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GEOCHEMICAL EXPLORATION MODELS, VOLUME 1: VMS DEPOSITS IN SOUTH-CENTRAL BRITISH COLUMBIA (NTS 82L/13, L/14, 82M/4, M/5, M/6 AND 92P/1E)

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GEOCHEMICAL EXPLORATION MODELS, VOLUME ONE: VMS DEPOSITS IN SOUTH-CENTRAL BRITISH COLUMBIA (NTS 82L/13, 14, 82M/4, 5, 6 AND 92P/1E)

PART 1, MODELS

OPEN FILE 2000-31

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ABSTRACT

Open File 2000-31 presents new data from detailed surveys covering eight areas of southern B.C. near Adams Lake. Part 1 of this Open File contains a summary of data collected and interpretational models. The detailed results are compiled in Part 2. The surveys were carried out to study the geochemical response of precious and polymetallic volcanogenic sulphide (VMS) deposits in Kootenay terrane rocks and to develop models for portraying the essential characteristics of geochemical dispersion for different elements in surficial deposits. These models aim to assist in the design of geochemical surveys and to simplify the interpretation of geochemical data.

Over 300 C and B-soil horizon samples were analysed for 49 elements by a combination of instrumental neutron activation (INAA) and aqua regia digestion inductively coupled plasma emission spectroscopy (ICPES). A number of the samples were also analysed for major oxides by lithium metaborate fusion-ICPES.

Results of a multi-media survey demonstrate that sampling the C-horizon till is often more effective than B-horizon soil for detecting buried mineralization because the C-horizon geochemistry more directly reflects the parent mineralogy of the source material. Knowledge of ice-flow direction and till thickness is important for predicting the position of a concealed source from geochemical data.

A geochemical exploration model (GEM) for massive sulphide deposits in a glaciated area of southern B.C. has been developed from detailed and regional till, B-horizon soil and stream sediment, and water geochemical survey data. Using three dimensional block diagrams, the model explains the relationship between bedrock source and the subsequent dispersal of mineralized drift in the surficial deposits, drainage, topography and surficial geochemistry. Elements in till, soil, stream sediment and water associated with different types of sulphide mineralization are shown on the model to illustrate how geochemistry can distinguish between different element sources for multi-media anomalies.

INTRODUCTION

This Open File describes the results of detailed surveys carried out in 1996, 1997 and 1998 by the British Columbia Geological Survey Branch (GSB) in the Adams Lake area to study the geochemical response of massive sulphide and other types of mineralization. These studies formed part of an integrated GSB project to better understand the mineral potential of Kootenay terrane. Results of the geological and geochemical components have been described by Höy, 1999 (mineral deposits), Bobrowsky *et al*., 1997, 1998; Paulen 2000, (regional till surveys) and Lett *et al*., 1998b (regional stream water survey). The detailed geochemical studies were carried out to improve geochemical exploration techniques for mineral deposits and to develop geochemical models to summarize the essential interpretation criteria from multiple case histories.

The Open File is published in two parts. Part 1 describes geochemical exploration models (GEM) for massive sulphide deposits typical of Kootenay terrane rocks and summarizes the results of the detailed surveys over eight areas around Adams Lake. Survey results are augmented by assessment report data. Part 2 contains the results of detailed geochemical surveys with all of the supporting field and analytical data used to formulate the models. Essentially, Part 1 provides a "Readers Digest" of the information compiled in Part 2.

Conceptual models are designed to simplify data interpretation by clearly showing the relationship between mineralization and the geochemistry of different suficial media (e.g. stream sediment, till). They can also give more confidence when designing future surveys. The models are based on a series of conceptual, three dimensional models first proposed by Bradshaw, 1974, for the Canadian Cordillera, and later modified by Kauranne, 1976, Lovering and McCarthy, 1978, and Butt and Smith, 1980. The models were formulated from existing geochemical data rather than being based on purely conceptual considerations.

Several diagrams were used by Bradshaw, 1974, to construct the conceptual models. Broad, spatial element variations were summarized on three-dimensional block diagrams whereas more detailed horizontal and vertical geochemical changes were shown through cross-sections and prisms. The diagrams have no scale because geochemical anomaly size is variable and the models were intended primarily to show geochemical relationships and to identify dispersion processes in the near-surface environment. However, anomaly dimensions can be predicted by linking the conceptual models to the supporting data gathered from geochemical case studies and orientation surveys. These predictions can be used when planning geochemical surveys such as when selecting the appropriate sample type and sampling density.

GEOCHEMICAL EXPLORATION MODELS (GEM) DEVELOPMENT

In this Open File a GEM (Figure 1) is developed to summarize important features of the geochemical expression of sulphide mineral deposits in Kootenay terrane metavolcanic and metasedimentary rocks in the Adams Lake area. In Figure 1, bedrock geology, surficial geology, the soil landscape and surface drainage are displayed three-dimensionally by a series of stacked, block diagrams. These diagrams are linked to a series of geochemical landscape layers showing the observed geochemical expression of mineralization from the bedrock interface into the surficial deposits and vegetation. Ice-flow direction and the projection of mineralization to the surface, are also shown on the diagrams.

Each type of mineral deposit has an element signature that may be reflected in the overlying glacial sediments, soil, vegetation, stream water and stream sediment geochemistry. Pathfinder element signatures are shown on the GEM because they can distinguish between different sources of mineralized bedrock. The most commonly observed multi-element signature for volcanogenic massive sulphide (VMS) deposits in Kootenay terrane rocks is As, Ag, Au, Ba, Bi, Cd, Cu, Pb, Hg, Se, Sn, Zn. This signature is based on the Noranda/Kuroko VMS deposit profile, G06 (Lefebure and Ray, 1995). Elevated Co, Ni and Mn and low Ba in some deposits (e.g. Mount Armour, Spar) most likely reflect a different environment (i.e.sedex) for sulphide deposition. Primary geochemical haloes shown on the bedrock layer have no scale because the actual lithogeochemical anomaly size varies from deposit to deposit.

Glacial dispersal trains in till are displayed on the surficial geochemistry layer in Figure 1. A dispersal train is a body of till enriched in debris from a bedrock source (DiLabio, 1990). In some areas the Quaternary stratigraphy is complex and includes glacial and non-glacial deposits (Fulton, 1975). For this reason the models presented in this Open File only apply to regions where the surficial geology comprises sediments from the last glacial event. An indication of the size and contrast of a till anomaly is shown by shaded horizontal and vertical patterns. Element associations identified on the trains indicate different bedrock sources for till anomalies such as Cu-Pb-Zn-Ag-Ba-As-Se-Sb for VMS Cu-Pb-Zn-Ag-Au deposits and Cr-Ni-V for mafic volcanic host rocks. The soil landscape layer combines the topography, drainage and predominant soil types typical of the climate and landscape around Adams Lake.

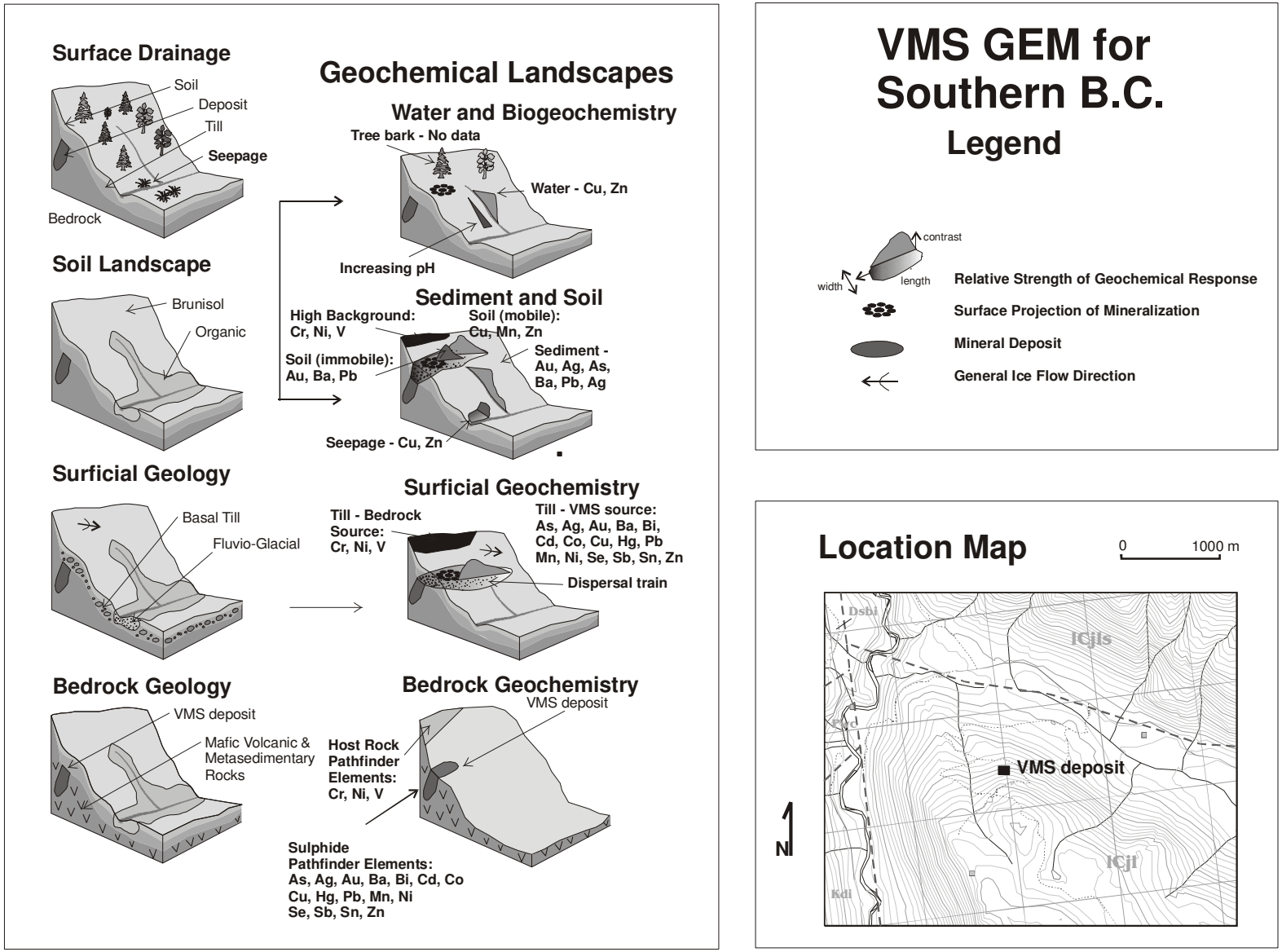


Figure 1. General GEM for VMS deposits in Kootenay Terrane Rocks

Patterns on the soil-sediment geochemistry layer are intended to indicate B-horizon soil and stream sediment anomaly size and contrast in a similar fashion to till. The relative strength of the geochemical response of mobile elements (e.g. Cu) and less mobile elements (e.g. Au) is also shown by patterns on the soil-sediment layer. The relationship between metal concentration in stream water and water pH is displayed on the water geochemistry layer. Ideally, layers are only presented where there is supporting geochemical data. In Figure 1 a biogeochemistry layer is represented even though there is limited data for the area.

Table 1. GEM classes for an area of moderate relief (topography Class B)

Code	Surficial Deposit
B1	Bedrock
B2	Colluvium - Talus
B3	Colluviated till
B4	Basal till - single ice advance
B5	Basal till - multiple ice advance
B6	Melt - out (ablation) till
B7	Glacio-fluvial sediment
B8	Glacio-lacustrine sediment
B9	Fluvial sediment
B10	Lacustrine sediment
B11	Organic deposit (wetland, bog, fen)
B12	Glacio-marine sediment
B13	Residual sediment

The geochemical exploration models described in this Open File are classified according to a hierarchical scheme similar to that proposed by Butt and Smith, 1979. This scheme has been modified to be more applicable to British Columbia's climatic zones, landscapes and surfical geology. A GEM can be developed from geochemical data collected in mountainous, alpine areas (Topography Class A), more moderate relief (Topography Class B) and almost flat terrain (Topography Class C). Within each topographic class the different surficial sediments (e.g. basal till, colluvium) are assigned a number code. Table 1 shows the sediments in topography class B and the corresponding code for each type. The same sediment code is used in topography classes A and C, although some sediment types may not be represented. As an example, the GEM class B2 (moderate relief, basal till deposited by a single ice advance) shown in Figure 1, commonly represents the relief and surficial geology of the Adams Lake area. A GEM can be assigned to several classes (e.g. B2, B8) if geochemical data represents several deposits.

Ice-flow direction and the thickness of glacial sediments are key variables controlling the location and size of a geochemical anomaly in a glaciated area. The direction of ice flow in the Adams Lake area (Figure 2) has been determined by mapping indicators such as sculptured landforms and bedrock striae (Paulen *et al*, 2000). Depending on till thickness, the peak of a B-horizon or C-horizon soil anomaly can be displaced some distance down-ice from the surface projection of the mineralized bedrock source. This is because basal till consists of eroded rock material deposited on the bedrock surface by the advancing ice-sheet. Mineralized debris typically forms a ribbon-shaped dispersal train in the till. The shape and size of the train area is controlled by the orientation of the source relative to the ice flow, the size and erodability of the source and the topography of the source and dispersal areas (Di Labio, 1990). The effect of different till thickness on the size and shape of a typical dispersal plume is shown schematically in Figure 3. The diagram explains why anomalous element concentrations in the B-horizon soil can be detected almost directly above a mineralized source at the bedrock surface, or may be displaced several kilometres down-ice from the source, depending on the angle of plume climb and till thickness. The abundance of glacially dispersed debris typically decreases exponentially with distance down-ice from a source.

SUMMARY OF DETAILED SURVEYS

The GEM's presented in this Open File are based on the supportive field data from geochemical surveys conducted in eight areas (Figure 4) in the Adams Lake region. Part 2 of this Open File offers a more comprehensive description of the eight areas. Included here, in Part 1, is condensed information for each area, the survey results, relevant assessment report and other published data. The information has been compiled in a standard format as follows:

1) Name and location (NTS Sheet, Lat, Long).
2) Geology
3) Mineralization
4) Topography, glacial deposits, soil types, vegetation

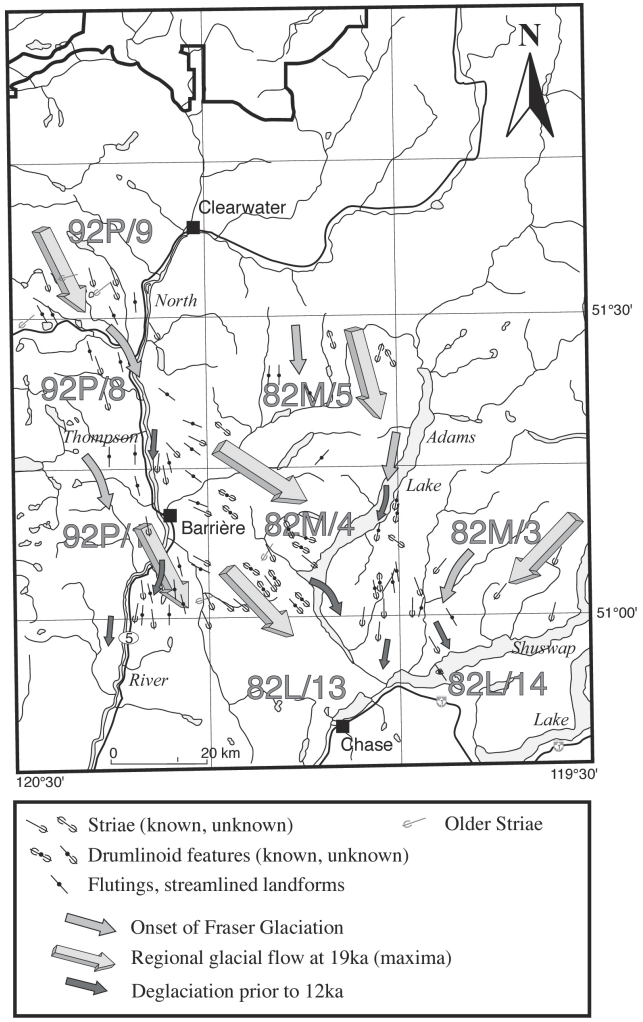


Figure 2. Ice-flow direction in the Adams Lake area (from Paulen *et al.,* 2000)

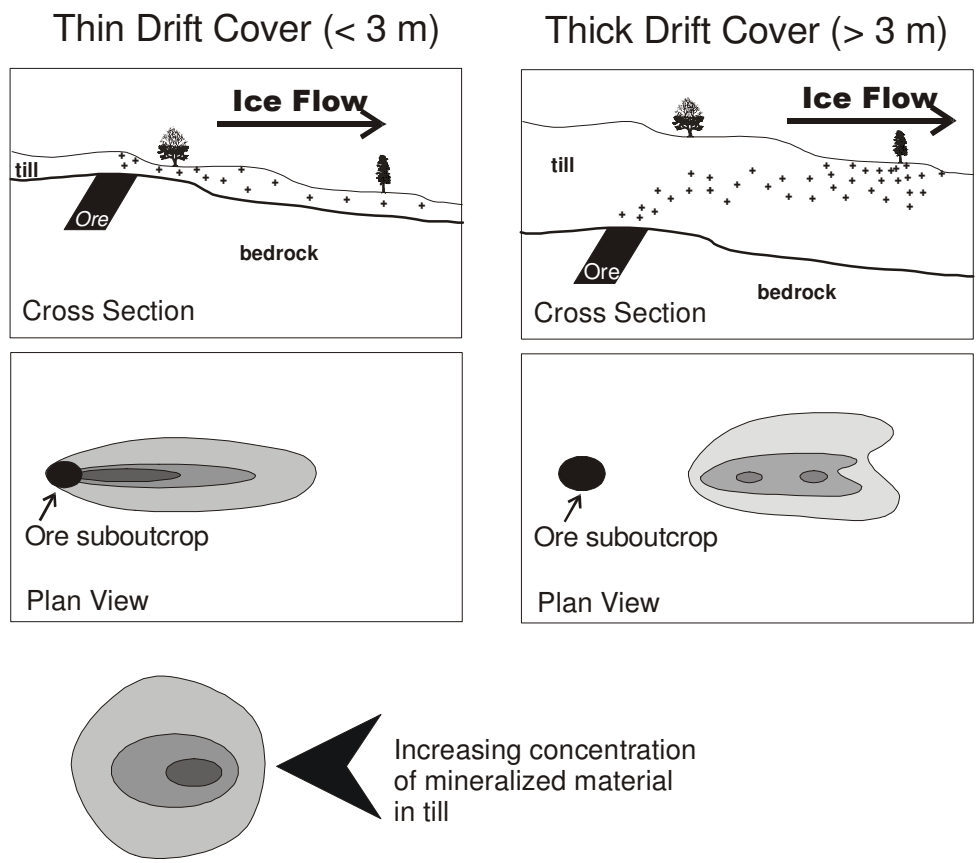


Figure 3. Dispersal trains of mineralized material in thick and thin till

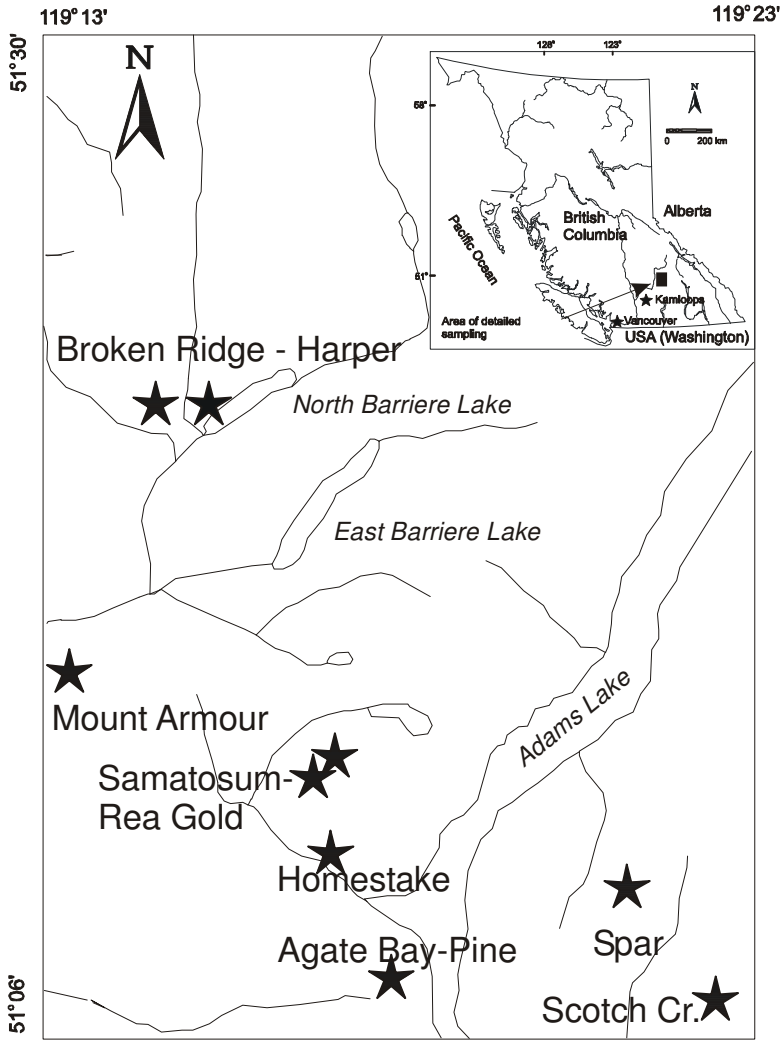


Figure 4. Survey locations

5) Soil geochemistry
6) Stream sediment and stream water geochemistry
7) Rock and other geochemical data
8) A summary GEM for the area.

All of the models presented in this Open File have a common legend. Symbols represent the general ice flow direction, sulphide deposit and projection of mineralization onto the till and soil layers. Shaded non-dimensional width and contrast patterns are intended to show the relative strength of a geochemical response for those elements most commonly represented.

Mount Armour

1. Location
The mineral occurrence (MINFILE 92P *051) is located 2 kilometres east of Barriere in NTS 92P/8 cantered on 120°06'0"W, 51°10'0"N).
2. Geology
Green chloritic schist, phyllitic sandstone, argillite, tuffs, quartzite, and quartz pebble conglomerate of the lower Cambrian to Devonian Eagle Bay Units EBS and EBM underlie the area containing Cu-Zn-Fe sulphides. These rocks have a northwest trending foliation (Schiarriza and Preto, 1987).
3. Mineralization
Principal surface exposure of the sulphide mineralization is at the Main and South showings where massive pyrite, containing traces of chalcopyrite and sphalerite, is hosted by siliceous argillite and phyllite. The massive pyrite may extend for several tens of metres along a northwest trend. Previous diamond drilling established grades up to 0.73 per cent copper and 4.1 per cent zinc over a one-metre interval (Pirie, 1986).
4. Topography, glacial deposits, soil types, vegetation
The Main and South massive sulphide showings are on a northwest trending ridge between Dixon Creek and the North Thompson River. The elevation of Mount Armour is 793 metres above sea level. The steeper upper slopes of the ridge are rugged and outcrops are frequent. Along the undulating ridge crest the surface has been disturbed by trenching and road construction. Up to three metres of olive-grey, moderately consolidated lodgement-basal till was deposited on bedrock by southeast flowing ice. Colluviated till and colluvium cover the steeper slopes and these sediments extend onto the alluvial floor of the North Thompson River valley. Soils are predominantly brunisolic and support second growth pine and birch.
5. Soil Geochemistry
Assessment report B soil horizon surveys (Vollo, 1980, Pirie, 1986, Caulfield, 2001) outline a 600 x 400 metre Cu-Pb-Zn-Au-Ag soil anomaly surrounding and extending south from the showings. The axis of the anomaly trends northwest to southeast. Concentrations at the 95th percentile for elements in the B soil horizon were determined to be: Au - 40 ppb, Ag - 1.8 ppb, As - 48 ppm, Cu - 157 ppm, Pb - 98 ppm and Zn - 578 ppm. New geochemical data (see Part 2) show that the B-horizon soil five metres from the Main showing has Au - 2720 ppb, Ag - 1234 ppb, As - 104 ppm, Bi - 29 ppm, Co - 49 ppm, Sb - 10.7 ppm, Se - 13 ppm and Cu - 364 ppm. Elevated Au, As, Cu and Co occur in the B-horizon soil and till for up to one kilometre south of the Main showing. The distribution of Cu and Co in the till indicates that the mineralized dispersal train is less than 500 metres wide. North of the Main showing the soil has up to Au - 98 ppb, Co - 26 ppm, Cu - 204 ppm and Zn - 1148 ppm. Anomalous As (42 ppm) and Au (40 ppb) are present one kilometre north west of the Main showing on the western side of the Mount Armour ridge. The source for this anomaly has not been identified.
6. Stream sediment and water geochemistry
The are no data for the streams draining Mount Armour into Dixon Creek.
7. Rock and other geochemical data
A massive sulphide sample from the Main showing contains Ag - 2 ppm, As - 120 ppm, Au - 867 ppb, Bi - 42 ppm, Co - 470 ppm, Cu - 4010 ppm, Fe - 44%, Hg - 120 ppb, Pb - 33 ppm, Se - 8.3 ppm and Zn - 24 ppm.
8. GEM
A GEM (Figure 5) shows multiple mineralized sources at the bedrock surface for the B-horizon soil-till anomalies and the Au-Ag-As-Bi-Co-Cu-Pb-Se-Sb-Zn multi-element association in the massive sulphide. The GEM also shows the absence of any stream sediment anomaly associated with the mineralization.

Samatosum-Rea Gold

1. Location
The detailed survey area covers roughly 20 square kilometres between the Samatosum (MINFILE 82M 244), Rea Gold (MINFILE 82M 191) and Homestake (MINFILE 82M 025) deposits and Adams Lake. The area is in NTS 82 M/4 are is centered on 119°49'10"W, 51°08'50"N.
2. Geology
The area is underlain by the Eagle Bay Assemblage and consists of Cambrian clastic metasedimentary, carbonate and mafic metavolcanic rocks overlain by a Devonian-Mississippian succession of felsic to intermediate metavolcanic and clastic metasedimentary rocks. The Eagle Bay Assemblage forms four northwest-dipping thrust sheets and the area is dominated by northwest trending, shallow-dipping, overturned folds. Oldest Eagle Bay rocks (Unit

EBG) are Cambrian calcareous schist derived from mafic volcanic rocks. Unit EGB includes the prominent Tshinakin limestone, quartzite and conglomerate and is separated from younger Devonian-Mississippian rocks by a southwest-dipping thrust fault. This unit hosts the Samatosum and Rea Gold deposits. Above Unit EBG are Devonian-Mississippian Units EBF, EBA and EBS. Unit EBF consists of fragmental feldspathic schistose rocks derived from intermediate tuffs and volcanic breccias. Unit EBA, the host rock for the Homestake deposit, is a chlorite-sericite quartz phyllite derived from felsic to intermediate volcanic rocks. Unit EBS consists of coarse-grained clastic metasedimentary rocks intercalated with carbonate and mafic volcanic horizons (Schiarriza and Preto, 1987).

3. Mineralization

Samatosum and Rea Gold deposits occur in a zone of heavily altered sediments and mafic volcanic rocks, with minor felsic to intermediate volcanic rocks. The structural footwall is a thick sequence of feldspathic phyllite and schist derived from intermediate tuff and volcanic breccia (Unit EBF). The Samatosum deposit is a highly deformed quartz-vein system containing massive to disseminated pyrite, tetrahedrite, sphalerite, chalcopyrite and galena. Principal gangue minerals are quartz and dolomite. Fuchsite (Cr-mica) is a distinctive alteration mineral in the immediate sheared footwall portion of the ore zone. Mineralization is not exposed at the bedrock surface. At Rea Gold, 0.5 km SW from Samatosum, massive pyrite, arsenopyrite, sphalerite, galena, tetrahedrite, quartz and barite form two lenses beneath a gossan. Diamond drilling on the Kamad 7 property (MINFILE 82M 277), located one kilometer south from Rea Gold, detected weakly Au-Pb-As-pyrite mineralized sericitic chert and phyllite capped by a ferricrete crust beneath the till. The Homestake Pb-Zn-Ag-Au-Ba deposit (4 km SE of Rea Gold) consists of two barite-pyrite-chalcopyrite-argentite-tetrahedrite-galena-sphalerite lenses in Unit EBA quartz-sericite-talc schist. The Twin Mountain (MINFILE 82M 020) prospect (6 km E of Samatosum) consists of galena, sphalerite, pyrite and chalcopyrite mineralization in carbonate-quartz-barite lenses hosted by a northeast-dipping zone of grey pyritic and calcareous chlorite-sericite-quartz schists.

4. Topography, glacial deposits, soil types, vegetation

The area is an undulating, dissected plateau surrounding Samatosum Mountain (elevation 600 metres) and is drained by creeks flowing into Adams Lake. Brunisolic and podzolic soils support western hemlock, red cedar and Douglas fir that has been partially cleared by commercial logging. Secondary alder and lodgepole pine growth has partially regenerated logged areas. Organic soils are typical in small bogs on the plateau and in swampy areas around lakes. Outcrop is almost continuous along the north side of the Sinmax Creek valley including the area of the Homestake mine, but on the plateau, outcrop exposure is less than ten per cent. East of the Samatosum deposit, bedrock is covered by three to eight metres of massive, silty-clay, basal till deposited by a predominantly northwest to southeast ice advance. Locally, there is also ablation till, fluvial sediments, and organic deposits. Colluvial deposits have formed on steep slopes and fluvial, glaciofluvial and glaciolacustrine sediments are present in valley bottoms.

5. Soil geochemistry

Assessment work on the Twin Mountain occurrence outlined B-soil horizon Zn anomalies (>500 ppm Zn) up to 700 x 200 metres in size. Gold, Ag, As, Cu and Pb soil anomalies are smaller than the Zn anomalies. The largest multi-element B-horizon soil anomaly appeared to be related to a northwest trending mineralized structure associated with the Twin Mountain occurrence. New geochemical data for the area south east of Samatosum-Rea Gold deposits show a Au, As, Pb and Sb till geochemical anomaly extending for up to two kilometres down-ice from the mine. The Au (> 27 ppb) and As (>43 ppm) anomaly is up to one kilometre wide. Element levels in the till 2 kilometres from the mine are Cd - 49 ppm, Zn - 9752, V - 180, Hg - 240 ppb, Pb - 240 ppb, Cr - 650ppm and Fe - 10.5%. Barium levels are generally higher in till down-ice from the Rea Gold deposit whereas Pb is higher down-ice from Samatosum. The highest Ba (2600 ppm) in till occurs south of the Twin Mountain occurrence. Although Cu values above 74 ppm in till are scattered southeast from the Rea Gold and Samatosum deposits, the highest Cu (>314 ppm) is in a sample south of the Twin Mountain occurrence. This till sample also has elevated Fe (30%), Sb (3 ppm), Ba (2600 ppm), As (47 ppm), Bi (2.4 ppm), Cr (250 ppm), Mo (10.2 ppm), Ni (310 ppm), Pb (120 ppm) and Se (9 ppm). The elements increase sharply from the B to the C-soil horizon. Close to the Homestake deposit As, Sb, Ba and Hg in the B and C-soil horizon are elevated over the Pb-Zn-Ag sulphide mineralization.

6. Stream sediment and stream water geochemistry

Copper (83 ppm) and Cr (130 ppm) are anomalous in sediment from a stream draining the Samatosum mine area; Au (16 ppb) is below the regional threshold for this element. Copper, Ag, Au, Ba, Sb, Pb and Zn are anomalous in stream sediment from the creek draining the Homestake mine. Water in creeks draining Samatosum, Rea Gold and Homestake is alkaline. Only Ni is present at a significant level (1.2 ppb) in stream water flowing from the area around Samatosum and Rea Gold. Elevated Ba (up to 87 ppb) is present in

water from Homestake creek and in a cluster of streams near the Twin Mountain occurrence.

7. Rock and other geochemical data

The massive Fe-Pb-Zn-Ag sulphides at Samatosum have elevated Au, Ba, Bi, Cd, Hg, Se, Sb and Tl. At Rea Gold the massive sulphides have a higher Ba content than Samatosum with elevated Mo, Sn and V in addition to the other pathfinder elements.

8. GEM

A GEM (Figure 6) for the area shows the Samatosum and Rea Gold deposits as examples of two mineralized sources at the bedrock surface. Slightly different element signatures in soil and till reflect the pathfinder association for individual deposits. Also indicated is a Cr-Ni-Mg-V response from the mafic rocks associated with the mineralization. Stream sediment and water anomalies reflect the geochemical response from Samatosum and Rea Gold rather than from Homestake.

Harper-Broken Ridge

1. Location

119° 50' 30" W, 51° 20' 30" N (Harper Prospect). 119 ° 53' 00" E, 51° 20' 30" N (Broken Ridge Prospect). The detailed survey area covers roughly 15 square kilometres of NTS 82M/5 including the two mineral occurrences.

2. Geology

Sulphides occur in northwest trending felsic metavolcanic rocks (phyllite and schist) of the Eagle Bay Assemblage Unit EBA south of the contact with the Baldy granite batholith (Schiarriza and Preto, 1987).

3. Mineralization

At the Harper prospect (MINFILE 82M 060) phyllite and schist host two northwest trending lenses (Harper E, Harper W) of pyrrhotite, pyrite, chalcopyrite, sphalerite and galena. The lenses are several metres wide, commonly exposed in outcrop and in trenches and have been traced for up 210 metres along strike. At Broken Ridge (MINFILE 82M 130) the mineralization is banded pyrite, pyrrhotite, chalcopyrite, minor sphalerite and galena in quartz sericite or dark green actinolite schist (Eagle Bay Unit EBA).

4. Topography, glacial deposits, soil types, vegetation

The Harper prospect is located along a steep, south-facing slope on the north side of North Barriere Lake. The Broken Ridge prospect, located about two kilometres west of the Harper prospect, is situated on the moderately steep east-facing side of the Harper Creek valley. Brunisolic soil, developed on south and east facing hill slopes, supports a lodgepole pine, Douglas fir and paper birch forest. Trenching and construction of logging roads (now largely overgrown) have disturbed the surface of the area. Outcrop exposure is 10-15 per cent throughout the area. Bedrock is covered by thin (1-2 m) brown to grey, sandy-till deposited by south east flowing ice and by colluvium on steeper hill slopes.

5. Soil Geochemistry

Assessment work (Dawson, J.M. 1987) over the Harper area (Harper W) outlined east-west trending B-soil horizon Au anomalies (>38 ppb) up to 300 x 150 metres size. Smaller B-horizon soil As (>21 ppm) anomalies were detected and poor correlation between As and Au values was observed. New geochemical results show that Au, Cu, Pb, Zn, Ag, Se and Bi are strongly enhanced in B-horizon soil, till and rock directly over the Harper East sulphide mineralization. However, there is no elevated Au and Cu in till or B-horizon soil samples down-ice (east) of the mineralization. The Harper West sulphide mineralization has a much stronger Cu, Ag and Bi expression in the B-horizon soil and till. At Broken Ridge-Sitting Bull the highest Au, Cu, As and Se levels are in oxidized colluvium 50 metres to the south of the occurrences. Values decrease to the southeast. The highest Cu (1871 ppm) detected is in a weakly oxidized till 800 metres west (up-ice) of the Broken Ridge and close to a regional till Cu anomaly (3653 ppm). No other elements are elevated in the till and the source for this Cu may be pyrrhotite-chalcopyrite mineralization in bedrock to the west. Other regional till samples collected one kilometre northwest and up-ice from the anomaly have less than 50 ppm Cu. An obvious source for the soil and till Cu anomalies cannot be determined because there are numerous other small base-metal sulphide bodies reported in the area.

6. Stream sediment and stream water geochemistry

Only Au (25 ppb) and Sb (1.7 ppm) are anomalous in stream sediment from a stream flowing east from the area of the Broken Ridge-Sitting Bull occurrences into Harper Creek. No stream sediment anomalies are associated with the Harper occurrences and no elements, pH or sulphate, are elevated in stream water.

7. Rock and other geochemical data

Sulphide samples have elevated Cu-Ag-Au-As-Bi-Se levels.

8. GEM

A GEM (Figure 7) shows the mineralized source typical of Harper and Broken Ridge for the B-horizon soil-till Cu-Au-As-Bi-Se anomalies. A stream sediment Au-Sb anomaly related to Broken Ridge is indicated on the GEM.

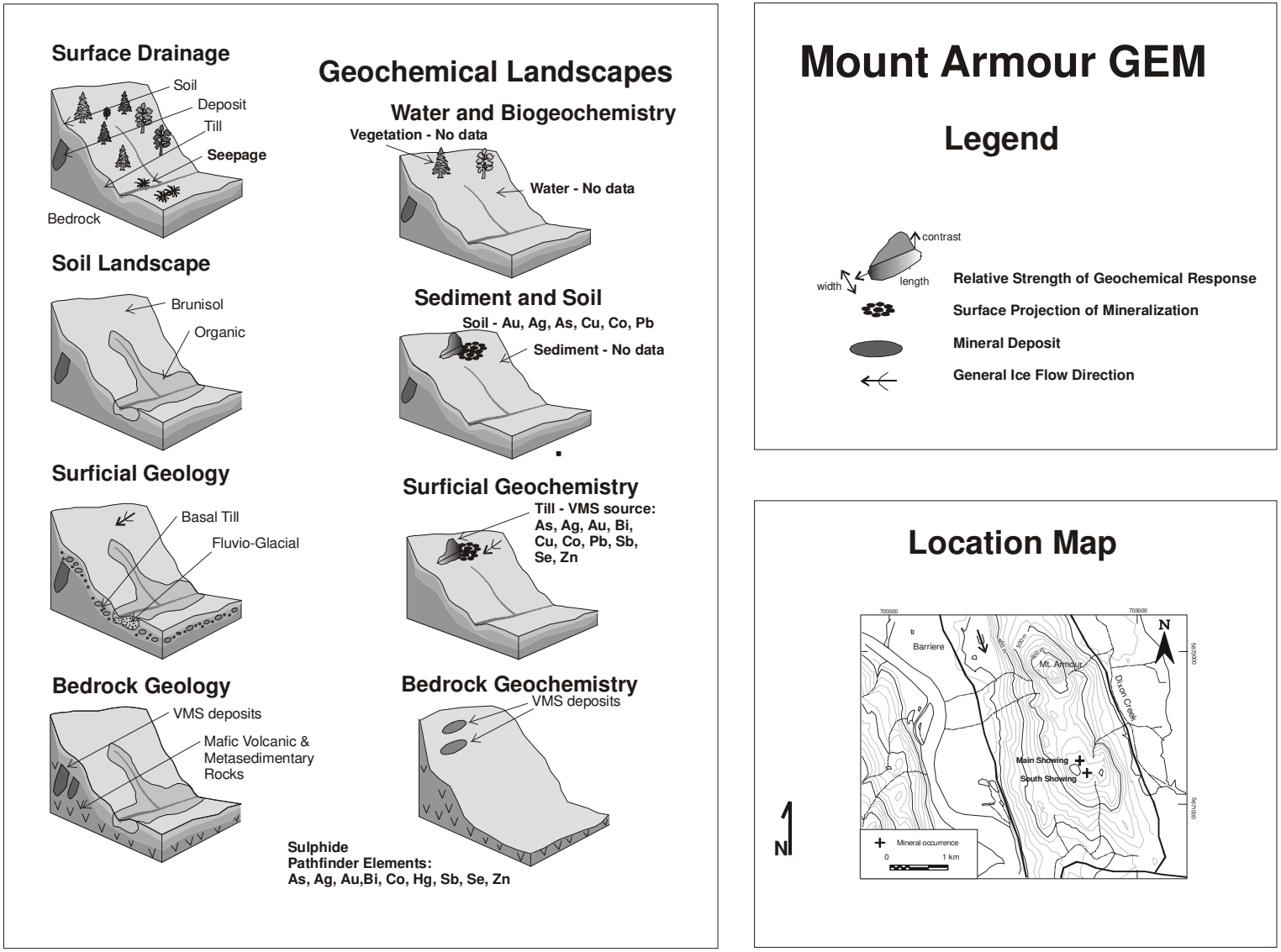
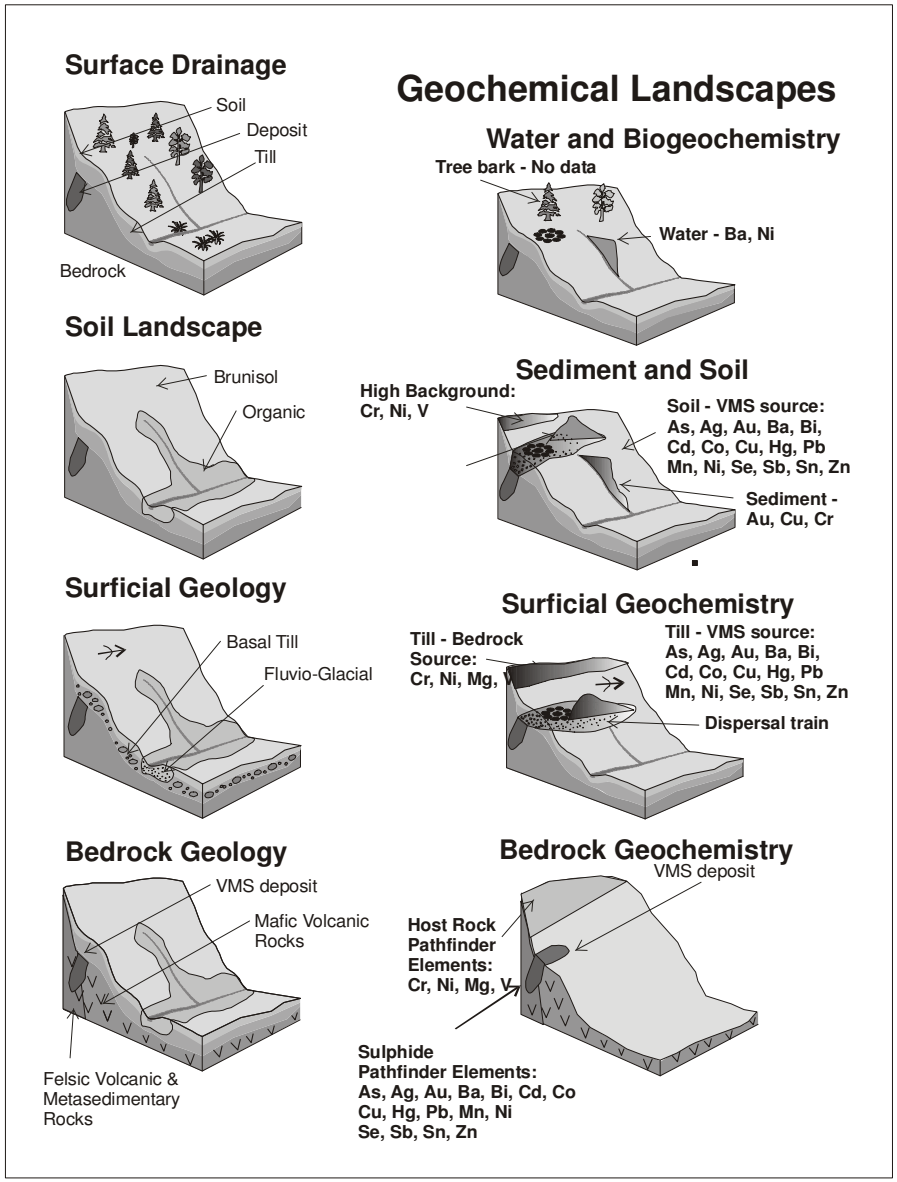
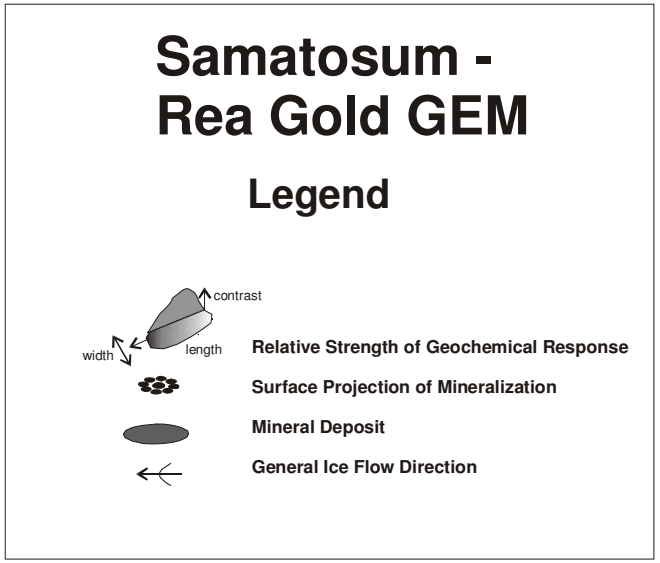


Figure 5. GEM for the Mount Armour area





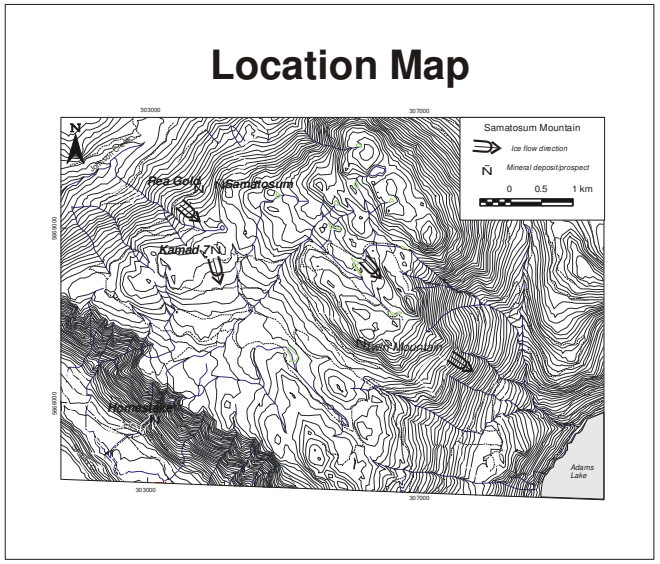
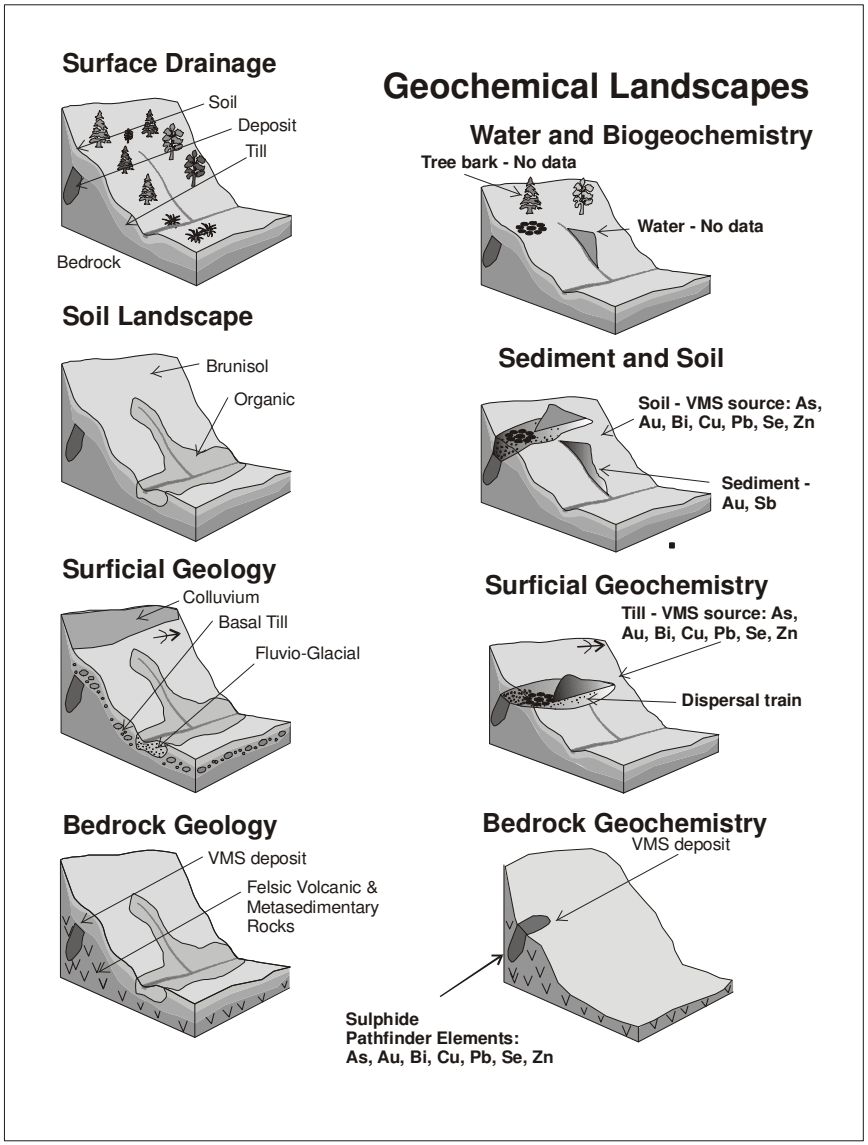
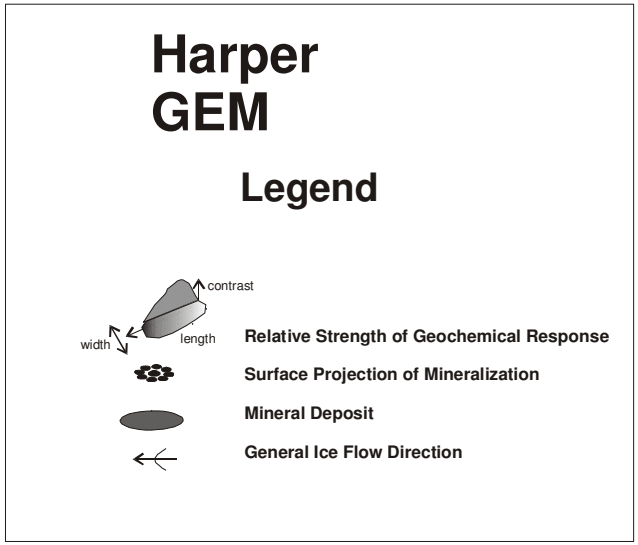


Figure 6. GEM for the Samatosum-Rea Gold-Homestake area





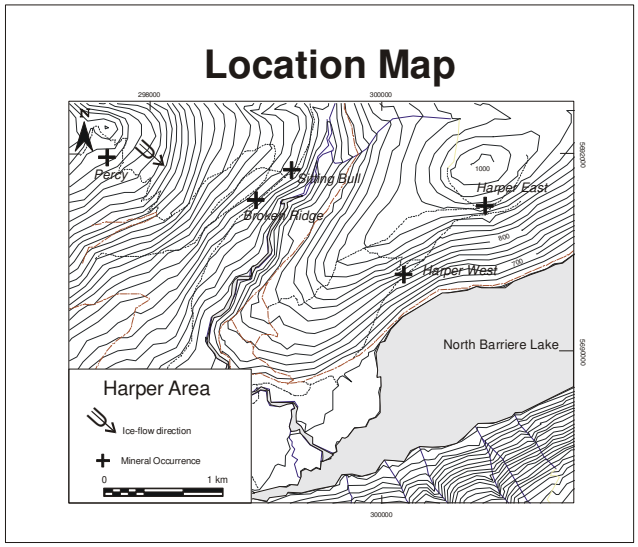


Figure 7. GEM for the Harper Creek-Broken Ridge area

Adams Lake-Agate Bay (Pine) area

1. Location
NTS 82M/4. 119° 48'00"W, 51° 04'00"N to 119°44'50"W, 51°01'30"N. The detailed survey area covers roughly ten square kilometres south of Agate Bay where regional till survey samples, taken in 1996, contained up to Cu - 325 ppm, Pb - 221 ppm and Zn - 609 ppm. No bedrock source for these values has been confirmed.
2. Geology
Oldest rocks are lower to middle Paleozoic actinolite-quartz schist and minor garnet-epidote skarn (Eagle Bay Unit EBK) and calcareous black phyllite and limestone. Younger rocks are chlorite-sericite-quartz phyllite derived from felsic to intermediate volcanic rocks (Unit EBA) that host the Homestake Pb-Zn-Ag-barite deposit, nine kilometres to the northwest. These rocks have been intruded by Devonian orthogneiss (Schiarriza and Preto, 1987).
3. Mineralization
The Pine occurrence (MINFILE 82M 120) consists of fracture-hosted galena and sphalerite in metavolcanic (Unit EBK) rocks and skarn containing pyrrhotite and chalcopyrite. Approximately seven kilometres northwest of the till geochemical anomalies is the Acacia prospect where minor Pb-Zn mineralization occurs in phyllite and quartz biotite schist of Unit EBA.
4. Topography, glacial deposits, soil types, vegetation
The area is on the west side of Adams Lake along a break in slope between the plateau and a steep, east-facing hillside above the lake. Vegetation is predominantly a secondary alder and fir in areas disturbed by previous logging. Till, deposited by south east flowing ice, conceals bedrock on the plateau. The till cover is discontinuous along the steeper slope above Adams Lake.
5. Soil geochemistry
New geochemical results and regional till survey data for the area south of Agate Bay shows that the till has elevated Cu, Pb, Zn and Ba. The highest Cu (357 ppm), Ba (1400 ppm), Zn (480 ppm) and Pb (72 ppm) values confirm a regional till survey anomaly of Cu - 210 ppm, Zn - 364 ppm and Pb - 90 ppm. Lower Cu, Zn and Pb levels occur in the till to the north and west (up-ice) of this site. The distribution metals in till samples suggest relatively short (0.5 km) and narrow dispersal trains from multiple sources.
6. Stream sediment and stream water geochemistry
Anomalous Zn in stream sediment (350 ppm) and Br in water draining the area of elevated Cu, Pb, Zn and Ba in till.
7. Rock and other geochemical data: No data.
8. GEM
The GEM (Figure 8) shows the Cu-Zn-Pb-Ba anomalies in till and stream sediment and a Zn response in stream water. No source for the anomalies is shown on the GEM because there has been no positive identification of mineralization.

Spar

1. Location
The detailed survey area covers roughly five square kilometres in NTS 82M/4 centered on 119°32'40"E, 51°03'3"N.
2. Geology
The host for the massive Pb-Zn-Ag sulphide lens is Eagle Bay Unit EBG6 comprising mainly calcsilicate schists, calcsilicate gneiss and thin marble layers in the deposit footwall and dark carbonaceous phyllites, with interlayered calcareous schists in the deposit hangingwall (Schiarriza and Preto, 1987).
3. Mineralization
The deposit consists of up to two metres of coarse-grained galena, with finer grained sphalerite and pyrrhotite in a granular quartzitic matrix, overlain by a variable thin pyritic layer. Chalcopyrite and traces of arsenopyrite are also present in the massive sulphide layers. The hangingwall of the sulphide layers includes very rusty-weathering, hornfelsed argillite, dark limestone, minor granular, siliceous or chloritic phyllite and crudely layered calcsilicate gneiss. Pyrrhotite occurs throughout these units, either finely disseminated or forming discontinuous lamellae. Main alteration minerals are quartz, pyrrhotite and minor sericite (Hoy, 2000).
4. Topography, glacial deposits, soil types, vegetation
The deposit is located on the undulating Adams Plateau surface close to the headwaters of Nikwikwia Creek. Elevation of the plateau ranges from 1700 to 1760 metres above sea level. Vegetation is predominantly secondary

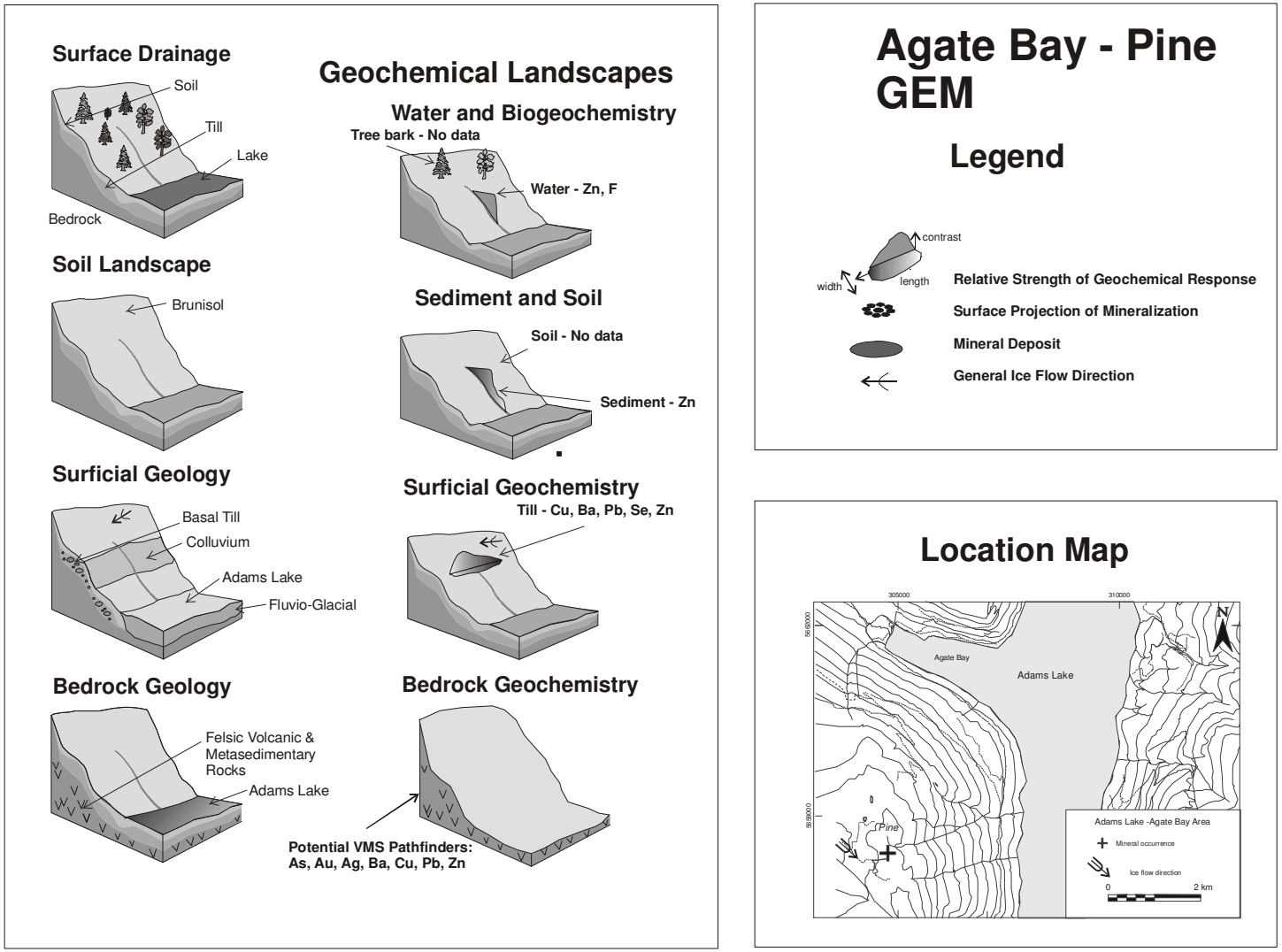
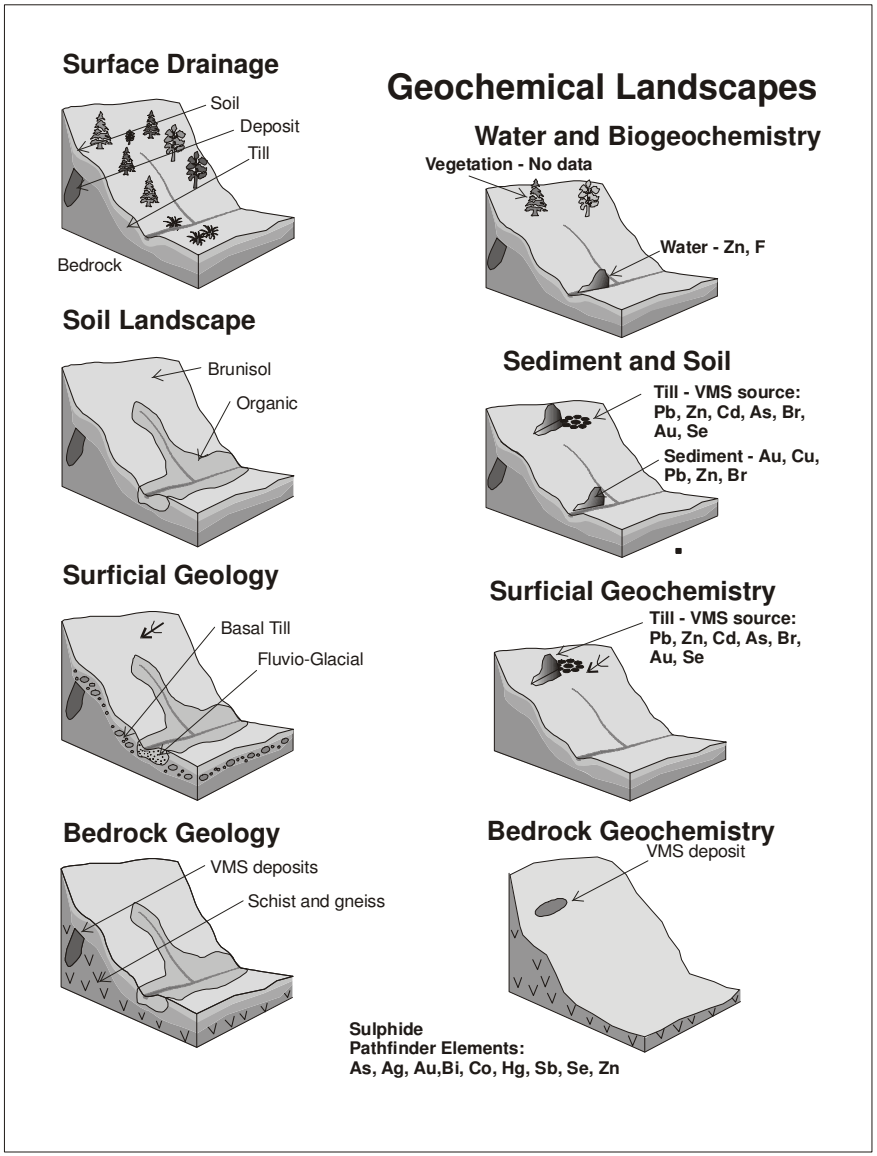
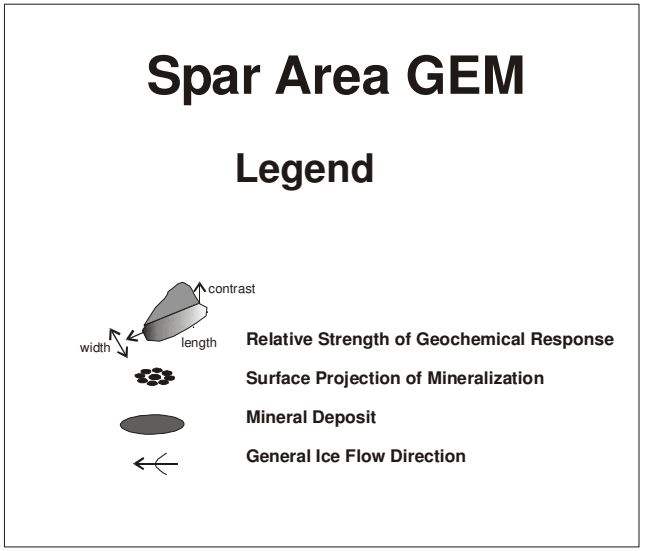


Figure 8. GEM for the Adams Lake-Agate Bay area





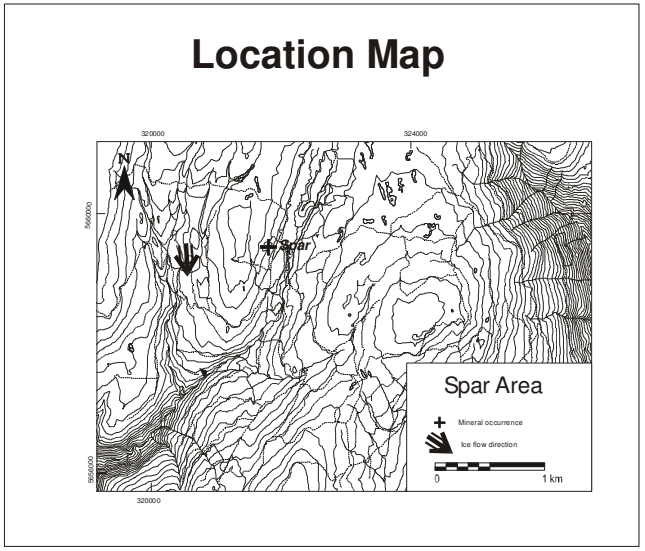
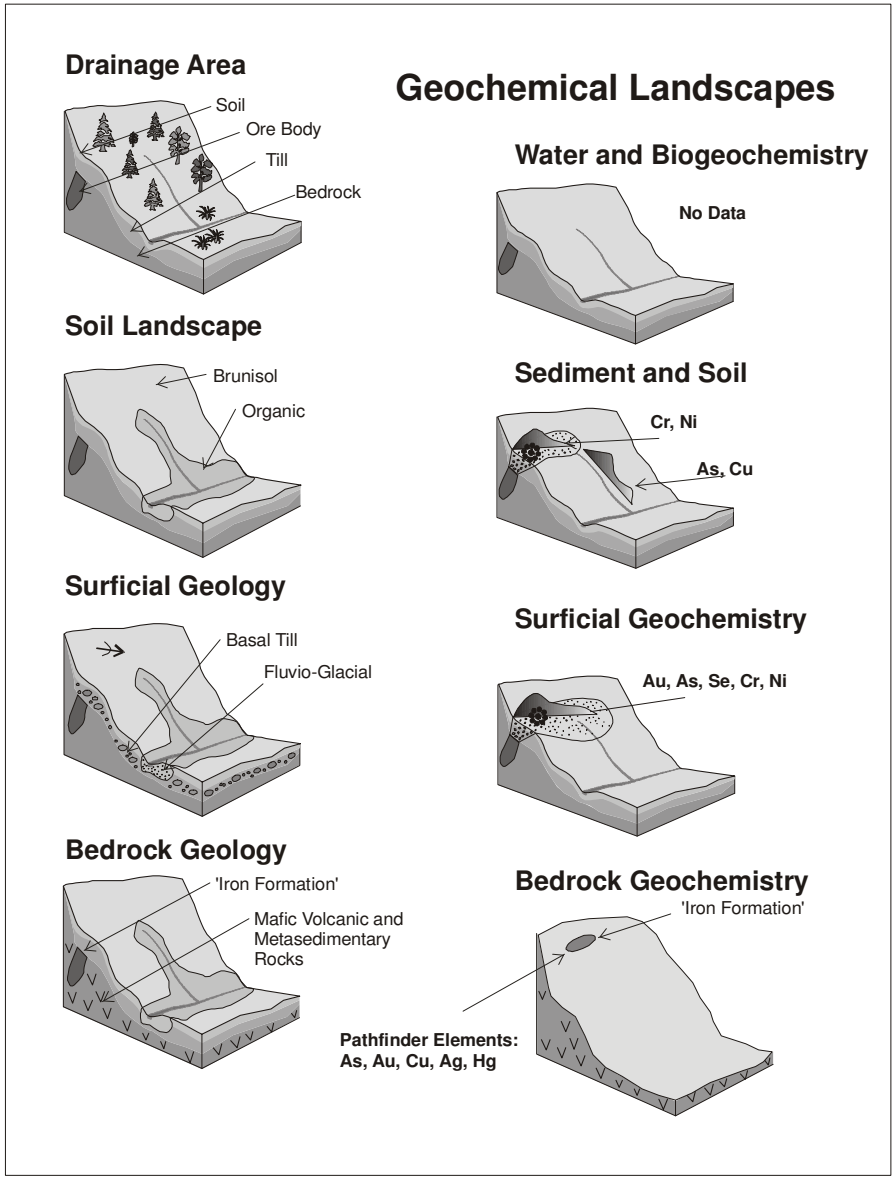
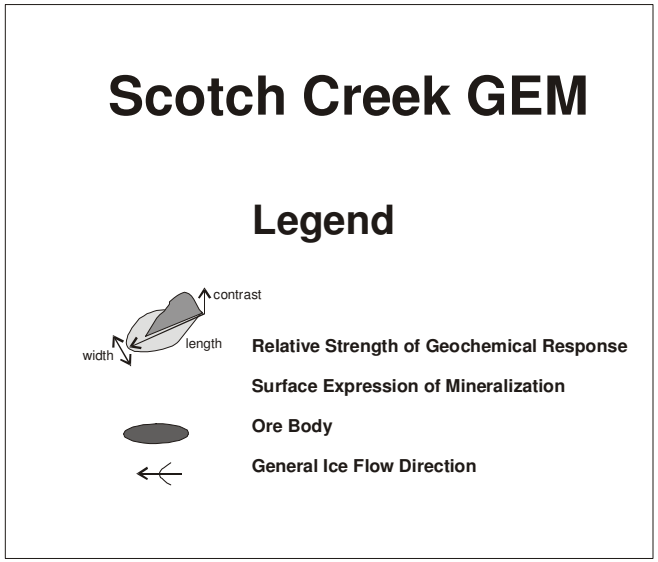


Figure 9. GEMS for the Spar area





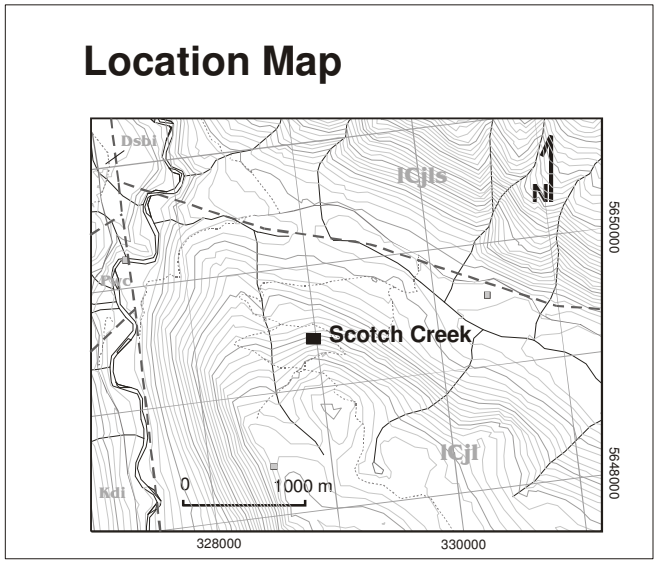


Figure 10. GEM for the Scotch Creek area

alder and fir forest between wetland areas that have been disturbed by previous exploration trenching and road construction. Bedrock is largely concealed by basal till deposited by a north to south ice advance.

5. Soil Geochemistry

New geochemical data for B-horizon soil and C-horizon till sampling around the Spar deposit shows elevated levels of Zn, Pb, Cd, As, Br, Mn and Au in the till within 200 metres of the exposed sulphide mineralization. Higher Cd, As, Pb and Zn values persist in the till for two kilometres south (down-ice) from the deposit. Arsenic, Pb, Zn and Mn are elevated in B-horizon soil compared to elements in the underlying till.

6. Stream sediment and stream water geochemistry

Sediment from Nikwikia Creek draining the area of the Spar deposit has Au - 12 ppb, Cu - 75 ppm, Pb - 55 ppm, Zn - 178 ppm and Br - 20 ppm. Water from the same creek has F - 193 ppb.

7. Rock and other geochemical data

The massive sulphides are enriched in Ag, As, Sb, Cd, Bi, Au, Pb and Zn.

8. GEM

The GEM (Figure 9) shows the relationship between soil, till and stream sediment anomalies to the Spar mineralization.

Scotch Creek

1. Location

NTS 82M/5. 119°27'55"W, 50°58'15"N. The detailed survey area covers roughly 15 square kilometres between Scotch and Hlina Creeks.

2. Geology

The survey area is underlain by the lower Cambrian Johnson Lake unit of the Eagle Bay Assemblage. This unit is predominantly a pyritic, weakly to well foliated, dark green to grey, mafic to intermediate volcanic rock metamorphosed to greenschist facies. It is also calcareous with locally intense quartz-carbonate-sericite alteration along shear zones and fractures. In addition to the volcanic unit two distinct and apparently unrelated limestone or meta-limestone/marble units have been identified in the area. One unit is massive, white to beige, fine to coarse-grained limestone and contains stockwork quartz veins up to 20 centimetres wide. The second limestone is grey to black, translucent and cryptocrystalline to medium grained and is typically cut by quartz and/or calcite veins containing traces of pyrite (Thompson and Daughtry, 1997).

3. Mineralization

At the Scotch Creek property (MINFILE 82LNW 016) a pyritic, ferruginous chert horizon (siliceous oxide facies iron formation), has been traced over a strike length of at least 1300 metres. The “iron formation” is typically mottled grey-black to grey-purple, aphanitic to fine grained textured with locally intense quartz-carbonate veining. Iron mineralization includes local jasper up to 10 per cent, magnetite up to 50 per cent and hematite up to 30 per cent. Disseminated pyrite content ranges from trace amounts to 15 per cent. Locally, there are traces of chalcopyrite. The “iron formation” contains up to 9.05 grams per tonne Au and 29.0 grams per tonne Ag based on the analysis of diamond drill core samples. The Shu occurrence (MINFILE 82LNW 014) west of the Scotch Creek occurrence is also hosted by a sequence of chloritic phyllite, limestone, chert, conglomerate, rhyolite and dacite of the Johnson Lake unit. Disseminated pyrite was found to contain up to 1.3 grams per tonne gold. The Hlina occurrence (MINFILE 82LNW 056) is a placer gold showing.

4. Topography, glacial deposits, soil types, vegetation

The Scotch Creek survey area is dominated by a 1100 metre high, north-south trending ridge between Scotch and Hlina creeks. Outcrops are most common along the ridge crest, but bedrock is generally only 20 per cent exposed. Bedrock is covered by up to three metres of olive-grey, moderately consolidated basal till. The direction of the flowing ice responsible for till deposition is variable because the area is in a zone of converging ice-flow during the glacial maximum followed by topography controlled ice-flow. Most probable ice-flow directions are from initially south west, changing to south east and finally to the south. Predominantly brunisolic soils have formed on the till and support a lodgepole pine, hemlock and paper birch growth. The area has been extensively disturbed by logging and road construction.

5. Soil Geochemistry

New geochemical data for B-horizon soil and C-horizon till samples indicate that the highest Au level found in the till is 67 ppb. Elevated As, Cr, Ni and Se levels are associated with the Au. The B-horizon soil has lower Au, but elevated Cr, Ni and Cu. Anomalous Au values in till trend northwest southeast roughly parallel to the ice-flow direction.

6. Stream sediment and stream water geochemistry

Background Au occurs in sediment samples from Scotch and Hlina Creeks. However, sediment from Scotch Creek has anomalous Cu and As.

7. Rock and other geochemical data
A quartz vein sample contains Au - 5800 ppb and high Cu, As, Ag and Hg.
8. GEM
The GEM for the Scotch Creek area (Figure 10) shows the relationship between the soil, till and stream sediment geochemical anomalies and the mineralization. The model has been simplified to show a single ice-flow direction when, in fact, the glacial history is more complex.

GUIDES TO ANOMALY INTERPRETATION

The size and character of a geochemical anomaly depends on a range of interrelated factors such as the size, type and exposure of the mineralization at the bedrock surface, ice-flow direction, the thickness and type of the glacial sediment, topography, drainage, climate, vegetation and the chemical mobility of the elements. There are many possible combinations of these factors producing anomalies of varying size, contrast and element signature in the different media (e.g. till, soil, stream sediment, lake sediment, water, vegetation) commonly sampled during geochemical surveys. Element variations are most commonly displayed on topographical maps by symbols or by contours that represent concentration. Anomaly interpretation from geochemical symbol or contour maps alone can be difficult because the element patterns can reflect multiple sources and dispersion mechanisms. Models can simplify potentially complex patterns by displaying geochemical relationships in three rather than two dimensions for a combination of natural variables such as till thickness, ice-flow direction and drainage. A series of block diagrams representing down-ice dispersal trains of material from mineralized bedrock in varying glacial deposits, are linked to idealized symbol maps typically produced from geochemical survey data. These maps are intended to show the relative abundance of elements in the B-horizon soil and drainage sediment. However, the soil and stream sediment anomaly patterns are very much simplified and do not show the effect of surface environment (e.g. stream water pH, soil type, catchment area) on geochemical mobility. This factor could separate mobile (e.g. Cu, Zn) and immobile (e.g. Pb, Au) anomalies resulting in more complex patterns on the maps.

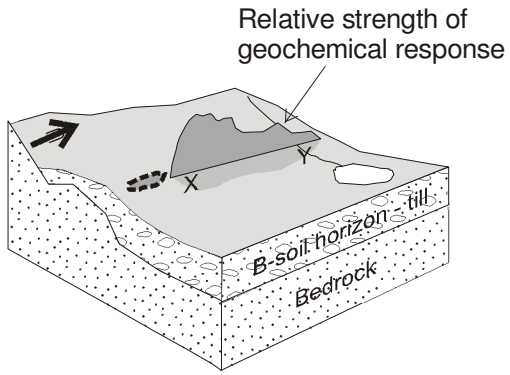
Each model described has been applied to suggest a probable interpretation of the case history data described in this Open File.

1. **Shallow till, single source, drainage located down-ice from source**
   Figure 11 shows a dispersal train of mineralized bedrock in shallow till (< 1 m) down-ice from a single buried source (shown projected to the surface). A stream sediment anomaly has formed where mineralized material from the train has been eroded into a creek. The till, stream sediment and stream water Cu-Zn-Ba anomalies in the Agate Bay-Pine area could be explained by this configuration.
2. **Thick till, single source, drainage located down-ice from source**
   Figure 12 shows a dispersal train of mineralized bedrock in thicker till (1-3 m) down-ice from a single buried source. In comparison to Figure 12, the B-C horizon soil anomalies shown on the geochemical map are displaced a greater distance from the surface projection of the source. A stream sediment anomaly occurs where the dispersion train intersects a creek. The B-horizon soil-till-stream sediment-stream water anomalies around the Spar occurrence could be explained by this configuration. Figure 14 shows the distribution of Au, Ag, As, Ba, Cu, Pb and Zn in soil profiles at 0.5, one and two kilometers along a dispersal train. The profiles are based on data from the area east of the Samatosum and Rea Gold deposits. Higher Cu, Pb and Ag values occur at increasingly more shallow levels in the 1 and 2 kilometer profiles reflecting the rising dispersal train in the till. A cross section cartoon in Figure 14 illustrates this relationship.
3. **Shallow till and thick till, single source, drainage located up-ice from source** Figures 14 and 15 show a dispersal train of mineralized bedrock in a shallow and thick till sheet down-ice from a single buried source. Depending on till thickness the B-C soil anomalies on the geochemical map are displaced at varying distances from the surface projection of the mineralized source. The stream is shown up-ice from the projected surface expression of the bedrock source and the dispersal train and consequently there is no sediment anomaly. None of the survey results in Part 2 can be fully explained by this configuration because anomalies reflect multiple rather than single mineralized sources in most of the areas.
4. **Shallow and thick till, multiple sources, drainage located down-ice from source** Figures 16 and 17 show a dispersal train of mineralized bedrock in shallow and thick till down-ice from multiple buried sources. B-C horizon soil anomalies on the map displaced a varying distance from the surface projection of the mineralized source depending on till thickness. A stream

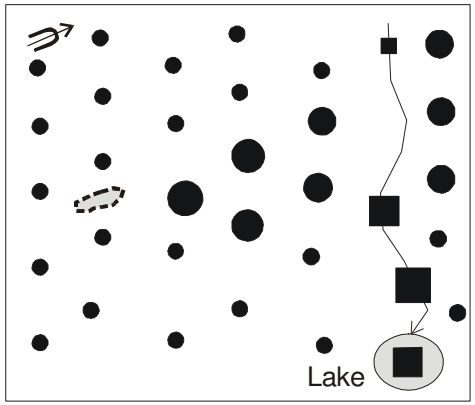
sediment anomaly has formed where mineralized material from the train has been eroded into a creek. This configuration is consistent with the B-horizon soil-till-stream sediment-stream water Cu-Au-As anomalies west of Broken Ridge in the area east of the Samatosum, Rea Gold deposits and Twin Mountain occurrences. In fact, a geochemically anomalous stream drains west (up-ice) from Samatosum and may reflect dispersion from bedrock mineralization or contamination from mining.

5. Shallow till, multiple sources, drainage located up-ice from source

Figures 18 and 19 best describe this configuration where there are dispersal trains down-ice from several bedrock sources, but the trains have not intersected any streams. The B-horizon soil and till anomalies around the Mount Armour sulphide occurrence are consistent with this configuration.



Conceptual geochemical landscape



Idealized soil, stream sediment and lake sediment anomaly map

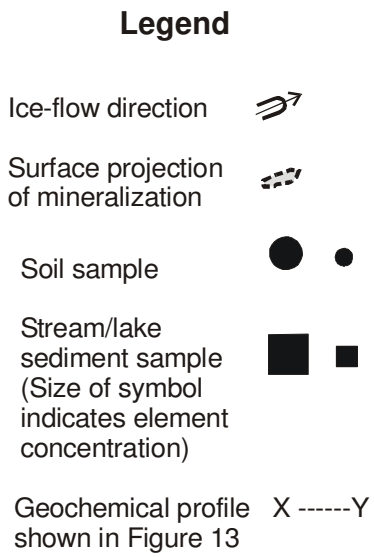
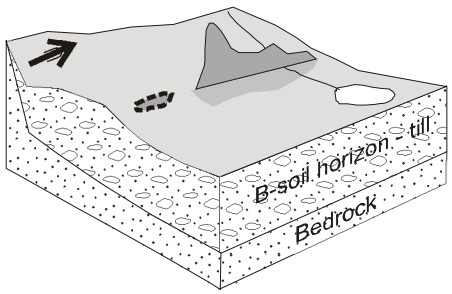
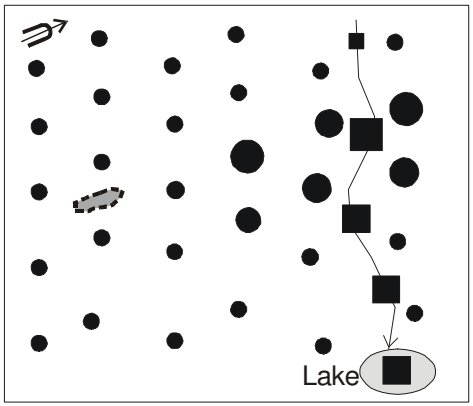


Figure 11. Thin till, single mineralized source, down-ice drainage



Conceptual geochemical landscape



Idealized soil, stream sediment and lake sediment anomaly map

Figure 12. Thick till, single mineralized source, down-ice drainage

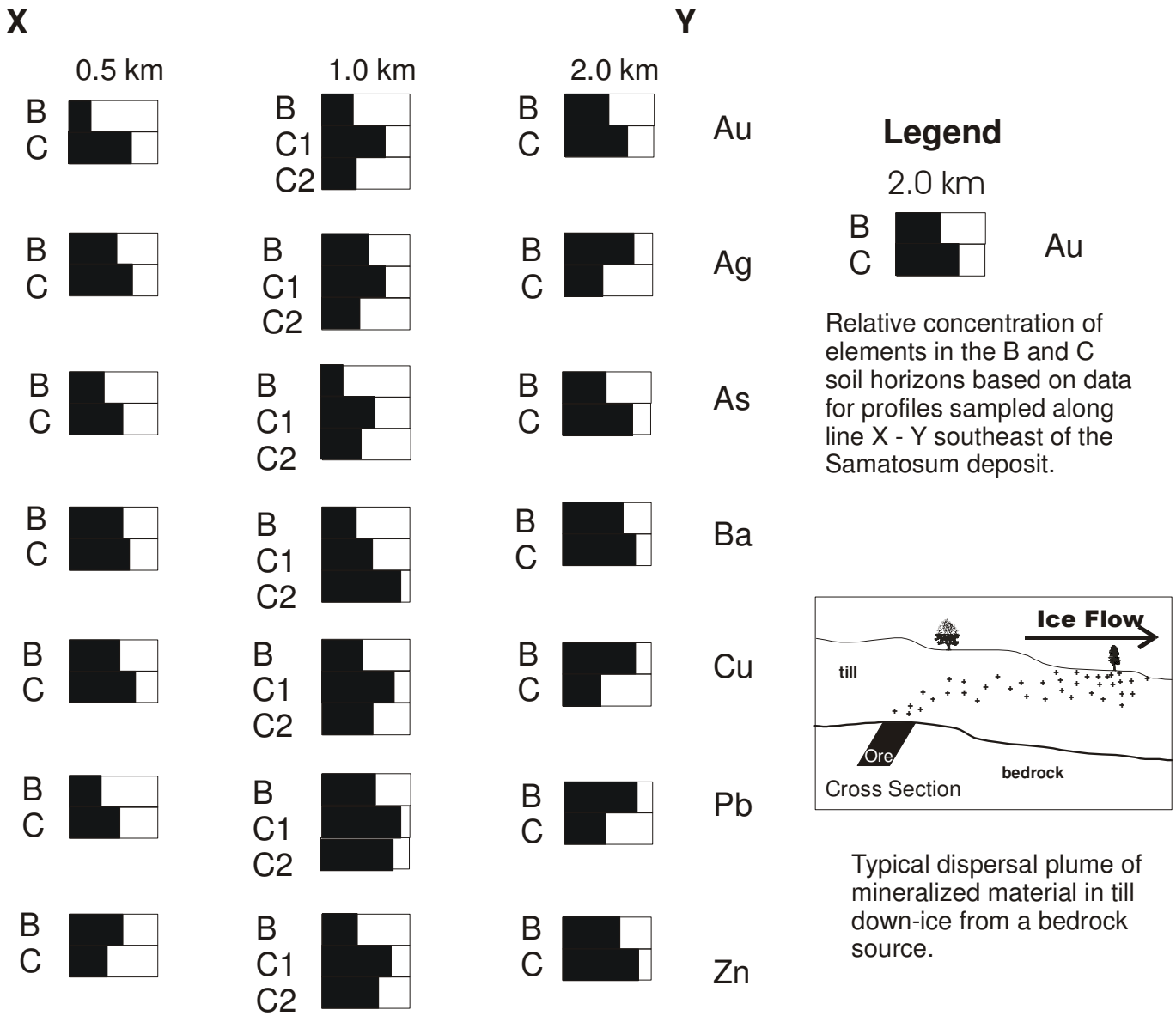
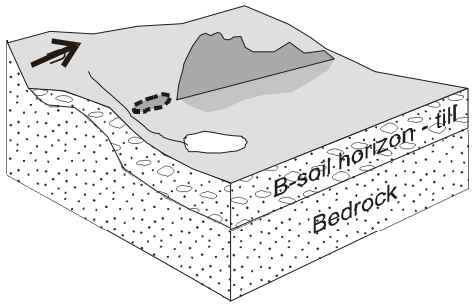
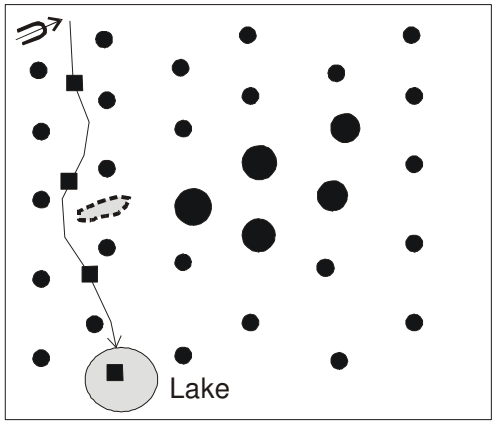


Fig 13. Geochemical profiles in B and C horizon soil down-ice from a single mineralized source along line X-Y on Figure 12.



Conceptual geochemical landscape



Idealized soil and stream sediment anomaly map

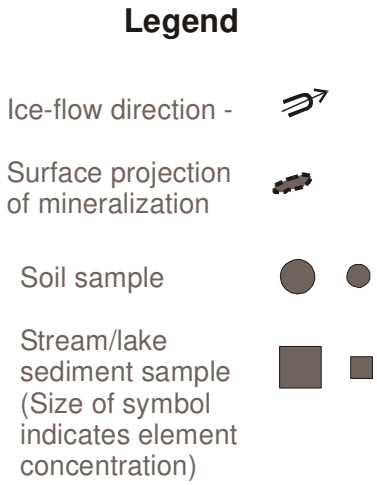
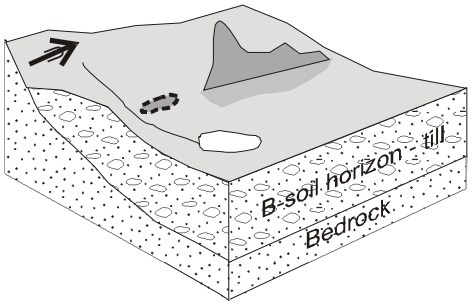
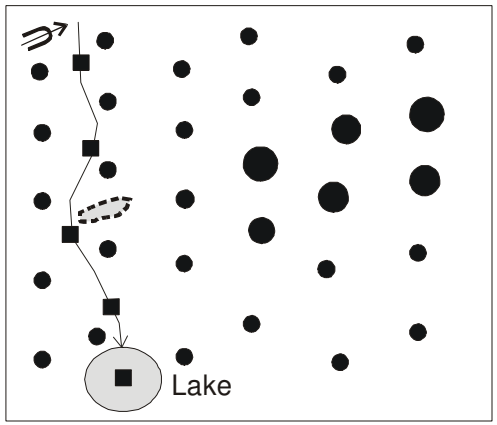


Figure 14. Thin till, single mineralized source, up-ice drainage



Conceptual geochemical landscape



Idealized soil and stream sediment anomaly map

Figure 15. Thick till, single mineralized source, down-ice drainage

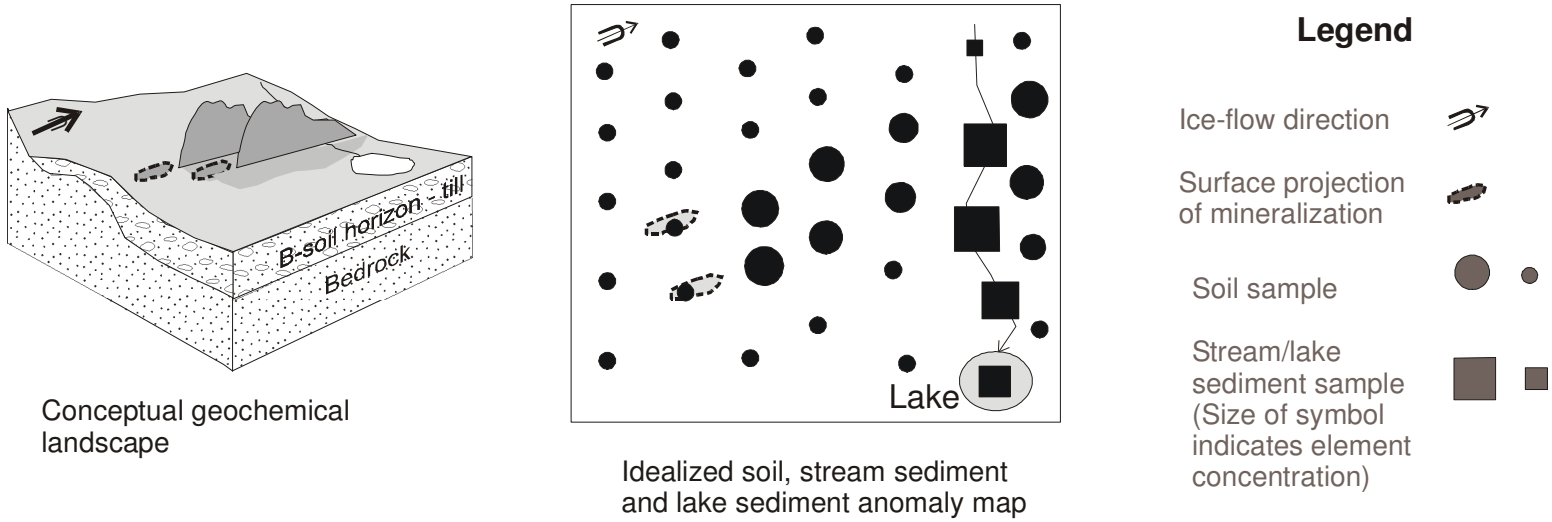


Figure 16. Thin till, multiple mineralized source, down-ice drainage

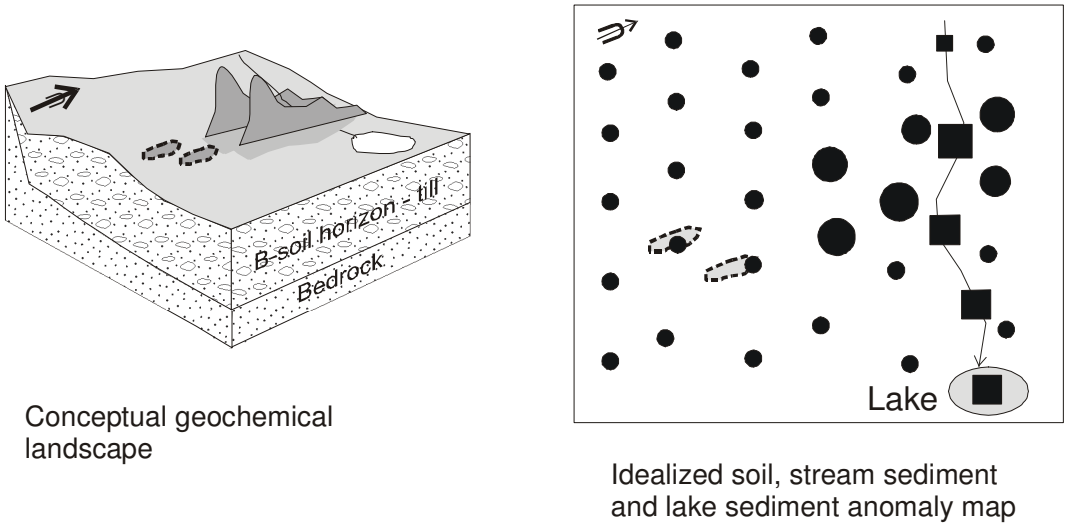


Figure 17. Thick till, multiple mineralized source, down-ice drainage

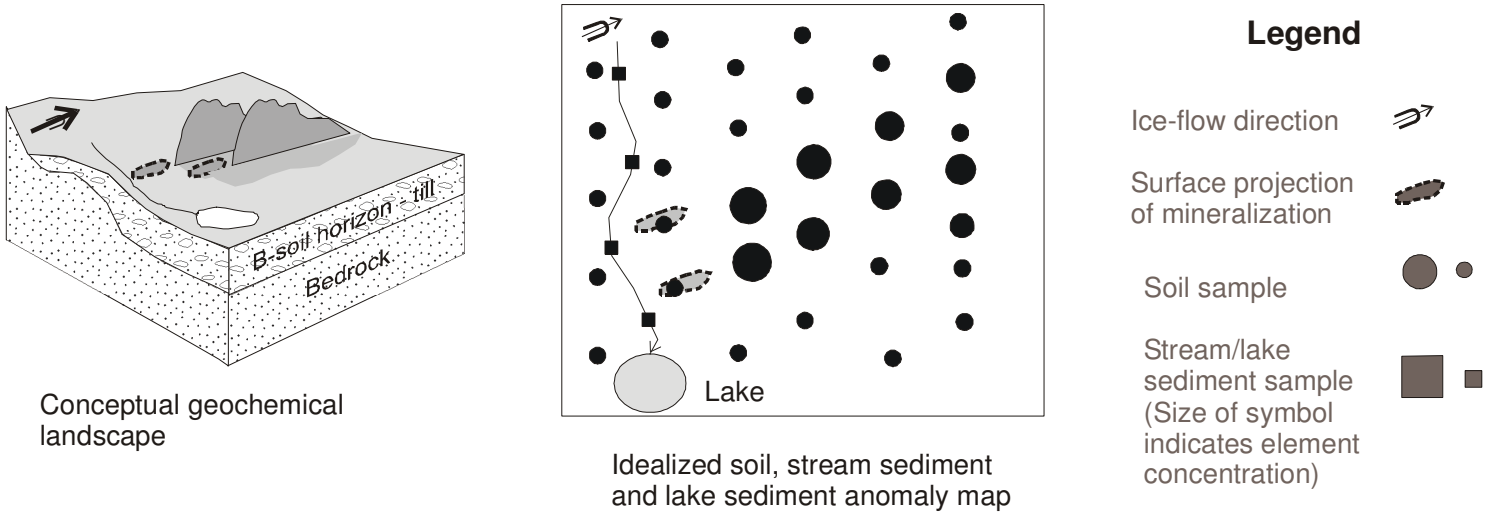


Figure 18. Thin till, multiple mineralized source, up-ice drainage

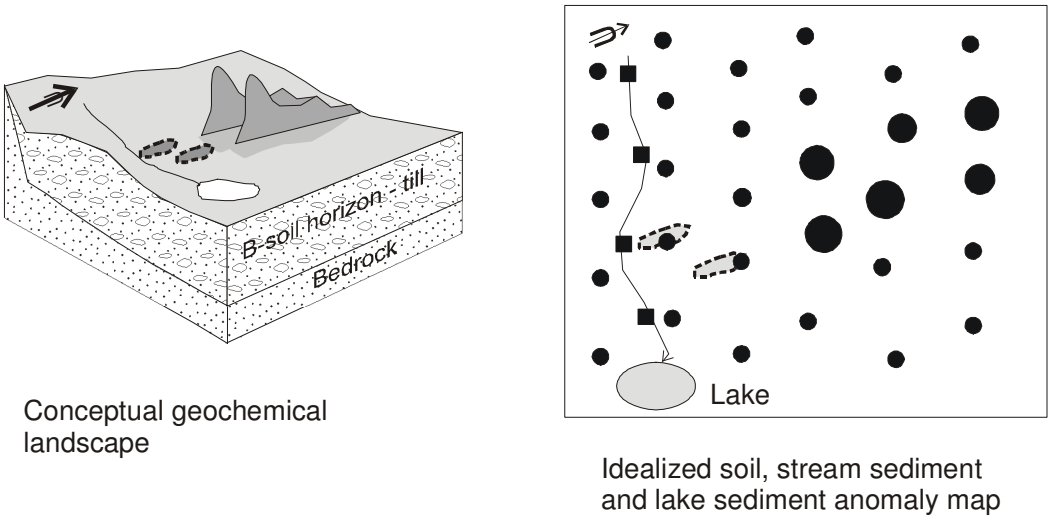


Figure 19. Thick till, multiple mineralized source, up-ice drainage

SUMMARY

Table 2 is a summary of pathfinder element associations and anomaly dimensions for VMS deposits based on the case histories and the geochemical relationships summarized by GEM. While these pathfinder associations and anomaly dimensions can be extended to exploration for VMS deposits in other areas, any new GEM should be supported by field data from those areas.

Table 2. Geochemical summary for VMS deposits in Kootenay Terrane rocks.

Deposit	Media	Pathfinders	Anomaly Size	Remarks
VMS Au-Cu-Pb-Zn deposits in felsic-mafic metavolcanic rocks. (Samatosum-Rea Gold, Homestake, Pine, Harper-Broken Ridge).	B Soil horizon /till	Cu, Pb, Zn, Ag, Hg, Ba, As, Au, Se, Cr, Ni, V, Mn, Sb Ni, Ba, Bi	2 km down-ice by up to 1 km wide.	Deposits may be distinguished by pathfinder signatures (e.g. Cr, Pb - Samatosum; Ba - Rea Gold; Bi , Se - Harper).
	Sediment	Cu, Ba, Au, Cr, Br, Zn	< 1 km dispersion train length.	
	Stream Water	Ni, Ba, Zn	1 km dispersion train length.	
VMS Cu-Zn and Pb-Zn deposits in meta-sedimentary rocks (Mount Armour, Spar).	B Soil horizon /till	Au, Co, Cu, As, Ag, Zn, Cd	2-3 km down-ice by 0.5 km wide.	Deposits may be distinguished by pathfinder signatures (e.g. Co, Cu - Mount Armour; Cd, Zn, F - Spar).
	Sediment	Pb, Zn, Br	< 1 km dispersion train length.	
	Stream water	F	1 km dispersion train length.	

CONCLUSIONS

- Massive sulphide deposits in the Kootenay terrane rocks can be detected by B-horizon soil, basal till and stream sediment geochemistry.
- Basal till sampling is the most reliable detailed method for detecting concealed VMS deposits because glacial dispersal trains of mineralized rock are well-developed down-ice from sources in bedrock. Till samples taken at intervals of 150-200 metres along traverses crossing the direction of ice advance will detect the presence of a mineralized dispersal plume. However, more detailed sampling (50 m spacing) will be needed to distinguish between multiple mineralized sources at the bedrock surface.
- Glacial deposits, especially till, should be identified and their distribution within a proposed survey area noted.
- Ice-flow indicators such as the direction of striae on bedrock and glacially modified landforms should be recorded to aid data interpretation. Ice flow directions and dispersal train transport can also be determined from till fabic studies and measuring orientation of cobbles and boulders lodged in basal till.
- Element values are generally lower in the B-soil horizon and element anomalies are smaller especially for geochemically less mobile elements such as Pb and Au. A sample spacing of 50-100 metres along lines crossing the direction of ice advance is recommended for B-soil horizon surveys.
- Surface environment features such as breaks in hill slope, seepage zones and bogs should be systematically recorded to aid latter interpretation.
- Typical sulphide pathfinders in soil and till are Au, Ag, As, Cu, Pb, Hg, Ba, Se and Sb.
- Different pathfinder associations (e.g. Ba-As, Cr-Pb, Co-Cu) in till and soil can be used to distinguish different types of massive sulphide mineralization.
- Soil and till sample analytical data should be treated separately when calculating statistical thresholds because element background levels are generally higher in the till.
- Sediment Cu, Ba, Au, Cr, Br, Zn anomalies can form in streams draining VMS deposits. Dispersion trains are typically <1 km and not all of the elements may be anomalous. Copper and Zn are the most reliable regional geochemical survey (RGS) pathfinders.
- Low Cu and Zn levels occur in stream water draining VMS mineralization. Elevated Ba, F and Ni may be useful as pathfinders, but dispersion of elements in streams is limited by dilution and increased pH due to carbonate bedrock.
- Dispersal trains are typically < 2 km in this part of the Cordillera. However, till thickness is an important factor controlling the length of dispersal trains and element concentrations. Weaker anomalies relative to source concentrations may be expected in areas of thicker till.

GEOCHEMICAL EXPLORATION MODELS, VOLUME 1: VMS DEPOSITS IN SOUTH-CENTRAL BRITISH COLUMBIA (NTS 82L/13, 14, 82M/4, 5, 6 AND 92P/1E)

OPEN FILE 2000-31. PART 2:Geochemical Survey Results

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INTRODUCTION

Part 2 of Open File 2000-31 describes the results of detailed studies carried out by the British Columbia Geological Survey Branch (GSB) in the Adams Lake area to study the geochemical response of sulphide mineralization in soil and till. Project objectives, background information and the development of a geochemical exploration model (GEMS) for massive sulphides based on the data contained in Part 2 are stated in Part 1.

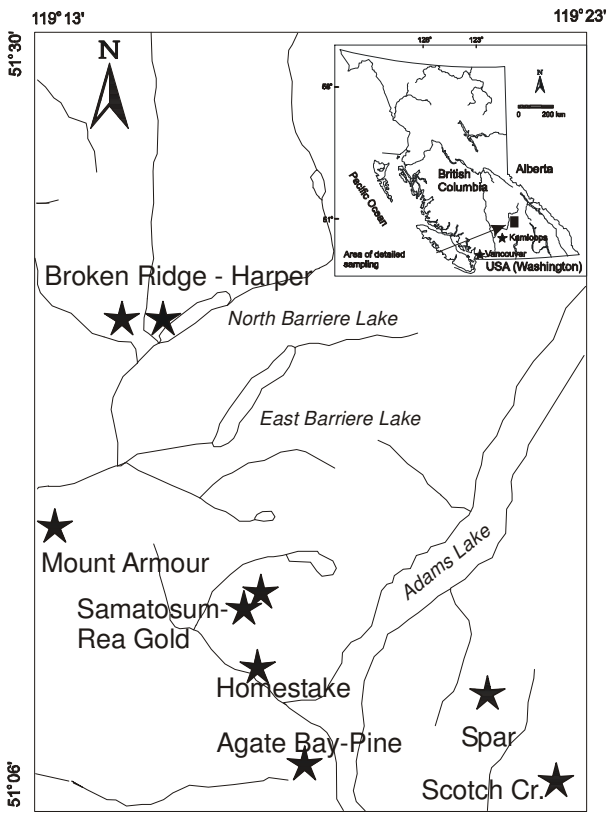

Figure 1. Location of detailed survey areas

Part 2 of Open File 2000-31 contains the following:

- Introduction.
- Location and summary description of the survey areas (Figure 1).
- Survey methodology, quality control and summary statistics.
- Surficial environment and deposits, geology and mineralization of each area.
- Geochemical results of B-horizon soil, till and rock sampling for each area.
- A summary of the results in Part 2.
- A guide and a listing of field observations (Appendix A and B)
- Instrumental neutron activation (INAA), aqua regia-inductively coupled emission mass spectroscopy (ICP-ES/MS) and major oxide analytical data (Appendices B, C & D).
- Field and analytical duplicate sample data (Appendix E).

Analytical and field data are included as an ASCII file on a 3.5-inch high-density diskette located in the back pocket of Part 2. There are also comments in Part 2 on geochemical data from other sources such as regional till, regional stream sediment (RGS) and stream water surveys to strengthen the geochemical models exploration guidelines. However, only new analytical data for soil, till and rock samples is reported here and for RGS, regional till and regional stream water survey data, the reader should refer to the relevant publications listed in the References.

SUMMARY DESCRIPTION OF THE DETAILED AREAS

Table 1 (Below) summarizes bedrock geology, surficial geology, mineralization and its surface exposure for each of the detailed survey areas (Figure 1).

Site	Mineralization	Host Rock	Surficial Geology	Mineralization Exposure
Harper-Broken Ridge	Massive and banded pyrite, galena, pyrrhotite, sphalerite.	Eagle Bay Assemblage (EBA) phyllite, schist and gneiss.	Basal till veneer, derived from Eagle Bay and Baldy Batholith rocks.	Sulphides visible in surface outcrop. Bedrock exposure < 10 per cent.
Homestake	Lenses containing barite pyrite, tetrahedrite, galena, sphalerite, argentite with native silver and gold.	Eagle Bay Assemblage (EBA) quartz-talc-sericite schist sericite-quartz phyllite; and sericite-chlorite-quartz phyllite. .	Till, Colluvium and rock.	Sulphide mineralization and alteration visible continuously in outcrop along the Sinmax valley. Bedrock exposure 80 percent.
Spar	Banded and massive, pyrite galena, pyrrhotite, chalcopyrite, and sphalerite.	Eagle Bay Assemblage (EBG) siliceous & graphitic phyllites, limestone.	Basal till (5-10 m) derived from Eagle Bay rocks.	Sulphides visible in surface outcrop. Bedrock exposure 5 per cent.
Samatosum	Coarse-grained tetrahedrite, sphalerite, galena, gold chalcopyrite and quartz veining.	Eagle Bay Assemblage (EBG) cherty sediment within sequence of mafic volcanics and turbidites.	Basal till (1-3 m) derived from Eagle Bay rocks. Deposits locally Anthropogenic (mine site).	No surface exposure of mineralization. Samatosum deposit found by diamond drilling.
Rea Gold	Massive sulphide lenses of pyrite, sphalerite, galena, arsenopyrite, quartz, gold and barite.	Eagle Bay Assemblage (EBF) mafic tuff, chert, dark grey tuffaceous sediments.	Basal till (1-3 m) derived from Eagle Bay rocks. Deposits locally Anthropogenic (mine site).	Surface exposure of mineralization limited to gossam uncovered by road construction. Bedrock exposure 20 percent.
Mount Armour	Lenses of massive pyrite, chalcopyrite, sphalerite.	Eagle Bay Assemblage (EBS) chert, argillite, conglomerate & limestone.	Basal till (1-3 m) derived Eagle Bay and Fennel Formation rocks.	Sulphides visible in surface outcrop. Bedrock exposure 10 per cent.
Agate Bay (Pine)	Minor disseminated pyrite, chalcopyrite, sphalerite and galena in quartz veins.	Eagle Bay Assemblage (EBA) mafic tuffs, graphitic argillite, and siltstone.	Basal till derived from Eagle Bay rocks.	No sulphides exposed on surface. Bedrock exposure 5 per cent .
Scotch Creek	Massive pyrite, galena, pyrrhotite, sphalerite and chalcopyrite.	Eagle Bay Assemblage (EBA) sericite-chlorite phyllite, graphitic argillite, marble, schist and iron formation.	Basal till derived from Eagle Bay rocks.	Sulphides visible on surface. Bedrock exposure 10 per cent.

SAMPLE COLLECTION

Fieldwork was carried out from base camps near Todd Mountain (1996, 1997) and Magna Bay (1998). Most of the sampling was carried out using a 4-wheel drive vehicle along secondary roads. Foot traverses were used to collect samples in areas where road access was blocked and to obtain more detailed sample coverage. The surveys were designed from existing Quaternary geology and terrain maps showing the distribution of ice-deposited sediments and ice-flow indicators (e.g. striations). Results of regional till surveys were also utilized to identify geochemically anomalous areas. Location, size and characteristics of bedrock mineralization were obtained from the MINFILE database. Soil and till samples were collected from road cuts or dug pits at intervals ranging from 20 to 200 metres, depending on the extent of the bedrock mineralization and size of the existing regional till geochemical anomaly (where present). Every effort was made to collect sufficient samples so that the geochemical expression of mineralization could be fully established. In some of the areas, however, only a small number of samples could be taken. Results of the detailed sampling, described in this Open File, provide information about the geochemical signature of mineralization. However, the results also indicate that there are most likely mineralized sources beyond the limits of the detailed survey.

Among the recorded observations made at each sample site were GPS-verified UTM co-ordinates, geographic features (e.g. hill slope), type of bedrock exposure (if present), unconsolidated surface material, topographic features, ice-flow direction features and active geological processes. Routinely, a 1-5 kilogram sample of undisturbed, un-weathered parent material (C-horizon) and the B soil horizon were taken from natural exposures or from hand dug pits. At a few locations where the surface had been severely disturbed by logging only C-horizon material was sampled. Additional A, C and B horizon samples were collected from vertical profiles at some sites where there was a distinct change in material. The type of exposure (e.g. roadcut, pit), depth to sample from land surface, thickness of horizon, clast per centage, matrix texture, presence or absence of structures, clast size, clast lithology and colour were recorded at each sample site. Rock samples were taken close to sample sites and near visible mineralization.

SAMPLE PREPARATION AND ANALYSIS

Till and B-horizon soil samples were air dried, split and one half of the sample sieved to - 230 mesh (<63 µm) at Eco Tech Laboratories, Kamloops. The second half of the sample was stored as archive material. Rock samples were jaw crushed and milled to <150 mesh (<100 µm) in a chrome-steel ring mill. The < 63 micron size of B horizon soil and till samples and pulverised rock samples were analysed for over 50 elements including Au, Ag, As, Ba, Bi, Cd, Co, Cu, Ga, Hg, Pb, Mn, Mo, Ni, Sb, Se, Te, Tl, and Zn. The analysis was done by a combination of thermal neutron activation (INAA) at Actlabs, Ancaster, Ontario, aqua regia digestion-inductively coupled plasma emission spectroscopy (ARICP) and aqua regia digestion-solvent extraction followed by ultrasonic nebulizer-inductively coupled plasma emission spectroscopy (UARICP) at ACME Analytical Laboratories, Vancouver. Selected soil and till samples were analysed for major oxides, loss on ignition, carbon, sulphur, barium, scandium, niobium, nickel, strontium, yttrium and zirconium by lithium metaborate fusion-inductively coupled plasma emission spectroscopy and leco combustion at ACME Analytical. Detection limits for INAA, ARICP and UARICP are compared in Table 2. Most detection limits for major oxides, carbon and sulphur are 0.01 per cent and for Ba, Sc, Nb, Ni, Sr, Y and Zr, 10 ppm.

Each analytical method has certain advantages and limitations. Neutron activation is non-destructive to the sample and provides a “total” estimate of an element concentration. It cannot, however, measure ore-indicator elements such as lead and copper. These can be determined on a separate sample by an aqua regia digestion and inductively coupled plasma emission spectroscopy. An aqua regia digestion, while very effective for dissolving gold, carbonates and sulphides in a sample, cannot completely break down alumino-silicate, oxide and other refractory minerals such as barite. Consequently, element concentrations determined by ARICP are “partial” rather than “total”. Aqua regia digestion followed by ultrasonic nebulizer-inductively coupled plasma emission spectroscopy (UARICP) enables detection limits for certain elements such as silver, arsenic, bismuth, tellurium and thallium to be improved by an order of magnitude. High levels of copper and other base metals can, however, interfere and decrease the sensitivity of other elements determined by this method.

QUALITY CONTROL

Data interpretation depends on separating real geochemical trends caused by natural geological or environmental processes from variations or "noise" introduced by sampling and/or sample analysis. These fluctuations are measured in terms of accuracy (i.e. the difference between a measured value for an element and that reported in a standard reference material) and precision (i.e. difference between random duplicate analyses) from data generated by the routine analysis of reference standards and duplicate samples. The quality control scheme used to monitor the reliability of the data reported in this Open File is based on inserting reference standards and duplicates into a batch of 20 samples collected and analysed. Each batch contains seventeen routine samples, a field duplicate sample collected adjacent to one of the routine samples, a blind duplicate sample split from one of the 17 routine samples prior to analysis and a control reference standard containing material of known element concentrations (either Canada Centre for Mineral and Energy Technology certified standard or a Geological Survey Branch 'prepared' bulk soil).

Analytical precision at the 95 per cent confidence limit has been calculated from replicate trace element, major oxide and minor element analyses in Geological Survey Branch till standards A and B (Tables 3 and 4). The precision for some elements (e.g. B) has not been calculated because all values are below detection limit. Also, poor precision indicated by a high value in Table 3 does not necessarily mean that the analysis of a particular element is unreliable because the concentration of that element in the standard can be close to or below detection limit. Precision for most major oxides (e.g. SiO_2, Al_2O_3) is better than 5 per cent. However, precision for minor elements by lithium metaborate fusion-ICP (e.g. Ba, Zr) at the 95 per cent confidence level is poorer and can range as high as 44 per cent for Zr in GSB standard B.

Variation between field and analytical duplicate samples can be displayed on scatter diagrams where a value for the first duplicate sample is plotted as a function of the second value. Plots of Au, As and Pb in analytical (Figure 2) and field duplicate samples (Figure 3) reveal widely scattered Au values, especially in the field duplicate samples, but much stronger correlation between Pb in duplicate samples and As in duplicate samples. The relationship between precision and concentration can also be shown by scatter diagrams where the percent difference (X1-X2)/((X1+X2)/2) of duplicate values X1 and X2 is plotted as a function of the mean ((X1+X2)/2) of the duplicate values. Ideally, values should fall on an exponential decay curve reflecting a decreasing per cent difference between values as concentration increases. Per cent difference scatter plots for As, Cu and Au in analytical and field duplicate samples are shown in Figure 4 and 5 to illustrate the relationship between per cent difference between duplicate sample values and the mean concentration.

The plots show that per cent difference values for analytical duplicate pairs are typically smaller than per cent difference values for corresponding field duplicate sample pairs. This is because data for field duplicate samples represents a combined analytical and sampling variability. Cobalt, Cu, Mn, Ni, V and Zn per cent differences for analytical duplicate samples typically less than 10 per cent over the concentrations range are scattered along an exponential rather than a linear trend. Arsenic, Cr and Pb per cent difference values are scattered along a similar distribution, although the values range up to 25 per cent near the detection limit. Mercury, Sb, Ag and Cd duplicate values range up to 100 per cent difference near the detection limit, but generally are scattered along an exponential decay distribution. Gold, and Ba show the largest per cent differences over the concentration range and also are scattered more randomly rather than being distributed along a clear trend line. A comparison between per cent differences and precision calculated from standards data in Table 3 shows a similarity between the estimates for elements.

Table 2. Detection limits for soil and till sample analysis.

Element		Method	Det'n Limit	Units
Antimony	Sb	INAA/ICP	0.1/0.2	ppm
Aluminium	Al	ICP	0.01	%
Arsenic	As	INAA/ICP	0.5/0.5	ppm
Barium	Ba	INAA/ICP	50/1	ppm
Bismuth	Bi	ICP	0.1	ppm
Boron	B	ICP	3	ppm
Bromine	Br	INAA	0.5	ppm
Cadmium	Cd	ICP	10	ppb
Calcium	Ca	ICP	0.01	%
Cerium	Ce	INAA	3.0	ppm
Cesium	Cs	INAA	1.0	ppm
Chromium	Cr	INAA/ICP	5.0/1	ppm
Cobalt	Co	INAA/ICP	1.0/1.0	ppm
Copper	Cu	ICP	0.2	ppm
Gallium	Ga	ICP	0.5	ppm
Gold	Au	INAA	2	ppb
Hafnium	Hf	INAA	1	ppm
Iron	Fe	INAA/ICP	0.02/0.01	%
Lanthanum	La	INAA	0.5	ppm
Lead	Pb	ICP	0.3	ppm
Lutetium	Lu	INAA	0.05	ppm
Manganese	Mn	ICP	2.0	ppm
Magnesium	Mg	ICP	0.01	%
Mercury	Hg	INAA/ICP	1000/10	ppb
Molybdenum	Mo	INAA/ICP	1.0/0.1	ppm
Nickel	Ni	INAA/ICP	50.0/1.0	ppm
Neodymium	Nd	INAA	5	ppm
Phosphorus	P	ICP	0.001	%
Rubidium	Rb	INAA/ICP	5.0/1	ppm
Samarium	Sm	INAA	0.1	ppm
Selenium	Se	ICP	0.4	ppm
Scandium	Sc	INAA	0.1	ppm
Silver	Ag	ICP	0.3/0.030	ppm
Sodium	Na	INAA/ICP	0.01/0.01	%
Strontium	Sr	ICP	1	ppm
Tantalum	Ta	INAA	0.5	ppm
Tellurium	Te	ICP	0.2	ppm
Terbium	Tb	INAA	0.5	ppm
Thallium	Tl	ICP	0.2	ppm
Thorium	Th	INAA/ICP	0.2/2	ppm
Tungsten	W	INAA	1.0	ppm
Uranium	U	INAA/DNA	0.5/5.0	ppm
Vanadium	V	ICP	2.0	ppm
Ytterbium	Yb	INAA	0.2	ppm
Zinc	Zn	INAA/ICP	2.0/1	ppm

Table 3. Precision (PR) at the 95% confidence level for elements in GSB A (8 analyses) and B (9 analyses) by neutron activation ([1]) and aqua regia-ICP ([2]).

Element	Units	Mean A	PR Std A%	Mean B	PR Std B%
Ag[2]	ppb	301	25	1631	14.6
Al[2]	%	2.06	11.8	2.91	14.8
As[1]	ppm	28	14	68.1	3.4
As[2]	ppm	21.2	34	63.8	12.6
Au[1]	ppb	7	120	44	30
Ba[1]	ppm	667	42	788	12
Bi[2]	ppm	<0.1	nd	0.3	120
Br[1]	ppm	1.5	204	0.8	>200
Cd[2]	ppm	0.95	11	0.8	32
Ca[2]	%	5.86	16.1	0.34	12
Ce[1]	ppm	61	18	53	6.5
Cs[1]	ppm	2	140	1.6	64
Cr[1]	ppm	231	16	393	2.3
Cr[2]	ppm	147	12.1	265	21
Co[1]	ppm	32	18	53	7.2
Co[2]	ppm	32	16	50	9.4
Cu[2]	ppm	82	10.8	189	14.6
Ga[2]	ppm	6.5	13.4	9.6	15.4
Fe[1]	%	5.81	21	8.97	5.0
Fe[2]	%	4.72	12.4	7.23	6.8
La[1]	ppm	33	14	28.5	6.4
Pb[2]	ppm	67.3	15.8	239.8	10.4
Mn[2]	ppm	1131	9.8	1525	7.4
Mg[2]	%	2.05	16.1	2.76	11.6
Hg[2]	ppb	84	17.9	376	10.6
Mo[2]	ppm	1.2	<5	0.9	56
Ni[2]	ppm	110	11.2	216	9
Nd[1]	ppm	25	38	23	30
P[2]	%	0.11	7.4	0.11	8.8
Rb[1]	ppm	63	38	40	28
Sm[1]	ppm	5.2	12	6.0	6
Sb[1]	ppm	2.5	20.2	15.1	7.0
Se[2]	ppm	<0.3	nd	0.6	56
Sc[1]	ppm	20	16	31.1	4.1
Sr[2]	ppm	4.3	55	19	23
Ta[1]	ppm	0.7	>100	1.5	34
Te[2]	ppm	<0.2	nd	0.4	40
Tl[2]	ppm	<0.2	nd	0.2	nd
Th[1]	ppm	8.1	18	5.5	14
W[1]	ppm	<1	nd	<1	nd
U[1]	ppm	2.3	42	1.4	72
V[2]	ppm	71	8.8	105	17.8
Zn[2]	ppm	179	12.2	342	10

Table 4. Per cent analytical precision at the 95% confidence level for oxide and minor elements in GSB A (3 analyses) and B (9 analyses) by lithium metaborate fusion-ICP. (*C and S by Leco method , **LOI by ashing at 550°C).

Element	Units	Mean A	Precision A	Mean B	Precision B
SiO_2	%	49.70	0.9	52.88	0.6
Al_2O_3	%	13.16	1.9	14.44	2.4
Fe_2O_3	%	7.92	2.6	12.32	1.6
MgO	%	4.19	1.4	5.89	1.5
CaO	%	8.73	3.1	1.38	3.2
Na_2O	%	1.88	4.9	2.41	2.8
K_2O	%	1.98	4.1	1.00	30.1
TiO_2	%	1.29	1.5	1.86	2.7
P_2O_5	%	0.26	8.7	0.31	12.7
MnO	%	0.17	nd	0.22	4.4
Cr_2O_3	%	0.027	11.2	0.06	9.0
C*	%	1.96	0.6	0.29	6.4
S*	%	0.02	100	0.02	94
LOI**	%	10.67	4.3	6.82	4.6
Ba	ppm	733	3.8	862	7.2
Ni	ppm	110	10.2	199	11.8
Sr	ppm	188	3.2	96	12.4
Zr	ppm	138	18.8	97	43.4
Y	ppm	19	nd	30	9.6
Nb	ppm	17	30.2	10	nd
Sc	ppm	14	8.4	19	7.0

Table 5. Accuracy of trace metals in CANMET standard STSD 1. The % DIFF = (ABS(X1-X2)/(X1+X2)/2)) x 100 where X1 and X2 are values for sample 978071 and STSD standard respectively. The reported values (X2) for STSD 2 are from Bowman, 1994.

Element	Units	978071	CANMET	% DIFF
Ag[2]	ppb	331	300	9.8
As[1]	ppm	22	23	4.4
As[2]	ppm	3.26	3.5	7.1
Au[1]	ppb	15	8	61
Ba[1]	ppm	820	630	26
Bi[2]	ppm	0.3	No value	No value
Cd[2]	ppm	0.88	0.8	9.5
Ce[1]	ppm	54	51	5.7
Cs[1]	ppm	-1	1.8	100
Cr[1]	ppm	68	67	1.5
Cr[2]	ppm	26	28	7.4
Co[1]	ppm	17	17	0
Co[2]	ppm	14	14	0
Cu[2]	ppm	34.7	36	3.7
Fe[1]	%	4.7	4.7	0
Fe[2]	%	3.26	3.5	7.1
La[1]	ppm	31	30	3.3
Pb[2]	ppm	36.8	34	7.9
Mn[2]	ppm	3411	3740	9.2
Hg[2]	ppb	115	110	4.4
Mo[2]	ppm	1.2	2	50
Ni[2]	ppm	19	18	5.4
Nd[1]	ppm	34	28	19.4
Sm[1]	ppm	6.8	6.0	12.5
Se[2]	ppm	1.9	No value	No value
Sc[1]	ppm	13	14	7.4
Ta[1]	ppm	-0.5	0.4	No value
Th[1]	ppm	4.3	3.4	15.0
U[1]	ppm	9.3	8	15
V[2]	ppm	47	47	0
Zn[2]	ppm	150.9	165	8.9

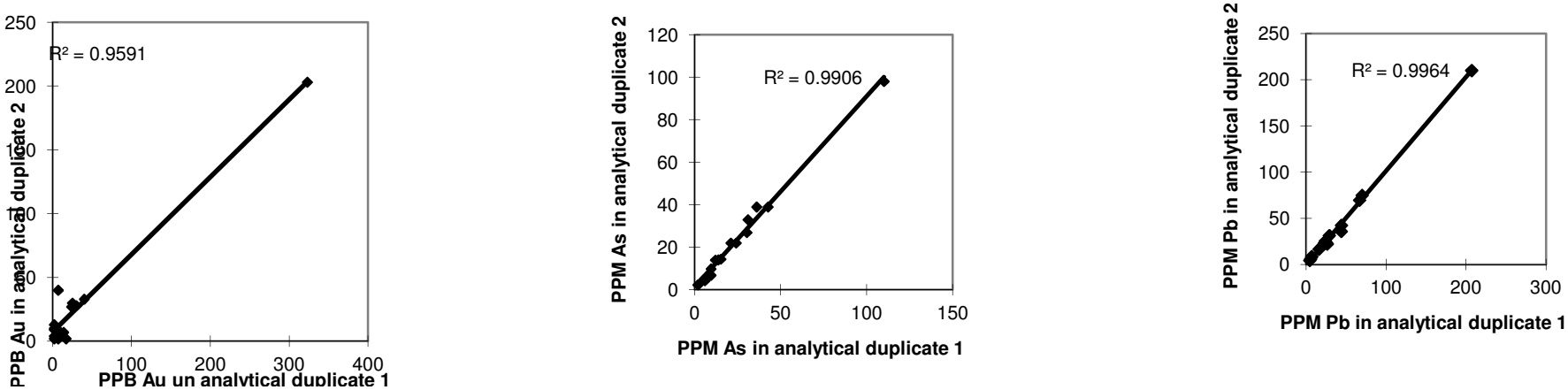

Figure 2. Scatter plots for Au, As and Pb in analytical duplicate sample pairs

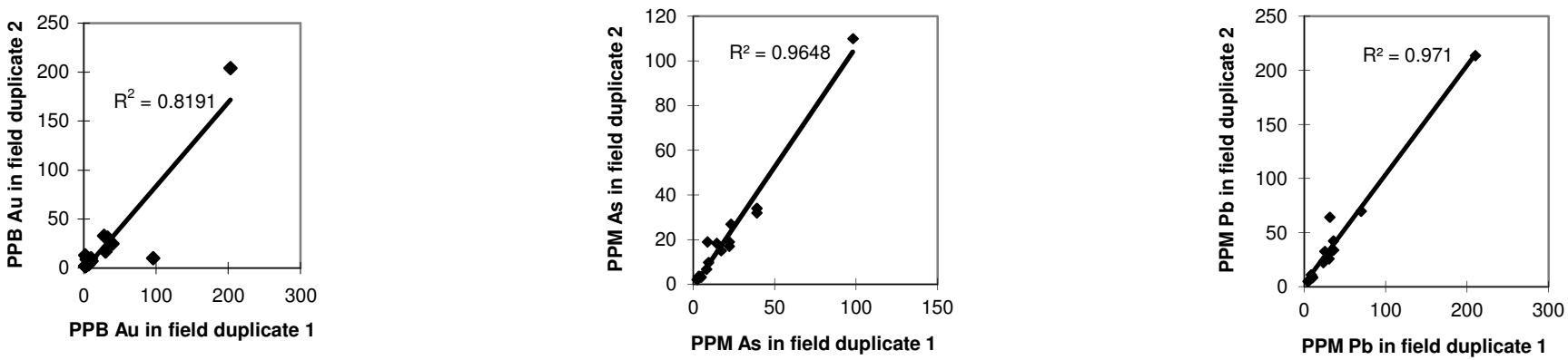

Figure 3: Scatter plots for Au, As and Pb in field duplicate sample pairs

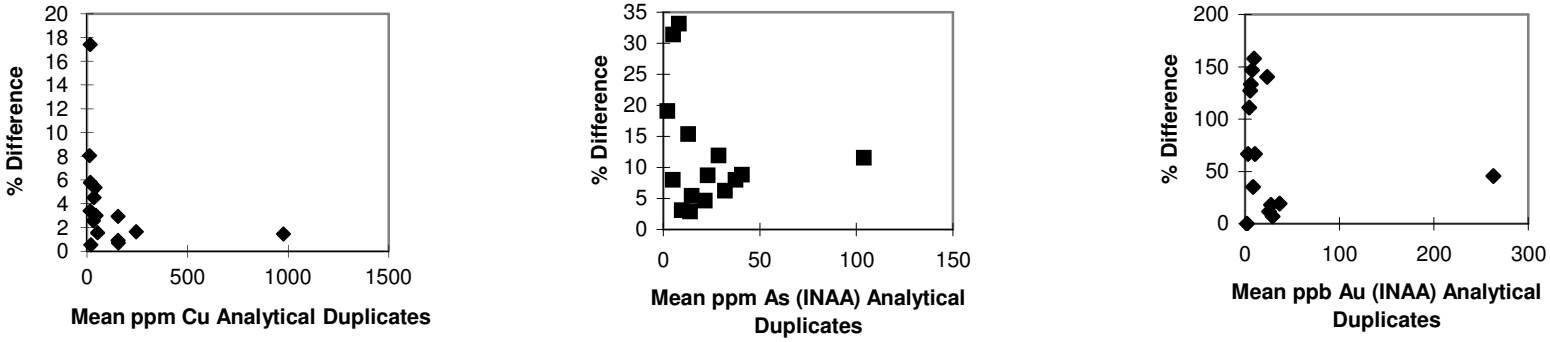

Figure 4: Per cent difference scatter plots for Cu, As and Au in analytical duplicate sample pairs

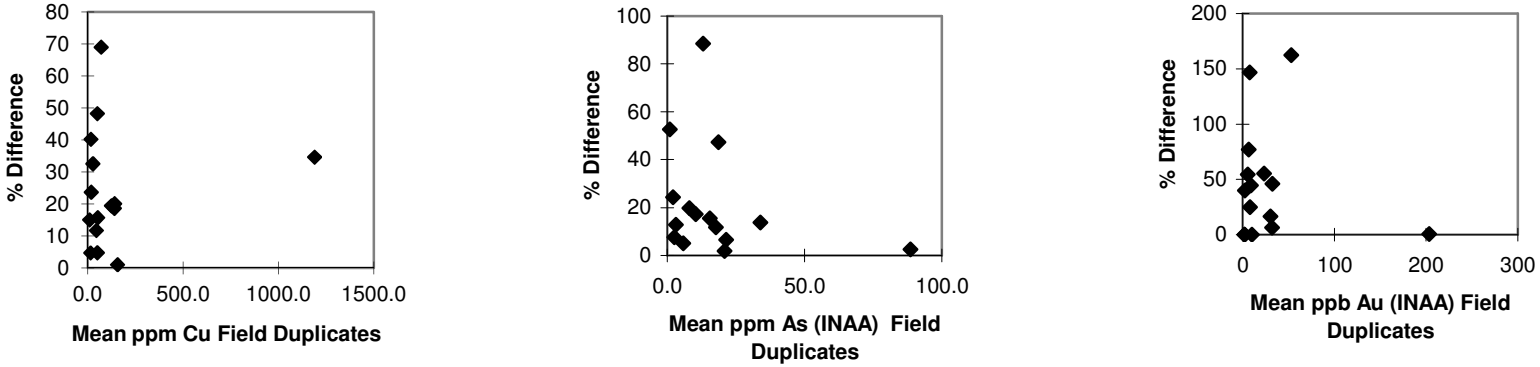

Figure 5: Per cent difference scatter plots for Cu, As and Au in field duplicate sample pairs

Table 6. Accuracy of oxides and minor elements in CANMET standard STSD 2. The % DIFF = (ABS(X1-X2)/(X1+X2)/2) x 100 where X1 and X2 are values for sample 978203 and STSD standard respectively. The reported values (X2) for STSD 2 are from Bowman, 1994.

Element	Units	978203	CANMET	%Diff
SiO_2	%	53.68	53.70	0.1
Al_2O_3	%	15.71	16.10	2.5
Fe_2O_3	%	7.42	7.50	1.1
MgO	%	3.25	3.10	4.7
CaO	%	4.22	4.00	5.4
Na_2O	%	1.74	1.70	2.3
K_2O	%	2.41	2.10	13.8
TiO_2	%	0.75	0.80	6.5
P_2O_5	%	0.29	0.30	3.4
MnO	%	0.14	0.10	33.3
Cr_2O_3	%	0.016	0.016	0.0
C*	%	1.7	1.60	6.1
S*	%	0.06	0.06	0.0
LOI**	%	10.4	10.3	1.0
Ba	ppm	560	540	3.6
Ni	ppm	61	53	14
Sr	ppm	431	400	7.5
Zr	ppm	150	185	20.1
Y	ppm	30	37	20.1
Nb	ppm	15	20	28.6
Sc	ppm	10	16	46

Accuracy can be measured by the difference between element concentration detected in blind samples of CANMET reference materials and the accepted values for standards. In tables 5 and 6 the accuracy for analysis of CANMET standard STSD 2 (a stream sediment) is reported. The per cent difference is calculated using the relationship (ABS(X1-X2)/(X1+X2)/2) x 100 where X1 and X2 are values for the blind sample and the CANMET data for STSD 2. The accuracy of most elements and major oxides is less than 10 per cent difference. Gold by INA is higher than the value reported for STSD 1 although this difference could reflect the low concentration in the standard. Several of the minor elements (e.g. Zr, Y, Nb) by LMB fusion-ICP display concentrations that are lower than the CANMET reported values. This difference can be explained by incomplete release of these elements from refractory minerals (e.g. zircon) by the LMB fusion.

ELEMENT STATISTICS

Mean, median and percentile values, calculated from soil and till data for all of the survey areas are listed in Tables 7 and 8. The 95 percentile value can be used as an approximate threshold for a preliminary interpretation of the survey data. A threshold value marks the boundary between a geochemical anomaly and a geochemical background. Changes in background across an area can reflect differences in the sample type (e.g. soil versus till), bedrock (e.g. granite versus gabbro) and changes in the surface environment (e.g. well drained soil versus wetland). Threshold values should be determined empirically from the populations that comprise the survey data using frequency histograms or mathematically by separating the populations with cumulative frequency graphs (Sinclair, 1981). Thresholds have also been determined by exploratory data analysis (EDA) based on visually identifying values at quartiles from box plots (Kurzl, 1988). Users on this Open File are encouraged to test these methods on the data to determine geochemical thresholds.

A comparison of data in Tables 7 and 8 reveals that many elements (e.g. Ba, Co, Cr, Cu, Fe, Hg, Ni, Pb, Zn) are higher in the till at the 95 percentile level compared to the B-horizon soil. Gold levels are almost the same in both sample media. Regional till survey statistics calculated from analyses of 497 till samples (Bobrowsky *et al.,* 1997) are listed in Table 7a for comparison with detailed survey data. Some of the elements (e.g Ba, Hg) are similar in the detailed till compared to the regional till whereas others (e.g. Au Cu, Pb, Zn) are much lower in the regional till. Symbol plots showing the variation of elements for each area are based on the 90, 95 and 98 percentiles for the regional rather than the detailed till sample data.

Table 7. Statistics for trace elements in 171 till samples.

	Units	Mean	Median	90% ile	95% ile	98% ile	Max
Ag[2]	ppb	542.6	186	597	1022	1765.2	43238
Al[2]	%	1.94	1.71	3.30	3.97	4.75	6.10
As[1]	ppm	35	21	71	125	170	470
As[2]	ppm	33.4	18.3	65.0	111.7	180.1	506.3
Au[1]	ppb	31	14	59	83	225	496
B[2]	ppm	3	3	3	4	6	23
Ba[1]	ppm	745	670	1200	1300	1620	2600
Ba[2]	ppm	120	96	200	246	303	1591
Bi[2]	ppm	2.5	0.6	3.4	6.1	21.7	71.5
Br[1]	ppm	3.9	2.0	9.9	13.5	19.5	35.0
Ca[2]	%	1.55	0.30	6.10	7.99	10.27	13.02
Ca[1]	%	2.58	1.00	7.40	9.00	10.00	15.00
Cd[2]	ppm	1.0	0.2	1.1	1.9	3.8	49.7
Ce[1]	ppm	88	86	120	130	170	230
Co[1]	ppm	22	16	43	52	62	150
Co[2]	ppm	21	14	47	55	67	145
Cr[1]	ppm	112	71	273	370	436	580
Cr[2]	ppm	62	23	169	252	328	465
Cs[1]	ppm	4	3	5	6	7	23
Cu[1]	ppm	195.2	80.0	539.8	816.5	1360.4	1871.8
Eu[1]	ppm	1.8	1.7	2.7	3.0	3.8	4.3
Fe[1]	%	5.54	4.89	8.90	10.60	13.00	30.00
Fe[2]	%	4.65	3.67	7.85	10.19	12.54	26.72
Ga[2]	ppm	6.2	5.7	10.5	11.9	15.5	19.1
Hf[1]	ppm	8	8	13	14	16	17
Hg[2]	ppb	51	35	99	142	242	425
K[2]	%	0.17	0.13	0.31	0.44	0.59	1.00
La[1]	ppm	48.6	45.0	64.8	81.2	99.2	140.0
La[2]	ppm	21.7	20.0	34.0	39.5	52.8	73.0
Lu[1]	ppm	0.55	0.51	0.76	0.90	1.15	1.38
Mg[1]	%	1.05	0.70	2.34	3.02	3.65	5.38
Mn[2]	ppm	703	568	1305	1639	2064	2810
Mo[2]	ppm	1.8	1.2	3.4	5.0	7.3	11.0
Na[1]	%	1.60	1.62	2.64	2.84	3.08	3.27
Na[2]	%	0.02	0.01	0.03	0.04	0.05	0.05
Nd[1]	ppm	33	30	47	55	68	96
Ni[1]	ppm	55	29	150	186	243	310
Ni[2]	ppm	57	32	143	212	283	319
P[2]	%	0.067	0.063	0.110	0.122	0.147	0.170
Pb[2]	ppm	130.2	33.0	238.0	428.5	1024.4	5290.8
Rb[1]	ppm	102	99	160	185	200	220
Sb[1]	ppm	1.9	1.0	3.5	5.2	7.7	21.0
Sb[2]	ppm	1.5	0.8	3.0	5.1	7.0	11.1
Sc[1]	ppm	16.1	15.0	24.1	28.5	32.6	34.0
Se[1]	ppm	4	3	3	3	4	100
Se[2]	ppm	1.7	0.3	1.7	3.3	6.2	108.0
Sm[1]	ppm	6.6	6.2	9.6	12.5	13.1	19.0
Sr[2]	ppm	48	26	102	152	265	392
Ta[1]	ppm	1.8	1.6	3.8	4.4	4.8	5.9
Tb[1]	ppm	0.8	0.6	1.4	1.9	2.5	3.1
Te[2]	ppm	0.5	0.2	0.7	1.2	2.0	8.6
Th[1]	ppm	16.4	15.0	25.5	31.5	41.2	49.0
Th[2]	ppm	9.8	8.0	18.0	20.5	24.6	43.0
Ti[2]	%	0.08	0.08	0.15	0.17	0.21	0.28
Tl[2]	ppm	0.3	0.2	0.5	0.8	1.0	2.2
U[1]	ppm	4.4	3.7	7.8	9.2	11.0	14.0
V[2]	ppm	49	42	91	110	128	177
W[1]	ppm	2	1	5	6	7	13
Yb[1]	ppm	3.6	3.3	4.9	5.8	7.8	9.4
Zn[1]	ppm	423	171	570	900	1362	16700
Zn[2]	ppm	382.8	117.4	583.0	978.0	1347.9	17159.1

Table 7a. Regional till survey statistics for 497 samples (Bobrowsky *et al.*,1997)

Element	Mean	Median	Maximum	90%ile	95%ile	98%ile
Ag[2]	0.3	0.3	1.9	0.3	0.4	0.6
As[1]	11.6	8.2	93	26	35	44
Au[1](ppb)	7	4	84	17	26	37
Ba[1]	883	850	4600	1200	1400	1600
Bi[3]	2.7	0.5	71.5	4.3	7.5	26.8
Cd[2]	0.4	0.2	22	0.8	1.2	1.7
Cr[1]	126	110	910	240	300	380
Cr[2]	75	50	754	175	239	301
Co[1]	20	17	66	36	42	52
Co[2]	20	18	72	39	47	57
Cu[2]	74	50	3653	134	172	234
Hg[3] (ppb)	52	33	413	99	146	249
Fe[1](%)	4.76	4.56	10.4	7.23	7.96	8.65
Pb[2]	26	17	279	50	81	130
Mn[2]	806	726	2759	1350	1723	2154
Mo[2]	2	1	28	3	4	9
Ni[2]	64	50	1491	132	171	233
Sb[1]	0.7	0.6	13	1.3	1.8	2.2
Se[3]	2.1	0.3	108.0	2.2	3.5	10.3
Te[3]	0.5	0.2	8.6	0.7	1.2	2.5
Tl[3]	0.4	0.2	2.2	0.6	0.9	2.0
Th[1]	21	16	120	46	53	70
V[2]	56	48	201	101	121	143
Zn[1]	140	120	4090	206	284	358
Zn[2]	116	94	4168	180	248	352

Table 8. Statistics for trace elements in 137 B-Horizon soil samples.

	Units	Mean	Median	90% ile	95% ile	98% ile	Max
Ag[2]	ppm	450	191	720	1164	1845	15370
Al[2]	%	2.45	2.29	3.76	4.48	4.90	5.37
As[1]	ppm	30.6	14.0	39.0	69.0	111.3	1300.0
As[2]	ppm	28.2	10.6	39.4	67.4	99.5	1332.6
Au[1]	ppb	41	6	52	91	225	2720
B[2]	ppm	3	3	4	6	9	13
Ba[1]	ppm	684	650	915	1000	1300	1600
Ba[2]	ppm	147	136	240	308	331	387
Bi[2]	ppm	1.6	0.4	2.0	4.3	16.0	28.5
Br[1]	ppm	4.4	2.6	9.2	19.0	22.6	31.0
Ca[2]	%	0.37	0.2	0.5	0.7	2.4304	7.63
Ca[1]	%	1	1	3	3	4	9
Cd[2]	ppm	0.4	0.2	1.0	1.5	1.8	6.0
Ce[1]	ppm	75	72	96	101	128	190
Co[1]	ppm	17	15	30	34	50	64
Co[2]	ppm	16	13	31	40	47	63
Cr[1]	ppm	83	66	170	206	274	310
Cr[2]	ppm	40	23	96	117	169	209
Cs[1]	ppm	4	3	5	6	9	31
Cu[2]	ppm	106.3	42.0	284.1	409.1	649.7	982.6
Eu[1]	ppm	1.5	1.4	2.1	2.5	2.7	3.0
Fe[1]	%	4.68	4.18	6.45	7.91	14.78	18.90
Fe[2]	%	3.66	3.04	5.84	7.14	14.04	17.53
Ga[2]	ppm	7	7	11	12	14	17
Hf[1]	ppm	8	7	11	12	14	16
Hg[2]	ppb	47	31	74	88	143	1228
K[2]	%	0.13	0.11	0.21	0.28	0.34	0.77
La[1]	ppm	39.1	36.3	53.0	59.2	71.3	110.0
La[2]	ppm	14.4	14.0	20.0	24.0	33.3	38.0
Lu[1]	ppm	0.45	0.44	0.58	0.63	0.74	1.08
Mg[2]	%	0.63	0.43	1.29	1.69	1.97	2.52
Mn[2]	ppm	572	434	1042	1159	1374	5336
Mo[2]	ppm	1.4	1.0	2.8	4.0	4.6	7.8
Na[1]	%	1.77	1.90	2.52	2.60	2.72	2.98
Na[2]	%	0.02	0.02	0.03	0.03	0.03	0.05
Nd[1]	ppm	27	25	37	42	52	83
Ni[1]	ppm	38	28	65	118	160	190
Ni[2]	ppm	44	33	87	113	158	196
P[2]	%	0.073	0.062	0.140	0.153	0.172	0.245
Pb[2]	ppm	104.0	24.5	124.6	257.2	1251.5	3436.1
Rb[1]	ppm	85	80	132	170	173	190
Sb[1]	ppm	1.4	0.9	2.4	4.5	7.7	14.0
Sb[2]	ppm	1.1	0.5	2.0	4.0	7.2	10.2
Sc[1]	ppm	12.7	12.0	18.7	21.0	22.6	24.0
Se[1]	ppm	3	3	3	3	5	26
Se[2]	ppm	0.8	0.3	0.8	1.7	5.1	24.1
Sm[1]	ppm	5.4	5.1	7.4	8.7	10.6	15.0
Sr[2]	ppm	27	21	47	52	78	120
Ta[1]	ppm	1.7	1.4	3.2	3.8	5.2	6.7
Tb[1]	ppm	0.7	0.5	1.1	1.4	1.5	2.4
Te[2]	ppm	0.3	0.2	0.4	0.7	1.1	5.4
Th[1]	ppm	12.8	12.0	19.0	22.2	27.3	38.0
Th[2]	ppm	6.0	5.0	10.0	13.0	14.1	20.0
Ti [2]	%	0.09	0.09	0.15	0.16	0.17	0.22
Tl[2]	ppm	0.2	0.2	0.4	0.5	0.7	1.0
U[1]	ppm	3.6	3.2	6.1	6.7	7.3	7.9
V[2]	ppm	42	36	69	82	90	96
W[1]	ppm	2	1	4	6	6	15
Yb[1]	ppm	2.9	2.8	3.7	4.3	5.7	7.4
Zn[1]	ppm	295	200	575	726	1216	2600
Zn[2]	ppm	234.6	138.0	494.3	686.1	930.3	2387.4

DETAILED AREAS

Mount Armour (Maps 1 to 9)

Location NTS 92P/8. 120°06'0"E, 51°10'0"N. The detailed survey area covers roughly 10 square kilometres around the Mount Armour sulphide occurrence (Map 1).

Surface Environment and Deposits

Mount Armour is a northwest trending, 2 kilometre long, ridge between Dixon Creek and the North Thompson River (Map 1). Peak elevation of Mount Armour is 793 metres above sea level. The upper slopes of the Mount Armour ridge are rugged and outcrops are frequent. The soil is well drained and supports a second growth of pine and birch. Along the ridge crest the surface has been intermittently disturbed by trenching and road construction.

Up to 3 metres of olive-grey, moderately consolidated basal till were deposited on bedrock by an northwest to southeast ice advance during the Fraser Glaciation maximum (Bobrowsky *et al.,* 1998). Although rock clasts in the till are mainly of Paleozoic Eagle Bay lithologies there are also clasts of mafic volcanic rock from the Devonian to Permian age Fennel Formation. This formation is exposed to the north of Mount Armour. Reworked till and colluvium cover the lower slopes of the ridge and extend onto the alluvial floor of the North Thompson river valley.

Geology-Mineralization

The Mount Armour massive sulphide occurrence (MINFILE 92P051) is hosted by the lower Palaeozoic age Unit EBS of the Eagle Bay Assemblage. This unit consists mainly of phyllitic sandstone, grit and quartzite and includes a distinctive coarse grained cobble to boulder conglomerate (Unit EBScg) that outcrops along the Mount Armour ridge (Schiarriza and Preto, 1987). Green chloritic schist originating from mafic volcanic rocks and limestone interbeds are also present in the unit. The phyllite contains several, small conformable lenses of pyrite, chalcopyrite and sphalerite with the largest exposed at surface being the main and south massive sulphide zones. Previous geochemical and geophysical surveys (Pirie, 1987) indicate that the sulphide bodies may extend for several 10s of metres along strike. Diamond drilling established that the sulphides contain up to 0.73 per cent copper and 4.1 per cent zinc over a 1 metre interval.

Geochemical Data

New geochemical data represents B-horizon soil and C-horizon till samples collected on Mount Armour from 25 sites in 1997 and 1998. Regional till survey (Bobrowsky *et al*., 1998) data for the Mount Armour area are also discussed in this Open File. Locations of the detailed and regional till-soil survey samples are shown in Map 1.

Analytical results for key elements in Mount Armour till and B-horizon soil samples are listed in Table 9. Distribution of Au, As, Co and Cu in till and B-horizon soil samples is shown in Maps 2 to 9. B-horizon soil 5 metres from the main showing contains 2720 ppb Au, 1234 ppb Ag, 104 ppm As, 29 ppm Bi, 49 ppm Co, 10.7 ppm Sb, 13 ppm Se and 364 ppm Cu. The soil chemistry is similar to that of a sulphide-mineralized rock sample (97RL58) from the main occurrence (Table 9). Elevated Au, As, Cu and Co occur in the B-horizon soil and till for up to 1 kilometre south of the main showing and the distribution of Cu and Co in the till indicates that the dispersal plume of mineralized bedrock is less than 500 metres wide. B-horizon soil and till samples taken north of the main showing in 1997 have up to 98 ppb Au, 26 ppm Co, 204 ppm Cu and 1148 ppm Zn. The geochemistry of these samples from a gentle, undulating, till-covered part of the ridge suggests that there are other mineralized sources north of the main showing and beyond the limit of the detailed survey.

Concentrations of 42 ppm As and 40 ppb Au were detected in regional till sample 979377 on the western side of the Mount Armour ridge. Several detailed samples were collected north (up-ice) of this sample site (Map 3) and 31.7 ppm As was found in the till at site MA98-19, 50 metres northeast of the regional till anomaly. Lower As and up to 17 ppb Au occurs in till north of this site. MA98-19 is close to a conglomerate outcrop that may represent part of the Fennel Formation. No other elements reach anomalous levels and the source for the As may be local.

There are no RGS sites streams draining Mount Armour and the stream geochemistry cannot be evaluated.

A summary of Mount Armour geochemistry is shown in Table 10.

Table 9. Mount Armour B-soil horizon (B), till (M1) and sulphide (R) geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppb	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Ni[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
MA97-1	978067	B	111	37.0	23	650	0.6	0.20	15	84	60.7	4.63	33	565	1.1	36	39.4	3.0	0.3	100.0
MA97-1	978068	M1	213	32.0	51	670	5.1	1.01	26	97	197.2	6.11	66	928	1.2	34	33.9	3.0	0.7	289.4
MA97-2	978069	B	161	12.0	4	810	0.4	0.60	10	86	54.5	4.16	28	1278	0.8	27	43.3	1.7	-0.3	447.5
MA97-2	978070	CM	351	19.0	12	880	0.4	1.65	14	110	203.5	5.42	149	1530	1.3	30	55.2	5.1	0.5	1148.5
MA97-3	978072	B	94	8.6	-2	600	0.2	0.21	11	51	21.1	2.85	32	569	0.7	27	23.3	0.9	-0.3	167.1
MA97-3	978073	CM	108	25.0	7	700	0.2	0.17	15	67	32.4	3.80	37	481	0.7	35	33.3	1.6	-0.3	187.3
MA97-4	978074	B	53	22.0	7	560	0.2	0.06	8	65	20.3	2.84	15	218	0.8	24	22.4	1.7	-0.3	69.2
MA97-4	978075	M1	200	38.0	24	530	0.2	0.18	13	71	33.0	3.05	31	555	0.6	27	22.1	2.8	-0.3	51.8
MA97-4	978076	B	44	17.0	4	620	0.2	0.05	7	66	16.0	2.91	24	265	0.8	22	23.3	1.7	-0.3	69.4
MA97-5	978077	B	77	29.0	16	660	0.2	0.09	9	83	30.2	3.40	26	301	1.0	25	38.0	2.4	-0.3	62.8
MA97-5	978078	M1	192	43.0	53	540	0.1	0.22	13	75	46.2	3.42	38	582	0.9	31	36.6	2.9	-0.3	64.7
MA97-6	978079	B	98	30.0	17	590	0.8	0.15	12	61	33.4	3.72	31	277	1.0	28	50.0	1.8	0.3	110.9
MA97-6	978080	M1	705	48.0	60	440	0.6	1.09	13	60	72.1	3.26	59	551	1.5	27	113.9	3.8	0.8	137.2
MA97-7	978082	B	106	30.0	18	600	0.2	0.09	9	64	47.6	3.30	32	413	1.2	34	33.8	2.1	-0.3	83.0
MA97-7	978083	M1	294	30.0	18	670	-0.1	0.20	12	74	38.2	2.75	40	423	0.8	26	22.4	2.8	-0.3	50.9
MA97-8	978087	B	123	17.0	-2	530	0.2	0.09	7	56	17.4	2.67	25	466	0.9	22	17.8	1.2	-0.3	86.7
MA97-8	978088	M1	199	33.0	27	570	0.1	0.17	13	64	33.9	3.10	39	568	0.9	24	23.4	2.8	-0.3	52.2
MA97-9	978089	B	41	14.0	38	650	0.1	0.01	8	62	16.9	3.13	14	243	0.8	22	15.6	1.4	-0.3	69.0
MA97-9	978090	M1	136	36.0	25	610	0.2	0.15	16	68	40.1	3.55	35	637	1.1	31	23.9	3.3	-0.3	65.1
MA97-10	978091	B	113	37.0	98	750	0.2	0.11	15	79	79.2	4.78	47	510	1.5	43	33.2	3.7	0.4	117.9
MA97-10	978092	M1	339	40.0	59	440	0.3	0.59	18	57	87.5	3.79	27	731	1.8	29	30.4	3.2	0.4	147.6
MA97-11	978094	B	-30	14.0	9	670	0.2	0.04	8	55	20.1	2.99	16	309	1.1	22	21.5	1.5	-0.3	59.7
MA97-11	978095	M1	191	33.0	39	600	0.1	0.21	14	64	42.3	3.24	40	542	1.0	28	32.6	3.3	-0.3	52.7
MA97-12	978096	B	70	20.0	26	660	0.2	0.07	11	56	19.6	3.22	31	440	0.9	33	22.9	1.3	-0.3	106.8
MA97-12	978097	M1	113	36.0	33	680	0.1	0.12	14	69	47.0	3.44	42	699	1.0	33	33.3	3.0	-0.3	68.8
MA97-13	978098	B	162	12.0	35	590	0.4	0.11	9	55	16.0	2.82	17	718	1.0	22	17.5	1.0	-0.3	115.6
MA97-13	978099	M1	82	23.0	9	680	0.3	0.04	10	70	44.9	3.20	28	383	0.9	25	19.7	1.7	-0.3	93.6
MA97-14	978100	B	122	14.0	17	620	0.6	0.37	10	45	18.6	2.75	29	812	0.9	23	19.6	0.9	-0.3	399.7
MA97-14	978102	M1	50	24.0	20	780	0.5	0.25	12	68	44.5	3.64	16	524	1.2	24	19.7	1.9	-0.3	272.8
MA97-15	978103	B	110	21.0	21	780	0.4	0.12	10	61	30.0	3.18	30	589	0.8	31	26.0	1.2	-0.3	163.5
MA97-15	978104	M1	160	35.0	72	720	0.3	0.23	15	73	76.4	3.91	27	675	1.2	34	32.2	2.8	-0.3	149.3
MA97-16	978105	B	191	31.0	47	790	0.4	0.20	14	69	77.9	3.83	25	621	1.4	37	81.9	2.1	-0.3	223.8
MA97-16	978106	M1	321	32.0	46	760	0.2	0.32	14	74	49.5	3.33	41	547	1.0	26	29.3	2.7	-0.3	81.4
MA97-16	978107	M1	398	23.0	15	550	0.1	0.46	15	56	41.8	2.41	49	579	1.2	22	27.6	2.0	0.5	74.3
MA98-1	988447	B	116	23.1	10	570	0.2	0.20	14	64	22.6	3.44	28	846	0.6	23	35.7	1.1	-0.3	260.7
MA98-1	988448	B	118	26.9	10	680	0.3	0.17	16	77	31.4	3.90	38	631	0.7	25	42.4	1.5	-0.3	238.0
MA98-1	988449	M1	164	41.3	38	620	0.3	0.15	16	86	69.9	4.45	59	833	1.0	31	40.6	2.8	0.5	162.4
MA98-2	988450	B	80	23.0	16	630	0.4	0.12	15	75	35.4	3.50	16	689	0.7	30	13.1	1.5	-0.3	142.9
MA98-2	988451	M1	168	51.6	99	820	0.6	0.16	16	96	76.0	4.16	24	611	0.8	37	21.1	2.9	-0.3	94.8
MA98-3	988452	B	1234	104.0	2720	390	28.5	0.33	49	51	364.3	15.90	12	952	0.4	12	33.1	10.7	13	114.8
MA98-3	988453	M1	157	24.8	80	640	3.9	0.34	18	66	63.3	5.02	13	574	0.7	29	23.6	2.6	0.8	206.9

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppb	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Ni[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
MA98-4	988454	B	55	18.3	5	630	0.2	0.27	16	77	46.0	4.36	11	463	0.8	36	24.5	1.8	-0.3	286.7
MA98-4	988455	M1	102	30.4	20	560	-0.2	0.37	18	75	59.1	3.73	26	733	0.8	32	30.4	2.5	0.4	103.7
MA98-5	988456	B	191	36.6	280	500	3.3	0.15	59	66	337.8	6.11	31	618	0.2	40	19.2	2.0	0.7	107.3
MA98-5	988457	M1	614	37.4	255	520	2.8	0.27	123	81	504	10.4	35	1294	-0.1	40	28.9	2.6	1.2	111.7
MA98-6	988458	B	140	17.3	6	600	0.3	0.98	16	59	40.1	3.53	38	871	0.9	28	22.2	1.1	-0.3	915.7
MA98-6	988459	M1	122	33.3	50	560	0.2	1.66	18	78	106.7	4.51	54	797	1.3	36	22.1	2.8	-0.3	998.8
MA98-7	988460	B	93	31.3	90	490	0.2	0.17	18	76	65.9	4.27	31	887	1.4	35	54.3	2.3	0.4	189.4
MA98-7	988462	M1	568	43.3	57	500	-0.2	0.60	25	84	109.7	4.37	45	1039	2.0	35	100.9	3.6	0.3	179.6
MA98-8	988463	B	346	26.8	64	540	0.4	0.17	21	66	38.5	3.50	40	1145	0.6	33	69.7	0.9	-0.3	261.2
MA98-9	988464	B	61	27.2	11	570	0.3	0.06	16	70	44.4	4.21	16	541	1.1	30	29.8	2.1	-0.3	124.3
MA98-9	988465	M1	206	34.4	31	510	0.3	0.36	20	80	74.6	4.78	32	618	0.9	33	30.8	2.2	-0.3	130.3
MA98-10	988467	B	151	27.6	55	450	0.5	0.46	19	69	88.8	4.76	24	1013	1.0	32	43.6	2.1	-0.3	235.8
MA98-10	988468	M1	253	30.6	80	420	0.6	0.42	21	65	112.3	4.85	42	820	0.9	31	41.5	2.3	-0.3	229.8
MA98-11	988469	B	98	24.0	28	490	0.4	0.29	21	62	77.0	4.43	23	1085	0.8	30	44.7	1.5	0.3	216.3
MA98-11	988470	M1	374	32.2	59	450	1.1	1.00	31	62	145.3	4.97	64	1033	0.9	30	73.4	2.2	0.3	225.2
MA98-12	988471	B	375	25.0	58	470	0.3	0.44	20	73	113.2	4.53	41	805	0.9	36	20.9	1.8	0.4	257.2
MA98-12	988472	M1	685	36.7	36	610	1	2.31	31	77	126.1	5.10	199	1027	1.7	46	56.1	2.4	-0.3	1002.8
MA98-13	988473	B	137	33.2	36	440	2.1	0.37	29	57	208.9	6.27	36	1314	0.9	35	25.4	2.3	0.8	277.6
MA98-13	988474	M1	406	39.0	33	430	0.7	0.53	32	57	154.9	5.35	55	1260	1.3	35	31.4	2.5	0.7	190.1
MA98-13	988475	M1	334	34.0	31	470	0.3	0.55	26	49	126.6	4.74	54	1340	1.3	35	31.6	2.2	0.4	180.6
MA98-14	988476	B	54	19.5	62	560	0.3	0.12	13	59	45.2	4.30	14	632	0.8	27	25.7	1.5	-0.3	119.0
MA98-14	988478	M1	342	28.4	34	450	0.2	0.45	17	54	50.6	4.26	40	880	1.2	27	24.7	2.0	0.4	82.6
MA98-15	988479	B	415	38.5	84	330	0.6	0.90	22	46	113.9	5.09	88	1025	1.5	28	55.0	2.8	0.5	227.5
MA98-15	988480	M1	236	36.6	45	450	0.5	1.03	26	42	100.3	4.47	57	1364	1.5	32	33.6	2.6	0.4	215.8
MA98-16	988482	B	329	20.8	17	600	-0.2	0.31	17	76	56.0	3.69	32	814	1.3	34	16.1	1.5	-0.3	71.8
MA98-16	988483	M1	220	22.4	8	480	-0.2	0.29	17	75	41.5	3.16	35	702	1.2	33	10.8	1.7	0.3	62.6
MA98-17	988484	B	76	7.3	-2	560	-0.2	0.05	13	102	35.4	4.18	33	383	0.6	28	8.1	0.9	-0.3	67.5
MA98-17	988485	M1	277	10.3	15	560	-0.2	0.08	16	114	51.2	4.19	60	387	0.7	29	8.8	1.1	-0.3	52.6
MA98-18	988486	B	102	11.1	-2	630	-0.2	0.04	12	86	39.7	3.43	13	293	0.5	26	7.3	0.8	-0.3	52.3
MA98-18	988487	CM	301	18.5	16	520	-0.2	0.18	16	105	52.5	4.29	47	535	1.1	32	14.7	1.4	-0.3	56.5
MA98-19	988488	B	127	12.0	9	510	-0.2	0.08	13	65	48.8	3.34	29	427	1.2	23	9.4	1.2	-0.3	63.1
MA98-19	988489	M1	582	31.7	12	600	-0.2	0.35	18	68	63.7	3.13	87	680	1.7	31	11.2	2.1	0.5	50.4
MA98-3	97RL58	R	2086	120.0	867	-50	41.9	0.26	470	230	4010	44.0	120	92	2.2	4	33.2	12.0	8.3	24.2

Elements identified with a suffix [1] determined by INAA and those identified by suffix [2] by aqua regia-ICPES. Negative values are below detection limit.

Table10. Geochemical summary for the Mount Armour area.

	Sediments	Water	Till	Soil	Remarks
Pathfinder Elements	No data.	No data.	Au, Cu, Co, As, Ag, As, Zn	Au, Cu, Co, As, Ag, As, Zn	
Typical anomaly size	No data.	No data.	About 1 km down-ice by < 0.5 km wide.	About 1 km down-ice by < 0.5 km wide.	Soil and till geochemistry indicates several mineralized sources.

Samatosum and Rea Gold (Maps 10 to 19)

Location NTS 82M/5. 119°49'10"E, 51°08'50"N. The detailed survey area covers roughly 20 square kilometres between the Samatosum, Rea Gold and Homestake deposits and Adams Lake (Map 10).

Surface Environment and Deposits

The Samatosum, Rea Gold and Homestake deposits are located approximately 100 km northeast of Kamloops in southern B.C. on the edge of an undulating plateau surrounding the 600 metre high Samatosum Mountain. The area is drained by Johnson and Homestake Creeks that flow, via Sinmax Creek, into Adams Lake and by several smaller, east flowing streams. Valley bottoms (e.g. Sinmax Creek) have scattered black cottonwood stands or have been cleared for agriculture. Hillside and plateau environments, typical of the area around Samatosum Mountain, support western hemlock, red cedar and Douglas fir forest that has been partially cleared by commercial logging. Secondary alder and lodgepole pine growth has partially regenerated logged areas. Brunisols and podzols are the predominant soils in well-drained areas whereas organic soils are typical in small bogs on the plateau and in swampy areas around lakes.

Outcrop is almost continuous along the north side of the Sinmax Creek valley including the area of the Homestake mine. On the plateau outcrop exposure is typically less than ten percent. Surficial deposits range from basal till, ablation till, glaciofluvial deposits, glaciolacustrine sediments, fluvial sediments and organic deposits to colluvium (Dixon-Warren, 1998). These sediments were deposited by the last cycle of glaciation and deglaciation (Fraser Glaciation). The plateau to the east of the Samatosum deposit is mantled by 3 to 5 metres of massive, silty-clay basal till deposited by a predominantly northwest to southeast ice flow (Dixon-Warren *et al.,* 1997). Colluvial deposits occur on steep slopes and fluvial, glaciofluvial and glaciolacustrine sediments occur along valley bottoms. Outcrop, talus and colluvium are common along the steep sides of the Sinmax Creek and Adams Lake valleys. Organic deposits occur locally in all types of terrain.

Geology-Mineralization

The geology has been described by Schiarriza & Preto (1987), Meyers *et al.,* (1990) and by Bailey *et al.,* (2000). The area around the Samatosum (MINFILE 82M244) and the Rea Gold (MINFILE 82M191) deposits is underlain by the Eagle Bay Assemblage. Lower Paleozoic clastic metasedimentary, carbonate and mafic metavolcanic rocks are succeeded by Devonian to Mississippian felsic to intermediate metavolcanic and clastic metasedimentary rocks. The Eagle Bay Assemblage is contained in four northwest-dipping thrust sheets and, locally, has been deformed into northwest trending, shallow dipping, overturned folds.

Oldest Eagle Bay rocks (Unit EBG) are Cambrian calcareous schist derived from mafic volcanic rocks. Unit EBG includes the prominent Tshinakin limestone, quartzite and conglomerate and is separated from younger Devonian-Mississippian rocks by a southwest-dipping thrust fault. The Devonian-Mississippian rocks comprise Units EBF, EBA and EBS. Unit EBF consists of fragmental feldspathic schistose rocks derived from intermediate tuffs and volcanic breccias. Unit EBA, the host rock for the Homestake deposit, consists of chlorite-sericite quartz phyllite derived from felsic to intermediate volcanic rocks. Unit EBS consists of coarse-grained clastic metasedimentary rocks intercalated with carbonate and mafic volcanic horizons. Locally, rocks of the Eagle Bay assemblage have been intruded by Devonian orthogneiss, gabbro and, regionally, by mid-Cretaceous granodiorite and quartz monzonite (e.g. the Baldy Batholith), Tertiary quartz-feldspar porphyry, basalt and lamprophyre dykes. Locally the rocks of the Eagle Bay assemblage are covered by Miocene plateau flow basalt.

Eagle Bay metasedimentary and metavolcanic rocks host the Samatosum, Rea Gold and Homestake deposits and several mineral occurrences (e.g. Kamad 7, and Twin Mountain) in the area. The sequence of rocks along a northeast to southwest section across the Samatosum and Rea Gold mineralized zones from the deposit hanging wall to footwall comprises: 1) the Tshinakin limestone; 2) interbedded

cherts and argillite (the mixed sediments); 3) mafic volcanics and; 4) the "Mine Series" rocks (Friesen 1990), a zone of heavily altered sediments and mafic volcanic rocks, with minor felsic to intermediate volcanic rocks. The 'Mine Series' is the host rock for the Samatosum and Rea Gold deposits. Directly above the Mine Series, and forming the structural footwall of both deposits, is a thick sequence of feldspathic phyllite and schist derived from intermediate tuff and volcanic breccia (Unit EBF). The Samatosum deposit, containing an estimated 635 000 tonnes of ore grading 1.2 per cent copper, 2.9 per cent zinc, 1.7 per cent lead, 1035 grams/tonne silver and 1.9 grams/tonne gold is a highly deformed quartz-vein system containing massive to disseminated tetrahedrite, sphalerite, chalcopyrite and galena (Pirie, 1989). Tetrahedrite is most uniformly distributed, while sphalerite, galena and chalcopyrite occur more erratically as massive lenses within the quartz vein host. The sulphides have higher Ag, Cd, Sb and Tl than the Rea Gold deposit (Bailey, personal communication). Principal gangue minerals are quartz and dolomite. Alteration associated with mineralization includes sericitization, silica flooding of wallrock surrounding the orebody, dolomitization and pyrite replacement of lapilli in the mafic pyroclastic rocks. Fuchsite, a chromium-rich mica, occurs in the immediate sheared footwall portion of the ore zone. The sulphides are not exposed at the bedrock surface and were found by diamond drilling.

At Rea Gold, two massive sulphide lenses contain fine grained arsenopyrite, pyrite, sphalerite, galena, tetrahedrite, quartz and barite. The lenses are exposed at surface beneath a gossan. Estimated reserves for the Rea Gold deposit are 376 000 tonnes of ore grading 0.33 per cent copper, 2.3 per cent zinc, 2.2 per cent lead, 69.4 grams/tonne silver and 6.1 grams/tonne gold (The Northern Miner, 1987). The Rea Gold sulphides have higher Ba, Mo, Sn and V than those at Samatosum deposit (Bailey, personal communication).

Diamond drilling on the Kamad 7 property, 1 kilometre south of Rea Gold, intersected sericite chert and phyllite beneath mafic volcanic rocks. The metasediment contains up to 15 percent pyrite, 850 ppb Au, 667 ppm Pb, 894 ppm Zn, 3.2 ppm Ag, 556 ppm Cu and 687 ppm As.

Four kilometres south of the Samatosum mine is the Homestake lead-zinc-silver-gold-barium deposit (MINFILE 82M 025). Two tabular horizons of barite-pyrite-chalcopyrite-argentite-tetrahedrite-galena-sphalerite lenses occur in a quartz-sericite-talc schist unit of the Eagle Bay Assemblage. The Homestake deposit has an estimated 250 000 tonnes of ore grading 200 grams/tonne Ag, 0.58 grams/tonne Au, 0.5 per cent Cu, 2.5 per cent Pb and 4.0 per cent Zn. It was mined intermittently from 1893 until 1983 and is now abandoned (Höy, 1991). The Twin Mountain (MINFILE 82M 020) prospect (6 km E east of Samatosum), consists of galena, sphalerite, pyrite and chalcopyrite mineralization in carbonate-quartz-barite lenses hosted by a northeast-dipping zone of grey pyritic and calcareous chlorite-sericite-quartz schists (Höy 1991). Locations of Samatosum, Rea Gold, Homestake, Kamad 7 and the Twin Mountain prospect are shown on Map 16.

Geochemical Data

New geochemical data representing B-horizon soil and C-horizon till samples collected at 33 sites in 1996 and 1997 is reported here. In addition, data from an RGS in 1976/77 (Matysek *et al.,* 1991), a 1996 regional stream water survey (Lett *et al.*, 1998) and a 1996 regional till survey (Bobrowsky, *et al*., 1997) is also discussed. Sample locations are shown in Map 10. The detailed sites are identified by a station number (e.g. SAM 12) on the maps; RGS and regional till survey samples are identified with the sample number (e.g. 7630045).

Analytical results for key elements in basal till and B-horizon soil samples are listed in Table 11. Geochemical data for the 1996 regional till survey and the 1996/7 detailed geochemical studies (Lett *et al.,* 1998) have been combined to show the distribution of selected elements southeast of the Rea Gold and Samatosum deposits and at five sites east of the Homestake deposit.

Gold, As, Ba, Pb, Cr, Sb and Cu in till and Au and Pb in B-horizon soil is displayed as symbol plots in Maps 11 to 19. A metal-rich till sample (SAM 17) located 0.5 kilometres south of the Samatosum mine, contains 74 ppb Au, 290 ppm As, 5.3 ppm Sb, 766 ppm Pb, 186 ppm Cu, 607 ppm Zn and 2.5 ppm Cd. These are high levels compared to the 95 percentile for regional till and reflect the chemistry of tetrahedrite, sphalerite, chalcopyrite and galena in the Samatosum sulphide deposit. Gold values decrease down-ice from the mine to a point roughly 2 km southeast along the dispersal train and then increase again (Map 11). The Au plume (> 27 ppb Au) is typically 1.0 kilometre wide. Arsenic values (Map 12) also decay along the dispersal plume down-ice from the Rea Gold and Samatosum deposits, although the variations are smaller than gold. The As dispersal train is similar to Au in width. Antimony variations (>2.2 ppm Sb) in till (Map 15) are similar to Au and As. High Cd (49 ppm), Zn (9752 ppm), V (180 ppm), Hg (240 ppb), Pb (240 ppm), Cr (650 ppm) and Fe (10.5%) in till at SAM 12 about 2 kilometers southeast from Samatosum mine suggests that some sulphides are preserved with host rock material transported down-ice from the source of bedrock

mineralization. Element values increase from the B-soil horizon into the till at this location.

Elevated As and Au are also present in the till southeast of the Rea Gold deposit. Barium levels in till (Map 16) are slightly higher down-ice from Rea Gold. However, the differences between barium for the two sites are smaller than for other pathfinder elements. The highest Ba (2600 ppm) occurs in till at SAM 19 south of the Twin Mountain occurrence. Lead (Map 13) and Cr (Map 14) are clearly higher in till samples southeast of the Samatosum deposits compared to those down-ice from Rea Gold. The Pb anomaly (>130 ppm) can be traced for about 2.5 kilometers. Although Cu values above 74 ppm in till are scattered southeast from the Rea Gold and Samatosum deposits, the highest Cu (>314 ppm Cu) occurs south of the Twin Mountain prospect at SAM 19 (Map 17). Associated with the Cu in the till at SAM 19 are elevated Fe (30%,) Sb (3 ppm), Ba (2600 ppm), As (47 ppm), Bi (2.4 ppm), Cr (250 ppm), Mo (10.2 ppm), Ni (310 ppm), Pb (120 ppm) and Se (9 ppm) in the till. These elements increase sharply with depth from the B-horizon soil into the till. A potential source for these metals could be base metal sulphide-barite mineralization similar to that reported at the Twin Mountain occurrence. The thin till (about 1 metre) veneer in the valley around SAM 19 suggests a local bedrock source for the high values in the till.

Due to the small number of samples collected near the Homestake deposit and the extensive surface disturbance, the size of the dispersal plume could not be established. However, the anomalous element association present in colluviated till and B-horizon soil samples (Table 11) over the projected extension of the ore body indicates that As, Sb, Ba and Hg are lead-zinc-silver massive sulphide pathfinders.

Table 11. Samatosum (SAM) and Homestake (HOM) B-soil horizon (B), till (M1) and (CM) colluviated till geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppm	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Ni[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	V[2] ppm	Zn[2] ppm
SAM 1	978084	B	1811	18	12	950	0.2	0.66	17	110	30.8	3.92	105	1059	0.7	60	48.1	1.4	0.3	48	219.4
SAM 1	978085	M1	566	39	10	1000	0.2	0.37	31	230	120.4	6.55	77	901	3.2	135	128.6	3.2	1	86	253.4
SAM 1	978086	M1	3048	56	26	800	-0.1	0.56	37	340	186.8	7.15	413	1210	0.8	209	227.0	15.0	0.4	114	362.3
SAM 2	978129	B	213	15	-2	510	-0.2	-0.20	19	150	35.3	4.27	47	576	0.8	83	14.1	0.9	0.3	63	135.8
SAM 2	978130	M1	69	14	3	670	-0.2	-0.20	30	290	101.5	5.92	54	1364	0.6	178	35.6	0.9	-0.3	108	117.4
SAM 2	978131	M1	-30	20	9	690	-0.2	-0.20	38	300	69.0	6.88	60	833	0.7	161	15.3	1.5	0.3	100	89.9
SAM 3	978137	B	150	45	-2	460	0.4	0.08	32	310	106.9	6.96	32	487	1.2	159	26.1	2.4	-0.3	93	83.4
SAM 3	978138	M1	369	57	36	480	0.2	0.14	62	380	112.0	9.06	91	1050	0.8	157	20.1	4.0	-0.3	80	73.2
SAM 4	978134	B	156	39	-2	570	0.1	0.22	24	180	28.5	5.56	14	400	1.1	77	32.0	1.5	-0.3	68	169.7
SAM 4	978135	M1	69	37	28	610	0.2	0.19	30	280	58.4	6.39	36	674	0.7	127	127.6	2.2	-0.3	85	110.8
SAM 4	978136	M1	1063	97	38	430	0.4	0.45	39	270	160.6	7.43	311	1951	1.4	140	90.9	3.7	-0.3	85	141.4
SAM 5	978132	M1	254	22	9	640	0.3	0.20	23	150	42.5	5.30	37	823	1.1	57	35.8	1.9	0.3	49	97.5
SAM 5	978133	M1	175	19	7	700	0.4	0.21	19	140	47.8	4.97	38	881	1.5	62	33.7	1.7	0.3	55	102.0
SAM 6	978143	B	439	12	4	620	0.1	0.23	17	170	14.8	4.92	39	1430	1.0	19	30.2	0.8	-0.3	31	108.7
SAM 6	9781441	M1	75	10	-2	710	0.2	0.09	13	110	32.6	4.01	-10	333	1.0	42	16.6	0.8	-0.3	56	77.0
SAM 7	978139	B	134	4	-2	540	0.3	0.04	10	56	16.5	3.11	14	214	0.4	16	12.4	0.6	-0.3	33	55.1
SAM 7	978140	M1	-30	11	-2	870	0.4	0.03	13	130	39.3	4.49	23	424	1.0	38	21.3	0.6	-0.3	59	72.6
SAM 7	978142	M1	151	5	-2	490	0.1	0.19	8	50	8.4	3.19	26	183	0.8	18	11.1	0.5	-0.3	33	49.8
SAM 8	9781431	B	79	28	-2	570	0.1	0.09	11	44	32.8	3.22	13	340	0.8	68	19.7	0.6	-0.3	67	77.3
SAM 8	978144	M1	264	78	44	740	0.4	0.17	19	130	54.5	4.61	31	418	1.0	55	47.1	2.0	-0.3	47	117
SAM 9	978145	B	280	10	-2	640	0.2	0.11	11	52	26.6	3.51	56	585	0.7	28	18.3	0.7	-0.3	44	134.3
SAM 9	978146	M1	199	20	-2	960	0.5	0.18	22	140	64.3	5.84	96	971	1.2	58	31.7	1.2	-0.3	74	108.3
SAM 10	978147	B	800	16	8	830	0.4	0.33	19	180	84.9	5.75	56	593	1.0	83	40.9	1.3	-0.3	61	104.4
SAM 10	978148	M1	186	22	-3	770	0.3	0.14	18	190	37.4	4.95	30	482	0.6	65	30.7	1.0	-0.3	57	80.1
SAM 11	978149	B	150	9	-2	450	0.1	0.24	16	170	23.1	5.21	40	199	1.3	54	12.3	0.7	-0.3	75	127.0
SAM 11	978150	M1	136	39	16	490	0.5	0.22	50	420	190.7	8.58	75	1784	1.0	214	254.8	1.9	-0.3	123	93.0
SAM 12	978151	M1	750	98	28	610	-1.1	49.73	56	580	157.0	10.50	127	1246	1.2	319	213.7	3.7	-3.3	170	9751.9
SAM 12	978152	M1	528	110	33	590	-1.0	44.42	59	650	155.4	11.20	130	1282	3.4	326	210.1	3.6	-0.3	180	8936.9
SAM 12	978153	M1	1025	130	40	450	1.1	34.27	55	400	502.9	9.51	240	2810	1.9	266	240.2	4.1	-0.3	122	17159.1
SAM 12	978154	B	457	33	8	450	0.3	5.26	29	200	109.0	5.13	88	1058	1.0	100	130.5	1.1	0.7	68	2146.8
SAM 13	978155	B	263	36	-2	560	0.3	0.48	25	260	63.2	5.73	70	373	0.7	107	105.2	2.0	-0.3	82	289.1
SAM 13	978156	M1	279	71	26	560	0.5	0.96	61	570	177.3	10.50	138	2251	0.5	296	210.3	3.1	0.3	166	347.1
SAM 14	978162	B	1933	100	4	560	0.4	1.02	33	190	53.5	7.03	170	1140	1.5	93	161.9	7.5	-0.3	81	463.7
SAM 14	978163	M1	455	35	9	750	0.5	0.34	23	150	65.3	5.33	39	1185	0.9	60	43.6	1.9	-0.3	70	123.2
SAM 15	978164	B	257	9	-2	580	0.3	0.13	14	82	29.1	3.72	33	309	1.4	27	23.7	1.0	-0.3	38	92.2
SAM 15	978165	M1	143	12	8	760	0.3	0.07	12	98	50.6	3.86	21	343	1.8	39	38.6	0.9	-0.3	38	73.4
SAM 16	978166	B	246	33	44	820	-0.2	0.12	18	170	31.3	4.99	68	427	0.7	73	30.3	1.4	-0.3	56	95.2
SAM 16	978167	M1	494	27	52	800	-0.2	0.19	45	430	93.9	8.50	115	1125	0.9	198	64.5	3.4	0.4	104	126.8
SAM 17	978172	M1	638	290	72	290	0.4	2.5	69	530	185.0	10.50	91	1217	1.4	293	765.5	5.3	-0.3	177	606.5
SAM 19	978191	B	174	24	12	590	0.8	0.29	64	270	76.7	7.89	28	526	4.1	196	105.0	1.2	0.5	84	181.3
SAM 19	978192	M1	144	30	29	870	1.1	0.26	48	350	166.0	8.71	81	562	4.9	249	119.9	2.6	1.3	88	197.7
SAM 19	978193	M1	152	47	36	2600	2.4	0.93	150	250	546.7	30.00	71	751	10.2	310	57.6	3.0	9.4	34	66.1
SAM 20	978194	B	415	27	40	550	0.6	0.45	30	160	99.6	6.16	63	576	1.3	115	42.5	1.0	0.9	62	171.7

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppm	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Ni[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	V[2] ppm	Zn[2] ppm
SAM 20	978195	M1	494	45	19	540	1.6	0.49	47	290	231.9	9.29	100	1087	3.1	183	99.3	2.4	1.3	89	176.2
SAM 21	978196	B	225	27	15	450	0.4	0.11	28	180	57.1	5.52	20	287	1.3	111	29.7	1.3	0.4	68	87.8
SAM 21	978197	M1	77	15	7	720	0.4	0.11	17	140	47.2	4.78	35	551	0.4	33	16.3	1.4	-0.3	46	56.1
SAM 21	978198	M1	59	19	6	620	0.4	0.13	18	120	59.4	4.69	31	619	0.8	48	18.0	1.0	-0.3	53	67.7
SAM 22	978199	B	907	8	-2	550	0.7	0.05	12	83	143	3.27	132	829	0.7	42	17.1	0.9	0.8	29	40.7
SAM 22	978200	M1	132	14	5	780	0.5	0.18	30	220	78.5	5.78	33	1421	1.2	110	16.8	0.9	-0.3	67	75.8
SAM 23	978202	M1	-30	8	3	420	0.4	0.11	42	390	101.9	7.41	18	1477	0.9	196	9.7	0.7	-0.3	112	76.2
SAM 24	978204	B	3741	73	68	310	3.0	5.98	36	300	211.8	7.85	1228	1457	3.8	184	3436.1	8.2	-1.5	95	2387.4
SAM 24	978205	M1	414	120	86	550	0.6	15.22	46	440	150.6	8.60	244	1131	0.7	267	461.2	8.2	-1.5	101	4192.5
SAM 25	978206	B	667	32	6	460	0.3	0.38	21	140	44	4.46	91	279	1.4	75	98.6	1.6	-0.3	62	139.3
SAM 25	978207	M1	304	260	41	660	0.4	0.83	43	340	110.9	7.64	136	1506	0.9	193	153.9	5.7	-0.3	92	317.6
SAM 26	978208	B	636	240	49	880	0.4	0.98	36	250	152.1	8.01	210	5336	1.8	158	275.6	6.0	-0.3	62	313.8
SAM 26	978209	M1	612	150	34	880	0.7	1.30	48	360	123.9	8.04	99	2065	1.5	217	211.9	3.5	-0.3	93	366.7
SAM 27	978210	M1	567	170	55	460	0.7	0.84	42	210	168.8	8.45	178	1251	1.4	133	114.5	7.5	0.3	65	267.3
SAM 28	978211	B	665	40	-2	620	0.3	0.28	20	100	25.8	4.95	85	251	1.2	48	49.4	1.1	-0.3	49	159.1
SAM 28	978212	M1	264	34	14	700	0.3	0.31	31	200	66.8	6.26	70	873	1.1	91	55.1	1.5	-0.3	64	95.4
HOM -1	52516	B	1500	130	39	1600	-2.0	0.50	8	18	57.0	6.35	85	220	3.0	4	1226.0	5.8	-3.0	nd	314.0
HOM -1	52517	M1	1800	160	40	1800	3.0	-0.20	4	27	54.0	6.21	90	284	4.0	5	1677.0	7.8	-3.0	nd	321.0
HOM -1	52518	M1	1800	110	18	1700	3.0	0.40	5	16	46.0	4.73	50	157	2.0	5	1197.0	7.4	-3.0	nd	583.0
HOM -2	52519	B	500	54	24	1300	-2.0	0.60	7	29	130.0	5.28	35	495	2.0	6	501.0	4.2	-3.0	nd	625.0
HOM -2	52520	CM	500	40	-2	1100	-2.0	0.30	8	24	96.0	4.84	25	508	3.0	6	407.0	3.6	-3.0	nd	693.0
HOM -2	52522	CM	800	37	18	1200	-2.0	0.90	10	33	110.0	4.89	35	739	3.0	8	351.0	3.3	-3.0	nd	762.0
HOM - 2	52523	CM	500	30	13	1200	-2.0	0.90	11	25	64.0	4.59	25	769	3.0	6	238.0	2.7	-3.0	nd	479.0
HOM - 3	52524	B	2200	87	43	1400	2.0	1.30	9	24	145.0	6.41	85	380	1.0	5	1317.0	5.7	-3.0	nd	968.0
HOM - 3	52525	CM	2500	88	34	1300	3.0	1.80	9	27	118.0	6.44	130	531	2.0	5	1359.0	6.0	-3.0	nd	1157.0
HOM - 3	52526	CM	-300	12	13	1700	-2.0	-0.20	11	77	48.0	3.67	30	288	2.0	32	45.0	1.0	-3.0	nd	163.0
HOM - 4	52527	B	-300	16	-2	880	-2.0	0.30	6	30	21.0	3.48	25	1217	1.0	6	161.0	1.2	-3.0	nd	357.0
HOM - 4	52528	CM	-300	22	-2	880	-2.0	0.20	7	30	54.0	4.28	40	334	1.0	11	96.0	1.8	-3.0	nd	283.0
HOM - 4	52529	CM	500	170	45	1100	-2.0	1.70	9	64	197.0	8.82	50	616	5.0	16	641.0	2.9	4.0	nd	1077.0
HOM - 5	52530	B	700	20	11	900	-2.0	0.60	13	40	61.0	5.09	55	570	2.0	18	419.0	2.1	-3.0	nd	582.0
HOM - 5	52532	CM	1200	45	34	1200	-2.0	0.70	9	47	176.0	5.57	145	334	3.0	18	685.0	2.7	-3.0	nd	780.0
HOM - 5	52533	CM	2200	41	45	940	-2.0	1.50	35	18	236.0	4.42	425	805	4.0	17	390.0	2.3	-3.0	nd	814.0

Elements identified with a suffix [1] determined by INAA and those identified by suffix [2] by aqua regia-ICPES. Negative values are below detection limit.

Gold, As, Pb, Ba, Cr and Sb variations along the dispersal train could reflect the effect of changing till thickness or several, overlapping plumes combining material from different bedrock source areas. Depending on till thickness and the angle of dispersal plume climb anomalous element concentrations in the B-horizon soil may be detected almost directly above the mineralized source or could be displaced several kilometres down-ice (Bobrowsky, 1995). Distribution of Au and Pb (Maps 18 and 19) in the B-horizon soil shows that the highest values (>38 ppb Au, 3437 ppm Pb) occur approximately 2 kilometres down-ice from the Rea Gold and Samatosum deposits rather than near the head of the dispersal train. The relationship between Au and Pb in the till and the B-horizon suggests that mineralized bedrock in the dispersal plume reaches the surface 2 kilometres down-ice from the bedrock source. If the estimated dispersal train length is less than 3 kilometres, the Au, Cu, Ba, Pb enrichment in the till near the Twin Mountain occurrence may reflect additional sources of massive sulphide mineralization between the Samatosum-Rea Gold deposits and Adams lake.

RGS data (Matysek *et al.*, 1991) indicates two anomalous sediment samples in the area. One sample is from a stream draining the area surrounding the Samatosum-Rea Gold deposits and the other sample is from Homestake Creek (Map 11). Only copper (83 ppm) and Cr are anomalous in the Johnson Creek tributary; gold (16 ppb) is below the threshold for this element. Copper, silver, gold, barium, antimony, lead and zinc, however, are all anomalous in stream sediment from Homestake Creek. Regional survey pH values reveal that the creeks draining the Samatosum, Rea Gold and Homestake deposits are not acidic, suggesting that there is no oxidizing sulphide mineralization in contact with the water (Hoag and Webber, 1976). Nickel is the only metal present at a significant level (1.2 ppb) in the stream water flowing from the area around Samatosum and Rea Gold. Neutral to alkaline water in Homestake Creek can be explained by carbonates associated with the sulphide mineralization that neutralize the acid, metal-rich mine drainage. Elevated barium (up to 87 ppb) in water from Homestake creek and in a cluster of streams near the Twin Mountain can be explained by the weathering of barite associated with the sulphide mineralization.

A summary for the Samatosum-Rea Gold-Homestake geochemistry is shown in Table 12.

Table 12. Geochemical parameters of Samatosum and Rea Gold type mineralization.

	Sediments	Water	Till	Soil	Remarks
Pathfinder Elements	Cu, Ba, Au, Cr.	Ni, Ba	Cu, Pb, Zn, Ag, Hg, Ba As, Au, Se, Cr, Ni, V, Mn, Sb.	Cu, Pb, Zn, Ag, Hg, Ba As, Au, Se, Cr, Ni, V, Mn.	Rea Gold pathfinders = Ba. Samatosum pathfinders = Pb, Cr, V, Se.
Typical Anomaly size	<1 km along drainage.	< 1 km along drainage.	2 km down-ice by 1 km wide.	2 km down-ice by 0.5 km wide.	Multiple sources for anomalies possible.

Harper-Broken Ridge Prospect (Maps 20-26)

Location NTS 82M/5. 119° 51' 30''E, 51° 20' 30"N (Harper Prospect). 119° 53'00''E, 51° 20'30"N (Broken Ridge Prospect). The detailed survey area covers roughly 15 square kilometres including the two mineral occurrences (Map 20).

Surface Environment and Deposits

The Harper prospect is located along a steep, south-facing slope on the north side of North Barriere Lake. The Broken Ridge prospect, located about 2 kilometres west of the Harper prospect, is situated on the moderately steep east-facing side of the Harper Creek valley. Mainly brunisolic soil, developed on south and east facing hill slopes, supports a secondary growth of lodgepole pine, Douglas fir and paper birch. The area around the Broken Ridge and Harper occurrences has been disturbed by trenching and the construction of logging roads (now largely overgrown). Outcrop exposure is 10-15 percent through the area. Bedrock is covered by a thin (1-2 metres) veneer of a brown to grey sandy till. The overburden texture and the mixture of granite and schist clasts in the till suggest that the source of the till is both from the Baldy batholith and the Eagle Bay assemblage.

Geology-Mineralization

At the Harper prospect (MINFILE 082M 60) felsic metavolcanic rocks (phyllite and schist) of the Eagle Bay Assemblage Unit EBA host two northwest trending lenses of pyrrhotite, pyrite, chalcopyrite, sphalerite and galena (Schiarriza and Preto, 1987). The sulphide lenses are several metres wide, commonly exposed in outcrop and in trenches, and have been traced for up 210 metres along strike. In Map 20 the two lenses are distinguished as Harper East and Harper West. The east-west trending contact between granite of the Baldy Batholith and the felsic metavolcanic rock is approximately 500 metres north of the Harper East sulphide lens.

The area around the Broken Ridge (MINFILE 082M 130), Sitting Bull (MINFILE 082M 63) and Percy (MINFILE 082M 219) occurrences was selected for detailed sampling because a regional till survey sample (969386) contained 3653 ppm copper. Mineralization at Broken Ridge is typically banded pyrite, pyrrhotite, chalcopyrite, minor sphalerite and galena in quartz sericite or dark green actinolite schist (Eagle Bay Unit EBA). Soils and vegetation are similar to Harper, but a greater content of angular and subangular clasts in the surficial deposit on the steeper hill slope near the mineral occurrences suggests that the till has been colluviated.

Geochemical Data

New geochemical data represents B-horizon soil and till samples collected at 44 sites (Map 20). The sampling was aimed at determining the extent of till and B-horizon soil anomalies. Broken Ridge and Sitting Bull are located on a steep slope close to Harper Creek and sampling down-ice (southeast) from mineralization was limited to a small area. More extensive sampling was carried out west (up-ice) of Broken Ridge to locate the source for high copper (3653 ppm) in a 1996 regional till survey sample number 969386. RGS (Matysek *et al.,* 1991), regional stream water (Lett *et al,* 1999) and regional till survey (Bobrowsky, *et al*., 1997) data covering the Harper area is also discussed in this Open File.

Table 13. Harper B-soil horizon (B), till (M1), colluviated till (CM1) and rock (R) geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppb	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
HAR97 1	978002	B	545	10	-2	780	0.4	0.19	5	31	18.4	2.48	31	172	0.7	16.6	0.4	-0.3	101.2
HAR97 1	978003	M1	66	4	-2	740	0.6	0.08	8	24	53.3	2.64	13	317	0.9	13.8	0.3	-0.3	44.2
HAR97 2	978004	B	284	3	6	670	0.2	0.08	5	21	28.3	1.89	15	317	0.8	10.9	-0.1	-0.3	55.7
HAR97 2	978005	M1	196	4	-2	640	0.4	0.07	6	16	47.0	2.23	15	270	0.8	12.2	0.3	-0.3	31.3
HAR97 3	978006	B	664	3	-2	810	0.4	0.09	10	29	28.7	2.36	20	343	0.7	11.5	-0.1	-0.3	60.4
HAR97 3	978007	M1	66	2	-2	670	0.4	0.03	4	24	37.6	2.11	16	277	1.0	8.6	-0.1	-0.3	32.3
HAR97 4	978008	B	434	3	-2	490	0.6	0.14	11	30	35.3	2.53	22	344	1.2	15.0	0.2	-0.3	85.5
HAR97 4	978009	M1	105	5	8	860	0.5	0.07	8	25	65.5	2.54	-10	279	1.3	14.1	0.2	-0.3	45.5
HAR97 5	978010	B	582	5	-2	790	0.4	0.13	12	35	33.8	2.97	26	341	0.8	16.5	0.3	-0.3	85.7
HAR97 5	978011	M1	354	4	-2	880	0.5	0.10	5	19	50.1	2.55	10	237	1.1	18.0	0.5	-0.3	33.2
HAR97 6	978012	B	471	5	-2	660	0.4	0.09	11	27	34.7	2.18	34	354	0.6	14.6	0.3	-0.3	81.3
HAR97 6	978013	M1	282	5	-2	800	0.4	0.06	10	31	58.3	3.39	21	246	0.8	12.6	0.5	-0.3	33.7
HAR97 7	978014	B	438	3	-2	750	0.3	0.09	10	36	37.2	3.12	24	210	0.6	10.8	0.3	-0.3	69.2
HAR97 7	978016	M1	111	3	-3	930	0.4	0.04	9	32	51.5	2.87	12	259	0.7	9.5	0.3	-0.3	33.5
HAR97 7	978017	M1	112	4	-2	860	0.4	0.04	7	23	49.1	2.96	-10	237	0.6	9.5	-0.1	-0.3	28.4
HAR97 8	978018	B	528	4	-2	930	0.3	0.10	12	42	38.9	2.88	33	229	0.8	10.6	0.3	-0.3	85.8
HAR97 8	978019	M1	94	4	-2	780	0.5	0.04	9	38	67.1	3.36	15	286	0.9	10.1	-0.1	-0.3	32.7
HAR97 9	978020	B	702	3	-2	950	0.2	0.11	10	39	39.0	3.06	36	220	0.7	9.8	-0.1	-0.3	84.4
HAR97 9	978022	M1	156	3	2	900	-0.1	0.06	10	37	115.2	3.60	26	260	1.0	8.3	0.3	-0.3	43.3
HAR97 10	978023	B	960	5	4	850	0.3	0.45	12	34	27.6	3.09	29	259	0.8	22.3	0.4	-0.3	183.0
HAR97 10	978024	M1	153	4	3	700	0.2	0.07	8	25	68.2	3.01	24	253	1.3	11.9	-0.1	0.3	36.6
HAR97 11	978025	B	439	5	-2	790	0.3	0.18	12	35	29.8	2.82	40	435	0.7	16.3	0.3	-0.3	119.6
HAR97 11	978026	M1	78	3	-2	900	0.2	0.08	10	40	55.8	2.97	22	250	0.8	11.5	0.4	-0.3	65.5
HAR97 20	978110	B	1534	16	40	940	20.2	1.76	7	75	734.0	15.00	46	1135	2.5	234.4	0.5	4.1	560.5
HAR97 20	978111	M1	3170	9	179	510	41.7	0.10	2	65	286.3	18.90	33	708	2.6	116.6	0.4	21.0	199.0
HAR97 21	978112	B	1146	12	13	570	14.3	0.99	9	89	326.2	14.70	48	455	1.8	66.6	0.4	5.5	302.9
HAR97 21	978113	M1	844	12	16	540	10.6	0.27	6	56	308.6	10.70	29	337	1.6	33.2	0.3	4.6	105.7
HAR98 1	988402	B	1070	14	203	500	6.3	0.64	24	96	982.6	6.00	15	411	4.5	69.7	0.7	1.7	244.6
HAR98 1	988403	B	808	18	204	570	6.6	0.59	25	87	1394.9	6.41	17	390	5.3	69.9	0.7	2.1	215.5
HAR98 1	988404	CM1	1737	23	496	630	25.5	1.48	26	84	807.8	8.58	-10	1066	5.8	255.9	1.1	4.2	429.6
HAR98 1	988405	R	417	17	175	670	6.2	0.94	19	97	1330.9	6.24	11	544	5.2	118.6	0.6	3.1	272.8
HAR98 2	988406	B	239	20	16	710	3.4	0.17	15	102	539.2	5.70	-10	376	3.4	35.0	0.6	1.7	139.2
HAR98 2	988407	CM1	582	56	43	740	3.7	0.29	20	100	408.1	6.89	52	989	4.6	31.4	0.5	2.0	130.2
HAR98 3	988408	B	688	7	20	570	3.2	0.37	20	60	275.1	4.58	39	370	2.1	18.9	0.3	0.6	224.1
HAR98 3	988409	CM1	426	26	56	640	10.7	0.32	23	93	1054.4	8.39	25	654	5.7	130.5	0.6	3.3	126.4
HAR98 3	988410	CR	1019	30	120	530	16.1	2.35	39	83	1438.1	13.00	41	1950	11.0	109.2	0.8	5.3	364.3
HAR98 4	988411	B	272	8	-2	660	0.4	0.22	12	68	139.8	3.42	-10	246	1.2	16.2	0.3	0.4	204.6
HAR98 4	988413	CM1	257	18	24	600	2.7	0.31	17	98	638.9	5.36	-10	303	2.4	40.5	0.6	1.0	133.2
HAR98 5	988414	B	544	12	17	570	4.1	0.50	21	80	204.6	5.09	10	375	3.8	30.5	0.3	0.3	367.0
HAR98 5	988415	CM1	590	15	20	550	5.7	0.23	17	69	539.8	5.49	16	358	8.1	30.9	0.6	1.0	139.0
HAR98 6	988416	B	738	17	10	710	2.0	1.01	31	147	593.6	6.47	24	389	2.1	210.9	0.6	0.4	807.6
HAR98 6	988417	M1	246	33	45	640	1.2	0.95	25	120	1022.4	6.86	19	433	2.9	165.8	0.8	0.9	333.9

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppb	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
HAR98 7	988418	B	497	18	20	620	4.3	0.27	19	89	293.1	5.87	19	416	6.6	40.9	0.6	1.0	171.1
HAR98 7	988419	M1	1375	27	50	680	3.8	0.69	35	72	825.2	7.06	52	843	3.6	37.9	0.6	2.6	94.2
Harper East	97RL17	R	596	2.2	20		17.5	1.24			870	21.4	10	1042	1.4	36	0.2	7.1	341
Harper East	97RL 18	R	633	35	10		1.6	0.18			282	5.56	25	462	4.7	35	0.2	3.2	125
Harper East	97RL 19	R	1779	2.5	18		3.4	0.19			1869	13.45	-10	1849	2.3	14	-0.2	7	50

Elements identified with a suffix [1] determined by INAA and those identified by suffix [2] by aqua regia-ICPES. Negative values are below detection limit.

Table 14. Broken Ridge B-soil horizon (B), till (M1) and colluviated till (CM1) geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppb	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
BCR97 1	978027	B	888	8	-2	880	-0.1	0.75	21	82	371.5	4.42	48	278	1.1	33.1	0.6	-0.3	503.2
BCR97 1	978028	M1	112	17	2	610	0.5	0.24	13	89	556.5	5.04	24	364	2.4	50.9	0.9	0.5	139.4
BCR97 2	978029	B	15370	1300	476	710	28.1	0.93	3	66	611.8	18.90	12	353	7.8	2020.0	14.0	24.1	311.5
BCR97 2	978030	M1	43238	470	409	500	71.5	0.28	3	18	1467.0	13.00	27	105	9.1	5290.8	21.0	108.0	275.2
BCR97 3	978031	B	517	58	-2	610	-0.1	1.51	33	100	329.5	6.10	42	605	1.5	50.5	0.6	0.7	546.4
BCR97 3	978032	M1	208	83	63	730	1.3	0.92	42	160	694.9	8.90	47	693	2.2	82.3	1.1	0.7	535.0
BCR97 4	978033	B	639	11	9	840	1.5	0.90	14	69	169.7	5.49	27	625	1.4	43.4	0.7	0.5	485.3
BCR97 4	978034	M1	265	7	4	740	0.2	1.14	16	80	92.1	4.95	29	448	0.6	25.5	0.5	0.3	1475.1
BCR97 5	978035	B	386	9	-2	690	0.1	0.28	15	57	70.0	3.70	52	278	0.6	20.9	0.3	-0.3	178.6
BCR97 5	978036	M1	239	29	20	740	1.7	0.31	19	58	413.4	5.55	45	602	2.0	53.5	0.7	0.9	153.3
BCR97 6	978037	B	638	8	-2	760	0.2	0.66	18	51	126.3	4.64	63	387	1.0	23.6	0.6	0.3	396.2
BCR97 6	978039	B	399	7	13	880	0.1	0.60	23	82	152.3	5.54	32	452	1.3	23.5	0.5	-0.3	477.3
BCR97 6	978040	M1	312	15	17	880	-0.1	0.32	28	120	1871.8	8.29	49	487	2.2	23.4	0.6	1.0	156.8
BCR97 7	978042	B	605	19	-2	720	-0.1	1.75	20	71	634.6	7.43	36	434	1.8	53.4	0.6	1.1	716.9
BCR97 7	978043	M1	217	28	12	630	1.0	0.39	14	61	534.5	5.37	38	508	2.4	52.8	0.7	0.7	219.6
BCR97 8	978044	M1	597	71	16	770	3.3	4.28	32	54	274.5	7.46	92	2630	6.2	449.0	1.5	0.8	693.1
BCR97 8	978045	B	454	32	13	820	0.7	1.69	17	49	139.7	5.45	31	1104	2.1	118.6	1.0	0.5	406.5
BCR97 8	978046	M1	225	43	7	730	1.6	0.97	21	61	186.6	5.96	22	966	2.3	98.7	1.2	0.8	308.2
BCR97 9	978047	B	249	19	-2	780	0.2	0.65	17	86	152.6	4.85	35	568	0.8	26.6	0.6	0.3	278.6
BCR97 9	978048	M1	235	24	-2	970	1.1	0.47	16	91	165.5	5.67	21	470	1.0	33.0	0.5	0.3	185.2
BCR97 10	978050	B	231	39	23	870	0.4	0.44	21	66	303.7	5.46	15	402	1.0	24.4	0.7	-0.3	204.0
BCR97 10	978051	M1	32	9	16	1300	0.2	0.11	8	60	126.1	4.10	19	348	1.0	22.1	0.6	-0.3	46.3
BCR97 10	978052	M1	94	35	15	640	0.8	0.13	13	91	240.3	5.24	23	462	1.8	21.2	0.9	0.6	123.6
BCR97 11	978053	B	198	14	9	1100	-0.1	0.18	18	92	141.9	5.27	26	411	1.1	27.5	0.7	-0.3	232.4
BCR97 11	978054	M1	71	10	-2	790	0.3	0.20	36	120	165.3	6.91	23	338	1.6	38.1	0.6	0.3	120.8
BCR97 12	978055	B	214	8	-2	700	-0.1	0.26	29	110	688.4	5.95	37	392	1.3	43.3	0.5	0.6	224.1
BCR97 12	978056	M1	308	7	7	810	-0.1	0.21	27	130	674.2	6.59	46	445	1.8	42.0	0.6	0.7	147.8
BCR97 13	978057	B	289	10	-2	750	0.3	0.38	19	64	54.1	4.31	39	591	0.7	21.3	0.6	-0.3	230.1
BCR97 13	978058	M1	341	14	7	760	2.1	0.29	22	160	241.2	7.59	51	355	1.8	22.1	0.7	1.2	269.6
BCR97 14	978059	B	312	17	96	740	0.2	0.39	16	65	111.2	4.26	31	483	0.9	30.4	0.7	-0.3	217.1
BCR97 14	978060	B	281	15	10	710	-0.1	0.39	17	65	135.2	4.22	28	471	1.0	25.9	0.8	-0.3	208.3
BCR97 14	978062	M1	219	25	12	800	-0.1	0.21	18	92	591.5	5.78	37	452	2.2	27.4	1.0	0.6	115.8
BCR97 15	978063	B	403	68	-2	820	1.4	1.62	23	79	376.6	6.42	30	376	1.4	32.4	1.2	0.5	678.4
BCR97 15	978064	M1	384	44	14	530	0.9	0.50	36	40	1380.0	11.40	33	550	2.5	39.2	1.9	2.5	384.0
BCR97 16	978065	B	481	43	10	740	1.2	2.04	23	84	252.6	5.78	24	740	1.1	100.9	0.9	-0.3	852.9
BCR97 16	978066	M1	568	150	23	720	0.4	3.00	61	110	1083.2	10.90	53	2062	3.5	172.3	1.9	1.2	957.1

Elements identified with a suffix [1] determined by INAA and those identified by suffix [2] by aqua regia-ICPES. Negative values are below detection limit.

Results for key elements in till, B-horizon soil and rock samples are listed in Tables 13 and 14. The rock geochemistry represents samples from the Harper East occurrence. Sample 97RL17 is dark grey schist containing magnetite and pyrrhotite while rock sample 97RL18 is a very rusty weathered, siliceous, light grey phyllite containing pyrite. Both 97RL17 and 97RL18 were taken close to the portal of a short adit at Harper East and within 20 metres of B-horizon soil-till sample site 97HAR 20. Sample 97RL19 is dark grey-green siliceous schist with banded pyrite and minor chalcopyrite from a trench 250 metres east of the adit.

Gold, Cu, Pb, Zn, Ag, Se and Bi are strongly enhanced in B-horizon soil, till and rock directly over the Harper East sulphide mineralization. However, elevated Au and Cu could not be found in till and B-horizon soil samples east of the mineralization (Maps 21 and 22). The absence of high metal values could be explained by a short dispersal plume length, the dilution of mineralized rock in the plume by material transported from the granite or a failure of the sampling to detect the mineralized dispersal plume. The Harper West sulphide mineralization has a much stronger copper expression in the B-horizon soil and till. However, the size of the geochemical pattern cannot be confirmed because sampling did not extend beyond the limits of the metal-enriched soil and till. Selenium (Map 23), Ag and Bi appear to be pathfinders for the Pb-Zn sulphides at Harper.

At Broken Ridge-Sitting Bull the highest Au, Cu and Se levels are in oxidized colluvium at site BCR 97-2 located fifty metres south of the occurrences (Maps 21 to 23). The metals and As decrease southeast of BCR-2 although high Cu probably continues beyond the limit of the sampling. Lower copper southeast of the highly anomalous site can be explained by down-slope transport and the dilution of mineralized rock in colluvium.

The highest Cu (1871 ppm) detected by the detailed sampling is in a weakly oxidized till 800 metres west (up-ice) of the Broken Ridge and close to a regional till sample (969386) that has 3653 ppm Cu. No other elements are elevated in the till and the source for this Cu may be buried pyrrhotite-chalcopyrite mineralization similar to that found at the Percy occurrence. Other regional till samples collected 1 kilometre northwest and up-ice from 969386 have less than 50 ppm Cu. However, 550 ppm Cu in a till sample 400 metres southeast (down-ice) from 969386 indicates possible dispersal of copper-mineralized rock up to 2 kilometres from the source. A clear source for the soil and till anomalies cannot be determined because there are numerous other small base-metal sulphide bodies reported in the Birk Creek area.

Only Au (25 ppb) and Sb (1.7 ppm) are anomalous in a RGS sample from a stream flowing east from the area of the Broken Ridge-Sitting Bull occurrences into Harper Creek (Map 21). No stream sediment anomalies are associated with the Harper occurrences and no elements, pH or sulphate are elevated in stream water. The Harper-Broken Ridge geochemistry is summarized in Table 15.

Table 15. Geochemical parameters for the Harper-Broken Ridge mineralization.

	Sediments	Water	Till	Soil	Remarks
Pathfinder Elements	Au, Sb.	None.	Au, Cu, Pb, Zn, Ag, Bi, Se.	Au, Cu, Pb, Zn, Ag, Bi, Se.	
Typical Anomaly size	Cannot be determined.		1-2 km down-ice. Width unknown.	1-2 km down-ice. Width unknown.	Multiple sources for metals possible.

Adams Lake-Agate Bay (Pine) area (Maps 27 to 31)

Location: NTS 82M/4. 119°48’00’’E, 51°04’00”N to 119°44’50’’E, 51°01’30”N. The detailed survey area covers roughly 10 square kilometres south of Agate Bay (Map 27). In this area regional till survey samples taken in 1996, (Bobrowsky *et. al.,* 1997) were found to contain up to 325 ppm copper, 221 ppm lead and 609 ppm zinc. No bedrock source for these values has been confirmed.

Surface Environment and Deposits

Samples were collected along the break in slope west of Adams Lake between a steep, east-facing hillside and a dissected plateau. Vegetation is predominantly a secondary growth of alder and fir in areas disturbed by previous logging. Till largely conceals bedrock on the plateau but is discontinuous between more frequent outcrops along the steeper hill slopes above Adams lake.

Geology-Mineralization

The geology of the area, described by Schiarriza & Preto (1987) is dominated by Devonian-Mississippian felsic to intermediate metavolcanic and clastic metasedimentary rocks in the area of the Eagle Bay Assemblage. The oldest Eagle Bay rocks are Lower to Middle Palaeozoic actinolite-quartz schist and minor garnet-epidote skarn (Unit EBK) and calcareous black phyllite and limestone. Younger rocks are chlorite-sericite quartz phyllite derived from felsic to intermediate volcanic rocks (Unit EBA) that host the Homestake Pb-Zn-Ag-barite deposit 9 kilometres to the northwest. Rocks of the Eagle Bay Assemblage have been intruded by Devonian orthogneiss. The Pine occurrence (MINFILE 082M 120) represents the only exposed bedrock mineralization reported in the general area of the till geochemical anomalies. The mineralization consists of fracture-hosted galena and sphalerite in metavolcanic (Unit EBK) rocks and skarn containing pyrrhotite and chalcopyrite. Approximately 7 kilometres northwest of the till geochemical anomalies is the Acacia prospect (MINFILE 082M 075), where two conformable "seams" of Pb-Zn mineralization occur in phyllite and quartz biotite schist (Unit EBA).

Geochemical Data

Only till samples were collected in 1997. New geochemical results for detailed samples have been combined with data from the 1996 regional till survey (Bobrowsky *et. al.,* 1997) and the 1976/77 RGS. Sample locations are shown in Map 27. Analytical results for key elements in till samples from the Agate Bay-Pine area are listed in Table 16.

Table 16. Agate Bay-Pine Area till (M1) geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppm	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Ni[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
WIN 1	978180	M1	100	14	10	670	0.6	0.18	15	130	51.9	4.69	40	641	1.3	38	30.5	0.9	-0.3	62.2
WIN 2	978182	M1	137	12	-2	940	0.9	0.12	7	24	109.2	3.77	20	277	1.6	9	37.0	1.0	-0.3	129.0
WIN 3	978184	M1	373	12	-2	830	1.3	0.24	12	24	188.5	4.28	26	1036	1.0	10	42.6	0.7	-0.3	139.2
WIN 4	978185	M1	170	15	6	1200	6.7	0.55	14	24	713.7	6.33	34	1459	1.7	5	57.0	0.4	-0.3	313.5
WIN 5	978186	M1	203	13	7	1100	1.0	0.27	9	19	131.8	4.36	19	637	2.0	7	44.7	0.6	-0.3	165.6
WIN 6	978187	M1	275	11	6	1400	5.1	0.76	11	19	357.1	5.45	52	1193	1.6	5	49.6	0.8	-0.3	480.7
WIN 7	978188	M1	176	18	10	1200	2.2	0.37	12	14	193.9	5.20	33	1409	3.0	6	72.7	0.6	-0.3	289.6
WIN 8	978189	M1	196	9.9	11	600	0.6	0.19	9	48	71.8	3.61	-10	232	1.4	16	20.3	0.6	-0.3	113.8
WIN 9	978190	M1	193	7.4	7	890	0.7	0.17	9	32	57.7	3.73	11	297	1.3	12	25.1	0.3	-0.3	127.4

Elements identified with a suffix [1] determined by INAA and those identified by suffix [2] by aqua regia-ICPES. Negative values are below detection limit.

South of Agate Bay the till has elevated Cu, Pb, Zn and Ba. The highest Cu (357 ppm), Ba (1400 ppm) and Zn (480 ppm) values detected by detailed sampling are at WIN 6 and confirm a regional till survey anomaly (sample 969013) of 210 ppm Cu, 364 ppm Zn and 90 ppm Pb. Lower Cu, Zn and Pb to the north and west (up-ice) of this site (WIN 8 and WIN 9) suggests that the source for the metals is relatively close to WIN 6. Elevated Cu (713 ppm) and Zn (313 ppm) are also present at WIN 4 one kilometre southeast of WIN 6 confirming a regional till anomaly (sample 969014) of 609 ppm Zn and 221 ppm Pb. Copper, Zn, Ba and Pb are lower at WIN 5 between WIN 6 and WIN 4 and also at WIN 1 and WIN 3 just south of WIN 4. The distribution metals (Maps 28-31) suggest relatively short (0.5 km) and narrow dispersion trains from several mineralized bedrock sources. However, the trains may extend beyond the limit of the sampling to the east and there is some evidence for this provided by anomalous Zn (350 ppm) in sediment from streams draining the area around WIN 3 (Map 29).

Association of elevated Cu, Pb, Zn and Ba in till that is mainly derived from Eagle Bay Unit EBA rocks suggests that there could be buried bedrock source in the area similar to the Homestake mineralization. The geochemistry of the Agate Bay-Pine area is summarized in Table 17.

Table 17. Geochemical summary for the Agate Bay-Pine area.

	Sediments	Water	Till	Soil	Remarks
Pathfinder Elements	Zn, Pb.	Zn.	Cu, Pb, Zn Ba.	No Data.	
Typical Anomaly size	0.5 km along stream.	Insufficient samples to determine size.	about 1 km down-ice. Width may be 100 - 200 m.	No Data.	Source may be similar to Homestake mineralization.

Spar *(Maps 32-38)*

Location NTS 82M/4. 119°32'40''E, 51°03'30"N. The detailed survey area covers roughly 5 square kilometres south of the Spar deposit (Map 32).

Surface Environment and deposits

The Spar massive sulphide deposit is located on the undulating Adams Plateau surface close to the headwaters of Nikwikwaia Creek. The elevation of the plateau ranges from 1700 to 1760 metres abs. The vegetation is predominantly a secondary growth of alder and fir between wetland areas that have been disturbed by previous exploration trenching and road construction. Bedrock is largely concealed by basal till deposited by a northwest to southeast ice advance.

Geology-Mineralization

The Spar deposit is a massive lead-zinc-silver rich sulphide lens that extends for 600 metres within Unit EBG6, close to the base of Eagle Bay Assemblage. Unit EBG6 comprises mainly calcsilicate schists, calcsilicate gneiss and thin marble layers in the deposit footwall and dark carbonaceous phyllites, with interlayered calcareous schists in the deposit hangingwall. The deposit consists of up to 2 metres of coarse-grained galena, with finer grained sphalerite and pyrrhotite in a granular quartzitic matrix, overlain by a variable but generally thin pyritic layer. Chalcopyrite and traces of arsenopyrite are also present in the massive sulphide layers. The hangingwall rocks include very rusty-weathered, hornfelsed argillite, dark limestone, minor granular, siliceous or chloritic phyllite and crudely layered calcsilicate gneiss. Pyrrhotite occurs throughout these units, either finely disseminated or forming discontinuous lamellae. The main alteration minerals are quartz, pyrrhotite and minor sericite (Höy, 2000).

Geochemical Data

New geochemical data for B-horizon soil and C-horizon till sampling around the Spar deposit represent detailed samples collected at 9 sites. The true size of till anomalies cannot be established from the small number of detailed survey profiles. However, detailed studies do enable a better definition for the geochemical signature of the sulphide mineralization in the soil and till. Therefore, also discussed here are RGS (Matysek *et al.,* 1991) and regional stream water survey data (Lett *et al.,* 1999). The B-horizon soil, till and RGS sample sites and rock samples are located on Map 32.

Geochemical Data

Analytical results for key elements in till and B-horizon soil samples are listed in Table 18 and displayed in Maps 33 to 38. Massive sulphides at Spar are enriched in Ag, As, Sb, Cd, Bi, Au, Pb and Zn (Hoy, 2000). Zinc (Map 33), Pb (Map 34), Cd (Map 35) As, Br, Mn and Au are elevated in the till within 200 metres of the exposed sulphide mineralization. Higher Cd, As, Pb and Zn values persist in the till for two kilometres south and down-ice of the deposit suggesting a mineralized dispersal train from the Spar deposit and other related bedrock sources. Arsenic, Pb, Zn and Mn are elevated in B-horizon soil compared to elements in the underlying till.

An RGS sediment sample from Nikwikwaia Creek which drains the area of the Spar deposit has 12 ppb Au, 75 ppm Cu, 55 ppm Pb, 178 ppm Zn and 20 ppm Br (Map 33). Water from the same creek has 193 ppb F. The Spar area geochemistry is summarized in Table 19.

Table 18. Spar area B-soil horizon (B) and till (M1) geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppm	Ba[1] ppm	Bi[2] ppm	Cd[2] ppm	Co[1] ppm	Cr[1] ppm	Cu[2] ppm	Fe[1] %	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppm	Zn[2] ppm
SPAR98-2	988522	B	568	11.6	-2	510	0.4	0.27	13	54	22.5	4.32	80	325	3.3	43.1	0.5	0.4	134.5
SPAR98-2	988523	till	127	14.4	23	600	1.3	0.53	28	109	115.5	6.26	32	892	3.2	84.1	0.5	0.5	191.0
SPAR98-3	988524	B	251	15.3	5	390	1.8	0.68	53	108	79.7	8.05	66	687	3.1	197.4	0.5	1.1	139.2
SPAR98-3	988525	M1	156	19.7	7	380	3.0	1.06	50	118	106	11.4	40	1109	1.4	201.7	0.5	1.6	237.8
SPAR98-4	988526	B	344	17.7	20	380	4.5	1.00	47	93	107.8	12.9	45	679	3.3	252.6	0.5	3.3	220.7
SPAR98-4	988527	M1	248	18.6	9	250	3.6	1.51	52	88	113.5	14.5	17	940	3.1	240.2	0.4	3.1	186.1
SPAR98-5	988528	B	487	14.1	-2	500	1.0	0.41	31	135	51.7	6.33	72	669	4.4	74.8	0.7	0.4	146.6
SPAR98-5	988529	M1	142	13.2	10	400	1.7	0.35	33	172	95.4	7.05	33	945	3.3	90.5	0.4	0.6	171.0
SPAR98-6	988530	M1	1131	8.7	-2	480	0.5	0.45	17	70	45.9	4.27	86	767	4.0	31.2	0.5	0.5	89.5
SPAR98-6	988531	M1	101	19.0	-2	450	2.2	0.47	34	131	94.3	6.88	42	1437	5.0	64.2	0.5	0.7	175.0
SPAR98-6	988532	B	92	20.8	-2	560	1.7	0.43	34	145	91.9	7.10	37	1352	4.9	59.7	0.6	0.7	170.8

Elements identified with a suffix [1] determined by INAA and those identified by suffix [2] by aqua regia-ICPES. Negative values are below detection limit.

Table 19. Geochemical summary of the Spar mineralization.

	Sediments	Water	Till	Soil	Remarks
Pathfinder Elements	Zn, Pb, Cu, Au, Br.	F.	Cu, Pb, Zn Cd, As, Br, Au.	Cu, Pb, Zn Cd, As, Br, Au.	
Typical Anomaly size	1-2 km along stream.	1-2 km along stream.	3 km long. Width cannot be determined precisely.	3 km long. Width cannot be determined precisely.	Dispersion train length may reflect effect of thicker till.

Scotch Creek Prospect (Map 39-42)

Location NTS 82M/5. 119°27'55''E, 50°58'15"N. The detailed survey area covers roughly 15 square kilometres between Scotch and Hlina Creeks (Map 39).

Surface Environment and deposits

The Scotch Creek survey area is dominated by a 1100 metre high north-south trending ridge between Scotch and Hlina creeks. Outcrops are most common along the ridge crest, but elsewhere only twenty percent of the bedrock is exposed. The bedrock is covered by up to 3 metres of olive-grey, moderately consolidated basal till that was deposited by predominantly north-south or southeast ice advances during the Fraser Glaciation maximum. Landforms and striae indicate a southwest ice-flow west of the Scotch creek area reflecting the covergance of ice-sheets from the centers on the Cariboo and Monashee Mountains. There may have also been changes in the ice-flow direction where local topography deflected the advancing ice (Bobrowsky *et al.,*2000). A brunisolic soil has formed on the till where it supports lodgepole pine, hemlock and paper birch growth. The survey area surface has been extensively disturbed by logging and road construction.

Geology-Mineralization

The survey area is underlain by the Lower Cambrian Johnson Lake unit of the Eagle Bay Assemblage (Thompson and Daughtry, 1997). This unit is predominantly a pyritic, weakly to well foliated, dark green to grey, mafic to intermediate volcanic rock metamorphosed to greenschist facies. It is also calcareous with locally intense quartz-carbonate-sericite alteration along shear zones and fractures. In addition to the volcanic unit, two distinct and apparently unrelated limestone or meta-limestone/marble units have been identified in the area. One unit is massive, white to beige, fine to coarse-grained limestone and contains stockwork quartz veins up to 20 centimetres wide. The second limestone is grey to black, translucent and cryptocrystalline to medium grained, and is typically cut by quartz and/or calcite veins containing traces of pyrite.

At the Scotch Creek property (MINFILE 082LNW16) a pyritic, ferruginous chert horizon (siliceous oxide facies iron formation) has been traced over a strike length of at least 1300 metres. The "iron formation" is typically mottled grey-black to grey-purple, aphanitic to fine grained textured with locally, intense quartz-carbonate veining. Iron mineralization includes local jasper up to 10 per cent, magnetite up to 50 per cent and hematite up to 30 per cent. Disseminated pyrite content ranges from trace amounts to 15 per cent. Locally, there are traces of chalcopyrite. The "iron formation" contains up to 9.05 grams per tonne Au and 29.0 grams per tonne Ag based on analysis of diamond drill core samples.

The Shu occurrence (MINFILE 082LNW14), located west of the Scotch Creek occurrence is also hosted by a sequence of chloritic phyllite, limestone, chert, conglomerate, rhyolite and dacite of the Johnson Lake unit. Disseminated pyrite was found to contain up to 1.3 grams per tonne gold. The exact location of the Scotch Creek and Shu occurrences were not found during the detailed survey although traces of sulphide mineralization in a quartz vein were identified in a small outcrop close to the ridge crest. The Hlina occurrence (MINFILE 082LNW056) is a placer gold showing.

Geochemical Data

New geochemical data represents B-horizon soil and C-horizon till samples collected at 8 sites (Map 39). Regional till survey (Bobrowsky *et al.,* 2000) and RGS data (Matysek *et al.,* 1991) are also included in the discussion.

Analytical results for key elements in till and B-horizon soil samples are listed in Table 20. Results for a mineralized quartz vein sample (REL98-96) are shown for comparison of rock geochemistry with that of the B-soil horizon and till. The quartz vein sample contains 5800 ppb gold and high Cu, As, Ag and Hg and is close to site SCR 3 where only 58 ppm Cu and 10 ppb Au was detected in the till (Maps 40 and 41). The highest Au value in till is 67 ppb at site SCR-8 located about 2 km south of the mineralized quartz vein (Map 41). Elevated As, Cr, Ni (Map 42) and Se levels are associated with the Au in the till at SCR-8. Lower concentrations of these elements are present in the B-horizon soil and only Cr, Ni and Cu appear to be weakly anomalous. The distribution of Au in the till (Map 41) shows a pattern of elevated values extending from SCR-2 to SCR-8 and trending north west-south east roughly parallel to the ice-flow direction. Background Au occurs in RGS sediment samples from Scotch and Hlina Creeks (Matysek *et al*., 1991). However, the RGS sample from Scotch Creek has anomalous Cu and As. A summary of the Scotch Creek geochemistry is shown in Table 21.

Table 20. Scotch Creek soil (B), till (M1) and rock (R) samples geochemistry.

SITE	SAMPLE	MAT	Ag[2] ppb	As[1] ppm	Au[1] ppb	Ba[1] ppm	Cd[2] ppm	Co[1] ppm	Cr [1] ppm	Cu[2] ppm	Fe[1] ppm	Hg[2] ppb	Mn[2] ppm	Mo[2] ppm	Ni[2] ppm	Pb[2] ppm	Sb[1] ppm	Se[2] ppb	V[2] ppm	Zn [2] ppm
SCR98-1	988497	M1	106	9.4	11	820	0.07	24	228	56.2	5.23	35	428	0.6	96	10.1	0.9	-0.3	57	68.3
SCR98-1	988498	M1	110	9.8	7	1000	0.05	29	260	48	6.11	45	471	0.7	99	8.4	0.9	-0.3	58	76.3
SCR98-1	988499	B	45	7.5	10	830	0.04	25	231	39.1	4.94	24	424	0.6	88	5.9	0.7	-0.3	51	70.6
SCR98-2	988500	M1	223	7.3	65	700	0.10	25	159	49.3	5.14	59	570	0.7	79	11.0	0.6	-0.3	49	68.6
SCR98-2	988502	B	264	4.2	-2	570	0.07	16	78	18.9	3.54	61	408	0.5	33	9.1	0.5	-0.3	27	49.6
SCR98-3	988503	M1/R	80	13.6	10	500	0.08	23	210	57.8	5.05	20	301	0.6	99	11.1	1	-0.3	60	46.5
SCR98-3	988504	B	190	7.9	-2	560	0.10	27	284	37.5	5.00	31	390	0.4	153	5.5	0.7	-0.3	67	65.2
SCR98-4	988505	M1	70	7.2	10	890	0.07	24	227	49.4	5.03	20	582	0.7	79	7.5	0.6	-0.3	54	55.0
SCR98-4	988506	B	127	6.5	6	840	0.05	22	170	33	4.62	44	389	0.7	70	7.4	0.6	-0.3	50	78.5
SCR98-5	988507	M1	55	11.2	10	920	0.08	22	234	61.1	5.12	23	430	0.9	86	7.2	0.7	-0.3	51	60.5
SCR98-5	988508	B	172	6.4	3	710	0.12	13	72	15.2	3.28	26	465	0.3	26	8.7	0.4	-0.3	28	107.0
SCR98-6	988509	M1	110	8.8	13	610	0.07	29	246	83.7	6.04	53	475	0.7	112	6.0	0.7	-0.3	83	66.0
SCR98-6	988510	B	195	8.4	7	840	0.13	23	174	40.6	4.82	36	576	0.4	81	7.6	0.7	-0.3	56	100.7
SCR98-7	988511	M1	98	15.7	18	720	0.11	35	267	84.8	6.59	31	998	0.9	129	7.5	0.9	-0.3	87	64.0
SCR98-7	988513	B	210	4.6	-2	780	0.13	18	109	23.4	4.09	65	402	1.3	42	7.3	0.4	0.4	34	68.5
SCR98-8	988514	M1	162	86.1	67	460	0.17	32	273	96.1	5.66	61	653	1.3	123	5.0	0.9	0.8	73	58.1
SCR98-8	988515	B	77	4.9	-2	820	0.05	21	142	30	4.18	36	479	0.9	72	6.7	0.5	-0.3	47	62.7
	REL98-96	R	8161	45.5	5800	-50	0.45	35	22	2506	18.00	355	126	3.7	7	7.0	1.1	-0.3	1	19.3

Table 21. Geochemical expression of the Scotch creek mineralization.

	Sediments	Water	Till	Soil	Remarks
Pathfinder Elements	As, Cu.	No data.	Au As, Ni, Cr, Se.	Cr, Cu, Ni.	
Typical Anomaly size	2 -4 km along stream.	No data.	About 2 km down-ice. Anomaly width cannot be determined precisely.	Soil anomaly smaller than the till.	Soil geochemical expression much weaker than in till.

SUMMARY

The application of geochemical exploration models to interpreting the data compiled in Part 2 is described in Part 1. Consequently, only a brief summary of the pathfinder element association and the geochemical expression of mineralization in the B-horizon, till and stream sediment chemistry is given in Table 22.

Table 22. Summary of geochemistry for detailed areas.

Site	Mineralization	Exposure	Geochemical Pathfinders	Geochemical Expression
Harper-Broken Ridge	Massive and banded pyrite, galena, pyrrhotite, sphalerite.	Sulphides visible in surface outcrop. Bedrock exposure < 10 per cent. Basal Till 1-3 m thick.	Till: Au, Ag, Bi, Cu, Mn, Pb, Se, Zn Soil: Au, Ag, Bi, Cu, Mn, Pb, Se, Zn Sediment - Au, Sb Water: No data	Geochemical dispersal trains 1-2 km long. Element values higher in till compared to soil.
Homestake	Lenses containing barite, pyrite, tetrahedrite, galena, sphalerite, argentite with native silver and visible gold.	Sulphide mineralization and alteration visible continuously in outcrop along the Sinmax valley. Bedrock exposure 80 percent. Surficial deposits colluviated till.	Till: Au, Ag, Cd, As, Ba, Cu, Pb, Se, Zn Soil: Au, Ag, Cd, As, Ba, Cu, Pb, ,Zn Sediment: Au, Ag, As, Ba, Cu, Pb,Sb, Water: Cu	Soil and till anomalies extend beyond limit of sampling. Element values are high at all depths in colluvium.
Spar	Banded and massive, pyrite, galena, pyrrhotite, chalcopyrite and sphalerite. chalcopyrite, sphalerite.	Sulphides visible in surface outcrop Bedrock exposure 5 per cent. Basal till 3-5 m thick.	Till: Cu, Pb, Zn Cd, As, Mn, Br, Au Soil: Pb, Zn, Mn Sediment: Au, Cu, Pb, Zn, Br Water: F	Soil and till anomalies extend beyond limit of samples. Geochemical dispersal train 3 km long.
Samatosum	Coarse-grained tetrahedrite, sphalerite, galena, gold chalcopyrite associated with quartz veining.	No surface exposure of mineralization. Basal till 1-3 m thick. Anthopogenic deposits common near mine site.	Till: Au, Ag, As, Ba, Cr, Cu, Hg, Pb, Mn, Ni, V, Sb, Zn Soil: Au, Ag, As, Ba, Cr, Cu, Hg, Pb, Mn, Ni, V, Sb, Zn Sediment: Au, Cu, Ba, Cr Water: Ni	Geochemical dispersal trains 1-2 km long. Element values higher in till compared to soil. Multiple sources for till anomalies indicated.
Rea Gold	Massive sulphide lenses of pyrite, sphalerite, galena, arsenopyrite, quartz, gold and barite	Surface exposure of mineralization limited to gossan on sulphides Basal till 1-3 m thick. Anthopogenic common near mine site.	Till: Au, Ag, As, Ba, Cr, Cu, Hg, Pb, Mn, Ni, V, Sb, Zn Soil: Au, Ag, As, Ba, Cr, Cu, Hg, Pb, Mn, Ni, V, Sb, Zn Sediment: Au, Cu, Ba, Cr Water: Ni	Geochemical dispersal trains 1-2 km long. Element values higher in till. Ba and Hg may be indicators for Rea Gold mineralization.
Mount Armour	Massive lenses of pyrite, chalcopyrite sphalerite	Sulphides visible in surface outcrop Bedrock exposure 20 per cent. Basal till 1-3 m thick.	Till: Au, Ag, As, Co Cu, Zn Soil: Au, Ag, As, Co Cu, Zn Sediment: No data Water: No data	Geochemical dispersal trains 1-2 km long. Element values higher in till than in soil.
Agate Bay (Pine)	Minor disseminated pyrite, and galena in veins (Pine).	No sulphides exposed near till anomalies. Outcrop typically < 10 per cent exposed.	Till: Ba, Cu, Pb, Zn Soil: No data Sediment: Br, Pb, Zn Water: Zn	Geochemical dispersal trains 2 km long. Multiple sources for till anomalies possible.
Scotch Creek	Pyrite, galena, pyrrhotite, sphalerite and chalcopyrite.	Sulphides visible in outcrop. Bedrock 10 per cent exposed. Till 1-3 m thick	Till: Au, As, Ni, Cr, Se Soil: Cr, Cu, Ni	Geochemical dispersal trains 2 km long. Lower element values in soil.

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APPENDIX - A: REFERENCE GUIDE FOR FIELD OBSERVATIONS

	FIELD IDENTIFICATION NUMBER	
P	1:50,000 NTS MAP SHEET NUMBER	
ID	SAMPLE NUMBER	
UTM-E	UTM EASTING COORDINATE	
UTM-N	UTME NORTHING COORDINATE	
ZONE	UTM Zone	
LAT	Latitude Decimal NAD 27	
LONG	Longitude Decimal NAD 27	
STA	REPLICATE SAMPLE STATUS (A DUP TO Q/C FILE) 0 = Routine sample 1 = Field Duplicate 1 for each batch of 20 samples 2 = Field Duplicate 2 for each batch of 20 samples	
PDEPTH	PROFILE DEPTH (m)	
STRU	STRUCTURE OF SAMPLED MEDIA M = massive WF = weakly fissile CS = crudely stratified	 L = laminated COL = colluviated LO = loose
MAT	TYPE OF MATERIAL SAMPLED B = B soil horizon R = rock	 M1 = regional basal till CM = colluviated till
MTX	MATRIX OF SAMPLED MEDIA CL = clay CLY = clayey SLT = silt SLTY = silty SD = sand SDY = sandy STNY = stony	 P = pebbles G = grit GY = gritty F = fine M = medium C = coarse m = with minor
DEP	DEPTH OF SAMPLE BELOW SOIL SURFACE (m)	
COLOR	SAMPLE COLOR B = brown Bei = beige BL = black D = dark G = grey L = light M = medium O = olive Och = ochre Or = orange OX = oxidized R = red Y = yellow	 BG = brownish grey GB = greyish brown GBL = greyish black LB = light brown LB / G = light brown or grey LYB = light yellow brown MB = medium brown M-DB = medium to dark brown OB = olive brown OBG = olive brownish grey OrB = orange brown OXB = oxidized brown RB = red brown

CLAST	PERCENT CLASTS IN SAMPLE MEDIA (+/- 5%)	
MX SIZE	MAXIMUM CLAST SIZE OBSERVED IN SECTION (cm)	
X-SIZE	AVERAGE CLAST SIZE OBSERVED IN SECTION (cm)	
RDN	RANGE IN CLAST SHAPE OBSERVED VA = very angular A = angular SA = subangular	 SR = subrounded R = rounded WR = well-rounded VWR = very well-rounded
X-RD	AVERAGE CLAST SHAPE OBSERVED	
Rx TYPE	PREDOMINANT ROCK TYPE FOR CLAST SCH = schist GRA = granite QTZ = quartz QTZT = quartzite LST = limestone CLO = chloritic rock MV = metavolcanic rock RST = rusty MS = massive sulfides MAF = mafic rock SLA = slate	 VL = volcanic VL/ PHL = volcanic to phyllite PHL = phyllite MSD = meta sediment ALC = altered carbonate GNS = gneiss MUS = muscovite BIT = biotite DIR = diorite GST = greenstone

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	MAP	SAMPLE	UTM-E	UTM-N	LAT	LONG	STA	PDEPTH	STRU	MAT	MTX	DEP	COLOR	CLAST	MX SIZE	X-SIZE	RDN	X-RD	Rx TYPE	DATE
MA97-1	93P/1	978067	702340	5671920	10	93P/1	978067	702340	5671920	51.1648	-120.1060	0	0.90	LO	B	SDY	0.15	R B							1997-06-16
MA97-1	93P/1	978068	702340	5671920	10	93P/1	978068	702340	5671920	51.1648	-120.1060	0	0.90	M	M1	CLY SLT	0.75	M B	15	50	2	SA - SR	SA	GST - MS	1997-06-16
MA97-2	93P/1	978069	702300	5671915	10	93P/1	978069	702300	5671915	51.1648	-120.1066	0	0.60	LO	B	SDY	0.15	M B							1997-06-16
MA97-2	93P/1	978070	702300	5671915	10	93P/1	978070	702300	5671915	51.1648	-120.1066	0	0.60	M	CM	F SLTY SD	0.55	R B	50	45	5	SA - A	A	MV	1997-06-16
MA97-3	93P/1	978072	702200	5671910	10	93P/1	978072	702200	5671910	51.1648	-120.1080	0	0.50	LO	B	SDY	0.25	M B							1997-06-16
MA97-3	93P/1	978073	702200	5671910	10	93P/1	978073	702200	5671910	51.1648	-120.1080	0	0.50	M	CM	F SLT - CL	0.55	M B	50			A	A	MSD	1997-06-16
MA97-4	93P/1	978074	702390	5671925	10	93P/1	978074	702390	5671925	51.1649	-120.1053	1	0.50	LO	B	SDY	0.15	R B							1997-06-16
MA97-4	93P/1	978075	702390	5671925	10	93P/1	978075	702390	5671925	51.1649	-120.1053	0	0.50	M	M1	CLY SLT	0.45	L B	10	20	2	SA - SR	SA	GNS - MSD	1997-06-16
MA97-4	93P/1	978076	702390	5671925	10	93P/1	978076	702390	5671925	51.1649	-120.1053	2	0.50	LO	B	SDY	0.15	R B							1997-06-16
MA97-5	93P/1	978077	702440	5671930	10	93P/1	978077	702440	5671930	51.1649	-120.1045	0	0.55	LO	B	SDY	0.25	R B							1997-06-16
MA97-5	93P/1	978078	702440	5671930	10	93P/1	978078	702440	5671930	51.1649	-120.1045	0	0.55	M	M1	SLT m CL	0.45	L B	7	10	4	SA - R		GST	1997-06-16
MA97-6	93P/1	978079	702490	5671940	10	93P/1	978079	702490	5671940	51.1650	-120.1038	0	0.60	LO	B	SDY	0.15	R B							1997-06-16
MA97-6	93P/1	978080	702490	5671940	10	93P/1	978080	702490	5671940	51.1650	-120.1038	0	0.60	M	M1	CLY SLT	0.45	L B	10	30	1	A - SA	SA	GST - SCH	1997-06-16
MA97-7	93P/1	978082	702570	5671945	10	93P/1	978082	702570	5671945	51.1650	-120.1027	0	0.60	LO	B	SDY	0.15	R B							1997-06-16
MA97-7	93P/1	978083	702570	5671945	10	93P/1	978083	702570	5671945	51.1650	-120.1027	0	0.60	M	M1	SLT	0.45	L B	10	30	1	A - SA		SCH - GNS	1997-06-16
MA97-8	93P/1	978087	702335	5671970	10	93P/1	978087	702335	5671970	51.1653	-120.1060	0	0.60	LO	B	SDY	0.25	D B							1997-06-16
MA97-8	93P/1	978088	702335	5671970	10	93P/1	978088	702335	5671970	51.1653	-120.1060	0	0.60	M	M1	F SD m SLT	0.55	M-L B	25-30	20	3	SA - SR	SA	D G MSD	1997-06-16
MA97-9	93P/1	978089	702330	5672020	10	93P/1	978089	702330	5672020	51.1657	-120.1061	0	0.50	LO	B	SDY	0.25	M-D B							1997-06-16
MA97-9	93P/1	978090	702330	5672020	10	93P/1	978090	702330	5672020	51.1657	-120.1061	1	0.50	M	M1	F SLTY SD	0.45	M B	20	30		SA - SR	SA	DRI - MSD	1997-06-16
MA97-10	93P/1	978091	702325	5672060	10	93P/1	978091	702325	5672060	51.1661	-120.1061	0	0.60	LO	B	SDY	0.25	R B							1997-06-16
MA97-10	93P/1	978092	702325	5672060	10	93P/1	978092	702325	5672060	51.1661	-120.1061	0	0.60	M	M1	F SDY SLT	0.55	M-L B	30	30	2	SA - SR	SA	MSD	1997-06-16
MA97-11	93P/1	978094	702322	5672137	10	93P/1	978094	702322	5672137	51.1668	-120.1061	0	0.60	LO	B	SDY	0.25	R B							1997-06-16
MA97-11	93P/1	978095	702322	5672137	10	93P/1	978095	702322	5672137	51.1668	-120.1061	0	0.60	M	M1	F SDY SLT	0.55	L B	20	20		SR - A			1997-06-16
MA97-12	93P/1	978096	702345	5671870	10	93P/1	978096	702345	5671870	51.1644	-120.1059	0	0.65	LO	B	SDY	0.15	M R B							1997-06-16
MA97-12	93P/1	978097	702345	5671870	10	93P/1	978097	702345	5671870	51.1644	-120.1059	0	0.65	M	M1	SLT m F SD	0.55	L B	2	40		A - SR	SA	QTZ - DRI	1997-06-16
MA97-13	93P/1	978098	702350	5671820	10	93P/1	978098	702350	5671820	51.1639	-120.1059	0	0.70	LO	B	SDY	0.15	M B							1997-06-16
MA97-13	93P/1	978099	702350	5671820	10	93P/1	978099	702350	5671820	51.1639	-120.1059	0	0.70	M	M1	CLY SLT	0.25	M B	50	25	2	A - SR	SR	Rusty QTZT - QTZ	1997-06-16
MA97-14	93P/1	978100	702355	5671770	10	93P/1	978100	702355	5671770	51.1635	-120.1059	0	0.40	LO	B	SLTY SD	0.15	M B							1997-06-16
MA97-14	93P/1	978102	702355	5671770	10	93P/1	978102	702355	5671770	51.1635	-120.1059	0	0.40	LO	M1	SLTY SD	0.35	L B							1997-06-16
MA97-15	93P/1	978103	702360	5671720	10	93P/1	978103	702360	5671720	51.1630	-120.1058	0	0.50	LO	B	SDY	0.25	M B							1997-06-16
MA97-15	93P/1	978104	702360	5671720	10	93P/1	978104	702360	5671720	51.1630	-120.1058	0	0.50	M	M1	SLT	0.45	M B	15	15	1.5	SA - SR	SR	MSD	1997-06-16
MA97-16	93P/1	978105	702340	5671710	10	93P/1	978105	702340	5671710	51.1630	-120.1061	0	0.70	LO	B	SLTY SD	0.15	M B							1997-06-16
MA97-16	93P/1	978106	702340	5671710	10	93P/1	978106	702340	5671710	51.1630	-120.1061	0	0.70	M	M1	SDY SLT	0.35	L-M B	20	30	2	A - SR	SA		1997-06-16
MA97-16	93P/1	978107	702340	5671710	10	93P/1	978107	702340	5671710	51.1630	-120.1061	0	0.70	M	M1	SDY SLT	0.55	L-M B	20	30	2	A - SR	SA		1997-06-16
MA97-9	93P/1	978108	702330	5672020	10	93P/1	978108	702330	5672020	51.1657	-120.1061	2	0.50	M	M1	F SLTY SD	0.45	M B	20	30		SA - SR	SA	DRI - MSD	1997-06-16
MA98-1	93P/1	988447	702599	5671317	10	93P/1	988447	702599	5671317	51.1593	-120.1026	1	0.50	LO	B	SLT	0.10	RB							1998-05-08
MA98-1	93P/1	988448	702599	5671317	10	93P/1	988448	702599	5671317	51.1593	-120.1026	2	0.50	LO	B	SLT	0.10	RB							1998-05-08
MA98-1	93P/1	988449	702549	5671317	10	93P/1	988449	702549	5671317	51.1594	-120.1033	0	0.50	M	M1	SLT	0.40	LB	15	15	1	A - SA	A	SCH	1998-05-08
MA98-2	93P/1	988450	702500	5671324	10	93P/1	988450	702500	5671324	51.1594	-120.1040	0	0.30	LO	B	SLT	0.15	RB							1998-05-08
MA98-2	93P/1	988451	702500	5671324	10	93P/1	988451	702500	5671324	51.1594	-120.1040	0	0.30	M	M1	SLT	0.25	LB	10	10	2	A - SR	SA	SCH	1998-05-08
MA98-3	93P/1	988452	702451	5671244	10	93P/1	988452	702451	5671244	51.1587	-120.1048	0	0.40	LO	B	SLT	0.10	RB							1998-05-08
MA98-3	93P/1	988453	702451	5671244	10	93P/1	988453	702451	5671244	51.1587	-120.1048	0	0.40	M	M1	SLT m CL	0.35	RB	10	5	1	A - SA	A	SCH	1998-05-08
MA98-4	93P/1	988454	702386	5671334	10	93P/1	988454	702386	5671334	51.1596	-120.1057	0	0.35	LO	B	F SD / SLT	0.15	RB							1998-05-08
MA98-4	93P/1	988455	702386	5671334	10	93P/1	988455	702386	5671334	51.1596	-120.1057	0	0.35	M	M1	SLT m CL	n/a	LB	10	8	1	A - SR	SA	SCH	1998-05-08
MA98-5	93P/1	988456	702451	5671208	10	93P/1	988456	702451	5671208	51.1584	-120.1048	0	n/a	LO	B	SLTY	0.20	Och R							1998-05-08
MA98-5	93P/1	988457	702451	5671208	10	93P/1	988457	702451	5671208	51.1584	-120.1048	0	n/a	M	M1	SDY SLT	1.00	Or G	20	20	3	A - R	SA	V - SCH	1998-05-08
MA98-6	93P/1	988458	702489	5671211	10	93P/1	988458	702489	5671211	51.1584	-120.1043	0	0.60	LO	B	SLT m CL	0.22	YB							1998-05-08
MA98-6	93P/1	988459	702489	5671211	10	93P/1	988459	702489	5671211	51.1584	-120.1043	0	0.60	M	M1	F SDY SLT	0.48	n/a	15	10	1	A - SR	SA	SCH	1998-05-08
MA98-7	93P/1	988460	702530	5671217	10	93P/1	988460	702530	5671217	51.1585	-120.1037	0	0.68	LO	B	SLT	0.31	R-D B							1998-05-08
MA98-7	93P/1	988462	702530	5671217	10	93P/1	988462	702530	5671217	51.1585	-120.1037	0	0.68	M	M1	SLT m SD	0.65	n/a	15	10	0.5	A - SR	SA	SCH	1998-05-08
MA98-8	93P/1	988463	702604	5671168	10	93P/1	988463	702604	5671168	51.1580	-120.1026	0	n/a	LO	B	SLT	n/a	LB							1998-05-08
MA98-9	93P/1	988464	702647	5671220	10	93P/1	988464	702647	5671220	51.1584	-120.1020	0	0.64	LO	B	SLT m SD	0.19	Or B							1998-05-08
MA98-9	93P/1	988465	702647	5671220	10	93P/1	988465	702647	5671220	51.1584	-120.1020	0	0.64	M	M1	SLT	0.64	GB	10	15	1	A - SR	SA	SCH	1998-05-08
MA98-10	93P/1	988467	702531	5670918	10	93P/1	988467	702531	5670918	51.1558	-120.1038	0	0.43	LO	B	SLT m CL	n/a	M-D B							1998-06-08
MA98-10	93P/1	988468	702531	5670918	10	93P/1	988468	702531	5670918	51.1558	-120.1038	0	0.43	M	M1	SLT m CL	0.40	LYB	25	15	1	A - SR	n/a	SCH	1998-06-08
MA98-11	93P/1	988469	702573	5670927	10	93P/1	988469	702573	5670927	51.1558	-120.1032	0	0.74	LO	B	SLT	0.22	MB							1998-06-08

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	MAP	SAMPLE	UTM-E	UTM-N	LAT	LONG	STA	PDEPTH	STRU	MAT	MTX	DEP	COLOR	CLAST	MX SIZE	X-SIZE	RDN	X-RD	Rx TYPE	DATE
MA98-11	93P/1	988470	702573	5670927	10	93P/1	988470	702573	5670927	51.1558	-120.1032	0	0.74	M	M1	SLT m SD	0.74	LB	20	15	1	A - R	SA	SCH	1998-06-08
MA98-12	93P/1	988471	702396	5670974	10	93P/1	988471	702396	5670974	51.1563	-120.1057	0	0.86	LO	B	SDY SLT m SD	0.20	RB							1998-06-08
MA98-12	93P/1	988472	702396	5670974	10	93P/1	988472	702396	5670974	51.1563	-120.1057	0	0.86	M - LO	M1	F SDY SLT	0.80	LGB	30	50	1.5	A - SR	SA	SCH	1998-06-08
MA98-13	93P/1	988473	702643	5670903	10	93P/1	988473	702643	5670903	51.1556	-120.1022	0	0.74	LO	B	SLT m CL - SD	0.20	RB							1998-06-08
MA98-13	93P/1	988474	702643	5670903	10	93P/1	988474	702643	5670903	51.1556	-120.1022	1	0.74	M	M1	SLT m CL	0.70	LB	20	35	1.5	A - SR	SA	SCH	1998-06-08
MA98-13	93P/1	988475	702643	5670903	10	93P/1	988475	702643	5670903	51.1556	-120.1022	2	0.74	M	M1	SLT m CL	0.70	LB	20	35	1.5	A - SR	SA	SCH	1998-06-08
MA98-14	93P/1	988476	702729	5670841	10	93P/1	988476	702729	5670841	51.1550	-120.1010	0	0.70	LO	B	GY SLT	0.15	Och R							1998-06-08
MA98-14	93P/1	988478	702729	5670841	10	93P/1	988478	702729	5670841	51.1550	-120.1010	0	0.70	M	M1	SDY SLT	0.60	Bei G	20	16	8	A - R	SR	SCH	1998-06-08
MA98-15	93P/1	988479	702618	5670936	10	93P/1	988479	702618	5670936	51.1559	-120.1026	0	1.20	LO	B	GY SLT	0.27	Och Or							1998-06-08
MA98-15	93P/1	988480	702618	5670936	10	93P/1	988480	702618	5670936	51.1559	-120.1026	0	1.20	M	M1	SDY SLT	0.90	Bei G	20	35	n/a	SA - R	SR	SCH	1998-06-08
MA98-16	93P/1	988482	701663	5671910	10	93P/1	988482	701663	5671910	51.1650	-120.1157	0	1.10	LO	B	GY SLT	0.20	Or B							1998-06-08
MA98-16	93P/1	988483	701663	5671910	10	93P/1	988483	701663	5671910	51.1650	-120.1157	0	1.10	M	M1	SDY SLT	0.90	OG	15	18	2	SA - R	SR	PHL	1998-06-08
MA98-17	93P/1	988484	701662	5671958	10	93P/1	988484	701662	5671958	51.1654	-120.1156	0	0.82	LO	B	GY SLT	0.19	DB							1998-06-08
MA98-17	93P/1	988485	701662	5671958	10	93P/1	988485	701662	5671958	51.1654	-120.1156	0	0.82	M	M1	GY SLT	0.80	LB	10	15	1	A - SA	SA	PHL	1998-06-08
MA98-18	93P/1	988486	701671	5671982	10	93P/1	988486	701671	5671982	51.1656	-120.1155	0	0.70	LO	B	SLTY	0.20	Or B							1998-06-08
MA98-18	93P/1	988487	701671	5671982	10	93P/1	988487	701671	5671982	51.1656	-120.1155	0	0.70	M - CS	M1/R	SDY SLT	0.70	Bei B	45	60	2	VA - SR	SA	PHL	1998-06-08
MA98-19	93P/1	988488	701742	5671853	10	93P/1	988488	701742	5671853	51.1645	-120.1146	0	0.60	LO	B	GY SLT	0.25	MB							1998-06-08
MA98-19	93P/1	988489	701742	5671853	10	93P/1	988489	701742	5671853	51.1645	-120.1146	0	0.60	M	M1	GY SLT	0.60	LB	20	20	1	A - SA	SA	MSD	1998-06-08
SAM 1	82M/4	978084	300600	5666500	11	82M/4	978084	300600	5666500	51.1172	-119.8490	0	0.71	LO	B	SLTY SD	0.20	Y B							1997-06-16
SAM 1	82M/4	978085	300600	5666500	11	82M/4	978085	300600	5666500	51.1172	-119.8490	0	0.71	M	M1	CLY SLT	0.40	Y B	5	30	2	A - SA	SA	MV	1997-06-16
SAM 1	82M/4	978086	300600	5666500	11	82M/4	978086	300600	5666500	51.1172	-119.8490	0	0.71	M	M1	CLY SLT	0.71	Y B	5	30	2	A - SA	SA	MV	1997-06-16
SAM 2	82M/4	978129	302826	5669452	11	82M/4	978129	302826	5669452	51.1445	-119.8189	0	1.20	LO	B	SLT	0.30	R B							1997-07-26
SAM 2	82M/4	978130	302826	5669452	11	82M/4	978130	302826	5669452	51.1445	-119.8189	0	1.20	F	M1	SLTY CL	0.65	O B	15	25	1	A - SR	SA	SCH	1997-07-26
SAM 2	82M/4	978131	302826	5669452	11	82M/4	978131	302826	5669452	51.1445	-119.8189	0	1.20	F	M1	SLTY CL	1.10	O B	15	25	1	A - SR	SA	SCH	1997-07-26
SAM 5	82M/4	978132	302871	5669453	11	82M/4	978132	302871	5669453	51.1445	-119.8182	1	0.40	M	M1	SLTY CL	0.35	M B	35-40	30	10	SA - A		Grey PHL	1997-07-28
SAM 5	82M/4	978133	302871	5669453	11	82M/4	978133	302871	5669453	51.1445	-119.8182	2	0.40	M	M1	SLTY CL	0.35	M B	35-40	30	10	SA - A		Grey PHL	1997-07-28
SAM 4	82M/4	978134	303111	5669106	11	82M/4	978134	303111	5669106	51.1415	-119.8146	0	0.60	LO	B	SLT	0.15	L G							1997-07-28
SAM 4	82M/4	978135	303111	5669106	11	82M/4	978135	303111	5669106	51.1415	-119.8146	0	0.60	M	M1	SDY	0.30	M B	30	10	5	SA - SR		PHL	1997-07-28
SAM 4	82M/4	978136	303111	5669106	11	82M/4	978136	303111	5669106	51.1415	-119.8146	0	0.60	M	M1	SDY	0.55	M B	30	10	5	SA - SR		PHL	1997-07-28
SAM 3	82M/4	978137	303148	5669532	11	82M/4	978137	303148	5669532	51.1453	-119.8143	0	0.50	LO	B	SLTY SD	0.05	M B							1997-07-28
SAM 3	82M/4	978138	303148	5669532	11	82M/4	978138	303148	5669532	51.1453	-119.8143	0	0.50	M	M1	F SLTY SD	0.45	M B		20	2	SA	SA	MSD - PHL	1997-07-28
SAM 7	82M/4	978139	302603	5668888	11	82M/4	978139	302603	5668888	51.1393	-119.8217	0	0.60	LO	B	SLTY CL	0.15	M B							1997-07-28
SAM 7	82M/4	978140	302603	5668888	11	82M/4	978140	302603	5668888	51.1393	-119.8217	0	0.60	M	M1	SLTY CL	0.55	M-L B	5	10	5	SA - SR		D Grey MAF	1997-07-28
SAM 7	82M/4	978142	302812	5668883	11	82M/4	978142	302812	5668883	51.1394	-119.8188	0	0.60	M	M1	SLTY CL	0.55	M-L B	5	10	5	SA - SR		D Grey MAF	1997-07-28
SAM 6	82M/4	978143	302812	5668883	11	82M/4	978143	302812	5668883	51.1394	-119.8188	0	0.70	LO	B	SLTY SD	0.15	M B							1997-07-28
SAM 8	82M/4	9781431	302937	5669490	11	82M/4	9781431	302937	5669490	51.1449	-119.8173	0	0.70	LO	B	SDY	0.15	M B							1997-07-28
SAM 8	82M/4	978144	302937	5669490	11	82M/4	978144	302937	5669490	51.1449	-119.8173	0	0.70	M	M1	SLT	0.45	M-L B	20	15	4	SA - SR		V - QTZ	1997-07-28
SAM 6	82M/4	9781441	302812	5668883	11	82M/4	9781441	302812	5668883	51.1394	-119.8188	0	0.70	M	M1	SLTY CL	0.35	L G	5		5	SA - SR		MAF	1997-07-28
SAM 9	82M/4	978145	302636	5669242	11	82M/4	978145	302636	5669242	51.1425	-119.8215	0	0.60	LO	B	SDY	0.10	M B							1997-07-29
SAM 9	82M/4	978146	302636	5669242	11	82M/4	978146	302636	5669242	51.1425	-119.8215	0	0.60	M	M1	SLT - CL	0.35	L B	10	30	5	SA	SA	MAF V	1997-07-29
SAM 10	82M/4	978147	302267	5669185	11	82M/4	978147	302267	5669185	51.1419	-119.8267	0	0.60	LO	B	SLTY SD	0.15	D B							1997-07-29
SAM 10	82M/4	978148	302267	5669185	11	82M/4	978148	302267	5669185	51.1419	-119.8267	0	0.60	M	M1	SLTY SD	0.45	M B	10	30	2	SR	SR	MAF V	1997-07-29
SAM 11	82M/4	978149	304307	5669127	11	82M/4	978149	304307	5669127	51.1421	-119.7976	0	0.80	LO	B	SLTY SD	0.05	Y R							1997-07-29
SAM 11	82M/4	978150	304307	5669127	11	82M/4	978150	304307	5669127	51.1421	-119.7976	0	0.80	M	M1	CL - SLT	0.25	O B							1997-07-29
SAM 12	82M/4	978151	304210	5668936	11	82M/4	978151	304210	5668936	51.1403	-119.7988	1	1.18	M	M1	SLTY CL	0.95	G	25	60	1	A - SA	SA		1997-07-29
SAM 12	82M/4	978152	304210	5668936	11	82M/4	978152	304210	5668936	51.1403	-119.7988	2	1.18	M	M1	SLTY CL	0.95	G	25	60	1	A - SA	SA		1997-07-29
SAM 12	82M/4	978153	304210	5668936	11	82M/4	978153	304210	5668936	51.1403	-119.7988	0	1.18	M	M1	SLTY	0.45	MB	40						1997-07-29
SAM 12	82M/4	978154	304210	5668936	11	82M/4	978154	304210	5668936	51.1403	-119.7988	0	1.18	LO	B	SLTY SD	0.15	R B							1997-07-29
SAM 13	82M/4	978155	304296	5668684	11	82M/4	978155	304296	5668684	51.1381	-119.7975	0	0.70	LO	B	SLTY SD	0.15	L B							1997-07-31
SAM 13	82M/4	978156	304296	5668684	11	82M/4	978156	304296	5668684	51.1381	-119.7975	0	0.70	M	M1	SLTY CL	0.40	M G	10-15	15	5	SA	SA	MAF V	1997-07-31
SAM 14	82M/4	978162	303740	5669145	11	82M/4	978162	303740	5669145	51.1420	-119.8057	0	1.20	LO	B	SDY	0.15	M B							1997-07-31
SAM 14	82M/4	978163	303740	5669145	11	82M/4	978163	303740	5669145	51.1420	-119.8057	0	1.20	M	M1	SLTY CL	1.20	G B	10	10	1	SA - SR	SR	MAF - GRA	1997-07-31
SAM 15	82M/4	978164	303040	5668399	11	82M/4	978164	303040	5668399	51.1351	-119.8152	0	0.40	LO	B	SLTY SD	0.10	M B							1997-07-31
SAM 15	82M/4	978165	303040	5668399	11	82M/4	978165	303040	5668399	51.1351	-119.8152	0	0.40	M	M1	CLY SLT	0.35	D B	30	25	2	A - SA	A	SLA	1997-07-31
SAM 16	82M/4	978166	303411	5668665	11	82M/4	978166	303411	5668665	51.1376	-119.8101	0	1.00	LO	B	SLTY SD	0.10	M B							1997-07-31
SAM 16	82M/4	978167	303411	5668665	11	82M/4	978167	303411	5668665	51.1376	-119.8101	0	1.00	M	M1	CLY SLT	0.40	G B	10	30	1	A - SA	SA	SLA	1997-07-31

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	MAP	SAMPLE	UTM-E	UTM-N	LAT	LONG	STA	PDEPTH	STRU	MAT	MTX	DEP	COLOR	CLAST	MX SIZE	X-SIZE	RDN	X-RD	Rx TYPE	DATE
SAM 17	82M/4	978172	303602	5669664	11	82M/4	978172	303602	5669664	51.1467	-119.8079	0	4.50	M	M1	SLT - CL	1.00	L B	10	10	2	SA	SA	G PHL	1997-08-01
SAM 19	82M/4	978191	303602	5669664	11	82M/4	978191	303602	5669664	51.1467	-119.8079	0	0.50	LO	B	SDY	0.10	L G							1997-08-05
SAM 19	82M/4	978192	306140	5666777	11	82M/4	978192	306140	5666777	51.1216	-119.7701	0	0.50	LO	M1	SLT	0.30	M B	10	30	2	SA - SR	SA	MAF	1997-08-05
SAM 19	82M/4	978193	306140	5666777	11	82M/4	978193	306140	5666777	51.1216	-119.7701	0	0.50	LO	M1	SLTY SD	0.45	R B	50			A	A	G SCH	1997-08-05
SAM 20	82M/4	978194	306207	5666925	11	82M/4	978194	306207	5666925	51.1229	-119.7692	0	0.50	LO	B	SLT	0.15	M B							1997-08-05
SAM 20	82M/4	978195	306207	5666925	11	82M/4	978195	306207	5666925	51.1229	-119.7692	0	0.50	LO	M1	M-C SD	0.40	M B	30	20	2	A - SR	SA	Grey MAF	1997-08-05
SAM 21	82M/4	978196	306177	5666166	11	82M/4	978196	306177	5666166	51.1161	-119.7693	0	0.80	LO	B	SLT	0.15	M B							1997-08-05
SAM 21	82M/4	978197	306177	5666166	11	82M/4	978197	306177	5666166	51.1161	-119.7693	1	0.80	LO	M1	F SD-SLT	0.70	L B - G	35	15	2	SA - SR	SR	Grey SCH	1997-08-05
SAM 21	82M/4	978198	306177	5666166	11	82M/4	978198	306177	5666166	51.1161	-119.7693	2	0.80	LO	M1	F SD-SLT	0.70	L B - G	35	15	2	SA - SR	SR	Gre SCH	1997-08-05
SAM 22	82M/4	978199	305312	5668824	11	82M/4	978199	305312	5668824	51.1397	-119.7830	0	0.50	LO	B	SLT	0.15	D B							1997-08-05
SAM 22	82M/4	978200	305312	5668824	11	82M/4	978200	305312	5668824	51.1397	-119.7830	0	0.50	M	M1	CL-SLT	0.50	M G	15	20	1	SA	SA	Gre PHL	1997-08-05
SAM 23	82M/4	978202	304970	5668737	11	82M/4	978202	304970	5668737	51.1388	-119.7879	0	0.40	M	M1	SLT-CL	0.30	M-L B	15	30	2	SA - SR		Gre MV	1997-08-05
SAM 24	82M/4	978204	304618	5668392	11	82M/4	978204	304618	5668392	51.1356	-119.7927	0	0.60	LO	B	SLT	0.10	D B							1997-08-05
SAM 24	82M/4	978205	304618	5668392	11	82M/4	978205	304618	5668392	51.1356	-119.7927	0	0.60	M	M1	SLTY SD	0.45	O G	20	40	1	SA - SR	A	CLO SCH	1997-08-05
SAM 25	82M/4	978206	304380	5667950	11	82M/4	978206	304380	5667950	51.1315	-119.7959	0	0.60	LO	B	SLTY CL	0.10	B							1997-08-05
SAM 25	82M/4	978207	304380	5667950	11	82M/4	978207	304380	5667950	51.1315	-119.7959	0	0.60	M	M1	CL-SLT	0.55	D B	20	35	1	SA - SR	SA		1997-08-05
SAM 26	82M/4	978208	304118	5668160	11	82M/4	978208	304118	5668160	51.1333	-119.7997	0	0.50	LO	B	SLTY SD	0.10	M B							1997-08-05
SAM 26	82M/4	978209	304118	5668160	11	82M/4	978209	304118	5668160	51.1333	-119.7997	0	0.50	M	M1	SLT-CL	0.40	M B	25	25	1	A - SA	SA		1997-08-05
SAM 27	82M/4	978210	303877	5667797	11	82M/4	978210	303877	5667797	51.1300	-119.8030	0	2.50	LO	M1	SLTY SD	1.00	M B	30	30	2	SR - SA	SR	MSD - V	1997-08-05
SAM 28	82M/4	978211	303538	5667311	11	82M/4	978211	303538	5667311	51.1255	-119.8075	0	1.20	LO	B	SLT	0.15	M B							1997-08-05
SAM 28	82M/4	978212	303538	5667311	11	82M/4	978212	303538	5667311	51.1255	-119.8075	0	1.20	M	M1	F SDY SLT	1.10	G B	10	20	1	SA - SR	SA		1997-08-05
HAR97 1	82M/5	978002	301295	5691844	11	82M/5	978002	301295	5691844	51.3451	-119.8532	0	0.70	LO	B	F SD	0.20	L B							1997-06-06
HAR97 1	82M/5	978003	301295	5691844	11	82M/5	978003	301295	5691844	51.3451	-119.8532	0	0.70	M	M1	C SD	0.65	L B	15	20	2	SA	SA	PHL	1997-06-06
HAR97 2	82M/5	978004	301300	5691794	11	82M/5	978004	301300	5691794	51.3446	-119.8531	0	0.60	LO	B	C SD	0.25	L B							1997-06-06
HAR97 2	82M/5	978005	301300	5691794	11	82M/5	978005	301300	5691794	51.3446	-119.8531	0	0.60	M	M1	C SD	0.50	L B	10	5	2	SA	SA		1997-06-06
HAR97 3	82M/5	978006	301303	5691774	11	82M/5	978006	301303	5691774	51.3444	-119.8530	0	0.70	LO	B	M SD	0.20	M B							1997-06-06
HAR97 3	82M/5	978007	301303	5691774	11	82M/5	978007	301303	5691774	51.3444	-119.8530	0	0.70	M	M1	M SD	0.70	L B	30	30	1	SA	SA	V	1997-06-06
HAR97 4	82M/5	978008	301305	5691764	11	82M/5	978008	301305	5691764	51.3443	-119.8530	0	0.60	LO	B	F SD	0.20	M B							1997-06-06
HAR97 4	82M/5	978009	301305	5691764	11	82M/5	978009	301305	5691764	51.3443	-119.8530	0	0.60	M	M1	F SD	0.50	L B	30	15	8	SA	SA		1997-06-06
HAR97 5	82M/5	978010	301307	5691754	11	82M/5	978010	301307	5691754	51.3443	-119.8529	0	0.65	LO	B	C SD	0.20	M B							1997-06-06
HAR97 5	82M/5	978011	301307	5691754	11	82M/5	978011	301307	5691754	51.3443	-119.8529	0	0.65	M	M1	C SD	0.65	L B	1	10	5	SA	SA	V	1997-06-06
HAR97 6	82M/5	978012	301309	5691744	11	82M/5	978012	301309	5691744	51.3442	-119.8529	0	0.55	LO	B	C SD	0.25	M B							1997-06-06
HAR97 6	82M/5	978013	301309	5691744	11	82M/5	978013	301309	5691744	51.3442	-119.8529	0	0.55	M	M1	C SD	0.55	L B	20	20	9	SA	SA	V	1997-06-06
HAR97 7	82M/5	978014	301311	5691734	11	82M/5	978014	301311	5691734	51.3441	-119.8529	0	0.60	LO	B	C SD	0.25	M B							1997-07-06
HAR97 7	82M/5	978016	301311	5691734	11	82M/5	978016	301311	5691734	51.3441	-119.8529	1	0.60	M	M1	C SD	0.55	L G-B	15	14	1	SR	SR	SCH	1997-07-06
HAR97 7	82M/5	978017	301311	5691734	11	82M/5	978017	301311	5691734	51.3441	-119.8529	2	0.60	M	M1	C SD	0.55	L G-B	15	14	1	SR	SR	SCH	1997-07-06
HAR97 8	82M/5	978018	301313	5691724	11	82M/5	978018	301313	5691724	51.3440	-119.8528	0	0.70	LO	B	CSD	0.25	M B							1997-07-06
HAR97 8	82M/5	978019	301313	5691724	11	82M/5	978019	301313	5691724	51.3440	-119.8528	0	0.70	M	M1	C SD	0.65	L B	20			SA	SA	SCH	1997-07-06
HAR97 9	82M/5	978020	301315	5691704	11	82M/5	978020	301315	5691704	51.3438	-119.8528	0	0.65	LO	B	C SD	0.25	M B							1997-07-06
HAR97 9	82M/5	978022	301315	5691704	11	82M/5	978022	301315	5691704	51.3438	-119.8528	0	0.65	M	M1	C SD	0.65	L B	15	13		SA	SA	SCH	1997-07-06
HAR97 10	82M/5	978023	301318	5691694	11	82M/5	978023	301318	5691694	51.3437	-119.8527	0	0.60	LO	B	C SD	0.35	M B							1997-07-06
HAR97 10	82M/5	978024	301318	5691694	11	82M/5	978024	301318	5691694	51.3437	-119.8527	0	0.60	M	M1	C SD	0.55	L G-B	20	20	1	SA	SA	GRA	1997-07-06
HAR97 11	82M/5	978025	301325	5691644	11	82M/5	978025	301325	5691644	51.3433	-119.8526	0	0.50	LO	B	C SD	0.35	M B							1997-07-06
HAR97 11	82M/5	978026	301325	5691644	11	82M/5	978026	301325	5691644	51.3433	-119.8526	0	0.50	M	M1	C SD	0.45	L G-B	20	15	10	SA	SA	V	1997-07-06
BCR97 1	82M/5	978027	298220	5691150	11	82M/5	978027	298220	5691150	51.3377	-119.8969	0	0.75	LO	B	M SD	0.25	MB							1997-08-06
BCR97 1	82M/5	978028	298220	5691150	11	82M/5	978028	298220	5691150	51.3377	-119.8969	0	0.75	M	M1	F SD SLT	0.50	L B	20	20	10	SA	SA	SCH	1997-08-06
BCR97 2	82M/5	978029	298850	5691620	11	82M/5	978029	298850	5691620	51.3422	-119.8881	0	0.70	LO	B	SDY	0.25	M B							1997-08-06
BCR97 2	82M/5	978030	298850	5691620	11	82M/5	978030	298850	5691620	51.3422	-119.8881	0	0.70	M	M1	SDY	0.50	G	20			SA	SA	SCH	1997-08-06
BCR97 3	82M/5	978031	298970	5691740	11	82M/5	978031	298970	5691740	51.3433	-119.8864	0	0.80	LO	B	F SD	0.25	M B							1997-08-06
BCR97 3	82M/5	978032	298970	5691740	11	82M/5	978032	298970	5691740	51.3433	-119.8864	0	0.80	M	M1	F SD	0.45	L B			3	A	A	PHL	1997-08-06
BCR97 4	82M/5	978033	298360	5691530	11	82M/5	978033	298360	5691530	51.3412	-119.8951	0	0.90	LO	B	SDY	0.25	M B							1997-08-06
BCR97 4	82M/5	978034	298360	5691530	11	82M/5	978034	298360	5691530	51.3412	-119.8951	0	0.90	M	M1	SLTY	0.75	O B	20	30	10	SA	SA	V	1997-08-06
BCR97 5	82M/5	978035	298560	5691780	11	82M/5	978035	298560	5691780	51.3435	-119.8923	0	1.00	LO	B	SDY	0.25	M B							1997-08-06
BCR97 5	82M/5	978036	298560	5691780	11	82M/5	978036	298560	5691780	51.3435	-119.8923	0	1.00	M	M1	SDY	0.90	M B	20	20	5	SA	SA	SCH	1997-08-06
BCR97 6	82M/5	978037	298040	5691470	11	82M/5	978037	298040	5691470	51.3405	-119.8996	1	1.00	LO	B	SDY	0.25	M B							1997-08-06
BCR97 6	82M/5	978039	298040	5691470	11	82M/5	978039	298040	5691470	51.3405	-119.8996	2	1.00	LO	B	SDY	0.25	M B							1997-08-06

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	MAP	SAMPLE	UTM-E	UTM-N	LAT	LONG	STA	PDEPTH	STRU	MAT	MTX	DEP	COLOR	CLAST	MX SIZE	X-SIZE	RDN	X-RD	Rx TYPE	DATE
BCR97 6	82M/5	978040	298040	5691470	11	82M/5	978040	298040	5691470	51.3405	-119.8996	0	1.00	M	M1	SLTY	0.95	R B	15	20	5	SR	SR	SCH	1997-08-06
BCR97 7	82M/5	978042	297740	5691380	11	82M/5	978042	297740	5691380	51.3396	-119.9039	0	1.00	LO	B	SDY	0.25	M B							1997-08-06
BCR97 7	82M/5	978043	297740	5691380	11	82M/5	978043	297740	5691380	51.3396	-119.9039	0	1.00	M	M1	F SD	0.65	O B	40	30	10	A	A	SCH	1997-08-06
BCR97 8	82M/5	978044	297730	5690760	11	82M/5	978044	297730	5690760	51.3341	-119.9037	0	1.20	M	M1	SDY	0.85	M B							1997-08-06
BCR97 8	82M/5	978045	297730	5690760	11	82M/5	978045	297730	5690760	51.3341	-119.9037	0	1.20	LO	B	SLTY	1.10	O G	30			SA	SA	SCH	1997-08-06
BCR97 8	82M/5	978046	297730	5690760	11	82M/5	978046	297730	5690760	51.3341	-119.9037	0	1.20	M	M1	CLY	0.25	L B	25	10	2	SA	SA	SCH	1997-08-06
BCR97 9	82M/5	978047	298720	5691920	11	82M/5	978047	298720	5691920	51.3448	-119.8901	0	0.50	LO	B	SDY	0.25	L B							1997-08-06
BCR97 9	82M/5	978048	298720	5691920	11	82M/5	978048	298720	5691920	51.3448	-119.8901	0	0.50	M	M1	F SLT	0.45	O B	10	4	1				1997-09-06
BCR97 10	82M/5	978050	298880	5692000	11	82M/5	978050	298880	5692000	51.3456	-119.8879	0	1.00	LO	B	SDY	0.25	M B							1997-09-06
BCR97 10	82M/5	978051	298880	5692000	11	82M/5	978051	298880	5692000	51.3456	-119.8879	0	1.00	M	M1	M SD	0.35	M B	10	8	1	A	A	MSD	1997-09-06
BCR97 10	82M/5	978052	298880	5692000	11	82M/5	978052	298880	5692000	51.3456	-119.8879	0	1.00	LO	M1	F SD	0.85	R B	5	10	4	SA - A		MV	1997-09-06
BCR97 11	82M/5	978053	299040	5692060	11	82M/5	978053	299040	5692060	51.3462	-119.8856	0	0.50	LO	B	SDY	0.25	M B							1997-09-06
BCR97 11	82M/5	978054	299040	5692060	11	82M/5	978054	299040	5692060	51.3462	-119.8856	0	0.50	M	M1	M - C SD	0.45	R B	50	10	2	SA - A		SCH	1997-09-06
BCR97 12	82M/5	978055	299050	5691860	11	82M/5	978055	299050	5691860	51.3444	-119.8854	0	0.60	LO	B	SDY	0.15	M B							1997-09-06
BCR97 12	82M/5	978056	299050	5691860	11	82M/5	978056	299050	5691860	51.3444	-119.8854	0	0.60	LO	M1	F SD	0.55	R B	35-40	30	4	SA - A		SCH	1997-09-06
BCR97 13	82M/5	978057	298850	5691780	11	82M/5	978057	298850	5691780	51.3436	-119.8882	0	0.70	LO	B	SDY	0.25	M B							1997-09-06
BCR97 13	82M/5	978058	298850	5691780	11	82M/5	978058	298850	5691780	51.3436	-119.8882	0	0.70	M	M1	F SDY SLT	0.55	R B	10	30	1	SA - SR			1997-09-06
BCR97 14	82M/5	978059	299120	5691820	11	82M/5	978059	299120	5691820	51.3441	-119.8843	1	0.75	LO	B	SD	0.15	M B							1997-09-06
BCR97 14	82M/5	978060	299120	5691820	11	82M/5	978060	299120	5691820	51.3441	-119.8843	2	0.75	LO	B	SD	0.15	M B							1997-09-06
BCR97 14	82M/5	978062	299120	5691820	11	82M/5	978062	299120	5691820	51.3441	-119.8843	0	0.75	LO	M1	C SD	0.65	M B	50	15	3	SR - R			1997-09-06
BCR97 15	82M/5	978063	299020	5691660	11	82M/5	978063	299020	5691660	51.3426	-119.8857	0	0.70	LO	B	SDY	0.25	R B							1997-09-06
BCR97 15	82M/5	978064	299020	5691660	11	82M/5	978064	299020	5691660	51.3426	-119.8857	0	0.70	M	M1	M SD	0.55	R B	50			A	A	G Ry SCH	1997-09-06
BCR97 16	82M/5	978065	298900	5691540	11	82M/5	978065	298900	5691540	51.3415	-119.8873	0	0.60	LO	B	SDY	0.15	R B							1997-09-06
BCR97 16	82M/5	978066	298900	5691540	11	82M/5	978066	298900	5691540	51.3415	-119.8873	0	0.60	M	M1	C SD	0.55	D B	35	5	2	A - SR		V	1997-09-06
HAR98 1	82M/5	988402	300318	5690937	11	82M/5	988402	300318	5690937	51.3366	-119.8667	1	1.40	LO	B	SDY SLT	0.25	RB							1998-07-24
HAR98 1	82M/5	988403	300318	5690937	11	82M/5	988403	300318	5690937	51.3366	-119.8667	2	1.40	LO	B	SDY SLT	0.25	RB							1998-07-24
HAR98 1	82M/5	988404	300318	5690937	11	82M/5	988404	300318	5690937	51.3366	-119.8667	0	1.40	M - L	M1/R	SDY SLT	1.20	LB	35	5	1	A - SA	SR	SCHc SCH	1998-07-24
HAR98 1	82M/5	988405	300318	5690937	11	82M/5	988405	300318	5690937	51.3366	-119.8667	0	1.40	M	R	C SD	1.40	RB	n/a	n/a	n/a	n/a	n/a	SCHc SCH	1998-07-24
HAR98 2	82M/5	988406	300195	5690804	11	82M/5	988406	300195	5690804	51.3353	-119.8683	0	1.50	LO	B/M1	SLTY SD	0.30	MB							1998-07-24
HAR98 2	82M/5	988407	300195	5690804	11	82M/5	988407	300195	5690804	51.3353	-119.8683	0	1.50	M - L	M1/R	SLTY SD	0.80	LB	30	20	1	A - SA	SA	SCHc SCH	1998-07-24
HAR98 3	82M/5	988408	300062	5690801	11	82M/5	988408	300062	5690801	51.3353	-119.8703	0	1.50	LO	B	SLTY M SD	0.20	RB							1998-07-24
HAR98 3	82M/5	988409	300062	5690801	11	82M/5	988409	300062	5690801	51.3353	-119.8703	0	1.50	M - L	M1/R	SLTY C SD	0.90	LB	40	30	1	A - SR	SA	SCHc SCH	1998-07-24
HAR98 3	82M/5	988410	300062	5690801	11	82M/5	988410	300062	5690801	51.3353	-119.8703	0	1.50	M - L	M1/R	C SD	1.40	LB	60	10	1	A - SA	A	SCHc SCH	1998-07-24
HAR98 4	82M/5	988411	300136	5691004	11	82M/5	988411	300136	5691004	51.3371	-119.8693	0	2.00	LO	B	SDY SLT	0.25	LB							1998-07-24
HAR98 4	82M/5	988413	300136	5691004	11	82M/5	988413	300136	5691004	51.3371	-119.8693	0	3.00	M	M1/R	SLTY C SD	0.70	LB	40	40	1	A - SR	SA	SCH	1998-07-24
HAR98 5	82M/5	988414	299936	5690960	11	82M/5	988414	299936	5690960	51.3366	-119.8721	0	0.80	LO	B	SLTY C SD	0.15	RB							1998-07-24
HAR98 5	82M/5	988415	299936	5690960	11	82M/5	988415	299936	5690960	51.3366	-119.8721	0	0.80	M - L	M1/C	SLTY SD	0.50	n/a	35	15	1	A - SR	SA	SCH	1998-07-24
HAR98 6	82M/5	988416	300360	5691106	11	82M/5	988416	300360	5691106	51.3381	-119.8662	0	0.60	LO	B	SLTY SD	0.08	LB							1998-07-24
HAR98 6	82M/5	988417	300360	5691106	11	82M/5	988417	300360	5691106	51.3381	-119.8662	0	0.60	M	M1	SLTY SD	0.60	LB	40	15	0.5	A - SR	SA	G SCH	1998-07-24
HAR98 7	82M/5	988418	300056	5690667	11	82M/5	988418	300056	5690667	51.3341	-119.8703	0	1.50	LO	B	SLTY F SD	0.08	RB							1998-07-24
HAR98 7	82M/5	988419	300056	5690667	11	82M/5	988419	300056	5690667	51.3341	-119.8703	0	1.50	M	M1	SLTY C SD	0.60	LB	40	20	1	A - SA	SA	D G LST	1998-07-24
HAR98 8	82M/5	988420	300592	5690841	11	82M/5	988420	300592	5690841	51.3358	-119.8627	0	0.50	LO	B	SLTYmSD	0.10	RB							1998-07-24
HAR98 8	82M/5	988422	300592	5690841	11	82M/5	988422	300592	5690841	51.3358	-119.8627	0	0.50	M	M1	SLTYSD	0.30	LB	30	5	0.5	A-SA	SA	SCHc SCH	1998-07-24
HAR98 9	82M/5	988423	300351	5690721	11	82M/5	988423	300351	5690721	51.3346	-119.8661	0	1.00	LO	B	SLTYSD	0.20	RB							1998-07-24
HAR98 9	82M/5	988424	300351	5690721	11	82M/5	988424	300351	5690721	51.3346	-119.8661	0	1.00	M-L	M1	SLTYSD	0.80	LB	35	20	1	A-SA	SA	SCH	1998-07-24
HAR97 20	82M/5	978110	301018	5691659	11	82M/5	978110	301018	5691659	51.3433	-119.8570	0	0.50	LO	B	MSD	0.15	OB							1997-02-08
HAR97 20	82M/5	978111	301018	5691659	11	82M/5	978111	301018	5691659	51.3433	-119.8570	0	0.50	M	M1	MSD	0.28	LY-B	50			A		SCH	1997-02-08
HAR97 21	82M/5	978112	301018	5691589	11	82M/5	978112	301018	5691589	51.3427	-119.8570	0	0.55	LO	B	FS	0.15	RB							1997-02-08
HAR97 21	82M/5	978113	301018	5691589	11	82M/5	978113	301018	5691589	51.3427	-119.8570	0	0.55	M	M1	FS	0.45	LB	10	5	1	SA		SCH	1997-02-08
HAR 96 -1	82M/5	52549	301159	5691784	11	82M/5	52549	301159	5691784	51.3445	-119.8551	0	0.50	LO	B	SLTY	0.10	LRB							1996-09-18
HAR 96 -1	82M/5	52550	301159	5691784	11	82M/5	52550	301159	5691784	51.3445	-119.8551	0	0.50	M	M1	SLTYSD	0.45	LRB	20		6		SA		1996-09-18
HAR 96 -2	82M/5	52552	301157	5691794	11	82M/5	52552	301157	5691794	51.3446	-119.8551	0	0.50	LO	B	SLTY	0.10	LRB							1996-09-18
HAR 96 -2	82M/5	52553	301157	5691794	11	82M/5	52553	301157	5691794	51.3446	-119.8551	0	0.50	M	M1	SLTYSD	0.45	LRB	30		6		SA		1996-09-18
HAR 96 -3	82M/5	52554	301156	5691804	11	82M/5	52554	301156	5691804	51.3446	-119.8551	0	0.40	LO	B	SLTY	0.13	LRB							1996-09-18
HAR 96 -3	82M/5	52555	301156	5691804	11	82M/5	52555	301156	5691804	51.3446	-119.8551	0	0.40	M	M1	SLTYSD	0.25	LRB	40		6		A		1996-09-18
HAR 96 -4	82M/5	52556	301154	5691814	11	82M/5	52556	301154	5691814	51.3447	-119.8552	0	0.60	LO	B	SLTY	0.12	LRB							1996-09-18

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	MAP	SAMPLE	UTM-E	UTM-N	LAT	LONG	STA	PDEPTH	STRU	MAT	MTX	DEP	COLOR	CLAST	MX SIZE	X-SIZE	RDN	X-RD	Rx TYPE	DATE
HAR 96 -4	82M/5	52557	301154	5691814	11	82M/5	52557	301154	5691814	51.3447	-119.8552	0	0.60	M	M1	SLTYSD	0.25	LRB	25		6		SR		1996-09-18
HAR 96 -4	82M/5	52558	301154	5691814	11	82M/5	52558	301154	5691814	51.3447	-119.8552	0	0.60	M	M1	SLTYSD	0.50	LRB	55		6		SA		1996-09-18
HAR 96 -5	82M/5	52559	301152	5691864	11	82M/5	52559	301152	5691864	51.3452	-119.8552	0	0.40	LO	B	SLTY	0.08	LRB							1996-09-18
HAR 96 -5	82M/5	52560	301152	5691864	11	82M/5	52560	301152	5691864	51.3452	-119.8552	0	0.40	M	M1	SLTYSD	0.35	LRB	35		6		A		1996-09-18
HAR 96 -6	82M/5	52562	301149	5691894	11	82M/5	52562	301149	5691894	51.3455	-119.8553	0	0.50	LO	B	SLTY	0.12	LRB							1996-09-18
HAR 96 -6	82M/5	52563	301149	5691894	11	82M/5	52563	301149	5691894	51.3455	-119.8553	0	0.50	M	M1	SLTYSD	0.45	LRB	30		6		SA		1996-09-18
HAR 96 -7	82M/5	52564	301161	5691744	11	82M/5	52564	301161	5691744	51.3441	-119.8550	0	0.45	LO	B	SLTY	0.10	LRB							1996-09-18
HAR 96 -7	82M/5	52565	301161	5691744	11	82M/5	52565	301161	5691744	51.3441	-119.8550	0	0.45	M	M1	SLTYSD	0.40	LRB	20		6		SA		1996-09-18
HAR 96 - 8	82M/5	52566	301163	5691734	11	82M/5	52566	301163	5691734	51.3440	-119.8550	0	0.45	LO	B	SLTY	0.15	LRB							1996-09-18
HAR 96 - 8	82M/5	52567	301163	5691734	11	82M/5	52567	301163	5691734	51.3440	-119.8550	0	0.45	M	M1	SLTYSD	0.40	LRB	20		6		SA		1996-09-18
HAR 96 - 9	82M/5	52568	301165	5691704	11	82M/5	52568	301165	5691704	51.3438	-119.8549	0	0.35	LO	B	SLTY	0.10	LRB							1996-09-18
HAR 96 - 9	82M/5	52569	301165	5691704	11	82M/5	52569	301165	5691704	51.3438	-119.8549	0	0.35	M	M1	SLTYSD	0.30	LRB	40		6		SA		1996-09-18
HAR 96 -1 0	82M/5	52570	301167	5691679	11	82M/5	52570	301167	5691679	51.3435	-119.8549	0	0.35	LO	B	SLTY	0.05	LRB							1996-09-18
HAR 96 -1 0	82M/5	52572	301169	5691679	11	82M/5	52572	301169	5691679	51.3435	-119.8549	0	0.35	M	M1	SLTYSD	0.30	LRB	50		6		SA		1996-09-18
HAR 96 - 11	82M/5	52573	301169	5691629	11	82M/5	52573	301169	5691629	51.3431	-119.8548	0	0.35	LO	B	SLTY	0.10	LRB							1996-09-18
HAR 96 - 11	82M/5	52574	301169	5691629	11	82M/5	52574	301169	5691629	51.3431	-119.8548	0	0.50	M	M1	SLTYSD	0.30	LRB	35		6		SA		1996-09-18
HAR 96 - 12	82M/5	52575	301171	5691594	11	82M/5	52575	301171	5691594	51.3428	-119.8548	0	0.35	LO	B	SLTY	0.10	LRB							1996-09-18
HAR 96 - 12	82M/5	52576	301171	5691594	11	82M/5	52576	301171	5691594	51.3428	-119.8548	0	0.35	M	M1	SLTYSD	0.35	LRB	30		6		SA		1996-09-18
HOM96 -1	82M/4	52516	302650	5665500	11	82M/4	52516	302650	5665500	51.1089	-119.8192	0	0.90	LO	B	SLTYSD	0.25	MB	40				SA	SCH	1996-08-20
HOM96 -1	82M/4	52517	302650	5665500	11	82M/4	52517	302650	5665500	51.1089	-119.8192	0	0.90	M	M1	SLTYSD	0.45	MB	40		6		SA	SCH	1996-08-20
HOM96 -1	82M/4	52518	302650	5665500	11	82M/4	52518	302650	5665500	51.1089	-119.8192	0	0.90	M	M1	SLTYSD	0.80	MB	40		6		A	SCH	1996-08-20
HOM96 - 2	82M/4	52519	302645	5665455	11	82M/4	52519	302645	5665455	51.1085	-119.8193	0	0.95	LO	B	SLTYSD	0.15	MB	80		6		A	SCH	1996-08-20
HOM96 -2	82M/4	52520	302645	5665455	11	82M/4	52520	302645	5665455	51.1085	-119.8193	0	0.95	COL	CL	SLTYSD	0.40	MB	80		6		A	SCH	1996-08-20
HOM96 -2	82M/4	52522	302645	5665455	11	82M/4	52522	302645	5665455	51.1085	-119.8193	0	0.95	COL	CL	FSD	0.60	RBR	80		6		A	SCH	1996-08-20
HOM96 - 2	82M/4	52523	302645	5665455	11	82M/4	52523	302645	5665455	51.1085	-119.8193	0	0.95	COL	CL	FSD	0.90	RBR	80		6		A	SCH	1996-08-20
HOM96 - 3	82M/4	52524	302640	5665450	11	82M/4	52524	302640	5665450	51.1085	-119.8193	0	1.30	LO	B	SLTYSD	0.15	MB							1996-08-20
HOM96 - 3	82M/4	52525	302640	5665450	11	82M/4	52525	302640	5665450	51.1085	-119.8193	0	1.30	M	CL	SLTYSD	0.50	MB	70		6		A		1996-08-20
HOM96 - 3	82M/4	52526	302640	5665450	11	82M/4	52526	302640	5665450	51.1085	-119.8193	0	1.30	M	CL	SLTYSD	1.00	OBR	50		6		A		1996-08-20
HOM96 -4	82M/4	52527	302635	5665452	11	82M/4	52527	302635	5665452	51.1085	-119.8194	0	1.00	LO	B	SLTYSD	0.10	MB							1996-08-20
HOM96 -4	82M/4	52528	302635	5665452	11	82M/4	52528	302635	5665452	51.1085	-119.8194	0	1.00	M	CL	SLTYSD	0.40	MB-MG	75		6		A	SCH	1996-08-20
HOM96 - 4	82M/4	52529	302635	5665452	11	82M/4	52529	302635	5665452	51.1085	-119.8194	0	1.00	M	CL	SLTY	0.80	YBR	35		6		A	SCH	1998-03-08
HOM96 -5	82M/4	52530	302633	5665454	11	82M/4	52530	302633	5665454	51.1085	-119.8194	0	0.80	LO	B	SLTYSD	0.10	MB							1998-03-08
HOM96 - 5	82M/4	52532	302633	5665454	11	82M/4	52532	302633	5665454	51.1085	-119.8194	0	0.80	M	CL	SLTY	0.40	LRB	75		6		A		1996-08-20
HOM96 - 5	82M/4	52533	302633	5665454	11	82M/4	52533	302633	5665454	51.1085	-119.8194	0	0.80	M	CL	SLTY	0.70	MBR	50		6		A		1996-08-20
CAM98-1	82M/5	988429	321484	5680310	11	82M/5	988429	321484	5680310	51.2481	-119.5578	0	0.80	LO	B	SDY SLT	0.15	LB							1998-03-08
CAM98-1	82M/5	988430	321484	5690310	11	82M/5	988430	321484	5690310	51.3380	-119.5628	0	0.80	M	M1	M SD m SLT	0.70	YB	15	15	1	A - SA	SA	GRA	1998-03-08
CAM98-2	82M/5	988431	321477	5680505	11	82M/5	988431	321477	5680505	51.2499	-119.5580	0	0.60	LO	B	SDY SLT	0.15	MB							1998-03-08
CAM98-2	82M/5	988433	321477	5680505	11	82M/5	988433	321477	5680505	51.2499	-119.5580	1	0.60	M	M1	M-C SD m SLT	0.55	LB	15	15	1	A - SA	SA	GRA	1998-03-08
CAM98-2	82M/5	988434	321477	5680505	11	82M/5	988434	321477	5680505	51.2499	-119.5580	2	0.60	M	M1	M-C SD m SLT	0.55	LB	15	15	1	A - SA	SA	GRA	1998-03-08
CAM98-3	82M/5	988435	321595	5680487	11	82M/5	988435	321595	5680487	51.2498	-119.5563	0	0.80	LO	B	SLTY SD	0.20	LB							1998-03-08
CAM98-3	82M/5	988436	321595	5690487	11	82M/5	988436	321595	5690487	51.3396	-119.5613	0	0.60	M	M1	M-C SD m SLT	0.50	LB	40	30	1	A - SA	SA	GRA	1998-03-08
CAM98-4	82M/5	988437	321579	5680378	11	82M/5	988437	321579	5680378	51.2488	-119.5565	0	0.90	LO	B	SDY SLT	0.20	LB							1998-03-08
CAM98-4	82M/5	988438	321579	5680378	11	82M/5	988438	321579	5680378	51.2488	-119.5565	0	0.90	M	M1	M-C SD m SLT	0.80	LB	15	15	1	A - SA	SA	GRA	1998-03-08
CAM98-5	82M/5	988439	321672	5680366	11	82M/5	988439	321672	5680366	51.2487	-119.5552	0	0.90	LO	B	SLTY F SD	0.10	DB							1998-03-08
CAM98-5	82M/5	988440	321672	5680366	11	82M/5	988440	321672	5680366	51.2487	-119.5552	0	0.90	M	M1/R	C SD m SLT	0.70	OrB	50	40	3	A - SA	SA	QTZ	1998-03-08
CAM98-6	82M/5	988442	321833	5680459	11	82M/5	988442	321833	5680459	51.2496	-119.5529	0	1.00	LO	B	SLTY M SD	0.20	MB							1998-03-08
CAM98-6	82M/5	988443	321833	5680459	11	82M/5	988443	321833	5680459	51.2496	-119.5529	0	1.00	M	M1	M-C SD	0.80	YB	20	35	1	A - SA	A	GRA	1998-03-08
CAM98-7	82M/5	988444	322483	5679440	11	82M/5	988444	322483	5679440	51.2406	-119.5431	0	1.00	LO	B	SLTY C SD	0.15	M-DB							1998-03-08
CAM98-7	82M/5	988445	322483	5679440	11	82M/5	988445	322483	5679440	51.2406	-119.5431	0	1.00	M	M1	SLTY C SD	0.75	LB	20	40	1	A - SR	SA	GRA	1998-03-08
CAM98-9	82M/5	988516	322085	5679166	11	82M/5	988516	322085	5679166	51.2381	-119.5487	0	1.12	LO	B	GY SLT	0.30	MB							1998-03-08
CAM98-9	82M/5	988517	322085	5679166	11	82M/5	988517	322085	5679166	51.2381	-119.5487	0	1.12	M	M1	SLTY SD	n/a	LB	40	50	2	SA - R	SA	GRA	1998-03-08
CAM98-10	82M/5	988518	323047	5679875	11	82M/5	988518	323047	5679875	51.2447	-119.5352	0	0.98	LO	B	SLT	0.25	MB							1998-03-08
CAM98-10	82M/5	988519	323047	5679875	11	82M/5	988519	323047	5679875	51.2447	-119.5352	1	0.98	M	M1	GY SLT	0.95	LB	40	50	2	A - SR	SA	GRA	1998-03-08
CAM98-10	82M/5	988520	323047	5679875	11	82M/5	988520	323047	5679875	51.2447	-119.5352	2	0.98	M	M1	GY SLT	0.95	LB	40	50	2	A - SR	SA	GRA	1998-03-08
WIN 1	82M/4	978180	305992	5658742	11	82M/4	978180	305992	5658742	51.0494	-119.7679	0	5.00	M	M1	SLTY CL	2.00	M B	15	8	1	SA - SR		PHL - Grey CLO SCH	1997-02-08
WIN 2	82M/4	978182	305796	5659746	11	82M/4	978182	305796	5659746	51.0583	-119.7712	0	0.50	M	M1	SLTY SD	0.50	L B-G	20	5	1	SA - A		PHL - QTZ - CLO SCH	1997-02-08

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	MAP	SAMPLE	UTM-E	UTM-N	LAT	LONG	STA	PDEPTH	STRU	MAT	MTX	DEP	COLOR	CLAST	MX SIZE	X-SIZE	RDN	X-RD	Rx TYPE	DATE
WIN 3	82M/4	978184	306022	5653830	11	82M/4	978184	306022	5653830	51.0053	-119.7649	0	15.00	M	M1	SLTY SD	2.00	M B	20	8	3	SA - SR		Grey MAF - GRA	1997-02-08
WIN 4	82M/4	978185	305992	5658742	11	82M/4	978185	305992	5658742	51.0494	-119.7679	0	3.00	M	M1	SLTY SD	0.50	M-D B	15	20	2	SA - SR		Grey MAF - Ry PHL	1997-02-08
WIN 5	82M/4	978186	305634	5659245	11	82M/4	978186	305634	5659245	51.0538	-119.7733	0	2.00	M	M1	SLTY SD	1.00	M B	25	30	3	SA - SR		G PHL - MAF - QTZ	1997-02-08
WIN 6	82M/4	978187	305256	5659660	11	82M/4	978187	305256	5659660	51.0574	-119.7789	0	3.00	M	M1	SLTY SD	0.50	M B	20	20	2	SA - SR		D Grey PHL	1997-02-08
WIN 7	82M/4	978188	305220	5659558	11	82M/4	978188	305220	5659558	51.0564	-119.7794	0	2.00	M	M1	SLTY CL	1.00	M B	10	30	1	SA	SA	Grey CLO SCH	1997-02-08
WIN 8	82M/4	978189	305011	5659568	11	82M/4	978189	305011	5659568	51.0565	-119.7823	0	0.40	M	M1	F SLT	0.40	M B	5-10	5	3	SA	SA	PHL - MAF	1997-02-08
WIN 9	82M/4	978190	304797	5659089	11	82M/4	978190	304797	5659089	51.0521	-119.7851	0	3.50	M	M1	SLT CL	2.00	M B	5	30	2	SA	SA		1997-02-08
SPAR98-2	82M/4	988522	321902	5659200	11	82M/4	988522	321902	5659200	51.0586	-119.5414	0	1.42	LO	B	SLT	0.60	LB							1998-11-08
SPAR98-2	82M/4	988523	321902	5659200	11	82M/4	988523	321902	5659200	51.0586	-119.5414	0	1.42	M	M1	GY SLT	0.90	OB	5	8	1	A - SA	SA	PHL	1998-11-08
SPAR98-3	82M/4	988524	321979	5659153	11	82M/4	988524	321979	5659153	51.0582	-119.5403	0	n/a	LO	B	SLT	0.38	LB							1998-11-08
SPAR98-3	82M/4	988525	321958	5659180	11	82M/4	988525	321958	5659180	51.0585	-119.5406	0	1.42	M	M1	SLTY SD	0.80	MB	40	30	2	A - SR	A	PHL	1998-11-08
SPAR98-4	82M/4	988526	321904	5658555	11	82M/4	988526	321904	5658555	51.0528	-119.5411	0	1.08	LO	B	SLTY g	0.43	RB							1998-11-08
SPAR98-4	82M/4	988527	321904	5658555	11	82M/4	988527	321904	5658555	51.0528	-119.5411	0	1.08	M	M1	M-C SD m SLT	0.83	RB	5	15	2	A - SR	A	n/a	1998-11-08
SPAR98-5	82M/4	988528	321615	5658082	11	82M/4	988528	321615	5658082	51.0485	-119.5449	0	0.86	LO	B	GY SLT	0.28	MB							1998-11-08
SPAR98-5	82M/4	988529	321615	5658082	11	82M/4	988529	321615	5658082	51.0485	-119.5449	0	0.86	M	M1	GY SLT	0.64	OG	20	30	1	A - SR	SA	PHL	1998-11-08
SPAR98-6	82M/4	988530	321252	5657930	11	82M/4	988530	321252	5657930	51.0470	-119.5500	1	0.68	M	M1	CLY SLT	0.65	OB	5	10	1	A - SR	SA	PHL	1998-11-08
SPAR98-6	82M/4	988531	321252	5657930	11	82M/4	988531	321252	5657930	51.0470	-119.5500	2	0.68	M	M1	CLY SLT	0.65	OB	5	10	1	A - SR	SA	PHL	1998-11-08
SPAR98-6	82M/4	988532	321252	5657930	11	82M/4	988532	321252	5657930	51.0470	-119.5500	0	0.68	LO	B	SLT	0.26	RB							1998-11-08
SPAR 96 -1	82M/4	52534	321902	5659200	11	82M/4	52534	321902	5659200	51.0586	-119.5414	0	1.00	LO	B	SND	0.27	MB							1996-08-19
SPAR 96 -1	82M/4	52535	321902	5659200	11	82M/4	52535	321902	5659200	51.0586	-119.5414	0	1.00	M	M1	SLTYSD	0.65	Y	35		6		A		1996-08-19
SPAR 96 -1	82M/4	52536	321902	5659200	11	82M/4	52536	321902	5659200	51.0586	-119.5414	1	1.00	M	M1	SLTYSD	0.88	OB	35		6		A		1996-08-19
SPAR 96 -1	82M/4	52537	321902	5659200	11	82M/4	52537	321902	5659200	51.0586	-119.5414	2	1.00	M	M1	SLTYSD	0.88	OB	35		6		A		1996-08-19
SPAR 96 -1	82M/4	52538	321902	5659200	11	82M/4	52538	321902	5659200	51.0586	-119.5414	0	1.00	M	M1	SLTYSD	1.00	OB	35		6		A		1996-08-19
SPAR 96- 2	82M/4	52539	321912	5659200	11	82M/4	52539	321912	5659200	51.0586	-119.5413	0	0.60	LO	B	SLTY	0.25	LRB							1996-08-19
SPAR 96- 2	82M/4	52540	321912	5659200	11	82M/4	52540	321912	5659200	51.0586	-119.5413	0	0.60	M	M1	SLTY	0.55	MB							1996-08-19
SPAR 96 - 3	82M/4	52542	321922	5659200	11	82M/4	52542	321922	5659200	51.0586	-119.5411	0	0.70	LO	B	SLTYCL	0.25	MB	20		6		A		1996-08-19
SPAR 96 - 3	82M/4	52543	321922	5659200	11	82M/4	52543	321922	5659200	51.0586	-119.5411	0	0.70	M	B	SLTYCL	0.45	MB	20		6		A		1996-08-19
SPAR 96 - 3	82M/4	52544	321922	5659200	11	82M/4	52544	321922	5659200	51.0586	-119.5411	0	0.70	M	M1	SLTYSD	0.60	OG	20		6		A		1996-08-19
SPAR 96 - 4	82M/5	52545	321932	5659200	11	82M/5	52545	321932	5659200	51.0586	-119.5410	0	0.70	LO	B	SLTYCL	0.25	MB	15		6		A		1996-08-19
SPAR 96 - 4	82M/5	52546	321932	5659200	11	82M/5	52546	321932	5659200	51.0586	-119.5410	0	0.70	M	M1	SLTYCL	0.40	MB	15		6		A		1996-08-19
SPAR 96 - 4	82M/5	52547	321932	5659200	11	82M/5	52547	321932	5659200	51.0586	-119.5410	1	0.70	M	M1	SLTYCL	0.65	MB	15		6		A		1996-08-19
SPAR 96 - 4	82M/5	52548	321932	5659200	11	82M/5	52548	321932	5659200	51.0586	-119.5410	2	0.70	M	M1	SLTYCL	0.65	MB	15		6		A		1996-08-19
SCR98-1	82L/13	988497	329006	5648412	11	82L/13	988497	329006	5648412	50.9639	-119.4350	1	0.50	M	M1	SDY SLT	0.40	LB / G	10	10	1.5	A - SR	SA	CLO SCH	1998-06-25
SCR98-1	82L/13	988498	329006	5648412	11	82L/13	988498	329006	5648412	50.9639	-119.4350	2	0.50	M	M1	SDY SLT	0.40	LB / G	10	10	1.5	A - SR	SA	CLO SCH	1998-06-25
SCR98-1	82L/13	988499	329006	5648412	11	82L/13	988499	329006	5648412	50.9639	-119.4350	0	0.50	LO	B	SLT m SD	0.20	LB							1998-06-25
SCR98-2	82L/13	988500	329127	5648339	11	82L/13	988500	329127	5648339	50.9633	-119.4333	0	0.50	M	M1	SDY SLT	0.40	MB	10	10	1	A - SR	SA	BIT GNS	1998-06-25
SCR98-2	82L/13	988502	329127	5648339	11	82L/13	988502	329127	5648339	50.9633	-119.4333	0	0.50	LO	B	SDY SLT	0.20	MB							1998-06-25
SCR98-3	82L/13	988503	329257	5648770	11	82L/13	988503	329257	5648770	50.9672	-119.4316	0	0.50	M	M1/R	SDY SLT	0.45	OB	15	50	3	A - SR	SA	CLO SCH	1998-06-25
SCR98-3	82L/13	988504	329257	5648770	11	82L/13	988504	329257	5648770	50.9672	-119.4316	0	0.50	LO	B	SLT	0.15	MB							1998-06-25
SCR98-4	82L/13	988505	329267	5648495	11	82L/13	988505	329267	5648495	50.9647	-119.4314	0	0.60	M	M1	CLY SLT	0.50	OB	10	20	3	A - SR	SA	CLO SCH	1998-06-25
SCR98-4	82L/13	988506	329267	5648495	11	82L/13	988506	329267	5648495	50.9647	-119.4314	0	0.60	LO	B	SDY SLT	0.25	RB							1998-06-25
SCR98-5	82L/13	988507	329305	5648219	11	82L/13	988507	329305	5648219	50.9622	-119.4307	0	0.60	M	M1	SLTY SD m CL	0.55	MB	20	15	2	A - R	SA	SCH	1998-06-25
SCR98-5	82L/13	988508	329305	5648219	11	82L/13	988508	329305	5648219	50.9622	-119.4307	0	0.60	LO	B	SLTY CL	0.15	RB							1998-06-25
SCR98-6	82L/13	988509	329763	5648008	11	82L/13	988509	329763	5648008	50.9605	-119.4241	0	2.00	M	M1	CLY SLT	0.50	MB	12	25	1	A - SR	SR	SCH	1998-06-25
SCR98-6	82L/13	988510	329763	5648008	11	82L/13	988510	329763	5648008	50.9605	-119.4241	0	2.00	LO	B	CLY SLT	0.08	RB							1998-06-25
SCR98-7	82L/13	988511	330014	5647583	11	82L/13	988511	330014	5647583	50.9567	-119.4203	0	0.60	M	M1	CLY SLT m SD	0.55	MOB	10	10	1	A - SR	SA	G SCH	1998-06-25
SCR98-7	82L/13	988513	330014	5647588	11	82L/13	988513	330014	5647588	50.9568	-119.4203	0	0.60	LO	B	SLTY CL	0.20	RB							1998-06-25
SCR98-8	82L/13	988514	330428	5647163	11	82L/13	988514	330428	5647163	50.9531	-119.4142	0	4.00	M	M1	CLY SLT	2.00	LB	25	20	2	A - SR	SA	CLO SCH	1998-06-25
SCR98-8	82L/13	988515	330428	5647163	11	82L/13	988515	330428	5647163	50.9531	-119.4142	0	4.00	LO	B	SDY SLT	0.10	MB							1998-06-25

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al[2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca[2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe[1]	Fe[2]	Ga[2]	Hf[1]	Hg[2]	K[2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
MA97-1	93P/1	978067	702340	5671920	10	0	111	1.59	37.0	35.0	23	3	650	100	0.6	2.1	0.66	-1	0.20	95	15	14	84	27	2	60.7	1.9	4.63	3.98	4.2	8	33	0.18	53	19
MA97-1	93P/1	978068	702340	5671920	10	0	213	1.04	32.0	37.1	51	-3	670	68	5.1	-0.5	5.03	5	1.01	87	26	29	97	26	3	197.2	1.5	6.11	5.76	2.5	5	66	0.18	47	15
MA97-2	93P/1	978069	702300	5671915	10	0	161	2.17	12.0	9.2	4	4	810	147	0.4	3.7	0.57	3	0.60	82	10	10	86	16	3	54.5	1.8	4.16	3.58	4.9	8	28	0.17	40	14
MA97-2	93P/1	978070	702300	5671915	10	0	351	0.84	19.0	17.8	12	3	880	49	0.4	11.0	8.07	7	1.65	75	14	14	110	10	3	203.5	1.4	5.42	5.17	1.7	6	149	0.11	40	12
MA97-3	93P/1	978072	702200	5671910	10	0	94	2.13	8.6	5.6	-2	3	600	111	0.2	4.7	0.27	-1	0.21	60	11	10	51	16	2	21.1	1.2	2.85	2.09	5.6	6	32	0.07	31	9
MA97-3	93P/1	978073	702200	5671910	10	0	108	2.54	25.0	20.6	7	-3	700	123	0.2	3.2	0.38	-1	0.17	84	15	13	67	18	3	32.4	1.8	3.80	3	6.1	8	37	0.09	42	13
MA97-4	93P/1	978074	702390	5671925	10	1	53	1.65	22.0	16.7	7	4	560	104	0.2	1.8	0.24	-1	0.06	71	8	7	65	18	2	20.3	1.3	2.84	2.6	4.1	7	15	0.14	40	16
MA97-4	93P/1	978075	702390	5671925	10	0	200	0.84	38.0	31.0	24	-3	530	55	0.2	7.8	8.60	9	0.18	68	13	12	71	17	2	33.0	1.1	3.05	2.59	2.3	4	31	0.15	38	13
MA97-4	93P/1	978076	702390	5671925	10	2	44	1.70	17.0	14.3	4	3	620	102	0.2	1.8	0.27	-1	0.05	70	7	7	66	17	2	16.0	1.3	2.91	2.39	4.6	6	24	0.15	39	15
MA97-5	93P/1	978077	702440	5671930	10	0	77	1.09	29.0	31.8	16	-3	660	80	0.2	1.8	0.18	-1	0.09	96	9	10	83	20	2	30.2	1.6	3.40	2.94	2.8	7	26	0.16	52	21
MA97-5	93P/1	978078	702440	5671930	10	0	192	1.00	43.0	34.7	53	-3	540	69	0.1	9.3	6.03	7	0.22	77	13	13	75	20	2	46.2	1.5	3.42	2.93	2.6	5	38	0.15	43	14
MA97-6	93P/1	978079	702490	5671940	10	0	98	1.98	30.0	31.5	17	3	590	97	0.8	3.7	0.28	2	0.15	81	12	11	61	17	3	33.4	1.5	3.72	3.31	4.8	7	31	0.16	45	14
MA97-6	93P/1	978080	702490	5671940	10	0	705	0.71	48.0	51.1	60	-3	440	41	0.6	8.8	10.17	10	1.09	77	13	14	60	12	2	72.1	1.3	3.26	2.99	2.1	5	59	0.13	41	11
MA97-7	93P/1	978082	702570	5671945	10	0	106	1.66	30.0	31.7	18	3	600	85	0.2	1.7	0.29	-1	0.09	96	9	12	64	19	2	47.6	1.7	3.30	3.56	3.9	6	32	0.17	53	22
MA97-7	93P/1	978083	702570	5671945	10	0	294	0.78	30.0	22.4	18	3	670	37	-0.1	9.9	9.37	10	0.20	74	12	12	74	18	2	38.2	1.3	2.75	2.23	2.5	5	40	0.12	41	12
MA97-8	93P/1	978087	702335	5671970	10	0	123	1.83	17.0	10.8	-2	4	530	117	0.2	1.9	0.29	1	0.09	65	7	7	56	20	2	17.4	1.1	2.67	2.42	5.3	6	25	0.17	35	15
MA97-8	93P/1	978088	702335	5671970	10	0	199	0.68	33.0	32.5	27	8	570	44	0.1	8.9	10.34	10	0.17	72	13	12	64	13	2	33.9	1.2	3.10	2.44	1.8	4	39	0.13	38	11
MA97-9	93P/1	978089	702330	5672020	10	0	41	1.67	14.0	10.6	38	3	650	112	0.1	1.5	0.21	2	0.01	73	8	8	62	18	2	16.9	1.2	3.13	2.55	4.5	6	14	0.12	40	14
MA97-9	93P/1	978090	702330	5672020	10	1	136	0.79	36.0	30.8	25	3	610	53	0.2	11.0	6.92	8	0.15	87	16	14	68	14	2	40.1	1.3	3.55	2.94	2.4	5	35	0.11	46	12
MA97-10	93P/1	978091	702325	5672060	10	0	113	1.90	37.0	32.7	98	-3	750	96	0.2	5.2	0.45	2	0.11	97	15	16	79	22	3	79.2	2.0	4.78	4.48	5.3	7	47	0.16	55	19
MA97-10	93P/1	978092	702325	5672060	10	0	339	0.58	40.0	41.0	59	-3	440	34	0.3	13.0	12.17	12	0.59	84	18	18	57	12	2	87.5	1.4	3.79	3.17	1.9	4	27	0.08	47	10
MA97-11	93P/1	978094	702322	5672137	10	0	-30	1.63	14.0	10.1	9	3	670	105	0.2	2.6	0.22	2	0.04	68	8	8	55	17	2	20.1	1.2	2.99	2.57	5.0	6	16	0.11	39	11
MA97-11	93P/1	978095	702322	5672137	10	0	191	0.77	33.0	31.2	39	3	600	56	0.1	15.0	7.90	9	0.21	74	14	13	64	15	2	42.3	1.3	3.24	2.62	2.3	5	40	0.10	41	11
MA97-12	93P/1	978096	702345	5671870	10	0	70	2.58	20.0	15.2	26	3	660	176	0.2	3.4	0.22	2	0.07	76	11	11	56	20	3	19.6	1.3	3.22	2.89	6.5	7	31	0.12	39	12
MA97-12	93P/1	978097	702345	5671870	10	0	113	0.98	36.0	34.5	33	-3	680	68	0.1	6.6	4.90	5	0.12	81	14	15	69	18	2	47.0	1.4	3.44	3.31	2.8	5	42	0.16	44	15
MA97-13	93P/1	978098	702350	5671820	10	0	162	1.73	12.0	10.0	35	4	590	136	0.4	2.7	0.29	2	0.11	63	9	8	55	18	3	16.0	1.1	2.82	2.23	5.4	5	17	0.14	34	11
MA97-13	93P/1	978099	702350	5671820	10	0	82	1.40	23.0	15.3	9	-3	680	88	0.3	1.5	0.25	-1	0.04	77	10	10	70	21	2	44.9	1.3	3.20	2.94	4.1	7	28	0.15	43	18
MA97-14	93P/1	978100	702355	5671770	10	0	122	1.87	14.0	8.2	17	11	620	137	0.6	3.3	0.30	-1	0.37	58	10	9	45	16	2	18.6	1.0	2.75	2.34	5.5	5	29	0.15	29	9
MA97-14	93P/1	978102	702355	5671770	10	0	50	1.33	24.0	14.0	20	3	780	90	0.5	1.7	0.24	-1	0.25	88	12	11	68	17	3	44.5	1.5	3.64	2.96	4.6	7	16	0.11	46	15
MA97-15	93P/1	978103	702360	5671720	10	0	110	1.65	21.0	15.7	21	3	780	92	0.4	3.1	0.26	-1	0.12	73	10	11	61	19	3	30.0	1.3	3.18	2.87	4.6	6	30	0.14	38	15
MA97-15	93P/1	978104	702360	5671720	10	0	160	0.94	35.0	35.1	72	-3	720	52	0.3	4.9	2.54	3	0.23	87	15	16	73	18	2	76.4	1.6	3.91	3.59	2.9	6	27	0.14	46	17
MA97-16	93P/1	978105	702340	5671710	10	0	191	2.26	31.0	18.2	47	3	790	135	0.4	5.1	0.31	-1	0.20	80	14	15	69	19	3	77.9	1.6	3.83	3.49	5.4	6	25	0.19	43	16
MA97-16	93P/1	978106	702340	5671710	10	0	321	0.80	32.0	21.3	46	-3	760	45	0.2	13.0	9.10	10	0.32	75	14	14	74	16	3	49.5	1.2	3.33	2.65	2.2	4	41	0.13	41	11
MA97-16	93P/1	978107	702340	5671710	10	0	398	0.53	23.0	15.8	15	3	550	29	0.1	25.0	13.02	15	0.46	57	15	13	56	11	2	41.8	1.1	2.41	1.82	2.1	3	49	0.09	30	8
MA97-9	93P/1	978108	702330	5672020	10	2	80	1.89	32.0	22.1	17	-3	770	102	0.3	3.7	0.37	1	0.07	91	13	13	67	19	2	62.2	1.9	4.18	3.89	6.9	7	36	0.16	51	18
MA98-1	93P/1	988447	702599	5671317	10	1	116	1.90	23.1	14.2	10	4	570	152	0.2	4.0	0.17	1	0.20	69	14	9	64	16	3	22.6	1.3	3.44	1.94	4.5	7	28	0.11	35	11
MA98-1	93P/1	988448	702599	5671317	10	2	118	1.98	26.9	23.0	10	4	680	135	0.3	4.0	0.18	3	0.17	83	16	10	77	18	4	31.4	1.5	3.90	2.21	5.3	7	38	0.11	40	14
MA98-1	93P/1	988449	702549	5671317	10	0	164	1.05	41.3	34.0	38	3	620	55	0.3	2.4	0.19	-1	0.15	93	16	13	86	23	3	69.9	1.8	4.45	3.01	2.6	8	59	0.09	51	21
MA98-2	93P/1	988450	702500	5671324	10	0	80	1.93	23.0	19.1	16	4	630	134	0.4	2.5	0.29	-1	0.12	76	15	11	75	18	4	35.4	1.4	3.50	2.12	4.2	6	16	0.12	39	13
MA98-2	93P/1	988451	702500	5671324	10	0	168	0.98	51.6	50.0	99	3	820	62	0.6	2.5	0.21	-1	0.16	94	16	14	96	20	5	76.0	1.5	4.16	2.86	2.3	6	24	0.10	49	19
MA98-3	93P/1	988452	702451	5671244	10	0	1234	0.91	104.0	90.5	2720	9	390	147	28.5	2.3	1.53	2	0.33	65	49	46	51	12	-1	364.3	1.2	15.90	13.74	4.6	5	12	0.10	35	5
MA98-3	93P/1	988453	702451	5671244	10	0	157	1.93	24.8	24.4	80	3	640	150	3.9	2.5	0.37	-1	0.34	71	18	15	66	15	4	63.3	1.4	5.02	3.44	5.0	6	13	0.12	39	10
MA98-4	93P/1	988454	702386	5671334	10	0	55	1.97	18.3	16.8	5	-3	630	136	0.2	2.9	0.32	-1	0.27	86	16	13	77	19	3	46.0	1.8	4.36	2.94	5.2	7	11	0.10	47	18
MA98-4	93P/1	988455	702386	5671334	10	0	102	0.78	30.4	28.9	20	3	560	56	-0.2	10.1	7.24	8	0.37	84	18	16	75	15	3	59.1	1.7	3.73	2.78	2.2	5	26	0.09	43	14
MA98-5	93P/1	988456	702451	5671208	10	0	191	2.05	36.6	39.0	280	4	500	59	3.3	3.0	0.41	1	0.15	77	59	54	66	21	3	337.8	1.8	6.11	4.58	6.2	7	31	0.11	44	16
MA98-5	93P/1	988457	702451	5671208	10	0	614	1.58	37.4	41.2	255	6	520	39	2.8	4.7	0.59	-1	0.27	91	123	113	81	24	3	504.0	2.0	10.40	8.1	6.8	7	35	0.13	48	13
MA98-6	93P/1	988458	702489	5671211	10	0	140	2.22	17.3	13.3	6	4	600	151	0.3	4.9	0.22	1	0.98	66	16	11	59	15	4	40.1	1.3	3.53	2.11	5.5	6	38	0.11	31	12
MA98-6	93P/1	988459	702489	5671211	10	0	122	1.26	33.3	32.5	50	-3	560	73	0.2	3.3	0.20	-1	1.66	81	18	16	78	19	3	106.7	1.6	4.51	3.28	3.4	6	54	0.11	44	20
MA98-7	93P/1	988460	702530	5671217	10	0	93	1.75	31.3	27.4	90	3	490	110	0.2	6.0	0.30	1	0.17	76	18	15	76	16	4	65.9	1.6	4.27	2.98	4.6	6	31	0.18	40	16
MA98-7	93P/1	988462	702530	5671217	10	0	568	0.78	43.3	42.1	57	3	500	45	-0.2	17.0	4.20	5	0.60	81	25	20	84	17	3	109.7	1.5	4.37	3.24	2.1	5	45	0.13	40	13
MA98-8	93P/1	988463	702604	5671168	10	0	346	2.38	26.8	27.1	64	3	540	133	0.4	4.0	0.26	1	0.17	71	21	17	66	16	3	38.5	1.3	3.50	2.27	5.8	5	40	0.09	33	15

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al[2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca[2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe[1]	Fe[2]	Ga[2]	Hf[1]	Hg[2]	K[2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
MA98-9	93P/1	988464	702647	5671220	10	0	61	1.74	27.2	23.8	11	4	570	82	0.3	2.3	0.20	-1	0.06	86	16	12	70	17	3	44.4	1.7	4.21	2.78	4.5	6	16	0.12	47	21
MA98-9	93P/1	988465	702647	5671220	10	0	206	1.16	34.4	34.5	31	3	510	25	0.3	8.1	6.30	7	0.36	99	20	17	80	18	3	74.6	1.6	4.78	3.49	3.6	4	32	0.07	55	30
MA98-10	93P/1	988467	702531	5670918	10	0	151	1.68	27.6	27.8	55	4	450	88	0.5	3.3	0.58	2	0.46	82	19	17	69	17	3	88.8	1.7	4.76	3.61	4.6	6	24	0.20	40	17
MA98-10	93P/1	988468	702531	5670918	10	0	253	1.38	30.6	35.5	80	-3	420	56	0.6	5.9	1.83	2	0.42	77	21	19	65	19	3	112.3	1.5	4.85	3.88	3.9	6	42	0.16	39	14
MA98-11	93P/1	988469	702573	5670927	10	0	98	1.94	24.0	22.8	28	4	490	100	0.4	4.6	0.43	-1	0.29	70	21	16	62	18	3	77.0	1.6	4.43	3	5.0	6	23	0.21	36	14
MA98-11	93P/1	988470	702573	5670927	10	0	374	0.92	32.2	37.6	59	-3	450	39	1.1	10.0	5.80	6	1.00	71	31	27	62	16	3	145.3	1.5	4.97	3.87	3.0	5	64	0.10	36	13
MA98-12	93P/1	988471	702396	5670974	10	0	375	1.41	25.0	23.8	58	-3	470	49	0.3	7.2	2.74	4	0.44	72	20	18	73	25	3	113.2	1.4	4.53	3.83	4.2	5	41	0.15	35	16
MA98-12	93P/1	988472	702396	5670974	10	0	685	0.82	36.7	38.0	36	-3	610	26	1.0	5.7	2.82	4	2.31	89	31	28	77	22	3	126.1	1.5	5.10	3.8	3.0	5	199	0.07	46	17
MA98-13	93P/1	988473	702643	5670903	10	0	137	1.41	33.2	39.2	36	4	440	60	2.1	6.9	0.36	1	0.37	88	29	27	57	14	2	208.9	1.5	6.27	4.7	4.1	6	36	0.22	46	15
MA98-13	93P/1	988474	702643	5670903	10	1	406	0.45	39.0	36.3	33	-3	430	19	0.7	9.9	4.67	6	0.53	110	32	27	57	9	2	154.9	1.8	5.35	4.05	1.7	6	55	0.07	59	14
MA98-13	93P/1	988475	702643	5670903	10	2	334	0.42	34.0	31.6	31	-3	470	19	0.3	6.4	4.67	5	0.55	103	26	26	49	10	2	126.6	1.6	4.74	3.95	1.3	5	54	0.07	53	14
MA98-14	93P/1	988476	702729	5670841	10	0	54	1.66	19.5	17.4	62	-3	560	89	0.3	2.5	0.45	1	0.12	93	13	12	59	16	2	45.2	1.5	4.30	3.04	4.5	8	14	0.21	50	18
MA98-14	93P/1	988478	702729	5670841	10	0	342	0.60	28.4	27.2	34	-3	450	25	0.2	7.3	6.74	8	0.45	95	17	16	54	13	2	50.6	1.4	4.26	3.23	1.8	6	40	0.07	49	14
MA98-15	93P/1	988479	702618	5670936	10	0	415	0.59	38.5	40.8	84	-3	330	24	0.6	21.1	7.63	9	0.90	100	22	19	46	7	1	113.9	1.5	5.09	3.62	1.8	5	88	0.09	56	12
MA98-15	93P/1	988480	702618	5670936	10	0	236	0.37	36.6	43.2	45	-3	450	19	0.5	7.8	7.44	9	1.03	110	26	23	42	7	2	100.3	1.5	4.47	3.36	1.1	5	57	0.07	60	17
MA98-16	93P/1	988482	701663	5671910	10	0	329	1.02	20.8	24.2	17	6	600	63	-0.2	6.9	3.08	4	0.31	85	17	14	76	18	3	56.0	1.3	3.69	2.52	2.9	7	32	0.21	45	14
MA98-16	93P/1	988483	701663	5671910	10	0	220	0.54	22.4	23.4	8	-3	480	26	-0.2	-0.5	3.66	5	0.29	82	17	13	75	15	4	41.5	1.4	3.16	2.18	1.6	5	35	0.10	43	19
MA98-17	93P/1	988484	701662	5671958	10	0	76	1.82	7.3	6.9	-2	3	560	95	-0.2	1.5	0.30	1	0.05	81	13	10	102	30	3	35.4	1.6	4.18	2.56	5.0	7	33	0.29	46	15
MA98-17	93P/1	988485	701662	5671958	10	0	277	1.15	10.3	11.5	15	-3	560	41	-0.2	2.4	0.65	2	0.08	91	16	12	114	32	3	51.2	1.6	4.19	2.67	4.1	7	60	0.18	49	16
MA98-18	93P/1	988486	701671	5671982	10	0	102	1.48	11.1	12.1	-2	3	630	71	-0.2	1.9	0.29	1	0.04	73	12	9	86	25	3	39.7	1.4	3.43	2.16	4.3	7	13	0.18	40	16
MA98-18	93P/1	988487	701671	5671982	10	0	301	1.06	18.5	21.4	16	-3	520	36	-0.2	2.8	0.55	2	0.18	93	16	13	105	25	4	52.5	1.7	4.29	2.68	3.2	7	47	0.16	48	18
MA98-19	93P/1	988488	701742	5671853	10	0	127	1.58	12.0	11.5	9	-3	510	75	-0.2	2.5	0.26	-1	0.08	62	13	9	65	19	3	48.8	1.4	3.34	2.1	4.1	5	29	0.17	34	13
MA98-19	93P/1	988489	701742	5671853	10	0	582	0.67	31.7	34.5	12	-3	600	38	-0.2	8.1	5.45	7	0.35	63	18	15	68	15	4	63.7	1.3	3.13	2.13	2.2	3	87	0.11	32	13
SAM 1	82M/4	978084	306150	5666750	11	0	1811	3.37	18.0	10.0	12	-3	950	387	0.2	5.0	0.15	2	0.66	53	17	18	110	68	2	30.8	1.2	3.92	3.26	10.4	6	105	0.03	27	9
SAM 1	82M/4	978085	306150	5666750	11	0	566	2.94	39.0	38.7	10	-3	1,000	439	0.2	1.6	0.29	-1	0.37	62	31	38	230	160	3	120.4	1.6	6.55	6.9	9.3	4	77	0.13	34	23
SAM 1	82M/4	978086	300600	5666500	11	0	3048	3.14	56.0	61.9	26	-3	800	259	-0.1	2.4	0.42	-1	0.56	48	37	47	340	269	-1	186.8	2.0	7.15	7.8	10.0	4	413	0.08	30	18
SAM 2	82M/4	978129	302826	5669452	11	0	213	3.46	15.0	9.7	-2	4	510	138	-0.2	3.3	0.19	-1	-0.20	52	19	21	150	116	3	35.3	1.2	4.27	3.74	7.7	5	47	0.06	27	12
SAM 2	82M/4	978130	302826	5669452	11	0	69	3.18	14.0	17.1	3	6	670	120	-0.2	-0.5	1.66	-1	-0.20	58	30	46	290	243	2	101.5	1.7	5.92	6.53	8.4	5	54	0.10	35	15
SAM 2	82M/4	978131	302826	5669452	11	0	-30	2.83	20.0	11.8	9	-3	690	102	-0.2	-0.5	0.49	3	-0.20	57	38	34	300	235	2	69.0	1.7	6.88	5.74	8.4	5	60	0.07	34	17
SAM 5	82M/4	978132	302871	5669453	11	1	254	1.85	22.0	21.1	9	-3	640	135	0.3	4.4	0.50	-1	0.20	110	23	20	150	53	4	42.5	2.4	5.30	3.89	5.8	13	37	0.16	61	33
SAM 5	82M/4	978133	302871	5669453	11	2	175	1.95	19.0	20.7	7	-3	700	141	0.4	3.2	0.49	-1	0.21	100	19	20	140	61	4	47.8	2.2	4.97	4.12	6.2	9	38	0.16	58	36
SAM 4	82M/4	978134	303111	5669106	11	0	156	2.48	39.0	32.7	-2	-3	570	170	0.1	3.5	0.25	-1	0.22	78	24	24	180	95	-1	28.5	1.8	5.56	4.04	7.1	8	14	0.05	41	15
SAM 4	82M/4	978135	303111	5669106	11	0	69	2.32	37.0	31.2	28	-3	610	119	0.2	2.2	0.45	-1	0.19	91	30	29	280	163	4	58.4	2.2	6.39	4.82	7.1	9	36	0.05	43	16
SAM 4	82M/4	978136	303111	5669106	11	0	1063	2.45	97.0	95.3	38	-3	430	146	0.4	4.8	2.80	5	0.45	77	39	42	270	173	-1	160.6	1.9	7.43	6.66	7.4	6	311	0.09	39	18
SAM 3	82M/4	978137	303148	5669532	11	0	150	2.66	45.0	49.2	-2	-3	460	116	0.4	-0.5	0.32	-1	0.08	84	32	42	310	188	2	106.9	2.5	6.96	6.54	8.2	7	32	0.04	47	18
SAM 3	82M/4	978138	303148	5669532	11	0	369	2.21	57.0	44.3	36	-3	480	101	0.2	3.7	4.50	4	0.14	87	62	59	380	183	-1	112.0	2.5	9.06	6.56	6.6	7	91	0.05	45	12
SAM 7	82M/4	978139	302603	5668888	11	0	134	1.85	3.8	2.5	-2	-3	540	183	0.3	-0.5	0.24	-1	0.04	60	10	7	56	25	4	16.5	1.7	3.11	1.8	6.5	6	14	0.09	29	14
SAM 7	82M/4	978140	302603	5668888	11	0	-30	2.05	11.0	9.1	-2	-3	870	196	0.4	-0.5	0.50	-1	0.03	87	13	12	130	55	5	39.3	1.8	4.49	3.38	7.4	8	23	0.18	47	30
SAM 7	82M/4	978142	302812	5668883	11	0	151	2.27	5.1	3.6	-2	-3	490	72	0.1	3.5	0.11	2	0.19	43	8	8	50	28	3	8.4	1.3	3.19	1.97	5.9	7	26	0.04	25	8
SAM 6	82M/4	978143	302812	5668883	11	0	439	3.21	12.0	20.7	4	-3	620	164	0.1	-0.5	0.16	-1	0.23	76	17	10	170	19	-1	14.8	2.0	4.92	2.09	8.6	7	39	0.05	41	7
SAM 8	82M/4	9781431	302937	5669490	11	0	79	2.29	28.0	11.9	-2	-3	570	133	0.1	8.0	0.34	-1	0.09	55	11	19	44	97	4	32.8	1.4	3.22	3.71	6.6	9	13	0.08	25	22
SAM 8	82M/4	978144	302937	5669490	11	0	264	1.85	78.0	73.0	44	-3	740	240	0.4	-0.5	0.21	-1	0.17	100	19	20	130	55	4	54.5	2.1	4.61	3.49	5.6	8	31	0.07	49	20
SAM 6	82M/4	9781441	302812	5668883	11	0	75	2.02	10.0	9.4	-2	-3	710	104	0.2	2.1	0.29	2	0.09	74	13	11	110	56	4	32.6	1.7	4.01	3.27	5.8	8	-10	0.11	44	29
SAM 9	82M/4	978145	302636	5669242	11	0	280	3.82	10.0	6.9	-2	-3	640	218	0.2	6.8	0.19	2	0.11	56	11	12	52	33	4	26.6	1.4	3.51	2.84	9.7	7	56	0.08	28	17
SAM 9	82M/4	978146	302636	5669242	11	0	199	2.63	20.0	16.2	-2	-3	960	204	0.5	3.3	0.58	-1	0.18	91	22	22	140	72	5	64.3	2.0	5.84	4.69	8.1	8	96	0.23	54	40
SAM 10	82M/4	978147	302267	5669185	11	0	800	3.43	16.0	14.2	8	-3	830	301	0.4	8.6	0.60	-1	0.33	77	19	17	180	106	4	84.9	3.0	5.75	4.12	8.6	7	56	0.15	46	30
SAM 10	82M/4	978148	302267	5669185	11	0	186	1.82	22.0	19.2	-3	-3	770	110	0.3	4.2	0.40	2	0.14	120	18	18	190	92	3	37.4	2.9	4.95	3.58	5.5	9	30	0.08	66	36
SAM 11	82M/4	978149	304307	5669127	11	0	150	3.36	9.1	6.6	-2	-3	450	151	0.1	7.9	0.24	-1	0.24	49	16	15	170	98	3	23.1	1.2	5.21	3.8	11.2	6	40	0.05	23	8
SAM 11	82M/4	978150	304307	5669127	11	0	136	3.29	39.0	33.4	16	-3	490	195	0.5	4.8	0.68	-1	0.22	56	50	51	420	324	-1	190.7	2.9	8.58	7.21	10.7	4	75	0.04	30	14
SAM 12	82M/4	978151	304210	5668936	11	1	750	4.40	98.0	89.7	28	-3	610	202	-1.1	-0.5	2.40	3	49.73	37	56	62	580	465	-1	157.0	2.1	10.50	9.38	15.8	4	127	0.05	20	8
SAM 12	82M/4	978152	304210	5668936	11	2	528	4.65	110.0	87.4	33	-3	590	214	-1.0	-0.5	2.08	-1	44.42	44	59	64	650	499	-1	155.4	1.8	11.20	9.87	13.7	4	130	0.05	21	8

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al [2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca [2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe [1]	Fe [2]	Ga[2]	Hf[1]	Hg[2]	K [2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
SAM 12	82M/4	978153	304210	5668936	11	0	1025	3.94	130.0	108.6	40	-3	450	152	1.1	6.5	0.79	-1	34.27	46	55	62	400	331	2	502.9	3.0	9.51	8.58	9.2	4	240	0.05	29	19
SAM 12	82M/4	978154	304210	5668936	11	0	457	4.95	33.0	22.5	8	-3	450	123	0.3	9.8	0.30	-1	5.26	76	29	32	200	138	3	109.0	2.1	5.13	4.21	9.7	8	88	0.03	28	14
SAM 13	82M/4	978155	304296	5668684	11	0	263	2.93	36.0	28.4	-2	-3	560	214	0.3	-0.5	0.28	-1	0.48	67	25	24	260	165	2	63.2	2.1	5.73	4.28	8.5	7	70	0.04	34	14
SAM 13	82M/4	978156	304296	5668684	11	0	279	4.40	71.0	64.8	26	-3	560	219	0.5	4.3	0.75	-1	0.96	51	61	69	570	459	2	177.3	2.5	10.50	9.87	13.6	5	138	0.06	24	12
SAM 14	82M/4	978162	303740	5669145	11	0	1933	3.96	100.0	94.3	4	-3	560	203	0.4	5.0	0.12	-1	1.02	59	33	34	190	113	4	53.5	1.6	7.03	6.03	11.3	7	170	0.05	30	11
SAM 14	82M/4	978163	303740	5669145	11	0	455	2.35	35.0	26.0	9	-3	750	197	0.5	3.6	6.60	9	0.34	77	23	21	150	75	6	65.3	1.5	5.33	4.34	7.3	4	39	0.24	46	33
SAM 15	82M/4	978164	303040	5668399	11	0	257	2.99	9.4	6.7	-2	-3	580	175	0.3	3.2	0.24	-1	0.13	62	14	13	82	27	4	29.1	1.5	3.72	2.83	7.2	8	33	0.06	34	18
SAM 15	82M/4	978165	303040	5668399	11	0	143	2.11	12.0	15.6	8	-3	760	168	0.3	1.5	0.32	-1	0.07	86	12	13	98	38	4	50.6	1.8	3.86	3.34	5.8	7	21	0.08	50	38
SAM 16	82M/4	978166	303411	5668665	11	0	246	2.47	33.0	19.1	44	-3	820	180	-0.2	2.8	0.32	-1	0.12	78	18	18	170	94	2	31.3	1.8	4.99	3.73	6.0	7	68	0.07	41	16
SAM 16	82M/4	978167	303411	5668665	11	0	494	3.36	27.0	38.6	52	-3	800	199	-0.2	5.3	0.56	-1	0.19	65	45	46	430	292	-1	93.9	2.4	8.50	7.22	9.2	5	115	0.08	42	18
SAM 17	82M/4	978172	303602	5669664	11	0	638	4.21	290.0	284.1	72	-3	290	147	0.4	-0.5	6.10	8	2.50	36	69	80	530	455	-1	185.0	1.5	10.50	10.51	13.0	3	91	0.02	16	6
SAM 19	82M/4	978191	303602	5669664	11	0	174	3.17	24.0	23.5	12	-3	590	321	0.8	4.3	0.25	-1	0.29	40	64	63	270	179	4	76.7	1.1	7.89	6.49	9.7	4	28	0.04	18	6
SAM 19	82M/4	978192	306140	5666777	11	0	144	2.50	30.0	30.4	29	-3	870	309	1.1	2.8	0.30	-1	0.26	57	48	51	350	207	-1	166.0	3.7	8.71	7.44	7.9	6	81	0.03	36	20
SAM 19	82M/4	978193	306140	5666777	11	0	152	1.23	47.0	44.9	36	-3	2,600	1591	2.4	6.5	0.33	-1	0.93	37	150	145	250	83	4	546.7	4.1	30.00	26.72	3.9	3	71	0.01	25	16
SAM 20	82M/4	978194	306207	5666925	11	0	415	3.90	27.0	28.3	40	-3	550	251	0.6	8.4	0.26	-1	0.45	52	30	30	160	98	4	99.6	1.4	6.16	5.34	9.3	7	63	0.03	21	8
SAM 20	82M/4	978195	306207	5666925	11	0	494	2.86	45.0	38.9	19	-3	540	253	1.6	5.6	0.31	-1	0.49	50	47	47	290	188	3	231.9	2.9	9.29	7.85	8.9	5	100	0.04	31	18
SAM 21	82M/4	978196	306177	5666166	11	0	225	2.74	27.0	25.8	15	-3	450	99	0.4	2.1	0.18	-1	0.11	49	28	33	180	122	3	57.1	1.4	5.52	4.83	7.2	6	20	0.04	25	10
SAM 21	82M/4	978197	306177	5666166	11	1	77	1.51	15.0	12.1	7	-3	720	90	0.4	-0.5	0.38	-1	0.11	110	17	14	140	49	5	47.2	2.6	4.78	3.18	4.3	10	35	0.07	60	29
SAM 21	82M/4	978198	306177	5666166	11	2	59	1.80	19.0	18.0	6	-3	620	106	0.4	2.0	0.37	3	0.13	83	18	16	120	65	3	59.4	2.1	4.69	3.81	5.3	8	31	0.09	51	34
SAM 22	82M/4	978199	305312	5668824	11	0	907	3.60	7.5	7.3	-2	-3	550	305	0.7	31.0	1.26	3	0.50	61	12	10	83	58	12	143.0	1.9	3.27	2.25	6.3	9	132	0.05	33	18
SAM 22	82M/4	978200	305312	5668824	11	0	132	2.21	14.0	13.7	5	-3	780	283	0.5	5.2	0.68	-1	0.18	83	30	31	220	146	6	78.5	2.2	5.78	4.9	6.5	6	33	0.10	44	23
SAM 23	82M/4	978202	304970	5668737	11	0	-30	3.11	7.9	6.3	3	-3	420	167	0.4	2.8	1.05	3	0.11	59	42	42	390	322	3	101.9	2.1	7.41	5.96	10.1	6	18	0.10	31	17
SAM 24	82M/4	978204	304618	5668392	11	0	3741	3.06	73.0	76.1	68	-3	310	124	3.0	8.1	0.86	2	5.98	56	36	39	300	209	3	211.8	2.0	7.85	7.12	13.1	6	1228	0.05	29	13
SAM 24	82M/4	978205	304618	5668392	11	0	414	2.87	120.0	114.8	86	-3	550	86	0.6	1.9	7.21	8	15.22	40	46	47	440	261	4	150.6	1.6	8.60	7.18	8.5	4	244	0.07	21	7
SAM 25	82M/4	978206	304380	5667950	11	0	667	3.39	32.0	35.2	6	-3	460	173	0.3	3.7	0.20	-1	0.38	60	21	21	140	95	3	44.0	1.5	4.46	3.69	8.8	7	91	0.07	28	12
SAM 25	82M/4	978207	304380	5667950	11	0	304	2.45	260.0	285.3	41	-3	660	170	0.4	-0.5	3.33	4	0.83	59	43	48	340	217	2	110.9	1.8	7.64	7.03	7.0	4	136	0.05	31	13
SAM 26	82M/4	978208	304118	5668160	11	0	636	1.79	240.0	260.0	49	-3	880	327	0.4	8.0	2.31	4	0.98	76	36	42	250	108	3	152.1	2.8	8.01	7.22	5.3	6	210	0.06	43	18
SAM 26	82M/4	978209	304118	5668160	11	0	612	2.77	150.0	172.9	34	-3	880	251	0.7	7.8	0.54	-1	1.30	82	48	58	360	218	5	123.9	2.5	8.04	7.75	8.1	8	99	0.07	44	19
SAM 27	82M/4	978210	303877	5667797	11	0	567	1.50	170.0	184.8	55	-3	460	112	0.7	-0.5	3.27	3	0.84	68	42	47	210	116	-1	168.8	2.2	8.45	7.65	5.2	5	178	0.03	36	12
SAM 28	82M/4	978211	303538	5667311	11	0	665	3.40	40.0	41.8	-2	-3	620	122	0.3	4.8	0.17	3	0.28	51	20	20	100	43	4	25.8	1.0	4.95	3.7	9.1	7	85	0.06	26	9
SAM 28	82M/4	978212	303538	5667311	11	0	264	1.76	34.0	36.4	14	-3	700	158	0.3	-0.5	0.89	3	0.31	100	31	31	200	108	3	66.8	2.8	6.26	4.9	6.0	10	70	0.06	59	28
HAR97 1	82M/5	978002	301295	5691844	11	0	545	2.22	9.8	10.0	-2	3	780	155	0.4	3.4	0.15	-1	0.19	67	5	6	31	14	3	18.4	1.1	2.48	1.85	7.1	9	31	0.08	29	13
HAR97 1	82M/5	978003	301295	5691844	11	0	66	2.10	4.4	6.2	-2	-2	740	175	0.6	-0.5	0.19	3	0.08	83	8	7	24	15	3	53.3	1.0	2.64	2.38	5.6	11	13	0.37	39	24
HAR97 2	82M/5	978004	301300	5691794	11	0	284	1.34	2.7	3.6	6	3	670	130	0.2	-0.5	0.12	-1	0.08	54	5	6	21	10	3	28.3	0.7	1.89	1.66	4.6	11	15	0.09	30	14
HAR97 2	82M/5	978005	301300	5691794	11	0	196	1.52	3.9	3.7	-2	5	640	148	0.4	1.4	0.16	-1	0.07	81	6	6	16	12	3	47.0	1.2	2.23	1.97	4.5	12	15	0.22	40	22
HAR97 3	82M/5	978006	301303	5691774	11	0	664	1.99	2.6	3.9	-2	3	810	172	0.4	-0.5	0.13	-1	0.09	59	10	9	29	12	4	28.7	0.9	2.36	1.81	6.9	9	20	0.08	27	11
HAR97 3	82M/5	978007	301303	5691774	11	0	66	1.53	1.9	3.5	-2	2	670	126	0.4	-0.5	0.17	-1	0.03	73	4	5	24	13	3	37.6	0.8	2.11	2.07	4.3	11	16	0.30	36	22
HAR97 4	82M/5	978008	301305	5691764	11	0	434	2.38	3.0	4.9	-2	2	490	172	0.6	-0.5	0.18	-1	0.14	67	11	10	30	16	2	35.3	1.0	2.53	2.27	7.2	8	22	0.11	28	12
HAR97 4	82M/5	978009	301305	5691764	11	0	105	1.78	5.0	8.4	8	-2	860	165	0.5	-0.5	0.15	-1	0.07	72	8	8	25	15	3	65.5	0.9	2.54	2.36	5.5	9	-10	0.24	38	21
HAR97 5	82M/5	978010	301307	5691754	11	0	582	2.38	4.7	5.4	-2	5	790	186	0.4	-0.5	0.15	-1	0.13	64	12	10	35	16	3	33.8	0.9	2.97	2.33	7.7	10	26	0.10	30	12
HAR97 5	82M/5	978011	301307	5691754	11	0	354	1.59	3.9	5.2	-2	-2	880	139	0.5	-0.5	0.15	-1	0.10	77	5	7	19	12	3	50.1	1.1	2.55	2.02	6.6	12	10	0.19	39	20
HAR97 6	82M/5	978012	301309	5691744	11	0	471	2.07	5.1	2.8	-2	2	660	197	0.4	2.0	0.14	3	0.09	52	11	9	27	15	2	34.7	0.7	2.18	2.25	7.1	9	34	0.10	29	14
HAR97 6	82M/5	978013	301309	5691744	11	0	282	1.68	5.0	4.5	-2	2	800	128	0.4	-0.5	0.14	5	0.06	100	10	7	31	14	4	58.3	1.5	3.39	2.13	4.9	14	21	0.17	52	21
HAR97 7	82M/5	978014	301311	5691734	11	0	438	2.15	3.1	3.4	-2	2	750	144	0.3	-0.5	0.16	2	0.09	94	10	7	36	14	3	37.2	1.3	3.12	2	6.0	12	24	0.10	39	14
HAR97 7	82M/5	978016	301311	5691734	11	1	111	1.75	3.4	3.3	-3	-2	930	177	0.4	-0.5	0.17	2	0.04	93	9	7	32	13	3	51.5	1.3	2.87	2.14	4.7	12	12	0.30	46	22
HAR97 7	82M/5	978017	301311	5691734	11	2	112	1.64	3.6	2.9	-2	-2	860	158	0.4	-0.5	0.16	-1	0.04	92	7	6	23	13	4	49.1	1.3	2.96	2.07	5.1	13	-10	0.28	47	23
HAR97 8	82M/5	978018	301313	5691724	11	0	528	2.12	3.9	2.8	-2	3	930	192	0.3	2.8	0.17	-1	0.10	69	12	9	42	16	3	38.9	1.1	2.88	2.2	6.3	11	33	0.11	37	14
HAR97 8	82M/5	978019	301313	5691724	11	0	94	1.86	3.5	4.2	-2	-2	780	130	0.5	3.3	0.19	-1	0.04	120	9	8	38	16	4	67.1	1.4	3.36	2.23	4.9	15	15	0.28	55	26
HAR97 9	82M/5	978020	301315	5691704	11	0	702	2.27	3.0	2.2	-2	3	950	156	0.2	-0.5	0.16	-1	0.11	80	10	8	39	14	4	39.0	1.2	3.06	1.87	9.2	11	36	0.10	35	11
HAR97 9	82M/5	978022	301315	5691704	11	0	156	2.29	2.7	2.4	2	-3	900	127	-0.1	-0.5	0.16	-1	0.06	73	10	10	37	20	4	115.2	1.1	3.60	2.91	7.3	10	26	0.33	39	18
HAR97 10	82M/5	978023	301318	5691694	11	0	960	3.14	4.7	2.8	4	3	850	159	0.3	2.8	0.19	-1	0.45	95	12	9	34	15	3	27.6	1.3	3.09	2.02	10.1	10	29	0.10	38	17

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al[2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca[2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe[1]	Fe[2]	Ga[2]	Hf[1]	Hg[2]	K[2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
HAR97 10	82M/5	978024	301318	5691694	11	0	153	1.84	3.5	2.6	3	-3	700	106	0.2	-0.5	0.19	2	0.07	87	8	7	25	17	3	68.2	1.2	3.01	2.56	6.8	11	24	0.32	43	24
HAR97 11	82M/5	978025	301325	5691644	11	0	439	2.20	4.6	3.9	-2	-3	790	133	0.3	-0.5	0.18	3	0.18	68	12	10	35	16	3	29.8	1.0	2.82	2.06	8.8	10	40	0.10	34	12
HAR97 11	82M/5	978026	301325	5691644	11	0	78	1.88	2.6	2.7	-2	-3	900	142	0.2	-0.5	0.16	2	0.08	82	10	10	40	19	2	55.8	1.1	2.97	2.5	5.7	12	22	0.21	43	21
BCR97 1	82M/5	978027	298220	5691150	11	0	888	3.19	8.4	6.4	-2	-3	880	342	-0.1	-0.5	0.19	-1	0.75	65	21	24	82	58	3	371.5	1.6	4.42	3.63	10.2	9	48	0.18	36	9
BCR97 1	82M/5	978028	298220	5691150	11	0	112	2.09	17.0	14.3	2	-3	610	147	0.5	-0.5	0.27	2	0.24	120	13	15	89	66	3	556.5	2.1	5.04	4.52	7.1	12	24	0.31	66	33
BCR97 2	82M/5	978029	298850	5691620	11	0	15370	1.39	1300.0	1332.6	476	-3	710	208	28.1	-0.5	0.16	-1	0.93	120	3	4	66	27	-1	611.8	2.7	18.90	17.53	7.2	7	12	0.55	66	13
BCR97 2	82M/5	978030	298850	5691620	11	0	43238	0.26	470.0	506.3	409	-3	500	50	71.5	-0.5	0.26	-1	0.28	110	3	4	18	12	-1	1467.0	3.0	13.00	13.8	-5.0	6	27	1.00	58	4
BCR97 3	82M/5	978031	298970	5691740	11	0	517	4.68	58.0	55.2	-2	3	610	205	-0.1	5.3	0.50	-1	1.51	100	33	36	100	77	5	329.5	2.2	6.10	4.85	16.5	7	42	0.23	54	24
BCR97 3	82M/5	978032	298970	5691740	11	0	208	4.31	83.0	75.4	63	-3	730	295	1.3	2.6	0.69	2	0.92	89	42	45	160	155	5	694.9	2.2	8.90	7.81	15.7	6	47	0.75	53	24
BCR97 4	82M/5	978033	298360	5691530	11	0	639	3.37	11.0	10.2	9	3	840	246	1.5	2.0	0.54	-1	0.90	79	14	17	69	53	5	169.7	1.9	5.49	5.36	10.9	7	27	0.77	43	24
BCR97 4	82M/5	978034	298360	5691530	11	0	265	3.85	7.3	4.6	4	-3	740	205	0.2	-0.5	0.33	-1	1.14	69	16	18	80	66	5	92.1	1.6	4.95	3.9	11.8	8	29	0.31	38	13
BCR97 5	82M/5	978035	298560	5691780	11	0	386	2.46	9.2	6.2	-2	-3	690	133	0.1	-0.5	0.23	-1	0.28	60	15	13	57	32	3	70.0	1.5	3.70	2.54	8.3	9	52	0.20	32	9
BCR97 5	82M/5	978036	298560	5691780	11	0	239	2.52	29.0	24.3	20	-3	740	150	1.7	1.7	0.53	-1	0.31	130	19	22	58	45	4	413.4	2.0	5.55	5.31	9.7	10	45	0.60	86	73
BCR97 6	82M/5	978037	298040	5691470	11	1	638	4.47	8.1	6.0	-2	-3	760	221	0.2	5.4	0.28	-1	0.66	75	18	17	51	26	3	126.3	1.3	4.64	3.64	12.0	8	63	0.19	28	7
BCR97 6	82M/5	978039	298040	5691470	11	2	399	3.96	6.8	5.7	13	-3	880	288	0.1	-0.5	0.22	2	0.60	70	23	23	82	50	4	152.3	1.5	5.54	4.68	10.8	9	32	0.43	37	8
BCR97 6	82M/5	978040	298040	5691470	11	0	312	3.12	15.0	12.7	17	-3	880	210	-0.1	3.2	0.46	-1	0.32	97	28	30	120	84	2	1871.8	2.4	8.29	6.94	9.0	9	49	0.42	57	24
BCR97 7	82M/5	978042	297740	5691380	11	0	605	3.71	19.0	14.8	-2	-3	720	319	-0.1	-0.5	0.22	-1	1.75	74	20	25	71	49	3	634.6	1.4	7.43	7.57	11.1	8	36	0.31	42	12
BCR97 7	82M/5	978043	297740	5691380	11	0	217	2.51	28.0	18.0	12	-3	630	112	1.0	-0.5	0.24	-1	0.39	80	14	15	61	38	3	534.5	1.6	5.37	4.92	7.6	8	38	0.45	51	27
BCR97 8	82M/5	978044	297730	5690760	11	0	597	2.59	71.0	65.0	16	-3	770	184	3.3	-0.5	0.50	-1	4.28	99	32	35	54	31	3	274.5	1.7	7.46	6.71	7.8	6	92	0.41	57	35
BCR97 8	82M/5	978045	297730	5690760	11	0	454	2.37	32.0	20.9	13	-3	820	126	0.7	-0.5	0.45	-1	1.69	97	17	20	49	30	3	139.7	1.7	5.45	5	7.1	7	31	0.41	55	33
BCR97 8	82M/5	978046	297730	5690760	11	0	225	2.62	43.0	33.0	7	-3	730	142	1.6	4.0	0.44	-1	0.97	110	21	21	61	36	3	186.6	2.0	5.96	4.63	7.7	9	22	0.41	64	34
BCR97 9	82M/5	978047	298720	5691920	11	0	249	2.32	19.0	10.4	-2	-3	780	121	0.2	-0.5	0.42	3	0.65	100	17	14	86	42	4	152.6	2.0	4.85	3.08	7.6	11	35	0.23	66	34
BCR97 9	82M/5	978048	298720	5691920	11	0	235	2.49	24.0	16.7	-2	-3	970	154	1.1	3.9	0.48	2	0.47	110	16	16	91	58	4	165.5	1.8	5.67	4.07	9.3	11	21	0.42	56	28
BCR97 10	82M/5	978050	298880	5692000	11	0	231	2.54	39.0	23.7	23	-3	870	213	0.4	1.6	0.23	-1	0.44	93	21	21	66	46	4	303.7	1.8	5.46	4.18	7.8	16	15	0.30	50	18
BCR97 10	82M/5	978051	298880	5692000	11	0	32	1.92	9.4	7.3	16	-3	1,300	200	0.2	2.0	0.21	-1	0.11	130	8	6	60	28	4	126.1	1.5	4.10	3.11	7.5	13	19	0.54	52	27
BCR97 10	82M/5	978052	298880	5692000	11	0	94	2.76	35.0	30.3	15	-3	640	171	0.8	-0.5	0.49	-1	0.13	110	13	16	91	81	4	240.3	1.8	5.24	5.45	9.7	16	23	0.57	68	58
BCR97 11	82M/5	978053	299040	5692060	11	0	198	2.57	14.0	6.5	9	5	1,100	227	-0.1	2.1	0.18	-1	0.18	86	18	16	92	63	6	141.9	1.6	5.27	3.4	9.2	10	26	0.16	47	14
BCR97 11	82M/5	978054	299040	5692060	11	0	71	2.32	10.0	9.4	-2	-3	790	171	0.3	-0.5	0.22	3	0.20	94	36	15	120	45	6	165.3	2.0	6.91	3.64	7.2	12	23	0.30	50	21
BCR97 12	82M/5	978055	299050	5691860	11	0	214	3.12	8.1	6.5	-2	-3	700	193	-0.1	-0.5	0.32	-1	0.26	92	29	32	110	70	5	688.4	1.7	5.95	5	9.1	12	37	0.31	43	17
BCR97 12	82M/5	978056	299050	5691860	11	0	308	3.30	7.4	6.7	7	-3	810	176	-0.1	-0.5	0.35	2	0.21	120	27	27	130	92	6	674.2	1.9	6.59	5.44	11.5	12	46	0.49	60	31
BCR97 13	82M/5	978057	298850	5691780	11	0	289	2.82	9.6	6.1	-2	-3	750	154	0.3	4.6	0.14	-1	0.38	67	19	17	64	27	5	54.1	1.5	4.31	2.86	12.4	9	39	0.10	36	11
BCR97 13	82M/5	978058	298850	5691780	11	0	341	3.02	14.0	9.3	7	-3	760	220	2.1	2.7	0.24	-1	0.29	100	22	21	160	97	5	241.2	2.0	7.59	5.55	10.5	12	51	0.26	60	25
BCR97 14	82M/5	978059	299120	5691820	11	1	312	2.83	17.0	11.3	96	-3	740	174	0.2	2.6	0.18	2	0.39	87	16	15	65	29	4	111.2	1.5	4.26	3.13	8.5	11	31	0.15	43	16
BCR97 14	82M/5	978060	299120	5691820	11	2	281	2.72	15.0	9.5	10	-3	710	156	-0.1	2.6	0.16	-1	0.39	71	17	14	65	29	4	135.2	1.5	4.22	3.22	8.5	10	28	0.13	39	15
BCR97 14	82M/5	978062	299120	5691820	11	0	219	2.91	25.0	17.1	12	-3	800	127	-0.1	-0.5	0.19	-1	0.21	95	18	18	92	58	5	591.5	1.7	5.78	4.64	8.8	11	37	0.33	54	28
BCR97 15	82M/5	978063	299020	5691660	11	0	403	3.45	68.0	65.2	-2	-3	820	233	1.4	2.5	0.28	-1	1.62	86	23	24	79	46	5	376.6	2.2	6.42	5.06	13.1	8	30	0.28	45	11
BCR97 15	82M/5	978064	299020	5691660	11	0	384	4.98	44.0	44.3	14	-3	530	233	0.9	-0.5	0.62	-1	0.50	120	36	40	40	27	6	1380.0	4.3	11.40	11.19	19.1	9	33	0.51	64	18
BCR97 16	82M/5	978065	298900	5691540	11	0	481	3.54	43.0	39.6	10	-3	740	247	1.2	2.6	0.23	-1	2.04	93	23	22	84	45	4	252.6	1.8	5.78	4.37	11.8	10	24	0.21	47	13
BCR97 16	82M/5	978066	298900	5691540	11	0	568	5.28	150.0	139.0	23	-3	720	337	0.4	2.2	0.51	1	3.00	100	61	63	110	86	4	1083.2	2.8	10.90	10.82	15.4	6	53	0.76	63	28
HAR98 1	82M/5	988402	300318	5690937	11	1	1070	1.80	14.4	16.7	203	-3	500	57	6.3	2.2	0.23	-1	0.64	110	24	20	96	25	3	982.6	2.0	6.00	4.32	7.5	7	15	0.14	60	15
HAR98 1	82M/5	988403	300318	5690937	11	2	808	1.74	18.3	18.8	204	-3	570	41	6.6	2.7	0.24	-1	0.59	113	25	25	87	26	3	1394.9	2.0	6.41	5.36	7.0	6	17	0.14	60	17
HAR98 1	82M/5	988404	300318	5690937	11	0	1737	1.45	23.0	26.2	496	-3	630	36	25.5	1.6	0.25	-1	1.48	105	26	27	84	20	3	807.8	2.0	8.58	8.11	5.8	6	-10	0.19	58	18
HAR98 1	82M/5	988405	300318	5690937	11	0	417	1.69	17.2	20.3	175	-3	670	29	6.2	-0.5	0.28	-1	0.94	108	19	18	97	24	3	1330.9	2.3	6.24	5.25	6.7	7	11	0.20	65	24
HAR98 2	82M/5	988406	300195	5690804	11	0	239	1.69	19.8	21.6	16	-3	710	37	3.4	-0.5	0.15	-1	0.17	114	15	13	102	28	3	539.2	2.1	5.70	4.21	6.4	7	-10	0.18	60	18
HAR98 2	82M/5	988407	300195	5690804	11	0	582	1.46	56.1	51.4	43	-3	740	27	3.7	-0.5	0.25	-1	0.29	154	20	18	100	21	3	408.1	2.8	6.89	5.78	4.9	7	52	0.17	83	30
HAR98 3	82M/5	988408	300062	5690801	11	0	688	2.53	7.3	8.4	20	3	570	116	3.2	2.5	0.17	-1	0.37	67	20	17	60	26	3	275.1	1.4	4.58	3.14	8.7	6	39	0.09	32	10
HAR98 3	82M/5	988409	300062	5690801	11	0	426	2.67	25.5	24.6	56	19	640	47	10.7	2.1	0.21	-1	0.32	89	23	22	93	42	3	1054.4	1.9	8.39	6.82	10.0	6	25	0.28	53	30
HAR98 3	82M/5	988410	300062	5690801	11	0	1019	2.75	29.7	40.3	120	5	530	78	16.1	4.3	0.32	-1	2.35	110	39	39	83	37	3	1438.1	3.8	13.00	11.44	9.8	6	41	0.21	80	54
HAR98 4	82M/5	988411	300136	5691004	11	0	272	2.14	7.5	5.9	-2	-3	660	122	0.4	1.9	0.13	-1	0.22	69	12	9	68	26	3	139.8	1.3	3.42	2.14	6.3	8	-10	0.17	34	12
HAR98 4	82M/5	988413	300136	5691004	11	0	257	2.28	18.0	21.1	24	-3	600	55	2.7	-0.5	0.33	-1	0.31	94	17	13	98	45	4	638.9	2.3	5.36	3.76	8.4	8	-10	0.26	60	30
HAR98 5	82M/5	988414	299936	5690960	11	0	544	2.56	11.8	10.6	17	3	570	152	4.1	-0.5	0.17	-1	0.50	85	21	16	80	28	4	204.6	1.7	5.09	3.3	7.8	9	10	0.14	47	11

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al [2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca [2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe [1]	Fe [2]	Ga[2]	Hf[1]	Hg[2]	K [2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
HAR98 5	82M/5	988415	299936	5690960	11	0	590	2.16	14.8	15.8	20	-3	550	83	5.7	-0.5	0.20	1	0.23	100	17	14	69	32	3	539.8	1.8	5.49	4.04	7.9	11	16	0.22	51	17
HAR98 6	82M/5	988416	300360	5691106	11	0	738	2.66	16.5	10.7	10	-3	710	115	2.0	2.3	0.17	-1	1.01	107	31	21	147	73	4	593.6	2.4	6.47	3.51	9.7	11	24	0.17	54	13
HAR98 6	82M/5	988417	300360	5691106	11	0	246	2.52	33.0	30.0	45	-3	640	83	1.2	-0.5	0.39	-1	0.95	117	25	19	120	61	3	1022.4	2.5	6.86	4.26	8.9	10	19	0.25	62	24
HAR98 7	82M/5	988418	300056	5690667	11	0	497	1.94	17.8	18.9	20	-3	620	53	4.3	1.7	0.16	-1	0.27	98	19	15	89	30	3	293.1	2.0	5.87	4.25	6.6	9	19	0.11	52	17
HAR98 7	82M/5	988419	300056	5690667	11	0	1375	2.04	26.6	32.8	50	-3	680	41	3.8	4.9	2.84	3	0.69	101	35	30	72	33	2	825.2	2.1	7.06	5.52	7.4	6	52	0.11	56	24
HAR98 8	82M/5	988420	300592	5690841	11	0	1371	2.53	15.5	12.2	33	-3	770	260	2.0	3.0	0.21	-1	2.11	92	19	12	93	32	4	229.0	1.9	4.78	2.49	7.7	8	29	0.09	50	9
HAR98 8	82M/5	988422	300592	5690841	11	0	1149	2.68	31.4	32.8	36	-3	740	142	4.6	-0.5	0.19	-1	0.54	133	16	11	131	55	3	618.9	2.3	6.90	4.53	9.2	9	12	0.15	75	17
HAR98 9	82M/5	988423	300351	5690721	11	0	632	1.98	15.5	14.9	46	3	600	96	6.5	2.5	0.14	-1	0.61	103	25	21	71	25	3	586.4	1.8	6.13	4.46	6.9	6	24	0.11	53	13
HAR98 9	82M/5	988424	300351	5690721	11	0	564	2.08	15.2	18.7	201	-3	580	89	9.9	-0.5	0.13	-1	0.52	112	28	24	81	25	2	742.8	2.0	6.90	5.36	6.9	7	14	0.11	61	17
HAR97 20	82M/5	978110	301018	5691659	11	0	1534	3.48	16.0	10.7	40	-3	940	344	20.2	-0.5	0.09	-1	1.76	80	7	7	75	56	2	734.0	2.1	15.00	15.73	16.0	8	46	0.19	48	13
HAR97 20	82M/5	978111	301018	5691659	11	0	3170	2.37	8.5	5.9	179	-3	510	167	41.7	1.8	0.07	-1	0.10	100	2	3	65	43	2	286.3	3.3	18.90	18.85	15.4	9	33	0.16	57	11
HAR97 21	82M/5	978112	301018	5691589	11	0	1146	2.81	12.0	8.4	13	-3	570	231	14.3	2.5	0.15	2	0.99	83	9	9	89	57	3	326.2	2.3	14.70	14.8	14.7	7	48	0.12	43	9
HAR97 21	82M/5	978113	301018	5691589	11	0	844	2.10	12.0	11.1	16	-3	540	92	10.6	-0.5	0.16	-1	0.27	71	6	7	56	39	2	308.6	1.8	10.70	11.5	10.6	10	29	0.22	42	11
HAR 96 -1	82M/5	52549	301159	5691784	11	0	-30	1.93	2.9	-2.0	-2	-3	730	205	-2.0	-0.5	0.17	-1	-0.20	64	8	6	30	12	3	19.0	0.8	2.28	1.71	nd	14	25	0.09	36	15
HAR 96 -1	82M/5	52550	301159	5691784	11	0	-30	0.86	1.8	-2.0	-2	-3	500	75	-2.0	-0.5	0.15	2	-0.20	89	4	4	20	13	3	16.0	0.8	1.67	1.55	nd	14	10	0.12	40	23
HAR 96 -2	82M/5	52552	301157	5691794	11	0	-30	2.20	5.4	-2.0	-2	-3	690	148	-2.0	-0.5	0.16	-1	-0.20	69	12	10	40	14	4	31.0	0.9	2.64	2.1	nd	11	25	0.12	36	15
HAR 96 -2	82M/5	52553	301157	5691794	11	0	-30	1.95	7.9	4.0	-2	-3	610	94	3.0	-0.5	0.17	-1	-0.20	74	8	9	30	20	4	90.0	0.8	3.13	3.01	nd	12	15	0.25	39	22
HAR 96 -3	82M/5	52554	301156	5691804	11	0	-30	2.50	5.1	-2.0	-2	-3	660	175	-2.0	-0.5	0.16	-1	0.20	54	13	10	37	15	5	32.0	0.9	2.86	2.14	nd	9	35	0.09	30	10
HAR 96 -3	82M/5	52555	301156	5691804	11	0	-30	1.98	6.5	6.0	-2	-3	640	130	-2.0	-0.5	0.15	-1	-0.20	66	10	10	40	20	5	76.0	1.0	2.99	2.97	nd	13	10	0.13	39	19
HAR 96 -4	82M/5	52556	301154	5691814	11	0	-30	2.05	4.1	3.0	4	-3	550	187	-2.0	-0.5	0.16	2	0.30	63	8	8	30	12	5	20.0	0.9	2.35	1.82	nd	11	20	0.09	34	15
HAR 96 -4	82M/5	52557	301154	5691814	11	0	-30	1.37	3.5	-2.0	5	-3	640	143	-2.0	-0.5	0.15	2	-0.20	63	6	6	29	15	4	18.0	0.9	1.97	1.62	nd	14	15	0.10	38	17
HAR 96 -4	82M/5	52558	301154	5691814	11	0	-30	2.06	18.0	18.0	4	-3	660	157	-2.0	-0.5	0.18	-1	0.20	70	10	10	30	14	4	60.0	0.9	2.85	2.7	nd	14	20	0.17	41	21
HAR 96 -5	82M/5	52559	301152	5691864	11	0	-30	2.04	5.6	-2.0	-2	-3	760	170	-2.0	2.7	0.21	-1	0.30	51	10	8	24	11	4	11.0	0.9	2.22	1.64	nd	9	20	0.06	27	9
HAR 96 -5	82M/5	52560	301152	5691864	11	0	100	1.41	3.2	3.0	-2	-3	460	134	-2.0	-0.5	0.21	-1	-0.20	76	6	6	17	13	3	30.0	0.7	1.85	1.91	nd	15	-10	0.18	40	24
HAR 96 -6	82M/5	52562	301149	5691894	11	0	-30	2.53	7.7	5.0	5	-3	680	107	-2.0	3.5	0.23	-1	-0.20	77	10	8	39	15	4	18.0	0.9	2.42	1.92	nd	13	30	0.09	32	12
HAR 96 -6	82M/5	52563	301149	5691894	11	0	-30	0.92	1.8	-2.0	6	-3	590	46	-2.0	-0.5	0.12	2	-0.20	62	5	6	26	12	3	17.0	0.8	1.72	1.57	nd	17	15	0.10	40	21
HAR 96 -7	82M/5	52564	301161	5691744	11	0	-30	2.08	5.3	3.0	-2	-3	440	122	-2.0	-0.5	0.21	3	-0.20	65	8	7	31	12	4	23.0	0.8	2.24	1.86	nd	11	40	0.11	35	15
HAR 96 -7	82M/5	52565	301161	5691744	11	0	-30	0.98	1.8	2.0	-2	-3	630	63	-2.0	-0.5	0.19	-1	-0.20	86	4	4	16	12	3	19.0	0.8	1.46	1.52	nd	13	10	0.15	44	28
HAR 96 - 8	82M/5	52566	301163	5691734	11	0	-30	3.31	7.8	-2.0	-2	-3	580	164	-2.0	-0.5	0.30	-1	-0.20	90	10	11	35	17	5	44.0	0.8	2.92	2.56	nd	10	25	0.12	35	17
HAR 96 - 8	82M/5	52567	301163	5691734	11	0	-30	0.94	6.0	-2.0	-2	-3	620	71	-2.0	-0.5	0.14	3	-0.20	80	3	5	31	13	3	27.0	0.8	1.78	1.7	nd	13	-10	0.11	40	23
HAR 96 - 9	82M/5	52568	301165	5691704	11	0	-30	1.90	7.7	4.0	6	-3	770	137	-2.0	-0.5	0.16	-1	0.20	65	10	9	40	15	3	44.0	0.8	2.72	2.21	nd	12	25	0.11	35	14
HAR 96 - 9	82M/5	52569	301165	5691704	11	0	-30	1.27	10.0	4.0	-2	-3	730	90	-2.0	-0.5	0.13	-1	-0.20	74	7	7	32	14	3	45.0	1.0	2.21	1.94	nd	15	-10	0.11	44	22
HAR 96 -1 0	82M/5	52570	301167	5691679	11	0	-30	2.85	14.0	7.0	-2	-3	660	145	-2.0	-0.5	0.22	-1	-0.20	62	16	14	46	23	4	77.0	0.9	3.58	3	nd	11	25	0.15	37	13
HAR 96 -1 0	82M/5	52572	301169	5691679	11	0	-30	1.92	21.0	14.0	-2	-3	680	78	-2.0	-0.5	0.11	-1	-0.20	71	11	10	43	22	4	126.0	0.9	3.59	3.3	nd	12	15	0.15	42	20
HAR 96 - 11	82M/5	52573	301169	5691629	11	0	-30	1.88	13.0	-2.0	-2	-3	630	151	-2.0	-0.5	0.20	3	-0.20	67	13	13	45	16	5	42.0	0.9	2.67	2.19	nd	11	15	0.15	37	14
HAR 96 - 11	82M/5	52574	301169	5691629	11	0	-30	1.71	10.0	4.0	11	-3	690	104	-2.0	-0.5	0.18	2	-0.20	83	10	10	40	20	4	93.0	0.9	2.78	2.59	nd	13	10	0.18	45	24
HAR 96 - 12	82M/5	52575	301171	5691594	11	0	-30	2.61	14.0	7.0	-2	-3	670	188	-2.0	-0.5	0.23	-1	0.20	66	18	16	53	22	4	71.0	0.9	3.64	2.83	nd	10	25	0.18	37	13
HAR 96 - 12	82M/5	52576	301171	5691594	11	0	-30	1.45	13.0	7.0	-2	-3	570	65	-2.0	-0.5	0.15	-1	0.30	80	8	8	32	17	3	80.0	1.0	2.68	2.46	nd	14	-10	0.20	42	20
HOM96 -1	82M/4	52516	302650	5665500	11	0	200	0.71	130.0	113.0	39	-3	1,600	112	-2.0	-0.5	0.19	-1	0.50	170	8	5	18	6	4	57.0	2.7	6.35	5.88	nd	11	85	0.16	100	19
HOM96 -1	82M/4	52517	302650	5665500	11	0	200	0.63	160.0	153.0	40	-3	1,800	117	3.0	-0.5	0.11	-1	-0.20	170	4	4	27	7	4	54.0	2.5	6.21	6.16	nd	12	90	0.17	98	17
HOM96 -1	82M/4	52518	302650	5665500	11	0	200	0.96	110.0	107.0	18	-3	1,700	96	3.0	-0.5	0.14	-1	0.40	170	5	4	16	4	4	46.0	2.6	4.73	4.86	nd	8	50	0.14	100	19
HOM96 - 2	82M/4	52519	302645	5665455	11	0	100	1.58	54.0	47.0	24	3	1,300	104	-2.0	5.7	0.29	-1	0.60	190	7	6	29	14	5	130.0	2.8	5.28	4.82	nd	15	35	0.19	110	38
HOM96 -2	82M/4	52520	302645	5665455	11	0	100	1.68	40.0	35.0	-2	3	1,100	91	-2.0	-0.5	0.22	-1	0.30	190	8	7	24	11	5	96.0	2.7	4.84	4.4	nd	14	25	0.16	110	39
HOM96 -2	82M/4	52522	302645	5665455	11	0	100	1.72	37.0	33.0	18	-3	1,200	69	-2.0	3.8	0.35	-1	0.90	210	10	11	33	14	4	110.0	3.2	4.89	4.79	nd	17	35	0.16	120	44
HOM96 - 2	82M/4	52523	302645	5665455	11	0	100	1.63	30.0	24.0	13	-3	1,200	89	-2.0	-0.5	1.90	-1	0.90	230	11	10	25	8	5	64.0	3.5	4.59	4.04	nd	17	25	0.14	140	34
HOM96 - 3	82M/4	52524	302640	5665450	11	0	200	1.29	87.0	80.0	43	3	1,400	93	2.0	5.9	0.22	-1	1.30	150	9	10	24	8	3	145.0	2.5	6.41	6.03	nd	9	85	0.18	85	19
HOM96 - 3	82M/4	52525	302640	5665450	11	0	300	1.11	88.0	82.0	34	-3	1,300	93	3.0	2.4	0.29	-1	1.80	130	9	10	27	9	3	118.0	2.2	6.44	6.28	nd	10	130	0.19	74	15
HOM96 - 3	82M/4	52526	302640	5665450	11	0	-30	1.64	12.0	6.0	13	-3	1,700	137	-2.0	6.5	1.47	-1	-0.20	94	11	10	77	48	4	48.0	1.7	3.67	2.76	nd	10	30	0.18	56	32
HOM96 -4	82M/4	52527	302635	5665452	11	0	-30	1.84	16.0	14.0	-2	6	880	193	-2.0	4.5	0.57	-1	0.30	100	6	5	30	11	4	21.0	1.5	3.48	3.05	nd	7	25	0.25	59	23
HOM96 -4	82M/4	52528	302635	5665452	11	0	-30	2.47	22.0	16.0	-2	5	880	112	-2.0	3.6	0.29	-1	0.20	100	7	7	30	15	3	54.0	1.7	4.28	3.73	nd	9	40	0.16	60	31
HOM96 - 4	82M/4	52529	302635	5665452	11	0	100	1.51	170.0	173.0	45	-3	1,100	123	-2.0	-0.5	0.16	3	1.70	140	9	8	64	23	5	197.0	2.6	8.82	8.57	nd	14	50	0.17	87	22

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al [2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca [2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe [1]	Fe [2]	Ga[2]	Hf[1]	Hg[2]	K [2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
HOM96 -5	82M/4	52530	302633	5665454	11	0	100	2.29	20.0	17.0	11	3	900	177	-2.0	5.3	0.44	2	0.60	80	13	10	40	18	3	61.0	1.6	5.09	4.65	nd	6	55	0.21	44	15
HOM96 - 5	82M/4	52532	302633	5665454	11	0	100	1.65	45.0	41.0	34	-3	1,200	144	-2.0	4.8	0.27	-1	0.70	110	9	8	47	18	4	176.0	2.0	5.57	5.35	nd	8	145	0.19	65	17
HOM96 - 5	82M/4	52533	302633	5665454	11	0	200	5.90	41.0	30.0	45	-3	940	139	-2.0	5.5	0.20	-1	1.50	130	35	41	18	7	5	236.0	2.8	4.42	4.55	nd	10	425	0.11	71	28
CAM98-1	82M/5	988429	321484	5680310	11	0	122	1.31	2.0	1.2	10		760	76	0.2	2.1	0.11	2	-0.01	52	8	4	21	7	4	18.7	1.1	2.43	1.02	5.4	7	25	0.05	27	7
CAM98-1	82M/5	988430	321484	5690310	11	0	97	0.75	5.0	4.1	29		1,200	41	0.2	-0.5	0.17	2	0.02	74	6	4	17	5	6	17.8	1.4	3.29	1.92	3.0	10	-10	0.11	38	12
CAM98-2	82M/5	988431	321477	5680505	11	0	101	1.03	2.5	2.2	34		1,000	110	-0.2	2.1	0.13	2	0.05	53	7	4	20	6	5	9.3	1.0	2.84	1.54	4.7	9	25	0.06	26	9
CAM98-2	82M/5	988433	321477	5680505	11	1	106	1.19	4.3	1.8	40		1,000	86	-0.2	2.3	0.05	-1	0.02	62	8	5	15	6	7	10.7	1.4	3.31	1.92	3.6	10	13	0.07	31	14
CAM98-2	82M/5	988434	321477	5680505	11	2	99	1.06	3.4	2.3	25		940	81	-0.2	1.8	0.05	1	-0.01	70	7	4	18	7	8	9.2	1.1	3.12	1.86	3.4	9	14	0.08	32	16
CAM98-3	82M/5	988435	321595	5680487	11	0	63	1.09	2.6	0.8	-2		1,200	54	-0.2	-0.5	0.15	2	-0.01	87	7	5	30	10	5	11.4	1.3	2.99	1.59	3.8	13	15	0.13	54	17
CAM98-3	82M/5	988436	321595	5690487	11	0	33	0.86	2.5	1.1	13		1,200	24	-0.2	-0.5	0.20	-1	-0.01	89	7	4	18	8	5	15.0	1.6	3.34	1.72	3.7	12	13	0.14	51	16
CAM98-4	82M/5	988437	321579	5680378	11	0	127	1.09	5.3	4.1	19		1,300	95	0.3	1.4	0.15	-1	0.07	51	6	4	21	6	9	12.3	1.0	3.47	2.16	4.4	14	12	0.14	30	12
CAM98-4	82M/5	988438	321579	5680378	11	0	36	0.80	4.6	4.1	19		1,400	47	0.2	-0.5	0.23	2	0.03	83	6	4	10	3	10	16.3	1.3	4.06	2.38	4.0	13	19	0.20	38	16
CAM98-5	82M/5	988439	321672	5680366	11	0	1443	0.97	14.8	14.3	106		1,000	69	7.8	-0.5	0.13	-1	0.10	39	9	5	25	8	6	30.4	0.9	4.00	2.32	3.6	8	21	0.12	23	8
CAM98-5	82M/5	988440	321672	5680366	11	0	1784	0.57	30.9	26.3	277		1,100	38	6.0	-0.5	0.10	-1	0.06	34	6	4	11	5	6	40.3	0.8	4.26	2.79	2.6	9	11	0.11	19	7
CAM98-6	82M/5	988442	321833	5680459	11	0	82	1.48	2.2	1.6	2		1,000	122	0.3	1.9	0.19	2	-0.01	47	8	4	29	8	31	8.4	1.0	3.71	1.99	5.5	11	10	0.18	25	6
CAM98-6	82M/5	988443	321833	5680459	11	0	154	1.19	2.4	3.0	20		1,500	61	53.8	5.0	0.42	-1	0.03	117	8	6	16	9	23	29.2	4.3	4.96	3	5.7	10	41	0.15	87	56
CAM98-7	82M/5	988444	322483	5679440	11	0	109	2.56	2.9	1.1	-2		800	193	0.5	2.9	0.22	2	0.10	74	9	5	32	11	3	12.1	1.3	2.88	1.48	5.7	9	27	0.07	37	17
CAM98-7	82M/5	988445	322483	5679440	11	0	-30	0.88	1.8	0.6	-2		1,300	69	0.2	-0.5	0.24	2	-0.01	72	6	4	24	13	3	12.0	1.5	2.60	1.37	3.4	10	31	0.19	44	24
CAM98-9	82M/5	988516	322085	5679166	11	0	61	1.08	3.0	1.9	-2		940	67	0.2	-0.5	0.13	2	-0.01	79	10	4	45	12	4	8.2	1.3	3.30	1.22	4.2	13	16	0.12	42	17
CAM98-9	82M/5	988517	322085	5679166	11	0	-30	0.99	1.5	2.7	-2		1,300	67	0.3	-0.5	0.30	1	-0.01	73	7	5	28	8	6	14.4	1.4	2.77	1.72	4.2	12	20	0.24	43	39
CAM98-10	82M/5	988518	323047	5679875	11	0	-30	1.04	nd	2.5	nd		nd	75	0.4	nd	0.29	nd	-0.01	nd	nd	5	nd	5	nd	15.1	nd	nd	1.77	4.3	nd	21	0.26	nd	39
CAM98-10	82M/5	988519	323047	5679875	11	1	-30	0.99	4.8	2.7	-2		1,300	67	0.3	-0.5	0.30	1	-0.01	115	8	5	31	8	5	14.4	2.5	3.49	1.72	4.2	14	20	0.24	77	39
CAM98-10	82M/5	988520	323047	5679875	11	2	-30	1.04	3.2	2.5	-2		1,100	75	0.4	-0.5	0.29	2	-0.01	85	6	5	16	5	3	15.1	2.0	2.83	1.77	4.3	11	21	0.26	63	39
WIN 1	82M/4	978180	305992	5658742	11	0	100	1.61	14.0	10.7	10	-3	670	102	0.6	-0.5	0.38	-1	0.18	97	15	14	130	52	4	51.9	2.6	4.69	3.38	4.7	9	40	0.07	57	29
WIN 2	82M/4	978182	305796	5659746	11	0	137	1.00	12.0	11.6	-2	-3	940	77	0.9	-0.5	0.07	-1	0.12	77	7	7	24	9	2	109.2	1.7	3.77	3	3.0	12	20	0.12	47	32
WIN 3	82M/4	978184	306022	5653830	11	0	373	1.01	12.0	15.5	-2	-3	830	66	1.3	-0.5	0.25	-1	0.24	92	12	13	24	8	1	188.5	2.1	4.28	3.66	2.8	12	26	0.13	54	37
WIN 4	82M/4	978185	305992	5658742	11	0	170	1.51	15.0	19.0	6	-3	1,200	130	6.7	1.8	0.19	-1	0.55	100	14	14	24	10	4	713.7	2.0	6.33	5.23	4.3	10	34	0.25	62	39
WIN 5	82M/4	978186	305634	5659245	11	0	203	0.81	13.0	18.3	7	-3	1,100	78	1.0	-0.5	0.06	-1	0.27	110	9	9	19	9	3	131.8	2.2	4.36	3.58	2.1	12	19	0.13	64	48
WIN 6	82M/4	978187	305256	5659660	11	0	275	1.34	11.0	11.8	6	-3	1,400	139	5.1	-0.5	0.09	-1	0.76	97	11	12	19	8	3	357.1	1.9	5.45	4.67	3.7	11	52	0.20	60	44
WIN 7	82M/4	978188	305220	5659558	11	0	176	1.58	18.0	21.4	10	-3	1,200	145	2.2	-0.5	0.10	2	0.37	100	12	15	14	7	3	193.9	2.0	5.20	4.8	4.5	11	33	0.24	62	51
WIN 8	82M/4	978189	305011	5659568	11	0	196	1.24	9.9	7.4	11	-3	600	87	0.6	-0.5	0.08	-1	0.19	100	9	8	48	20	3	71.8	2.1	3.61	2.79	3.3	14	-10	0.06	57	27
WIN 9	82M/4	978190	304797	5659089	11	0	193	1.36	7.4	7.2	7	-3	890	157	0.7	-0.5	0.06	-1	0.17	100	9	7	32	12	3	57.7	1.8	3.73	2.7	3.2	14	11	0.11	51	29
SPAR98-2	82M/4	988522	321902	5659200	11	0	568	3.85	11.6	10.4	-2		510	38	0.4	21.6	0.08	1	0.27	47	13	8	54	25	5	22.5	1.1	4.32	2.42	11.7	6	80	0.03	22	8
SPAR98-2	82M/4	988523	321902	5659200	11	0	127	2.64	14.4	14.6	23		600	71	1.3	7.8	0.16	-1	0.53	124	28	26	109	65	6	115.5	2.6	6.26	4.79	8.7	10	32	0.05	61	23
SPAR98-3	82M/4	988524	321979	5659153	11	0	251	4.83	15.3	15.5	5		390	40	1.8	19.9	0.29	2	0.68	72	53	50	108	64	6	79.7	1.8	8.05	6.4	10.4	5	66	0.04	34	12
SPAR98-3	82M/4	988525	321958	5659180	11	0	156	3.01	19.7	21.2	7		380	30	3.0	10.2	0.44	2	1.06	83	50	46	118	61	5	106.0	2.3	11.40	9.48	10.9	5	40	0.05	38	13
SPAR98-4	82M/4	988526	321904	5658555	11	0	344	4.24	17.7	19.3	20		380	39	4.5	19.0	0.24	1	1.00	80	47	43	93	46	3	107.8	2.0	12.90	10.5	12.2	5	45	0.04	36	12
SPAR98-4	82M/4	988527	321904	5658555	11	0	248	3.05	18.6	21.3	9		250	29	3.6	8.3	0.27	2	1.51	72	52	50	88	49	3	113.5	2.0	14.50	13.24	11.3	5	17	0.05	37	13
SPAR98-5	82M/4	988528	321615	5658082	11	0	487	3.81	14.1	11.3	-2		500	69	1.0	17.1	0.27	1	0.41	89	31	21	135	63	5	51.7	2.3	6.33	4.12	10.2	7	72	0.05	41	16
SPAR98-5	82M/4	988529	321615	5658082	11	0	142	3.56	13.2	13.2	10		400	71	1.7	5.4	0.30	2	0.35	91	33	30	172	114	4	95.4	2.0	7.05	5.46	10.8	6	33	0.08	38	17
SPAR98-6	82M/4	988530	321252	5657930	11	1	1131	3.06	8.7	7.3	-2		480	57	0.5	22.7	0.11	1	0.45	59	17	12	70	32	5	45.9	1.5	4.27	2.72	10.4	6	86	0.04	30	14
SPAR98-6	82M/4	988531	321252	5657930	11	2	101	3.47	19.0	18.9	-2		450	83	2.2	8.6	0.24	-1	0.47	90	34	32	131	84	6	94.3	2.0	6.88	5.82	10.5	6	42	0.11	40	23
SPAR98-6	82M/4	988532	321252	5657930	11	0	92	3.41	20.8	18.9	-2		560	82	1.7	9.1	0.24	1	0.43	91	34	32	145	80	5	91.9	1.9	7.10	5.8	10.3	5	37	0.10	43	21
SPAR 96 -1	82M/4	52534	321902	5659200	11	0	-30	3.45	3.2	-2.0	-2	-3	300	14	-2.0	19.0	0.06	2	-0.20	30	6	3	14	9	3	11.0	0.7	2.47	1.63	nd	4	60	0.01	15	4
SPAR 96 -1	82M/4	52535	321902	5659200	11	0	100	6.10	14.0	-2.0	-2	-3	510	42	-2.0	35.0	0.10	-1	0.30	65	18	17	57	31	6	40.0	1.1	3.48	3.22	nd	7	110	0.02	26	13
SPAR 96 -1	82M/4	52536	321902	5659200	11	1	100	1.34	12.0	5.0	-2	-3	510	74	-2.0	5.8	0.12	-1	0.30	46	9	5	46	27	6	31.0	0.9	3.93	2.9	nd	6	75	0.03	24	5
SPAR 96 -1	82M/4	52537	321902	5659200	11	2	-30	1.81	6.4	-2.0	-2	-3	560	38	-2.0	11.0	0.09	-1	0.20	42	8	3	47	24	5	18.0	0.9	3.55	2.62	nd	6	75	0.02	22	5
SPAR 96 -1	82M/4	52538	321902	5659200	11	0	-30	3.39	14.0	4.0	-2	-3	570	68	-2.0	8.6	0.26	-1	0.50	120	28	27	120	68	7	136.0	2.2	5.71	4.99	nd	12	15	0.05	60	22
SPAR 96- 2	82M/4	52539	321912	5659200	11	0	-30	4.88	5.5	-2.0	-2	-3	560	44	-2.0	26.0	0.08	-1	-0.20	49	15	12	55	25	5	25.0	1.1	3.67	2.75	nd	8	75	0.02	27	10
SPAR 96- 2	82M/4	52540	321912	5659200	11	0	-30	3.94	-0.5	-2.0	-2	-3	460	50	-2.0	17.0	0.11	-1	-0.20	49	14	10	62	34	5	28.0	1.0	4.09	3.29	nd	7	85	0.03	25	9
SPAR 96 - 3	82M/4	52542	321922	5659200	11	0	100	5.37	14.0	-2.0	7	-3	520	68	-2.0	15.0	0.21	-1	1.10	78	29	27	110	60	9	57.0	2.6	5.53	5.14	nd	8	80	0.04	53	35

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al [2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca [2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe [1]	Fe [2]	Ga[2]	Hf[1]	Hg[2]	K [2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
SPAR 96 - 3	82M/4	52543	321922	5659200	11	0	-30	4.52	7.6	-2.0	-2	-3	550	54	-2.0	19.0	0.12	-1	-0.20	59	18	16	92	44	8	29.0	1.1	4.67	3.91	nd	7	50	0.04	30	11
SPAR 96 - 3	82M/4	52544	321922	5659200	11	0	100	3.49	21.0	11.0	-2	-3	540	35	-2.0	10.0	0.63	2	2.00	94	51	52	160	99	8	121.0	2.6	9.42	8.31	nd	8	105	0.09	54	21
SPAR 96 - 4	82M/5	52545	321932	5659200	11	0	100	5.18	9.2	-2.0	-2	-3	800	45	-2.0	25.0	0.17	-1	0.50	71	17	14	54	26	5	34.0	1.2	4.14	3.1	nd	8	70	0.03	28	12
SPAR 96 - 4	82M/5	52546	321932	5659200	11	0	-30	3.88	7.2	-2.0	-2	-3	280	40	-2.0	14.0	0.16	-1	0.40	45	12	9	37	20	4	20.0	0.9	3.40	2.49	nd	6	65	0.03	21	7
SPAR 96 - 4	82M/5	52547	321932	5659200	11	1	100	4.00	7.8	2.0	-2	-3	440	51	-2.0	16.0	0.17	-1	0.70	38	12	9	43	23	4	23.0	0.8	3.60	2.83	nd	5	75	0.03	20	6
SPAR 96 - 4	82M/5	52548	321932	5659200	11	2	100	5.77	17.0	7.0	-2	-3	480	44	-2.0	34.0	0.08	-1	0.30	78	17	14	65	25	6	39.0	1.6	3.87	2.85	nd	9	80	0.04	32	14
SCR98-1	82L/13	988497	329006	5648412	11	1	106	1.56	9.4	8.9	11	4	820	174	-0.2	-0.5	0.18	-1	0.07	90	24	21	228	93	2	56.2	2.0	5.23	3.72	5.0	6	35	0.06	50	26
SCR98-1	82L/13	988498	329006	5648412	11	2	110	1.92	9.8	7.3	7	-3	1,000	214	-0.2	3.7	0.17	-1	0.05	113	29	21	260	93	4	48.0	2.4	6.11	3.65	5.5	8	45	0.07	58	25
SCR98-1	82L/13	988499	329006	5648412	11	0	45	1.28	7.5	6.3	10	-3	830	126	-0.2	1.5	0.12	-1	0.04	85	25	21	231	84	3	39.1	1.5	4.94	3.34	4.2	6	24	0.06	48	24
SCR98-2	82L/13	988500	329127	5648339	11	0	223	1.65	7.3	6.8	65	-3	700	181	-0.2	5.8	0.29	1	0.10	80	25	21	159	66	3	49.3	1.6	5.14	3.7	4.4	7	59	0.05	42	15
SCR98-2	82L/13	988502	329127	5648339	11	0	264	2.59	4.2	2.7	-2	6	570	181	-0.2	9.5	0.34	3	0.07	58	16	9	78	30	4	18.9	1.3	3.54	1.83	5.1	6	61	0.03	28	9
SCR98-3	82L/13	988503	329257	5648770	11	0	80	1.27	13.6	13.3	10	-3	500	99	-0.2	-0.5	0.19	1	0.08	86	23	20	210	106	2	57.8	1.9	5.05	3.37	4.0	8	20	0.04	49	18
SCR98-3	82L/13	988504	329257	5648770	11	0	190	1.71	7.9	6.7	-2	-3	560	163	-0.2	2.7	0.15	1	0.10	66	27	20	284	155	2	37.5	1.5	5.00	3.04	5.4	6	31	0.03	34	12
SCR98-4	82L/13	988505	329267	5648495	11	0	70	1.42	7.2	7.1	10	4	890	167	-0.2	-0.5	0.19	-1	0.07	81	24	22	227	88	3	49.4	1.7	5.03	3.42	4.7	5	20	0.06	44	21
SCR98-4	82L/13	988506	329267	5648495	11	0	127	2.45	6.5	4.9	6	13	840	319	-0.2	-0.5	0.16	2	0.05	76	22	18	170	68	4	33.0	1.5	4.62	3.15	6.4	6	44	0.06	38	14
SCR98-5	82L/13	988507	329305	5648219	11	0	55	1.18	11.2	10.5	10	-3	920	121	-0.2	2.0	0.16	-1	0.08	93	22	20	234	83	2	61.1	1.7	5.12	3.67	3.9	6	23	0.09	52	25
SCR98-5	82L/13	988508	329305	5648219	11	0	172	3.07	6.4	5.5	3	8	710	179	-0.2	6.1	0.11	-1	0.12	61	13	9	72	25	3	15.2	1.1	3.28	1.75	7.9	6	26	0.04	26	8
SCR98-6	82L/13	988509	329763	5648008	11	0	110	2.00	8.8	7.7	13	23	610	114	-0.2	-0.5	0.24	1	0.07	60	29	27	246	142	3	83.7	1.8	6.04	4.62	7.1	5	53	0.08	36	21
SCR98-6	82L/13	988510	329763	5648008	11	0	195	2.82	8.4	6.2	7	6	840	267	-0.2	3.7	0.19	2	0.13	65	23	18	174	86	4	40.6	1.3	4.82	3.21	7.9	6	36	0.08	31	12
SCR98-7	82L/13	988511	330014	5647583	11	0	98	1.92	15.7	14.9	18	-3	720	143	-0.2	6.4	0.64	1	0.11	75	35	35	267	149	2	84.8	2.1	6.59	5.42	7.0	5	31	0.09	42	22
SCR98-7	82L/13	988513	330014	5647588	11	0	210	2.52	4.6	2.9	-2	-3	780	230	-0.2	9.3	0.42	2	0.13	68	18	12	109	46	3	23.4	1.3	4.09	2.38	5.0	6	65	0.05	33	11
SCR98-8	82L/13	988514	330428	5647163	11	0	162	1.84	86.1	82.1	67	3	460	131	-0.2	21.2	11.53	13	0.17	38	32	28	273	169	2	96.1	1.3	5.66	4.18	6.1	3	61	0.10	20	10
SCR98-8	82L/13	988515	330428	5647163	11	0	77	2.32	4.9	3.9	-2	7	820	273	-0.2	3.1	0.23	2	0.05	52	21	16	142	73	4	30.0	1.2	4.18	2.39	7.0	5	36	0.09	25	10

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg[2] %	Mn[2] ppm	Mo[2] ppm	Na[1] %	Na[2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P[2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti[2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
MA97-1	93P/1	978067	0.61	0.32	565	1.1	1	0.02	44	-24	36	0.023	39.4	82	3.0	1.8	14.0	-3	0.3	7.0	42	-0.5	-0.5	-0.2	16.0	6	0.10	-0.2	3.1	34	-1	3.6	164	100.0
MA97-1	93P/1	978068	0.48	0.43	928	1.2	0.55	0.03	29	-25	34	0.069	33.9	140	3.0	2.4	16.0	-3	0.7	6.0	118	1.9	-0.5	0.2	17.0	9	0.08	-0.2	3.3	29	-1	3.0	354	289.4
MA97-2	93P/1	978069	0.53	0.25	1278	0.8	1.28	0.02	29	-28	27	0.051	43.3	81	1.7	1.0	13.0	-3	-0.3	5.8	52	1.5	-0.5	-0.2	12.0	5	0.09	-0.2	5.7	25	2	3.1	560	447.5
MA97-2	93P/1	978070	0.46	0.17	1530	1.3	0.56	0.01	23	-25	30	0.071	55.2	120	5.1	4.1	14.0	-3	0.5	4.7	123	2.5	-0.5	0.2	18.0	8	0.03	-0.2	11.0	13	3	2.4	1350	1148.5
MA97-3	93P/1	978072	0.35	0.23	569	0.7	1.41	0.02	21	-27	27	0.057	23.3	-15	0.9	0.4	9.0	-3	-0.3	4.7	39	-0.5	1.5	-0.2	9.5	3	0.08	-0.2	1.7	22	2	2.2	229	167.1
MA97-3	93P/1	978073	0.52	0.31	481	0.7	1.26	0.02	27	130	35	0.059	33.3	64	1.6	0.8	13.0	-3	-0.3	6.4	49	-0.5	-0.5	-0.2	13.0	5	0.10	-0.2	3.7	26	-1	3.3	257	187.3
MA97-4	93P/1	978074	0.41	0.24	218	0.8	1.06	0.02	27	-23	24	0.016	22.4	81	1.7	1.1	10.0	-3	-0.3	5.2	30	-0.5	-0.5	-0.2	11.0	5	0.09	-0.2	2.6	26	-1	2.3	77	69.2
MA97-4	93P/1	978075	0.35	0.37	555	0.6	0.58	0.02	27	-21	27	0.064	22.1	80	2.8	2.0	11.0	-3	-0.3	4.9	251	1.4	-0.5	-0.2	12.0	7	0.05	-0.2	2.2	20	1	2.3	97	51.8
MA97-4	93P/1	978076	0.38	0.23	265	0.8	1.2	0.02	24	-24	22	0.016	23.3	79	1.7	1.0	10.0	-3	-0.3	5.1	31	-0.5	0.7	-0.2	11.0	5	0.09	-0.2	2.6	25	2	2.2	84	69.4
MA97-5	93P/1	978077	0.47	0.23	301	1.0	0.88	0.02	34	-24	25	0.017	38.0	91	2.4	1.6	12.0	-3	-0.3	6.6	25	-0.5	0.9	-0.2	15.0	5	0.07	-0.2	3.6	25	3	3.0	-50	62.8
MA97-5	93P/1	978078	0.43	0.33	582	0.9	0.63	0.01	31	-21	31	0.054	36.6	92	2.9	2.3	12.0	-3	-0.3	5.6	138	-0.5	0.7	-0.2	14.0	4	0.05	-0.2	2.4	22	2	2.4	93	64.7
MA97-6	93P/1	978079	0.47	0.24	277	1.0	1.1	0.02	29	-24	28	0.015	50.0	75	1.8	1.3	11.0	-3	0.3	5.9	41	-0.5	-0.5	-0.2	13.0	5	0.09	-0.2	3.0	24	2	2.8	170	110.9
MA97-6	93P/1	978080	0.41	0.32	551	1.5	0.43	0.01	28	65	27	0.072	113.9	80	3.8	2.9	11.0	-3	0.8	5.4	184	1.8	-0.5	-0.2	13.0	8	0.03	-0.2	3.1	16	3	2.5	156	137.2
MA97-7	93P/1	978082	0.52	0.25	413	1.2	0.85	0.02	37	-22	34	0.026	33.8	88	2.1	1.8	11.0	-3	-0.3	6.9	33	1.6	0.8	-0.2	16.0	7	0.09	-0.2	3.5	25	-1	3.0	57	83.0
MA97-7	93P/1	978083	0.38	0.43	423	0.8	0.71	0.01	24	-22	26	0.074	22.4	100	2.8	2.1	11.0	-3	-0.3	5.2	152	-0.5	0.9	-0.2	13.0	7	0.04	-0.2	2.7	17	2	2.3	112	50.9
MA97-8	93P/1	978087	0.37	0.24	466	0.9	0.98	0.02	21	-20	22	0.019	17.8	69	1.2	1.0	9.0	-3	-0.3	4.6	34	-0.5	-0.5	-0.2	10.0	4	0.09	-0.2	1.5	26	-1	2.1	113	86.7
MA97-8	93P/1	978088	0.36	0.31	568	0.9	0.45	0.01	24	-20	24	0.064	23.4	85	2.8	2.0	11.0	-3	-0.3	5.0	232	-0.5	0.6	-0.2	12.0	5	0.04	-0.2	1.9	16	-1	2.2	101	52.2
MA97-9	93P/1	978089	0.41	0.25	243	0.8	1.12	0.02	21	-22	22	0.016	15.6	70	1.4	0.8	10.0	-3	-0.3	5.0	28	-0.5	0.7	-0.2	12.0	4	0.09	-0.2	2.4	28	-1	2.3	98	69.0
MA97-9	93P/1	978090	0.44	0.25	637	1.1	0.5	0.01	30	-22	31	0.076	23.9	90	3.3	2.0	12.0	3	-0.3	6.1	130	-0.5	0.9	-0.2	14.0	4	0.04	-0.2	3.6	17	-1	2.6	100	65.1
MA97-10	93P/1	978091	0.65	0.37	510	1.5	0.75	0.01	42	99	43	0.021	33.2	100	3.7	2.0	15.0	-3	0.4	7.9	31	1.7	1.4	-0.2	19.0	6	0.09	-0.2	3.8	30	3	4.2	173	117.9
MA97-10	93P/1	978092	0.39	0.53	731	1.8	0.45	0.01	31	-20	29	0.068	30.4	80	3.2	2.3	10.0	-3	0.4	5.9	274	1.0	-0.5	-0.2	15.0	7	0.04	-0.2	3.1	17	3	2.2	160	147.6
MA97-11	93P/1	978094	0.37	0.25	309	1.1	1.08	0.01	25	-21	22	0.012	21.5	80	1.5	0.9	10.0	-3	-0.3	5.0	29	1.4	-0.5	-0.2	12.0	4	0.08	-0.2	2.4	25	-1	2.3	109	59.7
MA97-11	93P/1	978095	0.41	0.34	542	1.0	0.48	0.01	28	-20	28	0.065	32.6	100	3.3	2.3	12.0	-3	-0.3	5.4	198	1.2	0.7	-0.2	13.0	4	0.04	-0.2	3.0	17	-1	2.6	104	52.7
MA97-12	93P/1	978096	0.40	0.27	440	0.9	1.15	0.02	24	120	33	0.025	22.9	77	1.3	0.6	9.7	-3	-0.3	5.2	56	-0.5	0.9	-0.2	11.0	4	0.11	-0.2	3.3	29	-1	2.4	145	106.8
MA97-12	93P/1	978097	0.47	0.31	699	1.0	0.53	0.01	28	-21	33	0.054	33.3	100	3.0	2.0	13.0	-3	-0.3	5.8	116	-0.5	0.9	-0.2	14.0	6	0.05	-0.2	2.9	22	3	2.9	142	68.8
MA97-13	93P/1	978098	0.37	0.23	718	1.0	1.23	0.02	23	-22	22	0.024	17.5	60	1.0	0.6	9.1	-3	-0.3	4.4	37	-0.5	0.6	-0.2	9.6	3	0.09	-0.2	2.6	23	-1	2.0	155	115.6
MA97-13	93P/1	978099	0.45	0.27	383	0.9	0.97	0.02	28	-20	25	0.017	19.7	88	1.7	1.1	12.0	-3	-0.3	5.6	31	-0.5	0.9	-0.2	13.0	5	0.09	-0.2	3.2	26	2	2.6	126	93.6
MA97-14	93P/1	978100	0.34	0.22	812	0.9	1.3	0.02	18	-23	23	0.107	19.6	72	0.9	0.5	8.1	-3	-0.3	4.0	45	-0.5	0.5	-0.2	8.7	3	0.07	-0.2	2.5	21	-1	2.0	462	399.7
MA97-14	93P/1	978102	0.45	0.23	524	1.2	1.15	0.01	30	-25	24	0.059	19.7	91	1.9	0.9	11.0	-3	-0.3	6.0	34	-0.5	-0.5	-0.2	13.0	4	0.07	-0.2	3.9	24	3	2.7	357	272.8
MA97-15	93P/1	978103	0.43	0.25	589	0.8	1.16	0.02	29	-25	31	0.047	26.0	88	1.2	0.6	12.0	-3	-0.3	5.5	37	-0.5	-0.5	-0.2	11.0	4	0.07	-0.2	1.9	23	4	2.5	178	163.5
MA97-15	93P/1	978104	0.51	0.25	675	1.2	0.56	0.01	31	-24	34	0.062	32.2	120	2.8	1.9	15.0	-3	-0.3	6.5	67	0.9	1.1	-0.2	15.0	5	0.04	-0.2	3.1	21	4	3.1	209	149.3
MA97-16	93P/1	978105	0.48	0.34	621	1.4	0.98	0.02	32	-25	37	0.057	81.9	110	2.1	1.0	13.0	-3	-0.3	6.1	45	1.4	1.0	-0.2	14.0	5	0.08	-0.2	3.1	25	-1	2.9	236	223.8
MA97-16	93P/1	978106	0.45	0.37	547	1.0	0.44	0.01	29	-22	26	0.075	29.3	94	2.7	1.8	13.0	-3	-0.3	5.5	151	-0.5	0.9	-0.2	14.0	7	0.04	-0.2	2.9	19	-1	2.6	125	81.4
MA97-16	93P/1	978107	0.35	0.57	579	1.2	0.32	0.01	22	-21	22	0.062	27.6	99	2.0	1.1	9.9	-3	0.5	4.3	305	1.4	-0.5	-0.2	9.6	7	0.03	-0.2	2.6	13	2	2.2	128	74.3
MA97-9	93P/1	978108	0.59	0.31	561	1.6	0.83	0.01	31	-25	34	0.016	32.7	100	2.8	1.5	14.0	-3	-0.3	7.2	28	-0.5	1.1	-0.2	16.0	7	0.09	-0.2	3.5	27	-1	3.5	139	99.5
MA98-1	93P/1	988447	0.37	0.21	846	0.6	1.25	0.01	25	-20	23	0.081	35.7	67	1.1	0.5	10.9	-3	-0.3	5.2	34	1.1	0.6	-0.2	10.6	3	0.06	0.2	2.8	21	-1	2.6	380	260.7
MA98-1	93P/1	988448	0.37	0.24	631	0.7	1.28	0.01	30	-23	25	0.062	42.4	73	1.5	0.7	12.2	-3	-0.3	6.0	38	1.2	0.8	-0.2	12.2	5	0.07	-0.2	3.0	25	-1	2.9	353	238.0
MA98-1	93P/1	988449	0.53	0.23	833	1.0	0.76	0.01	34	101	31	0.029	40.6	94	2.8	1.7	15.0	-3	0.5	7.2	22	1.6	0.8	-0.2	14.8	7	0.05	0.4	3.6	23	2	3.6	223	162.4
MA98-2	93P/1	988450	0.43	0.20	689	0.7	1.08	0.01	31	-20	30	0.035	13.1	96	1.5	0.6	12.7	-3	-0.3	5.7	48	1.0	0.7	-0.2	11.7	4	0.06	0.3	2.4	20	2	2.7	249	142.9
MA98-2	93P/1	988451	0.54	0.19	611	0.8	0.65	0.01	35	117	37	0.019	21.1	129	2.9	2.0	17.6	-3	-0.3	7.0	23	0.8	0.8	0.2	16.4	8	0.04	-0.2	2.8	17	4	3.5	163	94.8
MA98-3	93P/1	988452	0.32	0.08	952	0.4	0.72	0.01	22	-25	12	0.053	33.1	43	10.7	10.2	7.9	14	13.0	4.8	51	-0.5	-0.5	1.1	7.8	2	0.03	0.2	3.2	19	7	2.3	207	114.8
MA98-3	93P/1	988453	0.40	0.16	574	0.7	1.03	0.01	30	-20	29	0.025	23.6	71	2.6	1.6	12.1	-3	0.8	5.8	38	-0.5	-0.5	0.2	10.7	3	0.07	-0.2	2.5	20	3	2.9	314	206.9
MA98-4	93P/1	988454	0.47	0.27	463	0.8	0.85	0.01	37	-20	36	0.016	24.5	98	1.8	1.2	14.6	-3	-0.3	6.9	34	1.4	0.7	0.2	12.7	5	0.07	-0.2	3.0	25	-1	3.3	384	286.7
MA98-4	93P/1	988455	0.42	0.25	733	0.8	0.42	0.01	34	-20	32	0.079	30.4	98	2.5	1.9	13.3	3	0.4	6.6	130	1.0	0.8	-0.2	12.6	4	0.03	-0.2	2.5	16	2	2.7	171	103.7
MA98-5	93P/1	988456	0.47	0.44	618	0.2	0.98	0.02	33	-20	40	0.096	19.2	80	2.0	1.4	13.1	-3	0.7	7.1	51	1.1	1.0	-0.2	10.5	4	0.06	0.4	3.1	31	4	3.2	164	107.3
MA98-5	93P/1	988457	0.46	0.49	1294	-0.1	0.74	0.02	36	86	40	0.084	28.9	59	2.6	1.8	15.3	-3	1.2	7.6	50	1.4	0.9	0.3	12.1	5	0.05	-0.2	3.7	32	5	3.2	198	111.7
MA98-6	93P/1	988458	0.40	0.22	871	0.9	1.27	0.02	25	-20	28	0.062	22.2	62	1.1	0.6	11.0	-3	-0.3	5.1	37	0.8	0.5	-0.2	9.0	3	0.06	0.2	2.4	21	2	2.5	1210	915.7
MA98-6	93P/1	988459	0.49	0.25	797	1.3	0.6	0.01	30	-20	36	0.052	22.1	99	2.8	1.7	15.2	-3	-0.3	6.4	24	1.3	0.9	0.2	13.1	6	0.05	0.3	3.4	22	3	3.1	1160	998.8
MA98-7	93P/1	988460	0.48	0.21	887	1.4	0.84	0.01	28	-20	35	0.033	54.3	74	2.3	1.3	13.8	-3	0.4	6.3	42	1.3	0.8	-0.2	11.3	5	0.06	0.2	3.4	22	3	3.2	273	189.4
MA98-7	93P/1	988462	0.43	0.22	1039	2.0	0.48	0.01	31	-20	35	0.076	100.9	107	3.6	2.7	14.8	-3	0.3	6.0	92	0.8	0.7	0.2	12.2	4	0.03	-0.2	3.0	18	3	2.8	259	179.6
MA98-8	93P/1	988463	0.41	0.31	1145	0.6	1.02	0.01	23	-20	33	0.074	69.7	86	0.9	0.4	13.5	-3	-0.3	5.1	42	0.9	0.6	-0.2	10.9	5	0.07	-0.2	2.6	23	-1	2.5	377	261.2

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg[2] %	Mn[2] ppm	Mo[2] ppm	Na[1] %	Na[2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P[2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti[2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
MA98-9	93P/1	988464	0.44	0.26	541	1.1	0.94	0.01	32	-20	30	0.035	29.8	85	2.1	1.1	12.9	-3	-0.3	6.6	29	1.3	0.7	-0.2	12.9	5	0.06	0.2	2.4	23	2	3.0	209	124.3
MA98-9	93P/1	988465	0.48	0.62	618	0.9	0.32	0.01	38	-20	33	0.077	30.8	103	2.2	1.6	14.1	-3	-0.3	7.5	97	1.1	1.0	0.2	17.1	8	0.02	-0.2	2.7	15	2	3.3	204	130.3
MA98-10	93P/1	988467	0.44	0.33	1013	1.0	0.76	0.01	29	-20	32	0.044	43.6	84	2.1	1.2	12.8	-3	-0.3	6.3	43	1.1	0.8	0.2	11.2	5	0.06	-0.2	2.3	21	-1	3.2	312	235.8
MA98-10	93P/1	988468	0.40	0.34	820	0.9	0.61	0.01	27	-20	31	0.058	41.5	67	2.3	1.5	12.5	-3	-0.3	5.8	48	0.8	0.6	-0.2	11.5	4	0.05	0.2	2.9	19	-1	2.5	285	229.8
MA98-11	93P/1	988469	0.41	0.27	1085	0.8	1.11	0.02	25	-20	30	0.040	44.7	73	1.5	0.8	11.8	-3	0.3	5.8	45	0.9	0.6	0.2	10.2	3	0.06	0.2	2.7	20	3	2.7	309	216.3
MA98-11	93P/1	988470	0.39	0.32	1033	0.9	0.61	0.01	26	-20	30	0.066	73.4	87	2.2	1.6	11.6	-3	0.3	5.6	102	-0.5	0.6	0.3	10.3	4	0.03	-0.2	2.4	16	2	2.4	313	225.2
MA98-12	93P/1	988471	0.34	0.55	805	0.9	0.54	0.01	25	-20	36	0.050	20.9	85	1.8	1.1	12.8	-3	0.4	5.6	55	-0.5	0.7	-0.2	11.2	5	0.06	0.3	2.0	25	3	2.6	335	257.2
MA98-12	93P/1	988472	0.42	0.48	1027	1.7	0.48	0.01	33	72	46	0.081	56.1	83	2.4	1.5	14.4	-3	-0.3	7.6	83	-0.5	-0.5	0.5	13.8	5	0.04	0.2	3.3	22	3	3.0	1200	1002.8
MA98-13	93P/1	988473	0.46	0.24	1314	0.9	0.63	0.01	34	99	35	0.057	25.4	89	2.3	1.3	12.5	-3	0.8	7.5	45	1.1	0.8	-0.2	12.4	4	0.04	0.5	2.7	18	2	2.9	327	277.6
MA98-13	93P/1	988474	0.49	0.30	1260	1.3	0.27	-0.01	43	-26	35	0.097	31.4	87	2.5	1.7	13.4	-3	0.7	9.0	109	0.9	0.9	0.2	16.2	3	0.02	-0.2	3.6	12	3	3.1	241	190.1
MA98-13	93P/1	988475	0.41	0.30	1340	1.3	0.23	-0.01	39	-20	35	0.099	31.6	70	2.2	1.6	11.4	-3	0.4	8.1	98	1.4	0.9	0.2	14.8	4	0.02	-0.2	2.9	12	3	2.8	215	180.6
MA98-14	93P/1	988476	0.48	0.27	632	0.8	0.87	0.01	33	-25	27	0.036	25.7	80	1.5	0.8	12.7	-3	-0.3	7.3	33	1.0	0.8	-0.2	14.0	6	0.05	-0.2	3.6	18	2	3.1	160	119.0
MA98-14	93P/1	988478	0.45	0.27	880	1.2	0.52	0.01	31	-24	27	0.079	24.7	74	2.0	1.4	11.3	-3	0.4	7.1	95	1.1	0.8	0.3	13.5	4	0.02	0.2	3.3	13	2	3.0	130	82.6
MA98-15	93P/1	988479	0.39	0.26	1025	1.5	0.37	0.01	39	-26	28	0.086	55.0	59	2.8	2.1	10.7	-3	0.5	8.4	120	0.8	-0.5	0.2	15.3	2	0.02	-0.2	3.4	13	3	2.5	300	227.5
MA98-15	93P/1	988480	0.41	1.28	1364	1.5	0.27	0.01	40	53	32	0.079	33.6	62	2.6	2.1	10.2	-3	0.4	8.4	392	0.7	0.8	-0.2	16.4	5	0.02	-0.2	3.3	9	2	2.6	263	215.8
MA98-16	93P/1	988482	0.47	0.48	814	1.3	0.86	0.01	27	97	34	0.075	16.1	90	1.5	0.8	13.1	-3	-0.3	6.6	100	0.8	-0.5	0.2	11.8	4	0.05	-0.2	3.1	19	1	3.2	90	71.8
MA98-16	93P/1	988483	0.41	1.48	702	1.2	0.55	0.01	29	-20	33	0.072	10.8	97	1.7	1.1	13.5	-3	0.3	6.2	102	1.1	0.7	-0.2	12.4	6	0.04	0.2	4.1	16	-1	2.8	84	62.6
MA98-17	93P/1	988484	0.46	0.51	383	0.6	1.37	0.02	24	-24	28	0.032	8.1	78	0.9	0.3	15.2	-3	-0.3	6.7	37	0.9	0.9	-0.2	13.9	5	0.11	0.2	3.5	31	2	3.3	96	67.5
MA98-17	93P/1	988485	0.46	0.67	387	0.7	1.3	0.02	29	-24	29	0.068	8.8	82	1.1	0.6	16.1	-3	-0.3	7.1	53	1.4	0.9	-0.2	15.2	6	0.10	-0.2	3.5	32	-1	3.3	86	52.6
MA98-18	93P/1	988486	0.44	0.40	293	0.5	1.05	0.02	25	-23	26	0.038	7.3	75	0.8	0.5	13.7	-3	-0.3	5.9	34	1.0	0.8	-0.2	11.8	5	0.09	-0.2	3.3	24	-1	3.0	75	52.3
MA98-18	93P/1	988487	0.50	0.52	535	1.1	1.02	0.02	30	-24	32	0.070	14.7	104	1.4	0.8	17.4	-3	-0.3	6.9	53	1.3	0.9	0.2	14.2	6	0.08	-0.2	3.4	25	-1	3.5	81	56.5
MA98-19	93P/1	988488	0.40	0.63	427	1.2	0.83	0.01	23	-21	23	0.032	9.4	72	1.2	0.6	11.8	-3	-0.3	5.2	37	1.4	0.8	-0.2	9.2	4	0.06	0.3	3.1	20	-1	2.8	94	63.1
MA98-19	93P/1	988489	0.40	0.99	680	1.7	0.53	0.01	20	-20	31	0.098	11.2	77	2.1	1.5	11.8	-3	0.5	5.0	284	0.9	0.7	-0.2	9.0	4	0.04	0.2	2.6	21	-1	2.5	67	50.4
SAM 1	82M/4	978084	0.39	0.68	1059	0.7	2.21	0.02	19	-29	60	0.090	48.1	75	1.4	0.9	12.0	-3	0.3	4.4	11	-0.5	-0.5	-0.2	7.7	3	0.12	-0.2	3.3	48	1	2.5	345	219.4
SAM 1	82M/4	978085	0.37	2.03	901	3.2	1.62	0.05	25	150	135	0.037	128.6	110	3.2	2.1	22.0	-3	1.0	5.1	21	1.3	0.8	0.5	12.0	8	0.16	-0.2	2.2	86	2	2.5	281	253.4
SAM 1	82M/4	978086	0.42	3.08	1210	0.8	1.78	0.02	23	150	209	0.092	227.0	48	15.0	11.1	26.0	-3	0.4	5.5	22	2.3	0.9	0.4	6.1	3	0.15	-0.2	1.3	114	-1	2.5	373	362.3
SAM 2	82M/4	978129	0.33	1.09	576	0.8	1.66	0.01	22	-26	83	0.159	14.1	-15	0.9	-0.2	13.0	-3	0.3	3.8	12	-0.5	-0.5	-0.2	7.0	4	0.13	0.2	2.5	63	-1	2.1	321	135.8
SAM 2	82M/4	978130	0.39	2.95	1364	0.6	1.39	0.01	32	210	178	0.119	35.6	56	0.9	0.3	22.0	-3	-0.3	5.0	38	2.0	-0.5	-0.2	6.0	5	0.18	-0.2	1.6	108	-1	2.7	208	117.4
SAM 2	82M/4	978131	0.39	2.52	833	0.7	1.30	0.01	27	150	161	0.085	15.3	59	1.5	0.3	23.0	-3	0.3	5.1	22	-0.5	-0.5	-0.2	7.0	4	0.19	0.2	0.9	100	-1	2.7	228	89.9
SAM 5	82M/4	978132	0.65	0.92	823	1.1	1.58	0.03	45	-20	57	0.067	35.8	-15	1.9	0.8	20.0	-3	0.3	7.5	37	-0.5	-0.5	-0.2	23.0	12	0.12	0.2	5.2	49	-1	4.2	-50	97.5
SAM 5	82M/4	978133	0.52	1.05	881	1.5	1.43	0.03	33	-20	62	0.066	33.7	110	1.7	0.8	18.0	-3	0.3	6.5	37	-0.5	-0.5	-0.2	20.0	15	0.13	0.2	5.9	55	-1	3.5	124	102.0
SAM 4	82M/4	978134	0.42	1.05	400	1.1	1.87	0.02	32	-20	77	0.067	32.0	66	1.5	0.6	17.0	-3	-0.3	5.2	15	-0.5	-0.5	-0.2	10.0	2	0.15	0.2	3.2	68	-1	2.6	270	169.7
SAM 4	82M/4	978135	0.46	1.83	674	0.7	2.01	0.02	28	-20	127	0.070	127.6	93	2.2	1.0	24.0	-3	-0.3	6.2	23	-0.5	-0.5	-0.2	9.4	3	0.21	-0.2	3.6	85	-1	3.2	-50	110.8
SAM 4	82M/4	978136	0.40	2.90	1951	1.4	1.45	0.02	31	-20	140	0.110	90.9	65	3.7	2.1	26.0	-3	-0.3	6.4	40	1.9	1.9	-0.2	9.1	3	0.14	0.2	1.9	85	-1	3.5	170	141.4
SAM 3	82M/4	978137	0.37	2.05	487	1.2	1.90	0.03	32	-20	159	0.067	26.1	-15	2.4	1.4	24.0	-3	-0.3	6.2	17	-0.5	1.1	-0.2	7.4	-2	0.07	0.2	2.0	93	-1	2.5	128	83.4
SAM 3	82M/4	978138	0.47	2.63	1050	0.8	1.79	0.03	35	110	157	0.148	20.1	60	4.0	2.1	26.0	-3	-0.3	6.8	79	1.6	-0.5	-0.2	6.3	2	0.05	-0.2	2.0	80	-1	2.6	176	73.2
SAM 7	82M/4	978139	0.45	0.40	214	0.4	2.62	0.03	28	-20	16	0.025	12.4	100	0.6	-0.2	12.0	-3	-0.3	4.0	17	-0.5	-0.5	-0.2	8.8	5	0.08	-0.2	2.0	33	-1	2.4	-50	55.1
SAM 7	82M/4	978140	0.41	1.13	424	1.0	2.10	0.03	25	-20	38	0.053	21.3	120	0.6	0.3	20.0	-3	-0.3	5.3	27	-0.5	-0.5	-0.2	19.0	14	0.15	0.2	5.4	59	-1	2.9	-50	72.6
SAM 7	82M/4	978142	0.29	0.30	183	0.8	2.57	0.03	15	-20	18	0.080	11.1	-15	0.5	0.2	8.7	-3	-0.3	3.2	9	-0.5	-0.5	-0.2	6.4	3	0.09	-0.2	1.8	33	-1	1.6	179	49.8
SAM 6	82M/4	978143	0.41	0.19	1430	1.0	1.94	0.03	27	-20	19	0.172	30.2	-15	0.8	0.5	18.0	-3	-0.3	5.2	10	-0.5	-0.5	-0.2	10.0	2	0.11	-0.2	2.9	31	-1	2.8	-50	108.7
SAM 8	82M/4	9781431	0.24	1.29	340	0.8	2.37	0.02	20	160	68	0.068	19.7	76	0.6	0.4	8.5	-3	-0.3	3.7	20	-0.5	-0.5	-0.2	5.8	5	0.16	-0.2	3.9	67	-1	2.2	153	77.3
SAM 8	82M/4	978144	0.49	0.80	418	1.0	1.86	0.02	37	-20	55	0.049	47.1	68	2.0	1.3	18.0	-3	-0.3	5.9	12	-0.5	-0.5	-0.2	12.0	4	0.10	0.2	2.7	47	-1	3.2	172	117.0
SAM 6	82M/4	9781441	0.53	1.03	333	1.0	2.14	0.01	23	180	42	0.040	16.6	120	0.8	0.3	17.0	-3	-0.3	4.9	20	-0.5	-0.5	-0.2	14.0	9	0.14	-0.2	3.7	56	-1	3.2	139	77.0
SAM 9	82M/4	978145	0.44	0.45	585	0.7	2.18	0.03	20	-20	28	0.197	18.3	66	0.7	0.2	11.0	-3	-0.3	4.0	25	-0.5	1.0	-0.2	9.2	5	0.11	-0.2	3.2	44	-1	2.5	212	134.3
SAM 9	82M/4	978146	0.44	1.48	971	1.2	1.82	0.05	31	-20	58	0.063	31.7	140	1.2	0.6	24.0	-3	-0.3	6.1	47	-0.5	2.5	-0.2	22.0	18	0.16	0.2	4.9	74	-1	3.9	216	108.3
SAM 10	82M/4	978147	0.57	1.04	593	1.0	1.73	0.03	36	-20	83	0.055	40.9	76	1.3	0.7	21.0	-3	-0.3	7.1	37	-0.5	1.1	-0.2	18.0	10	0.10	-0.2	6.8	61	-1	4.0	204	104.4
SAM 10	82M/4	978148	0.62	1.02	482	0.6	1.99	0.01	51	220	65	0.088	30.7	140	1.0	0.7	19.0	-3	-0.3	8.1	26	-0.5	-0.5	-0.2	20.0	9	0.10	-0.2	5.1	57	-1	3.5	-50	80.1
SAM 11	82M/4	978149	0.39	0.82	199	1.3	1.90	0.01	12	-20	54	0.043	12.3	-15	0.7	0.2	16.0	-3	-0.3	3.5	15	-0.5	-0.5	-0.2	5.3	2	0.13	-0.2	1.4	75	-1	2.2	195	127.0
SAM 11	82M/4	978150	0.47	3.67	1784	1.0	2.20	0.01	32	-20	214	0.124	254.8	-15	1.9	0.5	33.0	-3	-0.3	6.1	25	-0.5	-0.5	-0.2	3.8	2	0.16	-0.2	-0.5	123	-1	3.2	167	93.0
SAM 12	82M/4	978151	0.09	5.38	1246	1.2	1.49	0.03	15	170	319	0.100	213.7	-15	3.7	-2.2	32.0	-3	-3.3	4.1	47	1.8	-0.5	-2.2	2.5	-2	0.09	-2.2	-0.5	170	-1	2.2	10000	9751.9
SAM 12	82M/4	978152	0.47	5.71	1282	3.4	1.56	0.02	14	-20	326	0.097	210.1	75	3.6	-2.0	35.0	-3	-3.0	4.4	43	1.8	0.8	-2.0	2.6	-2	0.10	-2.0	-0.5	180	-1	2.7	9980	8936.9

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg[2] %	Mn[2] ppm	Mo[2] ppm	Na[1] %	Na[2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P[2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti[2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
SAM 12	82M/4	978153	0.54	3.61	2810	1.9	1.44	0.01	26	-20	266	0.093	240.2	-15	4.1	-2.0	34.0	-3	-3.0	6.3	26	-0.5	-0.5	-2.0	3.9	3	0.08	-2.0	-0.5	122	-1	3.3	16700	17159.1
SAM 12	82M/4	978154	0.54	1.18	1058	1.0	1.85	0.02	27	-20	100	0.062	130.5	42	1.1	0.7	19.0	-3	0.7	5.2	14	-0.5	-0.5	-0.2	6.5	2	0.12	-0.2	1.4	68	-1	3.0	2550	2146.8
SAM 13	82M/4	978155	0.44	1.79	373	0.7	2.35	0.02	30	190	107	0.017	105.2	-15	2.0	0.8	22.0	-3	-0.3	5.4	20	2.9	1.5	-0.2	6.5	3	0.12	-0.2	1.3	82	6	3.1	335	289.1
SAM 13	82M/4	978156	0.41	5.35	2251	0.5	1.54	0.02	29	310	296	0.112	210.3	-15	3.1	1.0	34.0	-3	0.3	4.9	26	-0.5	-0.5	0.2	2.7	-2	0.10	-0.2	-0.5	166	-1	2.5	455	347.1
SAM 14	82M/4	978162	0.39	0.98	1140	1.5	1.89	0.02	19	180	93	0.152	161.9	82	7.5	4.4	15.0	-3	-0.3	4.3	9	-0.5	-0.5	-0.2	6.6	2	0.11	-0.2	2.0	81	-1	2.3	624	463.7
SAM 14	82M/4	978163	0.47	1.61	1185	0.9	1.39	0.05	24	-20	60	0.063	43.6	110	1.9	1.2	20.0	-3	-0.3	5.0	66	-0.5	-0.5	-0.2	19.0	16	0.15	-0.2	2.8	70	-1	2.9	145	123.2
SAM 15	82M/4	978164	0.41	0.52	309	1.4	2.02	0.02	19	-20	27	0.145	23.7	-15	1.0	0.3	11.0	-3	-0.3	4.1	20	2.6	0.8	-0.2	8.9	3	0.08	-0.2	2.8	38	-1	2.3	197	92.2
SAM 15	82M/4	978165	0.43	0.77	343	1.8	1.48	0.02	41	-20	39	0.038	38.6	100	0.9	0.5	15.0	-3	-0.3	5.5	32	-0.5	-0.5	-0.2	11.0	8	0.09	-0.2	2.6	38	-1	2.6	118	73.4
SAM 16	82M/4	978166	0.45	0.97	427	0.7	1.91	0.02	32	-34	73	0.065	30.3	-15	1.4	0.7	17.0	6	-0.3	5.3	17	-0.5	-0.5	-0.2	10.0	4	0.11	0.2	3.4	56	-1	3.1	149	95.2
SAM 16	82M/4	978167	0.50	2.86	1125	0.9	1.65	0.01	36	290	198	0.080	64.5	71	3.4	1.5	30.0	-3	0.4	6.7	24	-0.5	-0.5	-0.2	8.3	5	0.14	0.2	1.9	104	-1	3.4	164	126.8
SAM 17	82M/4	978172	0.37	4.96	1217	1.4	1.42	0.01	18	-20	293	0.095	765.5	-15	5.3	3.0	29.0	-3	-0.3	3.3	54	-0.5	-0.5	0.7	1.7	-2	0.03	-0.2	-0.5	177	-1	1.8	733	606.5
SAM 19	82M/4	978191	0.29	1.81	526	4.1	2.18	0.01	18	160	196	0.055	105.0	-15	1.2	0.6	17.0	-3	0.5	3.0	14	1.9	-0.5	0.4	3.6	-2	0.12	-0.2	0.9	84	-1	1.9	283	181.3
SAM 19	82M/4	978192	0.44	2.34	562	4.9	2.17	-0.01	31	210	249	0.033	119.9	58	2.6	1.2	32.0	-3	1.3	7.6	17	-0.5	1.5	0.6	4.9	4	0.15	-0.2	1.9	88	-1	4.1	193	197.7
SAM 19	82M/4	978193	0.62	0.76	751	10.2	0.85	-0.01	34	290	310	0.078	57.6	-15	3.0	1.9	24.0	-3	9.4	7.5	41	0.8	-0.5	0.6	1.2	3	0.06	-0.6	-0.5	34	-1	4.7	101	66.1
SAM 20	82M/4	978194	0.36	0.97	576	1.3	2.09	0.03	24	-35	115	0.119	42.5	38	1.0	0.4	16.0	-3	0.9	3.5	16	-0.5	-0.5	0.5	5.1	2	0.14	-0.2	-0.5	62	-1	2.3	177	171.7
SAM 20	82M/4	978195	0.47	1.98	1087	3.1	1.92	0.01	28	95	183	0.063	99.3	69	2.4	1.4	32.0	-3	1.3	6.1	18	-0.5	1.0	1.1	4.3	4	0.13	-0.2	1.4	89	-1	3.4	153	176.2
SAM 21	82M/4	978196	0.19	1.02	287	1.3	2.11	0.02	19	65	111	0.038	29.7	87	1.3	0.7	15.0	-3	0.4	3.6	14	1.4	-0.5	-0.2	5.7	3	0.11	-0.2	1.1	68	-1	1.9	110	87.8
SAM 21	82M/4	978197	0.72	0.88	551	0.4	2.32	0.01	40	-20	33	0.044	16.3	130	1.4	0.4	25.0	-3	-0.3	7.7	20	3.0	1.8	-0.2	17.0	8	0.11	0.2	3.9	46	-1	4.5	106	56.1
SAM 21	82M/4	978198	0.64	1.06	619	0.8	1.93	0.01	34	-20	48	0.035	18.0	92	1.0	0.5	21.0	-3	-0.3	6.1	21	1.5	-0.5	-0.2	14.0	10	0.12	0.2	3.1	53	-1	3.8	60	67.7
SAM 22	82M/4	978199	0.47	0.43	829	0.7	2.13	0.03	26	-20	42	0.101	17.1	53	0.9	0.3	13.0	-3	0.8	5.6	43	-0.5	1.4	-0.2	6.8	-2	0.11	-0.2	1.9	29	-1	3.7	97	40.7
SAM 22	82M/4	978200	0.54	1.67	1421	1.2	1.50	-0.01	32	-20	110	0.115	16.8	110	0.9	0.4	21.0	-3	-0.3	6.2	28	-0.5	1.0	0.2	9.2	4	0.15	0.2	2.5	67	-1	3.1	105	75.8
SAM 23	82M/4	978202	0.47	3.52	1477	0.9	1.88	0.01	18	80	196	0.110	9.7	54	0.7	0.2	26.0	-3	-0.3	5.1	29	1.8	-0.5	-0.2	6.7	3	0.28	-0.2	1.9	112	-1	3.0	88	76.2
SAM 24	82M/4	978204	0.38	2.52	1457	3.8	1.83	-0.01	22	-20	184	0.073	3436.1	72	8.2	7.7	24.0	-3	-1.5	4.9	29	2.2	1.5	-1.0	5.9	2	0.10	-1.0	1.4	95	-1	2.7	2600	2387.4
SAM 24	82M/4	978205	0.32	3.37	1131	0.7	1.22	0.02	16	140	267	0.091	461.2	36	8.2	4.7	26.0	-3	-1.5	3.8	72	1.7	0.6	-1.0	3.0	2	0.09	-1.0	-0.5	101	4	2.0	4830	4192.5
SAM 25	82M/4	978206	0.39	0.90	279	1.4	2.04	0.02	21	64	75	0.053	98.6	64	1.6	1.0	14.0	-3	-0.3	3.9	13	-0.5	0.6	-0.2	7.1	6	0.14	-0.2	2.3	62	-1	2.3	135	139.3
SAM 25	82M/4	978207	0.41	2.64	1506	0.9	1.43	0.02	25	130	193	0.120	153.9	40	5.7	3.4	23.0	-3	-0.3	4.9	52	1.6	1.0	-0.2	5.8	3	0.11	-0.2	-0.5	92	-1	2.5	343	317.6
SAM 26	82M/4	978208	0.44	2.03	5336	1.8	1.13	0.01	35	-20	158	0.097	275.6	55	6.0	3.9	24.0	-3	-0.3	6.4	52	1.6	1.2	0.2	8.5	4	0.05	0.2	1.5	62	-1	3.2	326	313.8
SAM 26	82M/4	978209	0.52	2.14	2065	1.5	1.23	0.01	37	160	217	0.080	211.9	81	3.5	2.7	28.0	-3	-0.3	6.6	43	1.7	1.2	0.2	9.2	5	0.08	0.2	1.5	93	-1	3.5	328	366.7
SAM 27	82M/4	978210	0.41	1.80	1251	1.4	1.65	0.01	28	-20	133	0.146	114.5	-15	7.5	6.0	20.0	-3	0.3	5.6	62	1.4	1.2	-0.2	6.0	4	0.09	0.4	2.6	65	-1	2.5	304	267.3
SAM 28	82M/4	978211	0.42	0.37	251	1.2	2.21	0.02	23	-20	48	0.144	49.4	85	1.1	0.9	12.0	-3	-0.3	3.8	13	-0.5	0.9	-0.2	7.4	4	0.11	-0.2	3.6	49	-1	2.3	137	159.1
SAM 28	82M/4	978212	0.57	1.33	873	1.1	2.14	0.01	40	74	91	0.112	55.1	69	1.5	1.1	18.0	-3	-0.3	7.4	35	1.9	1.1	-0.2	13.0	8	0.13	-0.2	3.4	64	-1	3.2	151	95.4
HAR97 1	82M/5	978002	0.44	0.26	172	0.7	2.26	0.02	23	-38	13	0.100	16.6	100	0.4	-0.2	7.3	-3	-0.3	3.5	18	3.1	-0.5	-0.2	15.0	7	0.12	0.2	6.7	30	-1	2.3	179	101.2
HAR97 1	82M/5	978003	0.56	0.67	317	0.9	2.36	0.02	13	-37	9	0.060	13.8	120	0.3	0.2	9.0	-3	-0.3	3.8	28	2.0	-0.5	-0.2	24.0	23	0.10	0.4	7.1	48	-1	3.3	-50	44.2
HAR97 2	82M/5	978004	0.48	0.36	317	0.8	2.32	0.01	20	-36	20	0.070	10.9	110	-0.1	-0.2	6.4	-3	-0.3	3.2	12	3.3	-0.5	-0.2	16.0	10	0.08	-0.2	5.8	31	-1	2.8	85	55.7
HAR97 2	82M/5	978005	0.57	0.50	270	0.8	2.42	0.02	26	-37	14	0.070	12.2	87	0.3	-0.2	7.7	-3	-0.3	3.8	15	3.3	-0.5	-0.2	24.0	20	0.08	0.2	9.2	39	-1	3.7	-50	31.3
HAR97 3	82M/5	978006	0.41	0.33	343	0.7	2.25	0.02	21	-34	29	0.110	11.5	110	-0.1	-0.2	6.9	-3	-0.3	3.1	15	2.6	-0.5	-0.2	14.0	9	0.11	0.2	4.4	32	-1	2.5	115	60.4
HAR97 3	82M/5	978007	0.47	0.54	277	1.0	2.37	0.01	25	-35	12	0.040	8.6	190	-0.1	-0.2	7.4	-3	-0.3	3.6	17	3.8	-0.5	-0.2	24.0	23	0.10	0.4	5.7	40	-1	3.4	86	32.3
HAR97 4	82M/5	978008	0.44	0.47	344	1.2	2.03	0.02	16	-40	35	0.130	15.0	62	0.2	0.2	7.2	-3	-0.3	3.1	18	1.5	-0.5	-0.2	14.0	10	0.12	0.2	5.7	39	-1	2.3	-50	85.5
HAR97 4	82M/5	978009	0.48	0.66	279	1.3	2.3	0.01	20	-35	14	0.040	14.1	110	0.2	-0.2	9.2	-3	-0.3	3.6	16	3.5	-0.5	-0.2	22.0	18	0.09	0.2	6.8	45	3	2.9	102	45.5
HAR97 5	82M/5	978010	0.44	0.50	341	0.8	2.37	0.02	14	-43	37	0.110	16.5	110	0.3	-0.2	8.6	-3	-0.3	3.5	16	2.0	-0.5	-0.2	17.0	9	0.13	0.2	4.2	41	5	2.6	162	85.7
HAR97 5	82M/5	978011	0.59	0.50	237	1.1	2.49	0.02	20	-39	15	0.050	18.0	110	0.5	0.3	7.9	-3	-0.3	3.9	15	1.0	1.0	-0.2	22.0	16	0.08	0.4	7.4	39	-1	3.1	141	33.2
HAR97 6	82M/5	978012	0.23	0.46	354	0.6	2.17	0.02	13	-34	30	0.110	14.6	58	0.3	-0.2	7.6	-3	-0.3	3.0	14	2.3	-0.5	-0.2	13.0	10	0.10	-0.2	5.3	40	3	2.2	-50	81.3
HAR97 6	82M/5	978013	0.70	0.56	246	0.8	3.27	0.02	35	-47	17	0.060	12.6	160	0.5	-0.2	11.0	-3	-0.3	5.2	14	3.8	-0.5	-0.2	27.0	16	0.08	0.2	8.3	42	-1	4.3	-50	33.7
HAR97 7	82M/5	978014	0.57	0.42	210	0.6	2.93	0.02	22	-40	21	0.090	10.8	170	0.3	-0.2	9.9	-3	-0.3	4.3	16	4.5	-0.5	-0.2	23.0	12	0.11	-0.2	7.5	38	-1	3.6	147	69.2
HAR97 7	82M/5	978016	0.64	0.61	259	0.7	2.85	0.02	17	-38	9	0.040	9.5	160	0.3	0.2	11.0	-3	-0.3	4.5	25	5.0	-0.5	-0.2	25.0	17	0.09	0.2	6.8	45	-1	3.8	-50	33.5
HAR97 7	82M/5	978017	0.61	0.58	237	0.6	2.9	0.02	20	-36	7	0.030	9.5	82	-0.1	-0.2	10.0	-3	-0.3	4.5	25	4.8	-0.5	-0.2	25.0	17	0.09	0.3	7.6	44	4	3.8	120	28.4
HAR97 8	82M/5	978018	0.50	0.45	229	0.8	2.65	0.02	19	-34	33	0.060	10.6	75	0.3	-0.2	9.2	-3	-0.3	3.9	17	4.6	-0.5	-0.2	18.0	9	0.12	-0.2	6.5	41	-1	2.8	133	85.8
HAR97 8	82M/5	978019	0.73	0.62	286	0.9	3.17	0.02	35	-52	18	0.060	10.1	200	-0.1	-0.2	12.0	-3	-0.3	5.4	19	4.6	-0.5	-0.2	33.0	19	0.09	0.2	11.0	44	-1	4.5	-50	32.7
HAR97 9	82M/5	978020	0.52	0.36	220	0.7	2.98	0.03	33	-49	31	0.050	9.8	170	-0.1	0.2	8.7	-3	-0.3	4.2	17	6.7	-0.5	0.2	18.0	8	0.11	0.2	5.2	33	5	2.8	272	84.4
HAR97 9	82M/5	978022	0.55	0.88	260	1.0	2.46	0.04	25	-33	17	0.020	8.3	200	0.3	-0.2	13.0	-3	-0.3	4.1	20	4.5	-0.5	0.2	18.0	11	0.10	0.3	5.7	55	-1	3.2	-50	43.3
HAR97 10	82M/5	978023	0.49	0.32	259	0.8	2.49	0.02	30	-37	25	0.120	22.3	97	0.4	0.2	9.3	-3	-0.3	4.4	17	3.2	-0.5	-0.2	17.0	9	0.14	-0.3	6.1	32	-1	3.2	262	183.0

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg[2] %	Mn[2] ppm	Mo[2] ppm	Na[1] %	Na[2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P[2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti[2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
HAR97 10	82M/5	978024	0.55	0.70	253	1.3	2.46	0.05	30	-29	9	0.030	11.9	150	-0.1	-0.2	10.0	-3	0.3	4.3	18	4.0	1.1	0.2	21.0	16	0.09	0.3	6.1	48	-1	3.5	-50	36.6
HAR97 11	82M/5	978025	0.45	0.39	435	0.7	2.42	0.02	11	-31	20	0.120	16.3	85	0.3	0.2	8.4	-3	-0.3	3.7	15	2.9	-0.5	-0.2	16.0	7	0.10	-0.3	7.3	35	-1	3.0	205	119.6
HAR97 11	82M/5	978026	0.58	0.68	250	0.8	2.47	0.04	18	-29	15	0.030	11.5	130	0.4	0.2	10.0	-3	-0.3	4.5	16	2.6	1.2	-0.2	20.0	15	0.09	-0.3	6.4	47	4	3.5	-50	65.5
BCR97 1	82M/5	978027	0.42	1.12	278	1.1	1.89	0.03	27	-28	119	0.050	33.1	74	0.6	0.2	11.0	-3	-0.3	4.9	20	2.8	0.6	0.3	12.0	7	0.15	-0.3	2.9	57	-1	2.4	491	503.2
BCR97 1	82M/5	978028	0.70	1.28	364	2.4	1.81	0.02	35	-20	65	0.070	50.9	130	0.9	0.4	14.0	-3	0.5	7.6	22	3.8	-0.5	0.5	26.0	20	0.10	0.5	7.2	62	4	4.3	197	139.4
BCR97 2	82M/5	978029	0.63	0.27	353	7.8	0.83	0.03	50	-20	10	0.140	2020.0	77	14.0	6.0	9.4	26	24.1	9.5	101	-0.5	1.3	5.4	14.0	6	0.11	-1.0	4.8	54	15	4.5	603	311.5
BCR97 2	82M/5	978030	0.69	0.02	105	9.1	0.07	0.03	57	-20	2	0.070	5290.8	45	21.0	5.1	4.0	100	108.0	10.0	26	1.0	1.4	8.6	8.3	2	0.06	-2.0	4.0	14	13	4.4	343	275.2
BCR97 3	82M/5	978031	0.48	1.53	605	1.5	1.66	0.04	33	-33	112	0.100	50.5	79	0.6	0.3	14.0	4	0.7	6.9	35	3.7	-0.5	0.3	14.0	9	0.22	-0.2	4.1	89	6	3.2	643	546.4
BCR97 3	82M/5	978032	0.51	2.88	693	2.2	1.39	0.05	39	65	143	0.100	82.3	170	1.1	0.5	19.0	-3	0.7	6.9	50	2.4	-0.5	0.6	18.0	14	0.21	0.9	6.5	127	5	3.4	557	535.0
BCR97 4	82M/5	978033	0.50	1.95	625	1.4	1.81	0.05	34	-28	61	0.060	43.4	150	0.7	0.5	15.0	-3	0.5	5.3	30	2.6	-0.5	0.2	22.0	20	0.18	0.8	4.3	82	5	3.2	444	485.3
BCR97 4	82M/5	978034	0.42	1.61	448	0.6	1.92	0.04	29	-29	120	0.040	25.5	130	0.5	0.2	13.0	-3	0.3	5.0	23	2.9	-0.5	0.2	15.0	10	0.22	0.3	3.8	65	4	2.7	1370	1475.1
BCR97 5	82M/5	978035	0.46	0.74	278	0.6	2.38	0.03	22	-28	39	0.050	20.9	68	0.3	-0.2	9.5	-3	-0.3	4.2	19	2.5	-0.5	-0.2	12.0	5	0.11	0.2	3.9	44	-1	2.7	262	178.6
BCR97 5	82M/5	978036	0.73	1.28	602	2.0	2.03	0.04	51	-29	42	0.110	53.5	150	0.7	0.6	13.0	-3	0.9	8.1	29	4.8	1.1	0.3	45.0	43	0.15	0.7	9.6	75	4	4.7	185	153.3
BCR97 6	82M/5	978037	0.39	0.91	387	1.0	2.05	0.02	17	-29	65	0.090	23.6	76	0.6	0.3	11.0	-3	0.3	3.9	21	2.1	-0.5	-0.2	10.0	4	0.17	0.2	4.1	60	4	2.4	484	396.2
BCR97 6	82M/5	978039	0.50	1.74	452	1.3	1.86	0.02	25	-28	70	0.030	23.5	150	0.5	0.2	16.0	-3	-0.3	4.7	21	1.7	-0.5	-0.2	12.0	6	0.17	0.3	4.2	87	6	3.0	509	477.3
BCR97 6	82M/5	978040	0.58	1.77	487	2.2	1.57	0.03	28	-28	67	0.170	23.4	110	0.6	0.3	15.0	-3	1.0	7.5	28	4.0	1.2	1.3	24.0	19	0.11	0.4	7.6	88	7	3.5	177	156.8
BCR97 7	82M/5	978042	0.46	1.37	434	1.8	1.5	0.02	27	-26	86	0.080	53.4	100	0.6	0.3	12.0	-3	1.1	4.9	46	2.1	-0.5	0.3	13.0	8	0.14	0.3	3.4	67	4	3.1	692	716.9
BCR97 7	82M/5	978043	0.57	1.55	508	2.4	1.8	0.02	40	-27	43	0.030	52.8	110	0.7	0.5	13.0	-3	0.7	5.9	27	2.5	-0.5	0.5	21.0	16	0.12	0.5	6.7	56	5	3.7	228	219.6
BCR97 8	82M/5	978044	0.67	1.70	2630	6.2	1.3	0.04	32	-27	53	0.070	449.0	120	1.5	0.8	14.0	-3	0.8	6.3	28	2.2	1.2	-0.2	29.0	24	0.10	0.6	4.9	54	-1	3.8	762	693.1
BCR97 8	82M/5	978045	0.59	1.74	1104	2.1	1.51	0.04	36	-26	30	0.080	118.6	120	1.0	0.5	14.0	-3	0.5	5.9	24	1.5	-0.5	-0.2	26.0	20	0.09	0.4	4.8	47	4	3.7	378	406.5
BCR97 8	82M/5	978046	0.66	1.55	966	2.3	1.86	0.04	38	-30	34	0.080	98.7	180	1.2	0.4	16.0	-3	0.8	7.2	25	2.3	-0.5	-0.2	30.0	21	0.10	0.5	5.7	53	6	4.3	384	308.2
BCR97 9	82M/5	978047	0.60	0.94	568	0.8	2.51	0.03	40	-32	40	0.040	26.6	170	0.6	-0.2	13.0	-3	0.3	7.1	24	5.2	-0.5	-0.2	21.0	13	0.14	0.2	6.7	54	-1	4.3	346	278.6
BCR97 9	82M/5	978048	0.59	1.33	470	1.0	2.35	0.05	31	-31	45	0.050	33.0	190	0.5	0.2	14.0	-3	0.3	6.1	27	3.5	-0.5	-0.2	27.0	20	0.17	0.5	8.1	70	5	4.3	252	185.2
BCR97 10	82M/5	978050	0.73	1.12	402	1.0	2.49	0.02	37	-32	54	0.070	24.4	180	0.7	0.2	12.0	-3	-0.3	6.6	20	5.3	-0.5	0.2	24.0	17	0.15	0.4	6.1	70	6	4.4	280	204.0
BCR97 10	82M/5	978051	0.69	0.73	348	1.0	2.58	0.04	35	-30	15	0.040	22.1	190	0.6	0.3	11.0	-3	-0.3	5.9	15	5.9	-0.5	-0.2	49.0	36	0.15	0.6	7.3	49	5	4.2	90	46.3
BCR97 10	82M/5	978052	0.78	1.41	462	1.8	2.13	0.02	44	-20	54	0.130	21.2	130	0.9	0.3	11.0	-3	0.6	7.7	30	4.0	-0.5	0.3	40.0	41	0.17	0.5	11.0	87	6	4.9	142	123.6
BCR97 11	82M/5	978053	0.66	1.23	411	1.1	2.69	0.02	28	-32	54	0.140	27.5	160	0.7	-0.2	14.0	-3	-0.3	5.6	14	5.9	-0.5	-0.2	28.0	9	0.14	0.3	5.8	59	-1	3.6	130	232.4
BCR97 11	82M/5	978054	0.59	1.15	338	1.6	2.34	0.02	34	-31	48	0.090	38.1	160	0.6	0.2	15.0	-3	0.3	6.3	15	4.3	-0.5	0.2	20.0	17	0.13	0.4	5.6	55	6	3.7	259	120.8
BCR97 12	82M/5	978055	0.57	1.68	392	1.3	2.11	0.02	31	-20	107	0.060	43.3	170	0.5	0.2	13.0	-3	0.6	6.3	25	3.7	-0.5	0.5	19.0	13	0.18	0.4	5.2	76	-1	3.3	287	224.1
BCR97 12	82M/5	978056	0.66	1.92	445	1.8	1.92	0.02	33	-20	93	0.060	42.0	130	0.6	0.2	15.0	-3	0.7	7.5	26	4.0	-0.5	0.5	23.0	18	0.19	0.7	6.2	83	-1	3.6	203	147.8
BCR97 13	82M/5	978057	0.47	0.68	591	0.7	2.55	0.02	22	-31	37	0.150	21.3	69	0.6	-0.2	11.0	-3	-0.3	4.6	12	3.6	-0.5	-0.2	14.0	7	0.15	0.2	3.7	49	-1	2.6	314	230.1
BCR97 13	82M/5	978058	0.60	1.58	355	1.8	2.2	0.03	36	-30	69	0.140	22.1	95	0.7	0.2	15.0	-3	1.2	6.6	30	5.7	-0.5	0.3	29.0	19	0.16	0.3	6.7	85	-1	3.4	442	269.6
BCR97 14	82M/5	978059	0.54	0.73	483	0.9	2.26	0.02	30	-28	36	0.070	30.4	100	0.7	0.2	12.0	-3	-0.3	4.9	16	2.3	-0.5	-0.2	21.0	13	0.13	0.3	5.5	46	-1	3.4	292	217.1
BCR97 14	82M/5	978060	0.48	0.70	471	1.0	2.21	0.02	24	-28	38	0.080	25.9	95	0.8	-0.2	12.0	-3	-0.3	4.8	15	2.9	-0.5	-0.2	20.0	12	0.12	0.2	5.2	47	-1	3.1	318	208.3
BCR97 14	82M/5	978062	0.59	1.44	452	2.2	2.19	0.02	35	-29	46	0.050	27.4	120	1.0	0.3	16.0	-3	0.6	6.1	17	4.8	-0.5	0.4	33.0	25	0.14	0.4	7.8	69	-1	3.8	164	115.8
BCR97 15	82M/5	978063	0.38	1.28	376	1.4	2.11	0.03	33	-31	61	0.090	32.4	91	1.2	0.4	12.0	-3	0.5	6.2	33	-0.5	-0.5	0.3	11.0	6	0.17	0.2	4.2	66	-1	2.4	861	678.4
BCR97 15	82M/5	978064	0.45	3.33	550	2.5	1.05	0.02	54	-30	66	0.130	39.2	60	1.9	1.0	16.0	-3	2.5	11.0	39	3.1	-0.5	1.2	14.0	10	0.16	0.4	3.6	128	-1	2.7	401	384.0
BCR97 16	82M/5	978065	0.51	1.33	740	1.1	1.91	0.02	29	-29	66	0.100	100.9	80	0.9	0.3	13.0	-3	-0.3	6.1	22	3.2	-0.5	0.2	17.0	9	0.16	0.3	4.1	59	-1	3.3	944	852.9
BCR97 16	82M/5	978066	0.76	2.93	2062	3.5	0.96	0.03	52	-30	128	0.110	172.3	90	1.9	0.5	19.0	-3	1.2	8.5	53	1.7	1.1	0.8	23.0	16	0.21	0.8	7.7	104	5	5.1	1030	957.1
HAR98 1	82M/5	988402	0.59	1.06	411	4.5	1.7	0.01	44	-31	38	0.070	69.7	72	0.7	0.3	19.6	-3	1.7	8.9	14	2.0	1.0	0.8	17.9	8	0.03	-0.2	4.3	32	7	4.5	387	244.6
HAR98 1	82M/5	988403	0.65	1.16	390	5.3	1.46	0.01	41	139	41	0.070	69.9	99	0.7	0.5	19.6	-3	2.1	8.8	13	1.5	1.0	0.9	16.9	9	0.02	0.4	4.3	33	5	4.0	293	215.5
HAR98 1	82M/5	988404	0.71	0.90	1066	5.8	1.27	0.01	44	246	42	0.080	255.9	89	1.1	0.8	21.3	4	4.2	9.1	13	1.3	-0.5	6.2	21.1	12	0.02	0.2	5.4	28	5	5.0	498	429.6
HAR98 1	82M/5	988405	0.75	1.23	544	5.2	1.49	0.01	46	-30	38	0.100	118.6	117	0.6	0.5	21.7	-3	3.1	9.7	12	1.9	1.3	1.2	21.5	13	0.02	0.3	5.2	33	5	4.8	350	272.8
HAR98 2	82M/5	988406	0.58	1.31	376	3.4	1.34	0.01	40	-30	38	0.040	35.0	127	0.6	0.4	21.9	-3	1.7	8.7	8	2.5	1.2	0.7	19.0	10	0.03	0.2	3.5	35	5	3.9	216	139.2
HAR98 2	82M/5	988407	0.90	0.81	989	4.6	0.95	0.01	54	-34	52	0.070	31.4	138	0.5	0.4	22.1	5	2.0	12.0	12	1.8	1.4	0.7	25.5	17	0.02	0.3	5.6	23	-1	5.7	255	130.2
HAR98 3	82M/5	988408	0.41	0.62	370	2.1	1.98	0.02	25	-27	38	0.060	18.9	74	0.3	-0.2	11.4	-3	0.6	4.9	18	1.7	-0.5	0.3	9.7	5	0.08	0.2	2.3	39	2	2.5	347	224.1
HAR98 3	82M/5	988409	0.57	1.71	654	5.7	1.56	0.02	34	-32	42	0.050	130.5	122	0.6	0.6	22.5	-3	3.3	7.4	14	2.5	-0.5	1.1	18.4	16	0.05	0.6	4.4	57	6	4.2	238	126.4
HAR98 3	82M/5	988410	1.13	1.42	1950	11.0	1.31	0.02	56	-37	59	0.080	109.2	96	0.8	0.4	24.1	4	5.3	13.0	20	2.0	1.9	1.7	22.7	19	0.03	0.4	5.5	51	4	8.0	502	364.3
HAR98 4	82M/5	988411	0.44	0.79	246	1.2	2.12	0.02	23	-24	39	0.020	16.2	105	0.3	0.2	12.7	-3	0.4	5.0	12	2.5	-0.5	-0.2	12.0	8	0.06	0.2	4.2	34	-1	2.9	267	204.6
HAR98 4	82M/5	988413	0.72	1.68	303	2.4	1.84	0.01	40	161	45	0.080	40.5	103	0.6	0.5	22.7	3	1.0	9.6	14	2.9	1.0	0.4	22.2	17	0.05	0.3	4.8	52	4	4.9	222	133.2
HAR98 5	82M/5	988414	0.58	0.97	375	3.8	1.97	0.01	30	-24	44	0.050	30.5	76	0.3	0.2	15.2	-3	0.3	6.7	15	3.0	-0.5	0.2	15.1	8	0.07	-0.2	4.3	43	-1	3.6	520	367.0

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg[2] %	Mn[2] ppm	Mo[2] ppm	Na[1] %	Na[2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P[2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti[2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
HAR98 5	82M/5	988415	0.70	1.28	358	8.1	1.78	0.01	35	95	34	0.030	30.9	100	0.6	0.3	16.0	-3	1.0	7.2	13	3.1	0.7	0.5	19.9	14	0.06	0.2	5.7	55	4	4.6	211	139.0
HAR98 6	82M/5	988416	0.58	1.45	389	2.1	2.09	0.01	42	-33	70	0.060	210.9	120	0.6	0.3	18.8	-3	0.4	8.8	13	4.0	-0.5	0.2	16.5	9	0.07	0.3	5.8	70	6	3.7	1230	807.6
HAR98 6	82M/5	988417	0.70	1.35	433	2.9	1.83	0.01	45	-27	60	0.150	165.8	137	0.8	0.5	19.7	-3	0.9	9.4	23	4.4	-0.5	0.2	24.2	17	0.05	0.4	5.6	63	4	4.9	536	333.9
HAR98 7	82M/5	988418	0.63	1.05	416	6.6	1.85	0.01	36	-26	35	0.030	40.9	133	0.6	0.4	18.6	-3	1.0	7.5	18	3.0	0.8	0.6	17.7	12	0.05	-0.2	5.0	42	3	4.3	292	171.1
HAR98 7	82M/5	988419	0.76	1.33	843	3.6	1.46	0.01	34	155	33	0.100	37.9	94	0.6	0.4	21.1	-3	2.6	8.1	88	2.1	-0.5	0.7	18.4	12	0.02	0.2	3.4	39	3	5.2	176	94.2
HAR98 8	82M/5	988420	0.49	0.78	672	1.1	1.95	0.01	36	-26	38	0.250	56.0	83	0.5	0.2	14.4	-3	0.6	7.4	23	2.0	0.8	0.4	11.5	4	0.07	-0.2	3.8	36	4	3.2	668	702.7
HAR98 8	82M/5	988422	0.56	1.93	387	2.8	1.5	0.01	52	-27	36	0.073	112.4	125	0.6	0.4	19.9	-3	2.6	10.2	26	2.8	1.0	1.1	16.3	7	0.06	0.2	3.2	57	6	4.2	390	234.9
HAR98 9	82M/5	988423	0.50	0.86	402	2.6	1.7	0.01	38	-22	40	0.093	33.5	90	0.5	0.2	15.2	-3	1.9	7.6	13	2.0	0.9	0.8	13.7	7	0.04	-0.2	3.5	33	3	3.7	425	310.0
HAR98 9	82M/5	988424	0.54	1.02	466	3.4	1.5	0.01	43	-23	40	0.064	39.6	79	0.3	0.3	16.8	-3	2.7	8.6	11	2.0	0.9	1.3	16.2	9	0.04	-0.2	3.6	34	4	4.1	399	253.9
HAR97 20	82M/5	978110	0.53	1.23	1135	2.5	1.26	0.02	32	-29	26	0.090	234.4	81	0.5	0.2	14.0	4	4.1	6.0	39	2.0	-0.5	0.5	14.0	9	0.15	0.3	4.8	96	-1	3.4	626	560.5
HAR97 20	82M/5	978111	0.89	1.77	708	2.6	0.43	0.05	43	-30	3	0.050	116.6	52	0.4	-0.6	15.0	28	21.0	8.0	26	1.8	-0.5	0.7	8.6	4	0.09	-0.6	3.9	94	-1	5.1	292	199.0
HAR97 21	82M/5	978112	0.57	0.87	455	1.8	1.51	0.01	31	140	46	0.090	66.6	67	0.4	-0.2	12.0	5	5.5	6.2	26	1.9	-0.5	0.3	10.0	3	0.11	0.3	3.2	83	-1	3.0	366	302.9
HAR97 21	82M/5	978113	0.61	0.98	337	1.6	1.86	0.01	24	-27	16	0.060	33.2	110	0.3	0.3	12.0	-3	4.6	5.5	22	4.5	-0.5	0.2	18.0	11	0.10	0.2	5.3	89	3	3.5	172	105.7
HAR 96 -1	82M/5	52549	0.52	0.29	336	1.0	2.58	0.02	18	-29	16	0.112	10.0	110	3.5	-2.0	8.0	-3	nd	3.9	20	3.2	-0.5	nd	19.0	10	0.10	nd	6.1	29	-1	2.9	120	99.0
HAR 96 -1	82M/5	52550	0.53	0.30	176	1.0	2.86	0.01	21	-25	7	0.030	7.0	140	0.6	-2.0	6.6	-3	nd	4.0	9	3.7	-0.5	nd	21.0	17	0.07	nd	8.0	31	-1	3.2	-50	21.0
HAR 96 -2	82M/5	52552	0.45	0.37	483	-1.0	2.52	0.02	20	-30	27	0.127	10.0	130	0.8	-2.0	9.3	-3	nd	4.1	17	2.0	-0.5	nd	18.0	10	0.11	nd	6.7	36	-1	3.1	150	114.0
HAR 96 -2	82M/5	52553	0.44	0.85	309	1.0	2.41	0.01	18	-27	12	0.028	8.0	150	0.5	-2.0	12.0	-3	nd	4.1	19	2.7	-0.5	nd	21.0	18	0.10	nd	7.0	59	-1	3.0	-50	43.0
HAR 96 -3	82M/5	52554	0.38	0.39	921	-1.0	2.32	0.02	18	-32	31	0.102	12.0	67	0.6	-2.0	9.2	-3	nd	3.7	17	1.9	-0.5	nd	12.0	6	0.12	nd	4.4	36	-1	2.5	190	141.0
HAR 96 -3	82M/5	52555	0.54	0.71	332	1.0	2.27	0.01	20	-27	23	0.029	10.0	120	0.6	-2.0	11.0	-3	nd	4.3	17	3.3	-0.5	nd	17.0	11	0.10	nd	7.8	47	-1	3.1	88	73.0
HAR 96 -4	82M/5	52556	0.44	0.34	558	-1.0	2.59	0.02	17	-29	22	0.107	9.0	110	0.7	-2.0	8.8	-3	nd	3.9	15	2.3	-0.5	nd	15.0	8	0.11	nd	5.6	31	2	3.1	130	155.0
HAR 96 -4	82M/5	52557	0.49	0.34	264	-1.0	2.72	0.01	22	-26	12	0.041	8.0	120	0.9	-2.0	8.3	-3	nd	3.9	12	3.7	-0.5	nd	18.0	12	0.10	nd	8.3	31	-1	3.4	52	85.0
HAR 96 -4	82M/5	52558	0.55	0.55	328	1.0	2.46	0.02	22	-28	16	0.098	10.0	110	0.5	-2.0	9.6	-3	nd	4.2	16	3.2	-0.5	nd	23.0	17	0.09	nd	8.0	43	-1	3.5	-50	66.0
HAR 96 -5	82M/5	52559	0.41	0.19	565	-1.0	2.4	0.02	18	-30	16	0.245	14.0	59	0.7	-2.0	7.2	-3	nd	3.4	22	2.4	-0.5	nd	12.0	5	0.11	nd	4.2	26	-1	2.3	110	138.0
HAR 96 -5	82M/5	52560	0.57	0.40	235	1.0	2.65	0.02	17	-26	12	0.056	9.0	120	0.4	-2.0	7.0	-3	nd	4.0	13	4.0	-0.5	nd	22.0	18	0.08	nd	7.7	36	-1	3.6	-50	37.0
HAR 96 -6	82M/5	52562	0.49	0.25	254	1.0	2.58	0.02	20	-30	24	0.149	15.0	130	0.8	2.0	8.2	-3	nd	4.0	22	2.4	-0.5	nd	19.0	10	0.13	nd	6.9	33	-1	3.1	64	84.0
HAR 96 -6	82M/5	52563	0.56	0.28	162	1.0	3	0.01	16	-26	11	0.017	9.0	150	1.3	-2.0	6.9	-3	nd	3.8	10	4.3	-0.5	nd	23.0	16	0.08	nd	9.0	32	-1	3.7	-50	29.0
HAR 96 -7	82M/5	52564	0.46	0.32	372	-1.0	2.52	0.02	19	-28	20	0.147	8.0	120	0.7	-2.0	7.9	-3	nd	3.6	21	2.6	-0.5	nd	20.0	12	0.10	nd	7.3	30	-1	2.8	90	92.0
HAR 96 -7	82M/5	52565	0.52	0.27	208	-1.0	2.81	0.02	21	-25	7	0.046	11.0	140	1.2	-2.0	6.3	-3	nd	4.2	12	3.8	1.0	nd	25.0	21	0.08	nd	7.6	30	-1	3.6	71	24.0
HAR 96 - 8	82M/5	52566	0.42	0.42	235	1.0	2.19	0.02	18	-28	29	0.163	18.0	110	1.0	-2.0	9.0	-3	nd	4.0	24	2.3	-0.5	nd	19.0	13	0.15	nd	5.0	41	-1	2.6	110	130.0
HAR 96 - 8	82M/5	52567	0.51	0.33	196	1.0	2.7	0.01	19	-25	8	0.020	8.0	150	1.8	2.0	7.4	-3	nd	4.0	10	3.5	0.7	nd	20.0	16	0.09	nd	7.5	32	-1	3.4	-50	38.0
HAR 96 - 9	82M/5	52568	0.41	0.43	316	1.0	2.59	0.02	21	-22	19	0.051	11.0	140	0.7	-2.0	8.9	-3	nd	3.9	19	2.8	-0.5	nd	18.0	10	0.09	nd	6.6	38	-1	3.0	75	82.0
HAR 96 - 9	82M/5	52569	0.57	0.43	205	1.0	2.78	0.01	23	-26	11	0.027	11.0	130	3.1	-2.0	8.6	-3	nd	4.4	11	3.7	-0.5	nd	22.0	16	0.08	nd	7.9	35	-1	3.3	-50	32.0
HAR 96 -1 0	82M/5	52570	0.44	0.60	304	1.0	2.29	0.02	21	-30	38	0.049	16.0	170	0.9	2.0	11.0	-3	nd	4.2	21	2.2	-0.5	nd	17.0	12	0.12	nd	5.9	48	-1	2.9	100	96.0
HAR 96 -1 0	82M/5	52572	0.49	0.83	293	1.0	2.23	0.01	20	-26	19	0.023	12.0	160	0.7	-2.0	11.0	-3	nd	4.4	14	2.6	0.9	nd	20.0	15	0.09	nd	7.1	50	-1	2.9	-50	54.0
HAR 96 - 11	82M/5	52573	0.44	0.42	826	1.0	2.42	0.02	26	-28	36	0.064	15.0	100	1.4	-2.0	9.0	-3	nd	4.0	20	2.1	-0.5	nd	16.0	11	0.09	nd	5.2	36	-1	2.8	150	124.0
HAR 96 - 11	82M/5	52574	0.52	0.60	268	1.0	2.52	0.01	21	-26	24	0.040	10.0	150	1.1	-2.0	9.9	-3	nd	4.7	14	3.0	-0.5	nd	24.0	19	0.09	nd	7.2	43	-1	3.4	73	55.0
HAR 96 - 12	82M/5	52575	0.40	0.62	433	1.0	2.41	0.02	21	-25	64	0.076	16.0	120	0.9	-2.0	11.0	-3	nd	4.2	22	2.5	-0.5	nd	18.0	10	0.12	nd	6.6	47	-1	2.9	100	147.0
HAR 96 - 12	82M/5	52576	0.52	0.57	252	1.0	2.58	0.01	20	-27	19	0.029	11.0	140	0.6	-2.0	9.4	-3	nd	4.5	12	3.2	-0.5	nd	23.0	16	0.08	nd	7.7	41	-1	3.5	-50	45.0
HOM96 -1	82M/4	52516	0.78	0.19	220	3.0	0.81	0.02	65	-47	4	0.082	1226.0	190	5.8	10.0	21.0	-3	nd	14.0	49	-0.5	1.7	nd	34.0	8	-0.01	nd	5.6	18	-1	6.1	270	314.0
HOM96 -1	82M/4	52517	0.88	0.12	284	4.0	0.7	0.02	65	-42	5	0.091	1677.0	210	7.8	9.0	21.0	-3	nd	13.0	44	-0.5	-0.5	nd	31.0	9	-0.01	nd	4.3	16	7	5.8	320	321.0
HOM96 -1	82M/4	52518	0.70	0.13	157	2.0	0.81	0.01	69	-38	5	0.056	1197.0	220	7.4	9.0	20.0	-3	nd	13.0	31	1.7	1.9	nd	29.0	8	-0.01	nd	5.5	16	7	5.3	570	583.0
HOM96 - 2	82M/4	52519	1.08	0.32	495	2.0	0.81	0.01	83	-39	6	0.055	501.0	190	4.2	6.0	16.0	-3	nd	15.0	35	-0.5	2.4	nd	38.0	13	0.02	nd	7.9	11	-1	7.4	580	625.0
HOM96 -2	82M/4	52520	1.04	0.40	508	3.0	0.99	0.02	75	-38	6	0.040	407.0	180	3.6	6.0	15.0	-3	nd	14.0	35	-0.5	2.4	nd	36.0	15	0.01	nd	9.2	10	-1	7.4	700	693.0
HOM96 -2	82M/4	52522	1.18	0.69	739	3.0	0.69	0.01	74	-40	8	0.034	351.0	220	3.3	4.0	17.0	-3	nd	17.0	41	-0.5	2.9	nd	42.0	17	0.01	nd	9.9	9	-1	9.3	680	762.0
HOM96 - 2	82M/4	52523	1.38	0.81	769	3.0	0.8	0.02	96	-40	6	0.034	238.0	200	2.7	4.0	16.0	-3	nd	19.0	91	-0.5	3.1	nd	48.0	14	0.01	nd	11.0	8	-1	9.4	500	479.0
HOM96 - 3	82M/4	52524	0.70	0.23	380	1.0	1.05	0.02	58	-44	5	0.081	1317.0	130	5.7	7.0	22.0	-3	nd	12.0	47	1.6	1.6	nd	27.0	8	0.01	nd	5.4	20	-1	5.5	910	968.0
HOM96 - 3	82M/4	52525	0.73	0.32	531	2.0	1.18	0.03	52	-44	5	0.067	1359.0	140	6.0	7.0	21.0	-3	nd	10.0	52	-0.5	1.9	nd	24.0	7	0.01	nd	5.5	19	5	4.9	870	1157.0
HOM96 - 3	82M/4	52526	0.69	1.07	288	2.0	1.13	0.02	39	-32	32	0.022	45.0	140	1.0	-2.0	17.0	-3	nd	8.3	62	-0.5	1.4	nd	19.0	11	0.05	nd	5.9	28	-1	4.8	200	163.0
HOM96 -4	82M/4	52527	0.50	0.30	1217	1.0	1.11	0.02	38	-31	6	0.079	161.0	97	1.2	-2.0	11.0	-3	nd	8.0	70	-0.5	1.3	nd	18.0	5	0.04	nd	2.8	18	3	3.5	360	357.0
HOM96 -4	82M/4	52528	0.65	0.71	334	1.0	1.15	0.02	39	-33	11	0.054	96.0	140	1.8	-2.0	13.0	-3	nd	8.3	45	-0.5	1.7	nd	19.0	10	0.06	nd	5.4	17	-1	4.4	270	283.0
HOM96 - 4	82M/4	52529	1.10	0.31	616	5.0	0.6	0.05	55	-45	16	0.094	641.0	170	2.9	7.0	19.0	4	nd	13.0	85	-0.5	2.8	nd	32.0	11	0.01	nd	9.2	17	-1	7.2	930	1077.0

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg[2] %	Mn[2] ppm	Mo[2] ppm	Na[1] %	Na[2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P[2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti[2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
HOM96 -5	82M/4	52530	0.50	0.43	570	2.0	1.59	0.03	34	-38	18	0.048	419.0	69	2.1	2.0	21.0	-3	nd	7.3	40	-0.5	1.2	nd	11.0	4	0.03	nd	3.2	37	-1	3.5	580	582.0
HOM96 - 5	82M/4	52532	0.71	0.33	334	3.0	1.12	0.02	44	-37	18	0.044	685.0	160	2.7	5.0	23.0	-3	nd	9.5	51	-0.5	2.1	nd	18.0	6	0.02	nd	4.6	27	-1	4.8	690	780.0
HOM96 - 5	82M/4	52533	1.16	0.37	805	4.0	0.51	0.02	53	-38	17	0.072	390.0	90	2.3	3.0	19.0	-3	nd	13.0	55	1.3	2.5	nd	22.0	9	-0.01	nd	14.0	9	-1	7.9	830	814.0
CAM98-1	82M/5	988429	0.32	0.14	369	0.5	2.31	0.02	14	68	5	0.030	8.8	69	0.3	-0.2	7.7	-3	-0.3	3.6	15	1.1	-0.5	-0.2	7.6	2	0.04	-0.2	2.2	18	-1	1.9	168	62.7
CAM98-1	82M/5	988430	0.40	0.24	280	0.4	2.65	0.01	24	-20	4	0.040	7.0	92	-0.1	-0.2	8.7	-3	-0.3	4.5	21	2.0	0.6	-0.2	11.9	5	0.03	0.2	3.2	24	-1	2.4	109	67.1
CAM98-2	82M/5	988431	0.30	0.16	862	0.4	2.32	0.01	17	-20	5	0.080	7.2	88	0.4	-0.2	7.4	3	-0.3	3.3	15	1.7	-0.5	-0.2	7.1	3	0.03	-0.2	2.8	22	2	2.0	178	92.9
CAM98-2	82M/5	988433	0.38	0.19	354	0.3	2.73	0.01	20	-25	7	0.060	5.9	129	0.3	0.2	8.5	-3	-0.3	4.2	9	1.8	-0.5	-0.2	8.9	5	0.03	0.2	2.8	22	5	2.3	207	88.8
CAM98-2	82M/5	988434	0.34	0.17	372	0.4	2.2	0.01	18	-20	6	0.060	6.1	117	0.5	-0.2	7.9	-3	-0.3	3.9	10	1.7	-0.5	-0.2	9.4	5	0.03	-0.2	2.6	19	3	2.2	149	78.3
CAM98-3	82M/5	988435	0.50	0.32	267	0.4	2.41	0.01	30	-20	5	0.030	4.1	116	0.1	-0.2	10.5	-3	-0.3	5.6	17	2.2	-0.5	-0.2	17.8	6	0.04	-0.2	3.0	26	-1	3.1	105	51.9
CAM98-3	82M/5	988436	0.48	0.31	290	0.3	2.64	0.01	27	-20	3	0.050	4.0	102	0.2	-0.2	10.5	-3	-0.3	5.4	19	2.3	-0.5	-0.2	17.6	7	0.03	0.2	3.8	25	-1	3.0	81	42.8
CAM98-4	82M/5	988437	0.40	0.23	265	0.3	2.66	0.01	17	-20	4	0.030	9.5	143	0.4	0.2	7.9	3	-0.3	3.5	18	2.2	-0.5	-0.2	9.2	4	0.03	0.2	3.0	30	2	2.4	152	88.3
CAM98-4	82M/5	988438	0.42	0.24	450	0.3	3.07	0.01	20	-20	2	0.060	7.9	124	0.5	0.2	9.1	-3	-0.3	4.3	23	2.0	-0.5	-0.2	13.9	7	0.02	0.3	3.5	26	3	2.7	127	78.6
CAM98-5	82M/5	988439	0.30	0.18	242	0.7	1.87	0.01	17	-20	5	0.060	41.6	139	0.4	0.2	7.8	-3	-0.3	2.8	18	1.8	-0.5	-0.2	6.5	2	0.03	-0.2	2.0	23	5	1.8	207	123.9
CAM98-5	82M/5	988440	0.28	0.10	173	0.7	2.1	0.01	11	-20	3	0.050	36.4	118	0.5	0.3	5.8	-3	-0.3	2.3	13	1.7	-0.5	-0.2	7.8	5	0.02	-0.2	1.6	19	4	1.5	108	57.8
CAM98-6	82M/5	988442	0.38	0.25	214	0.3	2.5	0.01	18	-20	5	0.010	6.5	118	0.6	-0.2	9.8	-3	-0.3	3.3	34	2.3	-0.5	-0.2	9.0	3	0.04	-0.2	3.6	34	2	2.5	153	55.7
CAM98-6	82M/5	988443	0.92	0.29	755	0.4	2.83	0.01	67	-21	4	0.080	9.4	106	0.4	-0.2	13.7	-3	-0.3	13.1	52	2.6	1.6	-0.2	19.9	10	0.03	-0.2	4.0	38	-1	6.7	109	58.5
CAM98-7	82M/5	988444	0.40	0.24	403	0.4	2.22	0.02	24	-20	10	0.060	6.3	61	0.2	0.2	9.7	-3	-0.3	5.0	53	1.3	0.6	-0.2	11.2	4	0.07	-0.2	3.1	24	-1	2.6	173	79.1
CAM98-7	82M/5	988445	0.41	0.33	286	-0.1	2.85	0.02	26	-20	6	0.030	4.2	82	0.2	-0.2	9.5	3	-0.3	4.9	31	1.9	-0.5	-0.2	11.7	6	0.05	-0.2	3.2	24	2	2.7	97	35.8
CAM98-9	82M/5	988516	0.44	0.22	158	1.0	2.78	0.01	20	-29	6	0.010	5.1	88	0.2	-0.2	11.9	-3	-0.3	5.0	18	1.7	-0.5	-0.2	12.6	6	0.05	0.3	3.4	22	-1	2.8	92	32.3
CAM98-9	82M/5	988517	0.42	0.32	287	0.7	3.1	0.02	22	-31	5	0.050	4.4	127	-0.1	-0.2	11.0	-3	-0.3	4.9	30	2.8	-0.5	-0.2	10.7	11	0.05	0.5	3.7	29	6	2.4	-50	39.8
CAM98-10	82M/5	988518	nd	0.34	329	0.8	nd	0.02	nd	nd	5	0.050	5.0	nd	nd	-0.2	nd	nd	-0.3	nd	30	nd	nd	-0.2	nd	12	0.05	0.5	nd	30	nd	nd	nd	43.3
CAM98-10	82M/5	988519	0.65	0.32	287	0.7	3.09	0.02	47	-23	5	0.050	4.4	121	0.3	-0.2	13.1	-3	-0.3	9.7	30	2.1	-0.5	-0.2	21.6	11	0.05	0.5	4.5	29	-1	4.1	76	39.8
CAM98-10	82M/5	988520	0.51	0.34	329	0.8	2.5	0.02	34	-20	5	0.050	5.0	92	-0.1	-0.2	11.0	-3	-0.3	7.7	30	2.3	-0.5	-0.2	16.4	12	0.05	0.5	3.8	30	-1	3.3	63	43.3
WIN 1	82M/4	978180	0.65	0.98	641	1.3	2.22	0.01	35	-20	38	0.049	30.5	80	0.9	0.5	23.0	-3	-0.3	7.2	19	1.9	1.2	-0.2	16.0	10	0.11	-0.2	4.6	57	-1	4.9	66	62.2
WIN 2	82M/4	978182	0.59	0.41	277	1.6	1.93	0.01	30	84	9	0.015	37.0	76	1.0	0.5	15.0	-3	-0.3	5.6	9	1.9	1.1	-0.2	12.0	8	0.02	0.2	4.7	16	4	4.4	172	129.0
WIN 3	82M/4	978184	0.74	0.47	1036	1.0	1.90	0.01	32	-20	10	0.076	42.6	80	0.7	0.4	13.0	-3	-0.3	7.1	16	-0.5	0.8	-0.2	14.0	9	0.01	-0.2	3.6	17	-1	4.6	118	139.2
WIN 4	82M/4	978185	0.82	0.60	1459	1.7	1.53	0.01	44	-20	5	0.062	57.0	150	0.4	0.4	17.0	-3	-0.3	7.4	18	1.5	1.0	0.3	17.0	13	0.02	-0.2	3.3	26	6	4.8	286	313.5
WIN 5	82M/4	978186	0.77	0.31	637	2.0	2.01	0.01	51	-20	7	0.044	44.7	72	0.6	0.7	15.0	-3	-0.3	8.1	9	-0.5	1.5	0.2	14.0	9	0.01	-0.2	4.7	15	-1	5.5	125	165.6
WIN 6	82M/4	978187	0.76	0.45	1193	1.6	1.51	0.01	42	-20	5	0.050	49.6	110	0.8	0.6	16.0	-3	-0.3	7.0	14	-0.5	1.1	0.2	17.0	13	0.02	-0.2	4.9	21	6	4.7	469	480.7
WIN 7	82M/4	978188	0.88	0.69	1409	3.0	1.96	0.01	46	-20	6	0.062	72.7	140	0.6	0.4	18.0	-3	-0.3	8.2	12	1.3	1.4	0.3	17.0	15	0.01	-0.2	4.4	24	4	5.1	261	289.6
WIN 8	82M/4	978189	0.70	0.29	232	1.4	1.83	-0.01	38	-20	16	0.033	20.3	92	0.6	0.5	11.0	-3	-0.3	6.8	10	1.7	1.2	-0.2	13.0	6	0.03	0.2	3.8	21	-1	4.3	160	113.8
WIN 9	82M/4	978190	0.73	0.30	297	1.3	2.21	0.01	36	-20	12	0.049	25.1	89	0.3	0.2	13.0	-3	-0.3	6.4	11	1.9	1.2	-0.2	13.0	6	0.03	-0.2	4.1	18	5	4.7	193	127.4
SPAR98-2	82M/4	988522	0.30	0.23	325	3.3	1.95	0.01	16	-26	15	0.039	43.1	62	0.5	0.2	9.1	-3	0.4	3.9	7	1.2	0.8	0.2	7.6	2	0.12	0.4	1.9	37	-1	1.9	210	134.5
SPAR98-2	82M/4	988523	0.64	1.05	892	3.2	1.52	0.01	35	-20	62	0.050	84.1	87	0.5	0.2	18.6	-3	0.5	10.0	20	1.8	1.1	0.4	14.4	9	0.10	0.7	4.9	62	4	4.3	203	191.0
SPAR98-3	82M/4	988524	0.39	0.91	687	3.1	1.07	0.01	24	85	79	0.095	197.4	58	0.5	0.2	16.3	-3	1.1	6.1	37	1.2	0.7	0.7	10.8	5	0.08	0.5	2.7	59	3	2.6	307	259.0
SPAR98-3	82M/4	988525	0.52	0.98	1109	1.4	1.27	0.01	28	74	82	0.093	201.7	55	0.5	-0.2	19.8	-3	1.6	7.5	60	1.0	1.1	0.8	13.3	7	0.08	1.0	2.2	61	3	3.7	310	237.8
SPAR98-4	82M/4	988526	0.49	0.78	679	3.3	0.97	0.01	28	55	75	0.080	252.6	50	0.5	0.2	16.5	-3	3.3	6.9	32	1.0	0.8	1.8	14.3	8	0.06	0.5	2.2	53	-1	3.5	317	220.7
SPAR98-4	82M/4	988527	0.56	0.81	940	3.1	1.01	0.01	25	-22	77	0.071	240.2	52	0.4	0.2	16.3	-3	3.1	7.0	41	0.9	-0.5	1.9	12.3	8	0.08	0.8	2.2	60	2	3.8	228	186.1
SPAR98-5	82M/4	988528	0.45	0.89	669	4.4	1.79	0.01	29	-39	49	0.100	74.8	82	0.7	0.2	18.9	-3	0.4	7.7	25	2.3	-0.5	0.4	12.3	3	0.09	0.5	3.0	68	4	3.5	255	146.6
SPAR98-5	82M/4	988529	0.45	1.71	945	3.3	1.61	0.01	31	-32	86	0.096	90.5	89	0.4	0.2	22.8	-3	0.6	7.1	28	1.6	1.0	0.4	11.3	7	0.12	0.8	2.2	91	7	3.1	273	171.0
SPAR98-6	82M/4	988530	0.42	0.43	767	4.0	1.84	0.01	26	-33	26	0.066	31.2	84	0.5	-0.2	11.7	-3	0.5	5.3	9	0.5	-0.5	0.2	8.4	-2	0.06	0.5	3.5	45	-1	2.7	178	89.5
SPAR98-6	82M/4	988531	0.51	1.44	1437	5.0	1.18	0.01	25	-30	80	0.088	64.2	94	0.5	0.3	20.2	-3	0.7	7.4	18	1.7	1.0	0.4	12.7	7	0.08	0.9	3.4	84	6	3.5	220	175.0
SPAR98-6	82M/4	988532	0.50	1.42	1352	4.9	1.24	0.01	29	129	78	0.086	59.7	97	0.6	0.2	21.1	-3	0.7	7.6	18	1.4	1.1	0.3	12.7	8	0.08	0.9	4.7	84	6	3.5	230	170.8
SPAR 96 -1	82M/4	52534	0.14	0.10	266	1.0	2.29	0.03	16	-32	3	0.047	12.0	46	1.1	-2.0	4.9	-3	nd	2.5	6	-0.5	-0.5	nd	4.7	2	0.07	nd	1.6	19	-1	0.9	88	40.0
SPAR 96 -1	82M/4	52535	0.37	0.40	1305	3.0	1.6	0.02	22	-35	26	0.068	78.0	63	0.8	-2.0	11.0	-3	nd	5.0	9	-0.5	-0.5	nd	8.1	3	0.16	nd	2.3	43	-1	2.3	190	234.0
SPAR 96 -1	82M/4	52536	0.28	0.27	511	2.0	1.96	0.02	22	-38	14	0.049	408.0	66	2.9	3.0	9.9	-3	nd	3.7	12	-0.5	-0.5	nd	5.8	-2	0.11	nd	1.7	51	-1	2.0	240	183.0
SPAR 96 -1	82M/4	52537	0.24	0.22	265	2.0	2.17	0.02	21	-35	12	0.047	39.0	51	1.8	2.0	8.9	-3	nd	3.4	9	-0.5	-0.5	nd	6.1	-2	0.10	nd	1.3	43	-1	1.4	130	108.0
SPAR 96 -1	82M/4	52538	0.54	1.53	805	3.0	1.54	0.01	39	180	78	0.057	113.0	70	1.1	-2.0	20.0	-3	nd	9.0	23	1.5	1.4	nd	16.0	8	0.13	nd	3.7	77	-1	4.0	170	265.0
SPAR 96- 2	82M/4	52539	0.35	0.30	375	2.0	1.94	0.02	23	-35	16	0.050	40.0	38	1.0	-2.0	11.0	-3	nd	4.6	7	-0.5	-0.5	nd	8.2	2	0.15	nd	2.9	40	-1	2.7	91	105.0
SPAR 96- 2	82M/4	52540	0.32	0.44	337	2.0	1.83	0.02	22	-33	22	0.045	46.0	53	1.0	4.0	11.0	-3	nd	4.2	10	-0.5	-0.5	nd	6.7	3	0.13	nd	2.5	53	-1	2.1	90	111.0
SPAR 96 - 3	82M/4	52542	0.94	0.86	823	4.0	1.44	0.01	45	-37	69	0.061	111.0	61	3.4	-2.0	18.0	-3	nd	10.0	19	-0.5	-0.5	nd	10.0	6	0.16	nd	5.6	64	-1	6.2	570	631.0

Appendix C - Neutron activation ([1]) and aqua regia-ICP data ([2])

SITE	MAP	SAMPLE	Lu[1] ppm	Mg [2] %	Mn[2] ppm	Mo[2] ppm	Na [1] %	Na [2] %	Nd[1] ppm	Ni[1] ppm	Ni[2] ppm	P [2] %	Pb[2] ppm	Rb[1] ppm	Sb[1] ppm	Sb[2] ppm	Sc[1] ppm	Se[1] ppm	Se[2] ppm	Sm[1] ppm	Sr[2] ppm	Ta[1] ppm	Tb[1] ppm	Te[2] ppm	Th[1] ppm	Th[2] ppm	Ti [2] %	Tl[2] ppm	U[1] ppm	V[2] ppm	W[1] ppm	Yb[1] ppm	Zn[1] ppm	Zn[2] ppm
SPAR 96 - 3	82M/4	52543	0.36	0.62	534	4.0	1.86	0.02	19	-35	30	0.048	67.0	68	1.1	-2.0	12.0	-3	nd	4.9	11	-0.5	-0.5	nd	8.4	3	0.14	nd	3.2	60	-1	2.6	220	197.0
SPAR 96 - 3	82M/4	52544	1.26	1.72	1747	4.0	1.12	0.02	40	220	115	0.094	136.0	120	1.6	-2.0	33.0	-3	nd	9.8	101	-0.5	2.0	nd	17.0	9	0.11	nd	3.8	77	-1	7.6	720	744.0
SPAR 96 - 4	82M/5	52545	0.45	0.29	618	2.0	1.61	0.02	28	-37	21	0.057	87.0	44	1.1	-2.0	12.0	-3	nd	5.4	13	-0.5	-0.5	nd	8.8	3	0.14	nd	3.0	40	-1	3.4	200	149.0
SPAR 96 - 4	82M/5	52546	0.27	0.25	692	2.0	1.99	0.02	17	-33	14	0.054	68.0	63	0.6	-2.0	8.4	-3	nd	3.7	15	-0.5	-0.5	nd	6.9	2	0.10	nd	1.6	35	-1	1.7	110	114.0
SPAR 96 - 4	82M/5	52547	0.24	0.29	717	3.0	1.77	0.02	21	-31	16	0.070	70.0	33	0.6	6.0	8.4	-3	nd	3.4	19	-0.5	-0.5	nd	6.1	-2	0.09	nd	2.3	40	-1	1.9	150	134.0
SPAR 96 - 4	82M/5	52548	0.45	0.34	1201	2.0	1.92	0.02	33	-40	25	0.055	87.0	-15	0.8	-2.0	13.0	-3	nd	6.3	8	1.6	-0.5	nd	9.2	4	0.18	nd	6.5	39	-1	3.4	270	268.0
SCR98-1	82L/13	988497	0.46	0.72	428	0.6	1.68	0.01	34	-26	96	0.042	10.1	69	0.9	0.3	21.9	-3	-0.3	7.5	14	2.2	-0.5	-0.2	10.8	6	0.05	-0.2	3.1	57	-1	3.0	86	68.3
SCR98-1	82L/13	988498	0.55	0.70	471	0.7	2	0.01	36	155	99	0.060	8.4	60	0.9	0.3	24.1	-3	-0.3	8.8	14	2.3	0.8	-0.2	11.9	5	0.06	0.2	3.4	58	2	3.8	128	76.3
SCR98-1	82L/13	988499	0.36	0.71	424	0.6	1.75	0.01	32	132	88	0.040	5.9	88	0.7	0.2	19.2	-3	-0.3	6.4	11	2.0	0.6	-0.2	10.3	4	0.04	-0.2	3.0	51	-1	2.4	119	70.6
SCR98-2	82L/13	988500	0.41	0.43	570	0.7	2.01	0.01	25	-25	79	0.061	11.0	64	0.6	0.3	15.5	-3	-0.3	6.3	18	2.0	-0.5	-0.2	9.3	3	0.06	-0.2	2.6	49	2	2.6	97	68.6
SCR98-2	82L/13	988502	0.33	0.20	408	0.5	2.28	0.03	16	-27	33	0.090	9.1	61	0.5	-0.2	10.1	-3	-0.3	4.5	19	1.0	-0.5	-0.2	6.8	2	0.08	-0.2	1.8	27	-1	2.2	120	49.6
SCR98-3	82L/13	988503	0.42	0.87	301	0.6	2.07	0.01	30	-25	99	0.069	11.1	54	1.0	0.5	18.6	-3	-0.3	6.9	11	2.7	0.8	-0.2	10.4	4	0.04	-0.2	2.6	60	-1	2.8	76	46.5
SCR98-3	82L/13	988504	0.30	0.69	390	0.4	2.22	0.01	23	-28	153	0.096	5.5	60	0.7	0.2	15.8	-3	-0.3	5.0	11	1.8	-0.5	-0.2	6.7	2	0.05	-0.2	2.3	67	-1	2.2	99	65.2
SCR98-4	82L/13	988505	0.36	0.89	582	0.7	1.86	0.01	30	120	79	0.047	7.5	81	0.6	0.3	20.9	-3	-0.3	6.4	12	2.2	0.6	-0.2	8.1	5	0.04	-0.2	2.3	54	-1	2.5	97	55.0
SCR98-4	82L/13	988506	0.37	0.61	389	0.7	1.96	0.02	20	-24	70	0.120	7.4	76	0.6	-0.2	16.2	-3	-0.3	5.6	13	1.6	0.7	-0.2	8.4	3	0.05	-0.2	2.5	50	-1	2.4	114	78.5
SCR98-5	82L/13	988507	0.40	0.71	430	0.9	1.76	0.01	34	-25	86	0.054	7.2	76	0.7	0.3	21.0	-3	-0.3	7.0	13	2.0	1.3	-0.2	10.9	4	0.04	-0.2	3.0	51	-1	2.8	93	60.5
SCR98-5	82L/13	988508	0.29	0.18	465	0.3	2.04	0.02	17	-26	26	0.173	8.7	47	0.4	-0.2	8.8	-3	-0.3	4.2	10	1.1	-0.5	-0.2	7.0	2	0.08	-0.2	2.5	28	2	2.1	178	107.0
SCR98-6	82L/13	988509	0.38	1.67	475	0.7	1.89	0.01	23	-24	112	0.052	6.0	46	0.7	0.3	24.1	-3	-0.3	6.2	14	1.9	0.6	-0.2	6.2	3	0.06	-0.2	2.0	83	-1	2.4	99	66.0
SCR98-6	82L/13	988510	0.30	0.98	576	0.4	2.06	0.02	21	85	81	0.156	7.6	84	0.7	0.2	16.0	-3	-0.3	4.8	13	1.3	0.6	-0.2	6.8	3	0.08	-0.2	2.1	56	-1	2.2	177	100.7
SCR98-7	82L/13	988511	0.41	1.68	998	0.9	1.68	0.01	24	120	129	0.168	7.5	49	0.9	0.3	24.9	-3	-0.3	6.8	29	1.9	0.8	-0.2	8.3	4	0.04	-0.2	2.3	87	-1	2.8	115	64.0
SCR98-7	82L/13	988513	0.34	0.45	402	1.3	2.23	0.03	21	64	42	0.034	7.3	66	0.4	-0.2	12.8	-3	0.4	5.2	24	1.0	0.7	-0.2	7.5	-2	0.07	0.6	2.3	34	-1	2.4	156	68.5
SCR98-8	82L/13	988514	0.27	1.65	653	1.3	1.09	0.01	15	122	123	0.096	5.0	36	0.9	-0.2	21.0	-3	0.8	3.9	102	1.0	0.5	-0.2	4.2	-2	0.03	0.9	1.4	73	-1	1.8	100	58.1
SCR98-8	82L/13	988515	0.28	0.65	479	0.9	2.36	0.02	19	107	72	0.048	6.7	70	0.5	-0.2	14.1	-3	-0.3	4.2	19	1.5	0.6	-0.2	5.5	-2	0.06	0.2	1.0	47	1	1.8	136	62.7

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	MgO %	CaO %	Na_2O %	K_2O %	TiO_2 %	P_2O_5 %	MnO %	Cr_2O_3 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	C %	S %	SUM %
MA97-8	93P/1	978087	702335	5671970	10	0	71.16	11.56	3.98	0.85	1.44	1.33	1.97	0.65	0.06	0.08	0.009	545	28	180	146	15	-10	-10	7.1	1.12	0.02	100.3
MA97-8	93P/1	978088	702335	5671970	10	0	50.11	9.87	4.25	0.87	14.9	0.6	2.36	0.57	0.19	0.09	0.01	509	36	311	125	16	-10	-10	16.4	3.98	0.03	100.34
MA97-9	93P/1	978089	702330	5672020	10	0	70.73	12.51	4.28	0.91	1.37	1.49	2.23	0.72	0.04	0.05	0.008	611	27	185	167	15	11	-10	5.7	0.57	0.02	100.16
MA97-9	93P/1	978090	702330	5672020	10	0	56.5	10.46	4.8	0.77	9.77	0.64	2.46	0.61	0.19	0.09	0.008	568	35	203	116	17	-10	-10	13.8	3.32	0.04	100.21
MA97-10	93P/1	978091	702325	5672060	10	0	64.33	13.92	6.71	1.03	1.25	0.94	2.71	0.77	0.05	0.07	0.009	686	45	148	165	26	10	10	8.4	1.19	0.03	100.32
MA97-10	93P/1	978092	702325	5672060	10	0	43.48	9.11	5.49	1.3	17.74	0.62	2.18	0.58	0.19	0.11	0.009	498	38	376	117	17	-10	-10	19.2	4.67	0.08	100.13
MA97-11	93P/1	978094	702322	5672137	10	0	70.21	12.16	4.37	0.9	1.41	1.47	2.11	0.68	0.05	0.06	0.011	583	35	185	156	15	-10	-10	6.6	0.93	0.05	100.15
MA97-11	93P/1	978095	702322	5672137	10	0	51.56	10.88	4.55	0.96	11.68	0.61	2.47	0.63	0.19	0.08	0.009	601	33	284	116	17	-10	-10	16.4	3.97	0.05	100.14
MA97-12	93P/1	978096	702345	5671870	10	0	66.42	13.6	4.8	0.91	1.44	1.58	2.2	0.74	0.08	0.07	0.009	661	41	216	181	16	11	-10	8.2	0.88	0.02	100.18
MA97-12	93P/1	978097	702345	5671870	10	0	60.13	11.92	5.36	0.88	6.76	0.73	2.7	0.68	0.13	0.1	0.012	630	41	196	136	19	-10	-10	10.7	2.28	0.01	100.22
MA97-13	93P/1	978098	702350	5671820	10	0	69.01	12.48	3.99	0.89	1.6	1.63	2.2	0.67	0.07	0.11	0.008	621	28	208	151	14	-10	-10	7.6	1.25	0.01	100.38
MA97-13	93P/1	978099	702350	5671820	10	0	69.36	13.07	4.8	0.91	1.26	1.33	2.58	0.82	0.04	0.06	0.012	677	39	176	183	20	11	-10	5.9	0.96	0.04	100.27
MA97-14	93P/1	978100	702355	5671770	10	0	68.4	12.64	4.12	0.85	1.63	1.75	2.19	0.6	0.24	0.12	0.006	612	30	219	136	14	-10	-10	7.5	1.08	0.03	100.17
MA97-14	93P/1	978102	702355	5671770	10	0	70.61	11.95	4.8	0.83	1.3	1.4	2.23	0.73	0.15	0.08	0.006	614	31	179	166	18	-10	-10	6	0.96	0.02	100.21
MA97-15	93P/1	978103	702360	5671720	10	0	68.18	13.54	4.43	0.89	1.43	1.47	2.52	0.77	0.12	0.09	0.009	669	37	194	155	17	11	-10	6.8	0.97	0.03	100.38
MA97-15	93P/1	978104	702360	5671720	10	0	63.56	13.32	5.67	0.78	3.82	0.74	2.99	0.88	0.15	0.1	0.012	704	40	154	160	21	12	-10	8.1	1.5	0.01	100.25
MA97-16	93P/1	978105	702340	5671710	10	0	66.62	13.99	5.32	1.01	1.3	1.2	2.53	0.8	0.16	0.09	0.011	688	42	174	167	19	10	-10	7.1	1.06	0.02	100.26
MA97-16	93P/1	978106	702340	5671710	10	0	50.84	11.08	4.57	0.96	13.13	0.55	2.56	0.63	0.19	0.08	0.011	586	37	222	110	16	-10	-10	15.5	3.75	0.05	100.22
MA97-16	93P/1	978107	702340	5671710	10	0	38.79	9.05	3.58	1.37	20.21	0.41	2.16	0.51	0.18	0.1	0.011	493	40	413	86	14	-10	-10	23.7	6.28	0.09	100.2
MA98-1	93P/1	988447	702599	5671317	10	1	68.39	13.01	4.34	0.89	1.42	1.54	1.94	0.67	0.21	0.12	0.029	554	-20	189	191	20	-10	5	7.2	1.07	-0.01	99.87
MA98-1	93P/1	988448	702599	5671317	10	2	67.24	13.45	4.73	0.93	1.37	1.49	2.21	0.73	0.2	0.1	0.029	561	24	189	220	23	-10	6	7.3	0.91	0.03	99.9
MA98-1	93P/1	988449	702549	5671317	10	0	69.48	12.92	5.85	0.83	0.93	1.03	2.73	0.85	0.09	0.11	0.033	556	35	145	262	30	-10	8	4.9	0.57	0.01	99.88
MA98-2	93P/1	988450	702500	5671324	10	0	66.64	14.11	4.5	0.85	1.41	1.39	2.19	0.73	0.13	0.1	0.029	586	33	188	187	25	-10	7	7.7	1.1	0.03	99.9
MA98-2	93P/1	988451	702500	5671324	10	0	64.47	16.98	5.63	0.8	0.68	0.87	3.47	0.87	0.08	0.07	0.03	757	32	117	192	29	-10	10	5.8	0.51	0.04	99.88
MA98-3	93P/1	988452	702451	5671244	10	0	48.86	9.89	22.52	0.43	2.81	1.02	1.46	0.64	0.22	0.14	0.018	404	-20	152	174	20	-10	4	11.7	2.3	1.17	99.8
MA98-3	93P/1	988453	702451	5671244	10	0	65.62	14.1	6.61	0.77	1.47	1.36	1.99	0.78	0.08	0.08	0.028	543	39	172	171	24	-10	7	6.9	0.86	0.09	99.9
MA98-4	93P/1	988454	702386	5671334	10	0	66.27	13.84	5.82	0.94	1.24	1.08	2.12	0.91	0.04	0.07	0.03	560	30	147	212	29	-10	8	7.4	0.81	-0.01	99.88
MA98-4	93P/1	988455	702386	5671334	10	0	52.2	12.11	5.15	0.87	10.72	0.59	2.61	0.78	0.24	0.1	0.02	523	22	192	166	27	-10	8	14.4	3.42	0.04	99.9
MA98-5	93P/1	988456	702451	5671208	10	0	63.03	12.83	8.57	1.34	1.63	1.39	1.83	1.07	0.3	0.09	0.028	463	40	188	252	30	-10	8	7.6	1.5	0.05	99.83
MA98-5	93P/1	988457	702451	5671208	10	0	58.44	11.4	13.52	1.41	1.65	1.02	1.88	1.02	0.26	0.18	0.025	415	52	149	234	29	-10	9	8.9	1.29	0.16	99.81
MA98-6	93P/1	988458	702489	5671211	10	0	65.65	14.11	4.47	0.92	1.47	1.67	1.91	0.66	0.17	0.12	0.027	552	32	190	182	20	-10	6	8.5	1.32	0.05	99.79
MA98-6	93P/1	988459	702489	5671211	10	0	68.27	13.48	6.03	0.84	0.76	0.85	2.5	0.83	0.19	0.1	0.026	576	39	113	201	26	-10	9	5.8	0.75	0.03	99.79
MA98-7	93P/1	988460	702530	5671217	10	0	67.81	13.47	5.55	0.82	1.23	1.12	2.07	0.76	0.07	0.11	0.026	531	37	159	211	28	-10	8	6.7	1.02	0.03	99.85
MA98-7	93P/1	988462	702530	5671217	10	0	59.68	12.63	5.52	0.78	6.1	0.65	2.59	0.74	0.26	0.14	0.024	545	49	155	146	23	-10	8	10.7	2.37	0.04	99.92
MA98-8	93P/1	988463	702604	5671168	10	0	64.67	14.99	4.81	1.15	1.51	1.41	2.06	0.73	0.25	0.16	0.027	555	41	189	159	22	-10	8	8	1.31	0.02	99.88
MA98-9	93P/1	988464	702647	5671220	10	0	67.03	13.38	5.67	0.95	1.21	1.27	2.29	0.74	0.12	0.08	0.027	536	34	158	189	26	-10	8	7	1.23	-0.01	99.88
MA98-9	93P/1	988465	702647	5671220	10	0	51.25	13.02	6.44	1.62	9.5	0.41	2.8	0.72	0.2	0.09	0.024	494	32	151	141	29	-10	9	13.7	3.19	0.02	99.88
MA98-10	93P/1	988467	702531	5670918	10	0	66.33	12.32	6.59	1.08	1.66	1.03	2.25	0.77	0.12	0.14	0.027	496	26	151	235	28	-10	8	7.4	1.02	0.01	99.83
MA98-10	93P/1	988468	702531	5670918	10	0	64.51	11.65	6.85	1.04	3.3	0.82	2.28	0.78	0.19	0.11	0.025	481	38	138	218	26	-10	8	8.2	1.32	0.01	99.86
MA98-11	93P/1	988469	702573	5670927	10	0	66.63	12.77	5.73	1	1.67	1.46	2.04	0.69	0.09	0.15	0.026	488	38	182	190	24	-10	7	7.5	1.29	0.01	99.87
MA98-11	93P/1	988470	702573	5670927	10	0	57.89	9.9	6.59	0.99	8.63	0.79	1.99	0.69	0.18	0.14	0.022	436	39	172	176	22	-10	7	11.9	2.46	0.02	99.81
MA98-12	93P/1	988471	702396	5670974	10	0	63.57	11.24	6.32	1.42	4.35	0.72	2.31	0.75	0.14	0.11	0.026	488	36	126	167	23	-10	8	8.8	1.61	0.02	99.86
MA98-12	93P/1	988472	702396	5670974	10	0	64.47	11.1	6.61	1.31	4.47	0.59	2.39	0.91	0.22	0.14	0.029	472	49	143	157	28	-10	8	7.4	1.35	-0.01	99.74
MA98-13	93P/1	988473	702643	5670903	10	0	67.91	10.71	8.13	0.82	1.1	0.8	2.23	0.76	0.17	0.16	0.024	397	36	127	189	29	-10	8	6.9	1.13	0.05	99.81
MA98-13	93P/1	988474	702643	5670903	10	1	63.47	9.12	6.45	0.87	6.83	0.28	2.2	0.81	0.25	0.17	0.023	379	30	139	151	27	-10	7	9.3	1.86	0.02	99.86

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	MgO %	CaO %	Na_2O %	K_2O %	TiO_2 %	P_2O_5 %	MnO %	Cr_2O_3 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	C %	S %	SUM %
MA98-13	93P/1	988475	702643	5670903	10	2	64.42	8.79	6.25	0.85	6.66	0.28	2.39	0.81	0.3	0.18	0.026	362	43	126	177	28	-10	7	8.7	1.75	-0.01	99.75
MA98-14	93P/1	988476	702729	5670841	10	0	68.16	12.44	5.68	0.93	1.5	1.13	2.07	0.73	0.1	0.08	0.026	507	35	148	247	30	-10	8	6.9	1.06	0.01	99.86
MA98-14	93P/1	988478	702729	5670841	10	0	57.81	8.89	5.72	0.84	10.37	0.64	2.15	0.62	0.24	0.12	0.024	421	33	159	202	28	-10	7	12.3	2.85	0.02	99.83
MA98-15	93P/1	988479	702618	5670936	10	0	55.55	7.72	6.47	0.8	11.27	0.5	1.63	0.59	0.28	0.15	0.028	354	29	172	206	25	-10	6	14.6	3.72	0.02	99.68
MA98-15	93P/1	988480	702618	5670936	10	0	54.45	7.49	5.88	2.68	11	0.38	1.89	0.59	0.22	0.2	0.024	359	38	435	188	24	-10	6	14.8	3.41	0.1	99.73
MA98-16	93P/1	988482	701663	5671910	10	0	63.01	10.92	4.82	1.4	5.18	1.06	2.34	0.67	0.23	0.12	0.03	506	33	208	232	24	-10	7	9.8	2.32	0.03	99.7
MA98-16	93P/1	988483	701663	5671910	10	0	60.52	12.21	4.19	3.12	5.67	0.7	2.77	0.71	0.16	0.1	0.031	556	37	181	203	25	-10	8	9.5	1.83	-0.01	99.8
MA98-17	93P/1	988484	701662	5671958	10	0	65.75	13.72	5.35	1.54	2.01	1.81	2.34	0.89	0.11	0.07	0.039	631	23	224	301	26	-10	9	6	0.56	-0.01	99.77
MA98-17	93P/1	988485	701662	5671958	10	0	65.7	13.46	5.73	1.91	2.62	1.72	2.45	0.97	0.15	0.07	0.037	632	30	237	299	29	-10	10	4.8	0.39	0.02	99.76
MA98-18	93P/1	988486	701671	5671982	10	0	68.75	13.23	4.58	1.33	1.62	1.39	2.44	0.8	0.09	0.05	0.033	622	23	178	263	26	-10	9	5.3	0.53	-0.01	99.75
MA98-18	93P/1	988487	701671	5671982	10	0	66.28	13.87	5.59	1.66	1.99	1.35	2.75	0.86	0.16	0.09	0.031	640	27	187	265	28	-10	11	5	0.5	-0.01	99.77
MA98-19	93P/1	988488	701742	5671853	10	0	70.19	11.39	4.51	1.55	1.17	1.09	1.96	0.63	0.09	0.07	0.031	533	39	147	179	24	-10	7	7	0.94	0.01	99.79
MA98-19	93P/1	988489	701742	5671853	10	0	58.78	9.89	4.19	2.26	8.08	0.75	2.17	0.64	0.24	0.1	0.025	561	40	361	152	23	-10	8	12.5	3.2	0.04	99.76
SAM 1	82M/4	978084	306150	5666750	11	0	58.04	15.9	5.56	1.72	1.67	2.91	1.76	0.95	0.27	0.16	0.011	949	54	220	151	14	-10	-10	10.9	1.41	-0.01	100.01
SAM 1	82M/4	978085	306150	5666750	11	0	56.46	15.29	10.14	4.02	1.38	2.26	2.02	1.44	0.09	0.13	0.031	1108	120	142	117	18	21	16	6.5	0.37	0.04	99.94
SAM 1	82M/4	978086	300600	5666500	11	0	54.78	14.22	11.22	5.42	1.5	2.51	1.26	1.81	0.25	0.17	0.046	861	168	119	102	23	17	19	6.7	0.28	0.02	100.04
SAM 7	82M/4	978139	302603	5668888	11	0	64.13	16.42	3.96	1.39	2.05	3	2.25	0.72	0.02	0.07	0.006	909	28	265	139	15	19	-10	5.8	0.77	0.01	99.98
SAM 7	82M/4	978140	302603	5668888	11	0	60.64	16.9	5.82	2.54	1.8	2.31	2.93	0.95	0.11	0.08	0.012	1195	42	194	160	19	31	13	5.7	0.45	0.02	99.98
SAM 7	82M/4	978142	302812	5668883	11	0	60.47	15.74	4.28	1.21	2.03	2.99	1.82	0.66	0.18	0.06	0.004	597	28	254	131	11	13	-10	10.6	1.67	0.03	100.17
SAM 6	82M/4	978143	302812	5668883	11	0	55.69	15.69	4.06	0.88	1.79	2.67	1.87	0.69	0.35	0.2	0.006	701	36	235	163	13	12	-10	16	3.09	0.03	100.03
SAM 8	82M/4	9781431	302937	5669490	11	0	62.37	14.96	6.57	2.96	1.84	2.36	2.11	1.34	0.14	0.07	0.019	893	71	179	154	19	24	12	5.1	0.43	0.03	100
SAM 8	82M/4	978144	302937	5669490	11	0	63.53	14.72	6.34	2.08	1.73	2.24	2.14	1.19	0.12	0.08	0.013	1069	62	191	181	21	22	12	5.7	0.78	0.01	100.06
SAM 6	82M/4	9781441	302812	5668883	11	0	63.87	16.02	5.49	2.28	1.72	2.5	2.67	1.07	0.06	0.07	0.011	1026	45	202	174	19	28	11	4.1	0.31	-0.01	100.04
SAM 9	82M/4	978145	302636	5669242	11	0	56.26	17.15	4.78	1.25	1.65	2.61	2.1	0.67	0.41	0.1	0.006	811	33	231	139	15	14	-10	13	1.66	0.01	100.13
SAM 9	82M/4	978146	302636	5669242	11	0	56.13	17.37	7.8	3.14	1.75	2.08	3.01	0.97	0.14	0.15	0.017	1196	61	185	126	24	29	16	7.4	0.69	0.03	100.15
SAM 10	82M/4	978147	302267	5669185	11	0	53.26	17.61	7.35	2.52	2.09	2	2.07	0.76	0.17	0.1	0.019	932	85	212	149	27	18	13	12	2.13	0.02	100.12
SAM 10	82M/4	978148	302267	5669185	11	0	62.08	15.43	6.39	2.4	1.53	2.31	2.52	1.12	0.2	0.08	0.019	1056	78	181	195	26	21	13	5.8	0.57	0.02	100.06
SAM 11	82M/4	978149	304307	5669127	11	0	52.42	15.18	6.83	2.07	1.64	2.23	1.52	0.94	0.11	0.05	0.02	574	59	166	120	14	13	10	17	3.34	0.06	100.12
SAM 11	82M/4	978150	304307	5669127	11	0	51.78	13.91	11.63	6.96	2	2.62	0.98	1.98	0.3	0.24	0.049	504	190	107	99	26	17	23	7.4	0.47	0.03	99.96
SAM 12	82M/4	978151	304210	5668936	11	1	43.13	14.78	13.9	9.27	3.42	1.8	0.97	1.73	0.26	0.16	0.066	589	266	84	90	17	19	22	9.4	0.74	0.07	99.02
SAM 12	82M/4	978152	304210	5668936	11	2	42.72	15.05	14.28	9.56	2.93	1.77	0.99	1.75	0.27	0.16	0.071	607	266	76	83	17	18	23	9.4	0.64	0.08	99.08
SAM 12	82M/4	978153	304210	5668936	11	0	46.82	14.41	13.31	6.5	1.63	1.76	1.22	1.45	0.25	0.37	0.048	603	232	91	81	28	16	24	10.5	0.77	0.09	98.4
SAM 12	82M/4	978154	304210	5668936	11	0	49.55	17.49	7.03	2.56	1.53	2.18	1.4	1.02	0.19	0.16	0.02	559	92	165	148	19	11	12	16.6	2.03	0.04	99.85
SAM 13	82M/4	978155	304296	5668684	11	0	59.56	15.01	7.47	3.71	1.69	2.7	1.5	1.44	0.07	0.08	0.025	745	107	185	147	20	15	14	6.7	0.6	0.03	100.1
SAM 13	82M/4	978156	304296	5668684	11	0	44.97	15.24	14.76	9.07	1.4	1.87	1.27	1.84	0.3	0.29	0.066	604	242	66	92	20	18	24	8.9	0.48	0.05	100.1
SAM 14	82M/4	978162	303740	5669145	11	0	53.18	16.22	9.34	2.21	1.26	2.27	1.76	1.16	0.37	0.16	0.018	790	88	170	150	15	17	10	12	1.31	0.05	100.09
SAM 14	82M/4	978163	303740	5669145	11	0	45.51	15.35	7.19	3.42	9.71	1.68	2.7	0.93	0.17	0.17	0.013	1030	73	178	84	19	24	13	13.1	2.23	0.06	100.11
SAM 15	82M/4	978164	303040	5668399	11	0	59.72	15.99	5.15	1.45	1.67	2.44	2.2	0.84	0.34	0.07	0.008	815	35	209	157	15	14	-10	10.3	1.37	0.03	100.32
SAM 15	82M/4	978165	303040	5668399	11	0	64.8	15	5.62	1.86	1.39	1.89	2.53	0.97	0.1	0.06	0.011	1043	42	163	158	20	17	11	5.8	0.4	0.02	100.2
SAM 16	82M/4	978166	303411	5668665	11	0	54.83	16.06	4.02	1.05	2.53	3.14	1.5	0.39	0.21	0.18	0.004	490	30	288	79	-10	-10	-10	16.2	2.96	0.09	100.22
SAM 16	82M/4	978167	303411	5668665	11	0	53.68	14.46	10.79	5.14	1.76	2.41	1.45	1.6	0.24	0.23	0.04	716	151	132	111	23	18	20	8.1	1	0.04	100.04
SAM 17	82M/4	978172	303602	5669664	11	0	35.86	13.95	15.14	8.29	8.17	1.9	0.37	1.63	0.27	0.16	0.065	470	230	81	72	15	16	22	13.9	1.98	0.11	99.81
SAM 19	82M/4	978191	303602	5669664	11	0	52.2	15.01	10.41	4.04	1.78	2.56	1.27	1.11	0.11	0.1	0.029	757	179	180	92	10	14	11	11.3	2	0.03	100.06
SAM 19	82M/4	978192	306140	5666777	11	0	54.86	13.43	11.97	5.17	1.51	2.59	1.13	1.69	0.1	0.1	0.04	883	218	135	104	35	15	22	7.4	0.6	0.01	100.16
SAM 19	82M/4	978193	306140	5666777	11	0	26.38	7.26	41.14	3.05	1.25	1.05	0.63	0.96	0.27	0.12	0.031	3610	301	102	44	43	-10	17	17.4	1.14	0.08	100.01

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	MgO %	CaO %	Na_2O %	K_2O %	TiO_2 %	P_2O_5 %	MnO %	Cr_2O_3 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	C %	S %	SUM %
SAM 20	82M/4	978194	306207	5666925	11	0	51.56	16.33	8.66	2.53	1.77	2.6	1.56	0.91	0.31	0.11	0.019	723	107	201	124	13	11	12	13.7	1.91	0.09	100.2
SAM 20	82M/4	978195	306207	5666925	11	0	52.5	14.14	12.55	4.47	1.59	2.35	1.33	1.17	0.17	0.17	0.036	719	170	147	101	22	13	23	9.5	1.47	0.04	100.12
SAM 21	82M/4	978196	306177	5666166	11	0	59.21	15.11	7.88	2.37	1.88	2.72	1.59	1.13	0.1	0.07	0.022	599	102	215	126	13	13	10	7.9	1.2	0.01	100.11
SAM 21	82M/4	978197	306177	5666166	11	1	66.11	13.58	5.81	2	2.1	2.51	2.12	1.12	0.13	0.1	0.013	789	46	208	175	26	19	15	4.3	0.28	0.03	100.04
SAM 21	82M/4	978198	306177	5666166	11	2	63.99	14.37	6.61	2.35	1.88	2.41	2.31	1.12	0.06	0.11	0.017	868	61	197	157	28	19	16	4.9	0.36	0.04	100.28
SAM 22	82M/4	978199	305312	5668824	11	0	48.75	15.76	4.56	1.39	3.07	2.61	1.74	0.71	0.32	0.14	0.011	824	54	243	156	25	10	-10	21	5.27	0.07	100.22
SAM 22	82M/4	978200	305312	5668824	11	0	60.5	13.93	8.14	3.79	2.08	1.89	2.2	1.19	0.25	0.2	0.026	1155	107	136	122	23	15	15	5.8	0.54	0.05	100.18
SAM 23	82M/4	978202	304970	5668737	11	0	53.13	14.16	10.14	7.2	3.19	2.28	1.69	1.42	0.25	0.22	0.046	608	170	156	127	21	12	18	6.4	0.45	0.02	100.26
HAR98 1	82M/5	988402	300318	5690937	11	1	56.23	18.25	8.21	3.3	1.05	2.29	2.5	1.24	0.24	0.07	0.025	622	49	149	208	36	-10	12	6.2	0.83	-0.01	99.73
HAR98 1	82M/5	988403	300318	5690937	11	2	54.83	18.21	9.5	3.55	0.84	2.16	2.59	1.31	0.26	0.06	0.024	607	47	129	213	43	-10	13	6.2	0.81	0.05	99.66
HAR98 1	82M/5	988404	300318	5690937	11	0	52.22	18.22	12.83	2.78	0.68	1.82	2.77	1.07	0.26	0.15	0.025	623	44	131	219	46	-10	14	6.8	0.32	0.02	99.75
HAR98 1	82M/5	988405	300318	5690937	11	0	55.08	18.68	9	3.44	0.84	2.11	2.89	1.17	0.36	0.08	0.024	644	40	127	226	49	-10	14	5.9	0.23	0.01	99.7
HAR98 2	82M/5	988406	300195	5690804	11	0	54.76	20.03	8.01	3.98	0.61	1.92	3.16	1.31	0.16	0.07	0.024	728	38	128	244	37	-10	15	5.6	0.19	0.03	99.77
HAR98 2	82M/5	988407	300195	5690804	11	0	52.72	19.84	10.62	2.71	0.63	1.39	3.77	1.3	0.22	0.15	0.026	826	68	139	234	61	-10	15	6.2	0.23	-0.01	99.73
HAR98 3	82M/5	988408	300062	5690801	11	0	59.11	16.36	6.7	2.01	1.82	2.86	1.98	0.94	0.21	0.09	0.024	636	58	238	208	24	-10	7	7.5	1.16	-0.01	99.74
HAR98 3	82M/5	988409	300062	5690801	11	0	52.04	17.21	11.62	4.24	0.99	2.15	2.74	0.91	0.16	0.11	0.025	602	49	138	196	33	-10	14	7.2	0.42	0.01	99.52
HAR98 3	82M/5	988410	300062	5690801	11	0	48.15	15.23	17.42	3.54	0.95	1.67	1.87	0.88	0.27	0.31	0.021	481	61	120	194	63	-10	15	9.1	0.5	0.01	99.52
HAR98 4	82M/5	988411	300136	5691004	11	0	61.6	17.4	4.78	2.3	1.61	3.08	2.44	0.95	0.03	0.07	0.022	701	43	212	282	25	-10	9	5.3	0.47	-0.01	99.73
HAR98 4	82M/5	988413	300136	5691004	11	0	57.46	17.4	7.36	4.13	1.27	2.49	2.47	1.2	0.21	0.08	0.03	606	55	152	267	39	-10	13	5.5	0.25	-0.01	99.74
HAR98 5	82M/5	988414	299936	5690960	11	0	60.23	16.58	6.7	2.86	1.51	2.66	1.93	1.12	0.13	0.08	0.023	667	41	194	270	28	-10	9	5.8	0.47	0.04	99.77
HAR98 5	82M/5	988415	299936	5690960	11	0	60.39	15.56	7.87	3.32	1.34	2.59	2.09	1.2	0.13	0.08	0.027	548	38	155	384	35	-10	10	5	0.24	-0.01	99.74
HAR98 6	82M/5	988416	300360	5691106	11	0	57.32	16.33	8.05	3.93	1.58	2.51	2.01	1.91	0.17	0.14	0.031	591	86	151	283	25	-10	9	5.6	0.47	0.01	99.72
HAR98 6	82M/5	988417	300360	5691106	11	0	56.3	16.76	8.66	3.74	1.62	2.37	2.5	1.67	0.45	0.13	0.029	600	66	135	300	34	-10	11	5.3	0.18	0.04	99.67
HAR98 7	82M/5	988418	300056	5690667	11	0	59.74	16.7	7.93	2.81	1.08	2.52	2.27	1.21	0.1	0.08	0.028	622	41	184	298	34	-10	11	5.2	0.34	-0.01	99.81
HAR98 7	82M/5	988419	300056	5690667	11	0	50.47	15.51	10.02	3.44	4.66	1.95	2.21	0.97	0.3	0.14	0.024	573	39	200	207	44	-10	13	9.9	1.54	-0.01	99.72
HAR98 8	82M/5	988420	300592	5690841	11	0	57.84	16.26	6.11	2.48	1.67	2.47	2.24	1.32	0.72	0.14	0.022	836	43	208	223	25	-10	8	8.3	1.09	0.01	99.73
HAR98 8	82M/5	988422	300592	5690841	11	0	53.88	17.49	9.25	4.8	1.06	1.95	2.61	1.67	0.21	0.11	0.027	831	47	147	252	36	-10	12	6.5	0.26	0.09	99.71
HAR98 9	82M/5	988423	300351	5690721	11	0	58.61	16.25	8.67	2.7	1.27	2.37	2.19	1.15	0.26	0.08	0.024	622	52	193	212	34	-10	10	6	0.59	0.04	99.71
HAR98 9	82M/5	988424	300351	5690721	11	0	56.97	16.58	9.91	3.06	0.97	2.17	2.45	1.24	0.24	0.08	0.027	618	46	163	217	36	-10	11	5.9	0.3	0.01	99.73
HAR 96 -1	82M/5	52549	301159	5691784	11	0	64.74	15.22	2.95	0.75	1.84	3.23	2.9	0.54	0.25	0.06	0.003	781	-20	178	328	19	35	-10	6.8	nd	nd	99.49
HAR 96 -1	82M/5	52550	301159	5691784	11	0	69.7	14.82	2.33	0.61	1.75	3.65	3.8	0.43	0.04	0.04	0.002	634	-20	176	394	19	46	-10	1.9	nd	nd	99.26
HAR 96 -2	82M/5	52552	301157	5691794	11	0	63.56	15.62	3.54	0.93	1.81	3.13	2.9	0.6	0.28	0.08	0.002	690	32	210	313	15	32	-10	7	nd	nd	99.65
HAR 96 -2	82M/5	52553	301157	5691794	11	0	65.53	15.83	4.39	1.44	1.67	3.2	3.45	0.53	0.06	0.06	0.004	664	-20	169	317	16	40	-10	3.7	nd	nd	100.06
HAR 96 -3	82M/5	52554	301156	5691804	11	0	61.74	15.94	3.86	1.05	1.92	3.05	2.54	0.62	0.22	0.13	0.004	706	33	230	224	14	21	-10	9.4	nd	nd	100.66
HAR 96 -3	82M/5	52555	301156	5691804	11	0	64.39	15.97	4.36	1.26	1.59	3.03	3.32	0.58	0.09	0.06	0.011	738	54	173	341	18	37	-10	4.8	nd	nd	99.67
HAR 96 -4	82M/5	52556	301154	5691814	11	0	64.36	15.25	3.1	0.85	1.87	3.22	2.88	0.57	0.23	0.09	0.002	716	27	212	301	16	32	-10	6.7	nd	nd	99.31
HAR 96 -4	82M/5	52557	301154	5691814	11	0	69.14	15.01	2.6	0.77	1.86	3.47	3.34	0.54	0.08	0.05	0.004	717	-20	191	368	18	45	-10	3.6	nd	nd	100.67
HAR 96 -4	82M/5	52558	301154	5691814	11	0	65.09	15.44	4.01	1.03	1.79	3.13	3.16	0.52	0.21	0.06	-0.001	691	-20	176	362	20	42	-10	5.3	nd	nd	99.92
HAR 96 -5	82M/5	52559	301152	5691864	11	0	61.84	14.87	3.13	0.73	1.93	3.14	2.68	0.55	0.52	0.09	-0.001	701	-20	231	247	14	25	-10	9.8	nd	nd	99.44
HAR 96 -5	82M/5	52560	301152	5691864	11	0	68.35	14.73	2.85	0.75	1.9	3.49	3.29	0.41	0.11	0.05	0.002	642	-20	173	402	20	45	-10	3.6	nd	nd	99.73
HAR 96 -6	82M/5	52562	301149	5691894	11	0	62.84	15.47	3.21	0.71	1.81	3.17	2.67	0.6	0.33	0.05	0.004	643	28	209	330	16	33	-10	9.2	nd	nd	100.25
HAR 96 -6	82M/5	52563	301149	5691894	11	0	69.93	14.49	2.31	0.56	1.78	3.69	3.38	0.46	-0.01	0.04	-0.001	567	-20	178	464	18	52	-10	2.2	nd	nd	99.02
HAR 96 -7	82M/5	52564	301161	5691744	11	0	64.95	15.5	3.08	0.76	1.83	3.26	3.03	0.53	0.31	0.07	0.003	663	24	198	316	17	39	-10	7.2	nd	nd	100.72
HAR 96 -7	82M/5	52565	301161	5691744	11	0	70.5	14.94	2.28	0.55	1.85	3.75	3.71	0.42	0.08	0.04	0.002	619	-20	176	394	19	47	-10	1.8	nd	nd	100.1
HAR 96 - 8	82M/5	52566	301163	5691734	11	0	59.52	16.51	4.1	0.96	1.8	2.91	2.57	0.62	0.36	0.05	0.007	687	34	196	276	16	30	-10	10.5	nd	nd	100.1

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	MgO %	CaO %	Na_2O %	K_2O %	TiO_2 %	P_2O_5 %	MnO %	Cr_2O_3 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	C %	S %	SUM %
HAR 96 - 8	82M/5	52567	301163	5691734	11	0	69.26	14.58	2.5	0.68	1.71	3.53	3.66	0.47	0.06	0.04	0.004	662	-20	173	363	17	43	-10	2.4	nd	nd	99.07
HAR 96 - 9	82M/5	52568	301165	5691704	11	0	64.67	15.34	3.59	0.98	1.9	3.19	2.8	0.55	0.12	0.06	0.006	684	25	202	320	15	33	-10	5.8	nd	nd	99.2
HAR 96 - 9	82M/5	52569	301165	5691704	11	0	68.87	15.36	2.94	0.83	1.67	3.38	3.52	0.46	0.04	0.05	0.002	699	21	168	388	18	43	-10	2.7	nd	nd	100.02
HAR 96 -1 0	82M/5	52570	301167	5691679	11	0	61.16	16.47	4.76	1.23	1.77	2.84	2.7	0.62	0.1	0.06	0.003	703	35	188	288	16	29	-10	8.1	nd	nd	100
HAR 96 -1 0	82M/5	52572	301169	5691679	11	0	64.81	16.12	4.94	1.47	1.51	2.94	3.24	0.57	0.04	0.06	0.005	726	-20	159	353	17	36	-10	4.1	nd	nd	100.01
HAR 96 - 11	82M/5	52573	301169	5691629	11	0	64.74	15.36	3.61	0.99	1.88	3.07	2.83	0.56	0.11	0.12	0.003	709	33	198	311	16	36	-10	7.1	nd	nd	100.56
HAR 96 - 11	82M/5	52574	301169	5691629	11	0	67.39	15.83	3.73	1.08	1.69	3.24	3.43	0.52	0.04	0.05	0.006	735	25	167	333	20	40	-10	3	nd	nd	100.21
HAR 96 - 12	82M/5	52575	301171	5691594	11	0	62.38	16.28	4.53	1.28	1.87	2.91	2.72	0.62	0.17	0.08	0.005	747	53	194	275	16	28	-10	7.4	nd	nd	100.44
HAR 96 - 12	82M/5	52576	301171	5691594	11	0	67.7	15.42	3.64	1.06	1.68	3.22	3.45	0.5	0.05	0.06	0.003	655	26	163	371	19	42	-10	2.6	nd	nd	99.56
HOM96 -1	82M/4	52516	302650	5665500	11	0	47.41	23.87	8.47	0.87	0.28	1.06	5.69	0.88	0.21	0.03	0.002	1784	-20	183	291	43	15	12	9.9	nd	nd	99.05
HOM96 -1	82M/4	52517	302650	5665500	11	0	46.78	25.28	8.6	0.88	0.18	0.93	6.28	0.87	0.24	0.03	0.002	1882	-20	163	333	44	18	13	9.5	nd	nd	99.97
HOM96 -1	82M/4	52518	302650	5665500	11	0	51.5	25.43	6.52	0.87	0.32	1.07	5.9	0.93	0.15	0.02	-0.001	1716	-20	161	262	44	16	12	6.5	nd	nd	99.58
HOM96 - 2	82M/4	52519	302645	5665455	11	0	52.39	22	7.22	1.07	0.71	1.07	4.97	0.63	0.17	0.06	0.002	1209	-20	174	395	58	15	-10	9.3	nd	nd	99.88
HOM96 -2	82M/4	52520	302645	5665455	11	0	53.75	22.22	6.46	1.2	0.76	1.28	4.88	0.61	0.12	0.06	0.003	1174	-20	194	387	58	16	-10	7.4	nd	nd	99.03
HOM96 -2	82M/4	52522	302645	5665455	11	0	51.1	23.34	6.93	1.56	0.54	0.93	5.2	0.62	0.12	0.08	0.004	1252	-20	186	462	67	16	10	8.5	nd	nd	99.23
HOM96 - 2	82M/4	52523	302645	5665455	11	0	49.39	23.65	6.53	1.77	2.48	1.1	5.13	0.62	0.13	0.09	0.004	1257	-20	233	482	73	14	10	8.9	nd	nd	100.12
HOM96 - 3	82M/4	52524	302640	5665450	11	0	51.09	22.64	8.83	0.82	0.38	1.33	4.82	0.8	0.21	0.04	0.003	1605	-20	209	255	41	16	13	8.9	nd	nd	100.21
HOM96 - 3	82M/4	52525	302640	5665450	11	0	50.1	22.38	8.67	0.94	0.61	1.54	4.71	0.73	0.19	0.06	0.007	1517	25	214	277	38	14	12	8.6	nd	nd	98.87
HOM96 - 3	82M/4	52526	302640	5665450	11	0	53.88	19.75	5.13	2.58	2.07	1.48	5.22	0.73	0.03	0.04	0.007	1825	23	122	290	35	14	11	8.2	nd	nd	99.49
HOM96 -4	82M/4	52527	302635	5665452	11	0	58.67	16.21	4.86	1.06	1.53	1.56	3.38	0.64	0.2	0.15	0.004	869	20	182	217	29	14	-10	11.7	nd	nd	100.17
HOM96 -4	82M/4	52528	302635	5665452	11	0	57.41	18.03	6.13	1.93	1.02	1.5	3.74	0.65	0.15	0.05	0.019	910	91	145	273	35	14	-10	9.3	nd	nd	100.16
HOM96 - 4	82M/4	52529	302635	5665452	11	0	45.54	22.79	12.31	1.16	0.23	0.81	5.62	0.56	0.25	0.06	0.006	1176	-20	138	397	49	11	12	10	nd	nd	99.62
HOM96 -5	82M/4	52530	302633	5665454	11	0	57.36	18.41	6.96	1.01	1.26	2.04	2.65	0.73	0.12	0.07	0.004	953	-20	216	186	26	-10	12	9.4	nd	nd	100.24
HOM96 - 5	82M/4	52532	302633	5665454	11	0	54.12	21.49	7.84	0.84	0.54	1.53	3.96	0.82	0.12	0.04	0.006	1284	26	207	244	36	14	14	8.3	nd	nd	99.89
HOM96 - 5	82M/4	52533	302633	5665454	11	0	45.54	23.96	5.87	0.84	0.28	0.66	3.43	0.51	0.19	0.08	0.002	1057	-20	131	268	48	12	12	18	nd	nd	99.61
CAM98-1	82M/5	988429	321484	5680310	11	0	65.18	15.6	3.45	0.88	2.52	3.29	2.33	0.61	0.09	0.09	0.025	849	-20	398	253	15	-10	5	5.6	0.68	0.01	99.85
CAM98-1	82M/5	988430	321484	5690310	11	0	64.41	16.26	4.81	0.64	2.91	3.91	3.34	0.68	0.13	0.06	0.021	1457	-20	683	361	20	-10	6	2.4	0.17	-0.01	99.87
CAM98-2	82M/5	988431	321477	5680505	11	0	62.52	15.75	4.01	0.71	1.99	3.31	2.84	0.68	0.23	0.13	0.016	1126	-20	435	306	13	-10	4	7.5	2	0.01	99.91
CAM98-2	82M/5	988433	321477	5680505	11	1	63.27	17.07	4.5	0.7	1.5	3.3	3.05	0.77	0.13	0.06	0.02	1196	-20	406	358	15	-10	5	5.3	0.52	0.01	99.9
CAM98-2	82M/5	988434	321477	5680505	11	2	63.64	16.85	4.53	0.68	1.43	3.25	3.03	0.69	0.19	0.06	0.019	1199	-20	397	328	17	-10	5	5.3	0.61	-0.01	99.9
CAM98-3	82M/5	988435	321595	5680487	11	0	65.19	16.17	4.18	0.95	2.66	3.38	2.98	0.81	0.09	0.06	0.019	1348	-20	531	486	22	-10	7	3.1	0.37	0.02	99.87
CAM98-3	82M/5	988436	321595	5690487	11	0	65.12	15.99	4.51	0.86	2.95	3.57	3.49	0.71	0.1	0.06	0.023	1430	-20	612	425	21	-10	6	2.2	0.2	-0.01	99.88
CAM98-4	82M/5	988437	321579	5680378	11	0	63.46	16.87	4.84	0.65	1.89	3.64	3.19	0.83	0.06	0.05	0.02	1451	-20	541	480	15	-10	5	4.1	0.28	-0.01	99.89
CAM98-4	82M/5	988438	321579	5680378	11	0	63.34	17.11	5.1	0.57	2.12	3.88	3.49	0.68	0.12	0.07	0.017	1467	-20	631	404	17	-10	5	3.1	0.13	0.04	99.89
CAM98-5	82M/5	988439	321672	5680366	11	0	66.51	15.11	5.14	0.71	1.61	2.42	2.79	0.6	0.19	0.05	0.024	1112	-20	346	279	13	-10	4	4.5	0.6	0.02	99.86
CAM98-5	82M/5	988440	321672	5680366	11	0	69.12	13.6	5.53	0.35	1.26	2.7	3.01	0.46	0.09	0.03	0.02	1271	-20	427	285	-10	-10	3	3.5	0.23	-0.01	99.9
CAM98-6	82M/5	988442	321833	5680459	11	0	62.51	17.08	4.87	0.93	2.11	3.28	2.75	0.78	-0.01	0.06	0.02	1113	-20	446	375	14	-10	5	5.3	0.64	-0.01	99.92
CAM98-6	82M/5	988443	321833	5680459	11	0	60.35	17.12	6.35	0.72	2.75	3.65	3.36	0.65	0.18	0.12	0.026	1556	-20	695	340	57	-10	7	4.3	0.3	0.08	99.89
CAM98-7	82M/5	988444	322483	5679440	11	0	62.82	16.58	3.88	0.91	2.33	2.93	2.03	0.61	0.16	0.08	0.025	939	-20	402	283	18	-10	5	7.4	0.79	0.01	99.95
CAM98-7	82M/5	988445	322483	5679440	11	0	66.82	16.27	3.47	0.84	2.53	3.95	3.02	0.62	0.07	0.05	0.025	1361	-20	604	316	19	-10	5	2	0.13	0.01	99.94
CAM98-10	82M/5	988518	323047	5679875	11	0	67.03	15.92	3.56	0.86	2.59	3.36	2.52	0.7	0.04	0.05	0.025	1117	-20	454	381	23	-10	6	3	0.43	0.01	99.89
CAM98-10	82M/5	988519	323047	5679875	11	1	65.91	15.96	4.21	0.89	2.68	3.51	3.21	0.63	0.13	0.06	0.027	1346	32	536	361	32	-10	7	2.4	0.13	-0.01	99.89
CAM98-10	82M/5	988520	323047	5679875	11	2	65.71	15.88	4.18	0.96	2.7	3.5	3.35	0.63	0.08	0.07	0.019	1301	-20	514	359	31	-10	7	2.5	0.16	0.01	99.84
SPAR98-2	82M/4	988522	321902	5659200	11	0	49.06	16.37	5.61	1.08	1.62	2.45	1.57	0.73	0.11	0.08	0.023	450	-20	210	176	18	-10	6	21	4.88	0.04	99.81
SPAR98-2	82M/4	988523	321902	5659200	11	0	58.37	14.37	8.95	2.57	1.68	2.13	2.25	1.61	0.14	0.15	0.029	548	53	231	344	41	-10	12	7.4	0.99	0.04	99.8

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	MgO %	CaO %	Na_2O %	K_2O %	TiO_2 %	P_2O_5 %	MnO %	Cr_2O_3 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	C %	S %	SUM %
SPAR98-3	82M/4	988524	321979	5659153	11	0	42.13	16	11.48	2.57	2.48	1.45	1.17	1.24	0.3	0.13	0.025	390	74	257	163	26	-10	11	20.7	4.37	0.03	99.79
SPAR98-3	82M/4	988525	321958	5659180	11	0	48.56	12.79	15.58	2.93	3.3	1.65	1.55	1.48	0.25	0.2	0.023	340	72	285	148	34	-10	12	11.4	1.51	0.02	99.82
SPAR98-4	82M/4	988526	321904	5658555	11	0	41.53	13.8	17.12	2.19	2.08	1.26	1.03	1.16	0.23	0.13	0.021	298	69	186	139	30	-10	9	19	3.78	0.04	99.64
SPAR98-4	82M/4	988527	321904	5658555	11	0	44.6	11.79	20.97	2.29	2.19	1.41	1.4	1.31	0.22	0.17	0.023	294	71	203	165	35	-10	10	13.3	1.65	0.08	99.77
SPAR98-5	82M/4	988528	321615	5658082	11	0	50.01	15.3	7.87	2.35	1.9	2.23	1.4	1.46	0.3	0.11	0.025	442	55	205	186	31	-10	11	16.7	4.11	0.03	99.77
SPAR98-5	82M/4	988529	321615	5658082	11	0	52.61	16.04	9.85	3.98	1.99	2.27	1.66	1.85	0.28	0.15	0.035	453	88	201	182	31	-10	14	9	1.29	0.02	99.83
SPAR98-6	82M/4	988530	321252	5657930	11	1	51.4	15.68	5.7	1.49	1.58	2.53	1.43	0.87	0.31	0.13	0.019	467	25	207	176	25	-10	7	18.6	4.68	0.01	99.85
SPAR98-6	82M/4	988531	321252	5657930	11	2	52.55	16.61	9.81	3.41	1.25	1.77	2.4	1.49	0.28	0.21	0.03	514	77	151	189	34	-10	13	9.8	1.4	0.02	99.73
SPAR98-6	82M/4	988532	321252	5657930	11	0	53.22	16.66	9.78	3.33	1.24	1.79	2.18	1.51	0.25	0.2	0.032	517	76	152	173	33	-10	13	9.5	1.39	0.03	99.81
SPAR 96 -1	82M/4	52534	321902	5659200	11	0	53.71	15.98	3.29	0.7	1.83	3	1.43	0.33	0.16	0.06	0.001	361	-20	208	117	-10	-10	-10	18.6	nd	nd	99.2
SPAR 96 -1	82M/4	52535	321902	5659200	11	0	43.57	17.54	4.85	0.98	1.26	2.1	1.49	0.72	0.25	0.15	0.005	473	23	157	198	19	-10	-10	26.6	nd	nd	99.65
SPAR 96 -1	82M/4	52536	321902	5659200	11	1	52.79	12	4.99	1.1	1.65	2.47	1.94	0.8	0.2	0.09	0.004	569	-20	207	163	13	10	-10	21.1	nd	nd	99.28
SPAR 96 -1	82M/4	52537	321902	5659200	11	2	54.35	13.35	4.8	1.07	1.81	2.76	1.73	0.74	0.21	0.07	0.002	488	-20	213	169	12	-10	-10	18.8	nd	nd	99.83
SPAR 96 -1	82M/4	52538	321902	5659200	11	0	58.57	14.66	8.15	2.76	1.62	2.06	2.16	1.44	0.17	0.11	0.011	601	59	213	310	30	17	12	8.5	nd	nd	100.4
SPAR 96- 2	82M/4	52539	321912	5659200	11	0	47.83	16.63	4.8	0.89	1.29	2.48	1.7	0.7	0.18	0.07	0.004	536	-20	169	215	19	-10	-10	22.6	nd	nd	99.32
SPAR 96- 2	82M/4	52540	321912	5659200	11	0	51.34	15.29	5.68	1.31	1.68	2.42	1.71	0.76	0.15	0.07	0.005	476	-20	193	175	16	11	-10	18.7	nd	nd	99.25
SPAR 96 - 3	82M/4	52542	321922	5659200	11	0	47.88	16.88	7.65	1.8	1.58	1.94	1.72	0.99	0.22	0.11	0.01	513	68	181	214	51	12	10	19.2	nd	nd	100.14
SPAR 96 - 3	82M/4	52543	321922	5659200	11	0	50.28	16.04	6.13	1.45	1.52	2.32	1.69	0.88	0.16	0.08	0.006	502	37	184	174	18	10	-10	19.5	nd	nd	100.2
SPAR 96 - 3	82M/4	52544	321922	5659200	11	0	49.32	15.51	12.85	3.36	2.19	1.5	2.89	1.53	0.27	0.22	0.018	508	103	210	236	63	17	20	10.6	nd	nd	100.43
SPAR 96 - 4	82M/5	52545	321932	5659200	11	0	45.85	16.44	5.24	1.02	1.57	2.11	1.66	0.7	0.2	0.09	0.005	498	24	170	205	23	-10	-10	24.6	nd	nd	99.63
SPAR 96 - 4	82M/5	52546	321932	5659200	11	0	51.14	15.38	4.48	1.01	1.94	2.57	1.59	0.54	0.15	0.1	0.002	436	25	205	157	13	-10	-10	20.4	nd	nd	99.43
SPAR 96 - 4	82M/5	52547	321932	5659200	11	1	47.15	14.38	4.8	1.08	1.85	2.24	1.52	0.55	0.21	0.1	0.002	429	-20	192	137	13	-10	-10	25.7	nd	nd	99.7
SPAR 96 - 4	82M/5	52548	321932	5659200	11	2	47.33	17.98	4.75	0.93	1.33	2.43	1.6	0.74	0.19	0.15	0.004	518	-20	169	220	24	-10	-10	22.8	nd	nd	100.38
SCR98-1	82L/13	988497	329006	5648412	11	1	63.05	14.49	7.03	1.77	1.15	2.25	2.31	1.82	0.09	0.07	0.048	871	95	176	262	32	-10	15	5.4	0.38	-0.01	99.65
SCR98-1	82L/13	988498	329006	5648412	11	2	62.23	14.93	7.05	1.76	1.22	2.31	2.24	1.73	0.15	0.07	0.048	871	105	186	267	32	-10	13	5.8	0.54	0.01	99.71
SCR98-1	82L/13	988499	329006	5648412	11	0	64.53	14.23	6.86	1.83	1.07	2.33	2.41	1.89	0.09	0.07	0.051	875	91	172	259	25	-10	12	4.2	0.43	0.01	99.73
SCR98-2	82L/13	988500	329127	5648339	11	0	62.36	13.89	7.4	1.43	1.83	2.64	1.99	1.42	0.2	0.09	0.036	818	61	238	272	29	-10	11	6.3	0.86	0.01	99.76
SCR98-2	82L/13	988502	329127	5648339	11	0	60.33	16.34	4.63	1.09	2.28	2.89	1.78	0.88	0.22	0.09	0.029	691	32	268	226	20	-10	7	9.1	1.39	-0.01	99.81
SCR98-3	82L/13	988503	329257	5648770	11	0	66.9	11.89	6.77	2.03	1.41	2.64	1.78	2.02	0.19	0.06	0.045	628	88	203	310	28	-10	12	3.9	0.39	-0.01	99.79
SCR98-3	82L/13	988504	329257	5648770	11	0	62.48	14.39	6.53	1.84	1.7	2.81	1.45	1.46	0.23	0.08	0.057	605	151	224	208	19	-10	10	6.6	1.01	-0.01	99.77
SCR98-4	82L/13	988505	329267	5648495	11	0	63.46	14.31	6.98	2.18	1.07	2.48	2.22	1.9	0.09	0.09	0.048	1000	85	152	203	27	-10	14	4.8	0.38	0.02	99.8
SCR98-4	82L/13	988506	329267	5648495	11	0	60.94	15.63	6.38	1.68	1.36	2.62	2.21	1.51	0.3	0.07	0.042	993	68	193	229	22	-10	11	6.9	0.86	0.04	99.82
SCR98-5	82L/13	988507	329305	5648219	11	0	64.75	13.96	7.19	1.77	1.02	2.39	2.18	1.93	0.15	0.06	0.046	1009	84	166	217	29	-10	14	4.2	0.17	0.01	99.82
SCR98-5	82L/13	988508	329305	5648219	11	0	58.72	16.27	4.35	0.92	1.64	2.74	2.04	0.93	0.47	0.09	0.024	739	28	232	236	18	-10	6	11.4	1.86	-0.01	99.74
SCR98-6	82L/13	988509	329763	5648008	11	0	60.88	13.55	8.58	3.41	1.09	2.59	2.01	2.04	0.13	0.07	0.053	675	95	134	181	27	-10	15	5.2	0.29	0.02	99.74
SCR98-6	82L/13	988510	329763	5648008	11	0	58.31	15.68	6.55	2.37	1.45	2.73	1.85	1.53	0.42	0.1	0.036	818	76	189	220	21	-10	10	8.6	1.1	0.01	99.78
SCR98-7	82L/13	988511	330014	5647583	11	0	58.42	13.4	9.73	3.54	1.77	2.33	2.05	1.97	0.47	0.15	0.048	764	113	156	207	29	-10	16	5.8	0.44	0.02	99.83
SCR98-7	82L/13	988513	330014	5647588	11	0	60.28	15.63	5.44	1.47	2.25	2.74	1.7	1.01	0.07	0.08	0.026	719	37	242	188	22	-10	8	9	1.14	0.01	99.84
SCR98-8	82L/13	988514	330428	5647163	11	0	35.67	10.38	7.74	3.57	17.01	1.41	1.21	1.27	0.23	0.1	0.04	455	115	159	103	20	-10	14	21.1	5.16	0.02	99.83
SCR98-8	82L/13	988515	330428	5647163	11	0	61.02	15.96	5.57	1.82	1.97	2.93	1.94	1.24	0.11	0.09	0.032	739	70	229	149	18	-10	9	7	0.78	0.01	99.82

Appendix E-Neutron activation ([1]) and aqua regia-ICP ([2]) analytical duplicate sample data

SAMPLE	STN	Ag[2]	Al[2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca[1]	Ca[2]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe[1]	Fe[2]	Ga[2]	Hf[1]	Hg[2]	K[2]	La[1]	La[2]	Lu[1]	Mg[2]	Mn[2]
		ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm	ppm	%	ppm
978001	1	550	2.24	9.5	10.9	-2	3	830	157	0.4	3.4	-1	0.15	0.19	62	7	6	32	14	3	18.3	1.1	2.36	1.87	7.1	10	26	0.09	31	12	0.46	0.27	174
978002	2	545	2.22	9.8	10	-2	3	780	155	0.4	3.4	-1	0.15	0.19	67	5	6	31	14	3	18.4	1.1	2.48	1.85	7.1	9	31	0.08	29	13	0.44	0.26	172
978021	1	477	4.03	9.5	6.1	-2	-3	1100	289	0.1	1.9	-1	0.23	0.65	80	27	23	90	49	4	153.7	1.8	6.23	4.7	12.4	11	34	0.43	43	9	0.54	1.76	460
978039	2	399	3.96	6.8	5.7	13	-3	880	288	0.1	-0.5	2	0.22	0.6	70	23	23	82	50	4	152.3	1.5	5.54	4.68	10.8	9	32	0.43	37	8	0.5	1.74	452
978041	1	458	2.99	12	12	14	3	450	224	2.2	1.6	-1	0.23	0.37	85	19	21	120	96	5	245.2	1.7	6.32	5.6	11.6	10	41	0.26	51	23	0.47	1.61	362
978058	2	341	3.02	14	9.3	7	-3	760	220	2.1	2.7	-1	0.24	0.29	100	22	21	160	97	5	241.2	2	7.59	5.55	10.5	12	51	0.26	60	25	0.6	1.58	355
978061	1	47	1.66	21	14.4	10	3	660	99	0.2	-0.5	-1	0.25	0.06	78	7	6	62	17	2	15.1	1.6	3.21	2.32	4.5	7	10	0.15	41	15	0.44	0.22	256
978076	2	44	1.7	22	14.3	7	3	560	102	0.2	1.8	-1	0.27	0.05	71	8	7	65	17	2	16	1.3	2.84	2.39	4.6	7	24	0.15	40	15	0.41	0.23	265
978081	1	173	0.71	31	31.6	24	-3	590	45	0.2	9.5	12	10.19	0.19	69	11	13	57	14	2	32.4	1.1	2.89	2.46	2.1	4	46	0.13	36	12	0.36	0.32	544
978088	2	199	0.68	33	32.5	27	8	570	44	0.1	8.9	10	10.34	0.17	72	13	12	64	13	2	33.9	1.2	3.1	2.44	1.8	4	39	0.13	38	11	0.36	0.31	568
978090	1	136	0.79	36	30.8	25	3	610	53	0.2	11	8	6.92	0.15	87	16	14	68	14	2	40.1	1.3	3.55	2.94	2.4	5	35	0.11	46	12	0.44	0.25	637
978101	2	142	0.78	39	20.7	30	4	610	53	0.1	12	9	6.82	0.16	90	15	14	68	13	2	38	1.5	3.73	2.88	2.7	5	26	0.1	49	11	0.45	0.24	628
978121	1	396	1.84	24	19.9	-2	-3	790	148	0.3	4.5	-1	0.51	0.21	130	22	21	190	53	-1	43.8	2.9	5.92	3.91	6.2	15	48	0.16	68	34	0.85	0.91	810
978132	2	254	1.85	22	21.1	9	-3	640	135	0.3	4.4	-1	0.5	0.2	110	23	20	150	53	4	42.5	2.4	5.3	3.89	5.8	13	37	0.16	61	33	0.65	0.92	823
978141	1	-300	4.59	110	93	30	-3	510	207	-1	-0.5	-1	2.02	43.13	45	62	63	680	479	-1	150.9	2	12	9.53	13.9	4	124	0.05	22	8	0.32	5.59	1237
978152	2	528	4.65	98	87.4	28	-3	610	214	-1	-0.5	3	2.08	44.42	37	56	64	580	499	-1	155.4	2.1	10.5	9.87	13.7	4	130	0.05	20	8	0.09	5.71	1282
978201	1	60	1.53	1.9	1	-2	-3	1000	125	0.3	-0.5	-1	0.22	0.05	69	7	7	33	18	5	15.6	1.3	3.61	2.79	5.2	16	-10	0.25	40	17	0.47	0.61	280
978216	2	-30	1.43	2.3	0.7	4	-3	990	113	0.2	1	-1	0.27	0.02	73	8	6	38	15	5	13.1	1.5	3.81	2.58	4.9	16	29	0.23	42	17	0.52	0.54	251
988401	1	1102	1.79	15.2	15.1	323	-3	710	57	6.4	2.7	-1	0.23	0.6	121	25	19	92	25	3	968.3	2.2	6.23	4.17	7.4	7	13	0.14	62.4	15	0.62	1.05	401
988402	2	1070	1.8	14.4	16.7	203	-3	500	57	6.3	2.2	-1	0.23	0.64	110	24	20	96	25	3	982.6	2	6	4.32	7.5	7	15	0.14	60.1	15	0.59	1.06	411
988421	1	94	1.15	5.9	2.3	7	-3	1200	86	-0.2	-0.5	-1	0.05	0.02	78	10	4	36	8	9	11.6	1.5	4.01	1.86	3.2	13	-10	0.07	37.7	14	0.46	0.18	344
988433	2	106	1.19	4.3	1.8	40	4	1000	86	-0.2	2.3	-1	0.05	0.02	62	8	5	15	6	7	10.7	1.4	3.31	1.92	3.6	10	13	0.07	31.2	14	0.38	0.19	354
988441	1	190	1.99	30.3	22.4	-2	4	620	135	0.5	3.3	-1	0.18	0.17	77	17	10	73	18	4	30.6	1.5	3.77	2.27	4.8	8	30	0.11	38.9	14	0.41	0.24	633
988448	2	118	1.98	26.9	23	10	4	680	135	0.3	4	3	0.18	0.17	83	16	10	77	18	4	31.4	1.5	3.9	2.21	5.3	7	38	0.11	40.4	14	0.37	0.24	631
988461	1	396	0.45	42.6	38.5	40	-3	430	20	0.2	8.9	5	4.65	0.53	111	33	27	69	11	2	153.8	2.2	5.36	3.99	1.4	5	49	0.07	56.7	16	0.43	0.3	1255
988474	2	406	0.45	39	36.3	33	-3	430	19	0.7	9.9	6	4.67	0.53	110	32	27	57	9	2	154.9	1.8	5.35	4.05	1.7	6	55	0.07	59.3	14	0.49	0.3	1260
988501	1	31	0.94	5.2	3.1	17	25	630	64	0.3	3.2	1	0.27	-0.01	53	21	4	148	12	3	14.9	1.3	4.39	1.69	4	6	18	0.23	26.1	36	0.3	0.31	311
988519	2	-30	0.99	4.8	2.7	-2	4	1300	67	0.3	-0.5	1	0.3	-0.01	115	8	5	31	8	5	14.4	2.5	3.49	1.72	4.2	14	20	0.24	77.4	39	0.65	0.32	287
988521	1	460	3.71	13.7	12.2	7	-3	500	67	1	15.9	1	0.25	0.48	87	28	21	130	65	5	50.9	2.1	6.27	4.02	9.6	7	86	0.05	40.8	15	0.42	0.86	654
988528	2	487	3.81	14.1	11.3	-2	-3	500	69	1	17.1	1	0.27	0.41	89	31	21	135	63	5	51.7	2.3	6.33	4.12	10.2	7	72	0.05	41.1	16	0.45	0.89	669

Appendix E-Neutron activation ([1]) and aqua regia-ICP ([2]) analytical duplicate sample data

SAMPLE	STN	Mo[2]	Na[1]	Na[2]	Nd[1]	Ni[2]	P[2]	Pb[2]	Rb[1]	Sb[1]	Sb[2]	Sc[1]	Se[1]	Se[2]	Sm[1]	Sr[2]	Ta[1]	Tb[1]	Te[2]	Th[1]	Th[2]	Ti[2]	Tl[2]	U[1]	V[2]	W[1]	Yb[1]	Zn[1]	Zn[2]
		ppm	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
978001	1	0.8	2.25	0.02	25	14	0.1	15.9	66	-0.1	-0.2	7.4	-3	-0.3	3.7	18	3.9	0.8	-0.2	15	8	0.12	0.2	4.3	31	-1	3	142	101.7
978002	2	0.7	2.26	0.02	23	13	0.098	16.6	100	0.4	-0.2	7.3	-3	-0.3	3.5	18	3.1	-0.5	-0.2	15	7	0.12	0.2	6.7	30	-1	2.3	179	101.2
978021	1	1.4	2.14	0.03	31	71	0.031	25.4	180	0.5	0.2	18	-3	-0.3	5.4	22	2.6	-0.5	0.2	15	7	0.18	0.4	3.8	88	6	3.2	570	481.1
978039	2	1.3	1.86	0.02	25	70	0.03	23.5	150	0.5	0.2	16	-3	-0.3	4.7	21	1.7	-0.5	-0.2	12	6	0.17	0.3	4.2	87	6	3	509	477.3
978041	1	2.3	1.85	0.03	34	70	0.147	26.3	81	0.7	0.5	13	-3	1.3	5.7	30	3.8	-0.5	0.4	23	20	0.15	0.3	4.6	86	-1	2.8	235	271.4
978058	2	1.8	2.2	0.03	36	69	0.143	22.1	95	0.7	0.2	15	-3	1.2	6.6	30	5.7	-0.5	0.3	29	19	0.16	0.3	6.7	85	-1	3.4	442	269.6
978061	1	0.7	1.28	0.02	32	21	0.016	23.6	89	1.5	0.9	11	-3	-0.3	5.1	30	0.6	1.2	-0.2	12	5	0.09	-0.2	2.7	24	-1	2.5	194	67.2
978076	2	0.8	1.06	0.02	27	22	0.016	23.3	81	1.7	1	10	-3	-0.3	5.2	31	-0.5	-0.5	-0.2	11	5	0.09	-0.2	2.6	25	-1	2.3	77	69.4
978081	1	0.8	0.43	0.01	20	24	0.064	22.9	54	2.7	2	10	-3	-0.3	4.7	231	-0.5	-0.5	-0.2	12	7	0.04	-0.2	2.2	16	-1	1.9	90	52.2
978088	2	0.9	0.45	0.01	24	24	0.064	23.4	85	2.8	2	11	-3	-0.3	5	232	-0.5	0.6	-0.2	12	5	0.04	-0.2	1.9	16	-1	2.2	101	52.2
978090	1	1.1	0.5	0.01	30	31	0.076	23.9	90	3.3	2	12	3	-0.3	6.1	130	-0.5	0.9	-0.2	14	4	0.04	-0.2	3.6	17	-1	2.6	100	65.1
978101	2	1.1	0.55	0.01	31	29	0.075	25.3	84	3.5	2.1	13	-3	-0.3	6.6	129	-0.5	0.9	-0.2	17	5	0.04	-0.2	3.5	17	3	2.8	59	64.9
978121	1	1.3	1.72	0.03	43	59	0.074	43.8	160	2.6	0.7	22	-5	-0.3	8.8	38	2.3	-0.5	-0.2	24	13	0.12	0.3	5.8	49	-1	5.1	-50	99.6
978132	2	1.1	1.58	0.03	45	57	0.067	35.8	-15	1.9	0.8	20	-3	0.3	7.5	37	-0.5	-0.5	-0.2	23	12	0.12	0.2	5.2	49	-1	4.2	-50	97.5
978141	1	-1	1.66	0.02	22	328	0.096	207	-15	4	-2	37	-3	-3	4.7	42	-0.5	-0.5	-2	3	-2	0.1	-2	-0.5	176	-1	2.6	10200	8572.6
978152	2	3.4	1.49	0.02	15	326	0.097	210.1	-15	3.7	-2	32	-3	-3	4.1	43	1.8	-0.5	-2	2.5	-2	0.1	-2	-0.5	180	-1	2.2	10000	8936.9
978201	1	0.7	2.71	0.01	24	8	0.022	6.9	130	0.4	-0.2	12	-3	-0.3	3.9	34	-0.5	-0.5	-0.2	12	6	0.09	0.3	3.9	46	-1	2.6	-50	67.7
978216	2	0.5	2.88	-0.01	20	8	0.019	8.5	150	0.3	-0.2	12	-3	-0.3	4.1	34	2	0.7	-0.2	13	7	0.08	0.3	5.4	43	-1	2.9	72	64.1
988401	1	4.3	1.7	0.01	48	37	0.063	66.7	102	0.6	0.4	19.9	-3	1.6	9.2	14	2.6	1.1	0.7	16.7	8	0.03	0.2	4.8	33	5	4.3	389	241.4
988402	2	4.5	1.7	0.01	44	38	0.065	69.7	72	0.7	0.3	19.6	-3	1.7	8.9	14	2	1	0.8	17.9	8	0.03	-0.2	4.3	32	7	4.5	387	244.6
988421	1	0.3	3.02	0.01	25	6	0.059	5.5	150	0.2	-0.2	10.2	4	-0.3	5.1	9	1.6	0.5	-0.2	10.8	5	0.03	-0.2	4.3	22	-1	2.9	207	84.6
988433	2	0.3	2.73	0.01	20	7	0.059	5.9	129	0.3	0.2	8.5	-3	-0.3	4.2	9	1.8	-0.5	-0.2	8.9	5	0.03	0.2	2.8	22	5	2.3	207	88.8
988441	1	0.8	1.24	0.01	27	26	0.063	43.9	80	1.5	0.8	11.9	4	-0.3	5.8	38	1.3	0.7	-0.2	11.5	5	0.07	-0.2	3.2	24	2	2.7	317	237.5
988448	2	0.7	1.28	0.01	30	25	0.062	42.4	73	1.5	0.7	12.2	-3	-0.3	6	38	1.2	0.8	-0.2	12.2	5	0.07	-0.2	3	25	-1	2.9	353	238
988461	1	1.4	0.27	0.01	45	34	0.096	28.9	86	2.6	1.6	12.7	-3	0.9	8.3	108	1.2	0.8	-0.2	15.4	4	0.02	0.2	3.5	12	3	2.9	311	187.2
988474	2	1.3	0.27	-0.01	43	35	0.097	31.4	87	2.5	1.7	13.4	-3	0.7	9	109	0.9	0.9	0.2	16.2	3	0.02	-0.2	3.6	12	3	3.1	241	190.1
988501	1	0.2	2.41	0.02	26	5	0.054	4.3	55	0.6	-0.2	14.5	-3	-0.3	4.3	29	1.5	-0.5	-0.2	5.8	10	0.04	-0.2	1.7	28	-1	2	115	39.3
988519	2	0.7	3.09	0.02	47	5	0.054	4.4	121	0.3	-0.2	13.1	-3	-0.3	9.7	30	2.1	-0.5	-0.2	21.6	11	0.05	0.5	4.5	29	-1	4.1	76	39.8
988521	1	4.6	1.74	0.01	32	47	0.098	69.8	75	0.5	0.2	18.4	-3	0.3	7.4	23	1.5	0.8	0.4	11.6	3	0.09	0.3	3	65	-1	3.5	217	144.3
988528	2	4.4	1.79	0.01	29	49	0.1	74.8	82	0.7	0.2	18.9	-3	0.4	7.7	25	2.3	-0.5	0.4	12.3	3	0.09	0.5	3	68	4	3.5	255	146.6

Appendix E - Neutron activation ([1]) and aqua regia-ICP ([2]) field duplicate sample data

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	Ag[2]	Al[2]	As[1]	As[2]	Au[1]	B[2]	Ba[1]	Ba[2]	Bi[2]	Br[1]	Ca[2]	Ca[1]	Cd[2]	Ce[1]	Co[1]	Co[2]	Cr[1]	Cr[2]	Cs[1]	Cu[2]	Eu[1]	Fe[1]	Fe[2]	Ga[2]	Hf[1]	Hg[2]	K[2]	La[1]	La[2]
							ppb	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppb	%	ppm	ppm
MA97-9	93P/1	978090	702330	5672020	10	1	136	0.79	36.0	30.8	25	3	610	53	0.2	11.0	6.92	8	0.15	87	16	14	68	14	2	40.1	1.3	3.55	2.94	2.4	5	35	0.11	46	12
MA97-9	93P/1	978108	702330	5672020	10	2	80	1.89	32.0	22.1	17	-3	770	102	0.3	3.7	0.37	1	0.07	91	13	13	67	19	2	62.2	1.9	4.18	3.89	6.9	7	36	0.16	51	18
MA98-1	93P/1	988447	702599	5671317	10	1	116	1.90	23.1	14.2	10	4	570	152	0.2	4.0	0.17	1	0.20	69	14	9	64	16	3	22.6	1.3	3.44	1.94	4.5	7	28	0.11	35	11
MA98-1	93P/1	988448	702599	5671317	10	2	118	1.98	26.9	23.0	10	4	680	135	0.3	4.0	0.18	3	0.17	83	16	10	77	18	4	31.4	1.5	3.90	2.21	5.3	7	38	0.11	40	14
MA98-13	93P/1	988474	702643	5670903	10	1	406	0.45	39.0	36.3	33	-3	430	19	0.7	9.9	4.67	6	0.53	110	32	27	57	9	2	154.9	1.8	5.35	4.05	1.7	6	55	0.07	59	14
MA98-13	93P/1	988475	702643	5670903	10	2	334	0.42	34.0	31.6	31	-3	470	19	0.3	6.4	4.67	5	0.55	103	26	26	49	10	2	126.6	1.6	4.74	3.95	1.3	5	54	0.07	53	14
SAM 5	82M/4	978132	302871	5669453	11	1	254	1.85	22.0	21.1	9	-3	640	135	0.3	4.4	0.50	-1	0.20	110	23	20	150	53	4	42.5	2.4	5.30	3.89	5.8	13	37	0.16	61	33
SAM 5	82M/4	978133	302871	5669453	11	2	175	1.95	19.0	20.7	7	-3	700	141	0.4	3.2	0.49	-1	0.21	100	19	20	140	61	4	47.8	2.2	4.97	4.12	6.2	9	38	0.16	58	36
SAM 12	82M/4	978151	304210	5668936	11	1	750	4.40	98.0	89.7	28	-3	610	202	-1.1	-0.5	2.40	3	49.73	37	56	62	580	465	-1	157.0	2.1	10.50	9.38	15.8	4	127	0.05	20	8
SAM 12	82M/4	978152	304210	5668936	11	2	528	4.65	110.0	87.4	33	-3	590	214	-1.0	-0.5	2.08	-1	44.42	44	59	64	650	499	-1	155.4	1.8	11.20	9.87	13.7	4	130	0.05	21	8
SAM 21	82M/4	978197	306177	5666166	11	1	77	1.51	15.0	12.1	7	-3	720	90	0.4	-0.5	0.38	-1	0.11	110	17	14	140	49	5	47.2	2.6	4.78	3.18	4.3	10	35	0.07	60	29
SAM 21	82M/4	978198	306177	5666166	11	2	59	1.80	19.0	18.0	6	-3	620	106	0.4	2.0	0.37	3	0.13	83	18	16	120	65	3	59.4	2.1	4.69	3.81	5.3	8	31	0.09	51	34
HAR97 7	82M/5	978016	301311	5691734	11	1	111	1.75	3.4	3.3	-3	-2	930	177	0.4	-0.5	0.17	2	0.04	93	9	7	32	13	3	51.5	1.3	2.87	2.14	4.7	12	12	0.30	46	22
HAR97 7	82M/5	978017	301311	5691734	11	2	112	1.64	3.6	2.9	-2	-2	860	158	0.4	-0.5	0.16	-1	0.04	92	7	6	23	13	4	49.1	1.3	2.96	2.07	5.1	13	-10	0.28	47	23
BCR97 14	82M/5	978059	299120	5691820	11	1	312	2.83	17.0	11.3	96	-3	740	174	0.2	2.6	0.18	2	0.39	87	16	15	65	29	4	111.2	1.5	4.26	3.13	8.5	11	31	0.15	43	16
BCR97 14	82M/5	978060	299120	5691820	11	2	281	2.72	15.0	9.5	10	-3	710	156	-0.1	2.6	0.16	-1	0.39	71	17	14	65	29	4	135.2	1.5	4.22	3.22	8.5	10	28	0.13	39	15
HAR98 1	82M/5	988402	300318	5690937	11	1	1070	1.80	14.4	16.7	203	-3	500	57	6.3	2.2	0.23	-1	0.64	110	24	20	96	25	3	982.6	2.0	6.00	4.32	7.5	7	15	0.14	60	15
HAR98 1	82M/5	988403	300318	5690937	11	2	808	1.74	18.3	18.8	204	-3	570	41	6.6	2.7	0.24	-1	0.59	113	25	25	87	26	3	1394.9	2.0	6.41	5.36	7.0	6	17	0.14	60	17
CAM98-2	82M/5	988433	321477	5680505	11	1	106	1.19	4.3	1.8	40		1,000	86	-0.2	2.3	0.05	-1	0.02	62	8	5	15	6	7	10.7	1.4	3.31	1.92	3.6	10	13	0.07	31	14
CAM98-2	82M/5	988434	321477	5680505	11	2	99	1.06	3.4	2.3	25		940	81	-0.2	1.8	0.05	1	-0.01	70	7	4	18	7	8	9.2	1.1	3.12	1.86	3.4	9	14	0.08	32	16
CAM98-10	82M/5	988519	323047	5679875	11	1	-30	0.99	4.8	2.7	-2		1,300	67	0.3	-0.5	0.30	1	-0.01	115	8	5	31	8	5	14.4	2.5	3.49	1.72	4.2	14	20	0.24	77	39
CAM98-10	82M/5	988520	323047	5679875	11	2	-30	1.04	3.2	2.5	-2		1,100	75	0.4	-0.5	0.29	2	-0.01	85	6	5	16	5	3	15.1	2.0	2.83	1.77	4.3	11	21	0.26	63	39
SPAR98-6	82M/4	988530	321252	5657930	11	1	1131	3.06	8.7	7.3	-2		480	57	0.5	22.7	0.11	1	0.45	59	17	12	70	32	5	45.9	1.5	4.27	2.72	10.4	6	86	0.04	30	14
SPAR98-6	82M/4	988531	321252	5657930	11	2	101	3.47	19.0	18.9	-2		450	83	2.2	8.6	0.24	-1	0.47	90	34	32	131	84	6	94.3	2.0	6.88	5.82	10.5	6	42	0.11	40	23
SPAR 96 -1	82M/4	52536	321902	5659200	11	1	100	1.34	12.0	5.0	-2	-3	510	74	-2.0	5.8	0.12	-1	0.30	46	9	5	46	27	6	31.0	0.9	3.93	2.9	nd	6	75	0.03	24	5
SPAR 96 -1	82M/4	52537	321902	5659200	11	2	-30	1.81	6.4	-2.0	-2	-3	560	38	-2.0	11.0	0.09	-1	0.20	42	8	3	47	24	5	18.0	0.9	3.55	2.62	nd	6	75	0.02	22	5
SPAR 96 - 4	82M/5	52547	321932	5659200	11	1	100	4.00	7.8	2.0	-2	-3	440	51	-2.0	16.0	0.17	-1	0.70	38	12	9	43	23	4	23.0	0.8	3.60	2.83	nd	5	75	0.03	20	6
SPAR 96 - 4	82M/5	52548	321932	5659200	11	2	100	5.77	17.0	7.0	-2	-3	480	44	-2.0	34.0	0.08	-1	0.30	78	17	14	65	25	6	39.0	1.6	3.87	2.85	nd	9	80	0.04	32	14
SCR98-1	82L/13	988497	329006	5648412	11	1	106	1.56	9.4	8.9	11	4	820	174	-0.2	-0.5	0.18	-1	0.07	90	24	21	228	93	2	56.2	2.0	5.23	3.72	5.0	6	35	0.06	50	26
SCR98-1	82L/13	988498	329006	5648412	11	2	110	1.92	9.8	7.3	7	-3	1,000	214	-0.2	3.7	0.17	-1	0.05	113	29	21	260	93	4	48.0	2.4	6.11	3.65	5.5	8	45	0.07	58	25

Appendix E - Neutron activation ([1]) and aqua regia-ICP ([2]) field duplicate sample data

SITE	MAP	SAMPLE	Lu[1]	Mg [2]	Mn[2]	Mo[2]	Na [1]	Na [2]	Nd[1]	Ni[1]	Ni[2]	P [2]	Pb[2]	Rb[1]	Sb[1]	Sb[2]	Sc[1]	Se[1]	Se[2]	Sm[1]	Sr[2]	Ta[1]	Tb[1]	Te[2]	Th[1]	Th[2]	Ti [2]	Tl[2]	U[1]	V[2]	W[1]	Yb[1]	Zn[1]	Zn[2]
			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	ppm	ppm
MA97-9	93P/1	978090	0.44	0.25	637	1.1	0.5	0.01	30	-22	31	0.076	23.9	90	3.3	2.0	12.0	3	-0.3	6.1	130	-0.5	0.9	-0.2	14.0	4	0.04	-0.2	3.6	17	-1	2.6	100	65.1
MA97-9	93P/1	978108	0.59	0.31	561	1.6	0.83	0.01	31	-25	34	0.016	32.7	100	2.8	1.5	14.0	-3	-0.3	7.2	28	-0.5	1.1	-0.2	16.0	7	0.09	-0.2	3.5	27	-1	3.5	139	99.5
MA98-1	93P/1	988447	0.37	0.21	846	0.6	1.25	0.01	25	-20	23	0.081	35.7	67	1.1	0.5	10.9	-3	-0.3	5.2	34	1.1	0.6	-0.2	10.6	3	0.06	0.2	2.8	21	-1	2.6	380	260.7
MA98-1	93P/1	988448	0.37	0.24	631	0.7	1.28	0.01	30	-23	25	0.062	42.4	73	1.5	0.7	12.2	-3	-0.3	6.0	38	1.2	0.8	-0.2	12.2	5	0.07	-0.2	3.0	25	-1	2.9	353	238.0
MA98-13	93P/1	988474	0.49	0.30	1260	1.3	0.27	-0.01	43	-26	35	0.097	31.4	87	2.5	1.7	13.4	-3	0.7	9.0	109	0.9	0.9	0.2	16.2	3	0.02	-0.2	3.6	12	3	3.1	241	190.1
MA98-13	93P/1	988475	0.41	0.30	1340	1.3	0.23	-0.01	39	-20	35	0.099	31.6	70	2.2	1.6	11.4	-3	0.4	8.1	98	1.4	0.9	0.2	14.8	4	0.02	-0.2	2.9	12	3	2.8	215	180.6
SAM 5	82M/4	978132	0.65	0.92	823	1.1	1.58	0.03	45	-20	57	0.067	35.8	-15	1.9	0.8	20.0	-3	0.3	7.5	37	-0.5	-0.5	-0.2	23.0	12	0.12	0.2	5.2	49	-1	4.2	-50	97.5
SAM 5	82M/4	978133	0.52	1.05	881	1.5	1.43	0.03	33	-20	62	0.066	33.7	110	1.7	0.8	18.0	-3	0.3	6.5	37	-0.5	-0.5	-0.2	20.0	15	0.13	0.2	5.9	55	-1	3.5	124	102.0
SAM 12	82M/4	978151	0.09	5.38	1246	1.2	1.49	0.03	15	170	319	0.100	213.7	-15	3.7	-2.2	32.0	-3	-3.3	4.1	47	1.8	-0.5	-2.2	2.5	-2	0.09	-2.2	-0.5	170	-1	2.2	10000	9751.9
SAM 12	82M/4	978152	0.47	5.71	1282	3.4	1.56	0.02	14	-20	326	0.097	210.1	75	3.6	-2.0	35.0	-3	-3.0	4.4	43	1.8	0.8	-2.0	2.6	-2	0.10	-2.0	-0.5	180	-1	2.7	9980	8936.9
SAM 21	82M/4	978197	0.72	0.88	551	0.4	2.32	0.01	40	-20	33	0.044	16.3	130	1.4	0.4	25.0	-3	-0.3	7.7	20	3.0	1.8	-0.2	17.0	8	0.11	0.2	3.9	46	-1	4.5	106	56.1
SAM 21	82M/4	978198	0.64	1.06	619	0.8	1.93	0.01	34	-20	48	0.035	18.0	92	1.0	0.5	21.0	-3	-0.3	6.1	21	1.5	-0.5	-0.2	14.0	10	0.12	0.2	3.1	53	-1	3.8	60	67.7
HAR97 7	82M/5	978016	0.64	0.61	259	0.7	2.85	0.02	17	-38	9	0.040	9.5	160	0.3	0.2	11.0	-3	-0.3	4.5	25	5.0	-0.5	-0.2	25.0	17	0.09	0.2	6.8	45	-1	3.8	-50	33.5
HAR97 7	82M/5	978017	0.61	0.58	237	0.6	2.9	0.02	20	-36	7	0.030	9.5	82	-0.1	-0.2	10.0	-3	-0.3	4.5	25	4.8	-0.5	-0.2	25.0	17	0.09	0.3	7.6	44	4	3.8	120	28.4
BCR97 14	82M/5	978059	0.54	0.73	483	0.9	2.26	0.02	30	-28	36	0.070	30.4	100	0.7	0.2	12.0	-3	-0.3	4.9	16	2.3	-0.5	-0.2	21.0	13	0.13	0.3	5.5	46	-1	3.4	292	217.1
BCR97 14	82M/5	978060	0.48	0.70	471	1.0	2.21	0.02	24	-28	38	0.080	25.9	95	0.8	-0.2	12.0	-3	-0.3	4.8	15	2.9	-0.5	-0.2	20.0	12	0.12	0.2	5.2	47	-1	3.1	318	208.3
HAR98 1	82M/5	988402	0.59	1.06	411	4.5	1.7	0.01	44	-31	38	0.070	69.7	72	0.7	0.3	19.6	-3	1.7	8.9	14	2.0	1.0	0.8	17.9	8	0.03	-0.2	4.3	32	7	4.5	387	244.6
HAR98 1	82M/5	988403	0.65	1.16	390	5.3	1.46	0.01	41	139	41	0.070	69.9	99	0.7	0.5	19.6	-3	2.1	8.8	13	1.5	1.0	0.9	16.9	9	0.02	0.4	4.3	33	5	4.0	293	215.5
CAM98-2	82M/5	988433	0.38	0.19	354	0.3	2.73	0.01	20	-25	7	0.060	5.9	129	0.3	0.2	8.5	-3	-0.3	4.2	9	1.8	-0.5	-0.2	8.9	5	0.03	0.2	2.8	22	5	2.3	207	88.8
CAM98-2	82M/5	988434	0.34	0.17	372	0.4	2.2	0.01	18	-20	6	0.060	6.1	117	0.5	-0.2	7.9	-3	-0.3	3.9	10	1.7	-0.5	-0.2	9.4	5	0.03	-0.2	2.6	19	3	2.2	149	78.3
CAM98-10	82M/5	988519	0.65	0.32	287	0.7	3.09	0.02	47	-23	5	0.050	4.4	121	0.3	-0.2	13.1	-3	-0.3	9.7	30	2.1	-0.5	-0.2	21.6	11	0.05	0.5	4.5	29	-1	4.1	76	39.8
CAM98-10	82M/5	988520	0.51	0.34	329	0.8	2.5	0.02	34	-20	5	0.050	5.0	92	-0.1	-0.2	11.0	-3	-0.3	7.7	30	2.3	-0.5	-0.2	16.4	12	0.05	0.5	3.8	30	-1	3.3	63	43.3
SPAR98-6	82M/4	988530	0.42	0.43	767	4.0	1.84	0.01	26	-33	26	0.066	31.2	84	0.5	-0.2	11.7	-3	0.5	5.3	9	0.5	-0.5	0.2	8.4	-2	0.06	0.5	3.5	45	-1	2.7	178	89.5
SPAR98-6	82M/4	988531	0.51	1.44	1437	5.0	1.18	0.01	25	-30	80	0.088	64.2	94	0.5	0.3	20.2	-3	0.7	7.4	18	1.7	1.0	0.4	12.7	7	0.08	0.9	3.4	84	6	3.5	220	175.0
SPAR 96 -1	82M/4	52536	0.28	0.27	511	2.0	1.96	0.02	22	-38	14	0.049	408.0	66	2.9	3.0	9.9	-3	nd	3.7	12	-0.5	-0.5	nd	5.8	-2	0.11	nd	1.7	51	-1	2.0	240	183.0
SPAR 96 -1	82M/4	52537	0.24	0.22	265	2.0	2.17	0.02	21	-35	12	0.047	39.0	51	1.8	2.0	8.9	-3	nd	3.4	9	-0.5	-0.5	nd	6.1	-2	0.10	nd	1.3	43	-1	1.4	130	108.0
SPAR 96 - 4	82M/5	52547	0.24	0.29	717	3.0	1.77	0.02	21	-31	16	0.070	70.0	33	0.6	6.0	8.4	-3	nd	3.4	19	-0.5	-0.5	nd	6.1	-2	0.09	nd	2.3	40	-1	1.9	150	134.0
SPAR 96 - 4	82M/5	52548	0.45	0.34	1201	2.0	1.92	0.02	33	-40	25	0.055	87.0	-15	0.8	-2.0	13.0	-3	nd	6.3	8	1.6	-0.5	nd	9.2	4	0.18	nd	6.5	39	-1	3.4	270	268.0
SCR98-1	82L/13	988497	0.46	0.72	428	0.6	1.68	0.01	34	-26	96	0.042	10.1	69	0.9	0.3	21.9	-3	-0.3	7.5	14	2.2	-0.5	-0.2	10.8	6	0.05	-0.2	3.1	57	-1	3.0	86	68.3
SCR98-1	82L/13	988498	0.55	0.70	471	0.7	2	0.01	36	155	99	0.060	8.4	60	0.9	0.3	24.1	-3	-0.3	8.8	14	2.3	0.8	-0.2	11.9	5	0.06	0.2	3.4	58	2	3.8	128	76.3

SAMPLE	STN	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	Cr_2O_3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	C	S	SUM
		%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
978090	1	56.5	10.46	4.8	0.77	9.77	0.64	2.46	0.61	0.19	0.09	0.008	568	35	203	116	17	-10	-10	13.8	3.32	0.04	100.21
978101	2	56.21	10.42	4.79	0.75	9.72	0.65	2.4	0.61	0.18	0.09	0.007	571	36	205	120	18	-10	-10	14.2	3.18	0.05	100.14
978141	1	42.81	15.14	14.27	9.57	2.95	1.78	0.94	1.77	0.27	0.16	0.073	621	273	76	90	17	22	23	9.2	0.65	0.12	99.07
978152	2	42.72	15.05	14.28	9.56	2.93	1.77	0.99	1.75	0.27	0.16	0.071	607	266	76	83	17	18	23	9.4	0.64	0.08	99.08
988401	1	55.82	18.34	8.08	3.34	1.03	2.31	2.55	1.24	0.25	0.07	0.023	624	40	151	207	37	-10	12	6.5	0.86	0.01	99.68
988402	2	56.23	18.25	8.21	3.3	1.05	2.29	2.5	1.24	0.24	0.07	0.025	622	49	149	208	36	-10	12	6.2	0.83	-0.01	99.73
988421	1	62.89	17.08	4.52	0.72	1.49	3.31	2.92	0.77	0.16	0.06	0.019	1194	-20	407	361	16	-10	5	5.7	0.52	0.04	99.87
988433	2	63.27	17.07	4.5	0.7	1.5	3.3	3.05	0.77	0.13	0.06	0.02	1196	-20	406	358	15	-10	5	5.3	0.52	0.01	99.9
988441	1	67.13	13.68	4.77	0.95	1.4	1.52	1.96	0.75	0.17	0.1	0.028	615	29	192	224	20	-10	6	7.3	0.9	0.02	99.89
988448	2	67.24	13.45	4.73	0.93	1.37	1.49	2.21	0.73	0.2	0.1	0.029	561	24	189	220	23	-10	6	7.3	0.91	0.03	99.9
988461	1	63.57	9.19	6.61	0.89	6.69	0.27	2.09	0.79	0.28	0.17	0.028	370	31	136	148	24	-10	6	9.2	1.8	0.03	99.86
988474	2	63.47	9.12	6.45	0.87	6.83	0.28	2.2	0.81	0.25	0.17	0.023	379	30	139	151	27	-10	7	9.3	1.86	0.02	99.86
988501	1	66	16.03	4.09	0.89	2.66	3.6	3.4	0.64	0.11	0.06	0.024	1359	-20	551	463	32	-10	8	2	0.12	-0.01	99.79
988515	2	61.02	15.96	5.57	1.82	1.97	2.93	1.94	1.24	0.11	0.09	0.032	739	70	229	149	18	-10	9	7	0.78	0.01	99.82
988521	1	49.42	15.4	7.9	2.35	1.93	2.22	1.58	1.45	0.29	0.12	0.024	442	49	207	195	31	-10	11	17	4.11	0.03	99.8
988528	2	50.01	15.3	7.87	2.35	1.9	2.23	1.4	1.46	0.3	0.11	0.025	442	55	205	186	31	-10	11	16.7	4.11	0.03	99.77

Appendix E - Field duplicate sample oxide data

SITE	MAP	SAMPLE	UTM-E	UTM-N	ZONE	STA	SiO_2	Al_2O_3	Fe_2O_3	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	Cr_2O_3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	C	S	SUM
							%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
MA98-1	93P/1	988447	702599	5671317	10	1	68.39	13.01	4.34	0.89	1.42	1.54	1.94	0.67	0.21	0.12	0.029	554	-20	189	191	20	-10	5	7.2	1.07	-0.01	99.87
MA98-1	93P/1	988448	702599	5671317	10	2	67.24	13.45	4.73	0.93	1.37	1.49	2.21	0.73	0.2	0.1	0.029	561	24	189	220	23	-10	6	7.3	0.91	0.03	99.9
MA98-13	93P/1	988474	702643	5670903	10	1	63.47	9.12	6.45	0.87	6.83	0.28	2.2	0.81	0.25	0.17	0.023	379	30	139	151	27	-10	7	9.3	1.86	0.02	99.86
MA98-13	93P/1	988475	702643	5670903	10	2	64.42	8.79	6.25	0.85	6.66	0.28	2.39	0.81	0.3	0.18	0.026	362	43	126	177	28	-10	7	8.7	1.75	-0.01	99.75
SAM 12	82M/4	978151	304210	5668936	11	1	43.13	14.78	13.9	9.27	3.42	1.8	0.97	1.73	0.26	0.16	0.066	589	266	84	90	17	19	22	9.4	0.74	0.07	99.02
SAM 12	82M/4	978152	304210	5668936	11	2	42.72	15.05	14.28	9.56	2.93	1.77	0.99	1.75	0.27	0.16	0.071	607	266	76	83	17	18	23	9.4	0.64	0.08	99.08
SAM 21	82M/4	978197	306177	5666166	11	1	66.11	13.58	5.81	2	2.1	2.51	2.12	1.12	0.13	0.1	0.013	789	46	208	175	26	19	15	4.3	0.28	0.03	100.04
SAM 21	82M/4	978198	306177	5666166	11	2	63.99	14.37	6.61	2.35	1.88	2.41	2.31	1.12	0.06	0.11	0.017	868	61	197	157	28	19	16	4.9	0.36	0.04	100.28
HAR98 1	82M/5	988402	300318	5690937	11	1	56.23	18.25	8.21	3.3	1.05	2.29	2.5	1.24	0.24	0.07	0.025	622	49	149	208	36	-10	12	6.2	0.83	-0.01	99.73
HAR98 1	82M/5	988403	300318	5690937	11	2	54.83	18.21	9.5	3.55	0.84	2.16	2.59	1.31	0.26	0.06	0.024	607	47	129	213	43	-10	13	6.2	0.81	0.05	99.66
CAM98-2	82M/5	988433	321477	5680505	11	1	63.27	17.07	4.5	0.7	1.5	3.3	3.05	0.77	0.13	0.06	0.02	1196	-20	406	358	15	-10	5	5.3	0.52	0.01	99.9
CAM98-2	82M/5	988434	321477	5680505	11	2	63.64	16.85	4.53	0.68	1.43	3.25	3.03	0.69	0.19	0.06	0.019	1199	-20	397	328	17	-10	5	5.3	0.61	-0.01	99.9
CAM98-10	82M/5	988519	323047	5679875	11	1	65.91	15.96	4.21	0.89	2.68	3.51	3.21	0.63	0.13	0.06	0.027	1346	32	536	361	32	-10	7	2.4	0.13	-0.01	99.89
CAM98-10	82M/5	988520	323047	5679875	11	2	65.71	15.88	4.18	0.96	2.7	3.5	3.35	0.63	0.08	0.07	0.019	1301	-20	514	359	31	-10	7	2.5	0.16	0.01	99.84
SPAR98-6	82M/4	988530	321252	5657930	11	1	51.4	15.68	5.7	1.49	1.58	2.53	1.43	0.87	0.31	0.13	0.019	467	25	207	176	25	-10	7	18.6	4.68	0.01	99.85
SPAR98-6	82M/4	988531	321252	5657930	11	2	52.55	16.61	9.81	3.41	1.25	1.77	2.4	1.49	0.28	0.21	0.03	514	77	151	189	34	-10	13	9.8	1.4	0.02	99.73
SPAR 96 -1	82M/4	52536	321902	5659200	11	1	52.79	12	4.99	1.1	1.65	2.47	1.94	0.8	0.2	0.09	0.004	569	-20	207	163	13	10	-10	21.1	nd	nd	99.28
SPAR 96 -1	82M/4	52537	321902	5659200	11	2	54.35	13.35	4.8	1.07	1.81	2.76	1.73	0.74	0.21	0.07	0.002	488	-20	213	169	12	-10	-10	18.8	nd	nd	99.83
SPAR 96 - 4	82M/5	52547	321932	5659200	11	1	47.15	14.38	4.8	1.08	1.85	2.24	1.52	0.55	0.21	0.1	0.002	429	-20	192	137	13	-10	-10	25.7	nd	nd	99.7
SPAR 96 - 4	82M/5	52548	321932	5659200	11	2	47.33	17.98	4.75	0.93	1.33	2.43	1.6	0.74	0.19	0.15	0.004	518	-20	169	220	24	-10	-10	22.8	nd	nd	100.38
SCR98-1	82L/13	988497	329006	5648412	11	1	63.05	14.49	7.03	1.77	1.15	2.25	2.31	1.82	0.09	0.07	0.048	871	95	176	262	32	-10	15	5.4	0.38	-0.01	99.65
SCR98-1	82L/13	988498	329006	5648412	11	2	62.23	14.93	7.05	1.76	1.22	2.31	2.24	1.73	0.15	0.07	0.048	871	105	186	267	32	-10	13	5.8	0.54	0.01	99.71

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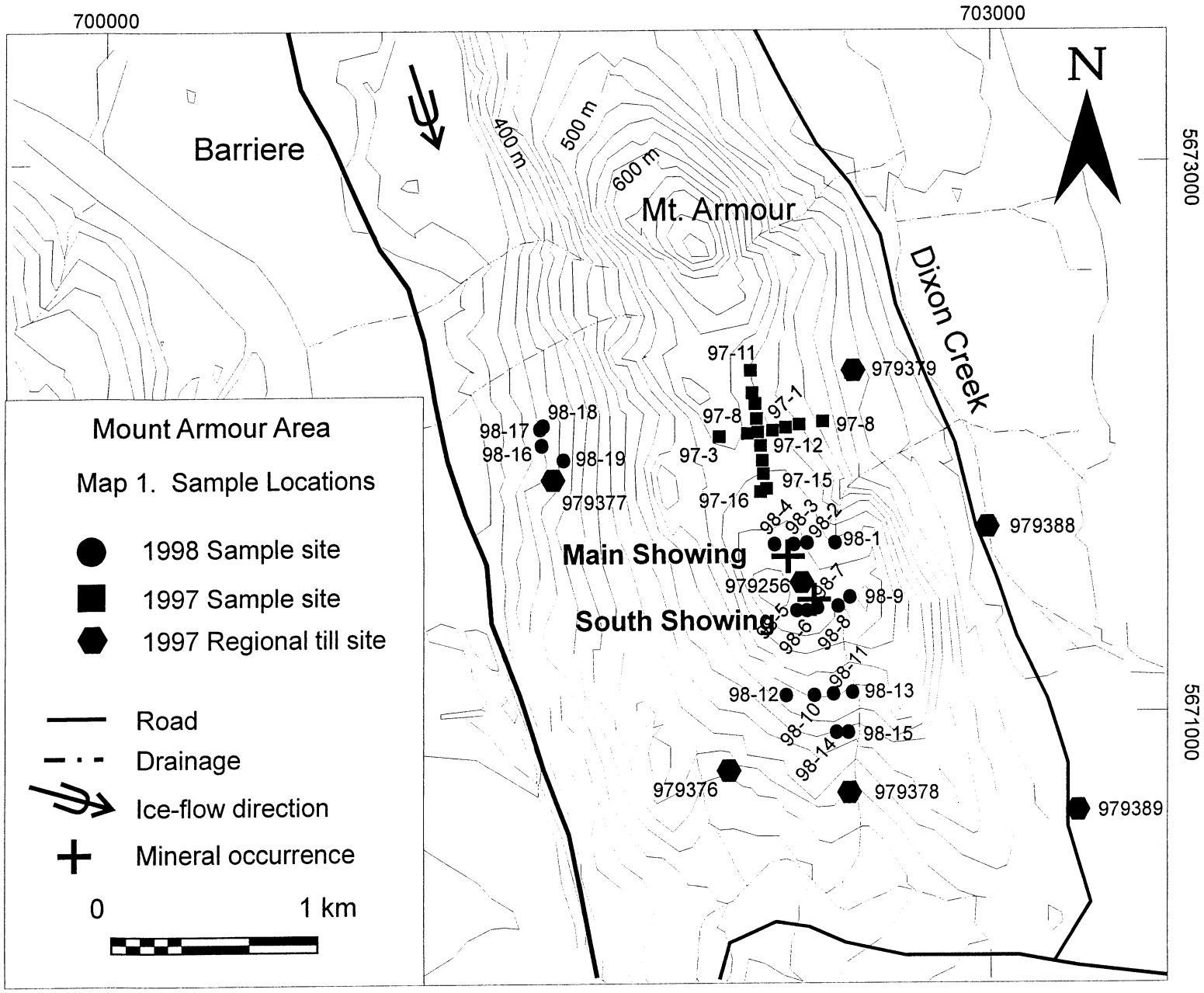
700000
703000
5673000
5671000
N
Barriere
Mt. Armour
Dixon Creek
400 m
500 m
600 m
Mount Armour Area
Map 1. Sample Locations
1998 Sample site
1997 Sample site
1997 Regional till site
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km
97-11
979379
97-1
97-8
97-8
97-12
97-3
97-15
97-16
98-18
98-17
98-16
98-19
979377
98-4
98-3
98-2
98-1
979388
Main Showing
979256
98-7
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South Showing
98-5
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98-11
98-12
98-13
98-10
98-15
98-14
979376
979378
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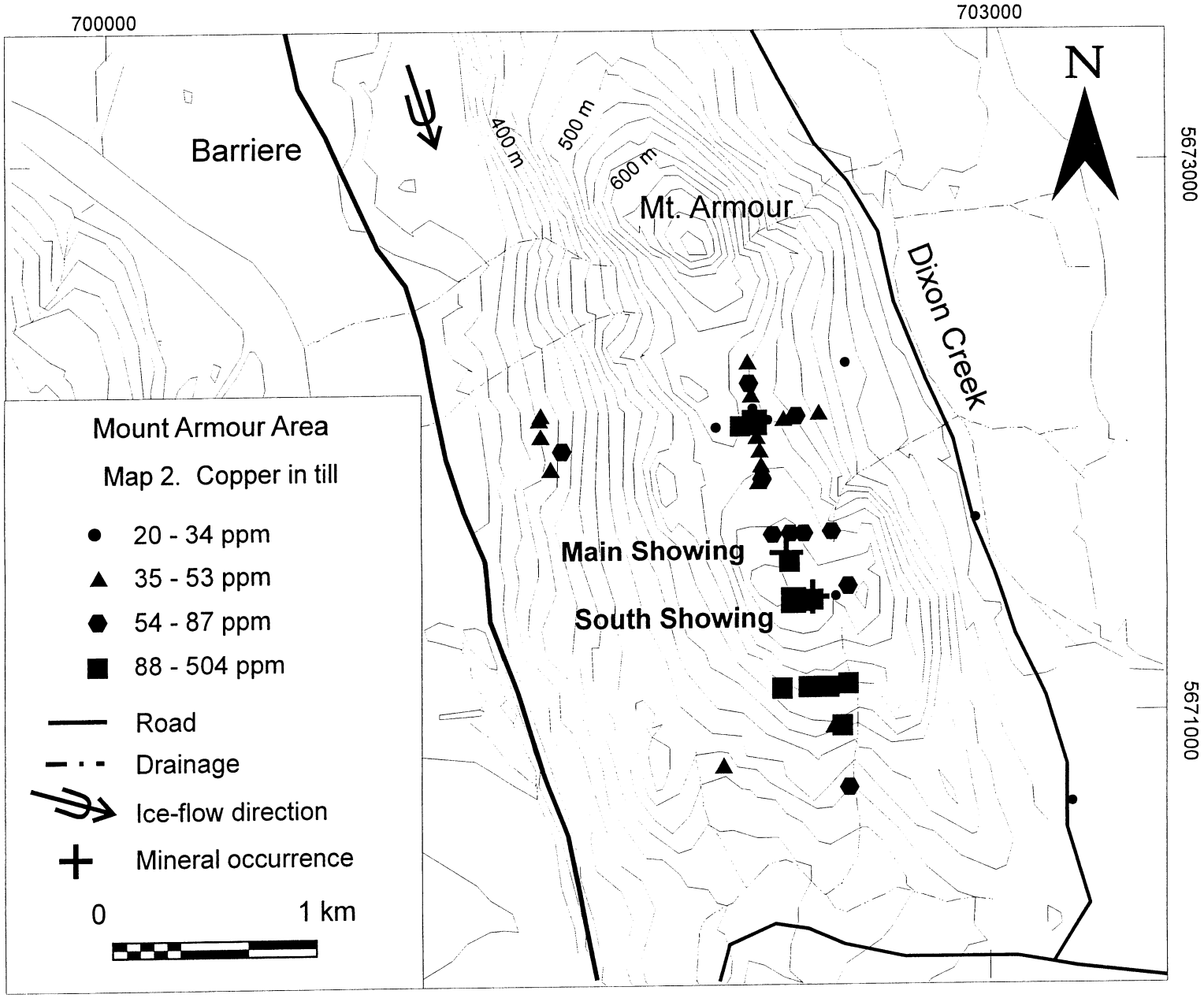
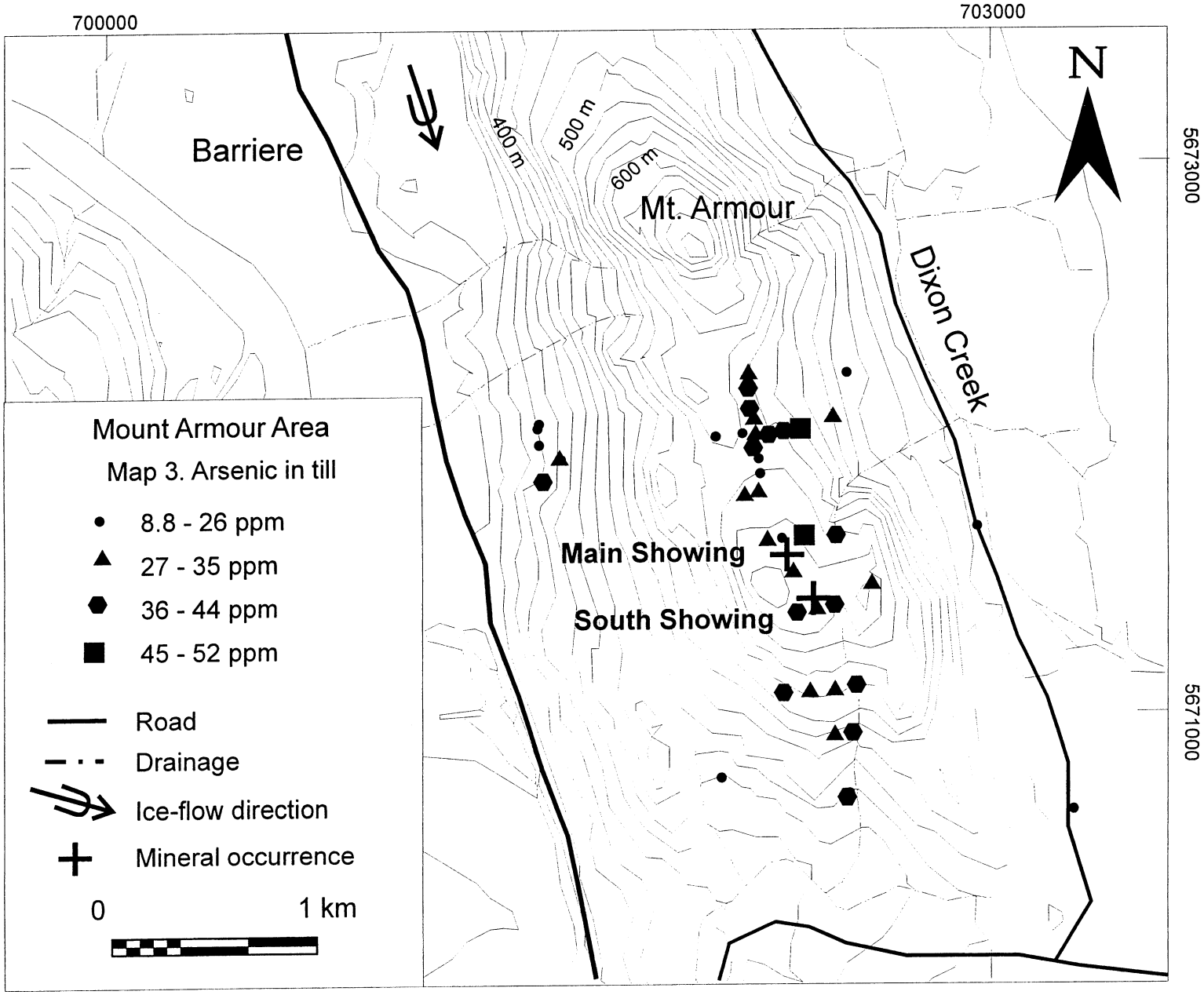

700000
703000
5673000
5671000
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 2. Copper in till
20 - 34 ppm
35 - 53 ppm
54 - 87 ppm
88 - 504 ppm
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km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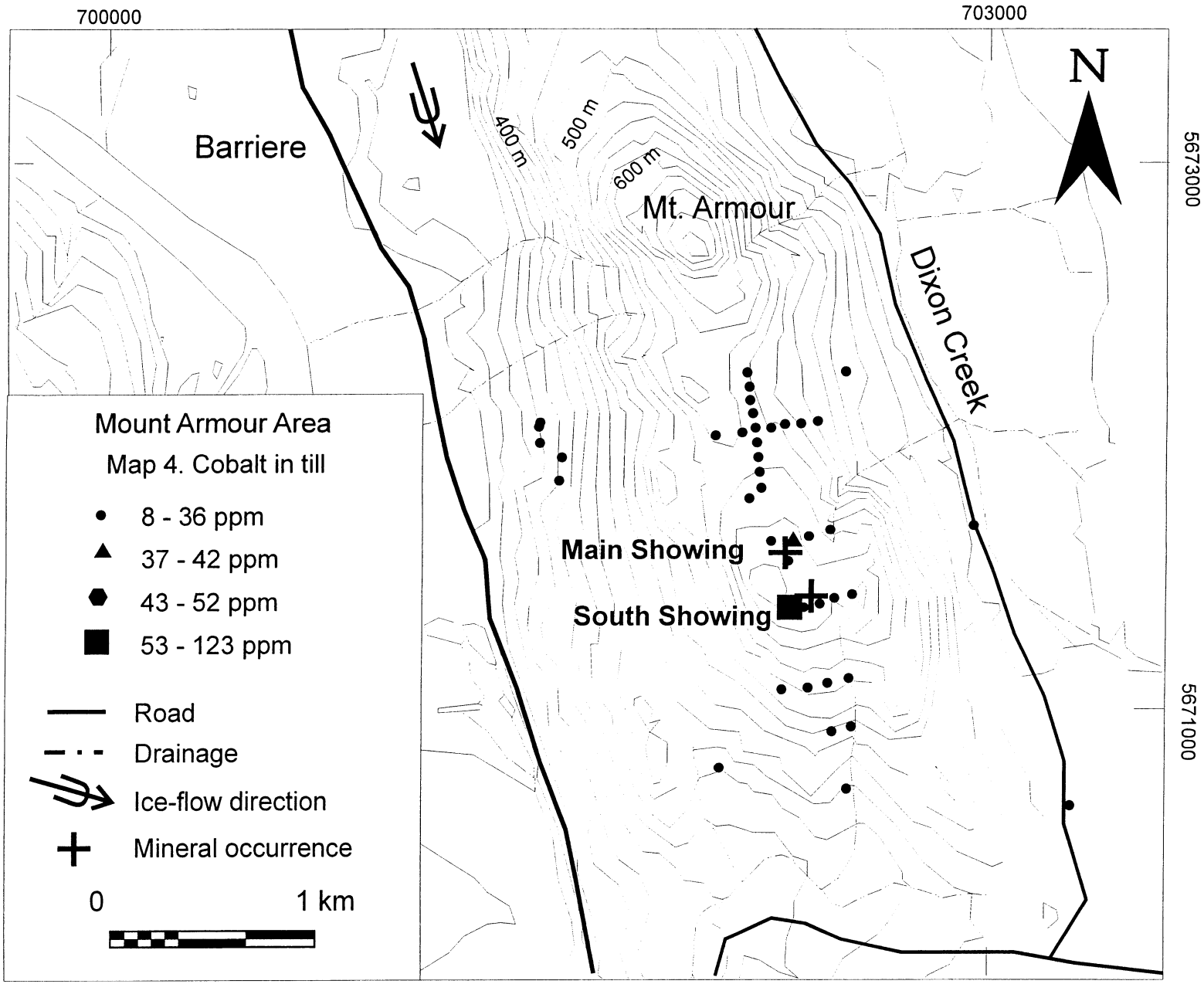
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 3. Arsenic in till
8.8 - 26 ppm
27 - 35 ppm
36 - 44 ppm
45 - 52 ppm
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km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703000
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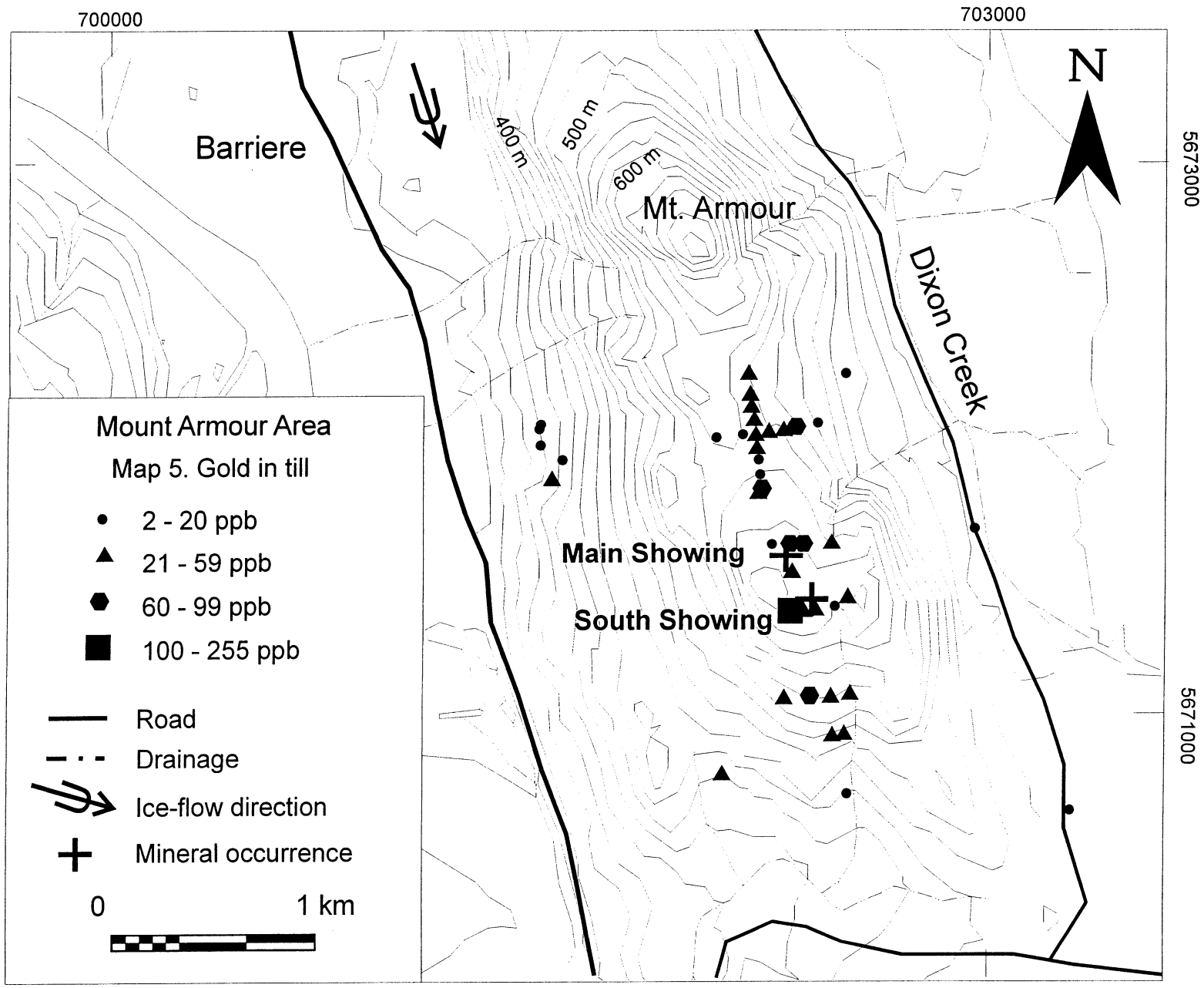
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 4. Cobalt in till
8 - 36 ppm
37 - 42 ppm
43 - 52 ppm
53 - 123 ppm
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km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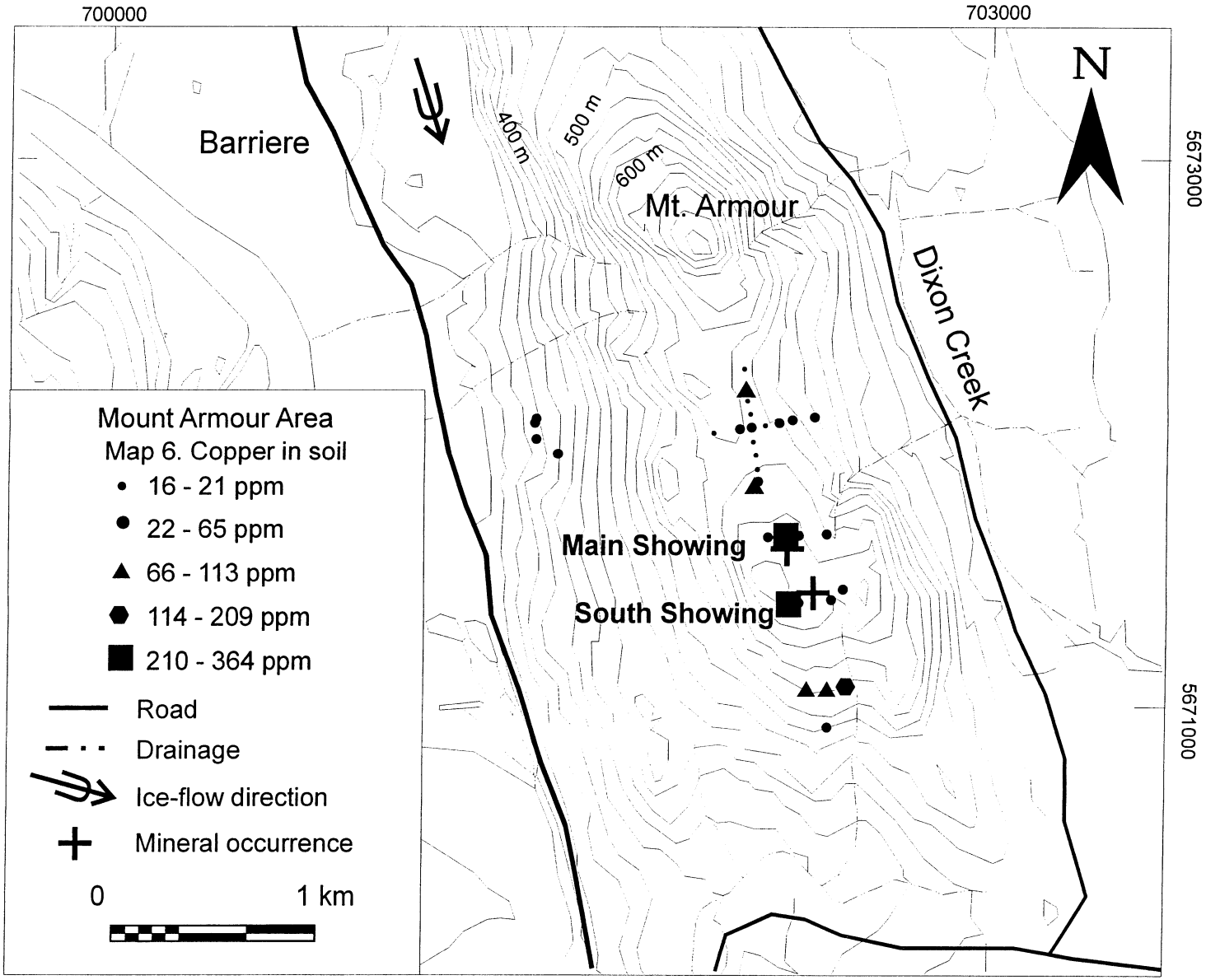
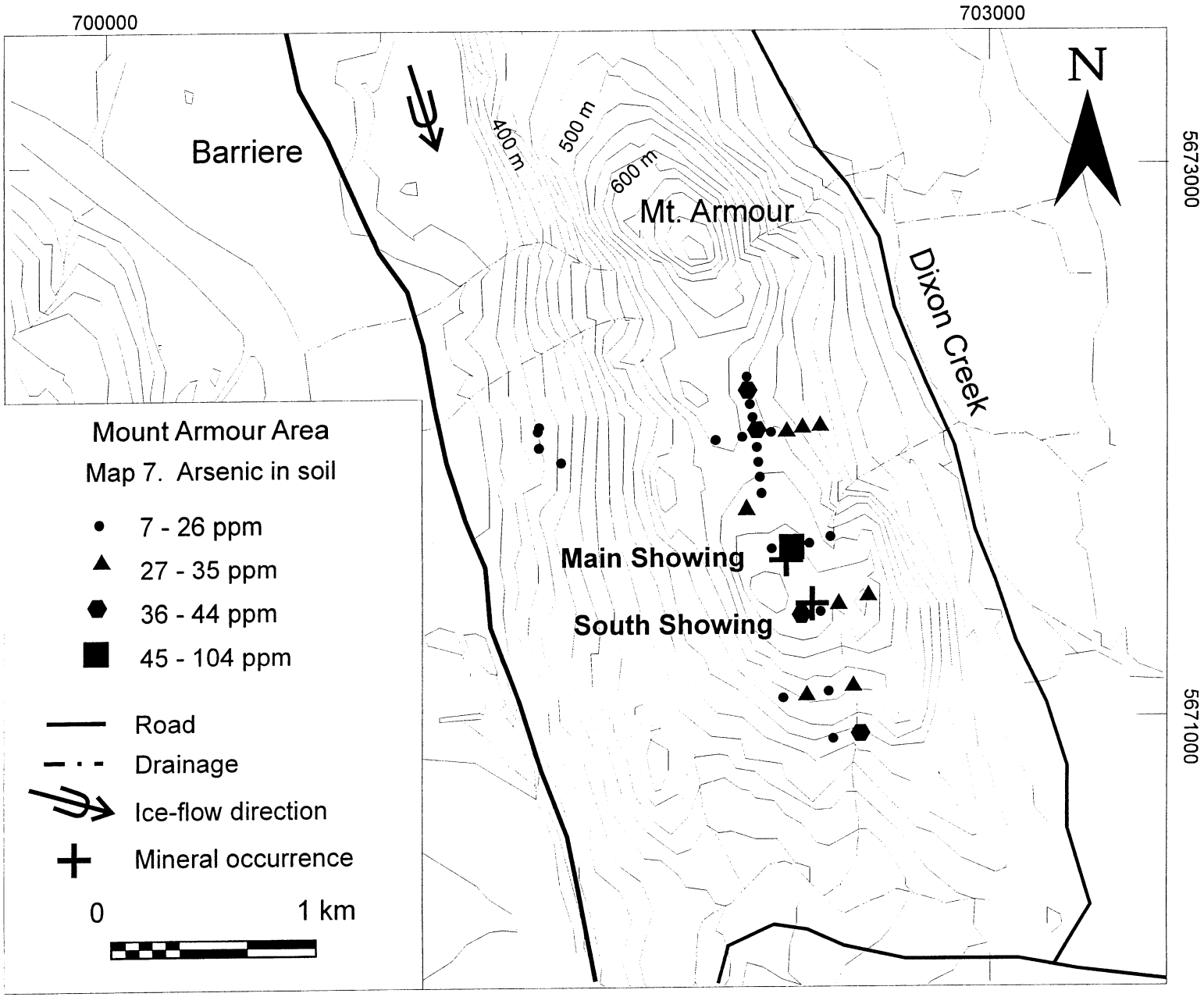
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 5. Gold in till
2 - 20 ppb
21 - 59 ppb
60 - 99 ppb
100 - 255 ppb
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km


700000
703000
5673000
5671000
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 6. Copper in soil
16 - 21 ppm
22 - 65 ppm
66 - 113 ppm
114 - 209 ppm
210 - 364 ppm
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km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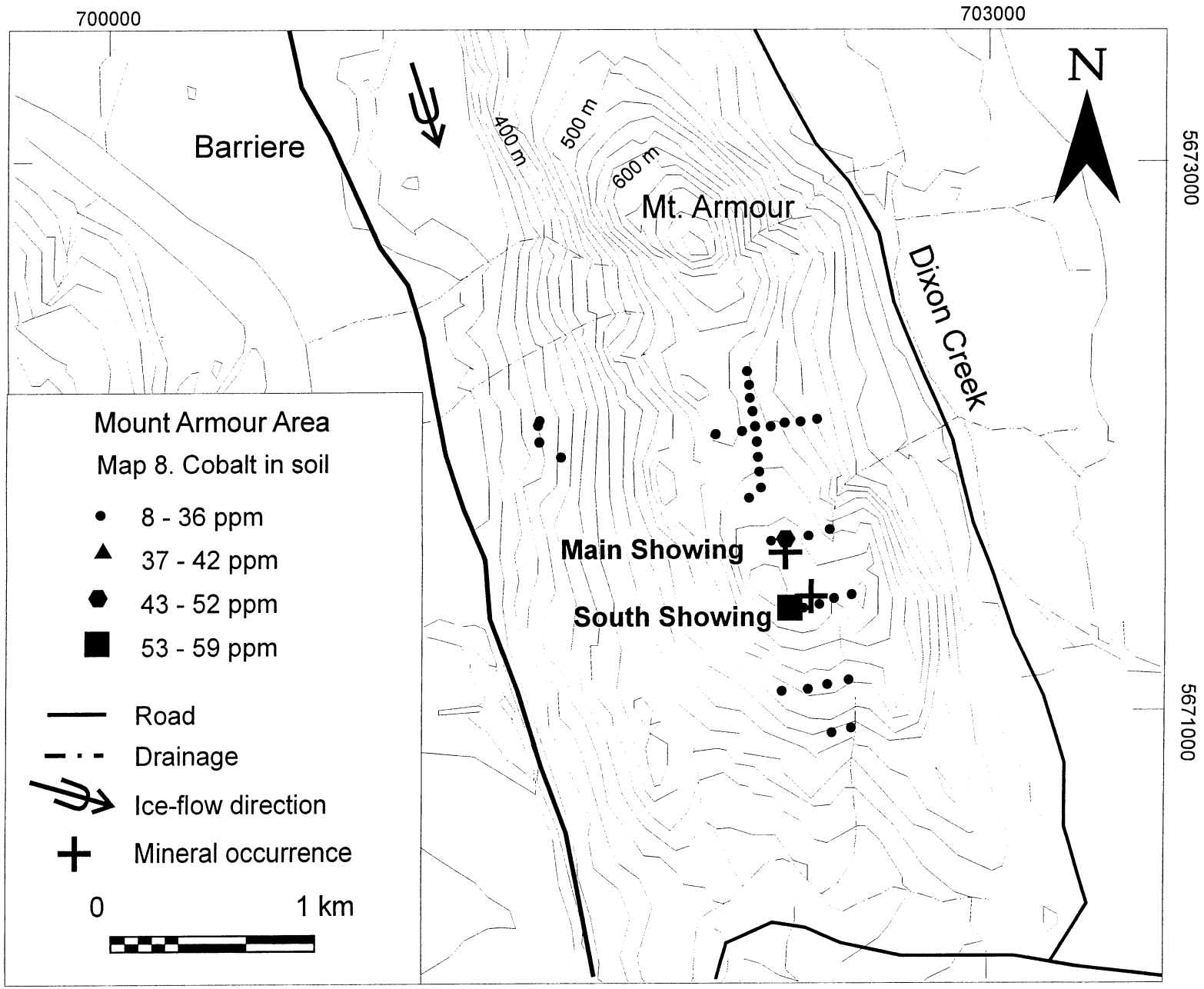
703000
5673000
5671000
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 7. Arsenic in soil
7 - 26 ppm
27 - 35 ppm
36 - 44 ppm
45 - 104 ppm
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km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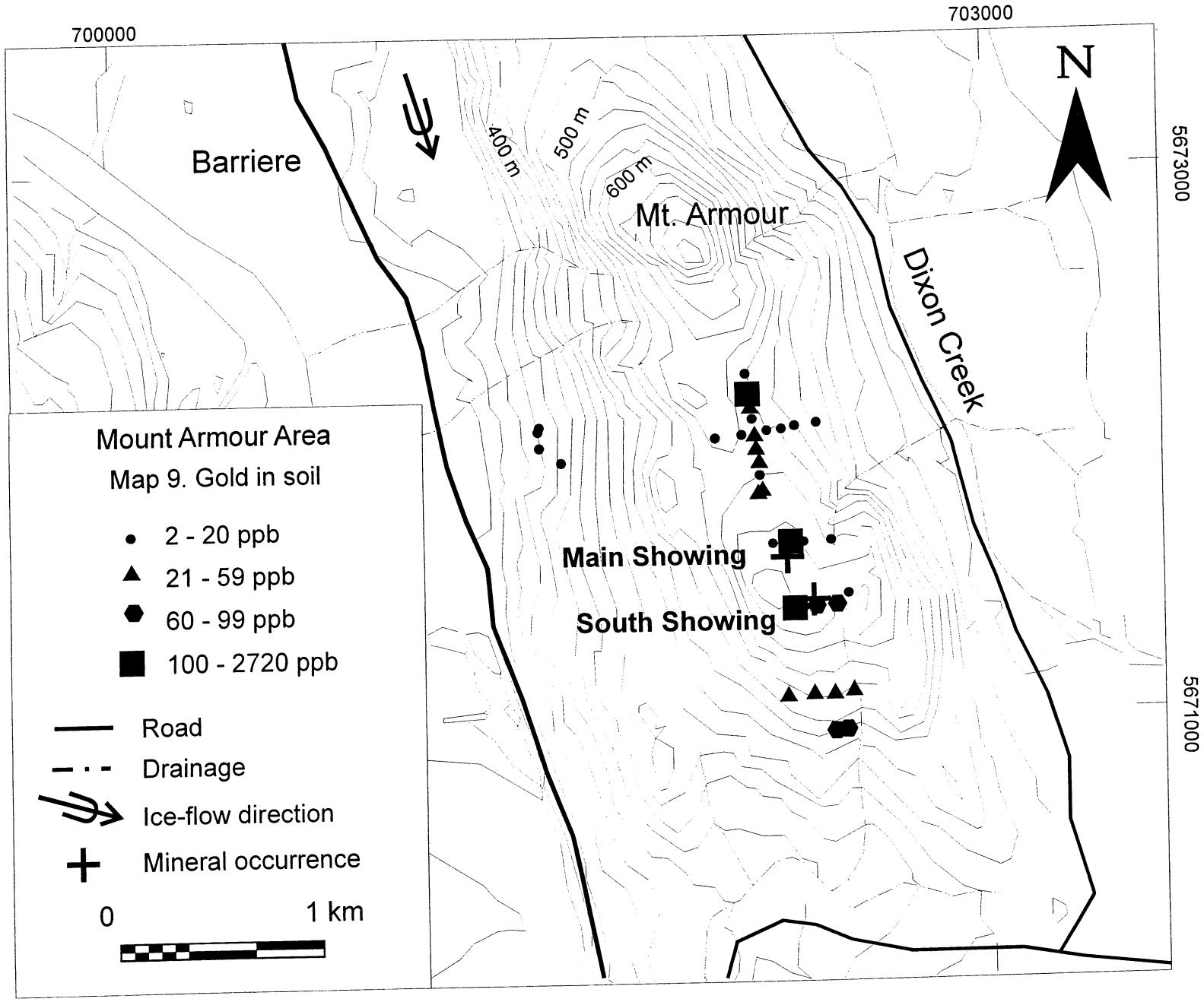
703000
5673000
5671000
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 8. Cobalt in soil
8 - 36 ppm
37 - 42 ppm
43 - 52 ppm
53 - 59 ppm
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km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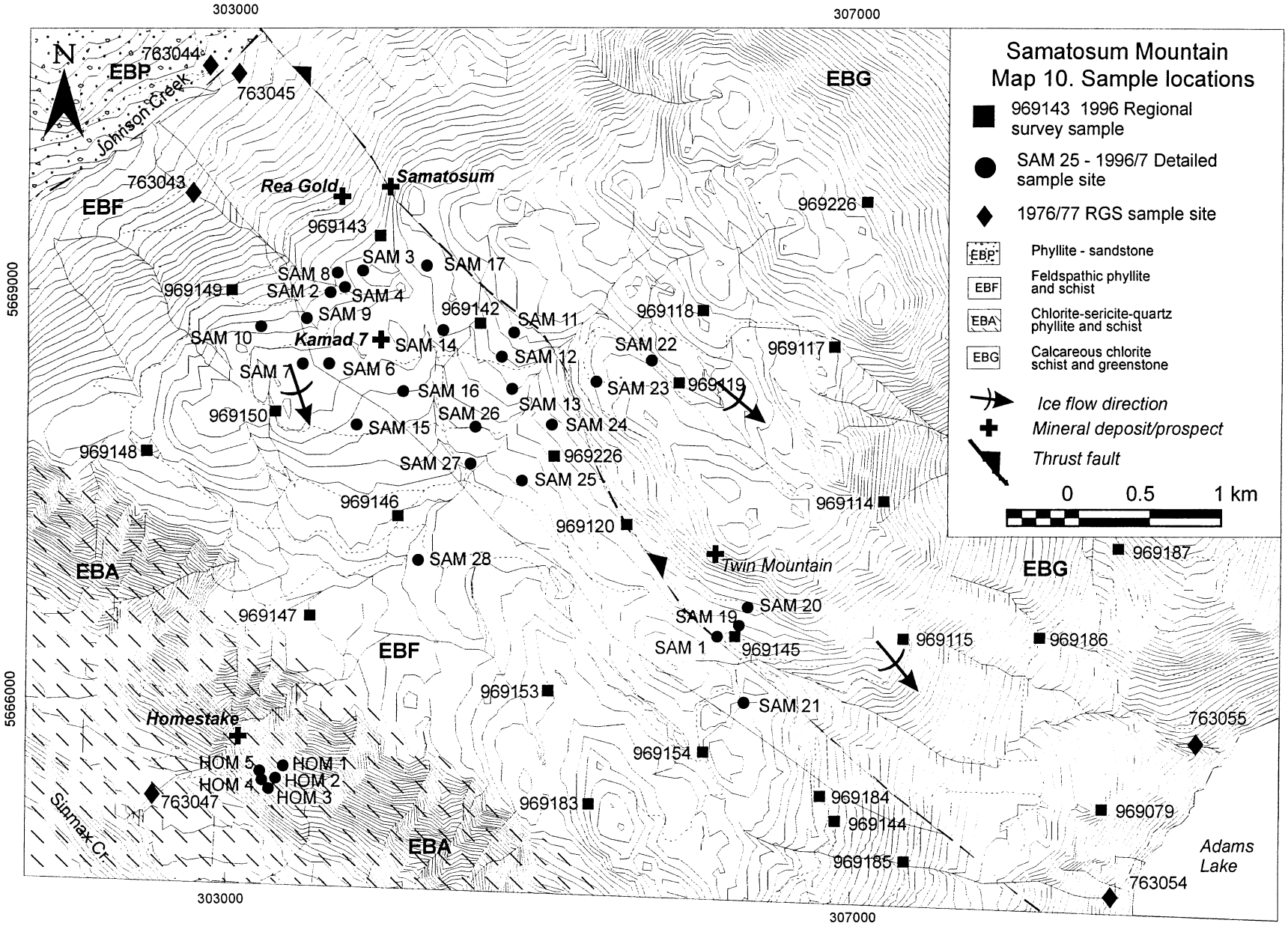
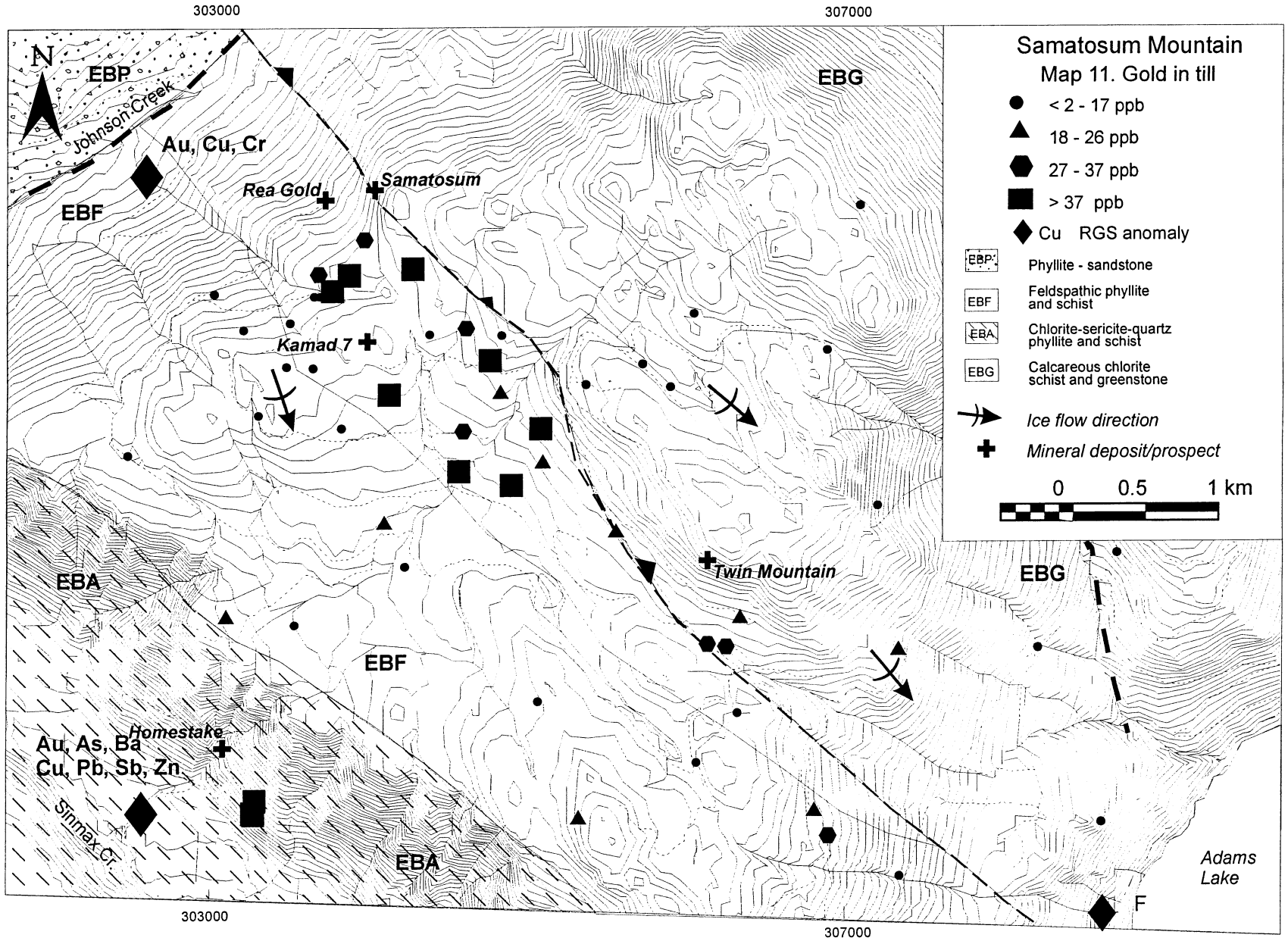
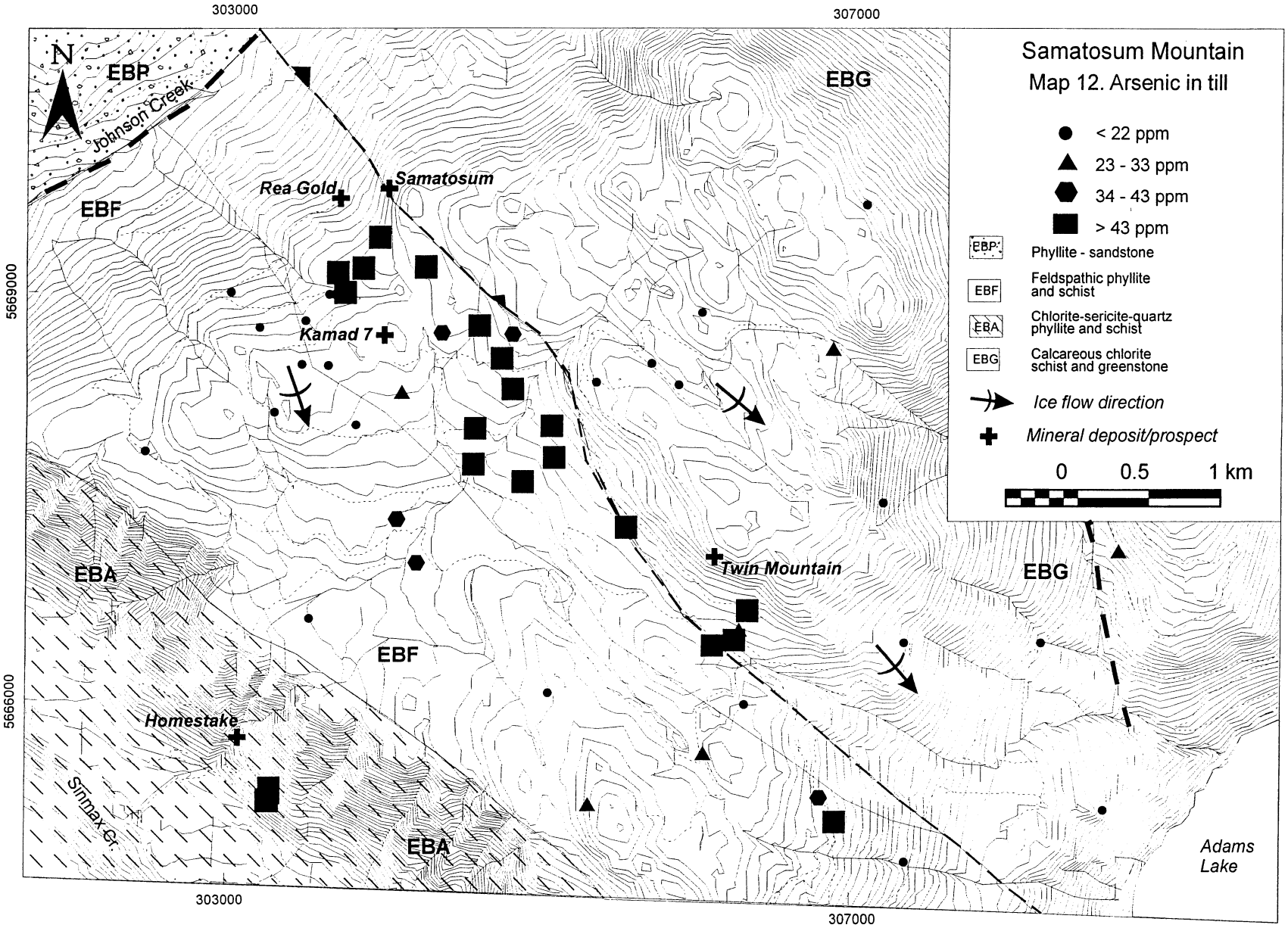
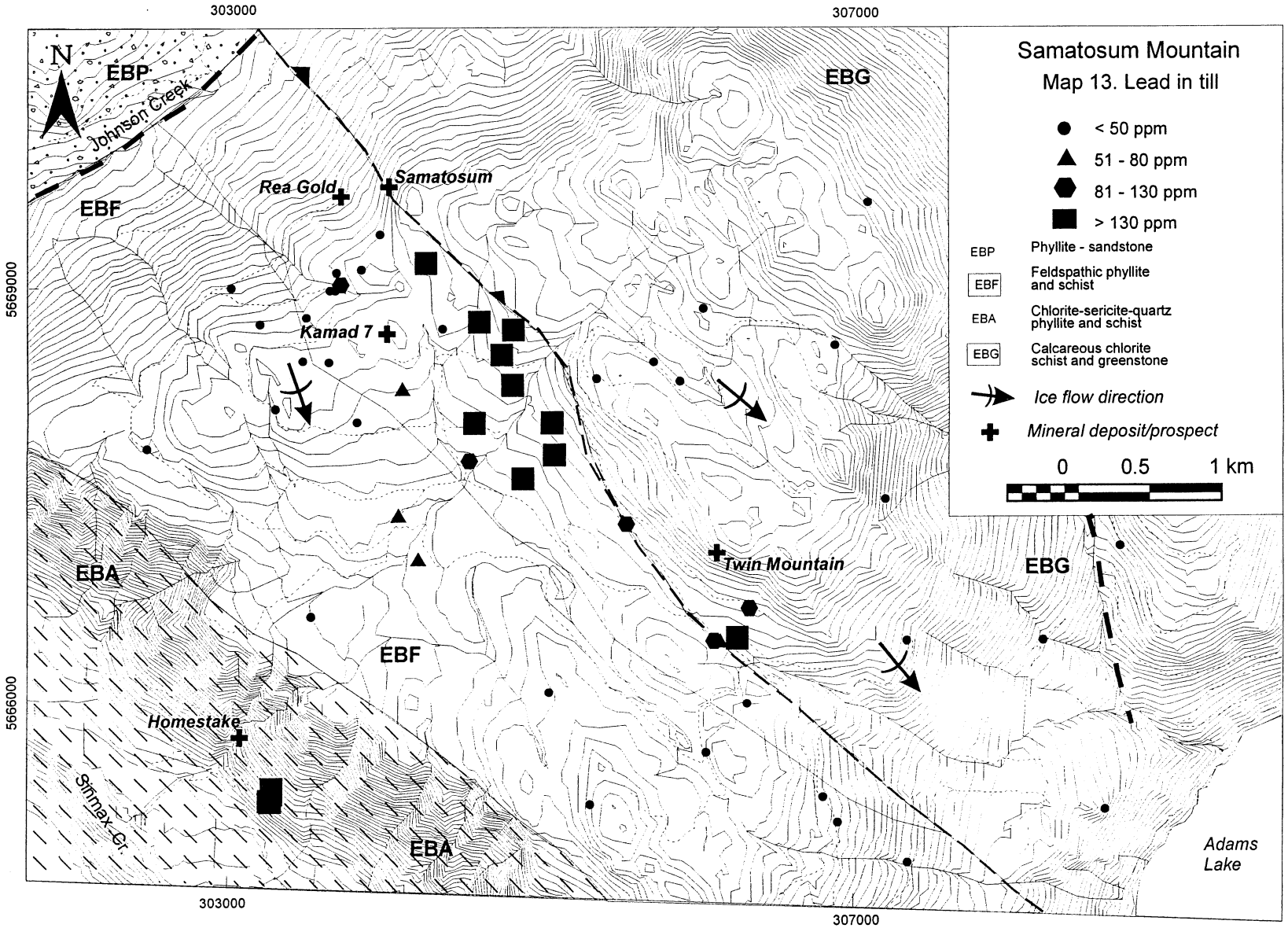
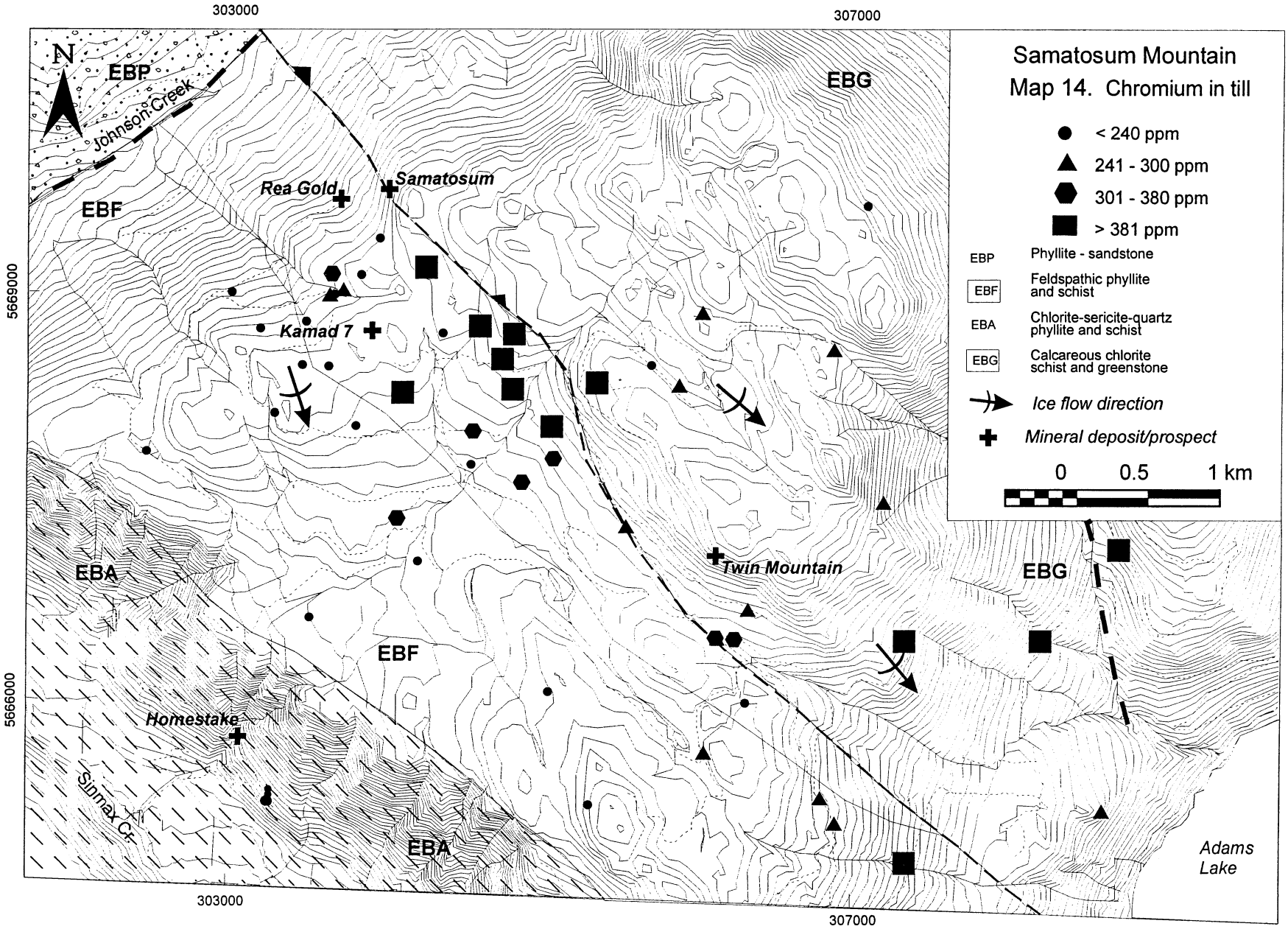
5671000
N
Barriere
400 m
500 m
600 m
Mt. Armour
Dixon Creek
Main Showing
South Showing
Mount Armour Area
Map 9. Gold in soil
2 - 20 ppb
21 - 59 ppb
60 - 99 ppb
100 - 2720 ppb
Road
Drainage
Ice-flow direction
Mineral occurrence
0
1 km

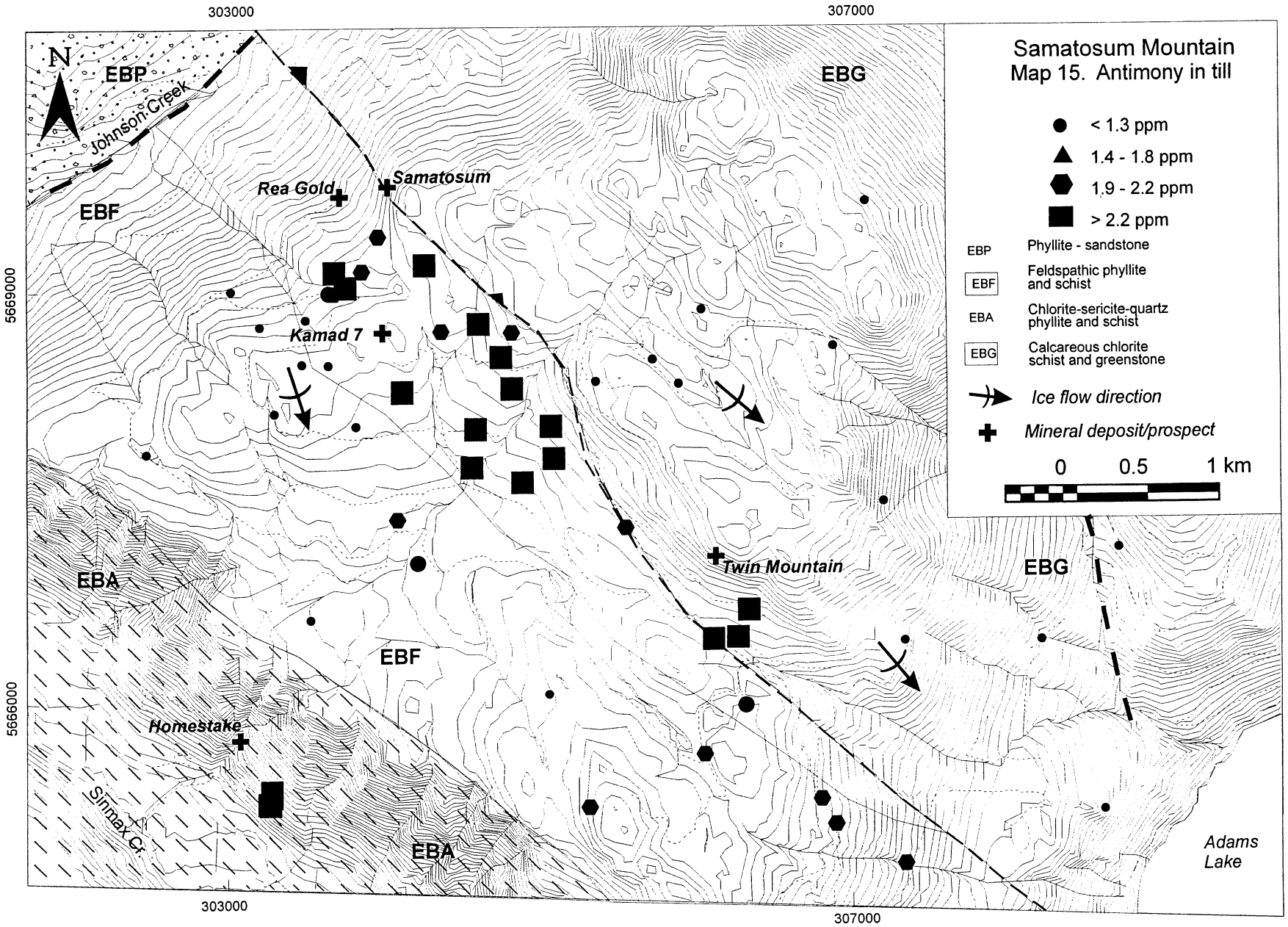

Samatosum Mountain
Map 10. Sample locations
969143 1996 Regional survey sample
SAM 25 - 1996/7 Detailed sample site
1976/77 RGS sample site
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
Thrust fault
0 0.5 1 km
N
303000
307000
5669000
5666000
Johnson Creek
Simmax Cr.
Adams Lake
Rea Gold
Samatosum
Kamad 7
Twin Mountain
Homestake
763044
763045
763043
763047
763055
763054
969143
969149
969142
969118
969117
969226
969150
969148
969146
969120
969114
969187
969147
969145
969115
969186
969153
969154
969184
969144
969183
969185
969079
SAM 1
SAM 2
SAM 3
SAM 4
SAM 6
SAM 7
SAM 8
SAM 9
SAM 10
SAM 11
SAM 12
SAM 13
SAM 14
SAM 15
SAM 16
SAM 17
SAM 19
SAM 20
SAM 21
SAM 22
SAM 23
SAM 24
SAM 25
SAM 26
SAM 27
SAM 28
HOM 1
HOM 2
HOM 3
HOM 4
HOM 5
EBP
EBF
EBA
EBG

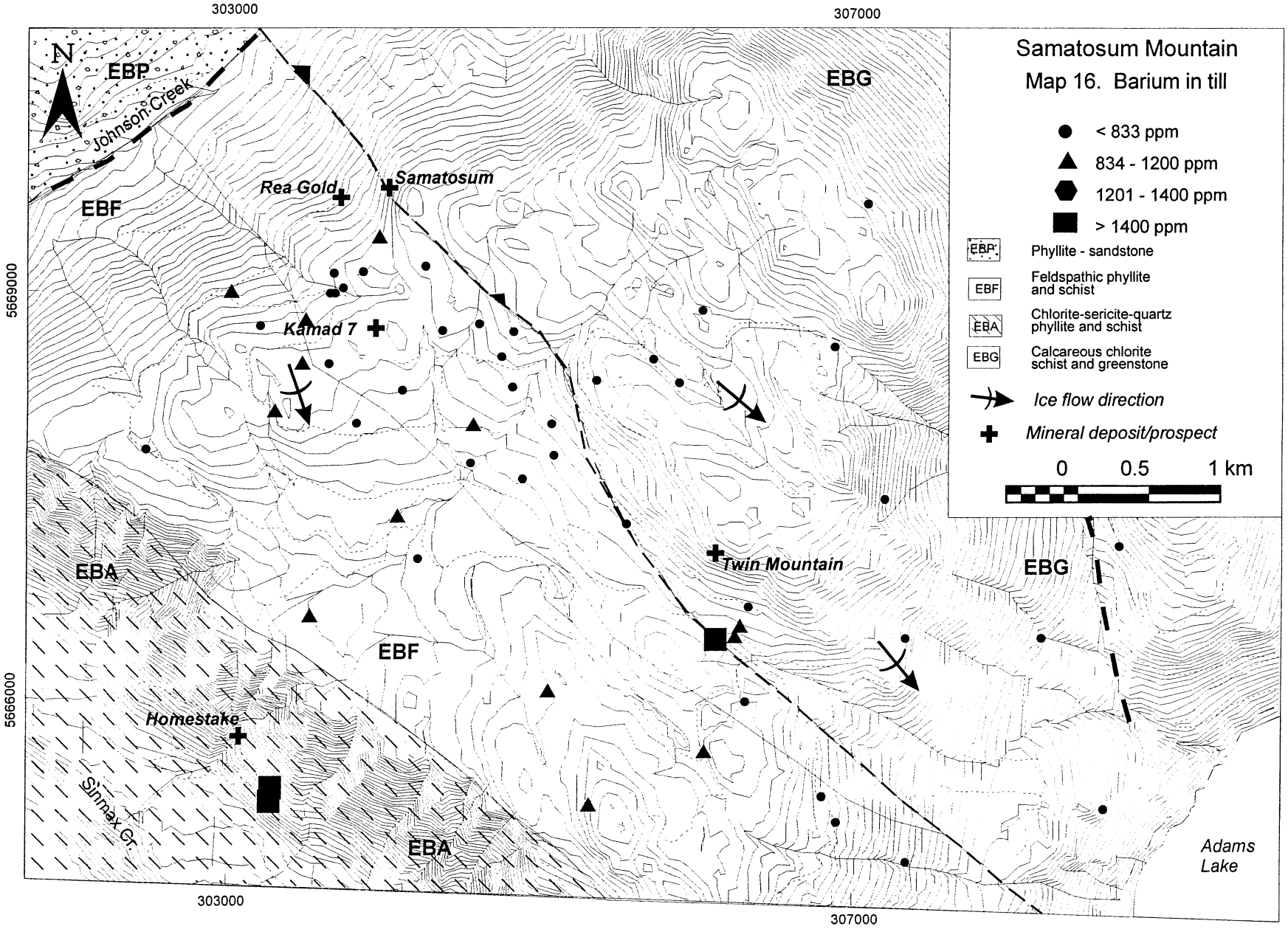

Samatosum Mountain
Map 11. Gold in till
< 2 - 17 ppb
18 - 26 ppb
27 - 37 ppb
> 37 ppb
Cu RGS anomaly
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
Johnson Creek
Au, Cu, Cr
EBF
Rea Gold
Samatosum
EBG
Kamad 7
Twin Mountain
EBA
EBF
Homestake
Au, As, Ba
Cu, Pb, Sb, Zn
Sinmax Cr.
EBA
Adams Lake
F

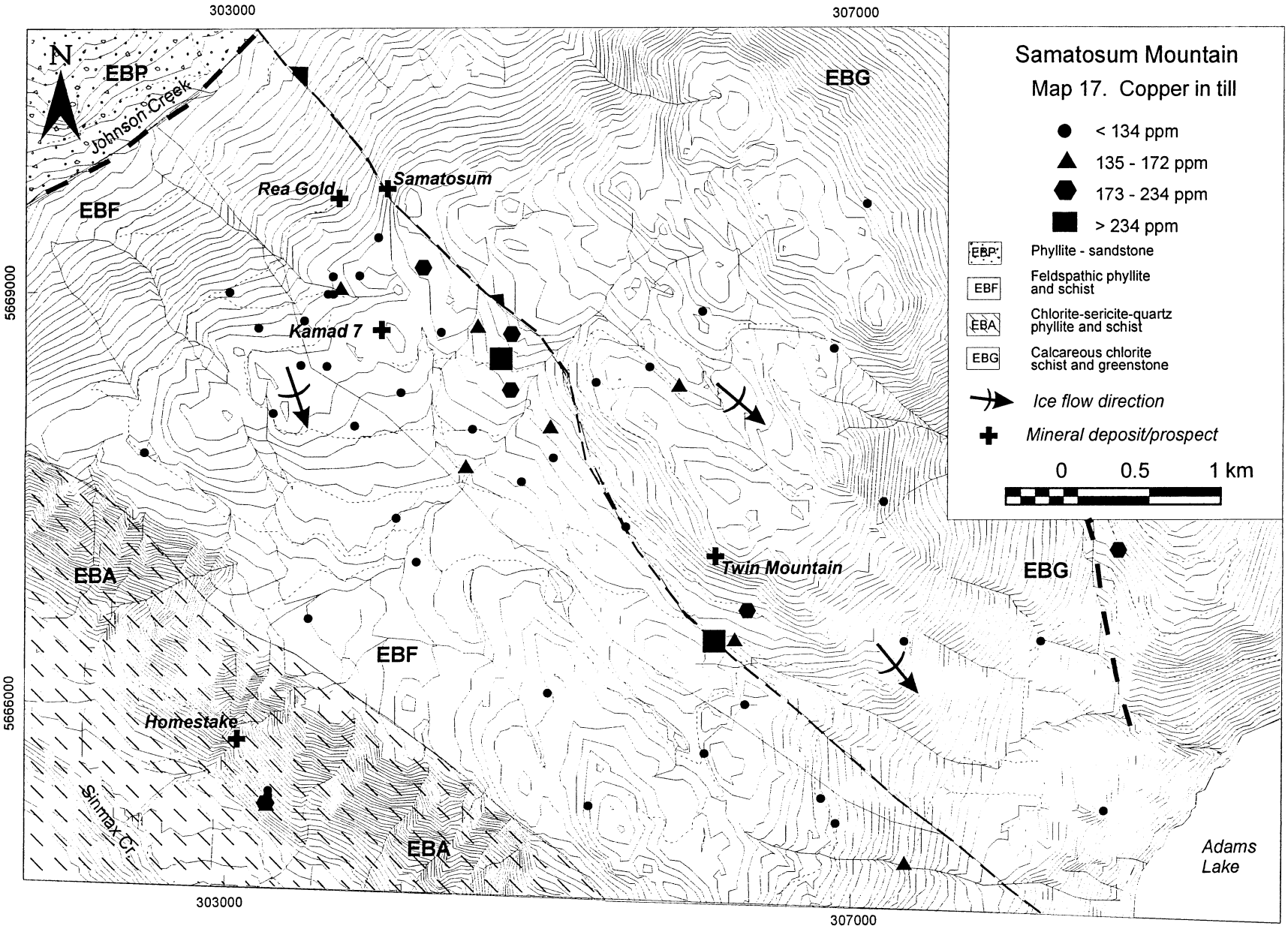

Samatosum Mountain
Map 12. Arsenic in till
< 22 ppm
23 - 33 ppm
34 - 43 ppm
> 43 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
Johnson Creek
EBG
EBF
Rea Gold
Samatosum
Kamad 7
Twin Mountain
EBA
EBG
EBF
Homestake
Simmax Cr.
EBA
Adams Lake

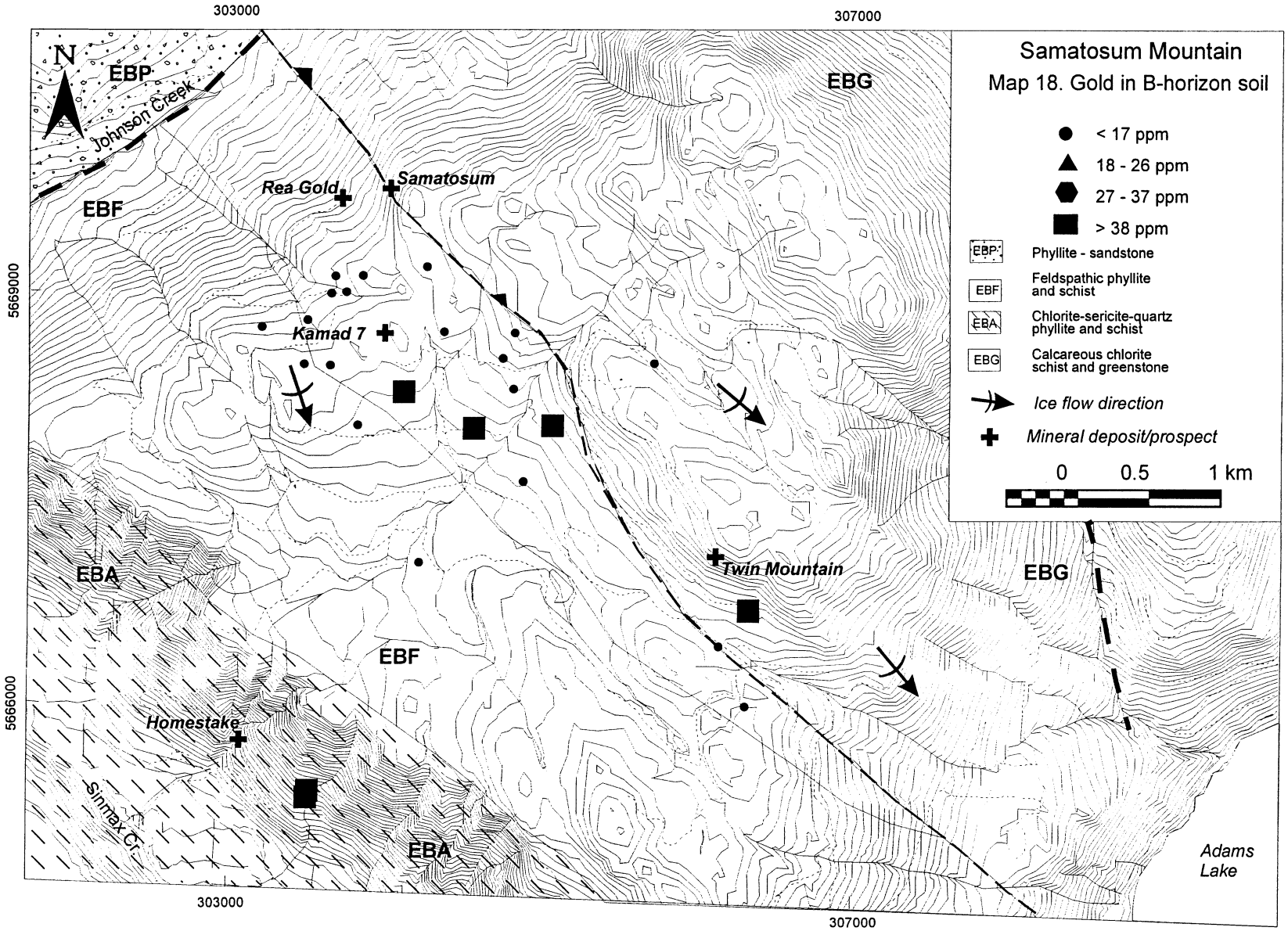

Samatosum Mountain
Map 13. Lead in till
< 50 ppm
51 - 80 ppm
81 - 130 ppm
> 130 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
Johnson Creek
EBG
EBF
Rea Gold
Samatosum
Kamad 7
Twin Mountain
EBA
EBF
EBG
Homestake
Sinmax Cr.
EBA
Adams Lake

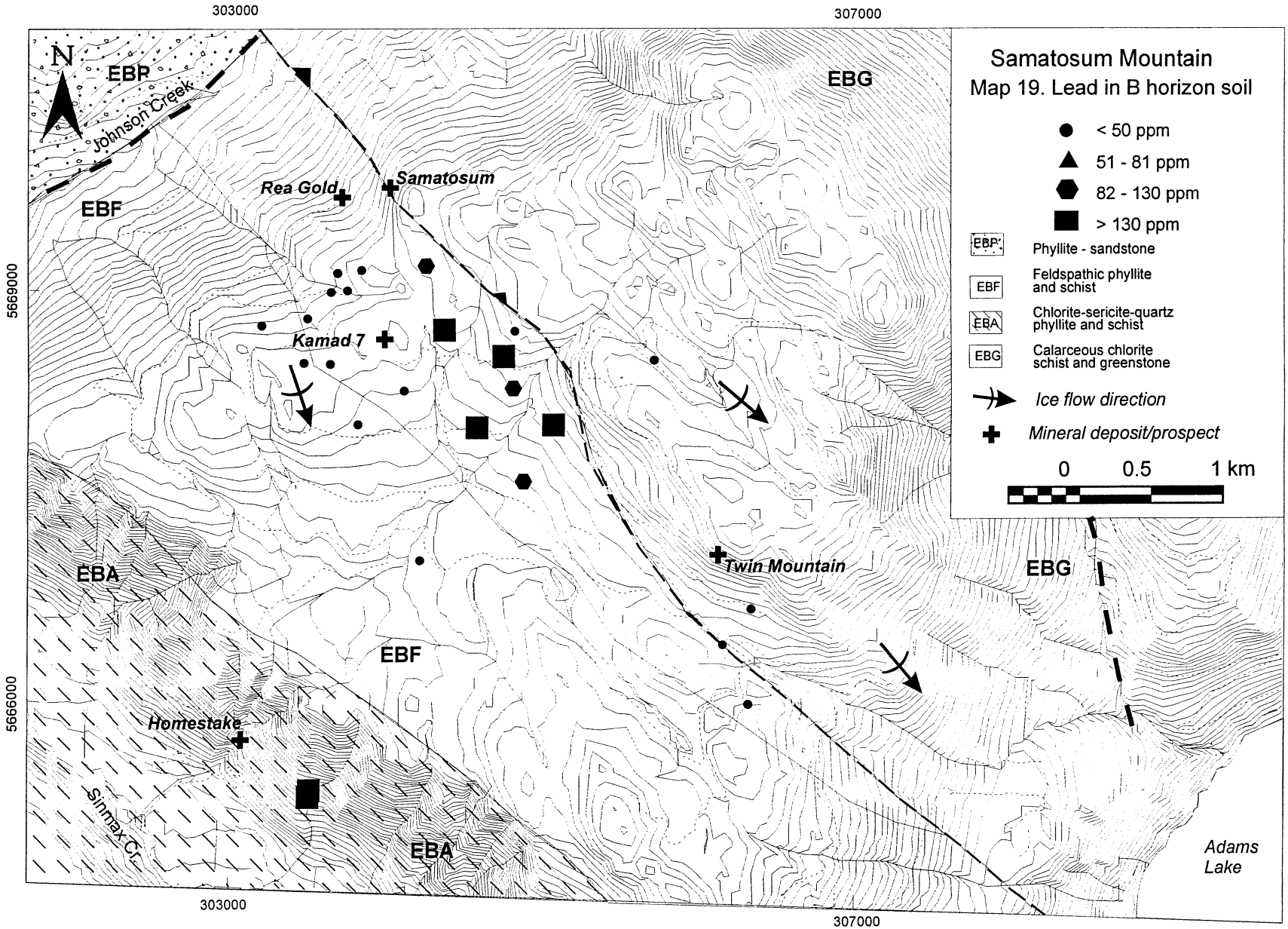

Samatosum Mountain
Map 14. Chromium in till
< 240 ppm
241 - 300 ppm
301 - 380 ppm
> 381 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
EBP
Johnson Creek
EBF
EBG
Rea Gold
Samatosum
Kamad 7
Twin Mountain
EBA
EBG
EBF
Homestake
Sumax Cr.
EBA
Adams Lake
303000
307000
5669000
5666000

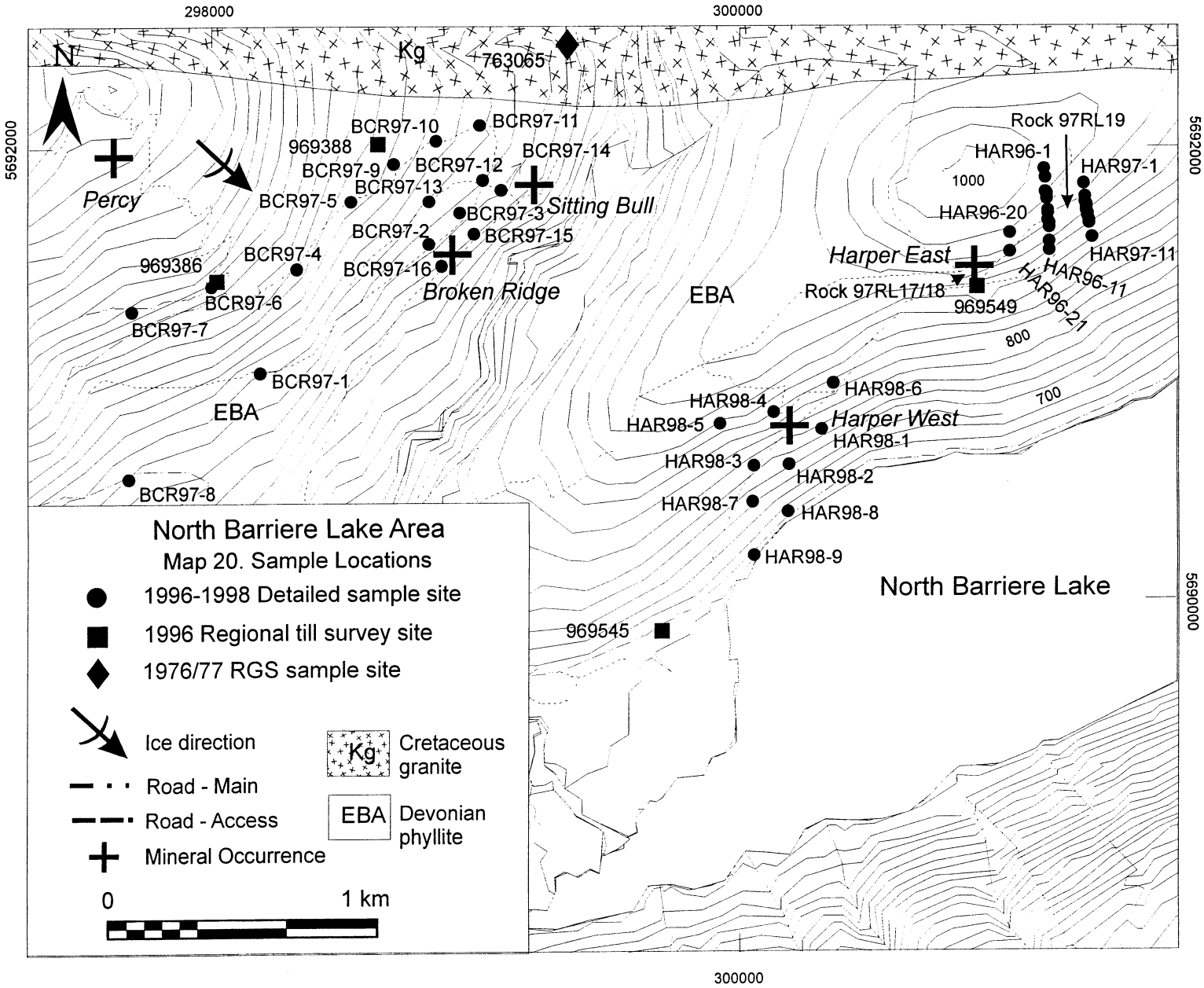

Samatosum Mountain
Map 15. Antimony in till
< 1.3 ppm
1.4 - 1.8 ppm
1.9 - 2.2 ppm
> 2.2 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
EBF
EBA
EBG
Johnson Creek
Rea Gold
Samatosum
Kamad 7
Twin Mountain
Homestake
Simmax Cr.
Adams Lake

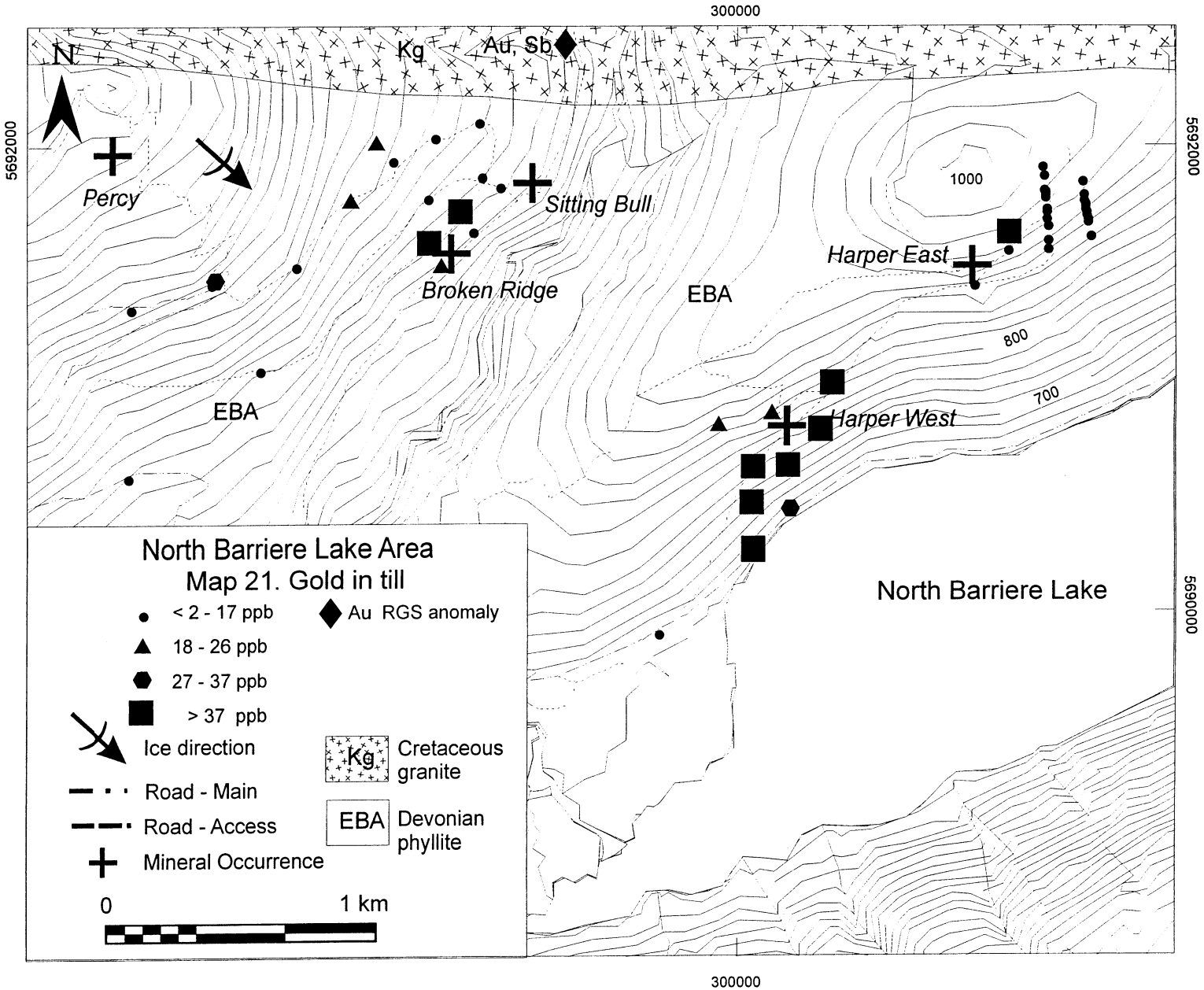

Samatosum Mountain
Map 16. Barium in till
< 833 ppm
834 - 1200 ppm
1201 - 1400 ppm
> 1400 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
EBF
EBA
EBG
Johnson Creek
Rea Gold
Samatosum
Kamad 7
Twin Mountain
Homestake
Sunmax Cr.
Adams Lake

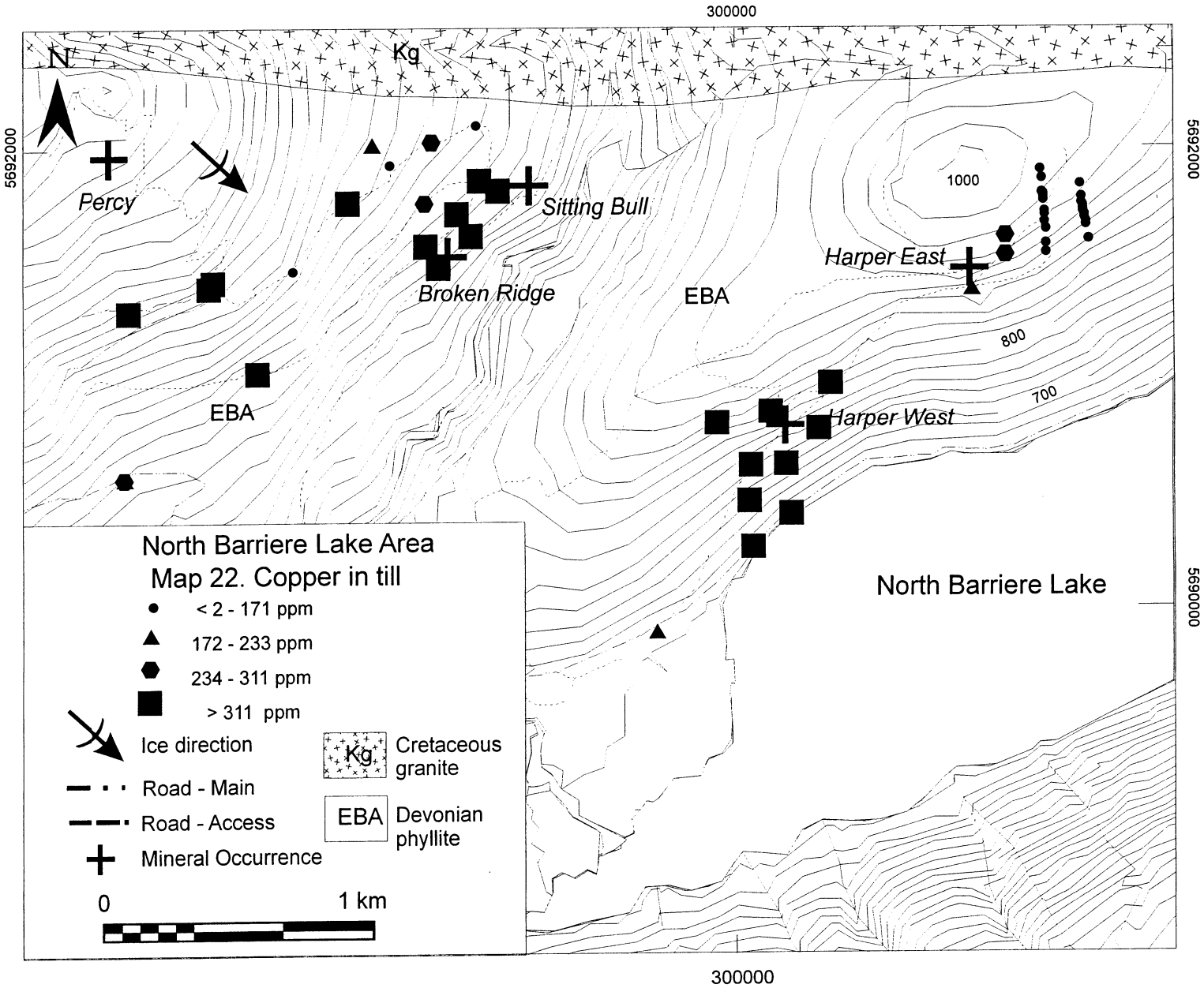

Samatosum Mountain
Map 17. Copper in till
< 134 ppm
135 - 172 ppm
173 - 234 ppm
> 234 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
EBF
EBG
EBA
Johnson Creek
Rea Gold
Samatosum
Kamad 7
Twin Mountain
Homestake
Sinmax Cr.
Adams Lake

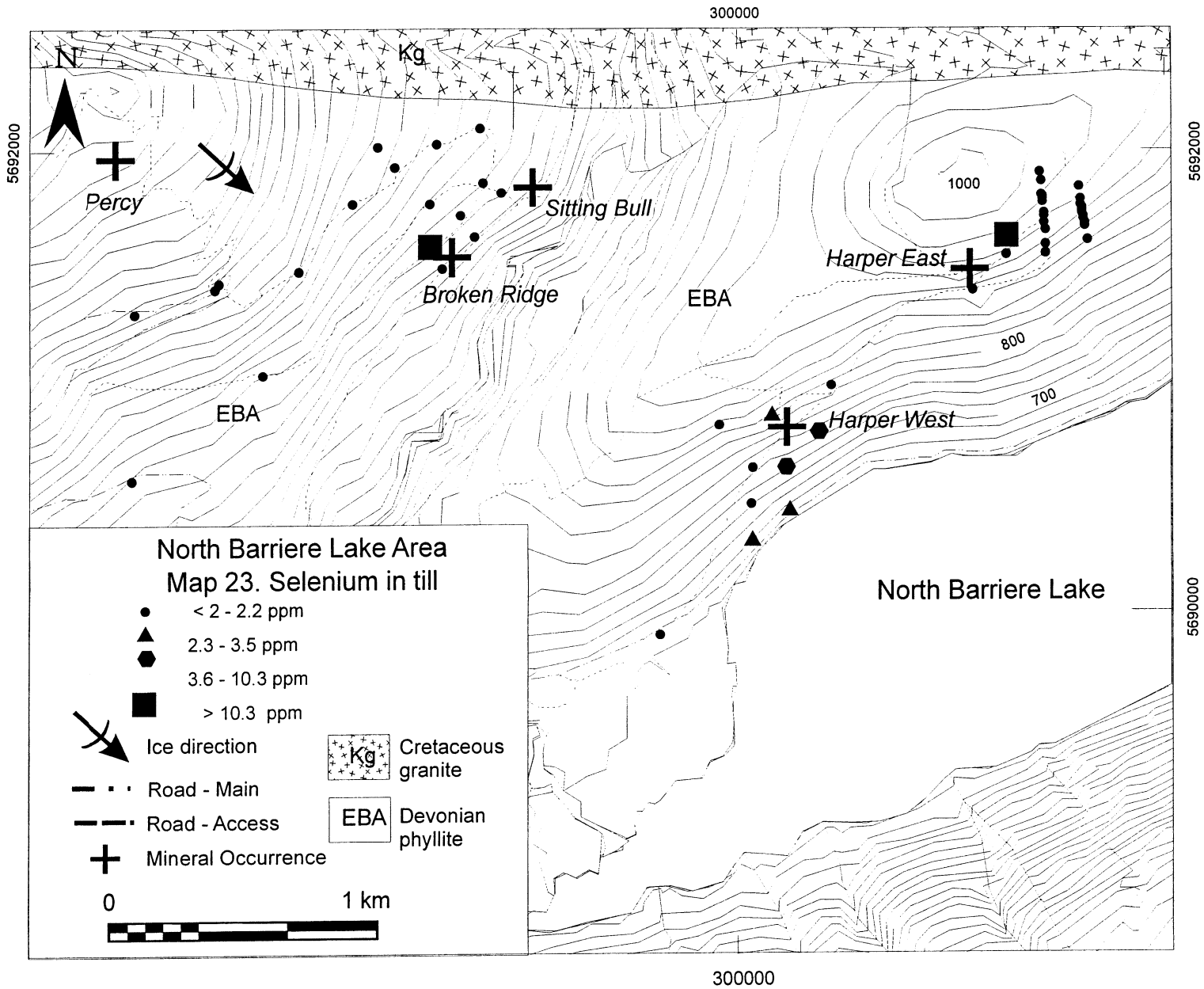

Samatosum Mountain
Map 18. Gold in B-horizon soil
< 17 ppm
18 - 26 ppm
27 - 37 ppm
> 38 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calcareous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
EBG
EBF
EBA
Johnson Creek
Rea Gold
Samatosum
Kamad 7
Twin Mountain
Homestake
Sinmax Cr.
Adams Lake

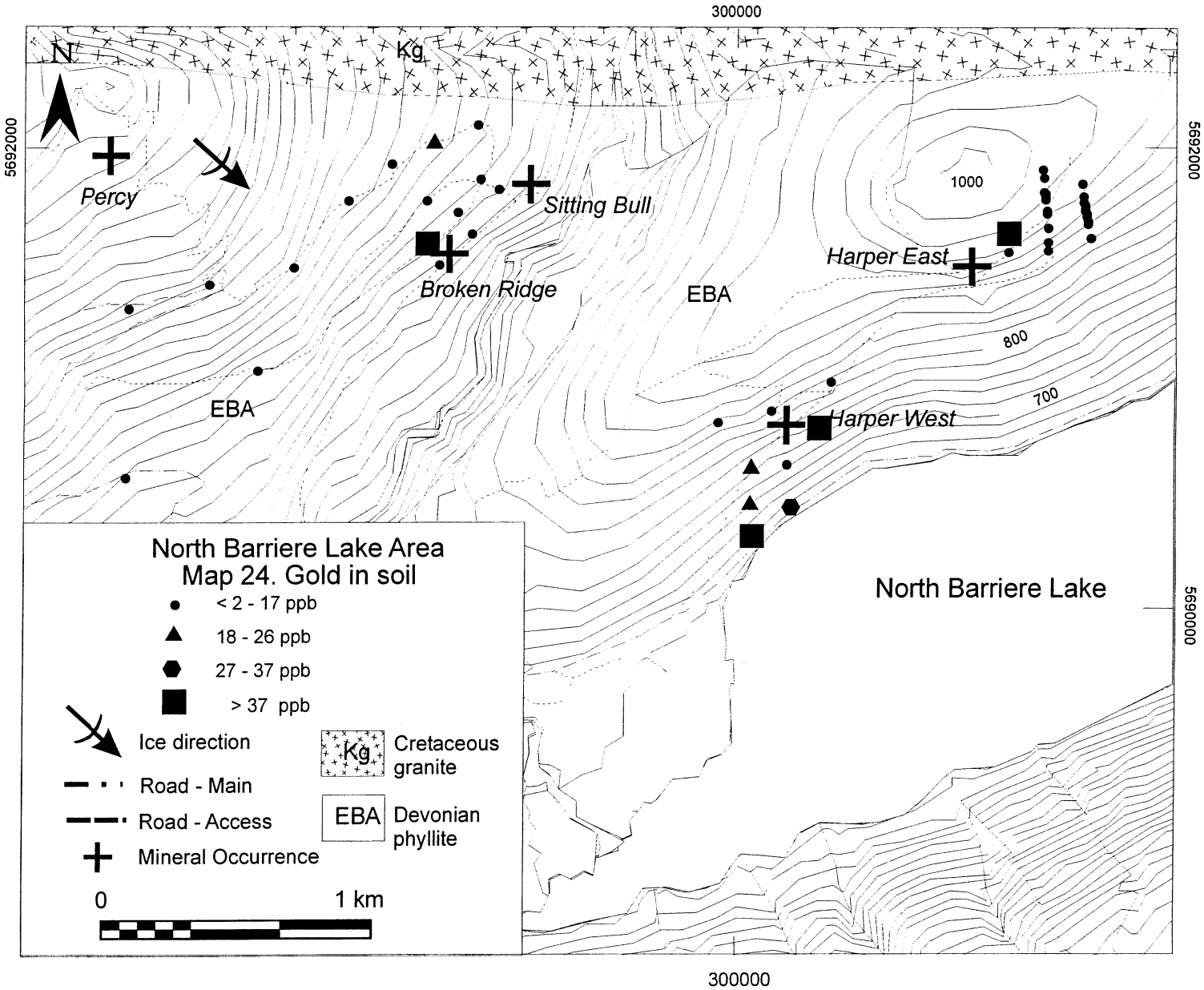

Samatosum Mountain
Map 19. Lead in B horizon soil
< 50 ppm
51 - 81 ppm
82 - 130 ppm
> 130 ppm
EBP Phyllite - sandstone
EBF Feldspathic phyllite and schist
EBA Chlorite-sericite-quartz phyllite and schist
EBG Calarceous chlorite schist and greenstone
Ice flow direction
Mineral deposit/prospect
0 0.5 1 km
N
303000
307000
5669000
5666000
EBP
Johnson Creek
EBF
EBG
Rea Gold
Samatosum
Kamad 7
Twin Mountain
EBA
EBF
EBG
Homestake
Sinmax Cr.
EBA
Adams Lake

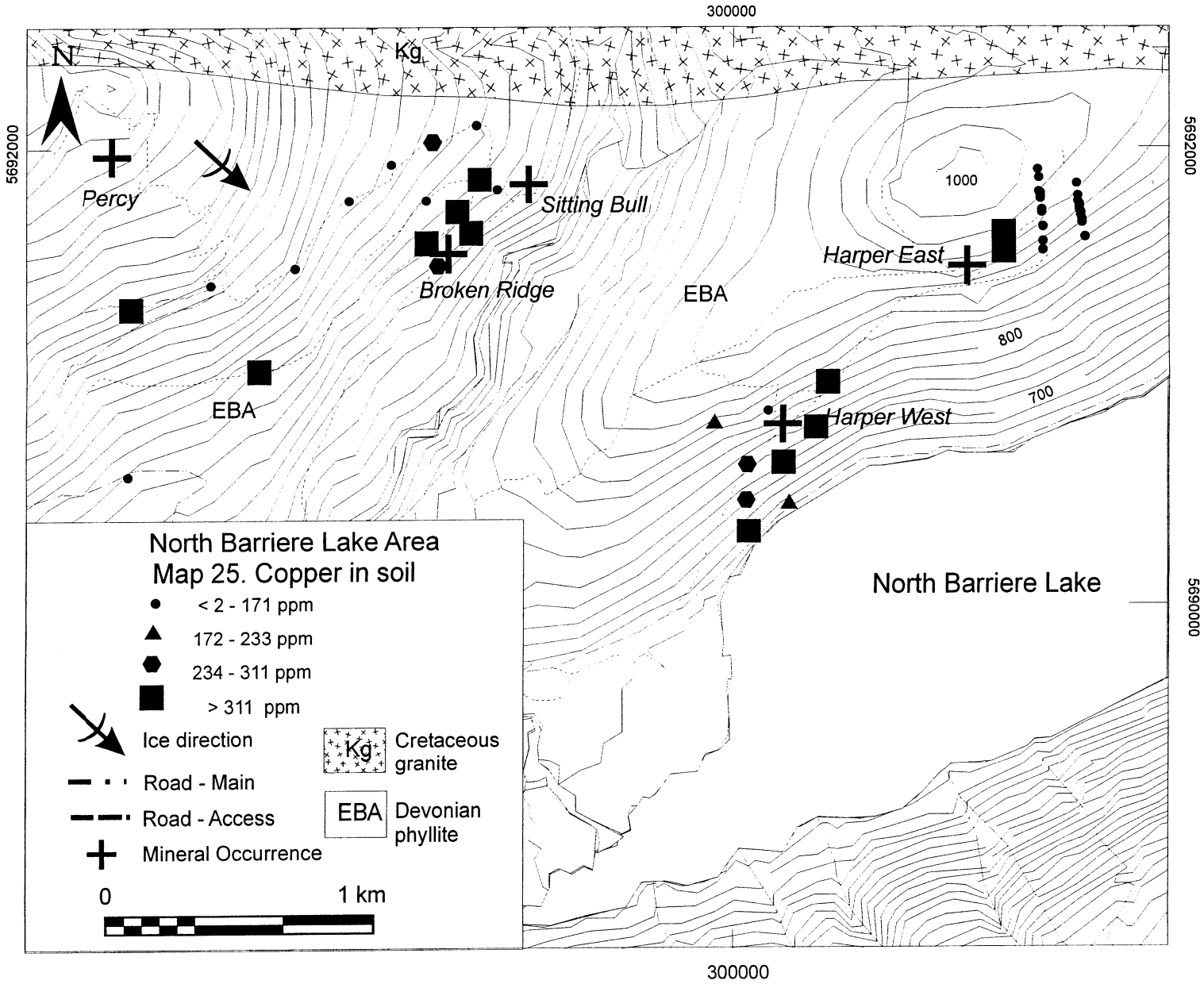

298000
300000
5692000
5690000
N
Kg
763065
Percy
BCR97-10
BCR97-11
969388
BCR97-14
BCR97-9
BCR97-12
BCR97-13
BCR97-5
BCR97-3
Sitting Bull
BCR97-2
BCR97-15
BCR97-4
969386
BCR97-16
Broken Ridge
BCR97-6
BCR97-7
BCR97-1
EBA
BCR97-8
Rock 97RL19
HAR96-1
HAR97-1
1000
HAR96-20
Harper East
HAR97-11
HAR96-11
Rock 97RL17/18
969549
HAR96-21
800
700
EBA
HAR98-6
HAR98-4
HAR98-5
Harper West
HAR98-1
HAR98-3
HAR98-2
HAR98-7
HAR98-8
HAR98-9
North Barriere Lake
969545
North Barriere Lake Area
Map 20. Sample Locations
1996-1998 Detailed sample site
1996 Regional till survey site
1976/77 RGS sample site
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Kg
Cretaceous granite
EBA
Devonian phyllite
0
1 km

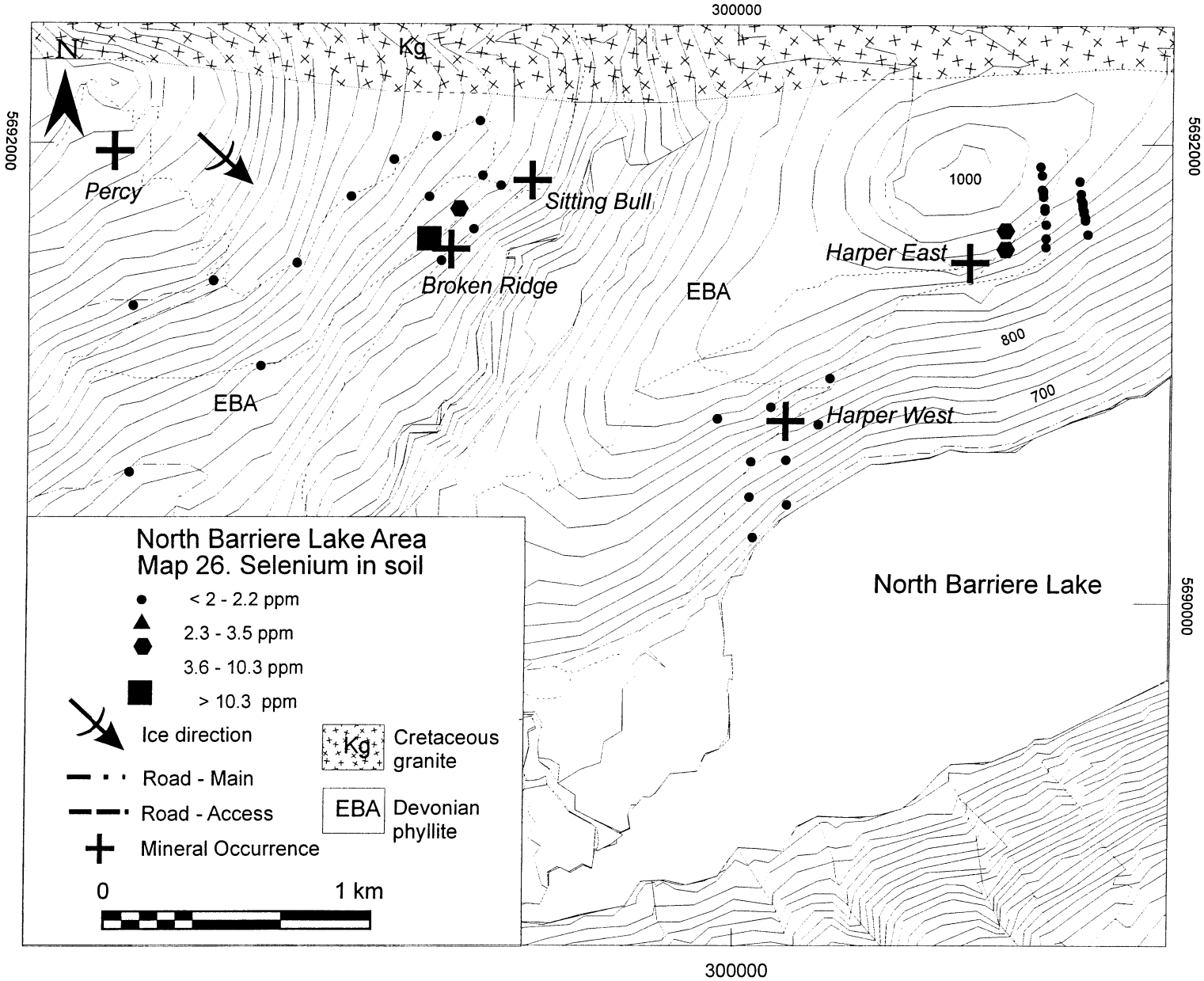

300000
5692000
5690000
N
Kg
Au, Sb
Percy
Sitting Bull
Broken Ridge
EBA
Harper East
Harper West
1000
800
700
North Barriere Lake
North Barriere Lake Area
Map 21. Gold in till
< 2 - 17 ppb
18 - 26 ppb
27 - 37 ppb
> 37 ppb
Au RGS anomaly
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Cretaceous granite
Devonian phyllite
0
1 km

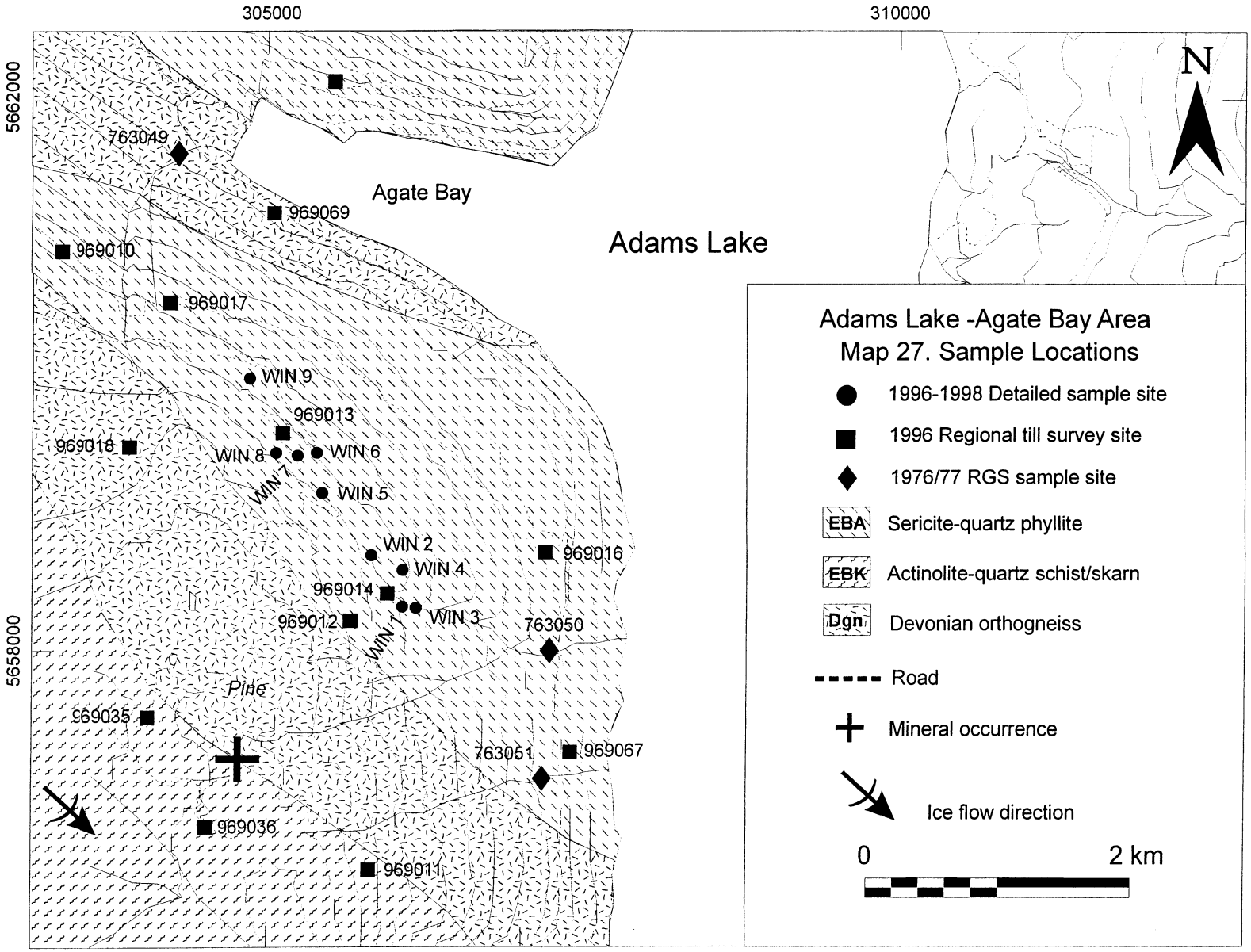

300000
5692000
5690000
N
Kg
Percy
Sitting Bull
Broken Ridge
EBA
Harper East
Harper West
1000
800
700
North Barriere Lake
North Barriere Lake Area
Map 22. Copper in till
< 2 - 171 ppm
172 - 233 ppm
234 - 311 ppm
> 311 ppm
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Cretaceous granite
Devonian phyllite
0
1 km

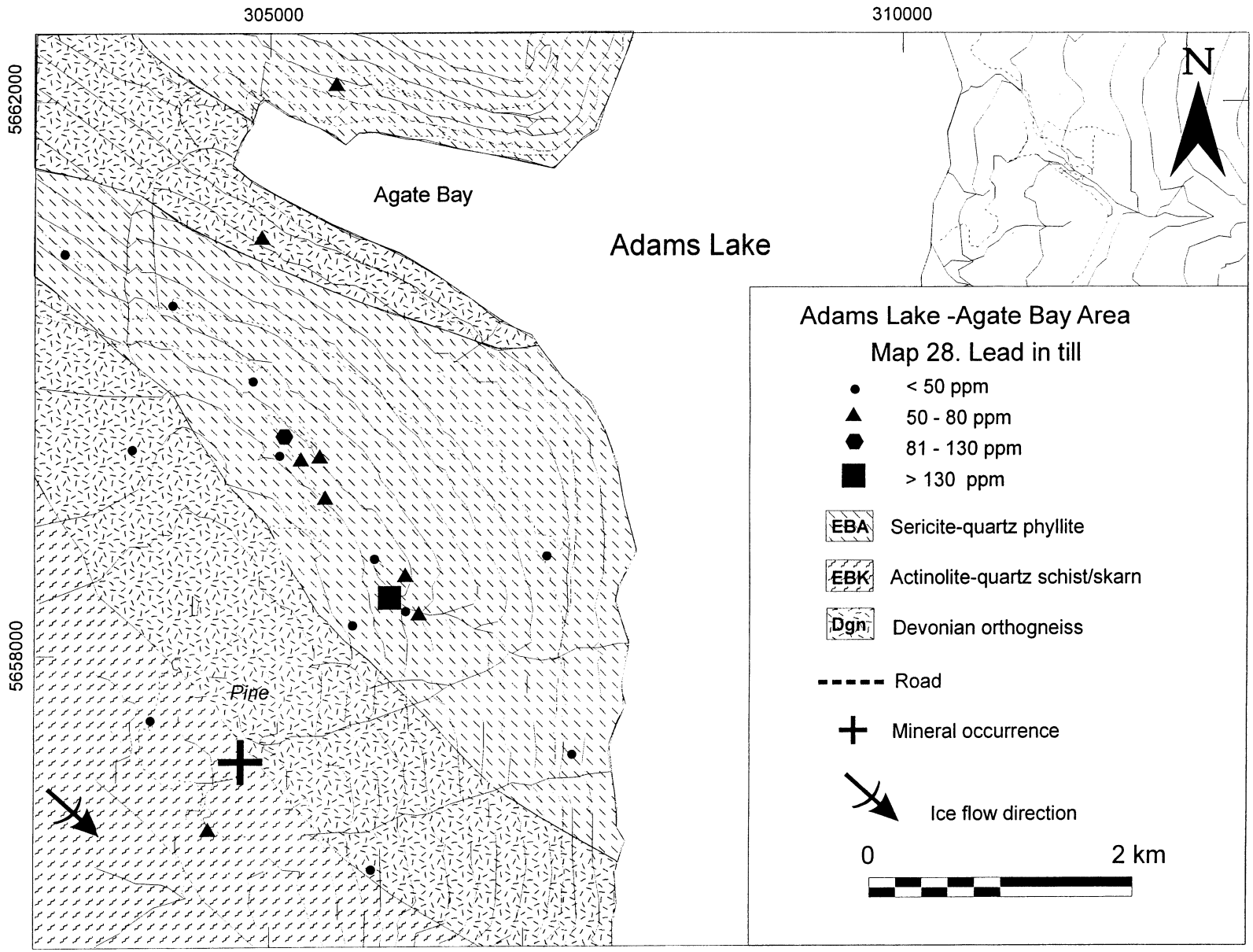

300000
5692000
5690000
N
Kg
Percy
Sitting Bull
Broken Ridge
Harper East
Harper West
EBA
EBA
1000
800
700
North Barriere Lake
North Barriere Lake Area
Map 23. Selenium in till
< 2 - 2.2 ppm
2.3 - 3.5 ppm
3.6 - 10.3 ppm
> 10.3 ppm
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Kg
Cretaceous granite
EBA
Devonian phyllite
0
1 km

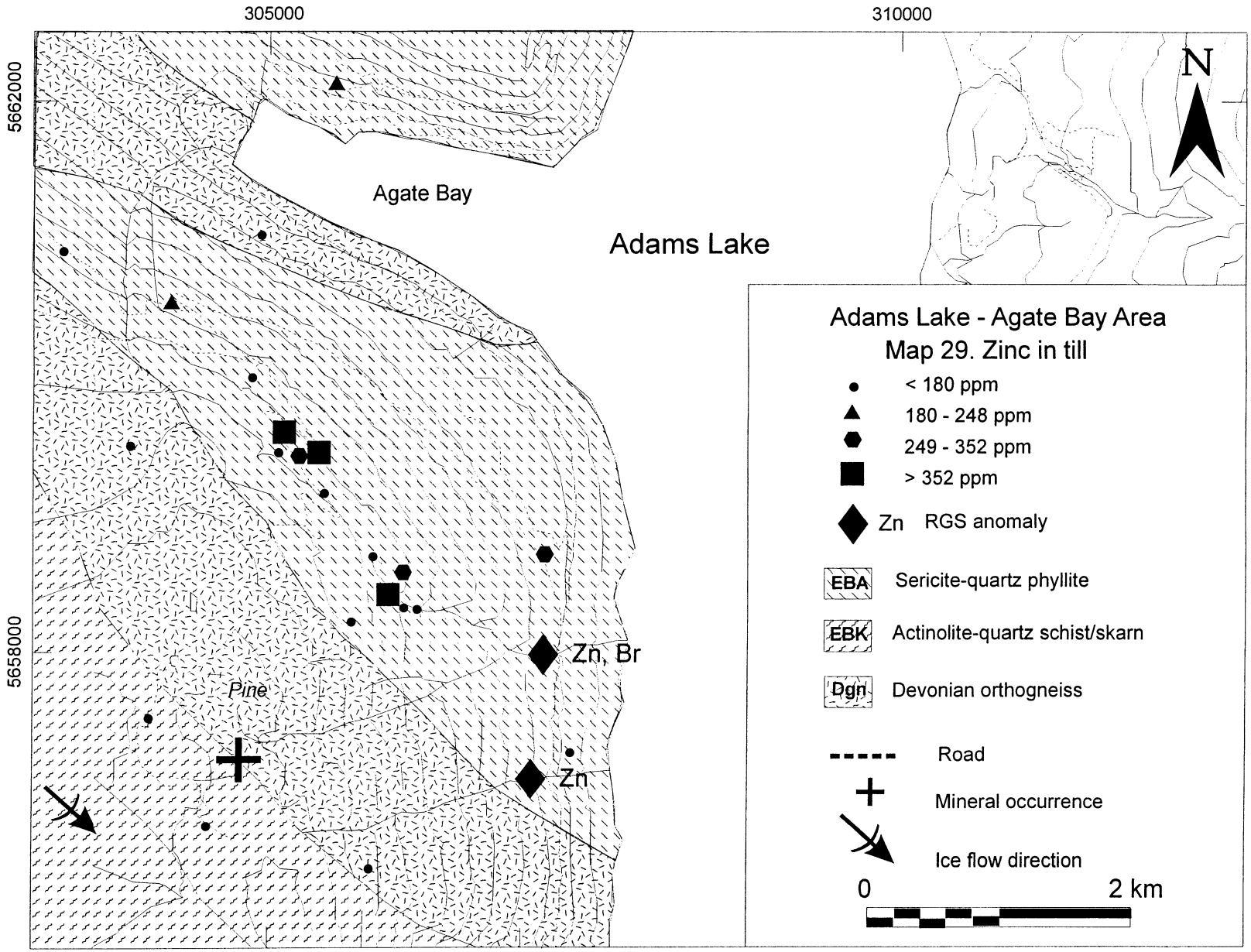

300000
5692000
5690000
N
Kg
Percy
Sitting Bull
Broken Ridge
Harper East
Harper West
EBA
EBA
1000
800
700
North Barriere Lake
North Barriere Lake Area
Map 24. Gold in soil
< 2 - 17 ppb
18 - 26 ppb
27 - 37 ppb
> 37 ppb
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Kg
Cretaceous granite
EBA
Devonian phyllite
0
1 km

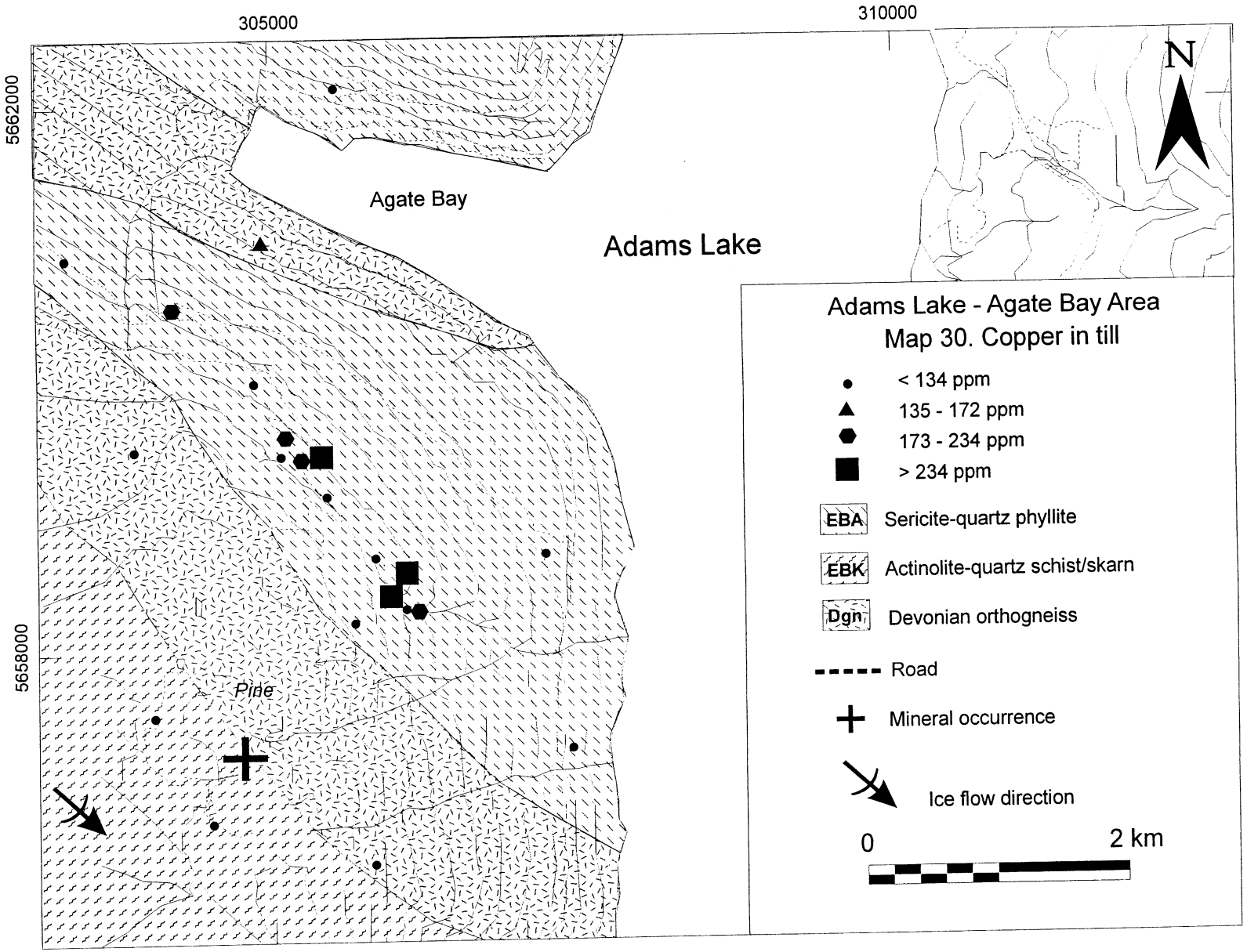

300000
5692000
5690000
N
Kg
Percy
Sitting Bull
Broken Ridge
EBA
Harper East
1000
800
700
Harper West
North Barriere Lake
North Barriere Lake Area
Map 25. Copper in soil
< 2 - 171 ppm
172 - 233 ppm
234 - 311 ppm
> 311 ppm
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Cretaceous granite
Devonian phyllite
0
1 km

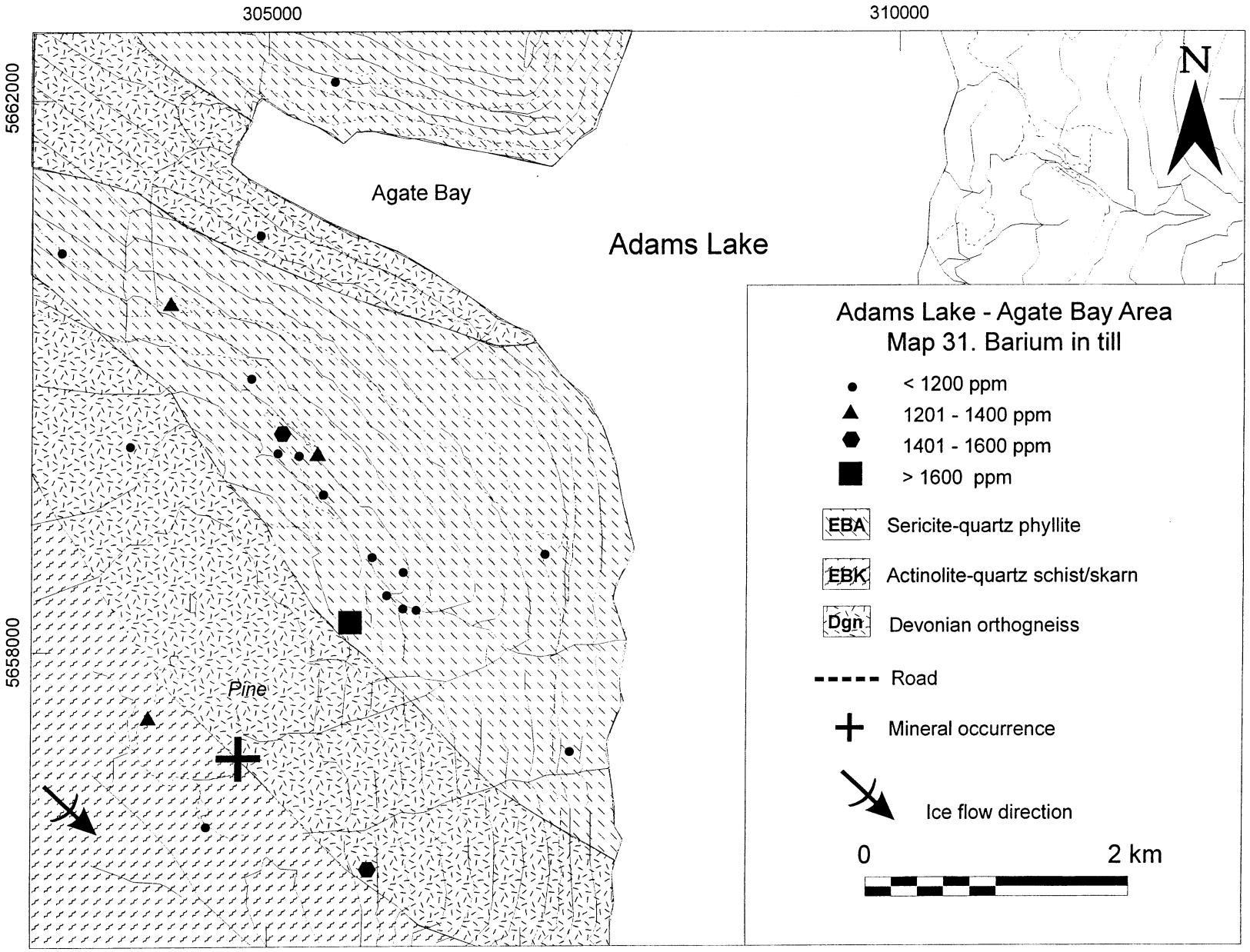

300000
5692000
5690000
N
Kg
Percy
Sitting Bull
Broken Ridge
EBA
EBA
1000
800
700
Harper East
Harper West
North Barriere Lake
North Barriere Lake Area
Map 26. Selenium in soil
< 2 - 2.2 ppm
2.3 - 3.5 ppm
3.6 - 10.3 ppm
> 10.3 ppm
Ice direction
Road - Main
Road - Access
Mineral Occurrence
Kg
Cretaceous granite
EBA
Devonian phyllite
0
1 km

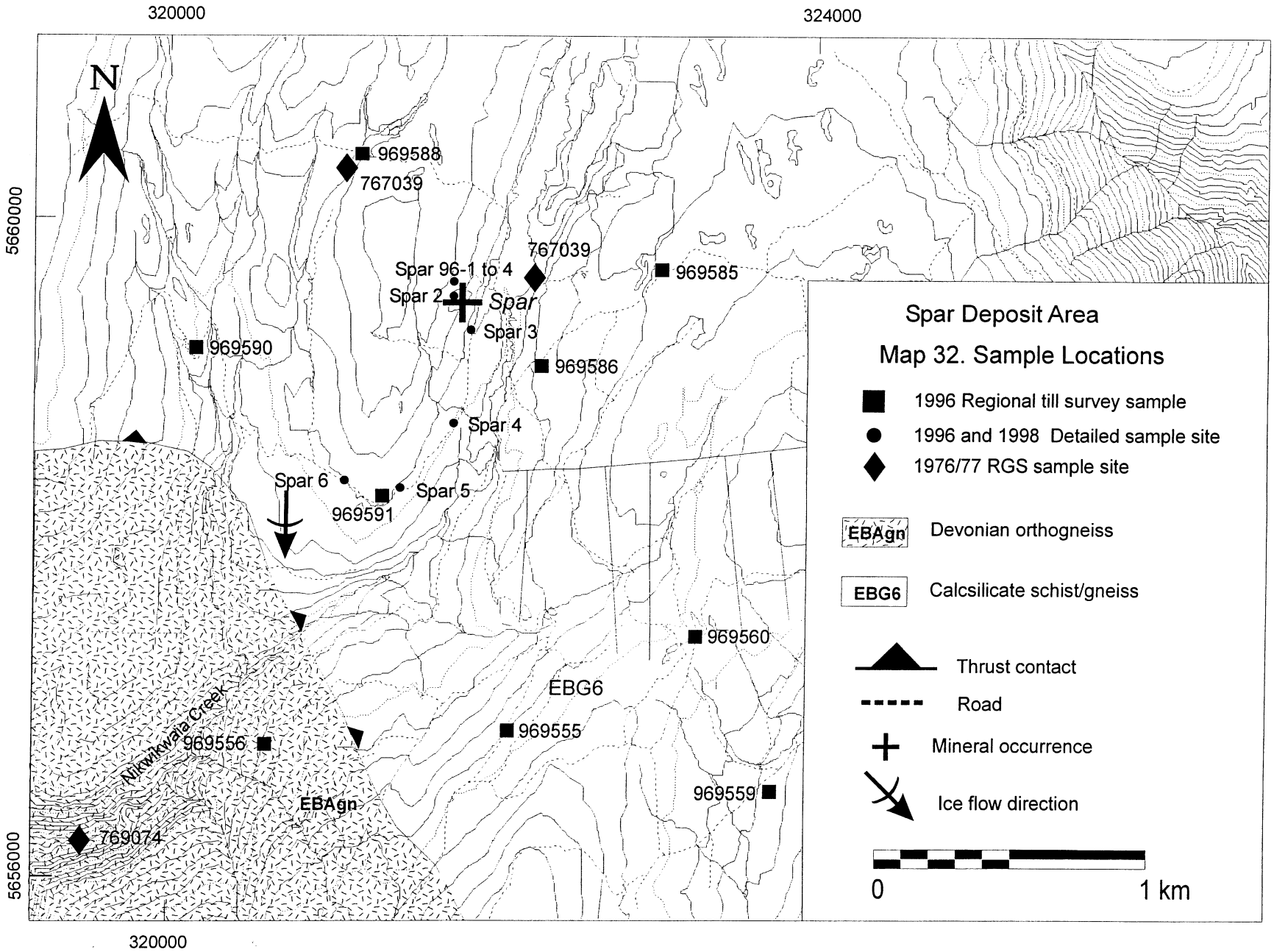

305000
310000
5662000
5658000
N
Agate Bay
Adams Lake
763049
969069
969010
969017
WIN 9
969013
969018
WIN 8
WIN 6
WIN 7
WIN 5
WIN 2
WIN 4
969016
969014
WIN 3
969012
763050
WIN 1
Pine
969035
763051
969067
969036
969011
Adams Lake -Agate Bay Area
Map 27. Sample Locations
1996-1998 Detailed sample site
1996 Regional till survey site
1976/77 RGS sample site
EBA Sericite-quartz phyllite
EBK Actinolite-quartz schist/skarn
Dgn Devonian orthogneiss
Road
Mineral occurrence
Ice flow direction
0
2 km

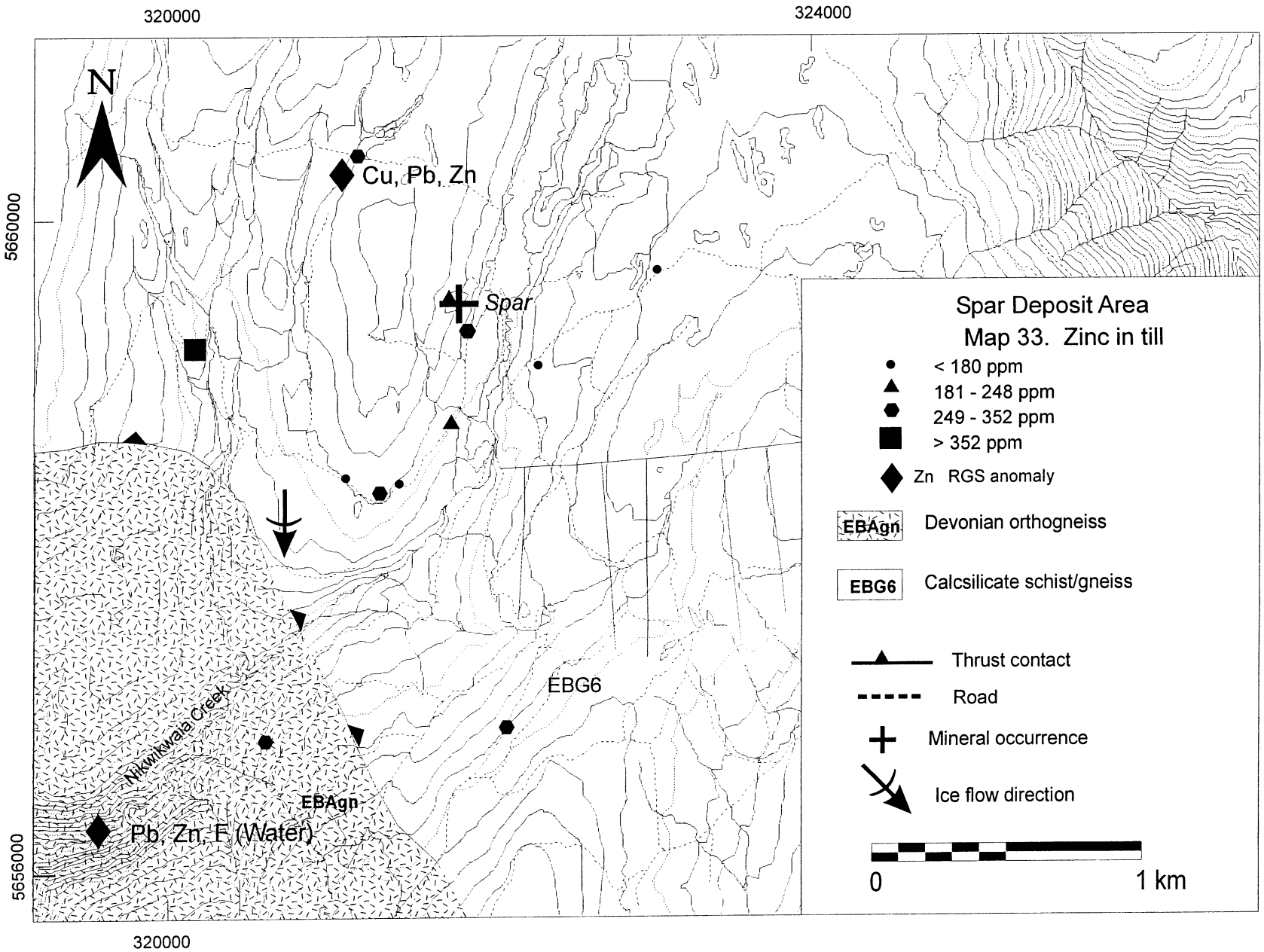

305000
310000
5662000
5658000
Agate Bay
Adams Lake
Pine
N
Adams Lake -Agate Bay Area
Map 28. Lead in till
< 50 ppm
50 - 80 ppm
81 - 130 ppm
> 130 ppm
EBA Sericite-quartz phyllite
EBK Actinolite-quartz schist/skarn
Dgn Devonian orthogneiss
Road
Mineral occurrence
Ice flow direction
0
2 km

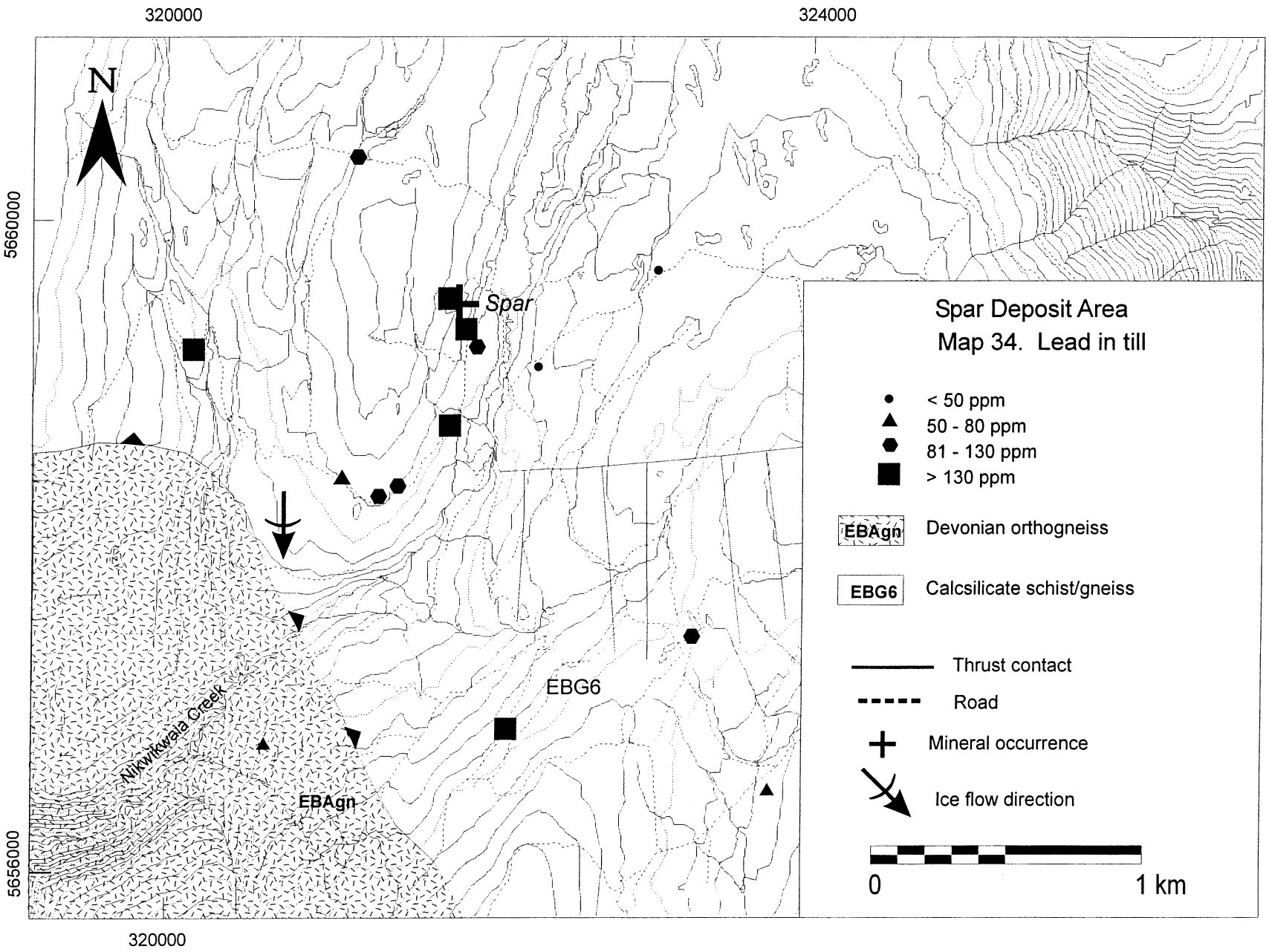

305000
310000
5662000
5658000
Agate Bay
Adams Lake
Pine
Zn, Br
Zn
N
Adams Lake - Agate Bay Area
Map 29. Zinc in till
< 180 ppm
180 - 248 ppm
249 - 352 ppm
> 352 ppm
Zn RGS anomaly
EBA Sericite-quartz phyllite
EBK Actinolite-quartz schist/skarn
Dgn Devonian orthogneiss
Road
Mineral occurrence
Ice flow direction
0
2 km

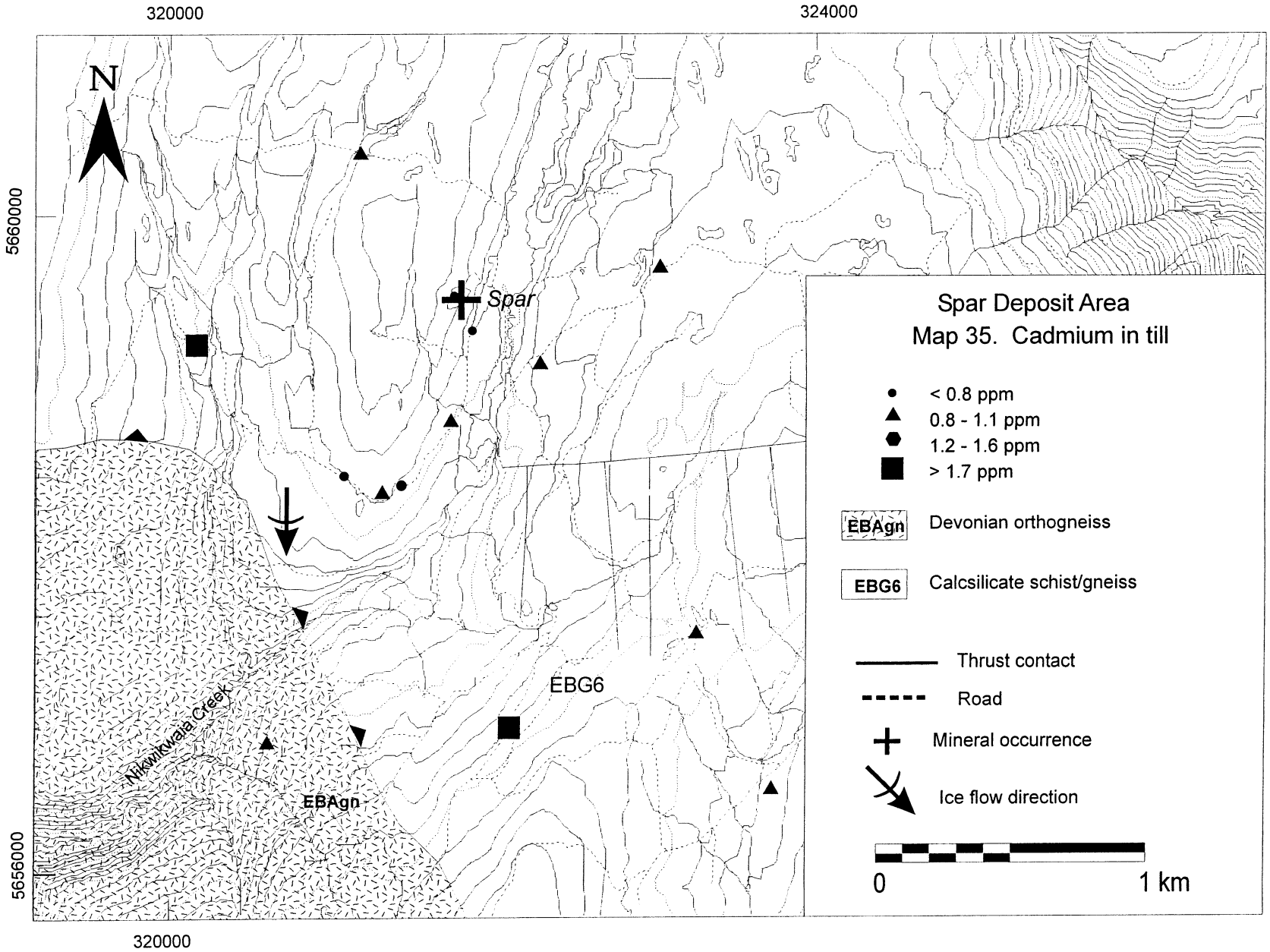

305000
310000
5662000
5658000
Agate Bay
Adams Lake
Pine
N
Adams Lake - Agate Bay Area
Map 30. Copper in till
< 134 ppm
135 - 172 ppm
173 - 234 ppm
> 234 ppm
EBA Sericite-quartz phyllite
EBK Actinolite-quartz schist/skarn
Dgn Devonian orthogneiss
Road
Mineral occurrence
Ice flow direction
0
2 km

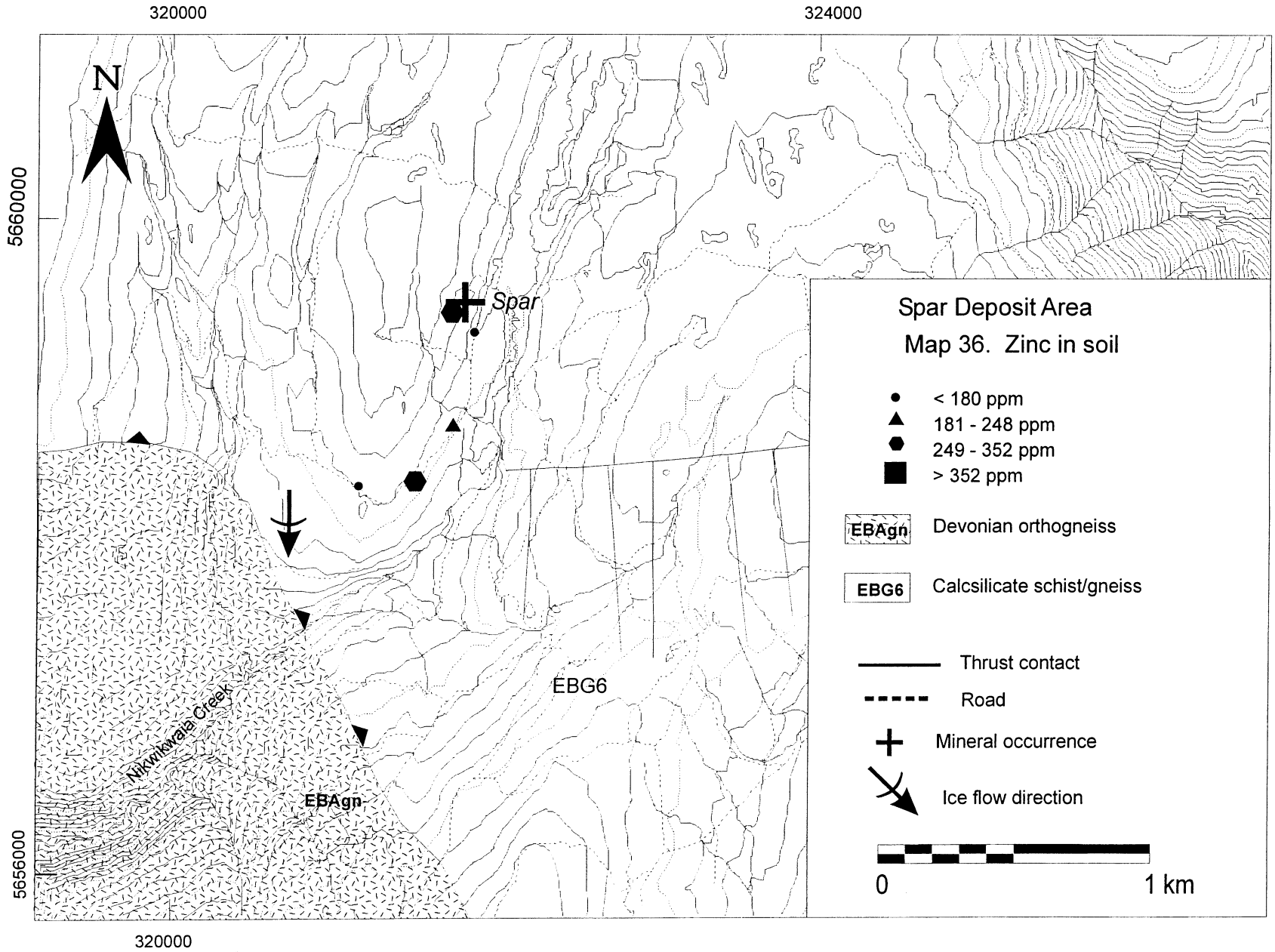

305000
310000
5662000
5658000
Agate Bay
Adams Lake
Pine
N
Adams Lake - Agate Bay Area
Map 31. Barium in till
< 1200 ppm
1201 - 1400 ppm
1401 - 1600 ppm
> 1600 ppm
EBA Sericite-quartz phyllite
EBK Actinolite-quartz schist/skarn
Dgn Devonian orthogneiss
Road
Mineral occurrence
Ice flow direction
0
2 km

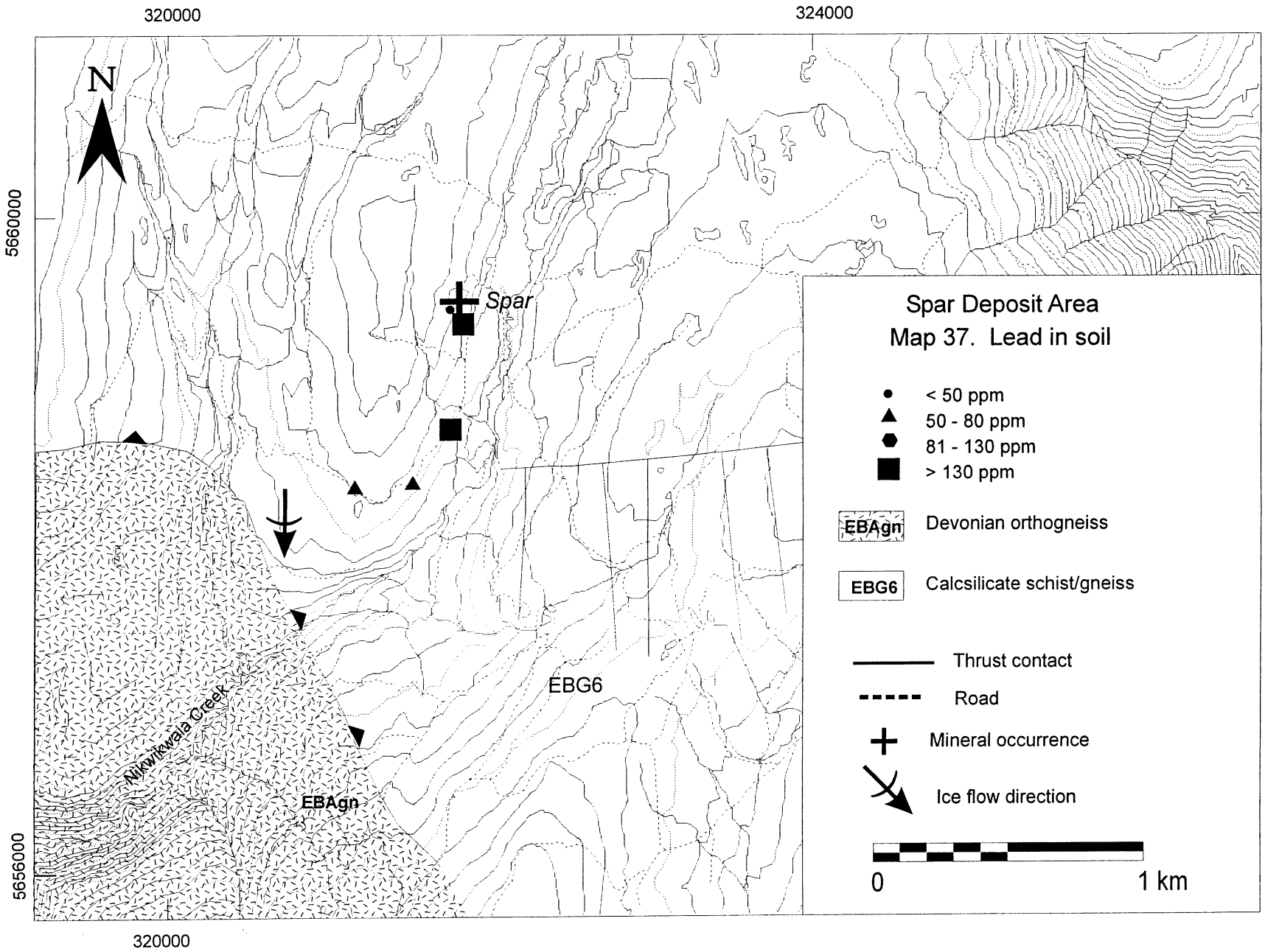

320000
324000
5660000
5656000
320000
N
969588
767039
767039
Spar 96-1 to 4
Spar 2
Spar
Spar 3
969585
969590
969586
Spar 4
Spar 6
Spar 5
969591
969560
EBG6
969555
969556
Nikwikwala Creek
EBAgn
969559
769074
Spar Deposit Area
Map 32. Sample Locations
1996 Regional till survey sample
1996 and 1998 Detailed sample site
1976/77 RGS sample site
EBAgn
Devonian orthogneiss
EBG6
Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km

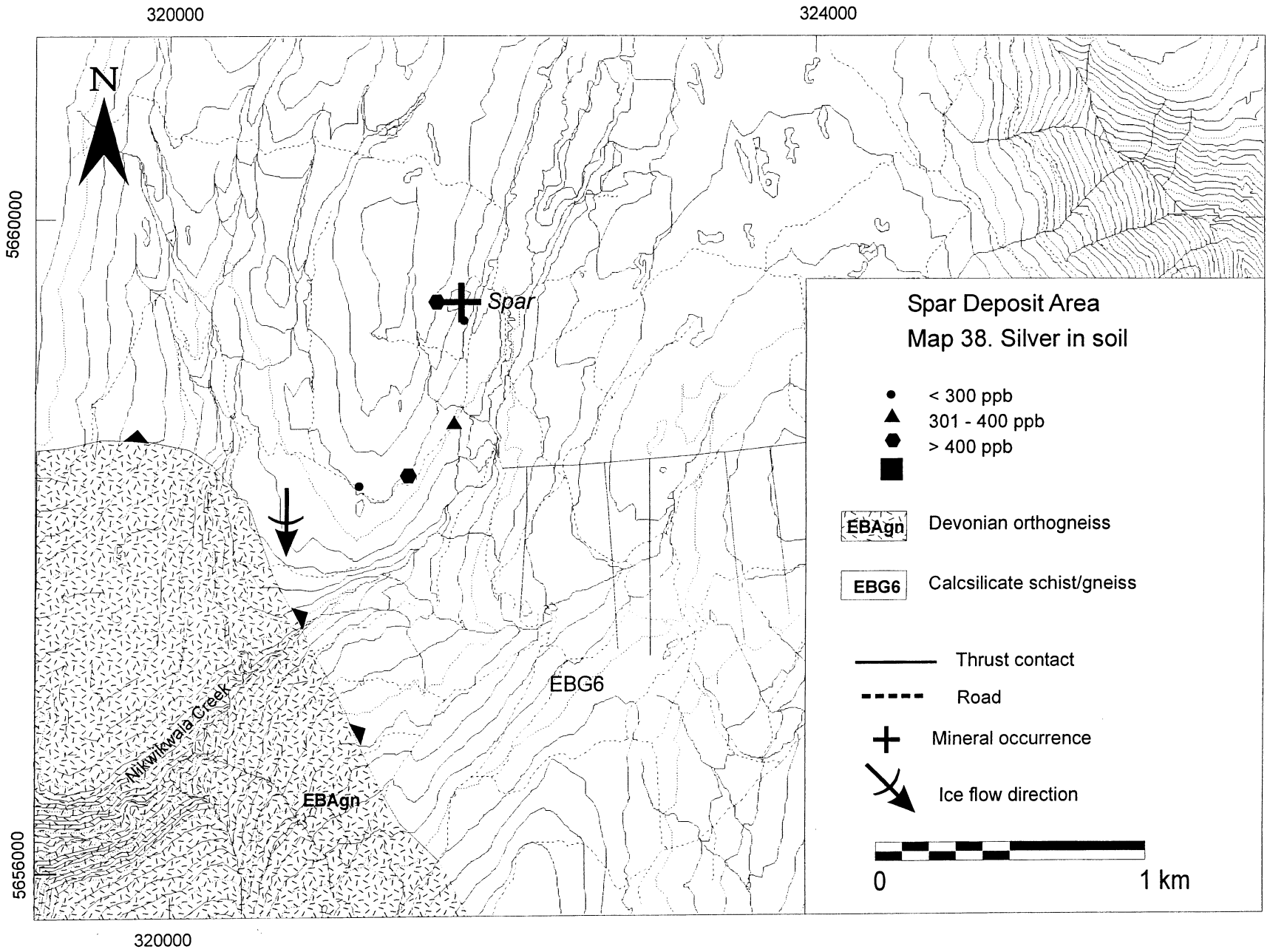

320000
324000
5660000
5656000
320000
N
Cu, Pb, Zn
Spar
EBG6
EBAgn
Nikwikwala Creek
Pb, Zn, F (Water)
Spar Deposit Area
Map 33. Zinc in till
< 180 ppm
181 - 248 ppm
249 - 352 ppm
> 352 ppm
Zn RGS anomaly
EBAgn Devonian orthogneiss
EBG6 Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km

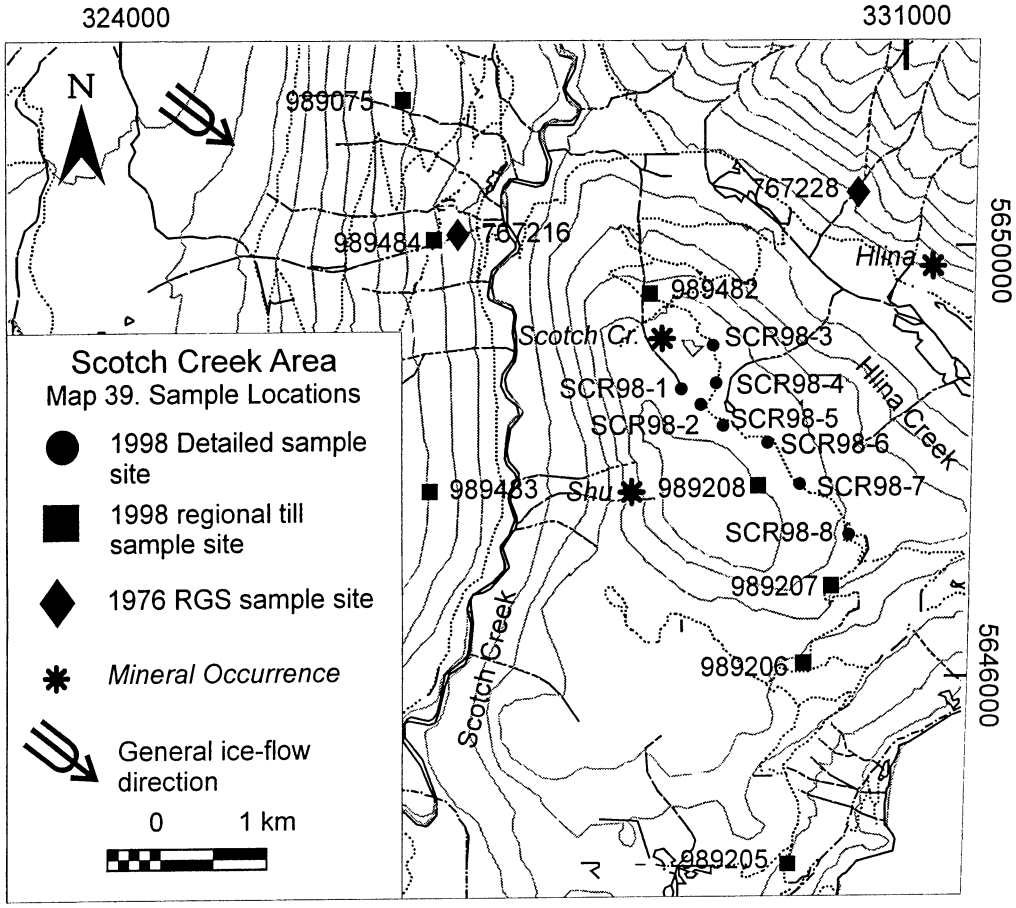

320000
324000
5660000
5656000
320000
N
Spar
EBG6
EBAgn
Nikwikwala Creek
Spar Deposit Area
Map 34. Lead in till
< 50 ppm
50 - 80 ppm
81 - 130 ppm
> 130 ppm
EBAgn
Devonian orthogneiss
EBG6
Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km

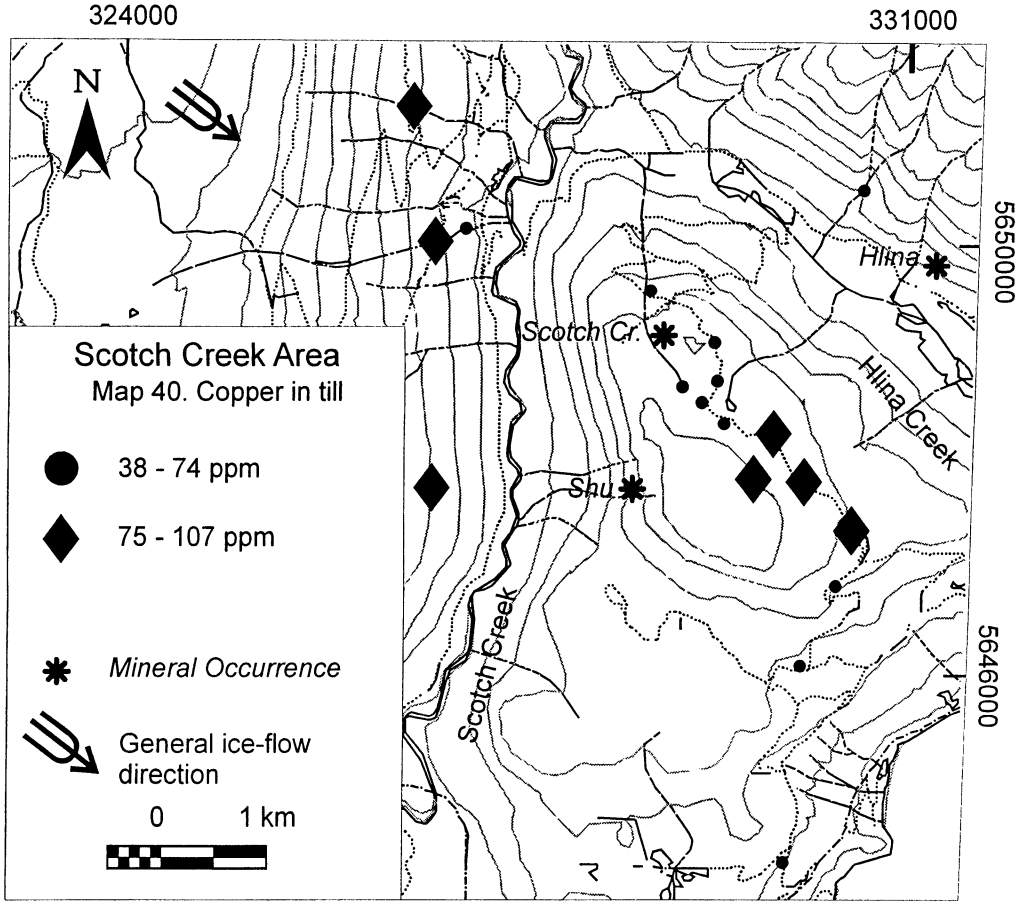

320000
324000
5660000
5656000
320000
N
Spar
EBG6
EBAgn
Nikwikwala Creek
Spar Deposit Area
Map 35. Cadmium in till
< 0.8 ppm
0.8 - 1.1 ppm
1.2 - 1.6 ppm
> 1.7 ppm
EBAgn
Devonian orthogneiss
EBG6
Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km

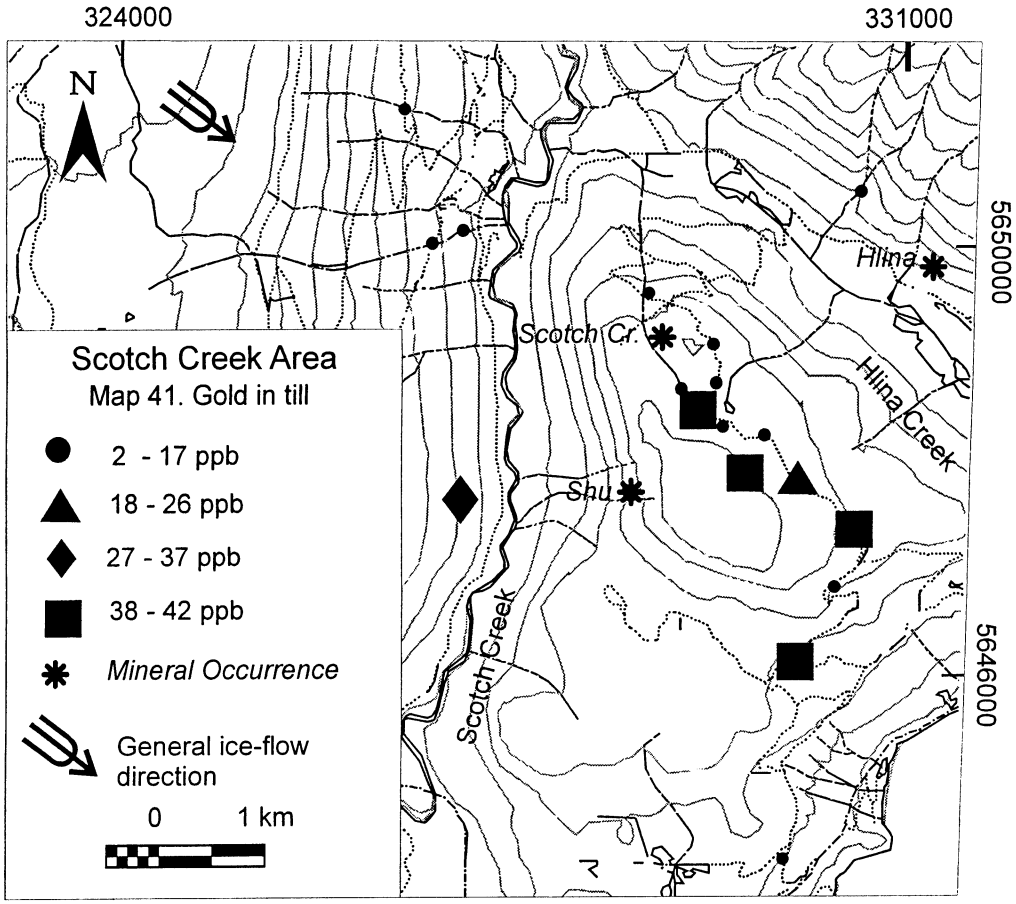

320000
324000
5660000
5656000
320000
N
Spar
EBG6
EBAgn
Nikwikwala Creek
Spar Deposit Area
Map 36. Zinc in soil
< 180 ppm
181 - 248 ppm
249 - 352 ppm
> 352 ppm
EBAgn
Devonian orthogneiss
EBG6
Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km

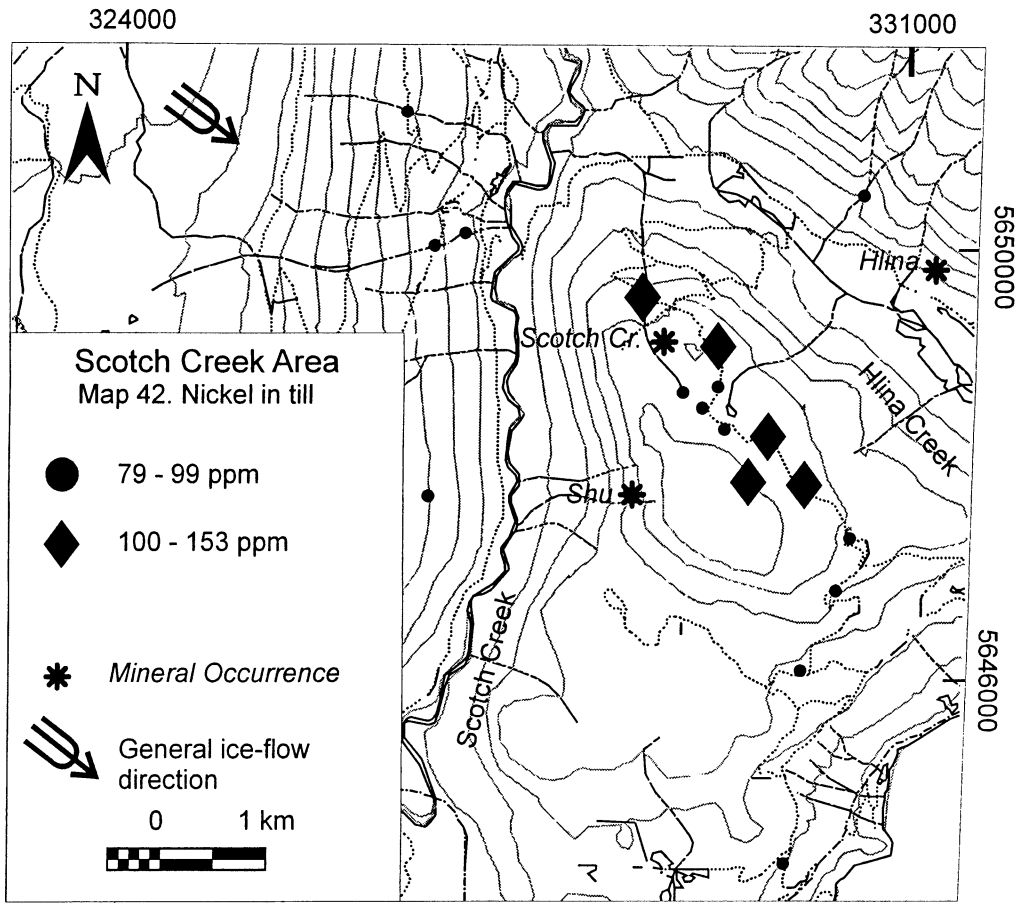

320000
324000
5660000
5656000
320000
N
Spar
EBG6
EBAgn
Nikwikwala Creek
Spar Deposit Area
Map 37. Lead in soil
< 50 ppm
50 - 80 ppm
81 - 130 ppm
> 130 ppm
EBAgn
Devonian orthogneiss
EBG6
Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km


320000
324000
5660000
5656000
320000
N
Spar
EBG6
EBAgn
Nikwikwala Creek
Spar Deposit Area
Map 38. Silver in soil
< 300 ppb
301 - 400 ppb
> 400 ppb
EBAgn
Devonian orthogneiss
EBG6
Calcsilicate schist/gneiss
Thrust contact
Road
Mineral occurrence
Ice flow direction
0
1 km


324000
331000
5650000
5646000
N
989075
989484
767216
767228
Hlina
989482
Scotch Cr.
SCR98-3
SCR98-1
SCR98-4
SCR98-2
SCR98-5
SCR98-6
Hlina Creek
989483
Shu
989208
SCR98-7
SCR98-8
989207
989206
Scotch Creek
989205
Scotch Creek Area
Map 39. Sample Locations
1998 Detailed sample site
1998 regional till sample site
1976 RGS sample site
Mineral Occurrence
General ice-flow direction
0
1 km


324000
331000
5650000
5646000
N
Scotch Creek Area
Map 40. Copper in till
38 - 74 ppm
75 - 107 ppm
Mineral Occurrence
General ice-flow direction
0
1 km
Scotch Cr.
Shu
Hlina
Hlina Creek
Scotch Creek


324000
331000
5650000
5646000
N
Scotch Creek Area
Map 41. Gold in till
2 - 17 ppb
18 - 26 ppb
27 - 37 ppb
38 - 42 ppb
Mineral Occurrence
General ice-flow direction
0
1 km
Scotch Cr.
Shu
Hlina
Hlina Creek
Scotch Creek


324000
331000
5650000
5646000
N
Scotch Creek Area
Map 42. Nickel in till
79 - 99 ppm
100 - 153 ppm
Mineral Occurrence
General ice-flow direction
0
1 km
Scotch Cr.
Shu
Hlina
Hlina Creek
Scotch Creek