
98T-156	404389.38	6010246.50	1	2.5	10.0	410	3.9	9.0	4	31	0.5	1.33	6	0.5	2.5	2.0	1.53	10.0	61	0.20	5.7	1.5	0.005	0.025	0.25	6.6	1.4	0.5	25	22.0	48	21
98T-157	405746.31	6009647.50	1	2.5	10.5	420	4.3	10.0	8	39	12.0	1.64	5	0.5	2.5	0.5	1.46	10.0	60	0.40	6.8	1.5	0.005	0.025	0.25	7.4	1.8	2.0	25	24.7	52	23
98T-158	405343.31	6008893.50	3	2.5	17.7	460	4.9	14.0	8	43	8.0	1.91	5	0.5	2.5	4.0	1.44	10.0	82	0.50	7.2	1.5	0.005	0.025	0.25	11.2	1.7	0.5	25	29.3	59	30
98T-160	390377.00	6020623.00	1	2.5	6.6	520	4.3	11.0	6	42	2.0	1.62	4	0.5	2.5	4.0	1.44	10.0	64	0.40	5.8	1.5	0.005	0.025	0.25	9.8	2.2	0.5	25	26.8	55	27
98T-161	388589.00	6022651.46	4	2.5	2.7	550	3.1	9.0	5	80	2.0	1.52	7	0.5	2.5	2.0	1.80	10.0	62	0.10	5.8	1.5	0.005	0.025	0.25	15.8	2.6	0.5	25	35.1	76	36
98T-163	388677.00	6018912.00	1	2.5	4.3	670	3.1	2.0	9	117	2.0	2.41	9	0.5	2.5	0.5	2.11	10.0	93	0.20	7.9	1.5	0.005	0.025	1.00	15.6	2.5	0.5	25	29.5	73	30
98T-164	386509.00	6018460.00	1	2.5	5.4	490	4.3	11.0	6	52	2.0	1.50	6	0.5	2.5	3.0	1.47	10.0	72	0.20	6.1	1.5	0.005	0.025	0.25	10.2	1.8	0.5	25	29.6	60	30
98T-166	385391.00	6021255.00	1	2.5	9.0	630	2.8	0.5	14	85	12.0	3.03	8	0.5	2.5	3.0	1.91	10.0	85	0.80	9.2	1.5	0.005	0.025	1.90	21.6	2.2	0.5	72	48.4	99	35
98T-168-1	389115.00	6015922.00	1	2.5	2.2	360	5.0	16.0	7	45	2.0	1.76	4	0.5	2.5	0.5	1.11	10.0	51	0.20	6.5	1.5	0.005	0.025	0.25	7.1	1.2	0.5	25	25.8	50	21
98T-168-2	389115.00	6015922.00	4	2.5	2.1	380	5.8	15.0	7	47	2.0	1.78	4	0.5	2.5	0.5	1.09	10.0	42	0.20	6.6	1.5	0.005	0.025	0.25	7.2	1.4	0.5	25	25.5	50	22
98T-170	384273.00	6016794.00	1	2.5	2.9	440	3.5	12.0	6	52	2.0	1.42	6	0.5	2.5	5.0	1.51	10.0	68	0.05	5.6	1.5	0.005	0.025	1.20	10.4	2.0	0.5	25	27.6	54	23
98T-171	383788.00	6015968.00	1	2.5	6.0	420	4.0	10.0	5	62	3.0	1.39	6	0.5	2.5	0.5	1.54	10.0	55	0.10	5.7	1.5	0.005	0.025	1.30	8.5	1.9	0.5	58	24.4	46	20
98T-172	385394.00	6015986.00	4	2.5	55.9	490	4.5	6.0	21	53	6.0	3.03	6	0.5	2.5	5.0	1.47	10.0	97	0.90	8.1	1.5	0.005	0.025	0.25	27.0	4.2	0.5	94	69.0	122	44
98T-173	387942.00	6015283.00	5	2.5	5.2	390	3.6	10.0	6	52	2.0	1.48	6	0.5	2.5	1.0	1.46	10.0	64	0.20	5.6	1.5	0.005	0.025	1.10	8.8	1.9	0.5	53	23.7	47	19
98T-174	394375.00	6012910.00	2	2.5	2.3	410	5.9	13.0	10	68	2.0	1.75	4	0.5	2.5	2.0	1.23	10.0	53	0.30	6.2	1.5	0.005	0.025	1.00	8.0	1.8	0.5	25	21.1	43	18

Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U	W	Zn	La	Ce	Nd
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98T-175	391283.00	6014472.00	1	2.5	8.5	440	4.0	10.0	15	62	6.0	2.82	5	0.5	2.5	3.0	1.63	10.0	94	0.50	8.8	1.5	0.005	0.025	2.00	11.0	3.0	0.5	25	27.5	55	23
98T-178	323967.94	6041833.00	1	2.5	2.6	340	5.9	14.0	5	31	2.0	1.23	5	0.5	2.5	0.5	0.89	10.0	50	0.05	4.6	1.5	0.005	0.025	0.25	5.8	0.9	0.5	25	20.0	38	16
98T-180	324945.91	6041004.00	1	2.5	3.8	350	5.3	14.0	5	36	2.0	1.38	5	0.5	2.5	3.0	0.93	10.0	49	0.20	5.2	1.5	0.005	0.025	0.25	6.6	2.1	0.5	25	22.0	39	19
98T-181	326531.88	6040989.00	1	2.5	3.0	450	5.8	11.0	5	38	1.0	1.30	7	0.5	2.5	2.0	1.08	10.0	42	0.20	4.9	1.5	0.005	0.025	0.25	6.6	1.2	0.5	25	20.6	41	17
98T-184	326621.81	6038449.00	1	2.5	3.0	320	5.0	13.0	5	36	1.0	1.21	7	0.5	2.5	2.0	1.08	10.0	50	0.10	4.7	1.5	0.005	0.025	0.60	6.3	1.4	0.5	25	21.2	40	17
98T-185-1	328134.84	6041330.00	1	2.5	2.6	370	5.6	13.0	6	39	2.0	1.46	6	0.5	2.5	0.5	1.07	10.0	50	0.20	5.3	1.5	0.005	0.025	0.25	8.9	1.9	0.5	25	23.9	46	22
98T-185-2	328134.84	6041330.00	1	2.5	2.6	380	5.3	14.0	6	36	2.0	1.45	7	0.5	2.5	0.5	1.10	10.0	50	0.20	5.3	1.5	0.005	0.025	0.25	8.7	1.5	0.5	25	24.7	49	20
98T-189	350083.38	6040090.00	1	2.5	2.5	320	4.9	15.0	5	33	2.0	1.01	4	0.5	2.5	0.5	0.94	10.0	34	0.05	4.5	1.5	0.005	0.025	0.25	5.2	1.8	0.5	25	18.8	37	16
98T-190	346618.44	6039718.00	2	2.5	1.8	310	5.2	13.0	6	64	2.0	1.20	6	0.5	2.5	0.5	1.03	10.0	51	0.05	4.8	1.5	0.005	0.025	0.25	6.8	2.1	0.5	25	19.6	39	18
98T-191	348726.41	6040743.00	3	2.5	2.7	360	6.6	10.0	7	45	4.0	1.54	6	0.5	2.5	2.0	1.30	10.0	69	0.05	6.2	1.5	0.005	0.025	0.25	8.4	2.1	0.5	25	22.1	42	18
98T-192	347772.47	6041683.00	1	2.5	2.6	310	4.8	14.0	5	32	2.0	1.23	6	0.5	2.5	2.0	0.99	10.0	35	0.05	4.8	1.5	0.005	0.025	0.25	5.8	1.4	0.5	25	20.3	40	16
98T-193	345860.50	6041687.00	1	2.5	2.2	370	5.2	11.0	6	42	2.0	1.35	8	0.5	2.5	3.0	1.27	10.0	48	0.05	5.2	1.5	0.005	0.025	0.90	7.6	1.5	0.5	25	20.5	41	17
98T-194	355771.22	6040295.50	1	2.5	2.0	360	3.8	15.0	5	36	2.0	1.19	7	0.5	2.5	3.0	1.07	10.0	45	0.30	4.6	1.5	0.005	0.025	0.70	6.1	1.9	0.5	25	21.2	43	19
98T-196	344776.50	6040524.00	1	2.5	2.5	360	5.8	15.0	5	37	2.0	1.24	6	0.5	2.5	0.5	1.09	10.0	48	0.10	4.9	1.5	0.005	0.025	0.60	6.4	1.8	0.5	25	20.2	39	18
98T-197	344483.53	6041202.00	3	2.5	3.6	350	5.4	12.0	7	37	5.0	1.52	7	0.5	2.5	2.0	1.20	10.0	72	0.20	5.5	1.5	0.005	0.025	1.60	13.5	2.1	0.5	25	28.6	61	24
98T-198	343762.53	6040329.00	3	2.5	3.1	340	5.5	17.0	6	35	1.0	1.21	5	0.5	2.5	0.5	0.93	10.0	47	0.20	4.7	1.5	0.005	0.025	0.25	5.7	1.1	0.5	25	19.6	38	14
98T-199	343462.50	6039483.00	1	2.5	1.5	320	5.2	13.0	5	38	2.0	1.26	6	0.5	2.5	1.0	1.14	10.0	53	0.05	5.0	1.5	0.005	0.025	1.20	6.7	1.6	0.5	25	20.0	38	15
98T-200	341465.56	6040134.00	1	2.5	3.8	350	4.8	13.0	7	45	2.0	1.55	7	0.5	2.5	2.0	1.19	10.0	50	0.30	5.8	1.5	0.005	0.025	1.00	7.5	1.9	0.5	25	22.1	43	17
98T-201	347331.41	6039448.00	2	2.5	2.7	340	4.8	15.0	5	40	2.0	1.28	6	0.5	2.5	0.5	1.13	10.0	49	0.20	5.2	1.5	0.005	0.025	0.25	6.2	1.1	0.5	25	20.7	40	16
98T-204	349428.38	6039387.00	1	2.5	2.8	370	6.7	14.0	5	38	2.0	1.26	5	0.5	2.5	0.5	1.07	10.0	63	0.20	5.4	1.5	0.005	0.025	0.25	6.1	1.0	0.5	25	21.5	41	19
98T-205	337801.72	6042848.00	1	2.5	2.7	330	6.7	12.0	4	33	2.0	1.17	8	0.5	2.5	3.0	1.09	10.0	58	0.10	4.7	1.5	0.005	0.025	1.00	12.3	2.5	0.5	25	25.1	47	22
98T-206	338357.66	6040821.00	3	2.5	2.7	340	5.2	14.0	4	30	1.0	1.03	5	0.5	2.5	0.5	1.03	10.0	33	0.20	4.3	1.5	0.005	0.025	0.25	5.7	1.6	0.5	25	18.7	36	15
98T-207	340633.63	6041136.00	1	2.5	2.7	360	5.4	9.0	8	43	4.0	1.74	7	0.5	2.5	0.5	1.32	12.0	56	0.20	6.5	1.5	0.005	0.060	0.70	10.2	2.3	0.5	25	30.1	51	17
98T-208	339675.63	6041192.00	1	2.5	2.9	380	5.6	9.0	6	38	3.0	1.50	6	0.5	2.5	0.5	1.19	12.0	51	0.20	6.2	1.5	0.005	0.025	0.70	8.2	1.5	0.5	25	28.0	45	15

Sample Site	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98T-1	3.5	0.8	0.25	1.4	0.22	103.5
98T-2	3.2	0.8	0.25	1.3	0.19	87.6
98T-3	3.2	0.8	0.25	1.3	0.20	92.8
98T-4	3.2	0.8	0.25	1.5	0.22	92.4
98T-5	3.1	0.7	0.25	1.5	0.23	88.8
98T-6	3.2	0.8	0.60	1.3	0.25	100.4
98T-8	3.3	0.7	0.25	1.4	0.20	99.6
98T-9	3.1	0.7	0.25	1.3	0.20	90.2
98T-10	3.3	0.8	0.25	1.5	0.22	95.1
98T-11	3.1	0.8	0.25	1.4	0.21	83.6
98T-12	3.4	0.8	0.25	1.4	0.20	102.1
98T-13	4.3	1.0	0.25	1.6	0.26	122.4
98T-15	3.9	0.9	0.25	1.6	0.24	117.4
98T-16-1	4.2	1.1	0.25	2.1	0.30	124.7
98T-17	4.1	1.0	0.25	2.2	0.31	156.1
98T-18	3.5	0.9	0.25	1.7	0.24	101.4
98T-19	3.3	0.8	0.25	1.3	0.21	98.2
98T-20	4.8	1.0	0.25	1.9	0.25	131.7
98T-21	4.7	1.1	0.25	2.2	0.32	124.1
98T-22	3.9	0.9	0.25	1.6	0.23	113.1
98T-23	3.8	0.9	0.60	1.7	0.24	110.1
98T-24	3.9	0.9	0.25	1.7	0.26	123.4
98T-25	5.2	1.2	0.25	2.3	0.35	146.6
98T-26	3.3	0.7	0.25	1.6	0.23	92.5
98T-27	3.5	0.8	0.25	1.5	0.26	103.0
98T-28	3.2	0.8	0.25	1.7	0.26	95.2
98T-29	3.1	0.7	0.60	1.5	0.27	88.9
98T-30	3.3	0.8	0.25	1.6	0.22	96.2
98T-31	3.1	0.8	0.25	1.5	0.24	88.7
98T-32	4.4	0.9	0.25	1.7	0.25	145.5
98T-33	3.8	0.9	0.25	1.7	0.24	112.7
98T-34	3.5	0.9	0.25	1.5	0.22	109.6
98T-35	3.3	0.7	0.25	1.4	0.19	84.0
98T-36-1	3.3	0.9	0.25	1.5	0.24	100.7
98T-36-2	3.4	0.9	0.25	1.5	0.23	102.0
98T-37	3.1	0.7	0.25	1.4	0.20	83.5
98T-38	3.3	0.7	0.25	1.4	0.20	87.5
98T-39	3.4	0.7	0.25	1.4	0.21	95.4
98T-40	3.2	0.7	0.25	1.6	0.21	81.8
98T-41	4.1	0.7	0.25	1.7	0.25	114.4
98T-42	3.9	0.7	0.25	1.6	0.21	103.9
98T-43	3.3	0.7	0.50	1.4	0.23	86.1
98T-44	3.2	0.7	0.25	1.5	0.21	87.8
98T-45	3.2	0.6	0.25	1.4	0.20	81.4
98T-46	3.5	0.6	0.25	1.6	0.23	93.2
98T-47	3.5	0.7	0.25	1.5	0.23	91.8
98T-48	3.4	0.7	0.25	1.6	0.21	93.1
98T-49	3.9	0.7	0.25	1.9	0.28	103.7

Sample Site	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98T-51	3.9	0.7	0.50	1.7	0.25	104.9
98T-52	3.3	0.7	0.25	1.5	0.19	81.7
98T-53	3.1	0.7	0.25	1.5	0.21	79.4
98T-54	3.0	0.7	0.25	1.4	0.20	79.3
98T-55	3.5	0.8	0.25	1.6	0.20	93.2
98T-57	3.3	0.7	0.60	1.3	0.20	88.1
98T-58	3.4	0.7	0.25	1.5	0.19	90.8
98T-59	2.9	0.7	0.25	1.5	0.20	74.3
98T-60	3.3	0.7	0.25	1.5	0.19	86.2
98T-61-1	3.2	0.8	0.25	1.5	0.23	91.6
98T-61-2	3.1	0.8	0.25	1.4	0.22	89.6
98T-62	3.3	0.7	0.25	1.5	0.20	87.9
98T-64	3.2	0.6	0.25	1.5	0.19	89.8
98T-66	3.5	0.8	0.25	1.3	0.19	93.7
98T-67	3.3	0.7	0.25	1.4	0.21	92.5
98T-68	3.3	0.7	0.25	1.4	0.20	100.9
98T-70	3.1	0.7	0.25	1.2	0.17	91.5
98T-71	3.7	0.8	0.25	1.3	0.22	103.3
98T-72	3.7	0.8	0.25	1.6	0.25	109.8
98T-73	6.0	1.5	0.90	2.4	0.36	172.8
98T-74	3.2	0.8	0.25	1.4	0.18	97.6
98T-75	3.1	0.7	0.25	1.5	0.21	90.1
98T-77	3.2	0.7	0.25	1.5	0.22	88.9
98T-78	4.0	0.9	0.25	1.9	0.29	108.0
98T-79	3.2	0.8	0.25	1.5	0.24	88.6
98T-81	3.2	0.8	0.25	1.4	0.22	94.6
98T-82	2.6	0.7	0.25	1.3	0.20	73.8
98T-83	3.3	0.8	0.25	1.5	0.20	96.9
98T-85-1	3.6	0.9	0.25	1.7	0.26	105.1
98T-85-2	3.1	0.9	0.25	1.6	0.25	94.8
98T-87	3.2	0.8	0.25	1.5	0.22	94.4
98T-88	2.8	0.7	0.25	1.3	0.20	76.1
98T-90	3.2	0.8	0.25	1.5	0.23	85.1
98T-91	3.3	0.8	0.25	1.4	0.21	92.4
98T-93	2.6	0.6	0.25	1.2	0.18	71.2
98T-94	3.9	0.9	0.25	1.6	0.26	138.4
98T-95	3.6	0.8	0.25	1.4	0.22	103.5
98T-96	4.7	1.1	0.25	1.7	0.27	149.4
98T-97	3.4	0.8	0.25	1.4	0.23	98.0
98T-98	3.3	0.8	0.25	1.4	0.20	93.6
98T-99	3.6	0.9	0.25	1.6	0.24	88.9
98T-100	3.2	0.8	0.25	1.4	0.21	87.0
98T-101	3.0	0.7	0.25	1.3	0.21	82.5
98T-102	2.9	0.7	0.25	1.3	0.18	79.0
98T-103	3.3	0.8	0.25	1.4	0.24	99.8
98T-104-1	3.0	0.7	0.25	1.4	0.21	91.2
98T-104-2	3.2	0.8	0.25	1.4	0.21	91.7
98T-105	3.0	0.7	0.25	1.4	0.19	82.2
98T-106	3.3	0.8	0.25	1.3	0.18	94.8
98T-107	2.9	0.7	0.25	1.3	0.22	82.4
98T-108	3.2	0.7	0.25	1.4	0.21	89.8
98T-109	3.0	0.8	0.25	1.4	0.19	90.1
98T-110	3.1	0.7	0.25	1.3	0.20	86.9
98T-111	3.3	0.7	0.25	1.5	0.24	91.8
98T-112	3.0	0.7	0.25	1.3	0.20	84.1
98T-113	3.3	0.8	0.25	1.4	0.23	93.3

Sample Site	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98T-114	3.1	0.7	0.25	1.3	0.22	89.8
98T-115	3.2	0.8	0.25	1.3	0.19	90.9
98T-116	3.4	0.9	0.25	1.4	0.19	97.6
98T-118	3.0	0.7	0.25	1.4	0.24	89.0
98T-119	4.2	1.0	0.25	1.8	0.27	129.6
98T-120	3.1	0.8	0.25	1.5	0.23	87.4
98T-122	3.6	0.8	0.25	1.4	0.23	109.3
98T-123	3.3	0.8	0.25	1.4	0.21	98.1
98T-124	4.2	0.8	0.25	2.1	0.33	116.8
98T-125	4.1	0.9	0.25	1.5	0.24	130.1
98T-126	3.5	0.8	0.25	1.5	0.23	100.7
98T-127	3.9	0.8	0.25	1.5	0.25	120.1
98T-128	4.9	0.8	0.25	1.5	0.22	151.6
98T-129-1	3.5	0.9	0.25	1.5	0.22	111.3
98T-129-2	3.8	0.9	0.25	1.7	0.24	113.5
98T-130	3.5	0.9	0.25	1.5	0.21	110.7
98T-132	3.9	0.9	0.25	1.5	0.25	122.3
98T-133	3.2	0.7	0.25	1.3	0.22	87.9
98T-134	3.9	1.1	0.80	2.0	0.28	126.0
98T-135	3.1	0.9	0.25	1.5	0.24	104.3
98T-136	3.7	1.1	0.25	1.7	0.27	119.8
98T-137	3.4	0.9	0.25	1.5	0.23	111.9
98T-138	3.7	1.0	0.25	1.6	0.28	133.7
98T-139	3.9	1.2	0.25	2.0	0.27	140.1
98T-140	2.9	1.0	0.50	1.9	0.28	102.5
98T-141	3.3	0.9	0.25	1.6	0.26	111.1
98T-142	3.9	1.0	0.25	1.7	0.26	140.4
98T-143	4.3	1.0	0.25	1.7	0.27	143.0
98T-144	5.0	0.9	0.25	1.6	0.32	171.3
98T-145	4.1	0.9	0.50	1.9	0.32	129.3
98T-146	5.5	1.4	0.25	2.2	0.38	163.0
98T-147	4.1	1.0	0.25	1.7	0.29	144.5
98T-148	3.6	1.2	0.25	1.9	0.29	115.2
98T-149	4.7	1.4	0.70	2.3	0.34	152.9
98T-150-1	3.2	0.9	0.25	1.5	0.22	110.4
98T-150-2	3.5	0.9	0.25	1.6	0.27	112.3
98T-151	6.1	1.7	0.90	2.9	0.44	205.5
98T-152	3.1	0.9	0.50	1.4	0.23	104.7
98T-153	4.4	1.1	0.25	1.8	0.31	200.1
98T-154	3.2	0.9	0.25	1.5	0.25	113.2
98T-155	3.2	1.0	0.25	1.7	0.25	104.7
98T-156	3.0	1.0	0.25	1.5	0.25	97.0
98T-157	3.2	0.9	0.25	1.5	0.24	105.8
98T-158	3.7	1.0	0.25	1.8	0.26	125.3
98T-160	3.2	0.9	0.50	1.5	0.24	115.1
98T-161	4.4	1.1	0.70	1.8	0.27	155.4
98T-163	3.7	1.2	0.25	1.9	0.30	139.9
98T-164	3.7	1.0	0.25	1.6	0.26	126.4
98T-166	4.9	1.0	0.60	1.8	0.25	191.0
98T-168-1	3.5	0.8	0.25	1.5	0.20	103.1
98T-168-2	3.6	0.8	0.25	1.3	0.22	103.7
98T-170	3.8	0.8	0.25	1.7	0.26	111.4
98T-171	3.5	0.8	0.25	1.5	0.25	96.7
98T-172	6.1	1.0	0.25	2.3	0.33	245.0
98T-173	3.3	0.8	0.25	1.5	0.24	95.8
98T-174	3.0	0.7	0.25	1.4	0.21	87.7

Sample Site	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98T-175	4.1	0.9	0.25	2.6	0.37	113.7
98T-178	2.8	0.7	0.25	1.3	0.19	79.2
98T-180	2.9	0.7	0.25	1.3	0.20	85.4
98T-181	3.0	0.8	0.25	1.5	0.22	84.4
98T-184	3.0	0.7	0.25	1.4	0.23	83.8
98T-185-1	3.2	0.7	0.25	1.5	0.23	97.8
98T-185-2	3.4	0.7	0.25	1.5	0.24	99.8
98T-189	2.7	0.6	0.25	1.3	0.18	76.8
98T-190	2.9	0.6	0.25	1.4	0.21	82.0
98T-191	3.1	0.7	0.25	1.6	0.26	88.0
98T-192	2.9	0.7	0.25	1.4	0.21	81.8
98T-193	3.2	0.8	0.25	1.6	0.24	84.6
98T-194	3.0	0.7	0.25	1.5	0.23	88.9
98T-196	3.0	0.7	0.25	1.4	0.25	82.8
98T-197	3.8	0.8	0.50	1.9	0.30	120.9
98T-198	2.8	0.6	0.25	1.2	0.21	76.7
98T-199	2.7	0.6	0.25	1.5	0.23	78.3
98T-200	3.1	0.7	0.25	1.7	0.25	88.1
98T-201	2.9	0.7	0.25	1.5	0.22	82.3
98T-204	3.1	0.8	0.25	1.5	0.25	87.4
98T-205	3.7	0.7	0.25	2.0	0.32	101.1
98T-206	2.7	0.7	0.25	1.2	0.19	74.7
98T-207	4.0	0.8	0.25	1.9	0.25	105.3
98T-208	3.8	0.8	0.25	1.4	0.21	94.5

Appendix 5

Till Geochemistry: Duplicate Pair INA Analyses (<63 micron fraction).

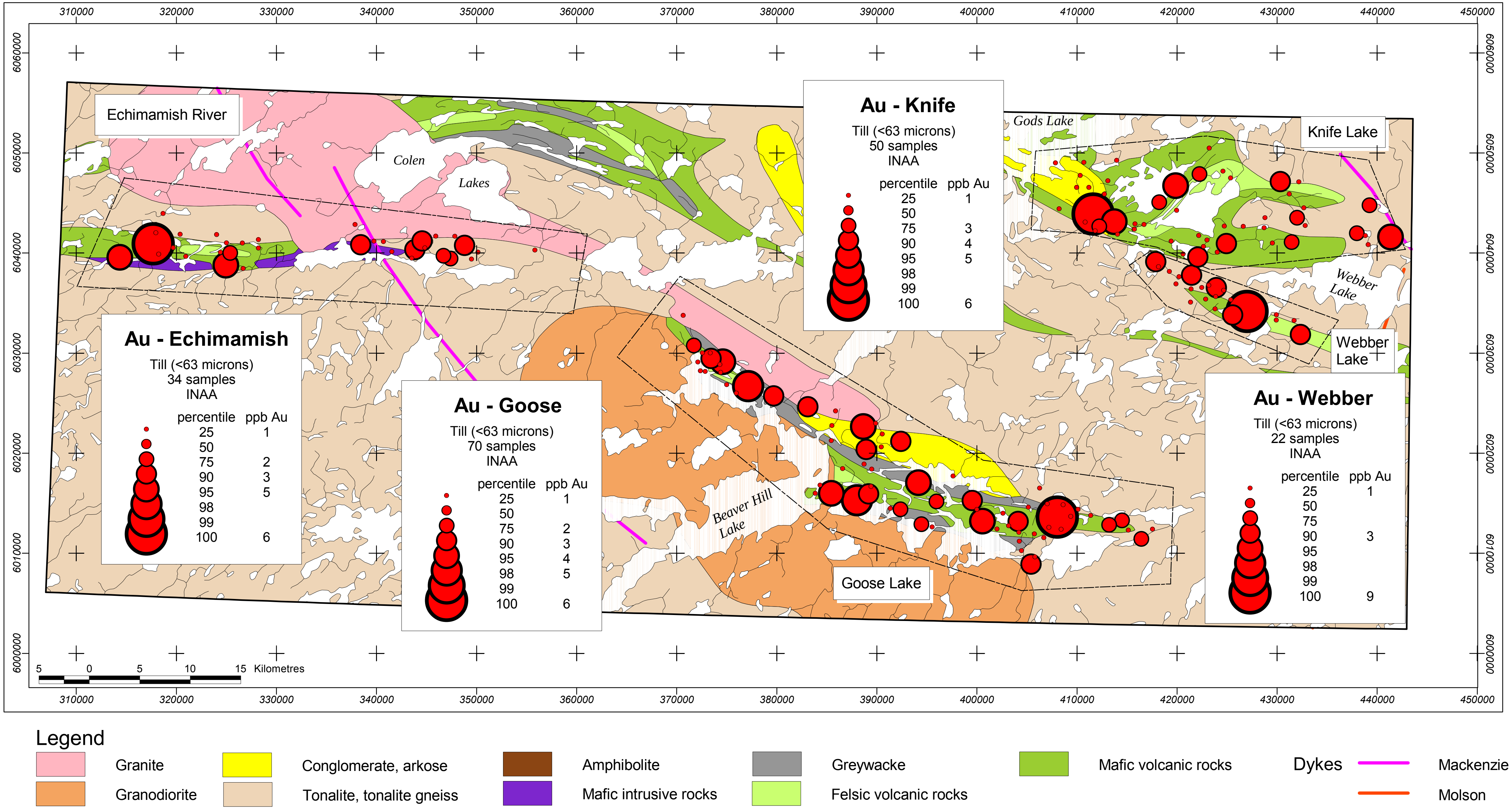
Sample Site	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th	U	W	Zn	La	Ce	Nd	Sm
	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98T-36-1	371637.00	6030765.00	2	2.5	2.5	390	7.3	15.0	4	32	2.0	1.32	5	0.5	2.5	1.0	1.02	10.0	43	0.30	5.1	1.5	0.005	0.025	0.25	6.4	1.2	0.5	25	23.5	49	22	3.3
98T-36-2	371637.00	6030765.00	1	2.5	2.4	380	7.8	15.0	4	34	2.0	1.32	5	0.5	2.5	0.5	1.03	10.0	48	0.30	5.1	1.5	0.005	0.025	0.25	6.3	1.3	0.5	25	23.7	49	23	3.4
98T-61-1	428648.00	6042511.00	1	2.5	1.8	350	5.2	13.0	4	32	0.5	1.10	6	0.5	2.5	0.5	1.14	10.0	38	0.20	4.8	1.5	0.005	0.025	0.25	5.6	1.5	0.5	25	21.6	45	19	3.2
98T-61-2	428648.00	6042511.00	1	2.5	1.8	360	5.4	13.0	4	29	0.5	1.09	6	0.5	2.5	0.5	1.12	10.0	35	0.20	4.5	1.5	0.005	0.025	0.25	5.4	1.4	0.5	25	20.8	44	19	3.1
98T-85-1	439153.13	6044766.50	3	2.5	2.1	390	7.5	12.0	5	37	1.0	1.25	8	0.5	2.5	0.5	1.25	10.0	44	0.20	5.5	1.5	0.005	0.025	0.25	6.5	1.5	0.5	25	26.4	50	22	3.6
98T-85-2	439153.13	6044766.50	3	2.5	1.9	380	6.7	13.0	4	35	2.0	1.13	8	0.5	2.5	0.5	1.16	10.0	41	0.20	5.2	1.5	0.005	0.025	0.25	5.4	1.4	0.5	25	21.7	46	21	3.1
98T-104-1	423848.47	6036518.50	1	2.5	2.3	390	4.8	15.0	5	34	1.0	1.24	5	0.5	2.5	1.0	1.16	10.0	42	0.20	5.0	1.5	0.005	0.025	0.25	5.6	1.3	0.5	25	22.6	46	17	3.0
98T-104-2	423848.47	6036518.50	2	2.5	2.5	380	4.9	15.0	5	36	1.0	1.26	5	0.5	2.5	1.0	1.16	10.0	41	0.30	5.1	1.5	0.005	0.025	0.25	5.9	1.6	0.5	52	22.8	45	18	3.2
98T-129-1	411318.28	6013772.50	1	2.5	2.5	440	5.0	12.0	7	43	3.0	1.89	6	0.5	2.5	1.0	1.43	10.0	82	0.20	6.9	1.5	0.005	0.025	1.00	8.8	2.1	0.5	25	30.9	51	23	3.5
98T-129-2	411318.28	6013772.50	1	2.5	2.4	420	5.5	12.0	7	45	3.0	2.03	6	0.5	2.5	1.0	1.44	10.0	78	0.20	7.2	1.5	0.005	0.025	1.10	9.6	2.1	0.5	25	31.6	52	23	3.8
98T-150-1	400497.00	6013199.00	3	2.5	4.7	460	4.8	10.0	8	40	2.0	1.87	5	0.5	2.5	2.0	1.66	10.0	64	0.40	7.3	1.5	0.005	0.025	0.25	7.6	2.0	0.5	83	25.3	53	26	3.2
98T-150-2	400497.00	6013199.00	4	2.5	5.1	470	4.9	10.0	8	47	2.0	2.13	5	0.5	2.5	2.0	1.61	10.0	64	0.40	7.7	1.5	0.005	0.025	0.25	8.3	2.0	0.5	25	25.8	55	25	3.5
98T-168-1	389115.00	6015922.00	1	2.5	2.2	360	5.0	16.0	7	45	2.0	1.76	4	0.5	2.5	0.5	1.11	10.0	51	0.20	6.5	1.5	0.005	0.025	0.25	7.1	1.2	0.5	25	25.8	50	21	3.5
98T-168-2	389115.00	6015922.00	4	2.5	2.1	380	5.8	15.0	7	47	2.0	1.78	4	0.5	2.5	0.5	1.09	10.0	42	0.20	6.6	1.5	0.005	0.025	0.25	7.2	1.4	0.5	25	25.5	50	22	3.6
98T-185-1	328134.84	6041330.00	1	2.5	2.6	370	5.6	13.0	6	39	2.0	1.46	6	0.5	2.5	0.5	1.07	10.0	50	0.20	5.3	1.5	0.005	0.025	0.25	8.9	1.9	0.5	25	23.9	46	22	3.2
98T-185-2	328134.84	6041330.00	1	2.5	2.6	380	5.3	14.0	6	36	2.0	1.45	7	0.5	2.5	0.5	1.10	10.0	50	0.20	5.3	1.5	0.005	0.025	0.25	8.7	1.5	0.5	25	24.7	49	20	3.4

Sample Site	Eu ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98T-36-1	0.9	0.25	1.5	0.24	100.7
98T-36-2	0.9	0.25	1.5	0.23	102.0
98T-61-1	0.8	0.25	1.5	0.23	91.6
98T-61-2	0.8	0.25	1.4	0.22	89.6
98T-85-1	0.9	0.25	1.7	0.26	105.1
98T-85-2	0.9	0.25	1.6	0.25	94.8
98T-104-1	0.7	0.25	1.4	0.21	91.2
98T-104-2	0.8	0.25	1.4	0.21	91.7
98T-129-1	0.9	0.25	1.5	0.22	111.3
98T-129-2	0.9	0.25	1.7	0.24	113.5
98T-150-1	0.9	0.25	1.5	0.22	110.4
98T-150-2	0.9	0.25	1.6	0.27	112.3
98T-168-1	0.8	0.25	1.5	0.20	103.1
98T-168-2	0.8	0.25	1.3	0.22	103.7
98T-185-1	0.7	0.25	1.5	0.23	97.8
98T-185-2	0.7	0.25	1.5	0.24	99.8

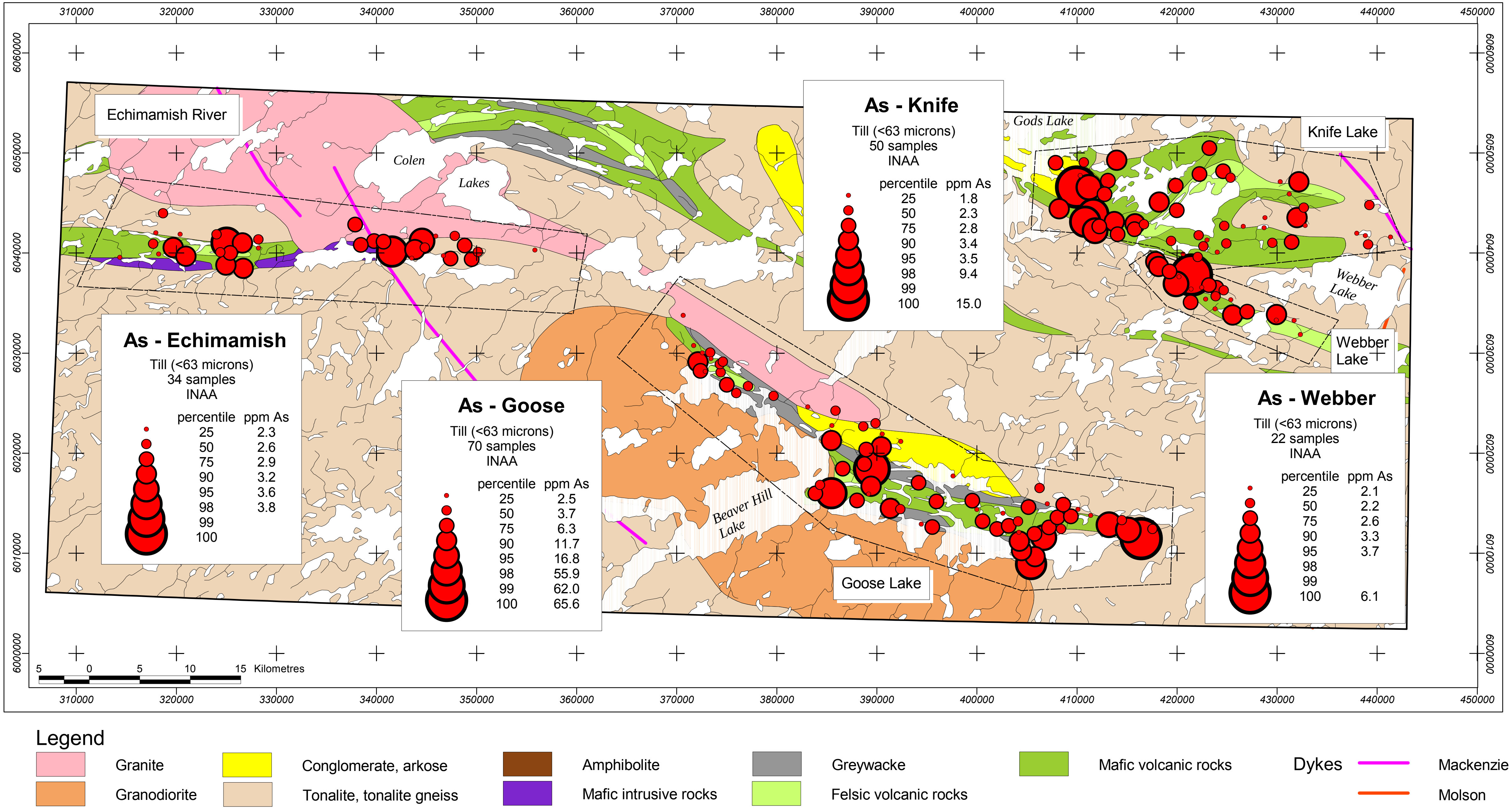
Appendix 6

Till Geochemistry: Instrumental Neutron Activation analyses (INAA) Percentile Bubble Plots (<63 micron fraction).

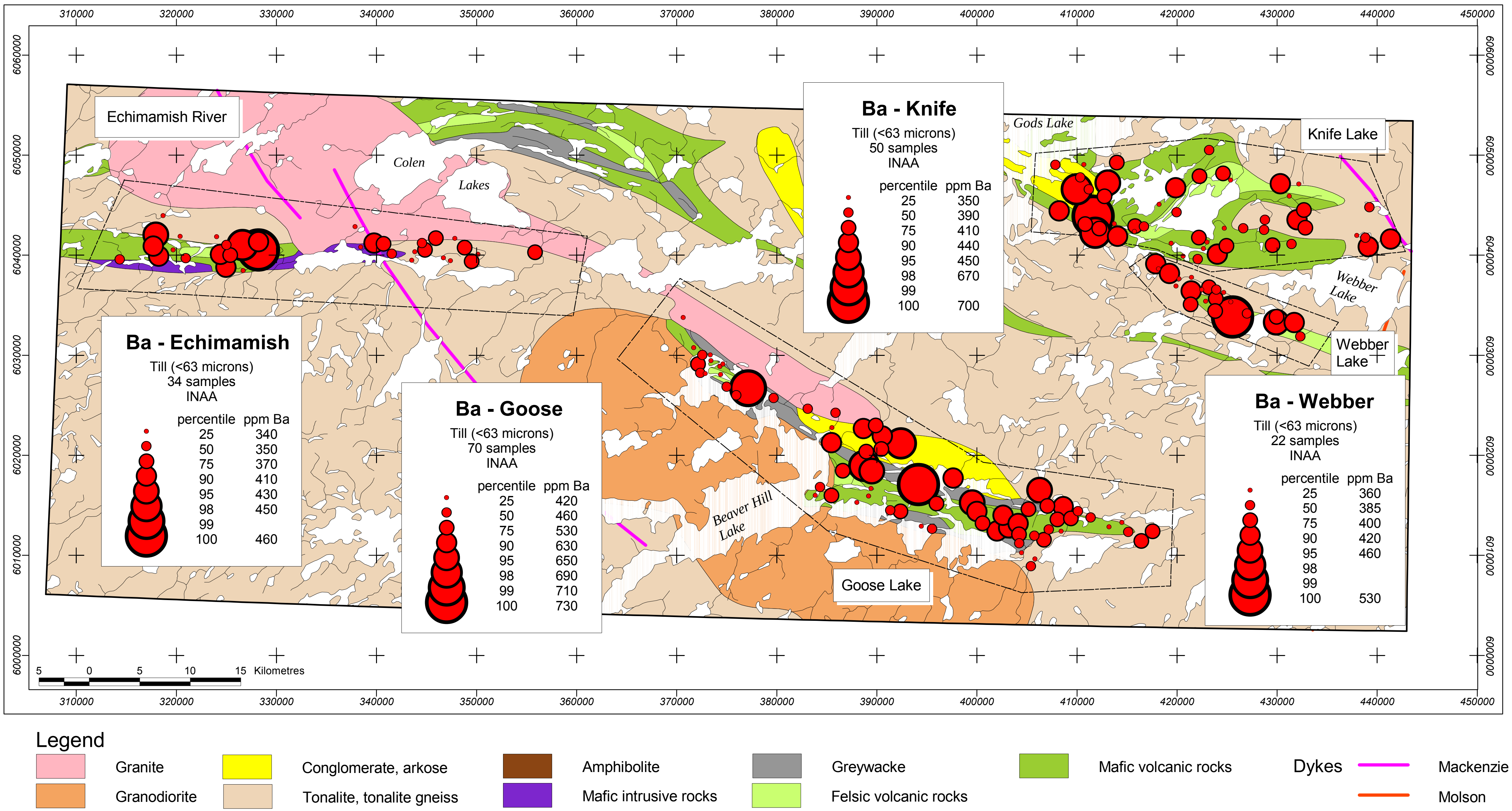
Au	As	Ba	Br	Ca
Co	Cr	Cs	Fe	Hf
Mo	Na	Ni	Rb	Sb
Sc	Ta	Th	U	Zn
Total REE				
Contents				



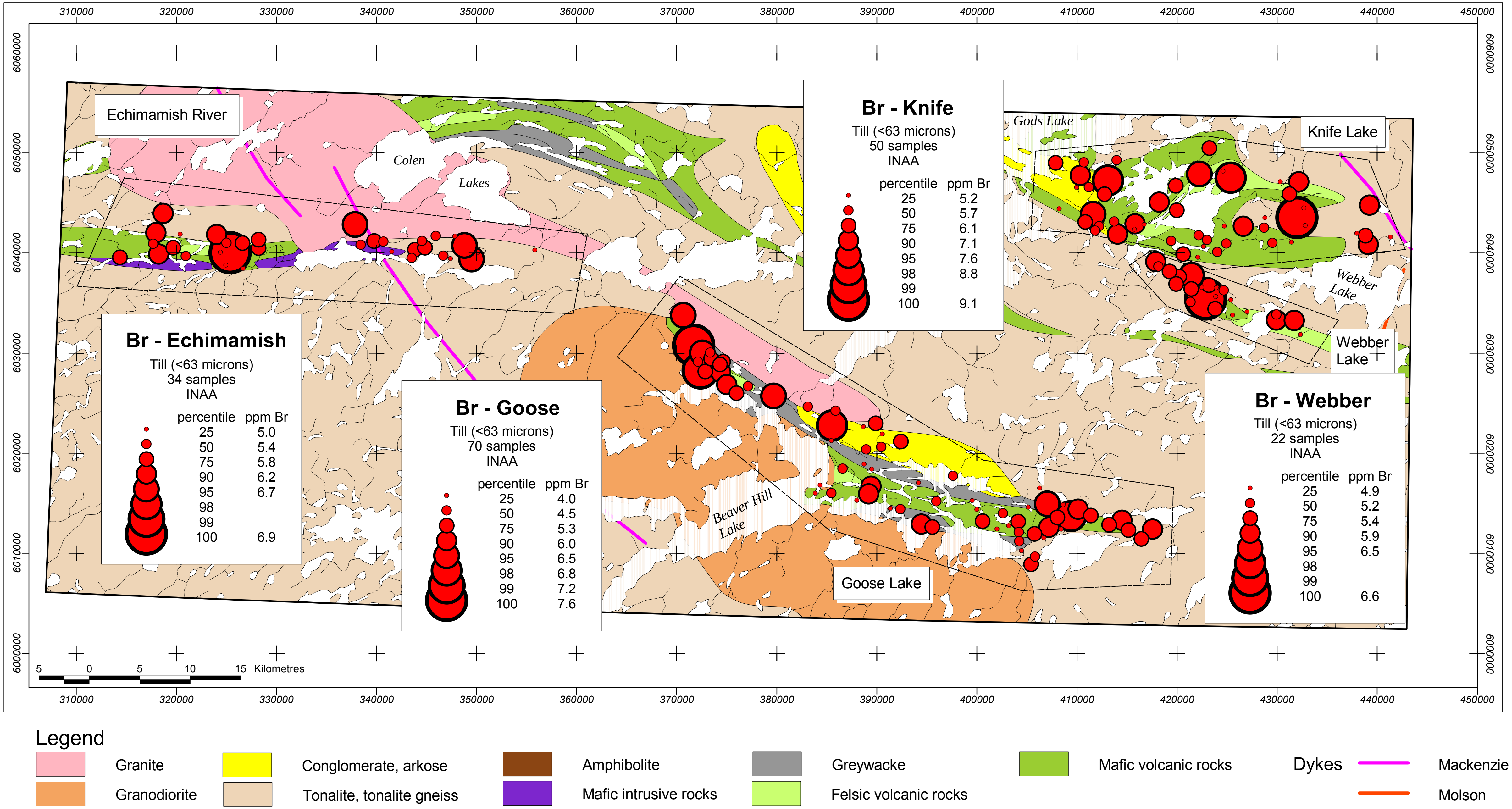
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Au - Knife
Till (<63 microns)
50 samples
INAA
percentile ppb Au
25 1
50
75 3
90 4
95 5
98
99
100 6
Au - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppb Au
25 1
50
75 2
90 3
95 5
98
99
100 6
Au - Goose
Till (<63 microns)
70 samples
INAA
percentile ppb Au
25 1
50
75 2
90 3
95 4
98 5
99
100 6
Au - Webber
Till (<63 microns)
22 samples
INAA
percentile ppb Au
25 1
50
75
90 3
95
98
99
100 9
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



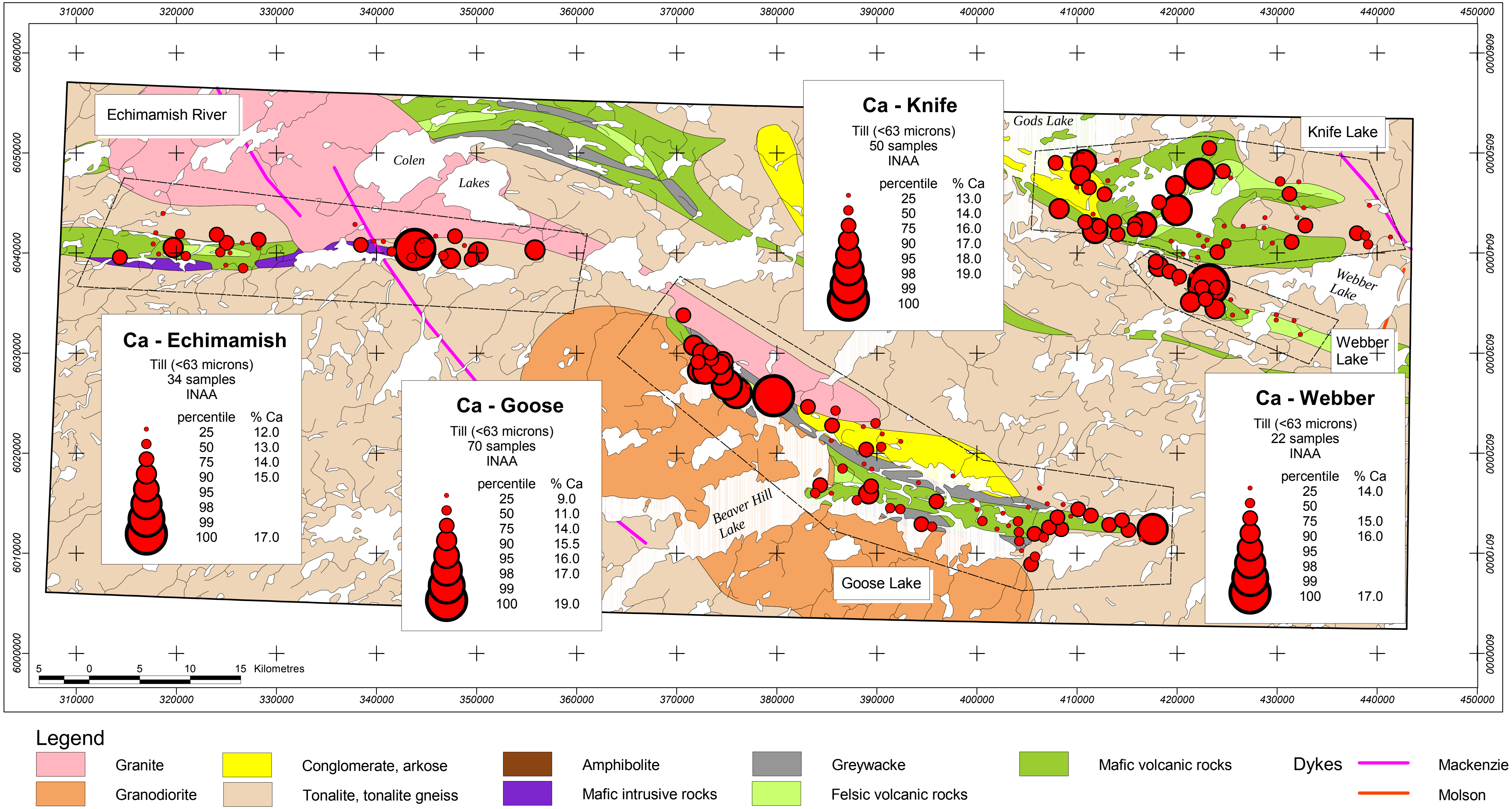
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
As - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm As
25 2.3
50 2.6
75 2.9
90 3.2
95 3.6
98 3.8
99
100
As - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm As
25 2.5
50 3.7
75 6.3
90 11.7
95 16.8
98 55.9
99 62.0
100 65.6
As - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm As
25 1.8
50 2.3
75 2.8
90 3.4
95 3.5
98 9.4
99
100 15.0
As - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm As
25 2.1
50 2.2
75 2.6
90 3.3
95 3.7
98
99
100 6.1
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



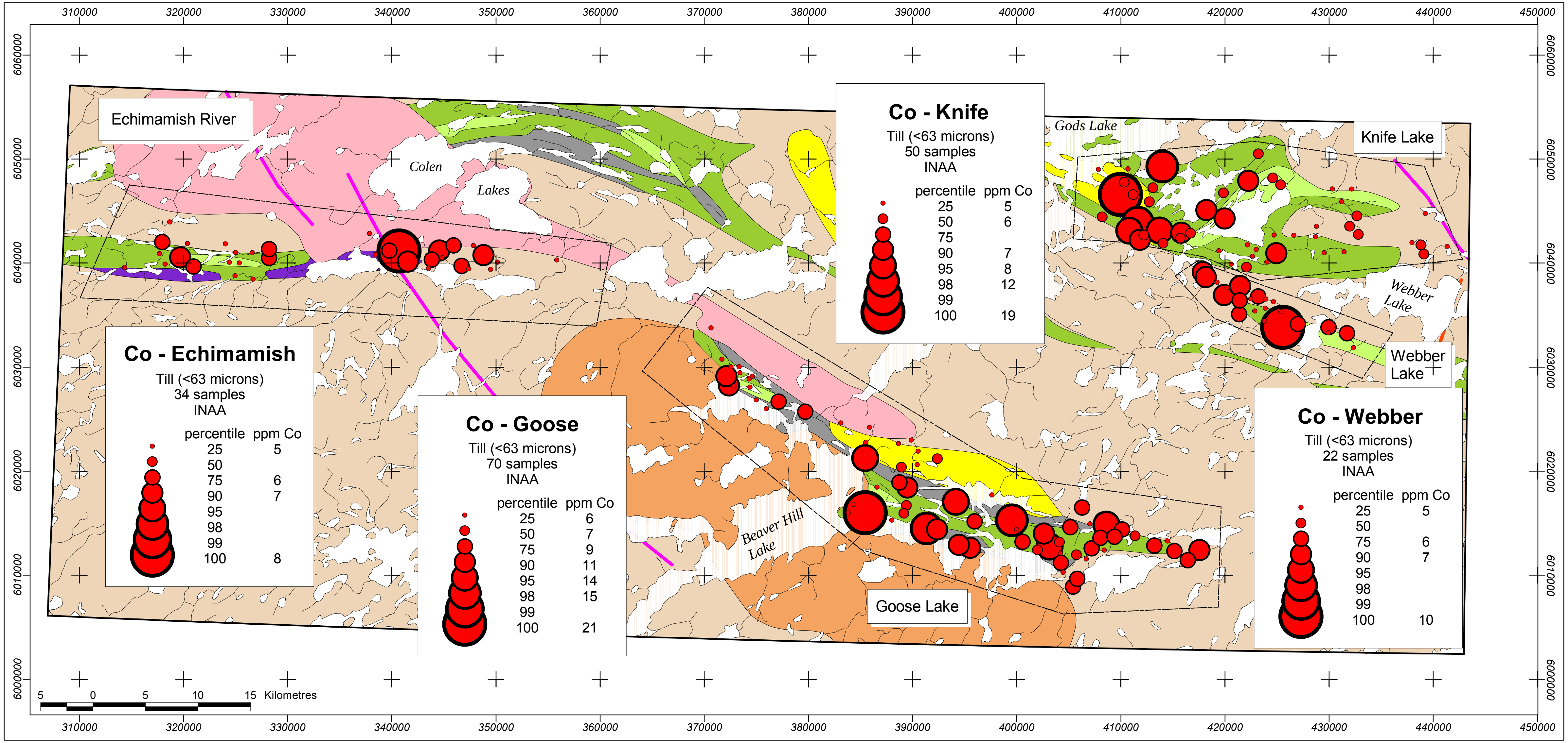
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ba - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Ba
25 350
50 390
75 410
90 440
95 450
98 670
99
100 700
Ba - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Ba
25 340
50 350
75 370
90 410
95 430
98 450
99
100 460
Ba - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Ba
25 420
50 460
75 530
90 630
95 650
98 690
99 710
100 730
Ba - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Ba
25 360
50 385
75 400
90 420
95 460
98
99
100 530
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Br - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Br
25 5.2
50 5.7
75 6.1
90 7.1
95 7.6
98 8.8
99
100 9.1
Br - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Br
25 5.0
50 5.4
75 5.8
90 6.2
95 6.7
98
99
100 6.9
Br - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Br
25 4.0
50 4.5
75 5.3
90 6.0
95 6.5
98 6.8
99 7.2
100 7.6
Br - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Br
25 4.9
50 5.2
75 5.4
90 5.9
95 6.5
98
99
100 6.6
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

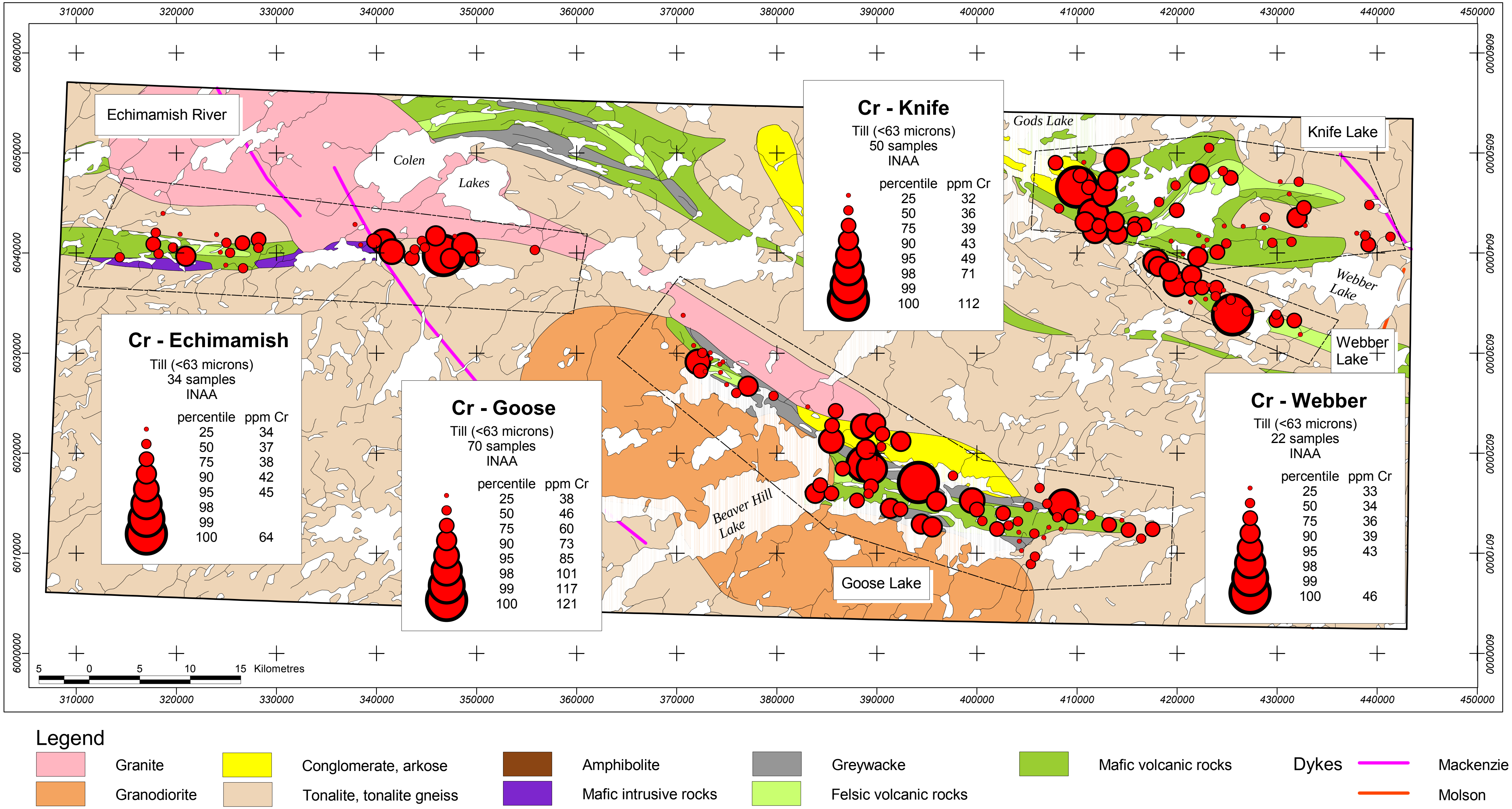


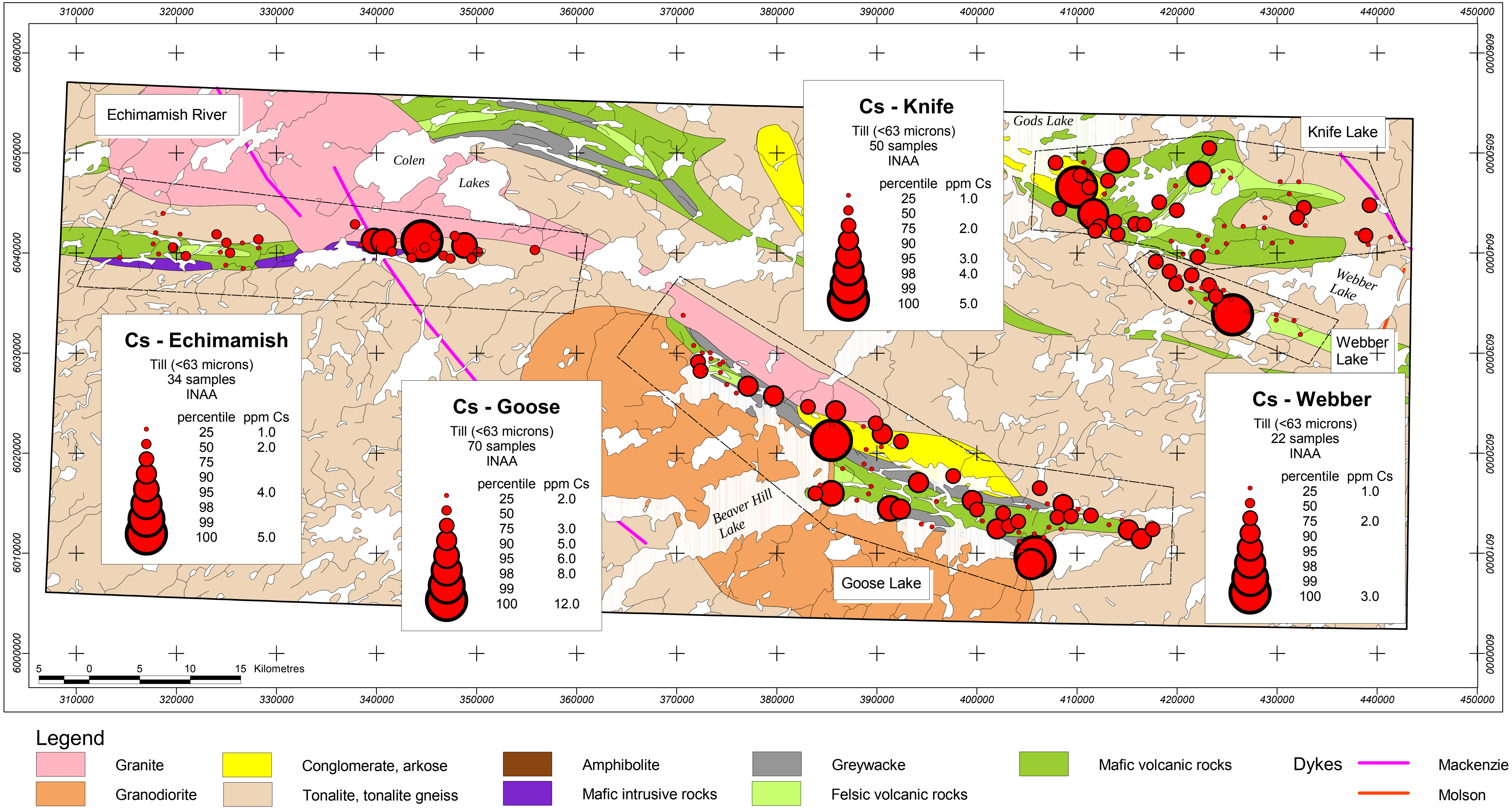
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Echimamish
Till (<63 microns)
34 samples
INAA
percentile % Ca
25 12.0
50 13.0
75 14.0
90 15.0
95
98
99
100 17.0
Ca - Goose
Till (<63 microns)
70 samples
INAA
percentile % Ca
25 9.0
50 11.0
75 14.0
90 15.5
95 16.0
98 17.0
99
100 19.0
Ca - Knife
Till (<63 microns)
50 samples
INAA
percentile % Ca
25 13.0
50 14.0
75 16.0
90 17.0
95 18.0
98 19.0
99
100
Ca - Webber
Till (<63 microns)
22 samples
INAA
percentile % Ca
25 14.0
50
75 15.0
90 16.0
95
98
99
100 17.0
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



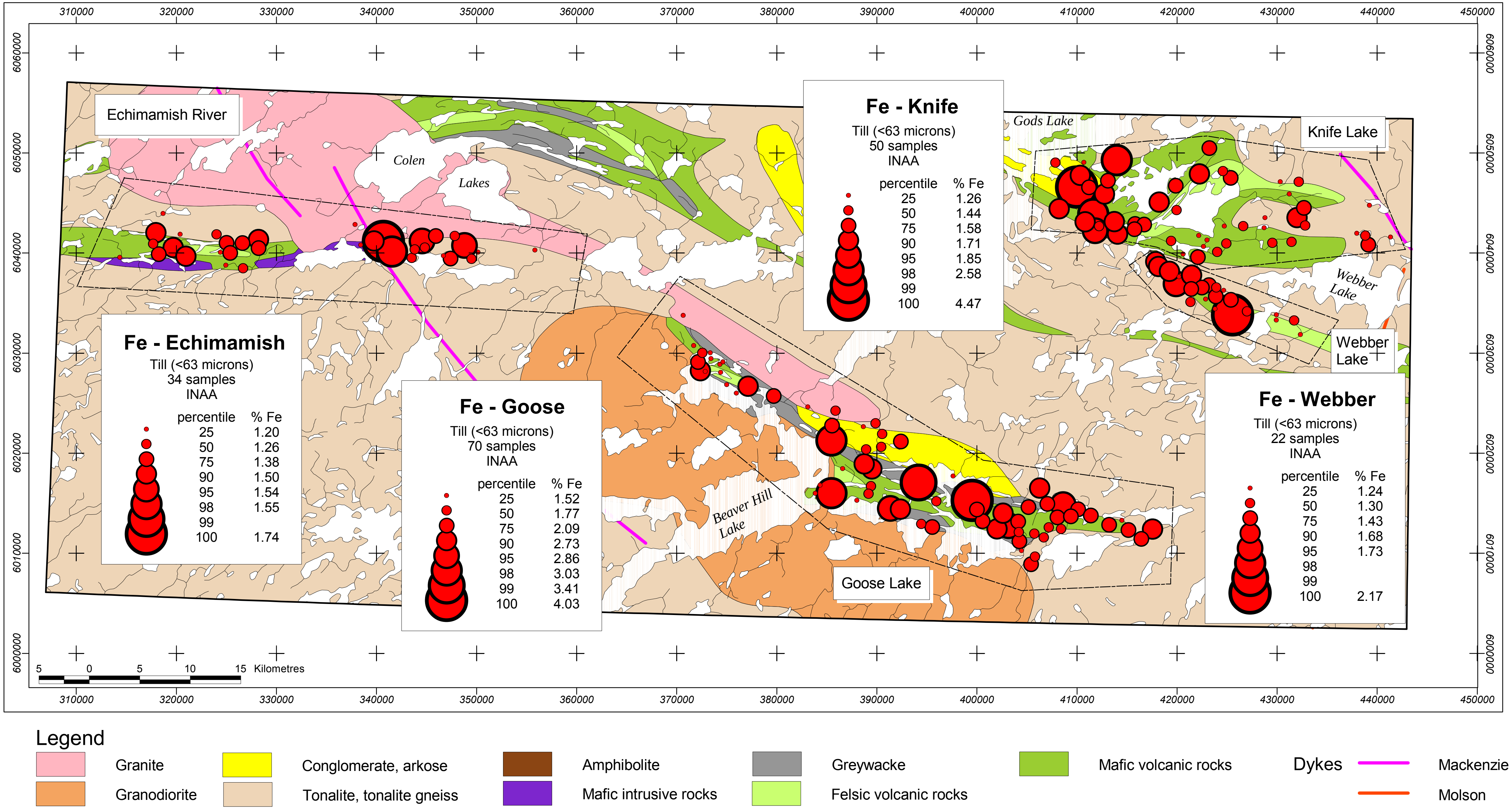
Legend

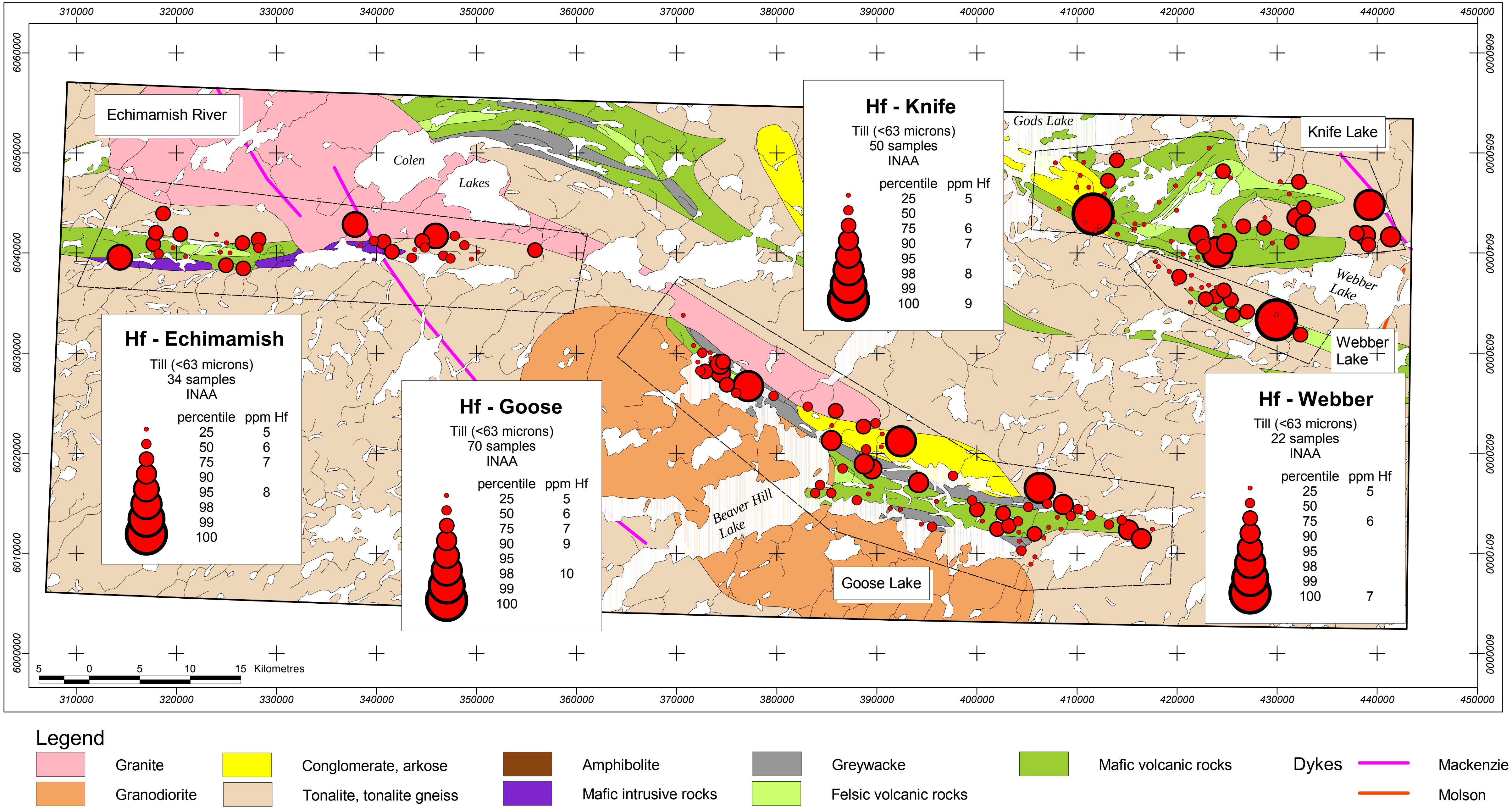
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cr - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Cr
25 32
50 36
75 39
90 43
95 49
98 71
99
100 112
Cr - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Cr
25 34
50 37
75 38
90 42
95 45
98
99
100 64
Cr - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Cr
25 38
50 46
75 60
90 73
95 85
98 101
99 117
100 121
Cr - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Cr
25 33
50 34
75 36
90 39
95 43
98
99
100 46
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

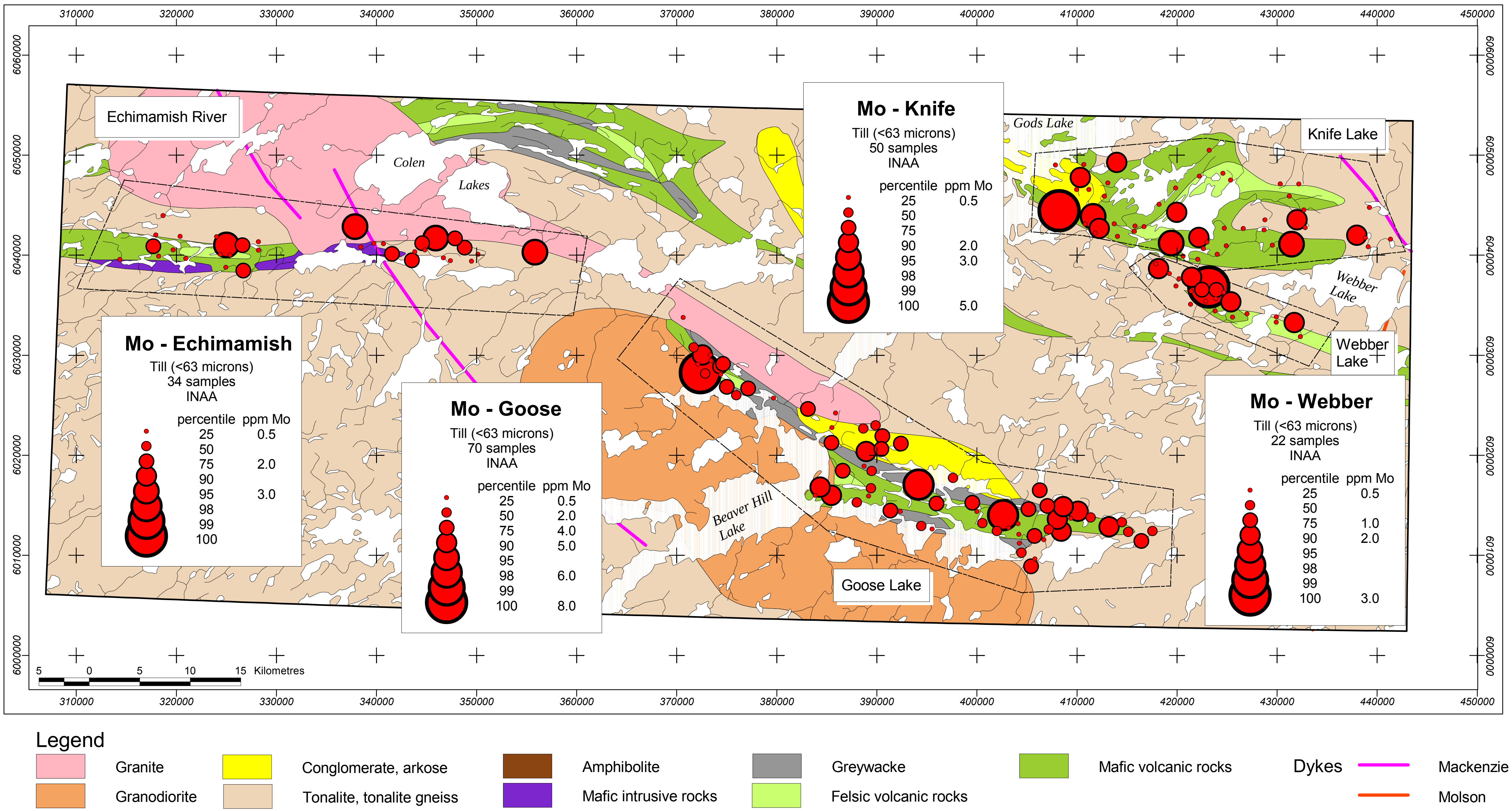


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cs - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Cs
25 1.0
50 2.0
75
90
95 4.0
98
99
100 5.0
Cs - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Cs
25 2.0
50
75 3.0
90 5.0
95 6.0
98 8.0
99
100 12.0
Cs - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Cs
25 1.0
50
75 2.0
90
95 3.0
98 4.0
99
100 5.0
Cs - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Cs
25 1.0
50
75 2.0
90
95
98
99
100 3.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

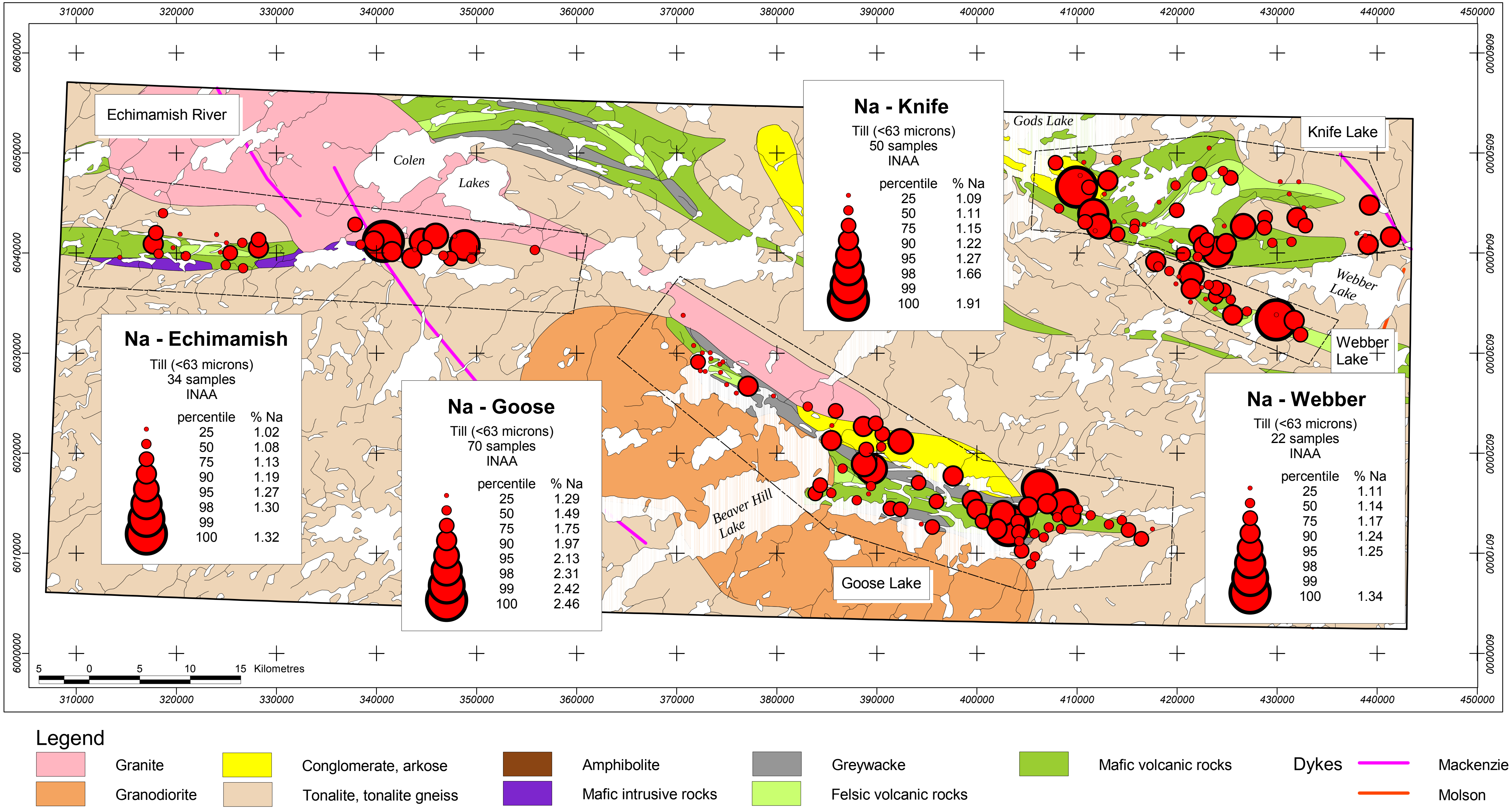

Echimamish River
Colen
Lakes
Fe - Knife
Till (<63 microns)
50 samples
INAA
percentile % Fe
25 1.26
50 1.44
75 1.58
90 1.71
95 1.85
98 2.58
99
100 4.47
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Fe - Echimamish
Till (<63 microns)
34 samples
INAA
percentile % Fe
25 1.20
50 1.26
75 1.38
90 1.50
95 1.54
98 1.55
99
100 1.74
Fe - Goose
Till (<63 microns)
70 samples
INAA
percentile % Fe
25 1.52
50 1.77
75 2.09
90 2.73
95 2.86
98 3.03
99 3.41
100 4.03
Beaver Hill Lake
Goose Lake
Fe - Webber
Till (<63 microns)
22 samples
INAA
percentile % Fe
25 1.24
50 1.30
75 1.43
90 1.68
95 1.73
98
99
100 2.17
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



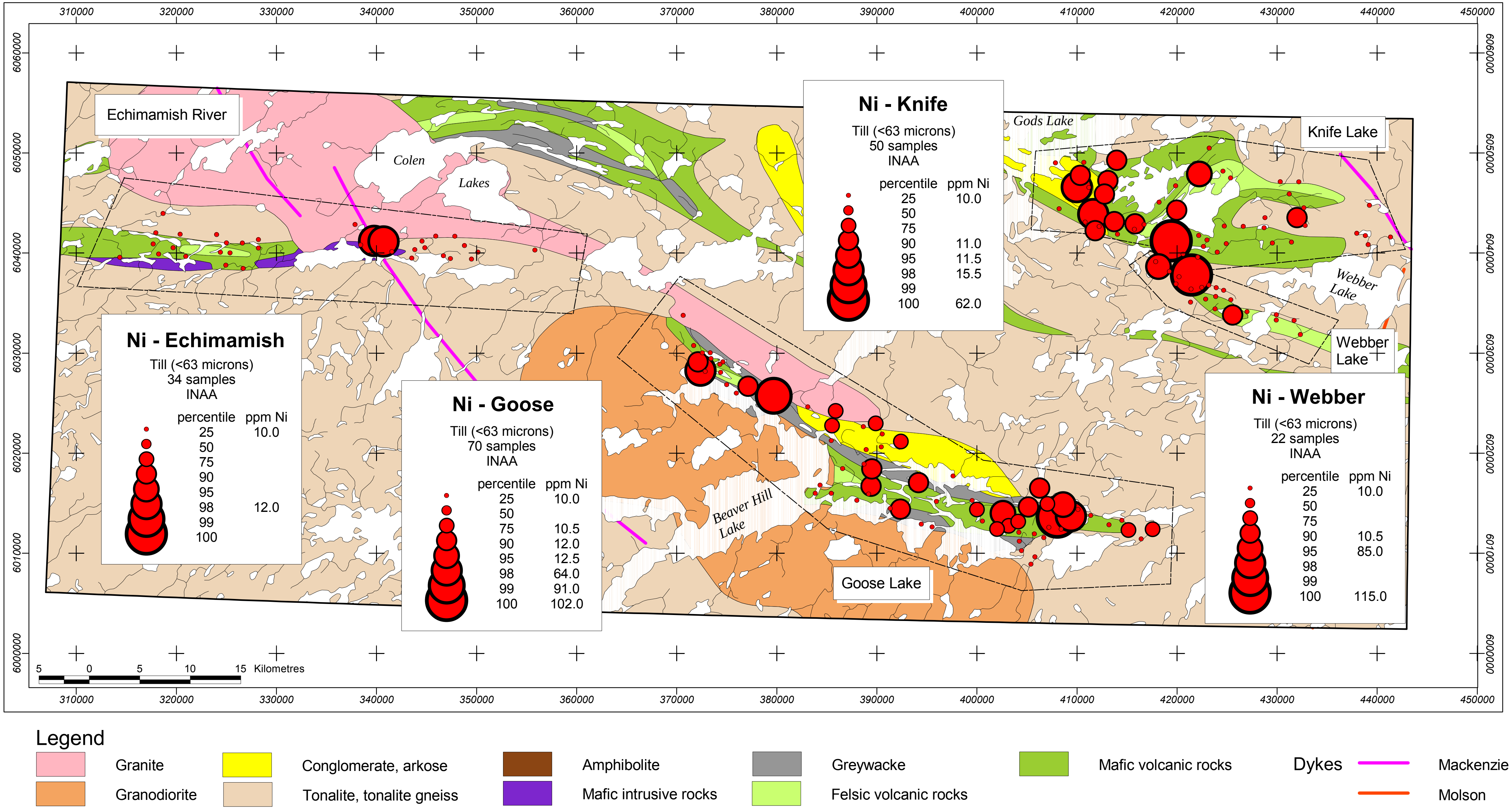
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hf - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Hf
25 5
50
75 6
90 7
95
98 8
99
100 9
Hf - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Hf
25 5
50 6
75 7
90
95 8
98
99
100
Hf - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Hf
25 5
50 6
75 7
90 9
95
98 10
99
100
Hf - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Hf
25 5
50
75 6
90
95
98
99
100 7
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



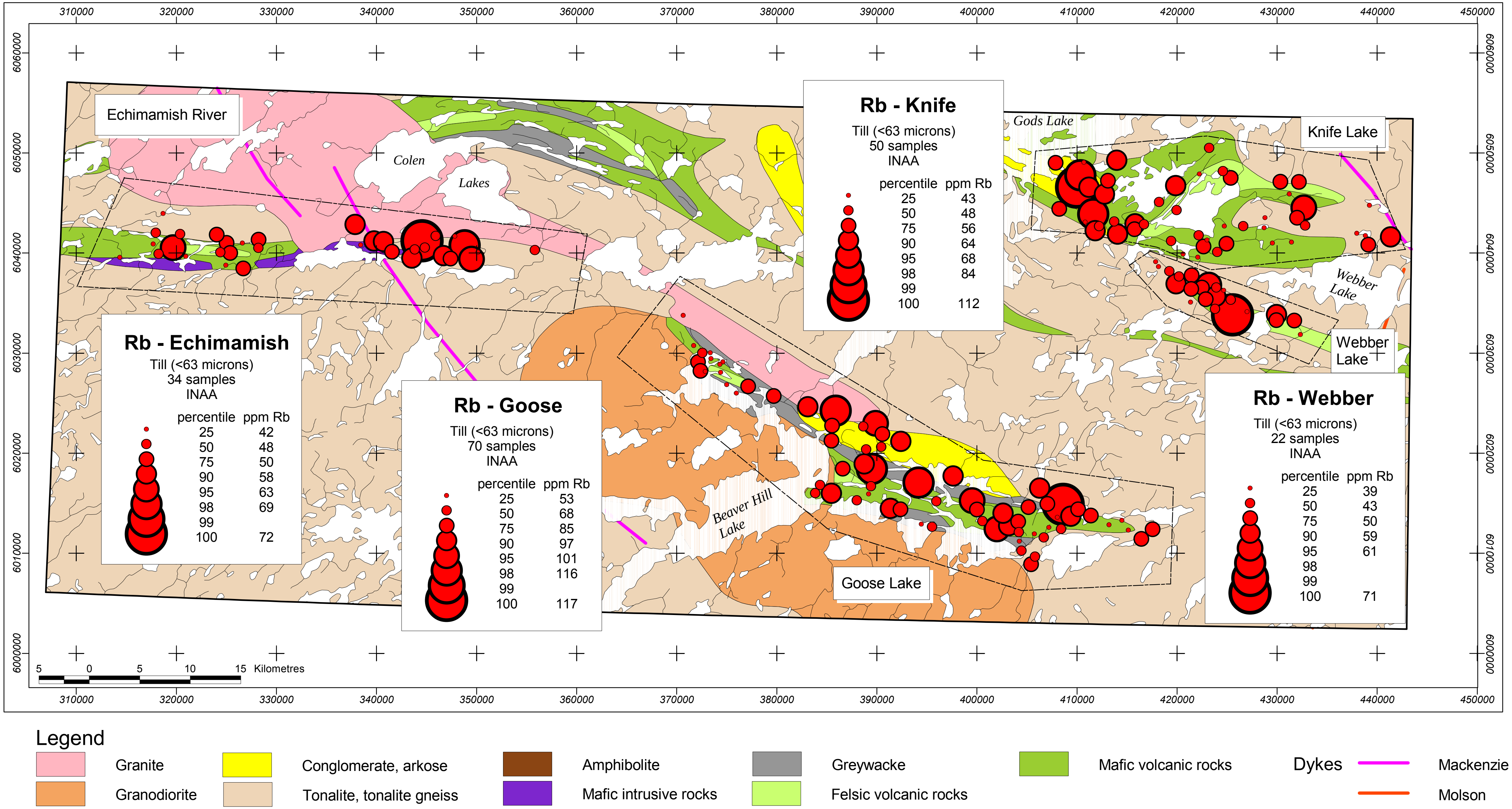
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mo - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Mo
25 0.5
50
75 2.0
90
95 3.0
98
99
100
Mo - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Mo
25 0.5
50 2.0
75 4.0
90 5.0
95
98 6.0
99
100 8.0
Mo - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Mo
25 0.5
50
75
90 2.0
95 3.0
98
99
100 5.0
Mo - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Mo
25 0.5
50
75 1.0
90 2.0
95
98
99
100 3.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



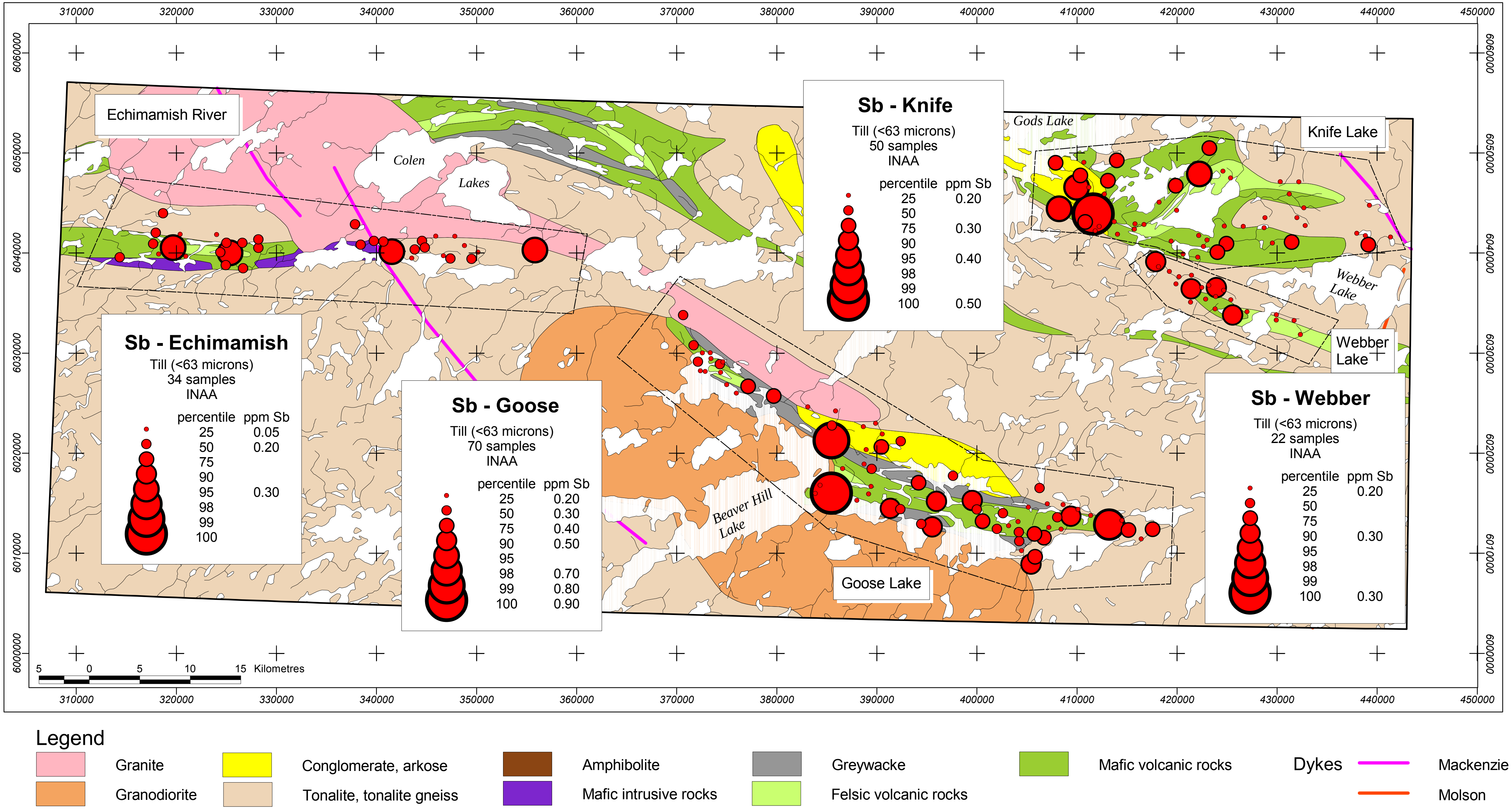
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Na - Knife
Till (<63 microns)
50 samples
INAA
percentile % Na
25 1.09
50 1.11
75 1.15
90 1.22
95 1.27
98 1.66
99
100 1.91
Na - Echimamish
Till (<63 microns)
34 samples
INAA
percentile % Na
25 1.02
50 1.08
75 1.13
90 1.19
95 1.27
98 1.30
99
100 1.32
Na - Goose
Till (<63 microns)
70 samples
INAA
percentile % Na
25 1.29
50 1.49
75 1.75
90 1.97
95 2.13
98 2.31
99 2.42
100 2.46
Na - Webber
Till (<63 microns)
22 samples
INAA
percentile % Na
25 1.11
50 1.14
75 1.17
90 1.24
95 1.25
98
99
100 1.34
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



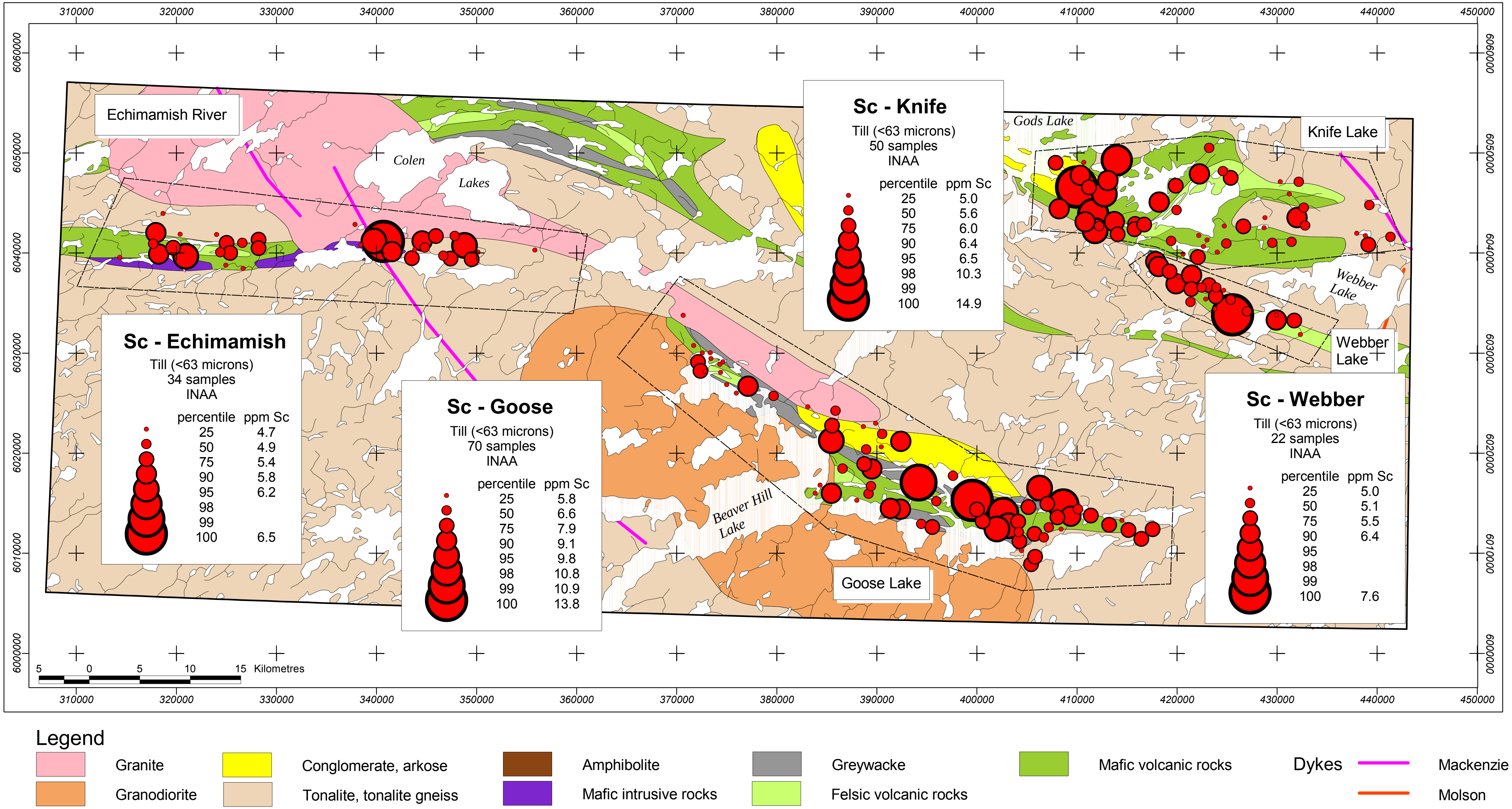
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Ni
25 10.0
50
75
90 11.0
95 11.5
98 15.5
99
100 62.0
Ni - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Ni
25 10.0
50
75
90
95
98 12.0
99
100
Ni - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Ni
25 10.0
50
75 10.5
90 12.0
95 12.5
98 64.0
99 91.0
100 102.0
Ni - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Ni
25 10.0
50
75
90 10.5
95 85.0
98
99
100 115.0
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

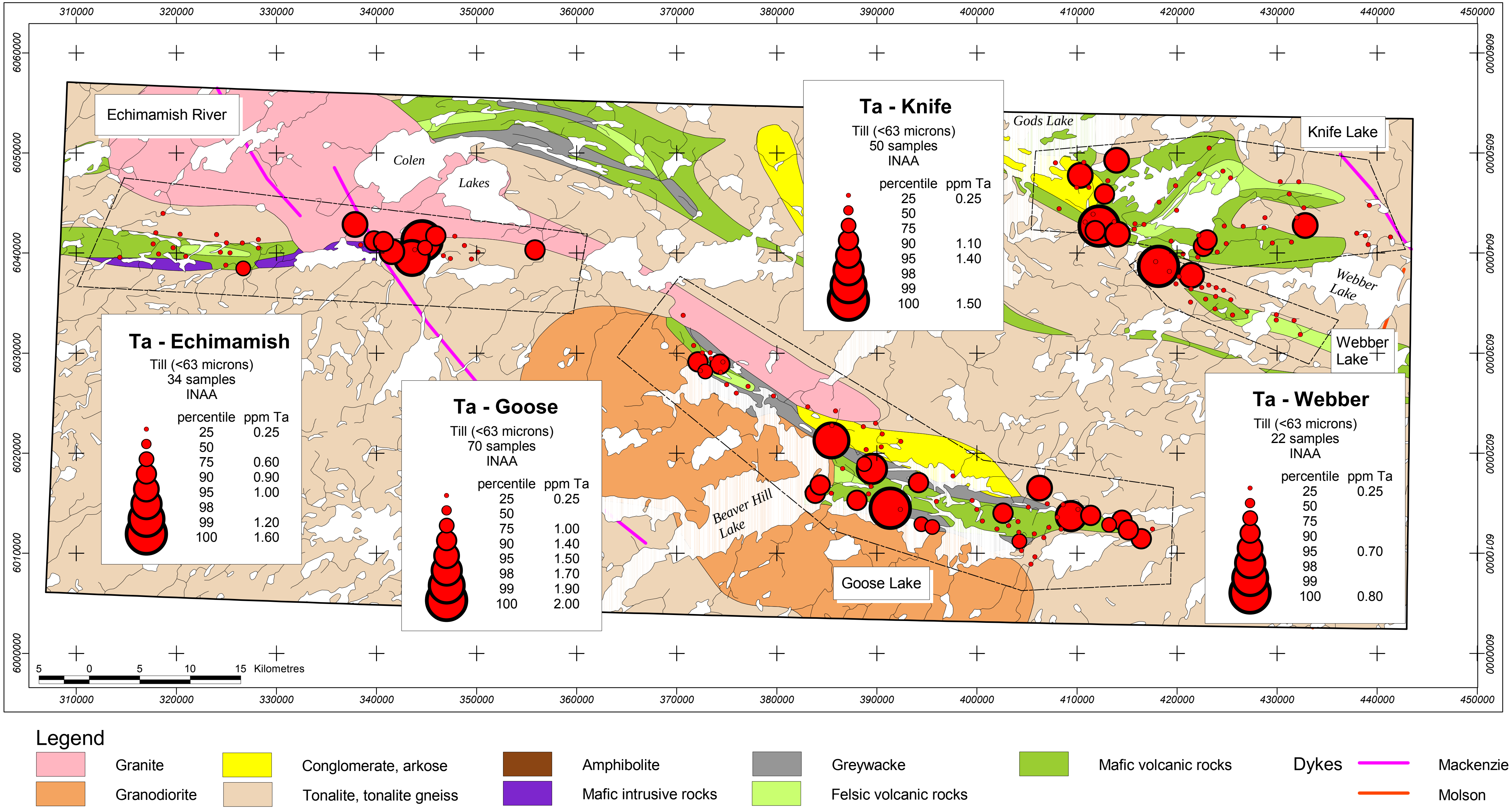


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Rb - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Rb
25 43
50 48
75 56
90 64
95 68
98 84
99
100 112
Rb - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Rb
25 42
50 48
75 50
90 58
95 63
98 69
99
100 72
Rb - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Rb
25 53
50 68
75 85
90 97
95 101
98 116
99
100 117
Rb - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Rb
25 39
50 43
75 50
90 59
95 61
98
99
100 71
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

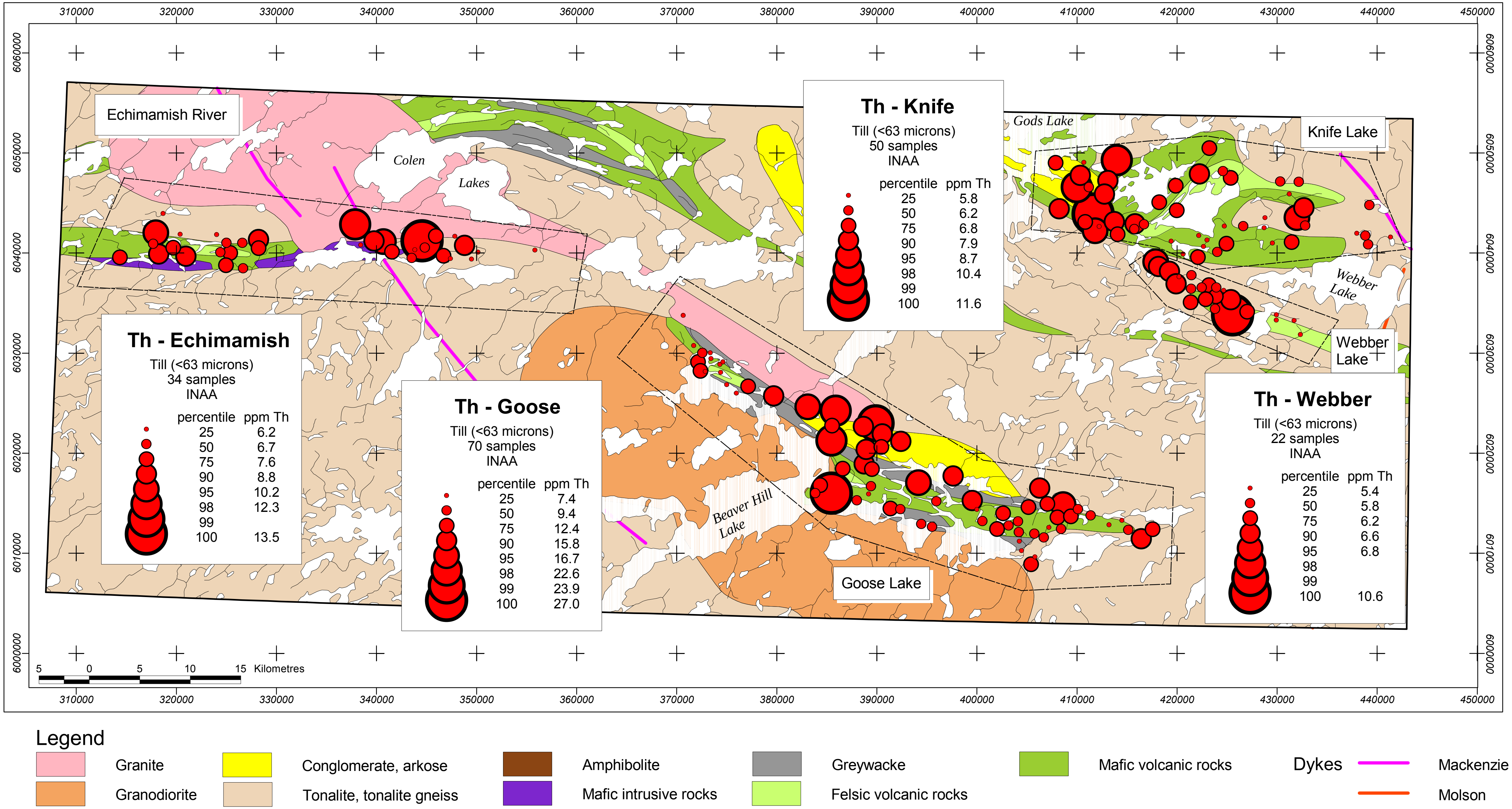


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sb - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Sb
25 0.20
50
75 0.30
90
95 0.40
98
99
100 0.50
Sb - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Sb
25 0.05
50 0.20
75
90
95 0.30
98
99
100
Sb - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Sb
25 0.20
50 0.30
75 0.40
90 0.50
95
98 0.70
99 0.80
100 0.90
Sb - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Sb
25 0.20
50
75
90 0.30
95
98
99
100 0.30
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sc - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Sc
25 5.0
50 5.6
75 6.0
90 6.4
95 6.5
98 10.3
99
100 14.9
Sc - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Sc
25 4.7
50 4.9
75 5.4
90 5.8
95 6.2
98
99
100 6.5
Sc - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Sc
25 5.8
50 6.6
75 7.9
90 9.1
95 9.8
98 10.8
99 10.9
100 13.8
Sc - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Sc
25 5.0
50 5.1
75 5.5
90 6.4
95
98
99
100 7.6
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ta - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Ta
25 0.25
50
75 0.60
90 0.90
95 1.00
98
99 1.20
100 1.60
Ta - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Ta
25 0.25
50
75 1.00
90 1.40
95 1.50
98 1.70
99 1.90
100 2.00
Ta - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Ta
25 0.25
50
75
90 1.10
95 1.40
98
99
100 1.50
Ta - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Ta
25 0.25
50
75
90
95 0.70
98
99
100 0.80
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



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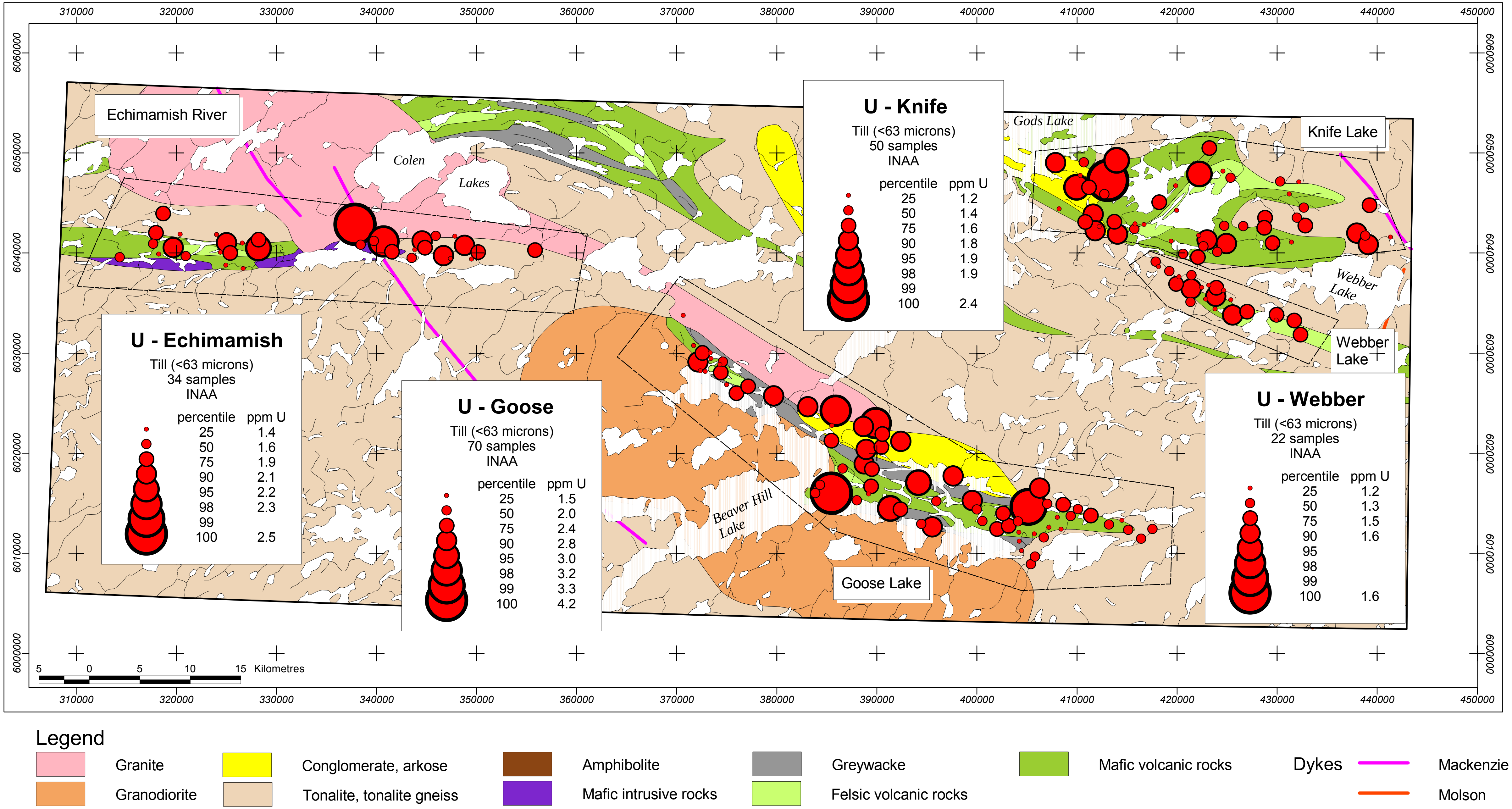
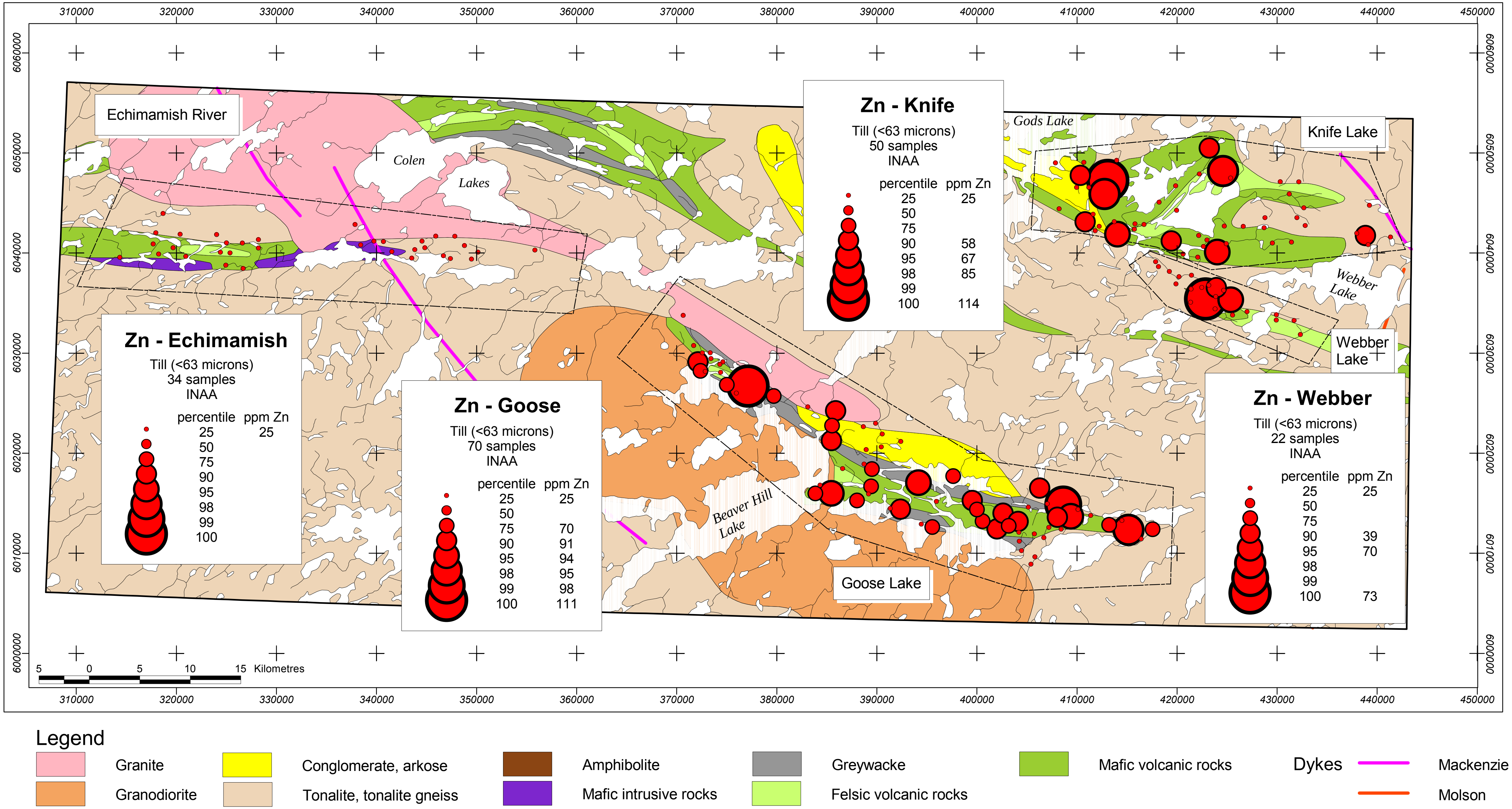
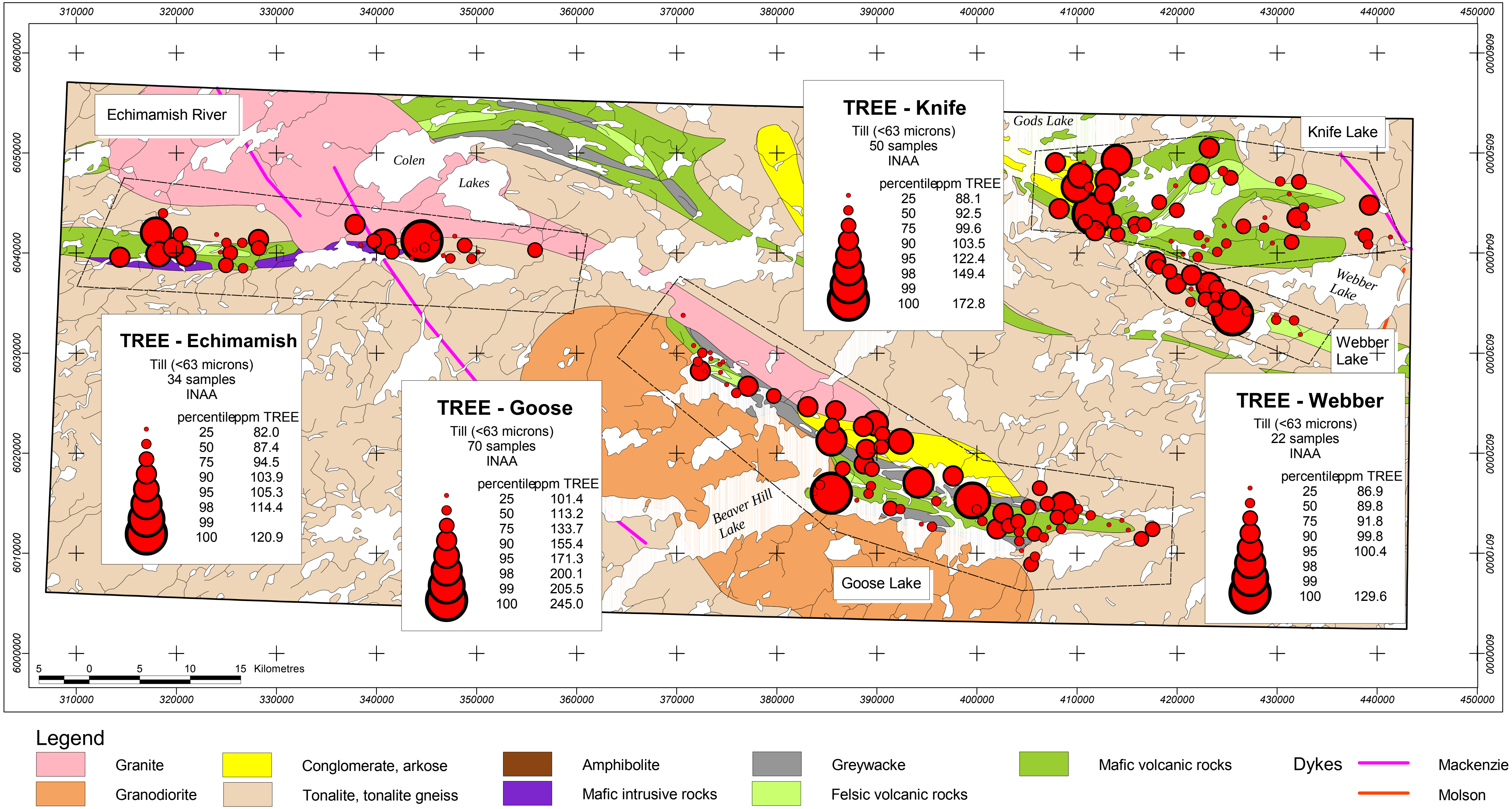
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Th - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Th
25 6.2
50 6.7
75 7.6
90 8.8
95 10.2
98 12.3
99
100 13.5
Th - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Th
25 7.4
50 9.4
75 12.4
90 15.8
95 16.7
98 22.6
99 23.9
100 27.0
Th - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Th
25 5.8
50 6.2
75 6.8
90 7.9
95 8.7
98 10.4
99
100 11.6
Th - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Th
25 5.4
50 5.8
75 6.2
90 6.6
95 6.8
98
99
100 10.6
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
U - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm U
25 1.2
50 1.4
75 1.6
90 1.8
95 1.9
98 1.9
99
100 2.4
U - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm U
25 1.4
50 1.6
75 1.9
90 2.1
95 2.2
98 2.3
99
100 2.5
U - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm U
25 1.5
50 2.0
75 2.4
90 2.8
95 3.0
98 3.2
99 3.3
100 4.2
U - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm U
25 1.2
50 1.3
75 1.5
90 1.6
95
98
99
100 1.6
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000

Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm Zn
25 25
50
75
90 58
95 67
98 85
99
100 114
Zn - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm Zn
25 25
50
75
90
95
98
99
100
Zn - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm Zn
25 25
50
75 70
90 91
95 94
98 95
99 98
100 111
Zn - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm Zn
25 25
50
75
90 39
95 70
98
99
100 73
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
TREE - Echimamish
Till (<63 microns)
34 samples
INAA
percentile ppm TREE
25 82.0
50 87.4
75 94.5
90 103.9
95 105.3
98 114.4
99
100 120.9
TREE - Goose
Till (<63 microns)
70 samples
INAA
percentile ppm TREE
25 101.4
50 113.2
75 133.7
90 155.4
95 171.3
98 200.1
99 205.5
100 245.0
TREE - Knife
Till (<63 microns)
50 samples
INAA
percentile ppm TREE
25 88.1
50 92.5
75 99.6
90 103.5
95 122.4
98 149.4
99
100 172.8
TREE - Webber
Till (<63 microns)
22 samples
INAA
percentile ppm TREE
25 86.9
50 89.8
75 91.8
90 99.8
95 100.4
98
99
100 129.6
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

Appendix 7

Till Geochemistry: Chittick analysis, <63 micron fraction.

Sample Site	UTM Easting	UTM Northing	% Calcite	% Dolomite	Total Carbonate
98-T1	422175.00	6047885.00	25.33	17.09	42.42
98-T2	419789.00	6046717.00	23.30	19.40	42.70
98-T3	419903.00	6044273.00	22.80	19.86	42.67
98-T4	424854.00	6040934.00	16.94	21.71	38.65
98-T5	423967.00	6040083.00	17.94	20.79	38.73
98-T6	423110.50	6036780.50	20.33	21.25	41.58
98-T8	415727.00	6042908.00	20.39	19.86	40.25
98-T9	415673.00	6042377.00	18.89	21.25	40.13
98-T10	413976.00	6041879.00	18.22	21.42	39.64
98-T11	412154.00	6042663.00	16.78	21.41	38.19
98-T12	411756.00	6042217.00	20.95	24.68	45.63
98-T13	410273.00	6047753.00	22.71	16.84	39.55
98-T15	405071.47	6014609.50	9.43	14.41	23.84
98-T16	406208.50	6016505.50	0.48	0.00	0.48
98-T17	408555.38	6014841.50	0.94	0.47	1.41
98-T18	415078.09	6012325.00	12.68	16.75	29.43
98-T19	414432.16	6013288.00	13.02	19.99	33.01
98-T20	409312.34	6013691.50	4.18	14.36	18.54
98-T21	389429.00	6018411.00	0.89	1.63	2.51
98-T22	389344.00	6016674.00	21.29	16.37	37.66
98-T23	392288.00	6014396.00	9.91	14.41	24.32
98-T24	379613.00	6025712.00	23.24	15.46	38.70
98-T25	377057.00	6026670.00	0.20	0.93	1.13
98-T26	374339.00	6028062.00	17.04	22.66	39.69
98-T27	375906.00	6025997.00	19.53	19.49	39.02
98-T28	374248.00	6028877.00	16.77	29.00	45.77
98-T29	374547.00	6029138.00	16.54	23.11	39.66
98-T30	374926.00	6026839.00	16.09	22.66	38.75
98-T31	372780.00	6028156.00	14.67	22.66	37.33
98-T32	372307.00	6028232.00	22.01	16.77	38.78
98-T33	372056.00	6029102.00	18.32	14.50	32.82
98-T34	372498.00	6030016.00	20.95	19.55	40.50
98-T35	373283.00	6030024.00	21.22	24.48	45.70
98-T36	371637.00	6030765.00	21.90	19.97	41.87
98-T37	370589.00	6033766.00	16.01	20.65	36.66
98-T38	373372.00	6029446.00	18.82	20.65	39.47
98-T39	319606.97	6040534.00	24.50	19.30	43.80
98-T40	317629.00	6040882.50	12.11	24.14	36.26
98-T41	317884.00	6042024.50	15.43	23.27	38.70
98-T42	320886.94	6039672.00	18.79	21.48	40.27
98-T43	318611.03	6043950.00	17.77	23.29	41.06
98-T44	320323.97	6041882.00	18.89	23.57	42.46
98-T45	324338.88	6040074.00	20.39	21.75	42.14
98-T46	324880.84	6038786.00	14.59	24.47	39.07
98-T47	325306.88	6039999.00	15.07	24.47	39.54
98-T48	328136.84	6040488.00	17.51	22.66	40.17
98-T49	314291.00	6039571.50	18.36	24.93	43.29
98-T51	318170.97	6039892.50	13.76	21.75	35.51

Sample Site	UTM		% Calcite	% Dolomite	Total Carbonate
	Easting	Northing			
98-T52	424658.00	6042698.00	18.55	20.39	38.94
98-T53	422939.00	6041290.00	18.15	18.58	36.73
98-T54	422577.00	6040642.00	17.58	20.85	38.43
98-T55	426549.00	6042653.00	13.44	18.13	31.57
98-T57	429478.00	6040983.00	22.37	19.49	41.86
98-T58	422017.59	6039578.50	20.06	18.13	38.19
98-T59	420543.00	6039880.00	16.15	21.30	37.45
98-T60	419349.00	6041198.00	19.00	20.85	39.85
98-T61	428648.00	6042511.00	18.52	21.07	39.59
98-T62	428719.00	6043536.00	17.55	21.75	39.30
98-T64	430255.00	6047124.00	19.02	20.39	39.42
98-T66	425278.00	6047515.00	21.32	16.97	38.29
98-T67	424531.00	6048166.00	21.81	16.52	38.33
98-T68	423147.00	6050489.00	19.95	16.05	36.00
98-T70	411122.00	6046567.00	18.28	22.38	40.66
98-T71	412676.00	6045877.00	20.79	18.33	39.12
98-T72	413024.00	6047216.00	12.17	22.78	34.95
98-T73	411549.00	6043862.00	0.23	0.00	0.24
98-T74	413657.00	6043128.00	22.72	16.99	39.71
98-T75	422108.00	6041765.00	11.39	21.75	33.15
98-T77	432746.00	6042736.00	14.08	25.38	39.46
98-T78	431930.00	6043534.00	6.23	20.85	27.07
98-T79	432599.00	6044519.00	14.21	22.21	36.42
98-T81	432096.00	6047105.00	15.62	22.66	38.28
98-T82	431155.00	6045908.00	17.94	23.57	41.51
98-T83	431374.00	6041096.00	18.06	20.85	38.90
98-T85	439153.13	6044766.50	10.54	25.15	35.69
98-T87	438758.06	6041729.50	20.56	17.67	38.23
98-T88	437893.09	6041978.50	19.00	20.85	39.85
98-T90	441264.97	6041603.50	7.65	20.85	28.49
98-T91	439048.03	6040825.50	16.24	19.03	35.27
98-T93	410621.00	6049058.00	18.38	24.47	42.85
98-T94	413909.00	6049263.00	14.84	18.58	33.42
98-T95	407798.00	6049007.00	18.49	21.75	40.25
98-T96	409899.00	6046556.00	0.70	0.23	0.93
98-T97	418140.00	6045082.00	19.53	19.49	39.02
98-T98	416634.00	6042840.00	21.90	19.49	41.39
98-T99	429858.16	6033292.50	9.01	22.21	31.22
98-T100	431644.06	6033251.50	15.69	20.85	36.54
98-T101	432256.00	6031840.50	17.17	19.49	36.65
98-T102	429871.16	6033829.50	19.02	20.39	39.42
98-T103	425307.38	6035317.50	17.04	22.66	39.69
98-T104	423848.47	6036518.50	18.31	20.39	38.71
98-T105	421335.53	6036410.50	16.26	18.58	34.84
98-T106	421383.56	6037781.50	15.75	19.49	35.24
98-T107	420147.63	6037637.50	15.16	22.21	37.37
98-T108	421291.50	6035072.50	22.28	21.75	44.03
98-T109	423732.41	6034418.50	18.95	22.21	41.15
98-T110	424600.44	6036265.50	16.62	21.30	37.92
98-T111	422790.47	6035391.50	18.47	22.21	40.68
98-T112	422413.50	6036539.50	24.01	19.72	43.73
98-T113	419846.59	6036918.50	17.48	19.20	36.68
98-T114	419177.66	6038148.50	17.85	21.47	39.32
98-T115	418088.72	6038642.50	20.27	19.68	39.95
98-T116	417811.72	6039129.50	18.37	20.12	38.49
98-T118	426929.28	6034129.50	16.91	21.47	38.38

Sample Site	UTM		% Calcite	% Dolomite	Total Carbonate
	Easting	Northing			
98-T119	425480.31	6033803.50	7.13	20.01	27.15
98-T120	423790.44	6035660.50	12.71	21.10	33.80
98-T122	408163.00	6044404.00	18.33	21.10	39.43
98-T123	410744.00	6043110.00	20.30	18.85	39.15
98-T124	416359.03	6011437.00	6.37	15.71	22.08
98-T125	417489.03	6012396.00	20.34	17.95	38.29
98-T126	413132.19	6012836.00	11.87	18.85	30.72
98-T127	385444.00	6022763.00	15.22	17.06	32.28
98-T128	385814.00	6024219.00	13.46	14.36	27.82
98-T129	411318.28	6013772.50	14.08	16.38	30.46
98-T130	410039.31	6014382.50	16.65	16.61	33.25
98-T132	407970.38	6013576.50	14.36	15.26	29.62
98-T133	407131.38	6012572.50	17.58	16.61	34.19
98-T134	406971.44	6014940.50	5.90	15.71	21.61
98-T135	408359.31	6012394.50	19.98	15.26	35.24
98-T136	405675.38	6011926.50	12.65	19.43	32.07
98-T137	404124.44	6012087.50	12.78	16.28	29.06
98-T138	404041.47	6013160.50	1.34	1.36	2.70
98-T139	402538.53	6013989.50	8.23	14.00	22.23
98-T140	399933.00	6014368.00	1.84	0.47	2.30
98-T141	395466.00	6012618.00	15.66	14.07	29.72
98-T142	397559.00	6017711.00	13.39	12.70	26.09
98-T143	383035.00	6024618.00	15.54	16.76	32.30
98-T144	389806.00	6022975.00	14.78	12.89	27.67
98-T145	390474.00	6021912.00	11.53	12.89	24.42
98-T146	392335.00	6021175.00	0.69	0.22	0.91
98-T147	388878.00	6020355.00	15.61	15.11	30.72
98-T148	403100.47	6012742.50	0.69	0.23	0.92
98-T149	401935.00	6012422.00	1.29	2.48	3.77
98-T150	400497.00	6013199.00	12.24	12.46	24.70
98-T151	399476.00	6015250.00	0.67	0.68	1.35
98-T152	395886.00	6015171.00	16.53	15.42	31.95
98-T153	394104.00	6017050.00	0.69	0.23	0.92
98-T154	406616.34	6011560.50	15.54	16.76	32.30
98-T155	404165.41	6011197.50	12.26	17.63	29.89
98-T156	404389.38	6010246.50	9.90	18.50	28.40
98-T157	405746.31	6009647.50	10.92	16.27	27.19
98-T158	405343.31	6008893.50	17.43	16.00	33.43
98-T160	390377.00	6020623.00	13.18	17.78	30.96
98-T161	388589.00	6022651.46	8.69	14.22	22.91
98-T163	388677.00	6018912.00	0.45	0.22	0.68
98-T164	386509.00	6018460.00	14.47	16.59	31.06
98-T166	385391.00	6021255.00	0.67	0.45	1.12
98-T168	389115.00	6015922.00	23.80	16.12	39.92
98-T170	384273.00	6016794.00	12.75	16.89	29.64
98-T171	383788.00	6015968.00	10.45	16.45	26.90
98-T172	385394.00	6015986.00	6.50	11.11	17.61
98-T173	387942.00	6015283.00	11.88	15.56	27.44
98-T174	394375.00	6012910.00	22.67	12.89	35.56
98-T175	391283.00	6014472.00	18.75	28.89	47.64
98-T178	323967.94	6041833.00	19.07	21.33	40.40
98-T180	324945.91	6041004.00	21.00	19.56	40.55
98-T181	326531.88	6040989.00	11.18	21.33	32.51
98-T184	326621.81	6038449.00	14.39	22.22	36.61
98-T185	328134.84	6041330.00	17.99	19.33	37.32
98-T189	350083.38	6040090.00	22.30	21.78	44.07

Sample Site	UTM		% Calcite	% Dolomite	Total Carbonate
	Easting	Northing			
98-T190	346618.44	6039718.00	14.85	22.22	37.07
98-T191	348726.41	6040743.00	10.36	18.67	29.03
98-T192	347772.47	6041683.00	18.69	19.11	37.81
98-T193	345860.50	6041687.00	10.67	22.22	32.90
98-T194	355771.22	6040295.50	18.60	21.33	39.94
98-T196	344776.50	6040524.00	16.05	22.83	38.88
98-T197	344483.53	6041202.00	13.92	18.81	32.73
98-T198	343762.53	6040329.00	23.97	20.24	44.21
98-T199	343462.50	6039483.00	16.22	18.83	35.05
98-T200	341465.56	6040134.00	16.20	19.27	35.47
98-T201	347331.41	6039448.00	15.65	21.49	37.14
98-T204	349428.38	6039387.00	16.03	23.27	39.31
98-T205	337801.72	6042848.00	13.79	21.92	35.71
98-T206	338357.66	6040821.00	18.79	23.30	42.09
98-T207	340633.63	6041136.00	11.28	16.11	27.39
98-T208	339675.63	6041192.00	14.82	19.26	34.08

Appendix 8

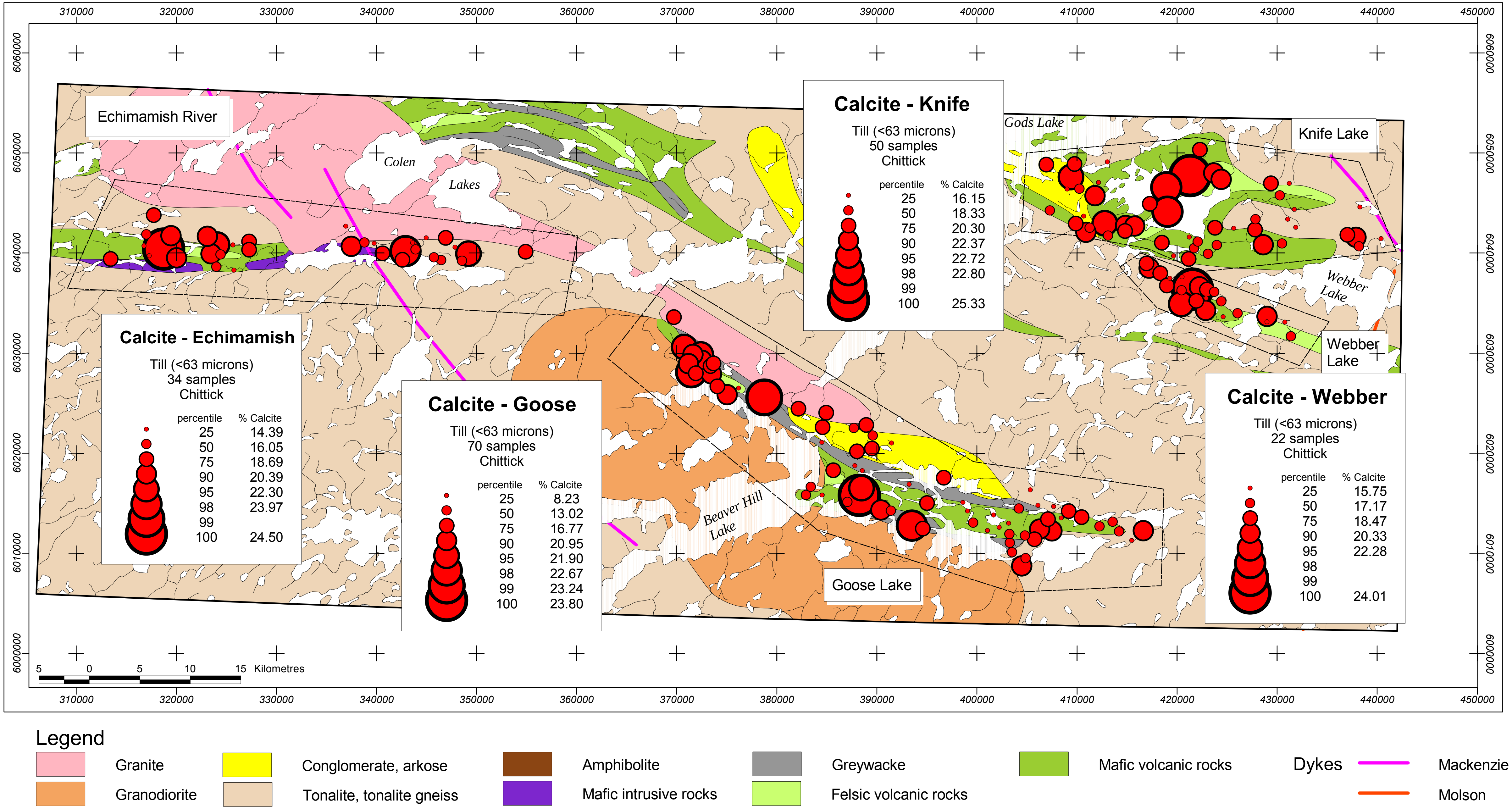
Till Geochemistry: Chittick Analyses, Percentile Bubble Plots (<63 micron fraction).

% Calcite

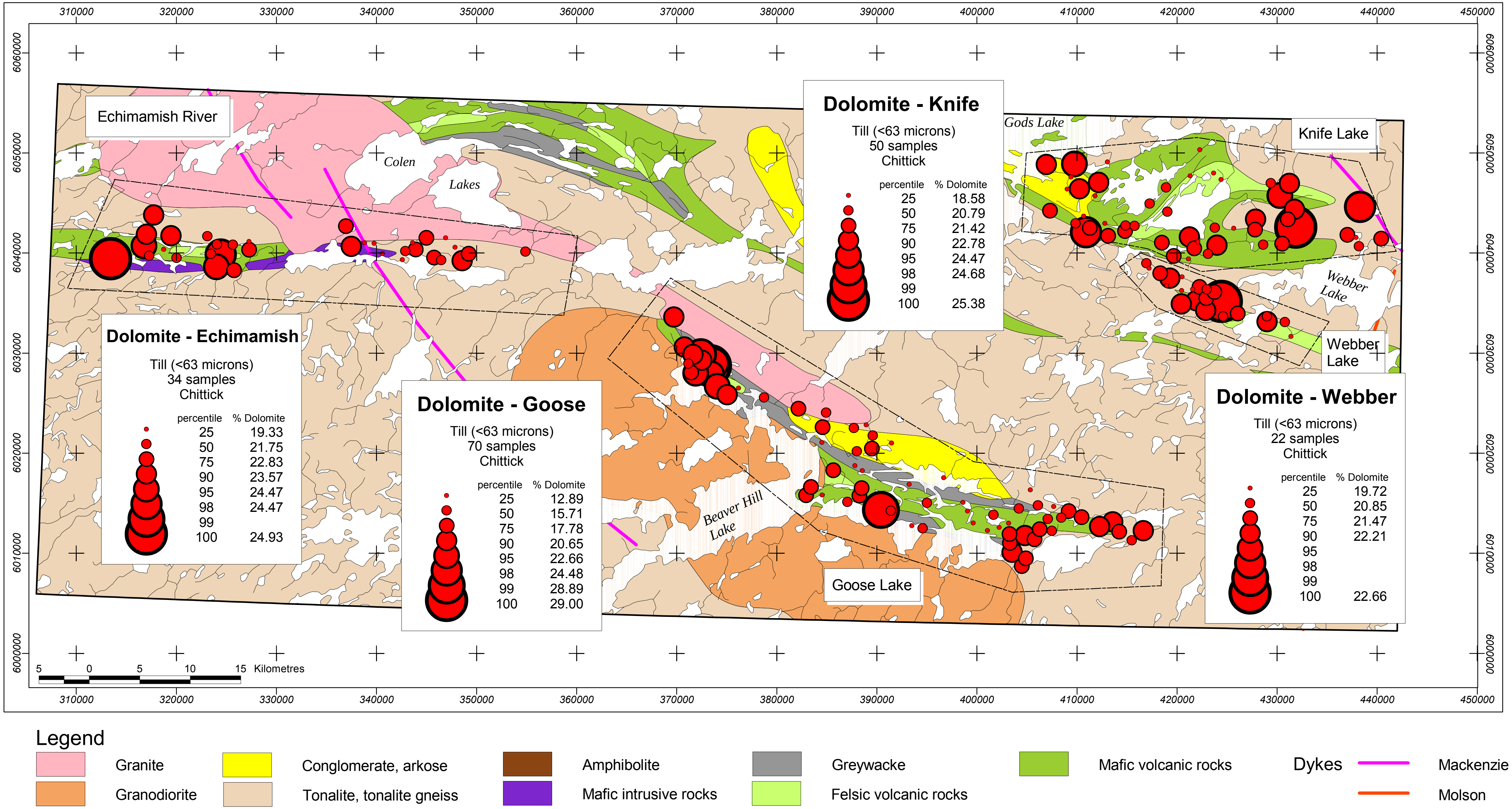
% Dolomite

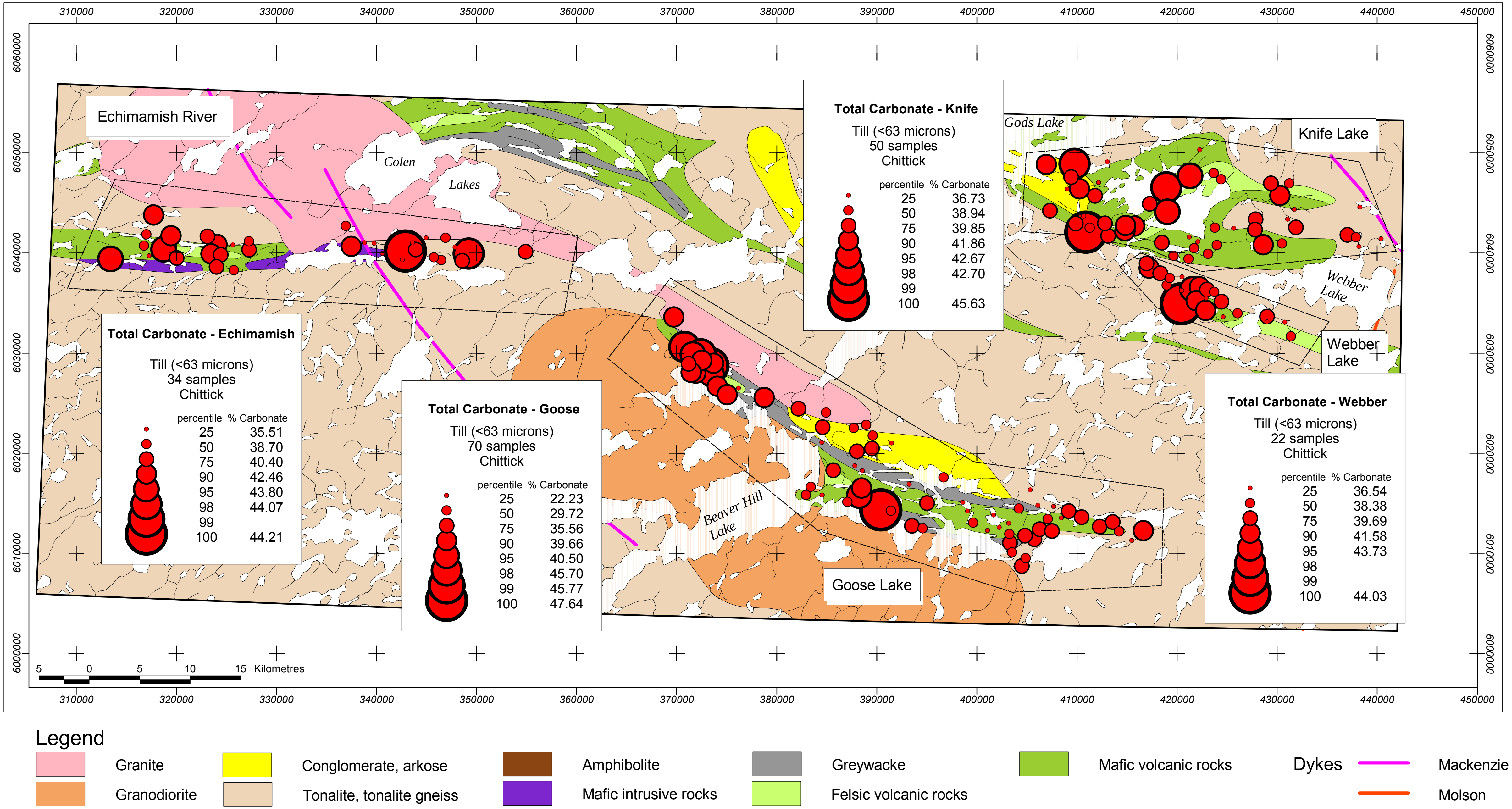
% Total Carbonate

Contents



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Calcite - Knife
Till (<63 microns)
50 samples
Chittick
percentile % Calcite
25 16.15
50 18.33
75 20.30
90 22.37
95 22.72
98 22.80
99
100 25.33
Calcite - Echimamish
Till (<63 microns)
34 samples
Chittick
percentile % Calcite
25 14.39
50 16.05
75 18.69
90 20.39
95 22.30
98 23.97
99
100 24.50
Calcite - Goose
Till (<63 microns)
70 samples
Chittick
percentile % Calcite
25 8.23
50 13.02
75 16.77
90 20.95
95 21.90
98 22.67
99 23.24
100 23.80
Calcite - Webber
Till (<63 microns)
22 samples
Chittick
percentile % Calcite
25 15.75
50 17.17
75 18.47
90 20.33
95 22.28
98
99
100 24.01
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

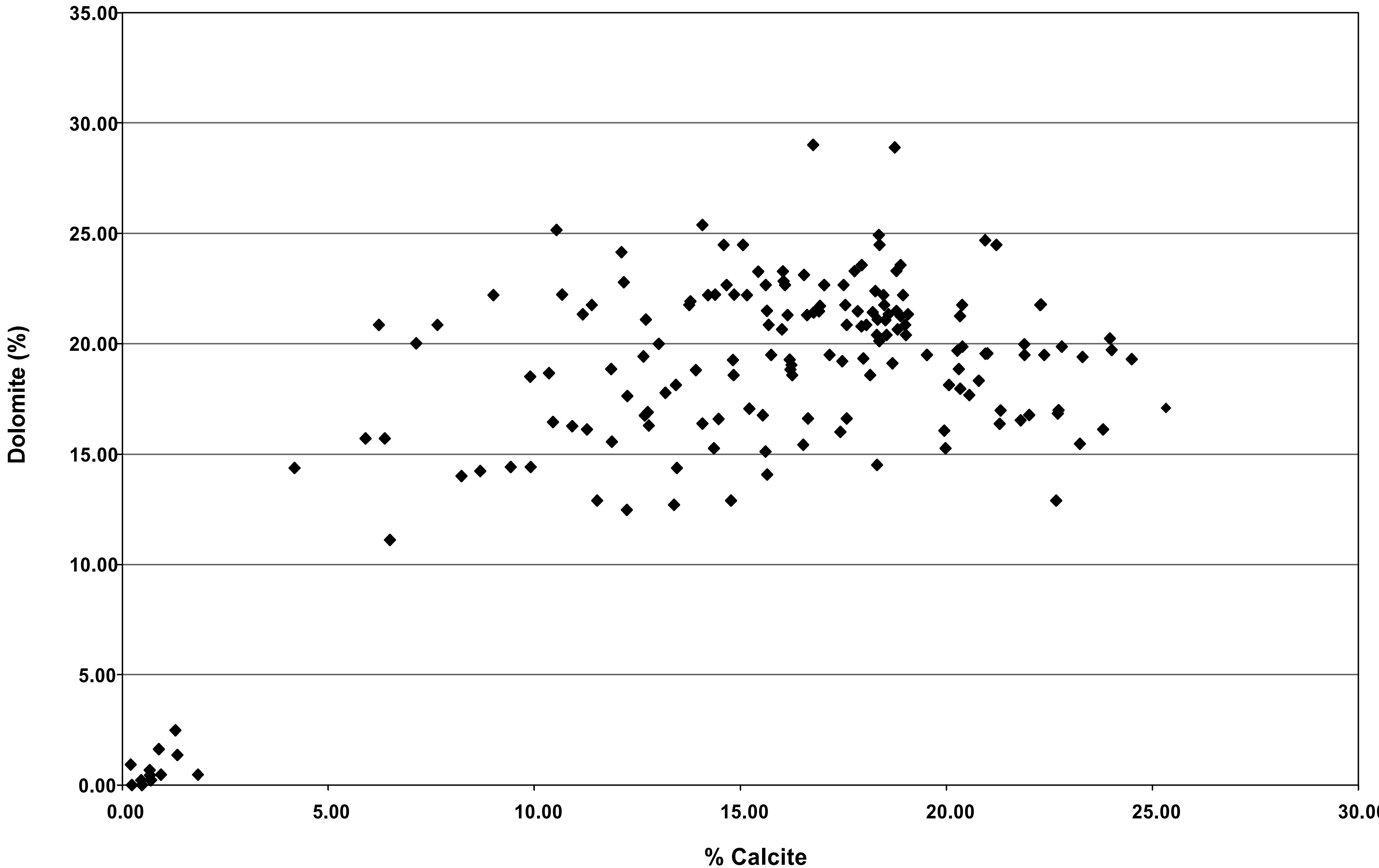

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Dolomite - Echimamish
Till (<63 microns)
34 samples
Chittick
percentile % Dolomite
25 19.33
50 21.75
75 22.83
90 23.57
95 24.47
98 24.47
99
100 24.93
Dolomite - Goose
Till (<63 microns)
70 samples
Chittick
percentile % Dolomite
25 12.89
50 15.71
75 17.78
90 20.65
95 22.66
98 24.48
99 28.89
100 29.00
Dolomite - Knife
Till (<63 microns)
50 samples
Chittick
percentile % Dolomite
25 18.58
50 20.79
75 21.42
90 22.78
95 24.47
98 24.68
99
100 25.38
Dolomite - Webber
Till (<63 microns)
22 samples
Chittick
percentile % Dolomite
25 19.72
50 20.85
75 21.47
90 22.21
95
98
99
100 22.66
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Total Carbonate - Echimamish
Till (<63 microns)
34 samples
Chittick
percentile % Carbonate
25 35.51
50 38.70
75 40.40
90 42.46
95 43.80
98 44.07
99
100 44.21
Total Carbonate - Goose
Till (<63 microns)
70 samples
Chittick
percentile % Carbonate
25 22.23
50 29.72
75 35.56
90 39.66
95 40.50
98 45.70
99 45.77
100 47.64
Total Carbonate - Knife
Till (<63 microns)
50 samples
Chittick
percentile % Carbonate
25 36.73
50 38.94
75 39.85
90 41.86
95 42.67
98 42.70
99
100 45.63
Total Carbonate - Webber
Till (<63 microns)
22 samples
Chittick
percentile % Carbonate
25 36.54
50 38.38
75 39.69
90 41.58
95 43.73
98
99
100 44.03
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

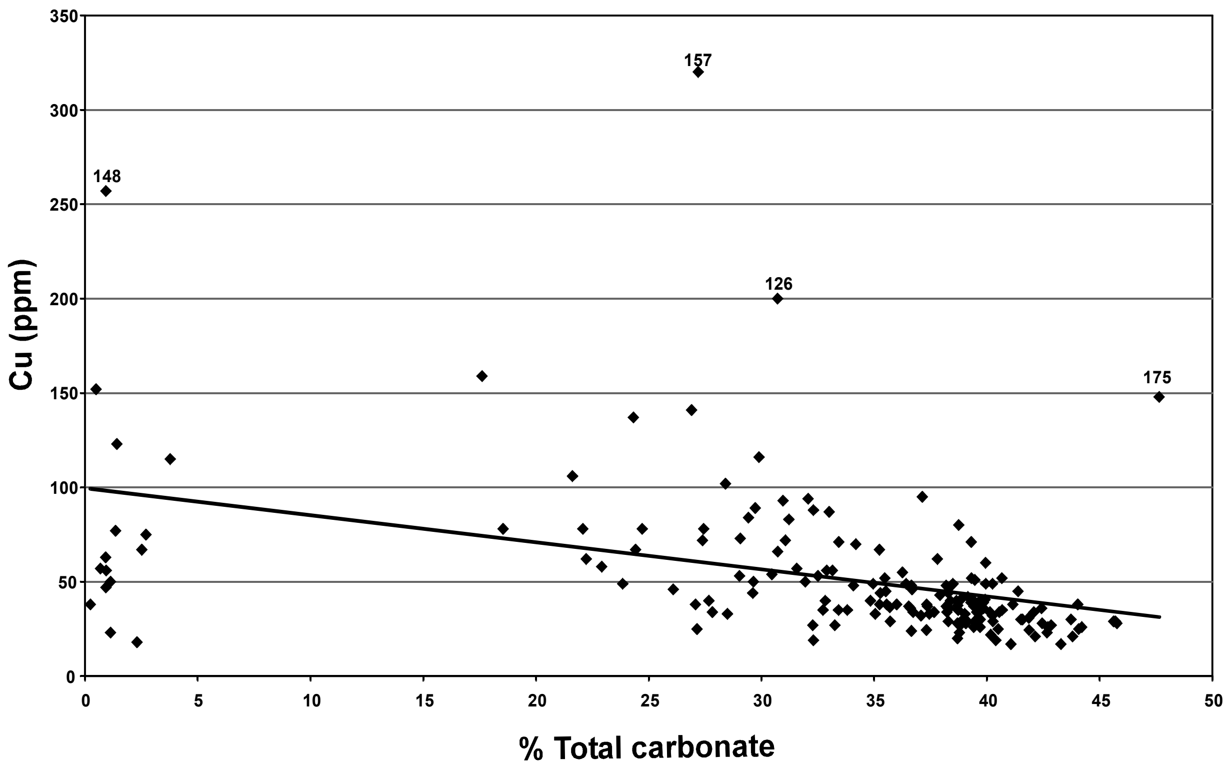
Appendix 9

Till Geochemistry: Plot of calcite vs dolomite for till samples from the 1998 survey.

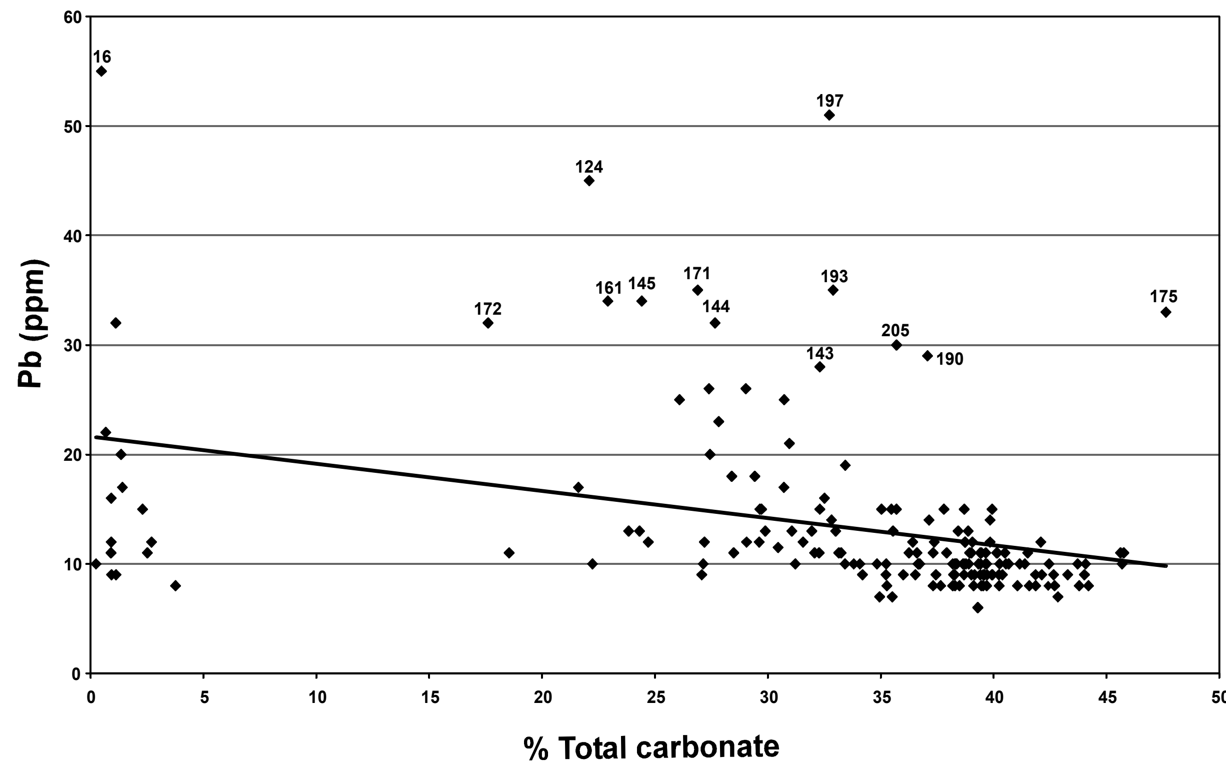

35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Dolomite (%)
0.00
5.00
10.00
15.00
20.00
25.00
30.00
% Calcite

Appendix 10

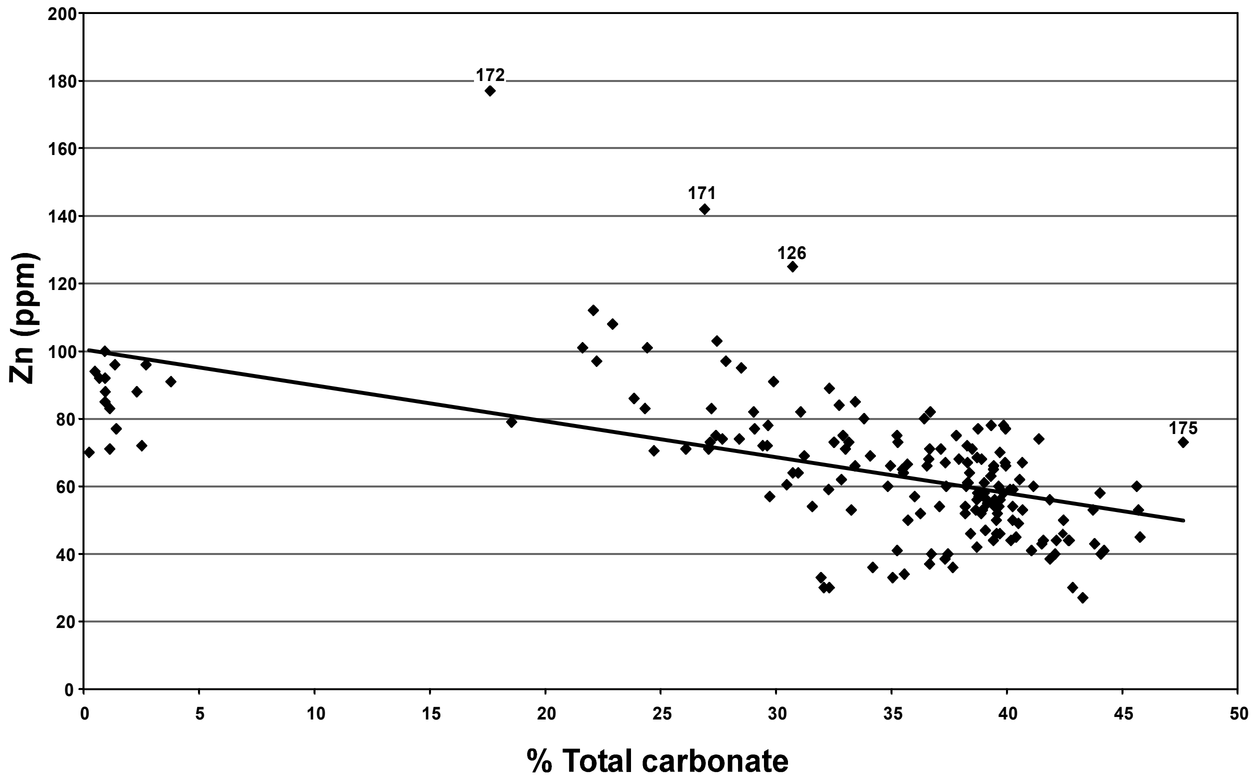
Till Geochemistry: Plot of total carbonate vs geochemistry of selected elements for the clay-sized (<2 micron) fraction.



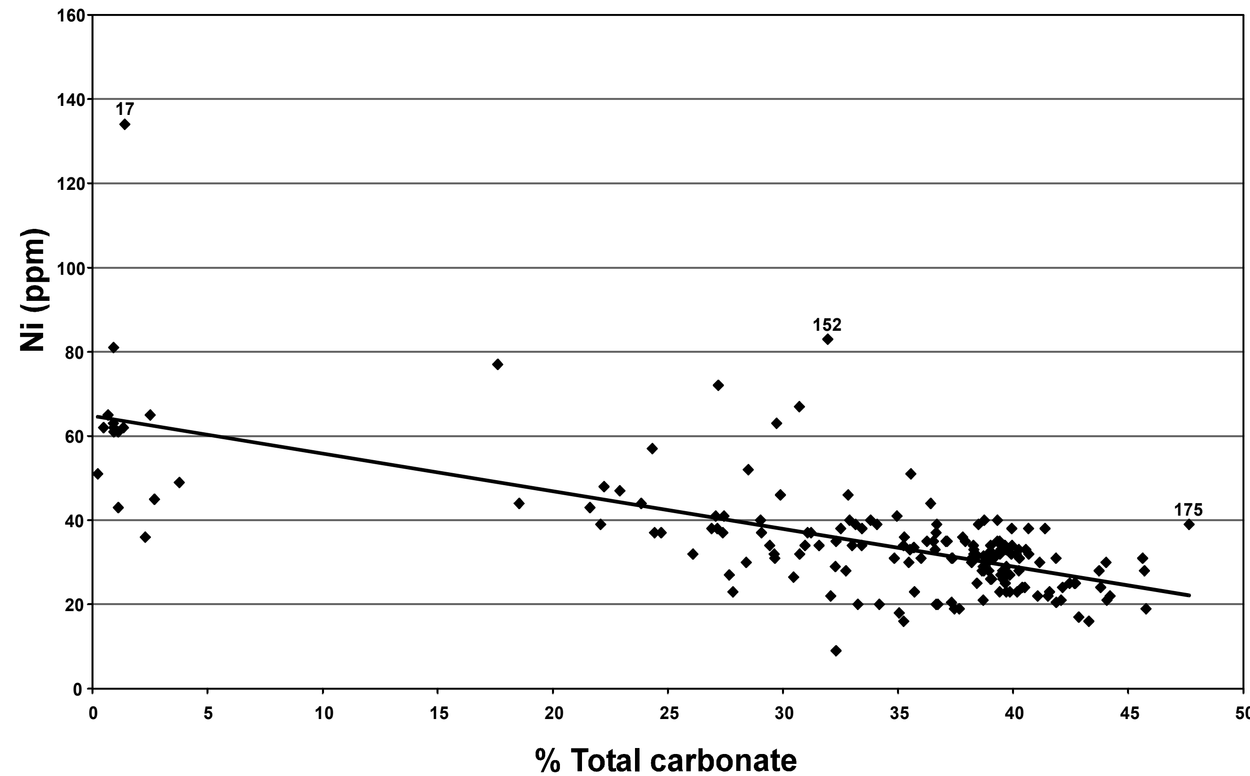
Cu (ppm)
% Total carbonate
157
148
126
175
0
50
100
150
200
250
300
350
0
5
10
15
20
25
30
35
40
45
50



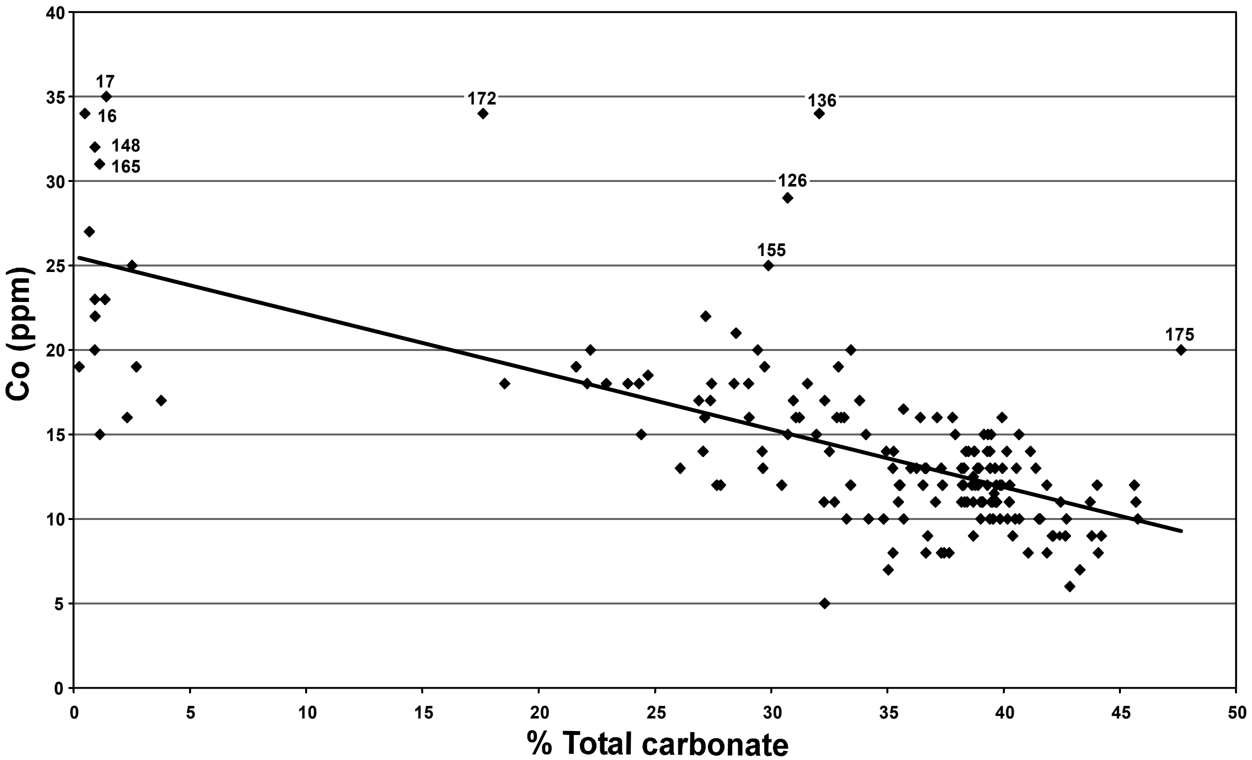
Pb (ppm)
% Total carbonate
16
197
124
171
193
161
145
144
172
205
175
143
190
0
10
20
30
40
50
60
0
5
10
15
20
25
30
35
40
45
50



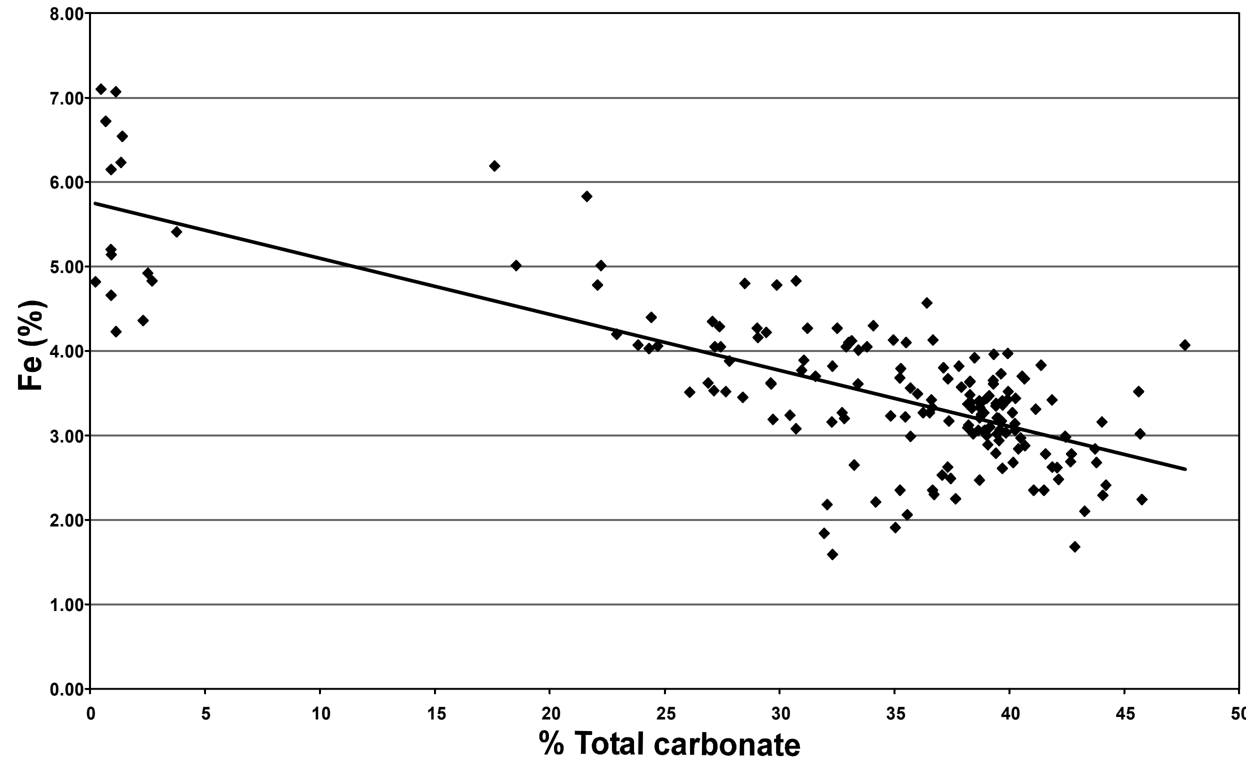
Zn (ppm)
% Total carbonate
172
171
126
175



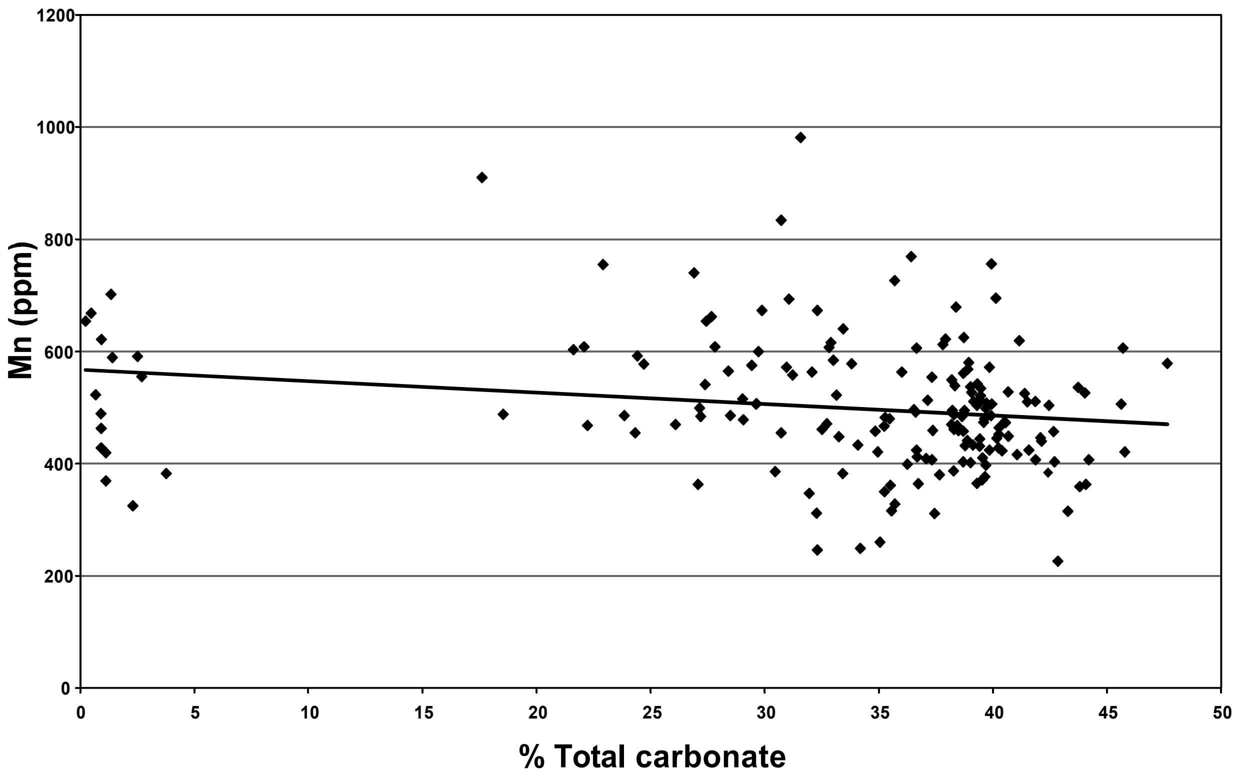
Ni (ppm)
% Total carbonate
17
152
175



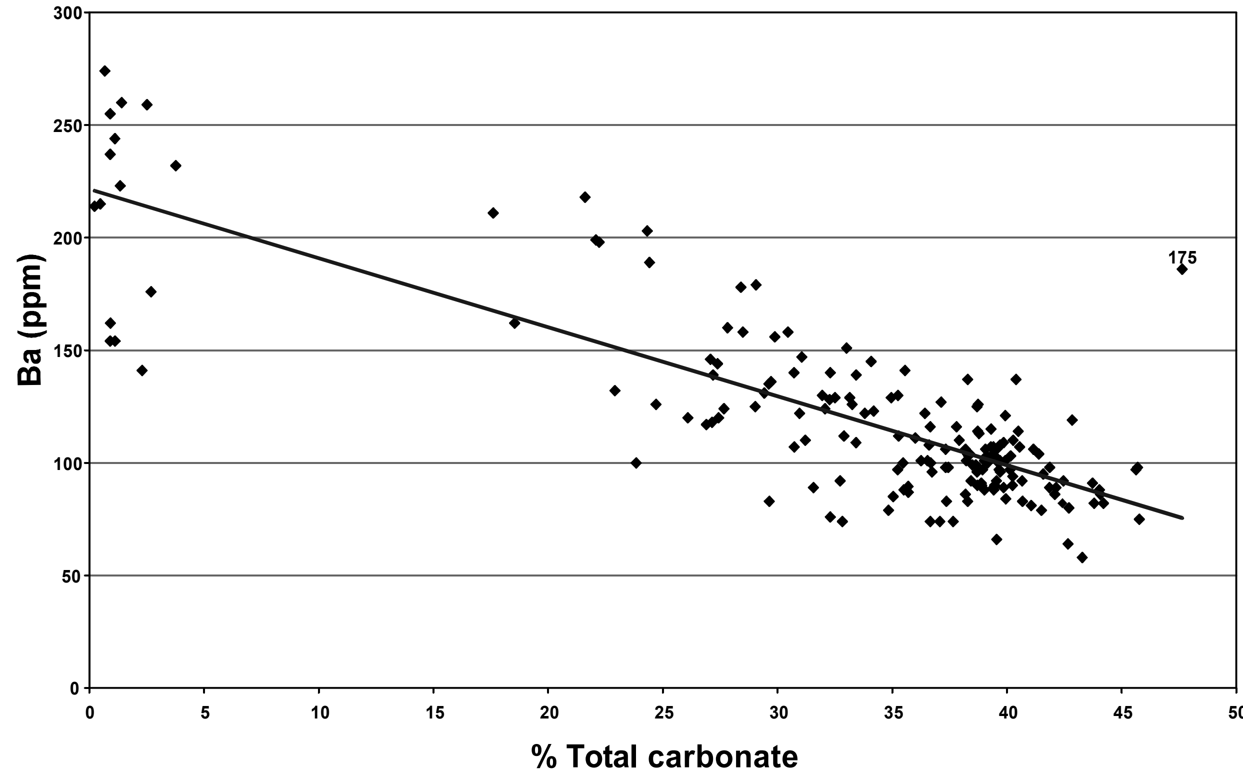
Co (ppm)
% Total carbonate
0
5
10
15
20
25
30
35
40
45
50
17
16
148
165
172
136
126
155
175



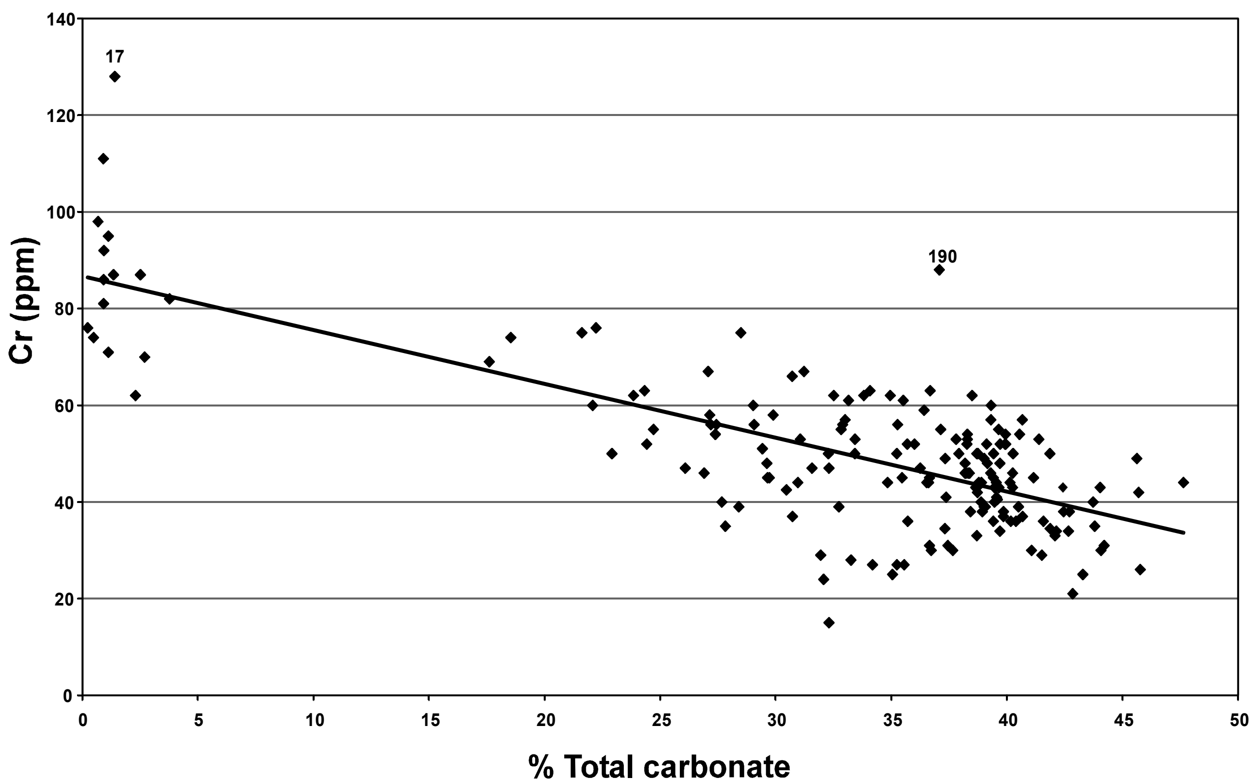
Fe (%)
% Total carbonate
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00



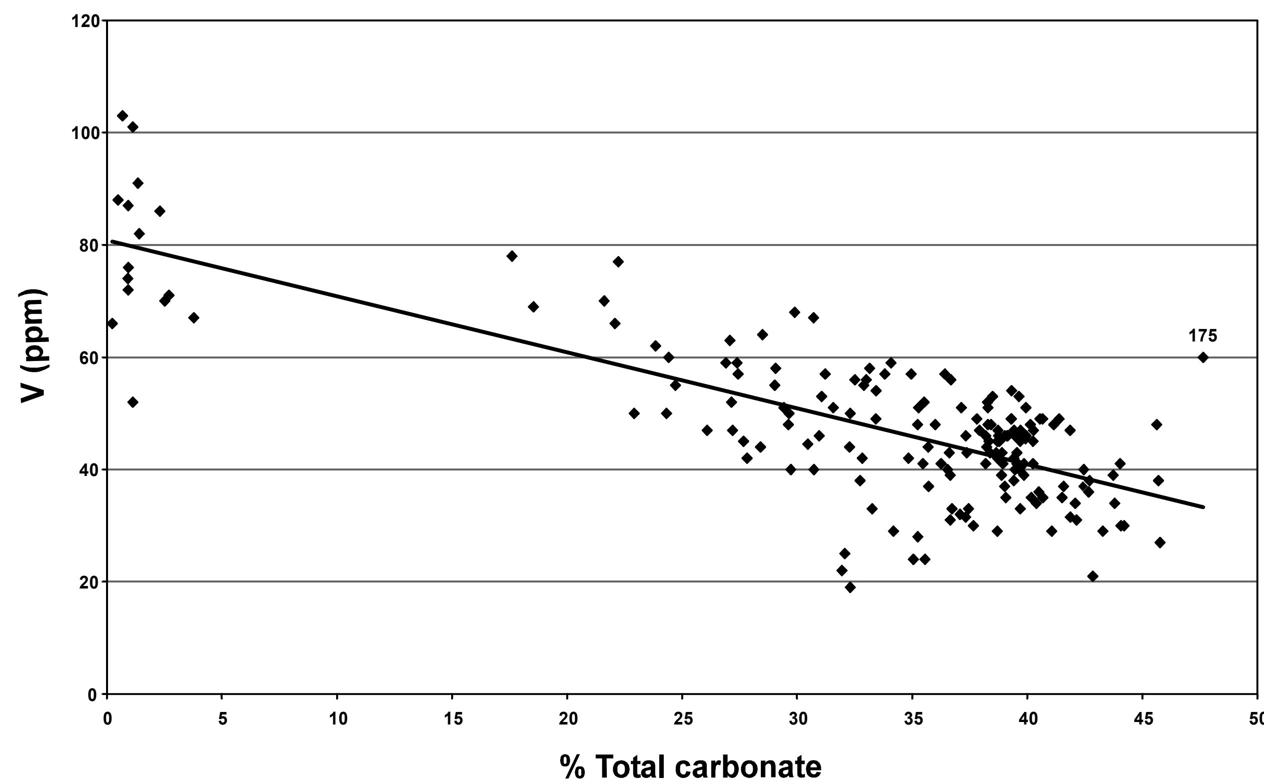
Mn (ppm)
% Total carbonate



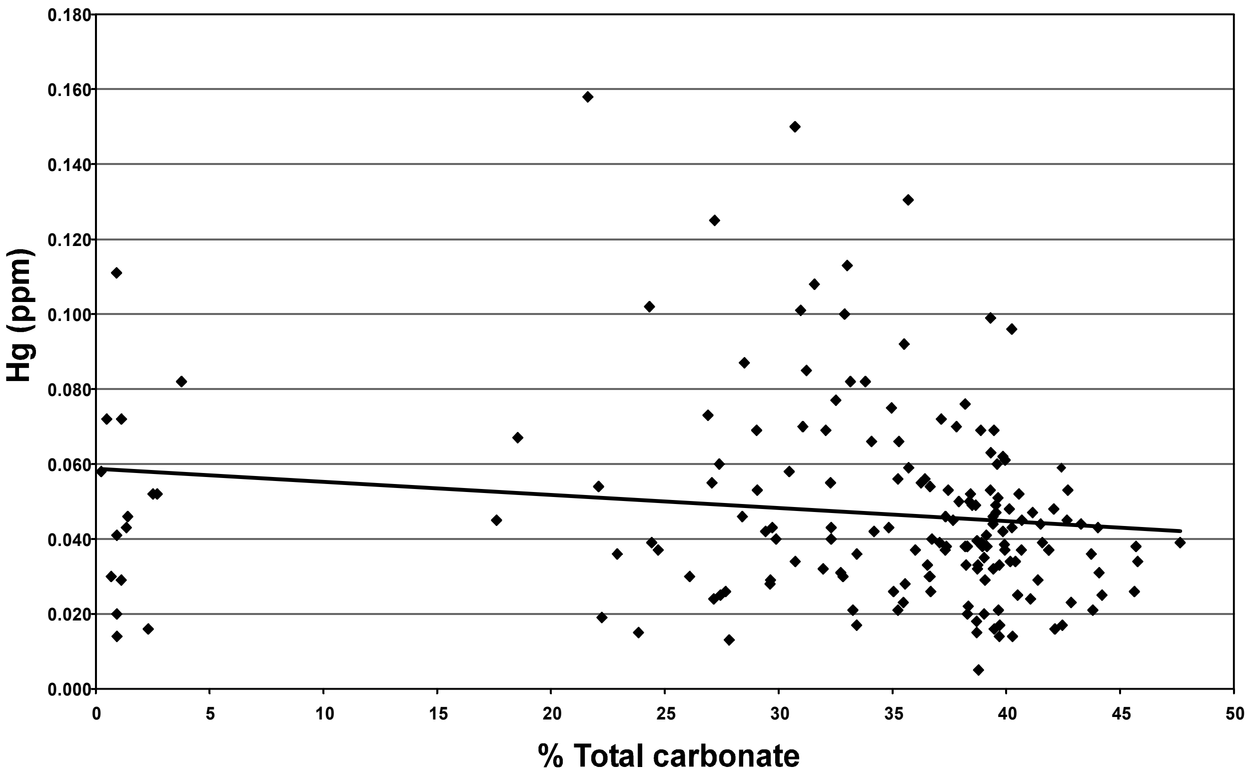
Ba (ppm)
% Total carbonate
175

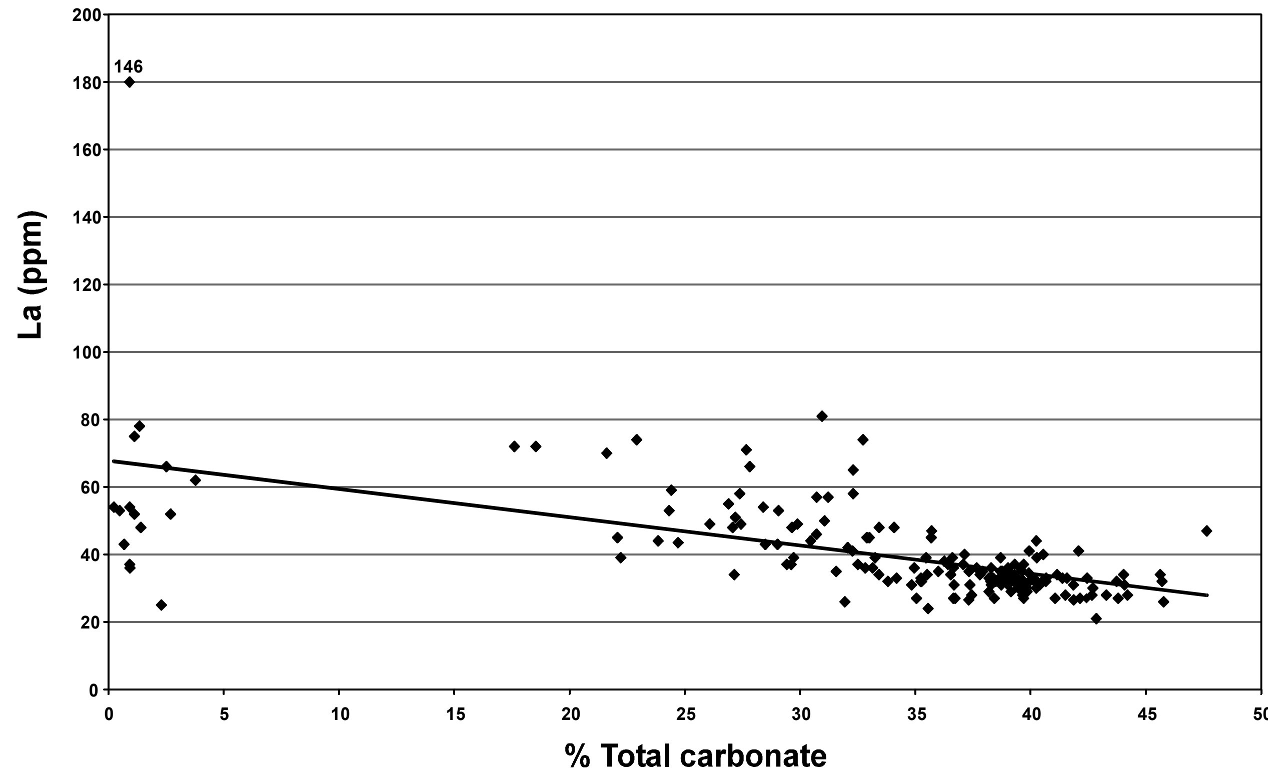


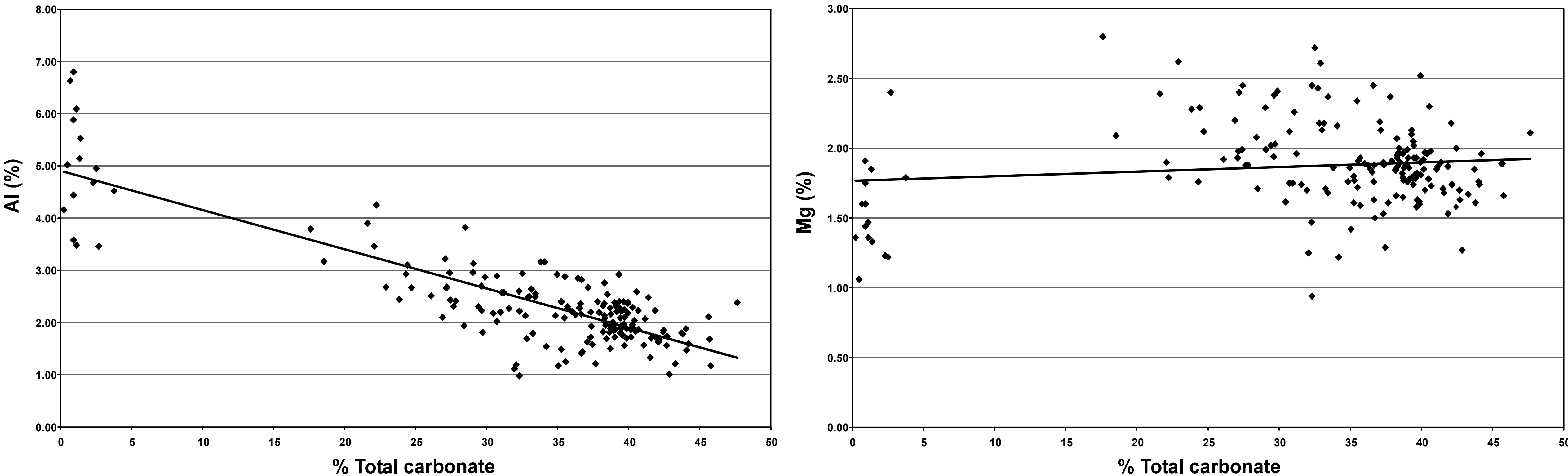
Cr (ppm)
% Total carbonate
17
190
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
45
50



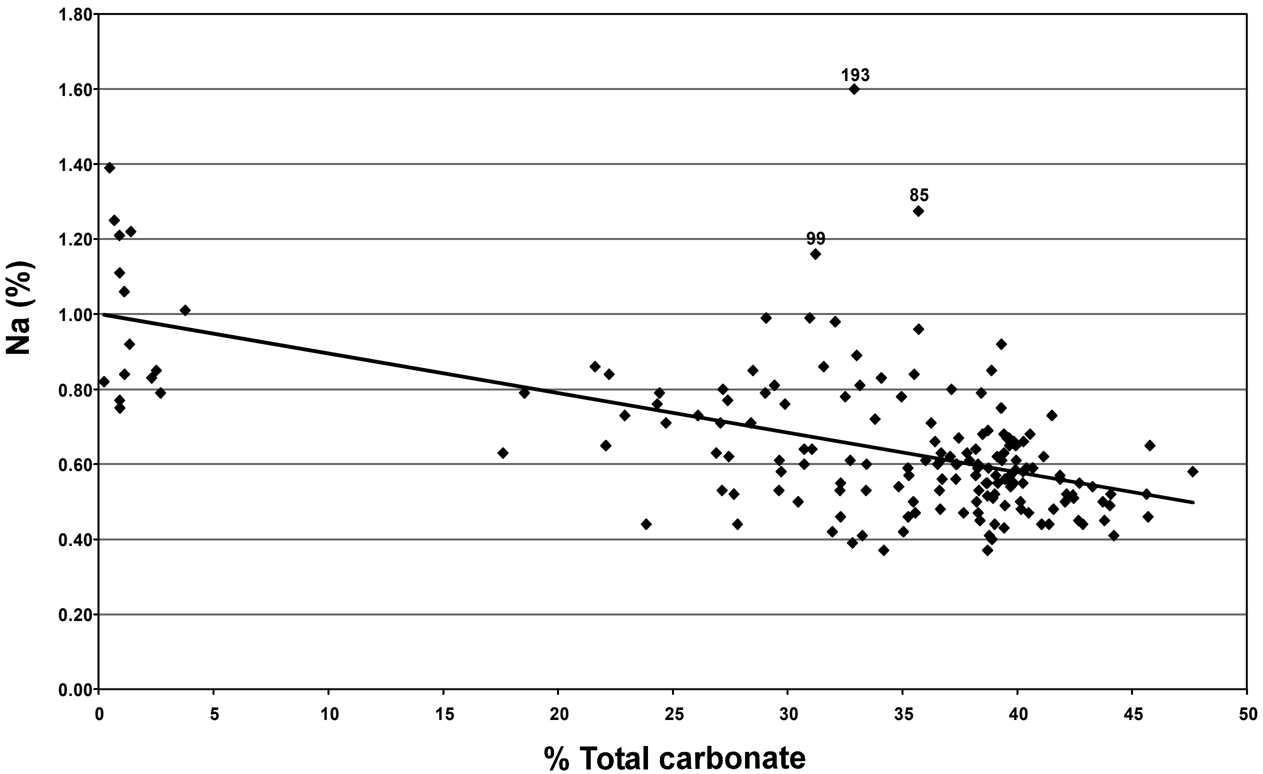
V (ppm)
% Total carbonate
175
120
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
45
50


0.180
0.160
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000
Hg (ppm)
0 5 10 15 20 25 30 35 40 45 50
% Total carbonate

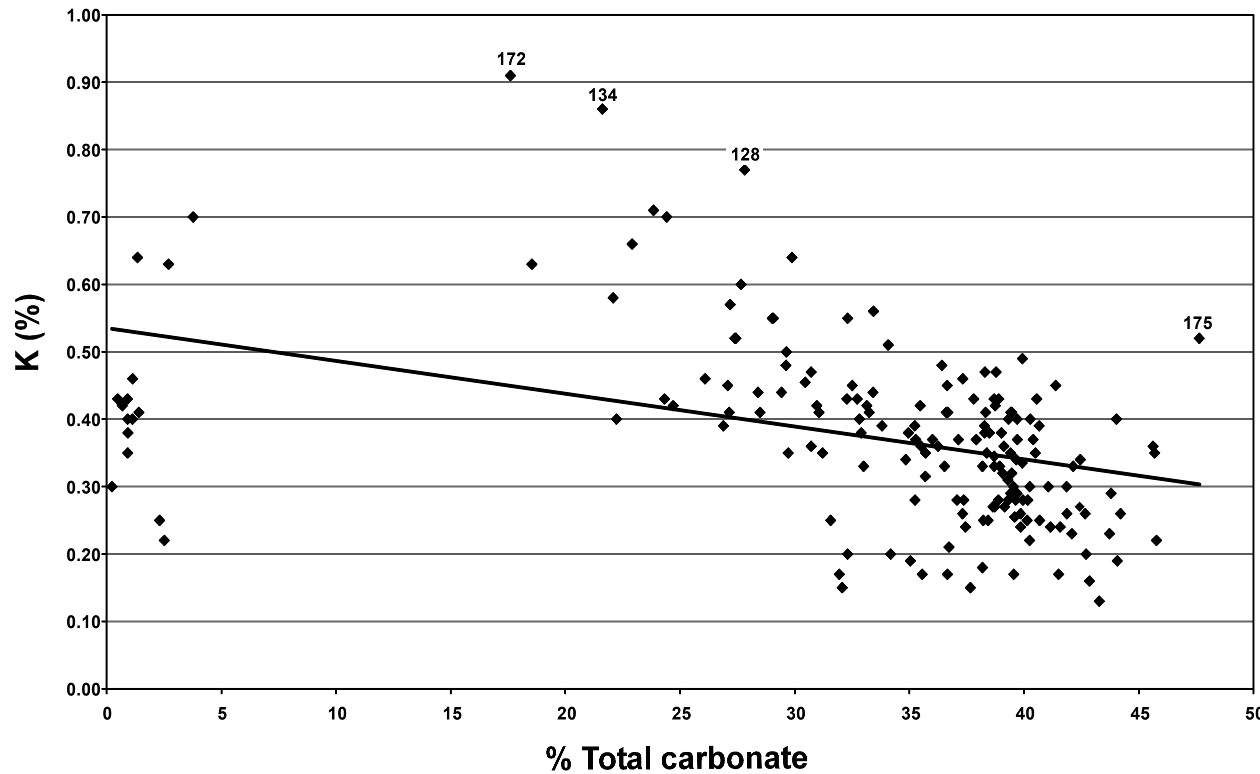

200
180
160
140
120
100
80
60
40
20
0
La (ppm)
146
0 5 10 15 20 25 30 35 40 45 50
% Total carbonate



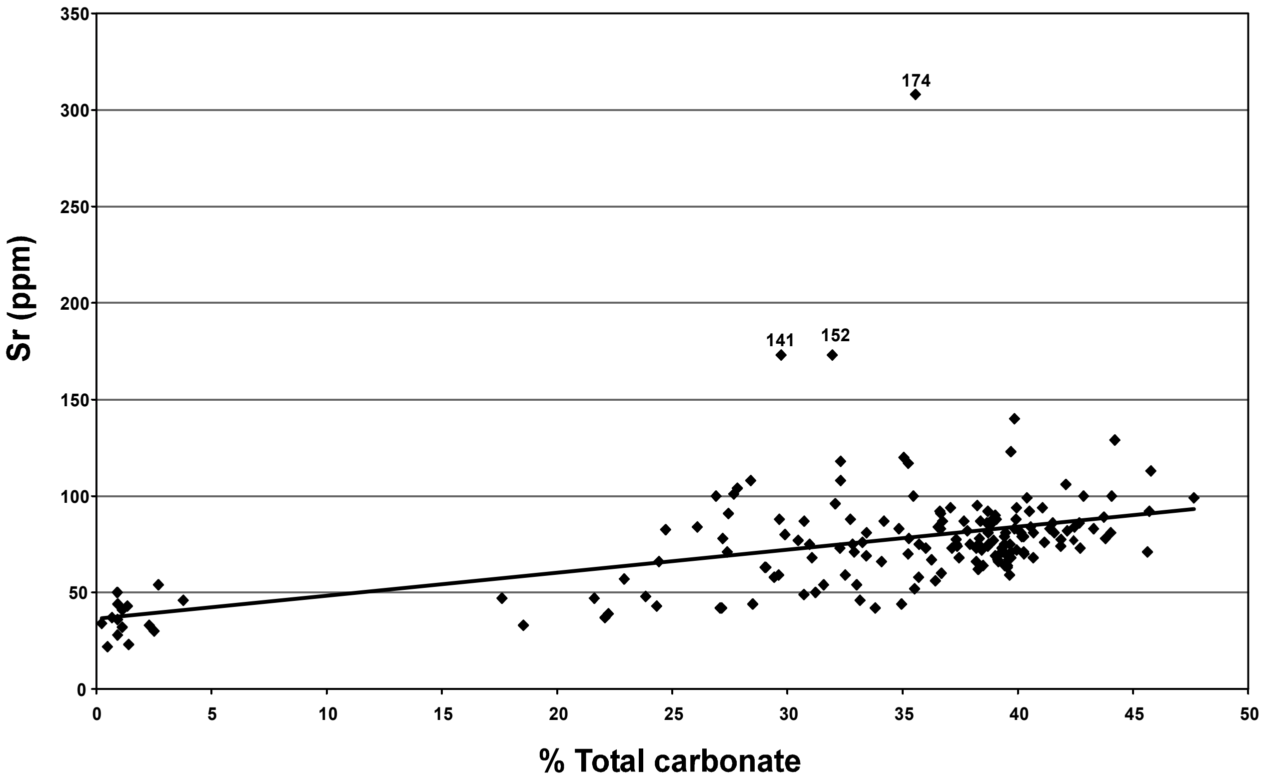
Al (%)
% Total carbonate
Mg (%)
% Total carbonate



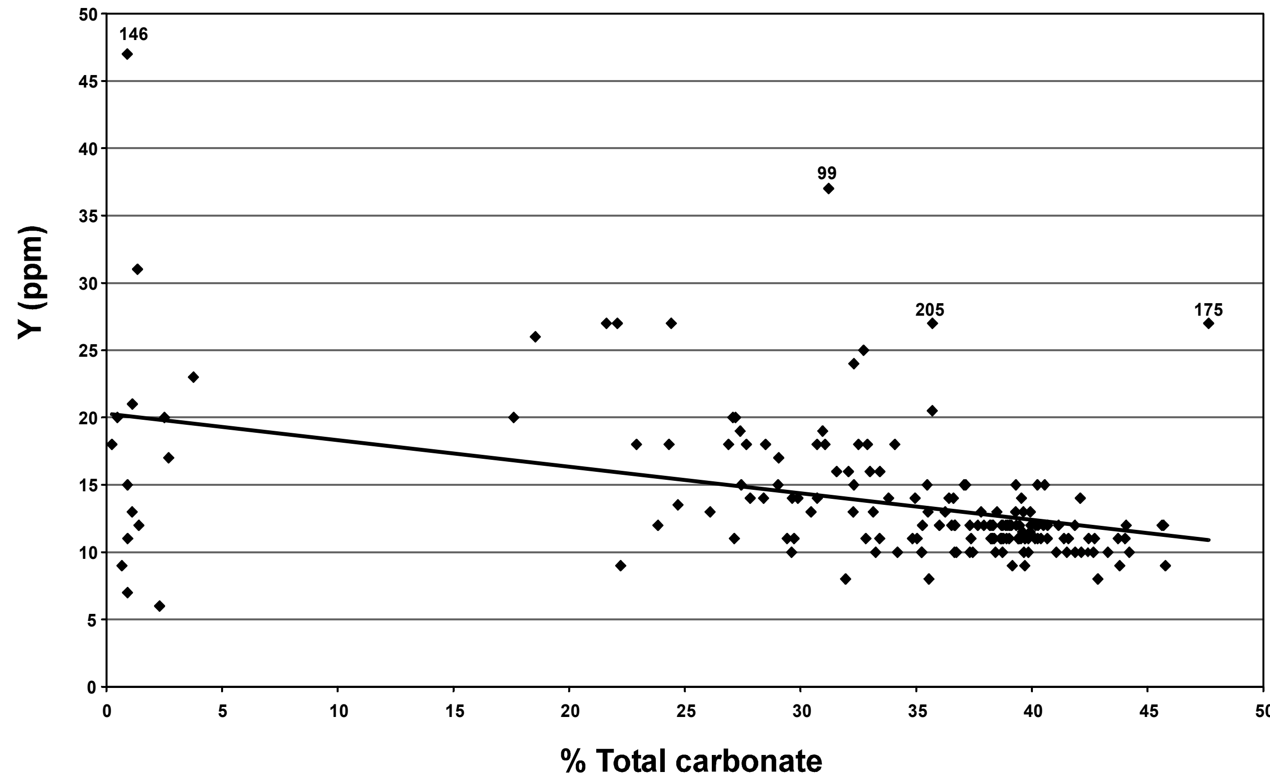
Na (%)
% Total carbonate
193
85
99



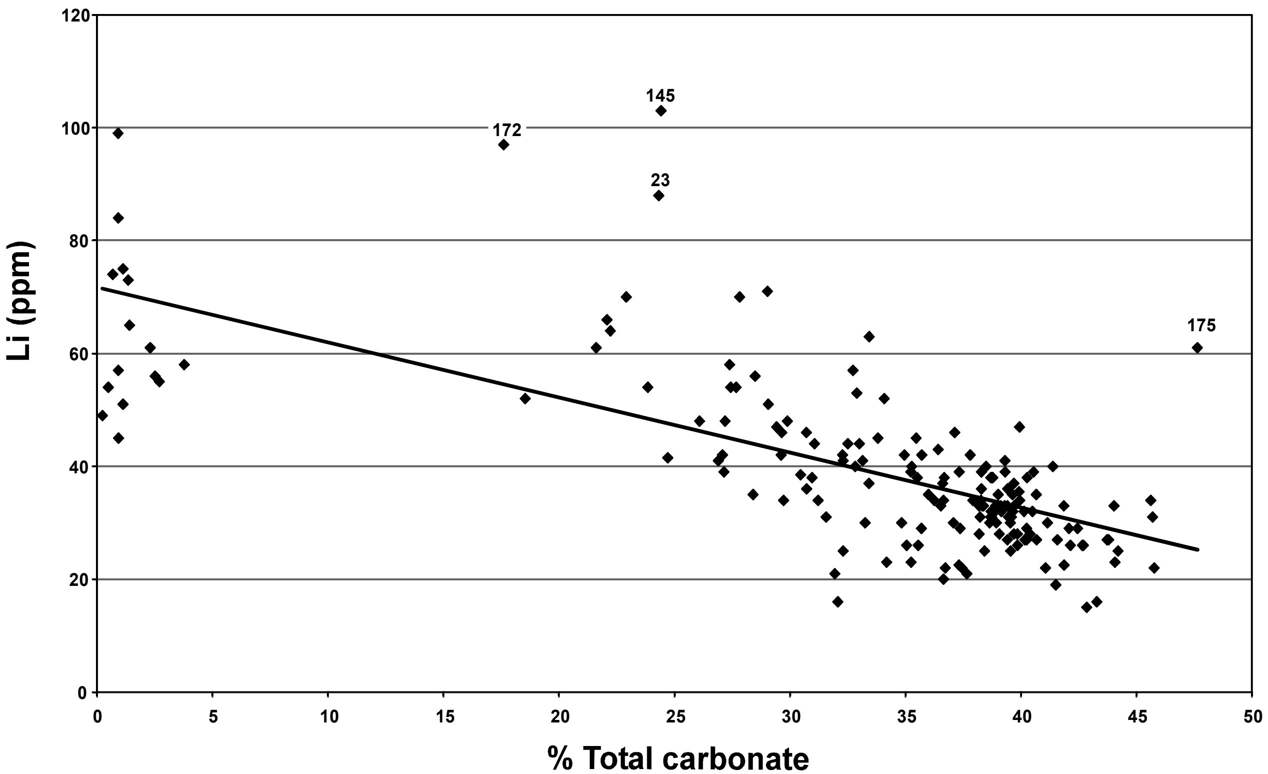
K (%)
% Total carbonate
172
134
128
175



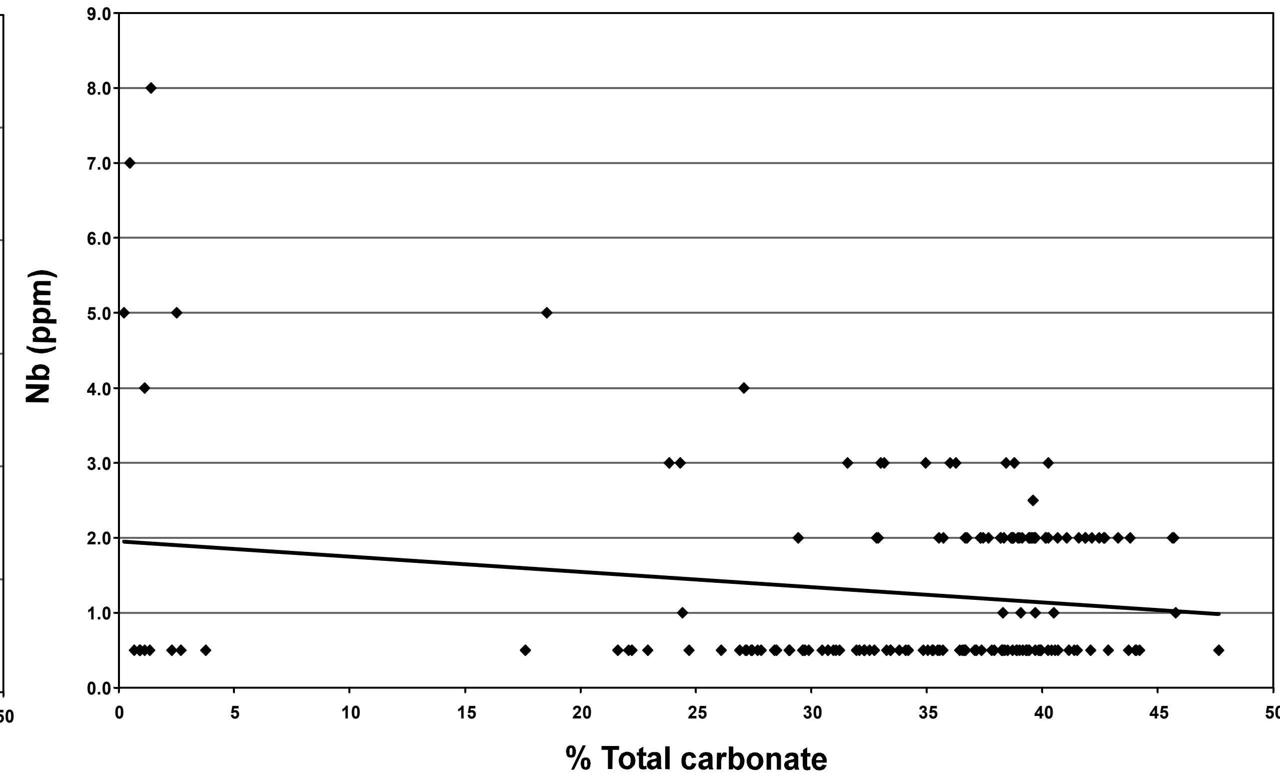
Sr (ppm)
% Total carbonate
174
141
152
0
50
100
150
200
250
300
350
0
5
10
15
20
25
30
35
40
45
50



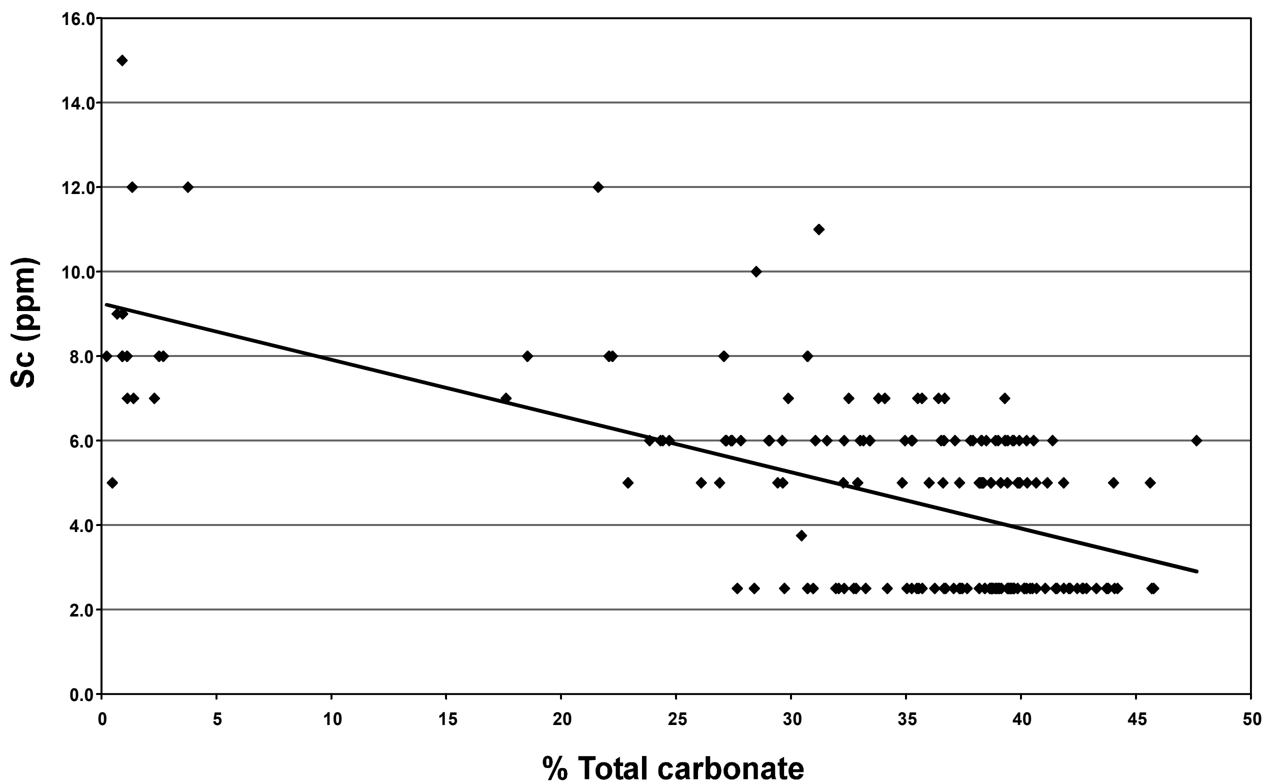
Y (ppm)
% Total carbonate
146
99
205
175
0
5
10
15
20
25
30
35
40
45
50
0
5
10
15
20
25
30
35
40
45
50



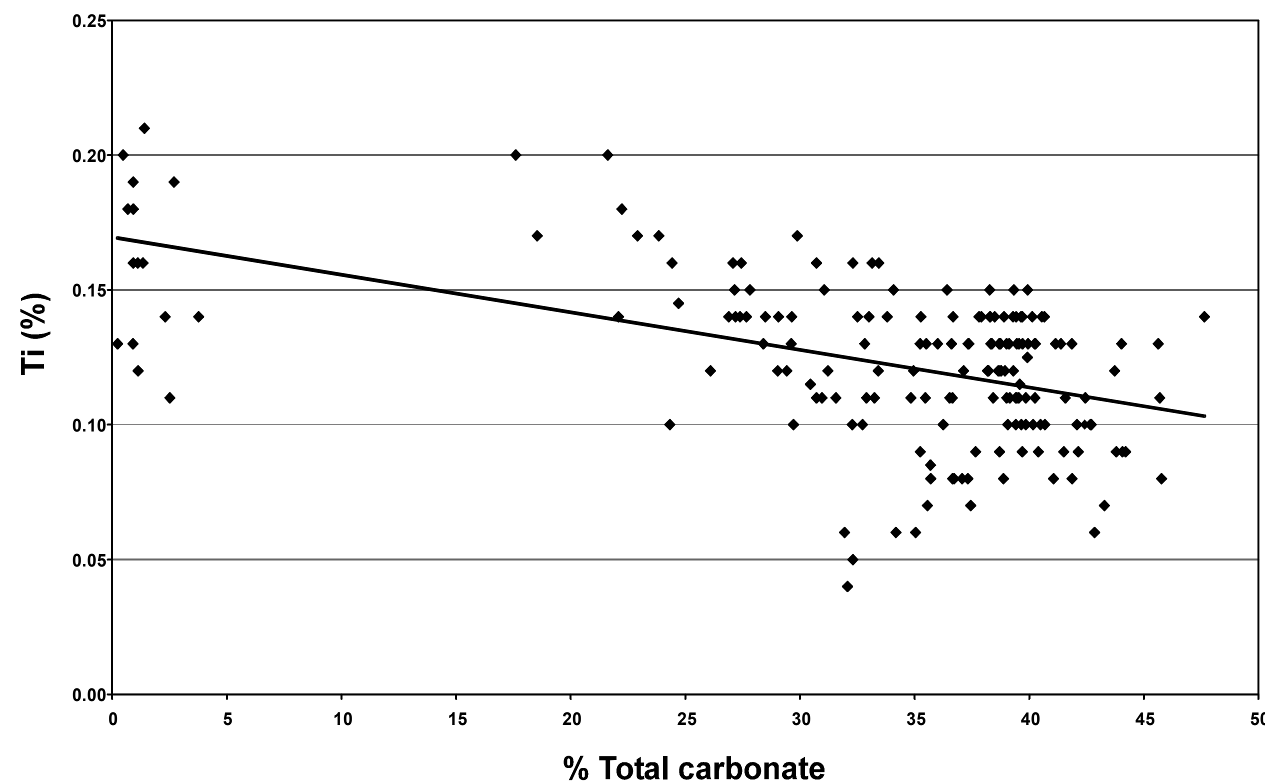
Li (ppm)
% Total carbonate
172
145
23
175
0
20
40
60
80
100
120
0
5
10
15
20
25
30
35
40
45
50



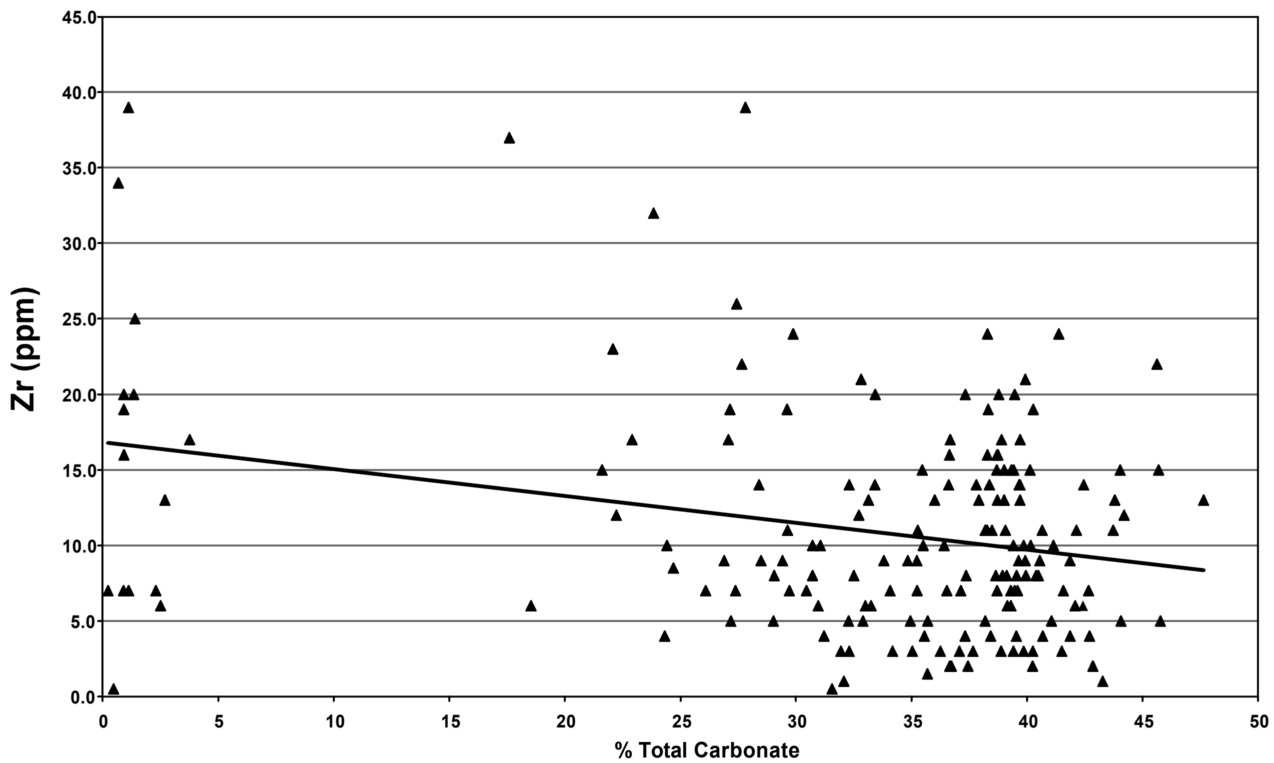
Nb (ppm)
% Total carbonate
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
0
5
10
15
20
25
30
35
40
45
50



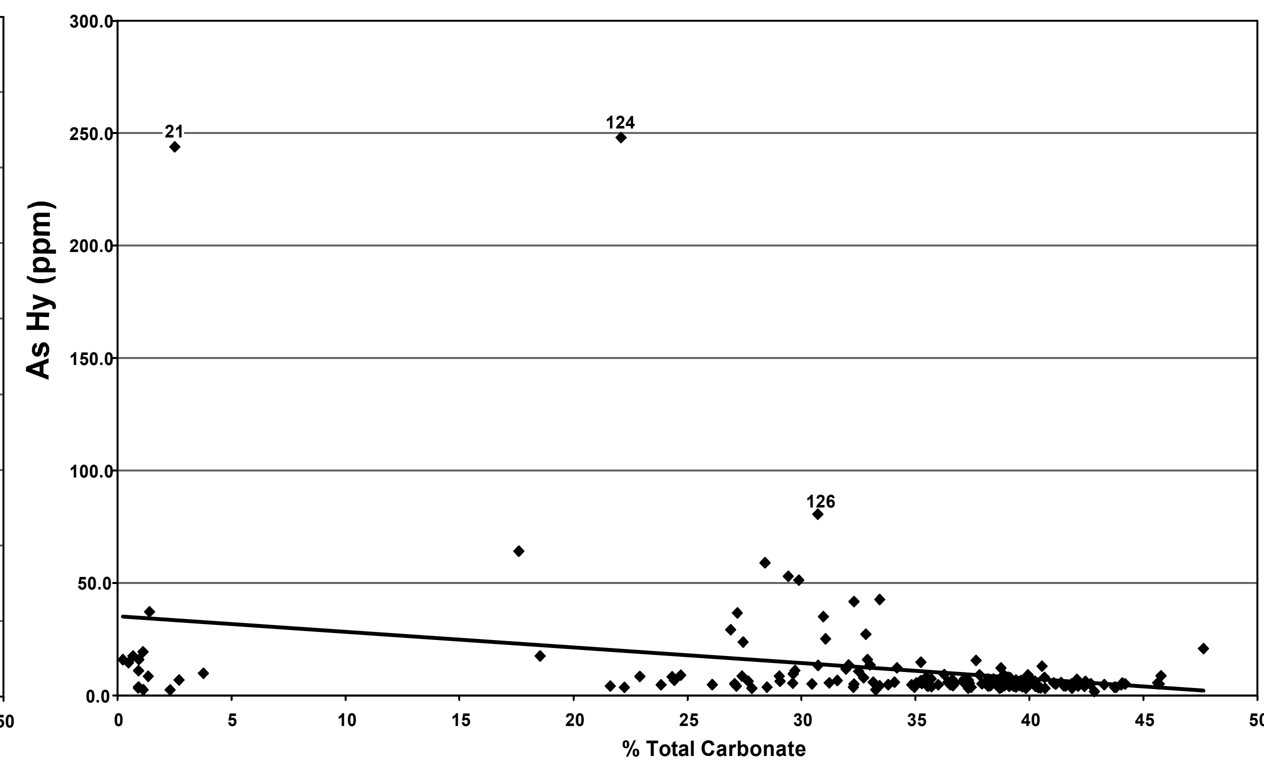
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Sc (ppm)
0
5
10
15
20
25
30
35
40
45
50
% Total carbonate



0.25
0.20
0.15
0.10
0.05
0.00
Ti (%)
0
5
10
15
20
25
30
35
40
45
50
% Total carbonate



Zr (ppm)
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0
5
10
15
20
25
30
35
40
45
50
% Total Carbonate



As Hy (ppm)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
21
124
126
0
5
10
15
20
25
30
35
40
45
50
% Total Carbonate

B-HORIZON SOIL GEOCHEMICAL SURVEY

Introduction

B-horizon soil samples have been used extensively during geochemical exploration programs for base and precious metals as well as other commodity types. Routinely, these samples were sieved to -80 mesh and analyzed for numerous elements by atomic absorption spectrometry (AAS) or ICP-AES, subsequent to an aqua regia digest. Other dissolutions were also utilized, including a number of phase specific and sequential digestions. The b-horizon geochemical database created for Operation Superior samples collected in 1998 is based on the enzyme leach process. This analysis is a phase-specific approach to the delineation of metal-enriched zones within b-horizon soil samples. The enzyme leach data, like data generated from all other analytical approaches in the dataset, are interpreted from each of the belts sampled in 1998.

Enzyme Leach

The enzyme leach process is a phase-specific leach that preferentially attacks amorphous manganese oxide coatings on mineral grains thereby liberating trace metals that are trapped in this material. Amorphous manganese oxide represents an efficient chemical sieve or trap for cations, anions and polar molecules because of its large surface area and the random distribution of charges on its surface. The trace elements that are trapped or complexed on the amorphous manganese oxides are interpreted to represent the chemical signatures of buried, oxidizing mineralization at depth, rather than originating from a transported overburden source, such as till. It should be noted, however, that the geochemical signature within the b-horizon may be strongly affected by the weathering of till and the subsequent downward movement of metals. This could produce a “transported” till geochemical signature in combination with site specific mineralization-related geochemical signatures, resulting in a composite signature overall.

The possible contribution of parent material composition to the overall enzyme leach signature is not well understood. Most of the amorphous manganese oxide is developed in the b-horizon and studies in both arid and humid geological and climatic environments have established that mineral particles within this soil horizon are coated with this authigenic material. The a-soil horizon may not reflect geochemical anomalies identified in the b-horizon, because the a-horizon is fairly rapidly leached of its metallic components. These are carried downwards, perhaps as humic- or fulvic-acid compounds (humates/fulvates?), and trapped or sieved as they encounter the amorphous Mn-oxide coatings on mineral grains in the b-horizon.

The chemical composition of the a-horizon is significantly impacted by the metal contents of vegetation contributing litter to the forest floor. This litter will reflect metals obtained by vegetation during nutrient acquisition from soil horizons tapped by root systems. Accordingly, the a-horizon geochemical signature will reflect the ability of various species to acquire and store metals until such time as they are dropped to the forest floor, decompose and move downward in the soil profile. This source of metal may, therefore, reflect a transported metal signature representing a clastic component within an exotic till or lacustrine clay rather than a buried mineralization signature.

The diffusion of relatively volatile metal phases or metals transported by gases consisting of Hg-vapour, CO_2, Rn, He, N, 0_2, $C0_4$, Ar and S-compounds, away from an oxidizing zone of mineralization, undoubtedly proceeds as a result of a number of processes. Metal transport may be effected by the influence of an electrochemical or self-potential cell below the groundwater table, or as gaseous transport of elements derived from oxidizing mineralization and/or mantle de-gassing (cf. Gold and Soter, 1980; “geogas”, Malmquist and Kristiansson, 1984; “earth-gas”, Wang et al., 1997). Metals carried by one or more of these mechanisms will be adsorbed by the amorphous Mn-oxide, enriching this portion of the b-horizon in metals.

Native gold and mercury in the soil profile will not be digested using the enzyme leach. The leachate from the b-horizon soil is analyzed by ICP-MS for 59 elements at detection limits in the parts per billion range. Clark (1992, 1993) provides theory and application of the enzyme leach method. Data interpretation proceeds from the assessment of the halogens (Cl, Br, I) to an oxidation suite of As, Sb, Mo, W, Re, Se, Te, V, U, and Th followed by the metals (Cu, Zn, Pb, Bi, Cd, Co, Ga, Ge, Ni, Sn, Ag, Au), high field strength elements (Y, Ti, Nb, Zr), lithophile elements (Ba, Cs, Li, Mn, Rb, Sr) and finally the rare earth elements. Fedikow and Ziehlke (1998) provide a Manitoba example of a property scale application of this technique. Regional survey descriptions are available in Fedikow et al. (1997a, 1997b).

Sample Collection

B-horizon soil geochemical samples were collected from the pit dug for the till samples. The b-horizon was isolated on a clean face on one or more walls of the pit and scooped into a labeled, medium-sized, ZIPLOC sample bag. Care was taken not to include organic material either from the overlying humus or from forest litter when collecting this inorganic sample.

This precaution was considered particularly important for enzyme leach analyses where considerable variance can be added to the data by mixing organic and inorganic material. The b-horizon in the survey areas ranged in colour from orange to chocolate brown. At some sampling sites there was a 3-5 cm zone of mixing between organic and inorganic soil layers. In these instances the b-horizon sample was collected from below the zone of mixing. Another variant in b-horizon sampling is the slumped, contorted and mixed nature of the most decomposed portions of the b-horizon with less oxidized, usually lower b-horizon material. This was attributed to either frost-jacking or too soft sediment deformation. In these instances the b-horizon sample comprises b-horizon material that was inevitably mixed with less oxidized material. Duplicate samples were collected every tenth site.

Sample Preparation and Analysis

At the end of the day, samples were returned to camp and stored in a shaded low lying area out of the direct rays of the sun, so that sample temperatures would not exceed 40°C. This temperature is considered to represent the upper limit for samples to be analyzed by the enzyme leach method. Temperatures exceeding 40°C will result in the volatilization of metal-bearing compounds from the sample. B-horizon soil samples were shipped to the Manitoba Geological Services Branch laboratories, where they were air dried at less than 40°C and sieved to obtain the -60 mesh size fraction. The -60 mesh portion was forwarded to Activation Laboratories Ltd. for enzyme leach-ICP-MS analysis. A separate -80 mesh aliquot was submitted to the Manitoba Geological Services Branch laboratory for the measurement of pH and conductivity. The pH and conductivity measurements were corrected and converted to H^+ and specific conductance using the formula of Govett (1976) and reproduced with examples in Govett et al. (1984). Geochemical data is listed in Appendix 1 and analyses for field duplicate samples are listed in Appendix 2. Percentile bubble plots appear in Appendix 3. With the exception of the hydrogen ion (H^+) and specific conductance (*K*) no other analyses were performed on the b-horizon soils. H+ results for all three belts were low and are not discussed further.

Results

Specific Conductance *K* (water extractable metal)

K: The southern margin of the central portion of the Goose Lake belt is marked by a single 100th percentile of 30.7 mhos cm^{-1} at site 170 and a 99th percentile at site 141 (23.8 mhos cm^{-1}). A two sample 98th percentile response of 20.6 mhos cm^{-1} occurs at the west end of the belt. The Knife Lake belt is marked by a single 100th percentile of 23.4 mhos cm^{-1} at site 3 on the narrow peninsula separating Chataway Lake from Knife Lake and a cluster of two 98th percentiles (20.7 mhos cm^{-1}) and a single 95th percentile (19.7 mhos cm^{-1}) along the southern shore of Knife Lake. The Webber Lake belt is marked by a single 100th percentile of 21.3 mhos cm^{-1} at site 117 which is near the northern edge of the belt. A single 100th percentile (22 mhos cm^{-1}) is also documented from the Echimamish River belt at site 50 with a 98th (18.6 mhos cm^{-1}) and a 95th (18.2 mhos cm^{-1}) percentile response occurring in the east end of the belt.

Enzyme Leach

Halogens

Cl: A single sample 100th percentile of 57038 ppb occurs at site170 near the southern margin of the Goose Lake belt. A cluster of two 98th (15019 ppb) and two 95th (12447 ppb) percentiles are situated in the eastern end of the belt and a single 99th percentile (site 36, 17516 ppb) occurs in the west end of the belt. The east end of the Echimamish River belt is characterized by a series of 100th (19940 ppb), 98th (14317 ppb) and 95th (13086 ppb) percentiles that occur close to or at the northern belt margin. A possible northeast-trending linear of 100th (19452 ppb)-95th (15563 ppb) percentile responses occurs in the central portion of the Knife Lake belt. This trend parallels the trend of the narrow peninsula that separates Chataway Lake from Knife Lake. The 100th percentile response in the Webber Lake belt (site 113, 10266 ppb) forms the southwest terminus of this trend.

Br: The Knife Lake belt is marked by two sites of elevated Br. A single 100th percentile response of 881 ppb occurs at site 64 in the northeast portion of the belt and two 98th percentile responses occur in the northwest portion of the belt. Both sets of responses occur at or near the belt margin. The south-central margin of the Goose Lake belt is marked by adjacent responses of 642 ppb (100th percentile at site 171) and 546 ppb (99th percentile at site 170). A 98th percentile of 418 ppb occurs in the west end of the belt. A single sample 100th percentile characterizes both the Echimamish River belt at its east end (302 ppb at site 198) and the Webber Lake belt (229 ppb at site 113). A possible arcuate halo is defined by 98th-90th percentile responses centered around site 39 and 42 in the Echimamish River belt.

I: The Echimamish River belt is marked by an arcuate, low contrast halo of 98th-90th percentile responses centered on sites 39 and 45. A single site 100th percentile response occurs at site 186 in the east end of the belt. The Knife Lake belt has one 100th (36 ppb at site 122) and one 98th (31 ppb at site 10) percentile response along the southwestern portion of the belt. A second 98th percentile occurs at site 98 at the west end of Knife Lake. The Webber Lake belt has a single 100th percentile of 26 ppb at site 117 along the northern belt margin. A 100th (35 ppb) and 98th (33 ppb) percentile response was obtained from adjacent sites (170 and 171) at the southwest belt margin. A 99th percentile of 34 ppb also occurs at the south belt margin at site 165. The west end of the belt is marked by a cluster of 95th (29 ppb) and 90th (27 ppb) percentile responses.

Oxidation Suite Elements

As: Significantly enriched As contents are documented at site 21 in the central portion of the Goose Lake belt (100th percentile of 314.3 ppb) and at adjacent sites 157 (99th percentile of 111.3 ppb) and 158 (34.2 ppb) in the southeast part of the belt. A second two sample low contrast response is noted at sites 141 and 152 (34.2 and 27.2 ppb) along the south belt margin. A four sample response comprising 100th-95th percentiles (34.3-16.8 ppb) occurs in the west end of the Knife Lake belt and a single low contrast 100th percentile response of 18.6 ppb occurs at site 118 in the Webber Lake belt. A single low contrast 100th percentile response of 18.2 ppb is documented from site 198 in the Echimamish River belt.

Sb: The Goose Lake belt has the greatest number of Sb analyses >LLD in the 1998 survey. The 100th (5.5 ppb) and 99th (2.7 ppb) occur at sites 141 and 23 along the southern margin of the belt. A 4.5 ppb 100th percentile for the eastern part of the Knife Lake belt occurs at site 86 in area that has been mapped as granite. A single sample low contrast 100th percentile response of 1.1 ppb occurs at site 186 in the Echimamish River belt. All sample sites in the Webber Lake belt are <LLD.

V: A high contrast single site 100th percentile response (870 ppm at site 86) occurs in the eastern portion of the Knife Lake belt in an area mapped as granite. The Goose Lake belt has a single site 100th percentile response at site 15 in the east end as well as a 99th (428 ppb at site 141) and two 98th (303 ppb at sites 173 and 174) percentile responses along the southeast margin of the belt. A low contrast 100th percentile of 192 ppb occurs at site 41 in the Echimamish River belt. The Webber Lake belt is also marked by a low contrast 100th percentile of 184 ppb at site 117 at the eastern limits of sampling.

U: Relatively low contrast responses were obtained for the Knife Lake belt with a 100th percentile response of 3 ppb at site 121 in the west end of the belt and for the Webber Lake belt at site 99 (100th percentile of 2.8 ppb). A single sample 100th percentile of 8.5 ppb occurs at site 194 at the east end of the Echimamish River belt as well as a low contrast arcuate anomaly centered on sites 190, 201, 202 and 203. This anomaly is also developed in the east end of the belt. The Goose Lake belt has a 100th percentile response at the east end of the belt at site 124 (7.3 ppb) as well as a 99th (5.3 ppb) and 95th (4 ppb) percentile response at sites 174 and 23, respectively. A possible low contrast electrochemical cell is developed at the southeast end of the belt with a circular response of 98th-75th percentiles enclosing a ten site area of predominantly 25th percentile responses (0.5 ppb).

Th: The Goose Lake belt is marked by a single sample 100th percentile response of 54.9 ppb at the west end of the belt as well as a possible halo developed at the southeast end of the belt that closely approximates the results for U in this area. The halo is defined by a range of 99th (35.4 ppb)-75 th (12.8 ppb) percentile responses. Significant responses in the Knife Lake belt occur along the southern portion of the belt. In this area a 100th percentile response occurs at site 11 (54.8 ppb) and two 98th percentiles (24.8 ppb) at sites 60 and 57 to the east. A single sample 100th percentile response of 23.6 ppb occurs at site 99 in the eastern portion of the Webber Lake belt. The east end of the Echimamish River belt is marked by the development of an arcuate response of 100th (31.3 ppb)-90th (18.7 ppb) percentiles centered on sites 190, 192, 201 and 203.

Metals

Cu: The Goose Lake belt is marked by a single site 100th percentile of 224.6 ppb (site 15) as well as a 98th percentile response of 99.7 ppb (site 126) that occurs in the eastern portion of the belt. A 99th (182.9 ppb) and 98th (99.7 ppb) percentile response occurs at sites 23 and 164 along the southern margin of the belt. A single sample 100th percentile anomaly 148.7 ppb occurs at site 86 in the eastern part of the Knife Lake belt in granite terrain. A single sample 100th percentile anomaly (104.1 ppb) also occurs in the Webber Lake belt at site 118. A low contrast 100th percentile occurs in the east end of the Echimamish River belt at site 187 (67.7 ppb) and adjacent to a 98th percentile of 58.1 ppb at site 186. The arcuate halo observed for Br and I is poorly reflected by 90th-75th percentile responses (53.8-44 ppb) centered on sites 39 and 42.

Pb: The 100th percentile responses for Pb in the four belts is characterized by relatively low contrasts. The Knife Lake belt is marked by a 100th percentile response of 19.3 ppb at site 79 in the eastern portion of the belt. Two 98th (15.8 ppb) and one 95th (13.9 ppb) percentile response were obtained from sites 121, 11 and 12, respectively. These sites are adjacent to the Gods Lake Narrows Shear Belt. A three sample cluster of 100th-98th percentile responses (18.5-14.6 ppb) occurs in the southeast portion of the belt in the same area as the circular U cell. A single 98th percentile is documented from the west end of the belt at site 38 (14.6 ppb). Pb responses in the Echimamish River belt are highest in the east end of the belt from an area mapped as gabbroic and granitic intrusions. The north margin of the belt in this area is marked by 100th-95th percentile responses of 17.9-16.3 ppb. The Webber Lake belt contains adjacent 100th and 98th percentile responses at sites 99 (17.3 ppb) and 118 (16 ppb), respectively.

Ga: The Ga results vary sympathetically with the Pb results and suggests the presence of Pb sulphides at the corresponding anomalous sample sites. The 100th percentile response for the Webber Lake belt occurs at site 99 (21.8 ppb) and for the Knife Lake belt at site 121 (16.3 ppb). The Knife Lake site is adjacent to the Gods Lake Narrows Shear Belt. The 100th (16 ppb) and 99th (14.8 ppb) percentile responses in the Goose Lake occur at the southeast end of the belt. A 98th percentile response of 13.7 ppb occurs at site 38 in the west end of the belt. The east end of the Echimamish River belt has a generally higher level of Ga reporting in the analyses. This part of the belt is marked by 100th-95th percentile responses (17.8-15.2 ppb) at five sites along the northern edge of the belt.

Zn: A single sample 100th percentile anomaly of 103 ppb occurs at site 118 in the Webber Lake belt and is adjacent to a 98th percentile response of 99 ppb at site 99. The 100th percentile response in the Knife Lake belt is documented from site 79 at the eastern belt margin. Two 98th percentile responses (74 ppb) occur at sites 59 and 75 on the south shore of Knife Lake and on the southern belt margin, respectively. In the Goose Lake belt a 100th (95 ppb) and 98th (68 ppb) percentile response are obtained from sites 173 and 164, respectively. A second two sample anomalous site occurs at the southeast end of the belt at sites 154 and 15 where 99th (87 ppb) and 98th (68 ppb) percentile responses were obtained. Like the Pb and Ga results, the east end of the Echimamish River belt has a higher level of Zn reporting in the analyses and is characterized by 100th-95th percentile responses of 96-94 ppb.

Ni: Four sites of significant Ni responses are identified in the Knife Lake belt and three of these occur at the southern belt margin adjacent to the Gods Lake Narrows Shear Belt. These sites are 121 (98th percentile of 64 ppb), 60 (98th percentile) and 11 and 12 (two 95th percentile responses of 56 ppb). The 100th percentile of 101 ppb occurs in the east part of the belt at site 79. Four sites of high Ni responses are present in the Goose Lake belt as well. These are 100th percentile (98 ppb) at site 173, 99th percentile (94 ppb) at site 153 and two 98th (86 ppb) percentile responses at sites 165 and 34. Site 34 is situated in the west end of the belt and the remaining three sites occur in the central belt area. A single 100th percentile response of 76 ppb occurs at site 99 in the Webber Lake belt. The east end of the Echimamish River belt is demonstrated to be characterized by higher levels of Ni than in the remainder of the belt sampled in 1998. The significant responses vary between 100th and 95th percentiles (78-65 ppb) along the north margin of the belt.

Co: The Goose Lake belt is marked by a 100th percentile of 63 ppb at site 165 in the west central portion of the belt and a 99th percentile (35 ppb) at site 173. A linear response of 100th-95th percentiles is observed to extend from a 98th percentile response at site 38 in the western area of the belt to a 98th percentile response at site 151, the eastern terminus of the trend. The most easterly portion of the Echimamish River belt is marked by a four sample linear anomal that includes a 100th percentile response of 36 ppb at site 198 and three 95th percentiles (21 ppb) at sites 188, 191 and 207. A low contrast 100th percentile response of 29 ppb is documented from site 79 in the Knife Lake belt. Two 98th percentile responses of 25 ppb occur at sites 5 and 121 along the southern belt margin and adjacent to the Gods Lake Narrows Shear Belt. A low contrast 100th percentile response of 19 ppb occurs at site 109.

Lithophile Elements

Li: The Goose Lake belt is marked by significant Li responses in the southeast portion of the belt with a 100th percentile response of 225 ppb at site 15 (no outcrop, dark green clay with hematitic mottling in the B-horizon) and 99th (171 ppb) and 98th (124 ppb) percentile responses at sites 173 and 172, respectively. A 98th percentile response also occurs at site 38 in the west end of the belt. Elevated levels are documented from the far east end of the Echimamish River belt with 100th (91 ppb), 98th (77 ppb) and 95th (75 ppb) percentile responses distributed along the northern margin. The narrow peninsula that separates Chataway Lake from Knife Lake in the Knife Lake belt is marked by a 100th percentile response of 64 ppb at site 97. Two 98th percentiles of 60 ppb occur at sites 75 and 83. The Webber Lake belt is marked by a 100th percentile response of 81 ppb at site 118 and a 98th percentile response of 68 ppb at site 117.

Mn: Highest Mn contents are recorded in the Goose Lake belt where a single sample 100th percentile (9378 ppb) anomaly occurs at site 165 in the central portion of the belt, a 99th percentile (8687 ppb) at the west end of the belt, and 98th percentile responses at site 173 at the southern belt margin and at site 125 in the east end of the belt. A single sample 100th percentile response occurs at site 198 in the far east end of the Echimamish River belt. The west end and the southern belt margin are marked by significant responses. In the west end of the Knife Lake belt a 100th percentile response of 3543 ppb occurs at site 96 adjacent to a 98th percentile response of 3019 ppb. A 98th percentile response also occurs at site 5 near the southern belt margin. The Webber Lake belt contains a 100th percentile response of 2993 ppb at site 7 and a 98th percentile response of 2875 ppb at site 120.

Rb: A multi-sample cluster of 100th (172 ppb) – 95th (115 ppb) percentile responses characterizes the southeast end of the Goose Lake belt. Another cluster of 100th (154 ppb)-95th (123 ppb) percentile responses occurs in the far east end of the Echimamish River belt. The east end of the Knife Lake belt is marked by a 100th percentile response of 139 ppb with 98th percentile responses of 113 ppb at sites 11 and 75. The Webber Lake belt is marked by 100th and 98th percentile responses of 140 ppb (site 99) and 138 ppb (site 104), respectively.

Sr: Similar Sr concentrations are reported for the four belts sampled in 1998. The Goose Lake belt has a 100th percentile of 680 ppb at site 15 and 99th and 98th percentile responses at sites 141 (656 ppb) and 152 (367 ppb), respectively. The western portion of the Knife Lake belt is marked by a 100th percentile response of 589 ppb at site 83 and a 98th percentile response of 337 at site 64. A second 98th percentile occurs at site 52 near the south end of Knife Lake. Single sample 100th percentile responses are documented from the western end of Webber Lake at site 117 (498 ppb) and from site 50 in the western portion of the Echimamish River belt.

Cs: Low concentration levels for Cs are reported for all belts. The Webber Lake belt has a 100th percentile response of 6.5 ppb at site 99 and a 100th percentile of 4.7 ppb occurs at site 121 in the western portion of the Knife Lake belt. The southeast end of the Goose Lake belt is marked by a 100th (5.6 ppb at site 18), 99th (4.3 ppb at site 154) and 98th (3.9 ppb at site 20) percentile anomaly. The far east end of the Echimamish River belt has elevated Cs contents as compared to the western portion of the belt. The east end is marked by a 100th percentile response of 5.5 ppb at site 191 and a 98th percentile of 5.1 ppb at site 199. Three 95th percentiles of 2.9 ppb are also present along the northern margin of the belt.

Ba: High contrast single site as well as multi-sample anomalies are present in the Goose Lake belt. The single sample 100th percentile response of 2966 ppb occurs at site 165 in the west central portion of the belt whereas the eastern end of the belt contains a 99th-90th percentile response (1404-572 ppb). The response at the east end is areally extensive and correlates to a circular U anomaly in this area. A single site 100th percentile response of 1282 ppb occurs at the southern margin of the Knife Lake belt adjacent to the Gods Lake Narrows Shear Belt. A 98th percentile response of 687 ppb also occurs along this deformation zone at site 121. The Webber Lake belt is marked by a single 100th percentile response of 786 ppb at site 117. The east end of the Echimamish River belt is marked by 100th (584 ppb) and 98th (579 ppb) percentile responses.

High Field Strength Elements

Ti: The Webber Lake belt contains a 100th percentile response at site 99 (3299 ppb) and a 98th percentile at site 118 in the western part of the belt. A similar 100th percentile response of 3172 ppb occurs in the west end of the Knife lake belt at site 121. The southeast end of the Goose Lake belt is marked by single 100th (3226 ppb at site 154), 99th (2611 ppb at site 20) and a 98th (2126 ppb at site 18) percentile responses. The east end of the Echimamish River belt contains elevated Ti responses in comparison with the western portion of the belt and contains 100th (3091 ppb at site 199) and 98th (3077 ppb at site 191) percentile responses along the northern belt margin.

Y: Exceptional Y responses were obtained from the far east end of the Echimamish River belt at site 198 (100th percentile of 244 ppb) and at site 187 (98th percentile of 85 ppb). The Gods Lake Narrows Shear Belt is bracketed to the north by a 100th percentile response of 59 ppb (site 60) and two 98th percentile responses of 54 ppb at sites 11 and 12 in the Knife Lake belt and by a 100th percentile (38 ppb) response at site 113 in the Webber Lake belt to the south. The Goose Lake belt has a 100th percentile response of 66 ppb at site 165 at the southwest margin of the belt. The southeast portion of the belt contains one 99th (64 ppb) and two 98th (61 ppb) percentile responses.

Zr: The southeast portion of the Goose Lake belt is also marked by 100th (287 ppb) and 98th percentile responses at sites 133 and 159 respectively. The west end of the belt has a 99th percentile response of 256 ppb. The far east end of the Echimamish River belt contains significantly higher responses than the western portion of the belt with a 100th (189 ppb at site 193) and 98th (181 ppb at site 204. There are also three 95th percentile responses that help to define this linear trend. The northwest part of the Knife lake belt has a 100th percentile response of 134 ppb at site 94 and two 98th percentile responses (120 ppb) at sites 60 and 97. A single site 100th percentile response of 113 ppb occurs at site 99 in the Webber Lake area.

Nb: Nb responses from the three belts are generally of low contrast without much difference in the absolute concentrations of the 100th percentiles from belt to belt. The southeast end of the Goose lake belt is characterized by a 100th (12.7 ppb), 99th (11 ppb) and a 95th percentile response of 7 ppb). A 98th percentile response occurs at site 173 at the south central belt margin. The far east end of the Echimamish River belt is marked by higher Nb responses than the west part of the belt. The 100th (12 ppb) and 98th (12 ppb) percentile responses for the belt are at sites 191 and 199, respectively in this part of the belt. There are single sample 100th percentile responses in the Knife Lake belt (11 ppb at site 121) and the Webber Lake belt (13 ppb at site 99).

Hf: Low contents of Hf were obtained from the four belts. The west end of the Goose Lake belt is marked by the presence of the 100th percentile response of 6 ppb at site 38 whereas the southeast portion of the belt has a three sample anomaly defined by 99th (3 ppb), 98th (2.8 ppb) and 95th (2.6 ppb) percentile responses. The far east end of the Echimamish River belt is marked by higher Hf responses than the west part of the belt. The 100th percentile (3.6 ppb at site 199), 98th percentile (3.4 ppb at site 191) and three 95th percentile (2.5 ppb at sites 188, 197 and 207) responses define an east trending anomaly. A single sample 100th percentile response of 2.7 ppb occurs at site 99 in the Webber Lake belt.

Rare Earth Elements

TREE: The rare earth element signatures of the four belts is expressed and interpreted on the basis of "TREE" or the total of all rare earth elements. Exceptional TREE responses are noted from the easternmost end of the Echimamish River belt where the 100th percentile response of 1431 ppb (site 198) is obtained. The 98th and 95th percentile responses of 349 ppb (site 187) and 338 ppb (site 207) are also located in this part of the belt. The southeast end of the Goose Lake belt is marked by three anomalous responses of 491 ppb (100th percentile at site 134), 458 ppb (99th percentile at site 18) and 444 ppb (98th percentile at site 159). The west end of the belt contains a 98th and 95th percentile response at sites 38 and 35, respectively. The Gods Lake Narrows Shear Belt is reasonably well defined by the alignment of 100th-95th percentile responses in the Knife Lake and Webber Lake belts. In the Knife Lake belt 100th (477 ppb at site 121), two 98th (409 ppb at sites 60 and 74) and 95th (339 ppb at site 12) percentile responses define this deformation zone at the southern belt boundary. In the Webber Lake belt the 100th (363 ppb at site 99) and 98th (293 ppb at site 7) percentile responses occur at or near the northern belt margin which is part of this shear.

Synthesis

Enzyme leach based b-horizon soil geochemical survey results have effectively delineated multi-sample and multi-element high- to low-contrast anomalies centered on areas of strong geophysical response, structure, unique lithologies and mineralization as well as in areas where outcrop is unavailable owing to surficial deposit cover. Results from the 1998 enzyme leach survey are described for each of the individual greenstone belts.

Echimamish River Belt

The Echimamish River belt comprises, in the western portion of the belt sampled in 1998, predominantly mafic volcanic rocks and associated chemical sedimentary rocks. Exposures in the eastern portion of the belt include a mixture of granitic intrusive rocks, basalt and ultramafic rocks. Outcrop is scarce in the easternmost end of the belt due to significant overburden cover. It is likely that both the north and south margins of this belt are faulted, reflecting late movement at a rheologic boundary. Basaltic rocks observed at or near the belt margins are invariably strained with strongly developed foliations and foliation-parallel quartz veins. It is therefore of considerable interest that the geochemical responses obtained with the enzyme leach are significantly higher in terms of concentration levels and number of anomalous sites in the east end of the belt where supracrustal rocks are volumetrically insignificant.

The western portion of the belt is marked by relatively few geochemical responses, including specific conductance and an arcuate Br anomaly. The eastern portion, however, is marked by significant responses for Cu, Pb, Ga, Zn, Ni, Co, As, U, Th, Cl, Mn, Li, Rb, Cs, Ba, Y, Zr, Nb, Hf and TREE. It is likely that the halogen, high field strength and rare earth elements are responding to the presence of belt-bounding fault(s) along the northern belt margin, where the majority of sampling was undertaken. This observation is consistent with numerous case history studies that indicate the ability of the enzyme leach process to map structure in the subsurface. The multi-element base metal signature is consistent with the character of the belt to the west (in the Max Lake area), where areally significant hydrothermal alteration and mineralization has been documented. The element assemblage of Li, Rb, Cs, Ba and Hf is most likely related to the presence of late stage hydrothermal fluids related to pegmatite emplacement utilizing the belt-bounding faults as conduits. Whether the base metal signature that accompanies the “pegmatite” suite of elements indicates remobilization of primary and/or structurally controlled base metal mineralization is unknown. The presence of a pegmatitic granite at site 205 would represent a possible source for these fluids.

The east end of the Echimamish River belt is an area of high enzyme leach geochemical flux and should be prospected initially to assess the available outcrop and then followed up with detailed geochemical and/or geophysical surveys.

Goose Lake Belt

The Goose Lake belt exhibits the largest number of base and pecious metal anomalous responses of any greenstone belt sampled in 1998. The enzyme leach data corresponds to anomalies defined with humus, rock, and vegetation sampling media in three main areas of the belt and the responses can be shown to reflect bedrock features.

The belt can be subdivided on the basis of the presence of geophysical conductors, with both the west and east ends of the belt containing strong to weak, long and short strike length, ground EM responses. The central portion of the belt contains only a few weak conductors. A major structure parallels the northwest trend of the belt. The west end of the belt is also marked by the presence of a mafic-ultramafic intrusion and a pegmatite. At the east end of the belt a sulphide facies iron formation interlayered with chert and massive, porphyritic and amygdaloidal basalt is exposed. This sequence is crosscut by a shear zone that has mobilised iron sulphides into a white quartz vein that parallels the regional foliation.

Geochemically, the east end of the belt contains significant high contrast, multi-sample anomalies for the base metals Cu, Pb, Ga and Zn, precious metal pathfinders As and Sb, “pegmatite” suite elements Li, Rb, Cs and Ba, high field strength elements (HFSE) Ti, Zr, Nb and Hf, TREE and V, U and Th. The HFSE and TREE responses are interpreted to indicate structure such as the major fault that parallels the belt; the base and precious metal responses pinpoint mineralized sources. The central portion of the belt is marked by relatively few, weak, ground EM conductors, although chlorite-garnet-magnetite silicate and oxide facies iron formation is documented from site 164. The halogens Cl, Br and I as well as a strong base metal assemblage of Cu, Zn, Ni and Co characterize some of the responses obtained in the central belt area. Other anomaly-forming elements include Li, As, Ba and Y. Many responses are situated at the belt margin, particularly along the southern edge of the belt. The west end of the belt is marked by a lesser number of responses although the presence of the mafic-ultramafic complex in this area is indicated by the strong Ni response. Other anomalies include the elements Cl, Th, Mn and Zr as well as specific conductance.

All areas of the Goose Lake belt have excellent residual exploration potential on the basis of the enzyme leach survey results. The west end of the belt should be assessed for platinum group elements and the potential for gold should be assessed in areas of coincident structural disruption and As and Sb enzyme leach anomalies.

Knife Lake Belt

The Knife Lake belt contains multiple ground EM conductors, particularly in the area of the narrow northeast-trending peninsula that separates Chataway Lake from Knife Lake. This area is marked by relatively few anomalous responses including Li and specific conductance. The west end of the belt is marked by As, Ga, Mn, Rb, Ti and Nb responses usually at or near the margin of the belt. A significant number of responses were observed from the eastern portion of the belt in an area of dominantly granitic intrusions. These responses include Cu, Zn, Ni, Co, Sb, V and Rb and are somewhat perplexing. The anomalies may be related to a shear zone containing base metal mobilisate or the anomalies could reflect the presence of unrecognized base metal mineralization hosted by unmapped volcanic rocks or intrusions. This possibility is supported by diamond drill results in the area, which intersected 1 m of pyrite and pyrrhotite-bearing iron formation with trace to 1% chalcopyrite within a gabbro-diorite intrusion (cf..Hosain, 1997; Map OF97-4-8). The main area of geochemical flux in the Knife Lake belt (and also the Webber Lake belt) occurs at the southern belt margin, marked by a high strain zone that has been referred to as the Gods Lake Narrows Shear Belt (Marten, 1992). This feature represents a major zone of structural disruption and as such a pathway for hydrothermal fluids. This interpretation is strengthened by the presence of I, Th, Ga, Mn, Rb, Ti, Y, Nb, and TREE anomalies at the Knife Lake southern belt margin. The area of this structure should be prospected for altered and/or mineralized rocks related to this feature or to associated crosscutting structures.

Webber Lake Belt

The Webber Lake belt enzyme leach responses are essentially restricted to the northern and northwestern belt margins, where disruption of the contact area by the Gods Lake Narrows Shear Belt has been mapped, and characterized by most of the geochemical anomalies. These responses include Cl, Br, I, Mn, Y and TREE. The low contrast As, Cu, Pb, Ga and Zn responses should be followed up, particularly the Cu and Zn anomalies that occur in areas of no outcrop.

The nature of the b-horizon samples collected in 1998 indicates a preponderance of variably oxidized glacial Lake Agassiz clays. These surficial deposits comprise 60% of the b-horizon soil samples collected in 1998 with the remainder represented by silt (12%), sand (4%), till (9%) and 15% of samples classified as “mixed” owing to the mixing of sands, silts, clays and tills by permafrost action. Within the body of anomalous responses identified in the 1998 survey area, there is a lack of preferential development of high, medium or low contrast geochemical anomalies in any one particular b-horizon soil type. It is somewhat difficult to assess the effects of primary b-horizon soil composition on enzyme leach response given the preponderance of lacustrine clays as the primary sample media.

Noteworthy in this survey is the success of the enzyme leach technique at a 1 km sampling scale and the correspondence with rock, humus, vegetation and till geochemical survey results. This co-variability is particularly important since 38% of the sites sampled in 1998 were in areas of no outcrop. The ability to provide meaningful soil geochemical data that can be integrated with other geochemical, geophysical and geological data provides the mineral explorationist with a valuable tool in the search for buried and/or blind mineralization.

Conclusions

The following conclusions are apparent from the 1998 b-horizon soil geochemical survey based on the enzyme leach process:

1. high contrast multi-element and multi-sample anomalous responses have been delineated in each of the belts sampled in 1998 and should be followed up initially by prospecting followed by detailed geochemical surveys in areas of little or no outcrop;
2. the Goose Lake belt appears to be the most prospective of the belts sampled in 1998, although new zones of high contrast geochemical response have been delineated at or near the greenstone belt margins, in association with fault structures, and in areas where the rocks display evidence of chemical sedimentation and alteration;
3. the Gods Lake Narrows Shear Belt is marked by numerous geochemical responses and may have important metallogenetic implications for mineral exploration;
4. a properly collected, prepared and analyzed b-horizon soil sample can effectively target base and precious metal targets for subsequent follow-up;
5. the significant areal expanses of wet peatlands in the 1998 multi-media survey does not prohibit the acquisition of meaningful soil geochemical data derived from the enzyme leaching of b-horizon soil samples.

Appendix 1

B-Horizon Geochemistry: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Hydrogen Ion (H^+) and Specific Conductance (K) Analyses.

Sample ID:	UTM		S.Q.Li	S.Q.Be	S.Q.Cl	S.Q.Sc	S.Q.Ti	V	Mn	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Rb	Sr	Y	Zr	Nb	Mo	Ru	Pd	Ag	Cd	In	Sn
	Easting	Northing	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
98B-1	422175.00	6047885.00	17	10	1500	50	50	138.6	968	13	36.3	34.5	30.49	0.5	0.5	9.4	15	15	8	91	29.1	42.6	1.5	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-2	419789.00	6046717.00	5	10	7272	50	293	85.5	610	8	17.8	21.5	25.13	1.9	0.5	5.8	15	15	18	83	36.4	42.0	2.1	4.2	0.5	0.5	0.1	0.4	0.1	0.5
98B-3	419903.00	6044273.00	5	10	6099	50	50	98.3	471	8	16.5	26.2	19.79	0.5	0.5	10.5	15	154	18	276	13.2	23.5	1.1	7.7	0.5	0.5	0.1	0.4	0.1	0.5
98B-4	424854.00	6040934.00	5	10	12999	50	212	94.0	881	13	21.8	40.6	22.98	0.5	0.5	15.5	15	252	17	209	27.5	43.5	1.6	6.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-5	423967.00	6040083.00	14	10	4199	50	137	113.4	3019	25	24.5	21.3	27.98	0.5	0.5	9.3	15	172	22	83	27.1	53.7	1.5	3.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-6	423110.50	6036780.50	5	10	5953	50	235	69.8	388	9	19.3	24.2	32.21	0.5	0.5	8.0	15	87	25	106	18.6	33.2	1.7	4.5	0.5	0.5	0.1	0.5	0.1	0.5
98B-7	422898.50	6036995.50	5	10	1500	50	50	25.1	2993	13	5.8	6.9	16.65	0.5	0.5	2.5	15	15	56	77	29.2	46.1	1.4	1.5	0.5	0.5	0.1	0.3	0.1	0.5
98B-8	415727.00	6042908.00	13	10	15520	50	288	114.9	638	8	21.6	21.2	22.56	2.5	0.5	9.1	15	236	33	307	31.0	87.5	2.5	4.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-10	413976.00	6041879.00	5	10	1500	50	186	77.4	524	8	17.3	29.5	21.85	0.5	0.5	7.9	15	375	6	89	45.8	43.9	1.4	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-11	412154.00	6042663.00	43	10	1500	50	2455	113.2	1019	22	55.9	29.0	62.31	14.0	1.0	10.4	15	15	109	95	24.9	89.0	9.4	4.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-12	411756.00	6042217.00	42	10	3921	50	2228	142.2	1005	21	55.8	41.0	66.72	11.7	1.2	10.0	15	15	83	138	46.1	92.8	9.5	3.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-13	410273.00	6047753.00	5	10	6006	50	202	102.1	558	11	17.8	20.7	22.95	0.5	0.5	10.1	15	15	20	113	30.9	54.6	1.8	4.2	0.5	0.5	0.1	0.4	0.1	0.5
98B-14	403125.44	6011007.50	59	10	3341	50	401	179.0	236	12	29.6	35.3	37.85	1.9	0.5	9.6	15	15	35	121	20.1	33.3	2.9	1.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-15	405071.47	6014609.50	225	10	9709	50	50	654.4	482	19	38.9	224.6	67.90	1.9	0.5	7.7	15	60	39	680	17.6	63.8	2.1	22.8	0.5	0.5	0.1	0.2	0.1	0.5
98B-16-1 Field Duplicate	406208.50	6016505.50	5	10	3791	50	50	20.9	39	2	2.5	2.5	20.25	0.5	0.5	2.5	15	15	87	38	2.1	2.6	0.5	1.6	0.5	0.5	0.1	0.4	0.1	0.5
98B-16-2 Field Duplicate	406208.50	6016505.50	5	10	1500	50	50	12.4	179	2	2.5	2.5	21.05	0.5	0.5	2.5	15	15	87	28	2.3	0.5	0.5	1.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-17	408555.38	6014841.50	27	10	6106	50	50	2.5	31	5	7.1	2.5	25.73	0.5	0.5	2.5	15	15	101	88	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5	0.1	0.5
98B-18	415078.09	6012325.00	48	10	1500	50	1794	78.6	565	14	41.4	46.5	53.69	9.9	0.5	18.5	15	15	87	66	44.5	82.1	7.1	1.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-19	414432.16	6013288.00	18	10	3757	50	743	63.7	377	5	18.2	76.0	37.45	4.6	0.5	13.6	15	205	53	192	20.5	37.5	3.1	3.5	0.5	0.5	0.1	0.3	0.1	0.5
98B-20	409312.34	6013691.50	40	10	1500	50	2611	168.6	496	17	56.8	59.9	54.87	14.8	0.5	22.3	15	15	58	135	28.5	69.2	11.2	7.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-21	389429.00	6018411.00	13	10	1500	50	603	45.5	273	8	21.6	42.6	30.99	4.3	0.5	314.3	15	15	45	64	25.5	41.3	2.8	2.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-22	389344.00	6016674.00	11	10	6987	50	200	51.1	224	13	14.9	23.3	26.95	0.5	0.5	8.0	15	15	45	68	9.6	40.6	1.8	5.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-23	392288.00	6014396.00	99	10	5256	50	435	49.2	1164	8	35.9	182.9	41.11	3.3	0.5	14.7	15	31	31	159	9.7	24.0	2.6	53.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-24	379613.00	6025712.00	46	10	7981	50	200	138.0	257	7	18.3	38.2	34.19	0.5	0.5	9.7	15	15	21	72	20.2	28.3	2.1	3.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-25	377057.00	6026670.00	26	10	3625	50	678	35.7	262	5	13.3	9.5	41.32	4.4	0.5	2.5	15	15	38	68	5.8	35.1	2.9	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-26	374339.00	6028062.00	25	10	5682	50	167	127.7	488	7	42.6	70.7	25.06	0.5	0.5	12.2	15	81	12	254	40.4	27.8	1.4	5.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-27	375906.00	6025997.00	65	10	4283	50	249	118.6	548	9	24.2	46.6	30.88	0.5	0.5	12.2	15	15	29	89	34.2	127.2	2.1	3.0	0.5	0.5	0.1	0.2	0.1	0.5
98B-28	374248.00	6028877.00	5	10	5393	50	50	62.6	471	6	21.9	68.9	23.38	1.0	0.5	12.7	15	306	3	249	28.8	19.9	0.5	9.1	0.5	0.5	0.1	0.3	0.1	0.5
98B-29	374547.00	6029138.00	19	10	3595	50	154	62.0	478	10	12.9	15.1	24.45	0.5	0.5	5.7	15	15	24	58	14.2	39.6	1.4	2.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-30	374926.00	6026839.00	42	10	3751	50	203	141.3	1386	23	32.3	30.1	31.63	3.0	0.5	13.3	15	44	28	106	25.1	84.9	1.8	3.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-31	372780.00	6028156.00	33	10	6676	50	154	121.0	1254	17	28.5	37.4	53.43	0.5	0.5	14.1	15	15	25	124	29.8	130.3	1.7	5.3	0.5	0.5	0.1	0.5	0.1	0.5
98B-32	372307.00	6028232.00	44	10	3212	50	308	136.8	439	17	31.3	27.1	25.09	0.5	0.5	9.5	15	64	16	164	16.3	99.8	2.2	14.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-33	372056.00	6029102.00	31	10	5365	50	217	82.0	390	14	23.4	28.3	29.23	1.4	0.5	8.0	15	15	39	107	13.1	76.9	2.2	4.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-34	372498.00	6030016.00	37	10	5628	50	201	120.4	955	10	74.5	71.4	27.24	0.5	0.5	9.8	15	44	15	221	16.1	20.6	1.2	7.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-35	373283.00	6030024.00	30	10	8014	50	192	215.2	8687	31	60.2	67.7	36.91	0.5	0.5	17.1	15	58	11	151	51.7	72.3	2.4	8.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-36-1 Field Duplicate	371637.00	6030765.00	17	10	20062	50	425	122.3	1198	16	37.3	55.9	28.13	2.2	0.5	9.5	15	364	11	165	42.0	46.7	2.1	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-36-2 Field Duplicate	371637.00	6030765.00	16	10	14969	50	318	179.9	997	15	30.2	48.3	29.40	1.8	0.5	10.7	15	472	11	131	42.6	38.8	2.1	3.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-37	370589.00	6033766.00	10	10	4696	50	243	37.9	500	7	12.1	17.3	23.39	1.8	0.5	2.5	15	101	27	68	30.4	59.2	1.4	1.6	0.5	0.5	0.1	0.2	0.1	0.5
98B-38	373372.00	6029446.00	124	10	4747	50	1527	116.6	591	33	58.9	46.3	58.98	10.1	1.1	12.3	15	121	109	117	41.1	255.6	8.3	2.8	0.5	0.5	0.2	0.4	0.1	0.5
98B-39	319606.97	6040534.00	5	10	1500	50	276	26.9	3399	15	12.5	5.9	20.61	2.7	0.5	5.1	15	15	49	85	14.9	28.9	1.9	1.4	0.5	0.5	0.1	0.3	0.1	0.5
98B-40	317629.00	6040882.50	21	10	5652	50	385	149.6	584	12	31.7	55.1	37.04	1.8	0.5	12.3	15	268	17	80	45.1	40.4	2.2	1.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-41	317884.00	6042024.50	36	10	7137	50	216	192.0	1082	15	45.5	39.0	34.04	0.5	0.5	9.4	15	116	9	149	29.0	27.3	1.7	2.9	0.5	0.5	0.1	0.1	0.1	0.5

Sample ID:	UTM		S.Q.Li	S.Q.Be	S.Q.Cl	S.Q.Sc	S.Q.Ti	V	Mn	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Rb	Sr	Y	Zr	Nb	Mo	Ru	Pd	Ag	Cd	In	Sn
	Easting	Northing	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
98B-42	320886.94	6039672.00	23	10	8139	50	543	147.5	743	13	24.6	40.7	38.03	2.1	0.5	8.1	15	40	34	99	18.1	29.4	2.6	2.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-43	318611.03	6043950.00	5	10	3823	50	418	34.0	1041	11	14.3	8.4	21.68	3.9	0.5	6.2	15	15	33	84	32.1	42.6	2.2	1.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-44	320323.97	6041882.00	5	10	1500	50	128	77.0	459	3	10.0	15.6	14.59	0.5	0.5	7.2	15	269	19	151	11.9	16.0	0.5	6.6	0.5	0.5	0.1	0.3	0.1	0.5
98B-45	324338.88	6040074.00	5	10	4621	50	171	74.6	1366	16	26.4	45.0	24.44	1.1	0.5	7.4	15	171	10	157	41.7	37.4	1.2	7.5	0.5	0.5	0.1	0.2	0.1	0.5
98B-46	324880.84	6038786.00	5	10	5829	50	50	98.1	939	7	18.3	32.3	18.13	0.5	0.5	16.0	15	64	8	231	18.1	25.9	0.5	16.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-47	325306.88	6039999.00	26	10	1500	50	1211	83.0	330	10	32.3	40.9	35.82	6.0	0.5	11.9	15	183	47	103	34.4	56.5	4.5	6.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-48	328136.84	6040488.00	5	10	5279	50	50	79.8	491	6	16.2	32.0	19.48	0.5	0.5	15.0	15	154	8	248	14.9	18.6	1.1	9.1	0.5	0.5	0.1	0.4	0.1	0.5
98B-49	314291.00	6039571.50	11	10	3001	50	648	88.8	712	11	58.3	37.2	29.23	3.6	0.5	9.0	15	59	19	94	24.3	42.5	2.5	16.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-50	317241.97	6039935.50	5	10	6837	50	50	167.6	645	13	20.0	54.6	18.35	0.5	0.5	15.4	15	265	22	414	11.9	17.9	0.5	8.7	0.5	0.5	0.1	0.4	0.1	0.5
98B-51	318170.97	6039892.50	37	10	3509	50	2360	137.3	651	23	53.9	36.9	59.96	11.7	1.1	10.0	15	74	74	121	26.1	84.7	9.0	3.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-52	424658.00	6042698.00	5	10	16454	50	145	72.4	673	7	14.9	27.3	18.52	2.0	0.5	10.0	15	230	8	318	36.8	31.9	1.6	9.2	0.5	0.5	0.1	0.3	0.1	0.5
98B-53	422939.00	6041290.00	5	10	10829	50	111	48.9	385	5	12.8	47.2	22.48	0.5	0.5	10.1	15	78	9	202	11.2	15.2	0.5	7.9	0.5	0.5	0.1	0.4	0.1	0.5
98B-54	422577.00	6040642.00	12	10	6603	50	260	93.0	793	16	26.7	27.4	28.99	1.3	0.5	9.6	15	116	15	90	26.2	55.7	1.6	4.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-55	426549.00	6042653.00	34	10	3632	50	1927	124.0	1185	15	42.8	45.4	48.98	11.3	0.5	9.9	15	38	61	109	34.1	68.4	8.1	1.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-56	427348.00	6040986.00	13	10	6168	50	308	37.6	266	4	8.6	6.9	20.83	2.6	0.5	2.5	15	15	22	65	9.3	12.8	1.5	2.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-57	429478.00	6040983.00	27	10	14919	50	1540	64.5	626	12	29.5	18.3	49.64	8.3	0.5	6.4	15	151	75	105	28.4	76.2	6.3	2.1	0.5	0.5	0.1	0.6	0.1	0.5
98B-58	422017.59	6039578.50	31	10	6822	50	1494	116.3	645	12	40.7	81.1	45.36	8.3	0.5	10.6	15	196	68	192	30.6	59.5	6.4	4.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-59	420543.00	6039880.00	49	10	15563	50	2008	133.9	714	20	54.9	49.1	68.89	10.6	0.5	10.2	15	126	78	293	31.1	100.8	8.0	2.6	0.5	0.5	0.1	0.3	0.1	0.5
98B-60	419349.00	6041198.00	39	10	6178	50	2077	112.6	545	14	57.4	54.9	59.87	13.1	1.1	10.7	15	58	87	120	58.8	120.1	7.9	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-61-1 Field Duplicate	428648.00	6042511.00	5	10	1500	50	152	22.7	223	1	5.4	24.7	16.89	2.1	0.5	2.5	15	15	33	136	6.4	14.4	0.5	2.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-61-2 Field Duplicate	428648.00	6042511.00	5	10	16327	50	156	58.9	499	7	13.8	23.7	21.84	0.5	0.5	11.1	15	357	19	148	19.0	21.1	1.2	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-62	428719.00	6043536.00	24	10	9554	50	1208	55.8	403	12	29.1	18.5	36.45	6.2	0.5	6.7	15	15	70	73	20.4	72.0	4.6	4.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-63	427677.00	6045751.00	26	10	14062	50	1287	82.4	647	11	35.5	24.7	44.54	7.8	0.5	7.2	15	338	44	103	27.2	54.4	4.6	3.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-64	430255.00	6047124.00	5	10	19452	50	206	50.4	728	10	19.0	45.9	46.60	5.2	0.5	11.9	15	881	24	337	30.6	33.2	1.1	7.0	0.5	0.5	0.1	1.0	0.1	0.5
98B-67	424531.00	6048166.00	38	10	14547	50	453	83.5	572	11	27.5	31.8	36.35	1.1	0.5	8.6	15	368	34	98	34.0	95.8	2.3	1.4	0.5	0.5	0.1	0.3	0.1	0.5
98B-68	423147.00	6050489.00	37	10	12641	50	1894	154.7	541	12	43.6	50.9	58.88	11.6	0.5	14.6	15	396	78	147	33.2	81.0	7.4	5.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-69	421846.00	6049098.00	10	10	5788	50	263	21.0	156	17	27.1	43.9	25.11	0.5	0.5	2.5	15	83	76	138	5.8	24.8	1.4	0.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-70	411122.00	6046567.00	5	10	5518	50	272	36.4	942	5	8.7	23.6	23.17	2.4	0.5	6.9	15	68	33	186	13.0	17.8	1.3	5.3	0.5	0.5	0.1	0.2	0.1	0.5
98B-71	412676.00	6045877.00	10	10	1500	50	620	52.8	907	8	18.8	28.2	26.33	3.3	0.5	7.7	15	36	29	77	33.6	55.1	3.1	4.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-72	413024.00	6047216.00	28	10	1500	50	1465	102.9	759	12	38.8	28.1	47.88	10.2	0.5	9.5	15	61	68	106	25.3	81.3	6.0	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-73	411549.00	6043862.00	28	10	6711	50	1167	61.5	1298	16	28.5	21.3	41.03	7.0	0.5	25.2	15	59	81	89	13.1	51.9	4.6	1.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-74	413657.00	6043128.00	21	10	9816	50	407	80.2	903	11	29.1	40.1	32.36	2.9	0.5	9.3	15	258	30	110	54.3	75.4	2.6	2.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-75	422108.00	6041765.00	60	10	1500	50	2344	186.4	428	10	52.8	60.1	73.65	16.2	0.5	14.9	15	15	113	238	16.6	88.8	9.5	10.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-77	432746.00	6042736.00	33	10	1500	50	1638	98.5	397	10	39.3	38.5	50.55	8.6	0.5	8.7	15	15	80	182	18.2	67.2	6.2	3.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-78	431930.00	6043534.00	5	10	1500	50	290	16.3	96	2	7.6	5.7	19.72	2.6	0.5	2.5	15	15	30	51	10.8	21.0	1.5	3.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-79	432599.00	6044519.00	46	10	3145	50	2390	115.4	929	29	100.6	69.8	83.48	14.9	1.0	11.6	15	106	139	264	22.3	84.1	9.8	10.8	0.5	0.5	0.1	0.6	0.1	0.5
98B-81	432096.00	6047105.00	28	10	1500	50	1396	90.4	272	6	28.4	33.3	43.51	7.6	0.5	9.2	15	260	75	227	16.4	59.5	5.3	4.3	0.5	0.5	0.1	0.3	0.1	0.5
98B-82	431155.00	6045908.00	32	10	4228	50	1362	106.1	680	11	34.6	45.5	42.95	8.8	0.5	8.9	15	129	57	125	17.4	62.9	5.6	4.3	0.5	0.5	0.1	0.1	0.1	1.4
98B-83	431374.00	6041096.00	58	10	4235	50	126	76.8	301	3	18.4	25.7	28.66	0.5	0.5	11.5	15	184	18	589	13.0	19.5	1.2	8.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-85-1 Field Duplicate	439153.13	6044766.50	16	10	5478	50	50	13.8	1050	4	10.8	5.1	18.34	0.5	0.5	2.5	15	179	38	102	9.6	9.6	0.5	1.0	0.5	0.5	0.1	0.5	0.1	0.5
98B-85-2 Field Duplicate	439153.13	6044766.50	5	10	1500	50	126	15.2	579	3	2.5	2.5	14.34	0.5	0.5	2.5	15	43	31	109	11.2	11.7	0.5	1.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-86	437708.13	6043243.50	42	10	4018	50	50	869.7	790	12	31.4	148.7	62.47	1.6	0.5	14.6	15	76	49	262	19.3	33.9	2.7	26.8	0.5	0.5	0.1	0.2	0.1	0.5
98B-87	438758.06	6041729.50	5	10	6134	50	172	62.5	413	7	15.7	22.8	20.73	0.5	0.5	10.7	15	125	12	106	34.7	46.2	1.6	3.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-88	437893.09	6041978.50	15	10	1500	50	585	69.1	165	3	16.5	19.9	29.04	3.9	0.5	7.3	15	112	32	173	10.9	34.3	2.5	4.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-90	441264.97	6041603.50	19	10	3994	50	946	66.8	741	7	25.6	35.4	44.29	6.6	0.5	5.9	15	269	48	187	10.5	44.1	3.8	3.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-91	439048.03	6040825.50	18	10	1500	50	224	39.9	414	15	10.2	19.2	22.49	0.5	0.5	5.1	15	137	78	110	31.7	92.5	2.0	0.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-93	410621.00	6049058.00	5	10	7318	50	126	27.3	1102	5	6.2	8.2	25.65	1.7	0.5	2.5	15	444	33	177	6.2	10.6	0.5	2.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-94	413909.00	6049263.00	53	10	7078	50	639	124.6	220	13	29.5	54.6	42.83	2.3	0.5	11.1	15	584	37	125	26.5	134.4	3.2	2.8	0.5	0.5	0.1	0.6	0.1	0.5
98B-95	407798.00	6049007.00	5	10	5377	50	50	80.6	174	2	10.3	22.6	16.49	0.5	0.5	33.5	15	204	10	180	16.1	7.2	0.5	2.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-96	409899.00	6046556.00	5	10	6118	50	119	66.5	3543	24	16.4	47.1	28.90	0.5	0.5	34.3	15	147	41	128	9.5	18.5	0.5	12.1	0.5	0.5	0.1	0.9	0.1	0.5
98B-97	418140.00	6045082.00	64	10	5695	50	302	106.1	216	9	27.4	60.0	36.63	1.6	0.5	9.3	15	98	33	91	42.1	116.3	2.4	4.0	0.5	0.5	0.1	0.1	0.1	0.5

Sample ID:	UTM		S.Q.Li	S.Q.Be	S.Q.Cl	S.Q.Sc	S.Q.Ti	V	Mn	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Rb	Sr	Y	Zr	Nb	Mo	Ru	Pd	Ag	Cd	In	Sn
	Easting	Northing	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
98B-98	416634.00	6042840.00	5	10	7847	50	50	43.3	432	5	9.0	38.4	26.84	1.2	0.5	10.0	15	255	10	264	11.5	15.1	0.5	8.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-99	429858.16	6033292.50	56	10	5451	50	3299	158.5	515	18	75.5	64.0	99.34	21.8	1.5	7.6	15	75	140	195	34.9	113.2	13.3	5.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-100	431644.06	6033251.50	5	10	3202	50	50	18.6	615	2	2.5	10.1	11.84	0.5	0.5	2.5	15	68	7	136	5.5	6.8	0.5	4.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-101	432256.00	6031840.50	11	10	7430	50	160	145.1	860	6	18.0	56.1	26.25	1.3	0.5	15.6	15	103	11	260	17.0	26.4	1.2	4.3	0.5	0.5	0.1	0.2	0.1	0.5
98B-102	429871.16	6033829.50	5	10	6973	50	112	66.4	536	4	10.1	43.5	21.44	1.9	0.5	9.4	15	121	16	208	13.1	20.3	1.0	7.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-103	425307.38	6035317.50	41	10	7874	50	577	83.4	900	7	27.3	40.7	33.04	3.4	0.5	7.9	15	124	41	255	18.3	37.3	3.0	7.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-104-1 Field Duplicate	423848.47	6036518.50	32	10	10926	50	1416	138.2	634	12	40.0	38.8	56.01	9.8	0.5	12.1	15	160	84	153	19.5	66.1	5.8	6.5	0.5	0.5	0.1	0.4	0.1	0.5
98B-104-2 Field Duplicate	423848.47	6036518.50	58	10	6090	50	2609	174.8	567	17	64.7	39.4	91.11	19.2	1.3	13.6	15	97	138	149	18.5	103.7	10.6	4.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-105	421335.53	6036410.50	15	10	3429	50	848	55.3	950	17	23.1	15.4	28.23	5.1	0.5	6.2	15	88	28	99	30.1	48.7	4.0	6.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-106	421383.56	6037781.50	13	10	7161	50	498	71.0	341	4	14.3	50.6	27.99	2.5	0.5	11.6	15	149	32	222	14.3	25.5	2.1	5.9	0.5	0.5	0.1	0.3	0.1	0.5
98B-107	420147.63	6037637.50	5	10	5219	50	50	62.5	391	3	7.4	36.6	17.58	0.5	0.5	8.3	15	162	6	245	10.0	12.6	0.5	11.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-108	421291.50	6035072.50	59	10	3850	50	2378	141.9	869	14	58.7	67.7	77.09	17.0	1.1	12.9	15	67	132	331	18.0	81.3	9.4	5.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-109	423732.41	6034418.50	35	10	7302	50	1844	117.6	525	19	50.6	50.1	70.63	10.2	0.5	9.4	15	162	66	130	21.5	84.4	7.4	3.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-110	424600.44	6036265.50	15	10	5584	50	50	103.0	374	4	14.4	33.3	20.77	0.5	0.5	11.9	15	131	18	208	28.7	61.5	1.3	3.9	0.5	0.5	0.1	0.4	0.1	0.5
98B-111	422790.47	6035391.50	5	10	1500	50	446	37.0	422	4	11.3	37.0	21.92	3.5	0.5	5.7	15	95	26	196	8.6	25.7	1.9	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-112	422413.50	6036539.50	5	10	5858	50	107	52.3	344	4	11.7	32.0	18.60	0.5	0.5	6.3	15	148	12	226	12.8	19.9	1.0	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-113	419846.59	6036918.50	5	10	10266	50	337	44.1	2847	13	16.5	31.8	26.74	2.2	0.5	8.4	15	229	21	115	38.2	62.0	2.2	2.3	0.5	0.5	0.1	0.4	0.1	0.5
98B-114	419177.66	6038148.50	28	10	6079	50	177	107.9	741	6	25.6	35.9	25.15	0.5	0.5	13.5	15	209	19	243	26.0	50.5	1.5	4.0	0.5	0.5	0.1	0.3	0.1	0.5
98B-115	418088.72	6038642.50	12	10	5416	50	647	49.3	356	5	18.1	24.6	28.14	3.1	0.5	6.0	15	128	29	83	17.0	37.1	2.9	4.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-116	417811.72	6039129.50	41	10	7948	50	1462	89.0	816	10	39.6	58.7	54.92	10.1	0.5	8.5	15	64	96	262	15.7	52.9	5.0	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-117	433470.97	6032879.50	68	10	7263	50	123	183.6	571	6	25.1	39.2	25.91	2.3	0.5	14.4	15	144	19	498	34.3	67.0	1.6	8.7	0.5	0.5	0.1	0.6	0.1	0.5
98B-118	426929.28	6034129.50	81	10	10151	50	2625	141.0	1019	17	63.4	104.1	103.19	17.8	1.2	18.6	15	63	131	420	17.9	84.5	9.9	14.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-119	425480.31	6033803.50	22	10	6296	50	217	118.3	1096	13	25.4	40.0	37.02	1.7	0.5	12.1	15	91	31	226	26.6	36.2	1.8	10.3	0.5	0.5	0.1	0.6	0.1	0.5
98B-120	423790.44	6035660.50	62	10	5723	50	2533	140.4	2875	17	67.2	63.2	89.80	15.5	1.1	15.1	15	47	137	263	17.7	83.6	9.2	9.4	0.5	0.5	0.1	0.5	0.1	0.5
98B-121	407150.00	6045862.00	51	10	8413	50	3172	118.8	2953	25	64.0	55.0	64.45	16.3	1.4	7.6	15	57	96	217	43.0	97.2	11.4	2.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-122	408163.00	6044404.00	54	10	11779	50	241	99.9	605	10	20.5	62.2	35.45	0.5	0.5	14.1	15	216	24	306	17.2	38.2	1.6	91.9	0.5	0.5	0.1	0.3	0.1	0.5
98B-123	410744.00	6043110.00	17	10	9106	50	118	107.0	577	6	16.6	58.8	23.39	0.5	0.5	16.8	15	230	10	233	19.6	34.3	1.1	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-124	416359.03	6011437.00	25	10	12447	50	604	81.8	587	13	21.0	38.0	32.97	3.3	0.5	19.3	15	297	36	146	54.3	89.5	3.2	3.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-125	417489.03	6012396.00	27	10	9712	50	540	145.0	3629	18	46.8	62.1	40.35	3.4	0.5	10.3	15	222	32	143	32.0	36.1	2.8	3.6	0.5	0.5	0.1	0.5	0.1	0.5
98B-126	413132.19	6012836.00	16	10	6450	50	50	19.4	699	11	17.1	89.9	32.27	1.4	0.5	12.9	15	92	15	76	7.0	7.7	0.5	2.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-127	385444.00	6022763.00	37	10	11885	50	117	163.9	481	5	16.5	42.9	19.36	0.5	0.5	17.5	15	146	17	316	13.0	21.4	1.2	8.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-128	385814.00	6024219.00	42	10	8914	50	288	86.1	285	9	19.1	24.6	23.69	0.5	0.5	6.5	15	87	28	119	18.6	71.6	1.7	1.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-129-1 Field Duplicate	411318.28	6013772.50	15	10	8238	50	186	133.3	380	11	17.1	23.4	28.83	0.5	0.5	10.3	15	254	13	103	39.6	54.0	1.6	3.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-129-2 Field Duplicate	411318.28	6013772.50	13	10	1500	50	602	51.2	210	4	13.3	26.1	27.24	4.1	0.5	6.8	15	96	70	189	8.9	27.0	3.1	4.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-130	410039.31	6014382.50	10	10	14638	50	154	100.9	640	8	22.1	44.1	28.96	2.4	0.5	15.0	15	344	8	182	64.2	53.2	1.4	4.0	0.5	0.5	0.1	0.3	0.1	0.5
98B-131	410227.28	6012701.50	27	10	9434	50	346	38.0	127	19	28.6	31.0	23.38	1.5	0.5	5.7	15	50	80	141	8.0	47.4	2.6	1.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-132	407970.38	6013576.50	5	10	11209	50	164	74.5	805	8	13.9	17.1	16.14	1.2	0.5	10.9	15	363	29	236	41.3	29.4	1.4	5.1	0.5	0.5	0.1	0.2	0.1	0.5
98B-133	407131.38	6012572.50	11	10	15019	50	167	36.5	290	13	20.5	52.4	19.02	2.1	0.5	17.0	15	283	57	144	27.8	52.6	1.8	1.9	0.5	0.5	0.1	0.4	0.1	0.5
98B-134	406971.44	6014940.50	64	10	6682	50	768	69.9	493	13	28.9	47.1	30.72	4.1	0.5	8.4	15	197	107	216	51.2	124.5	4.7	1.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-135	408359.31	6012394.50	27	10	6916	50	347	52.3	465	17	15.9	20.7	19.88	0.5	0.5	6.3	15	159	100	175	7.0	71.7	2.2	1.4	0.5	0.5	0.1	0.6	0.1	0.5
98B-136	405675.38	6011926.50	41	10	1500	50	192	21.2	93	30	30.5	30.9	28.11	1.3	0.5	5.3	15	113	172	246	5.7	13.7	1.4	0.5	0.5	0.5	0.1	0.3	0.1	0.5
98B-137	404124.44	6012087.50	12	10	3592	50	176	38.5	566	3	7.9	45.3	19.26	1.4	0.5	5.8	15	114	25	198	12.0	20.3	1.2	3.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-138	404041.47	6013160.50	23	10	10442	50	390	90.5	337	5	18.2	71.0	32.67	2.9	0.5	16.6	15	204	18	229	23.7	41.5	2.1	2.8	0.5	0.5	0.1	0.3	0.1	0.5
98B-139	402538.53	6013989.50	38	10	5557	50	282	76.2	516	16	34.0	33.9	24.80	1.5	0.5	27.2	15	116	43	113	30.2	65.3	2.0	2.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-140	399933.00	6014368.00	19	10	1500	50	565	34.3	76	7	19.4	14.7	26.21	2.4	0.5	5.7	15	56	106	126	6.7	19.9	2.6	2.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-141	395466.00	6012618.00	93	10	7362	50	50	427.5	922	8	37.4	73.4	19.59	0.5	0.5	34.2	15	220	10	656	15.9	20.9	1.6	15.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-142	397559.00	6017711.00	39	10	1500	50	261	97.0	908	16	44.7	32.2	24.09	0.5	0.5	10.0	15	75	17	102	38.0	57.3	1.8	2.9	0.5	0.5	0.1	0.4	0.1	0.5
98B-143	383035.00	6024618.00	5	10	5356	50	126	71.8	543	5	22.4	38.1	24.27	0.5	0.5	11.5	15	210	15	230	21.4	28.1	1.2	8.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-144	389806.00	6022975.00	31	10	7623	50	169	95.6	96	3	14.0	22.9	25.33	0.5	0.5	8.6	15	231	21	287	13.1	16.8	1.7	8.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-145	390474.00	6021912.00	33	10	4976	50	993	85.9	1129	8	28.6	79.8	42.87	6.4	0.5	11.7	15	171	76	115	30.3	70.4	4.6	6.6	0.5	0.5	0.1	0.2	0.1	0.5
98B-146	392335.00	6021175.00	21	10	1500	50	597	41.1	206	3	12.5	19.6	28.07	3.6	0.5	2.5	15	101	13	59	13.2	32.8	3.1	4.4	0.5	0.5	0.1	0.1	0.1	0.5

Sample ID:	UTM		S.Q.Li	S.Q.Be	S.Q.Cl	S.Q.Sc	S.Q.Ti	V	Mn	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Rb	Sr	Y	Zr	Nb	Mo	Ru	Pd	Ag	Cd	In	Sn
	Easting	Northing	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
98B-147	388878.00	6020355.00	18	10	4761	50	136	209.5	354	6	19.5	24.7	20.98	1.0	0.5	10.2	15	156	12	147	23.3	41.3	1.6	7.5	0.5	0.5	0.1	0.4	0.1	0.5
98B-148	403100.47	6012742.50	19	10	1500	50	162	17.8	55	15	17.7	28.0	19.50	0.5	0.5	2.5	15	96	128	107	8.1	17.9	0.5	1.3	0.5	0.5	0.1	0.9	0.1	0.5
98B-149	401935.00	6012422.00	46	10	5614	50	859	113.4	728	15	33.2	66.6	44.19	4.2	0.5	15.5	15	204	38	151	21.4	46.0	3.8	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-150-1 Field Duplicate	400497.00	6013199.00	21	10	4905	50	988	89.7	1223	19	41.9	65.9	37.73	6.4	0.5	12.2	15	239	41	133	54.0	81.5	4.4	4.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-150-2 Field Duplicate	400497.00	6013199.00	13	10	8300	50	406	70.7	975	16	40.7	75.1	32.74	1.4	0.5	11.4	15	252	19	133	68.4	60.2	2.0	3.7	0.5	0.5	0.1	0.2	0.1	0.5
98B-151	399476.00	6015250.00	29	10	4550	50	298	74.5	1018	31	22.7	24.9	27.32	0.5	0.5	2.5	15	75	63	129	10.2	39.9	1.8	1.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-152	395886.00	6015171.00	5	10	1500	50	128	73.4	682	12	54.9	55.2	19.64	0.5	0.5	24.4	15	333	14	350	24.4	32.0	1.3	8.6	0.5	0.5	0.1	0.4	0.1	0.5
98B-153	394104.00	6017050.00	15	10	1500	50	50	17.4	46	24	94.4	37.4	20.16	0.5	0.5	2.5	15	123	115	105	7.2	14.6	1.3	0.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-154	406616.34	6011560.50	54	10	1500	50	3226	185.3	469	13	56.4	37.8	86.83	16.0	1.2	15.1	15	163	115	191	33.2	287.4	12.7	5.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-155	404165.41	6011197.50	27	10	1500	50	50	130.8	556	13	22.6	37.4	28.95	0.5	0.5	8.8	15	157	21	102	32.7	73.6	1.5	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-156	404389.38	6010246.50	23	10	9341	50	212	123.0	654	11	36.0	83.0	30.00	0.5	0.5	16.5	15	252	10	182	56.7	56.8	1.4	6.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-157	405746.31	6009647.50	81	10	7350	50	234	205.0	791	12	17.5	38.0	26.68	0.5	0.5	111.3	15	267	27	240	21.4	44.3	2.3	7.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-158	405343.31	6008893.50	43	10	5233	50	939	114.5	835	15	43.5	58.2	46.36	5.5	0.5	30.7	15	218	61	131	61.0	126.1	5.0	2.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-159	404052.34	6009302.50	26	10	5776	50	729	102.7	1141	21	29.1	37.1	31.60	3.2	0.5	11.6	15	200	23	103	45.2	139.7	3.6	2.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-160	390377.00	6020623.00	18	10	3627	50	812	60.5	325	8	25.1	41.8	43.16	5.1	0.5	16.8	15	132	63	86	27.6	50.7	3.6	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-161	388589.00	6022651.46	11	10	1500	50	215	15.5	227	7	9.3	6.0	23.42	1.5	0.5	2.5	15	69	89	56	6.0	11.3	1.8	2.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-162	382848.00	6021725.00	47	10	7876	50	312	259.7	1018	11	46.2	74.6	38.57	1.2	0.5	18.1	15	224	24	170	38.4	49.6	2.2	10.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-163	388677.00	6018912.00	24	10	6242	50	706	25.9	144	17	23.2	30.1	19.51	0.5	0.5	7.8	15	125	125	200	10.7	50.4	2.2	1.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-164	386509.00	6018460.00	15	10	4157	50	582	72.4	432	11	27.2	99.7	65.59	4.2	0.5	22.3	15	119	48	151	10.9	32.8	2.4	2.5	0.5	0.5	0.1	0.2	0.1	0.5
98B-165	383945.00	6021656.00	45	10	8594	50	247	139.9	9378	63	85.9	41.2	35.86	0.5	0.5	15.3	15	258	22	262	65.6	128.3	2.0	3.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-166	385391.00	6021255.00	18	10	3633	50	392	32.0	374	21	14.2	28.0	23.56	0.5	0.5	6.5	15	191	72	121	27.1	72.8	1.7	1.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-167	384775.00	6020830.00	29	10	6255	50	1090	88.7	571	19	24.5	40.5	40.49	5.6	0.5	9.3	15	190	60	122	30.2	110.4	4.9	1.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-168-1 Field Duplicate	389115.00	6015922.00	5	10	6417	50	131	61.5	778	7	11.2	34.4	22.76	0.5	0.5	11.2	15	189	14	256	28.4	28.7	1.1	5.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-168-2 Field Duplicate	389115.00	6015922.00	5	10	5049	50	50	25.8	455	4	8.9	28.6	18.51	0.5	0.5	9.7	15	223	21	231	20.3	18.0	0.5	8.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-169	385427.00	6016657.00	27	10	6460	50	984	94.6	411	6	25.7	26.4	59.50	5.2	0.5	8.2	15	180	52	203	15.9	43.9	4.2	3.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-170	384273.00	6016794.00	24	10	57038	50	288	233.3	682	10	29.6	45.2	26.23	0.5	0.5	26.3	15	642	13	367	30.1	20.4	2.0	137.1	0.5	0.5	0.1	0.3	0.1	0.5
98B-171	383788.00	6015968.00	16	10	6760	50	372	165.3	774	16	27.2	59.5	31.60	0.5	0.5	18.3	15	546	7	163	31.8	39.3	1.8	7.5	0.5	0.5	0.1	0.1	0.1	0.5
98B-172	385394.00	6015986.00	116	10	7510	50	157	124.8	133	4	53.5	86.2	24.29	0.5	0.5	14.6	15	163	24	257	19.0	30.4	1.3	14.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-173	387942.00	6015283.00	171	10	7824	50	2126	302.7	4952	35	98.3	69.7	95.40	13.7	1.4	19.1	15	195	101	225	41.1	99.2	9.5	19.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-174	394375.00	6012910.00	47	10	6836	50	282	281.3	942	19	52.0	55.5	30.18	1.0	0.5	15.9	15	236	20	275	44.9	134.6	2.7	9.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-175	391283.00	6014472.00	29	10	4118	50	431	91.0	1092	11	24.8	24.2	26.58	0.5	0.5	8.0	15	127	34	119	16.5	85.6	2.3	3.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-176	390369.00	6014784.00	30	10	5354	50	294	158.8	682	18	20.0	30.8	31.11	0.5	0.5	12.8	15	134	30	140	14.3	85.4	2.1	2.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-177	321735.97	6041833.00	5	10	5721	50	106	66.1	3474	8	21.1	28.9	18.65	0.5	0.5	6.4	15	236	5	202	21.7	18.3	0.5	5.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-178	323967.94	6041833.00	28	10	3804	50	1201	124.9	3000	15	42.1	40.5	40.33	7.0	0.5	9.1	15	161	49	146	28.4	61.6	5.1	3.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-179	325351.94	6042469.00	31	10	7202	50	290	164.5	433	6	24.2	40.2	27.12	0.5	0.5	11.1	15	230	25	205	19.8	31.4	1.7	5.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-180	324945.91	6041004.00	18	10	7214	50	305	120.9	335	3	14.1	23.9	23.24	2.3	0.5	9.9	15	129	30	224	10.7	21.2	1.6	3.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-181	326531.88	6040989.00	59	10	6593	50	1590	102.0	626	9	37.4	54.6	51.54	9.1	0.5	16.8	15	62	81	243	13.8	44.9	5.5	27.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-182	329630.81	6040599.00	57	10	5573	50	527	155.8	852	17	29.9	41.2	35.28	0.5	0.5	12.2	15	90	21	127	43.0	92.5	2.7	1.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-183	331282.75	6039439.00	26	10	6790	50	1196	102.6	640	7	28.0	36.7	49.26	7.4	0.5	14.2	15	96	57	209	11.5	52.7	4.7	1.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-184-1 Field Duplicate	326621.81	6038449.00	35	10	8756	50	428	81.1	331	3	12.4	23.6	30.57	2.9	0.5	10.3	15	131	36	206	8.5	22.2	2.0	2.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-184-2 Field Duplicate	326621.81	6038449.00	5	10	4522	50	367	48.9	705	3	9.6	10.4	22.57	1.2	0.5	2.5	15	69	19	147	6.1	16.6	1.4	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-185-1 Field Duplicate	328134.84	6041330.00	14	10	4474	50	712	54.4	321	3	15.1	16.7	29.58	3.8	0.5	5.7	15	34	32	158	7.2	24.2	2.8	4.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-185-2 Field Duplicate	328134.84	6041330.00	5	10	4979	50	517	37.7	312	2	9.3	14.0	26.38	1.5	0.5	5.2	15	15	24	159	7.0	23.4	1.7	3.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-186	335710.72	6041207.00	91	10	1500	50	811	144.1	290	8	31.2	58.1	37.79	6.0	0.5	13.8	15	15	51	154	30.7	59.0	3.5	3.0	0.5	0.5	0.1	0.3	0.1	0.5
98B-187	336615.72	6041557.00	5	10	8209	50	189	58.5	1034	10	77.9	67.7	27.46	0.5	0.5	8.0	15	85	8	100	84.9	26.2	0.5	4.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-188	354237.25	6039244.50	54	10	8478	50	2713	170.8	2866	20	65.4	53.8	94.76	15.0	1.2	17.9	15	92	114	133	32.2	104.5	10.7	6.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-189	350083.38	6040090.00	24	10	5525	50	1220	68.4	302	8	29.2	24.7	39.47	7.2	0.5	8.4	15	30	41	81	31.9	67.5	4.5	4.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-190	346618.44	6039718.00	20	10	9076	50	760	93.6	669	8	36.8	46.7	42.23	4.0	0.5	11.7	15	95	38	115	21.2	43.2	3.0	4.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-191	348726.41	6040743.00	63	10	4749	50	3077	130.2	747	21	64.2	44.0	94.38	17.8	1.5	14.0	15	32	154	107	33.1	155.2	12.1	2.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-192	347772.47	6041683.00	69	10	8357	50	1389	135.0	539	8	37.9	33.5	59.51	8.8	0.5	11.5	15	80	65	242	15.1	52.3	5.4	12.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-193	345860.50	6041687.00	19	10	1500	50	1083	52.4	1036	12	29.2	21.3	43.54	5.3	0.5	7.0	15	15	50	84	34.8	188.7	4.3	2.8	0.5	0.5	0.1	0.1	0.1	0.5

Sample ID:	UTM Easting	Northing	S.Q.Li ppb	S.Q.Be ppb	S.Q.Cl ppb	S.Q.Sc ppb	S.Q.Ti ppb	V ppb	Mn ppb	Co ppb	Ni ppb	Cu ppb	Zn ppb	Ga ppb	Ge ppb	As ppb	Se ppb	Br ppb	Rb ppb	Sr ppb	Y ppb	Zr ppb	Nb ppb	Mo ppb	Ru ppb	Pd ppb	Ag ppb	Cd ppb	In ppb	Sn ppb
98B-194	355771.22	6040295.50	75	10	11356	50	444	134.1	605	7	28.3	37.1	40.39	0.5	0.5	15.9	15	125	17	293	23.6	36.5	2.0	21.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-195	354102.22	6038317.50	15	10	7864	50	592	90.9	837	9	41.0	45.1	38.66	2.4	0.5	11.1	15	108	25	114	24.9	40.8	2.3	4.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-196	344776.50	6040524.00	77	10	9704	50	277	130.7	806	5	26.1	26.1	31.68	0.5	0.5	14.7	15	96	13	290	17.3	28.0	1.6	19.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-197	344483.53	6041202.00	48	10	8415	50	2301	93.4	782	14	56.0	41.2	79.14	13.0	1.1	9.2	15	43	98	93	45.7	106.6	8.7	2.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-198	343762.53	6040329.00	5	10	19940	50	131	44.1	5031	36	52.0	43.9	44.13	3.6	1.8	18.2	15	302	35	180	243.9	94.4	1.2	3.8	0.5	0.5	0.1	0.5	0.1	0.5
98B-199	343462.50	6039483.00	67	10	5061	50	3091	134.2	958	16	68.6	34.5	96.41	17.6	1.4	12.2	15	15	141	119	31.7	172.5	11.8	3.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-200	341465.56	6040134.00	5	10	14317	50	251	55.4	540	6	19.2	25.6	25.34	0.5	0.5	11.1	15	109	21	161	24.8	29.6	1.3	4.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-201	347331.41	6039448.00	20	10	3606	50	760	56.0	133	4	19.8	41.4	39.13	3.3	0.5	7.3	15	15	37	83	12.7	46.0	2.9	10.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-202	345340.41	6037467.00	28	10	9598	50	552	81.1	152	3	21.4	35.6	36.91	2.3	0.5	7.6	15	74	34	213	10.0	26.0	2.4	5.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-203	347767.38	6038337.00	5	10	11328	50	282	80.1	702	10	28.0	21.8	32.12	0.5	0.5	13.2	15	137	27	99	24.3	38.4	1.5	4.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-204	349428.38	6039387.00	33	10	6779	50	1706	97.7	534	9	31.0	30.7	52.60	8.5	0.5	9.7	15	104	63	90	21.1	181.4	7.0	4.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-205	337801.72	6042848.00	20	10	9940	50	976	84.8	1204	14	32.6	28.8	48.91	4.2	0.5	10.3	15	149	51	86	16.5	44.4	3.5	5.9	0.5	0.5	0.1	0.1	0.1	0.5
98B-206	338357.66	6040821.00	19	10	8253	50	862	72.7	715	11	26.0	26.1	37.83	3.6	0.5	8.0	15	124	30	70	24.7	151.1	3.6	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-207	340633.63	6041136.00	48	10	7353	50	2631	135.9	1045	20	54.6	44.4	83.49	15.2	1.0	13.1	15	78	123	103	27.3	104.0	10.0	9.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-208-1 Field Duplicate	339675.63	6041192.00	42	10	11604	50	611	116.6	353	4	21.6	44.9	39.70	2.3	0.5	16.3	15	82	27	201	21.2	42.1	2.5	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-208-2 Field Duplicate	339675.63	6041192.00	49	10	13086	50	1937	161.2	743	14	47.8	44.8	79.64	10.8	1.0	17.6	15	197	88	136	30.0	84.0	7.1	5.4	0.5	0.5	0.1	0.1	0.1	0.5

Sample ID:	Sb	Te	I	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	TREE	Hf	Ta	W	Re	Os	Pt	Au	S.Q.Hg	Tl	Pb	Bi	Th	U	H^+	K
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	mhos cm^{-1}
98B-1	0.5	0.5	20	0.5	299	44	51	12.1	47	7.3	1.7	6.7	0.5	5.3	0.5	2.6	0.5	2.5	0.5	182.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	5.2	0.5	-1.7	7.0
98B-2	0.5	0.5	21	0.5	424	52	58	14.4	56	9.2	2.1	8.2	1.1	6.1	1.1	3.1	0.5	3.2	0.5	216.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.0	0.5	5.4	1.2	-1.7	5.3
98B-3	0.5	0.5	23	0.5	145	19	33	4.8	18	3.0	0.5	3.0	0.5	2.1	0.5	1.2	0.5	1.1	0.5	87.2	0.5	0.5	1.0	0.05	0.5	0.5	0.05	0.5	0.5	3.6	0.5	5.1	0.5	-1.7	23.4
98B-4	0.5	0.5	17	0.5	309	46	62	11.8	44	7.5	1.5	6.9	0.5	5.0	0.5	2.3	0.5	2.1	0.5	191.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.0	0.5	4.8	0.5	-1.7	11.7
98B-5	0.5	0.5	25	0.5	369	41	65	11.8	45	7.3	1.6	6.8	0.5	5.0	0.5	2.6	0.5	2.4	0.5	191.6	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.1	0.5	7.3	1.2	-1.7	6.5
98B-6	0.5	0.5	17	0.5	236	32	55	8.7	33	5.2	1.2	5.0	0.5	3.5	0.5	1.8	0.5	1.5	0.5	148.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.8	0.5	4.1	0.5	-1.7	6.7
98B-7	0.5	0.5	15	0.5	498	49	140	14.0	55	9.5	2.1	8.4	1.2	6.3	1.1	3.2	0.5	2.7	0.5	292.9	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.4	0.5	12.3	1.8	-1.7	13.4
98B-8	0.5	0.5	25	0.5	457	50	88	13.7	51	8.6	1.9	7.7	1.0	6.0	1.0	2.8	0.5	2.8	0.5	235.5	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.0	0.5	17.9	1.8	-0.8	3.4
98B-10	0.5	0.5	29	0.5	281	66	81	18.5	73	11.8	2.6	11.0	1.5	8.3	1.4	4.3	0.5	3.5	0.5	283.3	1.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.9	0.5	6.1	0.5	-1.6	5.6
98B-11	0.5	0.5	11	3.9	497	45	114	12.5	45	7.2	1.7	7.1	0.5	5.1	0.5	2.8	0.5	2.4	0.5	244.3	2.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	14.2	0.5	54.8	1.9	-1.6	4.5
98B-12	0.5	0.5	16	3.3	1282	78	111	22.0	79	13.9	2.7	11.7	1.5	8.4	1.5	4.3	0.5	4.1	0.5	339.3	1.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	13.4	0.5	14.5	2.3	-1.7	5.6
98B-13	0.5	0.5	14	0.5	317	46	100	12.9	50	8.3	1.9	8.1	1.0	6.0	1.1	3.0	0.5	2.5	0.5	242.4	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.4	0.5	6.6	0.5	-1.7	8.0
98B-14	0.5	0.5	17	0.5	458	40	82	11.2	43	7.3	1.6	6.1	0.5	4.4	0.5	2.0	0.5	2.0	0.5	202.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	7.2	0.5	6.3	1.4	-0.3	2.4
98B-15	2.1	0.5	5	0.5	1404	24	65	8.5	34	6.6	1.5	5.9	0.5	4.0	0.5	1.8	0.5	1.8	0.5	155.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	18.5	0.5	10.0	2.6	-1.7	11.4
98B-16-1 Field Duplicate	0.5	0.5	5	1.0	410	4	9	0.5	4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	23.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.9	0.5	0.5	0.5	0.3	1.5
98B-16-2 Field Duplicate	0.5	0.5	5	0.5	357	6	10	1.0	3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	25.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.0	1.9
98B-17	0.5	0.5	5	1.8	344	2	3	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	11.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.5	0.5	0.5	0.5	0.1	2.7
98B-18	0.5	0.5	5	5.6	444	87	213	22.9	87	13.3	2.8	12.5	1.5	8.2	1.4	4.0	0.5	3.6	0.5	457.5	1.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	11.8	0.5	14.4	2.4	-1.4	3.1
98B-19	0.5	0.5	11	2.9	291	35	50	9.0	34	5.3	1.1	5.0	0.5	3.7	0.5	1.8	0.5	1.6	0.5	148.8	0.5	0.5	2.0	0.05	0.5	0.5	0.05	0.5	0.5	4.5	0.5	12.0	1.5	-1.7	14.6
98B-20	2.1	0.5	14	3.9	404	87	176	18.1	63	9.7	1.9	8.3	1.1	5.7	0.5	2.6	0.5	2.0	0.5	378.1	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	17.9	0.5	24.6	2.6	-1.7	6.7
98B-21	0.5	0.5	5	1.6	225	45	60	11.9	45	7.3	1.4	7.0	0.5	4.9	0.5	2.3	0.5	2.0	0.5	188.8	1.0	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.2	0.5	13.0	1.6	-1.7	2.1
98B-22	1.0	0.5	14	0.5	307	17	44	5.5	20	3.4	0.5	2.9	0.5	2.3	0.5	1.2	0.5	1.4	0.5	99.9	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.9	0.5	4.6	1.2	-1.3	2.2
98B-23	2.7	0.5	12	2.7	433	27	51	6.2	21	3.4	0.5	2.8	0.5	1.9	0.5	1.0	0.5	0.5	0.5	116.9	0.5	0.5	1.5	0.05	0.5	0.5	0.05	0.5	0.5	8.9	0.5	6.7	2.9	-1.8	12.8
98B-24	1.2	0.5	19	0.5	292	30	58	11.1	47	8.9	1.9	7.1	0.5	4.9	0.5	2.5	0.5	2.6	0.5	175.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.6	0.5	3.9	1.7	-1.6	3.1
98B-25	0.5	0.5	5	1.6	266	13	25	3.2	13	2.4	0.5	1.6	0.5	1.6	0.5	0.5	0.5	0.5	0.5	64.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.0	0.5	10.2	1.5	-1.8	3.2
98B-26	0.5	0.5	29	0.5	279	71	65	19.5	74	12.1	2.4	11.0	1.4	7.1	1.3	3.4	0.5	3.1	0.5	272.5	0.5	0.5	1.2	0.05	0.5	0.5	0.05	0.5	0.5	3.2	0.5	4.1	1.1	-1.8	20.6
98B-27	0.5	0.5	19	0.5	395	51	106	17.3	67	12.1	2.5	10.2	1.5	8.2	1.4	3.9	0.5	4.1	0.5	286.5	2.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.9	0.5	16.2	2.1	-1.4	2.9
98B-28	0.5	0.5	18	0.5	210	49	40	11.6	45	6.7	1.6	6.9	0.5	4.4	0.5	2.1	0.5	1.7	0.5	170.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.1	0.5	4.5	0.5	-1.8	19.9
98B-29	0.5	0.5	13	0.5	255	20	43	6.7	27	4.7	1.1	3.8	0.5	3.1	0.5	1.7	0.5	1.5	0.5	114.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.5	0.5	4.8	1.2	-1.7	3.3
98B-30	0.5	0.5	21	0.5	367	40	100	12.7	48	8.1	1.9	7.7	1.1	5.9	1.0	2.9	0.5	2.6	0.5	233.4	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.0	0.5	9.8	1.2	-1.7	5.2
98B-31	0.5	0.5	20	0.5	401	40	103	12.6	50	8.9	1.8	7.7	1.0	6.3	1.1	3.2	0.5	3.0	0.5	240.4	2.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.5	0.5	15.1	2.0	-1.6	6.1
98B-32	0.5	0.5	18	0.5	332	34	94	8.9	33	5.1	1.2	5.2	0.5	3.8	0.5	1.8	0.5	1.6	0.5	190.7	2.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.8	0.5	15.7	1.8	-1.5	7.5
98B-33	0.5	0.5	28	0.5	349	22	61	7.2	27	4.8	0.5	4.2	0.5	3.3	0.5	1.4	0.5	1.5	0.5	134.9	1.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.0	0.5	13.0	2.0	-0.8	4.9
98B-34	1.1	0.5	26	0.5	286	33	33	7.9	28	4.4	0.5	4.3	0.5	2.7	0.5	1.3	0.5	1.1	0.5	118.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.6	0.5	4.5	0.5	-1.8	12.1
98B-35	1.1	0.5	24	0.5	434	79	161	24.2	90	14.9	3.2	13.8	1.7	10.4	1.7	4.9	0.5	4.3	0.5	410.6	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.0	0.5	9.4	0.5	-1.8	7.7
98B-36-1 Field Duplicate	0.5	0.5	24	0.5	300	59	59	16.1	62	10.3	2.1	9.3	1.2	6.7	1.2	3.3	0.5	3.1	0.5	234.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	7.2	0.5	-1.8	8.8
98B-36-2 Field Duplicate	0.5	0.5	34	0.5	354	61	53	16.4	64	9.7	2.2	9.6	1.3	6.7	1.2	3.3	0.5	2.8	0.5	232.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.8	0.5	5.7	0.5	-1.8	6.6
98B-37	0.5	0.5	14	0.5	232	40	76	12.2	46	8.1	1.9	7.4	1.0	5.6	1.0	3.1	0.5	2.9	0.5	206.5	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.4	0.5	7.2	1.8	-1.6	3.6
98B-38	0.5	0.5	23	2.5	572	69	210	22.1	84	15.3	3.3	13.4	1.8	10.6	1.8	5.3	0.5	5.1	0.5	443.5	6.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	14.6	0.5	54.9	4.0	0.2	5.3
98B-39	0.5	0.5	5	0.5	243	21	107	6.4	25	4.4	1.1	4.5	0.5	3.5	0.5	1.6	0.5	1.6	0.5	178.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.3	0.5	8.8	1.1	-1.6	2.8
98B-40	0.5	0.5	35	0.5	353	76	43	21.3	80	12.5	2.7	11.5	1.5	8.2	1.4	3.8	0.5	3.5	0.5	266.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.7	0.5	6.8	0.5	-1.8	6.6
98B-41	0.5	0.5	25	0.5	444	51	31	13.5	53	8.0	1.8	7.6	0.5	5.1	0.5	2.5	0.5	2.1	0.5	177.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.3	0.5	5.9	0.5	-1.8	7.0

Sample ID:	Sb	Te	I	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	TREE	Hf	Ta	W	Re	Os	Pt	Au	S.Q.Hg	Tl	Pb	Bi	Th	U	H^+	K
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	mhos cm^{-1}
98B-42	0.5	0.5	11	0.5	410	33	47	8.9	33	5.2	1.2	4.7	0.5	3.4	0.5	1.8	0.5	1.6	0.5	142.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.5	0.5	4.6	0.5	-1.8	4.1
98B-43	0.5	0.5	5	0.5	332	66	148	17.5	67	10.7	2.1	10.4	1.2	6.9	1.1	3.4	0.5	3.0	0.5	338.4	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.1	0.5	16.8	1.3	-1.7	3.0
98B-44	0.5	0.5	18	0.5	167	20	32	5.1	20	3.1	0.5	2.9	0.5	2.3	0.5	1.1	0.5	0.5	0.5	89.5	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.4	0.5	3.7	0.5	-1.8	9.8
98B-45	0.5	0.5	25	0.5	338	60	69	16.1	63	10.4	2.3	9.5	1.3	7.3	1.2	3.5	0.5	3.3	0.5	247.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.6	0.5	5.5	1.2	-1.8	10.1
98B-46	0.5	0.5	14	0.5	242	38	66	9.4	35	5.2	1.2	5.2	0.5	3.4	0.5	1.6	0.5	1.4	0.5	168.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	7.6	0.5	-1.8	16.9
98B-47	0.5	0.5	30	2.1	308	50	56	14.2	54	9.4	2.0	7.9	1.2	6.7	1.1	3.3	0.5	3.2	0.5	210.0	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	7.0	0.5	12.0	0.5	-1.8	5.4
98B-48	0.5	0.5	16	0.5	205	28	52	7.4	26	4.3	0.5	3.9	0.5	2.7	0.5	1.2	0.5	1.2	0.5	129.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	5.2	0.5	-1.8	18.0
98B-49	0.5	0.5	16	0.5	183	34	52	9.1	36	5.5	1.3	5.8	0.5	4.3	0.5	2.1	0.5	1.8	0.5	153.1	1.0	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	7.8	1.3	-1.8	5.1
98B-50	0.5	0.5	23	0.5	146	21	37	5.2	19	3.0	0.5	2.8	0.5	1.9	0.5	1.1	0.5	0.5	0.5	94.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.4	0.5	5.1	0.5	-1.8	22.0
98B-51	0.5	0.5	11	3.2	543	46	89	12.3	44	7.6	1.7	6.9	0.5	4.9	0.5	2.5	0.5	2.5	0.5	219.6	1.9	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	13.4	0.5	14.5	2.2	-1.7	3.0
98B-52	0.5	0.5	23	0.5	215	54	69	13.5	53	8.1	1.8	7.9	1.0	5.6	0.5	3.0	0.5	2.3	0.5	221.9	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.9	0.5	4.7	0.5	-1.8	20.4
98B-53	0.5	0.5	13	0.5	172	18	24	4.6	17	2.8	0.5	2.7	0.5	1.9	0.5	0.5	0.5	0.5	0.5	73.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.3	0.5	2.2	0.5	-1.8	14.5
98B-54	0.5	0.5	19	0.5	271	36	71	10.4	41	6.8	1.5	6.4	0.5	4.7	0.5	2.3	0.5	1.9	0.5	182.8	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.7	0.5	4.6	0.5	-1.8	6.1
98B-55	0.5	0.5	24	3.1	399	51	80	14.5	52	8.9	2.0	8.3	1.1	6.9	1.1	3.2	0.5	3.1	0.5	233.8	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	9.4	0.5	16.8	2.4	-1.7	2.0
98B-56	0.5	0.5	5	0.5	143	18	41	4.6	17	2.9	0.5	2.7	0.5	1.9	0.5	0.5	0.5	0.5	0.5	91.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	2.5	0.5	-1.8	4.6
98B-57	0.5	0.5	13	1.9	484	51	139	15.2	55	9.4	2.2	9.0	1.2	6.2	1.0	2.9	0.5	2.7	0.5	295.0	1.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	7.4	0.5	24.8	2.6	-1.4	2.7
98B-58	0.5	0.5	20	2.6	456	52	82	13.0	48	7.7	1.9	7.5	0.5	5.5	0.5	2.8	0.5	2.6	0.5	224.5	1.1	0.5	1.3	0.05	0.5	0.5	0.05	0.5	0.5	8.6	0.5	11.8	1.6	-1.8	8.4
98B-59	0.5	0.5	15	2.8	398	52	90	13.7	51	9.1	1.8	8.0	1.1	5.8	0.5	2.9	0.5	2.8	0.5	239.1	1.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	10.9	0.5	13.3	2.0	-1.8	5.6
98B-60	0.5	0.5	17	3.4	435	108	119	27.5	96	15.9	3.3	14.8	1.8	10.1	1.8	5.1	0.5	4.6	0.5	408.9	2.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	11.1	0.5	22.7	2.0	-1.9	4.7
98B-61-1 Field Duplicate	0.5	0.5	5	0.5	120	10	14	2.5	10	1.7	0.5	1.4	0.5	1.2	0.5	0.5	0.5	0.5	0.5	44.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.0	0.5	4.2	0.5	-1.9	11.1
98B-61-2 Field Duplicate	0.5	0.5	19	0.5	207	27	56	7.3	28	4.8	1.1	4.5	0.5	3.5	0.5	1.6	0.5	1.6	0.5	137.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.2	0.5	3.6	0.5	-1.9	7.2
98B-62	0.5	0.5	10	2.1	279	30	92	9.2	34	6.6	1.4	5.3	0.5	4.3	0.5	2.1	0.5	1.9	0.5	188.6	1.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.7	0.5	16.8	1.8	-1.8	3.8
98B-63	0.5	0.5	14	1.9	233	52	54	12.1	47	6.5	1.5	6.8	0.5	4.3	0.5	2.1	0.5	2.0	0.5	190.4	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.0	0.5	8.9	0.5	-1.9	5.8
98B-64	0.5	0.5	25	0.5	388	61	87	14.8	54	8.5	1.9	8.1	0.5	5.3	0.5	2.7	0.5	2.3	0.5	247.8	0.5	0.5	3.0	0.05	0.5	0.5	0.05	0.5	0.5	2.9	0.5	5.4	1.9	-1.9	10.9
98B-67	0.5	0.5	17	0.5	310	45	84	16.4	66	12.7	2.5	10.8	1.4	7.9	1.3	4.0	0.5	4.0	0.5	257.0	1.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.5	0.5	11.0	2.0	-1.5	2.6
98B-68	0.5	0.5	25	2.9	409	56	62	14.2	55	8.5	1.9	7.7	1.1	5.8	1.0	3.0	0.5	2.6	0.5	219.9	1.8	0.5	1.3	0.05	0.5	0.5	0.05	0.5	0.5	10.3	0.5	13.6	1.8	-1.9	5.2
98B-69	0.5	0.5	27	0.5	659	11	25	2.5	9	1.5	0.5	1.6	0.5	1.3	0.5	0.5	0.5	0.5	0.5	54.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.2	0.5	4.8	1.2	0.4	2.0
98B-70	0.5	0.5	15	0.5	116	19	28	4.4	18	3.0	0.5	2.9	0.5	2.2	0.5	0.5	0.5	1.1	0.5	80.9	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.8	0.5	5.3	0.5	-1.9	9.2
98B-71	0.5	0.5	19	1.0	193	53	70	13.4	52	8.4	2.0	9.0	1.1	5.9	1.0	3.0	0.5	2.7	0.5	222.2	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.8	0.5	13.4	1.2	-1.9	4.8
98B-72	0.5	0.5	15	2.8	352	44	75	11.9	41	6.9	1.5	6.5	0.5	4.7	0.5	2.5	0.5	1.9	0.5	198.5	1.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	9.6	0.5	14.1	1.2	-1.9	5.7
98B-73	0.5	0.5	5	2.4	317	24	54	6.6	25	3.8	0.5	3.6	0.5	2.9	0.5	1.3	0.5	1.1	0.5	124.6	1.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.6	0.5	11.9	1.3	-1.6	3.5
98B-74	0.5	0.5	22	0.5	330	76	123	22.5	85	14.6	3.2	13.3	1.7	9.6	1.6	4.7	0.5	4.5	0.5	360.6	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.1	0.5	10.7	1.2	-1.7	3.8
98B-75	0.5	0.5	11	4.3	682	44	73	9.9	40	5.2	1.2	4.7	0.5	3.2	0.5	1.5	0.5	1.5	0.5	186.0	2.5	0.5	1.6	0.05	0.5	0.5	0.05	0.5	0.5	13.9	0.5	13.2	1.9	-1.9	17.5
98B-77	0.5	0.5	16	3.0	382	34	53	8.0	28	4.6	0.5	4.2	0.5	3.1	0.5	1.7	0.5	1.4	0.5	140.5	1.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.4	0.5	11.1	0.5	-1.9	8.0
98B-78	0.5	0.5	5	0.5	116	22	40	6.0	20	3.2	0.5	3.1	0.5	2.1	0.5	1.0	0.5	0.5	0.5	100.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.9	0.5	9.4	0.5	-1.8	2.0
98B-79	0.5	0.5	5	3.9	612	48	106	10.7	37	5.9	1.3	5.4	0.5	4.2	0.5	2.0	0.5	1.8	0.5	223.7	2.1	0.5	2.2	0.05	0.5	0.5	0.05	0.5	0.5	19.3	0.5	15.9	1.3	-1.9	14.5
98B-81	0.5	0.5	16	2.5	441	31	54	8.1	28	4.3	0.5	4.0	0.5	3.2	0.5	1.5	0.5	1.2	0.5	137.5	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.9	0.5	10.9	1.0	-1.9	5.6
98B-82	0.5	0.5	15	2.6	280	35	50	7.9	29	4.6	1.1	4.2	0.5	3.2	0.5	1.7	0.5	1.5	0.5	139.5	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.6	0.5	10.1	0.5	-1.9	5.2
98B-83	0.5	0.5	27	0.5	283	21	39	5.9	21	3.8	0.5	3.0	0.5	2.1	0.5	1.2	0.5	0.5	0.5	100.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	4.7	0.5	-1.9	17.0
98B-85-1 Field Duplicate	0.5	0.5	5	0.5	316	22	59	5.7	21	3.1	0.5	3.3	0.5	1.9	0.5	0.5	0.5	0.5	0.5	119.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	3.9	0.5	-1.7	2.6
98B-85-2 Field Duplicate	0.5	0.5	5	0.5	176	22	56	6.0	21	3.4	0.5	3.2	0.5	2.2	0.5	1.2	0.5	0.5	0.5	117.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.1	0.5	4.7	0.5	-1.7	2.4
98B-86	4.5	0.5	5	0.5	662	27	72	9.4	35	6.2	1.4	5.5	0.5	3.9	0.5	1.8	0.5	1.4	0.5	165.3	0.5	0.5	3.9	0.05	0.5	0.5	0.05	0.5	0.5	12.7	0.5	9.1	2.4	-1.9	11.3
98B-87	0.5	0.5	19	0.5	250	50	97	14.0	53	9.1	2.0	8.6	1.1	6.5	1.0	3.2	0.5	2.7	0.5	249.1	1.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.0	0.5	6.7	0.5	-1.9	5.3
98B-88	0.5	0.5	16	1.1	222	20	30	5.1	18	3.3	0.5	3.1	0.5	1.9	0.5	1.0	0.5	0.5	0.5	85.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.1	0.5	6.1	0.5	-1.9	9.0
98B-90	0.5	0.5	10	1.5	276	19	33	4.8	16	2.6	0.5	2.8	0.5	1.8	0.5	1.0	0.5	0.5	0.5	83.7	1.0	0.5	1.7	0.05	0.5	0.5	0.05	0.5	0.5	5.2	0.5	5.9	0.5	-1.9	5.0
98B-91	0.5	0.5	17	0.5	433	50	142	16.1	62	11.0	2.7	9.9	1.3	7.2	1.1	3.4	0.5	3.1	0.5	310.5	2.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.9	0.5	19.6	2.3	-0.1	2.3
98B-93	0.5	0.5	5	0.5	133	11	23	2.9	11	1.9	0.5	1.5	0.5	1.3	0.5	0.5	0.5	0.5	0.5	55.5	0.5	0.5	1.6	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	5.7	0.5	-1.9	14.8
98B-94	0.5	0.5	25	0.5	369	40	89	13.8	56	9.0	2.2	9.0	1.1	6.0	1.0	2.9	0.5	3.1	0.5	233.7	2.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.6	0.5	15.0	1.9	-1.1	2.7
98B-95	0.5	0.5	18	0.5	64	26	34	6.5	25	4.1	1.0	3.9	0.5	3.0	0.5	1.4	0.5	1.1	0.5	108.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	2.6	0.5	-1.9	6.9
98B-96	0.5	0.5	12	0.5	275	17	61	4.6	17	2.9	0.5	2.9	0.5	1.9	0.5	0.5	0.5	0.5	0.5	110.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	3.3	0.5	-1.9	6.0
98B-97	1.1	0.5	23	0.5	332	53	100	22.5	92	18.2	4.0	14.3	2.0	10.8	2.0	5.5	0.5	6.3	1.0	331.2	2.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.9	0.5	12.7	1.8	-1.0	2.3

Sample ID:	Sb	Te	I	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	TREE	Hf	Ta	W	Re	Os	Pt	Au	S.Q.Hg	Tl	Pb	Bi	Th	U	H^+	K
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	mhos cm^{-1}
98B-98	0.5	0.5	31	0.5	102	14	23	4.2	15	2.6	0.5	2.5	0.5	1.9	0.5	1.0	0.5	0.5	0.5	67.7	0.5	0.5	1.2	0.05	0.5	0.5	0.05	0.5	0.5	2.1	0.5	3.9	0.5	-1.9	20.7
98B-99	0.5	0.5	15	6.5	772	74	160	20.7	69	11.3	2.4	9.8	1.3	6.6	1.2	3.5	0.5	2.9	0.5	362.8	2.7	0.5	1.8	0.05	0.5	0.5	0.05	0.5	0.5	17.3	0.5	23.6	2.8	-1.9	3.6
98B-100	0.5	0.5	5	0.5	63	9	16	2.4	9	1.4	0.5	1.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	43.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.2	0.5	2.3	0.5	-1.9	3.5
98B-101	0.5	0.5	13	0.5	266	31	59	7.9	30	4.7	0.5	4.2	0.5	3.0	0.5	1.6	0.5	1.3	0.5	143.9	0.5	0.5	1.6	0.05	0.5	0.5	0.05	0.5	0.5	4.0	0.5	9.5	0.5	-1.9	16.9
98B-102	0.5	0.5	14	0.5	163	23	37	5.7	22	3.9	0.5	3.3	0.5	2.4	0.5	1.2	0.5	0.5	0.5	101.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	4.4	0.5	-1.8	19.2
98B-103	0.5	0.5	18	0.5	402	34	65	8.9	31	5.1	1.1	5.0	0.5	3.2	0.5	1.5	0.5	1.3	0.5	157.7	0.5	0.5	1.2	0.05	0.5	0.5	0.05	0.5	0.5	4.9	0.5	10.2	0.5	-1.8	15.8
98B-104-1 Field Duplicate	0.5	0.5	15	2.7	438	40	62	9.8	36	5.4	1.2	5.1	0.5	3.6	0.5	1.7	0.5	1.5	0.5	167.9	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.6	0.5	13.4	1.7	-1.8	5.8
98B-104-2 Field Duplicate	0.5	0.5	13	5.7	552	48	70	10.5	39	6.0	1.3	5.9	0.5	3.3	0.5	1.7	0.5	1.5	0.5	190.0	2.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	15.2	0.5	15.6	2.4	-1.8	5.1
98B-105	0.5	0.5	12	1.1	269	46	108	13.4	49	8.4	1.8	7.7	1.0	6.4	1.0	2.9	0.5	2.6	0.5	250.1	1.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.1	0.5	11.9	1.0	-1.7	2.9
98B-106	0.5	0.5	12	0.5	226	23	32	5.7	21	3.6	0.5	3.4	0.5	2.4	0.5	1.1	0.5	1.2	0.5	96.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.3	0.5	5.6	0.5	-1.8	16.6
98B-107	0.5	0.5	20	0.5	166	19	24	4.2	16	2.6	0.5	2.4	0.5	1.8	0.5	0.5	0.5	0.5	0.5	72.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.7	0.5	2.9	0.5	-1.8	16.8
98B-108	0.5	0.5	14	4.6	759	44	101	10.6	36	5.1	1.3	4.7	0.5	3.4	0.5	1.7	0.5	1.5	0.5	211.2	1.7	0.5	1.9	0.05	0.5	0.5	0.05	0.5	0.5	14.9	0.5	15.2	2.0	-1.8	17.3
98B-109	0.5	0.5	14	3.1	542	35	83	9.7	35	6.1	1.5	5.0	0.5	4.2	0.5	1.9	0.5	1.8	0.5	185.7	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	10.6	0.5	13.5	1.9	-1.7	4.9
98B-110	0.5	0.5	15	0.5	405	51	55	13.0	48	7.8	1.6	7.6	0.5	4.9	0.5	2.5	0.5	2.5	0.5	195.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.1	0.5	11.1	0.5	-1.8	13.8
98B-111	0.5	0.5	11	0.5	162	15	24	3.9	13	2.2	0.5	2.0	0.5	1.6	0.5	0.5	0.5	0.5	0.5	65.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.1	0.5	7.0	0.5	-1.8	16.5
98B-112	0.5	0.5	11	0.5	194	22	31	5.3	21	3.6	0.5	3.0	0.5	2.3	0.5	1.2	0.5	1.0	0.5	92.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.8	0.5	3.6	0.5	-1.8	11.3
98B-113	0.5	0.5	19	0.5	286	51	109	14.4	54	9.0	2.0	8.8	1.1	7.0	1.2	3.4	0.5	3.2	0.5	265.2	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.5	0.5	16.5	1.3	-1.7	4.8
98B-114	0.5	0.5	15	0.5	417	41	73	10.8	41	7.4	1.5	6.4	0.5	4.6	0.5	2.2	0.5	1.9	0.5	191.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.9	0.5	10.9	0.5	-1.8	18.1
98B-115	0.5	0.5	5	0.5	161	28	43	7.0	27	4.7	0.5	4.1	0.5	3.5	0.5	1.5	0.5	1.4	0.5	123.5	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.6	0.5	8.3	0.5	-1.8	4.0
98B-116	0.5	0.5	13	3.3	432	32	62	7.0	24	3.9	0.5	3.7	0.5	2.5	0.5	1.3	0.5	1.2	0.5	140.4	1.3	0.5	1.2	0.05	0.5	0.5	0.05	0.5	0.5	8.1	0.5	9.0	1.1	-1.8	16.2
98B-117	0.5	0.5	26	0.5	786	55	120	16.2	62	10.5	2.1	9.2	1.2	6.1	1.0	2.9	0.5	2.7	0.5	290.0	1.0	0.5	1.3	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	14.5	0.5	-1.8	21.3
98B-118	0.5	0.5	11	4.9	715	45	95	10.8	34	5.6	1.2	4.9	0.5	3.3	0.5	1.7	0.5	1.4	0.5	205.0	1.8	0.5	1.7	0.05	0.5	0.5	0.05	0.5	0.5	16.0	0.5	14.2	2.2	-1.8	16.4
98B-119	0.5	0.5	13	0.5	513	42	94	12.0	44	7.7	1.6	7.2	0.5	4.8	0.5	2.2	0.5	1.9	0.5	218.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.0	0.5	10.1	0.5	-1.8	11.8
98B-120	0.5	0.5	5	4.6	601	36	80	8.3	28	4.7	1.1	4.4	0.5	3.7	0.5	1.6	0.5	1.4	0.5	171.0	2.2	0.5	1.8	0.05	0.5	0.5	0.05	0.5	0.5	15.9	0.5	13.7	1.5	-1.8	14.7
98B-121	0.5	0.5	5	4.7	687	61	278	18.3	73	12.1	2.8	11.2	1.6	7.9	1.4	4.2	0.5	4.5	0.5	476.6	2.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	15.8	0.5	17.0	3.0	-1.4	1.9
98B-122	0.5	0.5	36	0.5	467	26	59	6.3	23	4.1	0.5	4.0	0.5	2.7	0.5	1.3	0.5	1.2	0.5	130.5	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.8	0.5	5.6	1.0	-1.8	15.2
98B-123	0.5	0.5	16	0.5	292	33	55	8.4	32	5.2	1.0	4.6	0.5	3.1	0.5	1.6	0.5	1.4	0.5	147.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.4	0.5	7.8	0.5	-1.8	19.7
98B-124	0.5	0.5	20	0.5	387	77	112	21.3	80	13.3	2.8	12.4	1.5	8.4	1.5	4.2	0.5	3.9	0.5	339.4	1.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.6	0.5	10.9	7.3	-1.7	4.0
98B-125	0.5	0.5	19	0.5	334	51	58	14.9	54	8.7	1.9	7.9	0.5	5.3	0.5	2.6	0.5	2.3	0.5	208.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.8	0.5	5.3	1.3	-1.8	6.6
98B-126	0.5	0.5	5	0.5	73	16	18	3.7	13	2.0	0.5	1.8	0.5	1.2	0.5	0.5	0.5	0.5	0.5	58.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	2.9	0.5	-1.8	2.3
98B-127	2.3	0.5	13	0.5	326	25	54	6.5	24	4.2	0.5	3.6	0.5	2.2	0.5	0.5	0.5	0.5	0.5	122.7	0.5	0.5	1.1	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	6.5	0.5	-1.8	19.1
98B-128	0.5	0.5	13	0.5	279	25	53	8.4	33	5.8	1.3	4.9	0.5	3.7	0.5	1.7	0.5	2.0	0.5	140.5	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.6	0.5	7.7	1.3	-1.2	4.2
98B-129-1 Field Duplicate	0.5	0.5	12	0.5	408	64	56	17.8	67	10.4	2.3	9.3	1.3	7.0	1.2	3.4	0.5	2.8	0.5	243.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.1	0.5	5.6	0.5	-1.8	5.8
98B-129-2 Field Duplicate	0.5	0.5	5	1.6	237	32	58	7.6	25	3.5	0.5	3.1	0.5	1.6	0.5	0.5	0.5	0.5	0.5	134.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	9.9	1.4	-1.8	5.3
98B-130	0.5	0.5	27	0.5	292	100	110	25.9	98	15.2	3.1	14.2	1.9	10.7	1.8	5.2	0.5	4.8	0.5	392.4	1.0	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.3	0.5	7.6	0.5	-1.8	6.3
98B-131	0.5	0.5	12	0.5	456	17	41	3.7	14	2.0	0.5	2.2	0.5	1.6	0.5	0.5	0.5	0.5	0.5	85.0	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.1	0.5	10.0	1.5	0.8	2.7
98B-132	0.5	0.5	21	0.5	166	64	93	16.1	60	9.9	2.1	9.8	1.2	6.7	1.2	3.5	0.5	2.8	0.5	271.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.0	0.5	7.0	0.5	-1.8	9.8
98B-133	0.5	0.5	11	0.5	199	56	131	15.0	56	9.0	1.6	7.6	0.5	5.3	0.5	2.4	0.5	2.2	0.5	287.6	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.2	0.5	12.0	1.5	-1.5	5.3
98B-134	0.5	0.5	29	1.1	577	100	188	28.7	108	18.1	3.5	15.5	2.0	11.3	1.9	6.3	0.5	7.0	1.0	491.1	2.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.4	0.5	35.4	4.4	-0.1	2.4
98B-135	0.5	0.5	15	0.5	490	15	41	3.8	14	2.5	0.5	2.1	0.5	1.7	0.5	0.5	0.5	0.5	0.5	83.4	1.9	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.1	0.5	14.1	1.8	-0.5	2.7
98B-136	0.5	0.5	5	1.2	640	8	16	1.8	6	1.3	0.5	1.2	0.5	1.2	0.5	0.5	0.5	0.5	0.5	40.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.8	0.5	5.2	1.0	1.3	2.0
98B-137	0.5	0.5	10	0.5	197	28	37	6.9	25	3.6	0.5	2.8	0.5	1.9	0.5	1.0	0.5	0.5	0.5	109.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.8	0.5	11.4	0.5	-1.8	14.8
98B-138	0.5	0.5	12	0.5	413	46	69	11.1	41	6.2	1.3	6.2	0.5	3.7	0.5	2.0	0.5	1.6	0.5	190.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.3	0.5	9.0	0.5	-1.8	9.8
98B-139	1.1	0.5	22	0.5	362	38	69	11.8	45	8.0	1.8	7.2	0.5	5.4	0.5	2.7	0.5	2.9	0.5	194.0	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.4	0.5	6.3	2.5	-1.3	2.9
98B-140	0.5	0.5	5	1.5	306	15	35	3.8	13	2.2	0.5	2.2	0.5	1.5	0.5	0.5	0.5	0.5	0.5	76.5	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.2	0.5	6.4	1.3	-1.1	1.6
98B-141	5.5	0.5	12	0.5	340	28	46	7.8	29	4.6	1.1	4.5	0.5	2.7	0.5	1.2	0.5	1.3	0.5	128.6	0.5	0.5	4.4	0.05	0.5	0.5	0.05	0.5	0.5	3.9	0.5	5.7	1.7	-1.8	23.8
98B-142	0.5	0.5	22	0.5	393	50	78	16.5	64	12.0	2.4	10.1	1.5	8.0	1.4	4.2	0.5	4.2	0.5	253.7	1.0	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.3	0.5	5.0	1.8	-1.2	2.2
98B-143	0.5	0.5	20	0.5	292	35	37	9.0	32	5.3	1.2	5.1	0.5	3.7	0.5	2.0	0.5	1.6	0.5	134.0	0.5	0.5	1.7	0.05	0.5	0.5	0.05	0.5	0.5	2.6	0.5	4.4	1.7	-1.8	12.9
98B-144	0.5	0.5	21	0.5	289	26	48	6.6	24	3.9	0.5	3.4	0.5	2.7	0.5	1.1	0.5	1.0	0.5	118.3	0.5	0.5	1.8	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	4.0	1.7	-1.8	11.6
98B-145	0.5	0.5	19	2.6	339	47	55	13.5	44	7.0	1.3	6.9	0.5	5.2	0.5	2.7	0.5	2.5	0.5	186.7	1.4	0.5	1.6	0.05	0.5	0.5	0.05	0.5	0.5	7.1	0.5	13.1	1.2	-1.9	4.7
98B-146	0.5	0.5	12	1.0	133	40	60	9.5	34	4.8	0.5	4.5	0.5	2.7	0.5	1.3	0.5	1.1	0.5	161.2	0.5	0.5	2.0	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	15.8	2.9	-1.9	2.3

Sample ID:	Sb	Te	I	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	TREE	Hf	Ta	W	Re	Os	Pt	Au	S.Q.Hg	Tl	Pb	Bi	Th	U	H^+	K
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	mhos cm^{-1}
98B-147	1.2	0.5	21	0.5	503	44	39	12.2	45	7.2	1.5	5.9	0.5	4.1	0.5	2.0	0.5	1.9	0.5	164.7	0.5	0.5	1.0	0.05	0.5	0.5	0.05	0.5	0.5	4.2	0.5	5.4	0.5	-1.9	6.4
98B-148	0.5	0.5	11	0.5	992	19	32	3.7	13	2.0	0.5	1.8	0.5	1.6	0.5	0.5	0.5	0.5	0.5	76.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.9	0.5	4.7	1.2	1.6	1.2
98B-149	2.5	0.5	20	1.4	467	33	51	10.0	38	6.3	1.3	5.5	0.5	4.4	0.5	1.9	0.5	1.8	0.5	155.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.1	0.5	7.9	2.7	-1.8	4.6
98B-150-1 Field Duplicate	1.1	0.5	25	1.5	310	78	92	21.4	78	13.5	2.9	12.3	1.7	8.8	1.5	4.4	0.5	4.1	0.5	320.1	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	7.3	0.5	12.8	2.0	-1.9	6.1
98B-150-2 Field Duplicate	0.5	0.5	25	0.5	249	96	107	27.8	103	17.0	3.6	15.9	2.1	11.1	1.9	6.0	0.5	5.2	0.5	397.5	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	7.1	1.6	-1.9	6.0
98B-151	0.5	0.5	5	0.5	419	22	46	5.6	19	3.2	0.5	2.8	0.5	2.2	0.5	0.5	0.5	0.5	0.5	104.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.6	0.5	4.2	1.3	0.2	2.1
98B-152	1.6	0.5	22	0.5	317	42	64	11.1	42	6.9	1.3	6.0	0.5	4.2	0.5	2.1	0.5	1.8	0.5	183.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.8	0.5	4.4	1.3	-1.9	16.1
98B-153	0.5	0.5	11	1.5	489	18	37	3.9	14	2.3	0.5	2.0	0.5	1.6	0.5	0.5	0.5	0.5	0.5	82.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.1	0.5	6.4	2.0	0.8	1.9
98B-154	1.1	0.5	21	4.3	594	63	109	15.4	53	9.3	1.8	8.1	0.5	5.9	1.0	2.9	0.5	2.4	0.5	272.8	2.6	0.5	2.0	0.05	0.5	0.5	0.05	0.5	0.5	13.7	0.5	18.5	2.2	-1.9	4.0
98B-155	0.5	0.5	26	0.5	453	50	82	13.8	52	8.6	1.9	8.6	1.1	5.8	1.0	2.9	0.5	2.7	0.5	232.2	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.5	0.5	8.8	0.5	-1.9	4.4
98B-156	0.5	0.5	27	0.5	242	76	64	20.6	81	13.5	2.7	12.5	1.5	9.0	1.5	4.4	0.5	4.2	0.5	293.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	6.7	0.5	-1.9	8.9
98B-157	1.7	0.5	32	0.5	475	31	74	8.9	33	5.7	1.2	5.4	0.5	4.1	0.5	1.9	0.5	1.7	0.5	170.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.3	0.5	5.0	0.5	-1.9	6.5
98B-158	1.1	0.5	26	1.9	409	85	121	24.6	92	15.7	3.2	13.5	2.0	10.7	1.8	5.4	0.5	5.0	0.5	380.5	2.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.5	0.5	17.6	2.7	-1.8	4.1
98B-159	0.5	0.5	22	0.5	373	71	190	21.8	85	14.6	3.1	12.9	1.6	9.8	1.6	4.9	0.5	4.5	0.5	421.6	3.0	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.4	0.5	20.8	2.6	-1.6	3.0
98B-160	1.5	0.5	15	1.7	218	72	91	17.4	62	9.1	1.7	8.7	1.0	5.3	0.5	2.4	0.5	2.0	0.5	274.2	1.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.6	0.5	14.6	2.5	-1.9	3.2
98B-161	0.5	0.5	5	1.8	110	22	110	5.0	17	2.5	0.5	1.9	0.5	1.3	0.5	0.5	0.5	0.5	0.5	163.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	11.2	0.5	9.2	2.2	-1.8	1.8
98B-162	1.8	0.5	22	0.5	386	65	71	16.6	63	9.6	2.1	9.2	1.2	5.9	1.1	3.0	0.5	2.8	0.5	250.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.4	0.5	7.4	0.5	-1.9	6.3
98B-163	0.5	0.5	15	0.5	736	19	43	4.5	16	2.8	0.5	2.8	0.5	2.3	0.5	0.5	0.5	0.5	0.5	94.8	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.1	0.5	11.2	2.6	0.8	2.2
98B-164	0.5	0.5	5	1.8	257	29	44	6.8	26	3.9	0.5	3.7	0.5	2.4	0.5	1.1	0.5	0.5	0.5	119.1	0.5	0.5	2.0	0.05	0.5	0.5	0.05	0.5	0.5	3.8	0.5	7.7	1.8	-1.9	4.1
98B-165	0.5	0.5	34	0.5	2966	74	125	25.4	100	17.9	4.0	15.4	2.2	12.3	2.1	6.0	0.5	6.4	0.5	391.3	2.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.5	0.5	10.6	2.3	-1.9	5.4
98B-166	0.5	0.5	17	0.5	334	41	96	14.4	55	9.8	1.9	8.7	1.1	6.5	1.0	3.1	0.5	3.1	0.5	242.9	1.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.8	0.5	15.0	3.6	-1.2	3.2
98B-167	0.5	0.5	14	1.3	382	58	164	17.3	60	10.4	2.0	9.0	1.2	6.5	1.1	3.0	0.5	3.2	0.5	336.9	2.7	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	9.2	0.5	24.1	5.0	-1.5	3.3
98B-168-1 Field Duplicate	0.5	0.5	23	0.5	179	40	59	10.6	41	6.9	1.5	6.3	0.5	4.6	0.5	2.3	0.5	2.0	0.5	177.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	6.1	1.0	-1.9	13.3
98B-168-2 Field Duplicate	0.5	0.5	20	0.5	132	29	30	7.6	30	4.7	1.1	4.7	0.5	3.5	0.5	1.8	0.5	1.5	0.5	115.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.1	0.5	4.3	0.5	-1.9	14.7
98B-169	0.5	0.5	15	1.7	347	29	59	6.8	26	4.2	0.5	3.9	0.5	2.6	0.5	1.2	0.5	1.2	0.5	136.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.4	0.5	8.0	0.5	-1.9	8.1
98B-170	0.5	0.5	35	0.5	486	34	62	8.5	32	6.0	1.4	5.6	0.5	4.5	0.5	2.2	0.5	2.2	0.5	161.5	0.5	0.5	1.4	0.05	0.5	0.5	0.05	0.5	0.5	3.9	0.5	4.9	2.1	-1.9	30.7
98B-171	0.5	0.5	33	0.5	243	46	58	12.9	48	8.7	1.7	7.7	0.5	5.3	0.5	2.6	0.5	2.5	0.5	195.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.4	0.5	4.8	0.5	-1.9	8.0
98B-172	2.0	0.5	19	0.5	294	28	35	7.8	29	4.9	0.5	4.2	0.5	3.1	0.5	1.6	0.5	1.4	0.5	118.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.0	0.5	4.4	1.1	-1.9	10.6
98B-173	1.7	0.5	27	3.2	660	82	194	21.1	80	12.6	2.6	11.1	1.3	6.9	1.2	3.7	0.5	3.5	0.5	421.1	1.8	0.5	1.6	0.05	0.5	0.5	0.05	0.5	0.5	12.5	0.5	13.7	1.8	-1.9	5.9
98B-174	1.1	0.5	19	0.5	317	52	110	16.6	64	11.7	2.4	10.3	1.5	8.2	1.3	4.2	0.5	4.2	0.5	288.1	2.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.5	0.5	9.3	5.3	-1.9	6.2
98B-175	0.5	0.5	15	0.5	299	29	71	8.3	31	5.3	1.1	4.9	0.5	3.5	0.5	1.7	0.5	1.6	0.5	159.8	2.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.4	0.5	8.8	1.9	-1.1	3.2
98B-176	0.5	0.5	14	0.5	510	29	72	8.1	29	5.0	0.5	4.3	0.5	3.3	0.5	1.4	0.5	1.4	0.5	156.0	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.6	0.5	9.2	1.5	-1.6	4.3
98B-177	0.5	0.5	21	0.5	208	30	27	7.6	30	4.7	1.0	4.6	0.5	3.4	0.5	1.6	0.5	1.4	0.5	113.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.5	0.5	4.0	0.5	-1.9	9.4
98B-178	0.5	0.5	25	1.8	317	45	49	11.3	41	6.7	1.5	6.3	0.5	4.5	0.5	2.5	0.5	2.4	0.5	172.4	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	7.1	0.5	10.4	0.5	-1.9	4.8
98B-179	0.5	0.5	29	0.5	219	30	30	8.1	32	5.2	1.0	4.9	0.5	3.3	0.5	1.7	0.5	1.4	0.5	120.5	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	5.1	0.5	-1.9	7.7
98B-180	0.5	0.5	14	0.5	223	20	38	4.9	18	2.8	0.5	2.9	0.5	1.6	0.5	0.5	0.5	0.5	0.5	91.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.0	0.5	4.6	0.5	-1.9	16.1
98B-181	0.5	0.5	5	3.5	478	26	52	6.2	22	3.4	0.5	3.3	0.5	2.0	0.5	1.1	0.5	1.0	0.5	119.2	0.5	0.5	1.3	0.05	0.5	0.5	0.05	0.5	0.5	9.7	0.5	9.8	2.1	-1.9	17.2
98B-182	0.5	0.5	20	0.5	340	51	62	18.1	75	14.0	2.8	12.0	1.6	9.0	1.5	4.6	0.5	4.8	0.5	256.2	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.9	0.5	7.1	1.4	-1.7	4.0
98B-183	0.5	0.5	5	2.3	371	26	46	6.8	23	3.4	0.5	3.3	0.5	2.2	0.5	0.5	0.5	0.5	0.5	114.8	0.5	0.5	1.5	0.05	0.5	0.5	0.05	0.5	0.5	8.3	0.5	10.9	1.0	-1.9	12.2
98B-184-1 Field Duplicate	0.5	0.5	5	0.5	202	16	28	4.4	14	2.5	0.5	2.1	0.5	1.5	0.5	0.5	0.5	0.5	0.5	72.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.5	0.5	5.1	0.5	-1.9	13.9
98B-184-2 Field Duplicate	0.5	0.5	5	0.5	146	10	17	2.3	7	1.3	0.5	1.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	42.8	0.5	0.5	2.1	0.05	0.5	0.5	0.05	0.5	0.5	2.0	0.5	3.2	0.5	-1.9	14.3
98B-185-1 Field Duplicate	0.5	0.5	5	1.0	202	19	27	3.6	14	2.0	0.5	2.1	0.5	1.3	0.5	0.5	0.5	0.5	0.5	72.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.9	0.5	5.6	0.5	-1.9	17.7
98B-185-2 Field Duplicate	0.5	0.5	5	0.5	146	12	19	3.1	10	1.6	0.5	1.6	0.5	1.1	0.5	0.5	0.5	0.5	0.5	52.0	0.5	0.5	1.4	0.05	0.5	0.5	0.05	0.5	0.5	2.4	0.5	5.0	0.5	-1.9	15.5
98B-186	1.1	0.5	71	1.5	353	36	56	14.8	66	12.9	2.9	10.7	1.4	7.7	1.4	4.4	0.5	5.0	0.5	219.7	1.2	0.5	2.0	0.05	0.5	0.5	0.05	0.5	0.5	7.2	0.5	7.9	1.9	-1.8	3.3
98B-187	0.5	0.5	21	0.5	148	112	45	26.9	102	16.3	3.7	17.3	2.0	11.3	1.9	5.8	0.5	4.8	0.5	349.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.3	0.5	3.6	1.1	-1.9	6.5
98B-188	0.5	0.5	18	4.0	579	62	97	15.2	51	8.3	1.8	7.5	0.5	5.4	0.5	2.8	0.5	2.5	0.5	255.0	2.1	0.5	1.5	0.05	0.5	0.5	0.05	0.5	0.5	17.1	0.5	18.7	1.7	-1.9	6.5
98B-189	0.5	0.5	14	2.1	268	52	63	13.0	48	7.7	1.6	7.3	0.5	5.4	0.5	2.8	0.5	2.3	0.5	205.3	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.3	0.5	13.1	1.7	-1.9	5.2
98B-190	0.5	0.5	18	1.2	230	35	38	8.6	33	5.2	1.2	4.8	0.5	3.4	0.5	1.5	0.5	1.6	0.5	134.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.6	0.5	6.7	0.5	-1.9	7.4
98B-191	0.5	0.5	13	5.5	539	56	108	14.4	53	8.7	1.8	8.0	1.1	5.7	1.0	3.2	0.5	3.2	0.5	266.0	3.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	17.9	0.5	31.0	2.6	-1.6	3.3
98B-192	0.5	0.5	14	2.2	482	29	147	6.6	23	3.7	0.5	3.4	0.5	2.5	0.5	1.2	0.5	1.1	0.5	220.0	1.1	0.5	1.7	0.05	0.5	0.5	0.05	0.5	0.5	9.0	0.5	7.5	1.6	-1.9	15.6
98B-193	0.5	0.5	17	1.9	261	48	105	13.2	51	8.3	1.9	8.4	1.1	6.2	1.1	3.3	0.5	3.0	0.5	251.8	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.6	0.5	21.4	2.4	-1.9	3.8

Sample ID:	Sb	Te	I	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	TREE	Hf	Ta	W	Re	Os	Pt	Au	S.Q.Hg	Tl	Pb	Bi	Th	U	H^+	K
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	mhos cm^{-1}
98B-194	0.5	0.5	13	0.5	425	36	82	10.0	37	6.5	1.4	5.9	0.5	4.1	0.5	1.7	0.5	1.7	0.5	188.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.1	0.5	11.0	8.5	-1.9	18.2
98B-195	0.5	0.5	14	0.5	206	38	35	9.5	34	5.6	1.3	5.2	0.5	3.7	0.5	1.9	0.5	1.6	0.5	138.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.4	0.5	7.6	1.8	-1.9	6.9
98B-196	0.5	0.5	24	0.5	416	29	61	7.6	28	4.6	1.0	4.5	0.5	2.8	0.5	1.2	0.5	1.2	0.5	143.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.0	0.5	5.9	0.5	-1.9	18.6
98B-197	0.5	0.5	13	4.1	386	68	97	17.7	63	10.5	2.1	9.5	1.3	7.7	1.2	3.8	0.5	3.6	0.5	285.9	2.3	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	13.8	0.5	20.2	2.8	-1.9	3.4
98B-198	0.5	0.5	24	0.5	414	376	454	91.9	322	49.9	10.4	49.8	5.8	32.4	5.4	15.5	2.0	14.0	2.1	1430.7	1.8	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	5.6	0.5	15.6	3.1	-1.9	6.5
98B-199	0.5	0.5	14	5.1	584	62	134	15.6	53	9.1	2.0	8.3	1.1	6.6	1.1	3.1	0.5	3.2	0.5	300.8	3.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	16.3	0.5	31.3	3.0	-1.8	3.8
98B-200	0.5	0.5	12	0.5	163	36	41	9.0	36	5.3	1.2	5.2	0.5	3.7	0.5	1.8	0.5	1.6	0.5	142.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.3	0.5	4.5	0.5	-1.9	10.0
98B-201	0.5	0.5	16	1.6	184	19	27	4.7	18	2.8	0.5	2.9	0.5	2.3	0.5	0.5	0.5	1.0	0.5	80.9	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.2	0.5	7.2	1.3	-1.9	5.8
98B-202	0.5	0.5	13	0.5	203	17	29	4.0	17	2.5	0.5	2.1	0.5	1.6	0.5	0.5	0.5	0.5	0.5	76.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.0	0.5	4.9	1.1	-1.9	12.1
98B-203	0.5	0.5	14	0.5	260	32	66	9.0	34	5.6	1.2	5.4	0.5	3.9	0.5	1.9	0.5	1.8	0.5	163.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	3.9	0.5	-1.9	6.6
98B-204	0.5	0.5	16	2.7	308	33	67	8.6	32	5.0	1.1	4.7	0.5	3.4	0.5	1.8	0.5	1.5	0.5	160.6	1.4	0.5	1.1	0.05	0.5	0.5	0.05	0.5	0.5	8.1	0.5	11.6	1.2	-1.9	4.4
98B-205	0.5	0.5	15	1.4	247	27	53	7.4	26	4.3	0.5	3.9	0.5	2.7	0.5	1.4	0.5	1.2	0.5	129.7	1.1	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.7	0.5	7.4	1.7	-1.9	6.1
98B-206	0.5	0.5	17	1.2	226	36	65	9.7	34	6.1	1.3	5.7	0.5	4.3	0.5	2.1	0.5	1.9	0.5	167.4	1.2	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	6.1	0.5	13.9	1.3	-1.9	5.4
98B-207	0.5	0.5	15	4.4	414	49	183	12.0	42	6.9	1.5	6.3	0.5	4.4	0.5	2.3	0.5	2.3	0.5	312.3	2.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	15.1	0.5	18.7	2.3	-1.9	5.5
98B-208-1 Field Duplicate	0.5	0.5	13	0.5	355	38	73	10.2	33	5.5	1.1	5.7	0.5	3.5	0.5	1.6	0.5	1.4	0.5	174.4	0.5	0.5	2.3	0.05	0.5	0.5	0.05	0.5	0.5	6.6	0.5	12.4	1.4	-1.9	19.5
98B-208-2 Field Duplicate	0.5	0.5	23	3.0	530	50	74	12.7	45	7.4	1.7	6.7	0.5	4.6	0.5	2.2	0.5	2.2	0.5	208.2	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	11.5	0.5	13.8	1.7	-1.9	5.9

Appendix 2

B-Horizon Geochemistry: Duplicate pair ICP-MS Analyses.

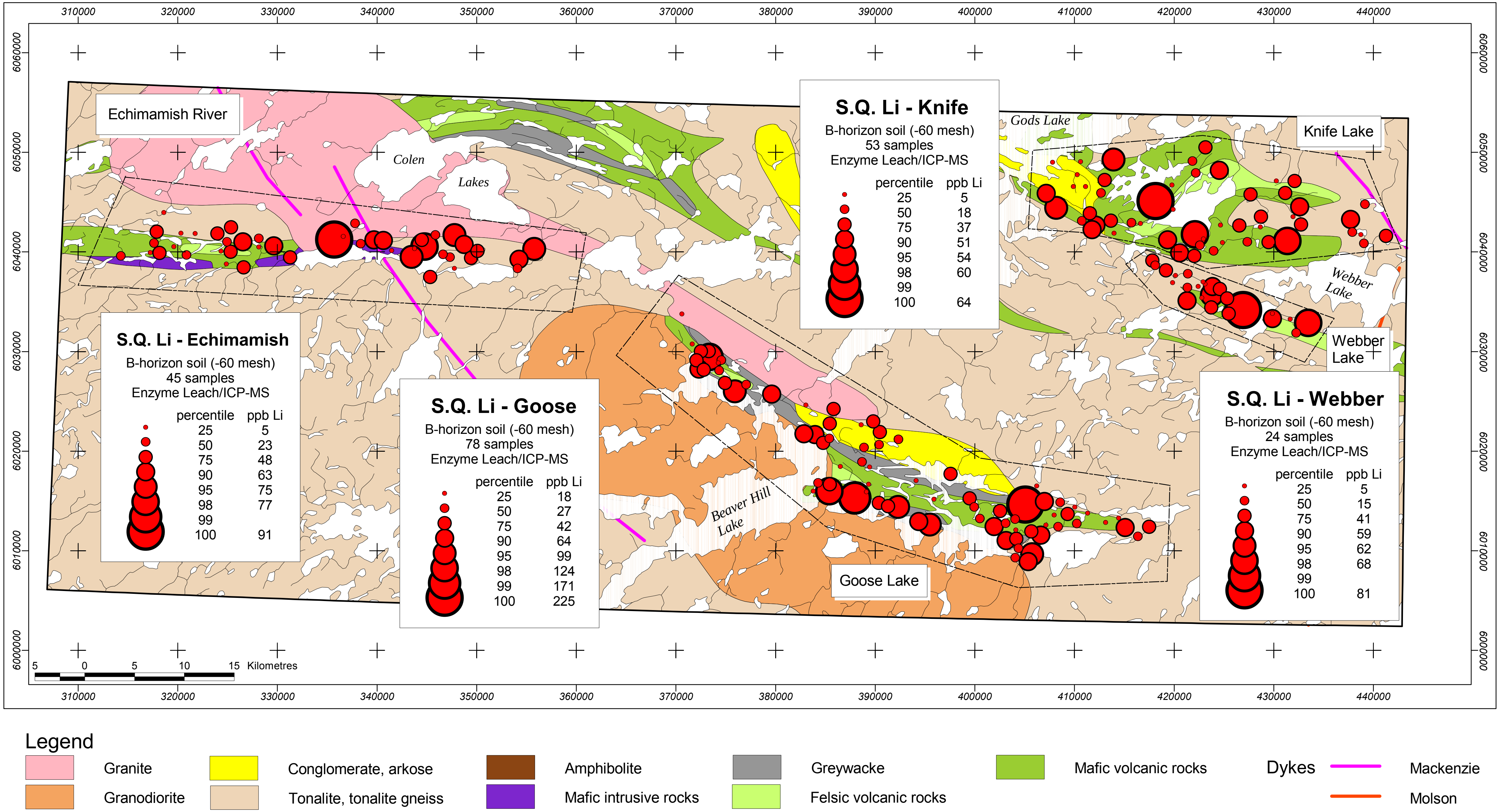
Sample ID:	UTM Easting	Northing	S.Q.Li ppb	S.Q.Be ppb	S.Q.Cl ppb	S.Q.Sc ppb	S.Q.Ti ppb	V ppb	Mn ppb	Co ppb	Ni ppb	Cu ppb	Zn ppb	Ga ppb	Ge ppb	As ppb	Se ppb	Br ppb	Rb ppb	Sr ppb	Y ppb	Zr ppb	Nb ppb	Mo ppb	Ru ppb	Pd ppb	Ag ppb	Cd ppb	In ppb	Sn ppb
98B-16-1 Field Duplicate	406208.50	6016505.50	5	10	3791	50	50	20.9	39	2	2.5	2.5	20.25	0.5	0.5	2.5	15	15	87	38	2.1	2.6	0.5	1.6	0.5	0.5	0.1	0.4	0.1	0.5
98B-16-2 Field Duplicate	406208.50	6016505.50	5	10	1500	50	50	12.4	179	2	2.5	2.5	21.05	0.5	0.5	2.5	15	15	87	28	2.3	0.5	0.5	1.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-36-1 Field Duplicate	371637.00	6030765.00	17	10	20062	50	425	122.3	1198	16	37.3	55.9	28.13	2.2	0.5	9.5	15	364	11	165	42.0	46.7	2.1	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-36-2 Field Duplicate	371637.00	6030765.00	16	10	14969	50	318	179.9	997	15	30.2	48.3	29.40	1.8	0.5	10.7	15	472	11	131	42.6	38.8	2.1	3.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-61-1 Field Duplicate	428648.00	6042511.00	5	10	1500	50	152	22.7	223	1	5.4	24.7	16.89	2.1	0.5	2.5	15	15	33	136	6.4	14.4	0.5	2.3	0.5	0.5	0.1	0.1	0.1	0.5
98B-61-2 Field Duplicate	428648.00	6042511.00	5	10	16327	50	156	58.9	499	7	13.8	23.7	21.84	0.5	0.5	11.1	15	357	19	148	19.0	21.1	1.2	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-85-1 Field Duplicate	439153.13	6044766.50	16	10	5478	50	50	13.8	1050	4	10.8	5.1	18.34	0.5	0.5	2.5	15	179	38	102	9.6	9.6	0.5	1.0	0.5	0.5	0.1	0.5	0.1	0.5
98B-85-2 Field Duplicate	439153.13	6044766.50	5	10	1500	50	126	15.2	579	3	2.5	2.5	14.34	0.5	0.5	2.5	15	43	31	109	11.2	11.7	0.5	1.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-104-1 Field Duplicate	423848.47	6036518.50	32	10	10926	50	1416	138.2	634	12	40.0	38.8	56.01	9.8	0.5	12.1	15	160	84	153	19.5	66.1	5.8	6.5	0.5	0.5	0.1	0.4	0.1	0.5
98B-104-2 Field Duplicate	423848.47	6036518.50	58	10	6090	50	2609	174.8	567	17	64.7	39.4	91.11	19.2	1.3	13.6	15	97	138	149	18.5	103.7	10.6	4.8	0.5	0.5	0.1	0.1	0.1	0.5
98B-129-1 Field Duplicate	411318.28	6013772.50	15	10	8238	50	186	133.3	380	11	17.1	23.4	28.83	0.5	0.5	10.3	15	254	13	103	39.6	54.0	1.6	3.2	0.5	0.5	0.1	0.1	0.1	0.5
98B-129-2 Field Duplicate	411318.28	6013772.50	13	10	1500	50	602	51.2	210	4	13.3	26.1	27.24	4.1	0.5	6.8	15	96	70	189	8.9	27.0	3.1	4.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-150-1 Field Duplicate	400497.00	6013199.00	21	10	4905	50	988	89.7	1223	19	41.9	65.9	37.73	6.4	0.5	12.2	15	239	41	133	54.0	81.5	4.4	4.4	0.5	0.5	0.1	0.1	0.1	0.5
98B-150-2 Field Duplicate	400497.00	6013199.00	13	10	8300	50	406	70.7	975	16	40.7	75.1	32.74	1.4	0.5	11.4	15	252	19	133	68.4	60.2	2.0	3.7	0.5	0.5	0.1	0.2	0.1	0.5
98B-168-1 Field Duplicate	389115.00	6015922.00	5	10	6417	50	131	61.5	778	7	11.2	34.4	22.76	0.5	0.5	11.2	15	189	14	256	28.4	28.7	1.1	5.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-168-2 Field Duplicate	389115.00	6015922.00	5	10	5049	50	50	25.8	455	4	8.9	28.6	18.51	0.5	0.5	9.7	15	223	21	231	20.3	18.0	0.5	8.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-184-1 Field Duplicate	326621.81	6038449.00	35	10	8756	50	428	81.1	331	3	12.4	23.6	30.57	2.9	0.5	10.3	15	131	36	206	8.5	22.2	2.0	2.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-184-2 Field Duplicate	326621.81	6038449.00	5	10	4522	50	367	48.9	705	3	9.6	10.4	22.57	1.2	0.5	2.5	15	69	19	147	6.1	16.6	1.4	6.0	0.5	0.5	0.1	0.1	0.1	0.5
98B-185-1 Field Duplicate	328134.84	6041330.00	14	10	4474	50	712	54.4	321	3	15.1	16.7	29.58	3.8	0.5	5.7	15	34	32	158	7.2	24.2	2.8	4.1	0.5	0.5	0.1	0.1	0.1	0.5
98B-185-2 Field Duplicate	328134.84	6041330.00	5	10	4979	50	517	37.7	312	2	9.3	14.0	26.38	1.5	0.5	5.2	15	15	24	159	7.0	23.4	1.7	3.7	0.5	0.5	0.1	0.1	0.1	0.5
98B-208-1 Field Duplicate	339675.63	6041192.00	42	10	11604	50	611	116.6	353	4	21.6	44.9	39.70	2.3	0.5	16.3	15	82	27	201	21.2	42.1	2.5	3.6	0.5	0.5	0.1	0.1	0.1	0.5
98B-208-2 Field Duplicate	339675.63	6041192.00	49	10	13086	50	1937	161.2	743	14	47.8	44.8	79.64	10.8	1.0	17.6	15	197	88	136	30.0	84.0	7.1	5.4	0.5	0.5	0.1	0.1	0.1	0.5

Sample ID:	Sb	Te	I	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	TREE	Hf	Ta	W	Re	Os	Pt	Au	S.Q.Hg	Tl	Pb	Bi	Th	U	H^+	K
	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	mhos cm^{-1}
98B-16-1 Field Duplicate	0.5	0.5	5	1.0	410	4	9	0.5	4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	23.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.9	0.5	0.5	0.5	0.3	1.5
98B-16-2 Field Duplicate	0.5	0.5	5	0.5	357	6	10	1.0	3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	25.7	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.0	1.9
98B-36-1 Field Duplicate	0.5	0.5	24	0.5	300	59	59	16.1	62	10.3	2.1	9.3	1.2	6.7	1.2	3.3	0.5	3.1	0.5	234.2	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	7.2	0.5	-1.8	8.8
98B-36-2 Field Duplicate	0.5	0.5	34	0.5	354	61	53	16.4	64	9.7	2.2	9.6	1.3	6.7	1.2	3.3	0.5	2.8	0.5	232.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.8	0.5	5.7	0.5	-1.8	6.6
98B-61-1 Field Duplicate	0.5	0.5	5	0.5	120	10	14	2.5	10	1.7	0.5	1.4	0.5	1.2	0.5	0.5	0.5	0.5	0.5	44.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.0	0.5	4.2	0.5	-1.9	11.1
98B-61-2 Field Duplicate	0.5	0.5	19	0.5	207	27	56	7.3	28	4.8	1.1	4.5	0.5	3.5	0.5	1.6	0.5	1.6	0.5	137.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.2	0.5	3.6	0.5	-1.9	7.2
98B-85-1 Field Duplicate	0.5	0.5	5	0.5	316	22	59	5.7	21	3.1	0.5	3.3	0.5	1.9	0.5	0.5	0.5	0.5	0.5	119.6	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	0.5	0.5	3.9	0.5	-1.7	2.6
98B-85-2 Field Duplicate	0.5	0.5	5	0.5	176	22	56	6.0	21	3.4	0.5	3.2	0.5	2.2	0.5	1.2	0.5	0.5	0.5	117.8	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.1	0.5	4.7	0.5	-1.7	2.4
98B-104-1 Field Duplicate	0.5	0.5	15	2.7	438	40	62	9.8	36	5.4	1.2	5.1	0.5	3.6	0.5	1.7	0.5	1.5	0.5	167.9	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	8.6	0.5	13.4	1.7	-1.8	5.8
98B-104-2 Field Duplicate	0.5	0.5	13	5.7	552	48	70	10.5	39	6.0	1.3	5.9	0.5	3.3	0.5	1.7	0.5	1.5	0.5	190.0	2.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	15.2	0.5	15.6	2.4	-1.8	5.1
98B-129-1 Field Duplicate	0.5	0.5	12	0.5	408	64	56	17.8	67	10.4	2.3	9.3	1.3	7.0	1.2	3.4	0.5	2.8	0.5	243.3	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.1	0.5	5.6	0.5	-1.8	5.8
98B-129-2 Field Duplicate	0.5	0.5	5	1.6	237	32	58	7.6	25	3.5	0.5	3.1	0.5	1.6	0.5	0.5	0.5	0.5	0.5	134.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.7	0.5	9.9	1.4	-1.8	5.3
98B-150-1 Field Duplicate	1.1	0.5	25	1.5	310	78	92	21.4	78	13.5	2.9	12.3	1.7	8.8	1.5	4.4	0.5	4.1	0.5	320.1	1.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	7.3	0.5	12.8	2.0	-1.9	6.1
98B-150-2 Field Duplicate	0.5	0.5	25	0.5	249	96	107	27.8	103	17.0	3.6	15.9	2.1	11.1	1.9	6.0	0.5	5.2	0.5	397.5	1.4	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	4.7	0.5	7.1	1.6	-1.9	6.0
98B-168-1 Field Duplicate	0.5	0.5	23	0.5	179	40	59	10.6	41	6.9	1.5	6.3	0.5	4.6	0.5	2.3	0.5	2.0	0.5	177.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	2.8	0.5	6.1	1.0	-1.9	13.3
98B-168-2 Field Duplicate	0.5	0.5	20	0.5	132	29	30	7.6	30	4.7	1.1	4.7	0.5	3.5	0.5	1.8	0.5	1.5	0.5	115.4	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	1.1	0.5	4.3	0.5	-1.9	14.7
98B-184-1 Field Duplicate	0.5	0.5	5	0.5	202	16	28	4.4	14	2.5	0.5	2.1	0.5	1.5	0.5	0.5	0.5	0.5	0.5	72.1	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.5	0.5	5.1	0.5	-1.9	13.9
98B-184-2 Field Duplicate	0.5	0.5	5	0.5	146	10	17	2.3	7	1.3	0.5	1.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	42.8	0.5	0.5	2.1	0.05	0.5	0.5	0.05	0.5	0.5	2.0	0.5	3.2	0.5	-1.9	14.3
98B-185-1 Field Duplicate	0.5	0.5	5	1.0	202	19	27	3.6	14	2.0	0.5	2.1	0.5	1.3	0.5	0.5	0.5	0.5	0.5	72.0	0.5	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	3.9	0.5	5.6	0.5	-1.9	17.7
98B-185-2 Field Duplicate	0.5	0.5	5	0.5	146	12	19	3.1	10	1.6	0.5	1.6	0.5	1.1	0.5	0.5	0.5	0.5	0.5	52.0	0.5	0.5	1.4	0.05	0.5	0.5	0.05	0.5	0.5	2.4	0.5	5.0	0.5	-1.9	15.5
98B-208-1 Field Duplicate	0.5	0.5	13	0.5	355	38	73	10.2	33	5.5	1.1	5.7	0.5	3.5	0.5	1.6	0.5	1.4	0.5	174.4	0.5	0.5	2.3	0.05	0.5	0.5	0.05	0.5	0.5	6.6	0.5	12.4	1.4	-1.9	19.5
98B-208-2 Field Duplicate	0.5	0.5	23	3.0	530	50	74	12.7	45	7.4	1.7	6.7	0.5	4.6	0.5	2.2	0.5	2.2	0.5	208.2	1.6	0.5	0.5	0.05	0.5	0.5	0.05	0.5	0.5	11.5	0.5	13.8	1.7	-1.9	5.9

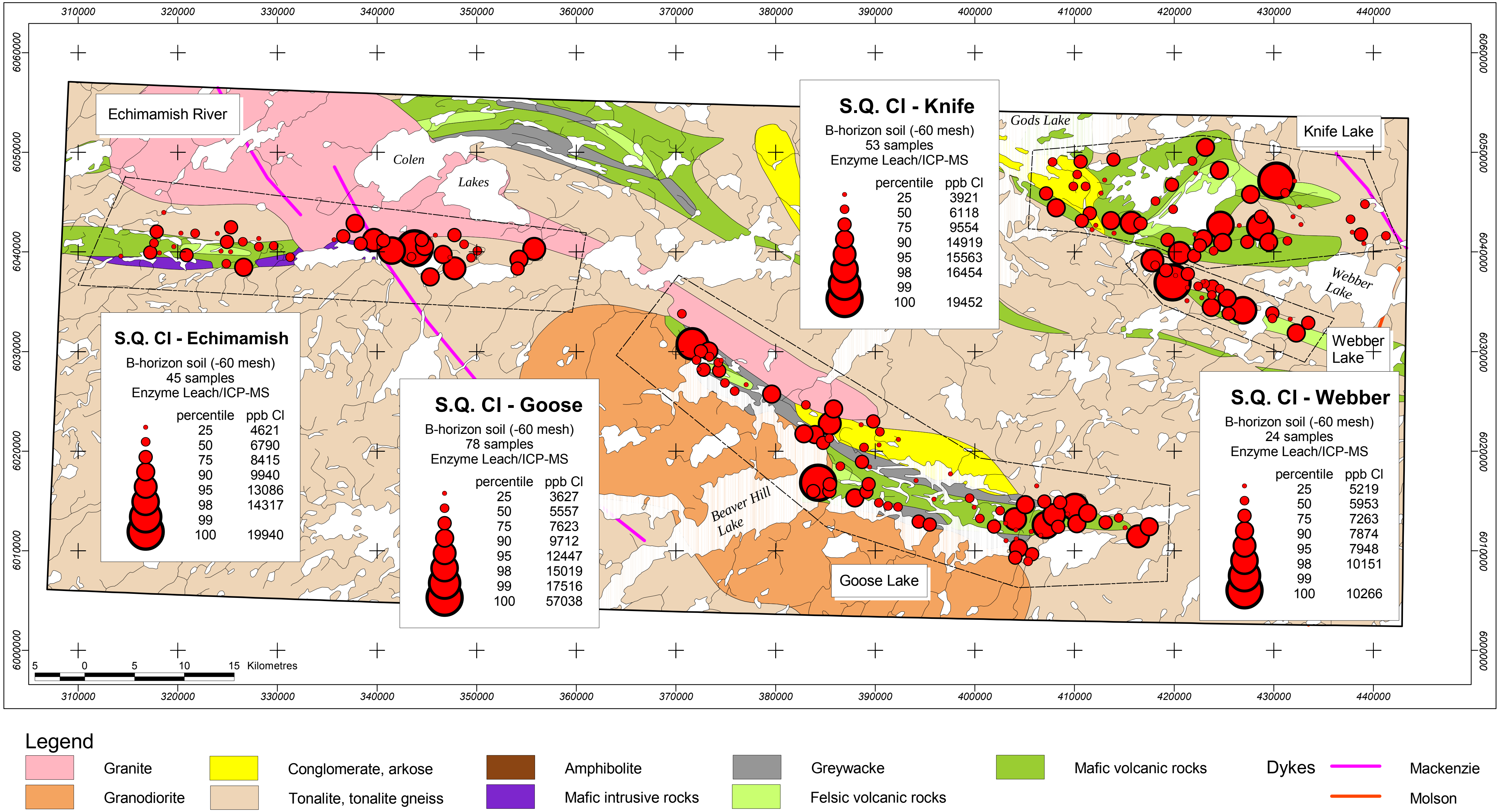
Appendix 3

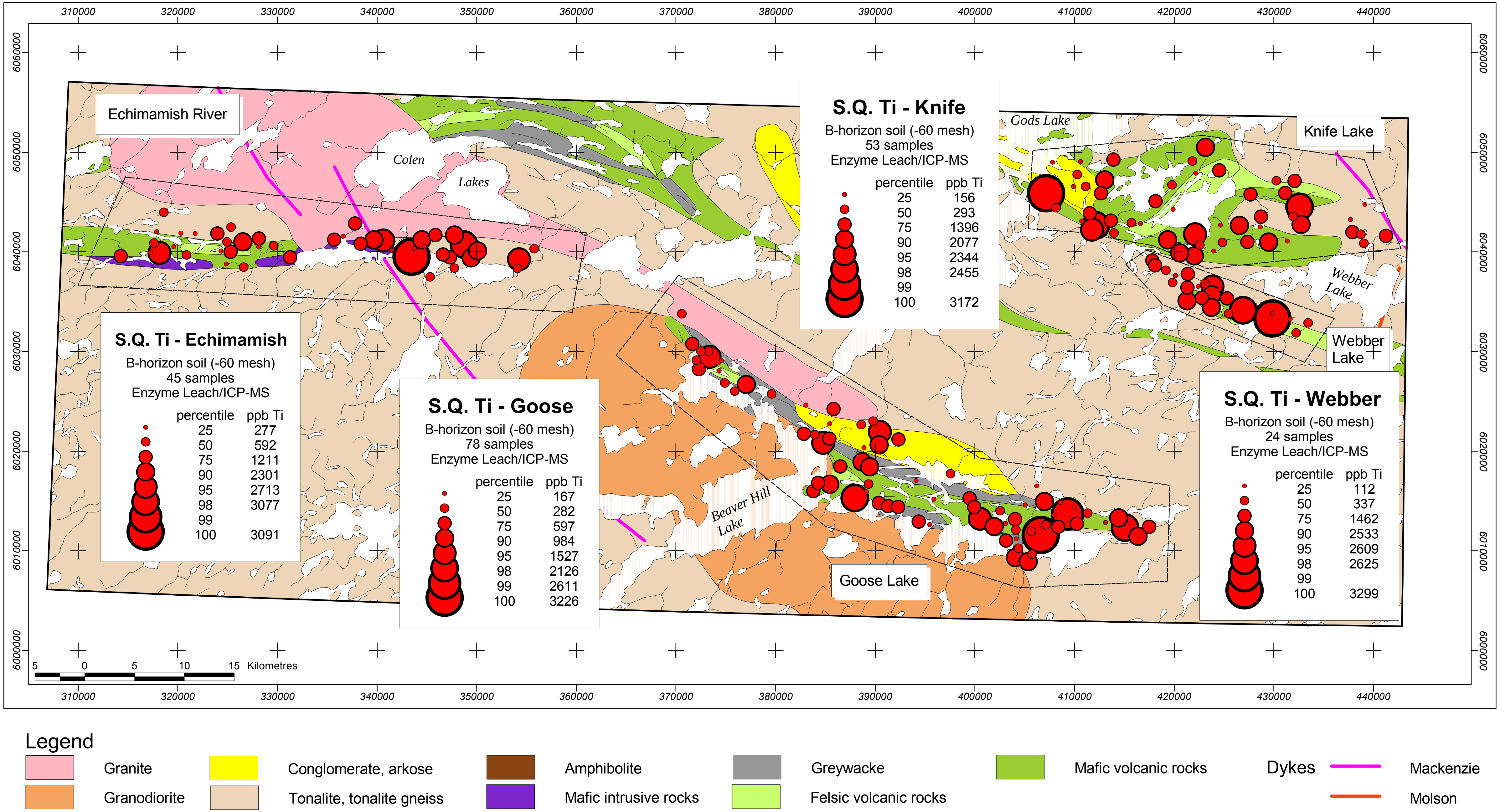
B-Horizon Geochemistry: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Hydrogen Ion (H^+) and Specific Conductance (*K*) Percentile Bubble Plots.

Li (sq)	Cl (sq)	Ti (sq)	V	Mn
Co	Ni	Cu	Zn	Ga
As	Br	Rb	Sr	Y
Zr	Nb	Sb	I	Cs
Ba	Total REE	Hf	Pb	Th
U	*K* – specific conductance			Contents

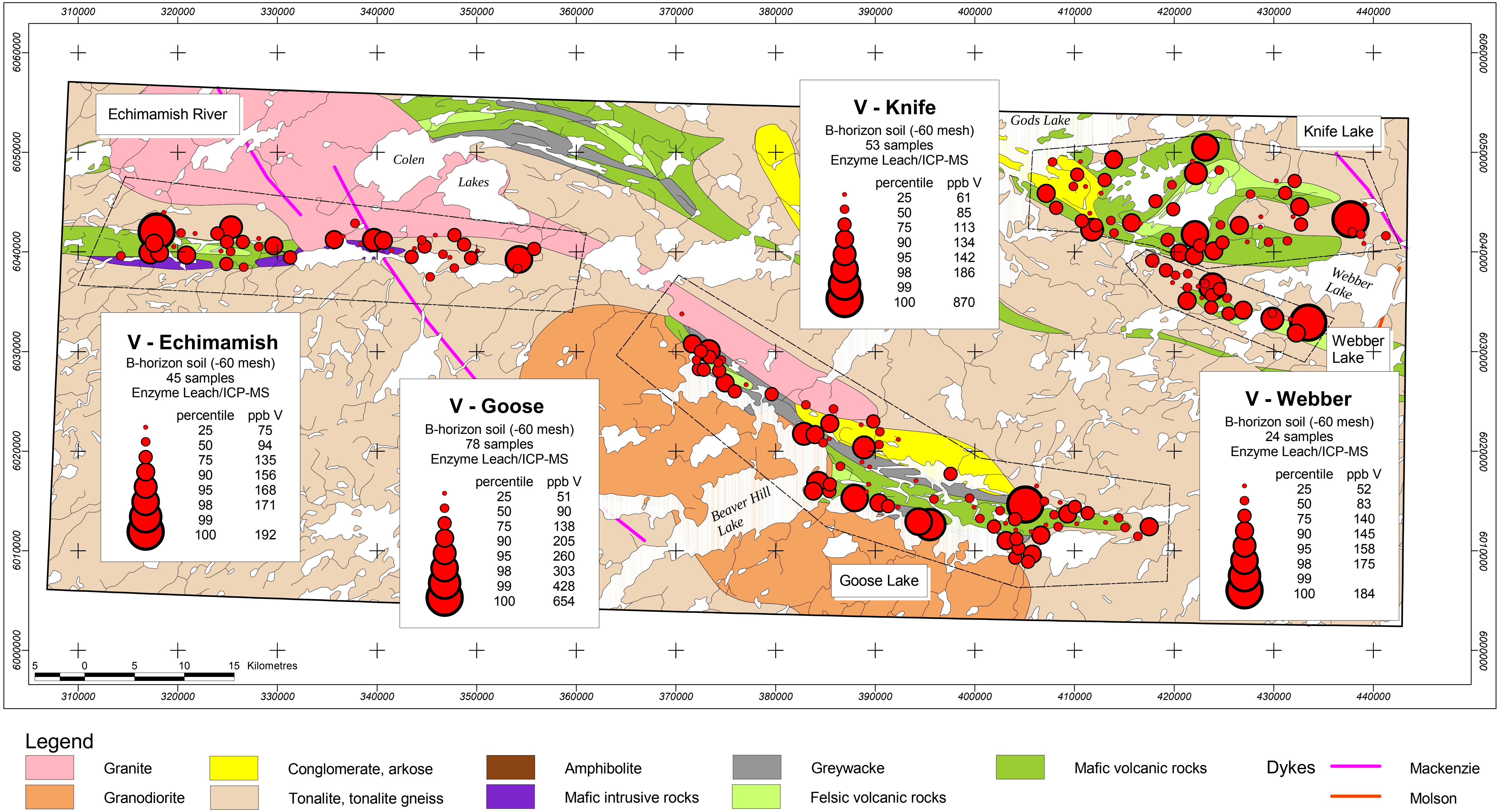


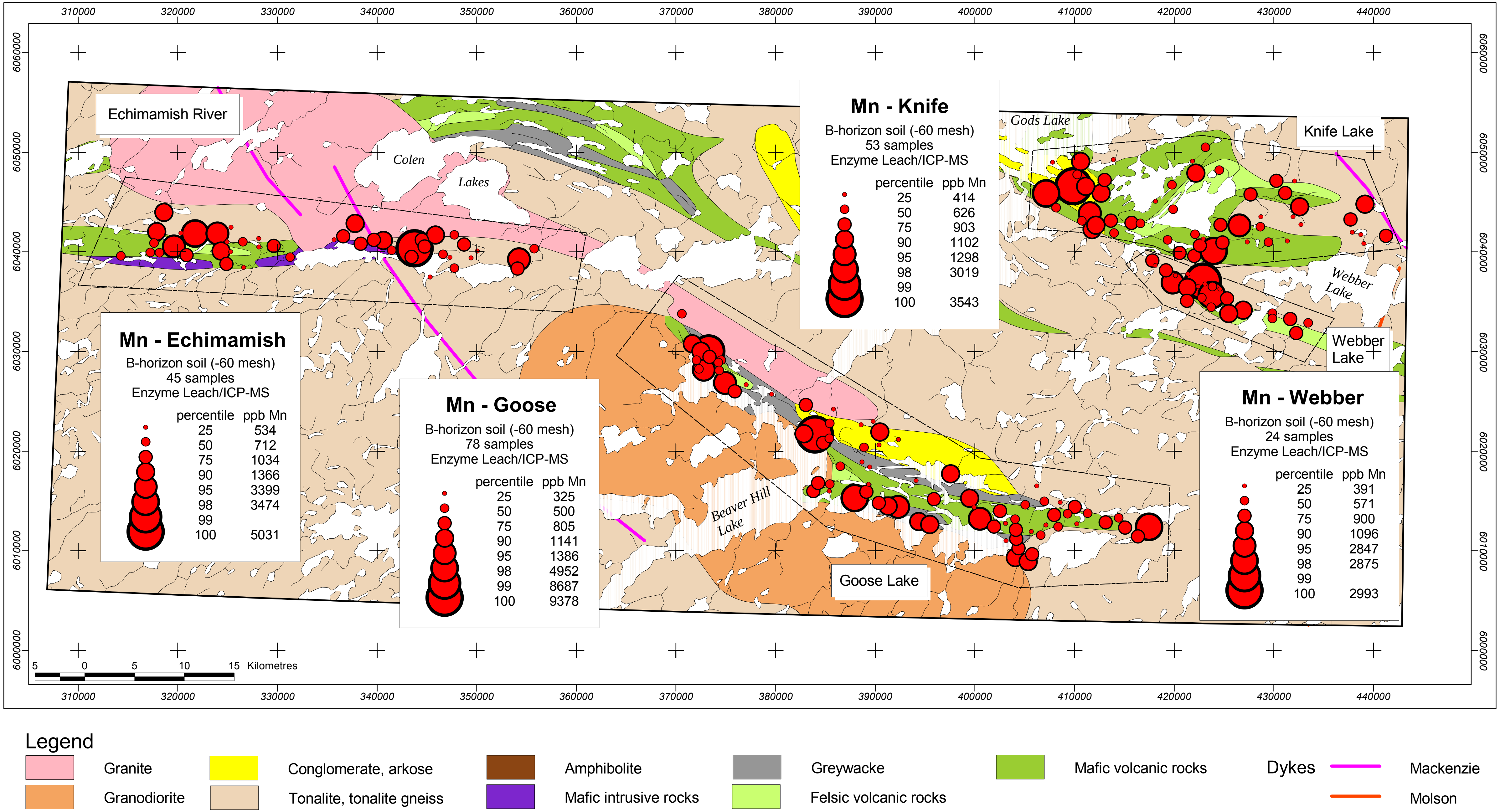
Echimamish River
Colen
Lakes
S.Q. Li - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Li
25 5
50 18
75 37
90 51
95 54
98 60
99
100 64
Gods Lake
Knife Lake
Webber Lake
Webber Lake
S.Q. Li - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Li
25 5
50 23
75 48
90 63
95 75
98 77
99
100 91
S.Q. Li - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Li
25 18
50 27
75 42
90 64
95 99
98 124
99 171
100 225
Beaver Hill Lake
Goose Lake
S.Q. Li - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Li
25 5
50 15
75 41
90 59
95 62
98 68
99
100 81
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
S.Q. Cl - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Cl
25 3921
50 6118
75 9554
90 14919
95 15563
98 16454
99
100 19452
S.Q. Cl - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Cl
25 4621
50 6790
75 8415
90 9940
95 13086
98 14317
99
100 19940
S.Q. Cl - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Cl
25 3627
50 5557
75 7623
90 9712
95 12447
98 15019
99 17516
100 57038
S.Q. Cl - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Cl
25 5219
50 5953
75 7263
90 7874
95 7948
98 10151
99
100 10266
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

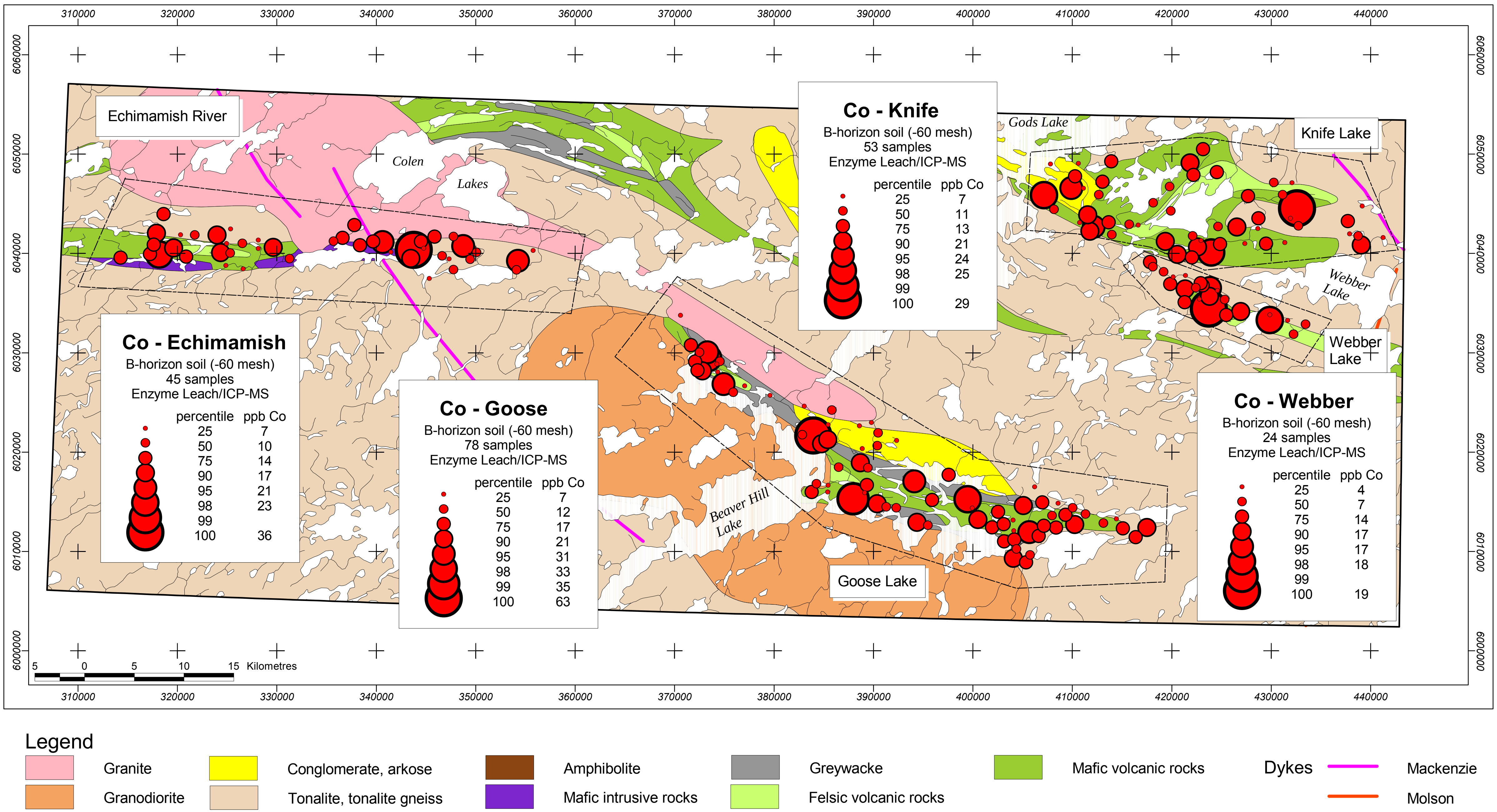


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
S.Q. Ti - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile | ppb Ti
25 | 156
50 | 293
75 | 1396
90 | 2077
95 | 2344
98 | 2455
99 |
100 | 3172
S.Q. Ti - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile | ppb Ti
25 | 277
50 | 592
75 | 1211
90 | 2301
95 | 2713
98 | 3077
99 |
100 | 3091
S.Q. Ti - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile | ppb Ti
25 | 167
50 | 282
75 | 597
90 | 984
95 | 1527
98 | 2126
99 | 2611
100 | 3226
S.Q. Ti - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile | ppb Ti
25 | 112
50 | 337
75 | 1462
90 | 2533
95 | 2609
98 | 2625
99 |
100 | 3299
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

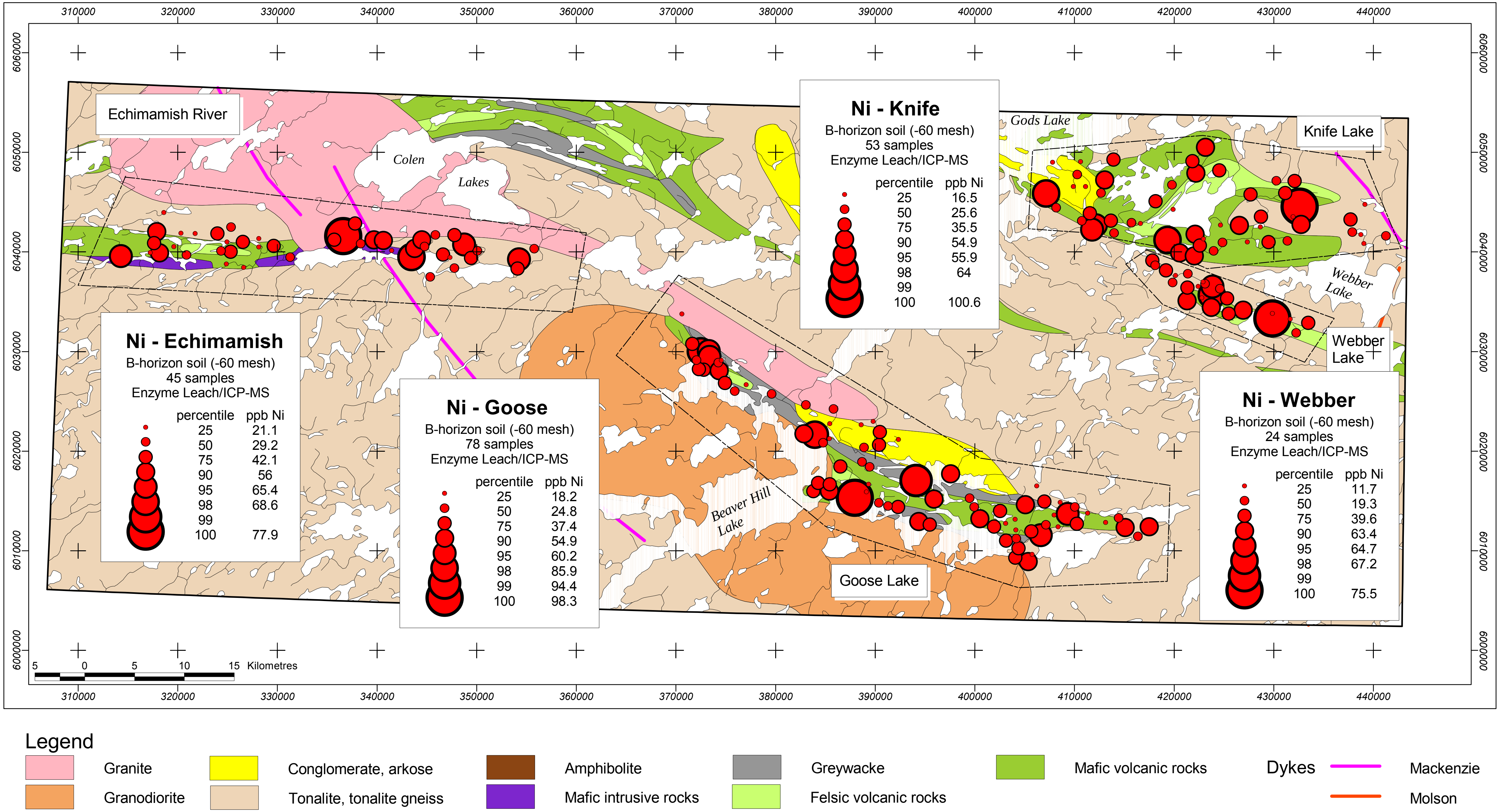

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
V - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 61
50 85
75 113
90 134
95 142
98 186
99
100 870
V - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 75
50 94
75 135
90 156
95 168
98 171
99
100 192
V - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 51
50 90
75 138
90 205
95 260
98 303
99 428
100 654
V - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 52
50 83
75 140
90 145
95 158
98 175
99
100 184
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

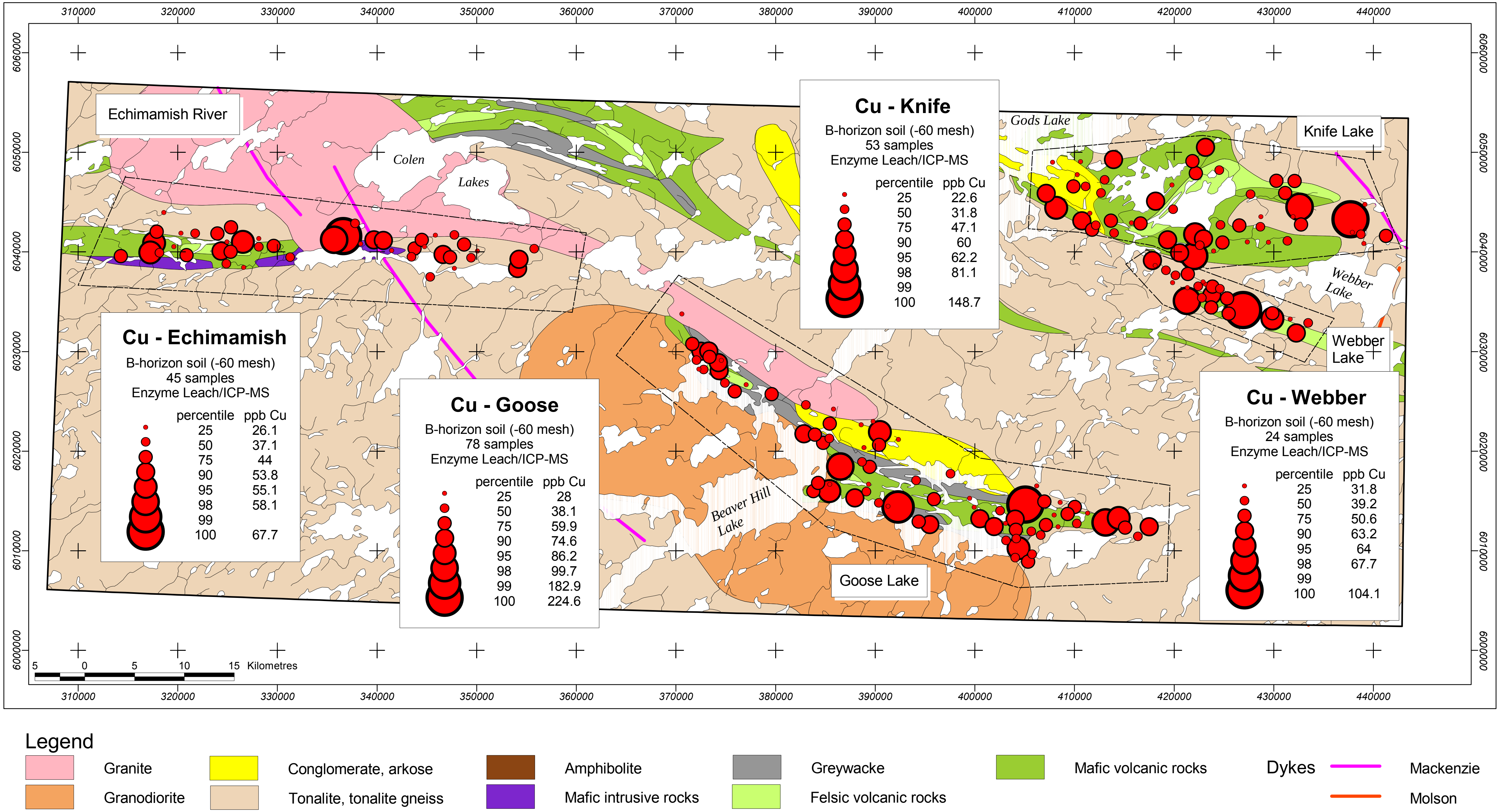


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mn - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Mn
25 414
50 626
75 903
90 1102
95 1298
98 3019
99
100 3543
Mn - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Mn
25 534
50 712
75 1034
90 1366
95 3399
98 3474
99
100 5031
Mn - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Mn
25 325
50 500
75 805
90 1141
95 1386
98 4952
99 8687
100 9378
Mn - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Mn
25 391
50 571
75 900
90 1096
95 2847
98 2875
99
100 2993
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

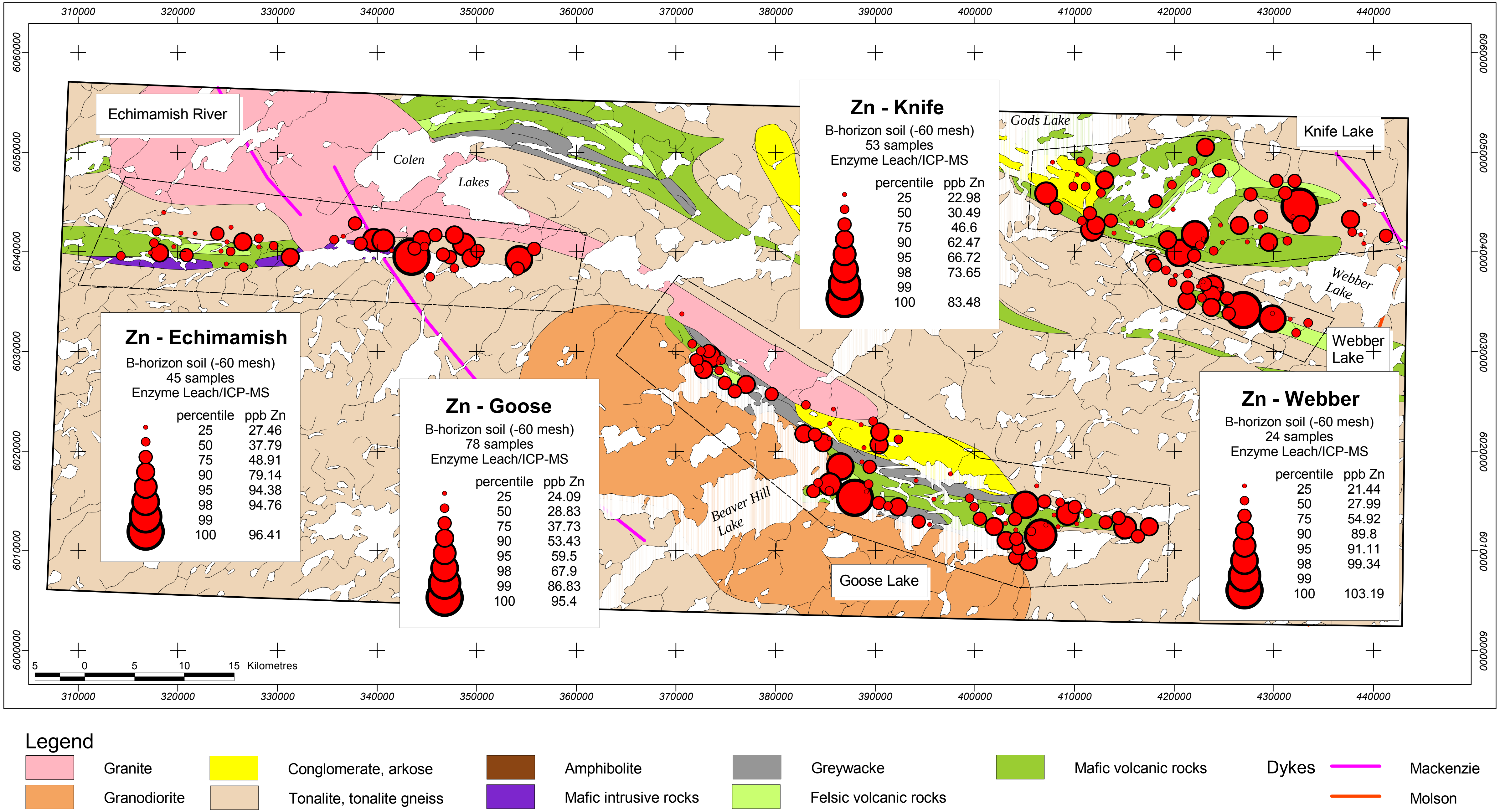


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Co - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Co
25 7
50 11
75 13
90 21
95 24
98 25
99
100 29
Co - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Co
25 7
50 10
75 14
90 17
95 21
98 23
99
100 36
Co - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Co
25 7
50 12
75 17
90 21
95 31
98 33
99 35
100 63
Co - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Co
25 4
50 7
75 14
90 17
95 17
98 18
99
100 19
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

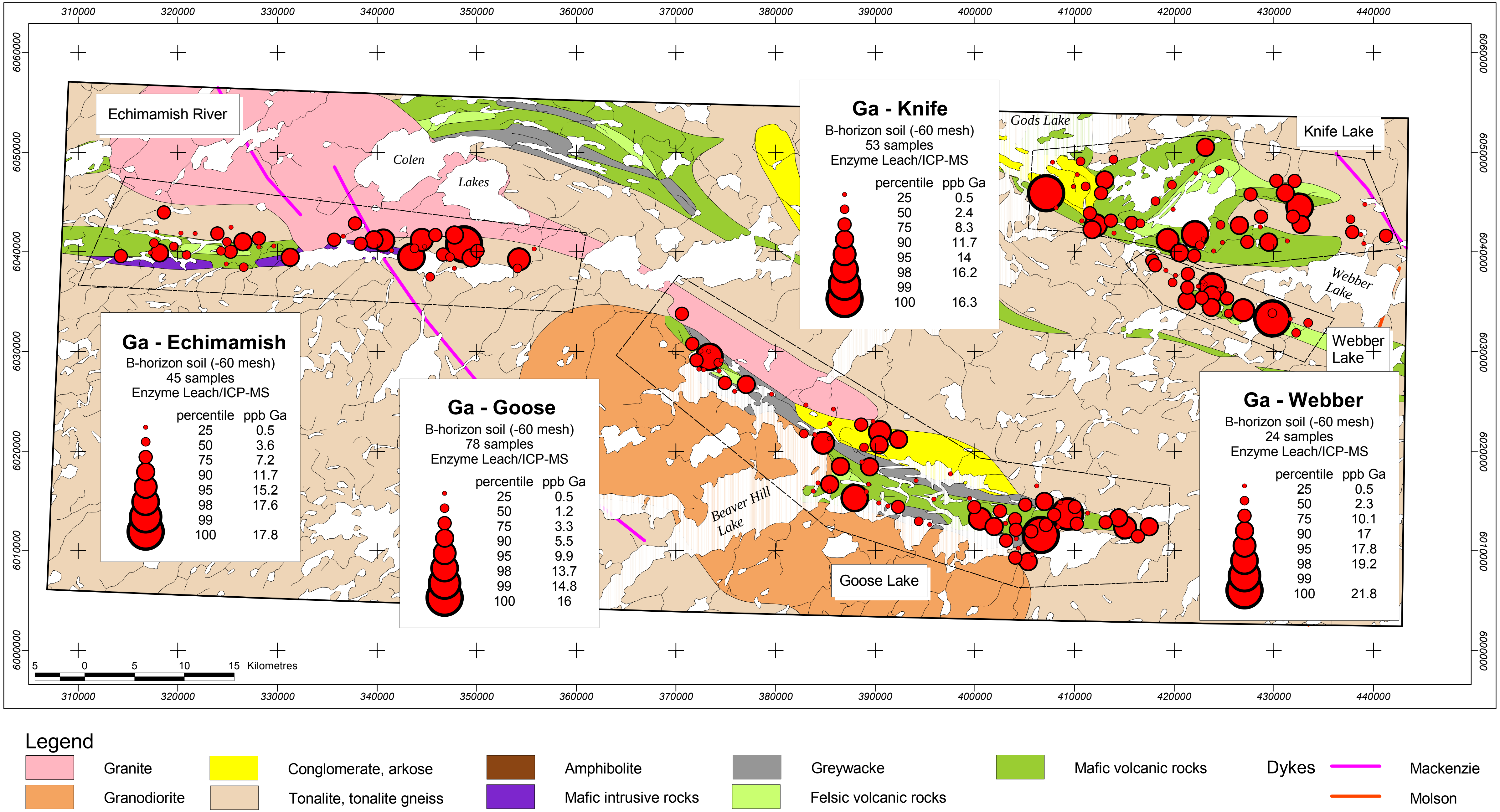

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Ni
25 16.5
50 25.6
75 35.5
90 54.9
95 55.9
98 64
99
100 100.6
Ni - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Ni
25 21.1
50 29.2
75 42.1
90 56
95 65.4
98 68.6
99
100 77.9
Ni - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Ni
25 18.2
50 24.8
75 37.4
90 54.9
95 60.2
98 85.9
99 94.4
100 98.3
Ni - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Ni
25 11.7
50 19.3
75 39.6
90 63.4
95 64.7
98 67.2
99
100 75.5
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



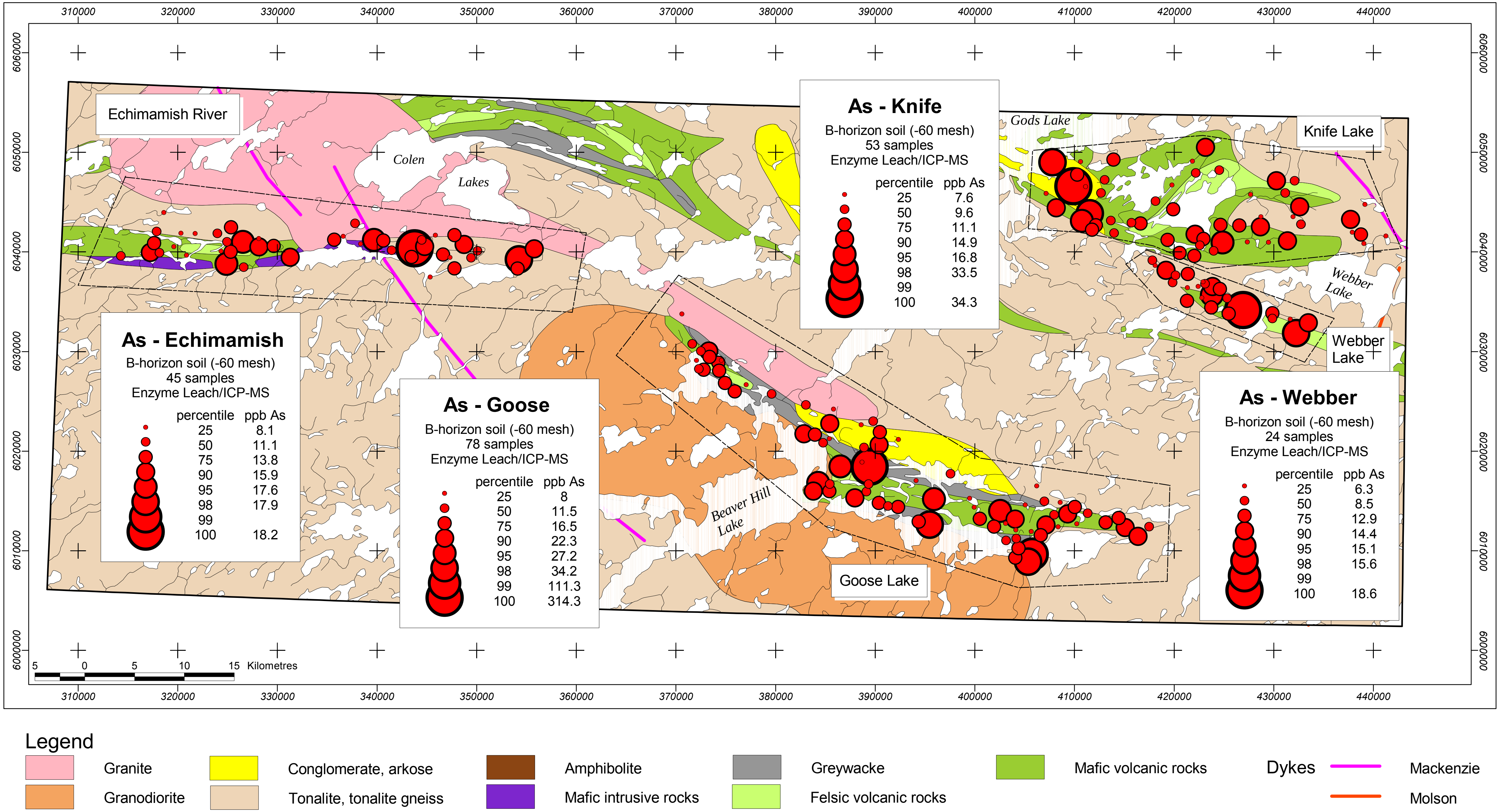
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cu - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Cu
25 22.6
50 31.8
75 47.1
90 60
95 62.2
98 81.1
99
100 148.7
Cu - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Cu
25 26.1
50 37.1
75 44
90 53.8
95 55.1
98 58.1
99
100 67.7
Cu - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Cu
25 28
50 38.1
75 59.9
90 74.6
95 86.2
98 99.7
99 182.9
100 224.6
Cu - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Cu
25 31.8
50 39.2
75 50.6
90 63.2
95 64
98 67.7
99
100 104.1
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



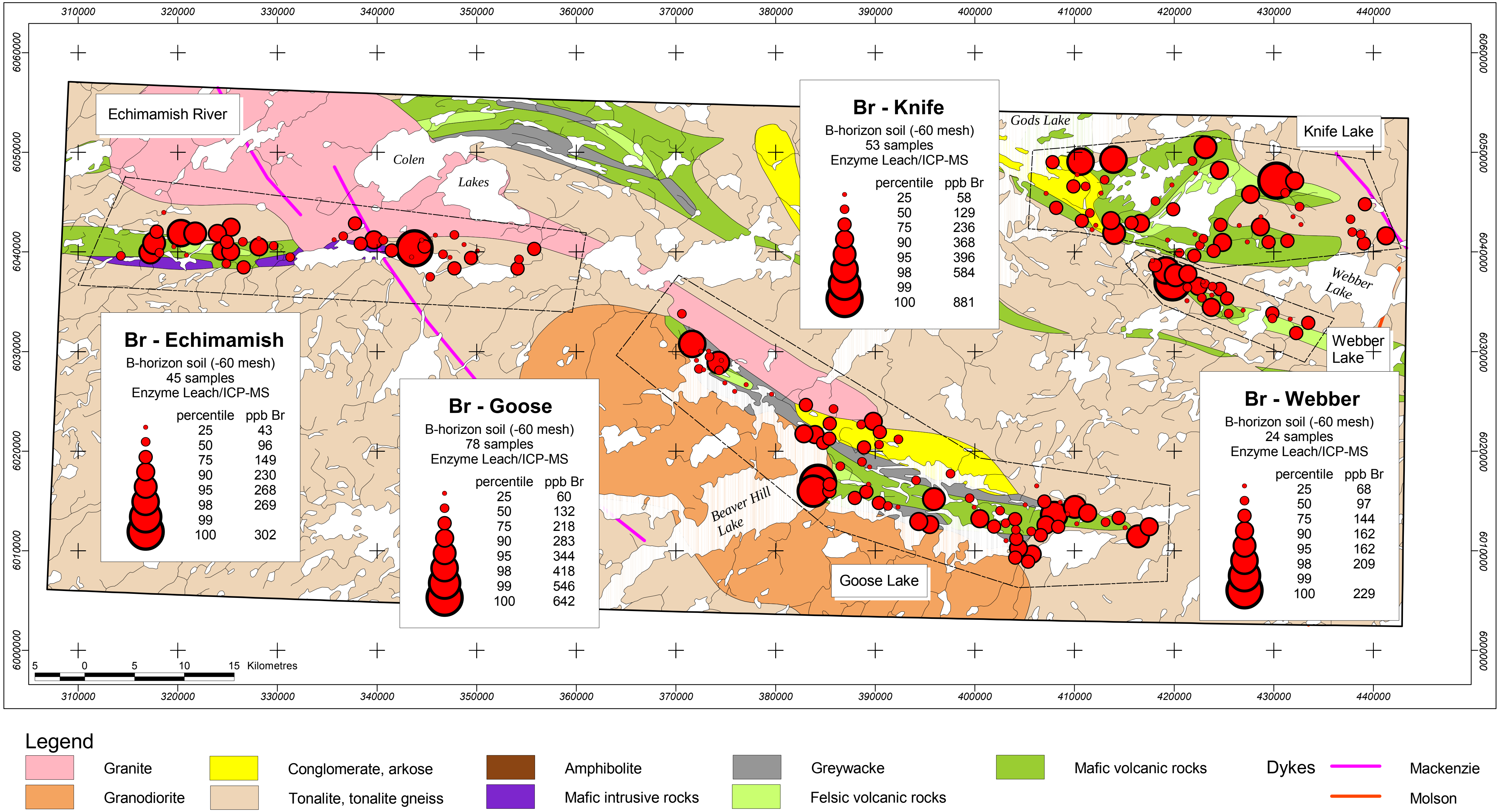
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Zn
25 27.46
50 37.79
75 48.91
90 79.14
95 94.38
98 94.76
99
100 96.41
Zn - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Zn
25 24.09
50 28.83
75 37.73
90 53.43
95 59.5
98 67.9
99 86.83
100 95.4
Zn - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Zn
25 22.98
50 30.49
75 46.6
90 62.47
95 66.72
98 73.65
99
100 83.48
Zn - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Zn
25 21.44
50 27.99
75 54.92
90 89.8
95 91.11
98 99.34
99
100 103.19
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



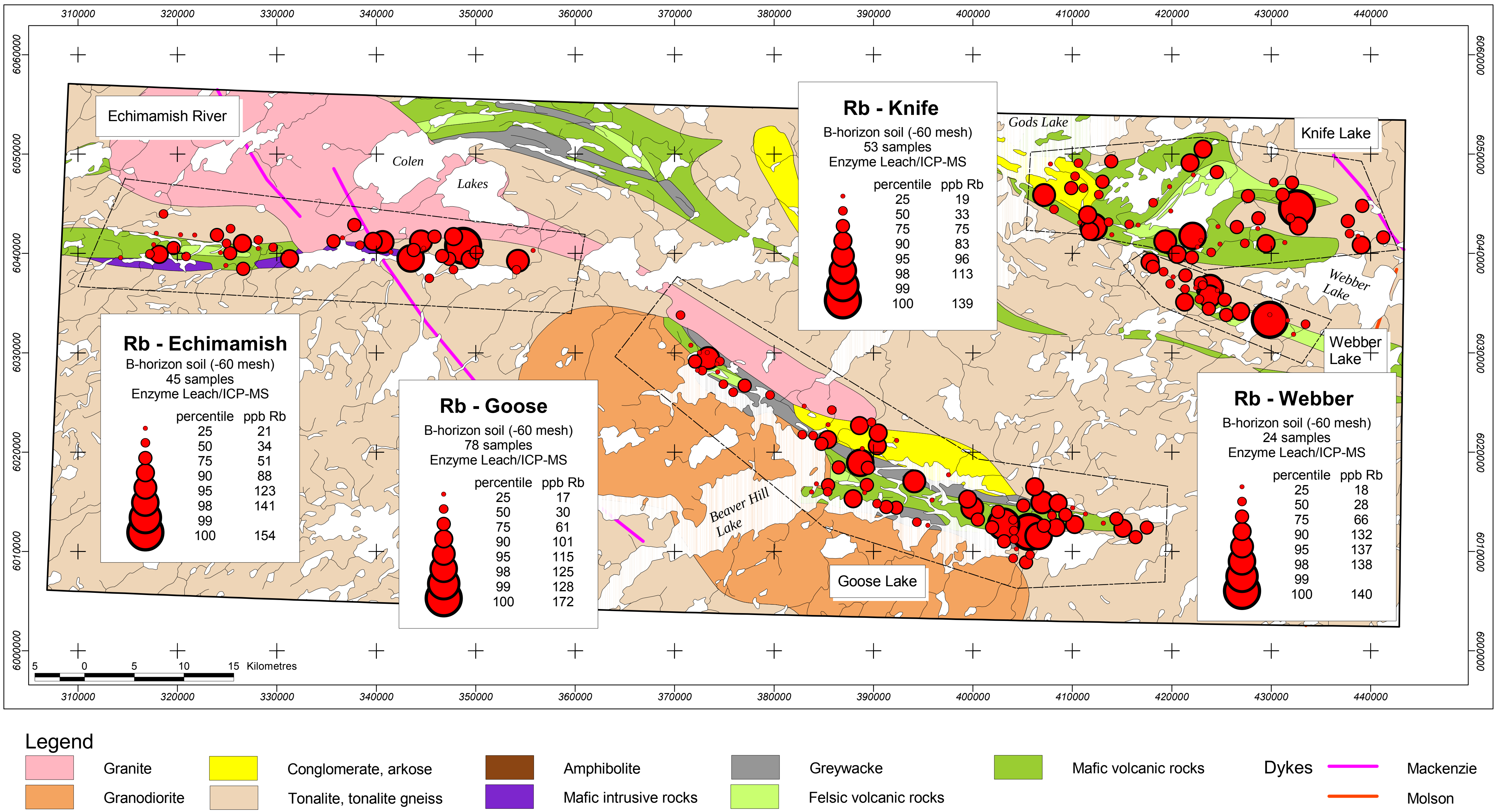
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ga - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Ga
25 0.5
50 3.6
75 7.2
90 11.7
95 15.2
98 17.6
99
100 17.8
Ga - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Ga
25 0.5
50 1.2
75 3.3
90 5.5
95 9.9
98 13.7
99 14.8
100 16
Ga - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Ga
25 0.5
50 2.4
75 8.3
90 11.7
95 14
98 16.2
99
100 16.3
Ga - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Ga
25 0.5
50 2.3
75 10.1
90 17
95 17.8
98 19.2
99
100 21.8
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

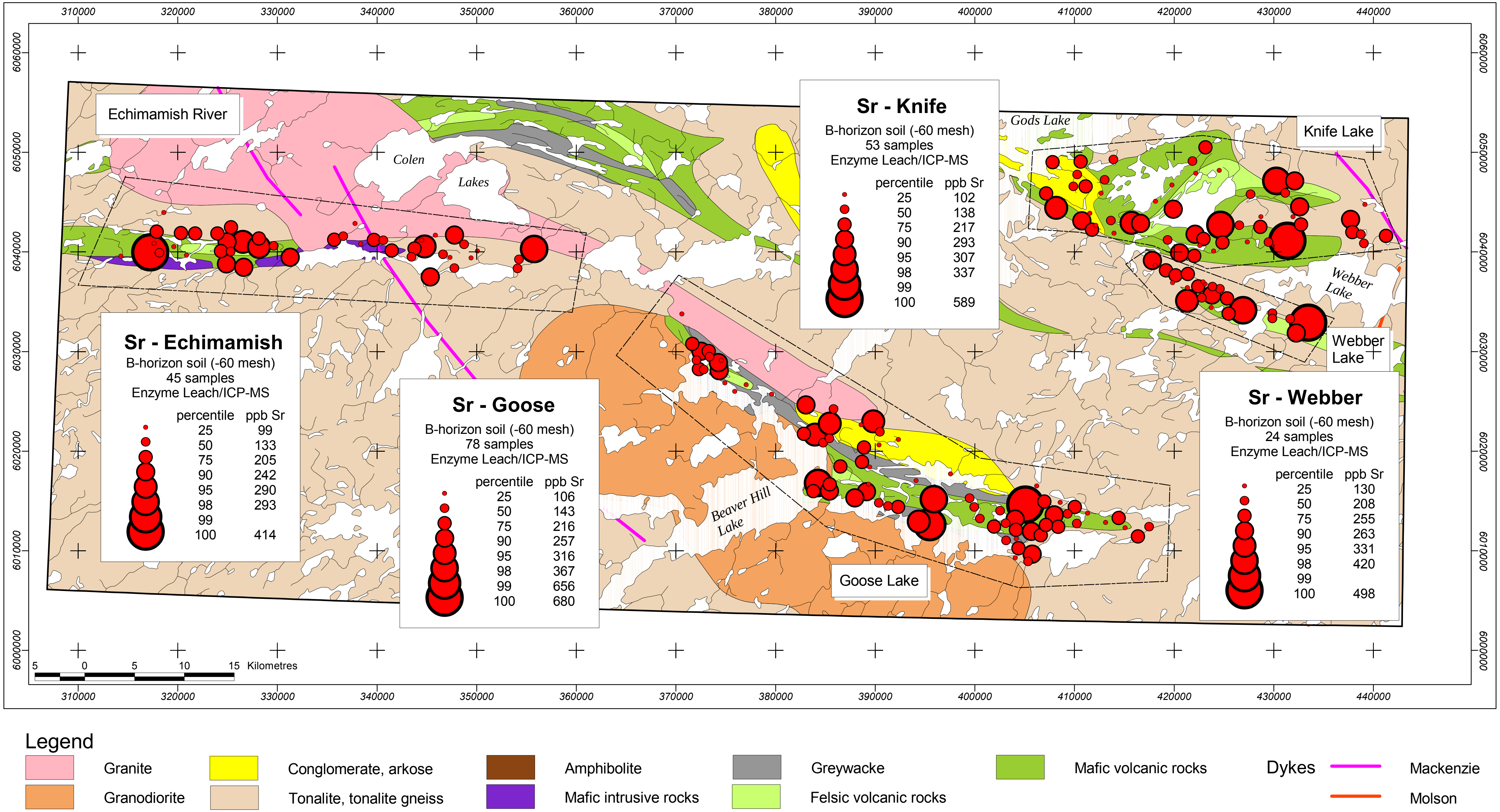


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
As - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb As
25 7.6
50 9.6
75 11.1
90 14.9
95 16.8
98 33.5
99
100 34.3
As - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb As
25 8.1
50 11.1
75 13.8
90 15.9
95 17.6
98 17.9
99
100 18.2
As - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb As
25 8
50 11.5
75 16.5
90 22.3
95 27.2
98 34.2
99 111.3
100 314.3
As - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb As
25 6.3
50 8.5
75 12.9
90 14.4
95 15.1
98 15.6
99
100 18.6
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

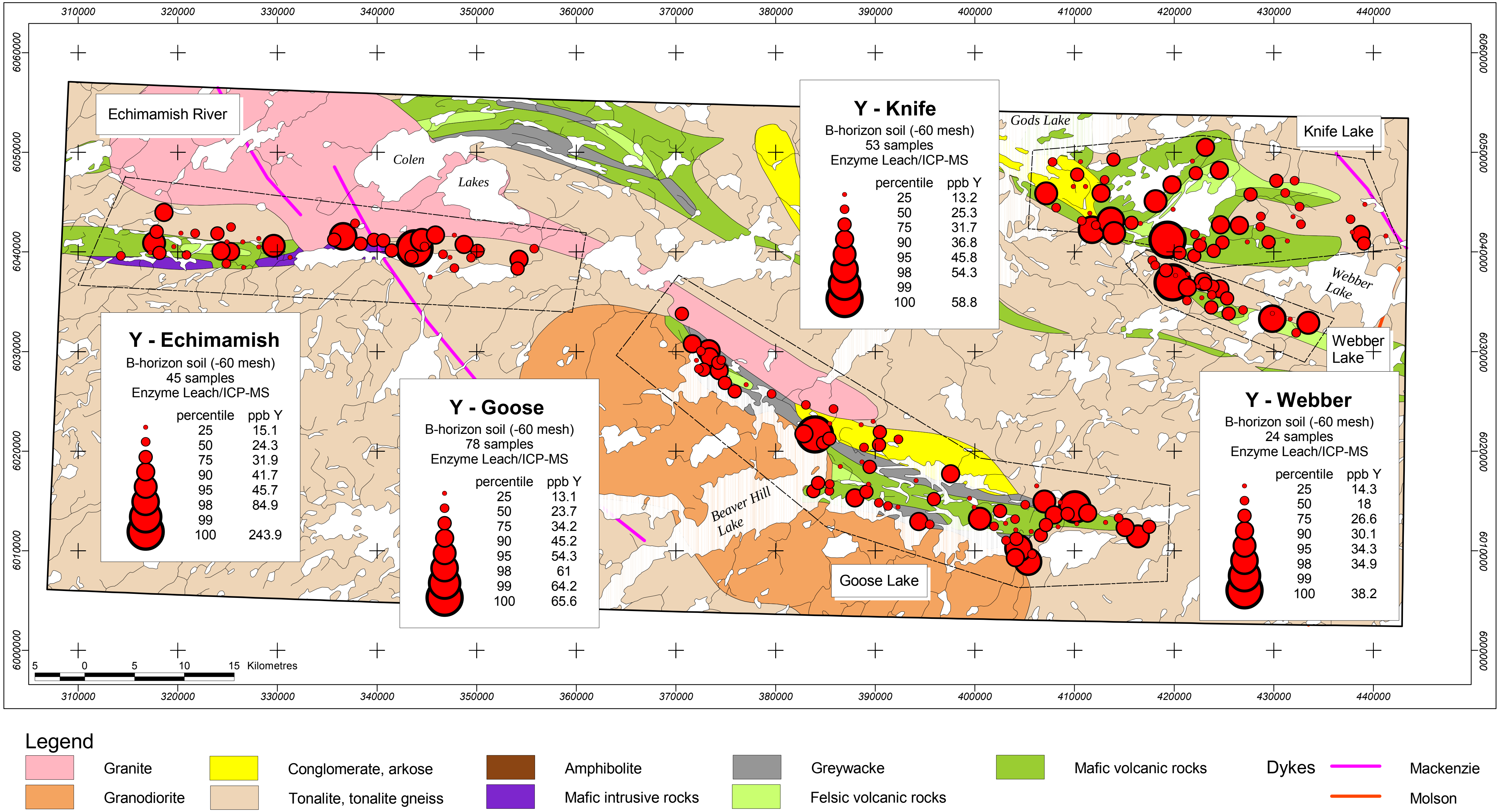


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Br - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Br
25 58
50 129
75 236
90 368
95 396
98 584
99
100 881
Br - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Br
25 43
50 96
75 149
90 230
95 268
98 269
99
100 302
Br - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Br
25 60
50 132
75 218
90 283
95 344
98 418
99 546
100 642
Br - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Br
25 68
50 97
75 144
90 162
95 162
98 209
99
100 229
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

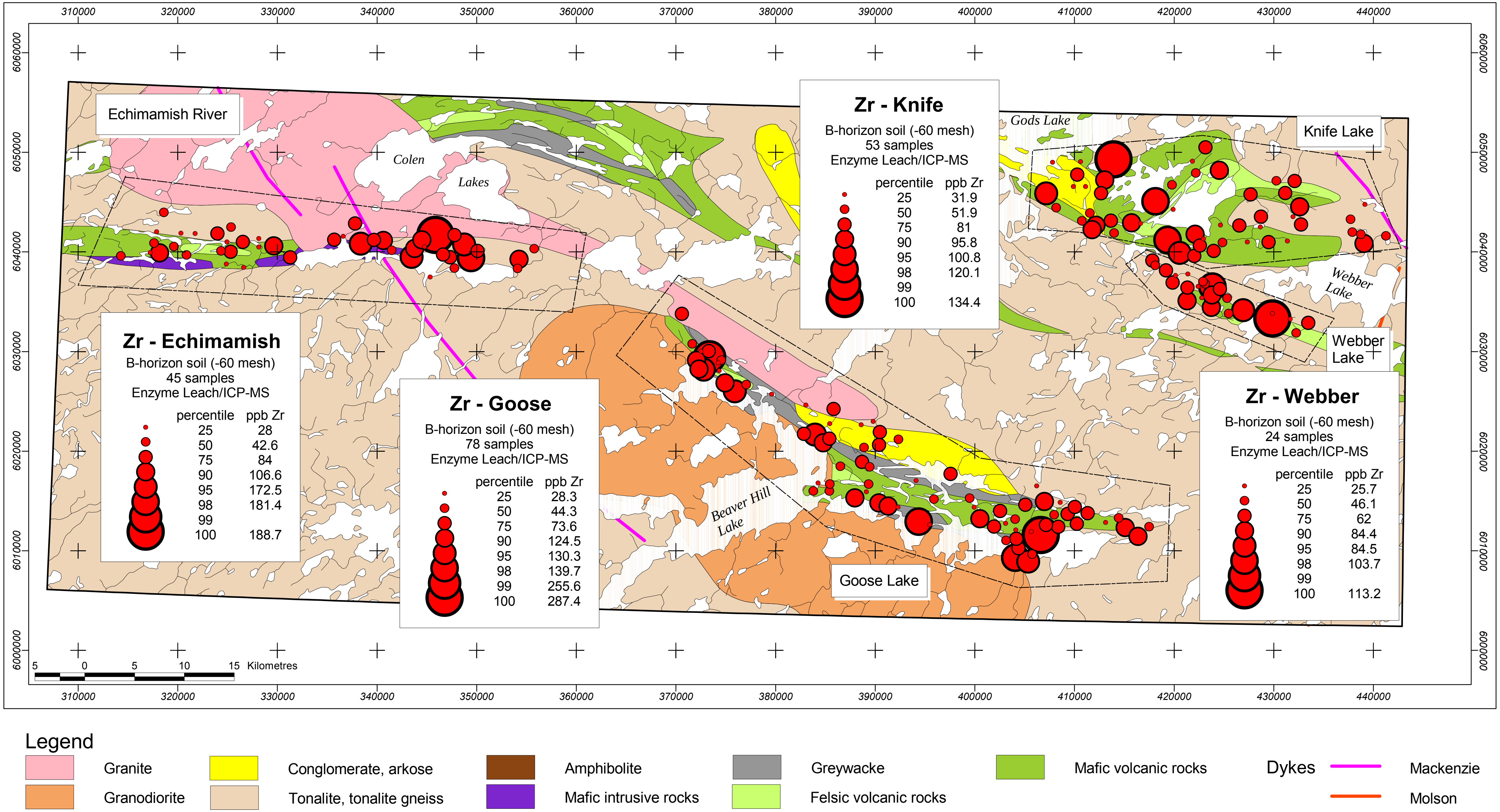

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Rb - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Rb
25 19
50 33
75 75
90 83
95 96
98 113
99
100 139
Rb - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Rb
25 21
50 34
75 51
90 88
95 123
98 141
99
100 154
Rb - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Rb
25 17
50 30
75 61
90 101
95 115
98 125
99 128
100 172
Rb - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Rb
25 18
50 28
75 66
90 132
95 137
98 138
99
100 140
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

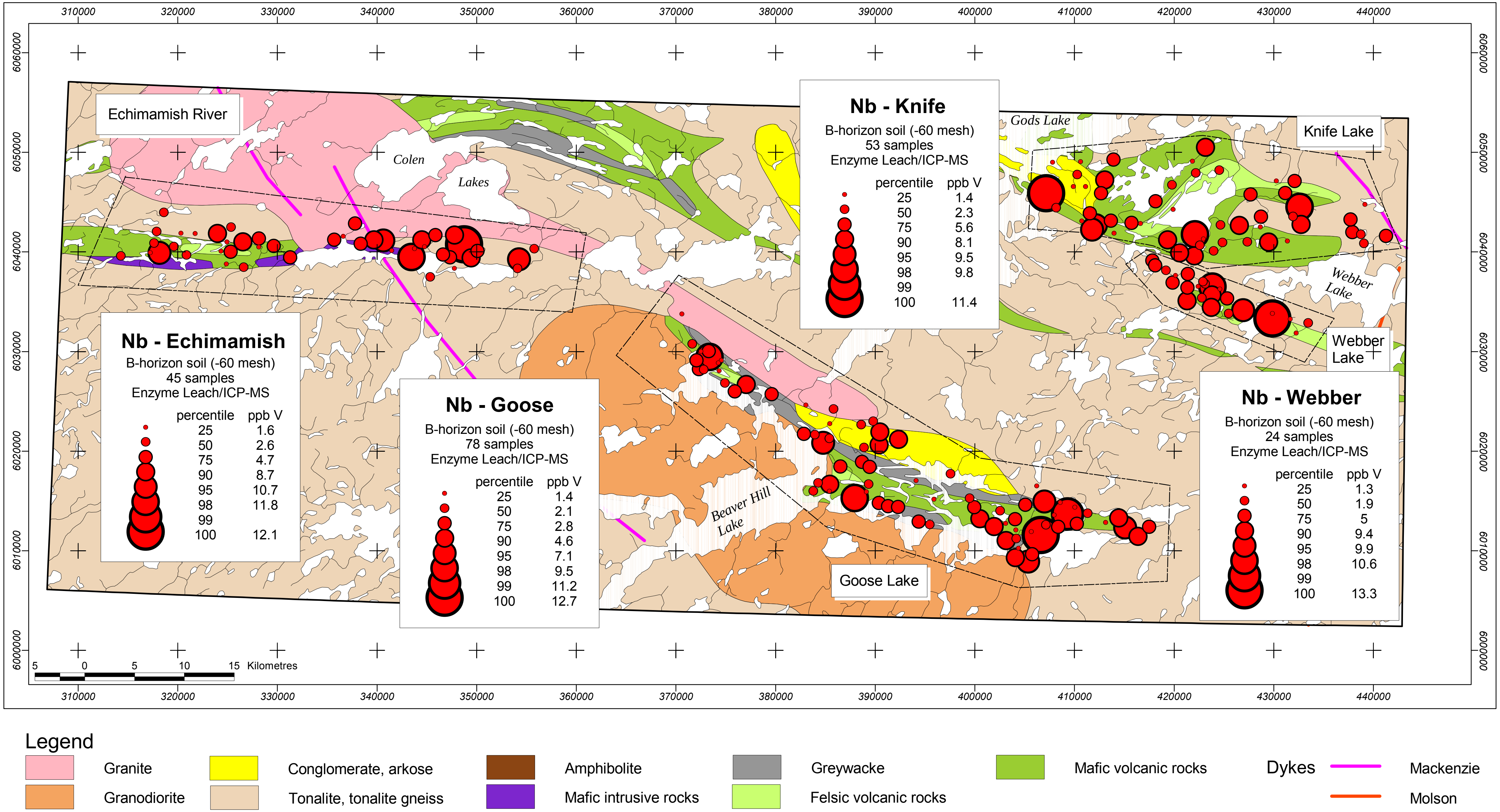


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sr - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Sr
25 102
50 138
75 217
90 293
95 307
98 337
99
100 589
Sr - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Sr
25 99
50 133
75 205
90 242
95 290
98 293
99
100 414
Sr - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Sr
25 106
50 143
75 216
90 257
95 316
98 367
99 656
100 680
Sr - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Sr
25 130
50 208
75 255
90 263
95 331
98 420
99
100 498
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

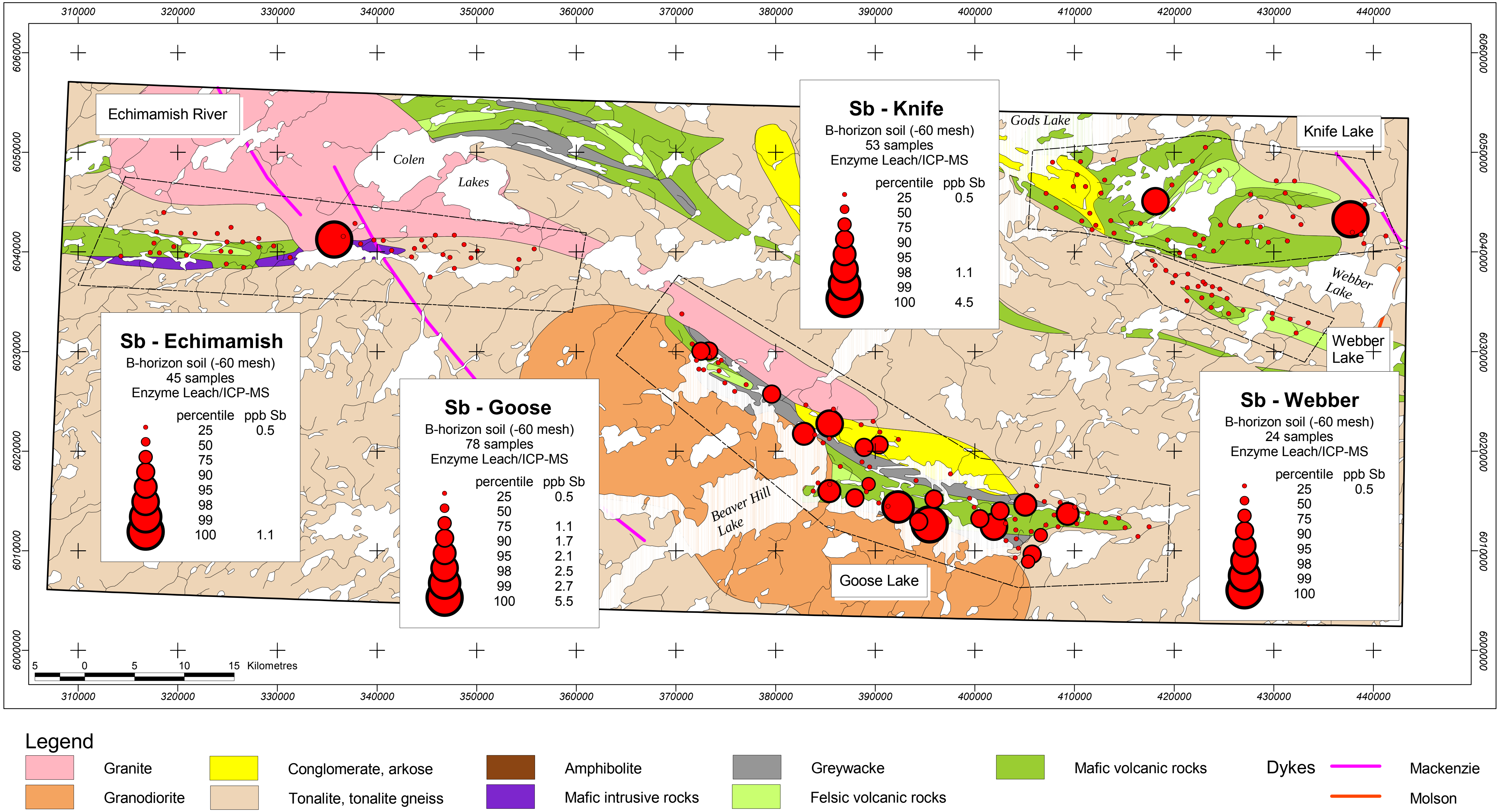


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Y - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Y
25 13.2
50 25.3
75 31.7
90 36.8
95 45.8
98 54.3
99
100 58.8
Y - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Y
25 15.1
50 24.3
75 31.9
90 41.7
95 45.7
98 84.9
99
100 243.9
Y - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Y
25 13.1
50 23.7
75 34.2
90 45.2
95 54.3
98 61
99 64.2
100 65.6
Y - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Y
25 14.3
50 18
75 26.6
90 30.1
95 34.3
98 34.9
99
100 38.2
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

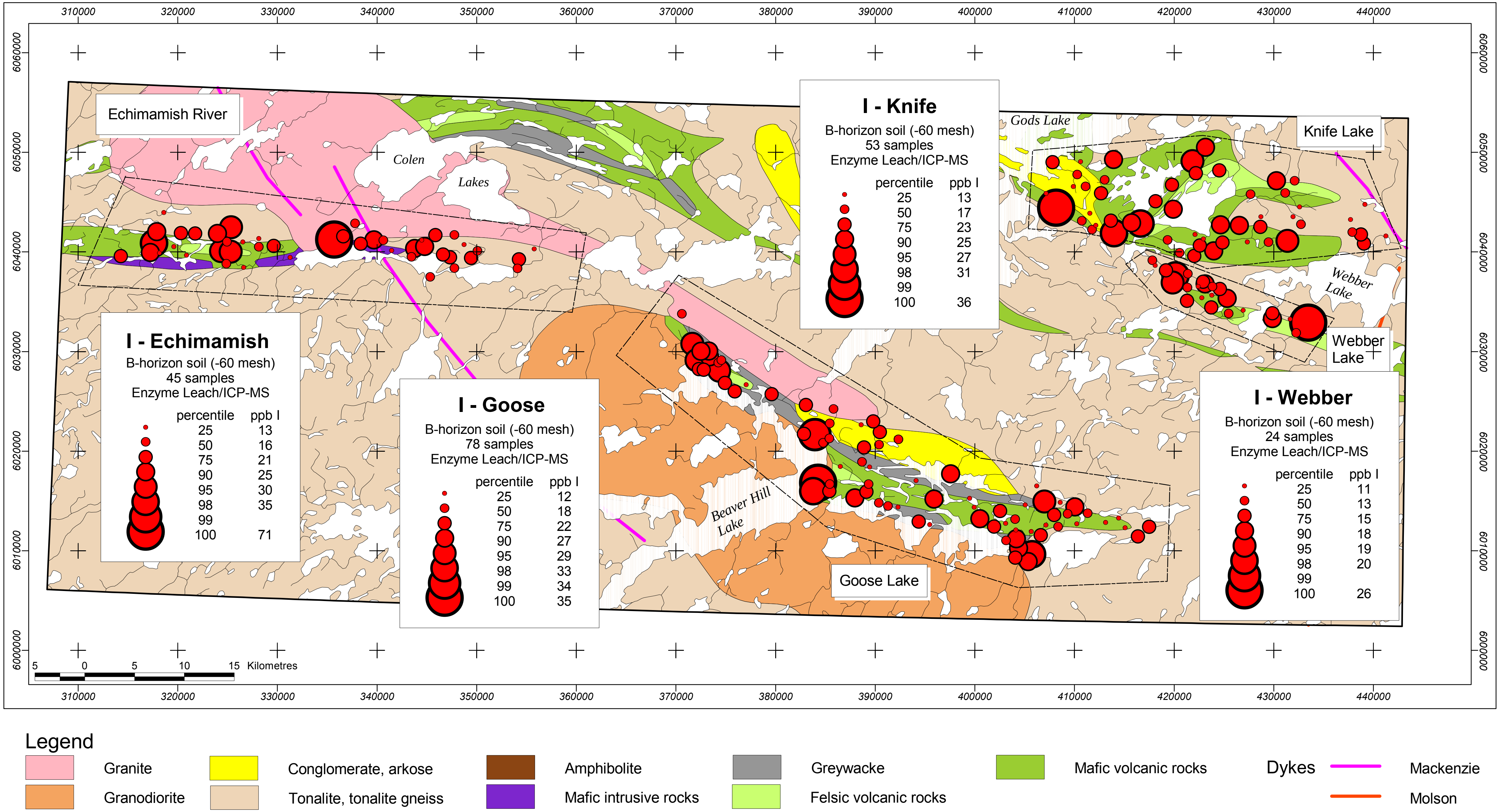

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zr - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Zr
25 31.9
50 51.9
75 81
90 95.8
95 100.8
98 120.1
99
100 134.4
Zr - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Zr
25 28
50 42.6
75 84
90 106.6
95 172.5
98 181.4
99
100 188.7
Zr - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Zr
25 28.3
50 44.3
75 73.6
90 124.5
95 130.3
98 139.7
99 255.6
100 287.4
Zr - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Zr
25 25.7
50 46.1
75 62
90 84.4
95 84.5
98 103.7
99
100 113.2
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



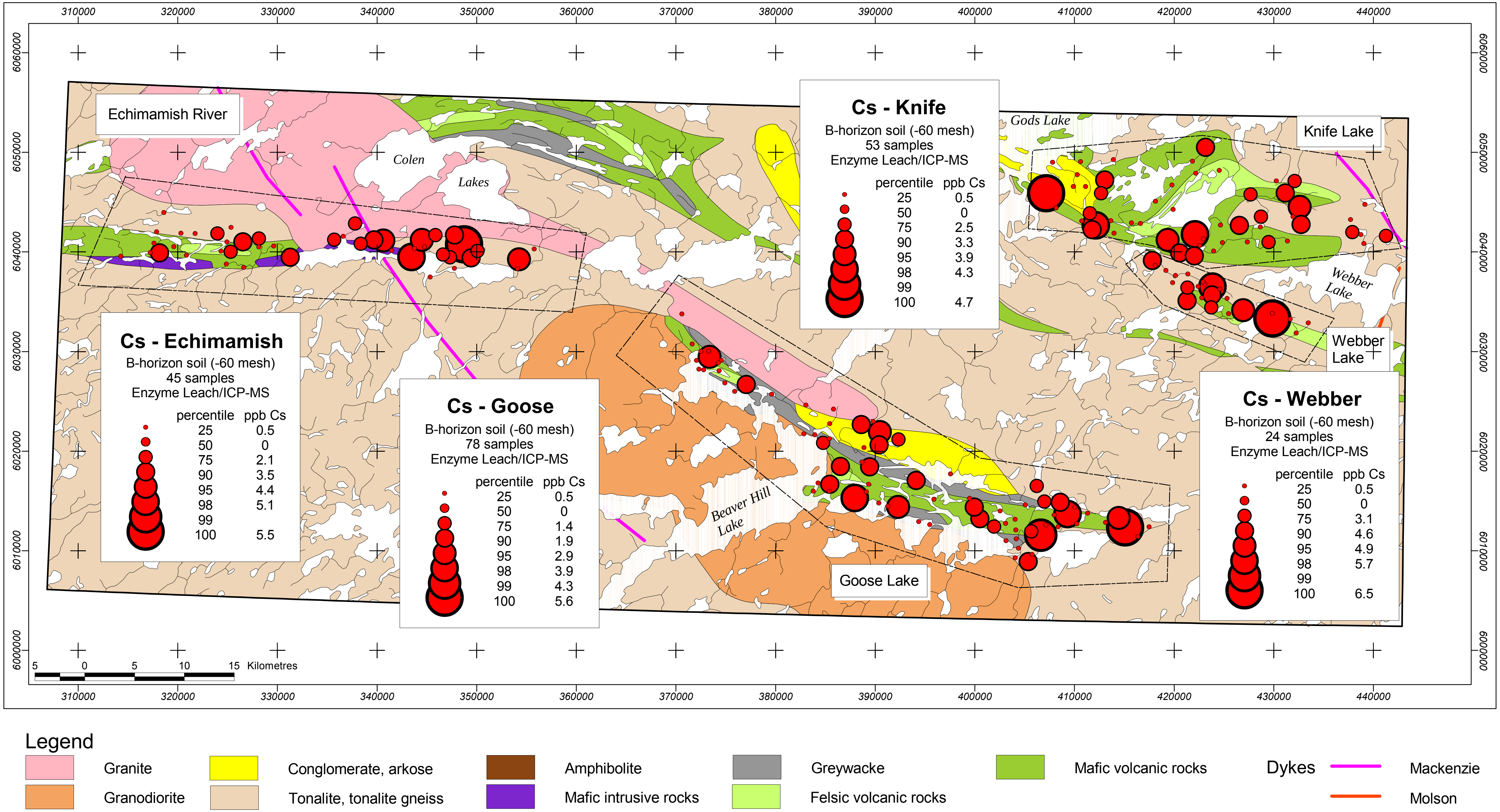
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Nb - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 1.4
50 2.3
75 5.6
90 8.1
95 9.5
98 9.8
99
100 11.4
Nb - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 1.6
50 2.6
75 4.7
90 8.7
95 10.7
98 11.8
99
100 12.1
Nb - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 1.4
50 2.1
75 2.8
90 4.6
95 7.1
98 9.5
99 11.2
100 12.7
Nb - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb V
25 1.3
50 1.9
75 5
90 9.4
95 9.9
98 10.6
99
100 13.3
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

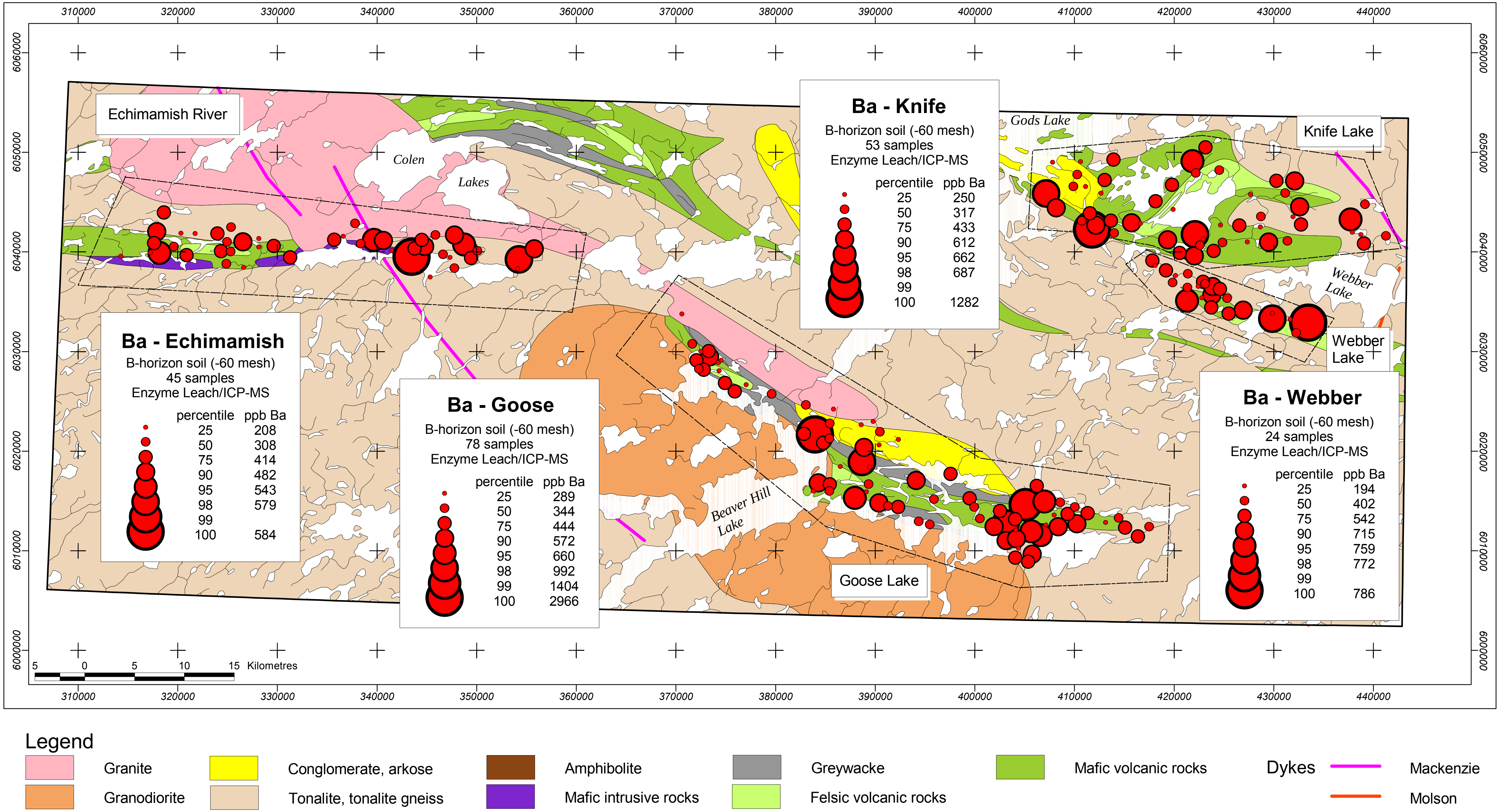


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sb - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Sb
25 0.5
50
75
90
95
98 1.1
99
100 4.5
Sb - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Sb
25 0.5
50
75
90
95
98
99
100 1.1
Sb - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Sb
25 0.5
50
75 1.1
90 1.7
95 2.1
98 2.5
99 2.7
100 5.5
Sb - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Sb
25 0.5
50
75
90
95
98
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

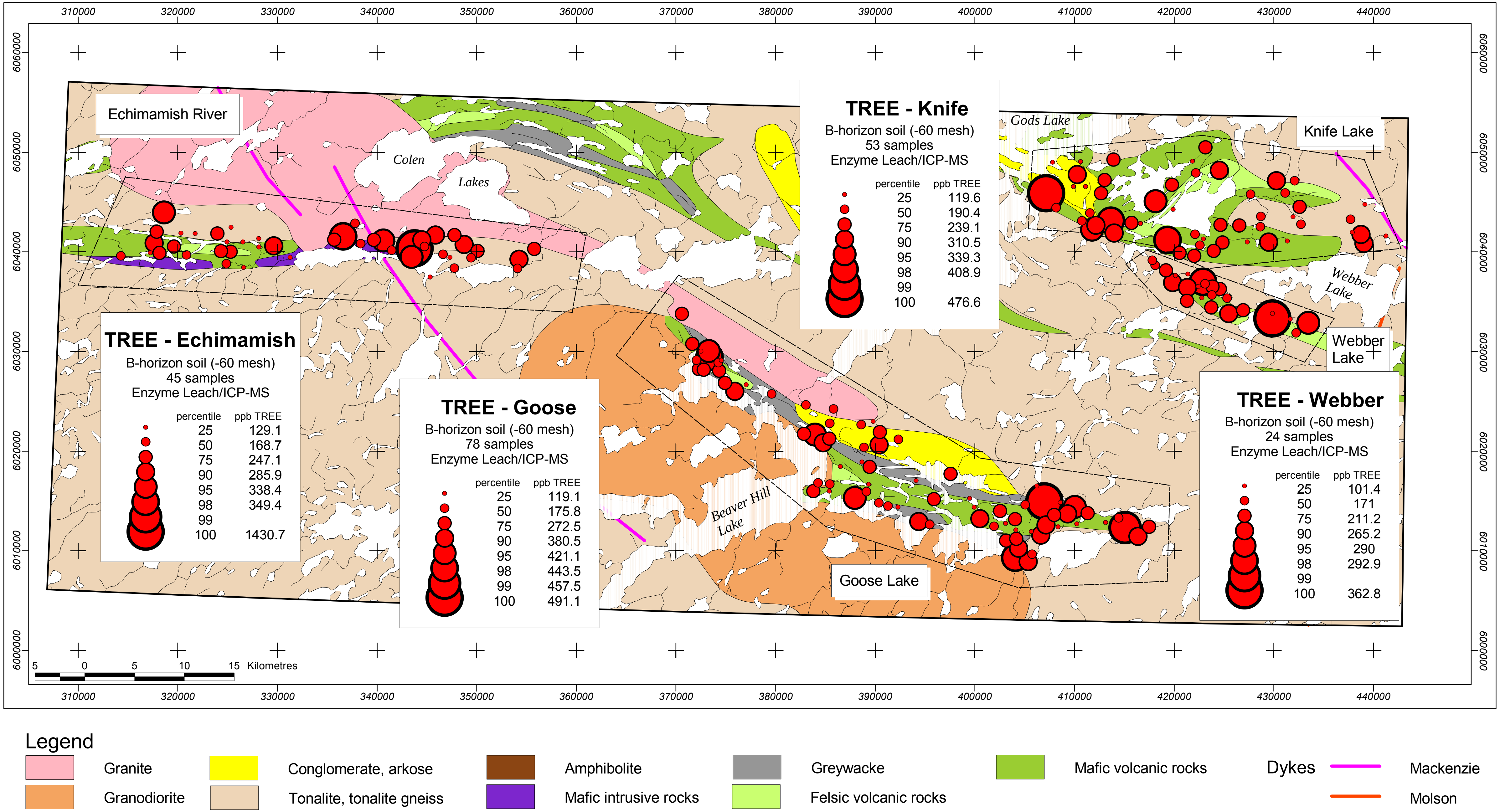


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
I - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb I
25 13
50 17
75 23
90 25
95 27
98 31
99
100 36
I - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb I
25 13
50 16
75 21
90 25
95 30
98 35
99
100 71
I - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb I
25 12
50 18
75 22
90 27
95 29
98 33
99 34
100 35
I - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb I
25 11
50 13
75 15
90 18
95 19
98 20
99
100 26
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

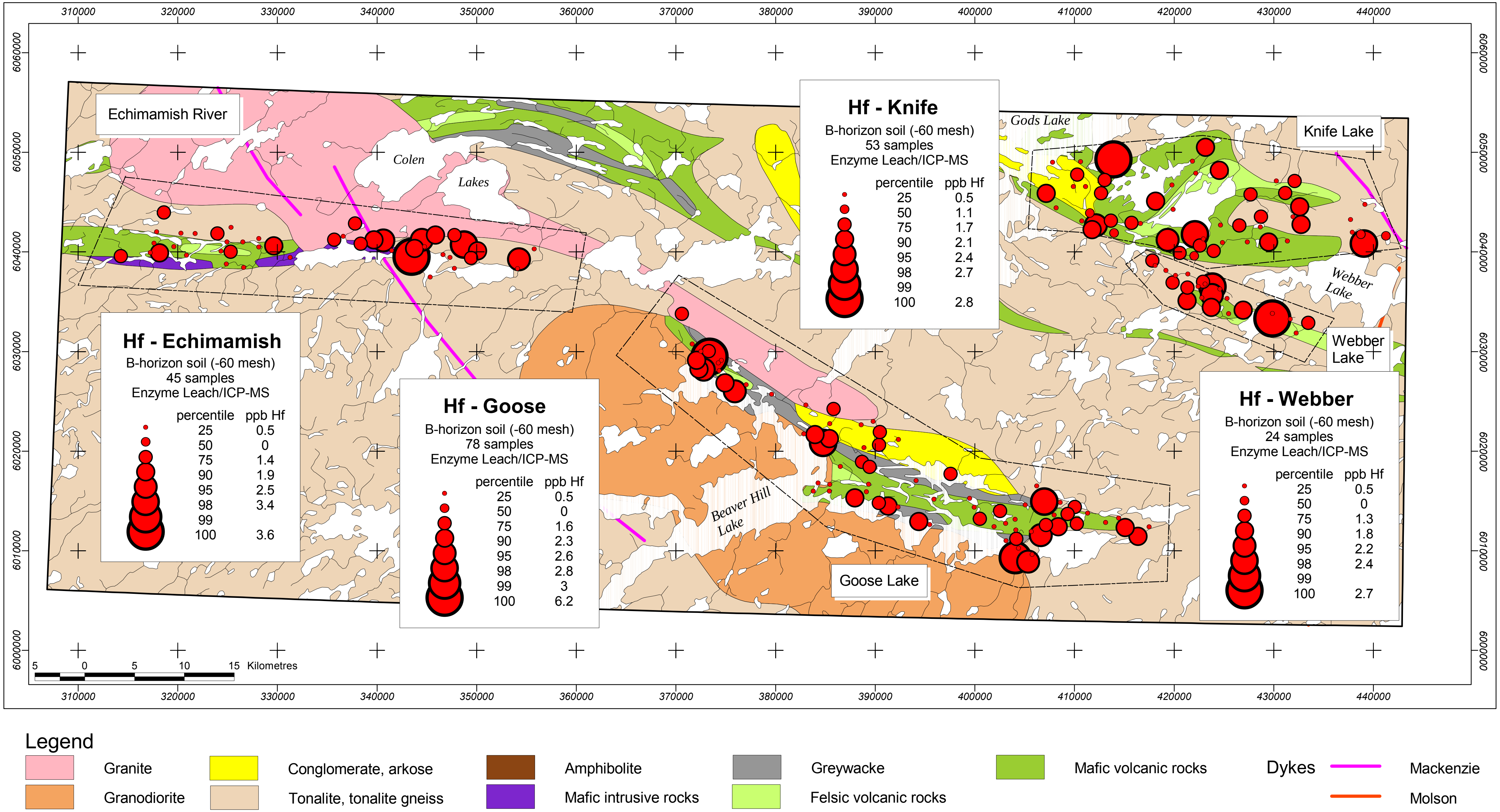

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cs - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Cs
25 0.5
50 0
75 2.5
90 3.3
95 3.9
98 4.3
99
100 4.7
Cs - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Cs
25 0.5
50 0
75 2.1
90 3.5
95 4.4
98 5.1
99
100 5.5
Cs - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Cs
25 0.5
50 0
75 1.4
90 1.9
95 2.9
98 3.9
99 4.3
100 5.6
Cs - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Cs
25 0.5
50 0
75 3.1
90 4.6
95 4.9
98 5.7
99
100 6.5
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



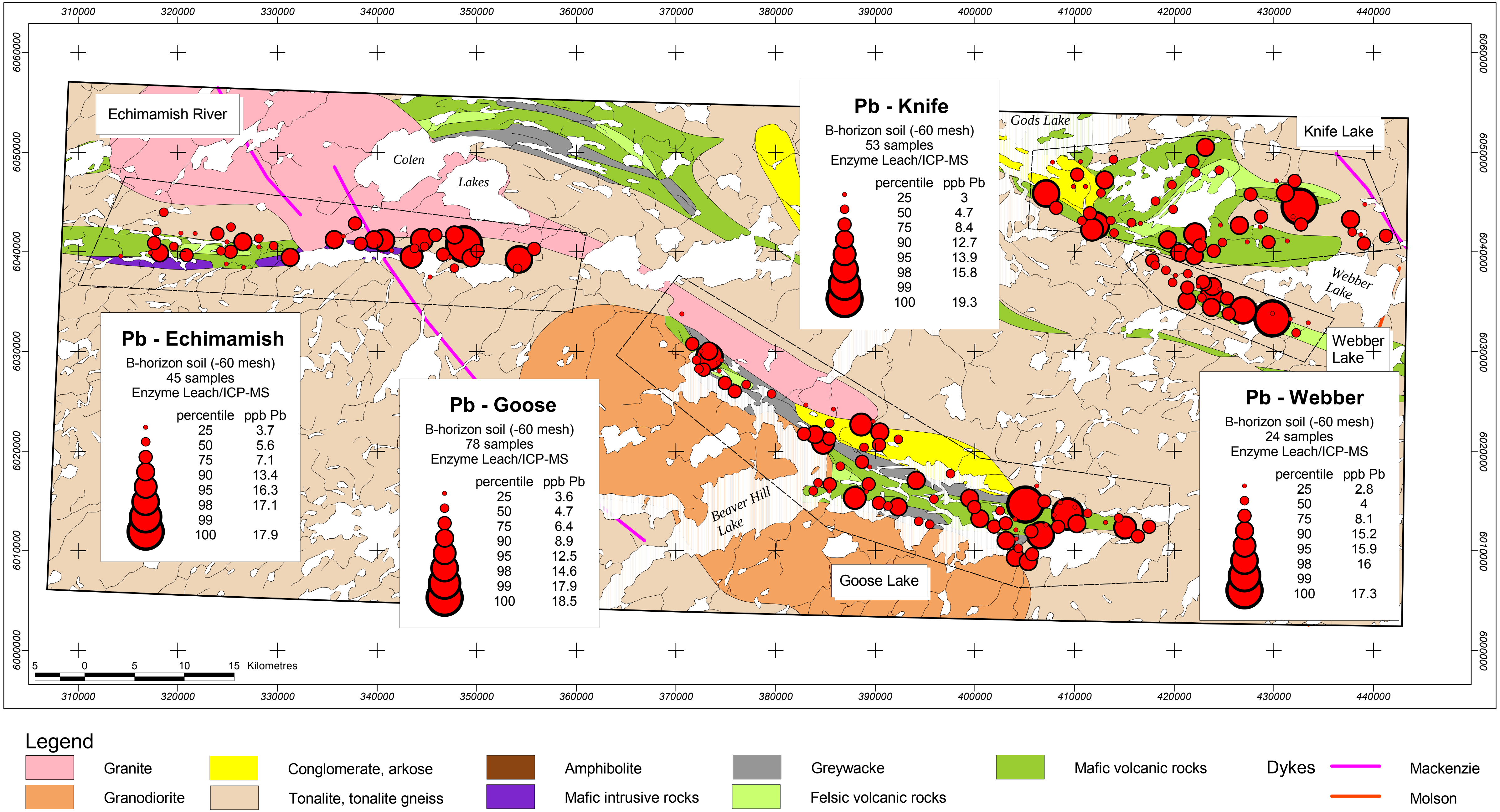
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ba - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Ba
25 208
50 308
75 414
90 482
95 543
98 579
99
100 584
Ba - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Ba
25 289
50 344
75 444
90 572
95 660
98 992
99 1404
100 2966
Ba - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Ba
25 250
50 317
75 433
90 612
95 662
98 687
99
100 1282
Ba - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Ba
25 194
50 402
75 542
90 715
95 759
98 772
99
100 786
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

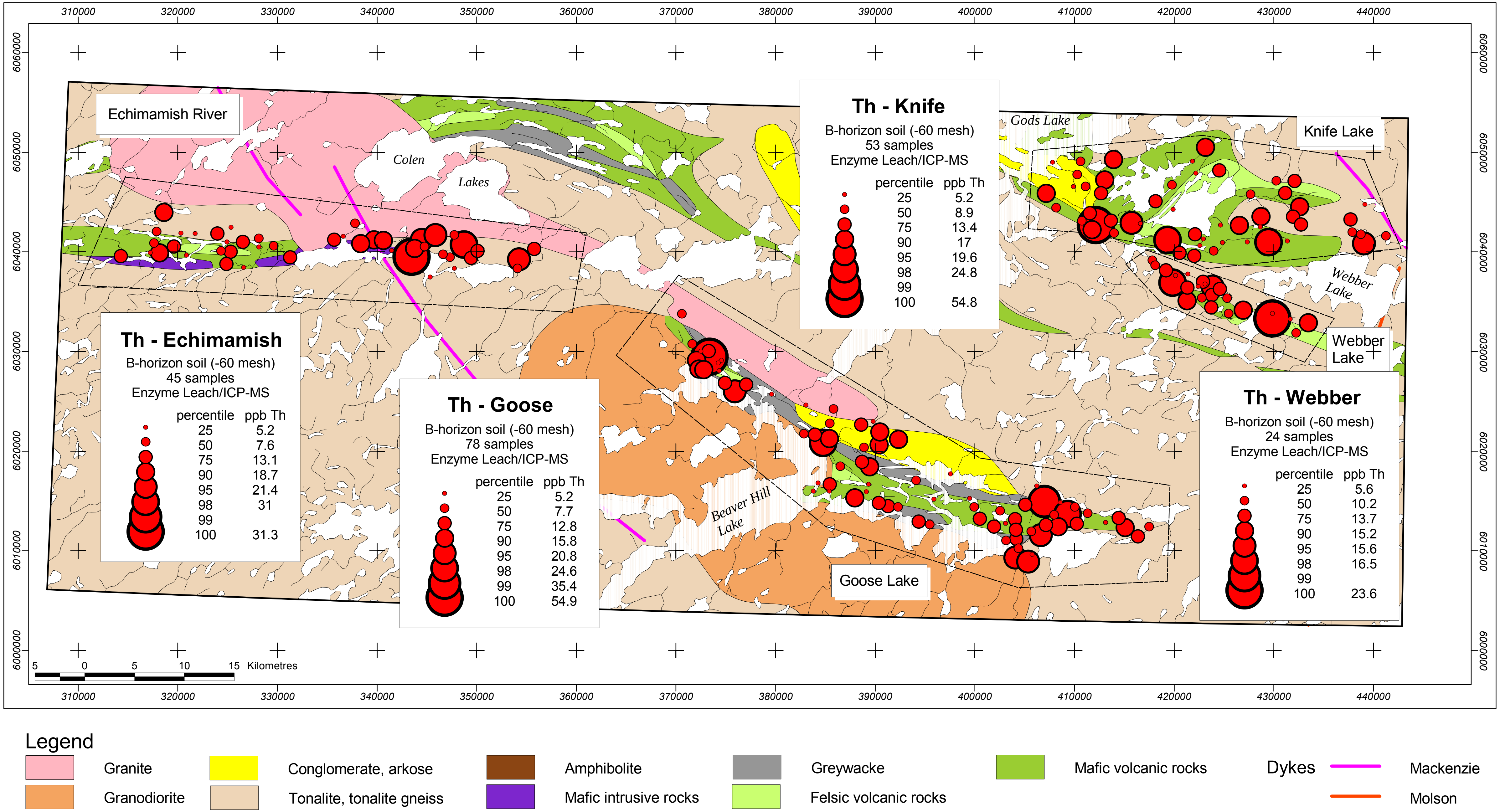


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
TREE - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb TREE
25 129.1
50 168.7
75 247.1
90 285.9
95 338.4
98 349.4
99
100 1430.7
TREE - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb TREE
25 119.1
50 175.8
75 272.5
90 380.5
95 421.1
98 443.5
99 457.5
100 491.1
TREE - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb TREE
25 119.6
50 190.4
75 239.1
90 310.5
95 339.3
98 408.9
99
100 476.6
TREE - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb TREE
25 101.4
50 171
75 211.2
90 265.2
95 290
98 292.9
99
100 362.8
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

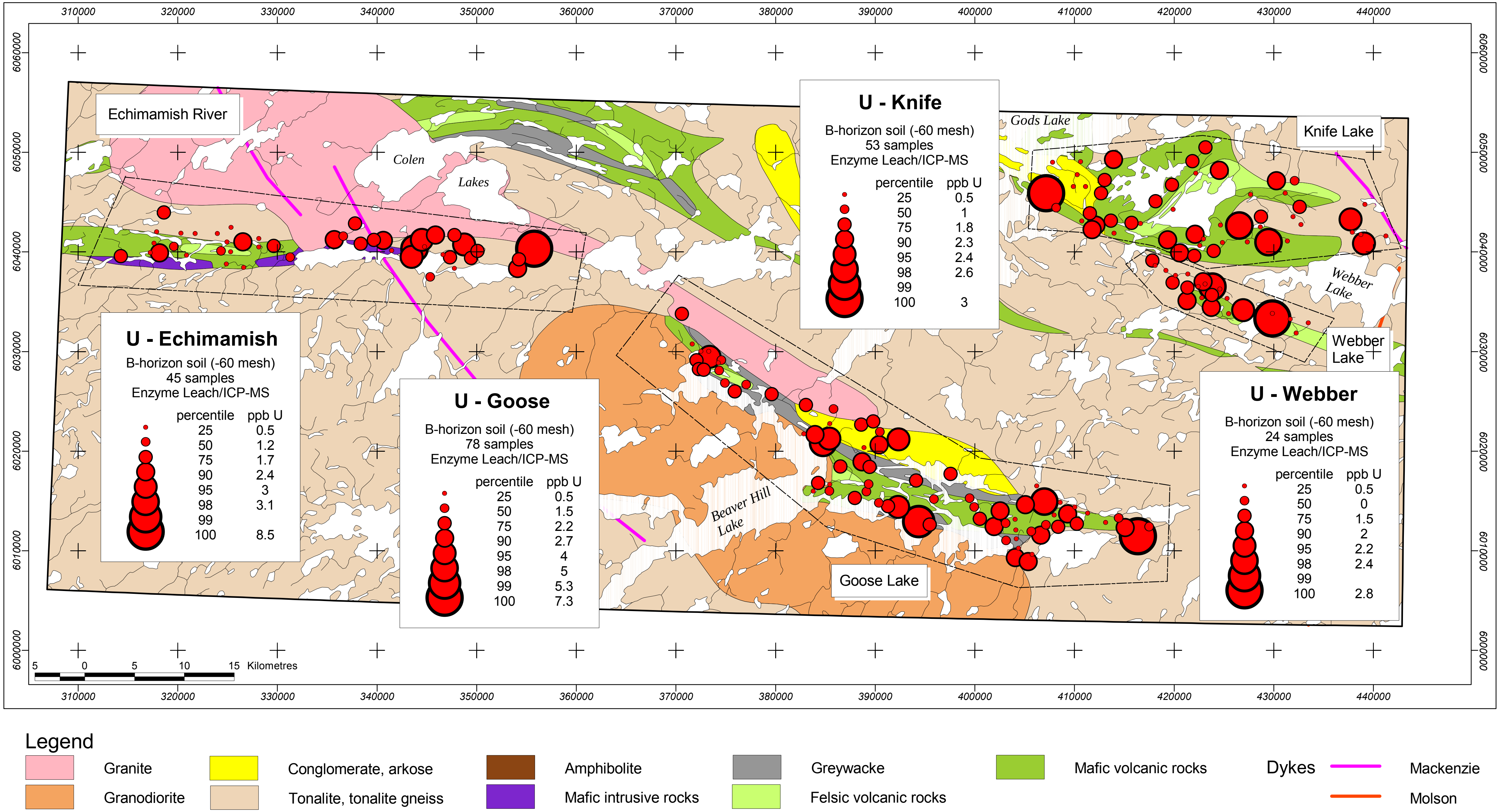


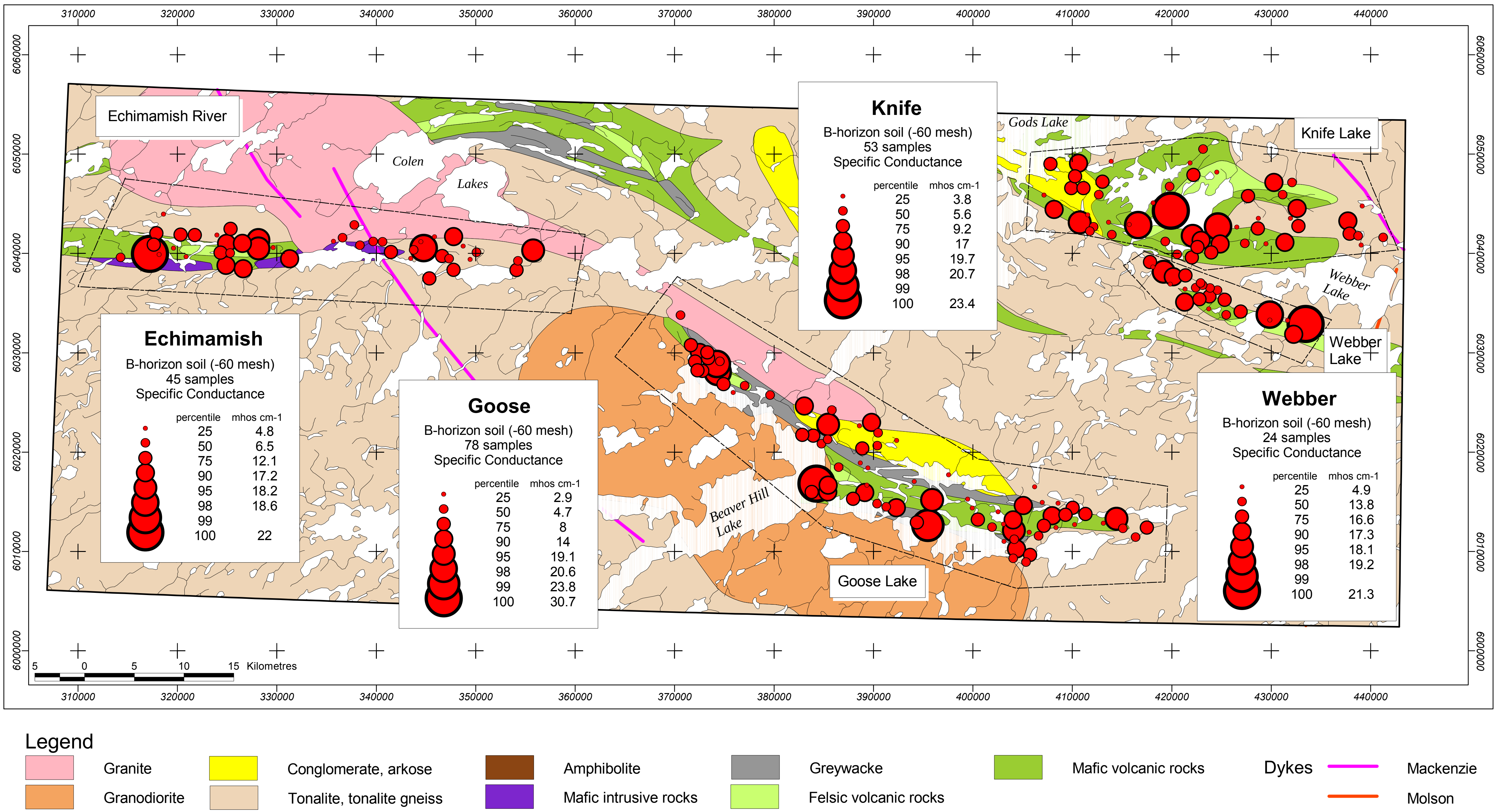
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hf - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Hf
25 0.5
50 1.1
75 1.7
90 2.1
95 2.4
98 2.7
99
100 2.8
Hf - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Hf
25 0.5
50 0
75 1.4
90 1.9
95 2.5
98 3.4
99
100 3.6
Hf - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Hf
25 0.5
50 0
75 1.6
90 2.3
95 2.6
98 2.8
99 3
100 6.2
Hf - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Hf
25 0.5
50 0
75 1.3
90 1.8
95 2.2
98 2.4
99
100 2.7
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber
Lake
Beaver Hill
Lake
Goose Lake
Pb - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Pb
25 3
50 4.7
75 8.4
90 12.7
95 13.9
98 15.8
99
100 19.3
Pb - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Pb
25 3.7
50 5.6
75 7.1
90 13.4
95 16.3
98 17.1
99
100 17.9
Pb - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Pb
25 3.6
50 4.7
75 6.4
90 8.9
95 12.5
98 14.6
99 17.9
100 18.5
Pb - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Pb
25 2.8
50 4
75 8.1
90 15.2
95 15.9
98 16
99
100 17.3
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Th - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb Th
25 5.2
50 8.9
75 13.4
90 17
95 19.6
98 24.8
99
100 54.8
Th - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb Th
25 5.2
50 7.6
75 13.1
90 18.7
95 21.4
98 31
99
100 31.3
Th - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb Th
25 5.2
50 7.7
75 12.8
90 15.8
95 20.8
98 24.6
99 35.4
100 54.9
Th - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb Th
25 5.6
50 10.2
75 13.7
90 15.2
95 15.6
98 16.5
99
100 23.6
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
U - Echimamish
B-horizon soil (-60 mesh)
45 samples
Enzyme Leach/ICP-MS
percentile ppb U
25 0.5
50 1.2
75 1.7
90 2.4
95 3
98 3.1
99
100 8.5
U - Goose
B-horizon soil (-60 mesh)
78 samples
Enzyme Leach/ICP-MS
percentile ppb U
25 0.5
50 1.5
75 2.2
90 2.7
95 4
98 5
99 5.3
100 7.3
U - Knife
B-horizon soil (-60 mesh)
53 samples
Enzyme Leach/ICP-MS
percentile ppb U
25 0.5
50 1
75 1.8
90 2.3
95 2.4
98 2.6
99
100 3
U - Webber
B-horizon soil (-60 mesh)
24 samples
Enzyme Leach/ICP-MS
percentile ppb U
25 0.5
50 0
75 1.5
90 2
95 2.2
98 2.4
99
100 2.8
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Knife
B-horizon soil (-60 mesh)
53 samples
Specific Conductance
percentile mhos cm-1
25 3.8
50 5.6
75 9.2
90 17
95 19.7
98 20.7
99
100 23.4
Echimamish
B-horizon soil (-60 mesh)
45 samples
Specific Conductance
percentile mhos cm-1
25 4.8
50 6.5
75 12.1
90 17.2
95 18.2
98 18.6
99
100 22
Goose
B-horizon soil (-60 mesh)
78 samples
Specific Conductance
percentile mhos cm-1
25 2.9
50 4.7
75 8
90 14
95 19.1
98 20.6
99 23.8
100 30.7
Webber
B-horizon soil (-60 mesh)
24 samples
Specific Conductance
percentile mhos cm-1
25 4.9
50 13.8
75 16.6
90 17.3
95 18.1
98 19.2
99
100 21.3
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

HUMUS GEOCHEMICAL SURVEY

Sample Collection

Humus samples were collected from beneath the moss mat that was normally removed prior to digging the till sample pit. Where the humus layer was too thin or had become contaminated with inorganic sediment during the course of digging, the sample site was moved to a suitable location 5-10 m away from the till hole. The humus collected from these sites was generally moderately to well humified and had a fine grained, sooty consistency. Care was taken not to include inorganic material with this sample type. Enough humus was collected to fill a large ZIPLOC freezer bag. At some locations, the humus was a dark brown colour and less humified. In burned areas, humus was collected as residual mats off of boulders or from low-lying areas or small gullies where the temperatures associated with the fire had not been sufficiently high so as to ash the humus. Duplicate samples were collected at approximately every tenth site.

Sample Preparation and Analysis

Humus samples were air dried at room temperature on disposable plastic plates in the laboratories of the Manitoba Geological Services Branch. After drying, the samples were sieved and the -80 mesh size fraction retained. This sample was forwarded to Activation Laboratories Ltd. (Ancaster, Ontario) for INA and ICP-AES analysis. The ICP-AES analysis at Activation Laboratories Ltd. is based on a four acid total digestion. A second portion of the -80 mesh humus sample was submitted to the laboratories of the Manitoba Geological Services Branch for the measurement of pH and conductivity. The pH and conductivity measurements were corrected and converted to H^+ and specific conductance using the formula of Govett (1976) and reproduced with examples in Govett et al. (1984). Geochemical analyses are listed in Appendix 1 (ICP-AES, H^+, *K* and Hg) and 4 (INA). Analyses for duplicate pairs are given in Appendices 2 (ICP-AES, H^+, *K* and Hg) and 5 (INA). Percentile bubble plots are given in Appendices 3 (ICP-AES, H^+, *K* and Hg) and 6 (INA).

Results

Au: A single significant response was obtained in the east end of the Echimamish River belt. This was an analysis (100^{th} percentile response) of 62 ppb obtained at site 207. Interestingly, the east end of the belt seems to have higher Au contents as evidenced by a cluster of 90^{th}-95^{th} percentile responses (10-15 ppb) accompanying the 62 ppb analysis.

Relative to the 100^{th} percentile response in this belt the results for the three remaining belts are lower. The 100^{th} percentile in the Goose Lake belt is 23 ppb and is associated with a cluster of 90^{th}-99^{th} percentile responses (8-17 ppb) that occur in the western portion of the belt, in part along the northern margin. The 100^{th} and 98^{th} percentile responses for the Knife Lake belt occurs at site 2 (24 ppb) and 3 (16 ppb) along the peninsula separating the Knife Lake and Chataway Lakes area. Maximum values of 14 ppb at sites 101 and 108 were obtained in the Webber Lake belt.

As: Maximum geochemical response was observed in the Goose Lake belt and forms a northwest trending linear of 95^{th}-100^{th} percentile responses with the 100^{th} percentile (27 ppb) located at site 21 in the central portion of the belt. The 99^{th} percentile response of 22 ppb at site 163 occurs adjacent to the 100^{th} percentile. Low contrast 100^{th} percentile responses were obtained for the Echimamish River belt (7.5 ppm at site 47), the Knife Lake belt (7.1 ppm at site 84) and the Webber Lake belt (4.2 ppm at site 117).

Ba: The results from the Goose Lake belt are marginally higher than the surrounding belts with 100^{th} and 99^{th} percentile responses at adjacent sites 31(650 ppm) and 32 (510 ppm). A second multi-sample cluster of 95^{th} and 98^{th} percentile responses (380-510 ppm) occurs in the central portion of the belt. The Echimamish River belt has 100^{th} and 98^{th} percentile responses (430-570 ppm) at sites 47 and 184 in the central belt area. Responses in the Knife Lake belt and the Webber Lake belt are lower with 100^{th} percentiles of 420 ppm (site 60) and 310 ppm (site 120), respectively.

Br: The 100^{th} percentile response of 120 ppm occurs at site 91 in the eastern portion of the Knife Lake belt in an area that is underlain by granitic intrusions. Two 98^{th} percentile responses of 50 ppm occur along the northeast margin of the belt. The 100^{th} percentile response (51 ppm) in the Goose Lake belt occurs at site 124 in the east end of the belt in an area mapped as granite. The 99^{th} percentile of 37 ppm occurs at the northern margin of the belt. Br contents in the Echimamish River belt are highest in the easternmost portions where 100^{th} and 98^{th} percentile responses of 38 and 31 ppm, respectively are observed. The 100^{th} percentile response (25 ppm) in the Webber Lake belt occurs at site 111 at the west end of the belt.

Ca: Little or no variation in the Ca contents of humus samples collected from each of the belts is apparent. The 100th percentile for the Echimamish River, Goose Lake and Webber Lake belts is 7% and the highest response in the Knife Lake belt is 6%.

Co: In the Goose Lake belt the 100th percentile response of 21 ppm occurs at site 164 in the central portion of the belt. The 99th percentile response occurs in a single sample from the east end of the belt at site 19. The Echimamish River belt is marked by a single sample 100th percentile response of 19 ppm at site 49. A sequence of rusty-weathered intermediate to mafic volcanic rocks was noted at this site. Low contrast 100th percentile responses of 9 ppm and 7 ppm in the Knife Lake and Webber Lake belts were observed.

Cr: The 100th and 98th percentile responses of 78 ppm (site 171) and 51 ppm (site 21) occur in the central portion of the Goose Lake belt. The 99th percentile of 59 ppm occurs in the eastern portion of the belt at the northern margin. The central portion of the Echimamish River belt is marked by adjacent 100th and 98th percentile responses of 60 and 54 ppm at sites 46 and 47. A three sample cluster of 98th-100th percentile responses occurs at the southwestern Knife Lake belt margin. These values (43-46 ppm) are developed adjacent to a major shear zone that separates the Knife Lake and Webber Lake belt. Maximum values of 30 and 29 ppm were obtained from sites 104 and 120 in the Webber Lake belt.

Fe: The 100th percentile response of 5.29% occurs at site 49 in association with a rusty-weathered and quartz veined sequence of mafic to intermediate volcanic rocks. Maximum responses in the Goose Lake belt are developed at the central and western portions of the belt. At sites 171 and 164 the 100th and 98th percentile responses of 3.56% and 2.76% are documented. A 99th and 98th percentile response of 2.76% and 2.71% occur at adjacent sites 34 and 35. The southwestern margin of the Knife Lake belt is marked by 100th and 98th percentile responses of 2.1% and 1.92%, respectively. The 100th percentile response in the Webber Lake belt occurs at the eastern limits of sampling at site 117 (1.73%).

Mo: The highest 100th percentile response (16 ppm) in the 1998 survey was recorded at site 32 in the western end of the Goose Lake belt in association with two 95th percentile responses of 6 ppm. A 99th percentile response of 13 ppm occurs at site 152. A low contrast five sample cluster of 90th-100th percentile responses (3-8 ppm) is documented from the western end of the Knife Lake belt. A single point anomaly (100th percentile) of 6 ppm occurs at site 193 in the east end of the Echimamish River belt. Responses in the Webber Lake belt did not exceed 3 ppm.

Na: Responses in the Echimamish River and Goose Lake belts are similar. The 100th percentile response in the Echimamish River belt occurs at site 46 (1.13% adjacent to a 98th percentile of 1.12% at site 47. In the Goose Lake belt the central portion of the belt is characterized by a 100th percentile response of 1.15% at site 165, a 99th percentile of 1.13% at site 21, and two 98th percentile responses of 0.92% at sites 146 and 171. Lower responses were obtained from the Knife lake belt (100th percentile of 0.88% at site 63) and the Webber Lake belt (100th percentile of 0.78% at site 120).

Rb: The 100th percentile response for the Goose Lake belt (110 ppm) occurs at site 171 in association with a 99th percentile response of 68 ppm at site 167 and a 98th percentile response of 67 ppm at site 21. These sample sites define a broad areal cluster of high responses in the central portion of the belt. The southwestern margin of the Knife Lake belt is marked by a 100th percentile response of 92 ppm and a 95th percentile of 60 ppm at sites 8 and 9. These responses are adjacent to a major shear zone in this area. A 98th percentile response occurs at site 87 (71 ppm) in the east part of the belt in an area mapped as granite. The 100th percentile response for Webber Lake (40 ppm at site 105) occurs at the western limits of sampling and adjacent to the northwest trending shear zone that separates the Webber Lake and Knife Lake belts. A 100th percentile response occurs at site 49 at the southwest Echimamish River belt margin.

Sc: The highest concentrations of Sc in the 1998 survey area occur in the Echimamish River and Goose Lake belts, albeit by only a few ppm. The 100th percentile response in the Echimamish River belt is a one sample anomaly of 19 ppm at site 49. The main areas of high Sc contents occur in the central portion of the Goose Lake belt (100th percentile response of 14 ppm, 99th percentile of 10 ppm at sites 171 and 164, respectively) and the west end of the belt (98th percentile response of 7.4 ppm). Lower responses are noted for the Knife Lake belt (100th and 98th percentile responses of 6.4 and 5.8 ppm at adjacent sites 8 and 9, respectively) and for the Webber Lake belt (100th percentile of 4.8 ppm at site 116). Both the Knife Lake and Webber Lake belt responses occur adjacent to a major shear zone.

Se: Only two samples contained Se contents >LLD in the 1998 survey. Sites 74 and 97 contain 4 ppm in the central Knife Lake belt. Site 97 occurs on the peninsula separating Knife and Chataway Lakes. Site 74 occurs adjacent to a northwest trending shear zone at the southwest Knife Lake belt margin.

Th: The 100th percentile responses for all belts are similar and range between 8 and 23 ppm. A 23 ppm 100th percentile response occurs at site 171 in the central Goose Lake area and a 14 ppm 100th percentile for the Echimamish River belt occurs at site 43, outside the area mapped as greenstone belt. The 100th percentile responses for the Knife Lake belt (8 ppm at site 9) and the Webber Lake belt (6 ppm at site 116) are both situated adjacent to the northwest-trending shear zone that separates these two belts.

U: Large differences exist between the Echimamish River and Goose Lake belts and the Knife Lake and Webber Lake greenstone belts. The 100th percentile response in the Echimamish River belt occurs at site 199 in association with a multi-sample cluster of 75th-

98th percentiles (17-57 ppm). The 75th percentile of 17 ppm is greater than the 100th percentile at Knife Lake. A marked difference exists between the geochemical response of the east end of the Echimamish River belt, in predominantly non-volcanic terrain, and the central and western portion where volcanic rocks predominate. The 99th percentile responses in the Goose Lake belt (sites 124 and 172) of 47 ppm occur in the central and east ends of the belt. There are 98th and 95th percentile responses of 35 and 19 ppm, respectively in the central portion of the belt. The 100th percentile response for the Webber Lake belt (18 ppm at site 117) occurs at the eastern limits of sampling and that for the Knife Lake belt occurs at site 122 (6.8 ppm) near the southwest belt margin.

Zn: The 100th percentile response for the Goose Lake belt occurs in the west end of the belt at site 32 (291 ppm) in association with a 95th percentile response of 125 ppm. A broad area of elevated Zn is documented from the central portion of the belt where a multi-sample cluster containing 99th-90th percentile responses (224-102 ppm) occurs. A single sample response of 183 ppm occurs at the southwest margin of the Echimamish River belt at site 49. The north and south shores of Knife Lake in the Knife Lake belt are marked by 100th and 98th percentile responses of 136 ppm (site 1) and 112 ppm (site 53), respectively. The Webber Lake belt contains a 100th percentile response of 67 ppm at site 102.

TREE: Geochemical response in the Goose Lake belt is highest at site 171 where a 100th percentile response of 403.4 ppm is documented. The southeastern portion of the belt is marked by a somewhat lower geochemical response but in numerous samples. A five sample cluster of 99th-90th percentile (245.5-120.5 ppm) responses is noted in this area. Geochemical response for the Knife Lake and Webber Lake belt is similar. The Knife Lake belt is marked by a 100th percentile of 146.8 ppm at site 57 and the east end of the Webber Lake belt is marked by a similar response of 149.5 ppm at site 7.

Hydrogen Ion (H^{+})

H^{+}: The 100th percentile response (75.6 ppb) for the Goose Lake belt occurs at site 140 in the southeast and in association with a 99th percentile of 52.9 ppb at site 153, a 98th percentile of 47.1 ppb at site 16 and a 95th percentile of 29.5 ppb at site 142 define a broad anomalous zone. A 98th percentile also occurs at site 38 in the west end of the belt. A 100th and 98th percentile response of 35.1 ppb at site 189 and 32.6 ppb at site 198, respectively characterize the east end of the Echimamish River belt. All other areas in the belt were subdued. The responses for the Knife Lake belt (23.2 ppb at site 52) and the Webber Lake belt (20.9 ppb at site 99) are lower.

Specific Conductance *K* (water extractable metal)

K: Responses for each of the three belts sampled in 1998 are similar. The 100th percentile response for the Echimamish River belt of 36.3 mhos cm^{-1} at site 179 in association with a 98th percentile of 32.5 mhos cm^{-1} at site 184 and two 95th percentiles of 32 mhos cm^{-1} at sites 48 and 183 define an anomalous zone in the central portion of the belt. The 100th percentile response for the Goose Lake belt (32.8 mhos cm^{-1}) occurs at site 24 in the west end of the belt. A 99th percentile of 176 mhos cm^{-1} and a 98th percentile response of 27.3 mhos cm^{-1} occur at the south and north belt margins, respectively. A 95th percentile response also occurs at the east end of the belt at site 124. Responses for the Knife Lake belt (30.2 mhos cm^{-1} at site 65) and for the Webber Lake belt (22.6 mhos cm^{-1} at site 111) are somewhat lower.

Hg (Flow Injection Mercury System)

Hg: The west end of the Goose lake belt exhibits a two sample amomaly characterized by a 100th and a 98th percentile response of 357.2 ppb at site 27 and 272.3 at site 32, respectively. A single 99th percentile of 286.6 ppb occurs in the south central portion of the belt at site 170. A four sample cluster of 100th-95th percentile responses (224.6-184.3 ppb) defines a broad anomalous area in the eastern end of the Knife Lake belt. A single 100th percentile response of 199.4 ppb at site 177 characterizes the central Echimamish River belt. The Webber Lake belt is marked by adjacent 100th and 98th percentile responses at sites 101 (182.7 ppb) and 99 (180.4 ppb) at the eastern limits of sampling.

Cu: The 100th percentile responses for all of the belts is characterized as low contrast with the exception of the Goose Lake belt where a 100th percentile response of 234 ppm at site 164 and two 98th percentiles of 96 ppm (sites 23 and 171) are observed. A 40 ppm 100th percentile response at site 40 is noted on the southwestern margin of the Echimamish River belt and a single sample response of 26 ppm (100th percentile) occurs in the Webber Lake belt at site 109. A three sample cluster of low contrast 100th-98th percentiles (25-26 ppm) occurs at adjacent sites 5, 53 and 58 near the southern margin of the Knife Lake belt.

Pb: A five sample 100th-90th percentile (103-25 ppm) north-south trending anomaly is documented from the central portion of the Goose Lake belt. A 98th percentile (39 ppm) is documented from site 19 in the east end of the belt. A 100th percentile response of 67 ppm occurs at the east end of the Echimamish River belt at site 200. In the Knife Lake belt a two sample 100th (39 ppm) and 98th (37 ppm) percentile response is noted from adjacent sites along the thin strip of land that separates Chataway Lake and Knife Lake. A second 98th percentile response occurs at site 5 south of Knife Lake. A single 100th percentile response (26 ppm) occurs at site 7 in the Webber Lake belt.

Zn: The 100th percentile response in the Goose Lake belt occurs at the east end of the belt at site 32 (270 ppm). A three sample anomaly defined by a 99th percentile response of 151 ppm at site 176, and two 98th percentile responses of 109 ppm (sites 164 and 171) occurs in the central area of the belt near its southern margin. In the Echimamish River belt a 100th percentile response of 169 ppm occurs at site 49 near the southwestern belt margin. The major shear zone that separates the Knife Lake belt from the Webber Lake belt is bracketed by single sample low contrast 100th percentile responses in the Knife Lake belt (110 ppm at site 58) to the north and in the Webber Lake belt (50 ppm at site 104) in the south.

Ni: Relatively low contrast 100th percentile responses were obtained for each of the three belts sampled in 1998. A two sample anomaly characterized by 100th and 99th percentile responses (46 ppm at site 173 and 42 ppm at site 171) is documented from the south-central Goose Lake belt area. Single sample 100th percentiles occur in the Echimamish River belt (26 ppm at site 47), Knife Lake belt (22 ppm at site 94) and in the Webber Lake belt (16 ppm at site 116).

Mn: The Goose Lake belt is marked by the presence of a well defined four sample cluster of 99th-95th percentile responses (2824-1112 ppm, sites 176, 171,23 and 21) in the south-central portion of the belt. The west end of the belt is marked by a single sample response of 4934 ppm at site 32 (100th percentile). The 100th percentile response (3090) in the Knife Lake belt occurs at site 65 in the northeast of the belt. Single sample 100th percentile responses are also documented in the Echimamish River belt at site 49 (2884 ppm) and in the Webber Lake belt at site 116 (814 ppm).

Sr: Responses are similar for each of the belts with 100th percentiles differing by only a few tens of ppm. The highest responses occur in the Goose Lake belt where a five sample, broadly defined cluster of 100th-95th percentiles (187-136 ppm)is documented from the central portion of the belt. A single sample 99th percentile occurs at the west end of the belt at site 36 (177 ppm). A six sample cluster of 100th-90th percentile responses (170-113 ppm) occurs in the central Echimamish River belt. Both the Knife Lake and Webber Lake belts are characterized by single sample 100th percentile response of 139 ppm at site 53 and 133 ppm at site 120, respectively.

V: The east end of the Echimamish River belt is marked by a three sample 100th-95th percentile (75-46 ppm) cluster in an area of very little outcrop and predominantly granitic rocks. A two sample 10th and 99th percentile response occurs at the south-central part of the Goose Lake belt. Analyses of 67 ppm at site 171 and 61 ppm at site 164 were obtained. A 98th percentile of 54 ppm was obtained at site 35 in the west end. The 100th percentile response in the Knife Lake belt occurs at site 72 (41 ppm) and a two sample 95th percentile response occurs at the west end of Knife Lake at sites 8 and 9 (36 ppm). The 100th percentile response in the Webber Lake belt occurs at site 116 (30 ppm) at the western end of the belt.

Ca: The 100th percentile responses for samples from each of the belts is similar varying between a high of 6.32% to a low of 5.92%. Some interesting groupings of 100th-95th percentile responses are apparent. The east end of the Echimamish River belt is marked by a four sample cluster of 100th-95th percentile responses (6.17-5.82%) and a northeast trending three sample anomaly of between 6.32 and 5.2% (100th-95th percentiles) occurs in the central portion of the Goose Lake belt. An intermittent east trending five sample response is documented from the southern portion of the Knife Lake belt. From west to east this response comprises sites 122 (100th percentile at 5.92%), 12, 98, 75 and 56. The Webber Lake belt contains a single 100th percentile of 6.32% at site 103.

P: A three sample anomaly of 100th-98th percentile responses (0.236-0.148%) occur along the south-central margin of the Goose Lake belt, including sites 171, 176 and 174. Another three sample 100th-95th percentile (0.172-0.137%) anomaly is documented from the Echimamish River belt at sites 47, 48 and 179. Single sample 100th percentile responses occur in the Knife Lake belt at site 65 (0.203%) and in the Webber Lake belt at site 109 (0.107%).

Mg: The 100th percentile response for Mg in the Echimamish River belt occurs at site 49 (0.94%) near the southern margin of this belt. A 98th percentile response of 0.57% occurs further east along this same contact. A three sample cluster of 100th-98th percentile responses (0.86-0.73%) occurs at sites 164, 171 and 165 in the south-central portion of the Goose Lake belt. A single sample 98th percentile (0.73%) occurs at site 35 in the west end of the belt. A closely spaced three sample cluster (sites 8,9 and 98) of 100th-95th percentile responses varying between 0.48-0.43% occurs at the west end of Knife Lake in the Knife Lake belt. The 100th and 98th percentile responses (0.51 and 0.46%) occurs at sites 116 and 114, respectively in the west end of the Webber Lake belt.

Ti: The Echimamish River belt is marked by a 100th percentile response of 0.69% at site 49 at the southwestern belt margin. The remainder of the responses are subdued. A four sample cluster of 100th-95th percentile responses (0.28-0.19%) occurs in the central portion of the Goose Lake belt. A low contrast three sample cluster of 98th and 95th percentile responses (0.21-0.19%) occurs at the west end of the belt. Single sample 100th percentile responses of 0.17% (site 53) and 0.12% (site 120) are documented from the Knife Lake belt and the Webber Lake belt, respectively.

Al: The 100th percentile response for the Goose Lake belt occurs at site 171 (5.56%) in the south-central portion of the belt. A 98th percentile response (3.79%) occurs along the south-central belt margin at site 165. Further west a three sample cluster of 99th-95th percentiles (4.0-3.59%) is recognized at the far west end of the belt. A 100th percentile response of 5.49% occurs at site 49 at the southwest margin of the Echimamish River belt. A 98th percentile response of 5.03% occurs at site 47, east of site 49. A single sample 100th percentile response of 3.47% occurs at site 53 south of Knife Lake in the Knife Lake belt. The Webber Lake belt has a single sample 100th percentile response (2.88%) at site 120.

K: A 100th and 98th percentile response (1.59 and 1.54%) were obtained from adjacent sites 46 and 47 in the south-central portion of the Echimamish River belt. The remainder of the responses in this belt were subdued. A single sample 100th percentile response of 1.39% occurs at site 171 at the southwestern edge of the belt and a two sample (99th and 98th percentile) anomaly occurs at the west end of the belt at sites 34 and 35. A single sample 100th percentile response was obtained from site 53 (1.21%) in the Knife Lake belt and a 98th percentile response of 0.84% occurs at site 120 in the Webber Lake belt.

Y: The 100th percentile response for the Goose Lake belt occurs at site 171 near the southwest belt margin. A four sample cluster of low contrast 99th-95th percentiles (24-14 ppm) occurs at the southeast part of the belt. Results from the Echimamish River belt are scattered with the 100th percentile occurring at site 49 on the southwest belt margin, the 98th percentile of 31 ppm occurring in predominantly granitic terrain north of the belt (site 43) and a two site 95th percentile response (23 ppm) at sites 47 and 179. A single 100th percentile response was recorded in the Webber Lake belt at site 116 (23 ppm). All responses in the Knife Lake belt are low.

Synthesis

Humus geochemical survey results for the Echimamish River belt, Goose Lake belt, Knife Lake belt and to a lesser degree the Webber Lake belt have successfully identified geochemically anomalous areas of potential metallogenetic significance that for the most part had been previously defined by an assessment of rock geochemical results. The single and multi-sample anomalies can be shown to be associated with known mineralized sites, as well as areas without known mineralization. These results define favourable areas for continued and new base and precious metals exploration.

Echimamish River Belt

On the basis of Au, Br, Mo, Pb, H^+, Ca and U humus geochemical responses the east end of the Echimamish River belt is identified as a potential site of interest for focused mineral exploration. This area is characterized by a general lack of outcrop and only scattered exposures of basaltic and granitic rocks that have been overprinted by belt-bounding high strain zones. These are reflected by high Ca responses indicating attendant carbonate alteration. The central and western portions of the belt sampled in 1998 contain significant base metal responses for Cu and Zn and probably reflects the eastern extension of strongly developed hydrothermal alteration observed at Max Lake in the western part of the belt. Some examples of this alteration were noted during the sampling program. The excellent residual exploration potential assigned to this belt in 1996 can be re-iterated on the basis of 1998 humus geochemistry results.

A multitude of high contrast geochemical responses were obtained from site 49 on the southwestern belt margin including mineralization indicators Cu, Zn, Fe and Co as well as Mg, Ti, Al, Rb and Sc, which are likely representative of lithology at this site. In the field this site was described as a very rusty sequence of highly strained mafic and intermediate volcanic and sedimentary rocks with 1% disseminated pyrrhotite, intruded by multiple aplitic and granite dykes and crosscut by non-mineralized white and red quartz veins. This zone and its lateral extensions including its geophysical expression should be investigated.

Goose Lake Belt

Humus survey results from the Goose Lake belt display numerous multi-sample, high contrast geochemical responses in three main areas. The west end of the belt is marked by multiple long and short strike length ground EM conductors as well as a major high strain zone that cuts through the western arm of the belt and continues eastwards into the central portion of the belt (cf. Map OF97-4-17, Hosain, 1997). In both of these areas significant geochemical responses were obtained. The westernmost arm is characterized by elevated Zn, Fe, Hg, Ba, Mo and Al humus geochemical responses whereas the central portion of the belt including the southern belt margin is marked by Cu, Pb, Zn, Ni, Fe, As, Co, Cr, H^+ and Rb, Sc and Th. It is of interest that geophysical conductors are not present in the central part of the belt and accordingly the geochemical responses need to be followed up with ground-based prospecting and detailed surveys.

At the east end of the belt there is an interlayered sequence of solid to near solid pyrite, pyrrhotite with lesser sphalerite in a sulphide facies iron formation, interlayered with chert and massive, porphyritic and amygdular basalt that is locally silicified and rusty-weathered. This sequence is cut by a shear zone that has mobilized iron sulphides into discordant white quartz veins. The significance of this series of mineralized outcrops is to demonstrate that chemical sediments occur in the belt and that a specific suite of metals are associated with the zone. This same suite of metals is documented from elsewhere in this belt and accordingly identifies specific areas within the Goose Lake belt as priority exploration targets.

Knife Lake Belt

The Knife Lake belt is marked by multiple ground EM conductors that in some instances have surface expressions. On the narrow strip of land that separates Chataway Lake from Knife Lake, extensive chemical sedimentary strata have been recognized (cf. Map OF 97-4-8; Hosain, 1997). An additional geological feature of the belt is a south-bounding shear zone that separates this belt from the Webber Lake belt to the south. Along the northeast trending peninsula many humus geochemical responses were obtained, including Pb, Zn and the only analyses of Se (two samples at 4 ppm each), albeit at very low levels (LLD=3 ppm). However, it is the southern high strain zone that appears to be the most significant metallogenetic feature in the belt. At the southern belt margin, where the shear zone is developed, high responses for Cu, U, Th, Rb, Sc, K and Ca are documented. The immediate area of the shear zone should be reconnoitered for alteration and mineralization and an assessment should be undertaken to determine if crosscutting structures associated with the main northwest-trending shear zone are present. Elsewhere, elevated U and Co and lower contrast base metal signatures occur at the northeastern extremity of the belt.

Webber Lake Belt

The Webber Lake belt has the least number of significant humus geochemical responses of the belts sampled in the 1998 survey. Of particular interest, however, is the presence of the belt bounding shear at the northwest edge of the Webber Lake belt, that separates it from the Knife Lake belt. Elevated Cu, Zn, Th, Ca, K, Rb and Sc are documented from the general area of the shear zone. These geochemical anomalies may signify the presence of a primary depositional site or a post-depositional mobilization of metals into a structural setting. Additionally, the Webber Lake belt has both north and south belt margin high strain zones which could also provide pathways for mineralizing fluids and in addition to the main belt bounding shear zone should be prospected using detailed geochemical surveys.

Conclusions

The results of this humus geochemical survey in the Echimamish River, Goose Lake, Knife Lake and Webber Lake greenstone belts indicate the following:

1) humus geochemical surveys undertaken at approximately 1 km sample spacing have successfully delineated areas of high contrast, multi-sample base and precious metal anomalies worthy of follow-up;

2) regional metallogenetic features such as the Gods Lake Narrows Shear Belt and the bounding shear zones at the belt margins are identified as prospective targets for exploration;

3) rocks at the eastern end of the Echimamish River belt are identified to have hydrothermal alteration characteristics, as well as geochemical indications of base and precious metal depositional environments similar to those identified in the Max Lake area;

4) humus geochemical anomalies at the far east end of the Echimamish River belt are associated with deformed basalt, pegmatite and intrusive rocks and should be assessed for structurally-controlled mineralization;

5) the Goose Lake belt, specifically the central portion of the belt, has the greatest number of base and precious metal humus geochemical multi-sample high-contrast contrast signatures of any belt sampled in 1998. The Webber Lake belt has the most subdued response.

Appendix 1

Humus Geochemistry: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), Hydrogen Ion (H^+), Specific Conductance (K) and Hg (FIMS) Analyses.

Element	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	Hg	H^+	K
Units	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	ppb	ppb	mhos cm^{-1}
98H-1	422175.00	6047885.00	1	21	37.0	81	0.7	11	1113	51	0.60	7.0	15	2.76	0.106	0.27	0.05	0.93	0.34	5	1	148.6	-1.7	23.8
98H-2	419789.00	6046717.00	1	15	39.0	32	0.2	9	1192	52	0.80	8.0	16	1.54	0.076	0.19	0.07	1.24	0.44	5	1	127.8	-0.5	16.4
98H-3	419903.00	6044273.00	1	7	2.5	15	0.7	3	36	63	0.25	7.0	6	3.43	0.068	0.26	0.02	0.39	0.10	2	1	124.9	-1.3	15.4
98H-4	424854.00	6040934.00	1	12	16.0	24	0.5	6	150	58	0.50	2.5	17	3.22	0.056	0.29	0.05	1.08	0.30	4	1	112.6	-1.8	19.0
98H-5	423967.00	6040083.00	1	24	37.0	41	0.2	10	332	50	1.00	2.5	19	1.92	0.072	0.21	0.07	1.38	0.41	10	1	184.3	2.2	14.3
98H-6	423110.50	6036780.50	1	18	26.0	25	0.7	8	175	56	0.25	2.5	17	2.94	0.059	0.26	0.07	1.29	0.38	14	1	137.3	-1.7	16.7
98H-7	422898.50	6036995.50	1	21	6.0	11	0.2	7	91	73	0.25	2.5	12	5.84	0.079	0.27	0.04	0.70	0.15	5	1	54.4	-1.8	5.2
98H-8	415727.00	6042908.00	1	14	20.0	34	0.9	15	816	99	0.50	2.5	37	3.13	0.070	0.48	0.16	3.23	0.84	14	1	116.5	-1.8	10.0
98H-9	415673.00	6042377.00	1	14	15.0	30	1.3	14	123	72	0.25	5.0	38	2.27	0.069	0.43	0.15	2.99	0.73	10	1	49.9	-1.1	6.4
98H-10	413976.00	6041879.00	1	16	27.0	30	0.7	11	1386	90	1.20	2.5	29	2.12	0.053	0.33	0.13	2.41	0.74	10	1	119.1	-1.4	8.7
98H-11	412154.00	6042663.00	1	11	23.0	19	0.5	6	99	33	0.80	2.5	12	1.08	0.002	0.13	0.05	1.21	0.27	7	1	139.7	-0.6	15.3
98H-12	411756.00	6042217.00	1	20	7.0	20	1.2	11	164	81	0.50	2.5	21	4.92	0.069	0.41	0.08	1.78	0.50	10	1	72.1	-1.8	12.1
98H-13	410273.00	6047753.00	1	11	30.0	21	0.6	8	487	51	0.60	2.5	17	3.35	0.060	0.27	0.06	1.15	0.36	8	1	165.5	-1.7	23.2
98H-14	403125.44	6011007.50	1	10	20.0	20	0.2	8	86	50	0.25	2.5	14	0.91	0.100	0.16	0.05	0.96	0.29	4	1	230.0	9.3	14.2
98H-15	405071.47	6014609.50	1	13	11.0	18	0.2	5	686	68	0.25	9.0	16	3.11	0.078	0.23	0.09	1.11	0.19	6	1	158.9	-1.6	8.0
98H-16-1 Field Duplicate	406208.50	6016505.50	1	23	12.0	24	0.2	11	59	69	0.25	2.5	6	0.54	0.029	0.11	0.04	0.56	0.16	2	1	94.4	47.1	-4.7
98H-16-2 Field Duplicate	406208.50	6016505.50	1	20	19.0	17	0.2	7	47	48	0.60	2.5	11	0.47	0.061	0.09	0.07	1.01	0.27	5	1	113.6	5.0	2.4
98H-17	408555.38	6014841.50	1	12	25.0	26	0.2	13	179	45	0.90	2.5	25	1.61	0.039	0.63	0.07	1.13	0.22	5	1	126.7	5.9	9.0
98H-18	415078.09	6012325.00	1	11	10.0	14	0.8	6	44	31	0.25	5.0	12	0.52	0.002	0.10	0.05	1.02	0.25	5	1	93.7	4.3	6.7
98H-19	414432.16	6013288.00	1	22	35.0	31	0.5	16	2733	79	0.90	2.5	30	1.73	0.065	0.34	0.13	2.26	0.63	12	1	142.5	-0.4	14.5
98H-20	409312.34	6013691.50	1	18	6.0	10	0.4	6	159	59	0.25	2.5	15	4.72	0.067	0.24	0.05	1.20	0.25	8	1	80.0	-1.8	9.2
98H-21	389429.00	6018411.00	1	24	35.0	60	0.8	17	1301	152	0.80	2.5	34	2.12	0.071	0.40	0.18	3.47	1.08	11	1	101.3	-1.8	12.6
98H-22	389344.00	6016674.00	1	15	39.0	42	0.6	18	277	99	0.70	2.5	44	1.52	0.078	0.45	0.18	3.41	0.98	8	1	94.4	0.5	12.8
98H-23	392288.00	6014396.00	1	91	10.0	34	0.6	19	1112	95	0.80	6.0	24	4.52	0.089	0.46	0.10	1.91	0.51	12	1	111.4	-1.9	6.0
98H-24	379613.00	6025712.00	1	12	30.0	57	0.5	12	933	52	0.60	6.0	16	1.91	0.126	0.25	0.06	1.16	0.46	7	1	231.0	-1.4	32.8
98H-25	377057.00	6026670.00	1	9	16.0	15	0.2	3	292	46	0.70	2.5	10	2.32	0.059	0.22	0.05	0.83	0.26	5	1	124.3	-1.7	24.5
98H-26	374339.00	6028062.00	1	18	14.0	19	0.2	10	454	66	0.50	2.5	25	3.78	0.057	0.22	0.07	1.41	0.37	6	1	141.1	-1.7	18.2
98H-27	375906.00	6025997.00	1	7	15.0	51	0.4	7	538	23	0.25	5.0	9	0.67	0.058	0.08	0.03	0.56	0.19	2	1	357.2	12.5	21.0
98H-28	374248.00	6028877.00	1	5	5.0	10	0.5	2	19	17	0.25	2.5	5	0.62	0.002	0.08	0.02	0.52	0.16	2	1	165.1	5.3	13.5
98H-29	374547.00	6029138.00	1	9	11.0	20	0.2	8	70	47	0.25	2.5	15	1.16	0.073	0.16	0.07	1.21	0.35	6	1	124.9	2.0	5.7
98H-30	374926.00	6026839.00	2	10	25.0	27	0.2	8	110	54	0.50	2.5	18	0.98	0.076	0.17	0.08	1.30	0.41	4	1	231.8	12.2	10.1
98H-31	372780.00	6028156.00	1	8	21.0	39	0.5	4	152	31	0.50	6.0	16	0.34	0.067	0.11	0.07	1.01	0.38	2	1	219.4	25.6	8.8
98H-32	372307.00	6028232.00	14	27	14.0	270	0.2	16	4934	88	1.60	2.5	33	2.14	0.123	0.34	0.14	2.43	0.73	6	1	272.3	0.3	19.0
98H-33	372056.00	6029102.00	1	14	21.0	55	0.4	8	623	61	0.50	2.5	23	1.21	0.135	0.23	0.09	1.53	0.50	4	1	209.7	4.4	25.5
98H-34	372498.00	6030016.00	1	19	22.0	67	0.2	21	751	99	0.25	2.5	50	2.24	0.112	0.60	0.19	3.59	1.16	10	1	101.6	-1.8	18.9
98H-35	373283.00	6030024.00	1	20	16.0	79	0.2	23	811	96	0.25	2.5	54	1.99	0.073	0.68	0.21	4.00	1.23	11	1	101.9	-1.6	20.4
98H-36-1 Field Duplicate	371637.00	6030765.00	1	45	29.0	29	0.2	15	144	177	0.70	2.5	34	1.80	0.097	0.20	0.19	3.60	0.37	11	1	93.3	14.3	4.4
98H-36-2 Field Duplicate	371637.00	6030765.00	1	17	20.0	33	0.2	11	135	113	0.25	2.5	37	1.86	0.069	0.15	0.18	3.14	0.44	8	1	89.5	-0.7	2.7
98H-37	370589.00	6033766.00	1	10	15.0	29	0.2	10	618	54	0.25	2.5	17	1.74	0.088	0.27	0.07	1.34	0.41	8	1	144.2	-0.6	19.7
98H-38	373372.00	6029446.00	1	4	2.5	7	0.2	3	36	30	0.25	2.5	6	0.78	0.058	0.13	0.03	0.42	0.13	2	1	211.8	47.0	3.2
98H-41	317884.00	6042024.50	1	16	2.5	29	0.2	14	179	73	0.25	2.5	25	3.71	0.096	0.46	0.09	2.12	0.48	12	1	92.1	-1.8	11.8
98H-43	318611.03	6043950.00	1	34	16.0	50	0.5	24	543	99	0.25	2.5	46	3.88	0.090	0.54	0.18	3.97	0.93	31	2	87.3	-1.9	23.4

Element	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	Hg	H^+	K
Units	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	ppb	ppb	mhos cm^{-1}
98H-44	320323.97	6041882.00	1	13	36.0	99	0.2	10	426	43	0.80	2.5	15	2.03	0.066	0.19	0.06	0.93	0.30	4	1	126.8	-1.4	16.6
98H-45	324338.88	6040074.00	1	8	2.5	14	0.2	4	1232	58	0.25	2.5	4	4.79	0.104	0.26	0.02	0.35	0.06	2	1	129.0	-1.8	18.5
98H-46	324880.84	6038786.00	1	18	20.0	58	0.2	18	519	155	0.25	2.5	45	2.05	0.075	0.57	0.22	4.42	1.59	12	1	50.8	-1.9	13.3
98H-47	325306.88	6039999.00	1	32	40.0	61	0.2	26	404	170	0.25	2.5	54	1.50	0.145	0.45	0.25	5.03	1.54	19	2	23.8	-1.8	7.6
98H-48	328136.84	6040488.00	1	25	41.0	74	0.2	14	1518	113	0.60	2.5	29	4.14	0.172	0.39	0.14	2.65	0.94	8	1	80.8	-1.9	29.6
98H-49	314291.00	6039571.50	1	40	32.0	169	0.2	20	2884	119	1.40	5.0	75	3.50	0.112	0.94	0.69	5.49	0.88	47	2	54.5	-1.9	5.4
98H-51	318170.97	6039892.50	1	12	5.0	26	0.2	10	51	58	0.25	2.5	17	2.26	0.115	0.27	0.08	1.63	0.38	6	1	96.5	0.2	6.0
98H-52	424658.00	6042698.00	1	8	8.0	19	0.2	5	108	51	0.50	2.5	11	0.53	0.059	0.10	0.06	1.06	0.34	4	1	112.5	23.2	0.6
98H-53	422939.00	6041290.00	1	22	27.0	110	0.2	14	799	139	0.60	2.5	36	2.41	0.087	0.43	0.17	3.47	1.21	8	1	42.6	-1.9	15.5
98H-54	422577.00	6040642.00	1	25	29.0	67	0.2	17	1381	59	1.90	2.5	22	2.29	0.106	0.30	0.08	1.60	0.45	12	1	158.1	-1.4	16.1
98H-55	426549.00	6042653.00	1	13	16.0	23	0.2	9	132	108	0.25	2.5	21	1.61	0.044	0.26	0.12	2.29	0.68	6	1	74.7	0.9	8.0
98H-56	427348.00	6040986.00	1	11	2.5	18	0.2	6	87	78	0.25	2.5	13	4.94	0.075	0.29	0.07	1.37	0.39	5	1	56.3	-1.9	11.5
98H-57	429478.00	6040983.00	1	13	14.0	21	0.2	9	381	50	0.50	2.5	15	1.61	0.072	0.21	0.07	1.35	0.35	14	1	170.0	3.5	13.4
98H-58	422017.59	6039578.50	1	9	12.0	16	0.2	6	118	72	0.25	2.5	16	0.94	0.064	0.17	0.08	1.47	0.46	5	1	97.1	8.1	8.3
98H-59	420543.00	6039880.00	1	8	14.0	20	0.2	5	99	77	0.25	2.5	15	0.82	0.059	0.17	0.09	1.48	0.50	4	1	136.7	13.9	7.1
98H-60	419349.00	6041198.00	1	15	21.0	41	0.2	11	244	87	0.25	2.5	18	1.36	0.076	0.20	0.10	1.79	0.55	6	1	118.7	3.8	10.6
98H-61-1 Field Duplicate	428648.00	6042511.00	1	11	17.0	20	0.2	7	54	41	0.70	2.5	12	1.27	0.076	0.17	0.05	1.02	0.26	5	1	95.8	4.7	15.7
98H-61-2 Field Duplicate	428648.00	6042511.00	1	8	13.0	27	0.2	7	90	75	0.25	2.5	19	1.20	0.071	0.19	0.09	1.65	0.52	5	1	66.1	9.0	14.2
98H-62	428719.00	6043536.00	1	11	18.0	26	0.2	8	967	66	0.60	2.5	21	2.34	0.070	0.31	0.08	1.65	0.44	7	1	106.5	-1.7	18.1
98H-63	427677.00	6045751.00	1	12	23.0	29	0.2	11	610	129	0.25	2.5	34	1.80	0.048	0.34	0.15	3.23	0.99	10	1	69.4	-1.4	10.8
98H-64	430255.00	6047124.00	1	7	16.0	17	0.2	5	63	31	0.25	2.5	9	1.00	0.074	0.11	0.03	0.65	0.22	2	1	156.9	10.4	15.8
98H-65	427764.00	6047447.00	2	7	14.0	23	0.2	4	3090	58	0.60	2.5	7	2.32	0.203	0.12	0.02	0.37	0.11	2	1	175.2	2.3	30.2
98H-66	425278.00	6047515.00	1	9	7.0	24	0.2	7	163	94	0.25	2.5	17	2.46	0.063	0.30	0.08	1.52	0.47	5	1	110.4	-0.8	18.6
98H-67	424531.00	6048166.00	1	10	2.5	16	0.2	6	66	53	0.25	2.5	13	3.68	0.058	0.29	0.06	1.08	0.34	4	1	74.1	-1.8	17.2
98H-68	423147.00	6050489.00	1	9	15.0	18	0.2	7	68	66	0.25	2.5	23	1.73	0.058	0.27	0.10	1.72	0.49	6	1	95.2	-1.5	14.2
98H-69	421846.00	6049098.00	1	18	21.0	18	0.2	16	53	65	0.25	2.5	20	0.76	0.079	0.14	0.10	1.71	0.45	5	1	153.7	15.0	8.1
98H-70	411122.00	6046567.00	1	9	11.0	32	0.2	6	65	86	0.25	2.5	19	0.86	0.046	0.17	0.11	1.86	0.62	5	1	56.6	0.7	1.9
98H-71	412676.00	6045877.00	1	11	25.0	24	0.2	12	392	138	0.25	2.5	30	2.15	0.073	0.35	0.16	2.75	0.91	8	1	87.7	-1.9	8.5
98H-72	413024.00	6047216.00	1	13	32.0	46	0.2	13	86	54	0.50	2.5	41	0.97	0.074	0.29	0.12	2.48	0.56	8	1	162.1	1.2	6.1
98H-73	411549.00	6043862.00	1	4	9.0	8	0.2	3	27	22	0.25	2.5	6	0.65	0.055	0.08	0.02	0.37	0.12	2	1	101.7	14.2	1.6
98H-74	413657.00	6043128.00	1	8	21.0	51	0.2	7	216	48	0.70	2.5	18	0.70	0.069	0.15	0.08	1.37	0.42	4	1	169.3	14.9	4.3
98H-75	422108.00	6041765.00	1	16	13.0	26	0.2	12	574	108	0.25	2.5	24	4.91	0.094	0.42	0.10	2.29	0.69	11	1	73.9	-2.0	20.4
98H-76	433784.00	6040516.00	1	4	15.0	20	0.2	8	72	14	0.25	2.5	8	0.24	0.091	0.10	0.03	0.41	0.19	2	1	209.1	21.4	9.4
98H-77	432746.00	6042736.00	1	10	5.0	12	0.2	7	83	62	0.25	2.5	14	4.28	0.075	0.27	0.05	1.01	0.25	5	1	89.0	-1.9	10.1
98H-78	431930.00	6043534.00	1	11	15.0	27	0.2	6	71	103	0.50	2.5	20	1.56	0.051	0.27	0.13	2.24	0.70	5	1	79.9	2.5	9.9
98H-79	432599.00	6044519.00	1	8	2.5	12	0.2	6	107	49	0.25	2.5	12	3.62	0.071	0.29	0.05	0.90	0.22	4	1	86.4	-1.6	8.0
98H-80	433938.00	6044126.00	1	3	2.5	25	0.2	2	899	48	0.25	2.5	6	3.82	0.079	0.23	0.01	0.22	0.05	2	1	224.6	-1.7	15.3
98H-81	432096.00	6047105.00	1	11	6.0	9	0.2	7	195	50	0.50	2.5	16	2.10	0.039	0.19	0.06	1.47	0.33	7	1	102.3	-0.6	9.6
98H-82	431155.00	6045908.00	1	16	22.0	20	0.2	11	363	83	0.25	2.5	26	3.62	0.066	0.35	0.10	2.14	0.56	12	1	125.5	-2.0	7.2
98H-83	431374.00	6041096.00	1	5	2.5	16	0.2	4	64	62	0.25	2.5	8	3.65	0.078	0.28	0.03	0.57	0.17	2	1	122.0	-1.9	14.3
98H-84	436427.28	6047029.50	2	4	2.5	21	0.2	3	861	45	0.25	2.5	5	2.82	0.112	0.05	0.02	0.33	0.06	2	1	144.2	0.1	19.6
98H-85-1 Field Duplicate	439153.13	6044766.50	1	7	11.0	24	0.2	4	182	112	0.25	2.5	16	0.84	0.047	0.12	0.12	2.03	0.59	4	1	136.7	3.0	2.3
98H-85-2 Field Duplicate	439153.13	6044766.50	1	3	5.0	19	0.2	2	145	30	0.25	2.5	8	0.62	0.059	0.08	0.03	0.53	0.17	2	1	213.5	7.5	2.1
98H-86	437708.13	6043243.50	1	5	2.5	5	0.2	4	173	75	0.25	2.5	13	3.79	0.061	0.18	0.04	0.82	0.18	4	1	160.1	-1.4	7.8
98H-87	438758.06	6041729.50	1	11	18.0	23	0.2	8	96	130	0.60	2.5	27	0.86	0.060	0.20	0.15	2.96	1.02	6	1	65.6	1.9	1.9
98H-88	437893.09	6041978.50	1	11	11.0	16	0.2	8	234	48	0.70	2.5	22	2.84	0.073	0.30	0.07	1.41	0.29	6	1	132.5	-1.2	11.1
98H-89	438026.19	6045493.50	1	7	2.5	4	0.2	4	25	55	0.25	2.5	10	4.33	0.052	0.17	0.03	0.60	0.10	2	1	57.6	-1.6	7.3
98H-90	441264.97	6041603.50	1	6	2.5	8	0.2	3	29	43	0.25	2.5	9	4.37	0.074	0.24	0.03	0.63	0.13	2	1	85.3	-1.9	10.9
98H-91	439048.03	6040825.50	1	8	2.5	6	0.2	4	135	63	0.25	2.5	11	3.97	0.062	0.21	0.04	1.01	0.21	4	1	59.7	-2.0	6.1
98H-92	436230.22	6044253.50	1	2	5.0	19	0.2	2	220	43	0.50	2.5	4	2.94	0.108	0.16	0.01	0.25	0.06	2	1	159.2	-1.2	10.9
98H-93	410621.00	6049058.00	1	8	14.0	21	0.2	8	375	131	0.25	2.5	26	1.45	0.052	0.29	0.14	2.96	1.05	7	1	102.0	-1.7	4.2

Element	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	Hg	H^+	K
Units	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	ppb	ppb	mhos cm^{-1}
98H-94	413909.00	6049263.00	1	20	36.0	47	0.2	22	159	86	0.80	2.5	36	0.97	0.070	0.29	0.15	2.85	0.73	7	1	91.6	1.3	6.2
98H-95	407798.00	6049007.00	1	17	16.0	77	0.2	8	592	98	0.60	2.5	22	2.28	0.127	0.24	0.11	1.79	0.50	5	1	109.9	-0.7	10.0
98H-96	409899.00	6046556.00	1	12	15.0	13	0.2	5	248	40	0.25	2.5	13	2.99	0.097	0.19	0.03	0.68	0.24	8	1	136.2	-2.0	13.4
98H-97	418140.00	6045082.00	1	5	2.5	9	0.2	4	47	23	0.25	2.5	10	0.26	0.044	0.09	0.04	0.77	0.16	2	1	89.4	4.4	0.9
98H-98	416634.00	6042840.00	1	10	6.0	16	0.2	6	132	120	0.25	2.5	15	4.60	0.069	0.44	0.07	1.54	0.48	5	1	54.9	-2.0	6.0
98H-99	429858.16	6033292.50	1	6	12.0	17	0.2	4	30	29	0.25	2.5	7	0.85	0.064	0.08	0.03	0.53	0.13	2	1	180.4	20.9	3.8
98H-100	431644.06	6033251.50	1	7	11.0	17	0.2	5	126	53	0.25	2.5	12	2.12	0.083	0.18	0.06	1.35	0.30	5	1	124.4	-1.3	3.9
98H-101	432256.00	6031840.50	1	4	8.0	26	0.2	2	59	27	0.25	2.5	9	0.58	0.054	0.07	0.03	0.55	0.17	2	1	182.7	11.4	-1.4
98H-102	429871.16	6033829.50	1	13	6.0	22	0.2	9	252	59	0.25	2.5	19	4.19	0.062	0.36	0.08	1.53	0.40	6	1	140.7	-2.0	14.7
98H-103	425307.38	6035317.50	1	12	2.5	7	0.2	5	117	64	0.25	2.5	8	6.32	0.072	0.23	0.02	0.46	0.10	2	1	70.5	-2.0	9.3
98H-104-1 Field Duplicate	423848.47	6036518.50	1	16	14.0	51	0.2	16	939	84	0.50	2.5	34	3.64	0.074	0.47	0.13	2.66	0.81	18	1	120.7	-2.0	5.7
98H-104-2 Field Duplicate	423848.47	6036518.50	1	16	23.0	49	0.2	10	581	52	1.70	2.5	17	2.64	0.072	0.26	0.06	1.18	0.32	5	1	135.4	-1.9	4.0
98H-105	421335.53	6036410.50	1	10	15.0	46	0.2	10	462	106	0.80	2.5	24	2.58	0.080	0.39	0.11	2.30	0.84	8	1	99.3	-1.6	10.0
98H-106	421383.56	6037781.50	1	7	5.0	13	0.2	5	162	45	0.25	2.5	11	2.32	0.002	0.20	0.05	1.20	0.25	4	1	111.1	-2.0	19.1
98H-107	420147.63	6037637.50	1	8	13.0	25	0.2	6	306	47	0.60	2.5	9	3.80	0.105	0.29	0.03	0.61	0.17	4	1	143.7	-1.9	22.4
98H-108	421291.50	6035072.50	1	7	5.0	4	0.2	4	41	28	0.25	2.5	6	2.22	0.002	0.14	0.02	0.82	0.11	2	1	81.4	-1.9	13.5
98H-109	423732.41	6034418.50	2	26	14.0	15	0.4	13	83	35	0.25	2.5	17	0.56	0.107	0.21	0.06	1.26	0.22	5	1	126.7	19.9	3.8
98H-110	424600.44	6036265.50	1	13	9.0	26	0.2	11	108	61	0.25	2.5	19	4.43	0.066	0.42	0.06	1.45	0.42	7	1	77.5	-1.9	12.2
98H-111	422790.47	6035391.50	2	12	6.0	12	0.2	6	42	51	0.25	2.5	7	5.11	0.088	0.28	0.01	0.30	0.08	2	1	90.4	-1.9	22.6
98H-112	422413.50	6036539.50	1	13	12.0	23	0.2	6	48	43	0.50	2.5	14	0.96	0.077	0.11	0.06	0.98	0.26	4	1	113.4	0.0	1.6
98H-113	419846.59	6036918.50	1	14	23.0	16	0.2	11	113	54	0.90	2.5	12	0.67	0.066	0.12	0.06	1.15	0.34	5	1	148.2	-0.5	3.5
98H-114	419177.66	6038148.50	1	19	2.5	25	0.2	13	201	70	0.25	2.5	23	4.68	0.075	0.46	0.09	2.06	0.48	7	1	58.4	-1.9	4.4
98H-115	418088.72	6038642.50	1	8	10.0	9	0.2	5	439	67	0.50	2.5	12	6.28	0.084	0.26	0.02	0.51	0.13	2	1	78.1	-1.9	14.7
98H-116	417811.72	6039129.50	1	25	6.0	26	0.4	16	814	98	0.25	6.0	30	5.12	0.089	0.51	0.11	2.73	0.65	23	1	57.7	-2.0	12.6
98H-117	433470.97	6032879.50	1	16	12.0	34	0.2	13	556	95	0.25	7.0	26	3.41	0.085	0.43	0.09	2.17	0.57	7	1	115.4	-1.9	11.4
98H-118	426929.28	6034129.50	1	9	5.0	9	0.2	5	422	73	0.50	2.5	8	5.32	0.104	0.29	0.03	0.77	0.17	4	1	77.9	-1.9	12.9
98H-119	425480.31	6033803.50	1	10	7.0	11	0.2	5	86	53	0.50	2.5	9	4.58	0.040	0.19	0.03	0.60	0.07	4	1	78.9	-1.4	3.1
98H-120	423790.44	6035660.50	1	9	16.0	21	0.2	9	439	133	0.25	2.5	24	3.61	0.091	0.40	0.12	2.88	1.00	10	1	59.6	-1.8	8.4
98H-121	407150.00	6045862.00	1	18	14.0	18	0.2	12	328	98	0.25	2.5	20	3.10	0.075	0.36	0.10	2.43	0.71	10	1	92.8	-1.8	13.0
98H-122	408163.00	6044404.00	1	18	5.0	9	0.2	6	200	71	0.25	2.5	7	5.92	0.083	0.31	0.02	0.51	0.18	2	1	84.6	-2.0	23.5
98H-123	410744.00	6043110.00	1	13	15.0	28	0.2	12	779	90	0.80	2.5	25	2.11	0.075	0.37	0.11	2.26	0.67	8	1	114.1	-0.4	13.3
98H-124	416359.03	6011437.00	1	18	7.0	18	0.2	6	77	37	0.25	2.5	9	3.00	0.111	0.26	0.02	0.57	0.16	5	1	171.1	-1.9	27.3
98H-125	417489.03	6012396.00	1	18	19.0	22	0.2	11	561	71	0.80	2.5	18	3.05	0.076	0.26	0.08	1.62	0.48	7	1	148.3	-1.6	11.9
98H-126	413132.19	6012836.00	1	96	2.5	51	0.2	36	85	74	0.50	5.0	12	5.20	0.067	0.28	0.05	1.22	0.25	7	1	45.7	-1.9	13.0
98H-127	385444.00	6022763.00	1	10	8.0	17	0.2	5	198	38	0.25	6.0	14	2.93	0.065	0.18	0.02	0.53	0.14	4	1	106.6	-1.9	10.9
98H-128	385814.00	6024219.00	1	18	14.0	42	0.4	10	134	54	1.80	2.5	14	3.06	0.092	0.27	0.04	0.94	0.23	6	1	88.8	-1.5	11.1
98H-129-1 Field Duplicate	411318.28	6013772.50	1	12	15.0	21	0.2	6	50	59	0.60	2.5	14	1.33	0.077	0.18	0.07	1.31	0.36	5	1	118.3	4.8	7.2
98H-129-2 Field Duplicate	411318.28	6013772.50	1	13	28.0	22	0.2	11	226	57	0.25	5.0	24	2.78	0.096	0.30	0.08	1.82	0.49	8	1	131.2	-1.8	13.7
98H-130	410039.31	6014382.50	1	6	20.0	16	0.2	5	74	33	0.25	2.5	10	0.65	0.077	0.13	0.04	0.97	0.28	4	1	197.2	4.5	5.5
98H-131	410227.28	6012701.50	1	12	16.0	52	0.2	15	548	49	0.60	6.0	20	1.79	0.148	0.33	0.06	1.55	0.37	10	1	239.4	-1.1	9.2
98H-132	407970.38	6013576.50	1	22	11.0	23	0.4	14	471	105	0.25	7.0	30	4.12	0.084	0.43	0.14	3.06	0.79	14	1	88.0	-1.9	14.2
98H-133	407131.38	6012572.50	1	17	6.0	23	0.2	7	468	44	0.60	2.5	8	2.39	0.087	0.19	0.03	0.54	0.14	4	1	127.7	-1.4	15.7
98H-134	406971.44	6014940.50	1	15	10.0	11	0.2	7	146	70	0.25	2.5	13	3.49	0.081	0.27	0.06	1.41	0.31	8	1	135.6	-1.8	12.4
98H-135	408359.31	6012394.50	1	17	15.0	13	0.2	10	63	65	0.60	2.5	16	0.65	0.046	0.12	0.12	1.50	0.39	6	1	101.5	14.6	2.3
98H-136	405675.38	6011926.50	1	40	8.0	34	0.2	24	349	56	0.25	2.5	41	2.00	0.069	0.65	0.17	2.03	0.26	14	1	139.3	3.6	7.1
98H-137	404124.44	6012087.50	1	14	9.0	7	0.2	5	166	60	0.25	2.5	3	4.79	0.055	0.30	0.02	0.32	0.08	2	1	97.7	-1.9	15.4
98H-138	404041.47	6013160.50	1	25	2.5	21	0.2	14	387	119	0.25	2.5	25	3.68	0.062	0.40	0.11	2.89	0.83	17	1	89.1	-1.9	12.2
98H-139	402538.53	6013989.50	1	25	19.0	11	0.2	8	39	39	0.25	2.5	12	0.50	0.052	0.10	0.05	0.81	0.23	2	1	150.7	24.3	4.6
98H-140	399933.00	6014368.00	1	10	12.0	14	0.2	7	37	33	0.90	2.5	12	0.31	0.058	0.11	0.05	0.81	0.25	2	1	183.8	75.6	-12.1
98H-141	395466.00	6012618.00	1	24	13.0	34	0.2	20	351	100	0.25	2.5	40	3.19	0.070	0.59	0.13	3.05	0.81	11	1	101.2	-1.9	15.3
98H-142	397559.00	6017711.00	1	11	14.0	45	0.2	6	295	20	0.50	2.5	9	0.49	0.133	0.09	0.03	0.56	0.16	2	1	259.7	23.1	6.4

Element	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	Hg	H^+	K
Units	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	ppb	ppb	mhos cm^{-1}
98H-143	383035.00	6024618.00	1	12	15.0	12	0.2	7	84	49	0.60	2.5	16	2.22	0.046	0.20	0.06	1.22	0.29	10	1	180.5	-0.7	7.2
98H-144	389806.00	6022975.00	1	7	14.0	20	0.2	6	93	63	0.25	2.5	15	1.60	0.053	0.22	0.07	1.51	0.46	5	1	239.4	1.3	14.2
98H-145	390474.00	6021912.00	1	49	2.5	13	0.2	15	384	59	0.60	2.5	11	5.11	0.056	0.26	0.03	0.77	0.13	7	1	80.1	-1.9	14.2
98H-146	392335.00	6021175.00	1	16	2.5	19	0.2	10	133	136	0.25	2.5	25	3.17	0.016	0.29	0.12	3.03	0.80	12	1	64.5	-1.5	7.7
98H-147	388878.00	6020355.00	1	16	7.0	17	0.2	9	241	78	0.25	2.5	20	5.41	0.037	0.35	0.07	1.71	0.47	10	1	88.9	-2.0	16.1
98H-148	403100.47	6012742.50	1	37	2.5	41	0.2	7	304	38	0.25	2.5	9	2.62	0.018	0.11	0.01	0.42	0.07	5	1	107.4	2.0	11.8
98H-149	401935.00	6012422.00	1	11	2.5	13	0.2	5	58	28	0.25	2.5	6	1.08	0.041	0.10	0.02	0.49	0.15	6	1	202.3	0.0	8.2
98H-150-1 Field Duplicate	400497.00	6013199.00	1	15	7.0	16	0.2	10	533	72	0.25	2.5	18	4.45	0.035	0.37	0.06	1.55	0.36	8	1	134.2	-2.0	18.7
98H-150-2 Field Duplicate	400497.00	6013199.00	1	18	8.0	16	0.2	12	625	78	0.25	2.5	23	4.75	0.026	0.40	0.08	1.82	0.40	8	1	99.7	-2.0	8.2
98H-151	399476.00	6015250.00	1	40	2.5	14	0.2	10	438	89	0.25	2.5	19	4.82	0.055	0.31	0.09	1.69	0.35	12	1	86.6	-2.0	10.9
98H-152	395886.00	6015171.00	1	17	2.5	15	0.2	19	74	50	0.25	2.5	11	3.20	0.042	0.30	0.04	0.84	0.22	7	1	136.3	-2.0	18.8
98H-153	394104.00	6017050.00	1	13	14.0	11	0.2	27	25	23	0.60	2.5	8	0.60	0.046	0.13	0.03	0.46	0.09	2	1	147.9	52.9	-4.5
98H-154	406616.34	6011560.50	2	8	2.5	5	0.4	6	273	63	0.25	2.5	4	4.78	0.065	0.30	0.01	0.21	0.07	2	1	79.7	-1.9	11.0
98H-155	404165.41	6011197.50	1	10	2.5	6	0.2	3	14	48	0.25	2.5	3	3.95	0.033	0.21	0.01	0.29	0.07	2	1	61.1	-1.5	11.3
98H-156	404389.38	6010246.50	1	33	11.0	35	0.6	21	757	90	0.25	2.5	24	3.70	0.107	0.34	0.08	2.57	0.54	16	2	123.5	-1.8	14.6
98H-157	405746.31	6009647.50	1	12	18.0	21	0.2	7	128	37	1.50	2.5	8	0.84	0.050	0.14	0.03	0.65	0.20	4	1	270.6	11.1	9.7
98H-158	405343.31	6008893.50	1	32	13.0	51	0.5	28	239	96	0.50	2.5	32	3.79	0.073	0.56	0.12	3.35	0.80	24	2	83.2	-1.9	14.5
98H-159	404052.34	6009302.50	2	19	24.0	40	0.2	9	392	62	0.25	2.5	17	1.02	0.044	0.20	0.08	1.57	0.50	8	1	207.6	13.4	8.2
98H-160	390377.00	6020623.00	2	19	20.0	66	0.2	8	356	49	1.10	2.5	10	2.04	0.050	0.16	0.04	0.92	0.28	5	1	140.0	1.3	13.0
98H-161	388589.00	6022651.46	1	7	7.0	11	0.2	4	338	40	0.25	2.5	6	2.99	0.056	0.19	0.02	0.42	0.11	2	1	168.9	-1.9	25.5
98H-163	388677.00	6018912.00	1	27	2.5	5	0.2	26	113	56	0.25	2.5	10	4.66	0.048	0.23	0.02	0.47	0.08	5	1	109.1	-1.9	18.2
98H-164	386509.00	6018460.00	1	234	2.5	109	0.2	46	480	58	2.60	2.5	61	3.82	0.054	0.76	0.23	2.70	0.24	8	1	78.3	-1.9	12.6
98H-165	383945.00	6021656.00	1	19	6.0	35	0.2	18	251	187	0.25	2.5	26	3.61	0.025	0.73	0.14	3.79	1.22	8	1	54.4	-2.1	14.9
98H-166	385391.00	6021255.00	1	13	14.0	42	0.2	13	451	57	0.50	2.5	26	2.26	0.064	0.39	0.09	1.97	0.50	10	1	239.1	-1.6	18.2
98H-167	384775.00	6020830.00	1	19	13.0	92	0.2	19	618	100	1.00	2.5	40	2.52	0.093	0.56	0.15	3.22	1.06	10	1	122.8	-1.9	21.6
98H-168-1 Field Duplicate	389115.00	6015922.00	7	14	2.5	52	0.2	7	725	53	0.25	2.5	8	5.23	0.069	0.23	0.02	0.56	0.10	5	1	130.4	-2.0	20.8
98H-168-2 Field Duplicate	389115.00	6015922.00	1	2	9.0	35	0.2	5	43	23	0.60	2.5	5	0.24	0.074	0.06	0.02	0.52	0.20	2	1	192.0	61.0	-0.5
98H-169	385427.00	6016657.00	1	9	2.5	20	0.2	5	65	46	0.70	2.5	8	3.79	0.066	0.24	0.03	0.59	0.16	4	1	102.0	-1.9	16.7
98H-170	384273.00	6016794.00	2	6	24.0	39	0.2	10	327	76	0.50	2.5	21	1.37	0.127	0.24	0.08	1.59	0.56	5	1	286.6	5.2	25.5
98H-171	383788.00	6015968.00	1	60	13.0	107	0.5	42	859	152	1.10	5.0	67	2.47	0.236	0.86	0.28	5.56	1.39	50	4	109.1	-2.0	11.3
98H-172	385394.00	6015986.00	1	11	2.5	6	0.6	4	228	114	0.25	2.5	3	6.32	0.070	0.26	0.01	0.24	0.05	2	1	63.1	-2.0	14.8
98H-173	387942.00	6015283.00	1	8	2.5	7	0.2	6	234	62	0.25	2.5	9	4.08	0.063	0.22	0.01	0.32	0.05	2	1	82.0	-1.5	11.8
98H-174	394375.00	6012910.00	1	6	13.0	68	0.2	8	125	40	0.60	2.5	11	0.91	0.139	0.19	0.04	0.71	0.26	4	1	124.3	5.7	15.7
98H-175	391283.00	6014472.00	1	21	26.0	65	0.2	20	729	82	0.60	6.0	37	2.29	0.120	0.44	0.12	2.36	0.79	11	1	116.7	-1.6	21.2
98H-176	390369.00	6014784.00	1	7	103.0	151	0.2	11	2824	57	0.90	2.5	17	1.61	0.166	0.25	0.06	1.14	0.49	4	1	150.2	-1.7	31.3
98H-177	321735.97	6041833.00	1	5	19.0	34	0.2	10	88	36	0.25	2.5	15	1.04	0.088	0.15	0.04	0.84	0.29	5	1	199.4	8.1	13.5
98H-178	323967.94	6041833.00	1	4	2.5	12	0.2	4	28	46	0.25	2.5	8	2.51	0.062	0.18	0.03	0.53	0.12	4	1	89.9	-0.4	10.6
98H-179	325351.94	6042469.00	1	22	9.0	35	0.2	20	501	85	0.25	2.5	36	5.18	0.137	0.53	0.11	2.77	0.66	23	3	94.9	-2.1	36.3
98H-180	324945.91	6041004.00	1	10	17.0	29	0.2	7	124	74	0.90	2.5	15	2.24	0.056	0.24	0.07	1.55	0.51	5	1	114.8	0.3	10.8
98H-181	326531.88	6040989.00	1	13	10.0	17	0.2	10	288	115	0.25	2.5	22	5.41	0.072	0.40	0.09	2.19	0.72	10	1	71.8	-2.1	22.7
98H-182	329630.81	6040599.00	1	11	2.5	14	0.2	9	181	95	0.25	2.5	17	5.50	0.073	0.52	0.07	1.64	0.55	7	1	59.0	-2.1	17.0
98H-183	331282.75	6039439.00	1	10	8.0	32	0.2	9	233	84	0.50	2.5	18	5.24	0.089	0.46	0.07	1.62	0.58	6	1	104.0	-2.1	31.9
98H-184	326621.81	6038449.00	1	8	19.0	30	0.2	5	116	55	0.60	2.5	11	4.56	0.080	0.26	0.04	0.82	0.28	4	1	114.5	-2.0	32.5
98H-185-1 Field Duplicate	328134.84	6041330.00	1	11	21.0	106	0.4	7	671	54	0.50	2.5	15	2.48	0.064	0.29	0.06	1.16	0.36	4	1	152.4	-1.7	13.3
98H-185-2 Field Duplicate	328134.84	6041330.00	1	11	16.0	40	0.2	11	246	63	0.25	2.5	25	3.44	0.055	0.40	0.08	1.72	0.47	8	2	128.2	-1.9	15.9
98H-187	336615.72	6041557.00	3	6	12.0	23	0.2	8	474	49	0.25	2.5	13	2.53	0.113	0.25	0.04	0.85	0.30	4	1	152.1	-1.4	28.1
98H-188	354237.25	6039244.50	1	13	26.0	20	0.2	9	280	46	1.20	2.5	16	2.54	0.099	0.25	0.05	1.03	0.32	16	1	136.8	-1.3	17.6
98H-189	350083.38	6040090.00	1	9	17.0	13	0.2	9	46	39	0.25	2.5	14	0.85	0.063	0.15	0.05	0.83	0.25	4	1	148.7	35.1	2.3
98H-190	346618.44	6039718.00	1	6	7.0	31	0.2	4	43	26	0.80	2.5	7	1.32	0.081	0.11	0.02	0.39	0.13	2	1	155.2	7.0	11.5
98H-191	348726.41	6040743.00	1	9	5.0	16	0.2	5	363	75	0.25	2.5	8	5.82	0.087	0.20	0.02	0.41	0.09	2	1	119.7	-1.7	13.4
98H-192	347772.47	6041683.00	1	14	6.0	12	0.2	6	305	65	0.25	2.5	14	6.01	0.062	0.27	0.02	0.54	0.12	4	1	75.5	-2.0	15.5

Element	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	Hg	H^+	K
Units	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	ppb	ppb	mhos cm^{-1}
98H-193	345860.50	6041687.00	1	3	5.0	31	0.2	4	205	57	0.25	2.5	7	5.14	0.067	0.24	0.02	0.35	0.07	2	1	78.8	-2.0	20.0
98H-194	355771.22	6040295.50	1	5	21.0	9	0.2	6	143	44	0.25	2.5	11	3.37	0.062	0.32	0.04	0.76	0.23	4	1	94.9	-2.0	22.6
98H-195	354102.22	6038317.50	1	12	6.0	10	0.2	6	147	58	0.25	2.5	16	5.66	0.106	0.26	0.03	0.69	0.16	6	1	69.7	-2.0	18.6
98H-196	344776.50	6040524.00	1	8	14.0	17	0.2	8	257	102	0.25	2.5	17	5.47	0.063	0.41	0.07	1.67	0.55	6	1	60.9	-2.1	16.2
98H-197	344483.53	6041202.00	1	9	13.0	6	0.2	5	28	56	0.25	2.5	9	6.17	0.073	0.26	0.02	0.46	0.08	4	1	60.9	-2.1	17.6
98H-198	343762.53	6040329.00	1	16	23.0	12	0.2	13	117	31	0.25	2.5	26	1.07	0.088	0.38	0.07	0.95	0.17	4	2	154.5	32.6	3.5
98H-199	343462.50	6039483.00	1	14	12.0	12	0.2	13	54	62	0.25	2.5	20	4.49	0.121	0.35	0.05	1.40	0.32	16	1	139.1	-2.0	19.8
98H-200	341465.56	6040134.00	1	11	67.0	16	0.2	12	273	78	0.25	2.5	22	4.00	0.106	0.42	0.05	1.21	0.35	12	2	99.6	-2.0	21.6
98H-201	347331.41	6039448.00	1	11	11.0	14	0.2	6	87	66	0.25	2.5	9	4.98	0.079	0.28	0.01	0.33	0.06	4	1	71.6	-2.0	15.6
98H-202	345340.41	6037467.00	1	10	2.5	9	0.2	5	108	33	0.25	2.5	7	2.53	0.049	0.16	0.02	0.54	0.10	4	1	89.8	-2.1	20.1
98H-203	347767.38	6038337.00	1	21	9.0	46	0.2	18	81	75	0.25	2.5	32	2.86	0.088	0.48	0.11	2.49	0.61	11	1	132.4	-1.5	11.4
98H-204	349428.38	6039387.00	1	16	9.0	14	0.2	9	299	78	0.25	2.5	19	4.39	0.076	0.38	0.08	1.87	0.56	12	1	100.9	-2.1	14.7
98H-205	337801.72	6042848.00	2	8	10.0	9	0.2	4	49	57	0.25	2.5	9	2.90	0.051	0.25	0.06	1.13	0.37	5	1	107.2	-1.3	11.6
98H-206	338357.66	6040821.00	1	7	8.0	15	0.2	5	272	64	0.25	2.5	11	5.14	0.082	0.30	0.05	1.03	0.35	5	1	87.9	-2.0	16.8
98H-207	340633.63	6041136.00	1	24	8.0	48	0.2	19	217	88	0.25	2.5	34	3.37	0.115	0.51	0.13	2.70	0.73	10	1	72.8	-2.0	15.2
98H-208-1 Field Duplicate	339675.63	6041192.00	1	19	6.0	19	0.2	11	155	70	0.25	2.5	18	4.79	0.083	0.30	0.07	1.45	0.41	11	1	97.1	-2.0	7.2
98H-208-2 Field Duplicate	339675.63	6041192.00	1	8	2.5	4	0.2	4	84	59	0.25	2.5	4	6.53	0.073	0.26	0.02	0.31	0.08	2	1	48.0	-2.1	14.1

Appendix 2

Humus Geochemistry: Duplicate Pair ICP-AES, Hydrogen Ion (H^+), Specific Conductance (K) and Hg (FIMS) Analyses.

Element	UTM		Mo	Cu	Pb	Zn	Ag	Ni	Mn	Sr	Cd	Bi	V	Ca	P	Mg	Ti	Al	K	Y	Be	Hg	H^+	K
Units	Easting	Northing	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm	ppm	ppb	ppb	mhos cm^{-1}
98H-16-1 Field Duplicate	406208.50	6016505.50	1	23	12.0	24	0.2	11	59	69	0.25	2.5	6	0.54	0.029	0.11	0.04	0.56	0.16	2	1	94.4	47.1	-4.7
98H-16-2 Field Duplicate	406208.50	6016505.50	1	20	19.0	17	0.2	7	47	48	0.60	2.5	11	0.47	0.061	0.09	0.07	1.01	0.27	5	1	113.6	5.0	2.4
98H-36-1 Field Duplicate	371637.00	6030765.00	1	45	29.0	29	0.2	15	144	177	0.70	2.5	34	1.80	0.097	0.20	0.19	3.60	0.37	11	1	93.3	14.3	4.4
98H-36-2 Field Duplicate	371637.00	6030765.00	1	17	20.0	33	0.2	11	135	113	0.25	2.5	37	1.86	0.069	0.15	0.18	3.14	0.44	8	1	89.5	-0.7	2.7
98H-61-1 Field Duplicate	428648.00	6042511.00	1	11	17.0	20	0.2	7	54	41	0.70	2.5	12	1.27	0.076	0.17	0.05	1.02	0.26	5	1	95.8	4.7	15.7
98H-61-2 Field Duplicate	428648.00	6042511.00	1	8	13.0	27	0.2	7	90	75	0.25	2.5	19	1.20	0.071	0.19	0.09	1.65	0.52	5	1	66.1	9.0	14.2
98H-85-1 Field Duplicate	439153.13	6044766.50	1	7	11.0	24	0.2	4	182	112	0.25	2.5	16	0.84	0.047	0.12	0.12	2.03	0.59	4	1	136.7	3.0	2.3
98H-85-2 Field Duplicate	439153.13	6044766.50	1	3	5.0	19	0.2	2	145	30	0.25	2.5	8	0.62	0.059	0.08	0.03	0.53	0.17	2	1	213.5	7.5	2.1
98H-104-1 Field Duplicate	423848.47	6036518.50	1	16	14.0	51	0.2	16	939	84	0.50	2.5	34	3.64	0.074	0.47	0.13	2.66	0.81	18	1	120.7	-2.0	5.7
98H-104-2 Field Duplicate	423848.47	6036518.50	1	16	23.0	49	0.2	10	581	52	1.70	2.5	17	2.64	0.072	0.26	0.06	1.18	0.32	5	1	135.4	-1.9	4.0
98H-129-1 Field Duplicate	411318.28	6013772.50	1	12	15.0	21	0.2	6	50	59	0.60	2.5	14	1.33	0.077	0.18	0.07	1.31	0.36	5	1	118.3	4.8	7.2
98H-129-2 Field Duplicate	411318.28	6013772.50	1	13	28.0	22	0.2	11	226	57	0.25	5.0	24	2.78	0.096	0.30	0.08	1.82	0.49	8	1	131.2	-1.8	13.7
98H-150-1 Field Duplicate	400497.00	6013199.00	1	15	7.0	16	0.2	10	533	72	0.25	2.5	18	4.45	0.035	0.37	0.06	1.55	0.36	8	1	134.2	-2.0	18.7
98H-150-2 Field Duplicate	400497.00	6013199.00	1	18	8.0	16	0.2	12	625	78	0.25	2.5	23	4.75	0.026	0.40	0.08	1.82	0.40	8	1	99.7	-2.0	8.2
98H-168-1 Field Duplicate	389115.00	6015922.00	7	14	2.5	52	0.2	7	725	53	0.25	2.5	8	5.23	0.069	0.23	0.02	0.56	0.10	5	1	130.4	-2.0	20.8
98H-168-2 Field Duplicate	389115.00	6015922.00	1	2	9.0	35	0.2	5	43	23	0.60	2.5	5	0.24	0.074	0.06	0.02	0.52	0.20	2	1	192.0	61.0	-0.5
98H-185-1 Field Duplicate	328134.84	6041330.00	1	11	21.0	106	0.4	7	671	54	0.50	2.5	15	2.48	0.064	0.29	0.06	1.16	0.36	4	1	152.4	-1.7	13.3
98H-185-2 Field Duplicate	328134.84	6041330.00	1	11	16.0	40	0.2	11	246	63	0.25	2.5	25	3.44	0.055	0.40	0.08	1.72	0.47	8	2	128.2	-1.9	15.9
98H-208-1 Field Duplicate	339675.63	6041192.00	1	19	6.0	19	0.2	11	155	70	0.25	2.5	18	4.79	0.083	0.30	0.07	1.45	0.41	11	1	97.1	-2.0	7.2
98H-208-2 Field Duplicate	339675.63	6041192.00	1	8	2.5	4	0.2	4	84	59	0.25	2.5	4	6.53	0.073	0.26	0.02	0.31	0.08	2	1	48.0	-2.1	14.1

Appendix 3

Humus Geochemistry: ICP-AES, H^+, K and Hg Percentile Bubble Plots.

Cu	Pb	Zn	Ni	Mn
Sr	V	Ca	P	Mg
Ti	Al	K	Y	
K- specific conductance	Hydrogen Ion – H^+		Hg	

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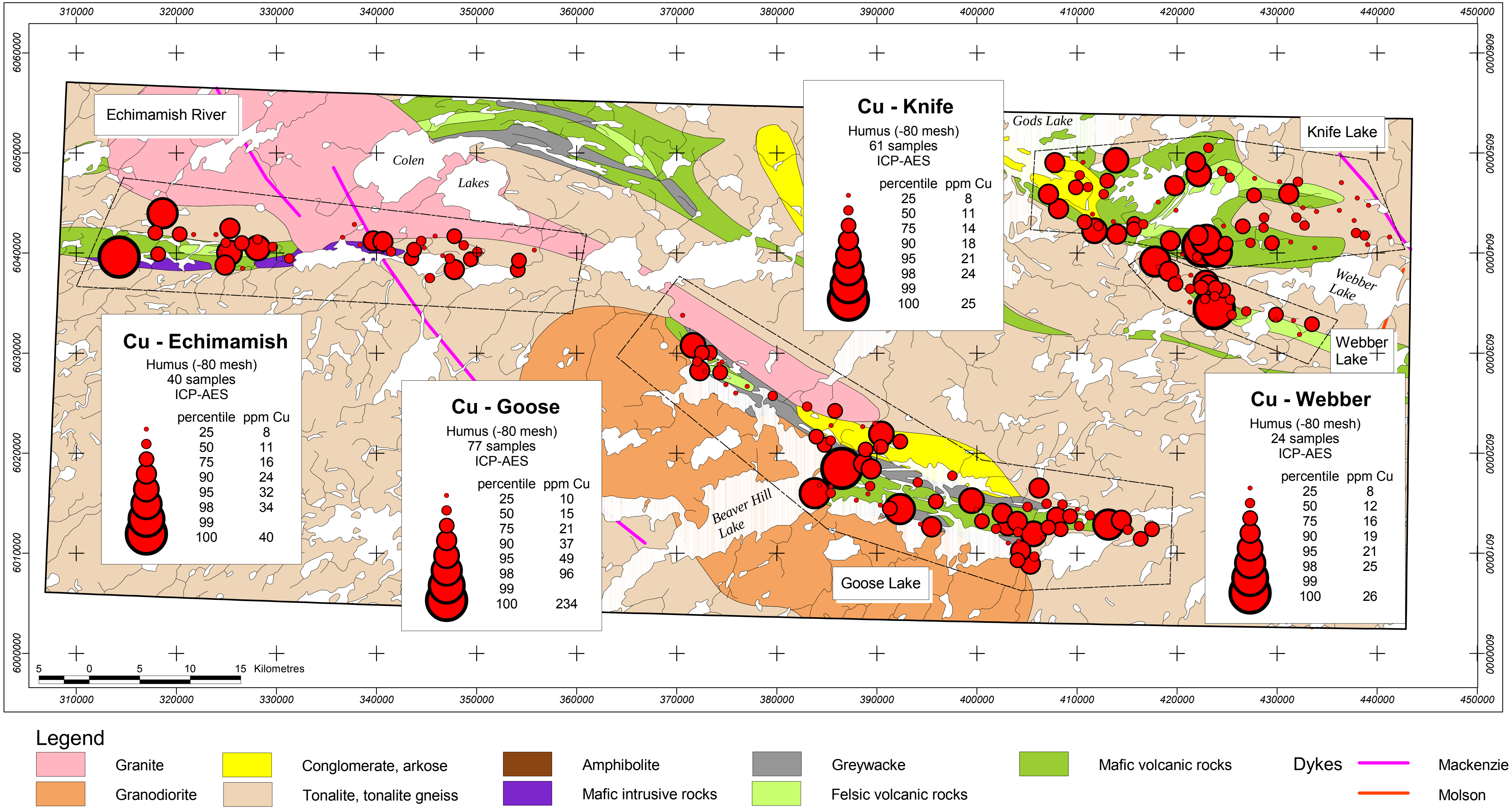
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6000000
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cu - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile ppm Cu
25 8
50 11
75 14
90 18
95 21
98 24
99
100 25
Cu - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm Cu
25 8
50 11
75 16
90 24
95 32
98 34
99
100 40
Cu - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile ppm Cu
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50 15
75 21
90 37
95 49
98 96
99
100 234
Cu - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm Cu
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50 12
75 16
90 19
95 21
98 25
99
100 26
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Legend
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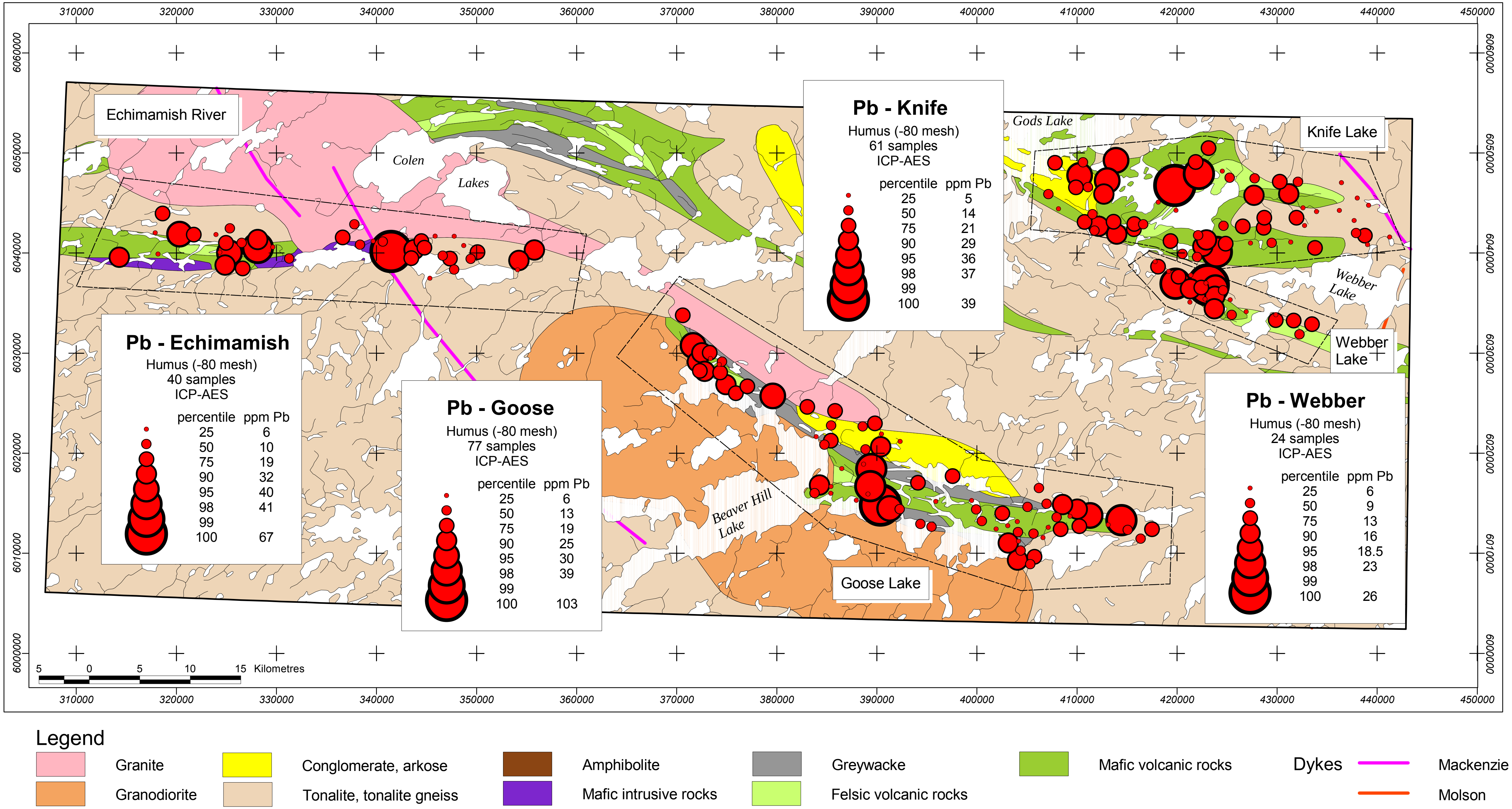
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Pb - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile ppm Pb
25 5
50 14
75 21
90 29
95 36
98 37
99
100 39
Pb - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm Pb
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75 19
90 32
95 40
98 41
99
100 67
Pb - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile ppm Pb
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50 13
75 19
90 25
95 30
98 39
99
100 103
Pb - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm Pb
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50 9
75 13
90 16
95 18.5
98 23
99
100 26
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Legend
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Granodiorite
Conglomerate, arkose
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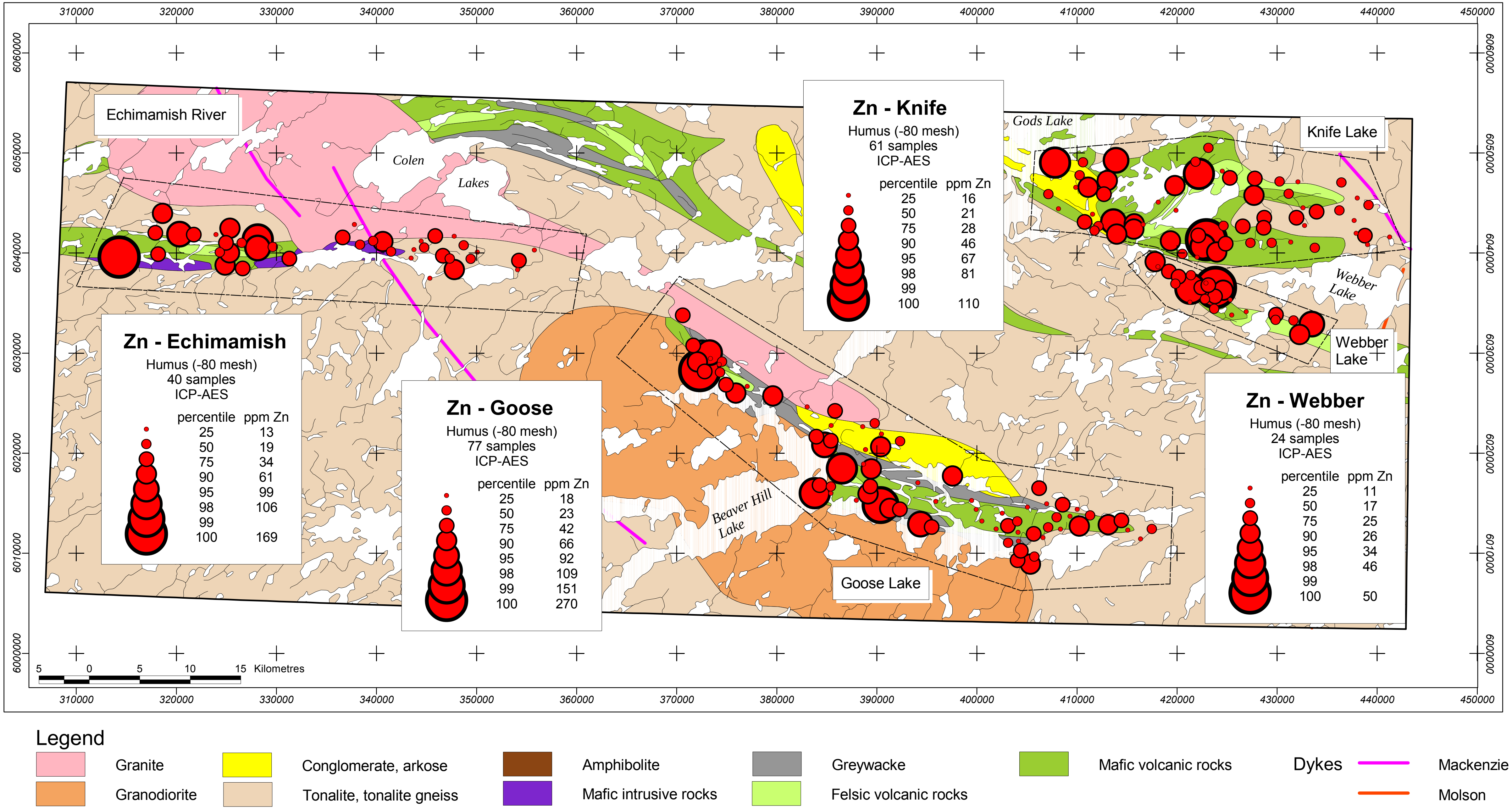
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm Zn
25 13
50 19
75 34
90 61
95 99
98 106
99
100 169
Zn - Goose
Humus (-80 mesh)
77 samples
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percentile ppm Zn
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Zn - Knife
Humus (-80 mesh)
61 samples
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percentile ppm Zn
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100 110
Zn - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm Zn
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75 25
90 26
95 34
98 46
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5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
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Dykes
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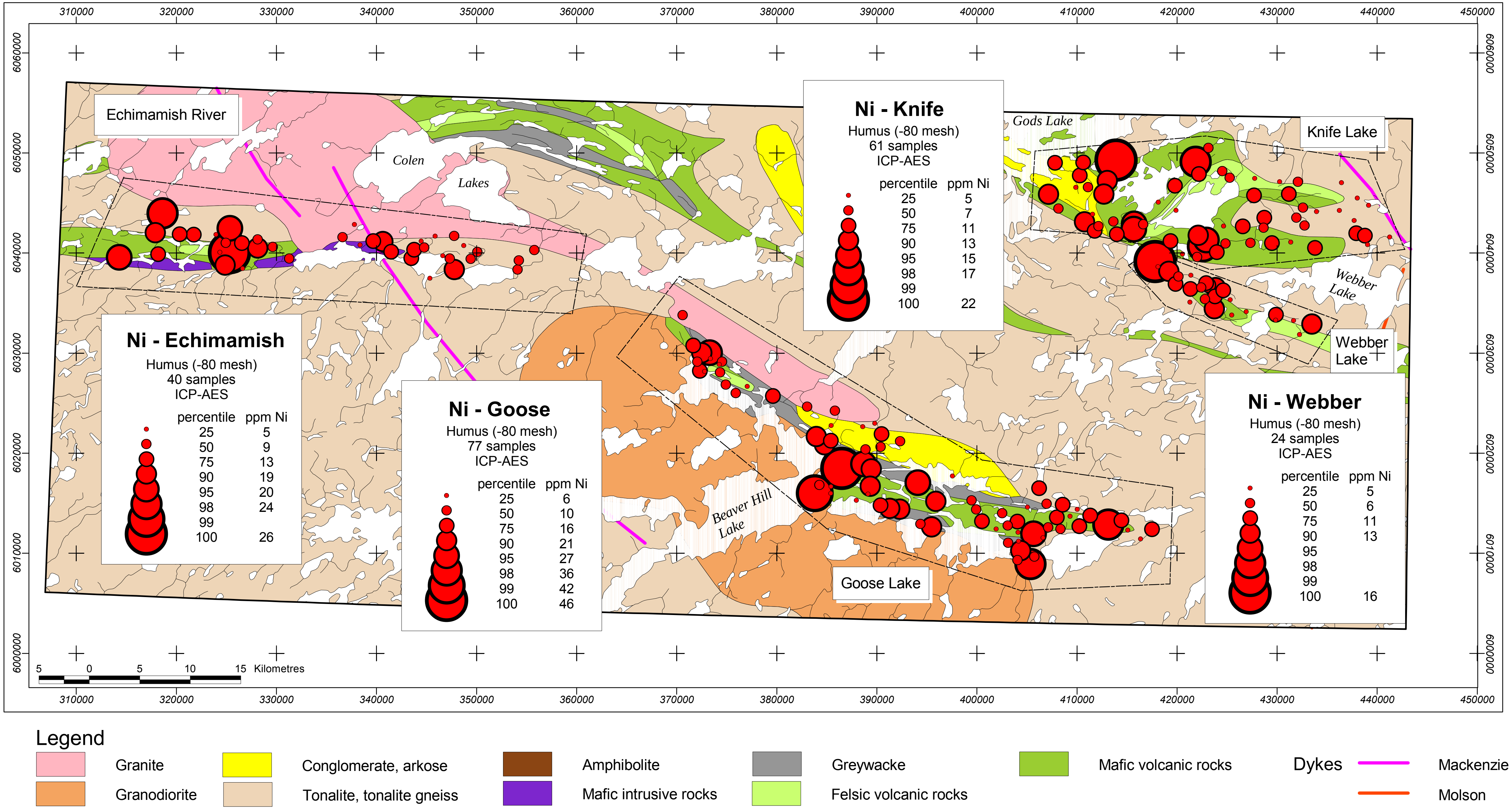
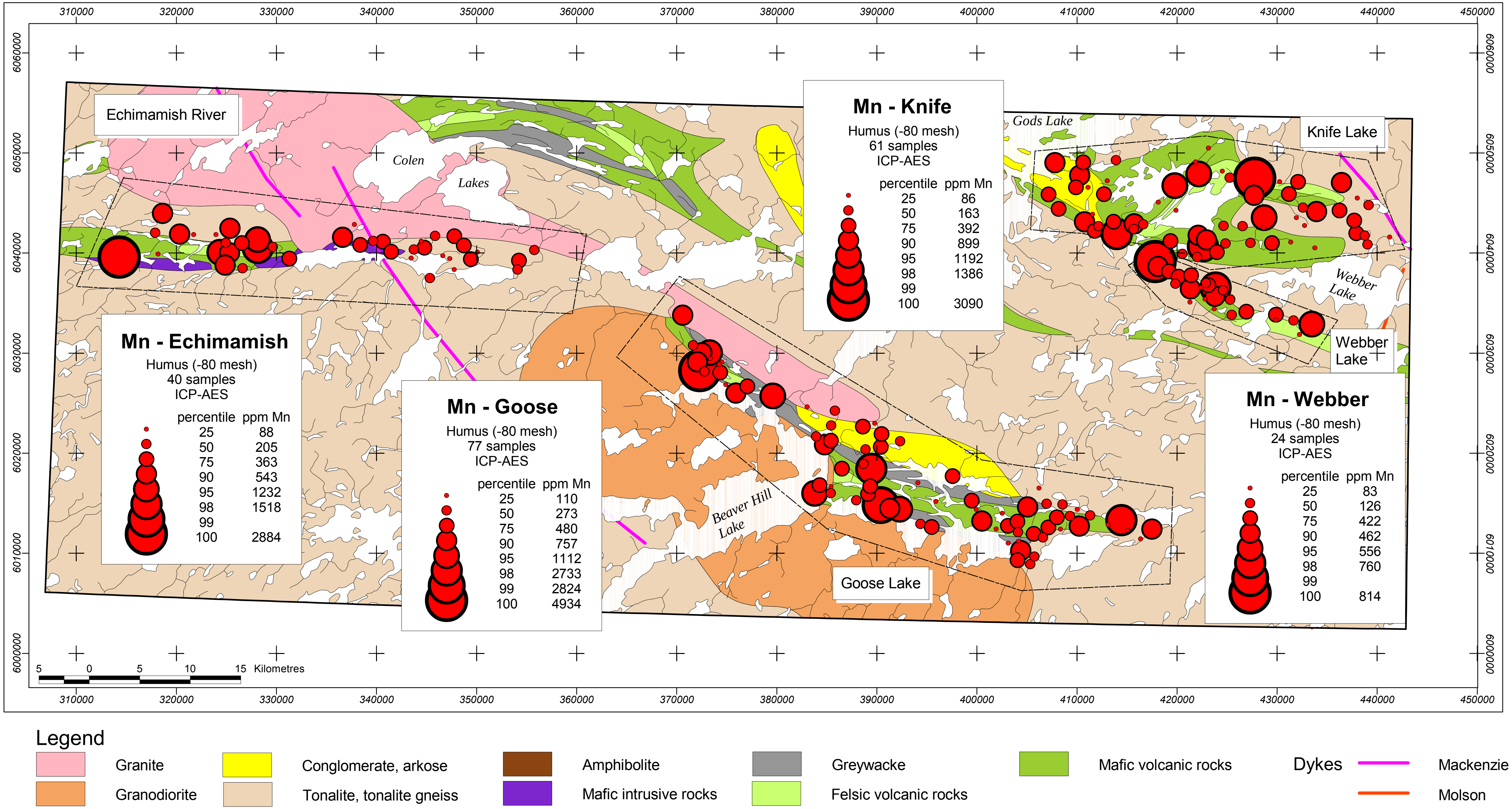
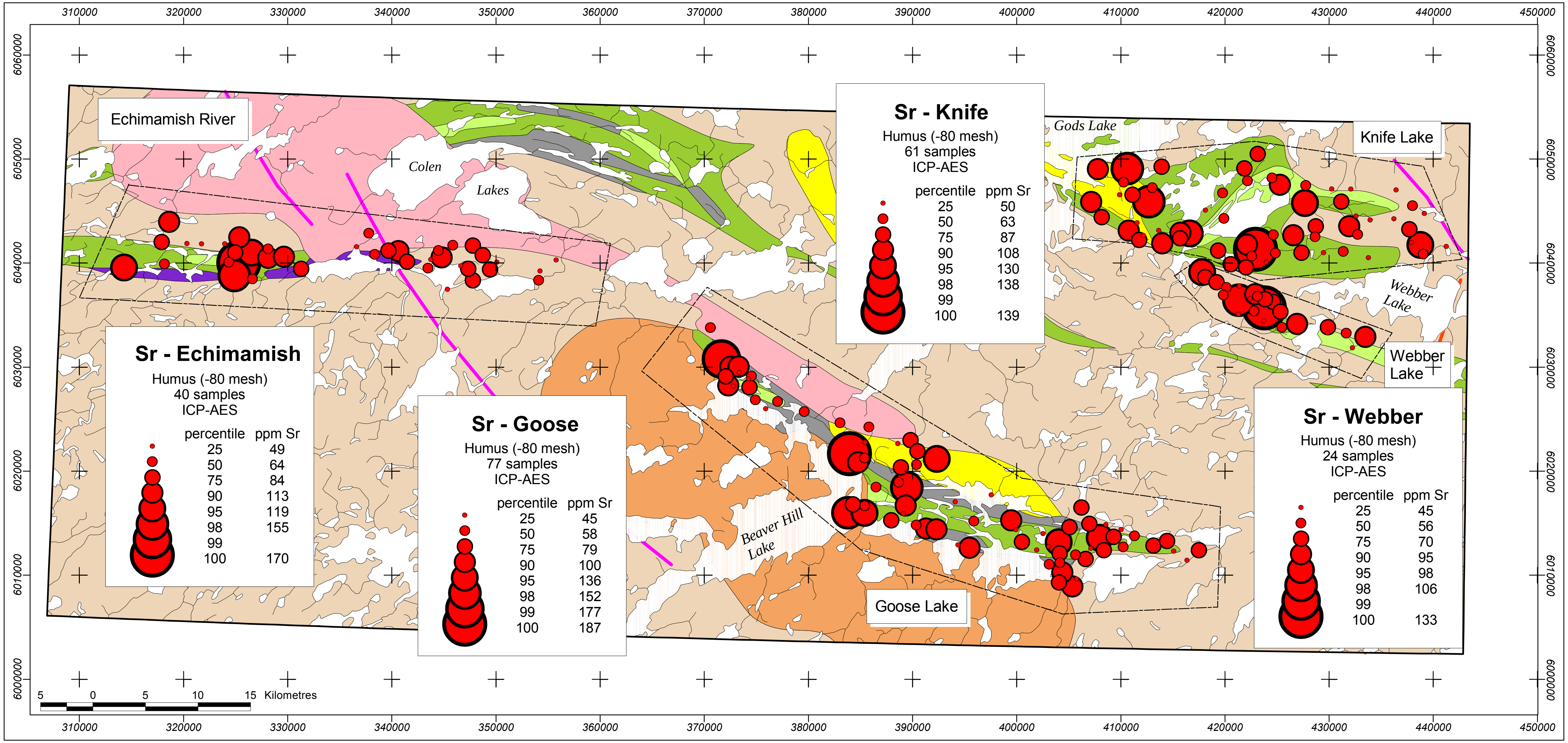


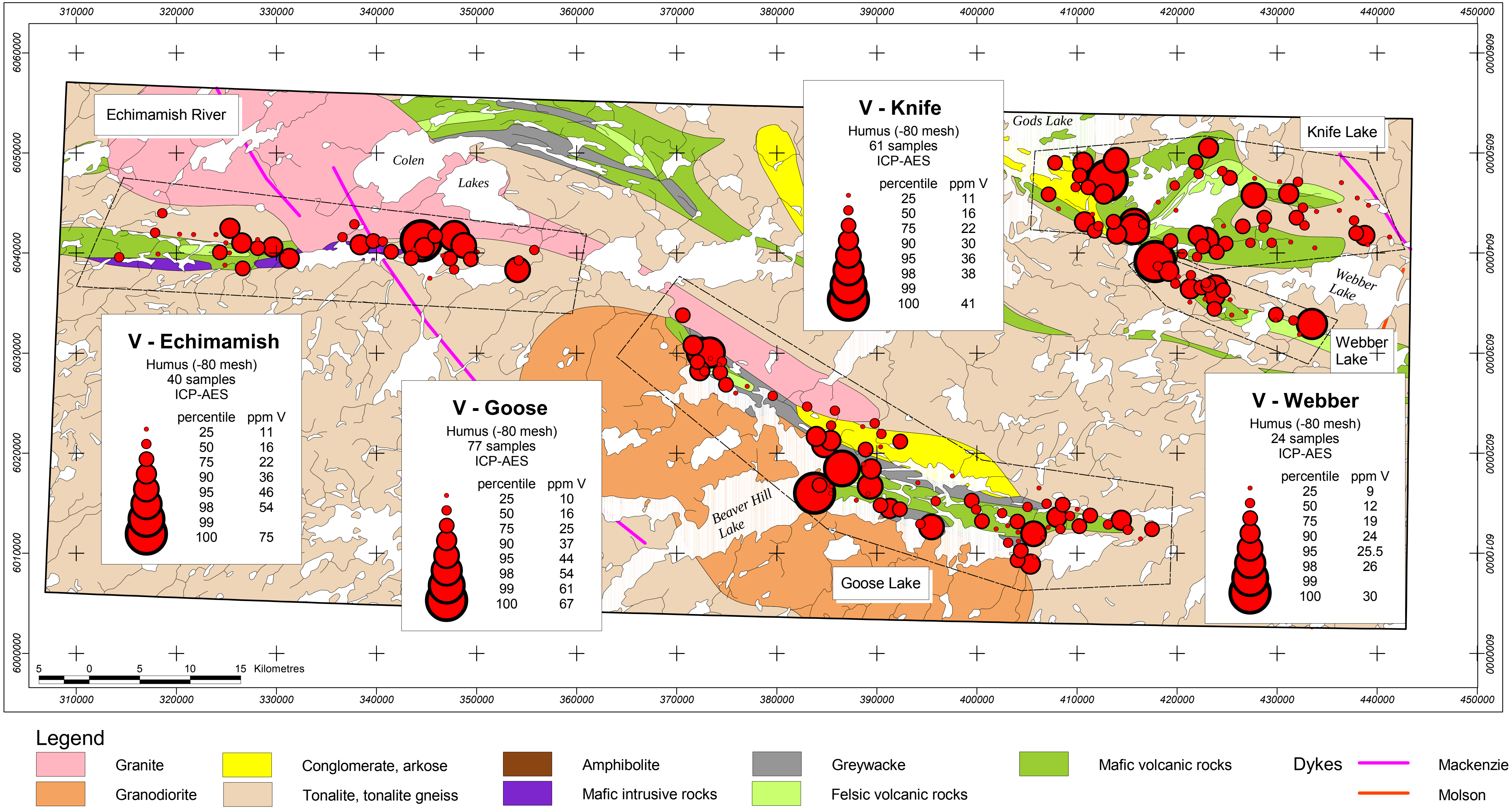
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile ppm Ni
25 5
50 7
75 11
90 13
95 15
98 17
99
100 22
Ni - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm Ni
25 5
50 9
75 13
90 19
95 20
98 24
99
100 26
Ni - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile ppm Ni
25 6
50 10
75 16
90 21
95 27
98 36
99 42
100 46
Ni - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm Ni
25 5
50 6
75 11
90 13
95
98
99
100 16
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mn - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile ppm Mn
25 86
50 163
75 392
90 899
95 1192
98 1386
99
100 3090
Mn - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm Mn
25 88
50 205
75 363
90 543
95 1232
98 1518
99
100 2884
Mn - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile ppm Mn
25 110
50 273
75 480
90 757
95 1112
98 2733
99 2824
100 4934
Mn - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm Mn
25 83
50 126
75 422
90 462
95 556
98 760
99
100 814
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

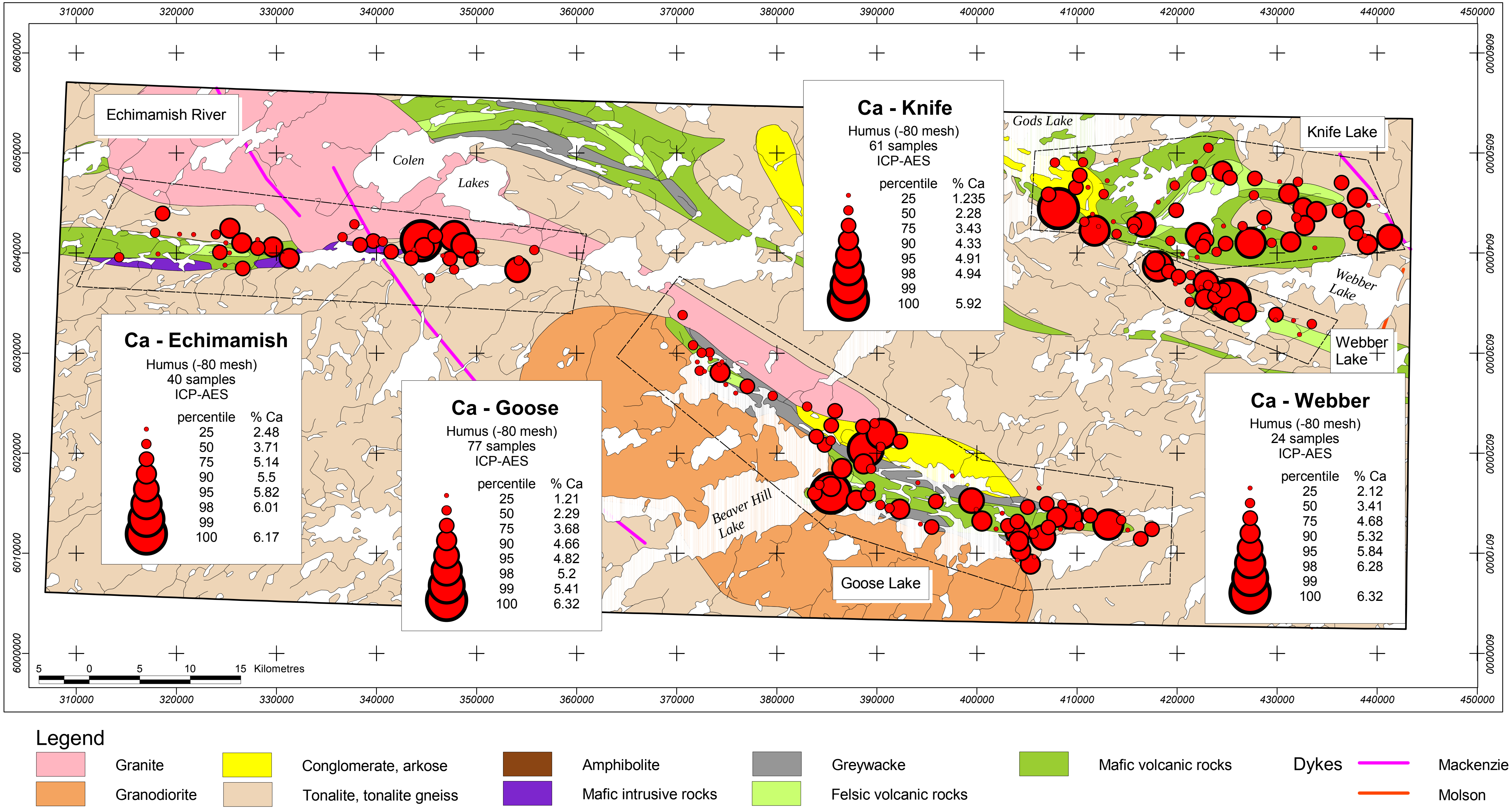


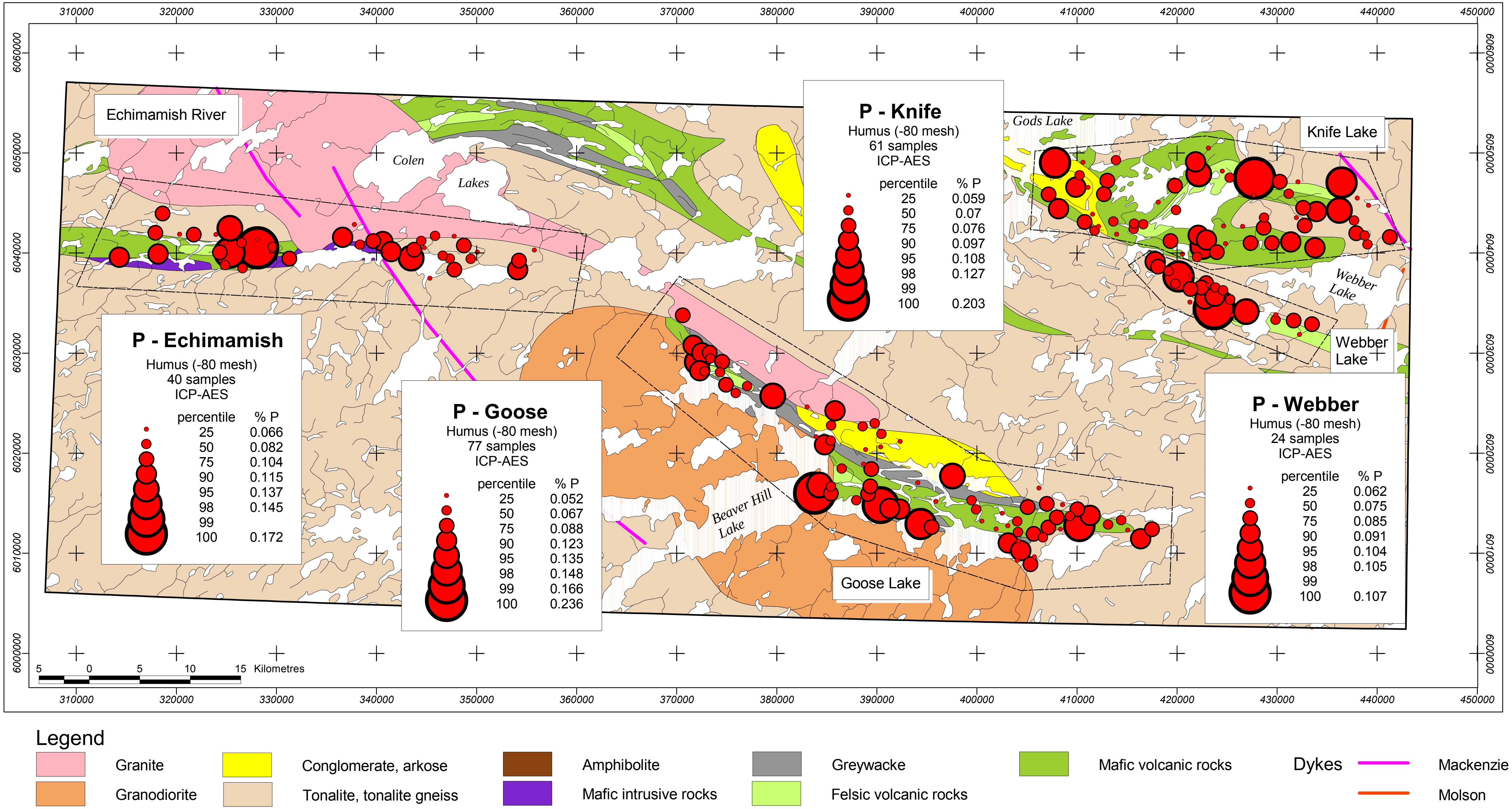
Legend

Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

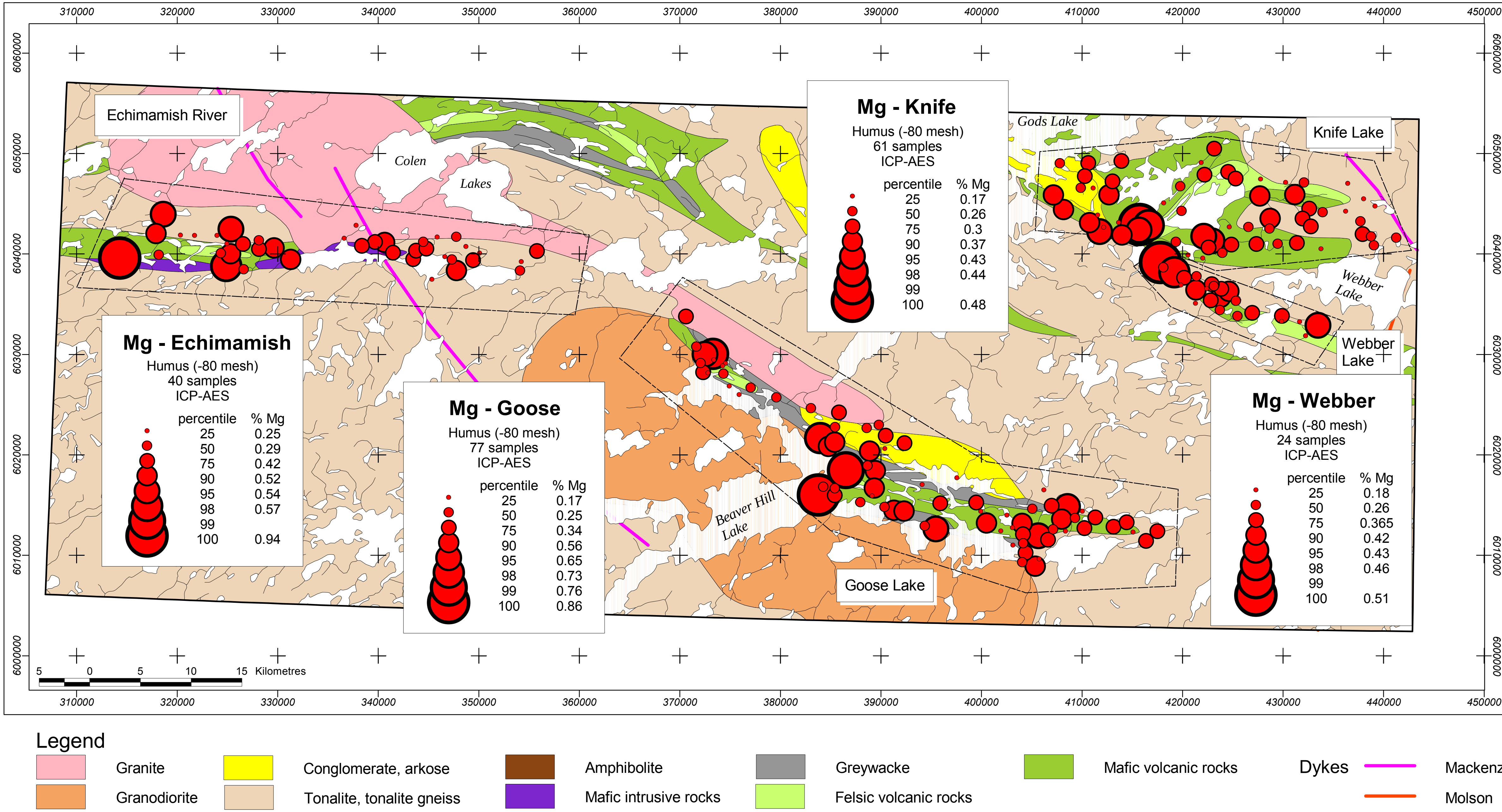


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
V - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm V
25 11
50 16
75 22
90 36
95 46
98 54
99
100 75
V - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile ppm V
25 10
50 16
75 25
90 37
95 44
98 54
99 61
100 67
V - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile ppm V
25 11
50 16
75 22
90 30
95 36
98 38
99
100 41
V - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm V
25 9
50 12
75 19
90 24
95 25.5
98 26
99
100 30
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

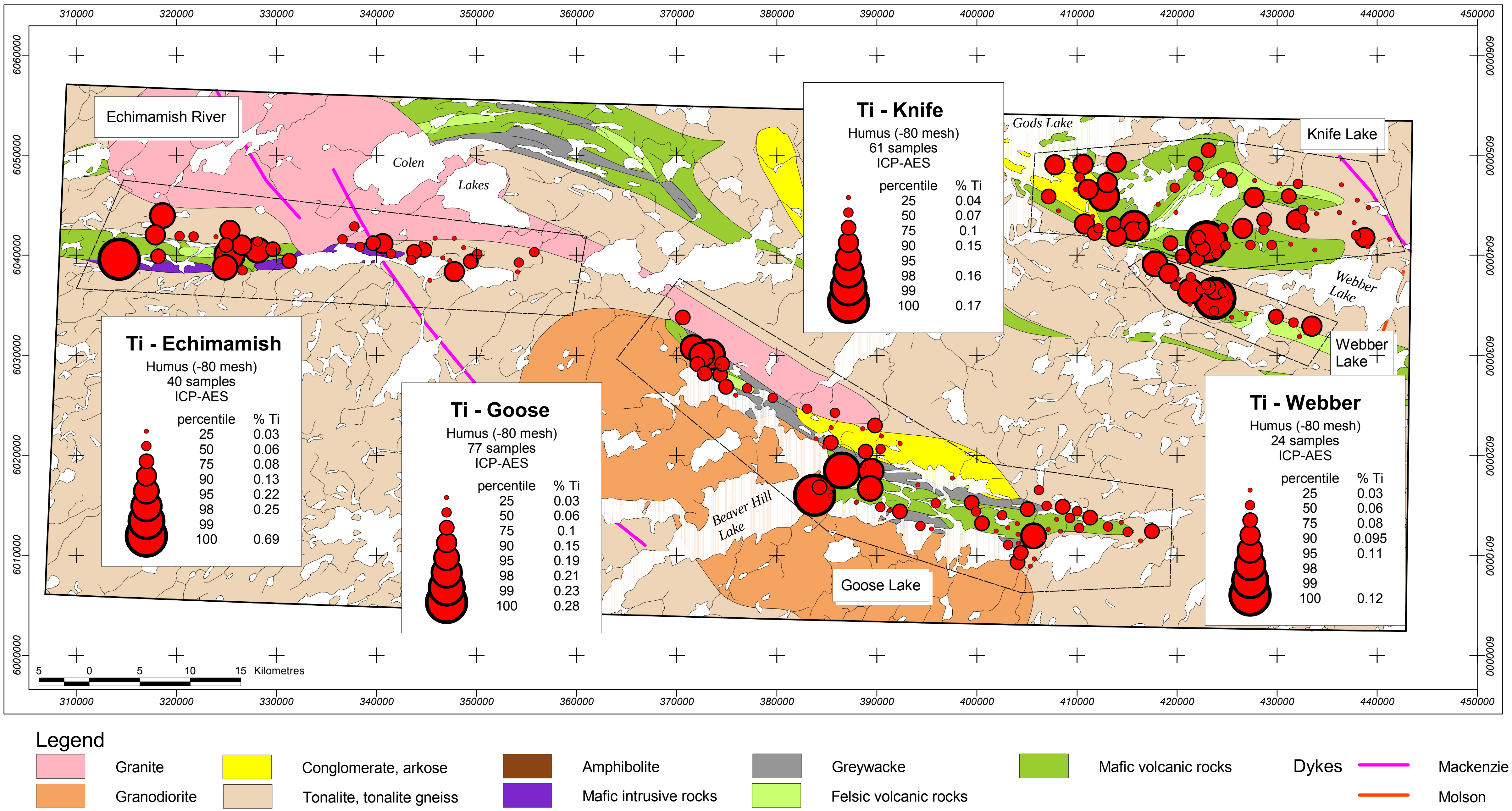

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile % Ca
25 2.48
50 3.71
75 5.14
90 5.5
95 5.82
98 6.01
99
100 6.17
Ca - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile % Ca
25 1.21
50 2.29
75 3.68
90 4.66
95 4.82
98 5.2
99 5.41
100 6.32
Ca - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile % Ca
25 1.235
50 2.28
75 3.43
90 4.33
95 4.91
98 4.94
99
100 5.92
Ca - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile % Ca
25 2.12
50 3.41
75 4.68
90 5.32
95 5.84
98 6.28
99
100 6.32
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



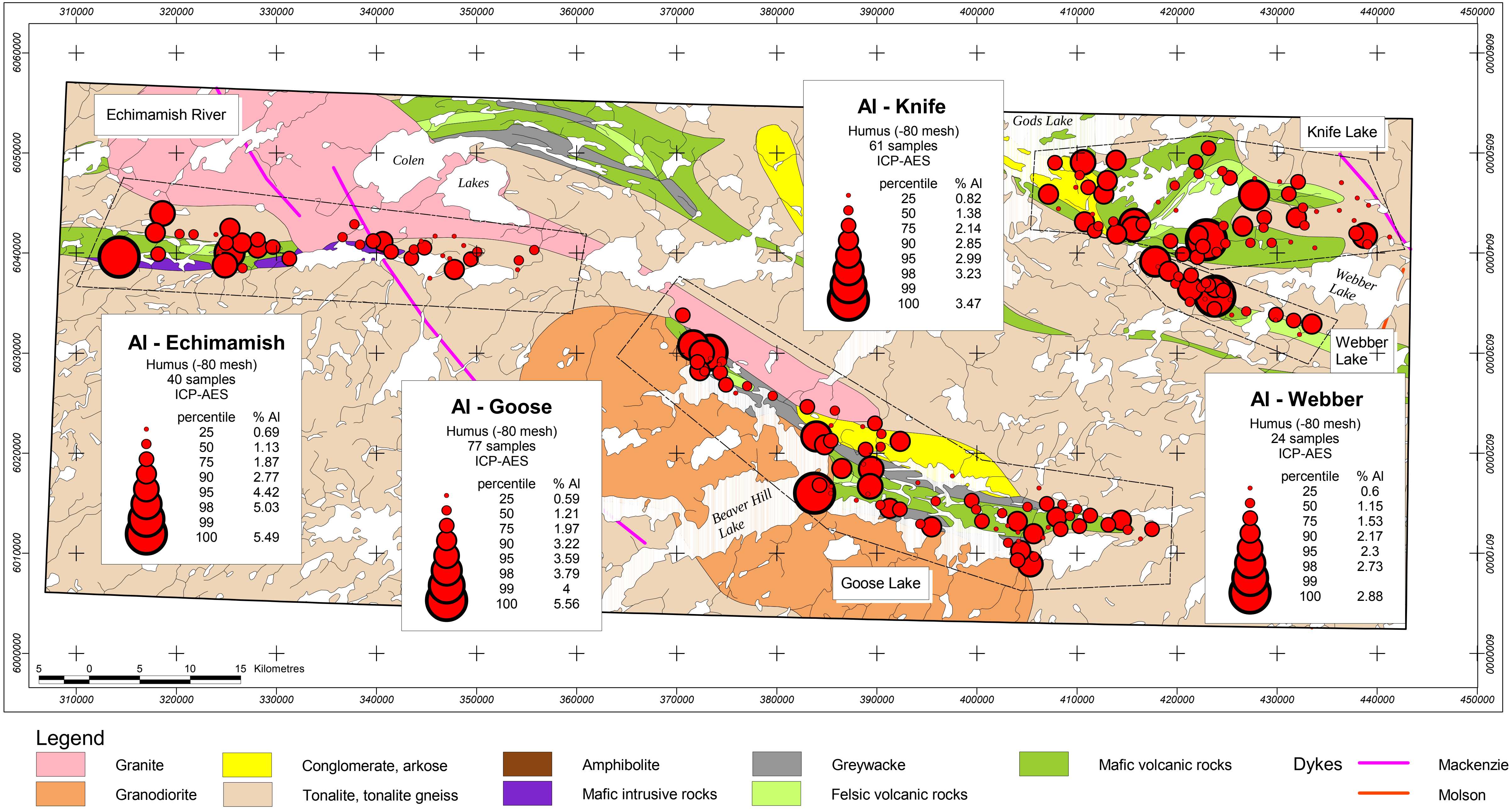
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
P - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile % P
25 0.066
50 0.082
75 0.104
90 0.115
95 0.137
98 0.145
99
100 0.172
P - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile % P
25 0.052
50 0.067
75 0.088
90 0.123
95 0.135
98 0.148
99 0.166
100 0.236
P - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile % P
25 0.059
50 0.07
75 0.076
90 0.097
95 0.108
98 0.127
99
100 0.203
P - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile % P
25 0.062
50 0.075
75 0.085
90 0.091
95 0.104
98 0.105
99
100 0.107
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

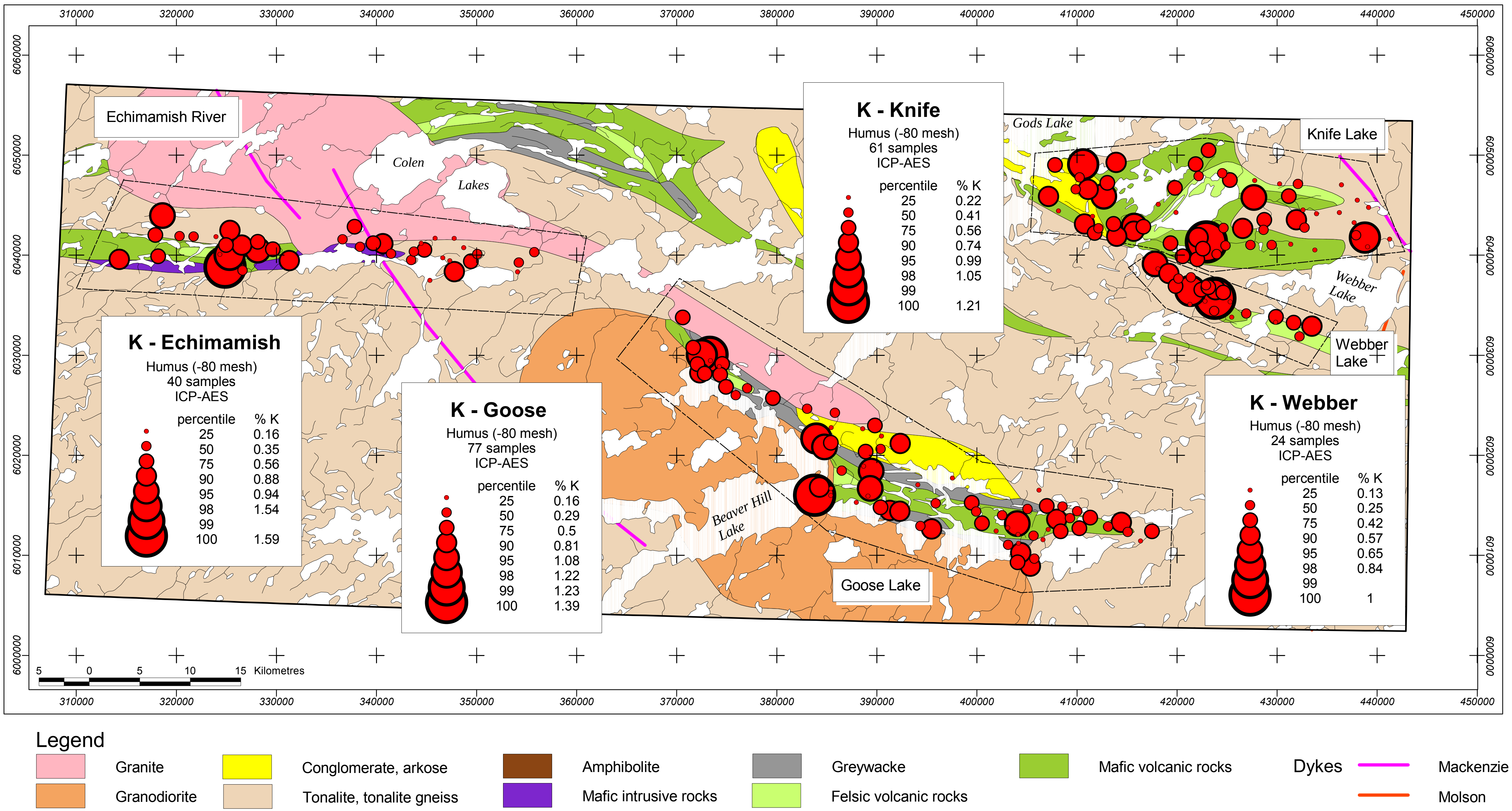


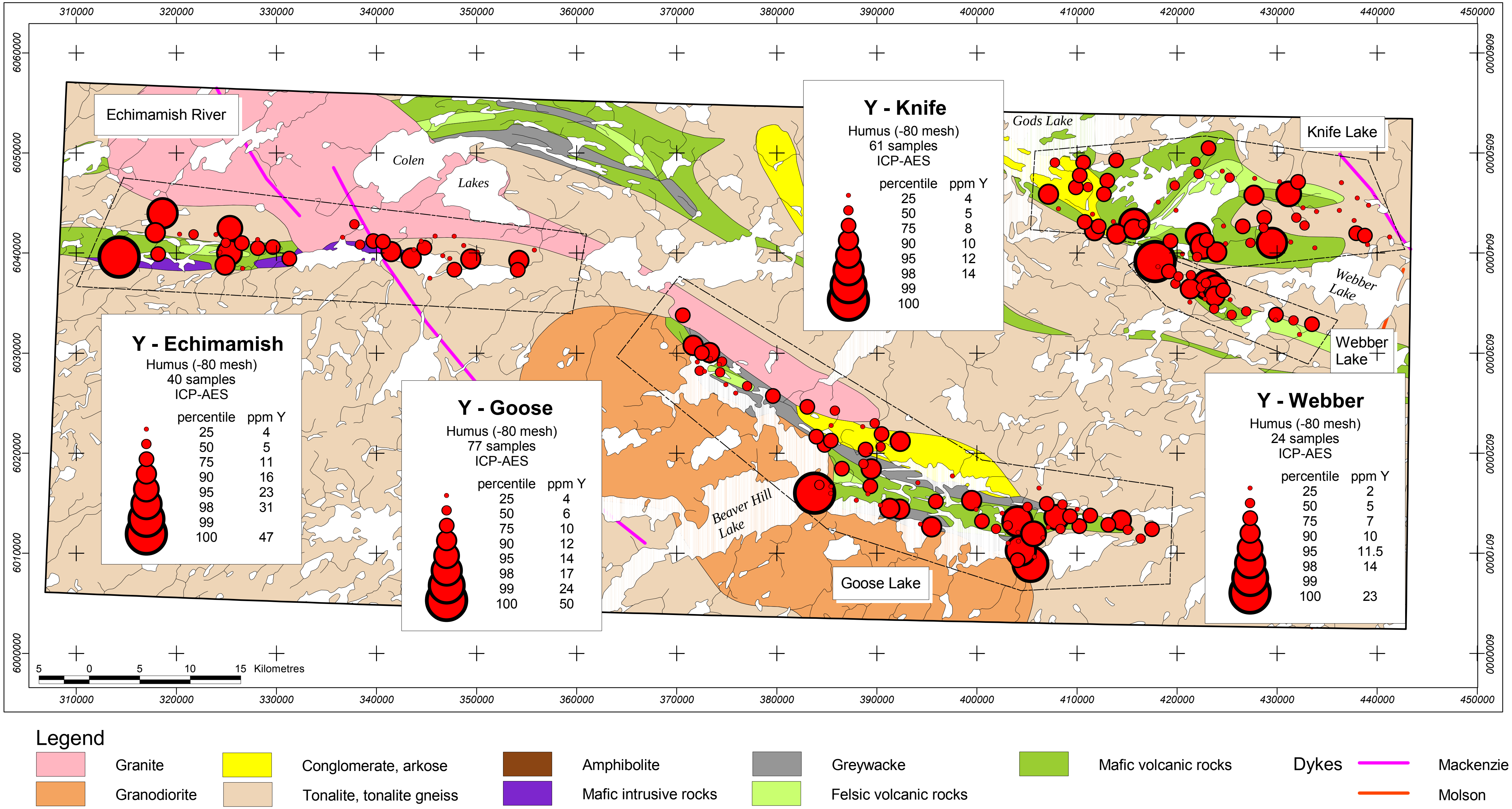
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mg - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile % Mg
25 0.17
50 0.26
75 0.3
90 0.37
95 0.43
98 0.44
99
100 0.48
Mg - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile % Mg
25 0.25
50 0.29
75 0.42
90 0.52
95 0.54
98 0.57
99
100 0.94
Mg - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile % Mg
25 0.17
50 0.25
75 0.34
90 0.56
95 0.65
98 0.73
99 0.76
100 0.86
Mg - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile % Mg
25 0.18
50 0.26
75 0.365
90 0.42
95 0.43
98 0.46
99
100 0.51
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



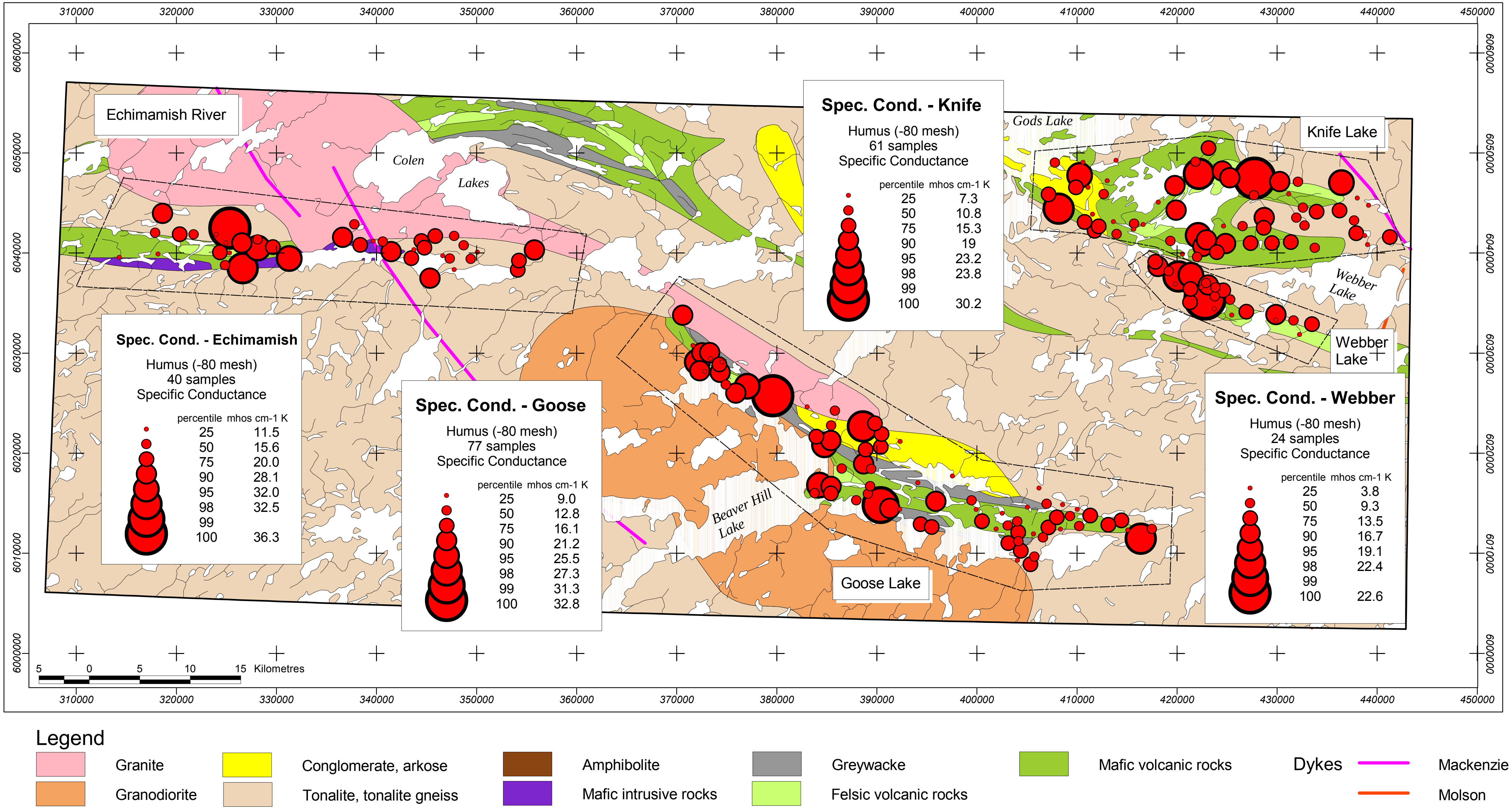
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ti - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile % Ti
25 0.04
50 0.07
75 0.1
90 0.15
95
98 0.16
99
100 0.17
Ti - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile % Ti
25 0.03
50 0.06
75 0.08
90 0.13
95 0.22
98 0.25
99
100 0.69
Ti - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile % Ti
25 0.03
50 0.06
75 0.1
90 0.15
95 0.19
98 0.21
99 0.23
100 0.28
Ti - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile % Ti
25 0.03
50 0.06
75 0.08
90 0.095
95 0.11
98
99
100 0.12
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Al - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile % Al
25 0.69
50 1.13
75 1.87
90 2.77
95 4.42
98 5.03
99
100 5.49
Al - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile % Al
25 0.59
50 1.21
75 1.97
90 3.22
95 3.59
98 3.79
99 4
100 5.56
Al - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile % Al
25 0.82
50 1.38
75 2.14
90 2.85
95 2.99
98 3.23
99
100 3.47
Al - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile % Al
25 0.6
50 1.15
75 1.53
90 2.17
95 2.3
98 2.73
99
100 2.88
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
K - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile % K
25 0.22
50 0.41
75 0.56
90 0.74
95 0.99
98 1.05
99
100 1.21
K - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile % K
25 0.16
50 0.35
75 0.56
90 0.88
95 0.94
98 1.54
99
100 1.59
K - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile % K
25 0.16
50 0.29
75 0.5
90 0.81
95 1.08
98 1.22
99 1.23
100 1.39
K - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile % K
25 0.13
50 0.25
75 0.42
90 0.57
95 0.65
98 0.84
99
100 1
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Y - Knife
Humus (-80 mesh)
61 samples
ICP-AES
percentile ppm Y
25 4
50 5
75 8
90 10
95 12
98 14
99
100
Y - Echimamish
Humus (-80 mesh)
40 samples
ICP-AES
percentile ppm Y
25 4
50 5
75 11
90 16
95 23
98 31
99
100 47
Y - Goose
Humus (-80 mesh)
77 samples
ICP-AES
percentile ppm Y
25 4
50 6
75 10
90 12
95 14
98 17
99 24
100 50
Y - Webber
Humus (-80 mesh)
24 samples
ICP-AES
percentile ppm Y
25 2
50 5
75 7
90 10
95 11.5
98 14
99
100 23
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



310000
320000
330000
340000
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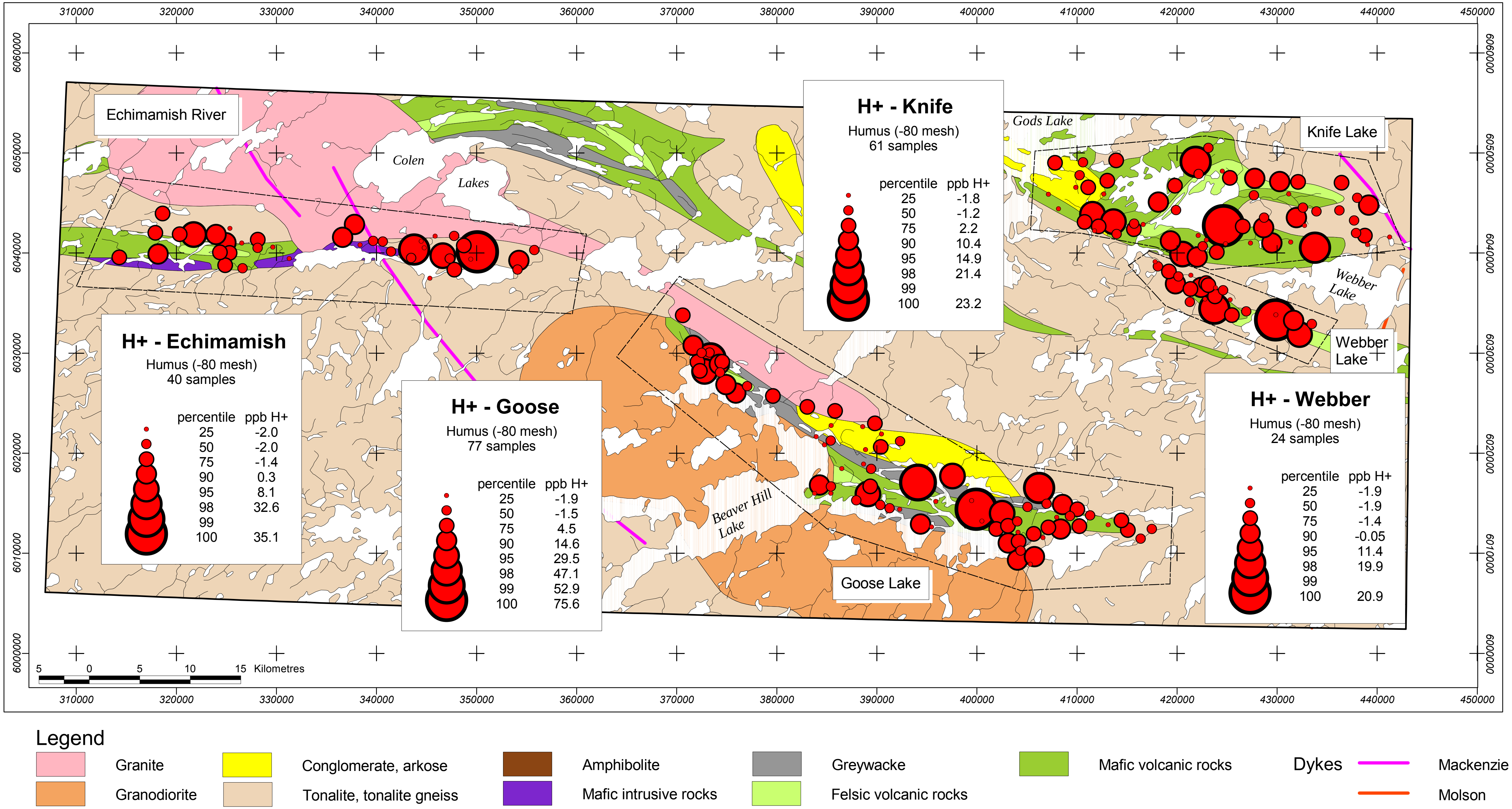
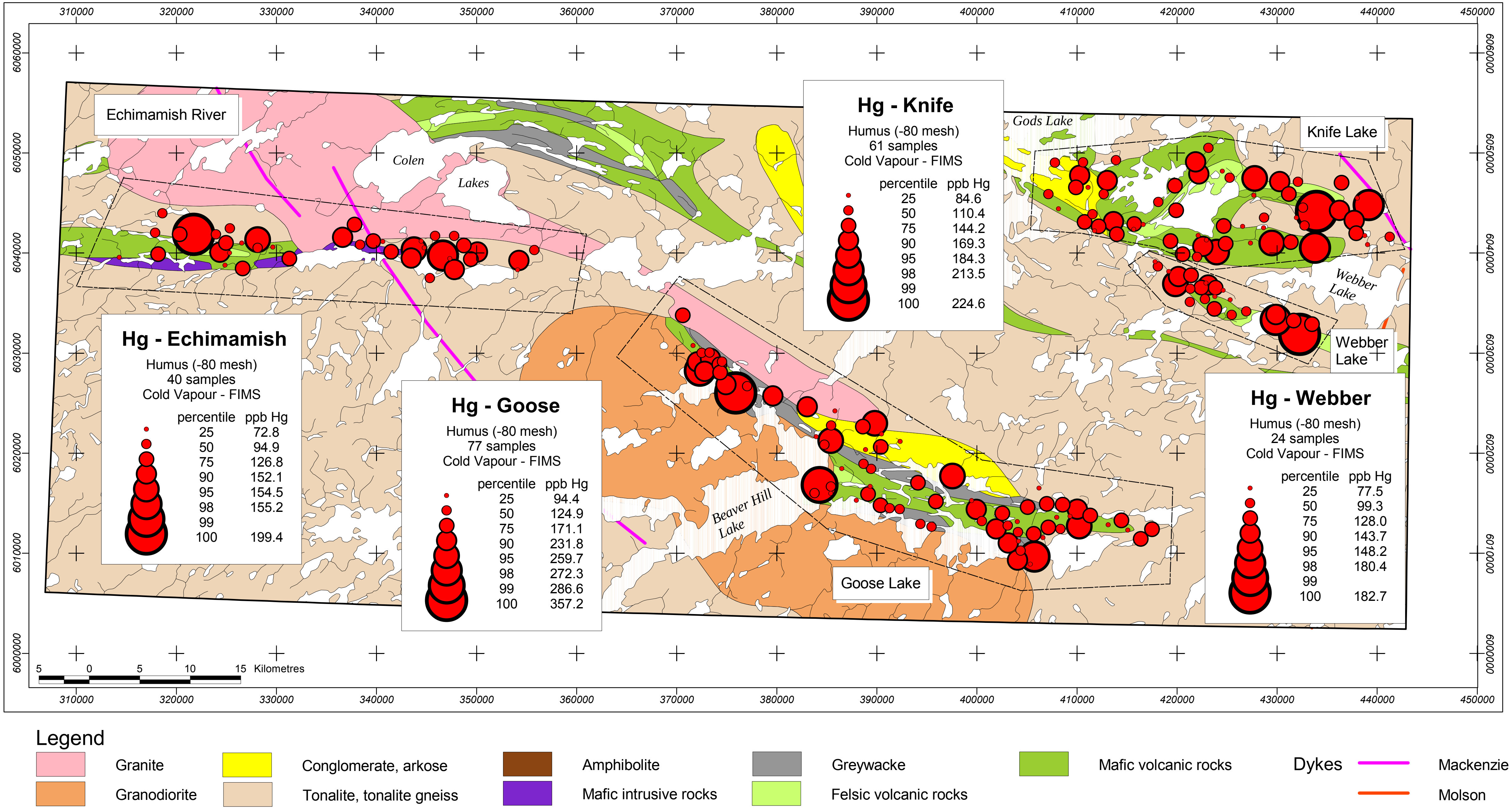
360000
370000
380000
390000
400000
410000
420000
430000
440000
450000
6060000
6050000
6040000
6030000
6020000
6010000
6000000
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Spec. Cond. - Knife
Humus (-80 mesh)
61 samples
Specific Conductance
percentile mhos cm-1 K
25 7.3
50 10.8
75 15.3
90 19
95 23.2
98 23.8
99
100 30.2
Spec. Cond. - Echimamish
Humus (-80 mesh)
40 samples
Specific Conductance
percentile mhos cm-1 K
25 11.5
50 15.6
75 20.0
90 28.1
95 32.0
98 32.5
99
100 36.3
Spec. Cond. - Goose
Humus (-80 mesh)
77 samples
Specific Conductance
percentile mhos cm-1 K
25 9.0
50 12.8
75 16.1
90 21.2
95 25.5
98 27.3
99 31.3
100 32.8
Spec. Cond. - Webber
Humus (-80 mesh)
24 samples
Specific Conductance
percentile mhos cm-1 K
25 3.8
50 9.3
75 13.5
90 16.7
95 19.1
98 22.4
99
100 22.6
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
H+ - Echimamish
Humus (-80 mesh)
40 samples
percentile ppb H+
25 -2.0
50 -2.0
75 -1.4
90 0.3
95 8.1
98 32.6
99
100 35.1
H+ - Goose
Humus (-80 mesh)
77 samples
percentile ppb H+
25 -1.9
50 -1.5
75 4.5
90 14.6
95 29.5
98 47.1
99 52.9
100 75.6
H+ - Knife
Humus (-80 mesh)
61 samples
percentile ppb H+
25 -1.8
50 -1.2
75 2.2
90 10.4
95 14.9
98 21.4
99
100 23.2
H+ - Webber
Humus (-80 mesh)
24 samples
percentile ppb H+
25 -1.9
50 -1.9
75 -1.4
90 -0.05
95 11.4
98 19.9
99
100 20.9
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hg - Knife
Humus (-80 mesh)
61 samples
Cold Vapour - FIMS
percentile ppb Hg
25 84.6
50 110.4
75 144.2
90 169.3
95 184.3
98 213.5
99
100 224.6
Hg - Echimamish
Humus (-80 mesh)
40 samples
Cold Vapour - FIMS
percentile ppb Hg
25 72.8
50 94.9
75 126.8
90 152.1
95 154.5
98 155.2
99
100 199.4
Hg - Goose
Humus (-80 mesh)
77 samples
Cold Vapour - FIMS
percentile ppb Hg
25 94.4
50 124.9
75 171.1
90 231.8
95 259.7
98 272.3
99 286.6
100 357.2
Hg - Webber
Humus (-80 mesh)
24 samples
Cold Vapour - FIMS
percentile ppb Hg
25 77.5
50 99.3
75 128.0
90 143.7
95 148.2
98 180.4
99
100 182.7
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

Appendix 4

Humus Geochemistry: Instrumental Neutron Activation Analyses (INAA).

Element	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sh	Sr	Ta	Th	U
Units	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98H-1	422175.00	6047885.00	1	2.5	1.50	240	12.0	3.0	5.0	9.0	2.0	0.69	1.0	0.5	2.5	0.5	0.13	15	39.0	0.40	2.1	1.5	0.005	0.025	0.25	1.7	0.25
98H-2	419789.00	6046717.00	24	2.5	1.20	310	7.3	2.0	5.0	18.0	0.5	0.71	2.0	0.5	2.5	0.5	0.31	16	7.5	0.30	2.7	1.5	0.005	0.025	0.25	1.9	0.25
98H-3	419903.00	6044273.00	16	2.5	1.10	70	17.0	3.0	0.5	2.5	0.5	0.39	0.5	0.5	2.5	0.5	0.07	14	7.5	0.20	0.9	1.5	0.005	0.025	0.25	1.6	0.25
98H-4	424854.00	6040934.00	13	2.5	2.30	150	23.0	5.0	3.0	15.0	0.5	0.74	0.5	0.5	2.5	0.5	0.13	15	7.5	0.40	2.2	1.5	0.005	0.025	0.25	2.1	0.25
98H-5	423967.00	6040083.00	1	2.5	3.60	170	7.7	2.0	5.0	10.0	0.5	0.84	0.5	0.5	2.5	0.5	0.17	16	46.0	0.60	2.8	1.5	0.005	0.025	0.25	3.4	0.80
98H-6	423110.50	6036780.50	1	2.5	2.80	230	9.2	3.0	4.0	11.0	0.5	0.82	0.5	0.5	2.5	0.5	0.20	21	7.5	0.70	2.8	1.5	0.005	0.025	0.25	3.4	1.20
98H-7	422898.50	6036995.50	10	2.5	2.00	120	16.0	6.0	2.0	13.0	0.5	0.40	0.5	0.5	2.5	0.5	0.09	22	7.5	0.05	1.5	1.5	0.005	0.025	0.25	2.3	11.00
98H-8	415727.00	6042908.00	1	2.5	4.40	230	6.3	3.0	8.0	41.0	2.0	1.82	3.0	0.5	2.5	3.0	0.50	19	40.0	0.90	5.7	1.5	0.005	0.025	0.25	6.6	2.80
98H-9	415673.00	6042377.00	1	2.5	2.80	250	16.0	1.0	7.0	46.0	2.0	2.10	3.0	0.5	2.5	2.0	0.32	18	92.0	0.05	6.4	1.5	0.005	0.025	0.25	8.0	2.80
98H-10	413976.00	6041879.00	6	2.5	3.90	320	6.8	2.0	8.0	43.0	1.0	1.22	3.0	0.5	2.5	0.5	0.57	19	7.5	0.40	4.9	1.5	0.005	0.025	0.25	4.3	1.80
98H-11	412154.00	6042663.00	8	2.5	2.40	260	5.9	0.5	5.0	17.0	0.5	0.90	2.0	0.5	2.5	0.5	0.28	20	7.5	0.80	3.4	1.5	0.005	0.025	0.25	3.5	0.25
98H-12	411756.00	6042217.00	1	2.5	1.30	260	12.0	5.0	4.0	21.0	1.0	1.08	1.0	0.5	2.5	0.5	0.27	14	25.0	0.20	3.9	1.5	0.005	0.025	0.25	5.9	4.20
98H-13	410273.00	6047753.00	4	2.5	3.90	200	6.5	3.0	4.0	13.0	1.0	0.72	0.5	0.5	2.5	0.5	0.18	13	7.5	0.70	2.7	1.5	0.005	0.025	0.25	3.4	0.25
98H-14	403125.44	6011007.50	4	2.5	2.80	250	13.0	0.5	5.0	11.0	0.5	0.61	1.0	0.5	2.5	0.5	0.20	11	19.0	0.50	2.3	1.5	0.005	0.025	0.25	1.5	0.25
98H-15	405071.47	6014609.50	6	2.5	2.60	150	37.0	3.0	3.0	8.0	0.5	1.34	2.0	0.5	2.5	0.5	0.18	14	7.5	0.05	2.2	1.5	0.005	0.025	0.25	4.1	13.00
98H-16-1 Field Duplicate	406208.50	6016505.50	10	2.5	1.70	210	11.0	0.5	8.0	7.0	0.5	0.35	0.5	0.5	2.5	0.5	0.17	14	7.5	0.05	1.5	1.5	0.005	0.025	0.25	1.6	0.25
98H-16-2 Field Duplicate	406208.50	6016505.50	16	2.5	0.25	200	10.0	0.5	4.0	8.0	0.5	0.66	2.0	0.5	2.5	10.0	0.23	17	33.0	0.30	2.6	1.5	0.005	0.025	0.25	3.7	0.25
98H-17	408555.38	6014841.50	1	2.5	2.60	120	8.1	2.0	6.0	59.0	0.5	1.09	1.0	0.5	2.5	4.0	0.25	15	23.0	0.50	5.5	1.5	0.005	0.025	0.25	1.9	1.30
98H-18	415078.09	6012325.00	1	2.5	3.40	330	9.2	0.5	7.0	24.0	0.5	1.20	2.0	0.5	2.5	6.0	0.27	16	7.5	0.60	3.9	1.5	0.005	0.025	0.25	4.1	0.25
98H-19	414432.16	6013288.00	4	2.5	4.60	300	6.5	0.5	18.0	27.0	2.0	1.63	3.0	0.5	2.5	0.5	0.49	16	55.0	0.50	4.9	1.5	0.005	0.025	0.25	6.0	3.30
98H-20	409312.34	6013691.50	6	2.5	2.60	230	15.0	5.0	7.0	12.0	0.5	0.81	0.5	0.5	2.5	0.5	0.25	15	7.5	0.30	2.5	1.5	0.005	0.025	0.25	3.4	3.50
98H-21	389429.00	6018411.00	1	2.5	27.00	470	5.7	3.0	16.0	51.0	2.0	1.64	4.0	0.5	2.5	0.5	1.13	16	66.0	0.50	5.8	1.5	0.005	0.025	0.25	5.6	1.40
98H-22	389344.00	6016674.00	1	2.5	7.00	350	5.3	2.0	10.0	45.0	2.0	1.80	3.0	0.5	2.5	1.0	0.63	12	63.0	0.60	5.9	1.5	0.005	0.025	0.25	5.2	1.60
98H-23	392288.00	6014396.00	1	2.5	5.50	370	14.0	4.0	6.0	25.0	2.0	1.25	2.0	0.5	2.5	0.5	0.37	14	7.5	0.30	4.2	1.5	0.005	0.025	0.25	6.4	20.00
98H-24	379613.00	6025712.00	5	2.5	3.10	300	10.0	2.0	5.0	16.0	1.0	0.72	1.0	0.5	2.5	0.5	0.19	10	7.5	0.70	2.5	1.5	0.005	0.025	0.25	2.9	0.90
98H-25	377057.00	6026670.00	4	2.5	4.40	130	8.7	3.0	3.0	9.0	0.5	0.52	1.0	0.5	2.5	0.5	0.18	10	7.5	0.20	1.8	1.5	0.005	0.025	0.25	1.9	0.25
98H-26	374339.00	6028062.00	8	2.5	5.60	230	19.0	3.0	7.0	19.0	0.5	1.99	1.0	0.5	2.5	4.0	0.24	11	21.0	0.20	3.1	1.5	0.005	0.025	0.25	3.8	2.80
98H-27	375906.00	6025997.00	9	2.5	5.50	210	15.0	0.5	2.0	7.0	0.5	0.39	0.5	0.5	2.5	0.5	0.11	10	7.5	0.50	1.7	1.5	0.005	0.025	0.25	1.4	0.25
98H-28	374248.00	6028877.00	1	2.5	5.60	25	12.0	1.0	2.0	10.0	0.5	0.37	1.0	0.5	2.5	0.5	0.16	10	7.5	0.30	1.3	1.5	0.005	0.025	0.25	1.2	0.25
98H-29	374547.00	6029138.00	17	2.5	5.00	190	9.3	3.0	3.0	17.0	0.5	0.80	1.0	0.5	2.5	0.5	0.19	10	34.0	0.20	2.9	1.5	0.005	0.025	0.25	3.0	0.25
98H-30	374926.00	6026839.00	2	2.5	5.40	280	11.0	0.5	4.0	19.0	0.5	0.86	2.0	0.5	2.5	0.5	0.23	10	7.5	0.60	3.2	1.5	0.005	0.025	0.25	2.7	0.90
98H-31	372780.00	6028156.00	1	2.5	3.30	100	6.4	0.5	2.0	15.0	0.5	0.56	0.5	0.5	2.5	3.0	0.17	10	7.5	0.60	2.4	1.5	0.005	0.025	0.25	1.7	0.60
98H-32	372307.00	6028232.00	2	2.5	4.40	650	12.0	2.0	9.0	32.0	2.0	1.57	2.0	0.5	2.5	16.0	0.36	10	30.0	0.10	4.8	1.5	0.005	0.025	0.25	5.0	0.70
98H-33	372056.00	6029102.00	5	2.5	3.80	300	7.8	0.5	4.0	20.0	1.0	0.97	1.0	0.5	2.5	0.5	0.23	10	25.0	0.50	3.4	1.5	0.005	0.025	0.25	3.1	1.00
98H-34	372498.00	6030016.00	9	2.5	3.30	380	12.0	2.0	13.0	51.0	2.0	2.76	3.0	0.5	2.5	0.5	0.51	22	67.0	0.60	7.3	1.5	0.005	0.025	0.25	6.9	2.80
98H-35	373283.00	6030024.00	8	2.5	4.10	340	6.7	2.0	12.0	50.0	2.0	2.44	2.0	0.5	2.5	0.5	0.47	22	59.0	0.40	7.4	1.5	0.005	0.025	0.25	8.3	1.80
98H-36-1 Field Duplicate	406208.50	6016505.50	1	2.5	4.60	240	7.5	0.5	6.0	20.0	0.5	1.36	3.0	0.5	2.5	0.5	1.03	14	7.5	0.40	5.3	1.5	0.005	0.025	0.25	6.3	3.00
98H-36-2 Field Duplicate	406208.50	6016505.50	1	2.5	4.70	350	6.2	2.0	4.0	22.0	2.0	1.01	3.0	0.5	2.5	0.5	0.74	14	28.0	0.30	5.3	1.5	0.005	0.025	0.25	4.5	2.50
98H-37	370589.00	6033766.00	3	2.5	3.80	200	9.3	2.0	5.0	18.0	1.0	0.78	2.0	0.5	2.5	0.5	0.28	11	7.5	0.20	2.6	1.5	0.005	0.025	0.25	3.0	0.80
98H-38	373372.00	6029446.00	1	2.5	5.10	92	13.0	1.0	0.5	6.0	0.5	0.30	0.5	0.5	2.5	0.5	0.07	10	7.5	0.20	1.0	1.5	0.005	0.025	0.25	0.4	0.25
98H-41	317884.00	6042024.50	12	2.5	6.90	180	15.0	4.0	4.0	31.0	1.0	1.42	1.0	0.5	2.5	0.5	0.14	11	27.0	0.30	4.2	1.5	0.005	0.025	0.25	5.6	1.50
98H-43	318611.03	6043950.00	1	2.5	5.40	370	14.0	5.0	10.0	49.0	2.0	2.76	3.0	0.5	2.5	0.5	0.40	13	59.0	0.30	9.0	1.5	0.005	0.025	0.25	14.0	17.00
98H-44	320323.97	6041882.00	10	2.5	5.20	210	11.0	3.0	3.0	13.0	0.5	0.60	1.0	0.5	2.5	0.5	0.17	10	22.0	0.60	2.2	1.5	0.005	0.025	0.25	1.9	0.25
98H-45	324338.88	6040074.00	9	2.5	4.00	80	22.0	5.0	3.0	2.5	0.5	0.26	0.5	0.5	2.5	0.5	0.05	10	7.5	0.20	1.2	1.5	0.005	0.025	0.25	1.8	0.25

Element	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sh	Sr	Ta	Th	U
Units	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98H-46	324880.84	6038786.00	1	2.5	4.90	430	5.2	0.5	8.0	54.0	2.0	2.11	6.0	0.5	2.5	0.5	1.13	12	78.0	0.30	7.7	1.5	0.005	0.025	0.25	7.4	2.00
98H-47	325306.88	6039999.00	1	2.5	7.50	570	4.4	2.0	10.0	60.0	3.0	2.34	7.0	0.5	2.5	0.5	1.12	14	82.0	0.60	8.5	1.5	0.005	0.025	0.25	8.7	1.60
98H-48	328136.84	6040488.00	1	2.5	4.30	400	6.1	4.0	6.0	28.0	2.0	1.23	4.0	0.5	2.5	0.5	0.60	11	43.0	0.50	4.8	1.5	0.005	0.025	0.80	4.7	1.40
98H-49	314291.00	6039571.50	1	2.5	6.70	410	9.1	3.0	19.0	30.0	4.0	5.29	6.0	0.5	2.5	0.5	1.00	22	88.0	0.30	19.0	1.5	0.005	0.025	1.10	7.5	4.90
98H-51	318170.97	6039892.50	7	2.5	6.20	140	15.0	3.0	5.0	21.0	0.5	1.05	1.0	0.5	2.5	0.5	0.11	10	20.0	0.20	3.2	1.5	0.005	0.025	0.25	4.2	1.10
98H-52	424658.00	6042698.00	1	2.5	6.80	180	7.6	0.5	2.0	21.0	0.5	0.47	2.0	0.5	2.5	0.5	0.28	10	25.0	0.20	2.2	1.5	0.005	0.025	0.25	2.5	0.70
98H-53	422939.00	6041290.00	1	2.5	4.90	350	3.4	3.0	7.0	37.0	2.0	1.62	5.0	0.5	2.5	0.5	0.84	11	60.0	0.40	5.6	1.5	0.005	0.025	0.25	6.1	0.60
98H-54	422577.00	6040642.00	1	2.5	3.20	280	7.3	2.0	7.0	18.0	1.0	1.08	1.0	0.5	2.5	0.5	0.19	10	32.0	0.50	3.8	1.5	0.005	0.025	0.25	5.1	1.60
98H-55	426549.00	6042653.00	1	2.5	1.60	290	6.5	2.0	3.0	21.0	0.5	1.06	4.0	0.5	2.5	0.5	0.77	11	25.0	0.30	4.0	1.5	0.005	0.025	0.25	3.7	1.30
98H-56	427348.00	6040986.00	5	2.5	1.60	120	20.0	5.0	2.0	16.0	0.5	0.71	2.0	0.5	2.5	0.5	0.29	10	29.0	0.05	2.4	1.5	0.005	0.025	0.25	3.0	2.30
98H-57	429478.00	6040983.00	5	2.5	4.10	200	9.8	0.5	6.0	10.0	2.0	0.86	1.0	0.5	2.5	0.5	0.20	11	29.0	0.30	3.3	1.5	0.005	0.025	0.25	4.3	1.20
98H-58	422017.59	6039578.50	4	2.5	3.00	260	8.1	1.0	3.0	19.0	0.5	0.67	4.0	0.5	2.5	0.5	0.55	11	7.5	0.20	3.2	1.5	0.005	0.025	0.25	3.0	0.25
98H-59	420543.00	6039880.00	6	2.5	3.20	320	8.6	0.5	3.0	15.0	0.5	0.56	3.0	0.5	2.5	0.5	0.53	11	28.0	0.50	3.0	1.5	0.005	0.025	0.25	2.7	0.90
98H-60	419349.00	6041198.00	9	2.5	2.80	420	5.4	2.0	4.0	22.0	0.5	0.86	3.0	0.5	2.5	0.5	0.52	22	31.0	0.60	3.8	1.5	0.005	0.025	0.25	3.8	0.25
98H-61-1 Field Duplicate	428648.00	6042511.00	1	2.5	2.50	130	6.0	2.0	3.0	12.0	0.5	0.64	2.0	0.5	2.5	0.5	0.23	10	33.0	0.20	2.2	1.5	0.005	0.025	0.25	2.4	0.25
98H-61-2 Field Duplicate	428648.00	6042511.00	1	2.5	2.20	150	6.0	2.0	3.0	20.0	0.5	0.83	3.0	0.5	2.5	0.5	0.52	11	7.5	0.40	3.1	1.5	0.005	0.025	0.25	3.4	0.25
98H-62	428719.00	6043536.00	1	2.5	3.00	220	6.8	1.0	5.0	20.0	0.5	0.83	2.0	0.5	2.5	3.0	0.37	11	7.5	0.40	3.3	1.5	0.005	0.025	0.25	3.3	0.25
98H-63	427677.00	6045751.00	1	2.5	3.40	320	4.4	3.0	7.0	36.0	2.0	1.37	6.0	0.5	2.5	0.5	0.88	11	69.0	0.40	5.2	1.5	0.005	0.025	0.25	4.9	1.10
98H-64	430255.00	6047124.00	1	2.5	3.00	210	9.1	1.0	2.0	2.5	0.5	0.35	1.0	0.5	2.5	0.5	0.16	10	7.5	0.30	1.3	1.5	0.005	0.025	0.25	1.4	0.25
98H-65	427764.00	6047447.00	7	2.5	6.30	150	50.0	2.0	9.0	7.0	0.5	0.78	0.5	0.5	2.5	0.5	0.06	10	7.5	0.40	0.9	1.5	0.005	0.025	0.25	1.4	0.25
98H-66	425278.00	6047515.00	4	2.5	3.50	110	19.0	3.0	3.0	20.0	0.5	0.83	2.0	0.5	2.5	2.0	0.44	11	7.5	0.50	3.0	1.5	0.005	0.025	0.25	3.2	1.40
98H-67	424531.00	6048166.00	8	2.5	3.10	87	9.8	4.0	3.0	16.0	0.5	0.73	1.0	0.5	2.5	0.5	0.18	10	29.0	0.20	2.5	1.5	0.005	0.025	0.25	3.7	0.70
98H-68	423147.00	6050489.00	1	2.5	2.40	330	7.6	1.0	4.0	22.0	0.5	0.98	3.0	0.5	2.5	0.5	0.41	19	7.5	0.05	3.9	1.5	0.005	0.025	0.25	3.7	0.25
98H-69	421846.00	6049098.00	1	2.5	5.00	190	11.0	1.0	6.0	19.0	1.0	0.95	3.0	0.5	2.5	0.5	0.38	19	7.5	0.50	3.3	1.5	0.005	0.025	0.25	1.6	0.25
98H-70	411122.00	6046567.00	1	2.5	0.25	150	5.6	2.0	3.0	25.0	2.0	0.47	3.0	0.5	2.5	1.0	0.50	20	7.5	0.60	2.5	1.5	0.005	0.025	0.25	1.8	0.25
98H-71	412676.00	6045877.00	1	2.5	2.90	240	5.2	0.5	5.0	27.0	0.5	0.98	3.0	0.5	2.5	0.5	0.74	20	7.5	0.70	4.6	1.5	0.005	0.025	0.25	3.8	0.25
98H-72	413024.00	6047216.00	1	2.5	6.80	200	11.0	0.5	5.0	36.0	2.0	1.92	2.0	0.5	2.5	1.0	0.27	24	7.5	0.70	4.6	1.5	0.010	0.025	0.25	4.9	0.25
98H-73	411549.00	6043862.00	1	2.5	6.00	100	6.9	0.5	3.0	2.5	0.5	0.24	0.5	0.5	2.5	8.0	0.09	15	7.5	0.40	1.0	1.5	0.005	0.025	0.25	1.0	0.25
98H-74	413657.00	6043128.00	1	2.5	4.70	190	6.8	0.5	3.0	21.0	0.5	0.73	2.0	0.5	2.5	0.5	0.29	14	7.5	0.60	3.0	4.0	0.005	0.025	0.25	2.0	0.25
98H-75	422108.00	6041765.00	11	2.5	2.80	280	17.0	5.0	6.0	25.0	0.5	1.12	3.0	0.5	2.5	0.5	0.53	16	7.5	0.05	4.2	1.5	0.005	0.025	0.25	5.1	1.60
98H-76	433784.00	6040516.00	1	2.5	5.40	80	12.0	0.5	2.0	2.5	0.5	0.34	0.5	0.5	2.5	1.0	0.13	16	7.5	0.20	1.3	1.5	0.005	0.025	0.25	0.9	0.25
98H-77	432746.00	6042736.00	1	2.5	0.25	150	22.0	6.0	4.0	12.0	0.5	0.59	1.0	0.5	2.5	0.5	0.16	16	24.0	0.05	2.4	1.5	0.005	0.025	0.25	3.3	0.25
98H-78	431930.00	6043534.00	10	2.5	2.20	240	6.4	2.0	4.0	30.0	1.0	0.83	4.0	0.5	2.5	0.5	0.66	16	7.5	0.05	3.9	1.5	0.005	0.025	0.25	3.0	0.25
98H-79	432599.00	6044519.00	1	2.5	1.80	82	19.0	3.0	3.0	16.0	0.5	0.70	2.0	0.5	2.5	0.5	0.17	11	7.5	0.10	2.7	1.5	0.005	0.025	0.25	2.6	1.10
98H-80	433938.00	6044126.00	1	2.5	3.20	80	27.0	4.0	4.0	2.5	0.5	0.37	0.5	0.5	2.5	0.5	0.06	13	7.5	0.05	0.6	1.5	0.005	0.025	0.25	0.6	0.25
98H-81	432096.00	6047105.00	3	2.5	3.20	200	11.0	3.0	4.0	21.0	0.5	0.88	2.0	0.5	2.5	0.5	0.35	13	7.5	0.30	3.8	1.5	0.005	0.025	0.25	4.9	2.00
98H-82	431155.00	6045908.00	1	2.5	4.00	290	9.4	4.0	7.0	23.0	2.0	1.04	2.0	0.5	2.5	0.5	0.40	15	29.0	0.05	4.3	1.5	0.005	0.025	0.25	6.4	2.00
98H-83	431374.00	6041096.00	1	2.5	4.40	75	23.0	5.0	3.0	8.0	0.5	0.38	0.5	0.5	2.5	0.5	0.12	11	7.5	0.05	1.5	1.5	0.005	0.025	0.25	1.6	2.00
98H-84	436427.28	6047029.50	5	2.5	7.10	91	44.0	3.0	3.0	2.5	0.5	0.94	0.5	0.5	2.5	0.5	0.06	10	7.5	0.05	0.7	1.5	0.005	0.025	0.25	0.7	0.25
98H-85-1 Field Duplicate	439153.13	6044766.50	17	2.5	4.80	130	9.9	0.5	1.0	18.0	2.0	0.59	5.0	0.5	2.5	0.5	0.73	16	7.5	0.05	2.6	1.5	0.005	0.025	0.25	2.8	0.25
98H-85-2 Field Duplicate	439153.13	6044766.50	1	2.5	3.30	100	9.7	0.5	0.5	8.0	0.5	0.28	1.0	0.5	2.5	0.5	0.18	12	7.5	0.30	1.1	1.5	0.005	0.025	0.25	0.1	0.25
98H-86	437708.13	6043243.50	1	2.5	2.50	180	15.0	5.0	3.0	12.0	0.5	1.54	0.5	0.5	2.5	0.5	0.11	10	7.5	0.05	1.8	1.5	0.005	0.025	0.25	2.1	1.80
98H-87	438758.06	6041729.50	1	2.5	2.30	340	4.2	0.5	3.0	20.0	0.5	0.76	4.0	0.5	2.5	0.5	0.83	16	71.0	0.05	3.7	1.5	0.005	0.025	0.25	3.4	0.25
98H-88	437893.09	6041978.50	8	2.5	4.20	220	12.0	4.0	6.0	20.0	1.0	1.05	1.0	0.5	2.5	0.5	0.15	13	7.5	0.05	3.2	1.5	0.005	0.025	0.25	4.0	1.50
98H-89	438026.19	6045493.50	7	2.5	1.80	96	17.0	5.0	2.0	13.0	0.5	0.55	0.5	0.5	2.5	5.0	0.09	10	7.5	0.05	1.9	1.5	0.005	0.025	0.25	1.7	0.90
98H-90	441264.97	6041603.50	1	2.5	1.10	170	22.0	5.0	3.0	15.0	0.5	0.56	0.5	0.5	2.5	0.5	0.13	10	7.5	0.05	2.0	1.5	0.005	0.025	0.25	1.7	1.00
98H-91	439048.03	6040825.50	1	2.5	1.30	100	120.0	5.0	4.0	16.0	0.5	0.62	0.5	0.5	2.5	4.0	0.21	11	7.5	0.05	2.3	1.5	0.005	0.025	0.25	2.4	3.00
98H-92	436230.22	6044253.50	1	2.5	4.40	25	31.0	4.0	4.0	7.0	0.5	1.15	0.5	0.5	2.5	0.5	0.06	10	7.5	0.05	1.3	1.5	0.005	0.025	0.25	0.8	0.60
98H-93	410621.00	6049058.00	3	2.5	3.90	230	4.6	2.0	5.0	30.0	0.5	1.06	4.0	0.5	2.5	0.5	0.83	11	7.5	0.05	4.2	1.5	0.005	0.025	0.25	3.5	1.40
98H-94	413909.00	6049263.00	1	2.5	5.40	290	7.3	2.0	7.0	34.0	2.0	1.80	3.0	0.5	2.5	0.5	0.52	13	7.5	0.40	5.8	1.5	0.005	0.025	0.25	5.3	1.10
98H-95	407798.00	6049007.00	6	2.5	4.60	220	14.0	3.0	6.0	25.0	0.5	1.30	3.0	0.5	2.5	0.5	0.50	10	7.5	0.30	4.2	1.5	0.005	0.025	0.25	2.8	1.90
98H-96	409899.00	6046556.00	1	2.5	5.30	100	9.1	3.0	5.0	13.0	0.5	0.67	0.5	0.5	2.5	6.0	0.16	12	7.5	0.50	3.0	1.5	0.005	0.025	0.25	2.4	0.25

Element	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sh	Sr	Ta	Th	U
Units	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98H-97	418140.00	6045082.00	1	2.5	4.60	110	4.9	0.5	4.0	13.0	0.5	0.68	0.5	0.5	2.5	0.5	0.15	11	7.5	0.40	2.6	4.0	0.005	0.025	0.25	1.4	0.25
98H-98	416634.00	6042840.00	1	2.5	1.60	130	15.0	5.0	4.0	23.0	0.5	0.81	2.0	0.5	2.5	0.5	0.42	10	21.0	0.05	3.2	1.5	0.005	0.025	0.25	2.6	1.70
98H-99	429858.16	6033292.50	1	2.5	3.90	120	13.0	1.0	3.0	9.0	0.5	0.48	0.5	0.5	2.5	0.5	0.09	10	7.5	0.30	1.9	1.5	0.005	0.025	0.25	1.6	0.25
98H-100	431644.06	6033251.50	1	2.5	2.40	100	19.0	0.5	5.0	13.0	1.0	0.92	1.0	0.5	2.5	0.5	0.28	13	26.0	0.05	3.1	1.5	0.005	0.025	0.25	1.7	1.00
98H-101	432256.00	6031840.50	14	2.5	2.80	99	9.4	0.5	3.0	10.0	0.5	0.47	0.5	0.5	2.5	0.5	0.14	10	7.5	0.40	1.7	1.5	0.005	0.025	0.25	0.8	0.90
98H-102	429871.16	6033829.50	1	2.5	2.50	240	13.0	4.0	5.0	25.0	0.5	1.13	1.0	0.5	2.5	0.5	0.24	10	7.5	0.30	4.0	1.5	0.005	0.025	0.25	5.0	2.00
98H-103	425307.38	6035317.50	1	2.5	0.70	100	20.0	6.0	2.0	8.0	0.5	0.40	0.5	0.5	2.5	0.5	0.07	10	7.5	0.05	1.3	1.5	0.005	0.025	0.25	1.0	4.30
98H-104-1 Field Duplicate	423848.47	6036518.50	8	2.5	3.50	270	6.8	4.0	7.0	30.0	2.0	1.41	1.0	0.5	2.5	0.5	0.30	22	7.5	0.40	4.6	1.5	0.005	0.025	0.25	5.1	1.50
98H-104-2 Field Duplicate	423848.47	6036518.50	5	2.5	3.40	130	7.4	2.0	5.0	13.0	0.5	0.72	0.5	0.5	2.5	0.5	0.14	10	7.5	0.30	2.7	1.5	0.005	0.025	0.25	2.6	0.25
98H-105	421335.53	6036410.50	1	2.5	3.40	220	9.6	3.0	3.0	23.0	0.5	0.98	3.0	0.5	2.5	0.5	0.67	10	40.0	0.40	4.1	1.5	0.005	0.025	0.25	3.9	1.30
98H-106	421383.56	6037781.50	1	2.5	2.00	190	11.0	5.0	4.0	24.0	0.5	0.86	2.0	0.5	2.5	0.5	0.35	10	7.5	0.05	3.3	1.5	0.005	0.025	0.25	2.9	0.25
98H-107	420147.63	6037637.50	1	2.5	3.30	130	12.0	4.0	2.0	9.0	0.5	0.55	0.5	0.5	2.5	0.5	0.10	10	18.0	0.50	1.7	1.5	0.005	0.025	0.25	2.1	0.70
98H-108	421291.50	6035072.50	14	2.5	1.70	120	17.0	5.0	2.0	16.0	0.5	0.67	0.5	0.5	2.5	0.5	0.17	10	15.0	0.20	2.5	1.5	0.005	0.025	0.25	3.4	1.40
98H-109	423732.41	6034418.50	1	2.5	2.90	260	11.0	0.5	6.0	14.0	0.5	1.16	0.5	0.5	2.5	0.5	0.22	10	7.5	0.40	3.6	1.5	0.005	0.025	0.25	2.0	0.25
98H-110	424600.44	6036265.50	1	2.5	2.60	160	16.0	5.0	4.0	25.0	0.5	1.08	1.0	0.5	2.5	0.5	0.20	10	27.0	0.30	3.3	1.5	0.005	0.025	0.25	5.2	1.60
98H-111	422790.47	6035391.50	1	2.5	3.00	80	25.0	5.0	2.0	7.0	0.5	0.36	0.5	0.5	2.5	3.0	0.05	10	7.5	0.30	1.3	1.5	0.005	0.025	0.25	1.4	0.25
98H-112	422413.50	6036539.50	1	2.5	2.80	120	11.0	1.0	3.0	15.0	0.5	0.55	1.0	0.5	2.5	0.5	0.18	10	7.5	0.30	2.2	1.5	0.005	0.025	0.25	1.9	0.25
98H-113	419846.59	6036918.50	1	2.5	3.30	230	8.2	0.5	3.0	11.0	0.5	0.74	1.0	0.5	2.5	0.5	0.23	10	17.0	0.50	2.5	1.5	0.005	0.025	0.25	2.1	1.10
98H-114	419177.66	6038148.50	10	2.5	1.90	130	15.0	4.0	4.0	25.0	1.0	1.31	0.5	0.5	2.5	3.0	0.15	10	7.5	0.05	3.6	1.5	0.005	0.025	0.25	4.0	2.30
98H-115	418088.72	6038642.50	9	2.5	1.60	79	21.0	7.0	3.0	10.0	0.5	0.44	0.5	0.5	2.5	3.0	0.12	10	7.5	0.05	1.5	1.5	0.005	0.025	0.25	1.1	3.50
98H-116	417811.72	6039129.50	1	2.5	2.00	250	15.0	3.0	7.0	25.0	1.0	1.37	1.0	0.5	2.5	0.5	0.35	22	30.0	0.05	4.8	1.5	0.005	0.025	0.25	6.1	3.90
98H-117	433470.97	6032879.50	1	2.5	4.20	140	16.0	4.0	6.0	29.0	1.0	1.73	1.0	0.5	2.5	0.5	0.33	11	7.5	0.05	4.2	1.5	0.005	0.025	0.25	5.1	18.00
98H-118	426929.28	6034129.50	1	2.5	0.25	85	19.0	5.0	4.0	11.0	0.5	0.58	0.5	0.5	2.5	0.5	0.12	63	7.5	0.05	1.9	1.5	0.005	0.025	0.25	2.3	3.10
98H-119	425480.31	6033803.50	1	2.5	0.25	150	9.8	4.0	2.0	7.0	0.5	0.59	0.5	0.5	2.5	2.0	0.06	10	7.5	0.05	1.5	1.5	0.005	0.025	0.25	1.1	2.40
98H-120	423790.44	6035660.50	1	2.5	1.60	310	14.0	3.0	4.0	30.0	1.0	1.08	4.0	0.5	2.5	1.0	0.78	10	35.0	0.20	4.4	1.5	0.005	0.025	0.25	4.2	1.30
98H-121	407150.00	6045862.00	1	2.5	3.00	290	15.0	4.0	5.0	21.0	1.0	1.15	2.0	0.5	2.5	0.5	0.55	10	7.5	0.20	4.7	1.5	0.005	0.025	0.25	4.3	1.70
98H-122	408163.00	6044404.00	1	2.5	1.20	130	35.0	6.0	3.0	7.0	0.5	0.38	0.5	0.5	2.5	4.0	0.11	10	7.5	0.20	1.4	1.5	0.005	0.025	0.25	1.1	6.80
98H-123	410744.00	6043110.00	8	2.5	4.40	220	7.4	2.0	6.0	30.0	1.0	1.13	2.0	0.5	2.5	0.5	0.49	10	38.0	0.30	4.4	1.5	0.005	0.025	0.25	3.9	0.25
98H-124	416359.03	6011437.00	1	2.5	5.20	100	51.0	4.0	2.0	7.0	0.5	0.88	0.5	0.5	2.5	0.5	0.08	80	7.5	0.30	1.8	1.5	0.005	0.025	0.25	2.1	47.00
98H-125	417489.03	6012396.00	3	2.5	3.50	260	8.1	4.0	6.0	24.0	1.0	0.98	2.0	0.5	2.5	0.5	0.31	10	7.5	0.40	3.8	1.5	0.005	0.025	0.80	4.5	0.25
98H-126	413132.19	6012836.00	1	2.5	3.30	140	17.0	6.0	11.0	14.0	0.5	0.79	1.0	0.5	2.5	0.5	0.28	10	7.5	0.50	2.8	1.5	0.005	0.025	0.25	2.3	3.30
98H-127	385444.00	6022763.00	9	2.5	3.50	70	12.0	3.0	5.0	9.0	0.5	0.84	0.5	0.5	2.5	0.5	0.10	10	7.5	0.30	1.6	1.5	0.005	0.025	0.25	1.9	4.30
98H-128	385814.00	6024219.00	1	2.5	2.60	100	13.0	2.0	4.0	18.0	0.5	0.72	0.5	0.5	2.5	2.0	0.10	10	7.5	0.05	2.6	1.5	0.005	0.025	0.25	3.8	1.20
98H-129-1 Field Duplicate	411318.28	6013772.50	1	2.5	3.20	150	10.0	0.5	5.0	14.0	0.5	0.74	2.0	0.5	2.5	0.5	0.31	10	24.0	0.30	2.8	1.5	0.005	0.025	0.25	2.8	1.30
98H-129-2 Field Duplicate	411318.28	6013772.50	4	2.5	3.80	180	9.9	3.0	5.0	22.0	0.5	1.18	1.0	0.5	2.5	0.5	0.23	10	32.0	0.40	3.6	1.5	0.005	0.025	0.25	4.1	1.80
98H-130	410039.31	6014382.50	1	2.5	2.50	150	5.9	0.5	3.0	12.0	0.5	0.81	0.5	0.5	2.5	0.5	0.19	10	7.5	0.50	2.6	1.5	0.005	0.025	0.25	1.3	0.25
98H-131	410227.28	6012701.50	1	2.5	2.70	120	15.0	1.0	6.0	20.0	1.0	1.04	0.5	0.5	2.5	0.5	0.15	13	7.5	0.60	3.1	1.5	0.005	0.025	0.25	4.4	0.25
98H-132	407970.38	6013576.50	1	2.5	3.90	320	15.0	4.0	5.0	35.0	1.0	1.58	3.0	0.5	2.5	3.0	0.54	11	7.5	0.30	5.6	1.5	0.005	0.025	0.25	7.0	4.70
98H-133	407131.38	6012572.50	1	2.5	5.10	140	13.0	3.0	7.0	6.0	0.5	0.48	0.5	0.5	2.5	0.5	0.11	10	7.5	0.50	1.6	1.5	0.005	0.025	0.25	2.3	0.25
98H-134	406971.44	6014940.50	1	2.5	4.30	210	12.0	4.0	6.0	8.0	0.5	0.70	1.0	0.5	2.5	0.5	0.30	11	7.5	0.40	2.7	1.5	0.005	0.025	0.25	4.2	1.70
98H-135	408359.31	6012394.50	6	2.5	3.50	190	9.0	0.5	5.0	17.0	0.5	0.63	3.0	0.5	2.5	0.5	0.50	22	7.5	0.40	2.8	1.5	0.005	0.025	0.25	5.1	1.60
98H-136	405675.38	6011926.50	1	2.5	4.70	160	11.0	3.0	17.0	45.0	4.0	2.32	1.0	0.5	2.5	0.5	0.39	16	7.5	0.40	5.9	1.5	0.010	0.025	0.25	2.8	0.25
98H-137	404124.44	6012087.50	1	2.5	1.90	120	18.0	5.0	1.0	2.5	0.5	0.20	0.5	0.5	2.5	0.5	0.05	10	7.5	0.30	0.8	1.5	0.005	0.025	0.25	1.1	1.20
98H-138	404041.47	6013160.50	3	2.5	2.80	260	8.8	3.0	6.0	24.0	2.0	1.18	2.0	0.5	2.5	2.0	0.65	13	42.0	0.30	4.5	1.5	0.005	0.025	0.25	6.4	2.10
98H-139	402538.53	6013989.50	2	2.5	3.60	210	12.0	0.5	4.0	9.0	0.5	0.50	1.0	0.5	2.5	0.5	0.22	10	7.5	0.50	2.1	1.5	0.005	0.025	0.25	1.9	0.25
98H-140	399933.00	6014368.00	1	2.5	3.40	160	6.4	0.5	3.0	8.0	0.5	0.49	0.5	0.5	2.5	2.0	0.15	10	7.5	0.30	1.8	1.5	0.005	0.025	0.25	1.3	0.80
98H-141	395466.00	6012618.00	7	2.5	5.10	260	14.0	4.0	9.0	37.0	2.0	2.07	2.0	0.5	2.5	5.0	0.44	13	41.0	0.30	5.6	1.5	0.005	0.025	0.25	7.5	4.90
98H-142	397559.00	6017711.00	1	2.5	2.70	53	13.0	0.5	1.0	12.0	0.5	0.38	0.5	0.5	2.5	0.5	0.09	10	7.5	0.50	1.7	1.5	0.005	0.025	0.25	1.5	0.25
98H-143	383035.00	6024618.00	23	2.5	2.80	180	14.0	2.0	4.0	16.0	0.5	0.87	0.5	0.5	2.5	0.5	0.17	10	7.5	0.30	2.8	1.5	0.005	0.025	0.25	5.4	13.00
98H-144	389806.00	6022975.00	6	2.5	2.60	230	10.0	2.0	3.0	20.0	0.5	0.74	1.0	0.5	2.5	0.5	0.33	10	7.5	0.20	3.0	1.5	0.005	0.025	1.20	3.3	3.80
98H-145	390474.00	6021912.00	3	2.5	2.00	140	19.0	5.0	3.0	8.0	1.0	0.59	0.5	0.5	2.5	0.5	0.08	10	7.5	0.20	2.4	1.5	0.005	0.025	0.25	5.2	13.00
98H-146	392335.00	6021175.00	12	2.5	2.70	350	14.0	4.0	6.0	41.0	0.5	1.33	4.0	0.5	2.5	0.5	0.90	11	7.5	0.20	5.2	1.5	0.005	0.025	0.25	9.4	8.50

Element	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sh	Sr	Ta	Th	U
Units	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98H-147	388878.00	6020355.00	1	2.5	2.10	190	15.0	7.0	4.0	23.0	0.5	1.11	1.0	0.5	2.5	0.5	0.25	10	29.0	0.05	3.9	1.5	0.005	0.025	0.25	5.9	5.60
98H-148	403100.47	6012742.50	3	2.5	1.60	120	17.0	2.0	4.0	2.5	0.5	0.38	0.5	0.5	2.5	0.5	0.05	10	7.5	0.40	1.5	1.5	0.005	0.025	0.25	2.3	11.00
98H-149	401935.00	6012422.00	4	2.5	5.30	140	15.0	0.5	5.0	2.5	0.5	0.55	0.5	0.5	2.5	0.5	0.06	11	7.5	0.40	2.1	1.5	0.005	0.025	0.25	1.4	1.00
98H-150-1 Field Duplicate	400497.00	6013199.00	5	2.5	2.70	200	22.0	6.0	7.0	24.0	1.0	1.25	0.5	0.5	2.5	0.5	0.16	10	39.0	0.30	3.9	1.5	0.005	0.025	0.80	5.9	4.20
98H-150-2 Field Duplicate	400497.00	6013199.00	9	2.5	2.90	180	20.0	5.0	8.0	23.0	1.0	1.20	0.5	0.5	2.5	0.5	0.17	11	24.0	0.20	4.2	1.5	0.005	0.025	0.25	6.5	4.10
98H-151	399476.00	6015250.00	3	2.5	2.20	110	16.0	5.0	7.0	18.0	0.5	1.13	2.0	0.5	2.5	0.5	0.34	10	7.5	0.30	4.3	1.5	0.005	0.025	0.25	7.4	7.50
98H-152	395886.00	6015171.00	3	2.5	3.40	170	14.0	5.0	8.0	16.0	2.0	0.55	1.0	0.5	2.5	13.0	0.13	13	7.5	0.50	2.0	1.5	0.005	0.025	0.25	3.2	19.00
98H-153	394104.00	6017050.00	1	2.5	5.00	170	9.5	0.5	8.0	27.0	0.5	0.42	0.5	0.5	2.5	0.5	0.08	10	7.5	0.50	1.5	1.5	0.005	0.025	0.25	1.5	0.25
98H-154	406616.34	6011560.50	8	2.5	6.10	70	14.0	5.0	5.0	2.5	0.5	0.13	0.5	0.5	2.5	0.5	0.03	10	7.5	0.20	0.5	1.5	0.005	0.025	0.25	0.8	1.10
98H-155	404165.41	6011197.50	3	2.5	1.50	25	13.0	3.0	3.0	2.5	0.5	0.18	0.5	0.5	2.5	0.5	0.04	10	7.5	0.10	0.6	1.5	0.005	0.025	0.25	0.7	0.25
98H-156	404389.38	6010246.50	4	2.5	5.60	330	17.0	3.0	11.0	29.0	1.0	1.47	2.0	0.5	2.5	9.0	0.44	13	33.0	0.30	5.3	1.5	0.005	0.025	0.25	12.0	8.80
98H-157	405746.31	6009647.50	1	2.5	2.30	120	8.1	1.0	6.0	6.0	0.5	0.47	0.5	0.5	2.5	2.0	0.16	10	7.5	0.40	1.9	1.5	0.005	0.025	0.25	1.9	1.30
98H-158	405343.31	6008893.50	1	2.5	3.50	230	14.0	2.0	8.0	38.0	2.0	1.82	2.0	0.5	2.5	0.5	0.37	14	50.0	0.30	5.8	1.5	0.005	0.025	0.25	12.0	35.00
98H-159	404052.34	6009302.50	3	2.5	2.60	150	9.9	0.5	15.0	10.0	2.0	0.69	2.0	0.5	2.5	3.0	0.38	14	53.0	0.30	2.8	1.5	0.005	0.025	0.25	5.1	5.50
98H-160	390377.00	6020623.00	6	2.5	3.30	200	8.6	3.0	6.0	10.0	0.5	0.51	0.5	0.5	2.5	0.5	0.18	10	18.0	0.50	2.2	1.5	0.005	0.025	0.25	3.5	1.60
98H-161	388589.00	6022651.46	6	2.5	4.70	52	20.0	2.0	4.0	5.0	0.5	0.72	0.5	0.5	2.5	0.5	0.07	10	7.5	0.40	0.9	1.5	0.005	0.025	0.25	1.2	3.30
98H-163	388677.00	6018912.00	1	2.5	22.00	110	16.0	4.0	12.0	11.0	0.5	1.16	0.5	0.5	2.5	3.0	0.06	10	7.5	0.80	1.7	1.5	0.005	0.025	0.25	2.7	3.20
98H-164	386509.00	6018460.00	5	2.5	7.80	510	16.0	3.0	21.0	24.0	2.0	2.71	1.0	0.5	2.5	3.0	0.60	12	7.5	0.30	10.0	1.5	0.005	0.025	0.25	1.6	0.25
98H-165	383945.00	6021656.00	1	2.5	10.00	290	16.0	4.0	5.0	35.0	2.0	1.35	4.0	0.5	2.5	0.5	1.15	10	47.0	0.90	4.9	1.5	0.005	0.025	0.25	5.4	6.80
98H-166	385391.00	6021255.00	3	2.5	5.30	230	11.0	3.0	6.0	24.0	2.0	1.31	1.0	0.5	2.5	0.5	0.21	10	44.0	0.40	4.2	1.5	0.005	0.025	0.25	5.3	1.70
98H-167	384775.00	6020830.00	1	2.5	4.50	370	8.6	2.0	10.0	38.0	2.0	1.83	3.0	0.5	2.5	2.0	0.53	11	68.0	0.50	5.7	1.5	0.005	0.025	0.25	6.6	2.10
98H-168-1 Field Duplicate	389115.00	6015922.00	1	2.5	4.40	170	20.0	6.0	4.0	8.0	0.5	0.51	0.5	0.5	2.5	0.5	0.07	10	7.5	0.90	1.6	1.5	0.005	0.025	0.25	2.4	26.00
98H-168-2 Field Duplicate	389115.00	6015922.00	1	2.5	4.40	90	12.0	0.5	1.0	6.0	0.5	0.22	0.5	0.5	2.5	0.5	0.15	10	38.0	0.60	1.3	1.5	0.005	0.025	0.25	0.9	0.25
98H-169	385427.00	6016657.00	1	2.5	2.20	97	13.0	4.0	2.0	8.0	0.5	0.35	0.5	0.5	2.5	3.0	0.10	10	7.5	0.20	1.4	1.5	0.005	0.025	0.25	2.1	0.25
98H-170	384273.00	6016794.00	3	2.5	2.90	270	8.9	0.5	3.0	19.0	1.0	0.67	2.0	0.5	2.5	0.5	0.37	10	34.0	0.50	2.6	1.5	0.005	0.025	0.25	2.5	0.25
98H-171	383788.00	6015968.00	1	2.5	5.20	510	9.7	0.5	16.0	78.0	6.0	3.56	4.0	0.5	2.5	0.5	0.92	10	110.0	0.50	14.0	1.5	0.005	0.025	0.90	23.0	17.00
98H-172	385394.00	6015986.00	4	2.5	0.25	340	16.0	6.0	2.0	2.5	0.5	0.15	0.5	0.5	2.5	0.5	0.04	10	7.5	0.05	0.6	1.5	0.005	0.025	0.25	0.9	47.00
98H-173	387942.00	6015283.00	4	2.5	1.20	87	15.0	4.0	2.0	2.5	0.5	0.28	0.5	0.5	2.5	4.0	0.03	10	7.5	0.10	0.7	1.5	0.005	0.025	0.25	1.2	0.80
98H-174	394375.00	6012910.00	3	2.5	9.00	130	8.8	0.5	3.0	11.0	0.5	0.43	0.5	0.5	2.5	0.5	0.13	10	7.5	0.40	1.7	1.5	0.005	0.025	0.25	1.6	0.80
98H-175	391283.00	6014472.00	1	2.5	2.70	300	20.0	2.0	14.0	36.0	2.0	2.10	2.0	0.5	2.5	0.5	0.44	11	49.0	0.30	5.0	1.5	0.005	0.025	0.25	6.9	7.60
98H-176	390369.00	6014784.00	2	2.5	3.80	330	10.0	0.5	12.0	18.0	1.0	0.80	1.0	0.5	2.5	0.5	0.22	10	37.0	0.40	2.4	1.5	0.005	0.025	0.25	2.7	0.25
98H-177	321735.97	6041833.00	6	2.5	2.10	130	16.0	1.0	2.0	12.0	0.5	0.52	0.5	0.5	2.5	0.5	0.13	10	7.5	0.40	2.0	1.5	0.005	0.025	0.80	2.0	0.70
98H-178	323967.94	6041833.00	1	2.5	3.30	80	12.0	3.0	2.0	2.5	0.5	0.32	0.5	0.5	2.5	0.5	0.12	10	7.5	0.10	1.5	1.5	0.005	0.025	0.25	2.1	0.25
98H-179	325351.94	6042469.00	3	2.5	2.00	300	25.0	6.0	8.0	43.0	2.0	1.82	2.0	0.5	2.5	0.5	0.19	11	33.0	0.30	6.5	1.5	0.005	0.025	0.25	12.0	19.00
98H-180	324945.91	6041004.00	2	2.5	3.00	200	8.9	2.0	3.0	23.0	0.5	0.63	2.0	0.5	2.5	0.5	0.42	10	7.5	0.40	2.7	1.5	0.005	0.025	0.25	3.0	2.40
98H-181	326531.88	6040989.00	4	2.5	3.60	230	21.0	6.0	4.0	22.0	1.0	1.05	3.0	0.5	2.5	0.5	0.58	10	28.0	0.05	3.9	1.5	0.005	0.025	0.25	5.4	4.50
98H-182	329630.81	6040599.00	1	2.5	2.50	200	18.0	5.0	4.0	21.0	0.5	0.77	2.0	0.5	2.5	0.5	0.39	10	31.0	0.10	2.9	1.5	0.005	0.025	0.25	3.4	2.50
98H-183	331282.75	6039439.00	3	2.5	2.20	140	19.0	5.0	3.0	21.0	0.5	0.74	2.0	0.5	2.5	2.0	0.41	10	25.0	0.30	2.9	1.5	0.005	0.025	0.25	3.3	1.60
98H-184	326621.81	6038449.00	1	2.5	3.00	80	15.0	5.0	2.0	12.0	0.5	0.46	0.5	0.5	2.5	0.5	0.19	10	7.5	0.30	1.7	1.5	0.005	0.025	0.25	1.8	1.20
98H-185-1 Field Duplicate	389115.00	6015922.00	3	2.5	4.10	130	13.0	3.0	3.0	18.0	1.0	0.74	0.5	0.5	2.5	0.5	0.21	10	24.0	0.40	2.7	1.5	0.005	0.025	0.25	3.0	0.90
98H-185-2 Field Duplicate	389115.00	6015922.00	1	2.5	4.30	200	14.0	4.0	5.0	28.0	1.0	1.32	1.0	0.5	2.5	0.5	0.22	10	35.0	0.05	3.9	1.5	0.005	0.025	0.80	4.9	3.90
98H-187	336615.72	6041557.00	8	2.5	3.10	120	17.0	3.0	4.0	11.0	0.5	0.67	0.5	0.5	2.5	0.5	0.18	10	16.0	0.40	2.0	1.5	0.005	0.025	0.25	2.2	40.00
98H-188	354237.25	6039244.50	4	2.5	2.30	150	8.3	3.0	2.0	9.0	0.5	0.60	0.5	0.5	2.5	0.5	0.14	11	7.5	0.50	2.8	1.5	0.005	0.025	0.25	4.1	1.40
98H-189	350083.38	6040090.00	8	2.5	4.50	150	8.8	0.5	2.0	12.0	0.5	0.44	1.0	0.5	2.5	0.5	0.19	10	7.5	0.20	1.9	1.5	0.005	0.025	0.25	2.0	0.60
98H-190	346618.44	6039718.00	12	2.5	2.90	120	12.0	2.0	0.5	7.0	0.5	0.27	0.5	0.5	2.5	6.0	0.08	10	7.5	0.30	1.1	1.5	0.005	0.025	0.25	1.0	0.25
98H-191	348726.41	6040743.00	4	2.5	2.30	100	23.0	6.0	2.0	2.5	0.5	0.54	0.5	0.5	2.5	0.5	0.05	10	7.5	0.30	0.9	1.5	0.005	0.025	0.25	1.2	15.00
98H-192	347772.47	6041683.00	1	2.5	1.40	150	18.0	7.0	2.0	6.0	0.5	0.41	0.5	0.5	2.5	0.5	0.08	10	7.5	1.30	1.4	1.5	0.005	0.025	0.25	2.1	8.40
98H-193	345860.50	6041687.00	1	2.5	3.00	120	31.0	6.0	2.0	2.5	0.5	0.36	0.5	0.5	2.5	0.5	0.06	10	7.5	2.20	0.9	1.5	0.005	0.025	0.25	0.6	15.00
98H-194	355771.22	6040295.50	1	2.5	2.50	110	10.0	4.0	4.0	10.0	0.5	0.60	0.5	0.5	2.5	0.5	0.16	10	16.0	2.10	1.8	1.5	0.005	0.025	0.25	2.0	8.60
98H-195	354102.22	6038317.50	5	2.5	1.60	120	14.0	5.0	2.0	12.0	0.5	0.51	0.5	0.5	2.5	0.5	0.08	10	7.5	1.70	1.8	1.5	0.005	0.025	0.25	3.0	1.40
98H-196	344776.50	6040524.00	8	2.5	1.30	220	21.0	5.0	4.0	22.0	0.5	0.88	2.0	0.5	2.5	0.5	0.43	10	7.5	1.30	3.4	1.5	0.005	0.025	0.25	3.9	4.50
98H-197	344483.53	6041202.00	8	2.5	1.50	180	26.0	6.0	2.0	8.0	0.5	0.30	0.5	0.5	2.5	0.5	0.06	10	7.5	2.00	1.2	1.5	0.005	0.025	0.25	1.9	35.00

Element	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sh	Sr	Ta	Th	U
Units	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98H-198	343762.53	6040329.00	1	2.5	2.80	220	14.0	0.5	6.0	30.0	0.5	0.96	1.0	0.5	2.5	0.5	0.19	11	7.5	2.10	5.3	1.5	0.005	0.025	0.25	1.8	0.25
98H-199	343462.50	6039483.00	7	2.5	2.70	150	24.0	4.0	3.0	14.0	0.5	0.84	1.0	0.5	2.5	0.5	0.17	11	7.5	1.80	3.6	1.5	0.005	0.025	0.25	6.0	110.00
98H-200	341465.56	6040134.00	1	2.5	2.40	220	30.0	4.0	4.0	13.0	0.5	0.97	0.5	0.5	2.5	0.5	0.17	10	7.5	2.00	2.6	1.5	0.005	0.025	0.25	4.8	37.00
98H-201	347331.41	6039448.00	7	2.5	1.50	140	21.0	6.0	2.0	6.0	0.5	0.22	0.5	0.5	2.5	0.5	0.05	10	7.5	2.10	1.1	1.5	0.005	0.025	0.25	1.1	22.00
98H-202	345340.41	6037467.00	5	2.5	1.50	150	19.0	6.0	3.0	11.0	0.5	0.49	0.5	0.5	2.5	0.5	0.10	10	7.5	2.20	2.1	1.5	0.005	0.025	0.25	4.0	44.00
98H-203	347767.38	6038337.00	1	2.5	3.00	260	17.0	3.0	5.0	37.0	2.0	1.90	1.0	0.5	2.5	0.5	0.19	11	45.0	0.30	5.4	1.5	0.005	0.025	0.25	7.5	11.00
98H-204	349428.38	6039387.00	4	2.5	4.30	280	17.0	5.0	5.0	25.0	0.5	1.10	2.0	0.5	2.5	0.5	0.47	11	7.5	1.10	4.3	1.5	0.005	0.025	0.25	5.6	4.10
98H-205	337801.72	6042848.00	15	2.5	2.80	190	12.0	4.0	2.0	13.0	0.5	0.51	2.0	0.5	2.5	0.5	0.34	10	7.5	1.60	2.6	1.5	0.005	0.025	0.25	5.8	13.00
98H-206	338357.66	6040821.00	1	2.5	3.00	120	27.0	5.0	3.0	15.0	0.5	0.64	1.0	0.5	2.5	0.5	0.29	10	16.0	1.50	2.3	1.5	0.005	0.025	0.25	3.1	20.00
98H-207	340633.63	6041136.00	62	2.5	3.70	330	38.0	3.0	9.0	50.0	2.0	2.44	2.0	0.5	2.5	0.5	0.47	13	55.0	1.60	6.4	1.5	0.005	0.025	0.25	7.8	20.00
98H-208-1 Field Duplicate	339675.63	6041192.00	1	2.5	2.50	190	16.0	5.0	5.0	24.0	1.0	1.09	1.0	0.5	2.5	0.5	0.26	10	24.0	1.40	3.9	1.5	0.005	0.025	0.25	6.4	16.00
98H-208-2 Field Duplicate	339675.63	6041192.00	8	2.5	1.00	130	28.0	7.0	2.0	6.0	0.5	0.27	0.5	0.5	2.5	0.5	0.05	10	7.5	1.40	1.0	1.5	0.005	0.025	0.25	1.7	98.00

Element	W	Zn	La	Ce	Nd	Sm	Ey	Tb	Yb	Lu	TREE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98H-1	0.5	136	10.0	19	2.5	1.50	0.1	0.25	0.5	0.090	33.9
98H-2	0.5	25	9.5	21	13.0	1.40	0.1	0.25	0.6	0.090	45.9
98H-3	0.5	25	3.7	10	2.5	0.60	0.1	0.25	0.2	0.025	17.4
98H-4	0.5	25	9.5	18	2.5	1.20	0.1	0.25	0.4	0.050	32.0
98H-5	0.5	25	22.0	35	14.0	2.80	0.5	0.25	0.8	0.130	75.5
98H-6	0.5	25	48.0	57	37.0	5.20	0.9	0.25	1.0	0.190	149.5
98H-7	0.5	25	7.0	11	5.0	1.10	0.1	0.25	0.4	0.050	24.9
98H-8	0.5	25	31.0	64	23.0	4.20	0.9	0.25	1.3	0.190	124.8
98H-9	0.5	25	22.0	43	17.0	2.80	0.4	0.25	1.0	0.150	86.6
98H-10	0.5	25	25.0	62	17.0	3.10	0.6	0.25	1.1	0.160	109.2
98H-11	0.5	25	40.0	68	28.0	4.60	1.0	0.25	1.1	0.170	143.1
98H-12	0.5	25	22.0	28	14.0	2.80	0.5	0.25	0.8	0.130	68.5
98H-13	0.5	25	20.0	36	19.0	2.70	0.5	0.25	0.8	0.130	79.4
98H-14	0.5	25	9.2	21	8.0	1.10	0.1	0.25	0.4	0.050	40.1
98H-15	0.5	25	14.0	27	2.5	1.50	0.1	0.25	0.5	0.090	45.9
98H-16-1 Field Duplicate	0.5	25	17.0	21	2.5	0.90	0.1	0.25	0.3	0.025	42.1
98H-16-2 Field Duplicate	0.5	25	18.0	37	2.5	1.80	0.4	0.25	0.5	0.070	60.5
98H-17	0.5	25	9.9	22	2.5	1.20	0.1	0.25	0.6	0.100	36.7
98H-18	0.5	25	41.0	81	24.0	4.10	0.9	0.25	1.0	0.150	152.4
98H-19	0.5	25	45.0	120	24.0	4.40	0.9	0.25	1.2	0.180	195.9
98H-20	0.5	25	23.0	44	21.0	2.80	0.4	0.25	0.6	0.090	92.1
98H-21	0.5	63	22.0	48	16.0	3.10	0.8	0.25	1.4	0.220	91.8
98H-22	0.5	65	20.0	37	14.0	2.30	0.5	0.25	1.0	0.170	75.2
98H-23	0.5	25	34.0	45	26.0	3.40	0.7	0.25	0.9	0.130	110.4
98H-24	0.5	56	19.0	34	11.0	2.40	0.4	0.25	0.6	0.090	67.7
98H-25	0.5	25	15.0	29	2.5	1.70	0.2	0.25	0.5	0.070	49.2
98H-26	0.5	25	14.0	30	12.0	1.90	0.4	0.25	0.7	0.090	59.3
98H-27	0.5	84	4.9	8	5.0	0.60	0.1	0.25	0.3	0.025	19.2
98H-28	0.5	25	4.1	7	2.5	0.50	0.1	0.25	0.3	0.025	14.8
98H-29	0.5	25	14.0	31	9.0	1.80	0.1	0.25	0.6	0.060	56.8
98H-30	0.5	51	11.0	25	8.0	1.40	0.3	0.25	0.6	0.070	46.6
98H-31	0.5	54	6.8	12	2.5	0.80	0.1	0.25	0.4	0.060	22.9
98H-32	0.5	291	14.0	27	9.0	1.80	0.3	0.25	0.8	0.100	53.3
98H-33	0.5	25	9.3	16	6.0	1.20	0.2	0.25	0.5	0.080	33.5
98H-34	0.5	102	25.0	47	14.0	3.00	0.5	0.25	1.2	0.160	91.1
98H-35	0.5	125	30.0	56	19.0	3.60	0.8	0.25	1.2	0.180	111.0
98H-36-1 Field Duplicate	0.5	79	43.0	62	21.0	3.00	0.7	0.25	1.1	0.170	131.2
98H-36-2 Field Duplicate	0.5	25	19.0	33	9.0	1.90	0.4	0.25	0.9	0.140	64.6
98H-37	0.5	25	27.0	51	18.0	3.10	0.5	0.25	0.7	0.110	100.7
98H-38	0.5	25	2.4	6	2.5	0.30	0.1	0.25	0.1	0.025	11.7
98H-41	0.5	25	30.0	54	22.0	3.70	0.7	0.25	0.9	0.140	111.7
98H-43	0.5	25	99.0	150	59.0	11.00	1.9	1.10	2.5	0.380	324.9
98H-44	0.5	142	6.6	12	2.5	1.00	0.1	0.25	0.5	0.070	23.0
98H-45	0.5	25	3.2	4	2.5	0.60	0.1	0.25	0.2	0.025	10.9

Element	W	Zn	La	Ce	Nd	Sm	Ey	Tb	Yb	Lu	TREE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98H-46	0.5	67	29.0	52	18.0	3.90	0.8	0.25	1.7	0.260	105.9
98H-47	0.5	77	48.0	82	32.0	5.80	1.1	0.25	2.3	0.330	171.8
98H-48	0.5	94	18.0	34	13.0	2.60	0.5	0.25	1.2	0.180	69.7
98H-49	0.5	183	32.0	67	23.0	5.60	1.3	0.90	4.6	0.690	135.1
98H-51	0.5	25	13.0	24	7.0	1.70	0.3	0.25	0.5	0.080	46.8
98H-52	0.5	25	8.6	14	5.0	1.00	0.3	0.25	0.5	0.080	29.7
98H-53	1.0	112	19.0	39	14.0	2.60	0.5	0.25	1.2	0.190	76.7
98H-54	0.5	69	34.0	56	20.0	3.90	0.7	0.25	1.1	0.160	116.1
98H-55	0.5	25	13.0	24	7.0	1.90	0.4	0.25	1.0	0.150	47.7
98H-56	0.5	25	9.3	18	8.0	1.30	0.3	0.25	0.5	0.070	37.7
98H-57	0.5	25	45.0	68	26.0	5.40	0.9	0.25	1.1	0.170	146.8
98H-58	0.5	25	13.0	26	2.5	1.70	0.5	0.25	0.9	0.140	45.0
98H-59	0.5	25	8.3	19	7.0	1.20	0.4	0.25	0.7	0.110	37.0
98H-60	0.5	56	14.0	32	11.0	2.10	0.5	0.25	0.8	0.130	60.8
98H-61-1 Field Duplicate	0.5	25	13.0	27	8.0	1.70	0.3	0.25	0.5	0.080	50.8
98H-61-2 Field Duplicate	0.5	25	11.0	24	7.0	1.60	0.1	0.25	0.8	0.130	44.9
98H-62	0.5	25	20.0	44	14.0	2.60	0.5	0.25	0.8	0.120	82.3
98H-63	0.5	25	25.0	50	17.0	3.10	0.7	0.25	1.2	0.190	97.4
98H-64	0.5	25	4.4	9	6.0	0.60	0.1	0.25	0.1	0.025	20.5
98H-65	0.5	51	4.6	12	5.0	0.70	0.1	0.25	0.1	0.025	22.8
98H-66	0.5	25	11.0	22	11.0	1.60	0.3	0.25	0.7	0.110	47.0
98H-67	0.5	25	7.5	16	2.5	1.10	0.3	0.25	0.5	0.070	28.2
98H-68	0.5	25	20.0	42	2.5	2.60	0.5	0.25	0.8	0.120	68.8
98H-69	0.5	25	12.0	21	2.5	1.70	0.3	0.25	0.7	0.080	38.5
98H-70	0.5	25	7.7	21	5.0	1.10	0.1	0.25	0.5	0.080	35.7
98H-71	0.5	25	14.0	30	13.0	2.30	0.5	0.25	0.9	0.140	61.1
98H-72	0.5	25	21.0	48	15.0	2.80	0.4	0.25	0.8	0.130	88.4
98H-73	0.5	25	8.3	17	2.5	1.00	0.1	0.25	0.1	0.025	29.3
98H-74	0.5	64	8.0	18	10.0	1.00	0.1	0.25	0.5	0.080	37.9
98H-75	0.5	25	23.0	38	18.0	3.10	0.6	0.25	1.1	0.140	84.2
98H-76	0.5	25	3.3	7	2.5	0.40	0.1	0.25	0.1	0.025	13.7
98H-77	0.5	25	11.0	19	2.5	1.60	0.3	0.25	0.4	0.060	35.1
98H-78	0.5	25	11.0	29	2.5	1.80	0.5	0.25	0.8	0.130	46.0
98H-79	0.5	25	7.8	15	5.0	1.10	0.2	0.25	0.5	0.080	29.9
98H-80	0.5	53	2.8	5	2.5	0.40	0.1	0.25	0.1	0.025	11.2
98H-81	0.5	65	22.0	38	20.0	2.90	0.6	0.25	1.0	0.140	84.9
98H-82	0.5	25	20.0	41	19.0	3.00	0.6	0.25	1.0	0.150	85.0
98H-83	0.5	25	6.7	15	2.5	0.90	0.3	0.25	0.4	0.060	26.1
98H-84	0.5	25	2.4	4	2.5	0.40	0.1	0.25	0.2	0.025	9.9
98H-85-1 Field Duplicate	0.5	25	8.2	19	2.5	1.20	0.3	0.25	0.7	0.120	32.3
98H-85-2 Field Duplicate	0.5	60	2.7	8	2.5	0.40	0.1	0.25	0.2	0.025	14.2
98H-86	0.5	25	6.9	13	2.5	0.90	0.1	0.25	0.4	0.060	24.1
98H-87	0.5	25	12.0	25	2.5	1.70	0.5	0.25	0.8	0.120	42.9
98H-88	0.5	52	19.0	45	11.0	2.40	0.3	0.25	0.7	0.110	78.8
98H-89	0.5	25	6.5	13	2.5	1.00	0.1	0.25	0.3	0.025	23.7
98H-90	0.5	25	6.8	13	6.0	1.10	0.1	0.25	0.4	0.060	27.7
98H-91	0.5	25	7.3	13	2.5	1.10	0.3	0.25	0.4	0.060	24.9
98H-92	0.5	25	2.2	6	2.5	0.40	0.1	0.25	0.2	0.025	11.7
98H-93	0.5	25	12.0	19	2.5	1.70	0.4	0.25	0.9	0.130	36.9
98H-94	0.5	54	18.0	35	16.0	2.10	0.4	0.25	1.0	0.150	72.9
98H-95	0.5	74	11.0	21	10.0	1.70	0.3	0.25	0.9	0.130	45.3
98H-96	0.5	25	25.0	30	16.0	3.10	0.5	0.25	0.7	0.140	75.7

Element	W	Zn	La	Ce	Nd	Sm	Ey	Tb	Yb	Lu	TREE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98H-97	0.5	25	5.3	11	2.5	0.70	0.1	0.25	0.1	0.025	20.0
98H-98	0.5	25	8.8	16	7.0	1.50	0.2	0.25	0.5	0.080	34.3
98H-99	0.5	25	4.8	11	2.5	0.80	0.1	0.25	0.3	0.025	19.8
98H-100	0.5	25	9.7	22	2.5	1.40	0.1	0.25	0.3	0.025	36.3
98H-101	0.5	25	2.8	7	2.5	0.50	0.1	0.25	0.3	0.025	13.5
98H-102	0.5	67	18.0	29	17.0	2.20	0.4	0.25	0.8	0.100	67.8
98H-103	0.5	25	4.2	8	2.5	0.60	0.1	0.25	0.1	0.025	15.8
98H-104-1 Field Duplicate	0.5	50	46.0	59	29.0	5.00	1.0	0.25	1.0	0.150	141.4
98H-104-2 Field Duplicate	0.5	61	11.0	18	7.0	1.40	0.3	0.25	0.4	0.070	38.4
98H-105	0.5	25	14.0	24	13.0	2.20	0.5	0.25	1.0	0.140	55.1
98H-106	0.5	25	13.0	23	10.0	1.80	0.3	0.25	0.7	0.110	49.2
98H-107	0.5	25	7.7	10	7.0	1.00	0.1	0.25	0.3	0.025	26.4
98H-108	0.5	25	12.0	17	7.0	1.50	0.3	0.25	0.5	0.080	38.6
98H-109	0.5	25	13.0	23	14.0	1.50	0.4	0.25	0.4	0.100	52.7
98H-110	0.5	25	22.0	22	14.0	2.40	0.4	0.25	0.7	0.100	61.9
98H-111	0.5	25	2.3	5	2.5	0.40	0.1	0.25	0.2	0.025	10.8
98H-112	0.5	25	5.8	12	2.5	0.80	0.1	0.25	0.2	0.025	21.7
98H-113	0.5	25	12.0	21	8.0	1.30	0.3	0.25	0.5	0.080	43.4
98H-114	0.5	25	13.0	19	13.0	1.70	0.4	0.25	0.6	0.080	48.0
98H-115	0.5	25	4.9	9	2.5	0.70	0.1	0.25	0.2	0.025	17.7
98H-116	0.5	25	42.0	49	29.0	4.90	0.9	0.25	1.4	0.200	127.7
98H-117	3.0	25	16.0	28	11.0	2.10	0.5	0.25	0.6	0.070	58.5
98H-118	0.5	25	7.3	14	2.5	1.00	0.2	0.25	0.3	0.025	25.6
98H-119	0.5	25	4.8	8	2.5	0.70	0.1	0.25	0.3	0.050	16.7
98H-120	0.5	25	16.0	32	13.0	2.40	0.5	0.25	1.1	0.160	65.4
98H-121	0.5	25	23.0	45	18.0	3.40	0.7	0.25	1.0	0.150	91.5
98H-122	0.5	25	4.9	7	2.5	0.60	0.2	0.25	0.2	0.025	15.7
98H-123	1.0	25	18.0	33	11.0	2.50	0.5	0.25	1.0	0.150	66.4
98H-124	0.5	25	9.7	10	2.5	1.20	0.1	0.25	0.3	0.025	24.1
98H-125	0.5	25	17.0	24	10.0	2.40	0.5	0.25	0.9	0.130	55.2
98H-126	0.5	67	13.0	27	11.0	2.00	0.4	0.25	0.6	0.090	54.3
98H-127	0.5	25	6.9	12	9.0	0.80	0.1	0.60	0.3	0.025	29.7
98H-128	0.5	25	12.0	16	5.0	1.50	0.4	0.25	0.4	0.060	35.6
98H-129-1 Field Duplicate	0.5	25	12.0	21	7.0	1.50	0.3	0.25	0.5	0.080	42.6
98H-129-2 Field Duplicate	0.5	25	23.0	43	20.0	2.80	0.1	0.25	0.7	0.110	90.0
98H-130	0.5	25	12.0	23	2.5	1.30	0.1	0.25	0.3	0.025	39.5
98H-131	0.5	25	25.0	45	17.0	3.10	0.5	0.25	0.8	0.130	91.8
98H-132	0.5	25	32.0	47	19.0	4.10	0.7	0.25	1.2	0.180	104.4
98H-133	0.5	25	9.5	17	2.5	1.20	0.2	0.25	0.4	0.080	31.1
98H-134	0.5	25	27.0	49	17.0	2.90	0.4	0.25	0.7	0.110	97.4
98H-135	0.5	25	24.0	38	10.0	2.30	0.1	0.25	0.8	0.130	75.6
98H-136	0.5	25	38.0	73	24.0	4.50	0.7	0.25	1.2	0.160	141.8
98H-137	0.5	25	3.3	5	2.5	0.50	0.1	0.25	0.1	0.025	11.8
98H-138	0.5	25	53.0	85	32.0	5.40	0.9	0.60	1.2	0.180	178.3
98H-139	0.5	25	9.8	16	7.0	1.00	0.2	0.25	0.3	0.025	34.6
98H-140	0.5	25	8.3	20	6.0	1.00	0.2	0.25	0.3	0.025	36.1
98H-141	0.5	51	25.0	45	18.0	3.20	0.6	0.25	1.1	0.160	93.3
98H-142	0.5	71	7.7	16	2.5	0.90	0.1	0.25	0.3	0.025	27.8
98H-143	0.5	25	35.0	58	22.0	3.60	0.5	0.25	1.0	0.150	120.5
98H-144	0.5	25	13.0	26	10.0	1.60	0.3	0.25	0.6	0.090	51.8
98H-145	0.5	25	13.0	20	13.0	1.80	0.2	0.25	0.7	0.110	49.1
98H-146	0.5	25	33.0	51	23.0	4.10	0.6	0.25	1.2	0.170	113.3

Element	W	Zn	La	Ce	Nd	Sm	Ey	Tb	Yb	Lu	TREE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98H-147	0.5	25	25.0	34	11.0	3.20	0.6	0.25	0.8	0.130	75.0
98H-148	0.5	25	8.7	14	9.0	1.40	0.3	0.25	0.5	0.110	34.3
98H-149	0.5	25	12.0	22	10.0	2.50	0.4	0.25	0.5	0.080	47.7
98H-150-1 Field Duplicate	0.5	25	23.0	39	16.0	3.00	0.5	0.25	0.8	0.140	82.7
98H-150-2 Field Duplicate	0.5	25	22.0	36	14.0	3.00	0.6	0.25	0.9	0.160	76.9
98H-151	0.5	25	32.0	49	21.0	3.80	0.6	0.25	1.0	0.160	107.8
98H-152	0.5	97	22.0	38	17.0	2.90	0.8	0.25	0.7	0.110	81.8
98H-153	0.5	104	5.8	11	2.5	0.90	0.3	0.25	0.1	0.025	20.9
98H-154	0.5	25	1.7	3	2.5	0.30	0.1	0.25	0.1	0.025	8.0
98H-155	0.5	25	2.2	4	2.5	0.30	0.2	0.25	0.1	0.025	9.6
98H-156	0.5	70	41.0	86	31.0	5.50	1.2	0.25	1.5	0.220	166.7
98H-157	0.5	97	9.8	23	2.5	1.20	0.3	0.25	0.4	0.060	37.5
98H-158	0.5	25	70.0	110	53.0	8.50	1.4	0.25	2.1	0.280	245.5
98H-159	0.5	74	38.0	66	24.0	3.80	0.5	0.60	1.0	0.120	134.0
98H-160	0.5	111	14.0	27	12.0	1.70	0.5	0.25	0.5	0.090	56.0
98H-161	0.5	25	9.6	19	2.5	1.10	0.1	0.25	0.4	0.060	33.0
98H-163	0.5	25	7.6	14	6.0	1.30	0.4	0.25	0.4	0.060	30.0
98H-164	0.5	125	13.0	23	7.0	1.90	0.6	0.25	0.9	0.140	46.8
98H-165	0.5	25	17.0	30	14.0	2.50	0.5	0.25	1.1	0.170	65.5
98H-166	0.5	25	29.0	47	18.0	3.40	0.6	0.25	0.9	0.150	99.3
98H-167	0.5	139	23.0	44	15.0	2.90	0.5	0.25	0.9	0.150	86.7
98H-168-1 Field Duplicate	0.5	88	11.0	18	8.0	1.30	0.4	0.25	0.4	0.025	39.4
98H-168-2 Field Duplicate	0.5	75	3.0	7	2.5	0.50	0.1	0.25	0.1	0.025	13.5
98H-169	0.5	25	7.7	13	5.0	1.00	0.1	0.25	0.3	0.050	27.4
98H-170	0.5	25	7.9	15	7.0	1.20	0.2	0.25	0.5	0.080	32.1
98H-171	0.5	109	110.0	190	80.0	15.00	2.3	1.30	4.2	0.600	403.4
98H-172	0.5	25	3.8	5	2.5	0.05	0.1	0.25	0.1	0.025	11.8
98H-173	0.5	25	5.0	9	2.5	0.70	0.1	0.25	0.2	0.025	17.8
98H-174	0.5	86	6.7	13	2.5	0.90	0.1	0.25	0.3	0.080	23.8
98H-175	0.5	71	27.0	55	16.0	3.20	0.6	0.25	1.0	0.160	103.2
98H-176	0.5	224	7.6	16	6.0	1.00	0.1	0.25	0.4	0.060	31.4
98H-177	0.5	25	12.0	23	9.0	1.50	0.2	0.25	0.5	0.060	46.5
98H-178	0.5	25	8.3	13	6.0	1.10	0.2	0.25	0.3	0.050	29.2
98H-179	0.5	25	57.0	76	41.0	7.00	1.5	0.50	1.8	0.260	185.1
98H-180	0.5	25	10.0	19	7.0	1.50	0.3	0.25	0.6	0.100	38.8
98H-181	0.5	25	20.0	34	16.0	2.70	0.5	0.25	1.1	0.160	74.7
98H-182	0.5	25	12.0	21	9.0	1.70	0.3	0.25	0.7	0.100	45.1
98H-183	0.5	25	12.0	22	7.0	1.60	0.3	0.25	0.7	0.110	44.0
98H-184	0.5	25	6.2	13	6.0	0.90	0.2	0.25	0.4	0.060	27.0
98H-185-1 Field Duplicate	0.5	136	9.8	22	8.0	1.30	0.3	0.25	0.5	0.080	42.2
98H-185-2 Field Duplicate	0.5	25	20.0	31	13.0	2.60	0.4	0.25	0.9	0.120	68.3
98H-187	0.5	25	8.5	18	2.5	1.40	0.1	0.25	0.3	0.025	31.1
98H-188	0.5	25	44.0	46	30.0	4.90	0.9	0.25	1.2	0.160	127.4
98H-189	0.5	25	6.2	12	2.5	0.90	0.2	0.25	0.4	0.070	22.5
98H-190	0.5	25	7.1	11	2.5	0.80	0.1	0.25	0.1	0.025	21.9
98H-191	0.5	25	4.7	8	2.5	0.90	0.1	0.25	0.3	0.025	16.8
98H-192	0.5	25	6.7	12	2.5	0.90	0.2	0.25	0.3	0.025	22.9
98H-193	0.5	63	3.4	8	2.5	0.50	0.1	0.25	0.1	0.025	14.9
98H-194	0.5	25	6.9	11	2.5	1.00	0.2	0.25	0.4	0.060	22.3
98H-195	0.5	25	14.0	17	8.0	1.80	0.1	0.25	0.5	0.100	41.8
98H-196	0.5	25	12.0	24	6.0	1.80	0.4	0.25	0.8	0.130	45.4
98H-197	0.5	25	6.4	11	2.5	0.80	0.1	0.25	0.2	0.025	21.3

Element	W	Zn	La	Ce	Nd	Sm	Ey	Tb	Yb	Lu	TREE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98H-198	0.5	25	6.0	9	2.5	0.90	0.1	0.25	0.5	0.080	19.3
98H-199	0.5	25	43.0	54	31.0	4.60	1.0	0.25	1.1	0.160	135.1
98H-200	0.5	25	31.0	45	22.0	3.70	0.6	0.25	0.9	0.140	103.6
98H-201	0.5	25	6.9	8	2.5	0.90	0.1	0.25	0.3	0.025	19.0
98H-202	0.5	61	21.0	23	11.0	2.40	0.7	0.25	0.6	0.150	59.1
98H-203	0.5	70	30.0	46	19.0	3.70	0.4	0.25	0.9	0.130	100.4
98H-204	0.5	25	29.0	37	20.0	3.90	0.7	0.25	1.2	0.190	92.2
98H-205	0.5	25	12.0	20	9.0	1.80	0.3	0.25	0.8	0.120	44.3
98H-206	0.5	25	9.5	16	5.0	1.30	0.2	0.25	0.5	0.060	32.8
98H-207	0.5	66	22.0	40	16.0	2.80	0.6	0.25	1.1	0.170	82.9
98H-208-1 Field Duplicate	0.5	25	27.0	30	19.0	3.40	0.6	0.25	0.9	0.100	81.3
98H-208-2 Field Duplicate	0.5	25	7.2	10	2.5	0.05	0.1	0.25	0.2	0.025	20.3

Appendix 5

Humus Geochimistry: Duplicate pair INA Analyses.

Element	UTM		Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sh	Sr	Ta	Th	U
Units	Easting	Northing	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm
98H-16-1 Field Duplicate	406208.50	6016505.50	10	2.5	1.70	210	11.0	0.5	8.0	7.0	0.5	0.35	0.5	0.5	2.5	0.5	0.17	14	7.5	0.05	1.5	1.5	0.005	0.025	0.25	1.6	0.25
98H-16-2 Field Duplicate	406208.50	6016505.50	16	2.5	0.25	200	10.0	0.5	4.0	8.0	0.5	0.66	2.0	0.5	2.5	10.0	0.23	17	33.0	0.30	2.6	1.5	0.005	0.025	0.25	3.7	0.25
98H-36-1 Field Duplicate	406208.50	6016505.50	1	2.5	4.60	240	7.5	0.5	6.0	20.0	0.5	1.36	3.0	0.5	2.5	0.5	1.03	14	7.5	0.40	5.3	1.5	0.005	0.025	0.25	6.3	3.00
98H-36-2 Field Duplicate	406208.50	6016505.50	1	2.5	4.70	350	6.2	2.0	4.0	22.0	2.0	1.01	3.0	0.5	2.5	0.5	0.74	14	28.0	0.30	5.3	1.5	0.005	0.025	0.25	4.5	2.50
98H-61-1 Field Duplicate	428648.00	6042511.00	1	2.5	2.50	130	6.0	2.0	3.0	12.0	0.5	0.64	2.0	0.5	2.5	0.5	0.23	10	33.0	0.20	2.2	1.5	0.005	0.025	0.25	2.4	0.25
98H-61-2 Field Duplicate	428648.00	6042511.00	1	2.5	2.20	150	6.0	2.0	3.0	20.0	0.5	0.83	3.0	0.5	2.5	0.5	0.52	11	7.5	0.40	3.1	1.5	0.005	0.025	0.25	3.4	0.25
98H-85-1 Field Duplicate	439153.13	6044766.50	17	2.5	4.80	130	9.9	0.5	1.0	18.0	2.0	0.59	5.0	0.5	2.5	0.5	0.73	16	7.5	0.05	2.6	1.5	0.005	0.025	0.25	2.8	0.25
98H-85-2 Field Duplicate	439153.13	6044766.50	1	2.5	3.30	100	9.7	0.5	0.5	8.0	0.5	0.28	1.0	0.5	2.5	0.5	0.18	12	7.5	0.30	1.1	1.5	0.005	0.025	0.25	0.1	0.25
98H-104-1 Field Duplicate	423848.47	6036518.50	8	2.5	3.50	270	6.8	4.0	7.0	30.0	2.0	1.41	1.0	0.5	2.5	0.5	0.30	22	7.5	0.40	4.6	1.5	0.005	0.025	0.25	5.1	1.50
98H-104-2 Field Duplicate	423848.47	6036518.50	5	2.5	3.40	130	7.4	2.0	5.0	13.0	0.5	0.72	0.5	0.5	2.5	0.5	0.14	10	7.5	0.30	2.7	1.5	0.005	0.025	0.25	2.6	0.25
98H-129-1 Field Duplicate	411318.28	6013772.50	1	2.5	3.20	150	10.0	0.5	5.0	14.0	0.5	0.74	2.0	0.5	2.5	0.5	0.31	10	24.0	0.30	2.8	1.5	0.005	0.025	0.25	2.8	1.30
98H-129-2 Field Duplicate	411318.28	6013772.50	4	2.5	3.80	180	9.9	3.0	5.0	22.0	0.5	1.18	1.0	0.5	2.5	0.5	0.23	10	32.0	0.40	3.6	1.5	0.005	0.025	0.25	4.1	1.80
98H-150-1 Field Duplicate	400497.00	6013199.00	5	2.5	2.70	200	22.0	6.0	7.0	24.0	1.0	1.25	0.5	0.5	2.5	0.5	0.16	10	39.0	0.30	3.9	1.5	0.005	0.025	0.80	5.9	4.20
98H-150-2 Field Duplicate	400497.00	6013199.00	9	2.5	2.90	180	20.0	5.0	8.0	23.0	1.0	1.20	0.5	0.5	2.5	0.5	0.17	11	24.0	0.20	4.2	1.5	0.005	0.025	0.25	6.5	4.10
98H-168-1 Field Duplicate	389115.00	6015922.00	1	2.5	4.40	170	20.0	6.0	4.0	8.0	0.5	0.51	0.5	0.5	2.5	0.5	0.07	10	7.5	0.90	1.6	1.5	0.005	0.025	0.25	2.4	26.00
98H-168-2 Field Duplicate	389115.00	6015922.00	1	2.5	4.40	90	12.0	0.5	1.0	6.0	0.5	0.22	0.5	0.5	2.5	0.5	0.15	10	38.0	0.60	1.3	1.5	0.005	0.025	0.25	0.9	0.25
98H-185-1 Field Duplicate	389115.00	6015922.00	3	2.5	4.10	130	13.0	3.0	3.0	18.0	1.0	0.74	0.5	0.5	2.5	0.5	0.21	10	24.0	0.40	2.7	1.5	0.005	0.025	0.25	3.0	0.90
98H-185-2 Field Duplicate	389115.00	6015922.00	1	2.5	4.30	200	14.0	4.0	5.0	28.0	1.0	1.32	1.0	0.5	2.5	0.5	0.22	10	35.0	0.05	3.9	1.5	0.005	0.025	0.80	4.9	3.90
98H-208-1 Field Duplicate	339675.63	6041192.00	1	2.5	2.50	190	16.0	5.0	5.0	24.0	1.0	1.09	1.0	0.5	2.5	0.5	0.26	10	24.0	1.40	3.9	1.5	0.005	0.025	0.25	6.4	16.00
98H-208-2 Field Duplicate	339675.63	6041192.00	8	2.5	1.00	130	28.0	7.0	2.0	6.0	0.5	0.27	0.5	0.5	2.5	0.5	0.05	10	7.5	1.40	1.0	1.5	0.005	0.025	0.25	1.7	98.00

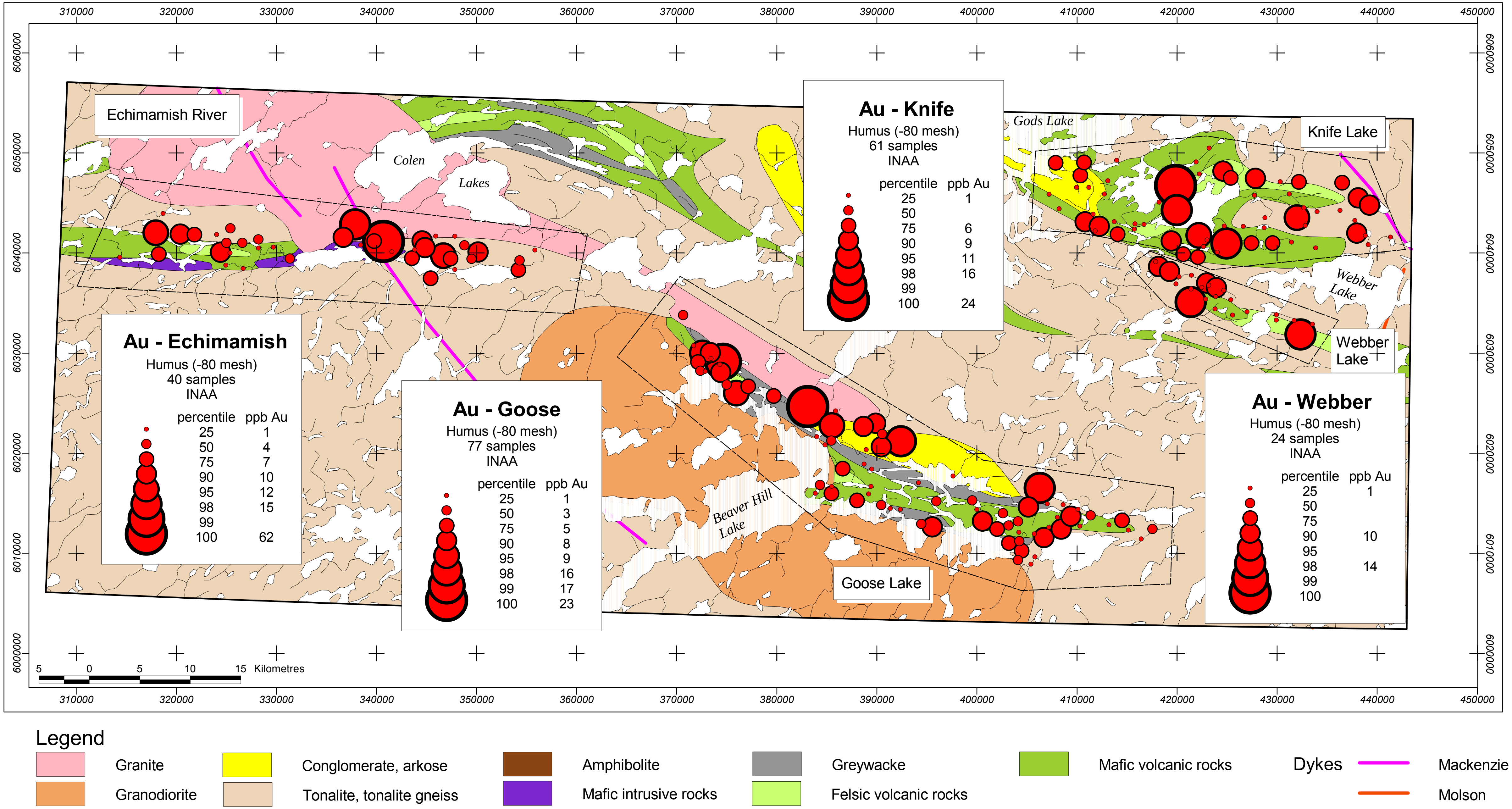
Element Units	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Ey ppm	Tb ppm	Yb ppm	Lu ppm	TREE ppm
98H-16-1 Field Duplicate	0.5	25	17.0	21	2.5	0.90	0.1	0.25	0.3	0.025	42.1
98H-16-2 Field Duplicate	0.5	25	18.0	37	2.5	1.80	0.4	0.25	0.5	0.070	60.5
98H-36-1 Field Duplicate	0.5	79	43.0	62	21.0	3.00	0.7	0.25	1.1	0.170	131.2
98H-36-2 Field Duplicate	0.5	25	19.0	33	9.0	1.90	0.4	0.25	0.9	0.140	64.6
98H-61-1 Field Duplicate	0.5	25	13.0	27	8.0	1.70	0.3	0.25	0.5	0.080	50.8
98H-61-2 Field Duplicate	0.5	25	11.0	24	7.0	1.60	0.1	0.25	0.8	0.130	44.9
98H-85-1 Field Duplicate	0.5	25	8.2	19	2.5	1.20	0.3	0.25	0.7	0.120	32.3
98H-85-2 Field Duplicate	0.5	60	2.7	8	2.5	0.40	0.1	0.25	0.2	0.025	14.2
98H-104-1 Field Duplicate	0.5	50	46.0	59	29.0	5.00	1.0	0.25	1.0	0.150	141.4
98H-104-2 Field Duplicate	0.5	61	11.0	18	7.0	1.40	0.3	0.25	0.4	0.070	38.4
98H-129-1 Field Duplicate	0.5	25	12.0	21	7.0	1.50	0.3	0.25	0.5	0.080	42.6
98H-129-2 Field Duplicate	0.5	25	23.0	43	20.0	2.80	0.1	0.25	0.7	0.110	90.0
98H-150-1 Field Duplicate	0.5	25	23.0	39	16.0	3.00	0.5	0.25	0.8	0.140	82.7
98H-150-2 Field Duplicate	0.5	25	22.0	36	14.0	3.00	0.6	0.25	0.9	0.160	76.9
98H-168-1 Field Duplicate	0.5	88	11.0	18	8.0	1.30	0.4	0.25	0.4	0.025	39.4
98H-168-2 Field Duplicate	0.5	75	3.0	7	2.5	0.50	0.1	0.25	0.1	0.025	13.5
98H-185-1 Field Duplicate	0.5	136	9.8	22	8.0	1.30	0.3	0.25	0.5	0.080	42.2
98H-185-2 Field Duplicate	0.5	25	20.0	31	13.0	2.60	0.4	0.25	0.9	0.120	68.3
98H-208-1 Field Duplicate	0.5	25	27.0	30	19.0	3.40	0.6	0.25	0.9	0.100	81.3
98H-208-2 Field Duplicate	0.5	25	7.2	10	2.5	0.05	0.1	0.25	0.2	0.025	20.3

Appendix 6

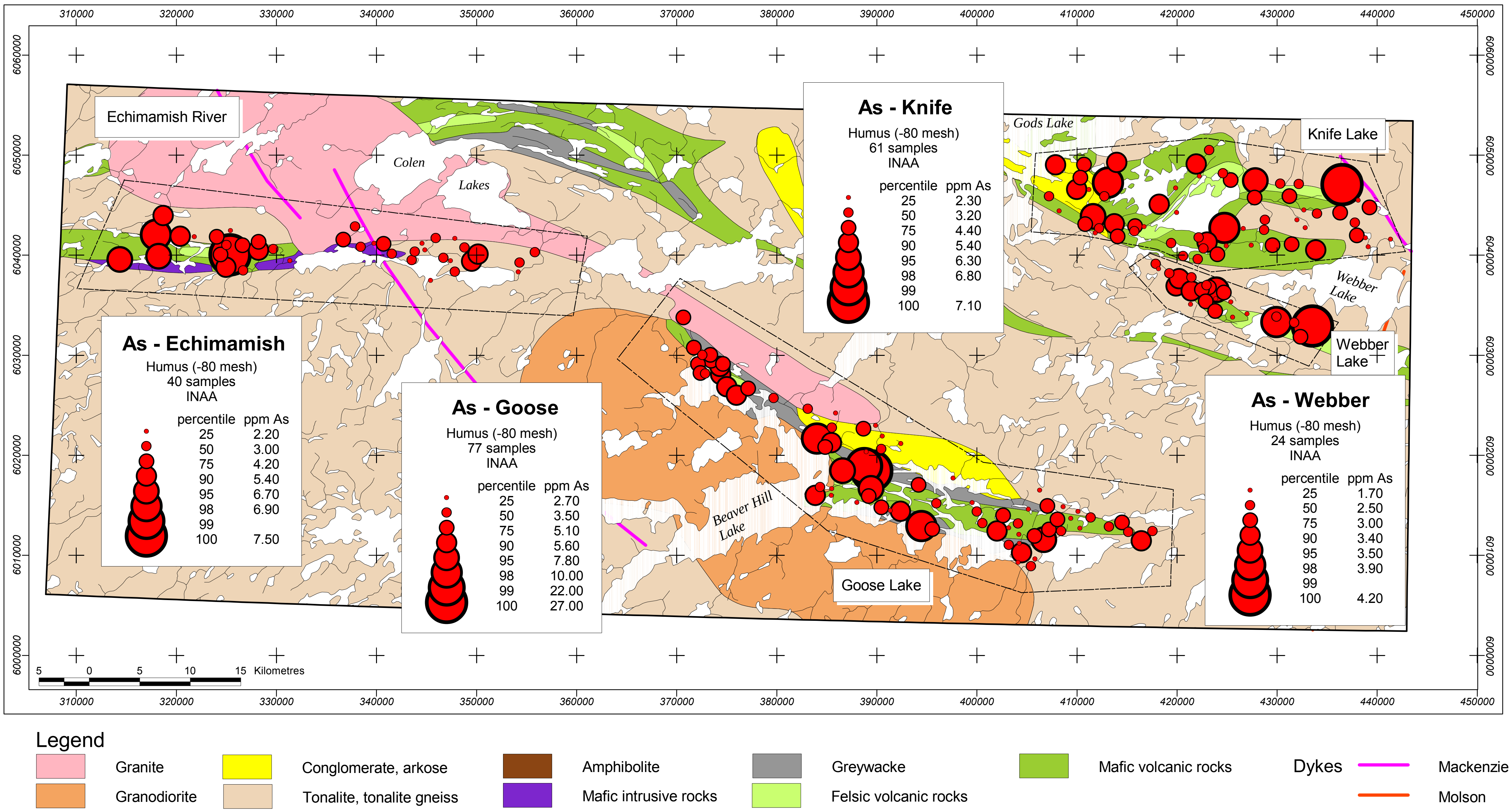
Humus Geochemistry: INAA Percentile Bubble Plots.

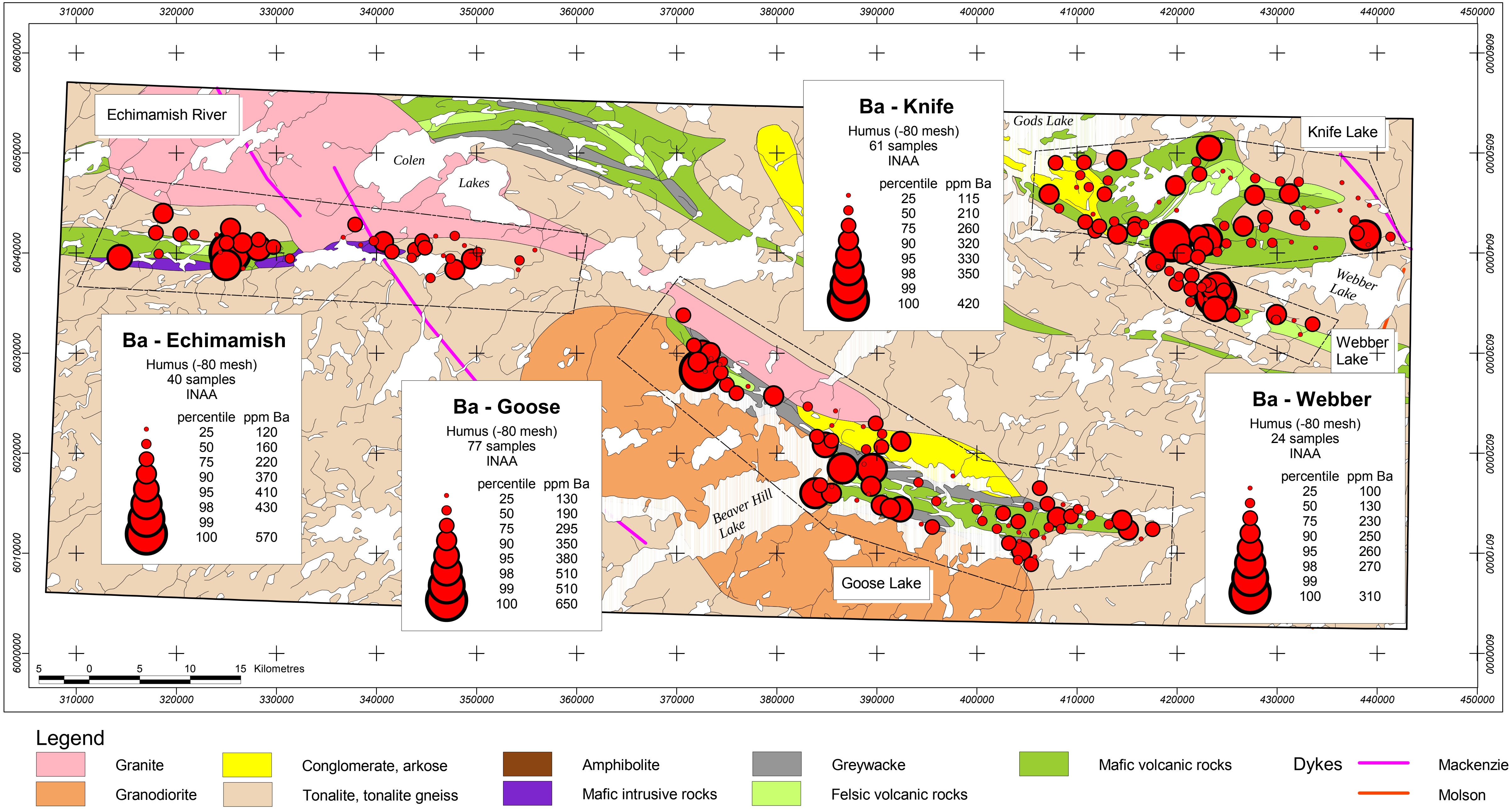
Au	As	Ba	Br	Ca
Co	Cr	Fe	Mo	Na
Rb	Sc	Se	Th	U
Zn	Total REE			

Contents

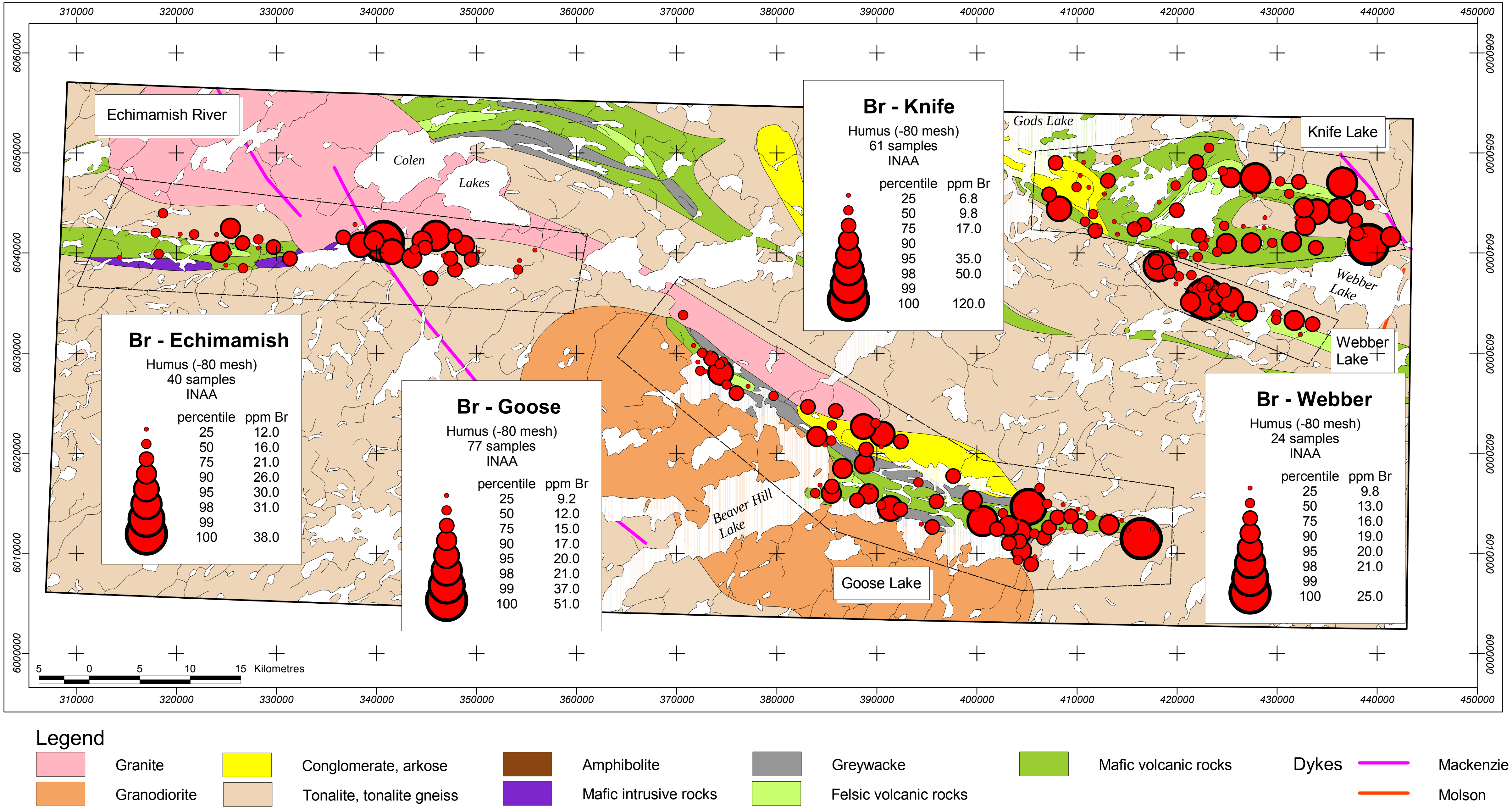


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Au - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppb Au
25 1
50 4
75 7
90 10
95 12
98 15
99
100 62
Au - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppb Au
25 1
50 3
75 5
90 8
95 9
98 16
99 17
100 23
Au - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppb Au
25 1
50
75 6
90 9
95 11
98 16
99
100 24
Au - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppb Au
25 1
50
75
90 10
95
98 14
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

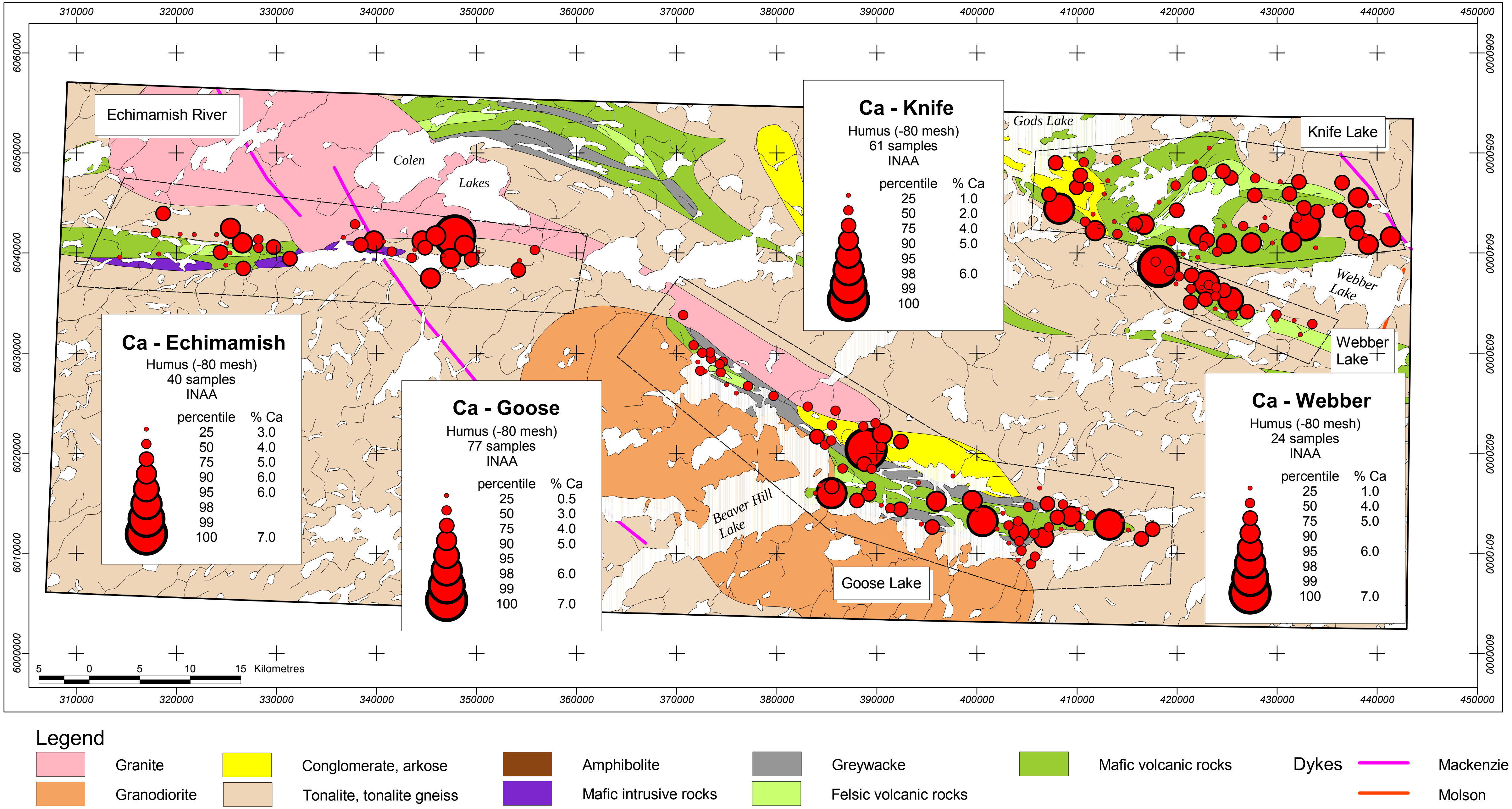

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber
Lake
Beaver Hill
Lake
Goose Lake
As - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm As
25 2.20
50 3.00
75 4.20
90 5.40
95 6.70
98 6.90
99
100 7.50
As - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm As
25 2.70
50 3.50
75 5.10
90 5.60
95 7.80
98 10.00
99 22.00
100 27.00
As - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm As
25 2.30
50 3.20
75 4.40
90 5.40
95 6.30
98 6.80
99
100 7.10
As - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm As
25 1.70
50 2.50
75 3.00
90 3.40
95 3.50
98 3.90
99
100 4.20
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



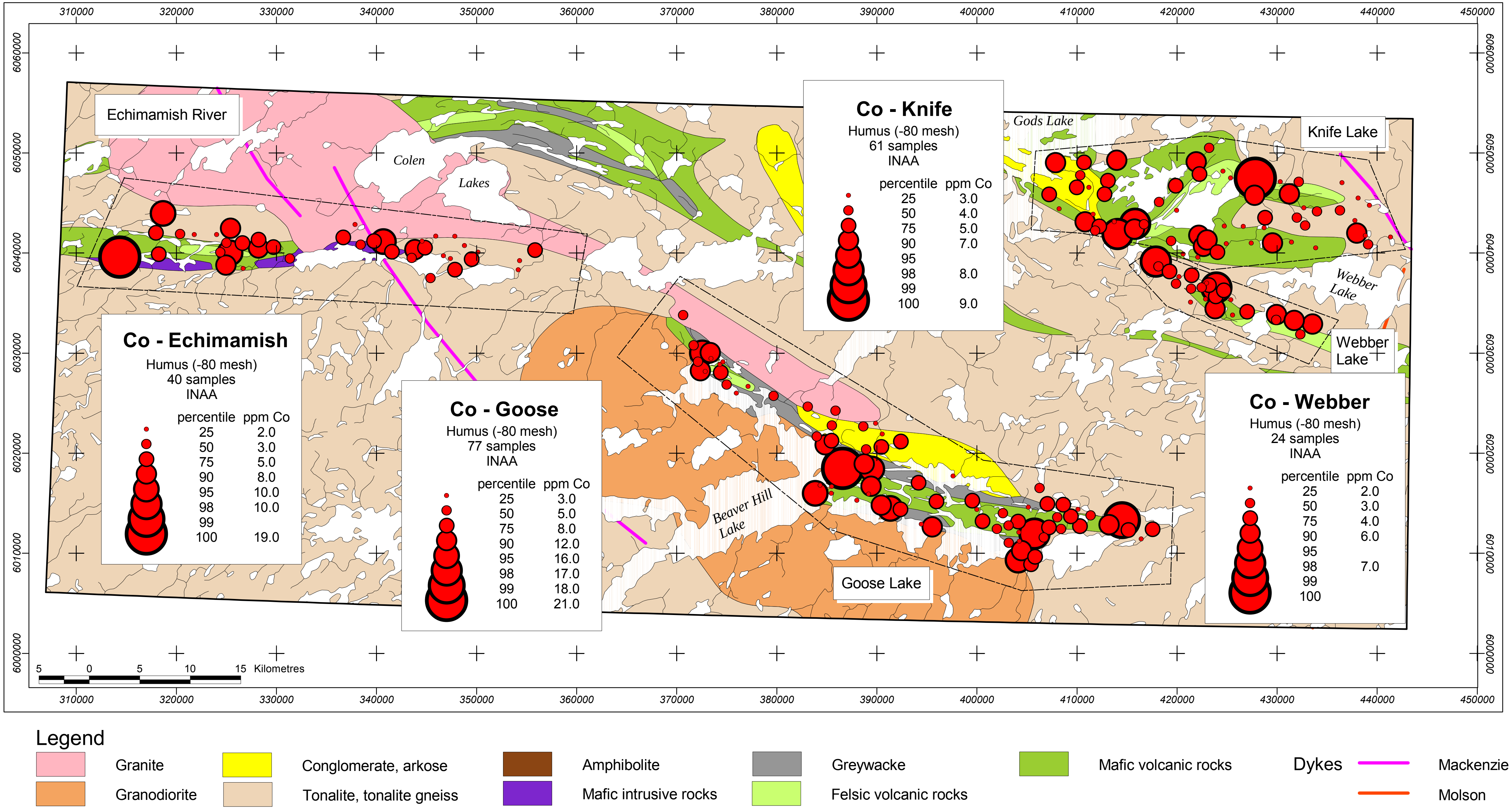
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber
Lake
Beaver Hill
Lake
Goose Lake
Ba - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Ba
25 115
50 210
75 260
90 320
95 330
98 350
99
100 420
Ba - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Ba
25 120
50 160
75 220
90 370
95 410
98 430
99
100 570
Ba - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Ba
25 130
50 190
75 295
90 350
95 380
98 510
99 510
100 650
Ba - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Ba
25 100
50 130
75 230
90 250
95 260
98 270
99
100 310
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



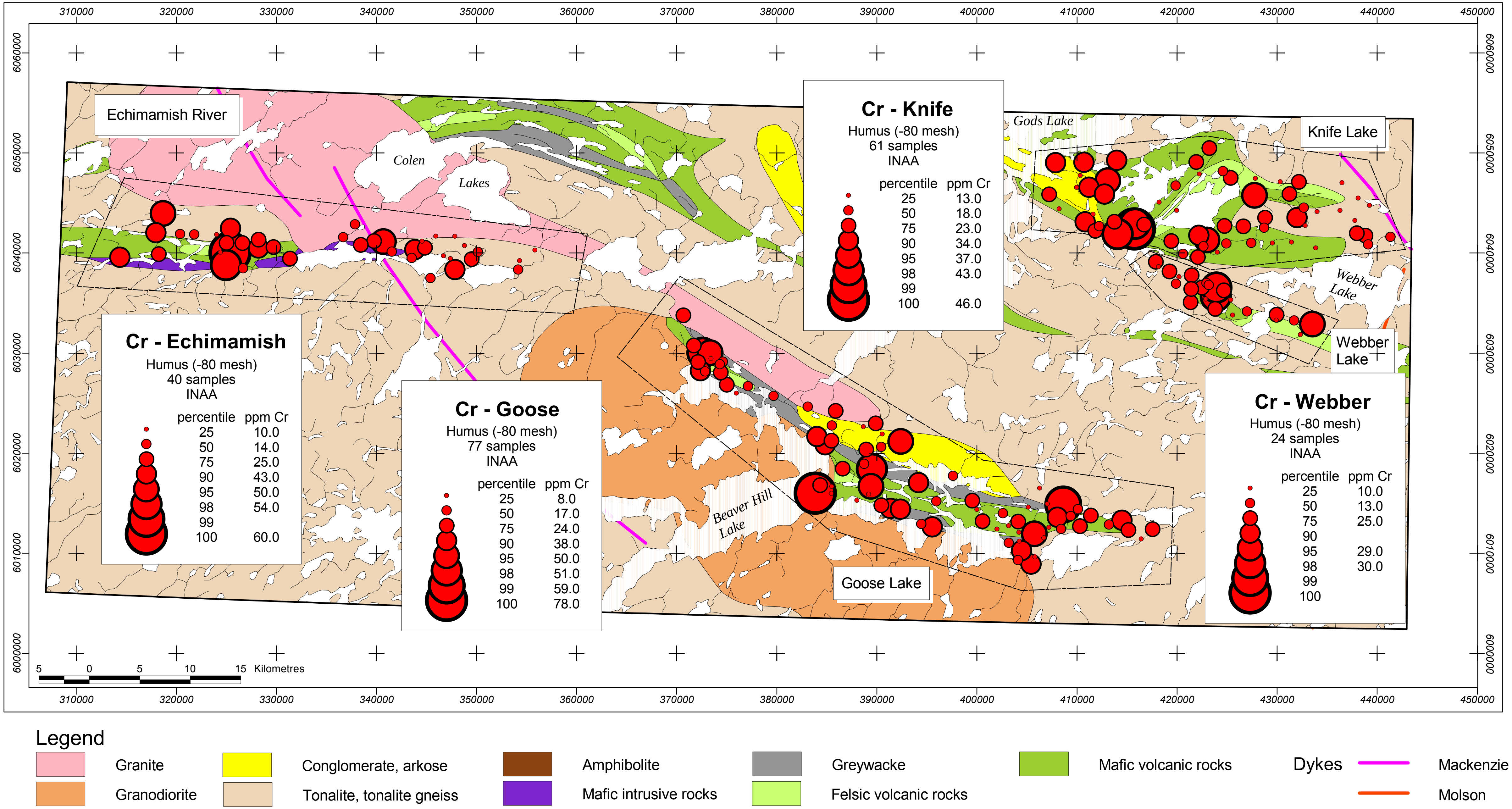
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Br - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Br
25 6.8
50 9.8
75 17.0
90
95 35.0
98 50.0
99
100 120.0
Br - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Br
25 12.0
50 16.0
75 21.0
90 26.0
95 30.0
98 31.0
99
100 38.0
Br - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Br
25 9.2
50 12.0
75 15.0
90 17.0
95 20.0
98 21.0
99 37.0
100 51.0
Br - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Br
25 9.8
50 13.0
75 16.0
90 19.0
95 20.0
98 21.0
99
100 25.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



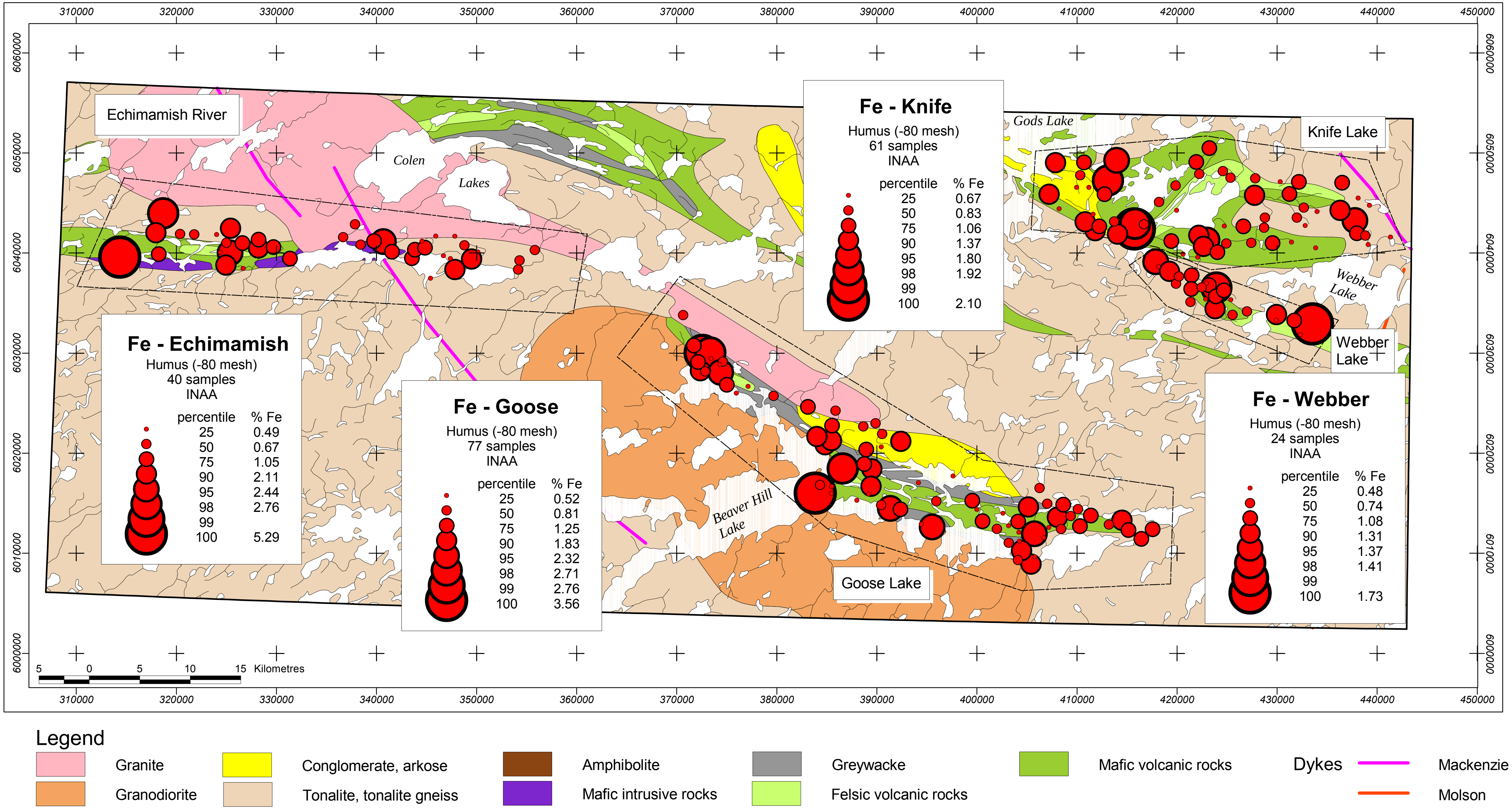
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Knife
Humus (-80 mesh)
61 samples
INAA
percentile % Ca
25 1.0
50 2.0
75 4.0
90 5.0
95
98 6.0
99
100
Ca - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile % Ca
25 3.0
50 4.0
75 5.0
90 6.0
95 6.0
98
99
100 7.0
Ca - Goose
Humus (-80 mesh)
77 samples
INAA
percentile % Ca
25 0.5
50 3.0
75 4.0
90 5.0
95
98 6.0
99
100 7.0
Ca - Webber
Humus (-80 mesh)
24 samples
INAA
percentile % Ca
25 1.0
50 4.0
75 5.0
90
95 6.0
98
99
100 7.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



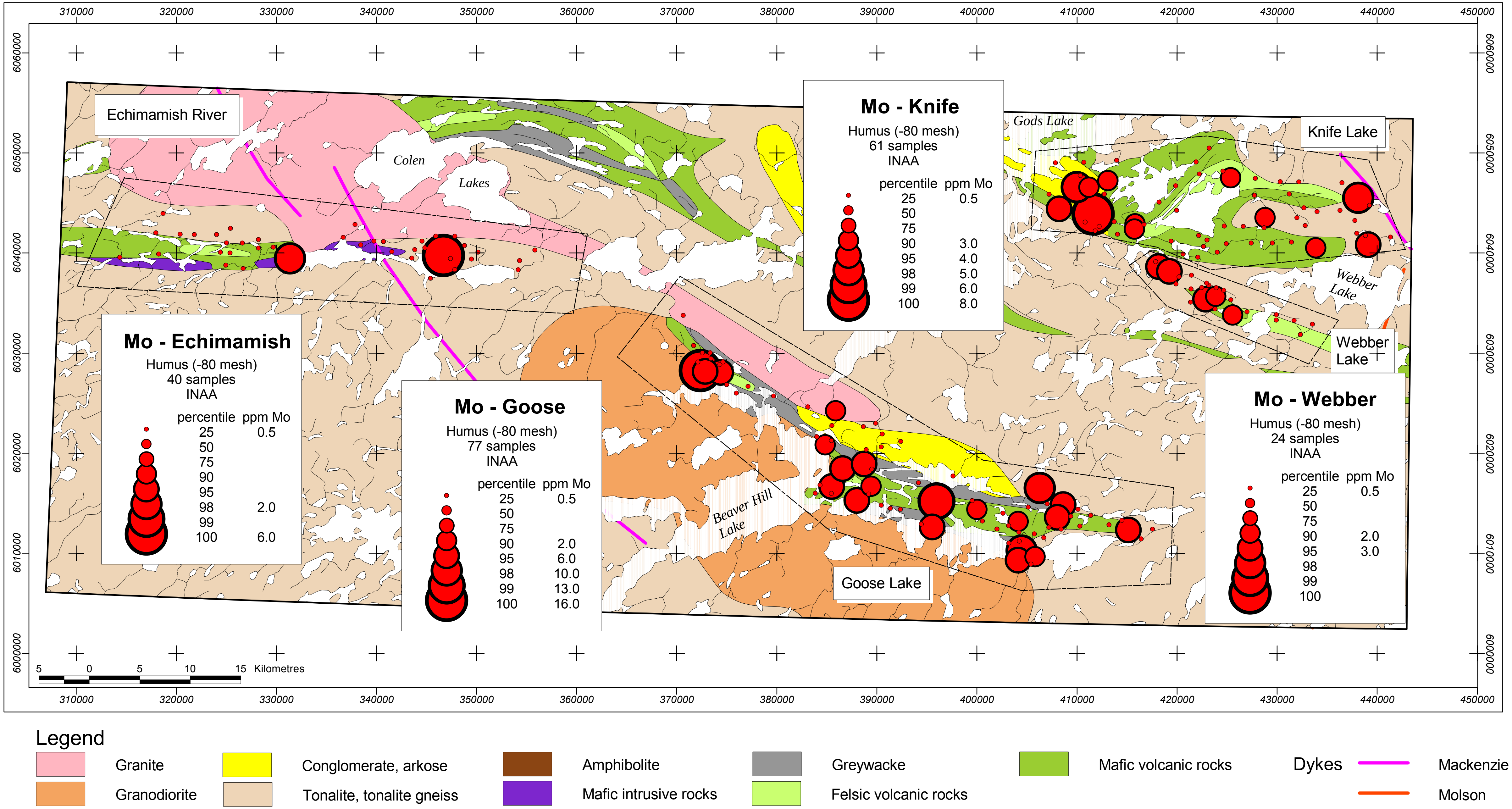
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Co - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Co
25 3.0
50 4.0
75 5.0
90 7.0
95
98 8.0
99
100 9.0
Co - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Co
25 2.0
50 3.0
75 5.0
90 8.0
95 10.0
98 10.0
99
100 19.0
Co - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Co
25 3.0
50 5.0
75 8.0
90 12.0
95 16.0
98 17.0
99 18.0
100 21.0
Co - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Co
25 2.0
50 3.0
75 4.0
90 6.0
95
98 7.0
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



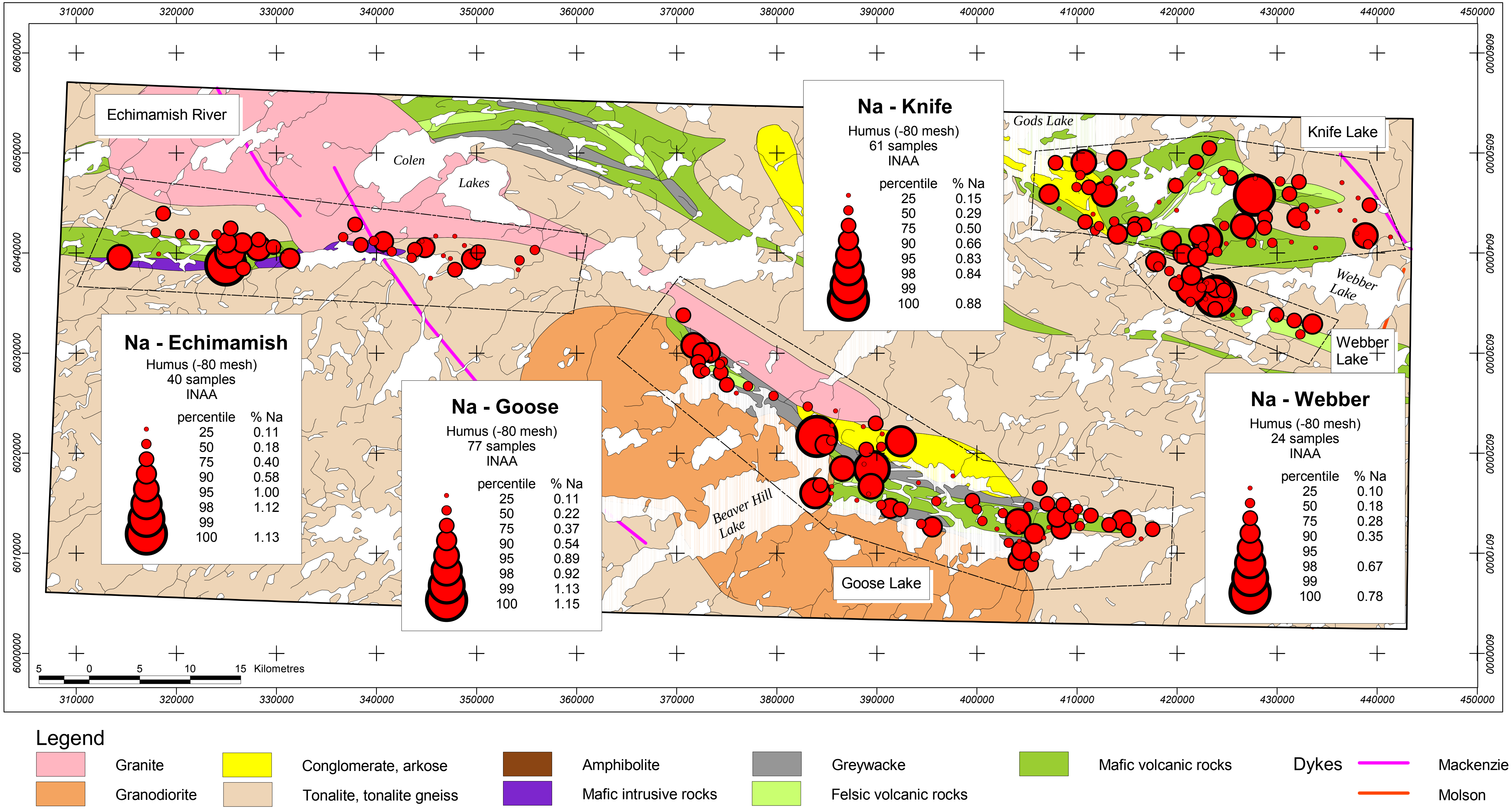
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cr - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Cr
25 10.0
50 14.0
75 25.0
90 43.0
95 50.0
98 54.0
99
100 60.0
Cr - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Cr
25 8.0
50 17.0
75 24.0
90 38.0
95 50.0
98 51.0
99 59.0
100 78.0
Cr - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Cr
25 13.0
50 18.0
75 23.0
90 34.0
95 37.0
98 43.0
99
100 46.0
Cr - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Cr
25 10.0
50 13.0
75 25.0
90
95 29.0
98 30.0
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



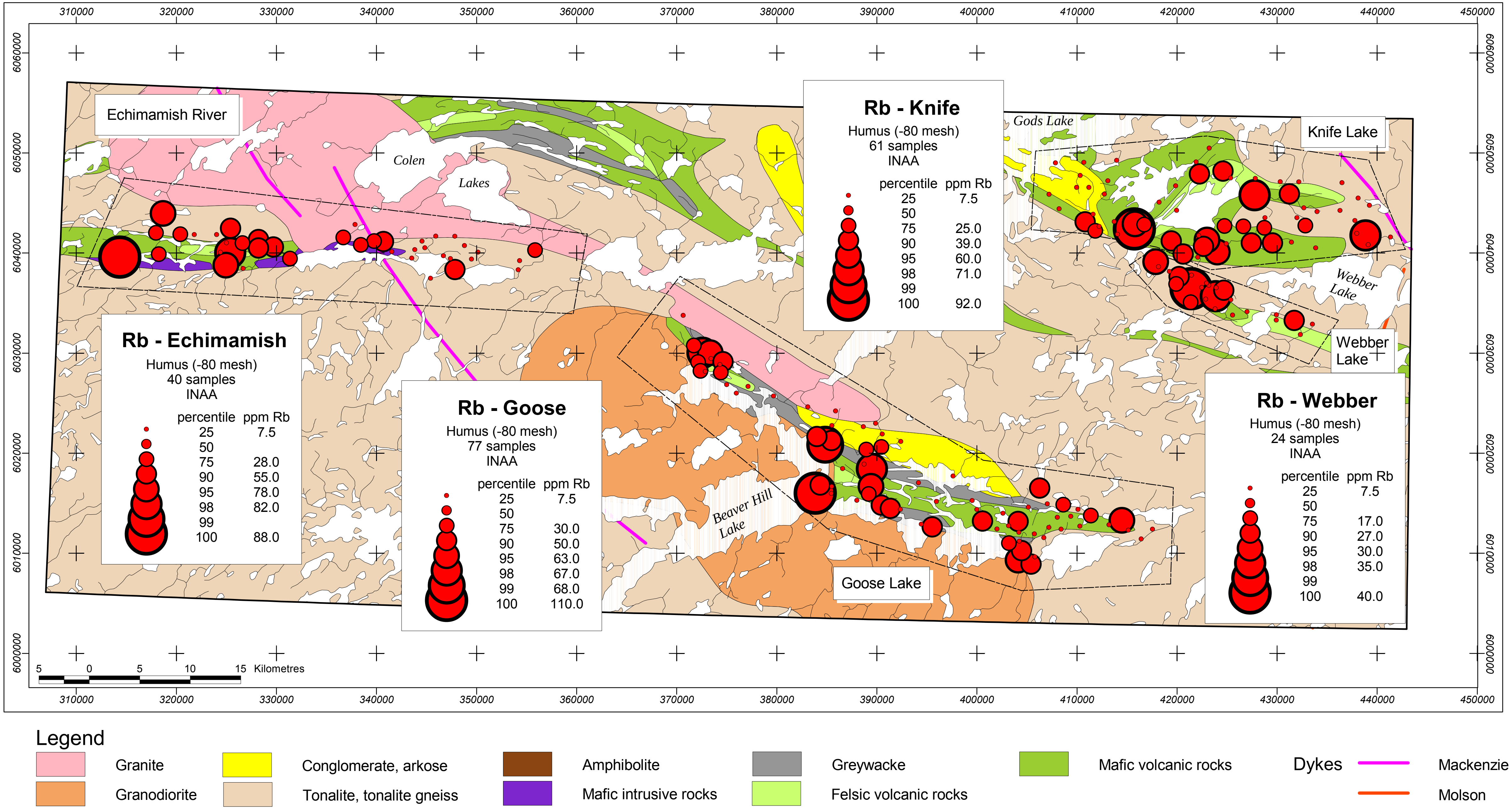
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Fe - Knife
Humus (-80 mesh)
61 samples
INAA
percentile % Fe
25 0.67
50 0.83
75 1.06
90 1.37
95 1.80
98 1.92
99
100 2.10
Fe - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile % Fe
25 0.49
50 0.67
75 1.05
90 2.11
95 2.44
98 2.76
99
100 5.29
Fe - Goose
Humus (-80 mesh)
77 samples
INAA
percentile % Fe
25 0.52
50 0.81
75 1.25
90 1.83
95 2.32
98 2.71
99 2.76
100 3.56
Fe - Webber
Humus (-80 mesh)
24 samples
INAA
percentile % Fe
25 0.48
50 0.74
75 1.08
90 1.31
95 1.37
98 1.41
99
100 1.73
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

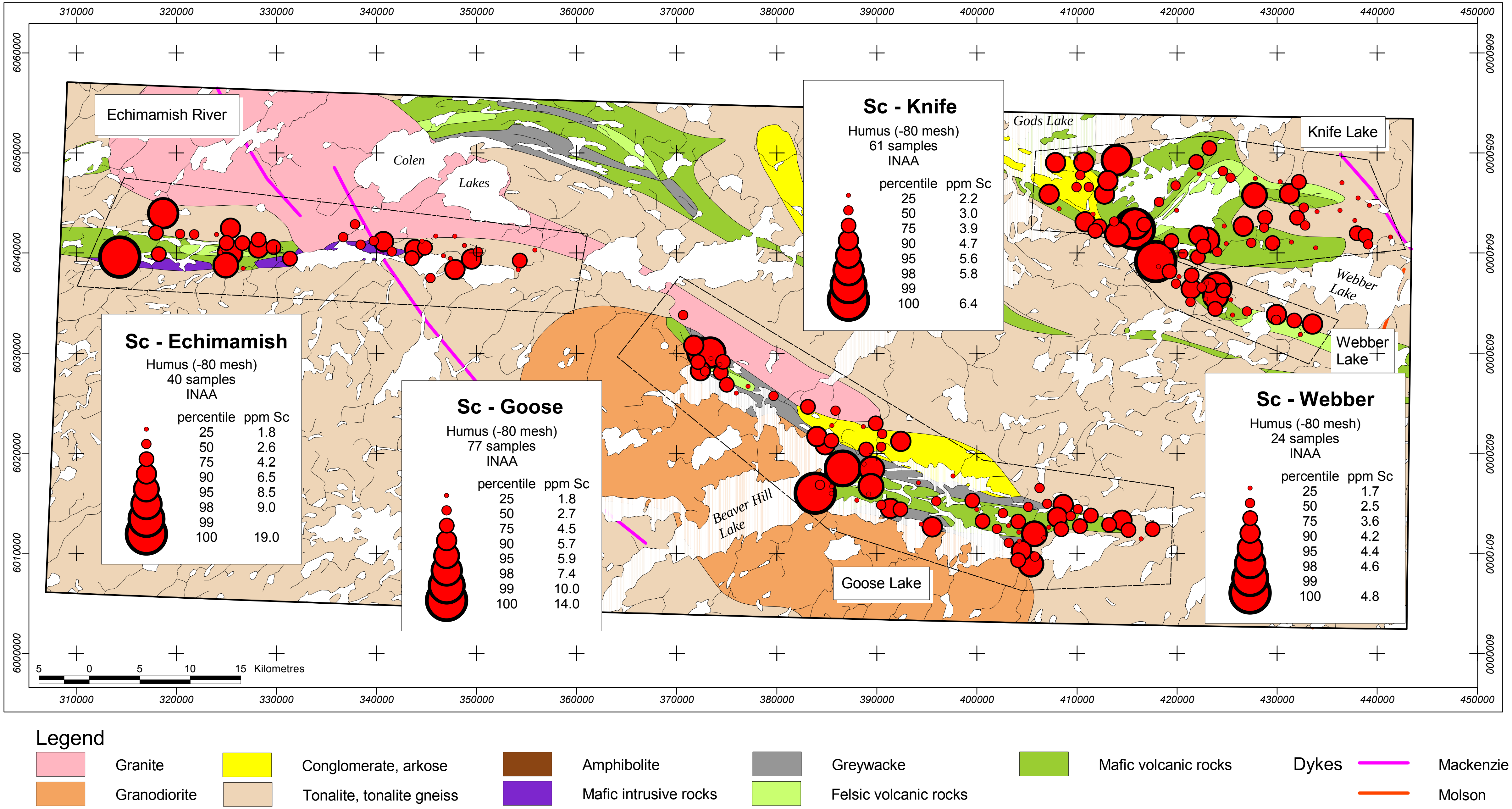


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mo - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Mo
25 0.5
50
75
90 3.0
95 4.0
98 5.0
99 6.0
100 8.0
Mo - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Mo
25 0.5
50
75
90
95
98 2.0
99
100 6.0
Mo - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Mo
25 0.5
50
75
90 2.0
95 6.0
98 10.0
99 13.0
100 16.0
Mo - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Mo
25 0.5
50
75
90 2.0
95 3.0
98
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

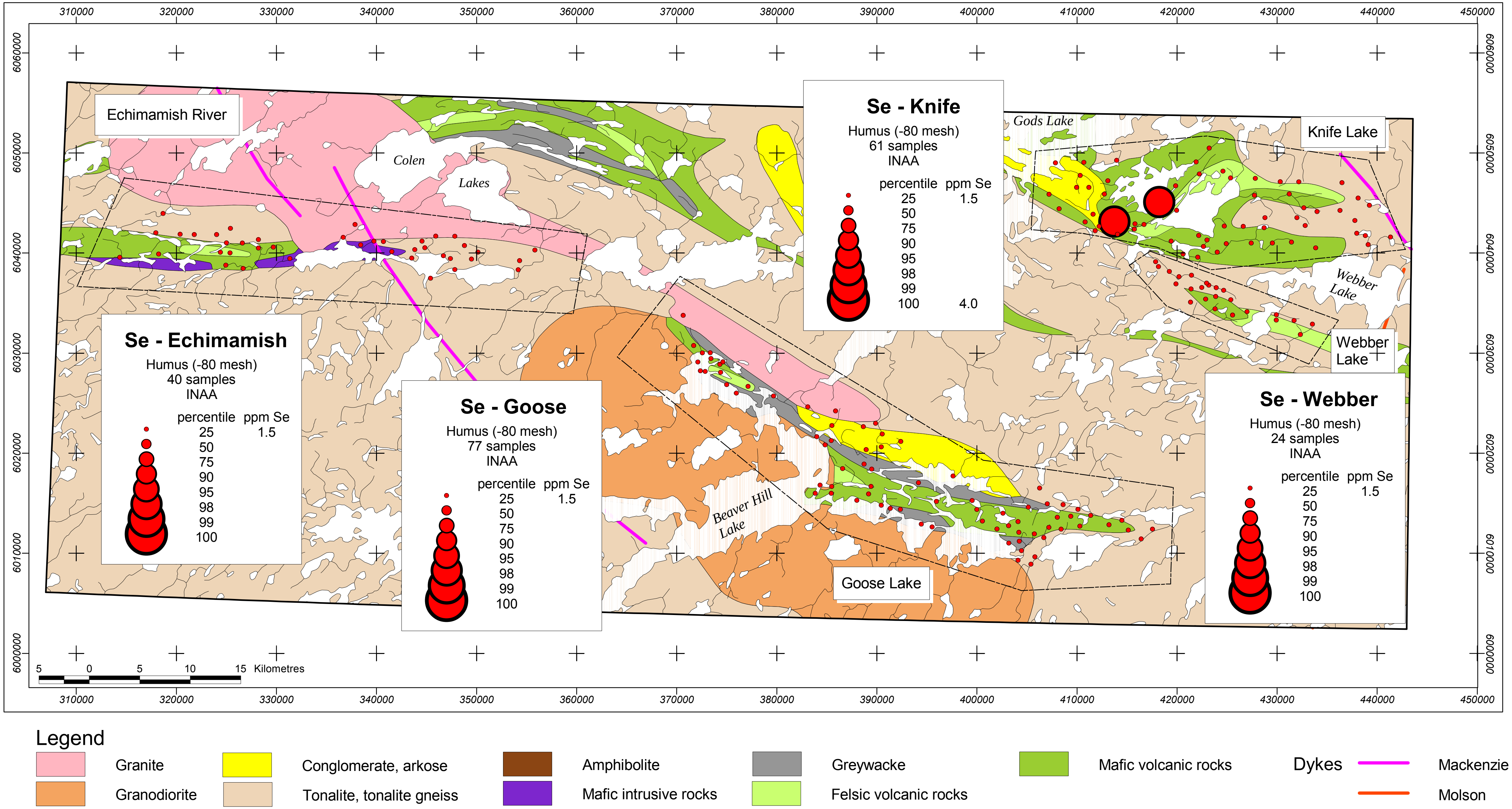


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Na - Knife
Humus (-80 mesh)
61 samples
INAA
percentile % Na
25 0.15
50 0.29
75 0.50
90 0.66
95 0.83
98 0.84
99
100 0.88
Na - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile % Na
25 0.11
50 0.18
75 0.40
90 0.58
95 1.00
98 1.12
99
100 1.13
Na - Goose
Humus (-80 mesh)
77 samples
INAA
percentile % Na
25 0.11
50 0.22
75 0.37
90 0.54
95 0.89
98 0.92
99 1.13
100 1.15
Na - Webber
Humus (-80 mesh)
24 samples
INAA
percentile % Na
25 0.10
50 0.18
75 0.28
90 0.35
95
98 0.67
99
100 0.78
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

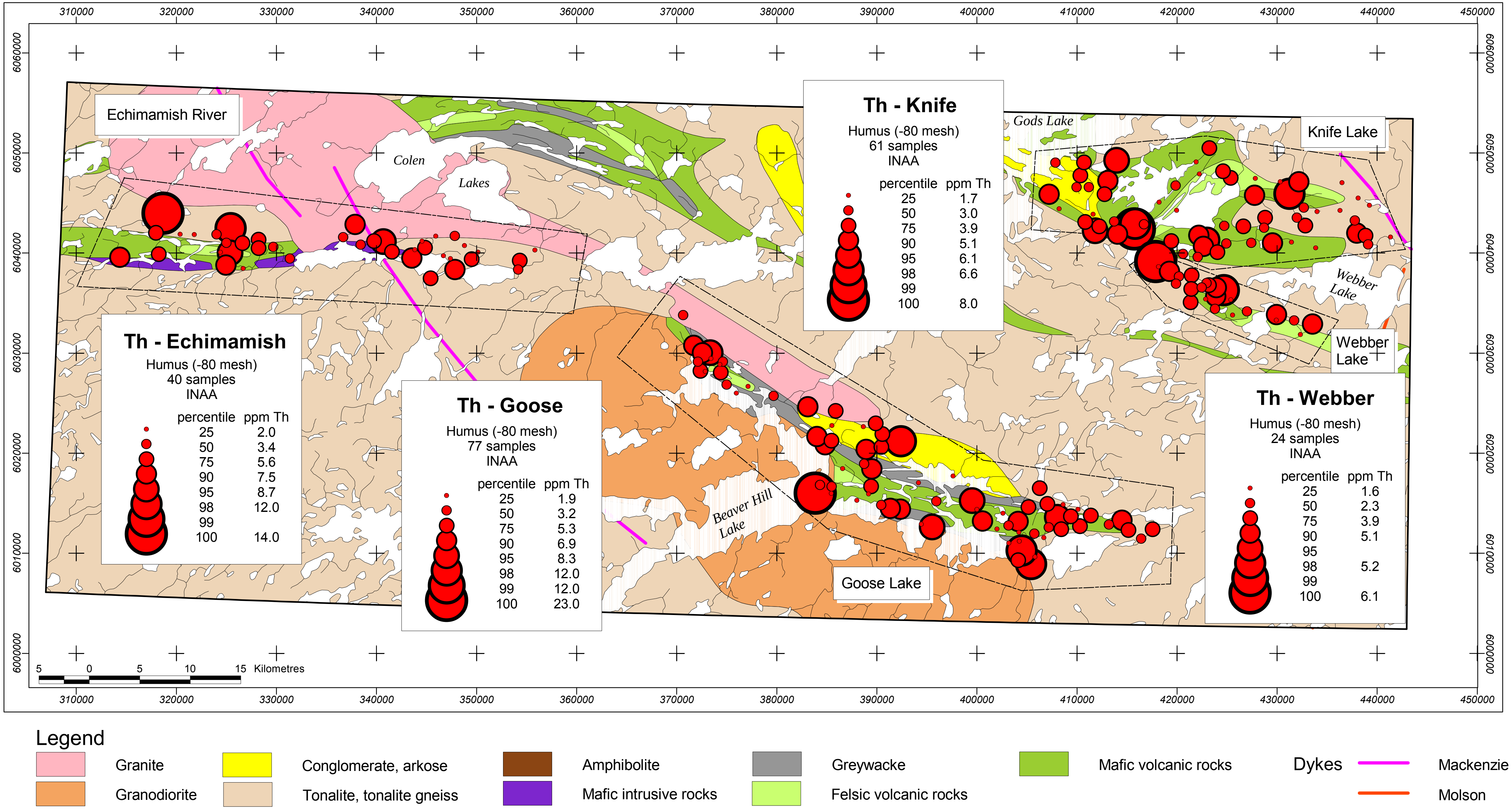

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Rb - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Rb
25 7.5
50
75 25.0
90 39.0
95 60.0
98 71.0
99
100 92.0
Rb - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Rb
25 7.5
50
75 28.0
90 55.0
95 78.0
98 82.0
99
100 88.0
Rb - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Rb
25 7.5
50
75 30.0
90 50.0
95 63.0
98 67.0
99 68.0
100 110.0
Rb - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Rb
25 7.5
50
75 17.0
90 27.0
95 30.0
98 35.0
99
100 40.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



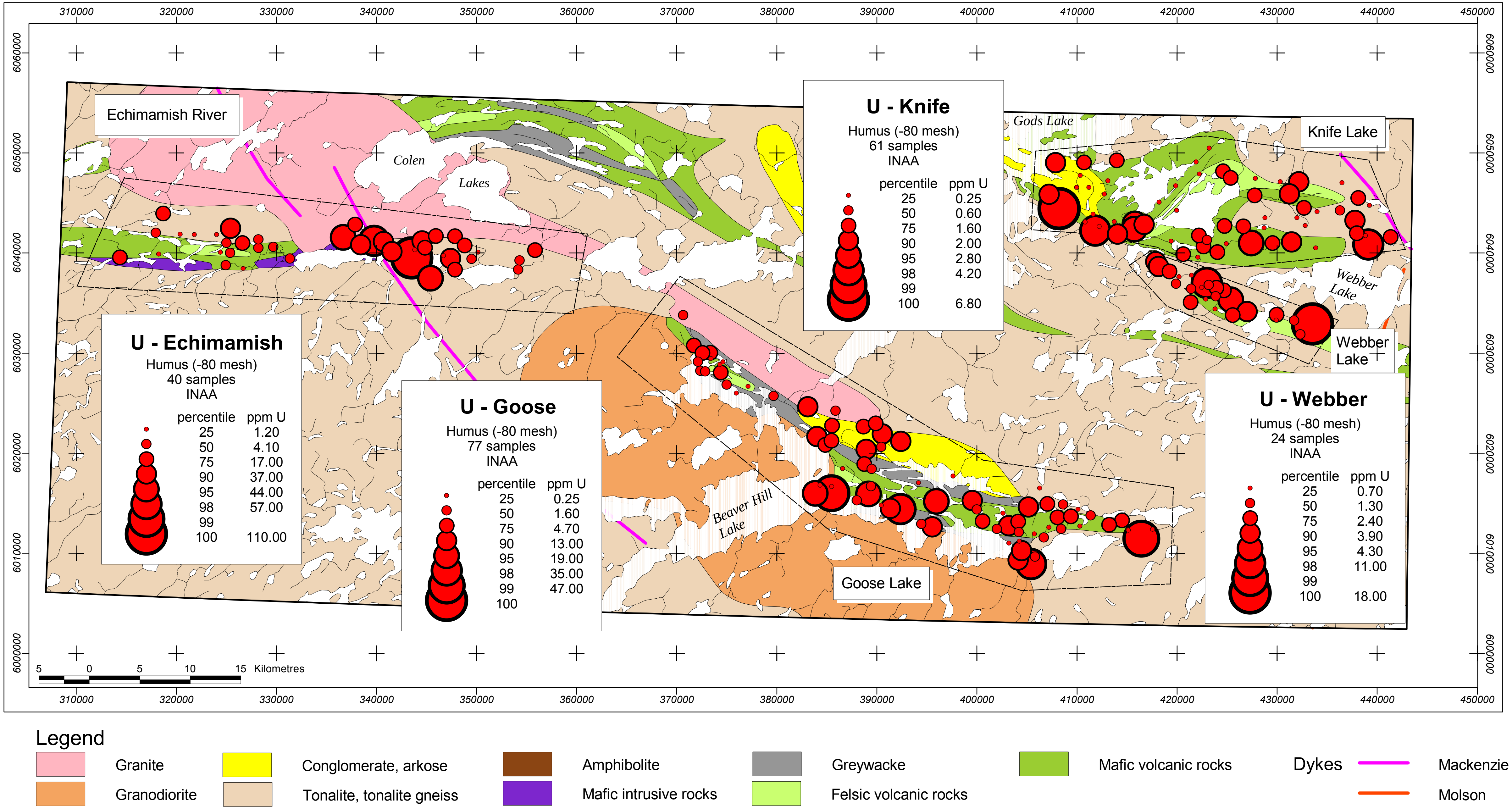
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sc - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Sc
25 2.2
50 3.0
75 3.9
90 4.7
95 5.6
98 5.8
99
100 6.4
Sc - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Sc
25 1.8
50 2.6
75 4.2
90 6.5
95 8.5
98 9.0
99
100 19.0
Sc - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Sc
25 1.8
50 2.7
75 4.5
90 5.7
95 5.9
98 7.4
99 10.0
100 14.0
Sc - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Sc
25 1.7
50 2.5
75 3.6
90 4.2
95 4.4
98 4.6
99
100 4.8
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

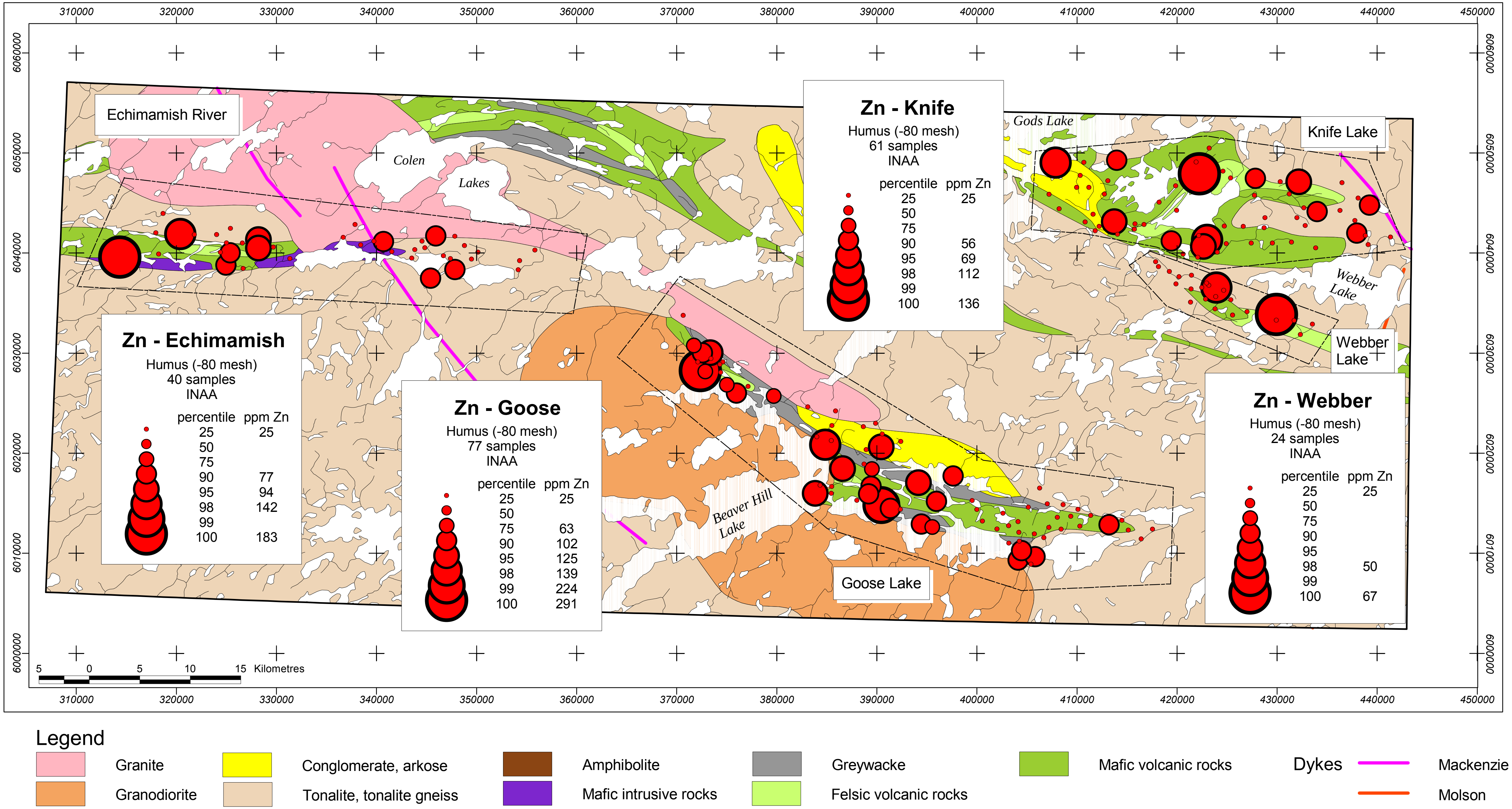


Se - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Se
25 1.5
50
75
90
95
98
99
100 4.0
Se - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Se
25 1.5
50
75
90
95
98
99
100
Se - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Se
25 1.5
50
75
90
95
98
99
100
Se - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Se
25 1.5
50
75
90
95
98
99
100
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

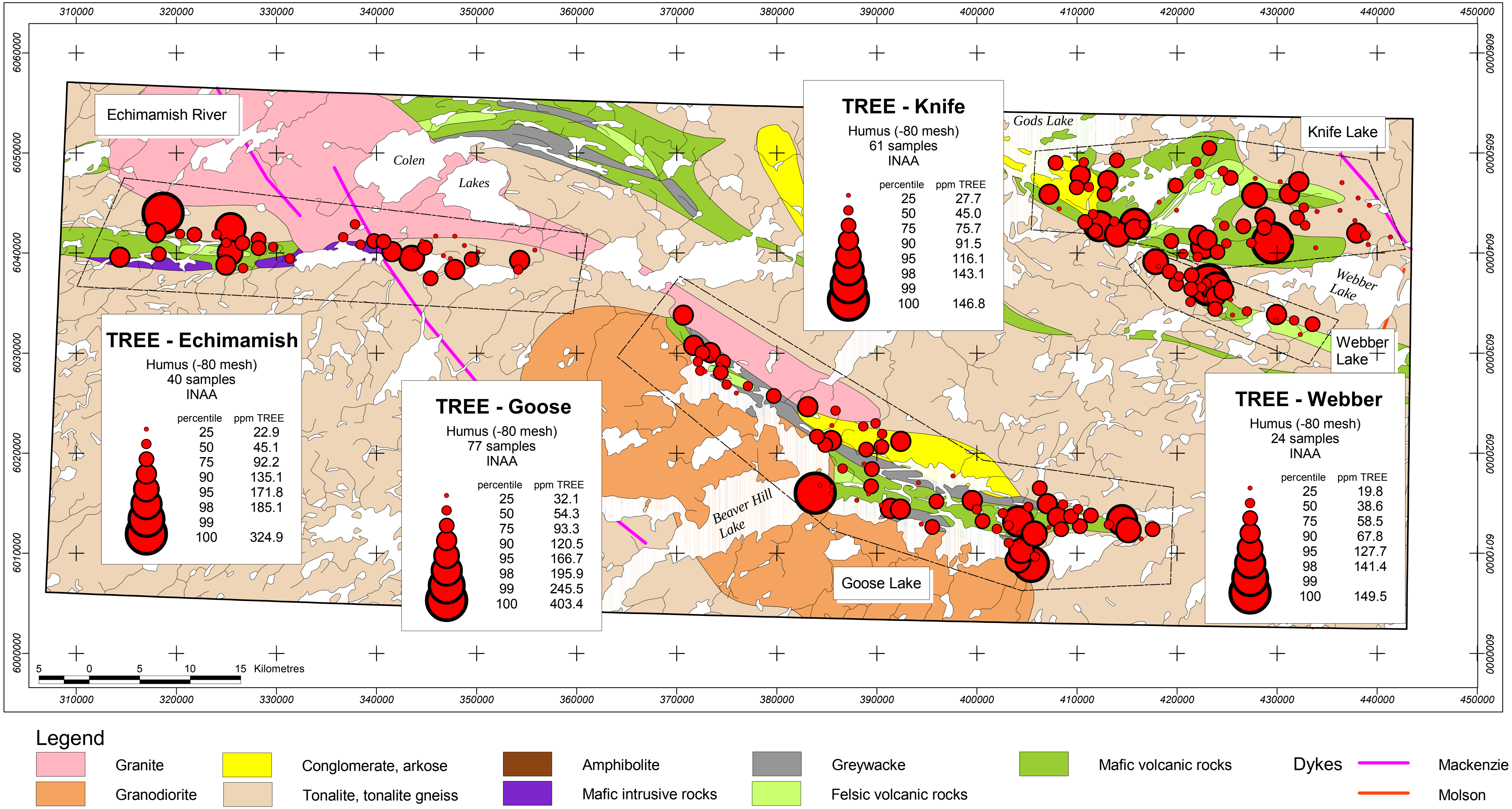


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Th - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Th
25 1.7
50 3.0
75 3.9
90 5.1
95 6.1
98 6.6
99
100 8.0
Th - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Th
25 2.0
50 3.4
75 5.6
90 7.5
95 8.7
98 12.0
99
100 14.0
Th - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Th
25 1.9
50 3.2
75 5.3
90 6.9
95 8.3
98 12.0
99 12.0
100 23.0
Th - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Th
25 1.6
50 2.3
75 3.9
90 5.1
95
98 5.2
99
100 6.1
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
U - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm U
25 0.25
50 0.60
75 1.60
90 2.00
95 2.80
98 4.20
99
100 6.80
U - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm U
25 1.20
50 4.10
75 17.00
90 37.00
95 44.00
98 57.00
99
100 110.00
U - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm U
25 0.25
50 1.60
75 4.70
90 13.00
95 19.00
98 35.00
99 47.00
100
U - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm U
25 0.70
50 1.30
75 2.40
90 3.90
95 4.30
98 11.00
99
100 18.00
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm Zn
25 25
50
75
90 56
95 69
98 112
99
100 136
Zn - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm Zn
25 25
50
75
90 77
95 94
98 142
99
100 183
Zn - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm Zn
25 25
50
75 63
90 102
95 125
98 139
99 224
100 291
Zn - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm Zn
25 25
50
75
90
95
98 50
99
100 67
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
TREE - Knife
Humus (-80 mesh)
61 samples
INAA
percentile ppm TREE
25 27.7
50 45.0
75 75.7
90 91.5
95 116.1
98 143.1
99
100 146.8
TREE - Echimamish
Humus (-80 mesh)
40 samples
INAA
percentile ppm TREE
25 22.9
50 45.1
75 92.2
90 135.1
95 171.8
98 185.1
99
100 324.9
TREE - Goose
Humus (-80 mesh)
77 samples
INAA
percentile ppm TREE
25 32.1
50 54.3
75 93.3
90 120.5
95 166.7
98 195.9
99 245.5
100 403.4
TREE - Webber
Humus (-80 mesh)
24 samples
INAA
percentile ppm TREE
25 19.8
50 38.6
75 58.5
90 67.8
95 127.7
98 141.4
99
100 149.5
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

VEGETATION GEOCHEMICAL SURVEY

Introduction

Unlike the 1996 survey, in 1998 only black spruce (Picea mariana) crown twigs were sampled and analyzed. This modification to the sampling plan was instituted due to higher contrast geochemical response for most elements in the crown twigs. Data interpretation proceeds from the Echimamish River belt to the Goose Lake belt followed by the Knife Lake and Webber Lake belts in an element by element format; results for INAA and ICP-AES are discussed separately.

It should be noted that unlike rocks, soils, lake sediments and other types of geochemical sample media, trees and other plants have certain nutrient requirements in order to survive. This effectively divides elements into essential and non-essential categories. For these reasons, the essential element Zn, which is necessary for plant metabolism, must be interpreted with caution since subtle variations in the Zn concentrations of vegetation samples from site to site may only reflect the general state of the health of the tree. Major differences may indicate the presence of mineralization containing Zn or a Zn-enriched substrate. Tables 1 and 2 summarize essential and non-essential elements and their role in plant function.

Sample Collection

Samples of twigs from the crowns of black spruce (Picea mariana) were collected from each sampling site. Sampling was undertaken over an 8-week period between June and August, 1998. At most sites, the vegetation samples were collected from within 20 m of the till sampling pit. Black spruce was selected as the target sampling medium on the basis of its ubiquitous presence throughout the survey area and for its usefulness in delineating metal-enriched substrates in other vegetation geochemical surveys (Fedikow and Dunn, 1996). Black spruce crown twigs were obtained by cutting down the tree and collecting the upper 45 cm of the tree using anvil-type pruning shears. These samples were stored in labeled, brown paper bags and allowed to dry before preparation. A thin, 2-3 cm thick wafer was cut from each tree for age dating by tree ring counts and for comparisons between element content and tree age.

Sample Preparation and Analysis

Subsequent to drying, the needles and cones were removed from the crown twigs and stored separately for future study. For twig samples, approximately 50 g of material was weighed into aluminum trays and the trays placed into a pottery kiln. The kiln temperature was raised incrementally over a 2-3 hour time period to a maximum of 470°C. This temperature was maintained for 12 hours at which time the vegetation had been reduced to about 1 g of ash without charcoal. One half of this ash was accurately weighed into polyethylene vials and submitted for instrumental neutron activation analysis. The second split of the ash was submitted for ICP-AES analysis subsequent to an aqua regia dissolution. Both analytical approaches to vegetation ashes were undertaken at Activation Laboratories Ltd. (Ancaster, Ontario). The aqua regia dissolution is a total digestion for most metals but is only partial for some elements (such as Ni and Zn). The element distribution patterns for elements that are only partially taken into solution by the aqua regia digest are considered to be valid since analytical precision for most elements is acceptable. Geochemical data is presented in Appendices 1 (ICP-AES) and 4 (INAA); duplicate pair geochemical data is given in Appendices 2 (ICP-AES) and 5 (INAA). Percentile bubble plots are presented in Appendices 3 (ICP-AES) and 6 (INAA).

Table 1. Essential and non-essential elements determined by INAA.

Element	Essential/Non-Essential/Comments
Au	Non-essential
Ag	Non-essential
As	Essential/metabolism of carbohydrates
Ba	Non-essential
Br	Non-essential
Ca	Essential/cell wall construction
Co	Essential/major nutrient fixation
Cr	Non-essential
Cs	Non-essential
Fe	Essential/photosynthesis, chlorophyll
Hf	Non-essential
K	Essential/metabolism
Mo	Essential
Na	Non-essential
Rb	Essential
Sb	Non-essential
Sc	Non-essential
Se	Essential
Sn	Non-essential
Sr	Essential
Ta	Non-essential
Th	Non-essential
U	Non-essential
W	Non-essential
Zn	Essential/carbohydrate and protein metabolism
REE	Non-essential

Table 2. Essential and non-essential elements determined by ICP-AES.

Element	Essential/Non-Essential/Comment
Al	Non-essential
B	Essential/plant growth, sugar translocation
Be	Non-essential
Cd	Non-essential
Cu	Essential/respiration, photosynthesis
Li	Essential/metabolism
Mg	Essential/photosynthesis, enzyme reaction
Mn	Essential
Ni	Non-essential
P	Essential/energy metabolism
Pb	Essential in small amounts/cell walls (?)
Ti	Essential/photosynthesis
V	Non-essential

Results

Ash

Ash contents in black spruce crown twigs are similar for samples collected from the four greenstone belts in 1998. Ash contents vary between 1.67 – 2.2% in the Echimamish River belt, 1.73 – 2.31% in the Goose Lake belt, 1.69 - 2.3% in the Knife Lake belt and between 1.66 - 2.24% in the Webber Lake belt. Interestingly, the highest ash contents coincide with some of the areas of high vegetation metal contents that are reflected by other sampling media. Examples are in the east end of the Echimamish River belt, the west end of the Goose Lake belt and the west end of the Knife Lake belt close to the southern boundary and the high strain Gods Lake Narrows Shear Belt. The possibility exists that the ash content is an indirect indicator of metal content in crown twig samples.

Instrumental Neutron Activation Analysis

Au: The southeast end of the Goose Lake belt is marked by the highest Au contents in this years survey, albeit at moderate levels. A 100th and 99th percentile response of 45 and 28 ppb, respectively characterize this part of the belt (sites 149 and 157). A 100th percentile of 37 ppb occurs at site 62 in the eastern portions of the Knife Lake belt and a 100th percentile response of 29 ppb (site 195) is documented from the east end of the Echimamish River belt In an area of very little outcrop. The results from Webber Lake belt (100") percentile of 17 ppb at site in an area of very little outcrop. The results from the Webber Lake belt (100th percentile of 17 ppb at site 7) are low.

Ag: Samples from all belts are characterized by low contrast responses. The 100th percentiles for the Goose Lake belt (4 ppm at site 32, east end) and the Echimamish River belt (4 ppm at site 200, east end) reflect this low level response. Samples from the Knife Lake belt and the Webber Lake belt are all low.

As: The range in concentration for As in all samples collected in 1998 is small and varies between 1 and 4 ppm. The differences between the upper and lower concentration are interpreted to be insignificant despite some apparent relationships between the "higher" values and geological features. This is reflected at site 3 in the Knife Lake belt where a 100th percentile response of 3.6 ppm correlates to a long strike length ground EM conductor along the peninsula that separates Chataway Lake from Knife Lake.

Ba: The 100th percentile for Ba (3000 ppm) occurs in the west end of Goose Lake in association with a 98th percentile response of 2400 ppm. A 99th percentile of 2900 ppm occurs in the south-central portion of the belt at site 22. The 100th percentile response for the Echimamish River belt occurs at site 182 near the end of the supracrustal rocks. A 98th percentile of 1500 ppm occurs to the east of site 182 along the northern margin of the belt.

The Ba responses for the Knife Lake and Webber Lake belts are low and uniform with very little geochemical flux in the data.

Br: A single 100th percentile for Br occurs at the far east end of the Echimamish River belt at site 188 and is in isolation at that site. Bedrock geology in the area comprises granitic intrusions. A similar observation can be made for the 100th percentile for the Knife Lake belt. This response of 42.5 ppb occurs at site 85 in the eastern portions of the belt over granitic bedrock. The Webber Lake belt is marked by a 55 ppb 100th percentile at site 106 near the western end of the belt. The 100th percentile (51 ppm) for the Goose Lake belt occurs at site 167 near the southwestern belt margin. The 99th percentile (50 ppm) occurs at the southeast end of the belt.

Ca: The highest Ca contents for samples for all belts appear to come from sites where high strain zones are either likely or observed. This includes the 100th percentile for the Echimamish River belt at site 182 (30.1%), for the Knife Lake belt at site 121 (28.4%), for the Webber Lake belt (29.7%) and for the Goose Lake belt (site 169, 29.7%). These responses are proximal to belt-bounding shear zones (Goose Lake and Echimamish River belts) or the Gods Lake Narrows Shear Belt (Knife Lake and Webber Lake belts).

Co: The 100th and 99th percentiles for the Goose Lake belt occur at the west end of the belt at sites 29 and 24. The distribution of these responses and 98th (20 ppm) and 95th (17 ppm) appear to define a northwest-trending linear that parallels a fault. The west end of the Knife Lake belt is marked by the presence of the 100^{th,} 98th and two 95th percentile responses of 19, 18 and 11 ppm, respectively. The 100th percentile for the Webber Lake belt occurs at site 111, but is particularly low at 7 ppm. The Echimamish River belt has a single 100th percentile response of 10 ppm at site 187.

Cr: The 100th percentiles for samples from each of the belts does not vary significantly. The 100th percentile for the Knife Lake belt is 17 ppm at site 76, the Echimamish River belt has a single response of 15 ppm at site 44, the Webber Lake response is 13 ppm at site 110 and the 100th and 99th responses for the Goose Lake belt (14.5 and 14 ppm, respectively) are low contrast. There is no immediate correlation with high-Mg lithologies at these sample sites although most were collected in areas of no outcrop.

Cs: The east end of the Echimamish River belt is marked by significantly higher responses than that portion of the belt that is underlain by volcanic rocks. The predominant lithology in the high-Cs area of the belt is granitic and pegmatitic granite, with scattered exposures of basaltic and ultramafic rocks. This higher Cs response is reflected by a 100th percentile response of 53 ppm (site 206, carbonatized ultramafic rock) and a 98th percentile response of 32 pppm. At Knife Lake the 100th percentile response occurs in the northwest area of the belt at site 94 (42 ppm) with a 98th percentile of 24 ppm at site 71 to the south of site 94. The 100th and 99th percentile responses in the Goose Lake belt occur at sites 161 and 167, respectively in the west-central portion of the belt. A single 100th percentile response of 17 ppm at site 99 was obtained in the Webber Lake belt.

Fe: The 100th percentile for the Goose Lake belt is situated at site 162 (0.77%, no outcrop) with a 99th percentile response 0f 0.67% at site 147 (no outcrop) east of site 162. A two sample 98th percentile response of 0.62% occurs at sites 15 and 134 in the east end of the belt. The Echimamish River belt is characterized by a 100th percentile (0.58%) at site 44 and a 98th percentile of 0.56% at site 178. Both sites are situated at the northern belt margin. A single 100th percentile of 0.66% occurs in the east end of the Knife Lake belt at site 76 and a 100th percentile of 0.59% occurs at site 110 in the Webber Lake belt.

Hf: The variation in the concentration of Hf between the four belts is between 0.25 and 1.3 ppm and is considered to be of no significance.

K: The 100th percentiles for the Knife Lake belt (site 58, 26.7%) and the Webber Lake belt (29.5%, site 111) are situated at the north and south edges, respectively, of the God's Lake Narrows Shear Belt. The Goose Lake belt is characterized by 100th and 99th percentile responses of 29.1% (site 167) and 28.5% (site 161) in the west-central portion of the belt. Two 98th percentiles (28.1%) and a 95th percentile of 26.2% occur at the east end of the belt. The 100th percentile response for the Echimamish River belt (site 180, 27.1%) occurs at the northern margin of the belt.

Mo: Responses throughout the survey area are low. The 100th percentile for the Webber Lake belt is the highest at 16 ppm and occurs near the west end of the belt at site 106. The Goose Lake belt has a 100th percentile of 13 ppm at site 24 in the west end of the belt and a 99th percentile of 12 ppm at site 124 in the east end of the belt. The responses from the Knife Lake belt and the Echimamish River belt are low with a 7 ppm 100th percentile response.

Na: The 100th percentile for the Goose Lake belt occurs at site 162 (3380 ppm) in the west central belt. A 99th and 98th percentile response is documented from the east end of the belt at adjacent sites 15 and 134. The northern portion of the Knife Lake belt has a 100th percentile of 2995 ppm at site 68 and a couple of 98th percentiles in the east and northeast portions of the belt. The 100th percentile for the Webber Lake belt occurs at site 110 (2410 ppm, no outcrop). A single 100th percentile also occurs at site 44 in the Echimamish River belt at its northern margin.

Ni: The west end of the Knife Lake belt is marked by a 100^{th,} 98th and 95th percentile responses of 210 ppm (site 94, altered basalt with 5-10% disseminated and veinlet pyrite), 130 ppm (site 71, highly strained, silicified, light green weathering basalt) and 88 ppm (site 96, olive green weathering basalt). The east end of Goose Lake contains two 99th percentile responses of 160 ppm (site 14-carbonatized basalt; site 134-no outcrop). Single site 100th percentiles are present in the Echimamish River belt (site 178, 130 ppm) and the Webber Lake belt (site 99, 100 ppm).

Rb: The 100th percentile for the Goose Lake belt occurs near the northern belt margin at site 161 where a response of 1200 ppm was obtained. There is no outcrop at the sample site. A 99th percentile of 960 ppm was obtained at site 157 (ultramafic rock) in the east end of the belt. The 100th percentile for the Echimamish River belt occurs at site 206 (1100 ppm, ultramafic lithology). Single site 100th percentile responses for the Knife Lake belt (site 82, 970 ppm-melagabbro) and the Webber Lake belt (560 ppm, site 113-grey to greenweathering, altered granite?) were also obtained.

Sb: An 8.5 ppm Sb 100th percentile response was obtained from site 23 along the southeastern edge of the Goose Lake belt. The outcrop at this site is a highly strained, biotite-rich, carbonatized basalt. The 99th percentile occurs at the west end of the belt at site 28 (2.6 ppm) in a rusty-weathered and silicified basalt. A 100th percentile of 4.9 ppm was obtained from a sheared granite with 1-5% disseminated pyrite and white, non-mineralized quartz veins in the west end of the Webber Lake belt. The 100th percentile (4.9 ppm) for the Knife Lake belt occurs at site 12 near the south belt margin and the Gods Lake Narrows Shear Belt. Results from the Echimamish River belt are low.

Sc: Results from the four belts have a restricted range of 100th percentile responses of 1.5-2.1 ppm and are interpreted to be insignificant.

Sr: A 1600 ppm 100th percentile response was obtained from site 45 in the Echimamish River belt. A silicified and rustry weathered basalt was described in the field at this site. To the east at site 182 a 98th percentile response of 915 ppm was obtained from fine grained, rusty weathered basalt. A four sample cluster comprising a 100th (820 ppm), 99th (790 ppm) and two 95th (760 ppm) responses characterizes the central portion of the Goose Lake belt. A single anoamlous response of 1200 ppm occurs at site 69 in the northern portion of the Knife Lake belt. The 100th percentile for the Webber Lake belt occurs near the west end at site 7, an area of no outcrop.

Th: The 100th percentile responses from the four belts vary between 1 and 1.4 ppm and are not significant.

U: The 100th percentile responses from the four belts vary between 0.5 and 0.7 ppm and are not significant.

W: The 100^{th} percentile responses from the four belts vary between 0.5 and 3 ppm and are considered to be very low. The 3 ppm W 100^{th} percentile is located in the Knife Lake belt at site 93 in association with rusty-weathered basalt and 1% disseminated pyrrhotite and chalcopyrite.

Zn: The highest 100^{th} percentile Zn response was obtained from site 84 at the northeast end of the Knife Lake belt, in an area of no outcrop. The 100^{th} percentile responses from the Echimamish River belt occurs at site 45 (3200 ppm, rusty-weathered sheared basalt) and a 98^{th} percentile response of 3000 ppm (site 196, no outcrop) occurs at the east end of the belt. The 100^{th} and 99^{th} percentile responses for the Goose Lake belt occur at sites 19 (3100 ppm, rusty-weathered basalt) and 15 (3000 ppm, no outcrop), respectively. Relatively low responses of 3100 ppm (98^{th} percentile) were obtained from the west end of the Webber Lake belt.

TREE: The 100^{th} percentile response from the Goose Lake belt is obtained from site 162 at the southwest end of the belt. East of this response at site 147 is a 26.1 ppm 99^{th} percentile. The 100^{th} percentile for the Knife Lake belt occurs at site 53 near the south shore of Knife Lake and for the Webber Lake belt at site 110 (25.5 ppm). A three sample cluster of 100^{th}-95^{th} percentiles occurs at the central portion of the Echimamish River belt. Responses at this site vary between 17.7 and 16.6 ppm.

Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)

Ag: The 100 th percentile Ag responses for the Echimamish River belt, Knife Lake belt and Webber Lake belt are all 1 ppm. The Goose Lake belt has a low contrast 100^{th} percentile of 3.8 ppm (site 158) and an adjacent 99^{th} percentile of 1.8 ppm (site 157) in the southeast portion of the belt.

Cd: The Knife Lake belt has a single 100^{th} percentile Cd response of 10.6 ppm at site 8 at the southwest end of a long strike length ground EM conductor that characterizes the narrow strip of land that separates Chataway Lake from Knife Lake. A 98^{th} percentile response occurs east of this site, at site 12 (8 ppm) that occurs at the southwest edge of the belt adjacent to the Gods Lake Narrows Shear Belt. A single site 100^{th} percentile (6 ppm) response occurs at site 166 in the west central portion of the Goose Lake belt. A four sample cluster of 99^{th} (5.4 ppm), 98^{th} (5.2 ppm) and two 95^{th} (4.4 ppm) percentiles occurs in the west end of the belt. The Echimamish River belt has a 100^{th} percentile of 4.2 ppm at site 180 and a 98^{th} percentile of 4 ppm (site 198) in the east end of the belt.

Cu: The 100^{th} percentile responses for the Goose Lake belt occurs at site 23 (446 ppm) along the southeast belt margin. A strongly foliated, biotitic, rusty-weathered basalt was noted in outcrop at this location. a 99^{th} percentile of 396 ppm occurs in the west end at site 34 (sheared gabbro) and two 98^{th} percentiles (390 ppm) occur at sites 24 and 166 along the western portion of the belt. The east end of the Echimamish River belt has a significantly higher Cu response than the more westerly portions. The east end contains a 100^{th} percentile response of 344 ppm at site 200, a 98^{th} percentile of 308 ppm at site 195 and two 95^{th} percentiles (306 ppm) at sites 187 and 206. The high Cu responses in the Knife Lake belt occur near the southern belt margin and the Gods Lake Narrows Shear Belt. The 100^{th} (284 ppm) and 98^{th} (276 ppm) percentiles are documented from this area. The 100^{th} percentile response for the Webber Lake belt occurs at site 111 near the west end of the belt. A 98^{th} percentile of 232 ppm at site 115 is adjacent to the Shear Belt.

Mn: The highest Mn contents in the survey come from site 84 (38090 ppm) in the northeast corner of the Knife Lake belt. This is a single site response from an area of predominantly granitic rocks. The Goose Lake belt has 100^{th} and 99^{th} percentile responses (site 20-33720 ppm and site 157-31930 ppm) respectively in the southeast end of the belt. Rocks at site 20 are carbonatized basalt and at site 157 are high-Mg (ultramafic) rocks. Two 98^{th} percentiles (30560 ppm) occur along the south-central belt margin at sites 23 and 174. A single 100^{th} percentile response of 32100 ppm occurs at site 187 in the Echimamish River belt in an area of predominantly granitic rocks at the northern belt margin. The Webber Lake response is characterized by a 100^{th} percentile response at site 111 (19540 ppm) in an area of sheared rusty weathered basalt.

Mo: The 100^{th} percentile responses from the Echimamish River and the Knife Lake belt are at the LLD for this element. The Goose Lake belt has the most samples above the LLD, with the majority of these situated in the western portion of the belt. The 100^{th} and 98^{th} percentiles occur at sites 24 (18 ppm-no outcrop) and 29 (4 ppm-rusty weathered massive and tuffaceous basalt). The 99^{th} percentile of 16 ppm occurs at site 124 (no outcrop).

Ni: A five sample cluster of 100^{th}-95^{th} percentiles is located in the western end of the Knife Lake belt. The values range from 328 ppm (site 94, silicified, sheared and fractured basalt) to 136 ppm (site 11, no outcrop). Significant responses in the Goose Lake belt occur at sites 14 (100^{th} percentile response of 218 ppm) and 149 (98^{th} percentile response of 156 ppm) in the southeast portion of the belt and at sites 35 and 27 (99^{th} percentile responses of 204 ppm). A 100^{th} and 98^{th} percentile response was obtained at adjacent sites 177 and 178, respectively at the north margin of the Echimamish River greenstone belt. The 100^{th} percentile of 108 ppm at site 99 in the Webber Lake belt is associated with fine grained basalt without visible alteration or mineralization.

Pb: Relatively low contrast responses were obtained from each of the belts. A four sample cluster of 100th-95th percentiles (22-18 ppm) occurs in the western end of the Echimamish River belt. Three of these responses occur at the northern belt margin. The 100th percentile response in the Knife Lake belt occurs at site 68 in the northern belt area. Two 98th percentile responses are situated in the south part of the belt at sites 53 and 76. The Webber Lake belt is marked by a 100th and 98th percentile response near the west end of the belt and adjacent to the Gods Lake Narrows Shear Belt. The 99th percentile of 28 ppm occurs in the central portion of the belt at site 147 and is surrounded by lower responses of 18-27 ppm. A second 99th percentile response occurs at site 15 in the east end of the belt.

Zn: The highest 100th percentile response in the survey occurs in the Knife Lake belt at site 55 (3448 ppm) in association with a rusty-weathered, fractured gabbro. Three and four sample clusters of 98th (3098 ppm) and 95th (3034 ppm) percentile responses occur in the north and northeast portions of the belt. The 100th and 98th percentile responses from the Webber Lake belt are situated at the northwest end of the belt at sites 7 (2808 ppm) and 110 (3098 ppm), respectively, and are at or near the northern belt margin marked by the Gods Lake Narrows Shear Belt. The 100th percentile response (2850 ppm) for the Goose Lake belt occurs at site 147 in the central belt area and a 99th percentile response occurs at site 19 (2782 ppm) in the east end of the belt. The Echimamish River belt is characterized by a single site 100th percentile of 2648 ppm at site 45; 98th and 95th percentile responses occur at the east end of the belt at sites 196 and 200.

Al: Results for Al must be interpreted with caution since the crown twigs are ashed in aluminum trays before acid dissolution or irradiation. Nevertheless, distinctive multi-sample groupings are present in the data. The 100th percentile (0.82%) for the Goose Lake belt occurs in association with a 98th (0.74%) and 95th (0.54%) percentile response in the central portion of the belt. The east end of the belt contains 99th (0.80%), 98th (0.74%) and 95th (0.54%) percentile responses at sites 15, 134 and 129. The east end of the Knife Lake belt is marked by a 100th percentile response of 0.78% at site 76. The Webber Lake belt has a 100th percentile response at site 110 and a 98th percentile response at site 7 near the west end of the belt and in close proximity to belt bounding shear zones. A multi-sample cluster of five samples occurs at the west end of the Echimamish River belt. These samples vary from 100th-90th percentiles (0.60-0.48%) and four of the five sites are clustered near the northern boundary of the belt.

Ba: These responses are similar at the 100th percentile level for the Knife Lake, Webber Lake and Goose Lake belts but slightly elevated for the Echimamish River belt. In the latter, the 100th percentile of 1026 ppm occurs at site 202 in the east end of the belt and is present as a single site response. The 98th percentile (826 ppm) is present at site 44 in the western belt area at the northern belt margin. In the Goose Lake belt a four sample cluster of 99th to 95th percentile responses characterizes the western end of the belt. These responses vary from 582-501 ppm. The 100th percentile response (619 ppm) occurs at site 150 in the southeast of the belt. Single site 100th percentiles of 614 ppm (site 83) in the Knife Lake belt and 602 ppm (site 120) in the Webber Lake belt are somewhat lower. The Webber Lake response occurs at the northwest margin of the belt.

Ca: The 100th percentile response from the Echimamish River belt occurs in the east end in association with 98th and 95th percentile responses. These sites define a three sample cluster of 31.72-28.63%. The west end of the Goose Lake belt is marked by a string of 100th-95th percentile responses (30.03-28.73%). The 99th percentile occurs at site 130 in the east end of the belt. The 100th percentile responses at site 121 (31.42%) in the Knife Lake belt and site 7 (29.13%) in the Webber Lake belt are situated with proximity to the Gods Lake Narrows Shear Belt.

Co: The Co responses in each of the belts is low contrast. The 99th percentile (18 ppm) for the Goose Lake belt occurs at sites 24 and 29 in the west end of the belt and the 98th percentile response occurs as a single site anomaly at site 21 in the central portion of the belt. In the Knife Lake belt a cluster of 14-6 ppm responses (98th-90th percentiles) defines a broad low contrast anomalous zone in the west end of the belt. Co values for the Webber Lake and Echimamish River belts are low.

Cr: Like the results for Co the Cr responses in the belts is low contrast. The Knife Lake belt has the highest response of 22 ppm from site 76 in the eastern portion of the belt. The 100th percentile responses from the Goose Lake belt occurs at site 162 (13 ppm) near the southern belt margin in the west central area. Results from the Webber Lake and Echimamish River belts are low.

Fe: The Fe contents in the Echimamish River belt are marked by a single site 100th percentile anomaly in the east end of the belt which represents the highest response in 1998 vegetation sample ashes. The value of 3.31% occurs at the southeastern margin of the belt. The 100th and 99th percentile responses of 0.72% (site 162) and 0.66% (site 147), respectively occur in the west-central portion of the belt, whereas a two sample 98th percentile response of 0.64% is documented from the northeastern part of the belt. The Webber Lake belt is marked by a 100th percentile response of 0.52% at site 110 near the northwestern edge of the supracrustal rocks. Knife Lake belt results are diffuse and scattered. Ninety-eighth percentile responses (0.64%) occur at sites 53, 68 and 76.

K: The central core of the Goose Lake belt is marked by the 100th (21.78%) and two 98th percentile responses (19.80%). The 99th percentile response occurs in the east end of the belt at site 17 (20.34%). Interestingly, the 100th (19.82%) and 98th (19.74%) percentile responses from the Knife Lake belt and the Webber Lake belt (13.40% and 12.96%, respectively) bracket the Gods Lake Narrows Shear Belt to the north and south and may be reflecting alteration processes accompanying this structure. A single site 100th percentile of 19.48% occurs at site 193 in the east end of the Echimamish River belt.

Mg: The 100th percentile response (8.57%) from the Goose Lake belt occurs in isolation at the northeast edge of the belt at site 16. A 99th and 98th percentile response of 7.42% and 6.98% occurs at sites 24 and 143 (no outcrop) in the west end of the belt. The area at the west end of Knife Lake in the Knife Lake belt is marked by a 100th percentile response of 7.7% with scattered 98th and 95th percentile responses throughout. The 100th percentile response for the Webber Lake belt occurs at site 113 (6.6%) in association with an altered, grey-green weathering granite (?). The east end of the Echimamish River belt is marked by a 100th percentile of 7.32% at site 206 where an ultramafic rock was observed in outcrop.

Na: The Na responses vary little from belt to belt and are of low contrast within individual belts. The 100th percentile response for the Goose Lake belt occurs at site 162 (0.18%) in association with an altered granite. The Webber Lake belt is marked by a single site 100th percentile response of 0.14% at site 110. The Echimamish River belt contains a single 100th percentile at site 44 in an area of massive to pillowed basalt and chert-magnetite-garnet-muscovite oxide/silicate facies iron formation. Responses in the Knife Lake belt are low.

P: Extraordinary enrichments in the P contents of black spruce crown twigs are noted in the 1998 survey results. This is reflected by values of >99999 ppm as the 100th percentile in the Echimamish River, Goose Lake and Knife Lake greenstone belts. The value of 99999 ppm is representative of an over-range analysis for which the analytical instrumentation has not been calibrated or standardized. For an accurate analysis sample volumes would need to be reduced or dilutions undertaken. The Echimamish River belt contains four sites of >99999 ppm and three of the four sites are located in the east end of the belt. The fourth 100th percentile response comes from site 185 in the western part of the belt. There is no outcrop in the area of sites 188, 195 and 193. Site 185 is marked by disseminated molybdenite and/or galena in a felsic, gneissose metasedimentary rock (?) with amphibolitic layers and 1% disseminated pyrite. Four 100th percentiles of >99999 ppm are documented from the Goose Lake belt. These occur at sites 24, 166, 167 and 23 and tend to be scattered from the western end of the belt to the central portion. Gabbro is documented from site 23 and no outcrop exists at sites 24 and 166. Site 167 is marked by a highly silicified and foliated granite or felsic sediment. The Knife Lake belt has a single site with >99999 ppm at site 8 near the southern end of a narrow strip of land separating Chataway Lake and Knife Lake. This site along with 98th percentiles at sites 5 and 58 are adjacent to the Gods Lake Narrows Shear Belt. The 100th percentile for the Webber Lake belt occurs at site 106 (47570 ppm) and is also adjacent to this major deformation zone.

Sr: The 100th percentile response for the Echimamish River belt occurs at site 45 (956 ppm) and forms part of a four or five sample cluster in the west end of the belt. This cluster comprises 98th-90th percentile responses of between 665 ppm and 458 ppm. The central portion of the Goose Lake belt is marked by a three sample cluster of 100th-98th percentiles (630-564 ppm). The 100th percentiles for the Knife Lake belt (686 ppm at site 53) and for the Webber Lake belt (608 ppm at site 7) occur to the north and south, respectively, of the Gods Lake Narrows Shear Belt.

V: The V concentrations do not vary significantly within and between belts. The 100th percentile response for the Goose Lake belt of 18 ppm occurs at site 162 on the southwest margin of the belt. A 98th percentile of 16 ppm occurs to the east at site 147. Two 98th percentile responses occur at the east end of the belt. A 16 ppm 100th percentile is documented from site 76 in the eastern portion of the Knife Lake belt. The 100th percentile of 12 ppm for the Webber Lake belt (site 110) occurs in an area of no outcrop.

S: The 100th percentiles do not vary significantly across the sample area. The maximum values from the Knife Lake and the Webber Lake belts occur at sample sites that effectively straddle the Gods Lake Narrows Shear Belt. These responses are from site 58 (40750 ppm) in the Knife Lake belt and from site 113 (40650 ppm) in the Webber Lake belt. The highest responses in the Echimamish River belt comprise 100th-95th percentiles (36340-32370 ppm) from the east end of the belt. The 100th percentile response (36870 ppm) in the Goose Lake belt occurs at the east end of the belt in association with a 98th (34615 ppm) and two 95th (31940 ppm) responses. No correlation is apparent with the samples collected in proximity to the sulphide facies iron formation exposed at site 126 in the east end of the belt. The 99th percentile response occurs at site 24 in the western portion of the belt.

Synthesis

The 1998 vegetation geochemical survey of the Echimamish River, Goose Lake, Knife Lake and Webber Lake belts has demonstrated the association of single and multiple point geochemical responses with mineralization and related alteration zones, unique geophysical signatures and lithologies and has demonstrated the presence of residual exploration potential in overburden covered areas. Many of these responses reflect geochemical signatures defined with other geochemical sampling media. Results are discussed from the individual greenstone belts.

Echimamish River Belt

Based on the vegetation geochemical survey results the portion of this belt sampled in 1998 is interpreted to be characterized by excellent residual exploration potential, similar to that in the western portions of the belt at Max Lake. High to low contrast responses for Zn, Cd, Pb, Ni, As, K, Al and TREE in the area of the belt underlain by supracrustal rocks indicates the need for ground follow-up in the area of these responses. Interestingly, the easternmost end of the belt, characterized by scattered basalt outcrops but predominantly intrusive rocks, is marked by high contrast, multi-sample base and precious metal signatures. Cu, Au, Br, Rb, Cs, P and Ca all provide targets for further assessments. The association of high Br and Au is a feature recognized in other vegetation geochemical surveys in gold-bearing districts. The elemental assemblage of Rb, Cs and P is of interest from the point of view of belt-bounding faults and late stage residual hydrothermal fluid movement. Mobilization of Au and other elements by late hydrothermal fluids associated with the emplacement of pegmatites has been viewed as a possible mechanism by which elements such as TREE, Rb, Cs, P and Ba are concentrated along structures such as the belt-bounding faults present along the Echimamish River belt. The concentration levels of P in ashed black spruce crown twigs in this study is exceptional, with 100^{th} percentiles of four samples in the belt exceeding 99999 ppm. P is an essential element for energy metabolism in vegetation and has been documented in association with shear hosted gold mineralization in the Monument Bay Shear zone along the north margin of the Sharpe Lake belt (Fedikow et al., 1998). The highly strained north margin of the Echimamish River belt may represent such a late stage hydrothermal fluid pathway for P enrichment; the recognition of a pegmatitic granite at site 205 on the north belt margin would tend to support this explanation.

Goose Lake Belt

Three separate areas of high contrast, multi-sample responses delineated by other geochemical sampling media are also defined by the vegetation geochemical survey results. These areas include the west end of the belt, where diamond drilling of coincident ground EM conductors and aeromagnetic anomalies has intersected serpentinized ultramafic rocks (Hosain, 1997; Map OF 97-4-17). The northwest-trending arm of Goose Lake is marked by numerous ground EM conductors that comprise graphitic-sulphide facies iron formations with low base metal contents. This geophysically distinctive portion of the belt is marked by the presence of significant anomalies for Cu, Cd, Sb, Ag, Co, Mo, Ba, Br, Ni, Ca, K and P. Exceptional concentrations of P in black spruce twig ashes of >99999 ppm are recognized along the western arm of Goose Lake and correlate with the presence of fault that transects the entire belt.

The central portion of the belt is marked by only a few weak ground EM conductors, some of which are coincident with aeromagnetic anomalies. This portion of the belt is also somewhat geochemically subdued although high contrast responses for Cu, Pb, Zn, Cd, As, Ba, Cs, Rb, Sr and K are present. Diamond drill testing of one of these weak geophysical targets intersected disseminated chalcopyrite and sphalerite. The area is also transected by the major northwest-trending structure which in some instances truncates the geophysical conductors. It should be noted that a significant portion of the belt could not be accessed for sampling with the helicopter. In this area a coincident ground EM conductor and a gravity high is relatively untested, although a single drill hole drilled by Sherritt Gordon intersected quartz-rich sedimentary rocks and graphite.

The east end of the belt is marked by the presence of a sulphide facies iron formation comprising near solid to solid pyrite, pyrrhotite and lesser sphalerite that is interlayered with chert and massive, porphyritic and amygdular basalt. Vegetation geochemical signatures from this area include Au (28-45 ppb), Zn, Ag and Ni.

Knife Lake Belt

The eastern portion of the Knife Lake belt is marked by the presence of anomalous Au (37 ppb) and Rb responses, whereas the western part of the belt has Cs and Ni anomalies; however, in terms of the abundance of multi-sample anomalous signatures the southern belt margin adjacent to the Gods Lake Narrows Shear Zone is the most significant area in the belt. Anomalies for Cu, Cd, Sb, P, Sr, Ba, Ca, K and Rb are noted along the edge of this structure and this includes the extraordinary enrichment of >99999 ppm in P. Undoubtedly this structure has focussed hydrothermal fluid flow, including the elements P, Sr and Ba along this structure (and associated structures) and may be responsible for mobilizing pre-existing mineralization (along with P, Sr, Ba) or for the development of discrete mineralized zones that are structurally controlled.

A narrow peninsula that separates Chataway Lake from Knife Lake is marked by the presence of a long strike length ground EM conductor that has been drill tested at numerous localities (Hosain, 1997; Map OF97-4-8). This geophysical feature is attributed to a pyrite-pyrrhotite-graphite-bearing iron formation and is marked by a relative paucity of vegetation geochemical responses.

Webber Lake Belt

Most significant vegetation geochemical responses occur in the northwest area of the belt where the Gods Lake Narrows Shear Belt appears to be the target for mineralization and alteration related anomalies. This structure is marked by high contrast, multi-sample responses for Cu, Pb, Zn, Cd, Sb, Mo as well as Rb, Sr, P, K and Ca, the suite of elements that appears to be enriched along the belt-bounding structures. Examined together with the Knife Lake belt numerous elements are enriched in samples collected along or adjacent to this structure that effectively separates the two belts. Elsewhere in the belt responses tend to be lower and overall are the least significant of the four belts sampled in 1998.

Recommendations and Conclusions

This vegetation geochemical survey based on the INA and ICP-AES analysis of ashed samples of the crown twigs of the black spruce (Picea mariana) tree indicates:

1. geochemical flux in the ashed vegetation datasets define metallogenetically significant regional features as well as more localized bedrock point source mineralized zones, unique lithologies and anomalous magnetic and electromagnetic responses;

2. the vegetation geochemical responses are based upon the variation in concentration of essential and/or non-essential elements;

3. the coincidence of vegetation geochemical anomalies with those defined by the analysis of outcrop rock chip, b-horizon soil and humus samples suggests the relatively hostile, clay-rich surficial deposits that characterize the survey areas are not necessarily “geochemically impenetrable” by the shallow root system of the black spruce tree;

4. the observation of coincident vegetation and outcrop rock chip geochemical anomalies indicates minimal dilution of vegetation geochemical response by particulate contamination;

5. the Goose Lake and Echimamish River belts are established as the most metallogenetically significant of the belts sampled in 1998 on the basis of the large number of high contrast, multi-sample base and precious metal vegetation geochemical anomalies;

6. the Gods Lake Narrows Shear Belt that separates the Knife Lake belt from the Webber Lake belt is the focus of multiple anomalous contrasts for a wide range of base and precious metals in these two belts and as such is of metallogenetic interest;

7. the Webber Lake belt is marked by the least number of anomalous vegetation geochemical responses of the belts sampled in 1998;

8. detailed prospecting and geochemical surveys are recommended in the vicinity of the Gods Lake Narrows Shear Belt for the presence of associated structures and altered and mineralized zones;

9. detailed prospecting and geochemical surveys is recommended for both the Echimamish River belt and the Goose Lake belt and in particular in the areas of coincident vegetation geochemical anomalies and deformation zones.

Appendix 1

Black spruce (Picea mariana) Crown Twig Geochemistry: Inductively Coupled Plasma-atomic Emission Spectrometry (ICP-AES), Analyses for Ashed Samples

SAMPLE	UTM Easting	Northing	Ash %	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Fe %	K %	Mg %	Na %	P ppm	Sb ppm	Sc ppm
98BSC-1	422175.00	6047885.00	1.69	0.80	2.4	168	7188	2	18	6	2866	0.20	10.0	90	1	10	26.33	1	6	0.24	13.50	4.96	0.12	49540	10	1.0
98BSC-2	419789.00	6046717.00	1.96	0.80	3.2	176	10480	2	20	10	2016	0.22	10.0	90	1	10	26.33	2	6	0.22	14.54	4.90	0.16	43120	10	1.0
98BSC-3	419903.00	6044273.00	2.01	0.40	4.6	154	5656	2	34	18	1642	0.40	10.0	298	1	10	21.95	2	8	0.32	14.54	7.66	0.14	51280	10	1.0
98BSC-5	423967.00	6040083.00	1.74	0.60	3.0	212	12110	2	76	16	1868	0.30	10.0	126	1	10	21.35	4	8	0.28	19.74	5.34	0.12	63890	10	1.0
98BSC-6	423110.50	6036780.50	1.73	1.00	1.6	216	12010	2	20	14	2232	0.20	10.0	108	1	10	29.13	1	6	0.18	11.94	4.26	0.08	34620	10	1.0
98BSC-7	422898.50	6036995.50	1.83	0.60	3.2	178	10970	2	46	22	2808	0.56	10.0	446	1	10	26.53	4	8	0.46	12.96	4.72	0.12	28570	10	1.0
98BSC-8	415727.00	6042908.00	1.58	0.80	10.6	284	14530	2	56	6	1612	0.22	10.0	74	1	10	18.95	8	8	0.24	16.60	7.70	0.08	99999	10	1.0
98BSC-9-1 Analytical Duplicate	415673.00	6042377.00	1.98	0.40	3.4	242	20710	2	62	18	2448	0.30	10.0	206	1	10	24.74	2	10	0.26	15.58	5.02	0.08	57710	10	1.0
98BSC-9-2 Analytical Duplicate	415673.00	6042377.00	1.98	0.40	3.8	236	20320	2	64	8	2376	0.28	10.0	228	1	10	23.54	2	6	0.24	15.32	4.96	0.08	57440	10	1.0
98BSC-10	413976.00	6041879.00	1.97	0.40	3.2	198	5394	2	22	4	2138	0.14	10.0	348	1	10	22.54	1	6	0.14	18.62	5.58	0.06	42510	10	1.0
98BSC-11	412154.00	6042663.00	1.79	1.00	4.0	196	11330	2	56	12	2110	0.36	10.0	444	1	10	27.53	4	8	0.30	15.00	3.60	0.10	34960	10	1.0
98BSC-12	411756.00	6042217.00	1.75	0.80	5.2	256	8702	2	66	16	1918	0.42	10.0	186	1	10	20.55	2	8	0.40	18.76	4.14	0.12	45020	10	1.0
98BSC-13-1 Analytical Duplicate	410273.00	6047753.00	2.15	0.80	3.0	124	10770	2	34	12	1586	0.26	10.0	162	1	10	28.53	2	6	0.22	13.40	4.00	0.06	33600	10	1.0
98BSC-13-2 Analytical Duplicate	410273.00	6047753.00	2.15	0.80	3.0	124	10750	2	34	10	1570	0.26	10.0	218	1	10	28.73	2	6	0.24	13.16	3.98	0.06	32610	10	1.0
98BSC-14	403125.44	6011007.50	1.71	0.80	3.0	222	16280	2	218	10	1914	0.54	10.0	462	1	10	26.53	10	6	0.30	11.28	6.12	0.14	40110	10	1.0
98BSC-15	405071.47	6014609.50	1.51	1.00	3.4	220	12640	2	104	28	2742	0.80	10.0	234	1	10	19.15	4	12	0.64	16.20	6.58	0.14	40740	10	1.0
98BSC-16-1 Field Duplicate	406208.50	6016505.50	1.64	0.60	3.6	196	17600	2	76	6	2500	0.32	10.0	180	1	10	20.75	6	6	0.26	15.44	7.10	0.10	49350	10	1.0
98BSC-16-2 Field Duplicate	406208.50	6016505.50	1.33	1.20	2.0	238	24440	2	166	10	2766	0.38	10.0	70	1	10	20.75	4	6	0.30	13.84	10.04	0.10	49820	10	1.0
98BSC-17	408555.38	6014841.50	1.87	0.60	4.4	266	16050	2	54	6	1788	0.20	10.0	90	1	10	22.34	4	6	0.20	20.34	6.12	0.06	49180	10	1.0
98BSC-18	415078.09	6012325.00	1.92	1.00	3.0	212	10150	2	54	8	1658	0.32	10.0	132	1	10	24.14	12	6	0.24	17.30	4.56	0.10	51080	10	1.0
98BSC-19	414432.16	6013288.00	1.66	0.60	1.6	250	21120	2	146	8	2782	0.38	10.0	396	1	10	23.74	6	8	0.30	13.32	5.02	0.08	53320	10	1.0
98BSC-20	409312.34	6013691.50	1.74	0.60	1.8	188	33720	2	46	8	2552	0.40	10.0	88	1	10	25.34	4	8	0.36	11.38	5.16	0.12	26160	10	1.0
98BSC-21	389429.00	6018411.00	2.07	0.20	1.4	258	21320	2	82	6	1836	0.18	10.0	90	1	10	27.33	14	6	0.18	11.72	3.50	0.08	46830	10	1.0
98BSC-22	389344.00	6016674.00	1.77	1.60	3.2	258	10430	2	82	18	1316	0.38	10.0	206	1	10	24.94	8	8	0.28	13.34	4.48	0.10	30790	10	1.0
98BSC-23	392288.00	6014396.00	1.86	0.40	3.4	246	27380	2	112	8	2010	0.34	10.0	266	1	10	24.74	10	8	0.20	15.00	4.20	0.06	39470	10	1.0
98BSC-24	379613.00	6025712.00	1.97	0.20	1.6	318	15020	18	140	2	1558	0.18	10.0	132	1	10	19.15	18	8	0.18	15.88	7.42	0.06	99999	10	1.0
98BSC-25	377057.00	6026670.00	1.76	0.40	2.0	132	10320	2	36	14	2228	0.40	10.0	354	1	10	28.53	2	6	0.32	12.34	4.54	0.10	27990	10	1.0
98BSC-26-1 Analytical Duplicate	374339.00	6028062.00	2.00	0.80	1.2	230	11750	2	40	6	1578	0.24	10.0	126	1	10	26.33	8	6	0.20	13.18	6.84	0.06	40790	10	1.0
98BSC-26-2 Analytical Duplicate	374339.00	6028062.00	2.00	0.60	1.8	228	11730	2	42	4	1572	0.24	10.0	182	1	10	26.14	8	6	0.22	13.14	6.76	0.06	40370	10	1.0
98BSC-27	375906.00	6025997.00	2.00	1.20	5.2	302	18980	2	204	12	2090	0.38	10.0	160	1	10	28.73	10	8	0.30	11.50	4.60	0.08	44430	10	1.0
98BSC-28	374248.00	6028877.00	1.80	1.00	3.8	196	9516	2	58	22	1554	0.30	10.0	258	1	10	27.53	6	6	0.24	17.02	3.86	0.12	36520	10	1.0
98BSC-29	374547.00	6029138.00	1.71	0.80	2.4	232	14180	4	110	12	1482	0.44	10.0	314	1	10	25.54	18	8	0.32	15.12	4.56	0.12	42030	10	1.0
98BSC-30	374926.00	6026839.00	2.05	0.40	4.8	160	19030	2	54	18	1924	0.44	10.0	542	1	10	23.54	4	10	0.40	14.82	3.64	0.12	47720	10	1.0
98BSC-31-1 Analytical Duplicate	372780.00	6028156.00	1.98	0.60	3.0	224	15890	2	134	8	2570	0.30	10.0	582	1	10	25.14	6	6	0.28	13.78	5.22	0.08	34860	10	1.0
98BSC-31-2 Analytical Duplicate	372780.00	6028156.00	1.98	0.40	2.4	220	15790	2	132	10	2578	0.30	10.0	582	1	10	25.54	6	6	0.26	13.52	5.26	0.06	34650	10	1.0
98BSC-32	372307.00	6028232.00	1.80	1.20	3.8	210	9174	2	58	10	2018	0.34	10.0	340	1	10	25.94	4	6	0.28	13.38	5.48	0.10	40970	10	1.0
98BSC-33	372056.00	6029102.00	2.31	1.00	4.4	202	11960	2	36	4	2282	0.16	10.0	88	1	10	28.73	2	6	0.18	12.38	4.82	0.06	57330	10	1.0
98BSC-34	372498.00	6030016.00	1.83	0.80	5.4	396	15880	2	118	16	2296	0.38	10.0	120	1	10	27.13	8	8	0.28	12.72	5.38	0.12	36820	10	1.0
98BSC-35	373283.00	6030024.00	1.88	0.80	2.2	262	15190	2	204	4	1732	0.30	10.0	112	1	10	25.54	8	6	0.16	14.98	6.02	0.10	35730	10	1.0
98BSC-36-1 Field Duplicate	371637.00	6030765.00	1.44	0.20	3.2	152	13750	2	44	12	2946	0.42	10.0	190	1	10	26.73	2	8	0.34	12.32	5.54	0.12	30010	10	1.0
98BSC-36-2 Field Duplicate	371637.00	6030765.00	1.90	0.60	2.6	130	7864	2	22	8	2212	0.34	10.0	128	1	10	32.12	2	6	0.30	10.12	4.44	0.10	25470	10	1.0

SAMPLE	UTM Easting	Northing	Ash %	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Fe %	K %	Mg %	Na %	P ppm	Sb ppm	Sc ppm
98BSC-37-1 Analytical Duplicate	370589.00	6033766.00	1.80	0.80	2.4	156	16580	2	140	8	1112	0.32	10.0	64	1	10	29.73	10	4	0.14	9.30	6.14	0.06	37090	10	1.0
98BSC-37-2 Analytical Duplicate	370589.00	6033766.00	1.80	0.80	2.2	160	16870	2	142	4	1140	0.32	10.0	70	1	10	30.32	10	4	0.14	9.52	6.22	0.06	37470	10	1.0
98BSC-38	373372.00	6029446.00	1.93	0.60	2.8	218	7014	2	40	10	1410	0.32	10.0	488	1	10	28.53	4	6	0.24	11.16	6.34	0.14	34940	10	1.0
98BSC-44	320323.97	6041882.00	1.86	0.80	2.6	176	18030	2	76	20	2264	0.60	10.0	826	1	10	24.14	4	10	0.54	12.68	3.48	0.14	26590	10	1.0
98BSC-45	324338.88	6040074.00	1.91	0.40	2.8	146	8054	2	42	22	2648	0.54	10.0	234	1	10	26.73	4	10	0.50	11.66	4.44	0.12	29510	10	1.0
98BSC-51	318170.97	6039892.50	1.94	0.40	2.6	188	17620	2	92	10	1894	0.34	10.0	108	1	10	24.94	6	6	0.26	16.26	4.88	0.10	38260	10	1.0
98BSC-52	424658.00	6042698.00	1.80	0.40	2.6	178	5388	2	28	14	2762	0.36	10.0	122	1	10	27.33	2	8	0.34	13.58	4.06	0.14	28050	10	1.0
98BSC-53	422939.00	6041290.00	2.01	0.40	3.6	122	11340	2	40	30	1558	0.72	10.0	200	1	10	28.33	4	12	0.64	10.68	3.66	0.16	31280	10	1.0
98BSC-55	426549.00	6042653.00	1.94	0.60	2.2	234	15380	2	28	12	3448	0.40	10.0	120	1	10	26.33	2	8	0.38	17.34	4.00	0.12	43730	10	1.0
98BSC-56	427348.00	6040986.00	1.72	0.20	8.0	154	9892	2	62	8	2364	0.32	10.0	96	1	10	22.94	2	6	0.28	16.88	6.94	0.10	36170	10	1.0
98BSC-57	429478.00	6040983.00	1.66	1.00	4.2	250	16890	2	68	8	2342	0.30	10.0	56	1	10	27.33	4	6	0.24	14.16	6.20	0.08	38270	10	1.0
98BSC-58	422017.59	6039578.50	1.72	0.60	4.2	260	18860	2	144	8	2214	0.32	10.0	78	1	10	21.95	6	8	0.26	19.82	7.06	0.10	60420	10	1.0
98BSC-61-1 Field Duplicate	428648.00	6042511.00	1.44	0.60	2.8	208	11780	2	90	16	1868	0.58	10.0	50	1	10	25.94	6	12	0.36	15.18	6.14	0.10	40860	10	1.0
98BSC-61-2 Field Duplicate	428648.00	6042511.00	1.86	0.40	1.4	230	11740	2	54	6	1858	0.24	10.0	146	1	10	27.13	4	6	0.20	15.82	5.54	0.06	32130	10	1.0
98BSC-62	428719.00	6043536.00	1.81	1.00	0.5	208	9552	2	24	14	1546	0.24	10.0	264	1	10	27.53	2	6	0.24	15.28	5.70	0.08	29090	10	1.0
98BSC-63-1 Analytical Duplicate	427677.00	6045751.00	1.70	0.80	0.5	166	15660	2	98	10	1540	0.26	10.0	64	1	10	26.93	10	6	0.26	13.94	5.10	0.10	36460	10	1.0
98BSC-63-2 Analytical Duplicate	427677.00	6045751.00	1.70	0.60	0.5	164	15780	2	100	10	1548	0.26	10.0	94	1	10	26.93	10	8	0.28	13.72	5.08	0.10	36410	10	1.0
98BSC-64	430255.00	6047124.00	1.80	0.40	0.5	186	12850	2	54	16	1378	0.44	10.0	396	1	10	30.13	4	8	0.38	9.72	4.76	0.12	22200	10	1.0
98BSC-65	427764.00	6047447.00	1.75	0.20	1.0	152	27980	2	52	10	1696	0.26	10.0	194	1	10	25.94	2	8	0.24	14.20	5.66	0.12	37440	10	1.0
98BSC-66	425278.00	6047515.00	1.87	0.20	2.4	164	21880	2	62	26	1600	0.64	10.0	180	1	10	29.33	4	12	0.62	10.94	3.66	0.16	31860	10	1.0
98BSC-67	424531.00	6048166.00	1.49	1.00	2.0	268	7194	2	36	10	3034	0.32	10.0	88	1	10	22.34	2	8	0.32	15.46	7.48	0.14	45330	10	1.0
98BSC-68-1 Analytical Duplicate	423147.00	6050489.00	1.82	0.40	1.4	122	5942	2	46	30	3192	0.70	10.0	122	1	10	29.13	2	12	0.66	10.82	3.44	0.16	25660	10	1.0
98BSC-68-2 Analytical Duplicate	423147.00	6050489.00	1.82	0.40	1.6	118	5650	2	44	32	3004	0.66	10.0	214	1	10	28.33	2	12	0.62	10.54	3.28	0.16	24670	10	1.0
98BSC-69	421846.00	6049098.00	2.00	0.20	1.6	140	4460	2	22	10	2576	0.26	10.0	80	1	10	29.53	1	6	0.26	11.92	5.14	0.12	27760	10	1.0
98BSC-70	411122.00	6046567.00	1.96	0.20	2.4	78	12560	2	36	14	1354	0.40	10.0	60	1	10	31.32	4	8	0.34	11.60	3.14	0.12	21810	10	1.0
98BSC-71	412676.00	6045877.00	2.18	0.60	0.5	192	5816	2	162	6	808	0.30	10.0	56	1	10	26.14	14	6	0.16	13.76	5.54	0.10	32270	10	1.0
98BSC-72	413024.00	6047216.00	1.91	0.20	1.6	154	12820	2	40	8	1682	0.16	10.0	54	1	10	25.54	1	6	0.18	12.06	5.16	0.06	34350	10	1.0
98BSC-73	411549.00	6043862.00	1.61	0.20	1.4	142	20220	2	92	10	1486	0.22	10.0	116	1	10	20.55	1	6	0.20	10.78	6.68	0.08	28660	10	1.0
98BSC-74	413657.00	6043128.00	1.87	0.20	1.2	198	36320	2	132	12	1918	0.32	10.0	192	1	10	21.75	6	10	0.22	16.28	4.90	0.08	43970	10	1.0
98BSC-76	433784.00	6040516.00	1.87	0.20	2.8	150	25740	2	92	30	1936	0.78	10.0	418	1	10	24.34	4	22	0.64	11.22	4.00	0.16	32380	10	1.0
98BSC-77	432746.00	6042736.00	1.56	0.20	2.8	176	15020	2	106	16	2530	0.38	10.0	376	1	10	25.94	2	8	0.28	12.84	6.36	0.12	35000	10	1.0
98BSC-78A	431930.00	6043534.00	1.63	0.20	2.2	188	16310	2	66	24	2060	0.56	10.0	474	1	10	26.73	4	10	0.46	11.02	4.86	0.12	24960	10	1.0
98BSC-78B-1 Analytical Duplicate	431930.00	6043534.00	1.92	0.20	3.4	150	11300	2	60	24	1714	0.56	10.0	270	1	10	26.33	4	10	0.46	12.20	3.90	0.12	24980	10	1.0
98BSC-78B-2 Analytical Duplicate	431930.00	6043534.00	1.92	0.20	3.4	152	11480	2	60	22	1732	0.56	10.0	246	1	10	26.73	4	10	0.46	12.30	3.96	0.12	25540	10	1.0
98BSC-80	433938.00	6044126.00	1.87	0.20	2.8	138	11170	2	50	24	1886	0.34	10.0	308	1	10	25.54	2	6	0.32	13.84	3.58	0.10	26390	10	1.0
98BSC-81	432096.00	6047105.00	1.62	0.20	2.8	154	11470	2	108	16	2202	0.44	10.0	246	1	10	19.95	2	8	0.28	15.62	7.66	0.10	32580	10	1.0
98BSC-82	431155.00	6045908.00	1.85	0.40	0.5	124	13220	2	56	8	1430	0.26	10.0	70	1	10	21.95	6	8	0.14	18.82	5.32	0.06	38870	10	1.0
98BSC-83	431374.00	6041096.00	2.25	0.20	0.5	120	13460	2	50	28	1996	0.58	10.0	614	1	10	27.13	2	10	0.50	9.92	2.84	0.12	21710	10	1.0
98BSC-84	436427.28	6047029.50	1.17	0.60	1.2	276	38090	2	116	18	3082	0.36	10.0	336	1	10	23.54	4	12	0.32	9.42	5.96	0.10	45710	10	1.0
98BSC-85-1 Analytical Duplicate	439153.13	6044766.50	1.63	0.20	1.4	164	17370	2	122	14	2058	0.32	10.0	320	1	10	19.15	4	8	0.28	15.98	6.74	0.08	31970	10	1.0
98BSC-85-1 Field/Anal. Duplicate	439153.13	6044766.50	1.63	0.20	1.4	164	17220	2	122	14	2034	0.32	10.0	316	1	10	19.35	4	8	0.28	15.92	6.70	0.06	31830	10	1.0
98BSC-85-1 Field Duplicate	439153.13	6044766.50	1.82	0.20	2.4	184	22090	2	82	12	1832	0.34	10.0	438	1	10	22.74	2	8	0.28	15.88	4.14	0.08	37350	10	1.0
98BSC-86	437708.13	6043243.50	1.89	0.20	1.0	142	18060	2	70	12	1882	0.14	10.0	458	1	10	23.14	4	6	0.14	16.04	5.42	0.04	41270	10	1.0
98BSC-87	438758.06	6041729.50	2.02	0.20	2.0	132	9798	2	80	22	1430	0.30	10.0	268	1	10	23.94	6	6	0.20	15.50	3.10	0.06	30210	10	1.0
98BSC-88	437893.09	6041978.50	1.90	0.20	1.4	178	9908	2	44	22	1676	0.28	10.0	208	1	10	26.33	1	6	0.26	13.24	4.02	0.06	27070	10	1.0
98BSC-89	438026.19	6045493.50	1.56	0.20	1.2	212	20940	2	68	12	2910	0.22	10.0	116	1	10	23.74	2	6	0.24	10.88	6.50	0.06	33210	10	1.0
98BSC-90	441264.97	6041603.50	1.69	0.20	1.6	114	20630	2	58	12	2214	0.36	10.0	238	1	10	22.34	1	8	0.30	12.42	4.18	0.08	32190	10	1.0
98BSC-91	439048.03	6040825.50	1.56	0.20	2.0	126	19760	2	70	14	2228	0.38	10.0	334	1	10	24.34	2	8	0.34	13.08	4.66	0.08	26830	10	1.0
98BSC-92	436230.22	6044253.50	1.70	0.20	4.6	152	27580	2	68	22	2490	0.48	10.0	168	1	10	24.14	2	10	0.44	12.02	3.58	0.08	26320	10	1.0
98BSC-93	410621.00	6049058.00	1.80	0.20	1.8	174	18480	2	54	10	1366	0.18	10.0	152	1	10	21.15	6	6	0.16	18.18	5.16	0.06	39790	10	1.0
98BSC-94	413909.00	6049263.00	1.47	0.40	3.4	212	13360	8	328	12	1568	0.70	10.0	90	1	10	22.94	14	8	0.22	11.24	6.70	0.06	34520	10	1.0
98BSC-95	407798.00	6049007.00	2.10	0.20	2.4	164	25810	2	44	14	2016	0.24	10.0	134	1	10	20.75	6	8	0.24	16.20	5.80	0.12	52880	10	1.0

SAMPLE	UTM		Ash	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	K	Mg	Na	P	Sb	Sc
	Easting	Northing	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	%	%	ppm	ppm	ppm
98BSC-96	409899.00	6046556.00	2.04	1.00	2.2	228	9528	2	136	10	1412	0.36	10.0	172	1	10	24.74	10	8	0.26	14.94	5.68	0.06	40570	10	1.0
98BSC-97	418140.00	6045082.00	1.85	0.20	0.5	204	11700	2	56	18	1994	0.18	10.0	464	1	10	26.33	2	6	0.18	14.40	3.62	0.08	45130	10	1.0
98BSC-98-1 Analytical Duplicate	416634.00	6042840.00	2.03	0.20	2.0	184	12850	2	36	14	1818	0.30	10.0	338	1	10	25.54	2	8	0.34	14.46	4.60	0.12	30190	10	1.0
98BSC-98-2 Analytical Duplicate	416634.00	6042840.00	2.03	0.40	1.9	185	12690	2	41	15	1846	0.30	18.5	747	2	18	25.36	2	7	0.37	14.47	4.55	0.11	30810	19	2.0
98BSC-98-3 Analytical Duplicate	416634.00	6042840.00	2.03	0.20	1.8	178	12130	2	36	14	1736	0.30	10.0	352	1	10	24.54	2	8	0.32	13.78	4.36	0.10	28950	10	1.0
98BSC-99	429858.16	6033292.50	1.76	0.20	1.2	104	13510	2	108	18	1878	0.32	10.0	156	1	10	24.54	2	6	0.28	9.86	5.38	0.08	28290	10	1.0
98BSC-100	431644.06	6033251.50	1.58	0.40	2.0	120	9740	2	42	14	1752	0.28	10.0	250	1	10	25.54	2	6	0.26	11.32	3.54	0.08	29670	10	1.0
98BSC-101	432256.00	6031840.50	1.91	0.40	0.5	118	14750	2	62	8	1842	0.16	10.0	208	1	10	25.14	2	6	0.16	12.10	4.68	0.08	35520	10	1.0
98BSC-102	429871.16	6033829.50	1.71	0.20	2.0	124	16720	2	36	12	1710	0.28	10.0	170	1	10	27.13	2	6	0.26	9.26	3.06	0.08	24990	10	1.0
98BSC-103	425307.38	6035317.50	1.72	0.20	1.4	148	16470	2	66	6	1782	0.22	10.0	214	1	10	21.55	2	6	0.20	12.92	4.66	0.08	27300	10	1.0
98BSC-104-1 Field Duplicate	423848.47	6036518.50	1.81	0.40	0.5	112	8616	2	32	6	1662	0.28	10.0	150	1	10	23.34	2	6	0.22	14.30	4.60	0.10	24510	10	1.0
98BSC-104-2 Field Duplicate	423848.47	6036518.50	1.90	0.20	1.4	94	9030	2	20	8	1808	0.24	10.0	244	1	10	24.74	2	6	0.22	12.50	3.84	0.08	26850	10	1.0
98BSC-105	421335.53	6036410.50	1.68	0.80	1.2	132	9182	2	34	8	1618	0.22	10.0	104	1	10	28.13	2	4	0.20	9.46	4.18	0.10	24270	10	1.0
98BSC-106	421383.56	6037781.50	1.65	0.20	0.5	126	7598	14	20	10	1350	0.30	10.0	106	1	10	21.35	4	6	0.26	11.98	3.02	0.10	29640	10	1.0
98BSC-107	420147.63	6037637.50	1.77	0.20	0.5	98	5464	2	22	6	1034	0.18	10.0	306	1	10	23.14	2	4	0.16	9.36	3.88	0.08	28830	10	1.0
98BSC-108	421291.50	6035072.50	1.87	0.40	0.5	118	8798	2	34	6	1464	0.18	10.0	116	1	10	26.14	1	4	0.16	8.86	2.34	0.06	22660	10	1.0
98BSC-109	423732.41	6034418.50	1.63	0.20	0.5	48	2838	2	24	12	614	0.08	10.0	34	1	22	22.54	1	4	0.06	3.42	1.78	0.04	8394	10	1.0
98BSC-110	424600.44	6036265.50	1.67	0.80	3.4	178	10750	2	56	28	2678	0.58	10.0	478	1	10	21.55	4	8	0.52	2.52	4.70	0.14	31020	10	1.0
98BSC-111	422790.47	6035391.50	1.52	0.60	1.8	234	19540	4	80	6	1790	0.38	10.0	106	1	10	16.76	6	4	0.22	1.68	5.14	0.08	39150	10	1.0
98BSC-112	422413.50	6036539.50	2.24	1.00	2.0	130	10340	2	50	6	1250	0.38	10.0	188	1	10	28.93	4	4	0.30	1.18	4.70	0.08	21520	10	1.0
98BSC-113	419846.59	6036918.50	1.79	1.00	1.2	178	14700	2	34	4	1952	0.28	10.0	190	1	10	18.75	4	4	0.20	1.84	6.60	0.08	47570	10	1.0
98BSC-114	419177.66	6038148.50	1.66	1.20	2.4	232	8772	2	66	10	2216	0.42	10.0	354	1	10	26.14	2	6	0.36	2.08	5.16	0.12	30080	10	1.0
98BSC-115	418088.72	6038642.50	1.78	0.80	3.0	126	8428	2	22	12	2216	0.38	10.0	392	1	10	20.55	2	6	0.36	2.08	4.28	0.10	45590	10	1.0
98BSC-116	417811.72	6039129.50	1.81	1.00	2.6	212	16370	2	40	16	1648	0.46	10.0	156	1	10	23.14	4	8	0.40	1.56	5.42	0.12	42790	10	1.0
98BSC-117	433470.97	6032879.50	2.22	0.80	1.8	134	12390	2	38	12	2006	0.30	10.0	458	1	10	27.73	2	4	0.26	1.88	3.40	0.08	26690	10	1.0
98BSC-118	426929.28	6034129.50	1.81	0.80	1.6	158	16900	2	36	10	2612	0.40	10.0	166	1	10	25.34	2	6	0.32	2.46	5.18	0.10	32570	10	1.0
98BSC-119	425480.31	6033803.50	1.60	1.40	1.8	226	14280	2	70	8	2504	0.44	10.0	160	1	10	24.14	2	6	0.32	2.36	5.84	0.12	31550	10	1.0
98BSC-120	423790.44	6035660.50	1.74	0.80	2.6	132	9502	2	46	18	2546	0.52	10.0	602	1	10	28.33	4	8	0.44	2.40	3.20	0.12	24140	10	1.0
98BSC-121-1 Analytical Duplicate	407150.00	6045862.00	2.30	0.80	1.4	280	6890	2	34	6	2196	0.30	10.0	282	1	10	32.52	2	6	0.28	2.06	3.30	0.08	29900	10	1.0
98BSC-121-2 Analytical Duplicate	407150.00	6045862.00	2.30	0.80	0.5	264	6492	2	34	8	2084	0.28	10.0	418	1	10	30.32	2	6	0.26	1.96	3.16	0.08	28540	10	1.0
98BSC-123	410744.00	6043110.00	1.78	0.60	1.6	218	7258	2	24	8	2970	0.26	10.0	132	1	10	21.95	2	6	0.26	2.80	6.60	0.14	46970	10	1.0
98BSC-124	416359.03	6011437.00	2.20	0.80	1.2	194	5164	16	12	2	1972	0.16	10.0	220	1	10	24.54	1	4	0.16	1.86	4.84	0.06	36340	10	1.0
98BSC-125	417489.03	6012396.00	1.80	1.20	1.0	200	12350	2	52	4	1660	0.18	10.0	130	1	10	21.95	2	4	0.16	1.56	4.38	0.08	42800	10	1.0
98BSC-126	413132.19	6012836.00	1.85	0.60	1.2	172	5388	2	20	8	2334	0.28	10.0	150	1	10	22.74	1	6	0.26	2.20	4.30	0.10	35950	10	1.0
98BSC-127	385444.00	6022763.00	2.07	1.00	3.0	176	15290	2	70	10	1586	0.36	10.0	148	1	10	23.14	2	6	0.30	1.50	4.46	0.12	38260	10	1.0
98BSC-128	385814.00	6024219.00	1.88	1.20	2.4	212	18770	2	76	10	2142	0.42	10.0	126	1	10	20.95	10	8	0.32	2.02	4.94	0.12	52550	10	1.0
98BSC-129-1 Field Duplicate	411318.28	6013772.50	2.00	0.60	1.4	146	12050	2	22	4	2366	0.24	10.0	266	1	10	30.52	2	4	0.22	2.22	3.26	0.08	30380	10	1.0
98BSC-129-2 Field Duplicate	411318.28	6013772.50	1.94	1.40	0.5	260	9798	2	32	6	1542	0.20	10.0	220	1	10	21.95	4	4	0.16	1.46	6.28	0.08	37070	10	1.0
98BSC-130	410039.31	6014382.50	1.86	1.20	1.8	182	11200	2	90	16	1768	0.46	10.0	550	1	10	29.53	4	6	0.34	1.66	4.06	0.10	29930	10	1.0
98BSC-131	410227.28	6012701.50	1.81	0.80	1.2	172	13380	2	42	12	2030	0.40	10.0	188	1	10	20.95	4	8	0.36	1.92	4.72	0.10	49820	10	1.0
98BSC-132	407970.38	6013576.50	2.00	0.80	0.5	122	10300	2	18	10	2376	0.28	10.0	130	1	10	25.74	2	6	0.26	2.24	3.18	0.08	30470	10	1.0
98BSC-133	407131.38	6012572.50	2.14	0.60	0.5	144	10020	2	96	8	1206	0.42	10.0	180	1	10	22.54	4	8	0.24	1.14	4.30	0.08	30310	10	1.0
98BSC-134	406971.44	6014940.50	1.40	1.20	3.0	252	20240	2	140	16	2590	0.58	10.0	490	1	10	20.95	4	8	0.44	2.44	4.72	0.14	35940	10	1.0
98BSC-135	408359.31	6012394.50	2.05	1.00	1.8	276	10950	2	66	4	1628	0.24	10.0	190	1	10	27.53	8	4	0.18	1.54	4.32	0.06	35720	10	1.0
98BSC-136	405675.38	6011926.50	1.69	0.80	0.5	268	23570	2	106	10	2270	0.36	10.0	242	1	10	22.94	8	6	0.30	2.14	5.76	0.08	43750	10	1.0
98BSC-137	404124.44	6012087.50	1.92	0.80	1.6	164	17950	2	30	6	1910	0.22	10.0	118	1	10	24.74	2	6	0.20	1.80	3.86	0.06	41730	10	1.0
98BSC-138	404041.47	6013160.50	1.84	0.80	1.4	124	6464	2	30	10	1494	0.24	10.0	278	1	10	25.14	2	4	0.22	1.40	3.84	0.06	30180	10	1.0
98BSC-139	402538.53	6013989.50	1.73	0.80	1.4	200	15810	2	108	8	1702	0.38	10.0	132	1	10	21.35	6	4	0.20	1.60	6.16	0.06	37790	10	1.0
98BSC-140	399933.00	6014368.00	1.69	0.80	2.6	190	16190	2	88	10	1832	0.32	10.0	448	1	10	23.34	4	6	0.24	1.72	4.74	0.06	39820	10	1.0
98BSC-141	395466.00	6012618.00	2.11	1.00	1.8	184	9776	2	42	14	2282	0.20	10.0	304	1	10	24.74	8	6	0.20	2.14	4.56	0.06	48340	10	1.0
98BSC-143	383035.00	6024618.00	1.74	1.00	1.2	262	24800	2	38	4	2474	0.16	10.0	152	1	10	19.15	4	4	0.18	2.32	6.98	0.04	47810	10	1.0
98BSC-144	389806.00	6022975.00	1.95	0.60	3.6	130	11480	2	38	14	1820	0.34	10.0	262	1	10	26.53	4	6	0.28	1.72	4.08	0.08	38360	10	1.0

SAMPLE	UTM Easting	Northing	Ash %	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Fe %	K %	Mg %	Na %	P ppm	Sb ppm	Sc ppm
98BSC-145	390474.00	6021912.00	1.95	1.00	1.8	202	8842	2	18	6	2088	0.14	10.0	132	1	10	22.34	2	4	0.18	1.96	3.78	0.06	48930	10	1.0
98BSC-146-1 Analytical Duplicate	392335.00	6021175.00	2.19	0.60	1.2	136	13760	2	56	12	1938	0.34	10.0	380	1	10	24.34	4	6	0.34	1.82	3.80	0.10	40300	10	1.0
98BSC-146-2 Analytical Duplicate	392335.00	6021175.00	2.19	0.60	2.0	134	13770	2	54	12	1934	0.34	10.0	444	1	10	24.54	4	6	0.34	1.82	3.82	0.10	40580	10	1.0
98BSC-146-3 Analytical Duplicate	392335.00	6021175.00	2.19	0.80	1.6	143	14280	3	61	16	2043	0.37	13.0	678	2	13	25.22	3	8	0.37	1.94	3.98	0.11	43620	13	1.5
98BSC-147	388878.00	6020355.00	1.87	0.80	3.2	134	10110	2	42	28	2850	0.74	10.0	200	1	10	25.14	4	12	0.66	2.68	3.24	0.12	26150	10	1.0
98BSC-148	403100.47	6012742.50	1.70	1.40	1.4	304	9956	2	58	8	1592	0.26	10.0	164	1	10	23.94	6	4	0.16	1.50	4.70	0.06	36560	10	1.0
98BSC-149	401935.00	6012422.00	1.69	1.20	1.4	276	19080	2	156	4	2268	0.40	10.0	166	1	20	25.94	14	4	0.18	2.14	6.18	0.08	45810	10	1.0
98BSC-150-1 Field Duplicate	392335.00	6021175.00	1.88	0.60	0.5	126	15300	2	22	12	1932	0.30	10.0	618	1	10	26.73	2	6	0.28	1.82	3.74	0.08	38280	10	1.0
98BSC-150-2 Field Duplicate	392335.00	6021175.00	1.83	0.80	0.5	122	15130	2	20	10	1940	0.30	10.0	620	1	10	26.93	2	6	0.28	1.82	3.62	0.06	35660	10	1.0
98BSC-151	399476.00	6015250.00	1.96	0.40	0.5	140	9216	2	22	6	1282	0.14	10.0	182	1	10	23.94	2	4	0.16	1.20	3.84	0.04	34020	10	1.0
98BSC-152	395886.00	6015171.00	1.79	0.60	1.0	166	6806	2	138	6	1408	0.34	10.0	156	1	10	24.34	8	6	0.18	1.32	6.90	0.08	36510	10	1.0
98BSC-153	394104.00	6017050.00	1.54	1.40	1.6	252	15820	2	134	4	2098	0.28	10.0	160	1	10	24.94	12	4	0.20	1.98	3.62	0.06	39080	10	1.0
98BSC-154	406616.34	6011560.50	1.99	1.00	1.6	184	8806	2	32	10	1780	0.24	10.0	314	1	10	25.54	2	4	0.20	1.68	4.40	0.06	37390	10	1.0
98BSC-155	404165.41	6011197.50	1.94	1.20	0.5	174	7610	2	40	8	1606	0.24	10.0	180	1	10	25.54	2	4	0.20	1.52	4.86	0.08	33000	10	1.0
98BSC-156	404389.38	6010246.50	1.72	1.00	1.8	170	10040	2	30	6	1856	0.22	10.0	320	1	10	24.54	2	4	0.20	1.74	5.86	0.08	36180	10	1.0
98BSC-157	405746.31	6009647.50	1.59	1.80	2.2	262	31930	2	52	6	1824	0.34	10.0	112	1	10	22.94	14	6	0.24	1.72	3.26	0.08	43720	10	1.0
98BSC-158	405343.31	6008893.50	2.22	3.80	3.0	192	19660	2	60	6	1924	0.18	10.0	224	1	10	26.93	4	4	0.12	1.82	4.46	0.08	34700	10	1.0
98BSC-159	404052.34	6009302.50	1.63	0.80	1.8	200	23410	2	132	8	1976	0.30	10.0	208	1	10	21.75	10	6	0.22	15.82	5.08	0.06	44560	10	1.0
98BSC-161	388589.00	6022651.46	2.02	0.60	0.5	184	17010	4	20	4	1690	0.14	10.0	170	1	10	19.55	2	4	0.14	21.78	4.58	0.06	47440	10	1.0
98BSC-162-1 Analytical Duplicate	382848.00	6021725.00	2.07	0.25	3.0	170	16400	2	58	28	1995	0.80	12.5	238	1	12	25.14	5	12	0.70	10.48	3.85	0.18	31470	13	1.0
98BSC-162-2 Analytical Duplicate	382848.00	6021725.00	2.07	0.15	3.4	177	17080	3	60	26	2049	0.83	13.0	234	2	13	23.74	5	13	0.73	10.82	3.98	0.18	32780	14	1.5
98BSC-163	388677.00	6018912.00	1.96	0.20	3.0	128	12530	2	20	8	1844	0.30	10.0	122	1	10	22.74	1	6	0.26	16.52	5.30	0.08	32660	10	1.0
98BSC-164	386509.00	6018460.00	1.52	0.40	2.0	202	11330	2	110	10	2096	0.46	10.0	96	1	10	21.75	8	8	0.34	17.98	6.14	0.12	45720	10	1.0
98BSC-166	385391.00	6021255.00	1.64	0.80	6.0	390	18460	2	70	4	1798	0.20	10.0	94	1	10	24.34	12	6	0.16	16.04	4.48	0.06	99999	10	1.0
98BSC-167	384775.00	6020830.00	1.67	0.20	2.8	180	20690	2	148	8	1830	0.44	10.0	80	1	10	18.35	12	6	0.22	19.80	5.60	0.08	99999	10	1.0
98BSC-168-1 Field Duplicate	389115.00	6015922.00	1.71	0.60	4.2	184	11850	2	64	8	1466	0.34	10.0	238	1	10	24.34	2	6	0.28	16.16	5.28	0.08	28660	10	1.0
98BSC-168-2 Field Duplicate	389115.00	6015922.00	1.89	0.40	3.0	260	21850	2	60	2	1342	0.26	10.0	162	1	10	26.73	4	6	0.20	15.02	4.56	0.06	31280	10	1.0
98BSC-169	385427.00	6016657.00	1.87	0.60	3.0	202	14660	2	60	14	1932	0.44	10.0	132	1	10	28.73	4	8	0.38	12.62	3.66	0.08	36830	10	1.0
98BSC-171	383788.00	6015968.00	2.17	0.20	2.8	176	15160	2	46	6	1662	0.24	10.0	162	1	22	26.53	6	6	0.20	15.08	4.70	0.08	45440	10	1.0
98BSC-172	385394.00	6015986.00	1.86	0.20	2.9	176	18400	2	29	12	2234	0.23	10.0	126	1	10	26.73	2	7	0.29	16.32	4.41	0.05	44120	10	1.0
98BSC-173	387942.00	6015283.00	1.76	0.40	1.2	204	10500	2	56	8	1876	0.30	10.0	278	1	10	23.54	1	6	0.26	16.14	5.00	0.08	44560	10	1.0
98BSC-174	394375.00	6012910.00	1.85	0.80	2.4	446	30560	2	76	4	2472	0.14	10.0	126	1	10	22.74	12	6	0.16	13.52	3.48	0.06	99999	10	1.0
98BSC-175	391283.00	6014472.00	1.92	0.40	1.0	288	20140	2	90	4	1742	0.24	10.0	148	1	10	25.14	6	6	0.12	15.04	4.18	0.04	47580	10	1.0
98BSC-176	390369.00	6014784.00	2.03	0.20	1.2	186	26640	2	120	6	1810	0.20	10.0	308	1	10	22.34	8	6	0.18	17.20	3.98	0.06	47170	10	1.0
98BSC-177	321735.97	6041833.00	1.51	0.20	0.5	221	12760	2	209	14	1657	0.49	10.0	346	1	10	20.95	7	7	0.26	16.94	6.58	0.07	41180	10	1.0
98BSC-178	323967.94	6041833.00	1.67	0.20	2.0	168	12910	2	128	18	2610	0.50	10.0	180	1	10	26.14	4	8	0.46	12.00	3.94	0.10	25210	10	1.0
98BSC-179	325351.94	6042469.00	1.91	0.20	1.0	164	4060	2	30	10	1948	0.32	10.0	348	1	10	27.53	2	6	0.30	13.70	3.20	0.10	24440	10	1.0
98BSC-180	324945.91	6041004.00	1.48	0.20	4.2	196	16980	2	90	6	1532	0.44	10.0	202	1	10	21.75	4	10	0.24	18.18	5.04	0.06	31240	10	1.0
98BSC-182-1 Analytical Duplicate	326531.88	6040989.00	2.20	0.20	0.5	169	5021	2	22	7	1661	0.19	10.0	430	1	10	28.93	2	2	0.19	13.50	4.61	0.08	38580	10	0.5
98BSC-182-2 Analytical Duplicate	326531.88	6040989.00	2.20	0.20	1.5	167	4964	2	24	2	1651	0.15	10.0	177	1	10	28.33	2	4	0.20	13.38	4.56	0.10	38100	10	1.0
98BSC-185-1 Field Duplicate	328134.84	6041330.00	1.80	0.40	1.2	232	7618	2	30	2	2054	0.16	10.0	122	1	10	21.15	6	6	0.18	18.58	6.38	0.06	99999	10	1.0
98BSC-185-2 Field Duplicate	328134.84	6041330.00	1.86	0.63	0.5	200	7648	2	40	2	1508	0.15	10.5	260	1	11	22.34	6	6	0.10	18.17	6.26	0.04	99999	11	1.0
98BSC-187	336615.72	6041557.00	1.52	0.20	1.3	306	32100	2	100	8	2035	0.13	10.0	126	1	10	24.14	7	5	0.16	15.07	4.51	0.03	51380	10	1.0
98BSC-188	354237.25	6039244.50	2.02	0.80	1.0	154	7882	2	62	4	1816	0.20	10.0	250	1	10	24.94	2	10	0.14	18.38	4.50	0.04	99999	10	1.0
98BSC-189	350083.38	6040090.00	1.91	0.40	1.8	274	11860	2	82	6	1750	0.30	10.0	184	1	10	28.73	4	6	0.20	13.72	4.90	0.06	30410	10	1.0
98BSC-190	346618.44	6039718.00	1.59	0.20	1.0	158	12360	2	66	4	1828	0.16	10.0	124	1	10	24.14	4	6	0.18	16.78	5.14	0.04	46920	10	1.0
98BSC-191	348726.41	6040743.00	1.88	0.60	2.1	279	14270	2	88	2	1804	0.16	10.0	156	1	10	28.53	4	4	0.14	12.96	5.06	0.04	44970	10	1.0
98BSC-192	347772.47	6041683.00	2.00	0.80	1.6	186	12810	2	44	8	1618	0.26	10.0	158	1	10	25.94	2	6	0.20	18.06	3.12	0.06	29050	10	1.0
98BSC-193	345860.50	6041687.00	1.76	0.40	1.8	226	14130	2	44	2	1386	0.12	10.0	264	1	10	21.95	6	6	0.10	19.48	6.00	0.04	99999	10	1.0
98BSC-194	355771.22	6040295.50	1.78	0.40	1.0	215	11300	2	45	12	1823	0.25	10.0	379	1	10	23.94	2	6	0.20	16.46	5.17	0.08	38710	10	1.0
98BSC-195	354102.22	6038317.50	1.69	1.00	2.2	308	8804	2	38	6	1784	0.20	10.0	172	1	10	25.74	4	6	0.16	12.98	5.12	0.08	99999	10	1.0
98BSC-196	344776.50	6040524.00	1.76	0.40	1.2	248	19120	2	28	4	2548	0.18	10.0	278	1	10	24.34	2	4	0.16	15.24	6.18	0.08	33680	10	1.0

SAMPLE	UTM		Ash	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	K	Mg	Na	P	Sb	Sc
	Easting	Northing	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	%	%	ppm	ppm	ppm
98BSC-197	344483.53	6041202.00	1.75	0.20	2.8	138	10260	2	43	13	1830	0.34	10.0	303	1	10	23.14	2	6	0.30	16.66	4.71	0.06	26190	10	1.0
98BSC-198	343762.53	6040329.00	1.60	0.20	4.0	146	16190	2	59	9	2444	0.40	10.0	425	1	10	24.94	2	5	0.33	14.41	4.63	0.03	35800	10	1.0
98BSC-199	343462.50	6039483.00	1.71	0.60	1.8	230	14990	2	82	12	2002	0.32	10.0	182	1	10	27.13	6	6	0.28	17.48	4.08	0.08	41070	10	1.0
98BSC-200	341465.56	6040134.00	1.81	0.80	0.5	344	17990	2	68	4	2632	0.14	10.0	162	1	10	27.53	2	4	0.14	16.16	5.12	0.06	42700	10	1.0
98BSC-201	347331.41	6039448.00	1.97	0.20	3.4	148	8298	2	34	8	2028	0.24	10.0	228	1	10	31.72	2	4	0.22	13.22	3.74	0.06	26690	10	1.0
98BSC-202-1 Analytical Duplicate	345340.41	6037467.00	2.04	0.42	1.3	228	5997	2	25	4	1880	0.12	10.0	1303	1	10	28.53	8	2	0.12	16.52	4.81	0.08	44810	10	1.0
98BSC-202-2 Analytical Duplicate	345340.41	6037467.00	2.04	0.20	2.6	221	5795	2	26	2	1830	0.13	10.0	749	1	10	25.34	6	3	6.50	16.03	4.67	0.03	43460	10	1.0
98BSC-203	347767.38	6038337.00	1.68	0.20	3.6	258	15540	2	74	8	2016	0.46	10.0	188	1	10	21.35	4	8	0.28	16.74	5.16	0.06	39400	10	1.0
98BSC-204	349428.38	6039387.00	1.66	0.20	2.4	184	14030	2	66	6	2152	0.34	10.0	152	1	10	27.13	4	6	0.26	12.62	4.18	0.08	31190	10	1.0
98BSC-205	337801.72	6042848.00	1.62	0.40	2.6	206	12200	8	32	8	1866	0.40	10.0	146	1	10	21.15	2	8	0.36	16.20	6.26	0.10	37020	10	1.0
98BSC-206	338357.66	6040821.00	1.75	0.60	0.5	288	8226	2	24	2	1614	0.12	10.0	142	1	10	21.35	3	3	0.12	18.06	7.32	0.12	45190	10	1.0
98BSC-207	340633.63	6041136.00	1.68	0.20	1.0	196	13660	2	102	12	1996	0.48	10.0	102	1	10	22.74	4	8	0.36	16.28	5.02	0.10	31980	10	1.0
98BSC-208-1 Field Duplicate	339675.63	6041192.00	1.67	0.40	3.0	216	6136	2	32	6	1270	0.24	10.0	70	1	10	25.14	2	6	0.22	16.70	4.26	0.08	36690	10	1.0
98BSC-208-2 Field Duplicate	339675.63	6041192.00	1.99	0.20	1.8	140	5062	2	28	6	1540	0.20	10.0	76	1	10	27.33	2	4	0.20	14.10	3.04	0.06	29910	10	1.0

SAMPLE	Sn	Sr	Ti	V	W	Y	Zr	S
	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
98BSC-1	5.0	394	0.01	4	10	1	1	33500
98BSC-2	5.0	238	0.01	4	10	1	1	33560
98BSC-3	5.0	266	0.01	8	10	1	1	28910
98BSC-5	5.0	218	0.01	6	10	1	1	33170
98BSC-6	5.0	608	0.01	4	10	1	1	27930
98BSC-7	5.0	300	0.01	10	10	1	1	16660
98BSC-8	5.0	182	0.01	4	10	1	1	40150
98BSC-9-1 Analytical Duplicate	5.0	158	0.01	6	10	1	1	35680
98BSC-9-2 Analytical Duplicate	5.0	152	0.01	6	10	1	1	35220
98BSC-10	5.0	232	0.01	4	10	1	1	30260
98BSC-11	5.0	226	0.01	6	10	1	1	21150
98BSC-12	5.0	264	0.01	8	10	1	1	27970
98BSC-13-1 Analytical Duplicate	5.0	228	0.01	4	10	1	1	25800
98BSC-13-2 Analytical Duplicate	5.0	228	0.01	4	10	1	1	24970
98BSC-14	5.0	346	0.01	8	10	1	1	15380
98BSC-15	5.0	214	0.01	16	10	1	1	31920
98BSC-16-1 Field Duplicate	5.0	252	0.01	6	10	1	1	29890
98BSC-16-2 Field Duplicate	5.0	142	0.01	6	10	1	1	39340
98BSC-17	5.0	238	0.01	4	10	1	1	36870
98BSC-18	5.0	226	0.01	6	10	1	1	31190
98BSC-19	5.0	168	0.01	6	10	1	1	25570
98BSC-20	5.0	156	0.01	8	10	1	1	27500
98BSC-21	5.0	352	0.01	2	10	1	1	31630
98BSC-22	5.0	630	0.01	6	10	1	1	17070
98BSC-23	5.0	328	0.01	4	10	1	1	17510
98BSC-24	5.0	322	0.01	4	10	1	1	35690
98BSC-25	5.0	402	0.01	8	10	1	1	22870
98BSC-26-1 Analytical Duplicate	5.0	402	0.01	6	10	1	1	22680
98BSC-26-2 Analytical Duplicate	5.0	412	0.01	6	10	1	1	21830
98BSC-27	5.0	330	0.01	8	10	1	1	20660
98BSC-28	5.0	314	0.01	6	10	1	1	17390
98BSC-29	5.0	336	0.01	8	10	1	1	22810
98BSC-30	5.0	262	0.01	10	10	1	1	23560
98BSC-31-1 Analytical Duplicate	5.0	212	0.01	6	10	1	1	18820
98BSC-31-2 Analytical Duplicate	5.0	210	0.01	6	10	1	1	18630
98BSC-32	5.0	212	0.01	6	10	1	1	21580
98BSC-33	5.0	346	0.01	4	10	1	1	28060
98BSC-34	5.0	460	0.01	8	10	1	1	17000
98BSC-35	5.0	260	0.01	4	10	1	1	16940
98BSC-36-1 Field Duplicate	5.0	364	0.01	10	10	1	1	20420
98BSC-36-2 Field Duplicate	5.0	416	0.01	8	10	1	1	18160

SAMPLE	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zr ppm	S ppm
98BSC-37-1 Analytical Duplicate	5.0	510	0.01	4	10	1	1	23290
98BSC-37-2 Analytical Duplicate	5.0	520	0.01	4	10	1	1	24320
98BSC-38	5.0	204	0.01	6	10	1	1	19590
98BSC-44	5.0	200	0.01	12	10	1	1	13990
98BSC-45	5.0	956	0.01	12	10	1	1	16950
98BSC-51	5.0	374	0.01	6	10	1	1	30130
98BSC-52	5.0	442	0.01	8	10	1	1	29160
98BSC-53	5.0	686	0.01	14	10	1	1	18140
98BSC-55	5.0	306	0.01	8	10	1	1	23820
98BSC-56	5.0	228	0.01	6	10	1	1	39450
98BSC-57	5.0	218	0.01	6	10	1	1	28760
98BSC-58	5.0	188	0.01	6	10	1	1	40750
98BSC-61-1 Field Duplicate	5.0	476	0.01	8	10	1	1	39620
98BSC-61-2 Field Duplicate	5.0	192	0.01	4	10	1	1	21780
98BSC-62	5.0	296	0.01	6	10	1	1	15960
98BSC-63-1 Analytical Duplicate	5.0	456	0.01	4	10	1	1	23570
98BSC-63-2 Analytical Duplicate	5.0	454	0.01	6	10	1	1	23480
98BSC-64	5.0	300	0.01	8	10	1	1	14920
98BSC-65	5.0	314	0.01	6	10	1	1	35060
98BSC-66	5.0	236	0.01	14	10	1	1	17090
98BSC-67	5.0	402	0.01	8	10	1	1	23870
98BSC-68-1 Analytical Duplicate	5.0	490	0.01	16	10	1	1	13980
98BSC-68-2 Analytical Duplicate	5.0	470	0.01	14	10	1	1	14130
98BSC-69	5.0	596	0.01	6	10	1	1	25820
98BSC-70	5.0	252	0.01	8	10	1	1	19070
98BSC-71	5.0	338	0.01	4	10	1	1	24380
98BSC-72	5.0	270	0.01	4	10	1	1	34080
98BSC-73	5.0	114	0.01	6	10	1	1	31050
98BSC-74	5.0	162	0.01	6	10	1	1	25240
98BSC-76	5.0	132	0.01	16	10	1	1	15060
98BSC-77	5.0	148	0.01	8	10	1	1	18290
98BSC-78A	5.0	304	0.01	12	10	1	1	19400
98BSC-78B-1 Analytical Duplicate	5.0	306	0.01	12	10	1	1	16540
98BSC-78B-2 Analytical Duplicate	5.0	308	0.01	12	10	1	1	16760
98BSC-80	5.0	538	0.01	8	10	1	1	17990
98BSC-81	5.0	176	0.01	8	10	1	1	28210
98BSC-82	5.0	494	0.01	4	10	1	1	32690
98BSC-83	5.0	414	0.01	14	10	1	1	14310
98BSC-84	5.0	184	0.01	8	10	1	1	21330
98BSC-85-1 Analytical Duplicate	5.0	100	0.01	8	10	1	1	21440
98BSC-85-1 Field/Anal. Duplicate	5.0	98	0.01	8	10	1	1	21670
98BSC-85-1 Field Duplicate	5.0	88	0.01	6	10	1	1	18660
98BSC-86	5.0	352	0.01	4	10	1	1	23370
98BSC-87	5.0	196	0.01	4	10	1	1	19240
98BSC-88	5.0	394	0.01	6	10	1	1	18010
98BSC-89	5.0	190	0.01	4	10	1	1	31340
98BSC-90	5.0	82	0.01	8	10	1	1	15790
98BSC-91	5.0	176	0.01	8	10	1	1	19520
98BSC-92	5.0	404	0.01	10	10	1	1	18080
98BSC-93	5.0	272	0.01	4	10	1	1	22860
98BSC-94	5.0	326	0.01	6	10	1	1	26990
98BSC-95	5.0	312	0.01	4	10	1	1	24000

SAMPLE	Sn	Sr	Ti	V	W	Y	Zr	S
	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
98BSC-96	5.0	420	0.01	6	10	1	1	23450
98BSC-97	5.0	294	0.01	4	10	1	1	23180
98BSC-98-1 Analytical Duplicate	5.0	394	0.01	8	10	1	1	19810
98BSC-98-2 Analytical Duplicate	9.5	407	0.02	7	19	2	2	20140
98BSC-98-3 Analytical Duplicate	5.0	378	0.01	6	10	1	1	18470
98BSC-99	5.0	172	0.01	6	10	1	1	20270
98BSC-100	5.0	96	0.01	6	10	1	1	16630
98BSC-101	5.0	104	0.01	2	10	1	1	15820
98BSC-102	5.0	184	0.01	6	10	1	1	12010
98BSC-103	5.0	90	0.01	4	10	1	1	21080
98BSC-104-1 Field Duplicate	5.0	250	0.01	4	10	1	1	22050
98BSC-104-2 Field Duplicate	5.0	156	0.01	4	10	1	1	20690
98BSC-105	5.0	126	0.01	4	10	1	1	22040
98BSC-106	5.0	130	0.01	6	10	1	1	16460
98BSC-107	5.0	100	0.01	4	10	1	1	12730
98BSC-108	5.0	146	0.01	2	10	1	1	14990
98BSC-109	5.0	46	0.01	2	10	1	1	7740
98BSC-110	5.0	240	0.01	12	10	1	1	20100
98BSC-111	5.0	202	0.01	6	10	1	1	34410
98BSC-112	5.0	354	0.01	8	10	1	1	15460
98BSC-113	5.0	160	0.01	6	10	1	1	40650
98BSC-114	5.0	206	0.01	8	10	1	1	25770
98BSC-115	5.0	470	0.01	8	10	1	1	25370
98BSC-116	5.0	306	0.01	10	10	1	1	22420
98BSC-117	5.0	256	0.01	6	10	1	1	14790
98BSC-118	5.0	260	0.01	8	10	1	1	24760
98BSC-119	5.0	148	0.01	8	10	1	1	30250
98BSC-120	5.0	508	0.01	10	10	1	1	15750
98BSC-121-1 Analytical Duplicate	5.0	308	0.01	6	10	1	1	21850
98BSC-121-2 Analytical Duplicate	5.0	292	0.01	6	10	1	1	20230
98BSC-123	5.0	664	0.01	6	10	1	1	27270
98BSC-124	5.0	480	0.01	4	10	1	1	21720
98BSC-125	5.0	460	0.01	4	10	1	1	18530
98BSC-126	5.0	382	0.01	6	10	1	1	26230
98BSC-127	5.0	196	0.01	8	10	1	1	25740
98BSC-128	5.0	146	0.01	8	10	1	1	30990
98BSC-129-1 Field Duplicate	5.0	216	0.01	4	10	1	1	16060
98BSC-129-2 Field Duplicate	5.0	122	0.01	4	10	1	1	25320
98BSC-130	5.0	212	0.01	8	10	1	1	13790
98BSC-131	5.0	252	0.01	8	10	1	1	28060
98BSC-132	5.0	328	0.01	6	10	1	1	24430
98BSC-133	5.0	286	0.01	6	10	1	1	25250
98BSC-134	5.0	260	0.01	12	10	1	1	22150
98BSC-135	5.0	272	0.01	4	10	1	1	21580
98BSC-136	5.0	208	0.01	8	10	1	1	21470
98BSC-137	5.0	210	0.01	4	10	1	1	28870
98BSC-138	5.0	310	0.01	4	10	1	1	16660
98BSC-139	5.0	246	0.01	6	10	1	1	31940
98BSC-140	5.0	152	0.01	6	10	1	1	21940
98BSC-141	5.0	380	0.01	4	10	1	1	18020
98BSC-143	5.0	198	0.01	6	10	1	1	27250
98BSC-144	5.0	264	0.01	6	10	1	1	21360

SAMPLE	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zr ppm	S ppm
98BSC-145	5.0	348	0.01	4	10	1	1	24430
98BSC-146-1 Analytical Duplicate	5.0	164	0.01	8	10	1	1	21490
98BSC-146-2 Analytical Duplicate	5.0	162	0.01	8	10	1	1	21370
98BSC-146-3 Analytical Duplicate	6.5	172	0.02	8	13	2	2	22720
98BSC-147	5.0	616	0.01	16	10	1	1	14680
98BSC-148	5.0	346	0.01	4	10	1	1	24880
98BSC-149	5.0	356	0.01	6	10	1	1	20030
98BSC-150-1 Field Duplicate	5.0	438	0.01	6	10	1	1	17040
98BSC-150-2 Field Duplicate	5.0	470	0.01	6	10	1	1	16190
98BSC-151	5.0	262	0.01	4	10	1	1	22020
98BSC-152	5.0	446	0.01	4	10	1	1	21010
98BSC-153	5.0	220	0.01	4	10	1	1	20740
98BSC-154	5.0	218	0.01	4	10	1	1	18510
98BSC-155	5.0	258	0.01	4	10	1	1	23170
98BSC-156	5.0	236	0.01	4	10	1	1	15380
98BSC-157	5.0	310	0.01	6	10	1	1	14960
98BSC-158	5.0	172	0.01	6	10	1	2	12910
98BSC-159	5.0	256	0.01	6	10	1	1	22210
98BSC-161	5.0	274	0.01	4	10	1	1	24760
98BSC-162-1 Analytical Duplicate	3.8	443	0.01	18	10	1	1	16390
98BSC-162-2 Analytical Duplicate	3.3	455	0.02	18	13	2	2	17610
98BSC-163	5.0	318	0.01	6	10	1	1	25710
98BSC-164	5.0	176	0.01	8	10	1	1	32040
98BSC-166	5.0	260	0.01	4	10	1	1	28230
98BSC-167	5.0	318	0.01	6	10	1	1	28540
98BSC-168-1 Field Duplicate	5.0	208	0.01	8	10	1	1	20200
98BSC-168-2 Field Duplicate	5.0	168	0.01	6	10	1	1	25910
98BSC-169	5.0	248	0.01	8	10	1	1	21560
98BSC-171	5.0	564	0.01	4	10	1	1	22100
98BSC-172	5.0	294	0.01	6	10	1	1	22230
98BSC-173	5.0	236	0.01	6	10	1	1	28310
98BSC-174	5.0	168	0.01	2	10	1	1	26300
98BSC-175	5.0	292	0.01	2	10	1	1	27780
98BSC-176	5.0	294	0.01	4	10	1	1	19710
98BSC-177	5.0	444	0.01	7	10	1	1	28030
98BSC-178	5.0	458	0.01	10	10	1	1	21150
98BSC-179	5.0	520	0.01	6	10	1	1	20060
98BSC-180	5.0	356	0.01	6	10	1	1	24510
98BSC-182-1 Analytical Duplicate	5.0	668	0.01	1	10	1	1	17970
98BSC-182-2 Analytical Duplicate	5.0	662	0.01	1	10	1	1	18340
98BSC-185-1 Field Duplicate	5.0	328	0.01	4	10	1	1	37520
98BSC-185-2 Field Duplicate	5.0	271	0.01	1	11	1	1	27220
98BSC-187	5.0	406	0.01	1	10	1	1	28090
98BSC-188	5.0	258	0.01	2	10	1	1	28090
98BSC-189	5.0	214	0.01	4	10	1	1	25240
98BSC-190	5.0	258	0.01	4	10	1	1	36340
98BSC-191	5.0	211	0.01	2	10	1	1	31270
98BSC-192	5.0	244	0.01	4	10	1	1	20720
98BSC-193	5.0	196	0.01	2	10	1	1	24110
98BSC-194	5.0	150	0.01	4	10	1	1	24370
98BSC-195	5.0	352	0.01	4	10	1	1	26100
98BSC-196	5.0	306	0.01	4	10	1	1	22080

SAMPLE	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zr ppm	S ppm
98BSC-197	5.0	260	0.01	6	10	1	1	22680
98BSC-198	5.0	132	0.01	4	10	1	1	21780
98BSC-199	5.0	288	0.01	6	10	1	1	20360
98BSC-200	5.0	222	0.01	2	10	1	1	29180
98BSC-201	5.0	556	0.01	6	10	1	1	17620
98BSC-202-1 Analytical Duplicate	5.0	374	0.01	2	10	1	1	23880
98BSC-202-2 Analytical Duplicate	5.0	362	0.01	1	10	1	2	22390
98BSC-203	5.0	176	0.01	6	10	1	1	27550
98BSC-204	5.0	276	0.01	6	10	1	1	24290
98BSC-205	5.0	298	0.01	10	10	1	1	28210
98BSC-206	5.0	288	0.01	3	10	1	1	34960
98BSC-207	5.0	354	0.01	10	10	1	1	24250
98BSC-208-1 Field Duplicate	5.0	398	0.01	6	10	1	1	31100
98BSC-208-2 Field Duplicate	5.0	384	0.01	4	10	1	1	24590

Black spruce (Picea mariana) Crown Twig Geochemistry: Duplicate Pair ICP-AES Analyses for Ashed Samples

SAMPLE	UTM Easting	Northing	Ash %	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Fe %	K %	Mg %	Na %	P ppm	Sb ppm	Sc ppm
98BSC-9-1 Analytical Duplicate	415673.00	6042377.00	1.98	0.40	3.4	242	20710	2	62	18	2448	0.30	10.0	206	1	10	24.74	2	10	0.26	15.58	5.02	0.08	57710	10	1.0
98BSC-9-2 Analytical Duplicate	415673.00	6042377.00	1.98	0.40	3.8	236	20320	2	64	8	2376	0.28	10.0	228	1	10	23.54	2	6	0.24	15.32	4.96	0.08	57440	10	1.0
98BSC-13-1 Analytical Duplicate	410273.00	6047753.00	2.15	0.80	3.0	124	10770	2	34	12	1586	0.26	10.0	162	1	10	28.53	2	6	0.22	13.40	4.00	0.06	33600	10	1.0
98BSC-13-2 Analytical Duplicate	410273.00	6047753.00	2.15	0.80	3.0	124	10750	2	34	10	1570	0.26	10.0	218	1	10	28.73	2	6	0.24	13.16	3.98	0.06	32610	10	1.0
98BSC-16-1 Field Duplicate	406208.50	6016505.50	1.64	0.60	3.6	196	17600	2	76	6	2500	0.32	10.0	180	1	10	20.75	6	6	0.26	15.44	7.10	0.10	49350	10	1.0
98BSC-16-2 Field Duplicate	406208.50	6016505.50	1.33	1.20	2.0	238	24440	2	166	10	2766	0.38	10.0	70	1	10	20.75	4	6	0.30	13.84	10.04	0.10	49820	10	1.0
98BSC-26-1 Analytical Duplicate	374339.00	6028062.00	2.00	0.80	1.2	230	11750	2	40	6	1578	0.24	10.0	126	1	10	26.33	8	6	0.20	13.18	6.84	0.06	40790	10	1.0
98BSC-26-2 Analytical Duplicate	374339.00	6028062.00	2.00	0.60	1.8	228	11730	2	42	4	1572	0.24	10.0	182	1	10	26.14	8	6	0.22	13.14	6.76	0.06	40370	10	1.0
98BSC-31-1 Analytical Duplicate	372780.00	6028156.00	1.98	0.60	3.0	224	15890	2	134	8	2570	0.30	10.0	582	1	10	25.14	6	6	0.28	13.78	5.22	0.08	34860	10	1.0
98BSC-31-2 Analytical Duplicate	372780.00	6028156.00	1.98	0.40	2.4	220	15790	2	132	10	2578	0.30	10.0	582	1	10	25.54	6	6	0.26	13.52	5.26	0.06	34650	10	1.0
98BSC-36-1 Field Duplicate	371637.00	6030765.00	1.44	0.20	3.2	152	13750	2	44	12	2946	0.42	10.0	190	1	10	26.73	2	8	0.34	12.32	5.54	0.12	30010	10	1.0
98BSC-36-2 Field Duplicate	371637.00	6030765.00	1.90	0.60	2.6	130	7864	2	22	8	2212	0.34	10.0	128	1	10	32.12	2	6	0.30	10.12	4.44	0.10	25470	10	1.0
98BSC-37-1 Analytical Duplicate	370589.00	6033766.00	1.80	0.80	2.4	156	16580	2	140	8	1112	0.32	10.0	64	1	10	29.73	10	4	0.14	9.30	6.14	0.06	37090	10	1.0
98BSC-37-2 Analytical Duplicate	370589.00	6033766.00	1.80	0.80	2.2	160	16870	2	142	4	1140	0.32	10.0	70	1	10	30.32	10	4	0.14	9.52	6.22	0.06	37470	10	1.0
98BSC-61-1 Field Duplicate	428648.00	6042511.00	1.44	0.60	2.8	208	11780	2	90	16	1868	0.58	10.0	50	1	10	25.94	6	12	0.36	15.18	6.14	0.10	40860	10	1.0
98BSC-61-2 Field Duplicate	428648.00	6042511.00	1.86	0.40	1.4	230	11740	2	54	6	1858	0.24	10.0	146	1	10	27.13	4	6	0.20	15.82	5.54	0.06	32130	10	1.0
98BSC-63-1 Analytical Duplicate	427677.00	6045751.00	1.70	0.80	0.5	166	15660	2	98	10	1540	0.26	10.0	64	1	10	26.93	10	6	0.26	13.94	5.10	0.10	36460	10	1.0
98BSC-63-2 Analytical Duplicate	427677.00	6045751.00	1.70	0.60	0.5	164	15780	2	100	10	1548	0.26	10.0	94	1	10	26.93	10	8	0.28	13.72	5.08	0.10	36410	10	1.0
98BSC-68-1 Analytical Duplicate	423147.00	6050489.00	1.82	0.40	1.4	122	5942	2	46	30	3192	0.70	10.0	122	1	10	29.13	2	12	0.66	10.82	3.44	0.16	25660	10	1.0
98BSC-68-2 Analytical Duplicate	423147.00	6050489.00	1.82	0.40	1.6	118	5650	2	44	32	3004	0.66	10.0	214	1	10	28.33	2	12	0.62	10.54	3.28	0.16	24670	10	1.0
98BSC-78B-1 Analytical Duplicate	431930.00	6043534.00	1.92	0.20	3.4	150	11300	2	60	24	1714	0.56	10.0	270	1	10	26.33	4	10	0.46	12.20	3.90	0.12	24980	10	1.0
98BSC-78B-2 Analytical Duplicate	431930.00	6043534.00	1.92	0.20	3.4	152	11480	2	60	22	1732	0.56	10.0	246	1	10	26.73	4	10	0.46	12.30	3.96	0.12	25540	10	1.0
98BSC-85-1 Analytical Duplicate	439153.13	6044766.50	1.63	0.20	1.4	164	17370	2	122	14	2058	0.32	10.0	320	1	10	19.15	4	8	0.28	15.98	6.74	0.08	31970	10	1.0
98BSC-85-1 Field/Anal. Duplicate	439153.13	6044766.50	1.63	0.20	1.4	164	17220	2	122	14	2034	0.32	10.0	316	1	10	19.35	4	8	0.28	15.92	6.70	0.06	31830	10	1.0
98BSC-85-1 Field Duplicate	439153.13	6044766.50	1.82	0.20	2.4	184	22090	2	82	12	1832	0.34	10.0	438	1	10	22.74	2	8	0.28	15.88	4.14	0.08	37350	10	1.0
98BSC-98-1 Analytical Duplicate	416634.00	6042840.00	2.03	0.20	2.0	184	12850	2	36	14	1818	0.30	10.0	338	1	10	25.54	2	8	0.34	14.46	4.60	0.12	30190	10	1.0
98BSC-98-2 Analytical Duplicate	416634.00	6042840.00	2.03	0.40	1.9	185	12690	2	41	15	1846	0.30	18.5	747	2	18	25.36	2	7	0.37	14.47	4.55	0.11	30810	19	2.0
98BSC-98-3 Analytical Duplicate	416634.00	6042840.00	2.03	0.20	1.8	178	12130	2	36	14	1736	0.30	10.0	352	1	10	24.54	2	8	0.32	13.78	4.36	0.10	28950	10	1.0

SAMPLE	UTM Easting	Northing	Ash %	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Fe %	K %	Mg %	Na %	P ppm	Sb ppm	Sc ppm
98BSC-104-1 Field Duplicate	423848.47	6036518.50	1.81	0.40	0.5	112	8616	2	32	6	1662	0.28	10.0	150	1	10	23.34	2	6	0.22	14.30	4.60	0.10	24510	10	1.0
98BSC-104-2 Field Duplicate	423848.47	6036518.50	1.90	0.20	1.4	94	9030	2	20	8	1808	0.24	10.0	244	1	10	24.74	2	6	0.22	12.50	3.84	0.08	26850	10	1.0
98BSC-121-1 Analytical Duplicate	407150.00	6045862.00	2.30	0.80	1.4	280	6890	2	34	6	2196	0.30	10.0	282	1	10	32.52	2	6	0.28	2.06	3.30	0.08	29900	10	1.0
98BSC-121-2 Analytical Duplicate	407150.00	6045862.00	2.30	0.80	0.5	264	6492	2	34	8	2084	0.28	10.0	418	1	10	30.32	2	6	0.26	1.96	3.16	0.08	28540	10	1.0
98BSC-129-1 Field Duplicate	411318.28	6013772.50	2.00	0.60	1.4	146	12050	2	22	4	2366	0.24	10.0	266	1	10	30.52	2	4	0.22	2.22	3.26	0.08	30380	10	1.0
98BSC-129-2 Field Duplicate	411318.28	6013772.50	1.94	1.40	0.5	260	9798	2	32	6	1542	0.20	10.0	220	1	10	21.95	4	4	0.16	1.46	6.28	0.08	37070	10	1.0
98BSC-146-1 Analytical Duplicate	392335.00	6021175.00	2.19	0.60	1.2	136	13760	2	56	12	1938	0.34	10.0	380	1	10	24.34	4	6	0.34	1.82	3.80	0.10	40300	10	1.0
98BSC-146-2 Analytical Duplicate	392335.00	6021175.00	2.19	0.60	2.0	134	13770	2	54	12	1934	0.34	10.0	444	1	10	24.54	4	6	0.34	1.82	3.82	0.10	40580	10	1.0
98BSC-146-3 Analytical Duplicate	392335.00	6021175.00	2.19	0.80	1.6	143	14280	3	61	16	2043	0.37	13.0	678	2	13	25.22	3	8	0.37	1.94	3.98	0.11	43620	13	1.5
98BSC-150-1 Field Duplicate	392335.00	6021175.00	1.88	0.60	0.5	126	15300	2	22	12	1932	0.30	10.0	618	1	10	26.73	2	6	0.28	1.82	3.74	0.08	38280	10	1.0
98BSC-150-2 Field Duplicate	392335.00	6021175.00	1.83	0.80	0.5	122	15130	2	20	10	1940	0.30	10.0	620	1	10	26.93	2	6	0.28	1.82	3.62	0.06	35660	10	1.0
98BSC-162-1 Analytical Duplicate	382848.00	6021725.00	2.07	0.25	3.0	170	16400	2	58	28	1995	0.80	12.5	238	1	12	25.14	5	12	0.70	10.48	3.85	0.18	31470	13	1.0
98BSC-162-2 Analytical Duplicate	382848.00	6021725.00	2.07	0.15	3.4	177	17080	3	60	26	2049	0.83	13.0	234	2	13	23.74	5	13	0.73	10.82	3.98	0.18	32780	14	1.5
98BSC-168-1 Field Duplicate	389115.00	6015922.00	1.71	0.60	4.2	184	11850	2	64	8	1466	0.34	10.0	238	1	10	24.34	2	6	0.28	16.16	5.28	0.08	28660	10	1.0
98BSC-168-2 Field Duplicate	389115.00	6015922.00	1.89	0.40	3.0	260	21850	2	60	2	1342	0.26	10.0	162	1	10	26.73	4	6	0.20	15.02	4.56	0.06	31280	10	1.0
98BSC-182-1 Analytical Duplicate	326531.88	6040989.00	2.20	0.20	0.5	169	5021	2	22	7	1661	0.19	10.0	430	1	10	28.93	2	2	0.19	13.50	4.61	0.08	38580	10	0.5
98BSC-182-2 Analytical Duplicate	326531.88	6040989.00	2.20	0.20	1.5	167	4964	2	24	2	1651	0.15	10.0	177	1	10	28.33	2	4	0.20	13.38	4.56	0.10	38100	10	1.0
98BSC-185-1 Field Duplicate	328134.84	6041330.00	1.80	0.40	1.2	232	7618	2	30	2	2054	0.16	10.0	122	1	10	21.15	6	6	0.18	18.58	6.38	0.06	99999	10	1.0
98BSC-185-2 Field Duplicate	328134.84	6041330.00	1.86	0.63	0.5	200	7648	2	40	2	1508	0.15	10.5	260	1	11	22.34	6	6	0.10	18.17	6.26	0.04	99999	11	1.0
98BSC-202-1 Analytical Duplicate	345340.41	6037467.00	2.04	0.42	1.3	228	5997	2	25	4	1880	0.12	10.0	1303	1	10	28.53	8	2	0.12	16.52	4.81	0.08	44810	10	1.0
98BSC-202-2 Analytical Duplicate	345340.41	6037467.00	2.04	0.20	2.6	221	5795	2	26	2	1830	0.13	10.0	749	1	10	25.34	6	3	6.50	16.03	4.67	0.03	43460	10	1.0
98BSC-208-1 Field Duplicate	339675.63	6041192.00	1.67	0.40	3.0	216	6136	2	32	6	1270	0.24	10.0	70	1	10	25.14	2	6	0.22	16.70	4.26	0.08	36690	10	1.0
98BSC-208-2 Field Duplicate	339675.63	6041192.00	1.99	0.20	1.8	140	5062	2	28	6	1540	0.20	10.0	76	1	10	27.33	2	4	0.20	14.10	3.04	0.06	29910	10	1.0

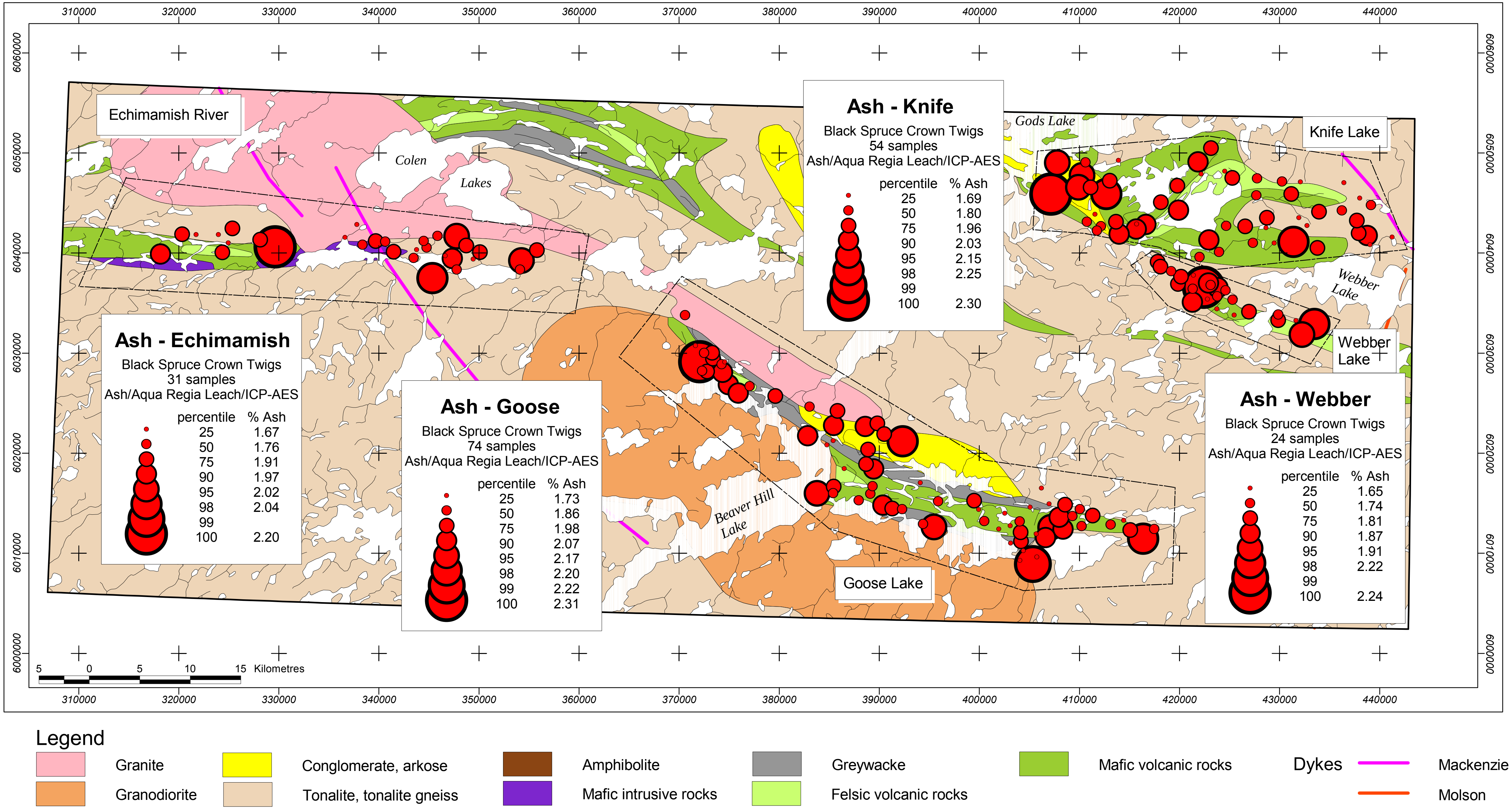
SAMPLE	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zr ppm	S ppm
98BSC-9-1 Analytical Duplicate	5.0	158	0.01	6	10	1	1	35680
98BSC-9-2 Analytical Duplicate	5.0	152	0.01	6	10	1	1	35220
98BSC-13-1 Analytical Duplicate	5.0	228	0.01	4	10	1	1	25800
98BSC-13-2 Analytical Duplicate	5.0	228	0.01	4	10	1	1	24970
98BSC-16-1 Field Duplicate	5.0	252	0.01	6	10	1	1	29890
98BSC-16-2 Field Duplicate	5.0	142	0.01	6	10	1	1	39340
98BSC-26-1 Analytical Duplicate	5.0	402	0.01	6	10	1	1	22680
98BSC-26-2 Analytical Duplicate	5.0	412	0.01	6	10	1	1	21830
98BSC-31-1 Analytical Duplicate	5.0	212	0.01	6	10	1	1	18820
98BSC-31-2 Analytical Duplicate	5.0	210	0.01	6	10	1	1	18630
98BSC-36-1 Field Duplicate	5.0	364	0.01	10	10	1	1	20420
98BSC-36-2 Field Duplicate	5.0	416	0.01	8	10	1	1	18160
98BSC-37-1 Analytical Duplicate	5.0	510	0.01	4	10	1	1	23290
98BSC-37-2 Analytical Duplicate	5.0	520	0.01	4	10	1	1	24320
98BSC-61-1 Field Duplicate	5.0	476	0.01	8	10	1	1	39620
98BSC-61-2 Field Duplicate	5.0	192	0.01	4	10	1	1	21780
98BSC-63-1 Analytical Duplicate	5.0	456	0.01	4	10	1	1	23570
98BSC-63-2 Analytical Duplicate	5.0	454	0.01	6	10	1	1	23480
98BSC-68-1 Analytical Duplicate	5.0	490	0.01	16	10	1	1	13980
98BSC-68-2 Analytical Duplicate	5.0	470	0.01	14	10	1	1	14130
98BSC-78B-1 Analytical Duplicate	5.0	306	0.01	12	10	1	1	16540
98BSC-78B-2 Analytical Duplicate	5.0	308	0.01	12	10	1	1	16760
98BSC-85-1 Analytical Duplicate	5.0	100	0.01	8	10	1	1	21440
98BSC-85-1 Field/Anal. Duplicate	5.0	98	0.01	8	10	1	1	21670
98BSC-85-1 Field Duplicate	5.0	88	0.01	6	10	1	1	18660
98BSC-98-1 Analytical Duplicate	5.0	394	0.01	8	10	1	1	19810
98BSC-98-2 Analytical Duplicate	9.5	407	0.02	7	19	2	2	20140
98BSC-98-3 Analytical Duplicate	5.0	378	0.01	6	10	1	1	18470

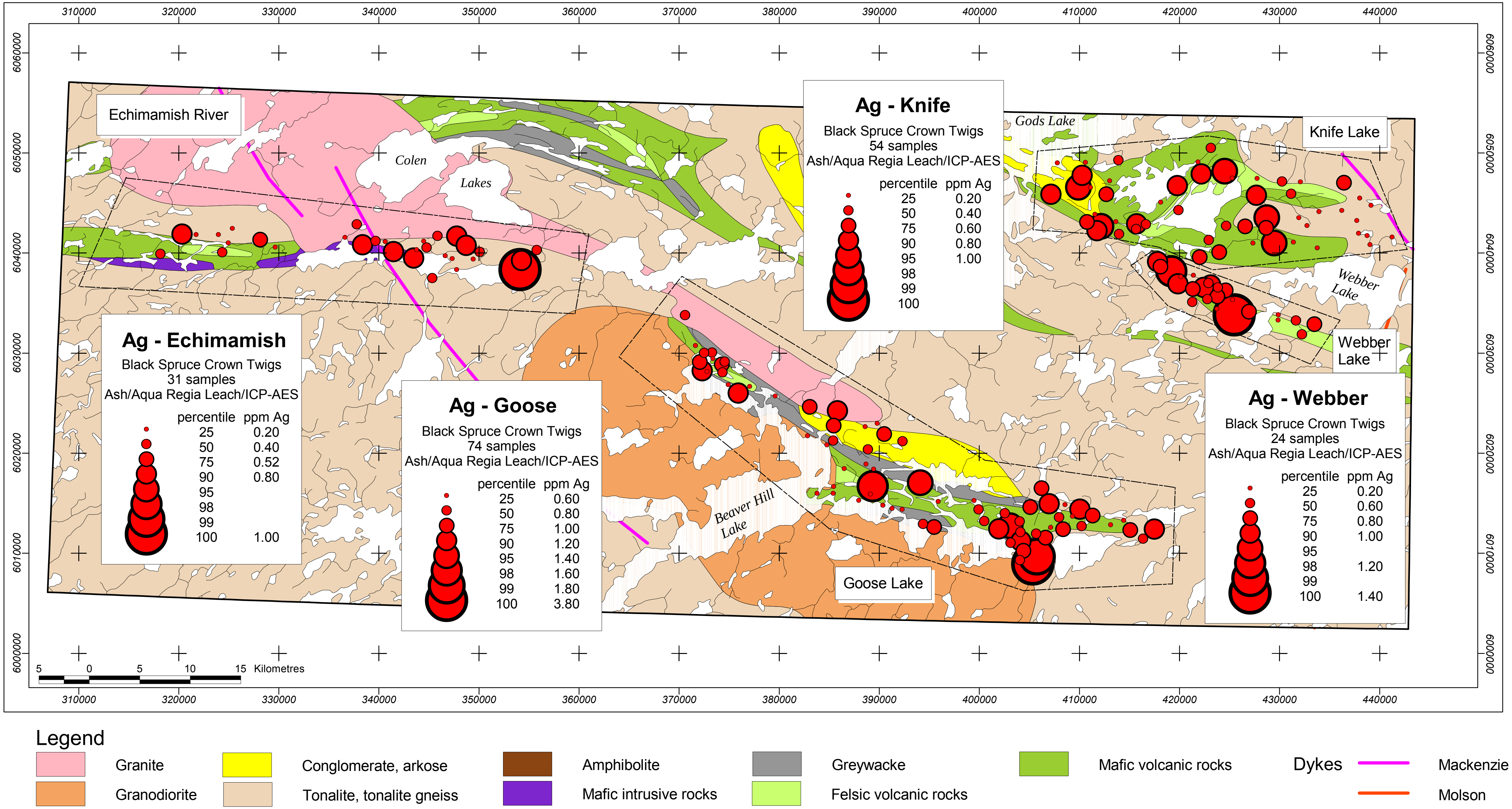
SAMPLE	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zr ppm	S ppm
98BSC-104-1 Field Duplicate	5.0	250	0.01	4	10	1	1	22050
98BSC-104-2 Field Duplicate	5.0	156	0.01	4	10	1	1	20690
98BSC-121-1 Analytical Duplicate	5.0	308	0.01	6	10	1	1	21850
98BSC-121-2 Analytical Duplicate	5.0	292	0.01	6	10	1	1	20230
98BSC-129-1 Field Duplicate	5.0	216	0.01	4	10	1	1	16060
98BSC-129-2 Field Duplicate	5.0	122	0.01	4	10	1	1	25320
98BSC-146-1 Analytical Duplicate	5.0	164	0.01	8	10	1	1	21490
98BSC-146-2 Analytical Duplicate	5.0	162	0.01	8	10	1	1	21370
98BSC-146-3 Analytical Duplicate	6.5	172	0.02	8	13	2	2	22720
98BSC-150-1 Field Duplicate	5.0	438	0.01	6	10	1	1	17040
98BSC-150-2 Field Duplicate	5.0	470	0.01	6	10	1	1	16190
98BSC-162-1 Analytical Duplicate	3.8	443	0.01	18	10	1	1	16390
98BSC-162-2 Analytical Duplicate	3.3	455	0.02	18	13	2	2	17610
98BSC-168-1 Field Duplicate	5.0	208	0.01	8	10	1	1	20200
98BSC-168-2 Field Duplicate	5.0	168	0.01	6	10	1	1	25910
98BSC-182-1 Analytical Duplicate	5.0	668	0.01	1	10	1	1	17970
98BSC-182-2 Analytical Duplicate	5.0	662	0.01	1	10	1	1	18340
98BSC-185-1 Field Duplicate	5.0	328	0.01	4	10	1	1	37520
98BSC-185-2 Field Duplicate	5.0	271	0.01	1	11	1	1	27220
98BSC-202-1 Analytical Duplicate	5.0	374	0.01	2	10	1	1	23880
98BSC-202-2 Analytical Duplicate	5.0	362	0.01	1	10	1	2	22390
98BSC-208-1 Field Duplicate	5.0	398	0.01	6	10	1	1	31100
98BSC-208-2 Field Duplicate	5.0	384	0.01	4	10	1	1	24590

Appendix 3

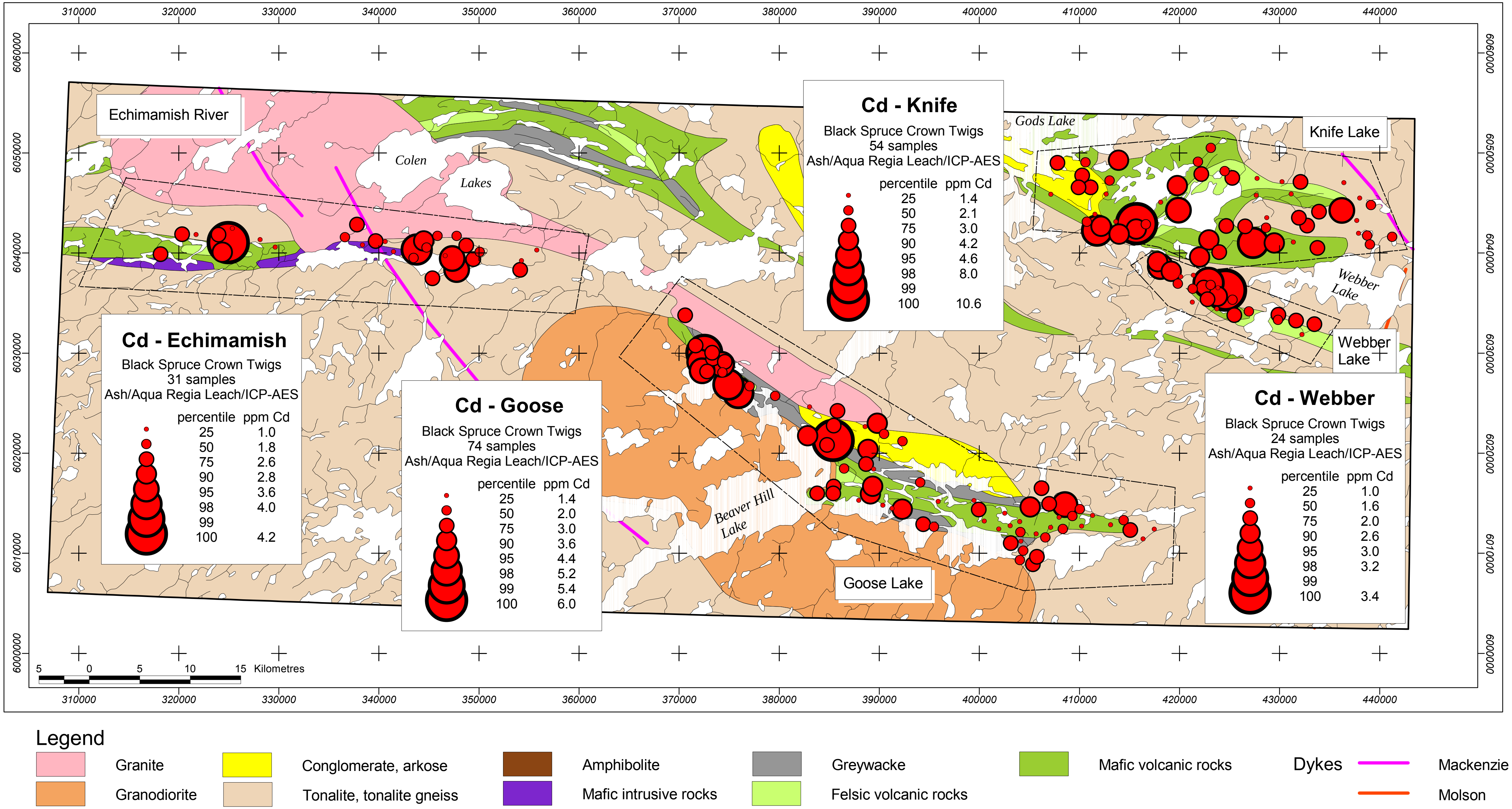
Black spruce *(Picea mariana)* Crown Twig Geochemistry: ICP-AES Percentile Bubble Plots.

Ash	Ag	Cd	Cu	Mn
Mo	Ni	Pb	Zn	Al
Ba	Ca	Co	Cr	Fe
K	Mg	Na	P	Sr
V	S			
Contents				

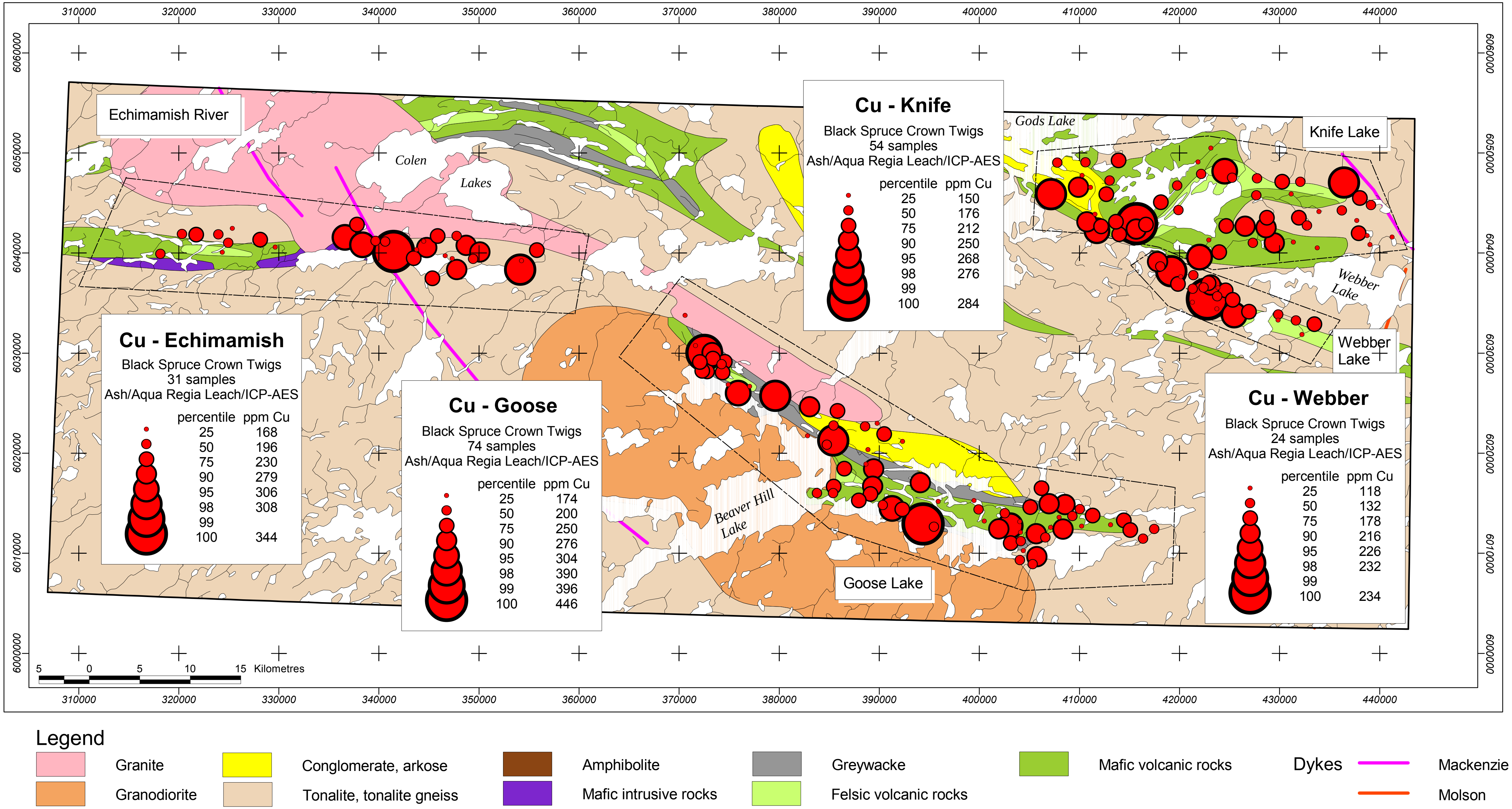

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ash - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ash
25 1.67
50 1.76
75 1.91
90 1.97
95 2.02
98 2.04
99
100 2.20
Ash - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ash
25 1.73
50 1.86
75 1.98
90 2.07
95 2.17
98 2.20
99 2.22
100 2.31
Ash - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ash
25 1.69
50 1.80
75 1.96
90 2.03
95 2.15
98 2.25
99
100 2.30
Ash - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ash
25 1.65
50 1.74
75 1.81
90 1.87
95 1.91
98 2.22
99
100 2.24
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



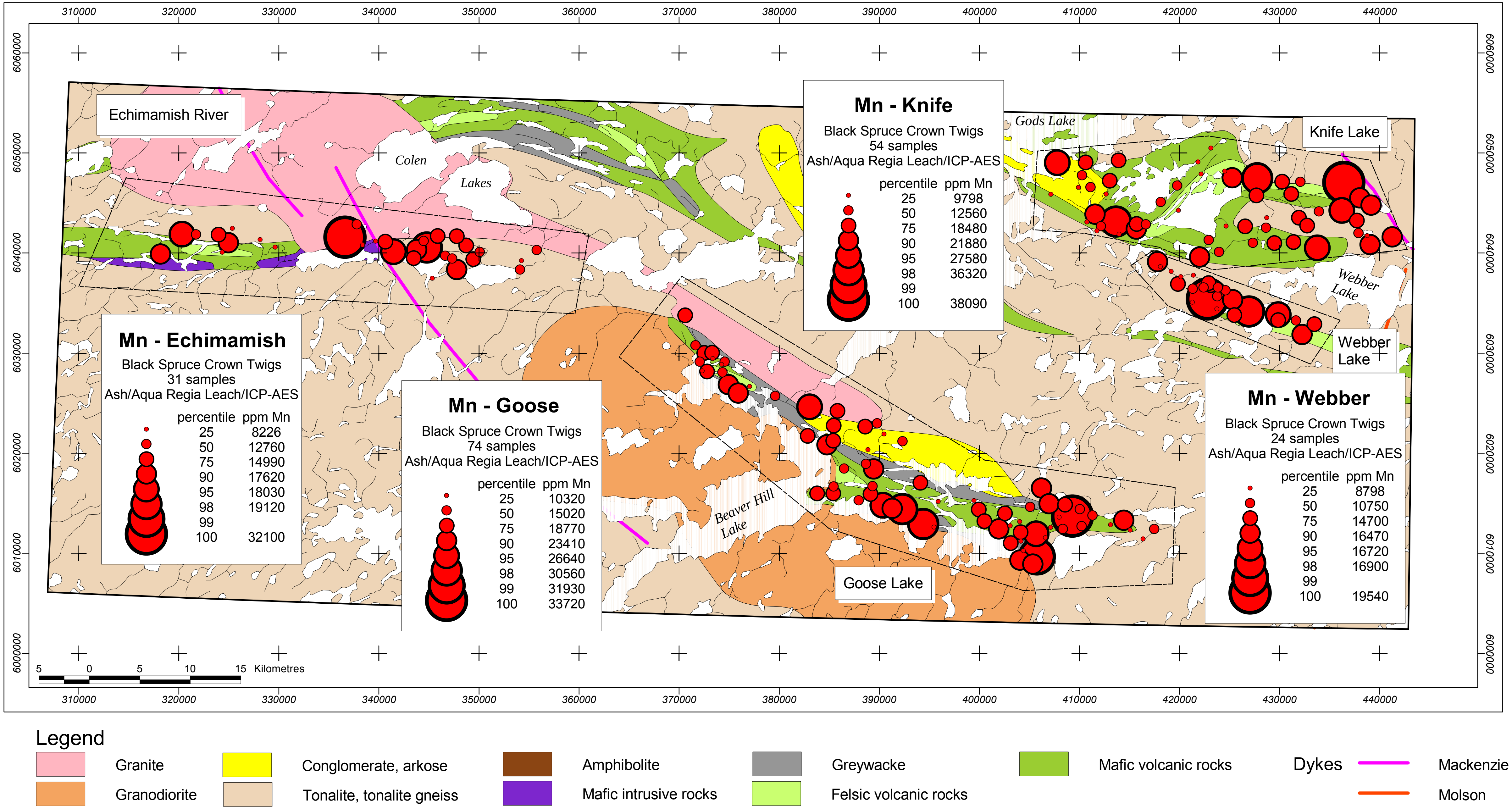
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ag - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ag
25 0.20
50 0.40
75 0.52
90 0.80
95
98
99
100 1.00
Ag - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ag
25 0.60
50 0.80
75 1.00
90 1.20
95 1.40
98 1.60
99 1.80
100 3.80
Ag - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ag
25 0.20
50 0.40
75 0.60
90 0.80
95 1.00
98
99
100
Ag - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ag
25 0.20
50 0.60
75 0.80
90 1.00
95
98 1.20
99
100 1.40
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

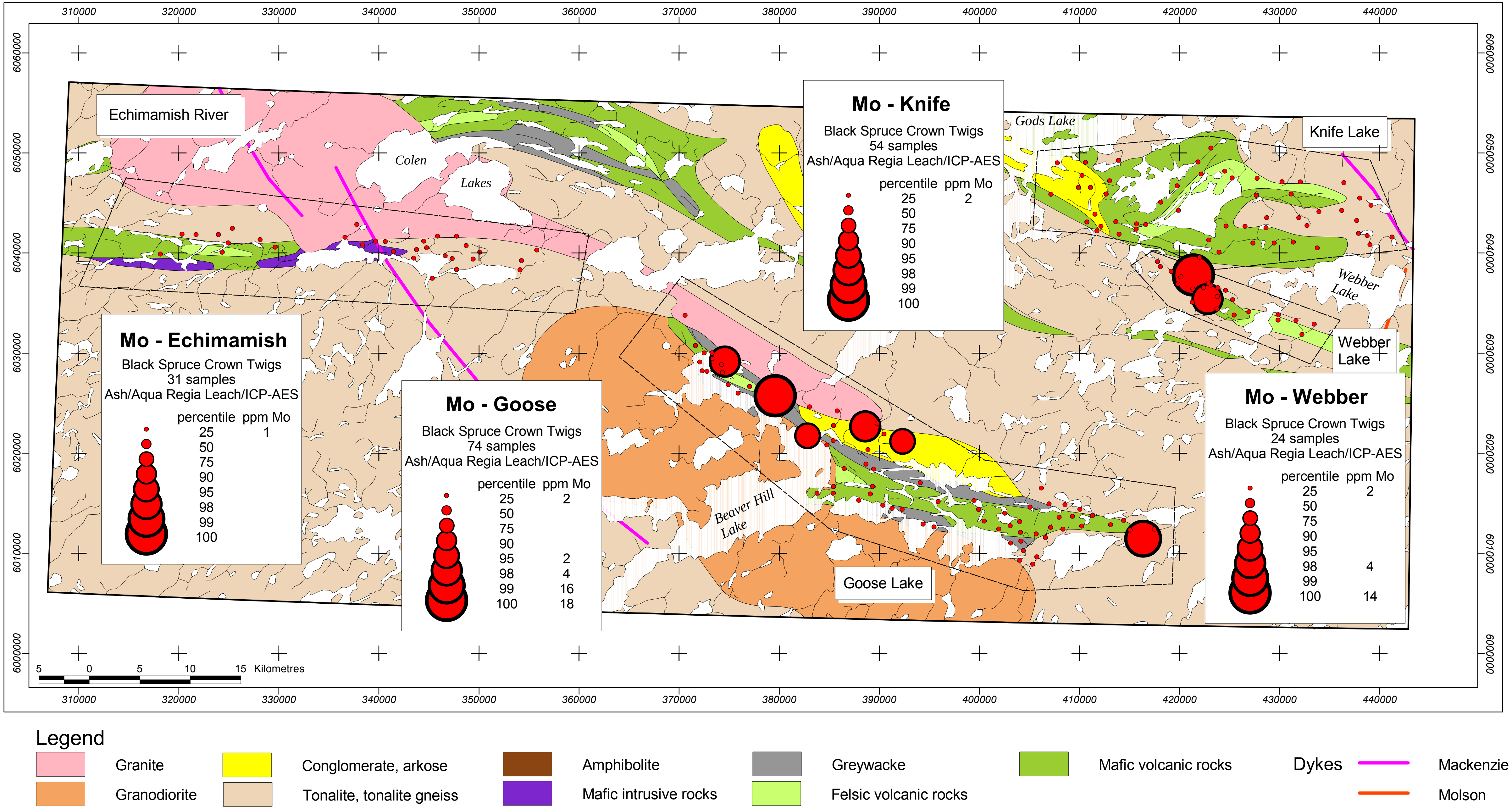


Echimamish River
Colen
Lakes
Cd - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cd
25 1.4
50 2.1
75 3.0
90 4.2
95 4.6
98 8.0
99
100 10.6
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Cd - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cd
25 1.0
50 1.8
75 2.6
90 2.8
95 3.6
98 4.0
99
100 4.2
Cd - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cd
25 1.4
50 2.0
75 3.0
90 3.6
95 4.4
98 5.2
99 5.4
100 6.0
Beaver Hill Lake
Goose Lake
Cd - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cd
25 1.0
50 1.6
75 2.0
90 2.6
95 3.0
98 3.2
99
100 3.4
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

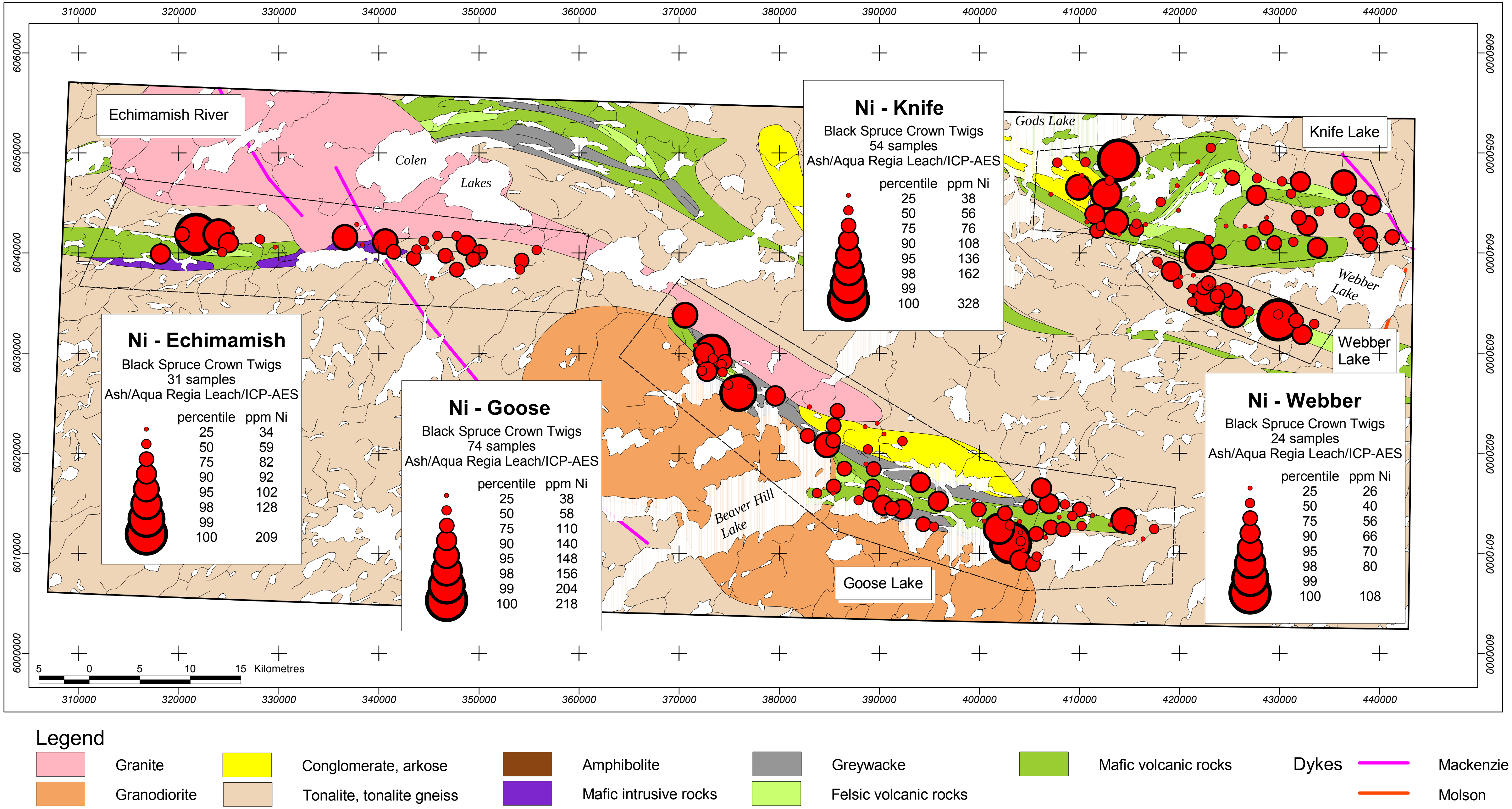


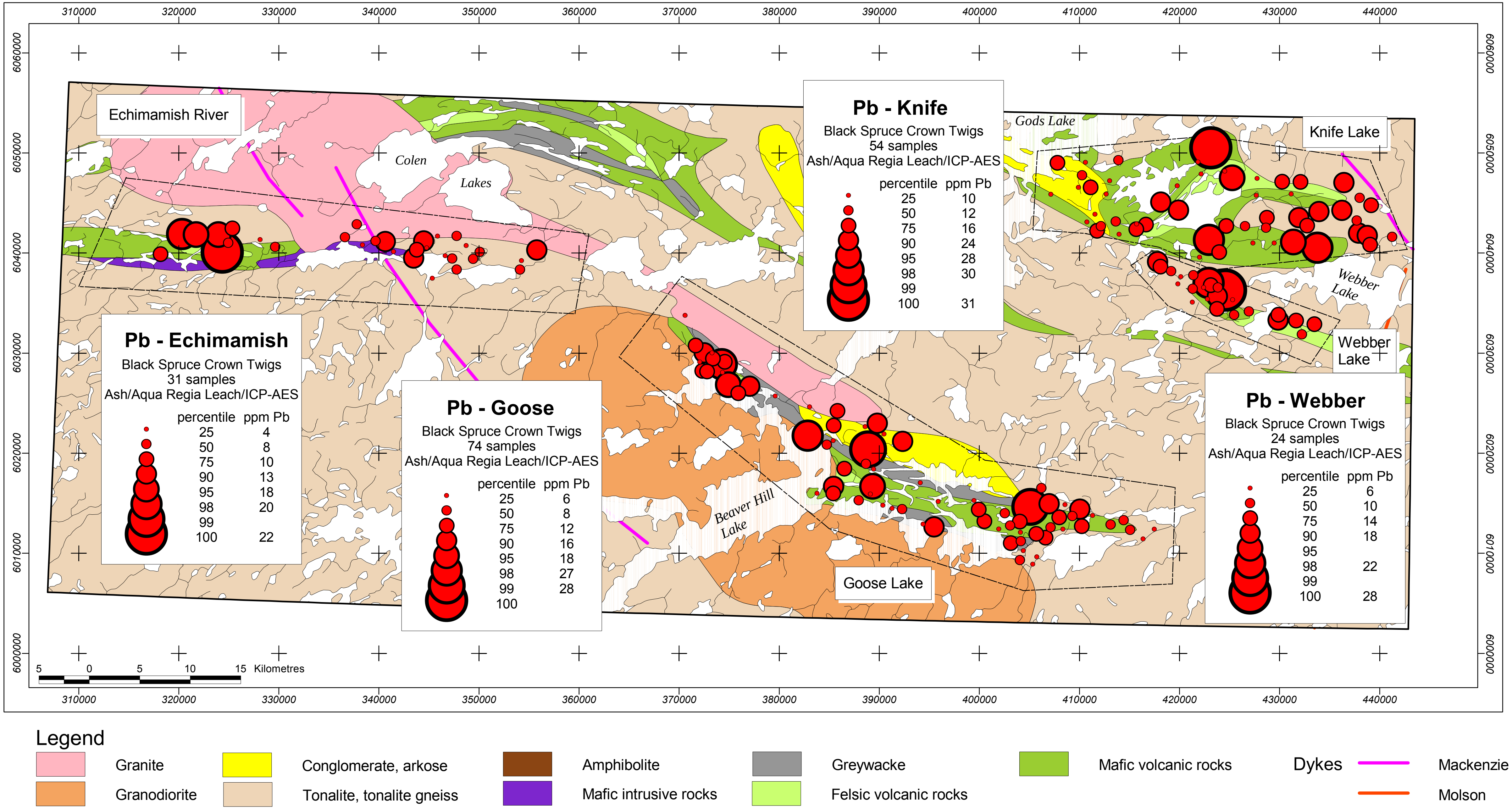
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cu - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cu
25 150
50 176
75 212
90 250
95 268
98 276
99
100 284
Cu - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cu
25 168
50 196
75 230
90 279
95 306
98 308
99
100 344
Cu - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cu
25 174
50 200
75 250
90 276
95 304
98 390
99 396
100 446
Cu - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cu
25 118
50 132
75 178
90 216
95 226
98 232
99
100 234
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mn - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mn
25 9798
50 12560
75 18480
90 21880
95 27580
98 36320
99
100 38090
Mn - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mn
25 8226
50 12760
75 14990
90 17620
95 18030
98 19120
99
100 32100
Mn - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mn
25 10320
50 15020
75 18770
90 23410
95 26640
98 30560
99 31930
100 33720
Mn - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mn
25 8798
50 10750
75 14700
90 16470
95 16720
98 16900
99
100 19540
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

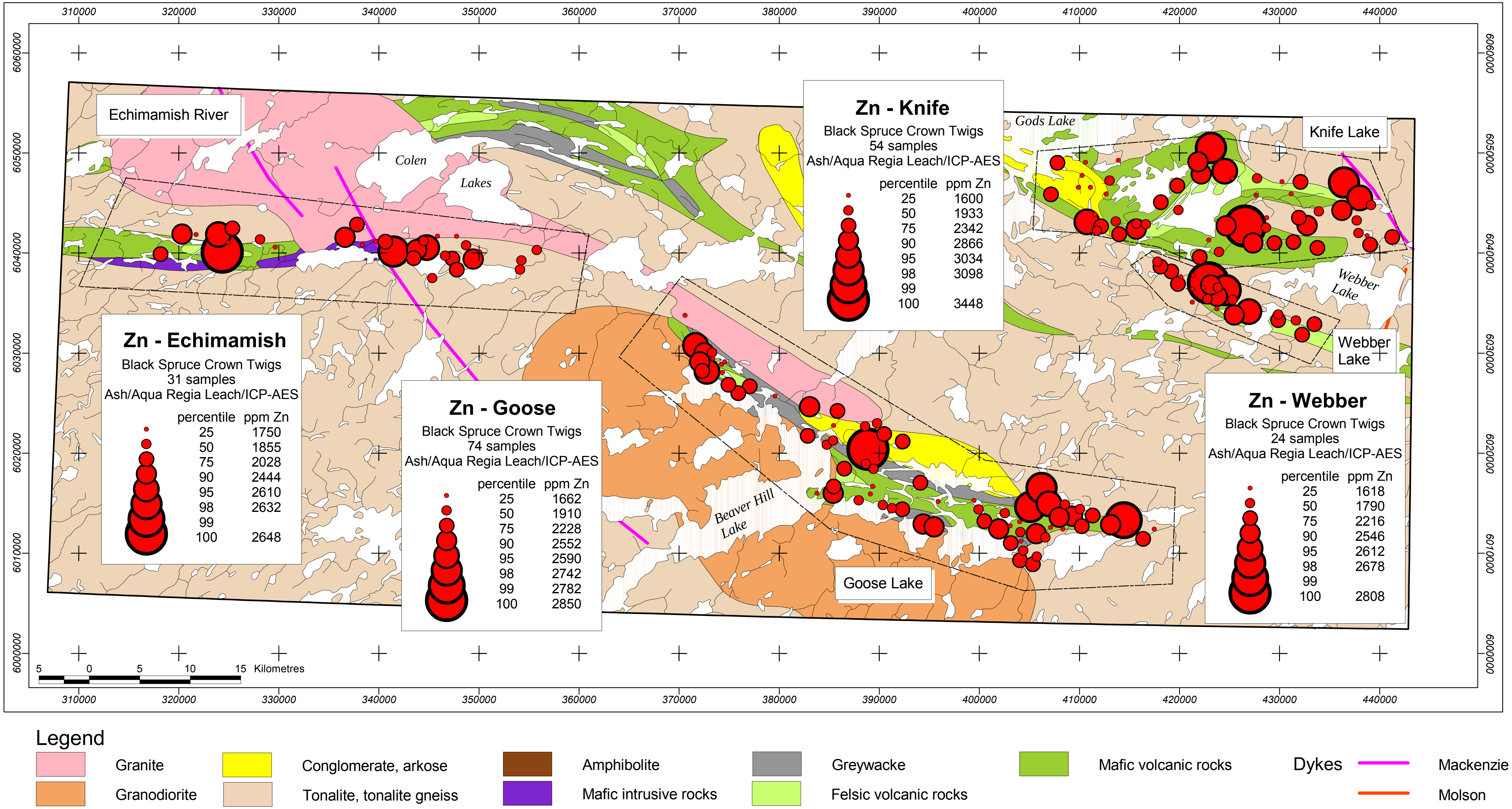


Mo - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mo
25 2
50
75
90
95
98
99
100
Mo - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mo
25 1
50
75
90
95
98
99
100
Mo - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mo
25 2
50
75
90
95 2
98 4
99 16
100 18
Mo - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Mo
25 2
50
75
90
95
98 4
99
100 14
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

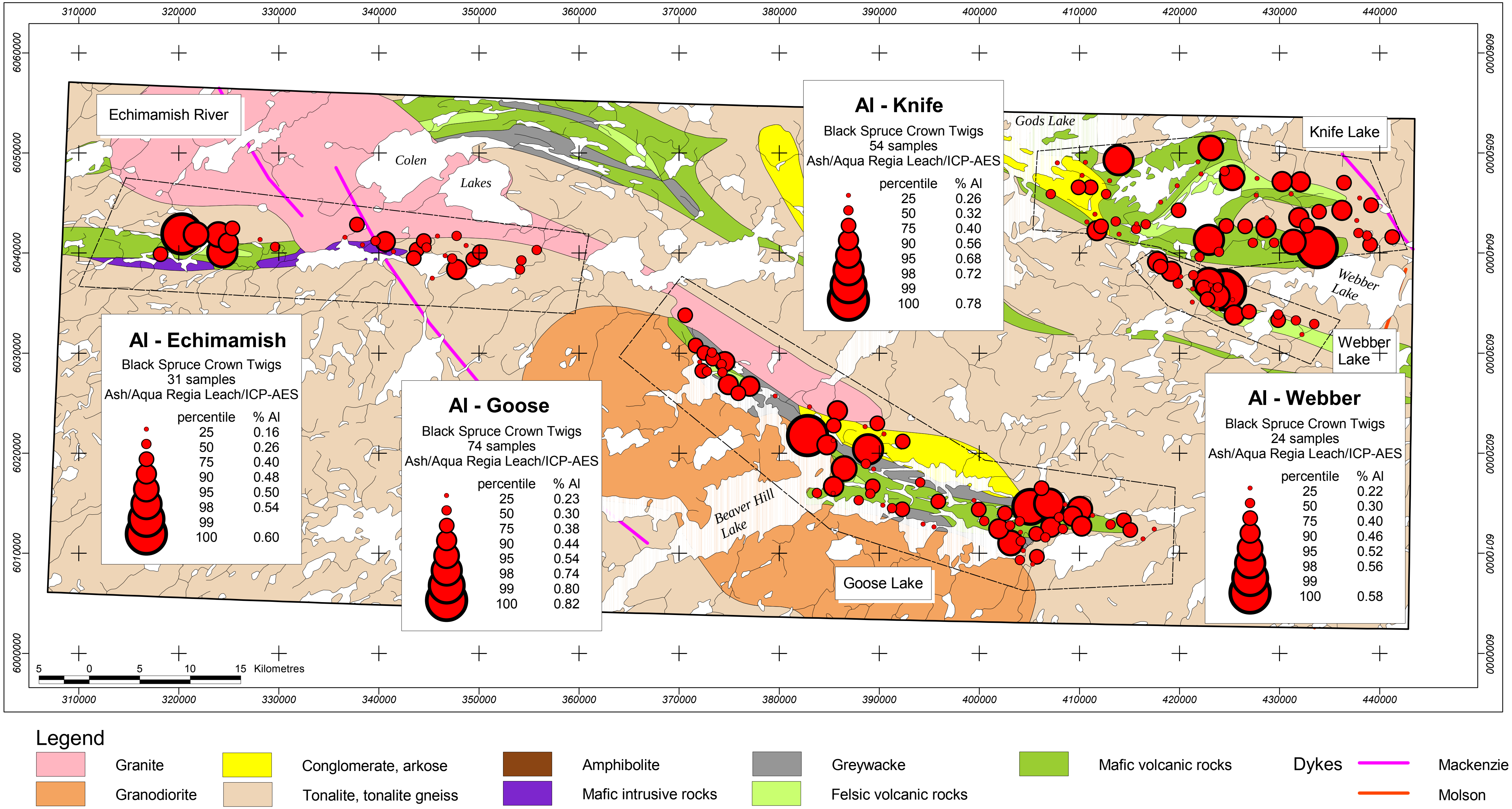

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ni
25 38
50 56
75 76
90 108
95 136
98 162
99
100 328
Ni - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ni
25 34
50 59
75 82
90 92
95 102
98 128
99
100 209
Ni - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ni
25 38
50 58
75 110
90 140
95 148
98 156
99 204
100 218
Ni - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ni
25 26
50 40
75 56
90 66
95 70
98 80
99
100 108
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



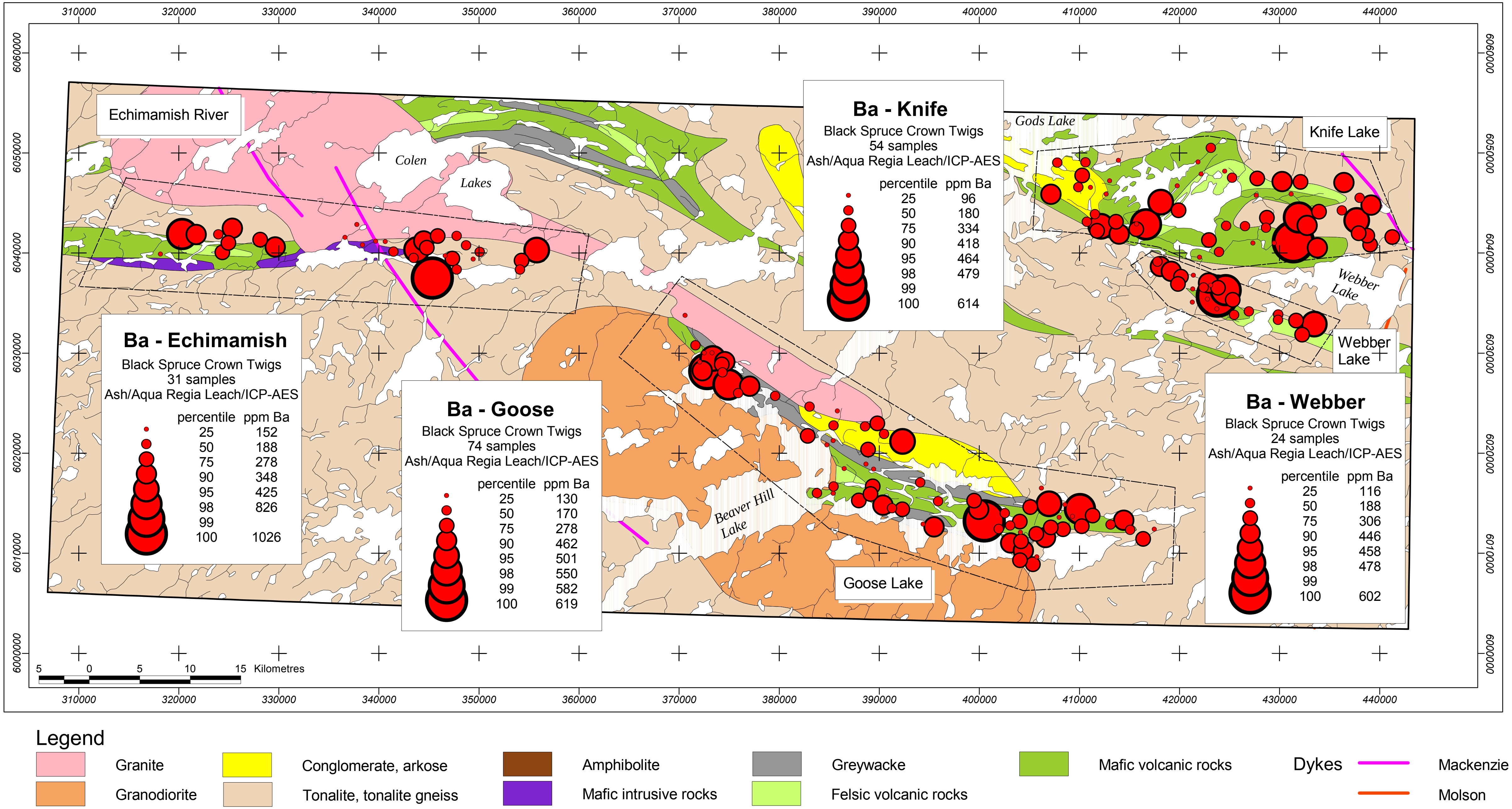
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Pb - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Pb
25 4
50 8
75 10
90 13
95 18
98 20
99
100 22
Pb - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Pb
25 6
50 8
75 12
90 16
95 18
98 27
99 28
100
Pb - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Pb
25 10
50 12
75 16
90 24
95 28
98 30
99
100 31
Pb - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Pb
25 6
50 10
75 14
90 18
95
98 22
99
100 28
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

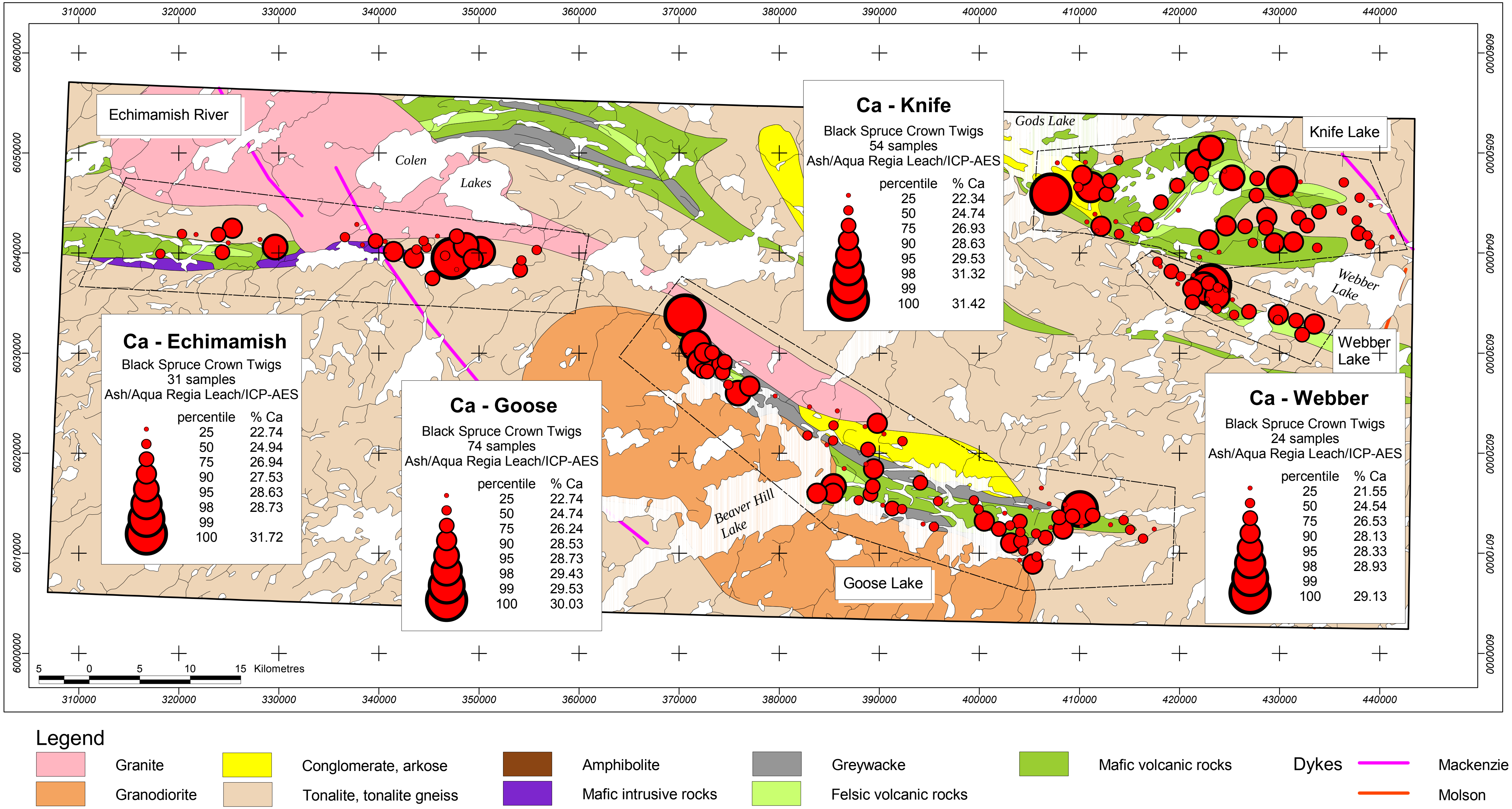


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Zn
25 1600
50 1933
75 2342
90 2866
95 3034
98 3098
99
100 3448
Zn - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Zn
25 1750
50 1855
75 2028
90 2444
95 2610
98 2632
99
100 2648
Zn - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Zn
25 1662
50 1910
75 2228
90 2552
95 2590
98 2742
99 2782
100 2850
Zn - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Zn
25 1618
50 1790
75 2216
90 2546
95 2612
98 2678
99
100 2808
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

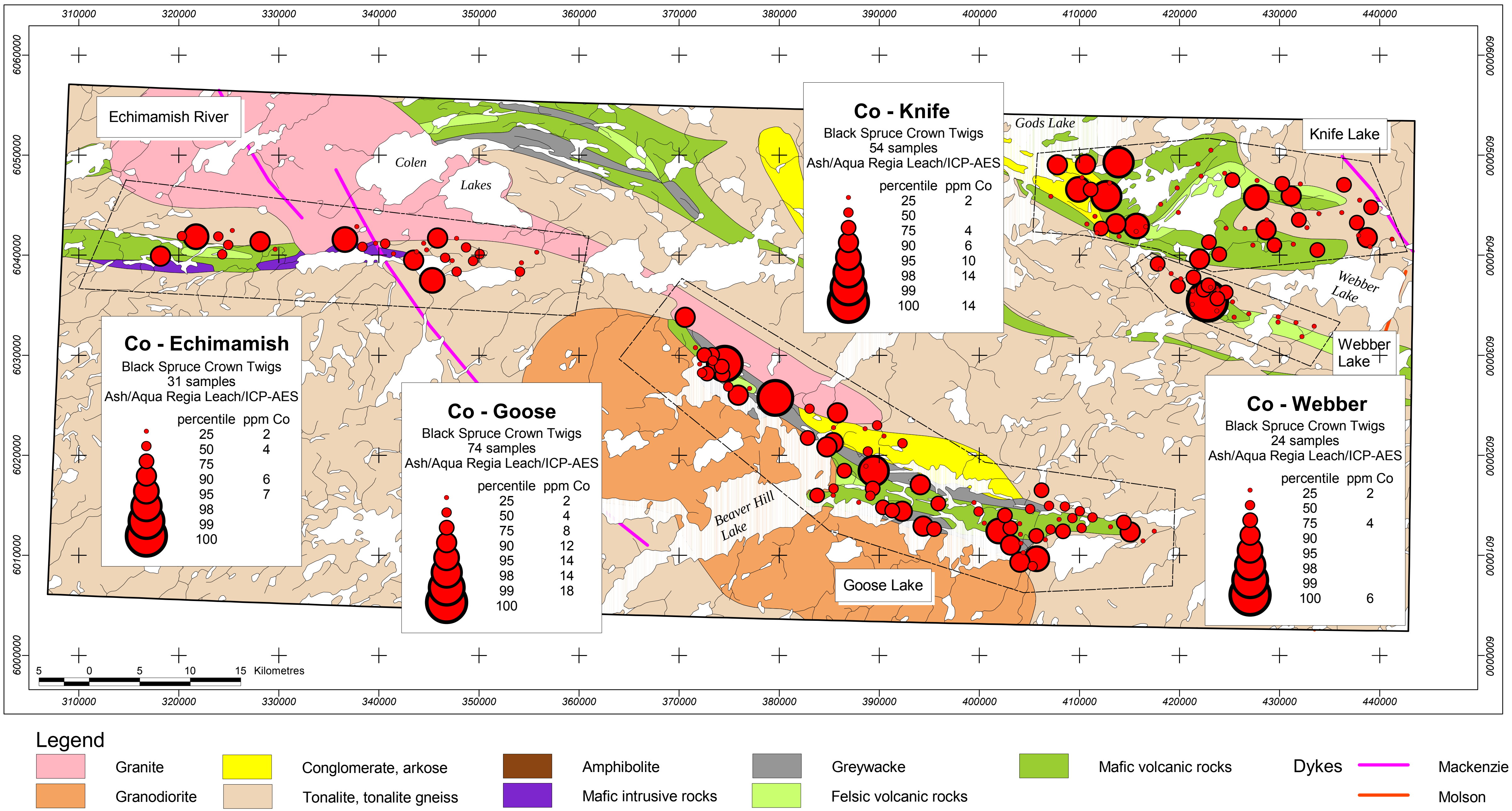


310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000
6050000
6040000
6030000
6020000
6010000
6000000
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Al - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Al
25 0.26
50 0.32
75 0.40
90 0.56
95 0.68
98 0.72
99
100 0.78
Al - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Al
25 0.16
50 0.26
75 0.40
90 0.48
95 0.50
98 0.54
99
100 0.60
Al - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Al
25 0.23
50 0.30
75 0.38
90 0.44
95 0.54
98 0.74
99 0.80
100 0.82
Al - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Al
25 0.22
50 0.30
75 0.40
90 0.46
95 0.52
98 0.56
99
100 0.58
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

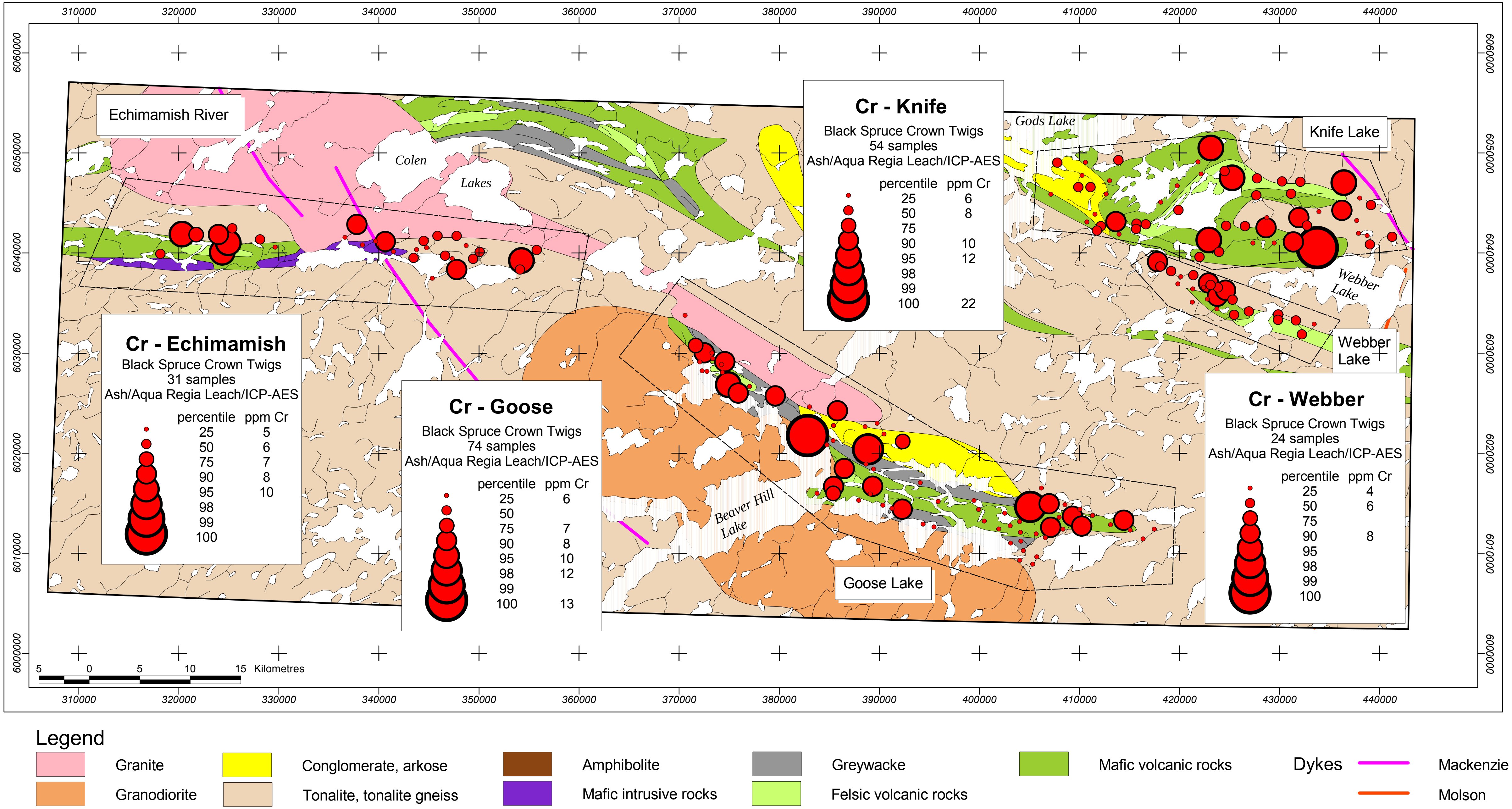

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ba - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ba
25 152
50 188
75 278
90 348
95 425
98 826
99
100 1026
Ba - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ba
25 130
50 170
75 278
90 462
95 501
98 550
99 582
100 619
Ba - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ba
25 96
50 180
75 334
90 418
95 464
98 479
99
100 614
Ba - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Ba
25 116
50 188
75 306
90 446
95 458
98 478
99
100 602
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



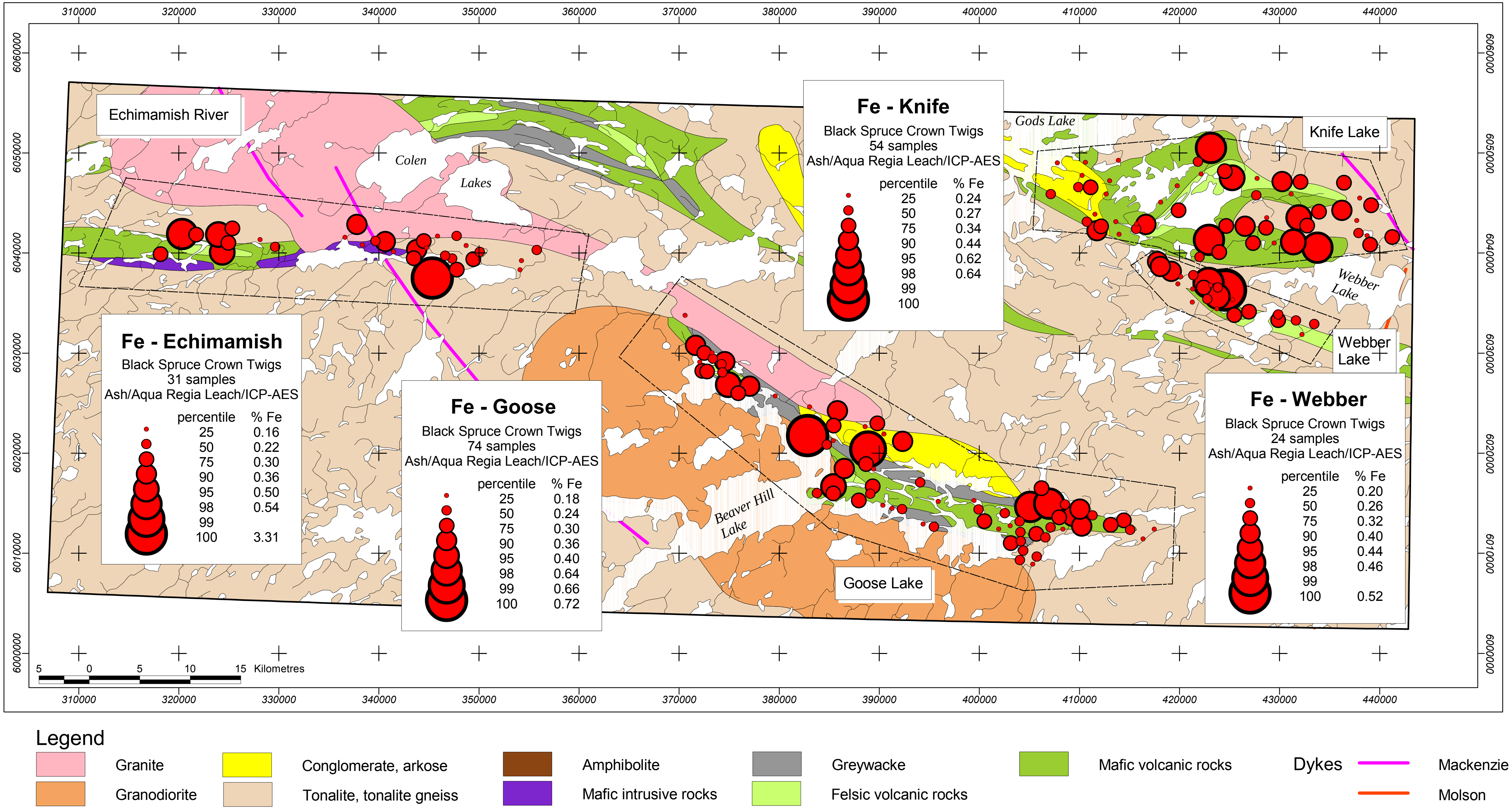
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ca
25 22.34
50 24.74
75 26.93
90 28.63
95 29.53
98 31.32
99
100 31.42
Ca - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ca
25 22.74
50 24.94
75 26.94
90 27.53
95 28.63
98 28.73
99
100 31.72
Ca - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ca
25 22.74
50 24.74
75 26.24
90 28.53
95 28.73
98 29.43
99 29.53
100 30.03
Ca - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Ca
25 21.55
50 24.54
75 26.53
90 28.13
95 28.33
98 28.93
99
100 29.13
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



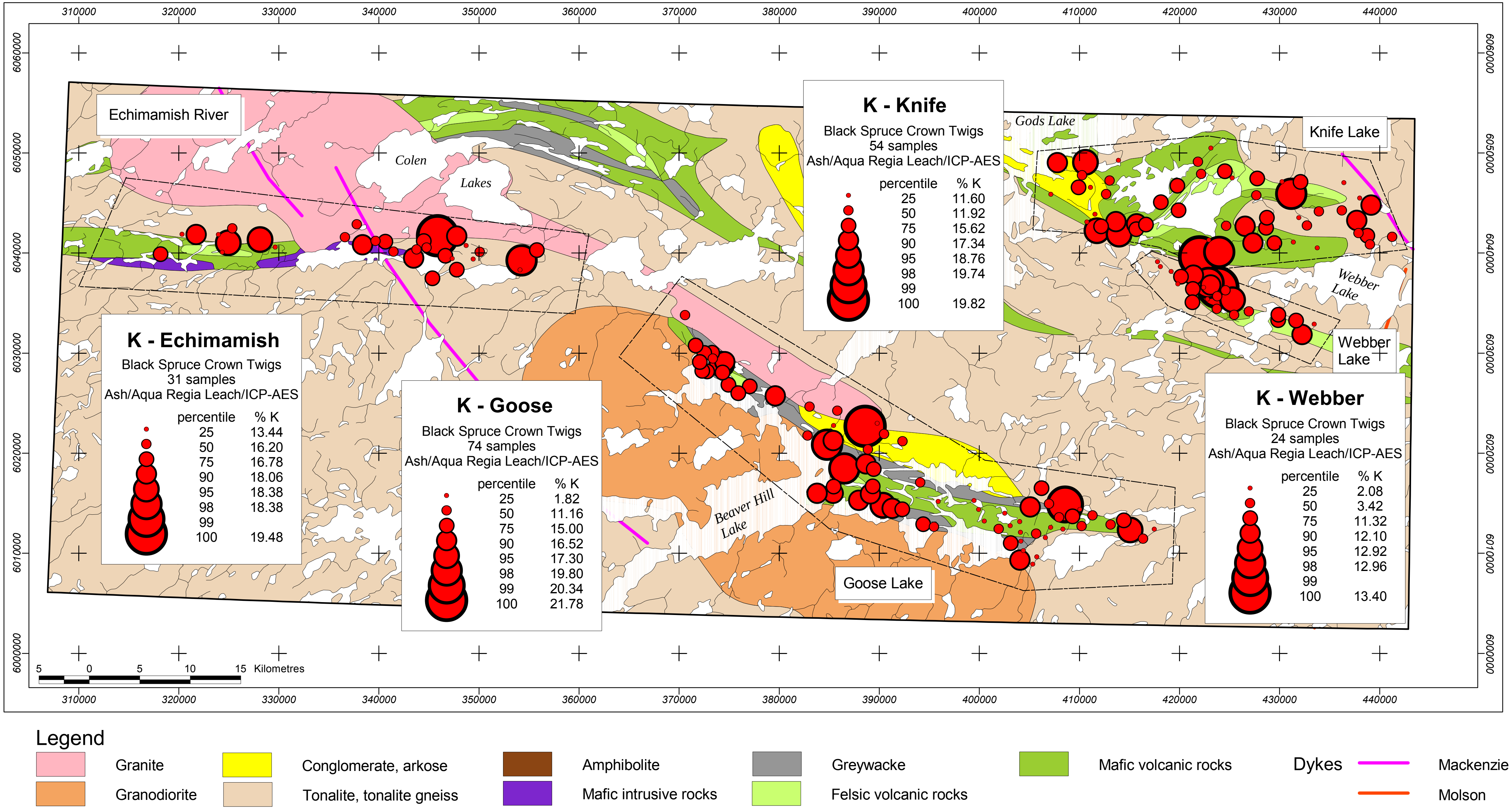
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Co - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Co
25 2
50
75 4
90 6
95 10
98 14
99
100 14
Co - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Co
25 2
50 4
75
90 6
95 7
98
99
100
Co - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Co
25 2
50 4
75 8
90 12
95 14
98 14
99 18
100
Co - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Co
25 2
50
75 4
90
95
98
99
100 6
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



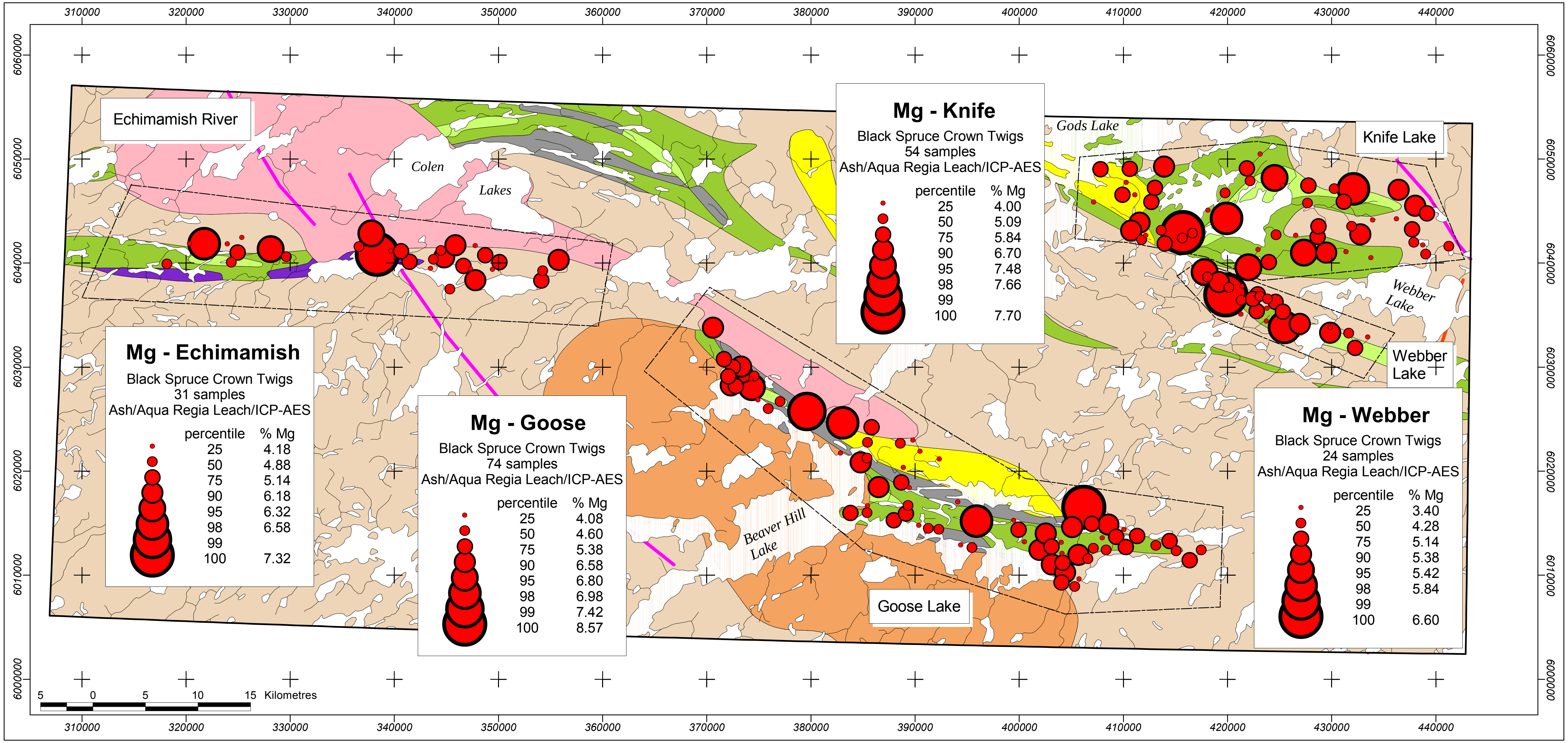
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cr - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cr
25 6
50 8
75
90 10
95 12
98
99
100 22
Cr - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cr
25 5
50 6
75 7
90 8
95 10
98
99
100
Cr - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cr
25 6
50
75 7
90 8
95 10
98 12
99
100 13
Cr - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Cr
25 4
50 6
75
90 8
95
98
99
100
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Fe - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Fe
25 0.24
50 0.27
75 0.34
90 0.44
95 0.62
98 0.64
99
100
Fe - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Fe
25 0.16
50 0.22
75 0.30
90 0.36
95 0.50
98 0.54
99
100 3.31
Fe - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Fe
25 0.18
50 0.24
75 0.30
90 0.36
95 0.40
98 0.64
99 0.66
100 0.72
Fe - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Fe
25 0.20
50 0.26
75 0.32
90 0.40
95 0.44
98 0.46
99
100 0.52
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

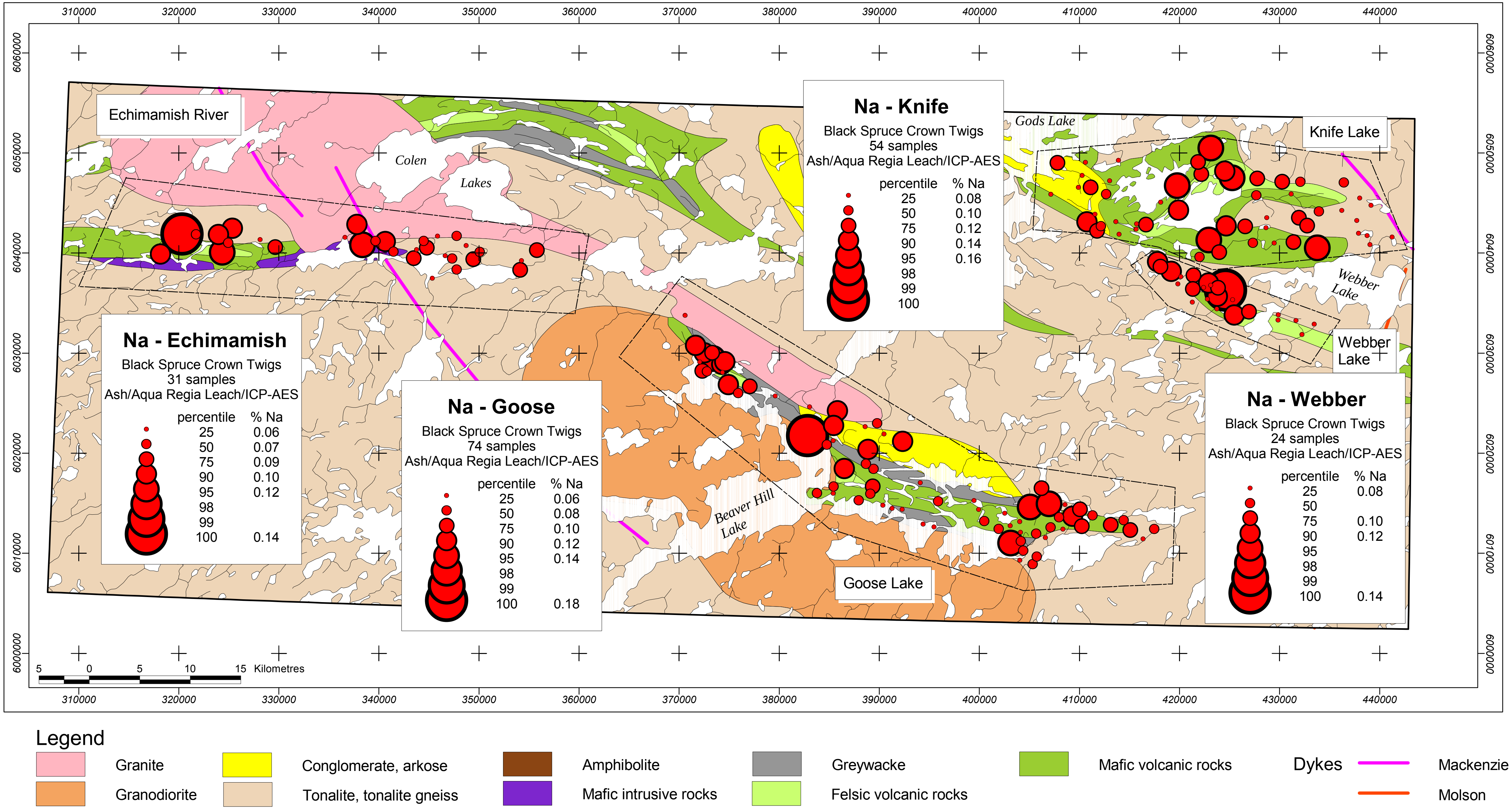


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
K - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % K
25 11.60
50 11.92
75 15.62
90 17.34
95 18.76
98 19.74
99
100 19.82
K - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % K
25 13.44
50 16.20
75 16.78
90 18.06
95 18.38
98 18.38
99
100 19.48
K - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % K
25 1.82
50 11.16
75 15.00
90 16.52
95 17.30
98 19.80
99 20.34
100 21.78
K - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % K
25 2.08
50 3.42
75 11.32
90 12.10
95 12.92
98 12.96
99
100 13.40
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

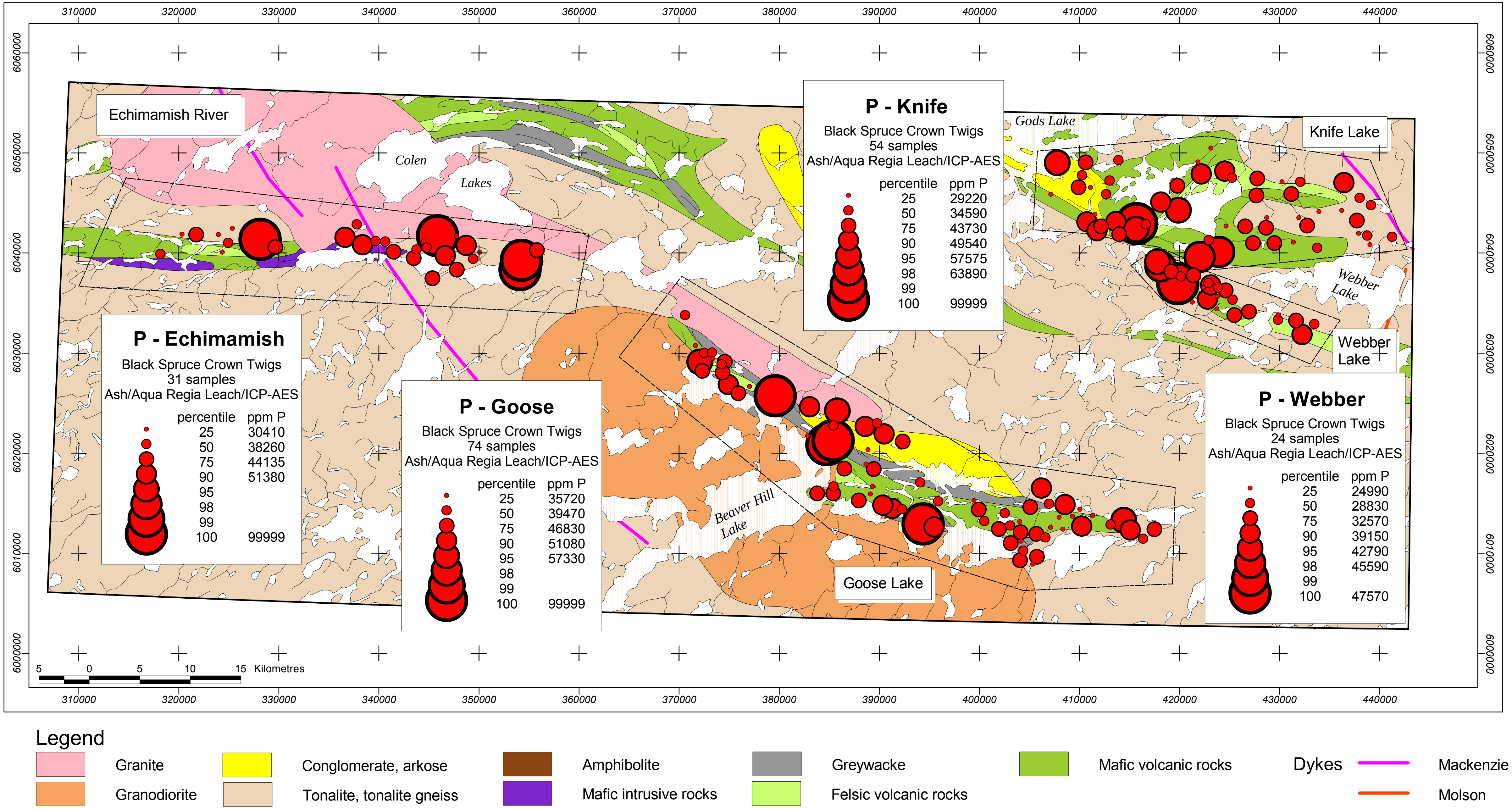


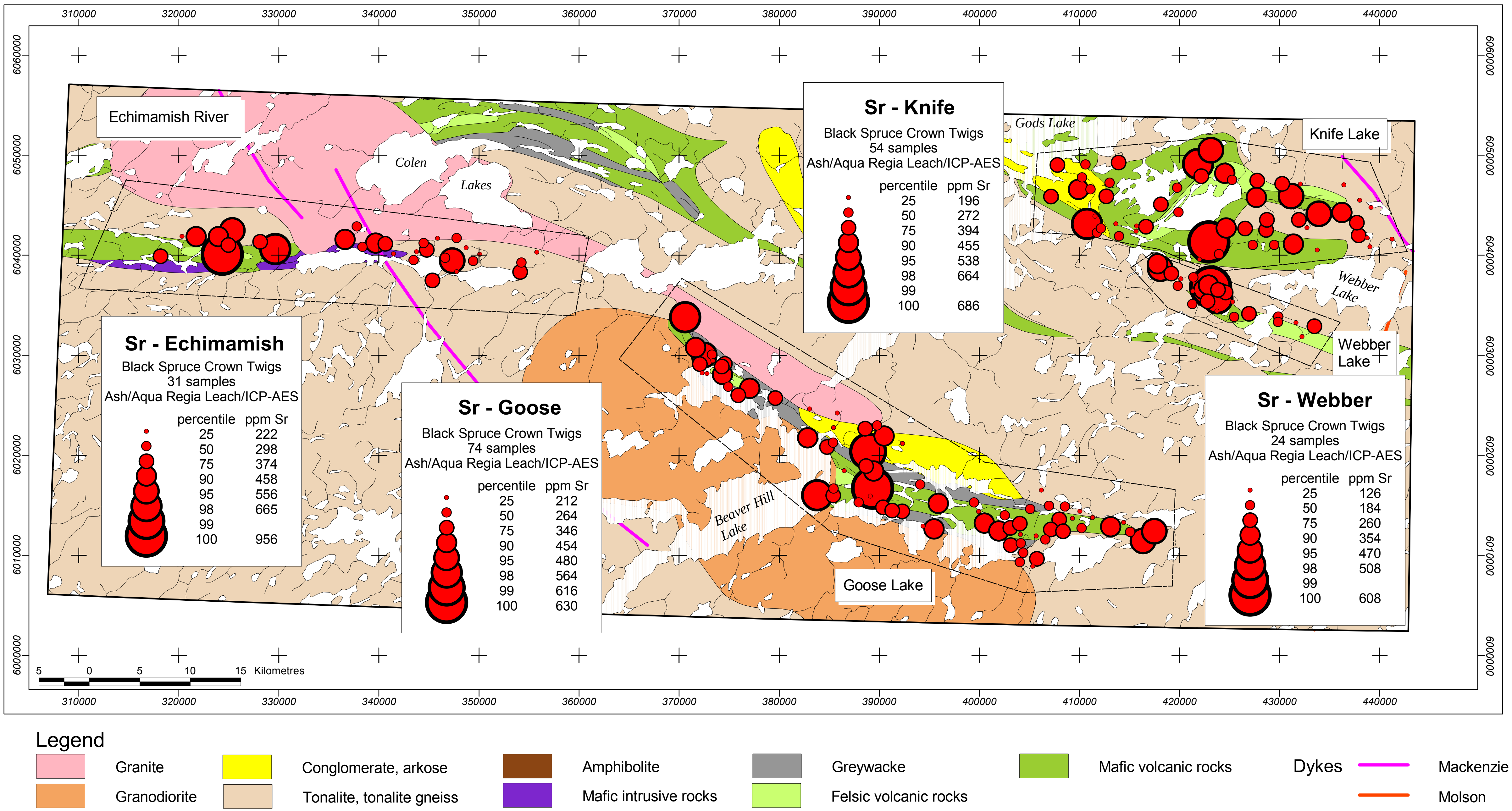
Legend

	Granite		Conglomerate, arkose		Amphibolite		Greywacke		Mafic volcanic rocks	Dykes	Mackenzie
	Granodiorite		Tonalite, tonalite gneiss		Mafic intrusive rocks		Felsic volcanic rocks				Molson

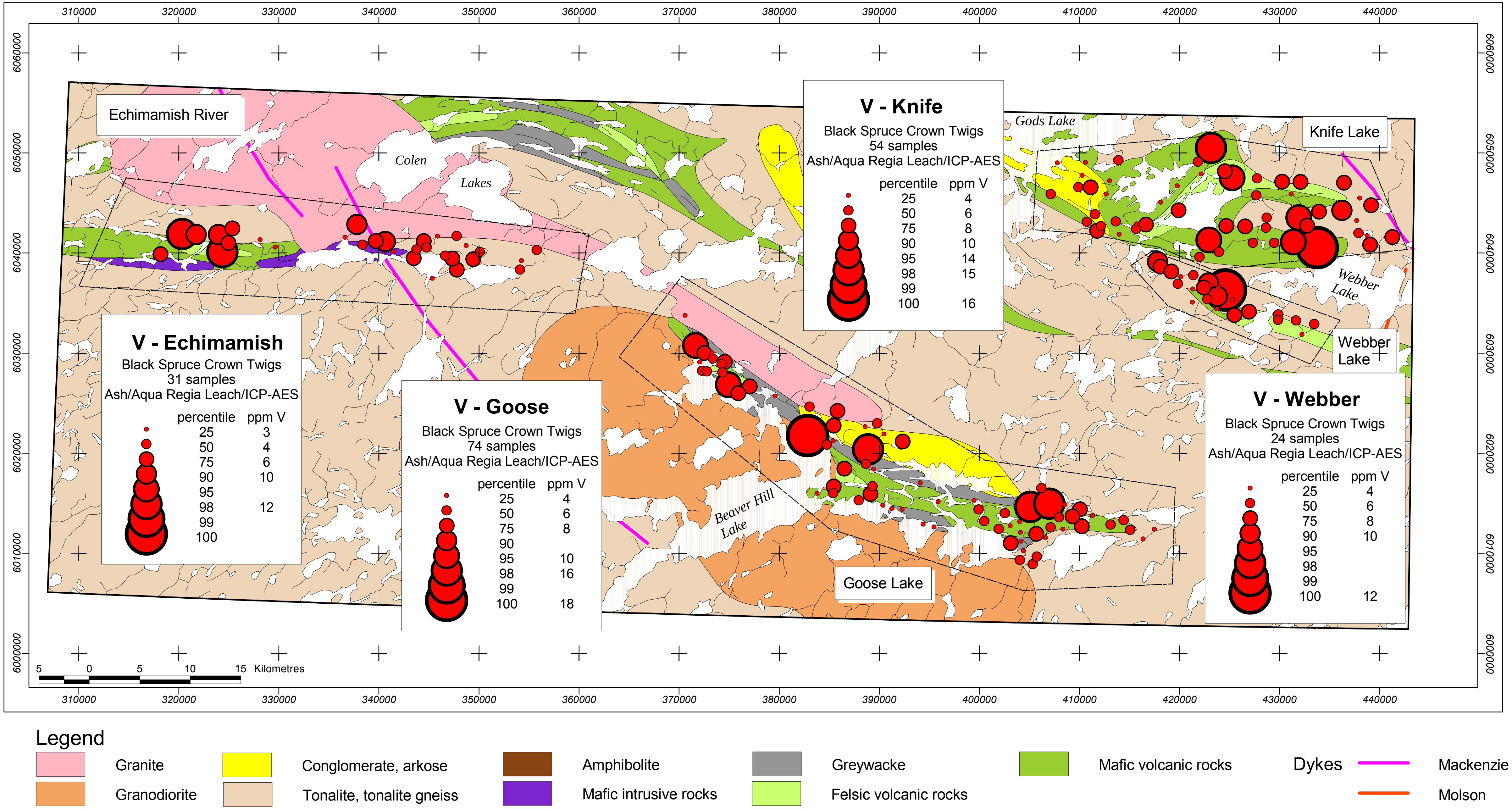


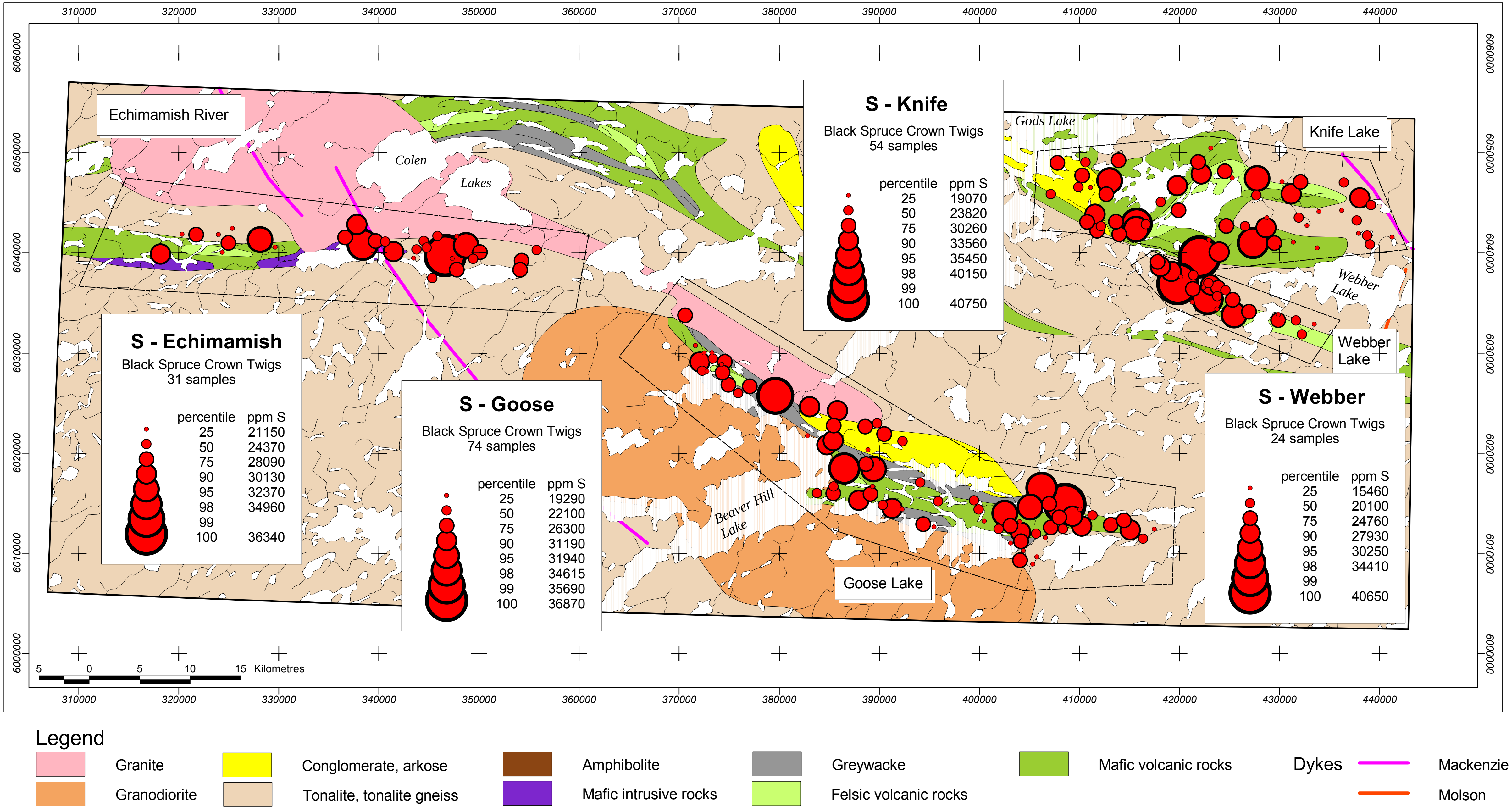
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Na - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Na
25 0.08
50 0.10
75 0.12
90 0.14
95 0.16
98
99
100
Na - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Na
25 0.06
50 0.07
75 0.09
90 0.10
95 0.12
98
99
100 0.14
Na - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Na
25 0.06
50 0.08
75 0.10
90 0.12
95 0.14
98
99
100 0.18
Na - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile % Na
25 0.08
50
75 0.10
90 0.12
95
98
99
100 0.14
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
P - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm P
25 29220
50 34590
75 43730
90 49540
95 57575
98 63890
99
100 99999
P - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm P
25 30410
50 38260
75 44135
90 51380
95
98
99
100 99999
P - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm P
25 35720
50 39470
75 46830
90 51080
95 57330
98
99
100 99999
P - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm P
25 24990
50 28830
75 32570
90 39150
95 42790
98 45590
99
100 47570
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sr - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Sr
25 196
50 272
75 394
90 455
95 538
98 664
99
100 686
Sr - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Sr
25 222
50 298
75 374
90 458
95 556
98 665
99
100 956
Sr - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Sr
25 212
50 264
75 346
90 454
95 480
98 564
99 616
100 630
Sr - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm Sr
25 126
50 184
75 260
90 354
95 470
98 508
99
100 608
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
V - Knife
Black Spruce Crown Twigs
54 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm V
25 4
50 6
75 8
90 10
95 14
98 15
99
100 16
V - Echimamish
Black Spruce Crown Twigs
31 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm V
25 3
50 4
75 6
90 10
95
98 12
99
100
V - Goose
Black Spruce Crown Twigs
74 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm V
25 4
50 6
75 8
90
95 10
98 16
99
100 18
V - Webber
Black Spruce Crown Twigs
24 samples
Ash/Aqua Regia Leach/ICP-AES
percentile ppm V
25 4
50 6
75 8
90 10
95
98
99
100 12
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
S - Knife
Black Spruce Crown Twigs
54 samples
percentile ppm S
25 19070
50 23820
75 30260
90 33560
95 35450
98 40150
99
100 40750
S - Echimamish
Black Spruce Crown Twigs
31 samples
percentile ppm S
25 21150
50 24370
75 28090
90 30130
95 32370
98 34960
99
100 36340
S - Goose
Black Spruce Crown Twigs
74 samples
percentile ppm S
25 19290
50 22100
75 26300
90 31190
95 31940
98 34615
99 35690
100 36870
S - Webber
Black Spruce Crown Twigs
24 samples
percentile ppm S
25 15460
50 20100
75 24760
90 27930
95 30250
98 34410
99
100 40650
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

Appendix 4

Black spruce (*Picea mariana*) Crown Twig Geochemistry: Instrumental Neutron Activation Analyses (INAA) for Ashed Samples.

Element	UTM		Ash	AU	AG	AS	BA	BR	CA	CO	CR	CS	FE	HF	HG	IR	K	MO	NA	NI	RB	SB	SC	SE	SN	SR
	Easting	Northing	%	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
98BSC-1	422175.00	6047885.00	1.69	27.0	1.0	1.10	820	16.0	23.00	2.0	4.0	3.50	0.22	0.25	0.5	1.0	17.0	1	1760	25.0	230	0.70	0.50	1	0.0025	830
98BSC-2	419789.00	6046717.00	1.96	18.0	1.0	1.70	1000	14.0	20.40	3.0	6.0	2.00	0.24	0.25	0.5	1.0	18.6	1	2120	25.0	300	0.60	0.60	1	0.0025	150
98BSC-3	419903.00	6044273.00	2.01	6.0	1.0	3.60	550	17.0	17.50	4.0	7.0	4.60	0.36	0.25	0.5	1.0	18.0	1	2060	25.0	430	0.30	0.90	1	0.0025	150
98BSC-5	423967.00	6040083.00	1.74	12.0	1.0	3.00	890	22.0	17.80	5.0	6.0	3.90	0.26	0.25	0.5	1.0	24.1	1	1460	25.0	480	0.30	0.60	1	0.0025	150
98BSC-6	423110.50	6036780.50	1.73	12.0	1.0	1.20	1200	14.0	23.70	2.0	6.0	1.20	0.18	0.25	0.5	1.0	15.0	1	847	25.0	190	0.20	0.40	1	0.0025	880
98BSC-7	422898.50	6036995.50	1.83	17.0	1.0	2.00	700	26.0	23.30	3.0	9.0	1.40	0.47	0.70	0.5	1.0	16.5	1	2020	25.0	160	0.60	1.40	1	0.0025	150
98BSC-8	415727.00	6042908.00	1.58	8.0	1.0	2.30	810	13.0	15.10	8.0	3.0	4.20	0.23	0.25	0.5	1.0	20.0	1	1130	25.0	300	0.40	0.50	1	0.0025	150
98BSC-9-1 Analytical Duplicate	415673.00	6042377.00	1.98	12.0	1.0	1.50	510	12.0	19.90	3.0	8.0	2.40	0.26	0.25	0.5	1.0	19.6	1	1250	25.0	220	0.60	0.60	1	0.0025	150
98BSC-9-2 Analytical Duplicate	415673.00	6042377.00	1.98	15.0	1.0	1.40	480	13.0	18.40	3.0	5.0	2.10	0.27	0.25	0.5	1.0	20.2	1	1240	25.0	220	0.30	0.70	1	0.0025	150
98BSC-10	413976.00	6041879.00	1.97	21.0	1.0	1.10	670	17.0	20.40	2.0	4.0	1.80	0.17	0.25	0.5	1.0	24.7	1	691	25.0	360	0.20	0.40	1	0.0025	410
98BSC-11	412154.00	6042663.00	1.79	8.0	1.0	2.60	710	27.0	23.20	4.0	5.0	4.00	0.28	0.60	0.5	1.0	19.8	1	1580	25.0	360	0.40	0.80	1	0.0025	150
98BSC-12	411756.00	6042217.00	1.75	12.0	1.0	3.30	1100	20.0	19.00	4.0	6.0	1.10	0.46	0.25	0.5	1.0	24.4	1	2190	25.0	170	3.20	1.10	1	0.0025	150
98BSC-13	410273.00	6047753.00	2.15	8.0	1.0	2.00	800	22.0	22.80	2.0	6.0	3.90	0.24	0.25	0.5	1.0	17.2	1	1080	25.0	320	0.20	0.70	1	0.0025	150
98BSC-14	403125.44	6011007.50	1.71	13.0	1.0	2.00	1300	18.0	22.10	14.0	10.0	12.00	0.31	0.80	0.5	1.0	13.8	1	2110	160.0	230	0.40	0.80	1	0.0025	670
98BSC-15	405071.47	6014609.50	1.51	16.0	1.0	3.40	450	22.0	14.20	4.0	10.0	2.40	0.62	0.90	0.5	1.0	21.5	1	2680	25.0	180	0.60	1.70	1	0.0025	150
98BSC-16-1 Field Duplicate	406208.50	6016505.50	1.64	11.0	1.0	2.10	720	34.0	17.60	8.0	7.0	23.00	0.28	0.25	0.5	1.0	21.5	1	1520	68.0	690	0.40	0.60	1	0.0025	150
98BSC-16-2 Field Duplicate	406208.50	6016505.50	1.33	17.0	1.0	2.40	420	16.0	16.20	7.0	7.0	33.00	0.30	0.25	0.5	1.0	18.0	4	1530	140.0	780	0.60	0.60	1	0.0025	150
98BSC-17	408555.38	6014841.50	1.87	10.0	1.0	0.90	940	17.0	18.80	5.0	7.0	12.00	0.19	0.25	0.5	1.0	24.5	4	833	25.0	590	0.30	0.40	1	0.0025	390
98BSC-18	415078.09	6012325.00	1.92	12.0	2.0	1.00	910	25.0	19.50	17.0	8.0	1.10	0.25	0.25	0.5	1.0	23.1	1	1320	25.0	200	0.20	0.60	1	0.0025	150
98BSC-19	414432.16	6013288.00	1.66	8.0	1.0	2.20	440	27.0	18.70	6.0	8.0	7.30	0.38	0.60	0.5	1.0	17.6	1	1730	25.0	590	0.40	1.10	1	0.0025	150
98BSC-20	409312.34	6013691.50	1.74	16.0	1.0	2.40	1600	21.0	21.30	3.0	7.0	1.80	0.42	0.25	0.5	1.0	15.8	1	2120	25.0	120	0.70	1.00	1	0.0025	340
98BSC-21	389429.00	6018411.00	2.07	10.0	1.0	1.90	1800	17.0	21.90	20.0	5.0	13.00	0.19	0.25	0.5	1.0	15.8	4	1300	25.0	510	0.30	0.50	1	0.0025	760
98BSC-22	389344.00	6016674.00	1.77	12.0	3.0	2.00	2900	16.0	19.90	11.0	10.0	24.00	0.32	0.25	0.5	1.0	17.9	1	1780	25.0	660	0.50	0.80	1	0.0025	760
98BSC-23	392288.00	6014396.00	1.86	8.0	1.0	3.20	2200	18.0	18.50	14.0	5.0	9.80	0.20	0.25	0.5	1.0	19.9	1	898	100.0	500	8.50	0.60	1	0.0025	470
98BSC-24	379613.00	6025712.00	1.97	16.0	1.0	1.00	1300	11.0	13.20	22.0	5.0	1.00	0.17	0.25	0.5	1.0	19.6	13	860	54.0	180	0.30	0.30	1	0.0025	630
98BSC-25	377057.00	6026670.00	1.76	18.0	1.0	1.70	1000	16.0	21.00	3.0	8.0	4.10	0.35	0.25	0.5	1.0	16.6	1	1660	56.0	230	0.40	0.90	1	0.0025	570
98BSC-26	374339.00	6028062.00	2.08	10.0	1.0	1.00	1400	12.0	19.90	10.0	3.0	23.00	0.23	0.25	0.5	1.0	16.7	1	865	25.0	670	0.50	0.50	1	0.0025	490
98BSC-27	375906.00	6025997.00	2.00	9.0	1.0	2.20	1500	15.0	21.50	12.0	6.0	1.10	0.28	0.25	0.5	1.0	13.8	1	1140	140.0	120	0.40	0.70	1	0.0025	500
98BSC-28	374248.00	6028877.00	1.80	22.0	1.0	2.00	1600	20.0	21.00	8.0	7.0	3.80	0.25	0.25	0.5	1.0	20.5	1	1560	25.0	340	2.60	0.60	1	0.0025	150
98BSC-29	374547.00	6029138.00	1.71	18.0	3.0	2.20	1300	15.0	18.90	23.0	11.0	1.50	0.35	0.50	0.5	1.0	19.6	3	1970	76.0	280	0.60	0.80	1	0.0025	470
98BSC-30	374926.00	6026839.00	2.05	13.0	3.0	2.40	970	19.0	17.30	6.0	11.0	1.10	0.41	0.50	0.5	1.0	19.8	1	2130	25.0	100	0.40	1.00	1	0.0025	550
98BSC-31-1 Analytical Duplicate	372780.00	6028156.00	1.98	10.0	1.0	1.60	590	19.0	19.50	8.0	6.0	1.70	0.31	0.25	0.5	1.0	18.3	1	1210	25.0	200	0.20	0.70	1	0.0025	150
98BSC-31-2 Analytical Duplicate	372780.00	6028156.00	1.98	9.0	1.0	1.90	580	18.0	19.20	8.0	10.0	1.80	0.29	0.25	0.5	1.0	17.7	1	1200	120.0	200	0.30	0.60	1	0.0025	150
98BSC-32	372307.00	6028232.00	1.80	13.0	4.0	1.60	850	15.0	19.10	5.0	7.0	7.00	0.29	0.80	0.5	1.0	16.1	1	1700	25.0	320	0.30	0.70	1	0.0025	310
98BSC-33	372056.00	6029102.00	2.31	10.0	1.0	1.30	3000	12.0	21.40	4.0	2.0	1.30	0.18	0.25	0.5	1.0	15.5	1	830	25.0	140	0.20	0.40	1	0.0025	650
98BSC-34	372498.00	6030016.00	1.83	16.0	1.0	2.00	2400	13.0	20.30	12.0	9.0	1.30	0.29	0.25	0.5	1.0	17.7	1	1850	25.0	160	0.20	0.70	1	0.0025	740
98BSC-35	373283.00	6030024.00	1.88	10.0	2.0	1.80	2000	10.0	20.10	12.0	5.0	2.50	0.17	0.25	0.5	1.0	19.4	1	1220	76.0	190	0.20	0.40	1	0.0025	410
98BSC-36-1 Field Duplicate	371637.00	6030765.00	1.44	19.0	1.0	1.90	790	19.0	19.10	4.0	8.0	2.40	0.34	0.25	0.5	1.0	15.5	1	1770	25.0	200	0.40	0.90	1	0.0025	420
98BSC-36-2 Field Duplicate	371637.00	6030765.00	1.90	26.0	1.0	1.90	990	18.0	23.70	4.0	7.0	2.00	0.31	0.25	0.5	1.0	13.1	1	1510	25.0	190	0.40	0.80	1	0.0025	660
98BSC-37	370589.00	6033766.00	1.80	11.0	1.0	1.10	2200	12.0	21.20	13.0	5.0	11.00	0.17	0.25	0.5	1.0	11.9	1	706	60.0	500	0.20	0.40	1	0.0025	530
98BSC-38	373372.00	6029446.00	1.93	18.0	1.0	1.90	470	15.0	21.10	6.0	8.0	3.10	0.25	0.25	0.5	1.0	13.2	1	1960	25.0	340	0.30	0.60	1	0.0025	150
98BSC-44	320323.97	6041882.00	1.86	9.0	1.0	3.40	900	26.0	19.30	5.0	15.0	2.10	0.58	0.80	0.5	1.0	17.6	1	2450	25.0	120	0.70	1.50	1	0.0025	150
98BSC-45	324338.88	6040074.00	1.91	7.0	1.0	2.70	1300	19.0	24.50	4.0	11.0	1.60	0.52	1.20	0.5	1.0	16.8	1	2060	25.0	230	0.40	1.40	1	0.0025	1600

Element	UTM		Ash	AU	AG	AS	BA	BR	CA	CO	CR	CS	FE	HF	HG	IR	K	MO	NA	NI	RB	SB	SC	SE	SN	SR
	Easting	Northing	%	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
98BSC-51	318170.97	6039892.50	1.94	13.0	1.0	1.50	1300	21.0	22.20	7.0	0.5	1.80	0.25	0.25	0.5	1.0	22.6	3	1510	75.0	260	0.40	0.60	1	0.0025	320
98BSC-52	424658.00	6042698.00	1.80	20.0	1.0	1.90	980	20.0	25.20	2.0	7.0	0.90	0.31	0.25	0.5	1.0	18.2	1	1840	25.0	120	0.40	0.80	1	0.0025	490
98BSC-53	422939.00	6041290.00	2.01	12.0	1.0	2.70	1400	21.0	26.60	5.0	11.0	2.10	0.60	1.10	0.5	1.0	13.7	1	2300	25.0	100	0.60	1.50	1	0.0025	1100
98BSC-55	426549.00	6042653.00	1.94	16.0	1.0	1.30	960	23.0	21.30	3.0	7.0	1.80	0.32	0.60	0.5	1.0	22.5	1	1460	25.0	280	0.40	0.90	1	0.0025	620
98BSC-56	427348.00	6040986.00	1.72	7.0	1.0	2.10	450	27.0	22.20	3.0	4.0	3.00	0.26	0.25	0.5	1.0	24.6	1	1210	25.0	300	0.20	0.60	1	0.0025	150
98BSC-57	429478.00	6040983.00	1.66	2.5	1.0	0.90	1700	24.0	21.70	4.0	0.5	17.00	0.19	0.60	0.5	1.0	19.1	1	724	25.0	370	0.50	0.50	1	0.0025	410
98BSC-58	422017.59	6039578.50	1.72	9.0	1.0	1.30	840	21.0	17.90	7.0	6.0	3.80	0.22	0.25	0.5	1.0	26.7	2	1180	25.0	690	0.20	0.50	1	0.0025	150
98BSC-61-1 Field Duplicate	428648.00	6042511.00	1.44	11.0	1.0	1.40	2400	28.0	21.50	6.0	13.0	11.00	0.32	0.25	0.5	1.0	21.0	3	1370	25.0	510	0.60	0.80	1	0.0025	650
98BSC-61-2 Field Duplicate	428648.00	6042511.00	1.86	21.0	1.0	1.10	880	29.0	21.50	5.0	7.0	10.00	0.19	0.25	0.5	1.0	24.1	1	738	25.0	710	0.30	0.40	1	0.0025	450
98BSC-62	428719.00	6043536.00	1.81	37.0	1.0	1.60	1200	20.0	24.20	3.0	5.0	6.80	0.22	0.25	0.5	1.0	22.1	1	1050	25.0	530	0.30	0.60	1	0.0025	150
98BSC-63	427677.00	6045751.00	1.70	13.0	1.0	1.70	2500	18.0	21.80	11.0	5.0	1.90	0.25	0.25	0.5	1.0	20.6	3	1560	74.0	410	0.30	0.60	1	0.0025	760
98BSC-64	430255.00	6047124.00	1.80	21.0	1.0	2.90	1000	19.0	27.90	5.0	9.0	4.20	0.40	0.90	0.5	1.0	15.8	3	1950	25.0	330	0.40	1.00	1	0.0025	550
98BSC-65	427764.00	6047447.00	1.75	7.0	1.0	1.70	330	25.0	23.70	3.0	5.0	6.20	0.25	0.25	0.5	1.0	20.3	1	1510	25.0	340	0.30	0.60	1	0.0025	490
98BSC-66	425278.00	6047515.00	1.87	20.0	1.0	2.50	780	29.0	25.30	4.0	7.0	2.00	0.60	0.90	0.5	1.0	16.0	1	2390	25.0	170	0.50	1.50	1	0.0025	380
98BSC-67	424531.00	6048166.00	1.49	23.0	1.0	1.20	560	21.0	21.20	3.0	8.0	0.90	0.33	0.50	0.5	1.0	24.9	1	1980	25.0	120	0.30	0.80	1	0.0025	150
98BSC-68-1 Analytical Duplicate	423147.00	6050489.00	1.82	18.0	1.0	3.50	990	37.0	27.10	5.0	14.0	2.10	0.66	1.30	0.5	1.0	18.0	1	3060	25.0	140	0.60	1.90	1	0.0025	150
98BSC-68-2 Analytical Duplicate	423147.00	6050489.00	1.82	12.0	1.0	3.10	830	31.0	26.00	4.0	12.0	1.80	0.63	1.10	0.5	1.0	16.0	1	2930	25.0	150	0.60	1.80	1	0.0025	780
98BSC-69	421846.00	6049098.00	2.00	20.0	1.0	1.30	1000	25.0	24.10	2.0	10.0	1.40	0.26	0.50	0.5	1.0	19.0	1	1650	25.0	250	0.30	0.70	1	0.0025	1200
98BSC-70	411122.00	6046567.00	1.96	15.0	1.0	1.70	1700	42.0	27.90	5.0	9.0	4.70	0.37	1.10	0.5	1.0	19.4	1	1710	25.0	310	0.50	1.00	1	0.0025	150
98BSC-71	412676.00	6045877.00	2.18	15.0	1.0	0.50	2500	23.0	21.50	18.0	0.5	20.00	0.18	0.25	0.5	1.0	23.0	3	1280	130.0	680	0.50	0.40	1	0.0025	590
98BSC-72	413024.00	6047216.00	1.91	22.0	1.0	1.10	1200	21.0	20.90	2.0	6.0	2.30	0.21	0.25	0.5	1.0	19.5	1	1030	25.0	210	0.30	0.50	1	0.0025	550
98BSC-73	411549.00	6043862.00	1.61	13.0	1.0	1.20	610	21.0	19.00	3.0	6.0	6.60	0.25	0.60	0.5	1.0	18.3	4	1360	25.0	470	0.20	0.60	1	0.0025	150
98BSC-74	413657.00	6043128.00	1.87	11.0	1.0	1.30	610	39.0	18.80	7.0	3.0	3.90	0.23	0.25	0.5	1.0	19.2	1	1160	25.0	360	0.30	0.60	3	0.0025	150
98BSC-76	433784.00	6040516.00	1.87	10.0	1.0	3.10	440	37.0	20.00	4.0	17.0	3.30	0.66	0.90	0.5	1.0	15.4	4	2870	25.0	170	0.60	1.80	1	0.0025	150
98BSC-77	432746.00	6042736.00	1.56	15.0	1.0	1.90	430	25.0	20.20	3.0	4.0	2.90	0.29	0.25	0.5	1.0	15.7	1	1860	25.0	230	0.30	0.80	1	0.0025	150
98BSC-78A	431930.00	6043534.00	1.63	24.0	1.0	2.50	790	29.0	21.90	4.0	10.0	2.30	0.52	1.10	0.5	1.0	14.4	4	2110	25.0	220	0.30	1.30	1	0.0025	150
98BSC-78B-1 Analytical Duplicate	431930.00	6043534.00	1.92	16.0	1.0	2.70	1400	31.0	21.50	4.0	7.0	4.90	0.49	0.90	0.5	1.0	14.8	4	2190	25.0	210	0.30	1.30	1	0.0025	580
98BSC-78B-2 Analytical Duplicate	431930.00	6043534.00	1.92	7.0	1.0	2.40	1400	31.0	22.50	4.0	11.0	4.60	0.50	1.10	0.5	1.0	18.0	4	2170	25.0	230	0.40	1.40	1	0.0025	460
98BSC-80	433938.00	6044126.00	1.87	16.0	1.0	2.30	1100	26.0	21.70	3.0	7.0	2.90	0.34	0.25	0.5	1.0	17.2	1	1710	25.0	260	0.70	0.90	1	0.0025	860
98BSC-81	432096.00	6047105.00	1.62	16.0	1.0	1.60	500	22.0	15.60	3.0	6.0	8.60	0.28	0.25	0.5	1.0	20.9	1	1570	25.0	340	0.40	0.90	1	0.0025	150
98BSC-82	431155.00	6045908.00	1.85	5.0	1.0	1.00	2000	27.0	19.50	7.0	9.0	18.00	0.15	0.25	0.5	1.0	24.9	1	1000	25.0	970	0.40	0.30	1	0.0025	870
98BSC-83	431374.00	6041096.00	2.25	13.0	1.0	2.50	670	34.0	24.80	4.0	12.0	1.80	0.56	1.00	0.5	1.0	16.0	1	2300	25.0	150	0.30	1.50	1	0.0025	590
98BSC-84	436427.28	6047029.50	1.17	26.0	1.0	2.10	860	22.0	21.10	3.0	11.0	24.00	0.35	0.50	0.5	1.0	11.8	1	1710	110.0	280	0.60	0.80	1	0.0025	150
98BSC-85-1 Field Duplicate	439153.13	6044766.50	1.63	13.0	1.0	2.10	340	40.0	17.30	4.0	5.0	9.00	0.31	0.25	0.5	1.0	19.4	1	1280	25.0	330	0.30	0.70	1	0.0025	150
98BSC-85-2 Field Duplicate	439153.13	6044766.50	1.82	16.0	1.0	2.60	390	45.0	18.30	3.0	5.0	3.70	0.29	0.50	0.5	1.0	20.1	3	1200	25.0	240	0.40	0.70	1	0.0025	150
98BSC-86	437708.13	6043243.50	1.89	2.5	1.0	2.00	550	18.0	17.20	4.0	4.0	5.40	0.17	0.25	0.5	1.0	20.1	1	712	25.0	270	0.05	0.30	1	0.0025	570
98BSC-87	438758.06	6041729.50	2.02	9.0	1.0	2.50	1200	22.0	21.50	6.0	6.0	4.90	0.22	0.60	0.5	1.0	20.9	1	1060	25.0	580	0.20	0.60	1	0.0025	390
98BSC-88	437893.09	6041978.50	1.90	9.0	1.0	2.40	1600	23.0	22.40	2.0	6.0	3.20	0.26	0.25	0.5	1.0	18.1	1	1200	25.0	340	0.70	0.70	1	0.0025	590
98BSC-89	438026.19	6045493.50	1.56	6.0	1.0	2.10	520	14.0	18.60	3.0	5.0	14.00	0.26	0.25	0.5	1.0	14.7	1	1100	88.0	260	0.50	0.50	1	0.0025	150
98BSC-90	441264.97	6041603.50	1.69	15.0	1.0	2.50	320	23.0	20.70	3.0	7.0	6.10	0.34	0.25	0.5	1.0	17.3	1	1710	25.0	330	0.30	1.00	1	0.0025	150
98BSC-91	439048.03	6040825.50	1.56	11.0	1.0	2.20	740	22.0	19.60	2.0	9.0	1.80	0.35	0.50	0.5	1.0	14.7	1	1790	25.0	200	0.40	0.90	1	0.0025	150
98BSC-92	436230.22	6044253.50	1.70	16.0	1.0	2.80	920	27.0	23.70	4.0	12.0	4.90	0.56	0.90	0.5	1.0	17.2	1	1790	25.0	190	0.50	1.60	1	0.0025	690
98BSC-93	410621.00	6049058.00	1.80	13.0	1.0	1.70	1100	20.0	19.00	9.0	6.0	6.90	0.17	0.25	0.5	1.0	25.7	1	750	25.0	240	0.30	0.50	1	0.0025	150
98BSC-94	413909.00	6049263.00	1.47	16.0	1.0	2.40	1300	18.0	21.00	19.0	6.0	42.00	0.29	0.25	0.5	1.0	15.9	7	1060	210.0	370	0.70	0.60	1	0.0025	150
98BSC-95	407798.00	6049007.00	2.10	6.0	1.0	1.20	2400	17.0	17.90	6.0	4.0	19.00	0.22	0.25	0.5	1.0	21.0	1	1560	25.0	580	0.40	0.60	1	0.0025	650
98BSC-96	409899.00	6046556.00	2.04	10.0	1.0	2.10	1600	14.0	22.40	11.0	8.0	4.40	0.25	0.50	0.5	1.0	20.3	4	924	74.0	400	0.40	0.70	1	0.0025	740
98BSC-97	418140.00	6045082.00	1.85	10.0	1.0	1.90	750	33.0	23.30	3.0	6.0	0.70	0.22	0.25	0.5	1.0	20.6	1	886	25.0	190	0.30	0.50	1	0.0025	560
98BSC-98-1 Analytical Duplicate	416634.00	6042840.00	2.03	7.0	1.0	1.50	780	22.0	22.90	4.0	5.0	4.20	0.39	0.50	0.5	1.0	20.6	1	1530	25.0	220	0.30	1.00	1	0.0025	550
98BSC-98-2 Analytical Duplicate	416634.00	6042840.00	2.03	7.0	1.0	1.50	820	21.0	22.70	4.0	7.0	4.60	0.36	0.25	0.5	1.0	21.2	1	1500	25.0	190	0.30	1.10	1	0.0025	910
98BSC-99	429858.16	6033292.50	1.76	2.5	1.0	2.20	890	29.0	22.80	3.0	10.0	17.00	0.36	0.50	0.5	1.0	16.4	2	1560	100.0	250	0.50	0.90	1	0.0025	410
98BSC-100	431644.06	6033251.50	1.58	9.0	1.0	2.50	380	32.0	22.20	4.0	10.0	3.40	0.34	0.25	0.5	1.0	21.4	1	1480	25.0	160	0.40	1.00	1	0.0025	150
98BSC-101	432256.00	6031840.50	1.91	9.0	1.0	2.00	970	24.0	20.60	3.0	5.0	2.80	0.21	0.25	0.5	1.0	21.5	1	1220	25.0	160	0.30	0.50	1	0.0025	150

Element	UTM		Ash	AU	AG	AS	BA	BR	CA	CO	CR	CS	FE	HF	HG	IR	K	MO	NA	NI	RB	SB	SC	SE	SN	SR
	Easting	Northing	%	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
98BSC-101	429871.16	6033829.50	1.71	8.0	1.0	2.20	1300	26.0	29.70	4.0	6.0	3.20	0.35	0.25	0.5	1.0	15.3	1	1400	25.0	120	0.20	1.00	1	0.0025	600
98BSC-101	425307.38	6035317.50	1.72	11.0	1.0	2.50	320	37.0	19.20	3.0	3.0	7.80	0.28	0.25	0.5	1.0	23.3	1	1210	25.0	280	0.30	0.60	3	0.0025	150
98BSC-104-1 Field Duplicate	423848.47	6036518.50	1.81	6.0	1.0	1.50	680	22.0	23.00	4.0	8.0	2.30	0.28	0.25	0.5	1.0	22.3	1	1230	25.0	200	0.30	0.80	1	0.0025	430
98BSC-104-2 Field Duplicate	423848.47	6036518.50	1.90	7.0	1.0	2.30	340	18.0	27.20	3.0	6.0	2.60	0.28	0.25	0.5	1.0	20.6	1	1260	25.0	150	0.30	0.80	1	0.0025	150
98BSC-105	421335.53	6036410.50	1.68	7.0	1.0	2.00	700	33.0	28.50	4.0	5.0	6.90	0.27	0.25	0.5	1.0	15.9	1	1260	25.0	230	4.90	0.70	1	0.0025	150
98BSC-106	421383.56	6037781.50	1.65	13.0	1.0	2.50	900	35.0	22.40	5.0	8.0	4.10	0.45	0.50	0.5	1.0	22.9	16	1680	25.0	320	0.50	1.20	1	0.0030	150
98BSC-107	420147.63	6037637.50	1.77	2.5	1.0	1.30	520	16.0	23.90	4.0	5.0	5.00	0.26	0.25	0.5	1.0	19.8	1	1330	25.0	240	0.20	0.80	1	0.0025	150
98BSC-108	421291.50	6035072.50	1.87	2.5	1.0	1.20	770	18.0	28.90	3.0	5.0	3.70	0.29	0.25	0.5	1.0	18.1	1	1110	25.0	140	3.70	0.80	1	0.0025	150
98BSC-109	423732.41	6034418.50	1.63	6.0	1.0	2.80	800	15.0	21.60	4.0	6.0	13.00	0.31	0.25	0.5	1.0	18.1	1	1360	25.0	300	0.40	0.80	1	0.0025	360
98BSC-110	424600.44	6036265.50	1.67	8.0	1.0	3.60	660	23.0	23.30	4.0	13.0	2.40	0.59	0.80	0.5	1.0	20.5	1	2410	25.0	110	2.20	1.90	1	0.0025	150
98BSC-111	422790.47	6035391.50	1.52	9.0	1.0	1.70	1200	29.0	15.70	7.0	4.0	7.70	0.25	0.60	0.5	1.0	29.5	1	1350	25.0	550	0.30	0.60	1	0.0045	150
98BSC-112	422413.50	6036539.50	2.24	2.5	1.0	1.50	1200	26.0	27.60	5.0	5.0	7.90	0.29	0.60	0.5	1.0	15.5	1	1340	25.0	460	0.30	0.80	4	0.0040	640
98BSC-113	419846.59	6036918.50	1.79	2.5	1.0	1.60	410	55.0	17.00	4.0	4.0	6.30	0.21	0.60	0.5	1.0	29.4	1	957	25.0	560	0.05	0.50	1	0.0050	150
98BSC-114	419177.66	6038148.50	1.66	9.0	1.0	2.60	490	20.0	25.00	4.0	7.0	3.50	0.40	0.25	0.5	1.0	19.0	1	1830	25.0	200	0.40	0.90	1	0.0040	150
98BSC-115	418088.72	6038642.50	1.78	9.0	1.0	1.80	740	35.0	19.20	3.0	7.0	0.80	0.36	0.90	0.5	1.0	27.8	1	1520	25.0	170	0.30	0.90	1	0.0045	150
98BSC-116	417811.72	6039129.50	1.81	2.5	1.0	1.80	1300	22.0	20.90	5.0	5.0	4.00	0.38	0.25	0.5	1.0	18.4	1	1810	25.0	340	0.30	1.00	1	0.0045	390
98BSC-117	433470.97	6032879.50	2.22	7.0	1.0	1.70	470	30.0	19.50	4.0	5.0	2.00	0.28	0.60	0.5	1.0	18.8	1	1050	25.0	170	0.30	0.70	1	0.0040	330
98BSC-118	426929.28	6034129.50	1.81	7.0	1.0	2.00	1100	19.0	24.00	4.0	7.0	2.00	0.29	0.25	0.5	1.0	19.3	3	1430	25.0	210	0.30	0.80	1	0.0040	520
98BSC-119	425480.31	6033803.50	1.60	14.0	1.0	1.90	670	27.0	16.50	3.0	6.0	8.20	0.28	0.25	0.5	1.0	18.6	1	1730	25.0	270	0.50	0.70	1	0.0045	150
98BSC-120	423790.44	6035660.50	1.74	6.0	1.0	2.00	1000	22.0	27.70	4.0	7.0	2.10	0.42	1.10	0.5	1.0	18.3	1	2020	25.0	210	0.40	1.20	1	0.0040	760
98BSC-121-1 Analytical Duplicate	407150.00	6045862.00	2.30	10.0	1.0	1.40	760	21.0	28.90	3.0	8.0	3.30	0.28	0.70	0.5	1.0	15.0	1	1500	25.0	290	0.30	0.80	1	0.0045	650
98BSC-121-2 Analytical Duplicate	407150.00	6045862.00	2.30	7.0	1.0	1.40	760	17.0	27.90	3.0	8.0	3.80	0.28	0.25	0.5	1.0	14.9	1	1490	25.0	310	0.30	0.80	3	0.0045	150
98BSC-123	410744.00	6043110.00	1.78	6.0	1.0	1.80	920	17.0	18.90	3.0	5.0	2.20	0.24	0.60	0.5	1.0	24.7	1	1690	25.0	280	0.20	0.60	1	0.0025	870
98BSC-124	416359.03	6011437.00	2.20	8.0	1.0	1.10	710	14.0	19.10	3.0	3.0	1.00	0.14	0.25	0.5	1.0	26.2	12	685	25.0	310	0.20	0.30	1	0.0025	700
98BSC-125	417489.03	6012396.00	1.80	5.0	3.0	1.00	1900	39.0	18.10	4.0	5.0	1.50	0.22	0.50	0.5	1.0	26.5	1	786	25.0	170	0.20	0.40	1	0.0025	490
98BSC-126	413132.19	6012836.00	1.85	8.0	1.0	1.40	1100	20.0	19.30	3.0	6.0	0.60	0.28	0.25	0.5	1.0	28.1	1	1300	25.0	220	0.30	0.70	1	0.0025	720
98BSC-127	385444.00	6022763.00	2.07	13.0	1.0	1.80	800	31.0	18.70	3.0	7.0	3.00	0.27	0.25	0.5	1.0	23.9	1	1780	25.0	300	0.20	0.80	1	0.0025	150
98BSC-128	385814.00	6024219.00	1.88	12.0	3.0	1.20	500	20.0	16.70	10.0	5.0	2.10	0.29	0.25	0.5	1.0	24.3	1	1440	25.0	160	0.30	0.80	1	0.0025	150
98BSC-129-1 Field Duplicate	411318.28	6013772.50	2.00	6.0	1.0	1.50	840	27.0	25.20	3.0	4.0	3.00	0.21	0.50	0.5	1.0	18.3	1	980	25.0	250	0.30	0.50	1	0.0025	510
98BSC-129-2 Field Duplicate	411318.28	6013772.50	1.94	2.5	1.0	1.10	420	19.0	17.50	5.0	5.0	14.00	0.20	0.25	0.5	1.0	22.2	1	825	25.0	740	0.30	0.40	1	0.0025	150
98BSC-130	410039.31	6014382.50	1.86	7.0	1.0	2.10	550	31.0	23.60	3.0	8.0	5.00	0.35	0.80	0.5	1.0	16.9	1	1350	25.0	300	0.20	0.90	1	0.0025	150
98BSC-131	410227.28	6012701.50	1.81	7.0	1.0	2.40	580	37.0	17.20	6.0	10.0	2.10	0.38	0.25	0.5	1.0	20.3	1	1610	25.0	200	0.30	0.90	1	0.0025	710
98BSC-132	407970.38	6013576.50	2.00	5.0	1.0	1.00	940	24.0	21.40	3.0	6.0	2.70	0.26	0.60	0.5	1.0	19.1	1	1160	25.0	270	0.20	0.70	1	0.0025	150
98BSC-133	407131.38	6012572.50	2.14	5.0	1.0	1.10	900	50.0	19.90	6.0	9.0	3.00	0.25	0.25	0.5	1.0	21.5	1	1180	25.0	580	0.20	0.60	1	0.0025	410
98BSC-134	406971.44	6014940.50	1.40	7.0	1.0	2.80	490	31.0	18.30	6.0	9.0	3.80	0.45	0.25	0.5	1.0	17.3	1	2320	160.0	430	0.50	1.10	4	0.0025	150
98BSC-135	408359.31	6012394.50	2.05	11.0	1.0	1.50	1000	19.0	23.30	11.0	5.0	3.20	0.22	0.25	0.5	1.0	16.6	1	799	25.0	480	0.05	0.50	1	0.0025	460
98BSC-136	405675.38	6011926.50	1.69	7.0	1.0	1.80	830	23.0	18.00	9.0	10.0	6.90	0.34	0.25	0.5	1.0	15.7	1	1340	100.0	520	0.30	0.80	1	0.0025	150
98BSC-137	404124.44	6012087.50	1.92	22.0	1.0	1.50	1100	31.0	20.10	4.0	4.0	1.30	0.22	0.25	0.5	1.0	20.1	1	963	25.0	210	0.20	0.50	1	0.0025	150
98BSC-138	404041.47	6013160.50	1.84	8.0	3.0	1.40	1200	19.0	22.20	4.0	6.0	1.00	0.24	0.25	0.5	1.0	17.0	1	1140	25.0	140	0.30	0.60	1	0.0025	460
98BSC-139	402538.53	6013989.50	1.73	10.0	1.0	0.90	790	29.0	19.00	9.0	7.0	4.90	0.23	0.25	0.5	1.0	18.8	1	1080	25.0	360	0.20	0.60	1	0.0025	390
98BSC-140	399933.00	6014368.00	1.69	10.0	1.0	2.10	410	34.0	19.60	4.0	5.0	9.40	0.29	0.25	0.5	1.0	17.7	1	922	84.0	720	0.30	0.60	1	0.0025	150
98BSC-141	395466.00	6012618.00	2.11	8.0	1.0	1.70	1100	18.0	21.30	9.0	6.0	1.30	0.23	0.25	0.5	1.0	17.8	1	1120	25.0	150	0.30	0.50	1	0.0025	150
98BSC-143	383035.00	6024618.00	1.74	11.0	1.0	1.30	900	26.0	16.40	6.0	4.0	11.00	0.20	0.60	0.5	1.0	19.1	1	804	25.0	640	0.20	0.40	1	0.0025	150
98BSC-144	389806.00	6022975.00	1.95	7.0	1.0	2.00	770	24.0	25.30	5.0	8.0	4.10	0.38	0.80	0.5	1.0	15.0	1	1320	25.0	280	0.30	0.80	1	0.0035	150
98BSC-145	390474.00	6021912.00	1.95	7.0	1.0	0.25	1600	23.0	19.70	3.0	4.0	3.60	0.19	0.25	0.5	1.0	22.9	3	889	25.0	410	0.10	0.40	1	0.0035	430
98BSC-146-1 Analytical Standard	392335.00	6021175.00	2.19	2.5	1.0	2.00	650	22.0	20.80	5.0	8.0	3.10	0.33	0.25	0.5	1.0	19.1	1	1700	25.0	390	0.30	0.90	1	0.0040	150
98BSC-146-2 Analytical Standard	392335.00	6021175.00	2.19	9.0	1.0	1.50	690	21.0	21.70	5.0	5.0	4.00	0.35	0.25	0.5	1.0	18.7	1	1750	25.0	390	0.20	0.90	1	0.0040	150
98BSC-147	388878.00	6020355.00	1.87	6.0	1.0	3.10	1300	27.0	20.20	5.0	14.0	1.50	0.67	0.80	0.5	1.0	15.3	1	2580	25.0	94	0.40	1.80	1	0.0035	790
98BSC-148	403100.47	6012742.50	1.70	6.0	1.0	1.30	870	25.0	20.50	8.0	4.0	7.00	0.21	0.25	0.5	1.0	21.9	1	795	25.0	890	0.30	0.40	1	0.0035	530
98BSC-149	401935.00	6012422.00	1.69	45.0	1.0	0.90	1200	20.0	20.60	16.0	5.0	6.00	0.20	0.25	0.5	1.0	17.2	5	1240	25.0	410	0.40	0.50	1	0.0030	590
98BSC-150-1 Field Duplicate	400497.00	6013199.00	1.88	12.0	1.0	1.70	700	25.0	23.20	4.0	8.0	1.40	0.29	0.50	0.5	1.0	16.9	1	1240	25.0	230	0.30	0.80	1	0.0035	720
98BSC-150-2 Field Duplicate	400497.00	6013199.00	1.83	7.0	2.0	1.70	750	26.0	25.20	4.0	9.0	1.20	0.31	0.25	0.5	1.0	14.7	1	1160	25.0	230	0.20	0.80	1	0.0030	810

Element	UTM		Ash	AU	AG	AS	BA	BR	CA	CO	CR	CS	FE	HF	HG	IR	K	MO	NA	NI	RB	SB	SC	SE	SN	SR
	Easting	Northing	%	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
98BSC-151	399476.00	6015250.00	1.96	8.0	1.0	0.60	1000	28.0	19.80	5.0	6.0	12.00	0.22	0.25	0.5	1.0	23.1	1	788	25.0	540	0.30	0.40	1	0.0040	150
98BSC-152	395886.00	6015171.00	1.79	5.0	1.0	1.10	1200	21.0	20.20	10.0	7.0	6.00	0.21	0.25	0.5	1.0	15.8	1	1270	100.0	460	0.40	0.50	1	0.0035	640
98BSC-153	394104.00	6017050.00	1.54	5.0	1.0	0.70	1100	24.0	20.80	17.0	6.0	10.00	0.21	0.25	0.5	1.0	19.6	1	974	93.0	940	0.30	0.50	1	0.0040	150
98BSC-154	406616.34	6011560.50	1.99	6.0	1.0	1.00	700	19.0	20.30	3.0	5.0	2.10	0.22	0.25	0.5	1.0	19.1	3	908	25.0	160	0.20	0.60	1	0.0035	150
98BSC-155	404165.41	6011197.50	1.94	2.5	1.0	1.00	650	15.0	20.90	2.0	5.0	3.20	0.19	0.25	0.5	1.0	18.1	1	1040	25.0	170	0.20	0.50	1	0.0035	150
98BSC-156	404389.38	6010246.50	1.72	12.0	1.0	1.70	740	20.0	20.30	3.0	0.5	4.80	0.24	0.25	0.5	1.0	19.4	1	1180	25.0	240	0.20	0.50	1	0.0035	490
98BSC-157	405746.31	6009647.50	1.59	28.0	3.0	1.60	1300	31.0	19.20	18.0	0.5	13.00	0.29	0.80	0.5	1.0	20.9	1	1120	25.0	960	0.30	0.60	1	0.0025	420
98BSC-158	405343.31	6008893.50	2.22	8.0	2.0	1.20	510	19.0	20.70	5.0	3.0	4.10	0.17	0.25	0.5	1.0	14.1	1	876	110.0	330	0.05	0.40	1	0.0025	150
98BSC-159	404052.34	6009302.50	1.63	7.0	1.0	1.70	960	19.0	19.40	12.0	7.0	8.20	0.24	0.25	0.5	1.0	20.2	1	942	25.0	480	0.30	0.60	1	0.0025	510
98BSC-161	388589.00	6022651.46	2.02	8.0	2.0	1.00	970	24.0	17.30	4.0	5.0	38.00	0.18	0.25	0.5	1.0	28.5	1	719	25.0	1200	0.60	0.30	1	0.0025	150
98BSC-162-1 Analytical Duplicate	382848.00	6021725.00	2.07	16.0	1.0	2.80	1800	20.0	19.80	5.0	15.0	6.20	0.77	1.70	0.5	1.0	13.4	1	3170	25.0	200	0.60	2.10	1	0.0025	840
98BSC-162-2 Analytical Duplicate	382848.00	6021725.00	2.07	17.0	1.0	3.80	2000	23.0	24.60	7.0	14.0	7.00	0.77	0.90	0.5	1.0	16.1	1	3590	25.0	240	0.70	2.10	1	0.0025	690
98BSC-163	388677.00	6018912.00	1.96	12.0	1.0	1.90	1100	23.0	23.60	3.0	6.0	2.00	0.28	0.25	0.5	1.0	23.1	1	1290	25.0	350	0.20	0.70	1	0.0025	580
98BSC-164	386509.00	6018460.00	1.52	13.0	1.0	2.30	860	21.0	18.40	10.0	9.0	4.30	0.35	0.25	0.5	1.0	23.2	1	1830	25.0	270	0.50	0.90	1	0.0025	150
98BSC-166	385391.00	6021255.00	1.64	8.0	1.0	1.60	1300	21.0	21.50	14.0	4.0	8.40	0.18	0.25	0.5	1.0	23.6	1	706	25.0	650	0.20	0.40	1	0.0025	390
98BSC-167	384775.00	6020830.00	1.67	6.0	1.0	1.90	1800	51.0	16.50	17.0	5.0	33.00	0.24	0.25	0.5	1.0	29.1	1	1210	120.0	930	0.80	0.60	1	0.0025	150
98BSC-168-1 Field Duplicate	389115.00	6015922.00	1.71	6.0	2.0	1.60	650	34.0	21.70	4.0	6.0	5.80	0.28	0.25	0.5	1.0	21.7	1	1330	25.0	500	0.40	0.80	1	0.0025	150
98BSC-168-2 Field Duplicate	389115.00	6015922.00	1.89	8.0	1.0	1.40	670	26.0	23.70	4.0	4.0	8.90	0.23	0.60	0.5	1.0	20.3	1	839	25.0	510	0.20	0.60	1	0.0025	150
98BSC-169	385427.00	6016657.00	1.87	2.5	1.0	2.60	1200	31.0	27.40	5.0	6.0	2.20	0.40	0.25	0.5	1.0	18.5	1	1620	25.0	190	0.30	1.00	1	0.0025	700
98BSC-171	383788.00	6015968.00	2.17	7.0	1.0	1.00	1800	26.0	20.70	9.0	0.5	3.10	0.24	0.25	0.5	1.0	19.9	1	1320	25.0	430	0.30	0.50	1	0.0025	670
98BSC-172	385394.00	6015986.00	1.86	9.0	1.0	1.50	970	20.0	22.00	3.0	6.0	1.30	0.29	0.25	0.5	1.0	23.2	3	1530	25.0	140	0.30	0.80	1	0.0040	150
98BSC-173	387942.00	6015283.00	1.76	21.0	1.0	2.00	500	26.0	22.90	4.0	4.0	3.00	0.32	0.25	0.5	1.0	24.1	1	1460	25.0	310	0.40	0.70	1	0.0045	150
98BSC-174	394375.00	6012910.00	1.85	2.5	3.0	0.90	150	17.0	22.40	16.0	6.0	1.80	0.18	0.25	0.5	1.0	18.3	6	706	25.0	160	0.05	0.30	1	0.0030	150
98BSC-175	391283.00	6014472.00	1.92	8.0	1.0	1.30	1200	23.0	22.00	8.0	0.5	3.00	0.15	0.25	0.5	1.0	21.7	1	549	25.0	350	0.20	0.30	1	0.0030	820
98BSC-176	390369.00	6014784.00	2.03	7.0	1.0	1.20	1100	42.0	20.50	10.0	0.5	1.80	0.20	0.25	0.5	1.0	23.7	1	918	25.0	250	0.20	0.40	1	0.0030	470
98BSC-177	321735.97	6041833.00	1.51	22.0	3.0	1.00	660	36.0	21.10	9.0	9.0	11.00	0.26	0.25	0.5	1.0	22.4	1	1070	76.0	390	0.30	0.70	1	0.0030	480
98BSC-178	323967.94	6041833.00	1.67	17.0	1.0	3.70	1000	22.0	24.30	6.0	10.0	3.90	0.56	0.80	0.5	1.0	18.0	1	1970	130.0	290	0.40	1.30	1	0.0030	630
98BSC-179	325351.94	6042469.00	1.91	8.0	1.0	1.90	770	19.0	27.30	3.0	6.0	0.90	0.33	0.25	0.5	1.0	18.9	1	1720	25.0	190	0.20	0.90	1	0.0030	570
98BSC-180	324945.91	6041004.00	1.48	22.0	3.0	1.90	680	26.0	20.40	8.0	10.0	1.90	0.26	0.60	0.5	1.0	27.1	1	1110	25.0	230	0.20	0.70	1	0.0030	560
98BSC-182-1 Analytical Duplicate	329630.81	6040599.00	2.20	13.0	1.0	1.10	1700	20.0	28.70	4.0	4.0	2.10	0.21	0.25	0.5	1.0	18.7	1	1150	25.0	200	0.20	0.50	1	0.0030	880
98BSC-182-2 Analytical Duplicate	329630.81	6040599.00	2.20	43.0	1.0	0.90	1500	21.0	31.50	2.0	9.0	1.70	0.21	0.25	0.5	1.0	19.3	4	1050	25.0	180	0.20	0.50	1	0.0030	950
98BSC-185-1 Field Duplicate	328134.84	6041330.00	1.80	13.0	2.0	0.90	1200	17.0	16.10	7.0	6.0	8.30	0.18	0.25	0.5	1.0	23.9	1	843	25.0	610	0.20	0.40	1	0.0030	150
98BSC-185-2 Field Duplicate	328134.84	6041330.00	1.86	6.0	1.0	0.70	730	19.0	18.70	8.0	8.0	2.50	0.19	0.25	0.5	1.0	23.8	1	491	25.0	420	0.20	0.20	1	0.0030	440
98BSC-187	336615.72	6041557.00	1.52	9.0	1.0	1.50	1500	30.0	19.00	10.0	4.0	7.30	0.25	0.25	0.5	1.0	16.8	1	1140	25.0	400	0.30	0.60	1	0.0030	150
98BSC-188	354237.25	6039244.50	2.02	8.0	1.0	1.10	740	57.0	19.00	4.0	4.0	2.10	0.15	0.25	0.5	1.0	22.4	1	579	25.0	370	0.20	0.40	1	0.0030	150
98BSC-189	350083.38	6040090.00	1.91	2.5	1.0	1.50	640	24.0	22.50	6.0	5.0	32.00	0.23	0.25	0.5	1.0	17.2	1	910	25.0	690	0.40	0.60	1	0.0030	150
98BSC-190	346618.44	6039718.00	1.59	9.0	1.0	0.90	1100	17.0	17.60	4.0	0.5	0.90	0.19	0.25	0.5	1.0	20.6	1	739	98.0	130	0.20	0.40	1	0.0030	430
98BSC-191	348726.41	6040743.00	1.88	8.0	1.0	0.80	820	22.0	23.50	6.0	0.5	2.50	0.15	0.25	0.5	1.0	16.2	1	749	90.0	290	0.05	0.30	1	0.0030	150
98BSC-192	347772.47	6041683.00	2.00	6.0	1.0	1.10	1200	36.0	20.80	4.0	5.0	2.60	0.24	0.25	0.5	1.0	22.4	1	1030	25.0	250	0.20	0.50	1	0.0030	150
98BSC-193	345860.50	6041687.00	1.76	2.5	1.0	0.25	790	21.0	17.10	6.0	5.0	4.80	0.12	0.25	0.5	1.0	24.4	1	549	25.0	590	0.05	0.20	1	0.0030	150
98BSC-194	355771.22	6040295.50	1.78	7.0	1.0	1.60	450	26.0	19.30	5.0	6.0	2.30	0.25	0.25	0.5	1.0	22.0	3	1350	25.0	250	0.20	0.60	4	0.0030	150
98BSC-195	354102.22	6038317.50	1.69	29.0	2.0	1.00	800	18.0	22.10	7.0	7.0	3.00	0.20	0.25	0.5	1.0	16.3	1	1140	25.0	290	0.20	0.40	1	0.0030	680
98BSC-196	344776.50	6040524.00	1.76	9.0	1.0	1.00	760	23.0	21.90	4.0	7.0	2.20	0.17	0.25	0.5	1.0	18.1	1	1030	25.0	160	0.10	0.50	1	0.0030	150
98BSC-197	344483.53	6041202.00	1.75	14.0	1.0	1.50	720	25.0	20.00	4.0	9.0	1.80	0.36	0.25	0.5	1.0	21.1	1	2380	25.0	200	0.20	0.80	1	0.0030	150
98BSC-198	343762.53	6040329.00	1.60	6.0	1.0	1.70	490	35.0	21.20	4.0	10.0	7.20	0.37	0.25	0.5	1.0	17.2	1	1400	25.0	250	0.20	0.90	1	0.0030	150
98BSC-199	343462.50	6039483.00	1.71	10.0	1.0	0.80	1300	30.0	16.30	6.0	7.0	16.00	0.30	0.25	0.5	1.0	21.6	1	1160	25.0	660	0.40	0.70	1	0.0030	150
98BSC-200	341465.56	6040134.00	1.81	8.0	4.0	0.60	650	25.0	19.20	4.0	3.0	4.60	0.16	0.25	0.5	1.0	19.3	1	651	25.0	390	0.10	0.30	1	0.0030	150
98BSC-201	347331.41	6039448.00	1.97	7.0	1.0	0.70	950	20.0	22.40	3.0	7.0	0.90	0.27	0.25	0.5	1.0	16.6	1	998	25.0	92	0.20	0.60	1	0.0030	740
98BSC-202-1 Analytical Duplicate	345340.41	6037467.00	2.04	8.0	1.0	0.25	1200	27.0	18.60	5.0	5.0	1.10	0.14	0.25	0.5	1.0	18.8	1	631	25.0	130	0.10	0.30	1	0.0030	640
98BSC-202-2 Analytical Duplicate	345340.41	6037467.00		2.5	1.0	0.90	1300	27.0	22.40	5.0	5.0	1.30	0.11	0.60	0.5	1.0	19.3	1	610	25.0	160	0.10	0.30	1	0.0030	150
98BSC-203	347767.38	6038337.00	1.68	7.0	1.0	1.00	440	26.0	18.50	5.0	6.0	2.40	0.29	0.25	0.5	1.0	20.6	1	1030	25.0	260	0.20	0.70	1	0.0030	150
98BSC-204	349428.38	6039387.00	1.66	16.0	2.0	1.60	720	26.0	21.00	4.0	6.0	4.80	0.28	0.25	0.5	1.0	15.5	1	1270	25.0	300	0.20	0.80	1	0.0030	320

Element	UTM		Ash	AU	AG	AS	BA	BR	CA	CO	CR	CS	FE	HF	HG	IR	K	MO	NA	NI	RB	SB	SC	SE	SN	SR
	Easting	Northing	%	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
98BSC-205	337801.72	6042848.00	1.62	10.0	1.0	1.50	720	18.0	16.70	5.0	9.0	13.00	0.38	0.15	0.5	1.0	21.1	7	1610	25.0	490	0.40	0.90	1	0.0030	540
98BSC-206	338357.66	6040821.00	1.75	7.0	3.0	0.25	950	37.0	16.50	4.0	6.0	53.00	0.12	0.25	0.5	1.0	22.2	3	547	25.0	1100	0.60	0.30	1	0.0050	150
98BSC-207	340633.63	6041136.00	1.68	9.0	1.0	2.40	1000	36.0	17.30	7.0	11.0	2.70	0.37	1.10	0.5	1.0	19.9	1	1500	25.0	190	0.30	0.90	1	0.0045	150
98BSC-208-1 Field Duplicate	339675.63	6041192.00	1.67	23.0	1.0	1.40	970	29.0	20.90	2.0	6.0	1.40	0.27	0.25	0.5	1.0	22.1	1	1050	25.0	140	0.30	0.60	1	0.0040	590
98BSC-208-2 Field Duplicate	339675.63	6041192.00	1.99	6.0	1.0	1.00	1100	25.0	23.80	3.0	6.0	1.40	0.24	0.25	0.5	1.0	16.9	1	908	25.0	87	0.10	0.50	1	0.0035	580

Element	TA ppm	TH ppm	U ppm	W ppm	ZN ppm	LA ppm	CE ppm	ND ppm	SM ppm	EU ppm	TB ppm	YB ppm	LU ppm	TREE ppm
98BSC-1	0.25	0.05	0.05	0.5	3000	1.90	5.00	2.50	0.30	0.02	0.25	0.160	0.025	10.2
98BSC-2	0.25	0.05	0.05	0.5	2200	2.30	4.00	2.50	0.30	0.02	0.25	0.200	0.025	9.6
98BSC-3	0.25	0.60	0.50	0.5	1700	2.80	6.00	11.00	0.50	0.02	0.25	0.170	0.025	20.8
98BSC-5	0.25	0.05	0.05	0.5	1900	2.20	4.00	2.50	0.40	0.02	0.25	0.025	0.025	9.4
98BSC-6	0.25	0.30	0.05	0.5	2300	1.60	5.00	2.50	0.30	0.02	0.25	0.110	0.025	9.8
98BSC-7	0.25	1.10	0.05	0.5	3100	4.60	11.00	2.50	0.80	0.02	0.25	0.430	0.060	19.7
98BSC-8	0.25	0.30	0.30	0.5	1300	1.70	6.00	2.50	0.20	0.02	0.25	0.140	0.025	10.8
98BSC-9-1 Analytical Duplicate	0.80	0.60	0.05	0.5	2600	2.10	6.00	2.50	0.40	0.02	0.25	0.100	0.025	11.4
98BSC-9-2 Analytical Duplicate	0.25	0.40	0.05	0.5	2700	2.00	5.00	2.50	0.30	0.02	0.25	0.025	0.025	10.1
98BSC-10	0.25	0.05	0.05	0.5	2400	1.10	6.00	2.50	0.20	0.02	0.25	0.025	0.025	10.1
98BSC-11	0.25	0.30	0.05	0.5	2200	2.70	6.00	2.50	0.40	0.02	0.25	0.360	0.050	12.3
98BSC-12	0.25	0.30	0.05	0.5	2200	3.70	5.00	6.00	0.60	0.02	0.25	0.320	0.050	15.9
98BSC-13	0.25	0.30	0.20	0.5	1700	2.10	4.00	8.00	0.40	0.02	0.25	0.230	0.025	15.0
98BSC-14	0.25	0.70	0.05	0.5	2000	2.80	6.00	2.50	0.40	0.01	0.25	0.160	0.025	12.1
98BSC-15	0.25	1.10	0.05	0.5	3000	5.80	9.00	2.50	0.90	0.12	0.25	0.480	0.070	19.1
98BSC-16-1 Field Duplicate	0.25	0.30	0.05	0.5	2500	2.20	1.50	7.00	0.30	0.01	0.25	0.190	0.025	11.5
98BSC-16-2 Field Duplicate	0.25	0.40	0.40	0.5	2700	1.90	4.00	2.50	0.30	0.02	0.25	0.280	0.025	9.3
98BSC-17	0.25	0.05	0.05	0.5	1700	1.50	4.00	2.50	0.20	0.17	0.25	0.025	0.025	8.7
98BSC-18	0.25	0.60	0.05	0.5	1700	2.00	4.00	2.50	0.30	0.18	0.25	0.150	0.025	9.4
98BSC-19	0.25	0.60	0.30	0.5	3100	2.70	1.50	2.50	0.40	0.02	0.25	0.025	0.025	7.4
98BSC-20	0.25	0.60	0.20	0.5	2800	3.80	9.00	2.50	0.60	0.02	0.25	0.420	0.060	16.6
98BSC-21	0.25	0.30	0.05	0.5	2000	1.70	3.00	2.50	0.30	0.01	0.25	0.160	0.025	7.9
98BSC-22	0.25	0.50	0.05	0.5	1500	2.90	5.00	2.50	0.40	0.01	0.25	0.160	0.025	11.2
98BSC-23	0.25	0.50	0.05	0.5	2000	1.90	1.50	2.50	0.30	0.18	0.25	0.190	0.025	6.8
98BSC-24	0.25	0.40	0.05	0.5	1500	1.20	1.50	2.50	0.10	0.02	0.25	0.100	0.025	5.7
98BSC-25	0.25	0.60	0.20	0.5	2300	2.90	5.00	2.50	0.40	0.20	0.25	0.230	0.025	11.5
98BSC-26	0.25	0.50	0.30	0.5	1500	1.50	3.00	2.50	0.20	0.01	0.25	0.150	0.025	7.6
98BSC-27	0.25	0.60	0.05	0.5	2000	2.40	5.00	2.50	0.40	0.01	0.25	0.240	0.025	10.8
98BSC-28	0.25	0.40	0.05	0.5	1600	1.90	4.00	2.50	0.30	0.02	0.25	0.170	0.025	9.2
98BSC-29	0.25	0.40	0.05	0.5	1500	2.90	1.50	2.50	0.40	0.02	0.25	0.170	0.025	7.8
98BSC-30	0.25	0.60	0.05	0.5	2000	3.50	6.00	2.50	0.50	0.16	0.25	0.210	0.025	13.1
98BSC-31-1 Analytical Duplicate	0.25	0.40	0.05	0.5	2800	2.20	4.00	2.50	0.30	0.20	0.25	0.180	0.025	9.7
98BSC-31-2 Analytical Duplicate	0.25	0.60	0.05	0.5	2800	2.20	6.00	6.00	0.30	0.01	0.25	0.110	0.025	14.9
98BSC-32	0.25	0.50	0.05	0.5	2000	2.10	4.00	2.50	0.30	0.02	0.25	0.220	0.025	9.4
98BSC-33	0.25	0.20	0.05	0.5	2200	1.20	1.50	2.50	0.20	0.02	0.25	0.090	0.025	5.8
98BSC-34	0.25	0.70	0.40	0.5	2400	2.70	4.00	2.50	0.40	0.21	0.25	0.300	0.025	10.4
98BSC-35	0.25	0.05	0.05	0.5	1800	1.30	1.50	2.50	0.20	0.01	0.25	0.120	0.025	5.9
98BSC-36-1 Field Duplicate	0.25	0.70	0.05	0.5	2900	2.80	8.00	2.50	0.40	0.01	0.25	0.370	0.050	14.4
98BSC-36-2 Field Duplicate	0.25	0.40	0.05	0.5	2300	2.50	6.00	2.50	0.40	0.22	0.25	0.170	0.025	12.1
98BSC-37	0.25	0.05	0.05	0.5	1200	1.30	1.50	2.50	0.20	0.12	0.25	0.200	0.025	6.1
98BSC-38	0.25	0.40	0.05	1.0	1500	1.90	4.00	2.50	0.30	0.01	0.25	0.210	0.025	9.2
98BSC-44	0.25	0.80	0.50	0.5	2400	4.50	8.00	2.50	0.70	0.21	0.25	0.390	0.060	16.6
98BSC-45	0.25	1.00	0.05	0.5	3200	5.30	8.00	2.50	0.80	0.25	0.25	0.410	0.070	17.6

Element	TA	TH	U	W	ZN	LA	CE	ND	SM	EU	TB	YB	LU	TREE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98BSC-51	0.25	0.60	0.05	0.5	2000	2.50	7.00	2.50	0.30	0.01	0.25	0.200	0.025	12.8
98BSC-52	0.25	0.60	0.05	0.5	2900	3.00	7.00	2.50	0.50	0.01	0.25	0.310	0.080	13.7
98BSC-53	0.25	1.10	0.60	0.5	1600	6.00	12.00	8.00	0.80	0.18	0.25	0.540	0.090	27.9
98BSC-55	0.25	0.60	0.05	0.5	3600	3.20	6.00	2.50	0.50	0.01	0.25	0.220	0.025	12.7
98BSC-56	0.25	0.05	0.05	0.5	2500	2.20	6.00	2.50	0.30	0.01	0.25	0.160	0.025	11.4
98BSC-57	0.25	0.40	0.05	0.5	2300	1.90	6.00	2.50	0.30	0.01	0.25	0.370	0.025	11.4
98BSC-58	0.25	0.05	0.05	0.5	2100	1.80	6.00	2.50	0.30	0.02	0.25	0.250	0.025	11.1
98BSC-61-1 Field Duplicate	0.25	0.40	0.05	0.5	1900	3.20	6.00	2.50	0.50	0.14	0.25	0.290	0.025	12.9
98BSC-61-2 Field Duplicate	0.25	0.40	0.05	0.5	2000	1.50	1.50	2.50	0.20	0.01	0.25	0.025	0.025	6.0
98BSC-62	0.25	0.30	0.05	0.5	1700	1.90	5.00	2.50	0.30	0.01	0.25	0.140	0.025	10.1
98BSC-63	0.25	0.05	0.05	0.5	1600	2.50	5.00	2.50	0.30	0.01	0.25	0.160	0.025	10.7
98BSC-64	0.25	0.80	0.05	0.5	1700	4.00	8.00	2.50	0.60	0.01	0.25	0.390	0.050	15.8
98BSC-65	0.25	0.60	0.05	0.5	1900	2.30	1.50	2.50	0.30	0.01	0.25	0.290	0.025	7.2
98BSC-66	0.25	1.10	0.40	0.5	1800	5.50	10.00	2.50	0.80	0.01	0.25	0.490	0.090	19.6
98BSC-67	0.25	0.60	0.05	0.5	3600	2.90	7.00	2.50	0.50	0.02	0.25	0.170	0.025	13.4
98BSC-68-1 Analytical Duplicate	0.25	1.20	0.80	0.5	3800	6.70	12.00	2.50	0.90	0.02	0.25	0.600	0.100	23.1
98BSC-68-2 Analytical Duplicate	0.25	1.40	0.05	0.5	3800	6.20	14.00	2.50	0.90	0.02	0.25	0.590	0.080	24.5
98BSC-69	0.25	0.60	0.05	0.5	3100	2.70	5.00	2.50	0.40	0.01	0.25	0.260	0.025	11.1
98BSC-70	0.25	0.50	0.05	0.5	1700	3.90	7.00	2.50	0.50	0.01	0.25	0.290	0.060	14.5
98BSC-71	0.25	0.40	0.05	0.5	1100	1.80	1.50	2.50	0.20	0.02	0.25	0.025	0.025	6.3
98BSC-72	0.25	0.05	0.05	0.5	2100	1.70	1.50	2.50	0.30	0.02	0.25	0.025	0.025	6.3
98BSC-73	0.25	0.30	0.05	0.5	2000	2.00	5.00	2.50	0.30	0.02	0.25	0.140	0.025	10.2
98BSC-74	0.25	0.50	0.05	0.5	2300	1.90	1.50	2.50	0.30	0.15	0.25	0.210	0.025	6.8
98BSC-76	0.25	0.90	0.05	0.5	2300	5.90	11.00	2.50	1.00	0.22	0.25	0.500	0.090	21.5
98BSC-77	0.25	0.30	0.40	0.5	3000	2.50	5.00	2.50	0.40	0.02	0.25	0.230	0.025	10.9
98BSC-78A	0.25	1.00	0.05	0.5	2500	5.00	10.00	2.50	0.80	0.02	0.25	0.340	0.050	19.0
98BSC-78B-1 Analytical Duplicate	0.25	0.90	0.05	0.5	2000	4.00	7.00	2.50	0.70	0.02	0.25	0.390	0.050	14.9
98BSC-78B-2 Analytical Duplicate	0.25	1.10	0.05	0.5	2000	4.30	7.00	2.50	0.70	0.02	0.25	0.340	0.080	15.2
98BSC-80	0.25	0.60	0.05	0.5	2400	3.20	6.00	2.50	0.50	0.02	0.25	0.280	0.050	12.8
98BSC-81	0.25	0.50	0.05	0.5	2600	2.80	4.00	2.50	0.40	0.11	0.25	0.270	0.025	10.4
98BSC-82	0.25	0.05	0.05	0.5	1700	1.10	1.50	2.50	0.20	0.02	0.25	0.025	0.025	5.6
98BSC-83	1.00	0.90	0.05	0.5	2500	5.50	9.00	2.50	0.90	0.02	0.25	0.370	0.070	18.6
98BSC-84	0.25	0.40	0.05	0.5	3900	2.70	5.00	2.50	0.40	0.02	0.25	0.160	0.025	11.1
98BSC-85-1 Field Duplicate	0.25	0.05	0.05	0.5	2500	2.60	6.00	2.50	0.50	0.02	0.25	0.320	0.025	12.2
98BSC-85-2 Field Duplicate	0.25	0.60	0.50	0.5	2100	2.50	4.00	2.50	0.40	0.02	0.25	0.200	0.060	9.9
98BSC-86	0.25	0.05	0.05	0.5	2200	1.00	5.00	2.50	0.20	0.02	0.25	0.025	0.025	9.0
98BSC-87	0.25	0.30	0.05	0.5	1700	1.90	4.00	2.50	0.30	0.02	0.25	0.190	0.025	9.2
98BSC-88	0.25	0.30	0.05	0.5	2000	2.70	6.00	2.50	0.40	0.02	0.25	0.170	0.025	12.1
98BSC-89	0.25	0.30	0.05	0.5	3600	1.90	5.00	2.50	0.30	0.02	0.25	0.025	0.025	10.0
98BSC-90	1.00	0.60	0.05	0.5	2800	3.20	8.00	2.50	0.50	0.02	0.25	0.025	0.060	14.6
98BSC-91	0.25	0.70	0.05	0.5	2700	3.60	5.00	2.50	0.50	0.20	0.25	0.340	0.060	12.5
98BSC-92	0.25	0.50	0.05	0.5	3200	4.60	8.00	2.50	0.70	0.01	0.25	0.430	0.025	16.5
98BSC-93	0.25	0.05	0.05	3.0	1700	1.50	1.50	2.50	0.20	0.01	0.25	0.025	0.025	6.0
98BSC-94	0.25	0.50	0.05	0.5	2100	2.30	6.00	2.50	0.30	0.02	0.25	0.150	0.025	11.5
98BSC-95	0.25	0.50	0.05	0.5	2100	2.00	4.00	12.00	0.30	0.14	0.25	0.170	0.025	18.9
98BSC-96	0.25	0.30	0.05	0.5	1600	2.40	5.00	2.50	0.30	0.01	0.25	0.210	0.025	10.7
98BSC-97	0.25	0.40	0.05	2.0	2300	1.70	4.00	2.50	0.30	0.17	0.25	0.190	0.025	9.1
98BSC-98-1 Analytical Duplicate	0.25	0.40	0.05	2.0	2000	3.00	6.00	2.50	0.40	0.18	0.25	0.200	0.025	12.6
98BSC-98-2 Analytical Duplicate	0.25	0.70	0.05	0.5	2100	2.80	6.00	2.50	0.50	0.22	0.25	0.280	0.025	12.6
98BSC-99	0.25	0.70	0.10	0.5	2400	3.30	6.00	2.50	0.50	0.01	0.25	0.290	0.025	12.9
98BSC-100	0.25	0.30	0.30	0.5	2400	2.80	5.00	6.00	0.40	0.01	0.25	0.240	0.025	14.7
98BSC-101	0.25	0.05	0.05	0.5	2400	1.70	4.00	2.50	0.30	0.01	0.25	0.025	0.025	8.8

Element	TA ppm	TH ppm	U ppm	W ppm	ZN ppm	LA ppm	CE ppm	ND ppm	SM ppm	EU ppm	TB ppm	YB ppm	LU ppm	TREE ppm
98BSC-101	0.25	0.50	0.05	2.0	2200	2.90	7.00	5.00	0.40	0.01	0.25	0.230	0.025	15.8
98BSC-101	0.25	0.30	0.30	0.5	2300	2.30	5.00	2.50	0.30	0.01	0.25	0.140	0.025	10.5
98BSC-104-1 Field Duplicate	0.25	0.30	0.05	0.5	2100	2.40	6.00	2.50	0.30	0.01	0.25	0.190	0.025	11.7
98BSC-104-2 Field Duplicate	0.25	0.30	0.05	0.5	2400	2.20	5.00	2.50	0.30	0.01	0.25	0.190	0.025	10.5
98BSC-105	0.25	0.30	0.05	2.0	2200	2.30	5.00	2.50	0.30	0.11	0.25	0.025	0.025	10.5
98BSC-106	0.25	0.60	0.05	0.5	2100	4.00	7.00	2.50	0.50	0.02	0.25	0.260	0.025	14.6
98BSC-107	0.25	0.20	0.05	0.5	1700	2.10	5.00	2.50	0.30	0.01	0.25	0.190	0.025	10.4
98BSC-108	0.25	0.40	0.05	0.5	2500	2.20	1.50	2.50	0.40	0.01	0.25	0.230	0.025	7.1
98BSC-109	0.25	0.40	0.50	0.5	2500	2.50	5.00	2.50	0.40	0.01	0.25	0.230	0.025	10.9
98BSC-110	0.25	1.10	0.05	0.5	3100	5.00	11.00	8.00	0.80	0.01	0.25	0.410	0.025	25.5
98BSC-111	0.25	0.50	0.05	0.5	2100	2.20	5.00	2.50	0.30	0.02	0.25	0.200	0.025	10.5
98BSC-112	0.25	0.70	0.05	0.5	1300	3.10	6.00	2.50	0.50	0.01	0.25	0.310	0.025	12.7
98BSC-113	0.25	0.05	0.05	0.5	2000	1.70	1.50	2.50	0.20	0.02	0.25	0.025	0.025	6.2
98BSC-114	0.25	0.90	0.05	0.5	2500	3.90	9.00	8.00	0.50	0.01	0.25	0.350	0.060	22.1
98BSC-115	0.25	0.05	0.05	0.5	2400	3.20	9.00	9.00	0.50	0.02	0.25	0.340	0.050	22.4
98BSC-116	0.25	0.90	0.05	0.5	1800	3.70	7.00	2.50	0.60	0.02	0.25	0.440	0.070	14.6
98BSC-117	0.25	0.30	0.05	0.5	2000	2.50	5.00	2.50	0.40	0.14	0.25	0.240	0.025	11.1
98BSC-118	0.25	0.50	0.05	0.5	2900	3.10	7.00	2.50	0.40	0.02	0.25	0.350	0.050	13.7
98BSC-119	0.25	0.40	0.70	0.5	2300	3.00	5.00	2.50	0.40	0.02	0.25	0.025	0.025	11.2
98BSC-120	0.25	0.60	0.05	0.5	2900	4.60	10.00	6.00	0.70	0.25	0.25	0.450	0.070	22.3
98BSC-121-1 Analytical Duplicate	0.25	0.80	0.05	0.5	2500	3.00	6.00	2.50	0.40	0.02	0.25	0.170	0.025	12.4
98BSC-121-2 Analytical Duplicate	0.25	0.60	0.05	0.5	2600	3.10	7.00	2.50	0.40	0.02	0.25	0.310	0.025	13.6
98BSC-123	0.25	0.20	0.05	0.5	3400	2.10	5.00	2.50	0.30	0.02	0.25	0.150	0.025	10.3
98BSC-124	0.25	0.60	0.05	0.5	2200	1.20	1.50	2.50	0.20	0.01	0.25	0.025	0.025	5.7
98BSC-125	0.25	0.50	0.05	0.5	1700	1.40	1.50	2.50	0.20	0.02	0.25	0.025	0.025	5.9
98BSC-126	0.25	0.60	0.05	0.5	2700	2.90	4.00	2.50	0.40	0.02	0.25	0.220	0.025	10.3
98BSC-127	0.25	0.60	0.05	0.5	1800	2.70	6.00	7.00	0.40	0.02	0.25	0.025	0.025	16.4
98BSC-128	0.50	0.30	0.05	0.5	2300	2.80	1.50	2.50	0.40	0.14	0.25	0.170	0.025	7.8
98BSC-129-1 Field Duplicate	0.25	0.50	0.05	0.5	2700	2.00	5.00	2.50	0.30	0.17	0.25	0.230	0.025	10.5
98BSC-129-2 Field Duplicate	0.25	0.05	0.05	0.5	1600	1.40	1.50	2.50	0.20	0.02	0.25	0.025	0.025	5.9
98BSC-130	0.25	0.60	0.05	0.5	2100	3.40	6.00	2.50	0.50	0.14	0.25	0.370	0.050	13.2
98BSC-131	0.25	1.10	0.05	0.5	2100	3.20	5.00	2.50	0.50	0.02	0.25	0.210	0.025	11.7
98BSC-132	0.25	0.20	0.05	0.5	2300	2.10	3.00	2.50	0.30	0.02	0.25	0.120	0.025	8.3
98BSC-133	0.25	0.20	0.50	0.5	1200	2.20	6.00	2.50	0.30	0.02	0.25	0.120	0.025	11.4
98BSC-134	0.25	0.80	0.05	0.5	2500	4.60	9.00	2.50	0.60	0.20	0.25	0.310	0.050	17.5
98BSC-135	0.25	0.05	0.05	0.5	1700	1.60	4.00	2.50	0.20	0.02	0.25	0.130	0.025	8.7
98BSC-136	0.25	0.60	0.05	0.5	2400	2.30	5.00	2.50	0.40	0.20	0.25	0.210	0.025	10.9
98BSC-137	0.25	0.20	0.05	0.5	2000	1.70	1.50	2.50	0.20	0.02	0.25	0.140	0.025	6.3
98BSC-138	0.25	0.05	0.05	0.5	1600	1.90	1.50	2.50	0.30	0.22	0.25	0.170	0.025	6.9
98BSC-139	0.25	0.30	0.05	0.5	1900	1.90	1.50	2.50	0.30	0.02	0.25	0.240	0.070	6.8
98BSC-140	0.25	0.50	0.05	0.5	2000	2.20	3.00	2.50	0.30	0.02	0.25	0.170	0.025	8.5
98BSC-141	0.25	0.20	0.05	0.5	2300	1.80	5.00	2.50	0.30	0.02	0.25	0.025	0.025	9.9
98BSC-143	0.25	0.40	0.05	0.5	2700	1.30	5.00	2.50	0.20	0.02	0.25	0.025	0.025	9.3
98BSC-144	0.25	0.60	0.05	0.5	2000	2.30	6.00	2.50	0.40	0.20	0.25	0.300	0.025	12.0
98BSC-145	0.25	0.05	0.05	0.5	2100	1.30	1.50	2.50	0.20	0.02	0.25	0.160	0.025	6.0
98BSC-146-1 Analytical Standard	0.25	0.60	0.05	0.5	2000	2.80	6.00	5.00	0.50	0.02	0.25	0.180	0.025	14.8
98BSC-146-2 Analytical Standard	0.25	0.80	0.80	0.5	2000	2.80	5.00	2.50	0.40	0.26	0.25	0.220	0.025	11.5
98BSC-147	0.25	1.20	0.05	0.5	2800	6.40	12.00	6.00	1.00	0.02	0.25	0.400	0.060	26.1
98BSC-148	0.25	0.05	0.05	0.5	1700	1.50	5.00	2.50	0.20	0.02	0.25	0.160	0.025	9.7
98BSC-149	0.25	0.05	0.05	0.5	2500	2.20	4.00	2.50	0.20	0.02	0.25	0.025	0.025	9.2
98BSC-150-1 Field Duplicate	0.25	0.50	0.05	0.5	2000	2.50	5.00	2.50	0.40	0.02	0.25	0.230	0.025	10.9
98BSC-150-2 Field Duplicate	0.25	0.50	0.05	0.5	2100	2.40	6.00	2.50	0.40	0.02	0.25	0.290	0.050	11.9

Element	TA ppm	TH ppm	U ppm	W ppm	ZN ppm	LA ppm	CE ppm	ND ppm	SM ppm	EU ppm	TB ppm	YB ppm	LU ppm	TREE ppm
98BSC-151	0.70	0.20	0.05	0.5	1600	1.30	3.00	2.50	0.20	0.02	0.25	0.025	0.025	7.3
98BSC-152	0.25	0.10	0.05	0.5	1600	1.80	4.00	2.50	0.30	0.02	0.25	0.200	0.025	9.1
98BSC-153	0.25	0.50	0.05	0.5	2300	1.80	1.50	2.50	0.30	0.14	0.25	0.200	0.025	6.7
98BSC-154	0.25	0.20	0.05	0.5	1900	1.80	4.00	2.50	0.30	0.03	0.25	0.130	0.025	9.0
98BSC-155	0.25	0.30	0.05	0.5	1900	1.60	1.50	2.50	0.30	0.02	0.25	0.230	0.025	6.4
98BSC-156	0.25	0.40	0.05	0.5	2100	2.20	5.00	2.50	0.30	0.02	0.25	0.025	0.025	10.3
98BSC-157	0.25	0.30	0.05	0.5	2100	2.20	6.00	2.50	0.30	0.02	0.25	0.280	0.025	11.6
98BSC-158	0.25	0.05	0.05	0.5	2300	1.10	1.50	2.50	0.20	0.02	0.25	0.100	0.025	5.7
98BSC-159	0.25	0.30	0.05	0.5	2400	2.10	4.00	2.50	0.40	0.20	0.25	0.140	0.025	9.6
98BSC-161	0.25	0.30	0.05	0.5	2200	1.10	1.50	2.50	0.20	0.02	0.25	0.240	0.025	5.8
98BSC-162-1 Analytical Duplicate	0.25	1.10	0.20	0.5	2500	6.70	10.00	2.50	1.10	0.02	0.25	0.510	0.140	21.2
98BSC-162-2 Analytical Duplicate	0.25	1.70	1.10	0.5	2700	7.60	18.00	11.00	1.10	0.02	0.25	0.700	0.130	38.8
98BSC-163	0.25	0.50	0.05	0.5	2400	2.90	7.00	2.50	0.40	0.02	0.25	0.240	0.025	13.3
98BSC-164	0.25	0.60	0.05	0.5	2400	3.30	7.00	2.50	0.40	0.02	0.25	0.450	0.060	14.0
98BSC-166	0.25	0.50	0.05	0.5	2100	1.30	1.50	7.00	0.20	0.02	0.25	0.025	0.025	10.3
98BSC-167	0.25	0.40	0.05	0.5	2100	2.20	5.00	2.50	0.30	0.24	0.25	0.300	0.025	10.8
98BSC-168-1 Field Duplicate	0.25	0.60	0.05	0.5	1800	2.90	5.00	2.50	0.40	0.12	0.25	0.260	0.025	11.5
98BSC-168-2 Field Duplicate	0.25	0.50	0.05	0.5	1700	2.20	4.00	2.50	0.30	0.17	0.25	0.240	0.025	9.7
98BSC-169	0.25	0.70	0.05	0.5	2500	3.80	8.00	2.50	0.60	0.02	0.25	0.390	0.025	15.6
98BSC-171	0.25	0.60	0.05	0.5	2000	2.00	4.00	2.50	0.30	0.18	0.25	0.025	0.025	9.3
98BSC-172	0.25	0.40	0.05	0.5	2600	2.50	5.00	2.50	0.40	0.02	0.25	0.200	0.025	10.9
98BSC-173	0.25	0.70	0.05	0.5	2400	2.60	6.00	2.50	0.40	0.02	0.25	0.170	0.025	12.0
98BSC-174	0.25	0.40	0.05	0.5	2800	1.30	3.00	2.50	0.20	0.02	0.25	0.025	0.025	7.3
98BSC-175	0.25	0.05	0.05	0.5	2200	1.00	3.00	2.50	0.20	0.02	0.25	0.025	0.025	7.0
98BSC-176	0.25	0.05	0.05	0.5	2300	1.90	1.50	2.50	0.20	0.02	0.25	0.025	0.025	6.4
98BSC-177	0.25	0.40	0.05	0.5	1900	2.40	5.00	2.50	0.30	0.20	0.25	0.200	0.025	10.9
98BSC-178	0.25	0.90	0.05	0.5	2800	4.60	9.00	2.50	0.70	0.16	0.25	0.390	0.060	17.7
98BSC-179	0.25	0.80	0.05	0.5	2500	3.40	6.00	2.50	0.40	0.01	0.25	0.290	0.025	12.9
98BSC-180	0.25	0.40	0.05	0.5	1800	2.50	6.00	2.50	0.40	0.14	0.25	0.260	0.025	12.1
98BSC-182-1 Analytical Duplicate	0.25	0.40	0.05	0.5	2200	1.90	1.50	2.50	0.30	0.02	0.25	0.025	0.025	6.5
98BSC-182-2 Analytical Duplicate	0.25	0.05	0.80	0.5	2200	1.80	6.00	2.50	0.20	0.02	0.25	0.025	0.025	10.8
98BSC-185-1 Field Duplicate	0.25	0.05	0.05	0.5	2500	1.20	1.50	2.50	0.20	0.01	0.25	0.025	0.025	5.7
98BSC-185-2 Field Duplicate	0.25	0.30	0.05	0.5	1700	0.90	4.00	2.50	0.10	0.02	0.25	0.025	0.025	7.8
98BSC-187	0.25	0.20	0.05	0.5	2200	2.10	1.50	2.50	0.30	0.02	0.25	0.240	0.025	6.9
98BSC-188	0.25	0.50	0.05	0.5	2100	1.10	1.50	2.50	0.20	0.02	0.25	0.180	0.025	5.8
98BSC-189	0.25	0.30	0.05	0.5	2000	1.70	5.00	2.50	0.30	0.15	0.25	0.190	0.025	10.1
98BSC-190	0.25	0.05	0.05	0.5	2100	1.60	3.00	2.50	0.20	0.01	0.25	0.025	0.025	7.6
98BSC-191	0.25	0.40	0.05	0.5	1900	1.10	3.00	2.50	0.20	0.14	0.25	0.060	0.025	7.3
98BSC-192	0.25	0.30	0.05	0.5	1900	1.80	4.00	2.50	0.30	0.01	0.25	0.025	0.025	8.9
98BSC-193	0.25	0.05	0.05	0.5	1500	0.70	1.50	2.50	0.10	0.01	0.25	0.025	0.025	5.1
98BSC-194	0.25	0.60	0.05	0.5	2100	1.90	1.50	2.50	0.30	0.17	0.25	0.025	0.025	6.7
98BSC-195	0.25	0.20	0.05	1.0	2100	1.60	1.50	2.50	0.20	0.17	0.25	0.240	0.025	6.5
98BSC-196	0.25	0.05	0.05	0.5	3000	1.40	4.00	2.50	0.30	0.01	0.25	0.025	0.025	8.5
98BSC-197	0.25	0.70	0.50	0.5	2200	3.40	4.00	2.50	0.50	0.26	0.25	0.170	0.025	11.1
98BSC-198	0.25	0.80	0.05	0.5	2700	2.80	7.00	2.50	0.40	0.02	0.25	0.270	0.025	13.3
98BSC-199	0.25	0.40	0.05	0.5	2300	2.30	3.00	2.50	0.40	0.02	0.25	0.260	0.025	8.8
98BSC-200	0.25	0.05	0.05	0.5	2900	1.00	4.00	2.50	0.20	0.02	0.25	0.025	0.025	8.0
98BSC-201	0.25	0.05	0.05	0.5	2300	2.10	5.00	2.50	0.30	0.02	0.25	0.120	0.025	10.3
98BSC-202-1 Analytical Duplicate	0.25	0.50	0.40	0.5	2200	1.00	1.50	2.50	0.10	0.02	0.25	0.025	0.025	5.4
98BSC-202-2 Analytical Duplicate	0.25	0.30	0.05	0.5	2100	0.90	1.50	2.50	0.20	0.02	0.25	0.025	0.025	5.4
98BSC-203	0.25	0.50	0.05	0.5	2400	2.40	1.50	2.50	0.40	0.02	0.25	0.240	0.025	7.3
98BSC-204	0.25	0.30	0.05	0.5	2500	2.30	5.00	2.50	0.40	0.02	0.25	0.200	0.025	10.7

Element	TA	TH	U	W	ZN	LA	CE	ND	SM	EU	TB	YB	LU	TREE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
98BSC-205	0.25	0.50	0.40	0.5	2100	3.10	6.00	2.50	0.50	0.17	0.25	0.310	0.025	12.9
98BSC-206	0.25	0.20	0.05	0.5	1700	0.80	5.00	2.50	0.10	0.26	0.25	0.025	0.025	9.0
98BSC-207	0.25	0.60	0.05	0.5	2300	3.10	7.00	2.50	0.50	0.20	0.25	0.340	0.025	13.9
98BSC-208-1 Field Duplicate	0.25	0.20	0.20	0.5	1500	1.90	1.50	2.50	0.30	0.02	0.25	0.025	0.025	6.5
98BSC-208-2 Field Duplicate	0.25	0.50	0.05	0.5	1700	1.60	1.50	2.50	0.30	0.10	0.25	0.025	0.025	6.3

Appendix 5

Black spruce (*Picea mariana*) Crown Twig Geochemistry: Duplicate Pair INA Analysis.

Sample site	UTM		Ash	AU	AG	AS	BA	BR	CA	CO	CR	CS	FE	HF	HG	IR	K	MO	NA	NI	RB	SB	SC	SE	SN	SR
	Easting	Northing	%	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
98BSC-9-1 Analytical Duplicate	415673.00	6042377.00	1.98	12.0	1.0	1.50	510	12.0	19.90	3.0	8.0	2.40	0.26	0.25	0.5	1.0	19.6	1	1250	25.0	220	0.60	0.60	1	0.0025	150
98BSC-9-2 Analytical Duplicate	415673.00	6042377.00	1.98	15.0	1.0	1.40	480	13.0	18.40	3.0	5.0	2.10	0.27	0.25	0.5	1.0	20.2	1	1240	25.0	220	0.30	0.70	1	0.0025	150
98BSC-16-1 Field Duplicate	406208.50	6016505.50	1.64	11.0	1.0	2.10	720	34.0	17.60	8.0	7.0	23.00	0.28	0.25	0.5	1.0	21.5	1	1520	68.0	690	0.40	0.60	1	0.0025	150
98BSC-16-2 Field Duplicate	406208.50	6016505.50	1.33	17.0	1.0	2.40	420	16.0	16.20	7.0	7.0	33.00	0.30	0.25	0.5	1.0	18.0	4	1530	140.0	780	0.60	0.60	1	0.0025	150
98BSC-31-1 Analytical Duplicate	372780.00	6028156.00	1.98	10.0	1.0	1.60	590	19.0	19.50	8.0	6.0	1.70	0.31	0.25	0.5	1.0	18.3	1	1210	25.0	200	0.20	0.70	1	0.0025	150
98BSC-31-2 Analytical Duplicate	372780.00	6028156.00	1.98	9.0	1.0	1.90	580	18.0	19.20	8.0	10.0	1.80	0.29	0.25	0.5	1.0	17.7	1	1200	120.0	200	0.30	0.60	1	0.0025	150
98BSC-36-1 Field Duplicate	371637.00	6030765.00	1.44	19.0	1.0	1.90	790	19.0	19.10	4.0	8.0	2.40	0.34	0.25	0.5	1.0	15.5	1	1770	25.0	200	0.40	0.90	1	0.0025	420
98BSC-36-2 Field Duplicate	371637.00	6030765.00	1.90	26.0	1.0	1.90	990	18.0	23.70	4.0	7.0	2.00	0.31	0.25	0.5	1.0	13.1	1	1510	25.0	190	0.40	0.80	1	0.0025	660
98BSC-61-1 Field Duplicate	428648.00	6042511.00	1.44	11.0	1.0	1.40	2400	28.0	21.50	6.0	13.0	11.00	0.32	0.25	0.5	1.0	21.0	3	1370	25.0	510	0.60	0.80	1	0.0025	650
98BSC-61-2 Field Duplicate	428648.00	6042511.00	1.86	21.0	1.0	1.10	880	29.0	21.50	5.0	7.0	10.00	0.19	0.25	0.5	1.0	24.1	1	738	25.0	710	0.30	0.40	1	0.0025	450
98BSC-68-1 Analytical Duplicate	423147.00	6050489.00	1.82	18.0	1.0	3.50	990	37.0	27.10	5.0	14.0	2.10	0.66	1.30	0.5	1.0	18.0	1	3060	25.0	140	0.60	1.90	1	0.0025	150
98BSC-68-2 Analytical Duplicate	423147.00	6050489.00	1.82	12.0	1.0	3.10	830	31.0	26.00	4.0	12.0	1.80	0.63	1.10	0.5	1.0	16.0	1	2930	25.0	150	0.60	1.80	1	0.0025	780
98BSC-78B-1 Analytical Duplicate	431930.00	6043534.00	1.92	16.0	1.0	2.70	1400	31.0	21.50	4.0	7.0	4.90	0.49	0.90	0.5	1.0	14.8	4	2190	25.0	210	0.30	1.30	1	0.0025	580
98BSC-78B-2 Analytical Duplicate	431930.00	6043534.00	1.92	7.0	1.0	2.40	1400	31.0	22.50	4.0	11.0	4.60	0.50	1.10	0.5	1.0	18.0	4	2170	25.0	230	0.40	1.40	1	0.0025	460
98BSC-85-1 Field Duplicate	439153.13	6044766.50	1.63	13.0	1.0	2.10	340	40.0	17.30	4.0	5.0	9.00	0.31	0.25	0.5	1.0	19.4	1	1280	25.0	330	0.30	0.70	1	0.0025	150
98BSC-85-2 Field Duplicate	439153.13	6044766.50	1.82	16.0	1.0	2.60	390	45.0	18.30	3.0	5.0	3.70	0.29	0.50	0.5	1.0	20.1	3	1200	25.0	240	0.40	0.70	1	0.0025	150
98BSC-98-1 Analytical Duplicate	416634.00	6042840.00	2.03	7.0	1.0	1.50	780	22.0	22.90	4.0	5.0	4.20	0.39	0.50	0.5	1.0	20.6	1	1530	25.0	220	0.30	1.00	1	0.0025	550
98BSC-98-2 Analytical Duplicate	416634.00	6042840.00	2.03	7.0	1.0	1.50	820	21.0	22.70	4.0	7.0	4.60	0.36	0.25	0.5	1.0	21.2	1	1500	25.0	190	0.30	1.10	1	0.0025	910
98BSC-104-1 Field Duplicate	423848.47	6036518.50	1.81	6.0	1.0	1.50	680	22.0	23.00	4.0	8.0	2.30	0.28	0.25	0.5	1.0	22.3	1	1230	25.0	200	0.30	0.80	1	0.0025	430
98BSC-104-2 Field Duplicate	423848.47	6036518.50	1.90	7.0	1.0	2.30	340	18.0	27.20	3.0	6.0	2.60	0.28	0.25	0.5	1.0	20.6	1	1260	25.0	150	0.30	0.80	1	0.0025	150
98BSC-121-1 Analytical Duplicate	407150.00	6045862.00	2.30	10.0	1.0	1.40	760	21.0	28.90	3.0	8.0	3.30	0.28	0.70	0.5	1.0	15.0	1	1500	25.0	290	0.30	0.80	1	0.0045	650
98BSC-121-2 Analytical Duplicate	407150.00	6045862.00	2.30	7.0	1.0	1.40	760	17.0	27.90	3.0	8.0	3.80	0.28	0.25	0.5	1.0	14.9	1	1490	25.0	310	0.30	0.80	3	0.0045	150
98BSC-129-1 Field Duplicate	411318.28	6013772.50	2.00	6.0	1.0	1.50	840	27.0	25.20	3.0	4.0	3.00	0.21	0.50	0.5	1.0	18.3	1	980	25.0	250	0.30	0.50	1	0.0025	510
98BSC-129-2 Field Duplicate	411318.28	6013772.50	1.94	2.5	1.0	1.10	420	19.0	17.50	5.0	5.0	14.00	0.20	0.25	0.5	1.0	22.2	1	825	25.0	740	0.30	0.40	1	0.0025	150
98BSC-146-1 Analytical Standard	392335.00	6021175.00	2.19	2.5	1.0	2.00	650	22.0	20.80	5.0	8.0	3.10	0.33	0.25	0.5	1.0	19.1	1	1700	25.0	390	0.30	0.90	1	0.0040	150
98BSC-146-2 Analytical Standard	392335.00	6021175.00	2.19	9.0	1.0	1.50	690	21.0	21.70	5.0	5.0	4.00	0.35	0.25	0.5	1.0	18.7	1	1750	25.0	390	0.20	0.90	1	0.0040	150
98BSC-150-1 Field Duplicate	400497.00	6013199.00	1.88	12.0	1.0	1.70	700	25.0	23.20	4.0	8.0	1.40	0.29	0.50	0.5	1.0	16.9	1	1240	25.0	230	0.30	0.80	1	0.0035	720
98BSC-150-2 Field Duplicate	400497.00	6013199.00	1.83	7.0	2.0	1.70	750	26.0	25.20	4.0	9.0	1.20	0.31	0.25	0.5	1.0	14.7	1	1160	25.0	230	0.20	0.80	1	0.0030	810
98BSC-162-1 Analytical Duplicate	382848.00	6021725.00	2.07	16.0	1.0	2.80	1800	20.0	19.80	5.0	15.0	6.20	0.77	1.70	0.5	1.0	13.4	1	3170	25.0	200	0.60	2.10	1	0.0025	840
98BSC-162-2 Analytical Duplicate	382848.00	6021725.00	2.07	17.0	1.0	3.80	2000	23.0	24.60	7.0	14.0	7.00	0.77	0.90	0.5	1.0	16.1	1	3590	25.0	240	0.70	2.10	1	0.0025	690

Sample site	UTM Easting	UTM Northing	Ash %	AU ppb	AG ppm	AS ppm	BA ppm	BR ppm	CA %	CO ppm	CR ppm	CS ppm	FE %	HF ppm	HG ppm	IR ppb	K %	MO ppm	NA ppm	NI ppm	RB ppm	SB ppm	SC ppm	SE ppm	SN %	SR ppm
98BSC-168-1 Field Duplicate	389115.00	6015922.00	1.71	6.0	2.0	1.60	650	34.0	21.70	4.0	6.0	5.80	0.28	0.25	0.5	1.0	21.7	1	1330	25.0	500	0.40	0.80	1	0.0025	150
98BSC-168-2 Field Duplicate	389115.00	6015922.00	1.89	8.0	1.0	1.40	670	26.0	23.70	4.0	4.0	8.90	0.23	0.60	0.5	1.0	20.3	1	839	25.0	510	0.20	0.60	1	0.0025	150
98BSC-182-1 Analytical Duplicate	329630.81	6040599.00	2.20	13.0	1.0	1.10	1700	20.0	28.70	4.0	4.0	2.10	0.21	0.25	0.5	1.0	18.7	1	1150	25.0	200	0.20	0.50	1	0.0030	880
98BSC-182-2 Analytical Duplicate	329630.81	6040599.00	2.20	43.0	1.0	0.90	1500	21.0	31.50	2.0	9.0	1.70	0.21	0.25	0.5	1.0	19.3	4	1050	25.0	180	0.20	0.50	1	0.0030	950
98BSC-185-1 Field Duplicate	328134.84	6041330.00	1.80	13.0	2.0	0.90	1200	17.0	16.10	7.0	6.0	8.30	0.18	0.25	0.5	1.0	23.9	1	843	25.0	610	0.20	0.40	1	0.0030	150
98BSC-185-2 Field Duplicate	328134.84	6041330.00	1.86	6.0	1.0	0.70	730	19.0	18.70	8.0	8.0	2.50	0.19	0.25	0.5	1.0	23.8	1	491	25.0	420	0.20	0.20	1	0.0030	440
98BSC-202-1 Analytical Duplicate	345340.41	6037467.00	2.04	8.0	1.0	0.25	1200	27.0	18.60	5.0	5.0	1.10	0.14	0.25	0.5	1.0	18.8	1	631	25.0	130	0.10	0.30	1	0.0030	640
98BSC-202-2 Analytical Duplicate	345340.41	6037467.00		2.5	1.0	0.90	1300	27.0	22.40	5.0	5.0	1.30	0.11	0.60	0.5	1.0	19.3	1	610	25.0	160	0.10	0.30	1	0.0030	150
98BSC-208-1 Field Duplicate	339675.63	6041192.00	1.67	23.0	1.0	1.40	970	29.0	20.90	2.0	6.0	1.40	0.27	0.25	0.5	1.0	22.1	1	1050	25.0	140	0.30	0.60	1	0.0040	590
98BSC-208-2 Field Duplicate	339675.63	6041192.00	1.99	6.0	1.0	1.00	1100	25.0	23.80	3.0	6.0	1.40	0.24	0.25	0.5	1.0	16.9	1	908	25.0	87	0.10	0.50	1	0.0035	580

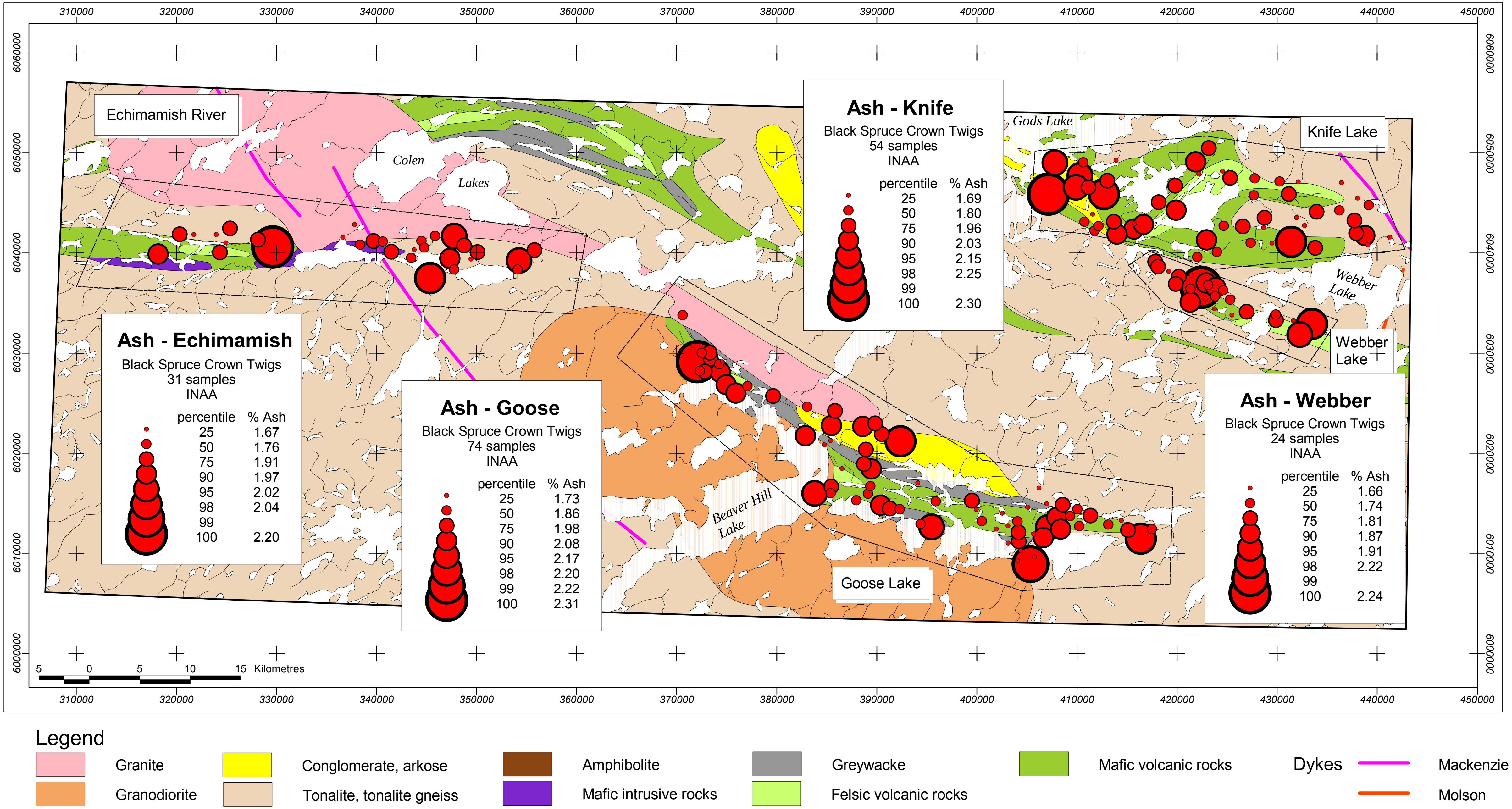
Sample site	TA ppm	TH ppm	U ppm	W ppm	ZN ppm	LA ppm	CE ppm	ND ppm	SM ppm	EU ppm	TB ppm	YB ppm	LU ppm	TREE ppm
98BSC-9-1 Analytical Duplicate	0.80	0.60	0.05	0.5	2600	2.10	6.00	2.50	0.40	0.02	0.25	0.100	0.025	11.4
98BSC-9-2 Analytical Duplicate	0.25	0.40	0.05	0.5	2700	2.00	5.00	2.50	0.30	0.02	0.25	0.025	0.025	10.1
98BSC-16-1 Field Duplicate	0.25	0.30	0.05	0.5	2500	2.20	1.50	7.00	0.30	0.01	0.25	0.190	0.025	11.5
98BSC-16-2 Field Duplicate	0.25	0.40	0.40	0.5	2700	1.90	4.00	2.50	0.30	0.02	0.25	0.280	0.025	9.3
98BSC-31-1 Analytical Duplicate	0.25	0.40	0.05	0.5	2800	2.20	4.00	2.50	0.30	0.20	0.25	0.180	0.025	9.7
98BSC-31-2 Analytical Duplicate	0.25	0.60	0.05	0.5	2800	2.20	6.00	6.00	0.30	0.01	0.25	0.110	0.025	14.9
98BSC-36-1 Field Duplicate	0.25	0.70	0.05	0.5	2900	2.80	8.00	2.50	0.40	0.01	0.25	0.370	0.050	14.4
98BSC-36-2 Field Duplicate	0.25	0.40	0.05	0.5	2300	2.50	6.00	2.50	0.40	0.22	0.25	0.170	0.025	12.1
98BSC-61-1 Field Duplicate	0.25	0.40	0.05	0.5	1900	3.20	6.00	2.50	0.50	0.14	0.25	0.290	0.025	12.9
98BSC-61-2 Field Duplicate	0.25	0.40	0.05	0.5	2000	1.50	1.50	2.50	0.20	0.01	0.25	0.025	0.025	6.0
98BSC-68-1 Analytical Duplicate	0.25	1.20	0.80	0.5	3800	6.70	12.00	2.50	0.90	0.02	0.25	0.600	0.100	23.1
98BSC-68-2 Analytical Duplicate	0.25	1.40	0.05	0.5	3800	6.20	14.00	2.50	0.90	0.02	0.25	0.590	0.080	24.5
98BSC-78B-1 Analytical Duplicate	0.25	0.90	0.05	0.5	2000	4.00	7.00	2.50	0.70	0.02	0.25	0.390	0.050	14.9
98BSC-78B-2 Analytical Duplicate	0.25	1.10	0.05	0.5	2000	4.30	7.00	2.50	0.70	0.02	0.25	0.340	0.080	15.2
98BSC-85-1 Field Duplicate	0.25	0.05	0.05	0.5	2500	2.60	6.00	2.50	0.50	0.02	0.25	0.320	0.025	12.2
98BSC-85-2 Field Duplicate	0.25	0.60	0.50	0.5	2100	2.50	4.00	2.50	0.40	0.02	0.25	0.200	0.060	9.9
98BSC-98-1 Analytical Duplicate	0.25	0.40	0.05	2.0	2000	3.00	6.00	2.50	0.40	0.18	0.25	0.200	0.025	12.6
98BSC-98-2 Analytical Duplicate	0.25	0.70	0.05	0.5	2100	2.80	6.00	2.50	0.50	0.22	0.25	0.280	0.025	12.6
98BSC-104-1 Field Duplicate	0.25	0.30	0.05	0.5	2100	2.40	6.00	2.50	0.30	0.01	0.25	0.190	0.025	11.7
98BSC-104-2 Field Duplicate	0.25	0.30	0.05	0.5	2400	2.20	5.00	2.50	0.30	0.01	0.25	0.190	0.025	10.5
98BSC-121-1 Analytical Duplicate	0.25	0.80	0.05	0.5	2500	3.00	6.00	2.50	0.40	0.02	0.25	0.170	0.025	12.4
98BSC-121-2 Analytical Duplicate	0.25	0.60	0.05	0.5	2600	3.10	7.00	2.50	0.40	0.02	0.25	0.310	0.025	13.6
98BSC-129-1 Field Duplicate	0.25	0.50	0.05	0.5	2700	2.00	5.00	2.50	0.30	0.17	0.25	0.230	0.025	10.5
98BSC-129-2 Field Duplicate	0.25	0.05	0.05	0.5	1600	1.40	1.50	2.50	0.20	0.02	0.25	0.025	0.025	5.9
98BSC-146-1 Analytical Standard	0.25	0.60	0.05	0.5	2000	2.80	6.00	5.00	0.50	0.02	0.25	0.180	0.025	14.8
98BSC-146-2 Analytical Standard	0.25	0.80	0.80	0.5	2000	2.80	5.00	2.50	0.40	0.26	0.25	0.220	0.025	11.5
98BSC-150-1 Field Duplicate	0.25	0.50	0.05	0.5	2000	2.50	5.00	2.50	0.40	0.02	0.25	0.230	0.025	10.9
98BSC-150-2 Field Duplicate	0.25	0.50	0.05	0.5	2100	2.40	6.00	2.50	0.40	0.02	0.25	0.290	0.050	11.9
98BSC-162-1 Analytical Duplicate	0.25	1.10	0.20	0.5	2500	6.70	10.00	2.50	1.10	0.02	0.25	0.510	0.140	21.2
98BSC-162-2 Analytical Duplicate	0.25	1.70	1.10	0.5	2700	7.60	18.00	11.00	1.10	0.02	0.25	0.700	0.130	38.8

Sample site	TA ppm	TH ppm	U ppm	W ppm	ZN ppm	LA ppm	CE ppm	ND ppm	SM ppm	EU ppm	TB ppm	YB ppm	LU ppm	TREE ppm
98BSC-168-1 Field Duplicate	0.25	0.60	0.05	0.5	1800	2.90	5.00	2.50	0.40	0.12	0.25	0.260	0.025	11.5
98BSC-168-2 Field Duplicate	0.25	0.50	0.05	0.5	1700	2.20	4.00	2.50	0.30	0.17	0.25	0.240	0.025	9.7
98BSC-182-1 Analytical Duplicate	0.25	0.40	0.05	0.5	2200	1.90	1.50	2.50	0.30	0.02	0.25	0.025	0.025	6.5
98BSC-182-2 Analytical Duplicate	0.25	0.05	0.80	0.5	2200	1.80	6.00	2.50	0.20	0.02	0.25	0.025	0.025	10.8
98BSC-185-1 Field Duplicate	0.25	0.05	0.05	0.5	2500	1.20	1.50	2.50	0.20	0.01	0.25	0.025	0.025	5.7
98BSC-185-2 Field Duplicate	0.25	0.30	0.05	0.5	1700	0.90	4.00	2.50	0.10	0.02	0.25	0.025	0.025	7.8
98BSC-202-1 Analytical Duplicate	0.25	0.50	0.40	0.5	2200	1.00	1.50	2.50	0.10	0.02	0.25	0.025	0.025	5.4
98BSC-202-2 Analytical Duplicate	0.25	0.30	0.05	0.5	2100	0.90	1.50	2.50	0.20	0.02	0.25	0.025	0.025	5.4
98BSC-208-1 Field Duplicate	0.25	0.20	0.20	0.5	1500	1.90	1.50	2.50	0.30	0.02	0.25	0.025	0.025	6.5
98BSC-208-2 Field Duplicate	0.25	0.50	0.05	0.5	1700	1.60	1.50	2.50	0.30	0.10	0.25	0.025	0.025	6.3

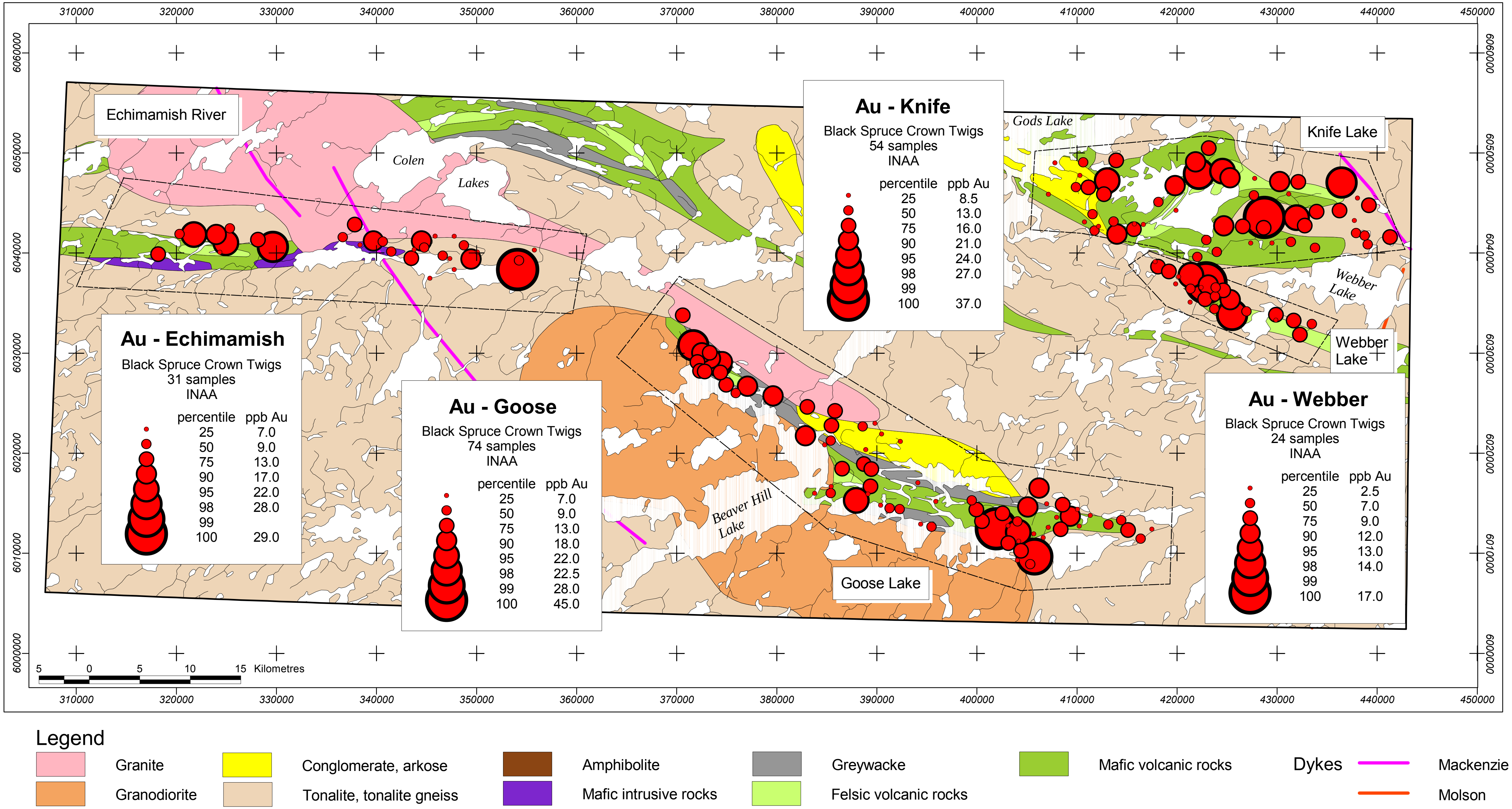
Appendix 6

Black spruce (*Picea mariana*) Crown Twig Geochemistry: Instrumental Neutron Activation Analyses (INAA) Percentile Bubble Plots.

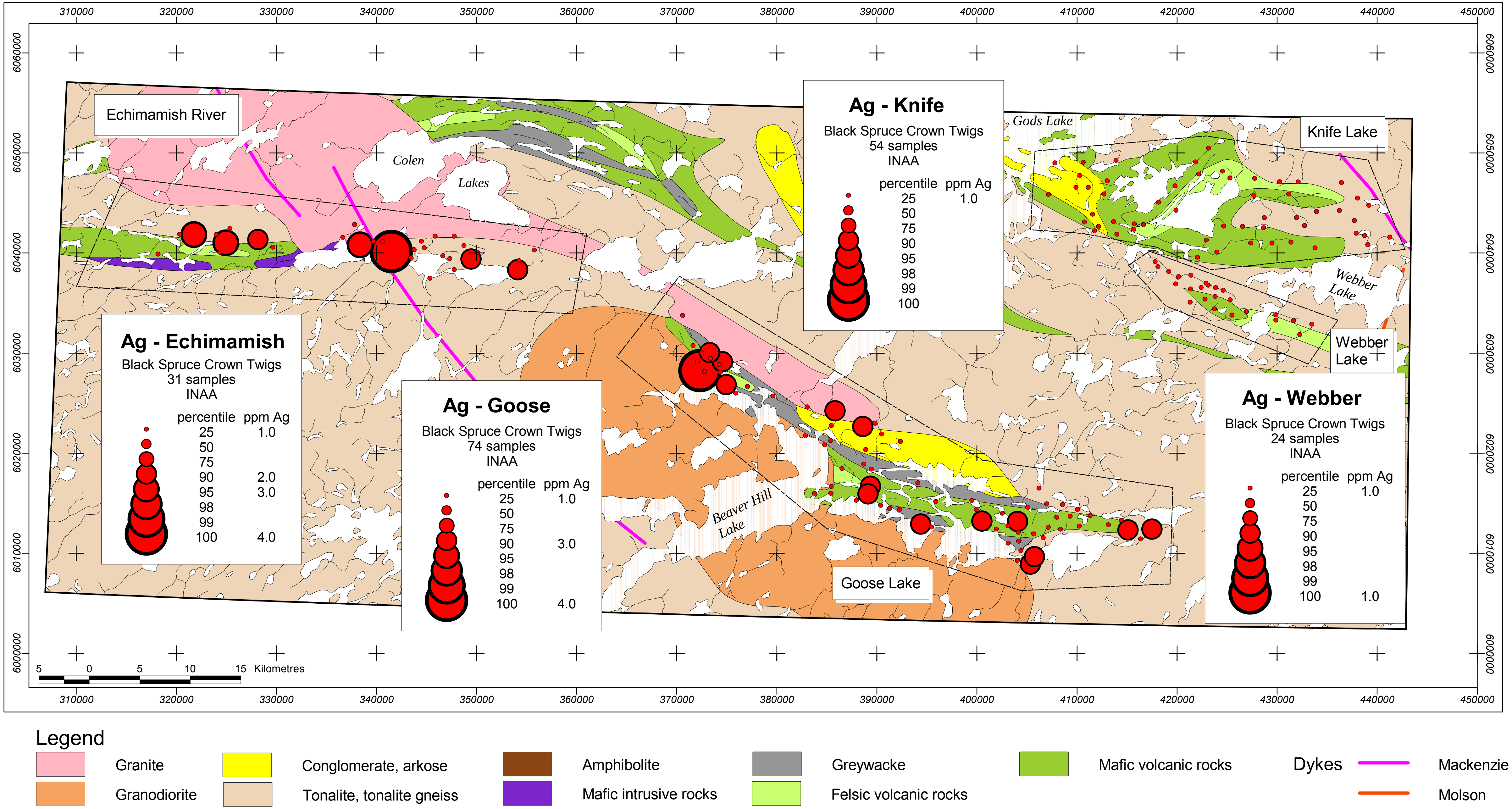
Ash	Au	Ag	As	Ba
Br	Ca	Co	Cs	Fe
Hf	K	Mo	Na	Ni
Rb	Sb	Sc	Sr	Th
U	W	Zn	total REE	
Contents				

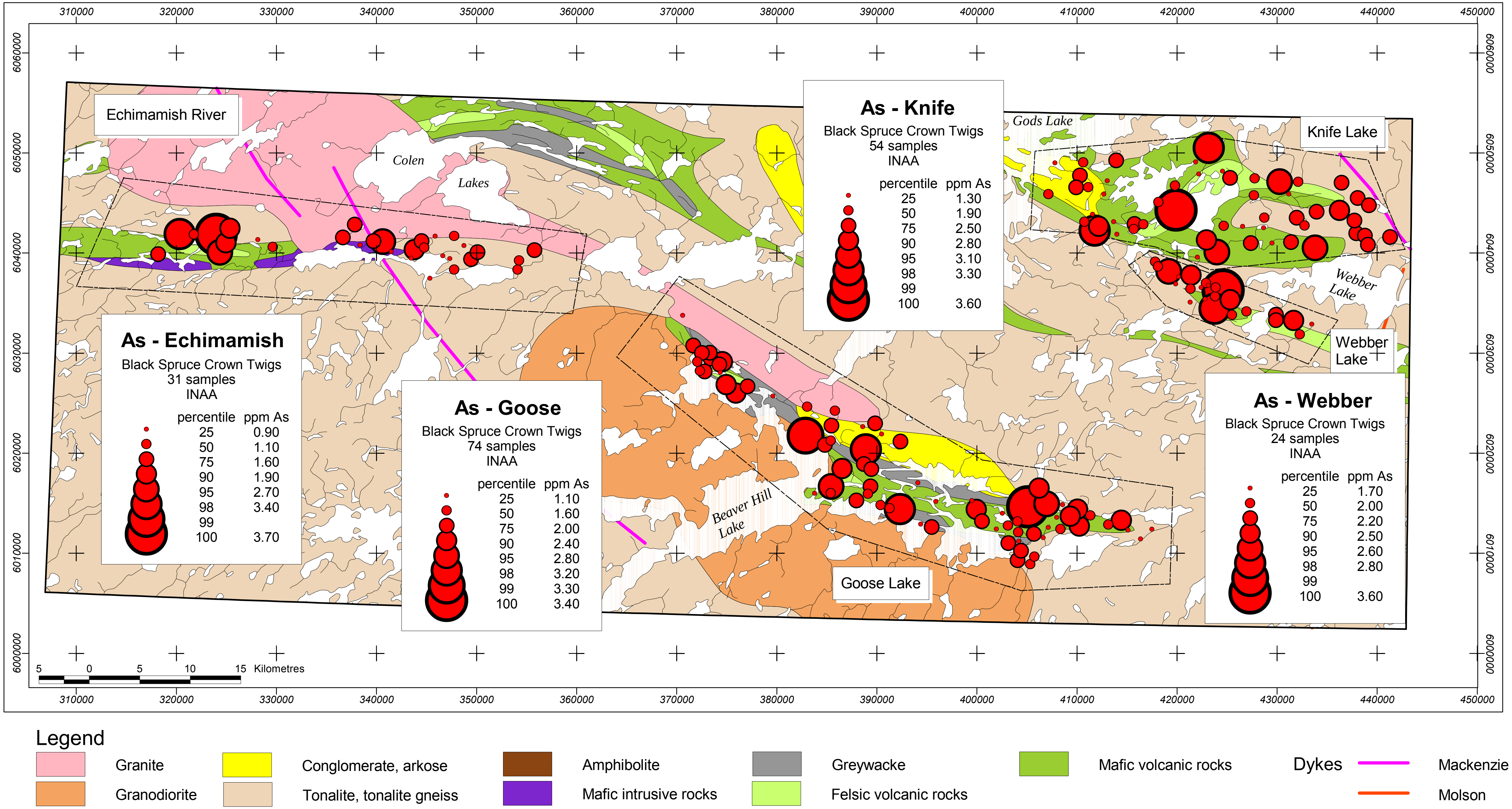


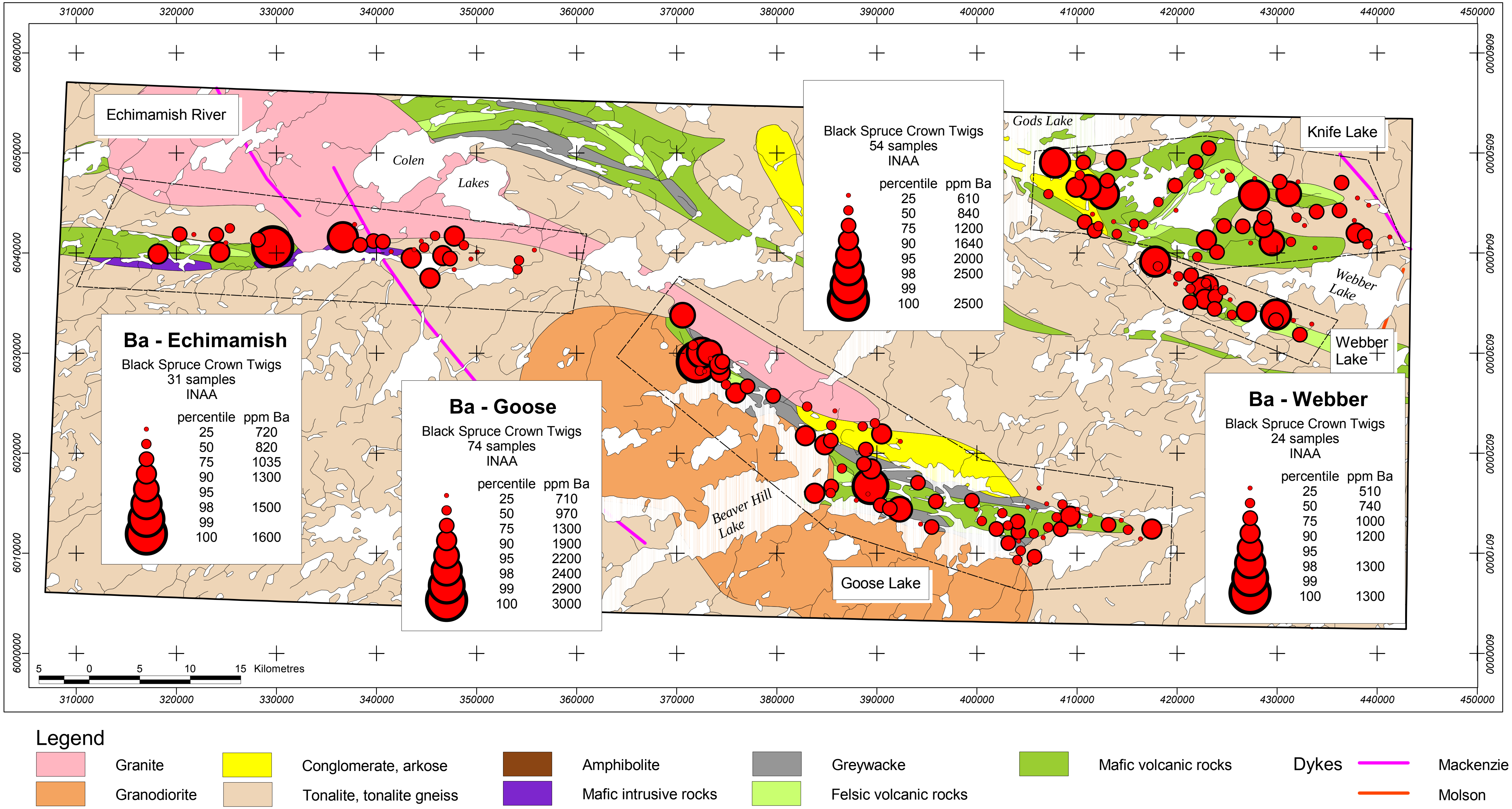
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ash - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile % Ash
25 1.67
50 1.76
75 1.91
90 1.97
95 2.02
98 2.04
99
100 2.20
Ash - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile % Ash
25 1.73
50 1.86
75 1.98
90 2.08
95 2.17
98 2.20
99 2.22
100 2.31
Ash - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile % Ash
25 1.69
50 1.80
75 1.96
90 2.03
95 2.15
98 2.25
99
100 2.30
Ash - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile % Ash
25 1.66
50 1.74
75 1.81
90 1.87
95 1.91
98 2.22
99
100 2.24
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



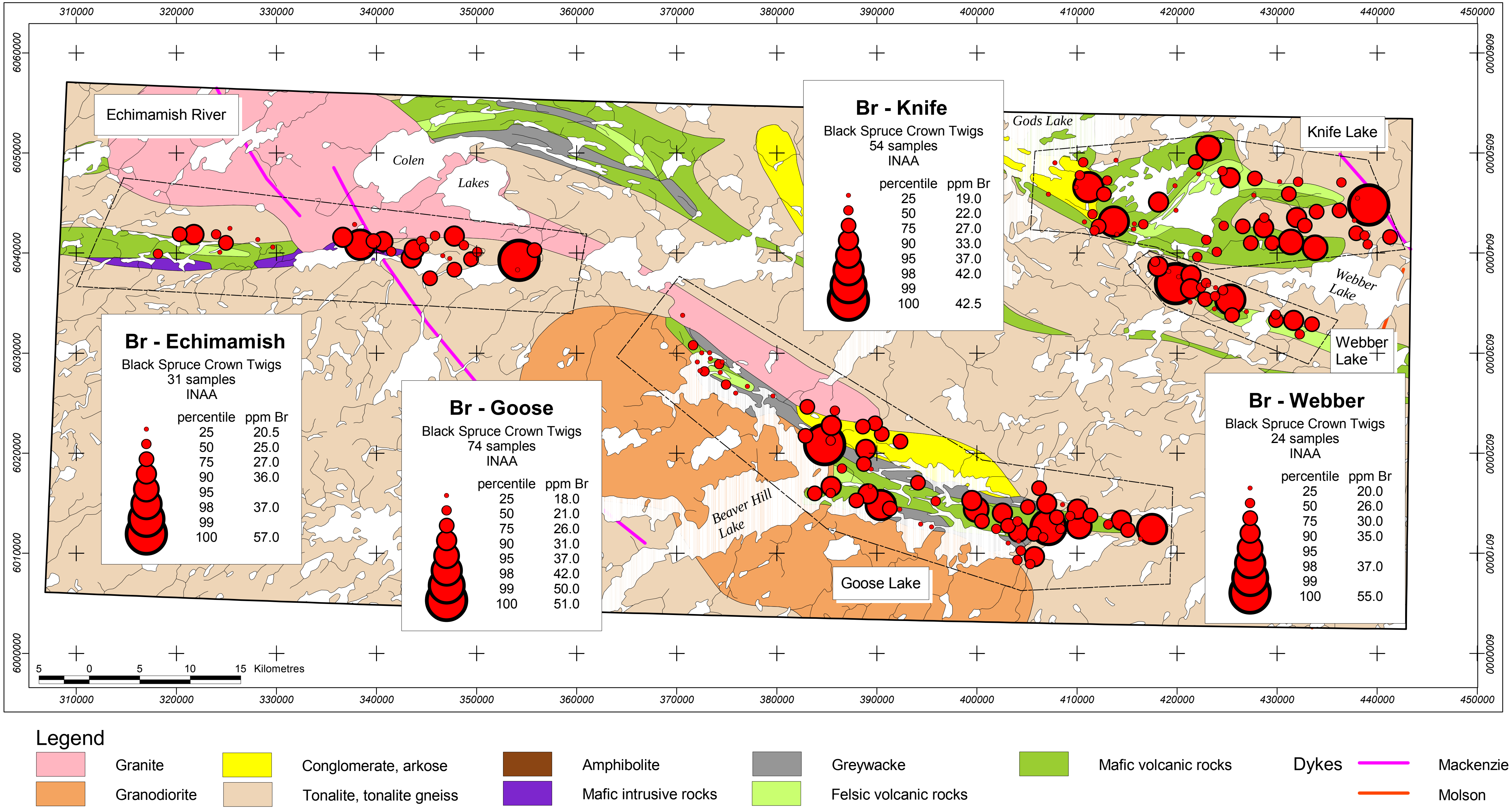
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Au - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppb Au
25 7.0
50 9.0
75 13.0
90 17.0
95 22.0
98 28.0
99
100 29.0
Au - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppb Au
25 7.0
50 9.0
75 13.0
90 18.0
95 22.0
98 22.5
99 28.0
100 45.0
Au - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppb Au
25 8.5
50 13.0
75 16.0
90 21.0
95 24.0
98 27.0
99
100 37.0
Au - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppb Au
25 2.5
50 7.0
75 9.0
90 12.0
95 13.0
98 14.0
99
100 17.0
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

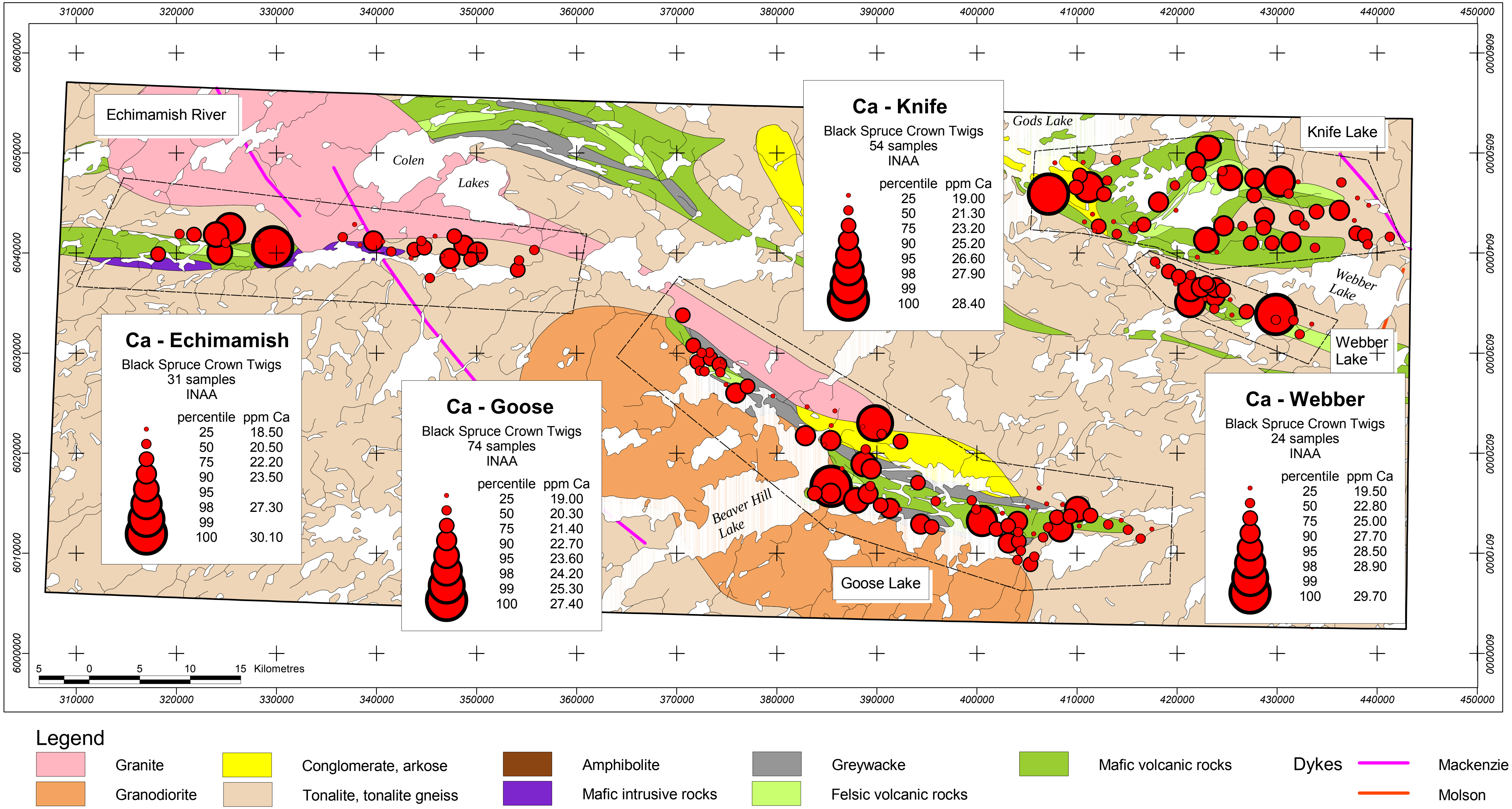

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ag - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Ag
25 1.0
50
75
90 2.0
95 3.0
98
99
100 4.0
Ag - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Ag
25 1.0
50
75
90 3.0
95
98
99
100 4.0
Ag - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Ag
25 1.0
50
75
90
95
98
99
100
Ag - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Ag
25 1.0
50
75
90
95
98
99
100 1.0
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
As - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm As
25 1.30
50 1.90
75 2.50
90 2.80
95 3.10
98 3.30
99
100 3.60
As - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm As
25 0.90
50 1.10
75 1.60
90 1.90
95 2.70
98 3.40
99
100 3.70
As - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm As
25 1.10
50 1.60
75 2.00
90 2.40
95 2.80
98 3.20
99 3.30
100 3.40
As - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm As
25 1.70
50 2.00
75 2.20
90 2.50
95 2.60
98 2.80
99
100 3.60
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

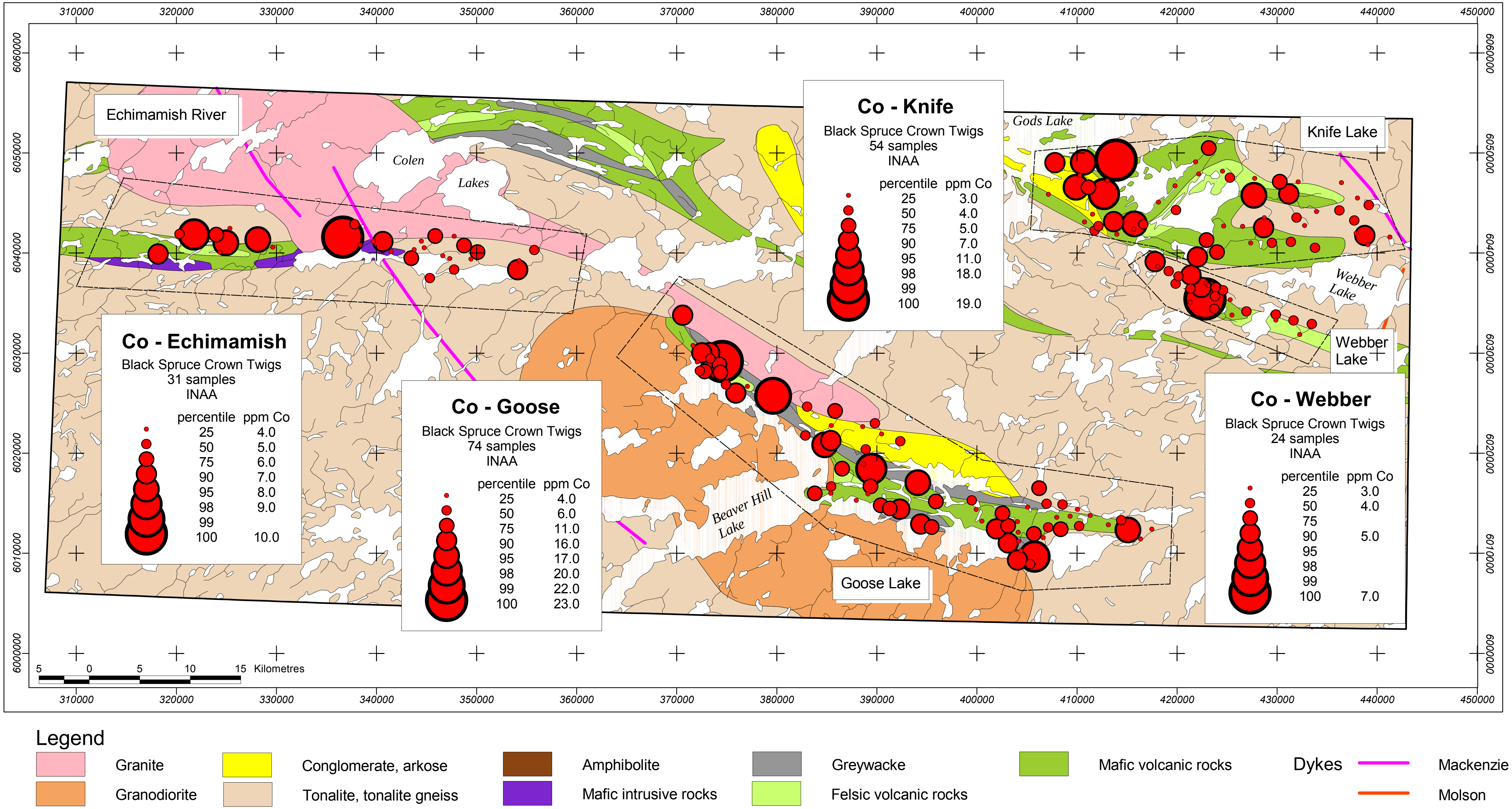


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Ba
25 610
50 840
75 1200
90 1640
95 2000
98 2500
99
100 2500
Ba - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Ba
25 720
50 820
75 1035
90 1300
95
98 1500
99
100 1600
Ba - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Ba
25 710
50 970
75 1300
90 1900
95 2200
98 2400
99 2900
100 3000
Ba - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Ba
25 510
50 740
75 1000
90 1200
95
98 1300
99
100 1300
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

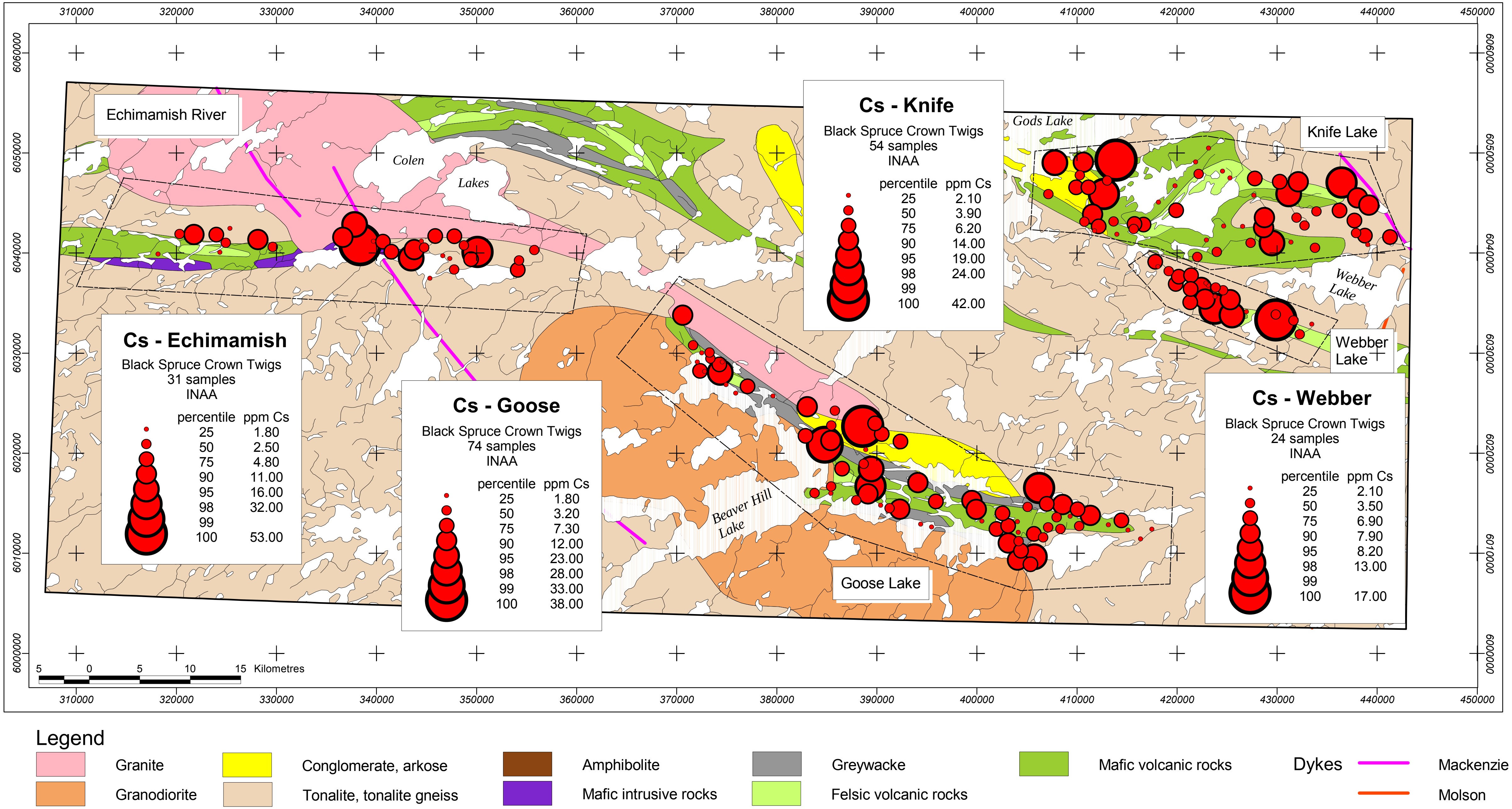

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Br - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Br
25 20.5
50 25.0
75 27.0
90 36.0
95
98 37.0
99
100 57.0
Br - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Br
25 18.0
50 21.0
75 26.0
90 31.0
95 37.0
98 42.0
99 50.0
100 51.0
Br - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Br
25 19.0
50 22.0
75 27.0
90 33.0
95 37.0
98 42.0
99
100 42.5
Br - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Br
25 20.0
50 26.0
75 30.0
90 35.0
95
98 37.0
99
100 55.0
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



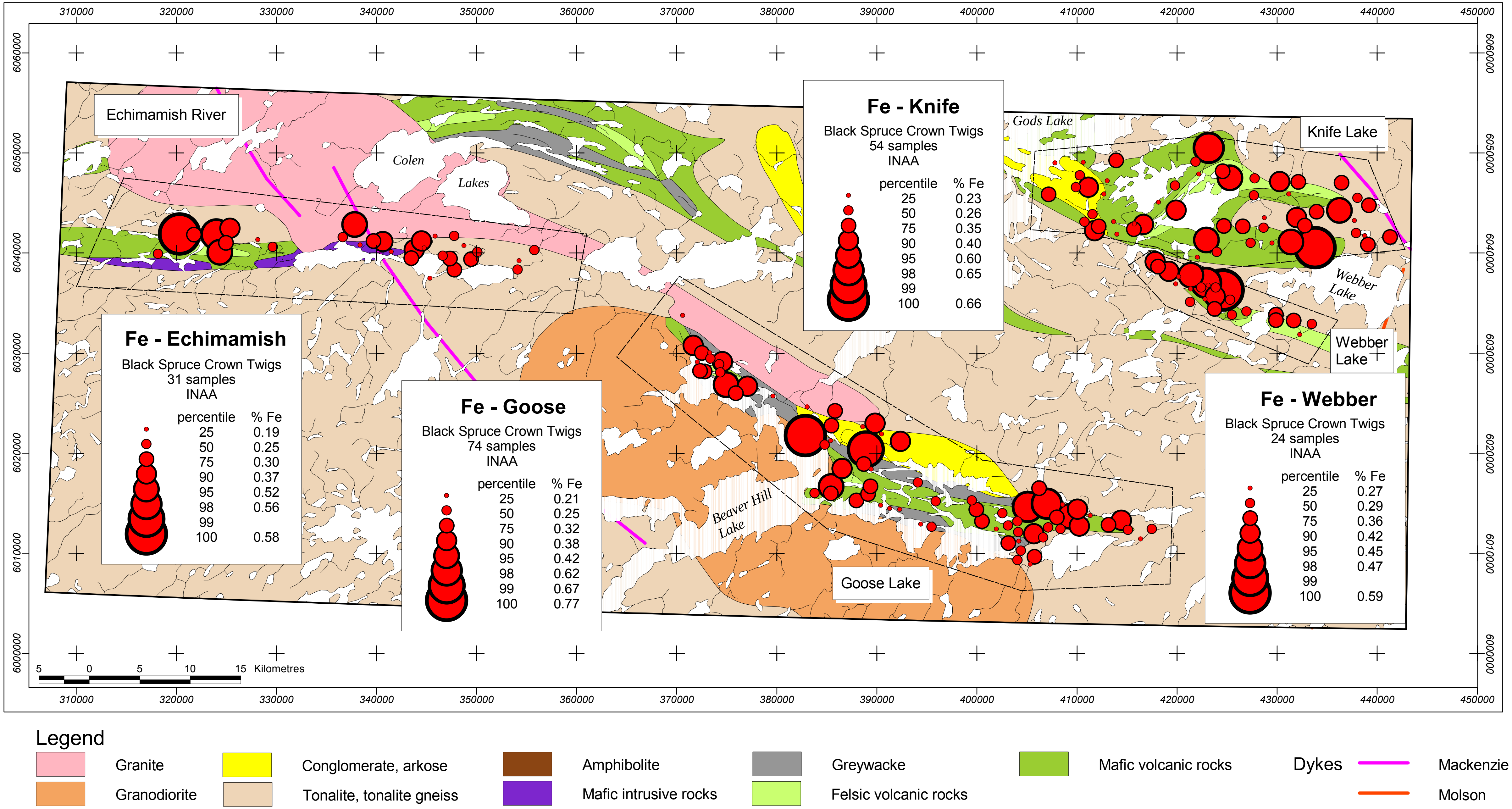
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ca - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Ca
25 19.00
50 21.30
75 23.20
90 25.20
95 26.60
98 27.90
99
100 28.40
Ca - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Ca
25 18.50
50 20.50
75 22.20
90 23.50
95
98 27.30
99
100 30.10
Ca - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Ca
25 19.00
50 20.30
75 21.40
90 22.70
95 23.60
98 24.20
99 25.30
100 27.40
Ca - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Ca
25 19.50
50 22.80
75 25.00
90 27.70
95 28.50
98 28.90
99
100 29.70
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

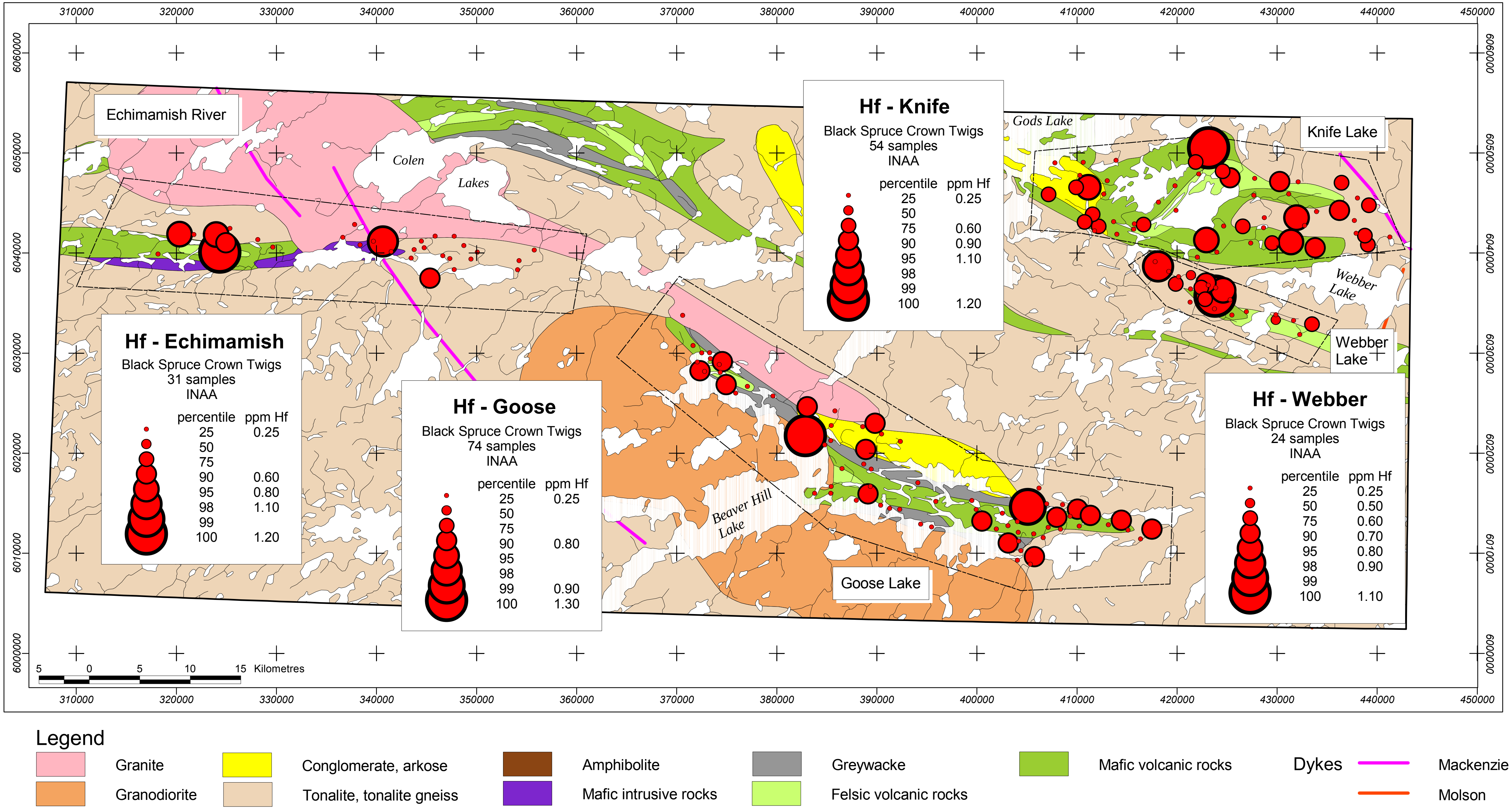


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Co - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Co
25 3.0
50 4.0
75 5.0
90 7.0
95 11.0
98 18.0
99
100 19.0
Co - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Co
25 4.0
50 5.0
75 6.0
90 7.0
95 8.0
98 9.0
99
100 10.0
Co - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Co
25 4.0
50 6.0
75 11.0
90 16.0
95 17.0
98 20.0
99 22.0
100 23.0
Co - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Co
25 3.0
50 4.0
75
90 5.0
95
98
99
100 7.0
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

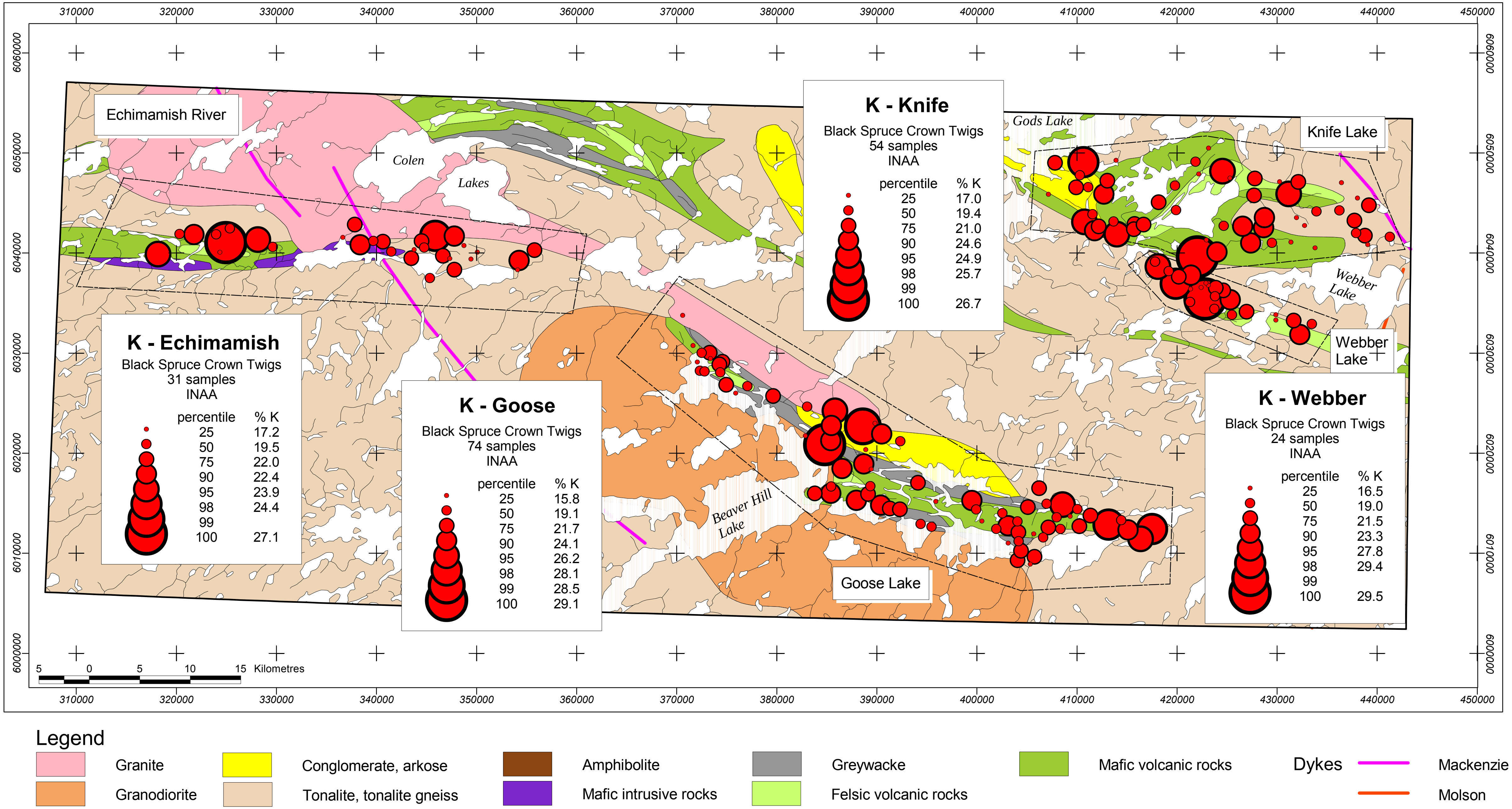


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Cs - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Cs
25 2.10
50 3.90
75 6.20
90 14.00
95 19.00
98 24.00
99
100 42.00
Cs - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Cs
25 1.80
50 2.50
75 4.80
90 11.00
95 16.00
98 32.00
99
100 53.00
Cs - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Cs
25 1.80
50 3.20
75 7.30
90 12.00
95 23.00
98 28.00
99 33.00
100 38.00
Cs - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Cs
25 2.10
50 3.50
75 6.90
90 7.90
95 8.20
98 13.00
99
100 17.00
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

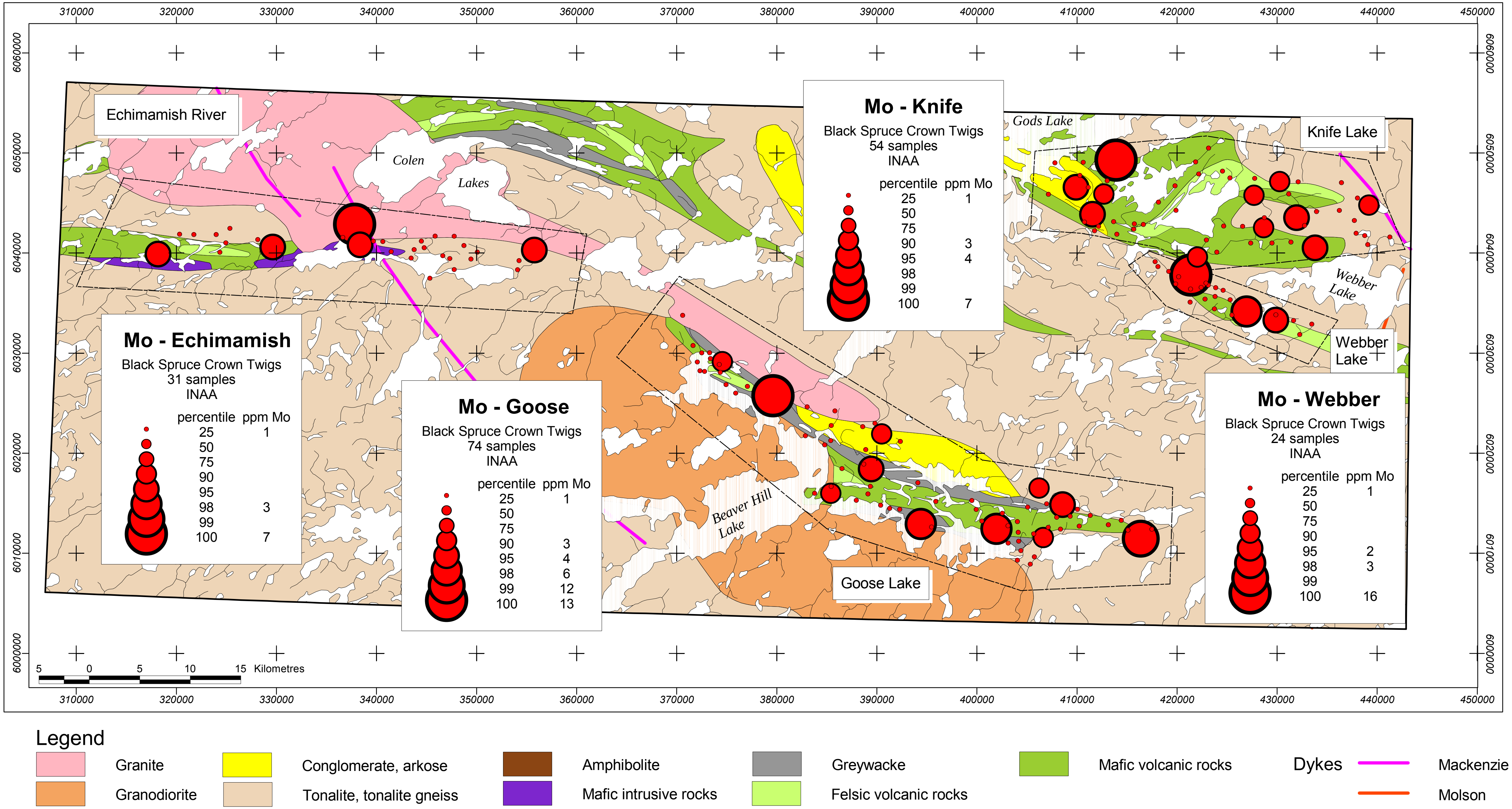

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Fe - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile % Fe
25 0.23
50 0.26
75 0.35
90 0.40
95 0.60
98 0.65
99
100 0.66
Fe - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile % Fe
25 0.19
50 0.25
75 0.30
90 0.37
95 0.52
98 0.56
99
100 0.58
Fe - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile % Fe
25 0.21
50 0.25
75 0.32
90 0.38
95 0.42
98 0.62
99 0.67
100 0.77
Fe - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile % Fe
25 0.27
50 0.29
75 0.36
90 0.42
95 0.45
98 0.47
99
100 0.59
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



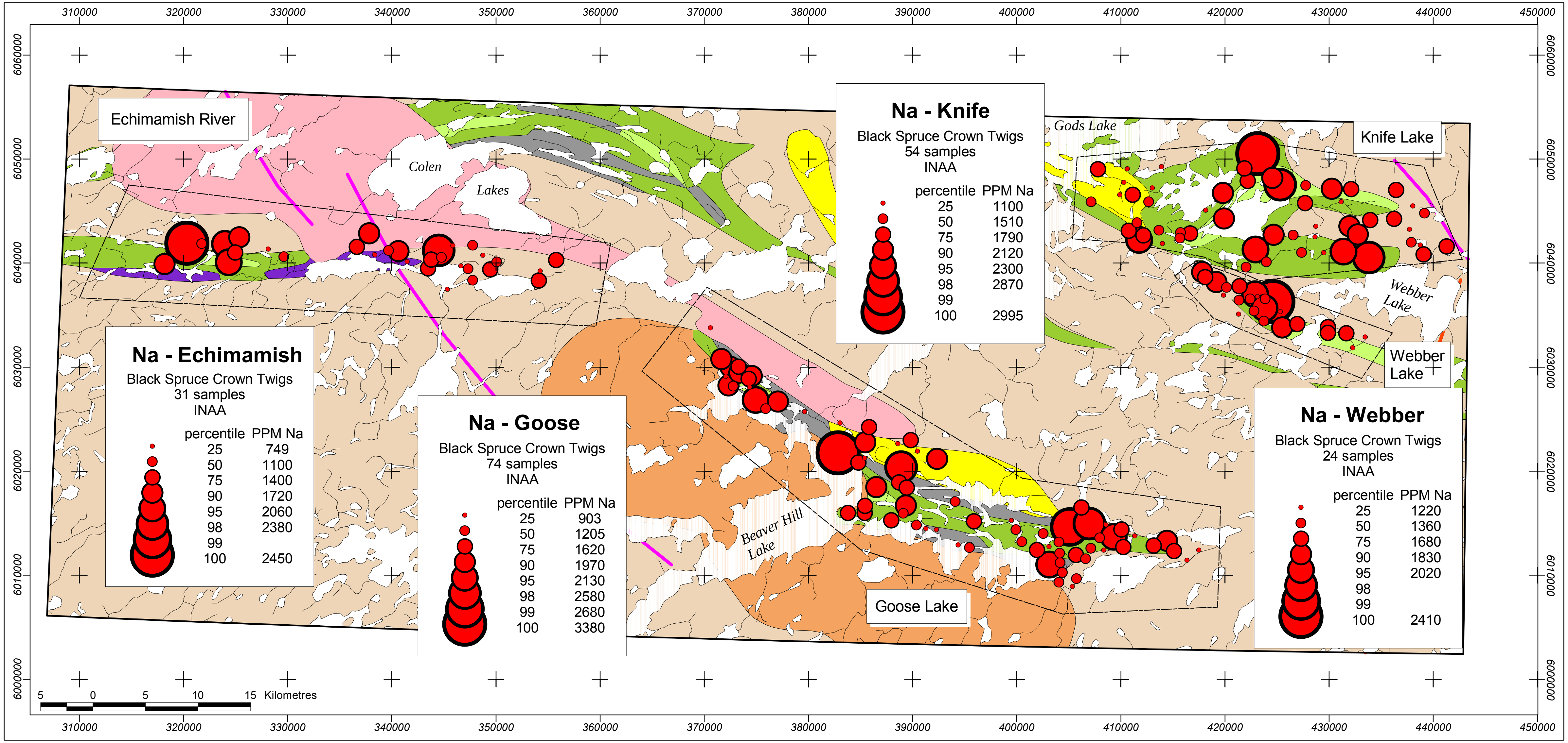
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Hf - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Hf
25 0.25
50
75
90 0.60
95 0.80
98 1.10
99
100 1.20
Hf - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Hf
25 0.25
50
75
90 0.80
95
98
99 0.90
100 1.30
Hf - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Hf
25 0.25
50
75 0.60
90 0.90
95 1.10
98
99
100 1.20
Hf - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Hf
25 0.25
50 0.50
75 0.60
90 0.70
95 0.80
98 0.90
99
100 1.10
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
K - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile % K
25 17.2
50 19.5
75 22.0
90 22.4
95 23.9
98 24.4
99
100 27.1
K - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile % K
25 15.8
50 19.1
75 21.7
90 24.1
95 26.2
98 28.1
99 28.5
100 29.1
K - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile % K
25 17.0
50 19.4
75 21.0
90 24.6
95 24.9
98 25.7
99
100 26.7
K - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile % K
25 16.5
50 19.0
75 21.5
90 23.3
95 27.8
98 29.4
99
100 29.5
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

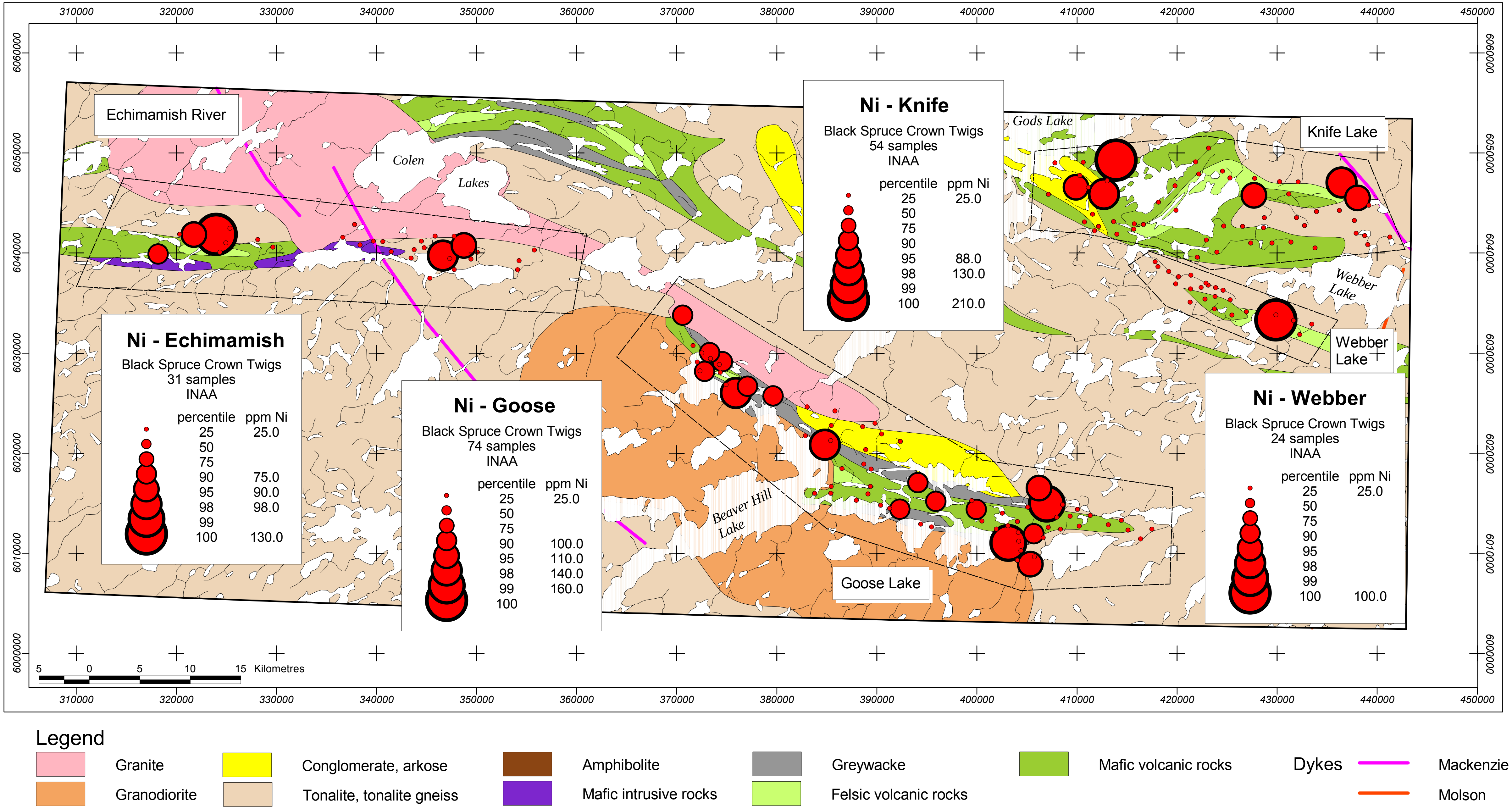


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Mo - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Mo
25 1
50
75
90 3
95 4
98
99
100 7
Mo - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Mo
25 1
50
75
90
95
98 3
99
100 7
Mo - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Mo
25 1
50
75
90 3
95 4
98 6
99 12
100 13
Mo - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Mo
25 1
50
75
90
95 2
98 3
99
100 16
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

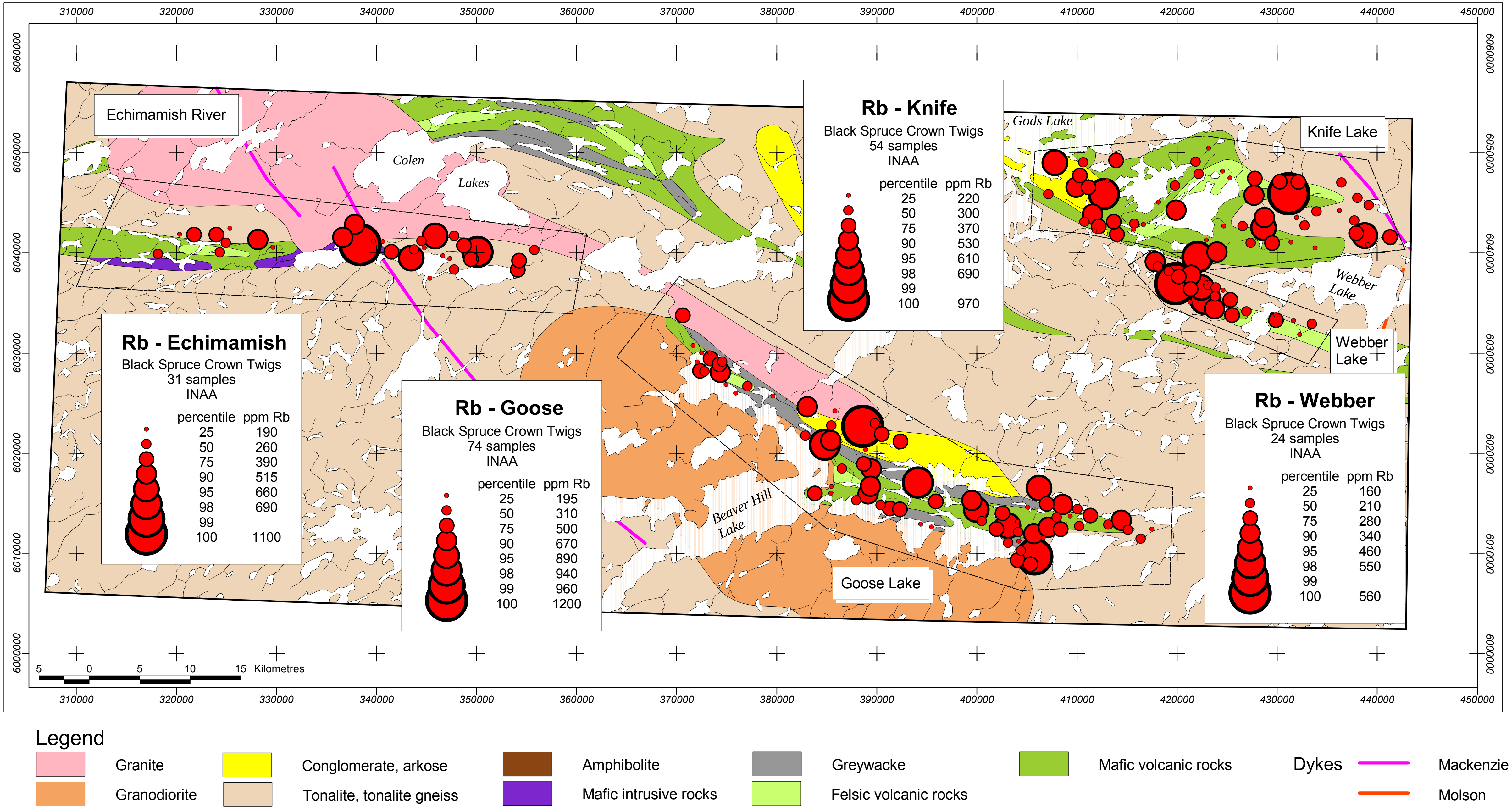


Legend

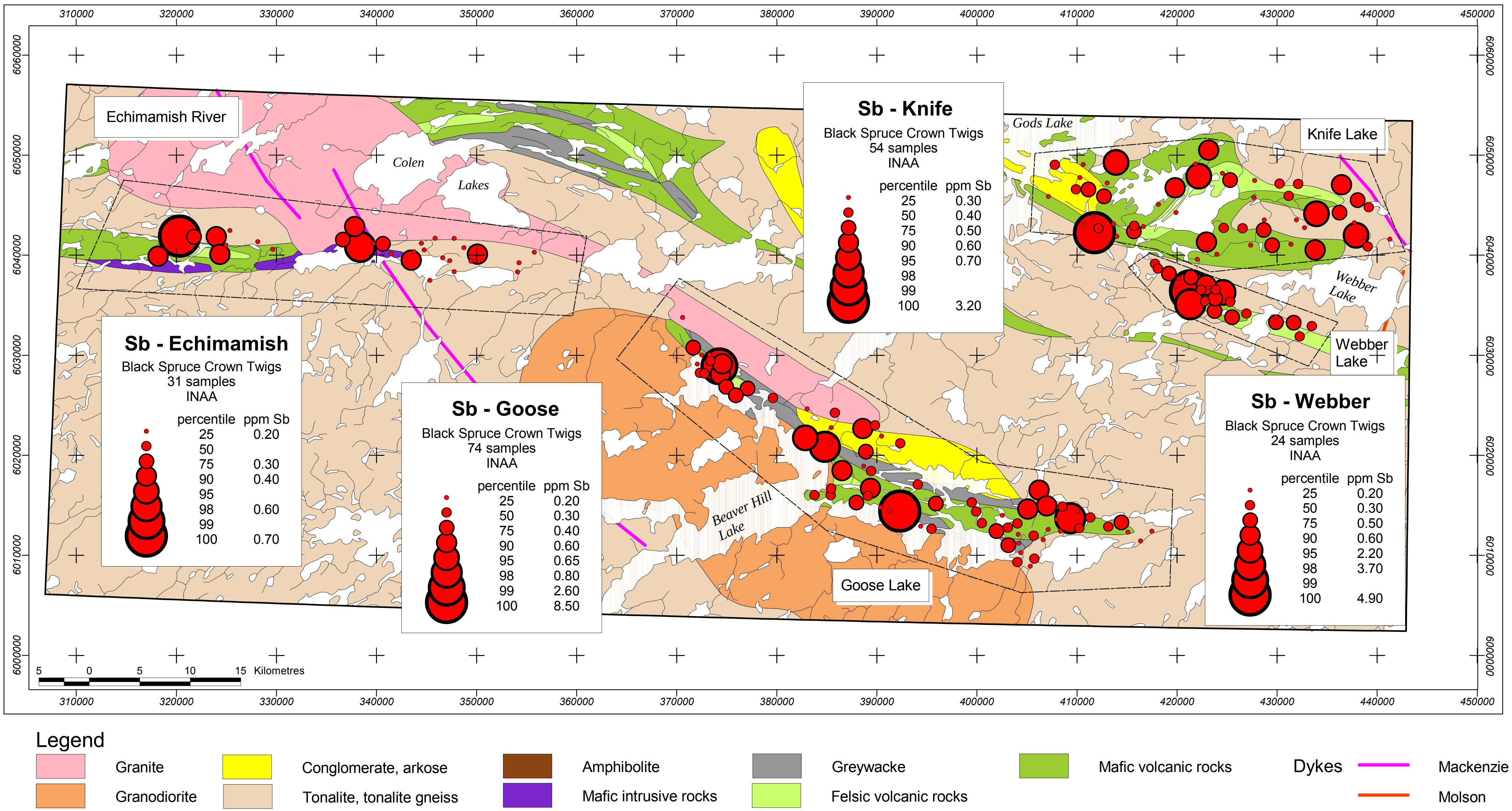
Granite	Conglomerate, arkose	Amphibolite	Greywacke	Mafic volcanic rocks	Dykes	Mackenzie
Granodiorite	Tonalite, tonalite gneiss	Mafic intrusive rocks	Felsic volcanic rocks			Molson

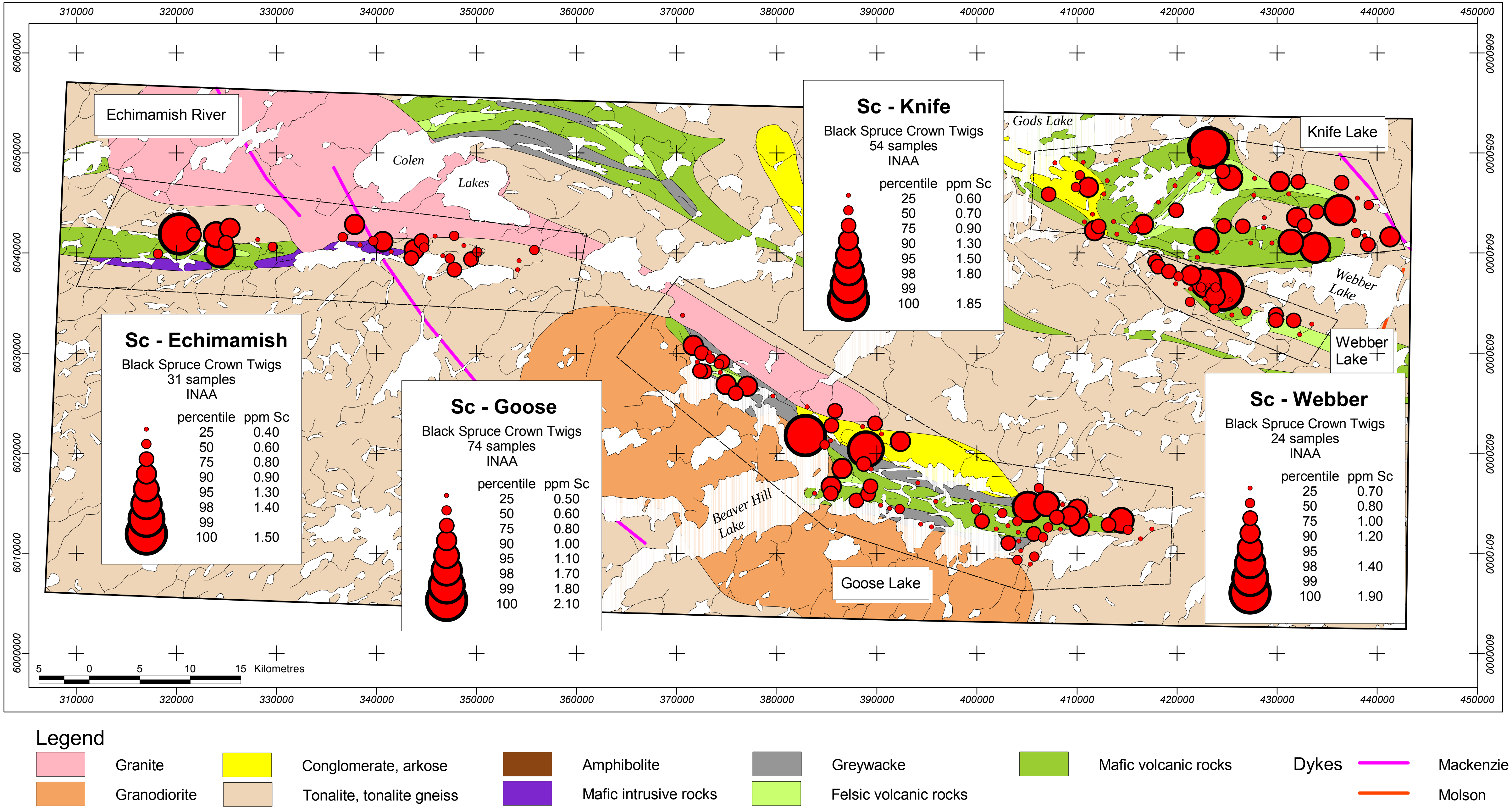


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Ni - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Ni
25 25.0
50
75
90
95 88.0
98 130.0
99
100 210.0
Ni - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Ni
25 25.0
50
75
90 75.0
95 90.0
98 98.0
99
100 130.0
Ni - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Ni
25 25.0
50
75
90 100.0
95 110.0
98 140.0
99 160.0
100
Ni - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Ni
25 25.0
50
75
90
95
98
99
100 100.0
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

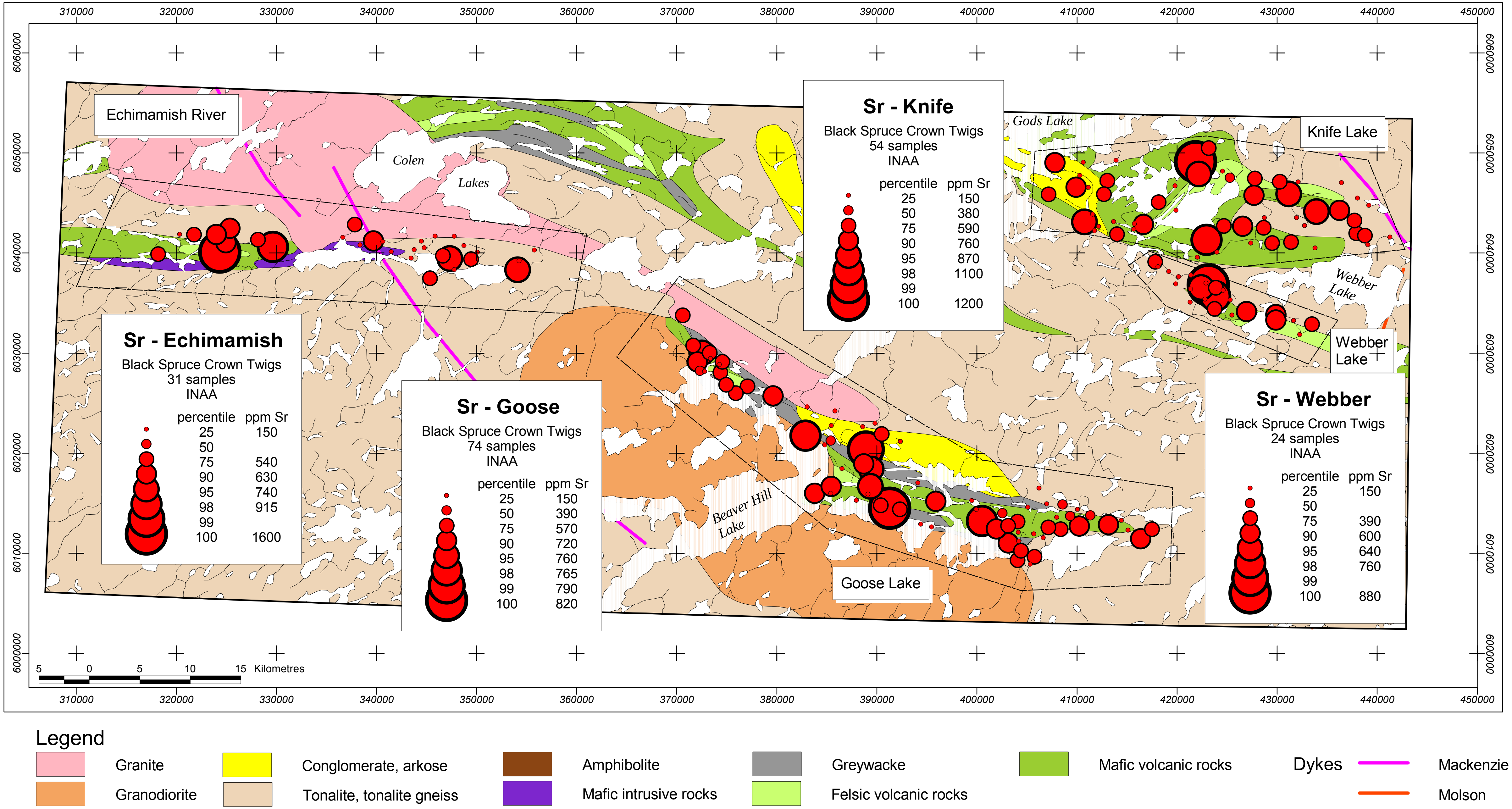


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Rb - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Rb
25 220
50 300
75 370
90 530
95 610
98 690
99
100 970
Rb - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Rb
25 190
50 260
75 390
90 515
95 660
98 690
99
100 1100
Rb - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Rb
25 195
50 310
75 500
90 670
95 890
98 940
99 960
100 1200
Rb - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Rb
25 160
50 210
75 280
90 340
95 460
98 550
99
100 560
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

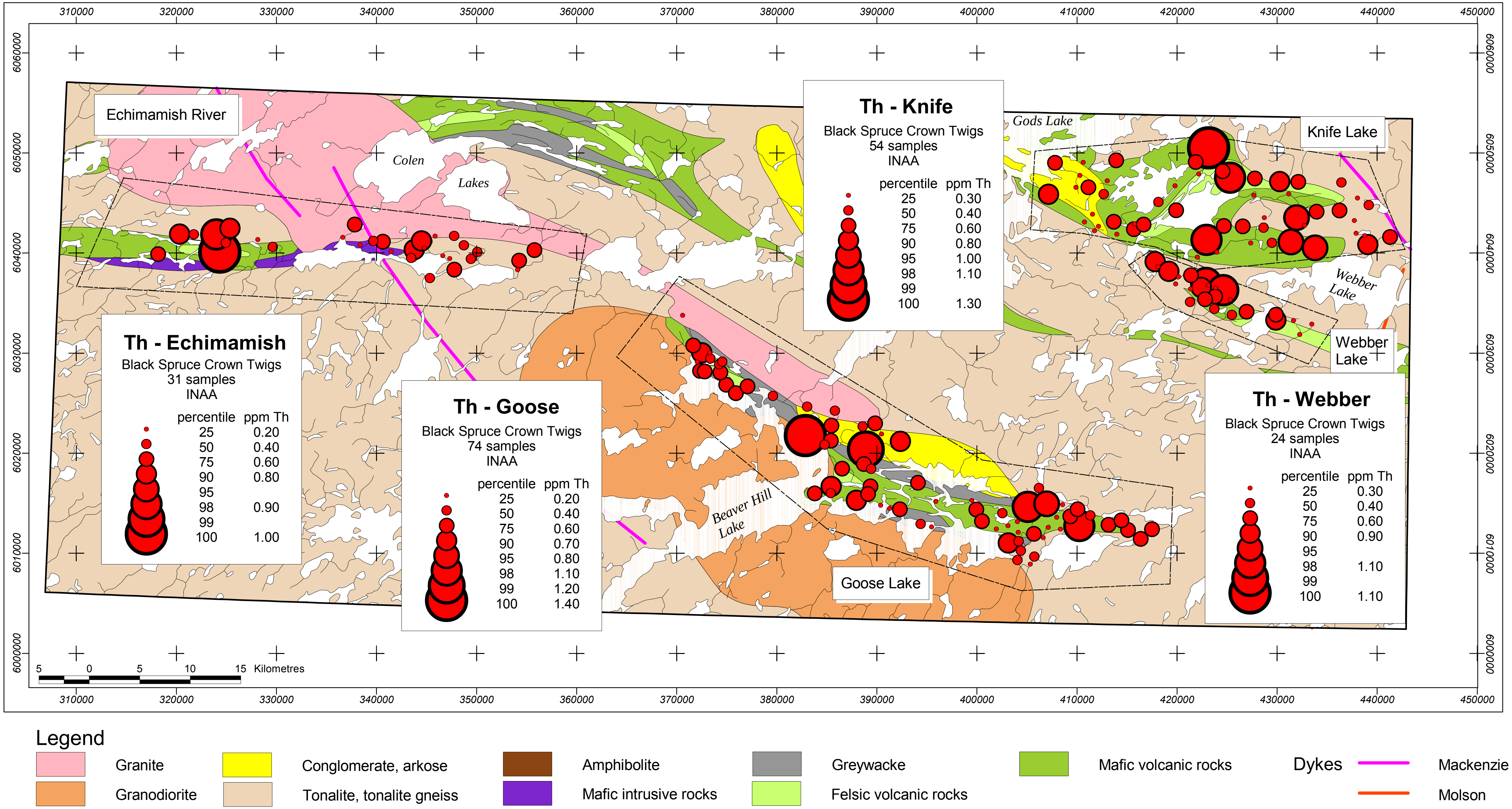

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sb - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Sb
25 0.20
50
75 0.30
90 0.40
95
98 0.60
99
100 0.70
Sb - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Sb
25 0.20
50 0.30
75 0.40
90 0.60
95 0.65
98 0.80
99 2.60
100 8.50
Sb - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Sb
25 0.30
50 0.40
75 0.50
90 0.60
95 0.70
98
99
100 3.20
Sb - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Sb
25 0.20
50 0.30
75 0.50
90 0.60
95 2.20
98 3.70
99
100 4.90
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



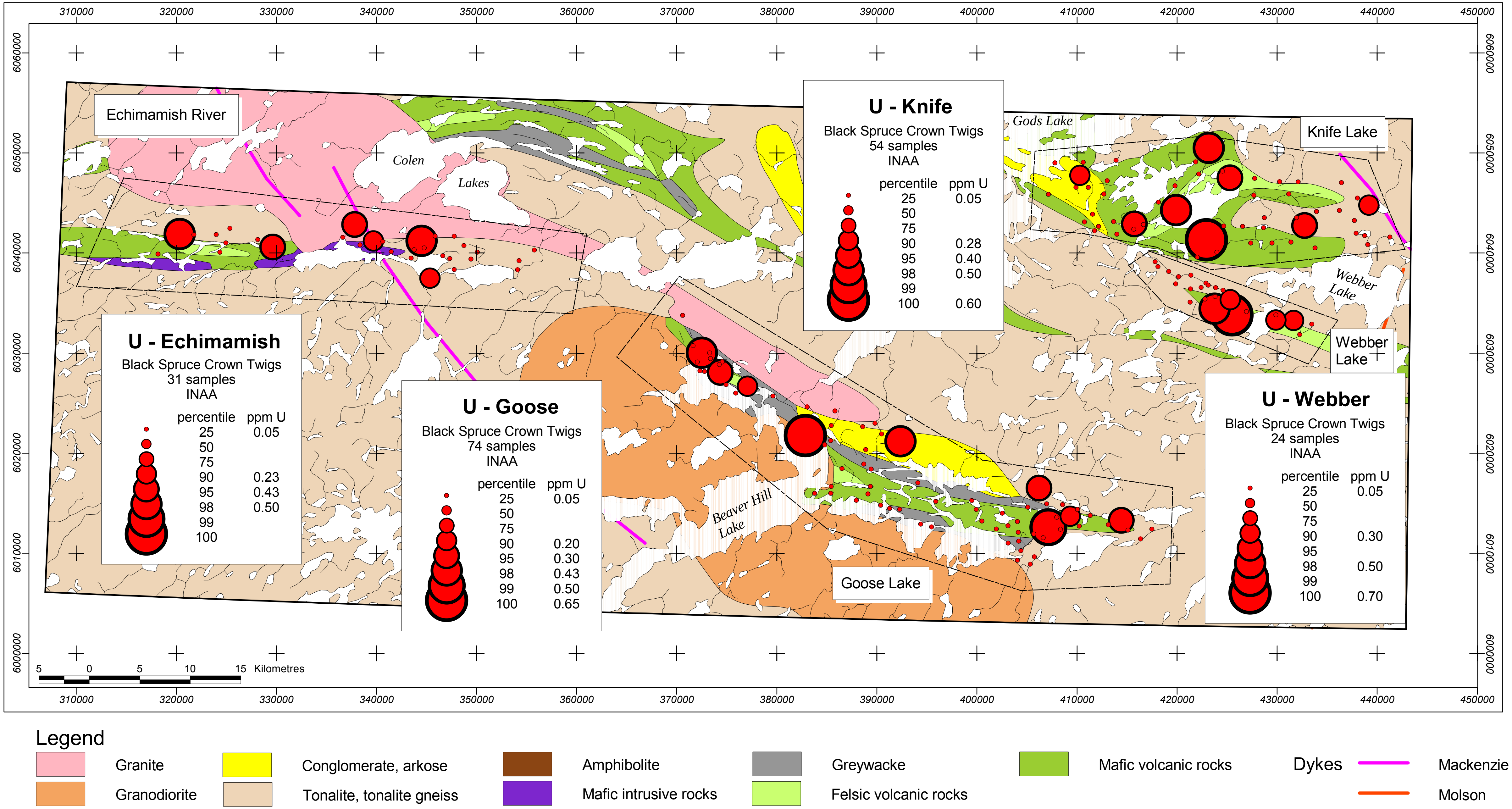
Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sc - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Sc
25 0.60
50 0.70
75 0.90
90 1.30
95 1.50
98 1.80
99
100 1.85
Sc - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Sc
25 0.40
50 0.60
75 0.80
90 0.90
95 1.30
98 1.40
99
100 1.50
Sc - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Sc
25 0.50
50 0.60
75 0.80
90 1.00
95 1.10
98 1.70
99 1.80
100 2.10
Sc - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Sc
25 0.70
50 0.80
75 1.00
90 1.20
95
98 1.40
99
100 1.90
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

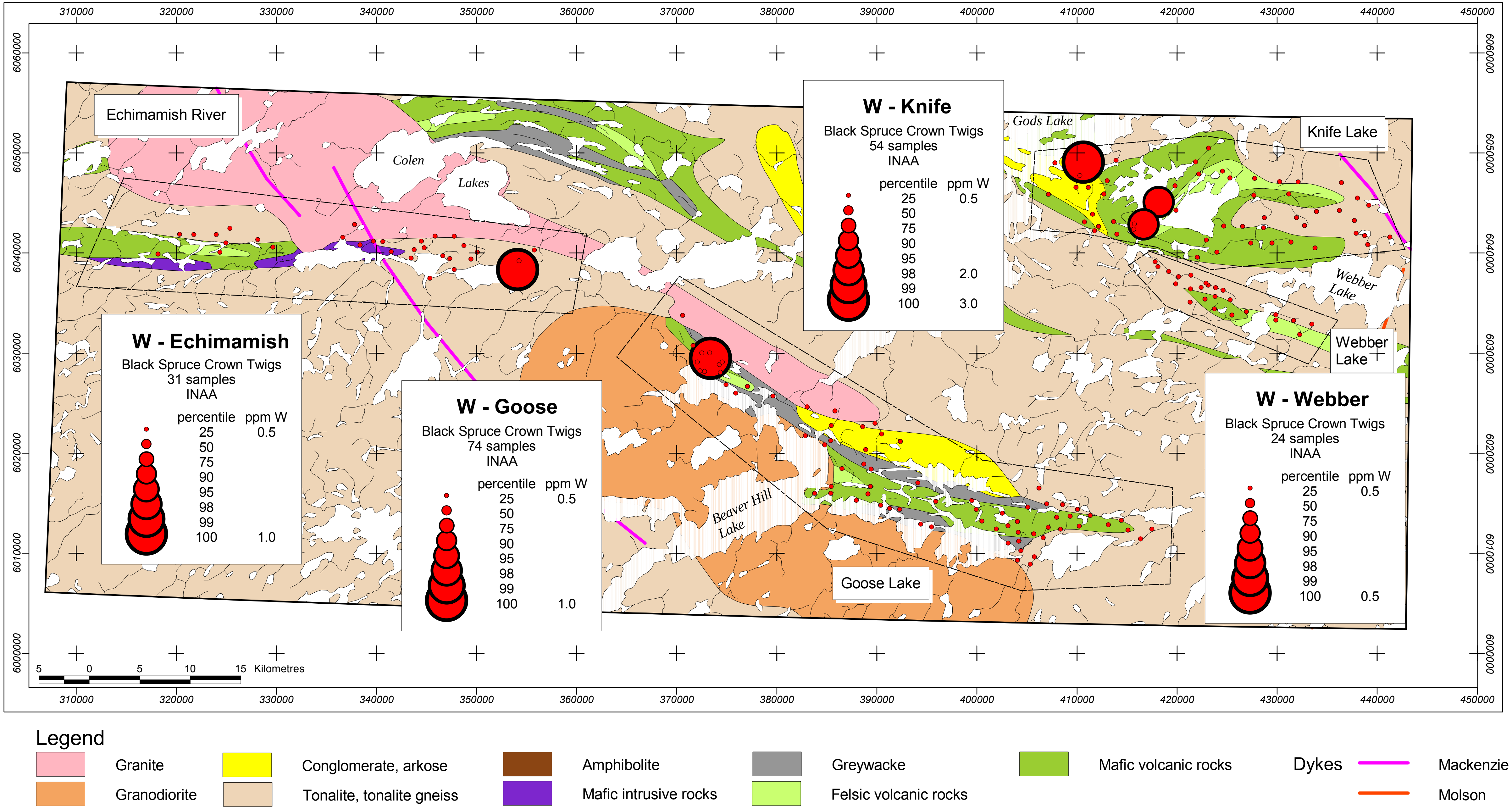


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Sr - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Sr
25 150
50 380
75 590
90 760
95 870
98 1100
99
100 1200
Sr - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Sr
25 150
50
75 540
90 630
95 740
98 915
99
100 1600
Sr - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Sr
25 150
50 390
75 570
90 720
95 760
98 765
99 790
100 820
Sr - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Sr
25 150
50
75 390
90 600
95 640
98 760
99
100 880
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

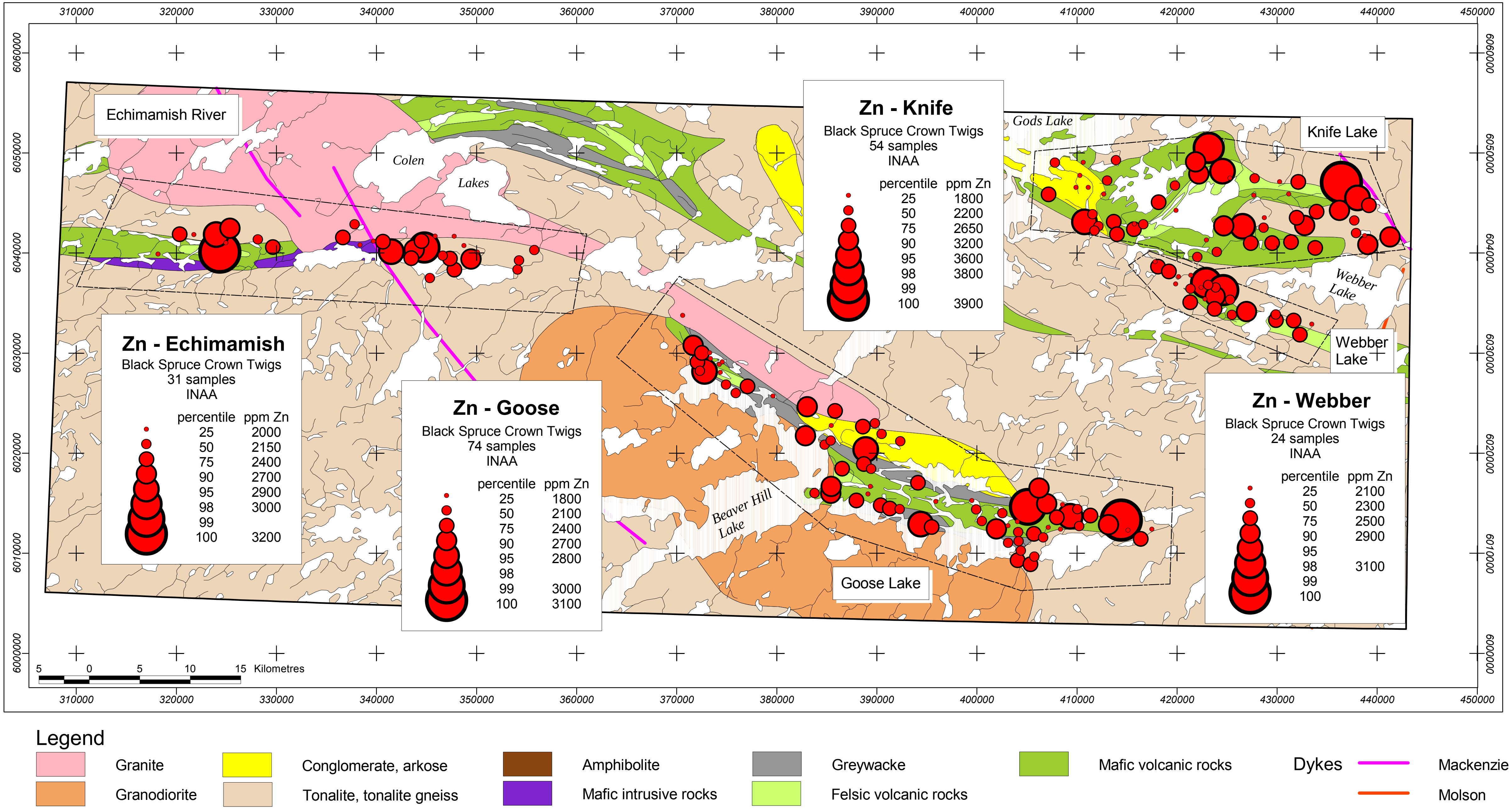


Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Th - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Th
25 0.20
50 0.40
75 0.60
90 0.80
95
98 0.90
99
100 1.00
Th - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Th
25 0.20
50 0.40
75 0.60
90 0.70
95 0.80
98 1.10
99 1.20
100 1.40
Th - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Th
25 0.30
50 0.40
75 0.60
90 0.80
95 1.00
98 1.10
99
100 1.30
Th - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Th
25 0.30
50 0.40
75 0.60
90 0.90
95
98 1.10
99
100 1.10
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6000000 6010000 6020000 6030000 6040000 6050000 6060000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

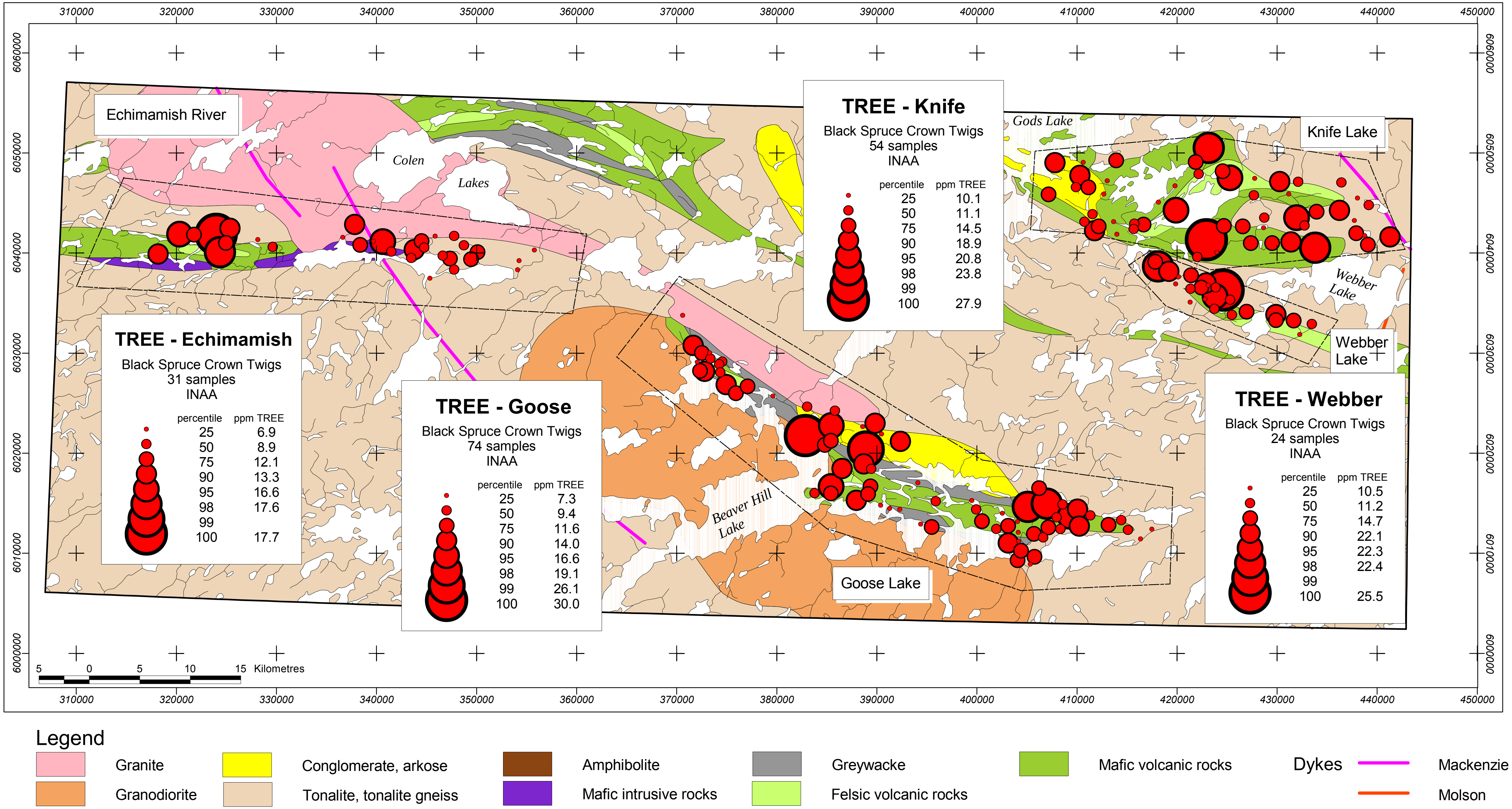

Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
U - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm U
25 0.05
50
75
90 0.23
95 0.43
98 0.50
99
100
U - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm U
25 0.05
50
75
90 0.20
95 0.30
98 0.43
99 0.50
100 0.65
U - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm U
25 0.05
50
75
90 0.28
95 0.40
98 0.50
99
100 0.60
U - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm U
25 0.05
50
75
90 0.30
95
98 0.50
99
100 0.70
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
W - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm W
25 0.5
50
75
90
95
98 2.0
99
100 3.0
W - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm W
25 0.5
50
75
90
95
98
99
100 1.0
W - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm W
25 0.5
50
75
90
95
98
99
100 1.0
W - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm W
25 0.5
50
75
90
95
98
99
100 0.5
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Beaver Hill Lake
Goose Lake
Zn - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm Zn
25 1800
50 2200
75 2650
90 3200
95 3600
98 3800
99
100 3900
Zn - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm Zn
25 2000
50 2150
75 2400
90 2700
95 2900
98 3000
99
100 3200
Zn - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm Zn
25 1800
50 2100
75 2400
90 2700
95 2800
98
99 3000
100 3100
Zn - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm Zn
25 2100
50 2300
75 2500
90 2900
95
98 3100
99
100
5 0 5 10 15 Kilometres
310000 320000 330000 340000 350000 360000 370000 380000 390000 400000 410000 420000 430000 440000 450000
6060000 6050000 6040000 6030000 6020000 6010000 6000000
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson



Echimamish River
Colen
Lakes
Gods Lake
Knife Lake
Webber Lake
Webber Lake
Beaver Hill Lake
Goose Lake
TREE - Knife
Black Spruce Crown Twigs
54 samples
INAA
percentile ppm TREE
25 10.1
50 11.1
75 14.5
90 18.9
95 20.8
98 23.8
99
100 27.9
TREE - Echimamish
Black Spruce Crown Twigs
31 samples
INAA
percentile ppm TREE
25 6.9
50 8.9
75 12.1
90 13.3
95 16.6
98 17.6
99
100 17.7
TREE - Goose
Black Spruce Crown Twigs
74 samples
INAA
percentile ppm TREE
25 7.3
50 9.4
75 11.6
90 14.0
95 16.6
98 19.1
99 26.1
100 30.0
TREE - Webber
Black Spruce Crown Twigs
24 samples
INAA
percentile ppm TREE
25 10.5
50 11.2
75 14.7
90 22.1
95 22.3
98 22.4
99
100 25.5
5 0 5 10 15 Kilometres
Legend
Granite
Granodiorite
Conglomerate, arkose
Tonalite, tonalite gneiss
Amphibolite
Mafic intrusive rocks
Greywacke
Felsic volcanic rocks
Mafic volcanic rocks
Dykes
Mackenzie
Molson

SYNOPSIS

The 1998 multimedia geochemical survey of the Echimamish River, Goose Lake, Knife Lake and Webber Lake greenstone belts has successfully delineated geochemical patterns attributable to regional metallogenetic features, previously recognized structurally disrupted and mineralized zones, unique lithologies as well as documenting significant geochemical responses from areas of little or no outcrop. On the basis of the geochemistry of all sampling media, the Goose Lake belt has the most diverse and numerous geochemical responses of the belts sampled in 1998 and indicates high exploration prospectivity in a base and precious metal depositional environment. The Echimamish River belt reflects a similar, significant base metal potential previously identified in the Max Lake area to the west. The Gods Lake Shear Belt, separating the Knife Lake and Webber Lake belts, is interpreted to be highly prospective for structurally controlled mineralization. The association of multimedia geochemical signatures with the periphery of greenstone belts demonstrates that these high strain zones (and associated structures) are hydrothermal fluid pathways and as such represent good exploration targets.

The relatively high success rate of the various sample types in reproducing the geographic locations of geochemical anomalies is surprising given the presence of wetlands, peats and clay-dominated terrain in the 1998 survey area. All sample media have effectively delineated similar areas of geochemical flux and have achieved one of the major goals of this approach to resource assessment: reduce large tracts of ground to more localized areas where traditional exploration methods can be applied. Areas of anomalous geochemical response without known mineralization are also multimedia in nature. These occur in areas previously considered to have low mineral potential due to the lack of outcrop or the presence of predominantly intrusive rocks. The general hostile nature of the surficial deposits in the 1998 survey area is reflected by the fact that 60% of b-horizon soil samples are glaciolacustrine clay. Historically this material has been viewed as having little value in mineral exploration and has been considered to be very effective in concealing the geochemical response of buried or blind mineralized zones.

The application of the enzyme leach process to glaciolacuatrine sediments has demonstrated that geochemical data useful in mineral exploration can be derived from this new approach. This technique has the potential to “see” where mineralized zones may exist at depths not tested by diamond drilling, or to penetrate thick and compositionally variable surficial deposits that cover prospective ground in the greenstone belts. The technique is rapid and, in the face of rapidly mounting case history and exploration successes, deserves to be considered as an integral part of a mineral exploration program.

The success of the b-horizon/enzyme leach soil survey is mirrored by the equally successful vegetation geochemical survey, based on the collection and ashing of black spruce crown twigs. The shallow root system of this tree is often cited as problematic, limiting acquisition of metals to those derived from often allochthonous near surface deposits. The trees sampled in 1998 were observed to be rooted in the same glaciolacustrine clays as were sampled for enzyme leach analysis and suggests the essential and non-essential elements required for proper nutrition are being derived, in part, from this soil horizon. It would appear that the process or mechanism of metal dispersion from bedrock sources (groundwater, electro-dispersive and/or vapour phase transport) may be slowed by “hostile” surficial deposits, but it is not prevented.

The glacial tills sampled for analysis in 1998 are highly calcareous and thus would appear to have diminished effectiveness in geochemical prospecting. Local trace element signatures derived from bedrock in the survey areas are diluted by significant carbonate contributions from the Hudson Bay Lowlands. Additionally, element mobility in carbonate/alkaline environments is reduced. Nevertheless, multiple high contrast geochemical responses in the <2µm and <63 µm size fractions of till were documented from the Goose Lake greenstone belt. In the future (1999 and 2000) till samples will be collected for the examination of gold grains and metamorphosed and magmatic indicator mineral suites which will supplement geochemical analysis.

The ability to land a helicopter at ca 1 km sample spacings in forested areas that have been burned provides an excellent opportunity to examine outcrop areas previously covered or obscured by vegetation and/or sediment. The potential for observing significant hydrothermal alteration and mineralization was apparent in the 1996 survey, where areally extensive massive sulphide type alteration was identified south of Max Lake. In the 1998 survey, potentially significant geological observations were made in areas of burn at site 126 in the Goose Lake belt and at sites 40 and 41 in the Echimamish River belt. At site 126, deformed sulphide facies iron formation and chert are interlayered with altered. The geochemical sample media from this occurrence are characterized by strong base and precious metal assemblages including that from site 124, in an area of no outcrop. Base metal, massive sulphide-type alteration is exposed at sites 40 and 41, where diffuse to wispy iron oxide veinlets are observed in pillow selvages and pillow basalts in association with silicification and chlorite alteration. The lateral extent of the zone is exposed due to 1988 and 1989 forest fires. This alteration is similar to that exposed south of Max Lake, in the western portions of the belt, and indicates the extraordinary size of the area and the volume of rocks altered by hydrothermal fluids.

A potentially significant geological observation is the recognition of large angular boulders of highly altered volcanic and/or sedimentary rock observed at site 172 in the Goose Lake belt. These rocks are characterized by a silicified matrix crosscut by chlorite-garnet-pyrrhotite-chalcopyrite veins and 5% disseminated pyrite, interpreted to represent base metal massive sulphide-type alteration. The area up-ice from these boulders should be prospected to determine their source.

The significance of the rapid and inexpensive measurement of H^+ (pH) and specific conductance (conductivity) in rock and soil samples was demonstrated in the 1997 survey results. Water-extractable metal (specific conductance) measurements are generally associated with high metal contents in rocks and soils and can provide an effective pre-screening tool in surveys of this type.

KIMBERLITE INDICATOR MINERAL SURVEY

Introduction

Minerals such as garnet, chromite, ilmenite and diopside in glacial sediments have been used as indicators of kimberlite. Specifically, the chemistry of these grains has been used to imply their mode of occurrence in diamonds as inclusions or in kimberlites (cf. Dawson and Stephens, 1975 and Gurney, 1984). All recognized kimberlite indicator minerals are chemically stable in immature glacial sediments.

Garnets have received considerable attention as kimberlite indicators and have been chemically classified according to their relevance as kimberlite indicator minerals (KIM). Garnets that are Ca-depleted diamond inclusion chrome pyropes have been termed “G1O” (Gurney, 1984; Dawson and Stephens, 1975). These garnets indicate a harzburgitic peridotite origin and are more closely associated with diamonds than are the garnets of lherzolitic origin, which are termed “G9”. Eclogitic garnets, with Na_20 concentration of greater than 0.09%, have been observed as inclusions in diamonds and thus also represent valuable indicator minerals.

Diamond inclusion chromites with Cr_20_3 greater than 60% are considered to be kimberlite indicator minerals, equal in significance to G1O garnets. They are interpreted to represent sampling of diamond-bearing zones in the mantle by kimberlite magmas. High-Mg ilmenite reflects the reduced conditions promoting the preservation of diamonds as the magma ascends through the crust. Kimberlite-hosted ilmenite generally has MgO concentrations of 4-15 wt % and greater than 2% Cr_20_3. Chrome diopside with greater than 1% Cr_20_3 has been utilized as a useful kimberlite indicator mineral (Morris et al., 1998).

Sample Collection

An eleven litre pail of glacial till was collected from each sampling site where appropriate material was encountered. These samples were shipped to MONOPROS Ltd. at the end of the 1998 sampling program for processing.

Sample Preparation and Analysis

This paraphrased description of sample preparation and analysis was supplied by MONOPROS Ltd. The eleven litre samples were screened at 2.0 mm, with the oversize discarded except for a representative aliquot of the +2.0 – 5.6 mm fraction, which is used for pebble counts. The –2.0 mm size fraction was passed over a 0.3 mm aperture sieve and the –0.3 mm size fraction was discarded. The +0.3 mm – 2.0 mm fraction was concentrated by gravity separation, dried in ovens and the further sieved into +1.0-2.0 mm, +0.5-1.0 mm and +0.3-0.5 mm size fractions, which were packaged, labeled and shipped to MONOPROS laboratories for further treatment.

These three size fractions were individually separated using the heavy liquid bromoform (Specific Gravity – 2.86). The heavy fractions that sink through the bromoform were washed and sorted for kimberlitic indicator minerals. Indicator minerals were analyzed by microprobe.

Data Display

Abundances of kimberlite indicator minerals are portrayed using bubble plots. The greater the abundances of any particular indicator mineral at a sample site the larger the bubble. A mylar sample site location map overlay is available for purposes of overlaying the bubble plots.

Preliminary Interpretation of the 1998 Kimberlite Indicator Minerals Survey

The chemistry of KIM picked, microprobed and classified for this study are summarized in Appendix 1. Kimberlite indicator mineral abundances by sample site is listed in Appendix 2. Classification, based on mircoprobe chemistry in Appendix 1, utilized the chemical parameters in Tables 3 and 4 taken from Thorleifson et al., (1994). Field boundaries for garnets and chrome spinel discriminant diagrams are taken from Gurney (1984; Fig.4) and Fipke et al. (1995; Figs. 5 and 6), respectively. Figure 7, a diagram depicting the parabolic relationship of Cr_2O_3 and MgO in ilmenite, is derived from the work of Haggerty (1975). Haggerty and Tompkins (1983) recognized the value of ilmenite compositions in determining the redox state of the earth's mantle and Gurney and Moore (1993) illustrated the potential for predicting diamond preservation in a kimberlite on the basis of ilmenite composition. A sample site location map for the Webber Lake, Knife Lake, Goose Lake and Echimamish River belts is provided in Figure 3a. Figure 3b (in back pocket) is a mylar sample site location map overlay. Kimberlite indicator mineral abundances from each belt are presented in Table 5.

Results of 1998 Overburden Sampling

Figures 8 through 13 are bubble plots for individual kimberlite indicator minerals (KIM) throughout the 1998 survey area. These plots represent KIM from combined +1.0-2.0 mm, +0.5-1.0 mm and +0.3-0.5 mm size fractions of the sample. Total KIM abundances are plotted in Figure 14. It is important to note that bubble plots for KIM data portray all sites at which a sample was collected. To gain a true appreciation for the significance of these geographic distributions and clustering, these maps should be viewed using the mylar overlay depicting all multimedia sample locations. Survey results for each of the greenstone belts are described below and summarized in Table 5. A bubble plot depicting the distribution of magnetite has been included with this years KIM survey results. The distribution of magnetite (Fig. 15) can then be compared to that of the indicator minerals and may also be useful for base and precious metal assessments.

In the 1998 KIM survey samples, 3 KIM indicator mineral grains were recovered in the –2.0+1.0 mm size fraction, 39 grains were recovered in the –1.0+0.5 mm size fraction, and 239 grains were recovered in the –0.5+0.3 mm size fraction. The grain counts must be viewed with caution, however, since 13 of 39 grains in the –1.0+0.5 mm size fraction and 131 of 239 grains in the –0.5+0.3 mm size fraction are magnetite. This includes 43 magnetite grains from site 193 in the Echimamish River belt. Black or dark metallic grains were included in the mineral separates to be certain that significant indicator minerals were not omitted.

An unique feature of the character of indicator minerals recovered from the 1998 samples is the recognition of original surface remnants on 5 chrome diopside grains. Three of these chrome diopsides are in the –0.5+0.3 mm size fraction from sites 95, 110 and 118 in the Knife River belt and the remaining 2 grains are in the –1.0+0.5 mm and –0.5+0.3 mm size fractions from sites 192 and 39, respectively, in the Echimamish River belt. This observation has been used to indicate that the grains have not been transported significant distances and are close to source (Morris et al., 1998 and references therein). Dredge et al. (1996) suggest that such fragile alteration rims can survive long distance transport but do not provide a mechanism to explain this contention.

Single chrome spinel grains from sites 73 and 79 in the Knife Lake belt, sites 193 and 207 in the Echimamish River belt and site 139 in the Goose Lake belt plot in the Cr_2O_3-TiO_2 lamproite and kimberlite field of Fipke et al. (1995). These relationships are depicted in Figure 6. Diamond inclusion chrome spinels were not recognized in the 1998 samples (Fig.6).

Two G10 garnets were recognized in the 1998 samples. One occurs in the Knife Lake belt (site 120) and the second comes from the Goose Lake belt (site 175). Details of the overall distribution of KIM indicator minerals in each of the belts sampled in 1998 are given below.

Webber Lake Belt
A total of 12 KIM grains were retrieved from the 14 samples collected within the mapped limits of this belt. One G10 garnet was recognized at site 120 from the western end of the belt. Five chrome spinel, four magnesian ilmenites and two chrome diopside were also identified. There were no Ti-Cr pyrope or G9 garnets identified in the Webber Lake belt samples. The geographic distribution of total KIM from this belt is diffuse and without apparent focus.

Knife Lake Belt
Twenty-five KIM grains were identified in 22 samples from the belt. The distribution of chrome spinel (Fig.8), chrome diopside (Fig. 9) and titanian-chrome pyrope garnets (Fig.10) is interpreted as non-definitive. There were no G10 garnets identified in samples from the belt (Fig. 12). Three G9 garnets (Fig. 11) and four magnesian ilmenites (Fig. 13) define a broad cluster at the western end of the belt. This grouping is moderately defined by total KIM abundances (Fig. 14).

Goose Lake Belt
A total of 42 KIM grains were retrieved from the 40 samples collected within the mapped limits of the Goose Lake belt. This represents the highest number of grains collected from any of the greenstone belts sampled in 1998. A single G10 garnet was obtained from sample site 175 at the south central margin of the greenstone belt (Fig. 12). There appears to be two broad groupings of KIM in this belt. The western portion of the belt is characterized by the

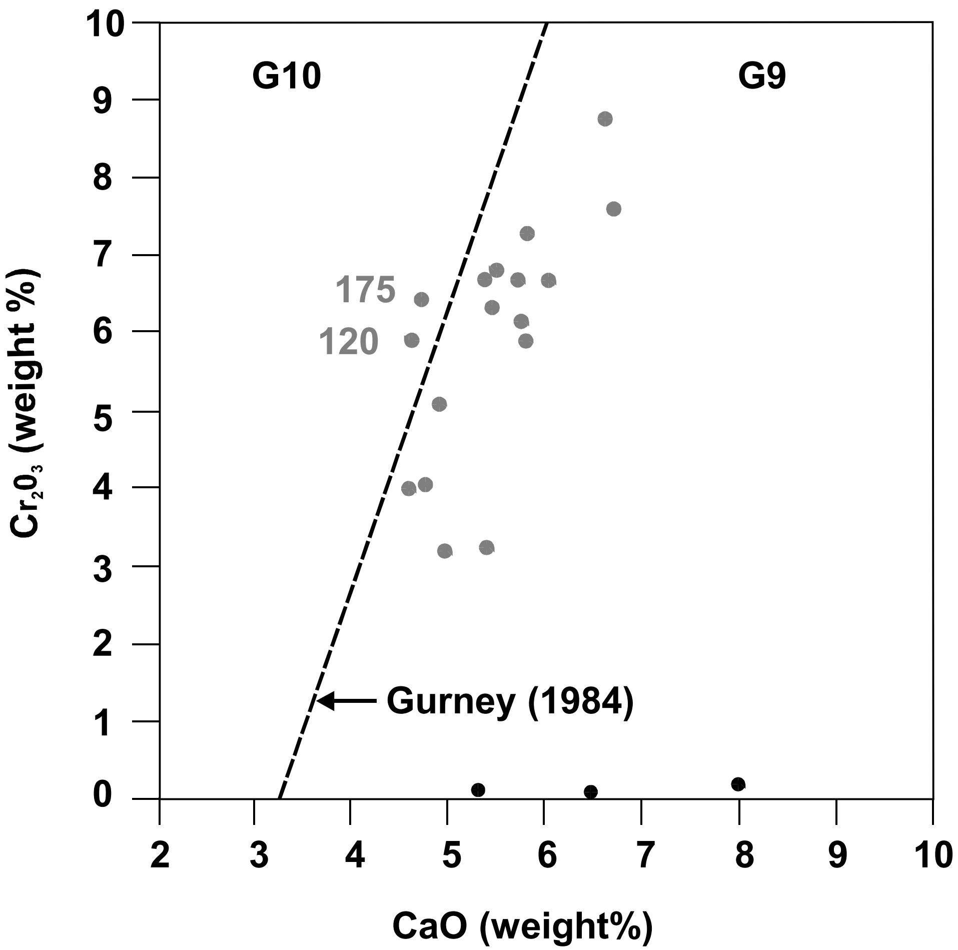


Figure 4: Cr_2O_3 vs. CaO discriminant diagram for "G9" and "G10" garnets.

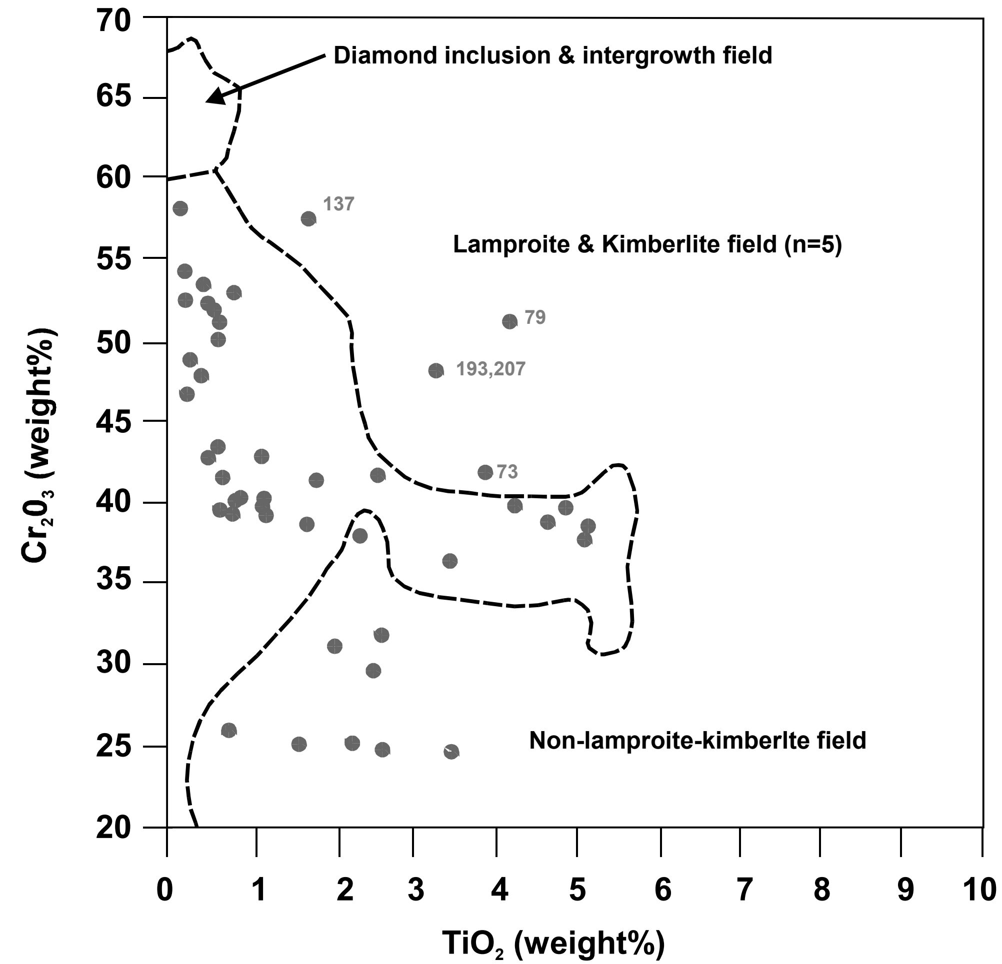


Figure 5: Cr_2O_3 vs. TiO_2 discriminant diagram for diamond inclusion, lamproite and kimberlite spinels (after Fipke et al., 1995).

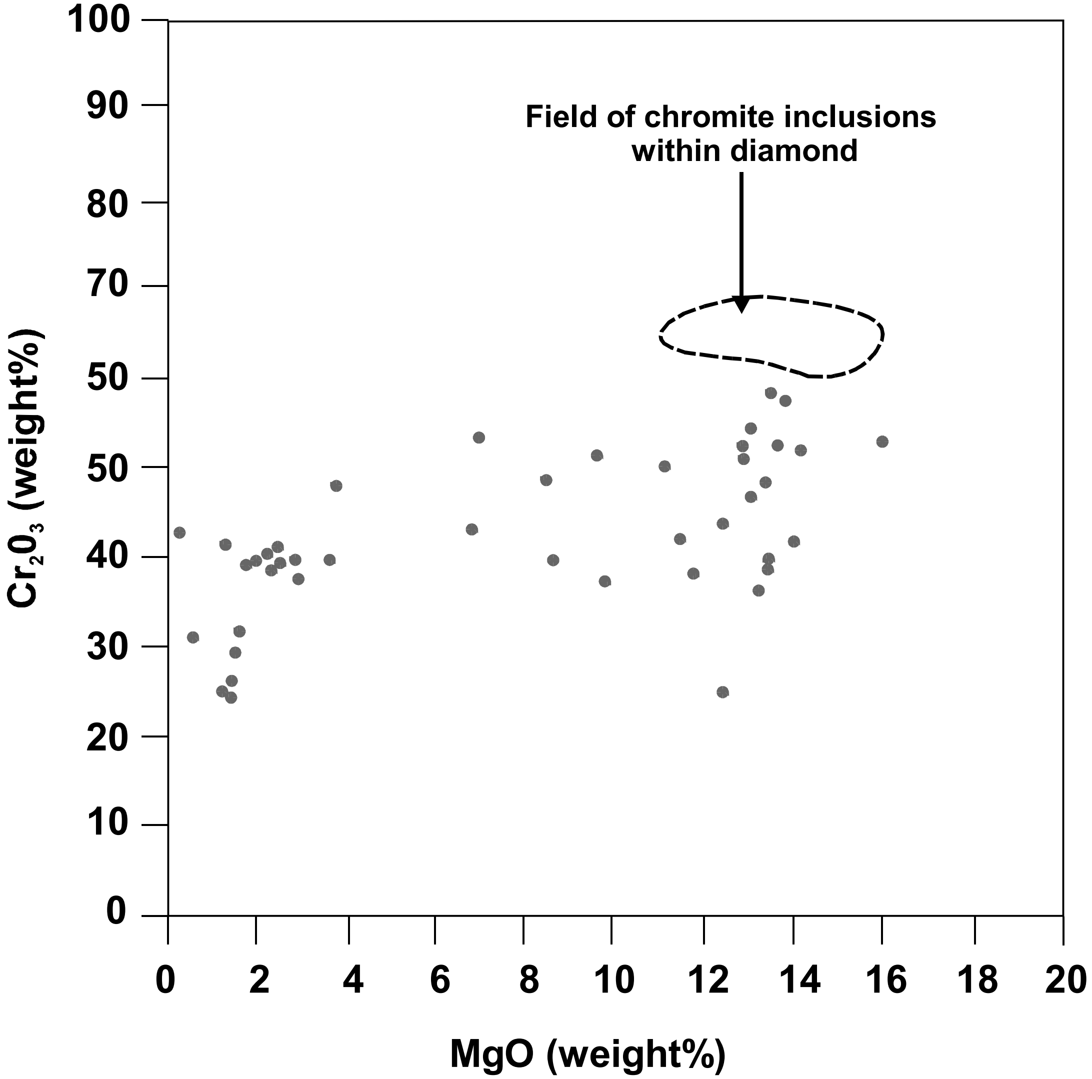


Figure 6: Cr_2O_3 vs. MgO discriminant diagram for diamond inclusion spinel (after Fipke et al., 1995).

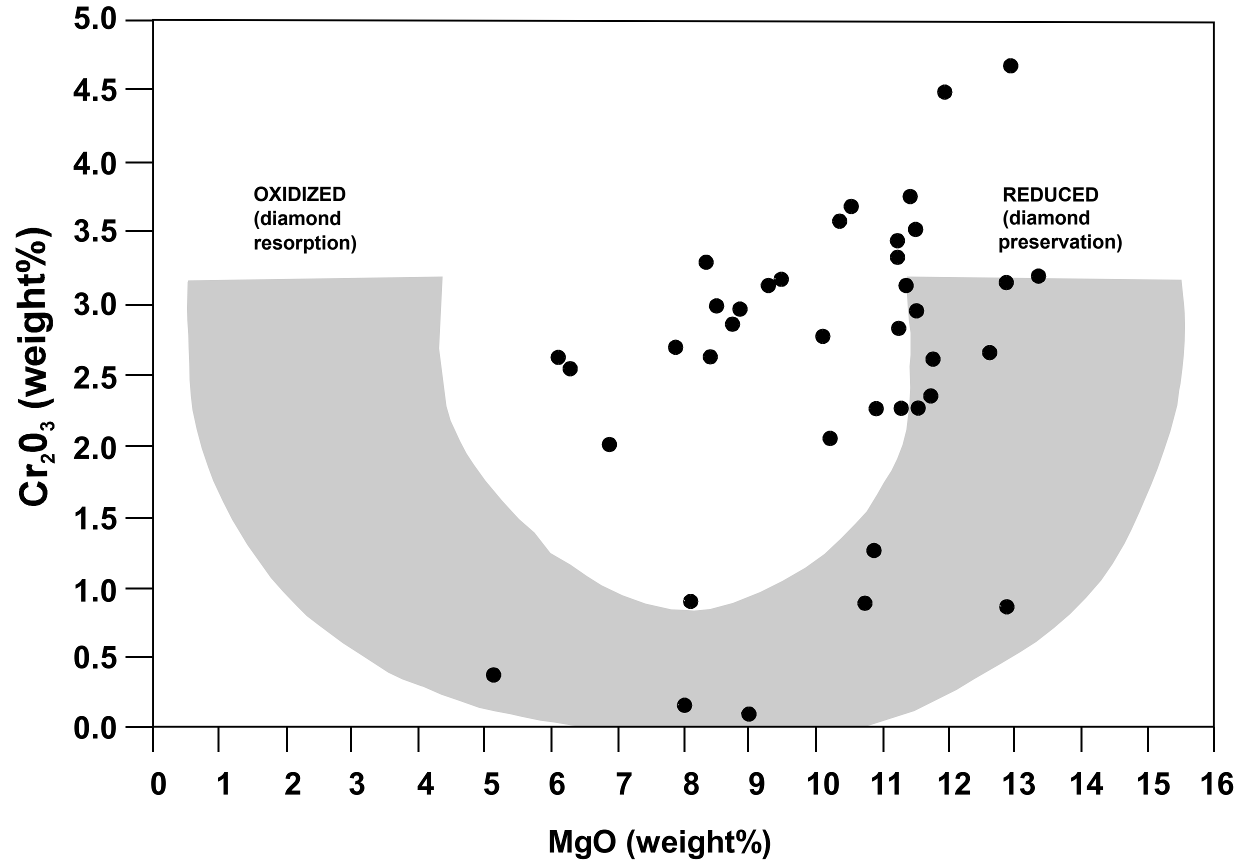


Figure 7: Cr_2O_3 vs. MgO parabolic discriminant diagram for ilmenite (Haggerty, 1975; Haggerty and Tompkins, 1983).

presence of four G9 garnets (Fig. 11), three magnesian ilmenites (Fig. 13) as well as single grains of chrome diopside (Fig. 9) and titanian chrome pyrope garnet (Fig. 10). There may be some relationship between these grain distributions and the presence of a mafic-ultramafic intrusion in this part of the belt. In addition to the single G10 grain in the central or core area of the Goose Lake belt, the highest concentration of chrome spinels (21 grains; Fig. 8) in the 1998 survey is observed. In this general area there are also four magnesian ilmenite grains (Fig. 13). The remainder of the belt is marked by single grains of magnesian ilmenite, titanian-chrome pyrope garnet and G9 garnet. The G9 garnet and the titanian-chrome pyrope garnet are recorded from site 156. Magnetite abundances appear to be greatest in the central and east portions of the belt (Fig. 15).

Echimamish River Belt

A total of 33 KIM grains were retrieved from the 24 samples collected within the mapped limits of this belt. Total KIM counts (Fig. 14) are the greatest in the eastern end of the belt. Two of three chrome diopside grains (Fig. 8) and six of nine chrome spinels (Fig. 9) come from sample sites at this end of the belt where outcrop is absent. Nine magnesian ilmenite grains were identified (Fig. 13) as well as a single titanian-chrome pyrope garnet grain (Fig. 10). It is perhaps noteworthy that the highest concentration of magnetite grains was recovered from samples collected at the east end of the belt and includes 43 magnetites from sample site 193.

Table 3. Guidelines for preliminary mineral identification (Thorleifson et al., 1994).

Total <70%	+ CaO >44%	Apatite
Total <70%	+ FeO >50%	Siderite
Total <70%	+ Al_2O_3 >40%	Gahnite
Total 34%	+ SiO_2 33%	Zircon
Total <70%		low total; e.g. phosphate sulphate, carbonate
SiO_2 <20%	+ Cr_2O_3 >60% + MgO >12%	diamond inclusion Cr-spinel
	+ Cr_2O_3 >10%	Cr-spinel
	+ TiO_2 >70%	Rutile
	+ TiO_2 >30% + MgO >6%	Mg-ilmenite
	+ TiO_2 >30%	Ilmenite
	+ TiO_2 >1%	Ti-Fe-oxide
	+ FeOt >90%	Magnetite
	+ FeOt >80%	Hematite
	+ FeOt >40%	Goethite
	+ Al_2O_3 >80	Corundum
	+ Al_2O_3 >30% + Fe0 >20%	Hercynite
	+ Al_2O_3 >30%	Spinel
SiO_2 >75%		Quartz
SiO_2 >55%	+ Al_2O_3 >16%	Feldspar
TiO_2 >20%		Sphene
Al_2O_3 >55%		Kyanite
Al_2O_3 >45%		Staurolite
Al_2O_3 >24%	+ total <90% + MgO >5.3%	Mg-tourmaline
Al_2O_3 24%	+ total <90% + MgO <5.3%	Fe-tourmaline

Al_2O_3 24%	+ total<98% + CaO 22.2-25%	Epidote
SiO_2 <47%	+ K_2O >0.5% or Na_2O >1%	
	or SiO_2 41-47% _ Cr_2O_3 <0.5%	Amphibole
SiO_2 >47%	+ CaO <3.1%	OPX
	+ Na_2O >2.7%	Na-CPX
	+ FeOt >6.1%	Fe-CPX
	+ >0.5% Cr_2O_3	Cr-diopside
	Remainder	Diopside
MgO >25%		Olivine
Garnet	+ MgO >13% + Cr_2O_3 >0.5%	Cr-pyrope
	+ MgO >4% + CaO >2% + TiO2 >0.2%	Eclogitic garnet
	+ Cr_2O_3 >14%	Uvarovite
	+ MgO >13%	Pyrope
	+ TiO_2 >2.5 + Al_2O_3 <11.5%	Melanite
	+ CaO >16% + Al_2O_3 <11.5% + Cr_2O_3 >1%	Cr-andradite
	+ CaO >16% + Al_2O_3 <11.5%	Andradite
	CaO >30% + Cr_2O_3 >1%	Cr-Grossularite
	+ CaO >30%	Grossularite
	+ MnO >21%	Spessartite
	+ FeOt >25%	Almandite
	Remainder	Garnet

Table 4. Kimberlite indicator mineral classification (Thorleifson et al., 1994)

1. Cr-spinel	>60% Cr_2O_3 + >12% MgO	diamond inclusion Cr-spinel
2. Ilmenite	>-6% MgO	Mg-ilmenite
3. Pyroxene	>0.50% Cr_2O_3	Cr-diopside
4. Garnet	>13% MgO and >0.50% Cr_2O_3	Cr-pyrope
	>0.30% TiO_2 + 4.0% Cr_2O_3	G11 titanian, Cr-pyrope
	>90% TiO_2	G2 titanian, Cr-pyrope
	>0.30% TiO_2	G1 titanian, Cr-pyrope
	>12.0% Cr_2O_3	G12 Non-titanian, Cr-pyrope
	CaO <0.285 (Cr_2O_3)+3.14	G10 Non-titanian, Cr-pyrope
	CaO >0.285 (Cr_2O_3)+5.14	G7 Non-titanian, Cr-pyrope
	Remainder G9	
	>4.0% MgO + >2.0% CaO + >0.20% TiO_2 +	Eclogitic garnet
	>19% Al_2O_3 + <0.5% Cr_2O_3	
	>0.60% TiO_2	G4
	>16.0% CaO	G8
	>12.0% CaO	G6
	Remainder	G3

Table 5. Summary of the geographic distribution of kimberlite indicator mineral grains 1998 survey.

Site	Cr-Spinel	Chrome Diopside	Ti-Cr Pyrope	G9	G10	Mg-Ilmenite	Total KIM
1. Webber Lake Belt	5	2	nil	nil	1	4	12
2. Knife Lake Belt	7	3	2	3	nil	10	25
3. Goose Lake Belt	25	1	2	5	1	8	42
4. Echimamish River Belt	9	3	1	3	nil	17	
5. All Belts	46	9	5	11	2	39	33

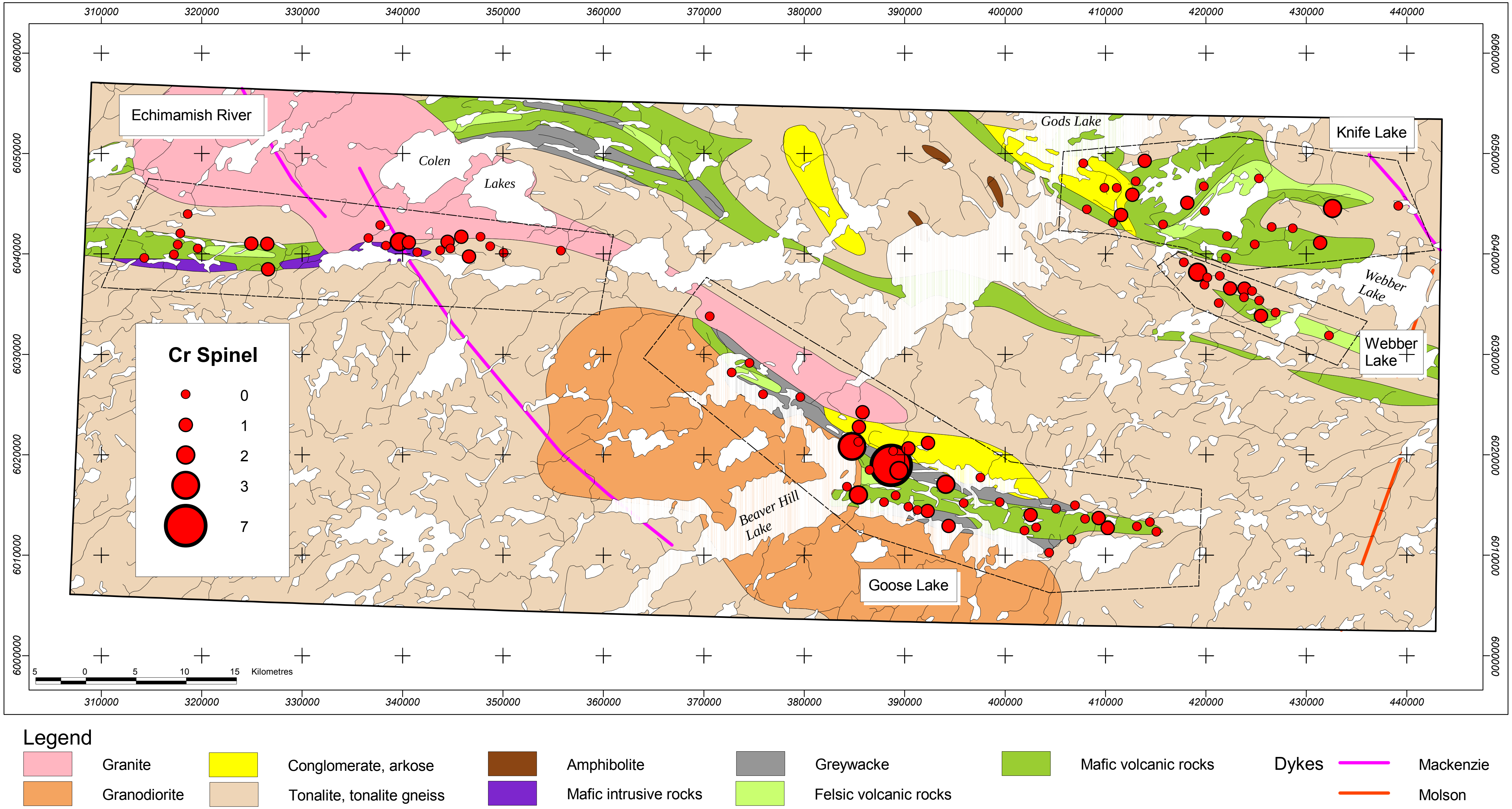


Figure 8: Regional distribution of Cr spinel grains.

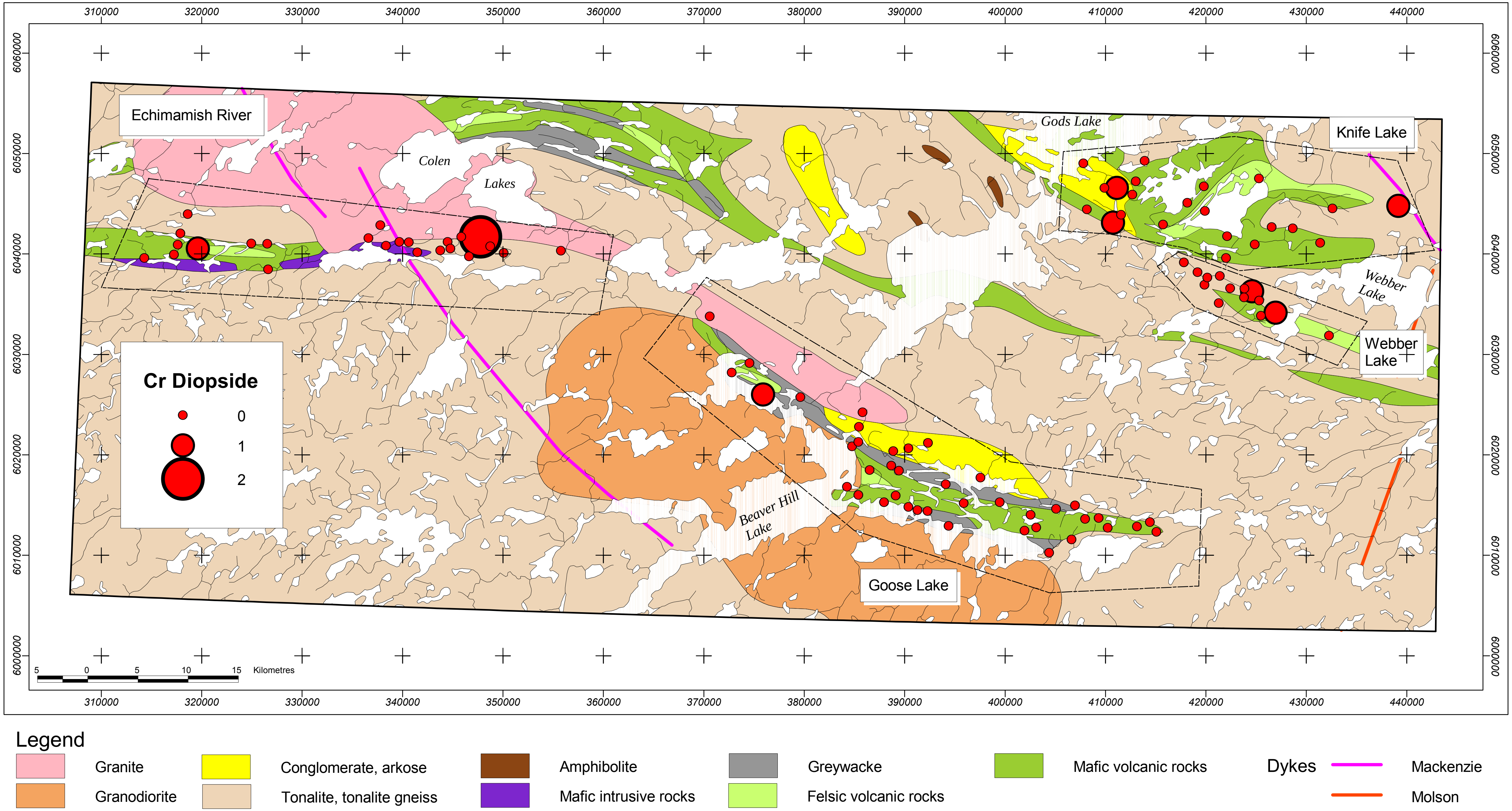


Figure 9: Regional distribution of Cr diopside grains.

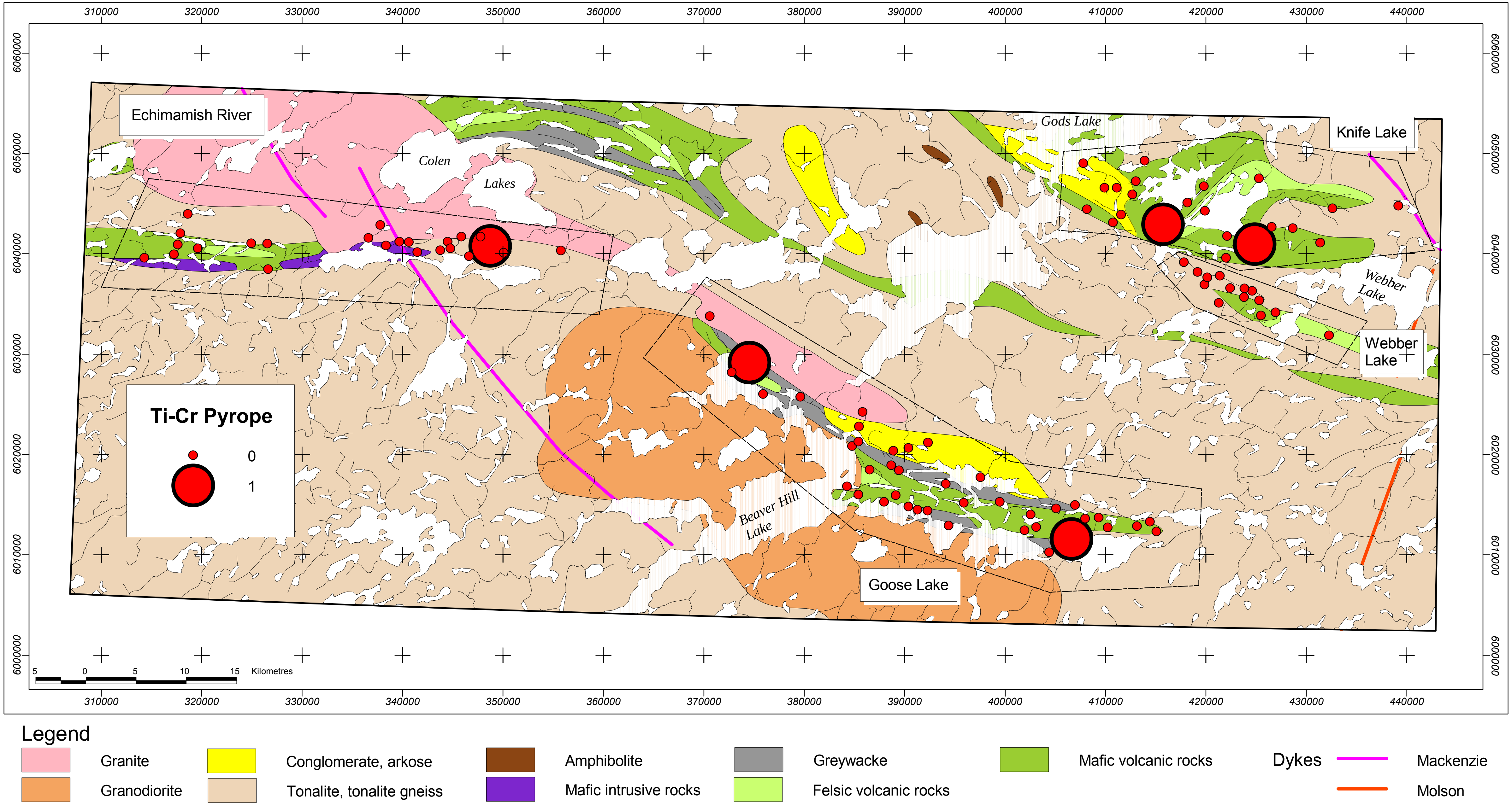


Figure 10: Regional distribution of Ti-Cr pyrope garnet grains.

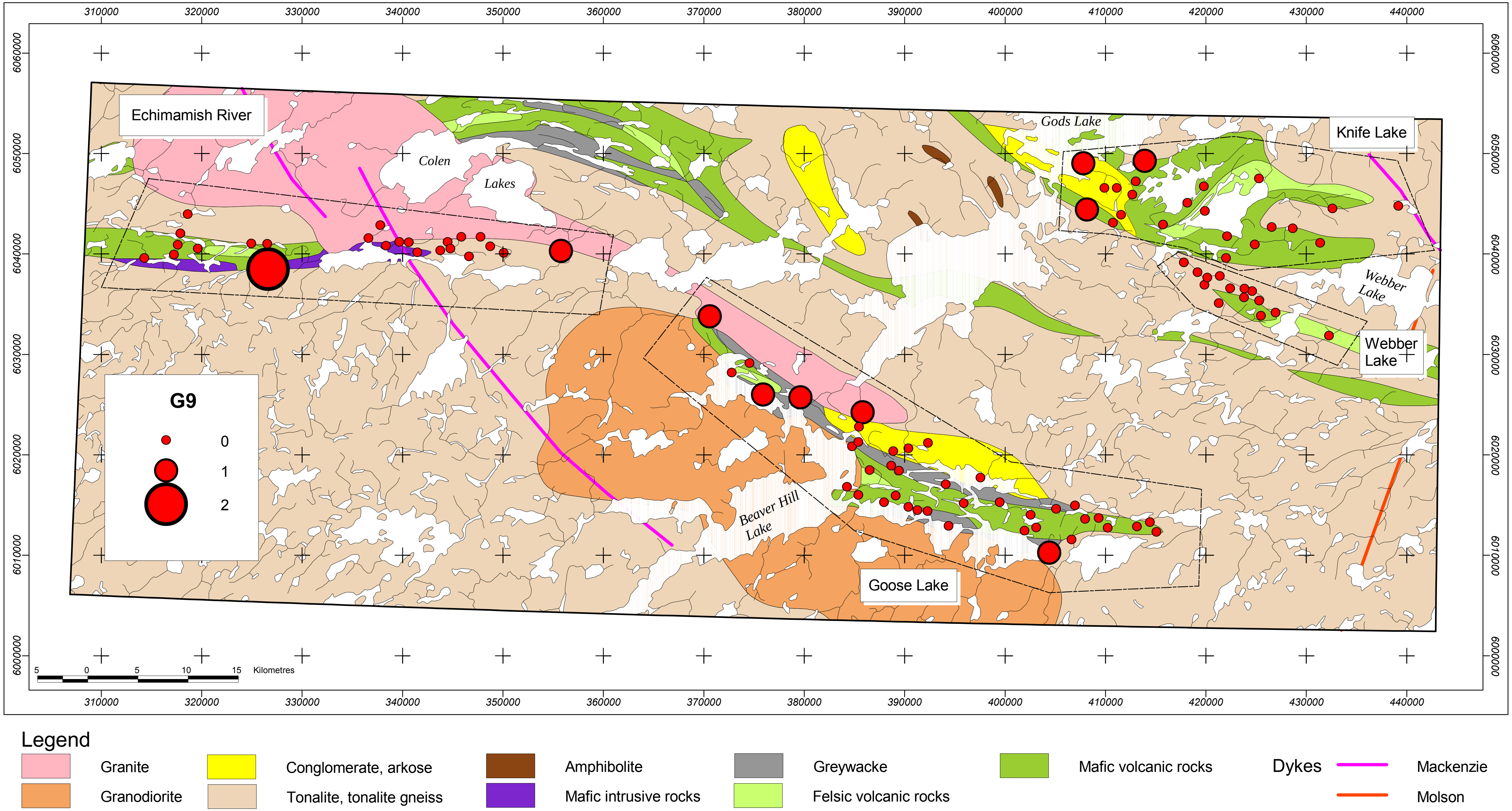


Figure 11: Regional distribution of "G9" garnet grains.

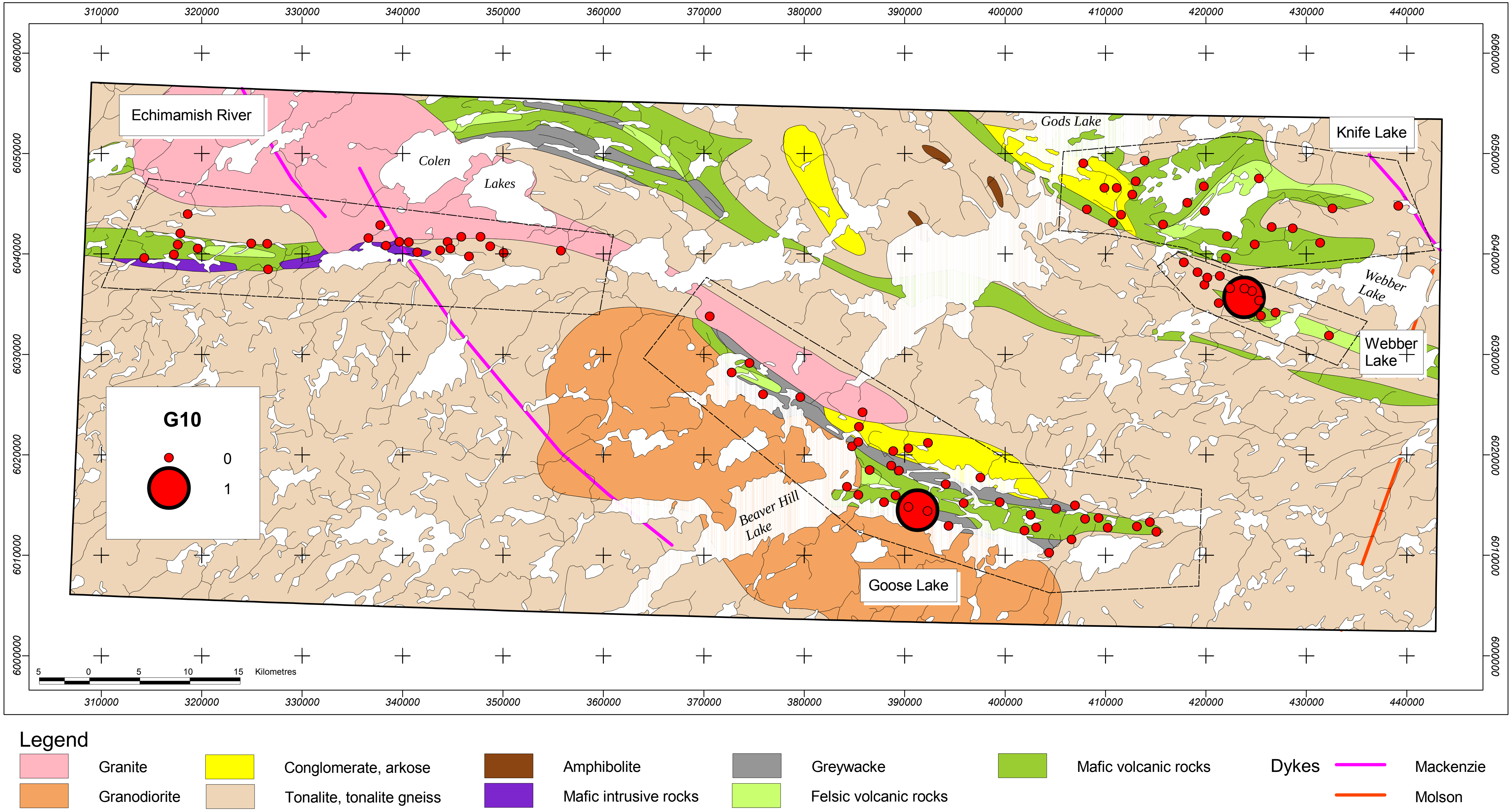


Figure 12: Regional distribution of "G10" garnet grains.

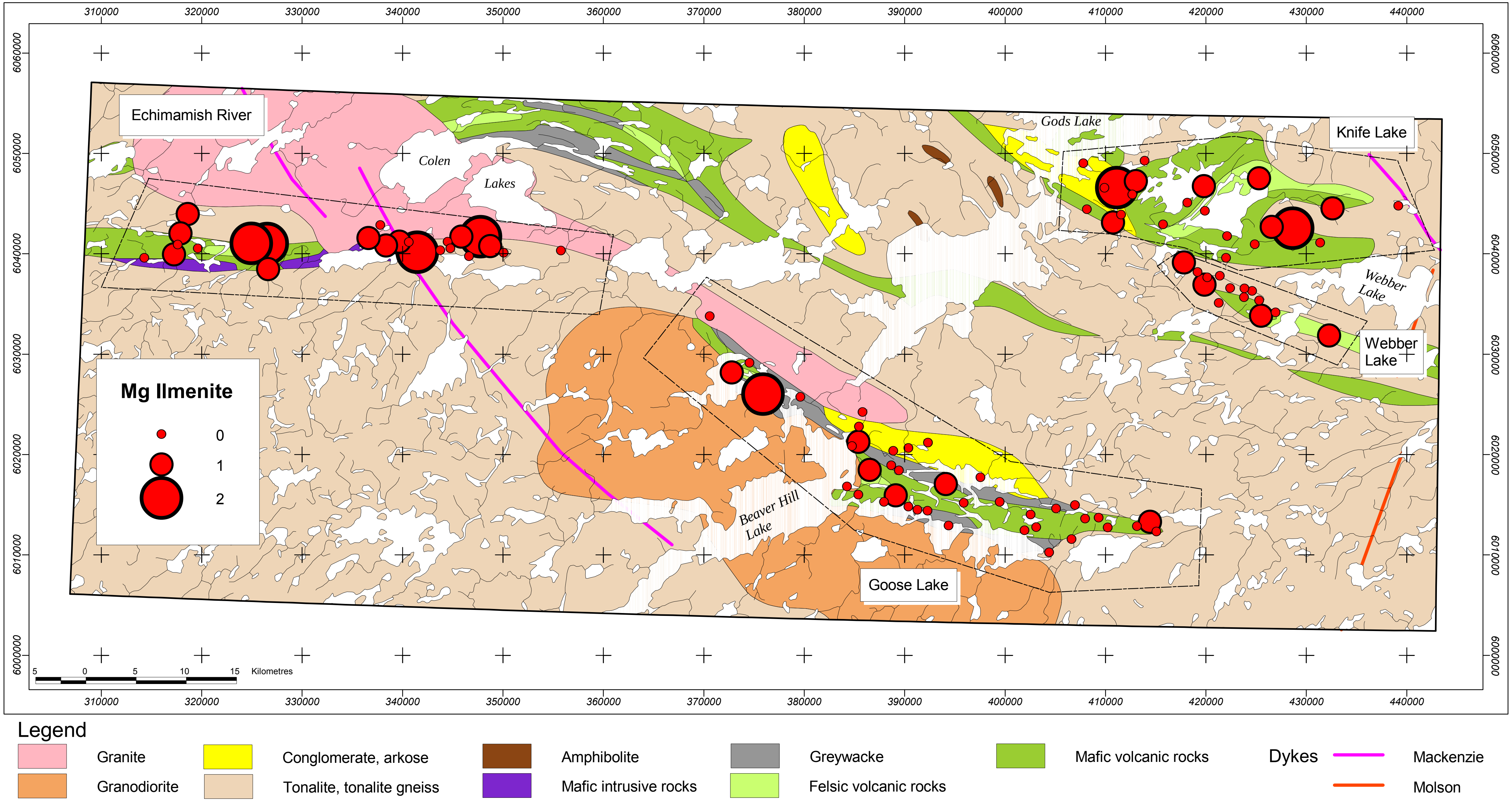


Figure 13: Regional distribution of magnesian ilmenite grains.

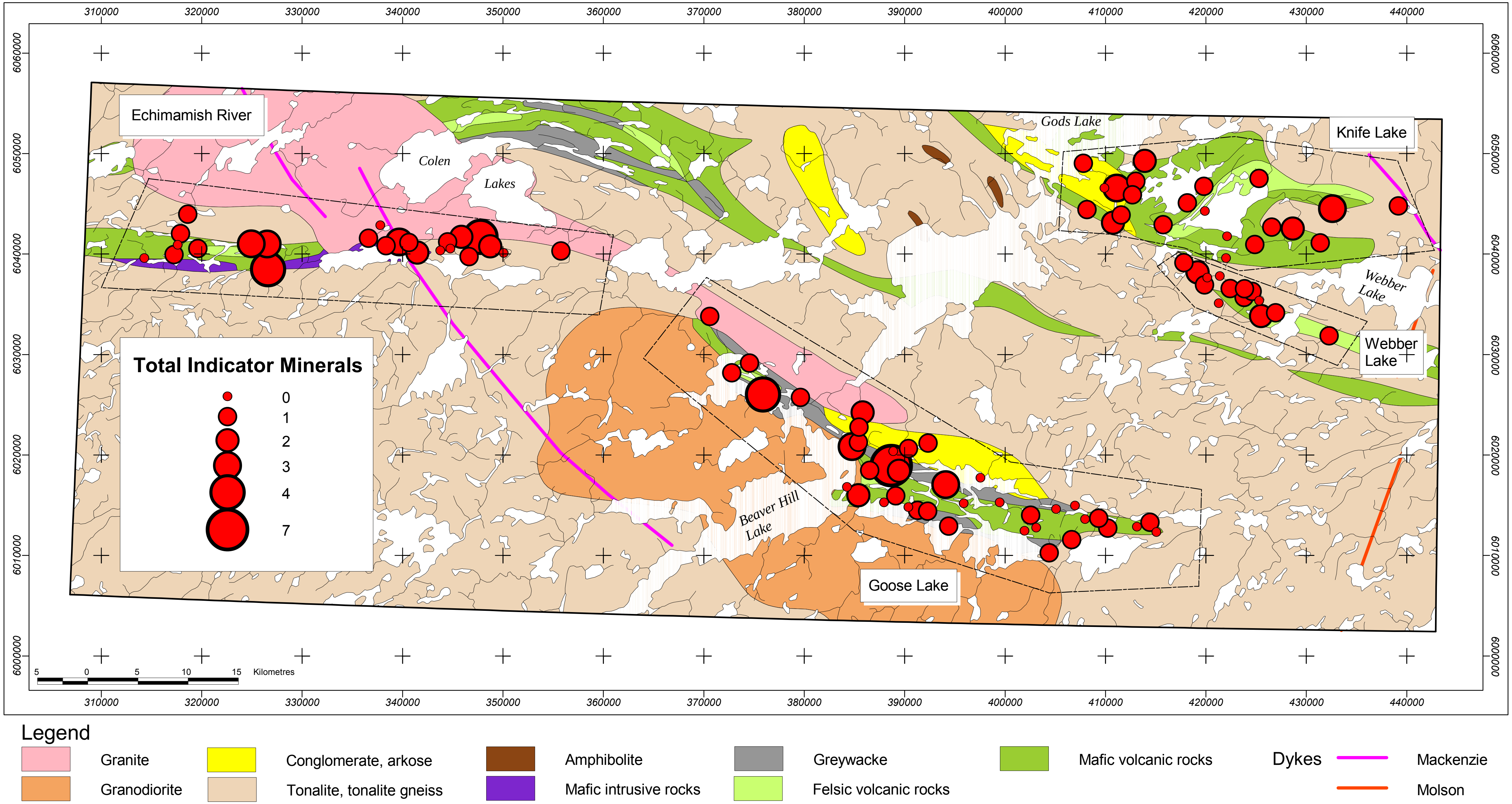


Figure 14: Regional distribution of total kimberlite indicator mineral (KIM) grains.

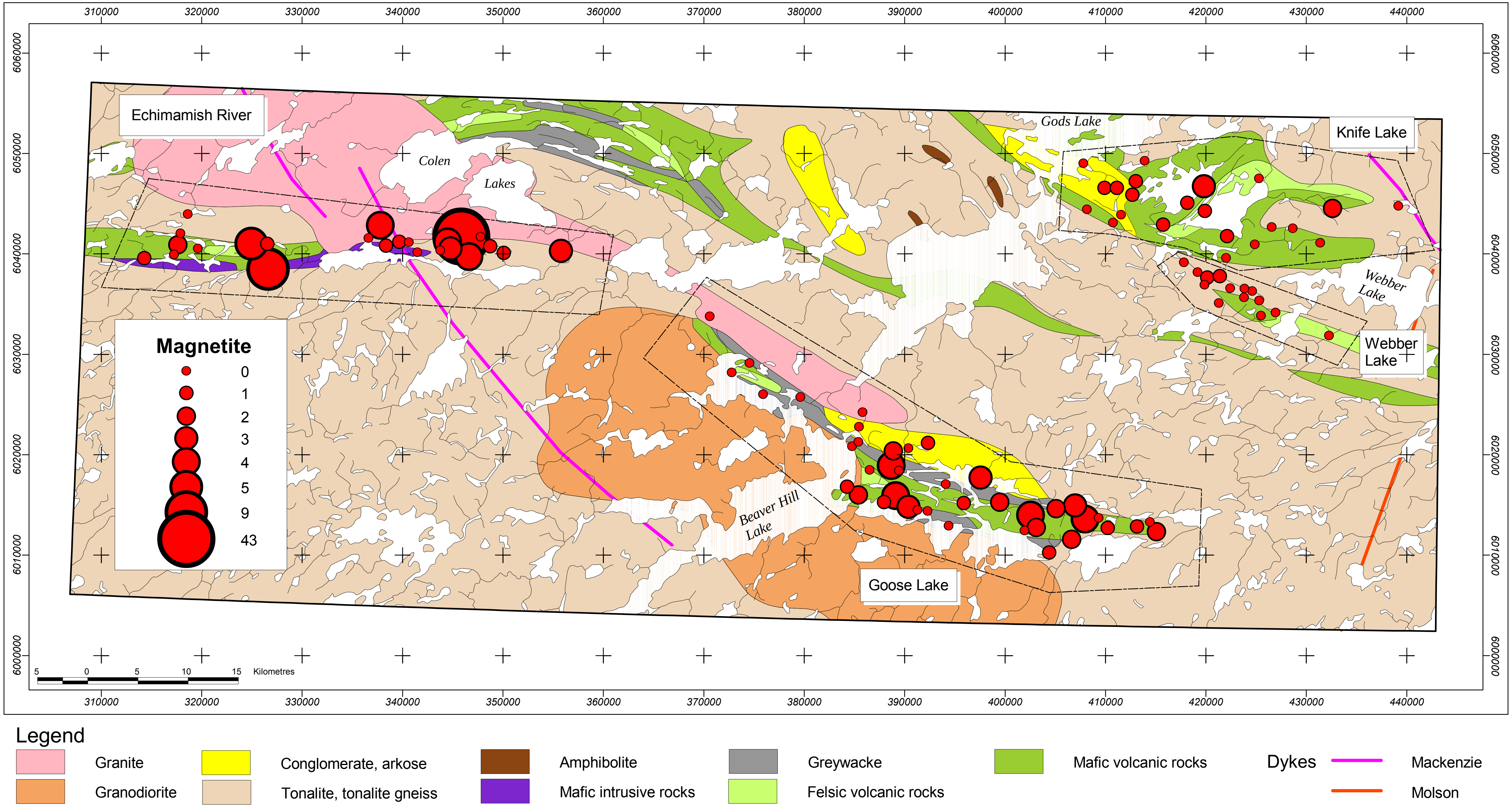


Figure 15: Regional distribution of magnetite grains.

Appendix 1

Mineral Chemistry (Monopros Limited) and Classifications (0.3 mm).

Sample Site	Easting	Northing	Mount	Grain	Size mm	MnO %	Na_2O %	Al_2O_3 %	FeO %	SiO_2 %	TiO_2 %	CaO %	Cr_2O_3 %	MgO %	TOTAL	Classification
98T-2	419789.00	6046717.00	1	1	0.3	0.05	0.04	0.29	92.68	0.01	0.03	0.04	0.03	0.09	93.27	magnetite
98T-2	419789.00	6046717.00	1	2	0.3	0.23	0.08	0.06	93.04	0.00	0.03	0.04	0.13	0.00	93.62	magnetite
98T-2	419789.00	6046717.00	1	3	0.3	0.19	0.09	0.05	92.95	0.00	0.00	0.05	0.13	0.04	93.51	magnetite
98T-8	415727.00	6042908.00	1	4	0.3	0.20	0.04	0.15	92.93	0.00	0.04	0.03	0.07	0.01	93.46	magnetite
98T-15	405071.47	6014609.50	1	6	0.3	0.06	0.02	0.07	92.78	0.02	0.06	0.03	0.17	0.00	93.22	magnetite
98T-15	405071.47	6014609.50	1	7	0.3	0.31	0.05	0.00	92.89	0.00	0.04	0.04	0.08	0.03	93.43	magnetite
98T-20	409312.34	6013691.50	1	8	0.3	0.36	0.01	8.15	34.46	0.08	4.64	0.10	38.70	13.48	99.98	Cr-spinel
98T-21	389429.00	6018411.00	1	9	0.3	0.30	0.01	19.81	21.54	0.06	0.58	0.09	43.35	12.53	98.28	Cr-spinel
98T-21	389429.00	6018411.00	1	10	0.3	0.59	0.11	2.66	49.50	0.07	1.16	0.12	39.75	2.85	96.81	Cr-spinel
98T-23	392288.00	6014396.00	1	11	0.3	0.73	0.18	0.61	52.80	0.07	1.78	0.11	41.28	2.51	100.07	Cr-spinel
98T-27	375906.00	6025997.00	1	12	0.3	0.45	0.08	18.00	7.65	40.57	0.29	5.81	7.25	19.73	99.82	non-titanian Cr-Pyrope G9
98T-29	374547.00	6029138.00	1	13	0.3	0.40	0.09	20.54	7.43	40.60	0.32	4.93	5.08	21.27	100.66	titanian Cr-Pyrope G11
98T-31	372780.00	6028156.00	1	15	0.3	0.21	0.53	1.98	3.24	53.83	0.16	23.45	0.70	15.80	99.90	diopside
98T-37	370589.00	6033766.00	1	16	0.3	0.42	0.05	17.05	7.35	39.62	0.24	6.62	8.76	19.06	99.17	non-titanian Cr-Pyrope G9
98T-39	319606.97	6040534.00	1	17	0.3	0.15	0.97	1.88	3.50	53.92	0.14	22.77	1.30	16.15	100.79	Cr-diopside
98T-40	317629.00	6040882.50	1	18	0.3	0.34	0.00	0.15	92.74	0.00	0.09	0.01	0.06	0.00	93.40	magnetite
98T-40	317629.00	6040882.50	1	19	0.3	0.21	0.04	0.10	93.20	0.00	0.13	0.04	0.09	0.03	93.84	magnetite
98T-43	318611.03	6043950.00	1	20	0.3	0.40	0.13	0.06	29.27	0.00	52.11	0.01	4.84	12.93	99.74	magnesian ilmenite
98T-49	314291.00	6039571.50	1	21	0.3	0.11	0.11	0.26	93.26	0.00	0.23	0.02	0.02	0.07	94.09	magnetite
98T-58	422017.59	6039578.50	1	22	0.3	0.07	0.00	54.83	13.14	26.61	0.66	0.03	0.06	1.49	96.89	staurolite
98T-61	428648.00	6042511.00	1	23	0.3	0.34	0.04	0.07	37.53	0.00	48.87	0.02	2.86	9.34	99.05	magnesian ilmenite
98T-66	425278.00	6047515.00	1	24	0.3	0.37	0.00	0.28	35.23	0.00	51.18	0.04	1.36	10.63	99.09	magnesian ilmenite
98T-70	411122.00	6046567.00	1	25	0.3	0.31	0.00	0.22	32.65	0.00	51.34	0.01	2.38	11.41	98.32	magnesian ilmenite
98T-70	411122.00	6046567.00	1	26	0.3	0.37	0.02	0.09	35.29	0.00	51.66	0.03	2.13	10.63	100.21	magnesian ilmenite
98T-70	411122.00	6046567.00	1	27	0.3	4.39	0.02	10.90	0.98	37.31	0.42	30.51	14.15	0.36	99.04	Cr-diopside
98T-71	412676.00	6045877.00	1	28	0.3	0.25	0.00	0.08	93.27	0.00	0.07	0.03	0.08	0.11	93.89	magnetite
98T-71	412676.00	6045877.00	1	29	0.3	0.24	0.00	21.98	37.45	0.00	3.42	0.00	24.67	12.44	100.19	Cr-spinel
98T-73	411549.00	6043862.00	1	30	0.3	0.33	0.07	9.96	30.02	0.09	3.91	0.10	41.78	11.49	97.76	Cr-spinel
98T-79	432599.00	6044519.00	1	31	0.3	0.12	0.08	0.11	93.11	0.00	0.05	0.04	0.05	0.02	93.60	magnetite
98T-79	432599.00	6044519.00	1	32	0.3	0.33	0.07	7.34	24.05	0.07	4.21	0.11	50.97	12.92	100.07	Cr-spinel
98T-79	432599.00	6044519.00	1	33	0.3	0.45	0.00	20.51	19.04	0.04	0.21	0.09	46.68	13.12	100.13	Cr-spinel
98T-83	431374.00	6041096.00	1	34	0.3	0.06	0.08	54.43	12.81	25.99	0.63	0.04	0.04	1.56	95.63	staurolite
98T-83	431374.00	6041096.00	1	35	0.3	0.38	0.01	8.77	33.22	0.09	4.89	0.11	39.45	13.49	100.41	Cr-spinel
98T-85	439153.13	6044766.50	1	36	0.3	0.03	0.02	0.03	0.47	31.22	38.07	28.84	2.08	0.00	100.76	Cr-diopside
98T-94	413909.00	6049263.00	1	37	0.3	0.62	0.06	17.96	8.49	39.27	0.11	6.70	7.59	18.50	99.31	non-titanian Cr-pyrope G9
98T-94	413909.00	6049263.00	1	38	0.3	0.28	0.08	14.97	15.66	0.19	0.80	0.12	52.99	16.03	101.13	Cr-spinel
98T-95	407798.00	6049007.00	1	39	0.3	0.45	0.04	19.54	7.26	40.95	0.21	5.47	6.33	19.61	99.85	non-titanian Cr-pyrope G9
98T-96	409899.00	6046556.00	1	40	0.3	0.06	0.09	0.02	94.05	0.00	0.09	0.04	0.06	0.09	94.49	magnetite
98T-97	418140.00	6045082.00	1	41	0.3	0.27	0.09	0.00	93.34	0.00	0.07	0.04	0.09	0.02	93.93	magnetite
98T-97	418140.00	6045082.00	1	42	0.3	0.45	0.06	9.38	34.45	0.11	5.15	0.13	38.27	11.83	99.83	Cr-spinel
98T-101	432256.00	6031840.50	1	43	0.3	0.29	0.01	0.15	32.34	0.00	50.92	0.02	3.14	11.45	98.32	magnesian ilmenite
98T-103	425307.38	6035317.50	1	22	0.3	0.68	0.00	21.31	25.27	37.90	0.19	5.34	0.12	8.30	99.13	eclogitic garnet
98T-106	421383.56	6037781.50	1	44	0.3	0.14	0.11	0.08	92.95	0.00	0.05	0.03	0.05	0.03	93.45	magnetite
98T-107	420147.63	6037637.50	1	45	0.3	0.20	0.00	0.02	92.47	0.00	0.01	0.05	0.04	0.03	92.82	magnetite
98T-108	421291.50	6035072.50	1	46	0.3	0.50	0.01	22.94	22.72	38.47	0.17	8.00	0.22	8.48	101.52	eclogitic garnet
98T-110	424600.44	6036265.50	1	47	0.3	0.14	1.78	1.51	3.13	55.38	0.22	20.16	1.64	16.86	100.83	Cr-diopside
98T-112	422413.50	6036539.50	1	48	0.3	0.38	0.03	15.30	19.43	0.08	0.48	0.11	52.26	12.88	100.95	Cr-spinel
98T-114	419177.66	6038148.50	1	49	0.3	1.06	0.13	7.71	37.60	0.12	4.24	0.11	39.74	8.70	99.41	Cr-spinel
98T-114	419177.66	6038148.50	1	50	0.3	0.55	0.08	16.24	31.49	0.03	0.49	0.11	42.81	6.82	98.61	Cr-spinel
98T-118	426929.28	6034129.50	1	51	0.3	0.09	0.03	54.26	14.21	25.42	0.67	0.04	0.04	1.98	96.75	staurolite

Sample Site	Easting	Northing	Mount	Grain	Size mm	MnO %	Na_2O %	Al_2O_3 %	FeO %	SiO_2 %	TiO_2 %	CaO %	Cr_2O_3 %	MgO %	TOTAL	Classification
98T-118	426929.28	6034129.50	1	52	0.3	0.09	0.04	0.24	22.58	36.26	0.55	34.08	5.48	0.26	99.59	Cr-diopside
98T-120	423790.44	6035660.50	1	53	0.3	0.41	0.09	19.89	7.74	40.96	0.18	4.60	5.97	20.81	100.64	non-titanian Cr-pyrope G10
98T-122	408163.00	6044404.00	1	54	0.3	0.56	0.02	22.21	9.50	40.48	0.07	5.39	3.23	19.41	100.87	non-titanian Cr-pyrope G9
98T-123	410744.00	6043110.00	1	55	0.3	0.56	0.03	22.64	23.90	38.21	0.34	6.47	0.08	9.25	101.48	eclogitic garnet
98T-123	410744.00	6043110.00	1	56	0.3	0.32	0.08	0.29	32.12	0.00	51.81	0.00	3.60	11.97	100.20	magnesian ilmenite
98T-123	410744.00	6043110.00	1	57	0.3	0.21	0.74	0.56	4.62	54.71	0.08	23.33	0.49	16.29	101.04	Cr-diopside
98T-126	413132.19	6012836.00	1	58	0.3	0.09	0.00	0.14	93.61	0.00	0.05	0.04	0.06	0.00	94.00	magnetite
98T-127	385444.00	6022763.00	1	59	0.3	0.80	0.02	1.66	51.63	0.09	1.19	0.12	39.19	2.48	97.19	Cr-spinel
98T-128	385814.00	6024219.00	1	60	0.3	0.38	0.06	20.17	7.54	40.78	0.10	5.81	5.86	19.88	100.58	non-titanian Cr-pyrope G9
98T-128	385814.00	6024219.00	1	61	0.3	0.73	0.11	1.31	54.65	0.06	0.61	0.11	39.45	1.96	98.99	Cr-spinel
98T-131	410227.28	6012701.50	1	62	0.3	0.48	0.02	0.13	68.87	0.00	0.73	0.01	25.81	1.40	97.45	Cr-spinel
98T-131	410227.28	6012701.50	1	63	0.3	0.11	0.10	0.09	93.34	0.00	0.07	0.04	0.05	0.06	93.86	magnetite
98T-132	407970.38	6013576.50	1	65	0.3	0.06	0.12	0.07	92.67	0.00	0.03	0.05	0.08	0.15	93.24	magnetite
98T-132	407970.38	6013576.50	1	66	0.3	0.08	0.10	0.03	93.29	0.00	0.04	0.04	0.07	0.04	93.70	magnetite
98T-132	407970.38	6013576.50	1	67	0.3	0.08	0.00	0.00	94.12	0.00	0.03	0.04	0.22	0.05	94.54	magnetite
98T-132	407970.38	6013576.50	1	68	0.3	0.10	0.06	0.05	93.50	0.00	0.04	0.04	0.07	0.12	93.98	magnetite
98T-134	406971.44	6014940.50	1	69	0.3	0.14	0.20	0.06	94.27	0.00	0.03	0.05	0.06	0.13	94.93	magnetite
98T-134	406971.44	6014940.50	1	70	0.3	0.08	0.00	0.07	93.79	0.00	0.04	0.05	0.14	0.01	94.18	magnetite
98T-134	406971.44	6014940.50	1	71	0.3	0.08	0.02	0.12	93.11	0.00	0.07	0.04	0.08	0.09	93.62	magnetite
98T-139	402538.53	6013989.50	1	72	0.3	0.11	0.00	0.05	93.35	0.00	0.02	0.03	0.05	0.00	93.60	magnetite
98T-139	402538.53	6013989.50	1	73	0.3	0.08	0.02	0.06	93.47	0.00	0.05	0.05	0.06	0.09	93.88	magnetite
98T-139	402538.53	6013989.50	1	74	0.3	0.35	0.06	7.79	18.83	0.08	1.73	0.10	57.40	13.85	100.20	Cr-spinel
98T-139	402538.53	6013989.50	1	75	0.3	0.08	0.12	0.06	93.67	0.02	0.02	0.04	0.04	0.12	94.17	magnetite
98T-139	402538.53	6013989.50	1	76	0.3	0.06	0.00	0.09	93.46	0.00	0.04	0.03	0.08	0.08	93.84	magnetite
98T-142	397559.00	6017711.00	1	77	0.3	0.08	0.09	0.02	93.47	0.00	0.06	0.05	0.05	0.03	93.85	magnetite
98T-142	397559.00	6017711.00	1	78	0.3	0.07	0.08	0.08	92.95	0.00	0.03	0.03	0.05	0.01	93.31	magnetite
98T-146	392335.00	6021175.00	1	79	0.3	0.05	0.06	0.10	93.16	0.00	0.07	0.03	0.05	0.09	93.61	magnetite
98T-146	392335.00	6021175.00	1	80	0.3	0.77	0.04	0.80	54.21	0.06	0.79	0.12	40.05	2.24	99.07	Cr-spinel
98T-147	388878.00	6020355.00	1	81	0.3	0.01	0.03	0.11	93.27	0.00	0.06	0.01	0.12	0.07	93.70	magnetite
98T-147	388878.00	6020355.00	1	82	0.3	0.15	0.22	0.85	92.02	0.00	0.10	0.05	0.09	0.21	93.69	magnetite
98T-148	403100.47	6012742.50	1	83	0.3	0.54	0.04	0.09	92.36	0.00	0.05	0.02	0.34	0.15	93.59	magnetite
98T-148	403100.47	6012742.50	1	84	0.3	2.01	0.00	0.02	46.38	0.00	52.14	0.03	0.03	0.19	100.80	ilmenite
98T-148	403100.47	6012742.50	1	86	0.3	0.08	0.06	0.10	93.62	0.00	0.04	0.05	0.07	0.18	94.20	magnetite
98T-148	403100.47	6012742.50	1	87	0.3	1.88	0.02	0.02	46.67	0.00	51.68	0.04	0.03	0.16	100.49	ilmenite
98T-148	403100.47	6012742.50	1	88	0.3	1.95	0.06	0.04	46.53	0.00	52.71	0.02	0.03	0.03	101.38	ilmenite
98T-149	401935.00	6012422.00	1	89	0.3	0.14	0.07	55.41	13.31	25.77	0.64	0.04	0.05	2.29	97.73	staurolite
98T-151	399476.00	6015250.00	1	90	0.3	0.13	0.06	0.04	94.32	0.00	0.04	0.04	0.03	0.08	94.74	magnetite
98T-151	399476.00	6015250.00	1	91	0.3	0.31	0.05	0.11	92.79	0.00	0.09	0.05	0.03	0.12	93.55	magnetite
98T-153	394104.00	6017050.00	1	92	0.3	0.33	0.01	0.13	34.66	0.00	52.89	0.03	0.73	10.71	99.48	magnesian ilmenite
98T-153	394104.00	6017050.00	1	93	0.3	0.29	0.04	16.11	17.79	0.13	0.55	0.10	51.86	14.17	101.04	Cr-spinel
98T-153	394104.00	6017050.00	1	94	0.3	0.47	0.02	0.29	68.29	0.00	2.58	0.03	24.64	1.36	97.70	Cr-spinel
98T-154	406616.34	6011560.50	1	95	0.3	0.44	0.09	18.48	7.50	40.14	0.35	5.78	7.23	19.54	99.55	titanian Cr-pyrope G11
98T-154	406616.34	6011560.50	1	96	0.3	23.07	0.10	21.17	18.54	35.07	0.29	1.25	0.06	0.48	100.03	spessartite
98T-154	406616.34	6011560.50	1	97	0.3	0.05	0.11	0.10	93.30	0.00	0.09	0.04	0.07	0.12	93.88	magnetite
98T-154	406616.34	6011560.50	1	98	0.3	0.11	0.07	0.22	93.45	0.00	0.05	0.04	0.06	0.09	94.10	magnetite
98T-156	404389.38	6010246.50	1	99	0.3	0.50	0.06	21.48	8.14	40.75	0.06	4.63	3.98	20.64	100.24	non-titanian Cr-pyrope G9
98T-156	404389.38	6010246.50	1	100	0.3	5.22	0.09	0.05	43.59	0.00	51.70	0.03	0.02	0.41	101.11	ilmenite
98T-160	390377.00	6020623.00	2	1	0.3	0.81	0.11	0.70	53.51	0.10	1.15	0.13	39.87	2.34	98.74	Cr-spinel
98T-163	388677.00	6018912.00	2	2	0.3	0.61	0.03	0.35	63.08	0.08	2.49	0.13	29.56	1.51	97.83	Cr-spinel
98T-163	388677.00	6018912.00	2	3	0.3	0.15	0.07	0.05	93.51	0.00	0.03	0.04	0.14	0.03	94.04	magnetite
98T-163	388677.00	6018912.00	2	4	0.3	0.64	0.08	1.65	53.07	0.06	0.77	0.14	39.33	1.83	97.57	Cr-spinel
98T-163	388677.00	6018912.00	2	5	0.3	0.88	0.05	0.96	51.79	0.08	1.16	0.13	40.10	3.66	98.80	Cr-spinel
98T-163	388677.00	6018912.00	2	6	0.3	0.71	0.04	0.40	61.42	0.08	2.60	0.14	31.63	1.61	98.63	Cr-spinel
98T-163	388677.00	6018912.00	2	7	0.3	1.46	0.09	0.34	62.29	0.08	2.04	0.13	31.06	0.55	98.04	Cr-spinel
98T-163	388677.00	6018912.00	2	8	0.3	0.14	0.35	0.05	93.90	0.01	0.05	0.05	0.21	0.25	95.00	magnetite
98T-163	388677.00	6018912.00	2	9	0.3	0.85	0.12	1.22	54.06	0.07	1.65	0.13	38.74	2.34	99.17	Cr-spinel

Sample Site	Easting	Northing	Mount	Grain	Size mm	MnO %	Na_2O %	Al_2O_3 %	FeO %	SiO_2 %	TiO_2 %	CaO %	Cr_2O_3 %	MgO %	TOTAL	Classification
98T-163	388677.00	6018912.00	2	10	0.3	0.56	0.03	0.34	66.66	0.00	2.23	0.03	25.15	1.39	96.39	Cr-spinel
98T-163	388677.00	6018912.00	2	11	0.3	0.09	0.15	0.01	91.98	0.00	0.01	0.04	0.09	0.05	92.43	magnetite
98T-163	388677.00	6018912.00	2	12	0.3	0.15	0.03	0.01	93.08	0.00	0.03	0.04	0.13	0.05	93.51	magnetite
98T-164	386509.00	6018460.00	2	13	0.3	0.31	0.06	0.20	30.98	0.00	53.16	0.02	3.02	12.37	100.13	magnesian ilmenite
98T-167	384775.00	6020830.00	2	14	0.3	3.10	0.06	21.33	32.49	36.69	0.25	5.73	0.08	1.70	101.44	garnet
98T-167	384775.00	6020830.00	2	15	0.3	0.35	0.02	13.91	23.59	0.04	0.61	0.10	51.27	9.62	99.51	Cr-spinel
98T-167	384775.00	6020830.00	2	16	0.3	0.36	0.24	2.02	21.52	30.09	11.31	31.86	0.10	0.96	98.45	Fe-Ti oxide
98T-167	384775.00	6020830.00	2	17	0.3	0.93	0.14	1.71	52.11	0.05	0.65	0.14	41.53	1.33	98.58	Cr-spinel
98T-167	384775.00	6020830.00	2	18	0.3	0.77	0.06	1.32	53.31	0.18	2.33	0.13	37.84	2.90	98.84	Cr-spinel
98T-168	389115.00	6015922.00	2	19	0.3	0.05	0.01	53.71	13.51	25.37	0.67	0.05	0.06	2.18	95.61	staurolite
98T-168	389115.00	6015922.00	2	20	0.3	0.41	0.03	0.03	33.25	0.00	51.03	0.00	3.61	11.12	99.49	magnesian ilmenite
98T-168	389115.00	6015922.00	2	21	0.3	0.19	0.10	0.06	92.50	0.00	0.13	0.05	0.18	0.15	93.36	magnetite
98T-168	389115.00	6015922.00	2	22	0.3	0.60	0.03	0.02	92.85	0.00	0.05	0.04	0.36	0.00	93.95	magnetite
98T-170	384273.00	6016794.00	2	23	0.3	0.10	0.06	0.14	93.58	0.00	0.08	0.04	0.06	0.01	94.07	magnetite
98T-172	385394.00	6015986.00	2	24	0.3	0.11	0.04	0.11	93.22	0.00	0.06	0.03	0.09	0.04	93.72	magnetite
98T-172	385394.00	6015986.00	2	25	0.3	1.63	0.80	14.24	32.27	0.07	1.12	0.11	42.85	0.26	93.36	Cr-spinel
98T-172	385394.00	6015986.00	2	26	0.3	0.22	0.06	0.84	92.95	0.00	0.13	0.03	0.19	0.13	94.55	magnetite
98T-172	385394.00	6015986.00	2	27	0.3	1.36	0.22	15.15	30.93	0.06	0.37	0.12	47.91	3.81	99.92	Cr-spinel
98T-173	387942.00	6015283.00	2	28	0.3	0.09	0.08	0.05	94.18	0.01	0.05	0.04	0.11	0.00	94.60	magnetite
98T-174	394375.00	6012910.00	2	29	0.3	0.52	0.11	0.26	69.51	0.00	1.55	0.02	24.88	1.23	98.07	Cr-spinel
98T-176	390369.00	6014784.00	2	30	0.3	0.08	0.10	0.08	93.78	0.00	0.10	0.03	0.03	0.08	94.29	magnetite
98T-176	390369.00	6014784.00	2	31	0.3	0.08	0.05	0.07	91.69	0.00	0.04	0.05	0.07	0.13	92.17	magnetite
98T-178	390369.00	6014784.00	2	32	0.3	0.24	0.00	0.00	93.16	0.00	0.01	0.04	0.03	0.03	93.51	magnetite
98T-180	324945.91	6041004.00	2	33	0.3	0.09	0.03	0.02	93.02	0.00	0.04	0.06	0.06	0.05	93.39	magnetite
98T-180	324945.91	6041004.00	2	34	0.3	0.42	0.01	15.75	22.77	0.06	0.60	0.09	50.09	11.20	101.00	Cr-spinel
98T-180	324945.91	6041004.00	2	35	0.3	0.30	0.04	0.00	93.01	0.01	0.03	0.04	0.07	0.02	93.51	magnetite
98T-180	324945.91	6041004.00	2	36	0.3	0.09	0.07	0.04	93.27	0.00	0.03	0.05	0.15	0.00	93.70	magnetite
98T-180	324945.91	6041004.00	2	37	0.3	0.04	0.01	0.04	93.12	0.00	0.06	0.04	0.05	0.08	93.44	magnetite
98T-180	324945.91	6041004.00	2	38	0.3	0.04	0.14	0.06	92.70	0.00	0.11	0.05	0.07	0.01	93.19	magnetite
98T-180	324945.91	6041004.00	2	39	0.3	0.22	0.10	0.64	31.50	0.00	53.22	0.04	0.74	13.26	99.72	magnesian ilmenite
98T-180	324945.91	6041004.00	2	40	0.3	0.36	0.01	0.10	33.69	0.00	50.86	0.01	3.24	10.73	98.99	magnesian ilmenite
98T-181	326531.88	6040989.00	2	41	0.3	0.30	0.08	0.34	30.42	0.00	52.94	0.02	2.78	13.04	99.92	magnesian ilmenite
98T-181	326531.88	6040989.00	2	42	0.3	0.11	0.09	0.10	93.36	0.00	0.07	0.05	0.03	0.03	93.84	magnetite
98T-181	326531.88	6040989.00	2	43	0.3	0.34	0.05	13.47	31.25	0.18	3.43	0.10	36.35	13.28	98.46	Cr-spinel
98T-184	326621.81	6038449.00	2	44	0.3	0.44	0.04	18.79	7.39	40.35	0.17	5.74	6.69	20.25	99.87	non-titanian Cr-pyrope G9
98T-184	326621.81	6038449.00	2	45	0.3	0.46	0.00	23.07	20.35	38.54	0.24	6.69	0.08	11.68	101.10	garnet
98T-184	326621.81	6038449.00	2	46	0.3	0.32	0.00	0.09	39.66	0.00	47.26	0.01	2.86	8.58	98.79	magnesian ilmenite
98T-184	326621.81	6038449.00	2	47	0.3	0.06	0.02	0.08	92.89	0.00	0.08	0.06	0.02	0.14	93.35	magnetite
98T-184	326621.81	6038449.00	2	48	0.3	0.50	0.13	14.46	25.12	0.08	0.42	0.10	53.44	7.03	101.30	Cr-spinel
98T-184	326621.81	6038449.00	2	49	0.3	0.06	0.11	0.04	93.09	0.00	0.02	0.04	0.10	0.00	93.45	magnetite
98T-184	326621.81	6038449.00	2	50	0.3	0.12	0.02	0.05	93.64	0.00	0.01	0.04	0.09	0.00	93.97	magnetite
98T-184	326621.81	6038449.00	2	51	0.3	0.09	0.00	0.03	92.94	0.00	0.04	0.05	0.06	0.03	93.24	magnetite
98T-184	326621.81	6038449.00	2	52	0.3	0.12	0.00	0.00	92.91	0.07	0.00	0.04	0.15	0.02	93.31	magnetite
98T-184	326621.81	6038449.00	2	53	0.3	0.16	0.02	0.04	92.57	0.00	0.01	0.03	0.04	0.00	92.89	magnetite
98T-184	326621.81	6038449.00	2	54	0.3	0.11	0.05	0.11	93.04	0.04	0.06	0.05	0.05	0.09	93.58	magnetite
98T-184	326621.81	6038449.00	2	55	0.3	0.13	0.08	0.10	92.96	0.00	0.02	0.04	0.03	0.03	93.39	magnetite
98T-184	326621.81	6038449.00	2	56	0.3	0.14	0.05	0.09	92.58	0.00	0.03	0.05	0.01	0.06	93.02	magnetite
98T-184	326621.81	6038449.00	1	36	0.3	0.54	0.15	19.60	7.60	41.18	0.08	6.05	6.69	18.35	100.23	non-titanian Cr-pyrope G9
98T-187	336615.72	6041557.00	2	57	0.3	0.41	0.05	0.28	39.61	0.00	49.86	0.06	0.05	9.49	99.81	magnesian ilmenite
98T-189	350083.38	6040090.00	2	58	0.3	21.57	0.05	20.93	20.10	35.83	0.14	0.45	0.08	1.24	100.39	spessartite
98T-189	350083.38	6040090.00	2	59	0.3	0.20	0.04	0.09	93.55	0.00	0.01	0.04	0.11	0.05	94.08	magnetite
98T-190	346618.44	6039718.00	2	60	0.3	0.04	0.07	0.23	93.14	0.00	0.41	0.03	0.06	0.01	93.99	magnetite
98T-190	346618.44	6039718.00	2	61	0.3	0.07	0.01	0.05	93.63	0.00	0.07	0.03	0.06	0.01	93.93	magnetite
98T-190	346618.44	6039718.00	2	62	0.3	0.42	0.00	8.76	38.50	0.09	5.11	0.11	37.39	9.82	100.20	Cr-spinel
98T-190	346618.44	6039718.00	2	63	0.3	0.32	0.08	0.13	92.70	0.00	0.09	0.04	0.06	0.06	93.48	magnetite
98T-190	346618.44	6039718.00	2	64	0.3	0.06	0.13	0.09	93.36	0.00	0.03	0.04	0.04	0.02	93.77	magnetite

Sample Site	Easting	Northing	Mount	Grain	Size mm	MnO %	Na_2O %	Al_2O_3 %	FeO %	SiO_2 %	TiO_2 %	CaO %	Cr_2O_3 %	MgO %	TOTAL	Classification
98T-191	348726.41	6040743.00	2	65	0.3	0.35	0.09	18.33	7.82	40.20	0.44	5.37	6.68	20.29	99.57	titanian Cr-pyrope G11
98T-191	348726.41	6040743.00	2	66	0.3	7.55	0.01	20.81	15.82	37.18	0.45	18.23	0.09	0.23	100.37	garnet
98T-191	348726.41	6040743.00	2	67	0.3	0.25	0.03	0.44	43.34	0.00	46.16	0.03	0.81	7.53	98.58	magnesian ilmenite
98T-192	347772.47	6041683.00	2	68	0.3	0.56	0.03	0.06	46.58	0.00	47.87	0.03	0.24	4.89	100.25	ilmenite
98T-192	347772.47	6041683.00	2	69	0.3	0.37	0.08	0.03	43.46	0.00	45.22	0.01	2.50	6.76	98.43	magnesian ilmenite
98T-192	347772.47	6041683.00	2	70	0.3	0.12	0.41	0.81	2.91	53.09	0.38	23.15	1.14	17.41	99.42	Cr-diopside
98T-192	347772.47	6041683.00	2	71	0.3	0.36	0.06	0.06	43.41	0.00	44.60	0.02	2.18	6.52	97.22	magnesian ilmenite
98T-193	345860.50	6041687.00	2	72	0.3	0.34	0.05	7.68	27.19	0.10	3.41	0.11	47.95	13.51	100.35	magnesian ilmenite
98T-193	345860.50	6041687.00	2	73	0.3	0.09	0.13	0.23	92.71	0.00	0.11	0.05	0.06	0.10	93.48	magnetite
98T-193	345860.50	6041687.00	2	74	0.3	0.14	0.12	0.14	93.11	0.01	0.12	0.05	0.08	0.00	93.78	magnetite
98T-193	345860.50	6041687.00	2	75	0.3	0.06	0.01	0.10	93.47	0.00	0.10	0.04	0.03	0.03	93.85	magnetite
98T-193	345860.50	6041687.00	2	76	0.3	0.11	0.00	0.07	93.12	0.00	0.08	0.09	0.08	0.11	93.67	magnetite
98T-193	345860.50	6041687.00	2	77	0.3	0.11	0.00	0.22	93.39	0.00	0.08	0.06	0.03	0.08	93.97	magnetite
98T-193	345860.50	6041687.00	2	78	0.3	0.09	0.01	0.17	92.77	0.00	0.11	0.05	0.07	0.09	93.35	magnetite
98T-193	345860.50	6041687.00	2	79	0.3	0.09	0.10	0.17	92.69	0.00	0.10	0.04	0.07	0.06	93.32	magnetite
98T-193	345860.50	6041687.00	2	80	0.3	1.38	0.06	1.28	82.20	9.40	3.25	0.22	0.01	0.36	98.15	magnetite
98T-193	345860.50	6041687.00	2	81	0.3	0.07	0.00	0.12	92.43	0.00	0.13	0.05	0.05	0.15	93.00	magnetite
98T-193	345860.50	6041687.00	2	82	0.3	0.13	0.04	0.00	93.30	0.00	0.00	0.04	0.05	0.02	93.58	magnetite
98T-193	345860.50	6041687.00	2	83	0.3	0.09	0.05	0.15	93.15	0.00	0.07	0.07	0.07	0.08	93.73	magnetite
98T-193	345860.50	6041687.00	2	84	0.3	0.10	0.13	0.15	93.37	0.00	0.12	0.07	0.07	0.03	94.05	magnetite
98T-193	345860.50	6041687.00	2	85	0.3	0.07	0.07	0.07	93.07	0.00	0.04	0.03	0.05	0.00	93.41	magnetite
98T-193	345860.50	6041687.00	2	86	0.3	0.17	0.04	0.01	93.25	0.00	0.04	0.03	0.39	0.02	93.96	magnetite
98T-193	345860.50	6041687.00	2	87	0.3	0.23	0.00	0.16	92.43	0.00	0.13	0.05	0.07	0.12	93.19	magnetite
98T-193	345860.50	6041687.00	2	88	0.3	0.11	0.21	0.19	93.25	0.00	0.11	0.06	0.08	0.11	94.11	magnetite
98T-193	345860.50	6041687.00	2	89	0.3	0.14	0.07	0.17	92.82	0.00	0.11	0.06	0.07	0.02	93.45	magnetite
98T-193	345860.50	6041687.00	2	90	0.3	0.14	0.05	0.56	92.57	0.37	0.10	0.37	0.05	0.06	94.26	magnetite
98T-193	345860.50	6041687.00	2	91	0.3	0.07	0.09	0.07	92.50	0.00	0.10	0.04	0.60	0.02	93.49	magnetite
98T-193	345860.50	6041687.00	2	92	0.3	0.13	0.02	0.16	93.03	0.00	0.11	0.03	0.06	0.09	93.62	magnetite
98T-193	345860.50	6041687.00	2	93	0.3	0.56	0.06	16.30	16.92	0.04	0.23	0.06	52.52	13.70	100.40	Cr-spinel
98T-193	345860.50	6041687.00	2	94	0.3	0.11	0.01	0.24	93.18	0.01	0.11	0.05	0.06	0.08	93.86	magnetite
98T-193	345860.50	6041687.00	2	95	0.3	0.15	0.09	0.16	93.12	0.00	0.09	0.06	0.06	0.07	93.79	magnetite
98T-193	345860.50	6041687.00	2	96	0.3	0.05	0.04	0.25	92.73	0.00	0.15	0.05	0.06	0.05	93.39	magnetite
98T-193	345860.50	6041687.00	2	97	0.3	0.12	0.00	0.20	93.30	0.00	0.05	0.03	0.05	0.02	93.78	magnetite
98T-193	345860.50	6041687.00	2	98	0.3	0.14	0.06	0.21	93.19	0.00	0.12	0.05	0.08	0.00	93.86	magnetite
98T-193	345860.50	6041687.00	2	99	0.3	0.13	0.12	0.22	92.53	0.00	0.12	0.10	0.06	0.06	93.35	magnetite
98T-193	345860.50	6041687.00	2	100	0.3	0.26	0.10	0.44	92.76	0.00	0.30	0.03	0.17	0.03	94.08	magnetite
98T-193	345860.50	6041687.00	3	1	0.3	0.12	0.11	0.08	93.06	0.00	0.05	0.05	0.05	0.00	93.52	magnetite
98T-193	345860.50	6041687.00	3	2	0.3	0.11	0.06	0.17	92.40	0.00	0.10	0.06	0.07	0.05	93.02	magnetite
98T-193	345860.50	6041687.00	3	3	0.3	0.08	0.00	0.14	92.98	0.00	0.08	0.05	0.10	0.13	93.56	magnetite
98T-193	345860.50	6041687.00	3	4	0.3	0.07	0.02	0.18	92.97	0.00	0.11	0.03	0.06	0.06	93.49	magnetite
98T-193	345860.50	6041687.00	3	5	0.3	0.16	0.04	0.14	93.11	0.00	0.10	0.03	0.06	0.02	93.67	magnetite
98T-193	345860.50	6041687.00	3	6	0.3	0.22	0.09	0.11	93.05	0.00	0.04	0.05	0.03	0.11	93.69	magnetite
98T-193	345860.50	6041687.00	3	7	0.3	0.10	0.04	0.09	93.03	0.00	0.02	0.05	0.07	0.00	93.41	magnetite
98T-193	345860.50	6041687.00	3	8	0.3	0.08	0.00	0.12	93.51	0.00	0.06	0.04	0.05	0.05	93.91	magnetite
98T-193	345860.50	6041687.00	3	9	0.3	0.10	0.04	0.23	93.03	0.00	0.13	0.04	0.06	0.09	93.71	magnetite
98T-193	345860.50	6041687.00	3	10	0.3	0.08	0.02	0.12	93.03	0.00	0.08	0.06	0.05	0.01	93.45	magnetite
98T-193	345860.50	6041687.00	3	11	0.3	0.10	0.00	0.05	92.97	0.00	0.06	0.05	0.15	0.03	93.41	magnetite
98T-193	345860.50	6041687.00	3	12	0.3	0.11	0.10	0.22	93.49	0.00	0.10	0.03	0.09	0.06	94.20	magnetite
98T-193	345860.50	6041687.00	3	13	0.3	0.08	0.06	0.23	92.77	0.01	0.09	0.04	0.05	0.14	93.47	magnetite
98T-193	345860.50	6041687.00	3	14	0.3	0.15	0.19	0.24	92.85	0.02	0.11	0.03	0.07	0.05	93.70	magnetite
98T-193	345860.50	6041687.00	3	15	0.3	0.07	0.11	0.19	92.41	0.00	0.06	0.04	0.06	0.02	92.95	magnetite
98T-193	345860.50	6041687.00	3	16	0.3	0.14	0.04	0.09	92.78	0.00	0.13	0.05	0.07	0.04	93.35	magnetite
98T-194	355771.22	6040295.50	3	17	0.3	0.58	0.09	19.06	8.10	40.28	0.28	5.50	6.80	19.33	100.01	non-titanian Cr-pyrope G9
98T-194	355771.22	6040295.50	3	18	0.3	0.25	0.06	0.30	93.16	0.00	0.03	0.03	0.02	0.03	93.88	magnetite
98T-194	355771.22	6040295.50	3	19	0.3	0.14	0.10	0.08	92.78	0.00	0.04	0.06	0.02	0.02	93.24	magnetite
98T-194	355771.22	6040295.50	3	20	0.3	0.15	0.11	0.03	93.57	0.00	0.01	0.03	0.03	0.05	93.98	magnetite

Sample Site	Easting	Northing	Mount	Grain	Size mm	MnO %	Na_2O %	Al_2O_3 %	FeO %	SiO_2 %	TiO_2 %	CaO %	Cr_2O_3 %	MgO %	TOTAL	Classification
98T-196	344776.50	6040524.00	3	21	0.3	0.10	0.00	0.12	92.97	0.00	0.07	0.02	0.05	0.12	93.46	magnetite
98T-196	344776.50	6040524.00	3	22	0.3	0.06	0.07	0.08	93.35	0.00	0.06	0.03	0.05	0.03	93.74	magnetite
98T-196	344776.50	6040524.00	3	23	0.3	0.11	0.03	0.14	92.45	0.00	0.10	0.05	0.06	0.08	93.02	magnetite
98T-197	344483.53	6041202.00	3	24	0.3	0.11	0.00	0.13	92.87	0.00	0.00	0.05	0.12	0.06	93.35	magnetite
98T-197	344483.53	6041202.00	3	25	0.3	0.12	0.04	0.03	92.95	0.00	0.03	0.02	0.10	0.08	93.38	magnetite
98T-197	344483.53	6041202.00	3	26	0.3	0.07	0.04	0.03	93.15	0.00	0.06	0.03	0.12	0.04	93.53	magnetite
98T-197	344483.53	6041202.00	3	27	0.3	0.44	0.05	18.08	24.54	0.04	0.25	0.10	48.76	8.51	100.78	Cr-spinel
98T-197	344483.53	6041202.00	3	28	0.3	0.11	0.06	0.07	92.98	0.01	0.10	0.03	0.02	0.00	93.39	magnetite
98T-198	343762.53	6040329.00	3	29	0.3	0.04	0.09	54.85	11.73	25.40	0.72	0.04	0.06	1.55	94.47	staurolite
98T-205	337801.72	6042848.00	3	30	0.3	0.16	0.16	0.07	93.59	0.00	0.06	0.06	0.06	0.00	94.15	magnetite
98T-205	337801.72	6042848.00	3	31	0.3	0.06	0.04	0.09	93.48	0.00	0.05	0.04	0.03	0.02	93.81	magnetite
98T-205	337801.72	6042848.00	3	32	0.3	0.03	0.09	0.02	93.30	0.00	0.02	0.02	0.10	0.00	93.60	magnetite
98T-205	337801.72	6042848.00	3	33	0.3	0.18	0.02	0.10	93.12	0.00	0.08	0.05	0.06	0.04	93.65	magnetite
98T-206	338357.66	6040821.00	3	34	0.3	0.29	0.07	0.04	93.15	0.00	0.02	0.04	0.05	0.05	93.70	magnetite
98T-206	338357.66	6040821.00	3	35	0.3	0.31	0.03	0.21	32.54	0.00	51.42	0.00	2.95	11.54	99.01	magnesian ilmenite
98T-207	340633.63	6041136.00	3	36	0.3	0.34	0.07	7.57	27.09	0.13	3.30	0.11	47.97	13.39	99.98	Cr-spinel
98T-208	339675.63	6041192.00	3	37	0.3	0.47	0.13	0.07	34.28	0.00	50.21	0.02	3.55	10.81	99.55	magnesian ilmenite
98T-208	339675.63	6041192.00	3	38	0.3	0.70	0.07	4.07	49.62	0.07	0.82	0.12	40.12	3.65	99.25	Cr-spinel
98T-208	339675.63	6041192.00	3	39	0.3	0.28	0.00	14.05	27.17	0.12	2.55	0.10	41.62	14.04	99.93	Cr-spinel
98T-208	339675.63	6041192.00	3	40	0.3	0.13	0.07	0.13	93.69	0.00	0.10	0.03	0.03	0.11	94.29	magnetite

Appendix 2

Total Kimberlite Indicator Mineral Abundances (0.3 mm + 0.5 mm + 1.0 mm)

Sample Site	UTM Easting	UTM Northing	Magnetite	Mg-Ilmenite	Cr-Spinel	G9	Cr-Diopside	G10	G11	Total Kimberlite Indicator Minerals
98T-2	419789.00	6046717.00	3	1						1
98T-3	419903.00	6044273.00	1							0
98T-4	424854.00	6040934.00							1	1
98T-8	415727.00	6042908.00	1						1	1
98T-15	405071.47	6014609.50	2							0
98T-18	415078.09	6012325.00	2							0
98T-19	414432.16	6013288.00		1						1
98T-20	409312.34	6013691.50			1					1
98T-21	389429.00	6018411.00			2					2
98T-23	392288.00	6014396.00			1					1
98T-24	379613.00	6025712.00				1				1
98T-27	375906.00	6025997.00		2		1	1			4
98T-29	374547.00	6029138.00							1	1
98T-31	372780.00	6028156.00		1						1
98T-37	370589.00	6033766.00				1				1
98T-39	319606.97	6040534.00					1			1
98T-40	317629.00	6040882.50	2							0
98T-42	317884.00	6042024.50		1						1
98T-43	318611.03	6043950.00		1						1
98T-49	314291.00	6039571.50	1							0
98T-50	317241.97	6039935.50		1						1
98T-55	426549.00	6042653.00		1						1
98T-58	422017.59	6039578.50								0
98T-61	428648.00	6042511.00		2						2
98T-66	425278.00	6047515.00		1						1
98T-70	411122.00	6046567.00	1	2			1			3
98T-71	412676.00	6045877.00	1		1					1
98T-72	413024.00	6047216.00	1	1						1
98T-73	411549.00	6043862.00			1					1
98T-75	422108.00	6041765.00	1							0
98T-79	432599.00	6044519.00	2	1	2					3
98T-83	431374.00	6041096.00			1					1
98T-85	439153.13	6044766.50					1			1
98T-94	413909.00	6049263.00			1	1				2
98T-95	407798.00	6049007.00				1				1
98T-96	409899.00	6046556.00	1							0
98T-97	418140.00	6045082.00	1		1					1
98T-101	432256.00	6031840.50		1						1
98T-103	425307.38	6035317.50								0
98T-104	423848.47	6036518.50			1					1
98T-106	421383.56	6037781.50	1							0
98T-107	420147.63	6037637.50	1							0
98T-108	421291.50	6035072.50								0
98T-110	424600.44	6036265.50					1			1
98T-112	422413.50	6036539.50			1					1
98T-113	419846.59	6036918.50		1						1

Sample Site	UTM Easting	UTM Northing	Magnetite	Mg-Ilmenite	Cr-Spinel	G9	Cr-Diopside	G10	G11	Total Kimberlite Indicator Minerals
98T-114	419177.66	6038148.50			2					2
98T-116	417811.72	6039129.50		1						1
98T-118	426929.28	6034129.50					1			1
98T-119	425480.31	6033803.50		1	1					2
98T-120	423790.44	6035660.50						1		1
98T-122	408163.00	6044404.00				1				1
98T-123	410744.00	6043110.00		1			1			2
98T-126	413132.19	6012836.00	1							0
98T-127	385444.00	6022763.00			1					1
98T-128	385814.00	6024219.00			1	1				2
98T-131	410227.28	6012701.50	1		1					1
98T-132	407970.38	6013576.50	4							0
98T-134	406971.44	6014940.50	3							0
98T-139	402538.53	6013989.50	4		1					1
98T-142	397559.00	6017711.00	3							0
98T-146	392335.00	6021175.00	1		1					1
98T-147	388878.00	6020355.00	2							0
98T-148	403100.47	6012742.50	2							0
98T-149	401935.00	6012422.00								0
98T-151	399476.00	6015250.00	2							0
98T-152	395886.00	6015171.00	1							0
98T-153	394104.00	6017050.00		1	2					3
98T-154	406616.34	6011560.50	2						1	1
98T-156	404389.38	6010246.50	1			1				1
98T-160	390377.00	6020623.00			1					1
98T-163	388677.00	6018912.00	4		7					7
98T-164	386509.00	6018460.00		1						1
98T-166	385391.00	6021255.00		1						1
98T-167	384775.00	6020830.00			3					3
98T-168	389115.00	6015922.00	4	1						1
98T-170	384273.00	6016794.00	1							0
98T-172	385394.00	6015986.00	2		2					2
98T-173	387942.00	6015283.00	1							0
98T-174	394375.00	6012910.00			1					1
98T-175	391283.00	6014472.00						1		1
98T-176	390369.00	6014784.00	3							0
98T-180	324945.91	6041004.00	5	2	1					3
98T-181	326531.88	6040989.00	1	2	1					3
98T-184	326621.81	6038449.00	9	1	1	2				4
98T-187	336615.72	6041557.00		1						1
98T-189	350083.38	6040090.00	1							0
98T-190	346618.44	6039718.00	4		1					1
98T-191	348726.41	6040743.00	1	1					1	2
98T-192	347772.47	6041683.00		2			2			4
98T-193	345860.50	6041687.00	43	1	1					2
98T-194	355771.22	6040295.50	3			1				1
98T-196	344776.50	6040524.00	3							0
98T-197	344483.53	6041202.00	4		1					1
98T-198	343762.53	6040329.00								0
98T-200	341465.56	6040134.00		2						2
98T-205	337801.72	6042848.00	4							0
98T-206	338357.66	6040821.00	1	1						1
98T-207	340633.63	6041136.00			1					1

Sample Site	UTM		Magnetite	Mg-Ilmenite	Cr-Spinel	G9	Cr-Diopside	G10	G11	Total Kimberlite Indicator Minerals
	Easting	Northing								
98T-208	339675.63	6041192.00	1	1	2					3