



GEOLOGICAL SURVEY OF CANADA

OPEN FILE 3562

**Till, Soil, and Stream Sediment Geochemistry
in the vicinity of the
Manitouwadge Greenstone Belt**

I.M. Kettles, R.G. Garrett, S.D. Bauke

1998



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		Entente de développement du nord de l'Ontario	
	Minerals • Minéraux		
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I.M. Kettles

Terrain Sciences Division
Geological Survey of Canada

R.G. Garrett

Mineral Resources Division
Geological Survey of Canada

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INTRODUCTION

As part of the Northern Ontario Development Agreement (NODA), the Geological Survey of Canada carried out a study of surficial sediments in the Manitouwadge-Hornpayne area. The purpose was to provide information about Quaternary geology (e.g. ice flow directions and lithologic and geochemical composition of glacial sediments) that would assist drift prospecting. The first phase of the project included reconnaissance-scale sampling and more detailed sampling in the vicinity of the Manitouwadge greenstone belt, especially near the Geco and several abandoned Cu-Zn mines (Fig. 1). Geochemical data from these surveys have been released as Geological Survey of Canada Open Files 2616 and 2933 (Kettles, 1993, 1994; Kettles and Murton, 1993).

During a second phase of this NODA project, samples from several geochemical orientation surveys carried out in 1968 in the Manitouwadge area were reanalyzed. Forty-three till and 109 stream sediment samples were collected over an area of approximately 200 sq. km that covers a large part of the Manitouwadge greenstone belt (Fig. 1). These samples were reanalyzed to compare trace metal distribution in tills and stream sediments, since both sediment types are commonly used in mineral exploration surveys. In addition, 134 soil and 281 till samples, collected from vertical profiles at sites along two exploration trenches, were also reanalyzed. The two trenches crossed the Nama Creek ore zone and were oriented approximately in the dominant direction of glacial ice flow. Geochemical data for the profile samples provide a comprehensive database that

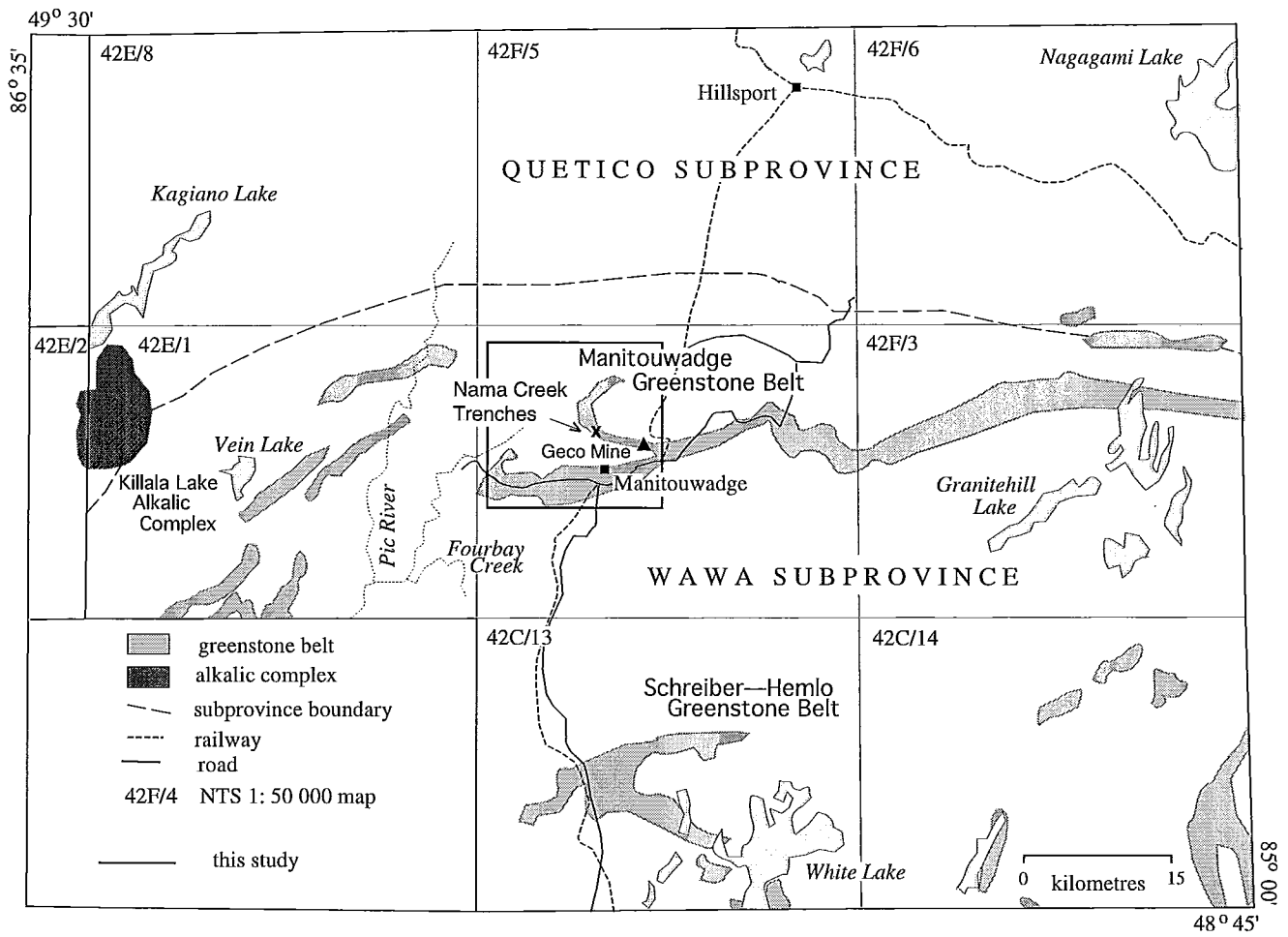


Figure 1. Project area, Manitouwadge, Ontario. Area covered by present study is outlined.

can be used to better understand the effects of glacial transport and post-glacial weathering on the surficial sediments in an area of known mineralization. In this report, the geochemical and other data for the samples from the 1968 survey are presented. Also included are: (1) some previously released geochemical and pebble lithology data (Kettles, 1993, 1994) for till samples collected within the area covered by the 1968 survey; (2) maps showing the regional distribution of selected elements in till and stream sediments and rock types in till; and (3) trace element profiles for tills and soils in the exploration trenches over the Nama Creek ore zone.

Acknowledgments

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GEOLOGIC SETTING

Bedrock Geology

Bedrock in the Manitouwadge area was mapped by Pye (1957), Milne (1974), Freisen et al. (1982), Williams and Breaks (1990) and, more recently, by Zaleski and Peterson (1993a, 1993 b). The Manitouwadge greenstone belt lies within the Wawa subprovince of the Archean Superior province and adjacent to the gneisses of the Quetico subprovince of the Canadian Shield (Figs. 2 and 3). It is a highly metamorphosed and deformed remnant of supracrustal rocks with a complex deformation history. Rock types within

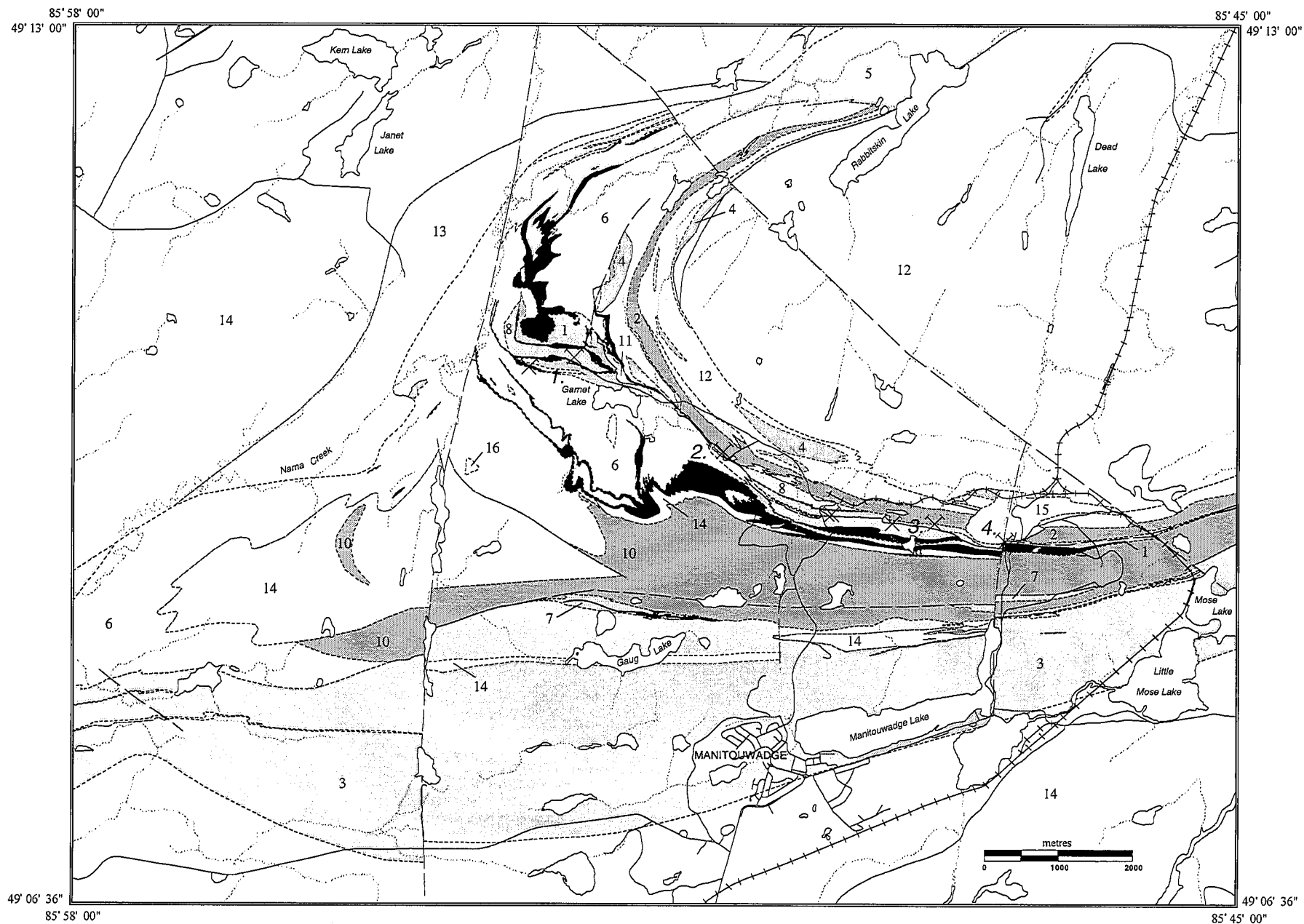


















Figure 2. Bedrock geology of the Manitouwadge area, after Zaleski and Peterson (1993b) and Ontario Geological Survey (1991). Numbers in bold print refer to operating or abandoned mines: 1 - Willecho; 2 - Big Nama; 3 - Willroy; and 4 - Geco. See bedrock legend on opposite page.

LEGEND

Wawa Subprovince


-  Alkalic rocks
-  Pegmatite, aplite, and foliated granitoid
-  Undivided foliated intrusive rocks
-  Foliated porphyritic granitoid rocks
-  Foliated quartz-rich tonalite to granitoid rocks
-  Felsic mylonite (straight gneiss)
-  Metasedimentary rocks
-  Metamorphosed iron formation
-  Quartz-phyric felsic metavolcanic rocks
-  Aphyric felsic metavolcanic rocks
-  Felsic to intermediate metavolcanic rocks
-  Intermediate to mafic metavolcanic rocks
-  Interlayered mafic and felsic metavolcanic rocks
-  Mafic metavolcanic rocks
-  Orthoamphibolite-garnet +/- cordierite gneiss
-  Sillimanite-muscovite-quartz felsic gneiss

Quetico Subprovince

-  Metasedimentary rocks

 Geological contact

 Fault

 Massive sulphide deposit
 4. Geco 3. Willroy
 2. Nama Creek 1. Willecho

 Road

 Railway

the supracrustal sequence include mafic metavolcanic rocks, metamorphosed iron formation, metasedimentary rocks and foliated intrusive rocks. The Geco, Nama Creek, and Willroy massive sulphide deposits lie within the northern part of the southern limb of the Manitouwadge synform and are associated with the iron formation. Outside the belt of supracrustal rocks, intrusive rocks, referred to as the Black Pic Batholith, are different from those inside the belt. The VMS deposits at Manitouwadge and other sulphide and Zn-Cu-Ag deposits associated with metavolcanic and granitoid sequences of the greenstone belt are described by McKay (1994).

Surficial Geology

Zoltai (1965, 1967) carried out a reconnaissance survey of surficial materials in northwestern Ontario, noting the nature of surficial materials, the positions of ice-marginal features and post-glacial lakes. Garrett (1969) and Grant (1969) carried out reconnaissance surveys of glacial sediments in the Manitouwadge area while Kristjansson and Geddes (1986) mapped them at a scale of 1:50 000. Later, Hicock et al. (1989) examined in more detail different till facies in exposures near Manitouwadge. Information on the till geochemistry and lithology was generated during the first phase of the present project (Kettles, 1993, 1994; and Kettles and Murton, 1993). Lake sediment samples were also collected in the Manitouwadge areas as part of a regional geochemical survey undertaken north of Lake Superior (Geological Survey of Canada, 1979; Friske et al., 1991a, 1991b).

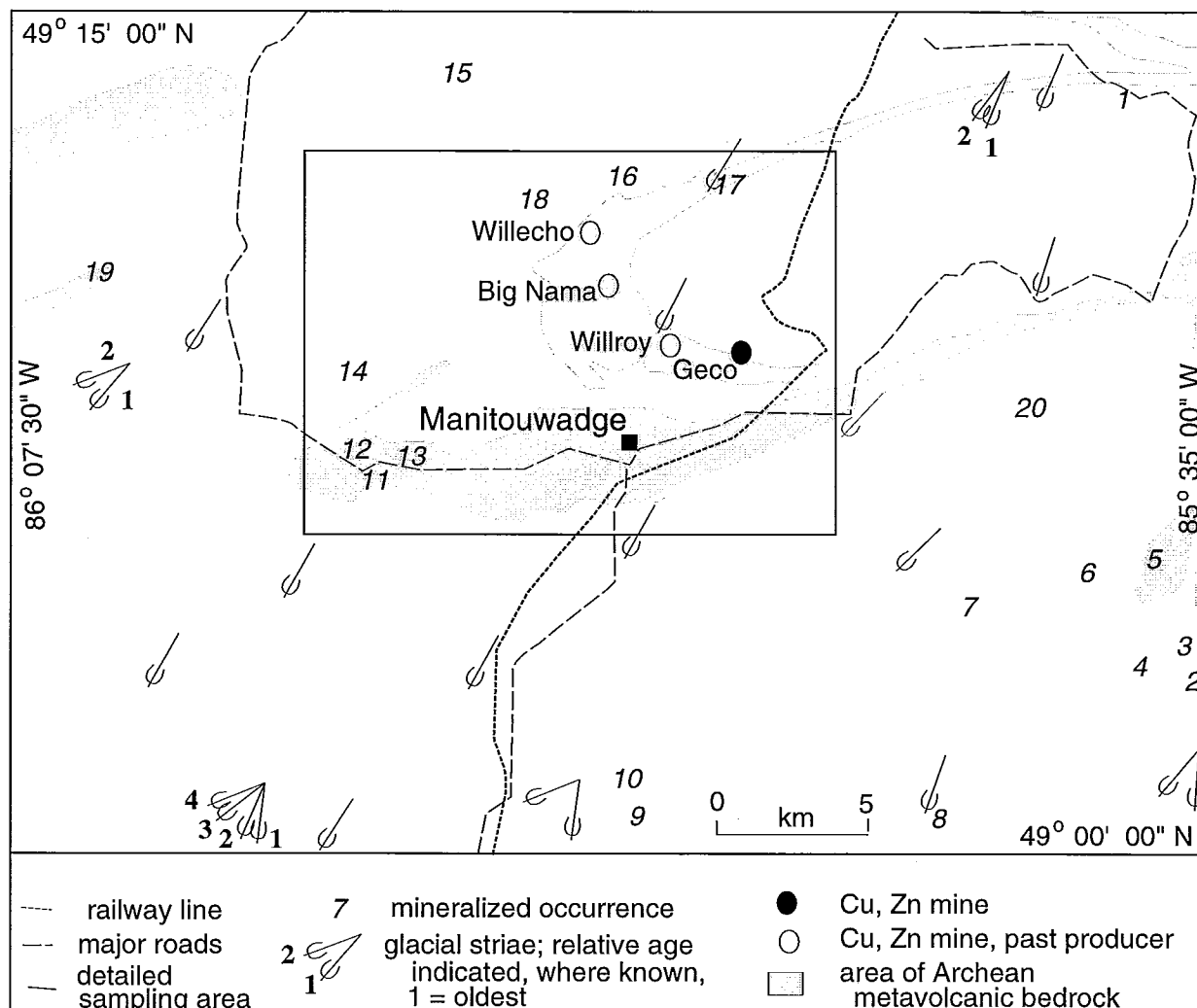


Figure 3. Glacial striation and mineral occurrence map. Striae measurements from Kettles (1993, 1994) and after Kristjansson and Geddes (1986), and mineral occurrences from McKay (1994). Mineral occurrences are explained in Table 1.

Table 1. Description of mineral occurrences; accompanies Figure 3.			
1	Cu	11	Cu, Zn, Au
2	Sulphides, Cu	12	Sulphides, Au
3	Sulphides	13	Sulphides
4	Sulphides	14	Base metals
5	Cu	15	Sulphides
6	Sulphides	16	Au, base metals
7	Cu	17	Zn
8	Sulphides	18	Sulphides
9	Sulphides, Mo	19	Sulphides
10	Au	20	Sulphides

All glacial sediments in the Manitouwadge area are thought to have been deposited during the Late Wisconsinan (Kristjansson and Geddes, 1986; Barnett et al., 1991). Striae measurements indicate that the predominant ice flow direction was 210 - 220° (Fig. 3; Kristjansson and Geddes, 1986; Kettles, 1993). Striae on stoss and lee facets of glacially moulded bedrock and in grooves eroded during older flow events provide evidence of both earlier (southerly) and later (more westerly) flow events.

The most widespread glacial deposits in the Manitouwadge area are diamictons likely deposited either directly from, or in close association with, glacial ice. They have physical and chemical characteristics that closely approximate those of the debris load carried by the last glacier across the project area, and are, therefore, collectively referred to as till. Till commonly forms a thin, discontinuous veneer (up to 1.5 metres thick), but in places exceeds 10 m in thickness. On account of poor exposure, it was difficult to distinguish during the regional sampling survey between the numerous till facies identified in the detailed study (Hicock et al., 1989). Kettles and Murton (1993) noted three main facies:

- 1) compact diamicton with 30-65% Paleozoic carbonate clasts. It is locally fissile, pale grey where unweathered and buff where weathered. Compact diamicton was observed on the down-ice (lee) slopes of certain hills and in some lowland sites. Thicknesses locally exceed at least a few metres.

- 2) loose, sandy diamicton with low to high concentrations of Paleozoic carbonate clasts (10-40%); this material is light to dark grey where unweathered, and is tan to olive

coloured where weathered. It is the most widespread till, commonly forming discontinuous sheets of variable thickness (0.5-3.0 m).

3) loose, sandy to clast-rich diamicton with few Paleozoic carbonate clasts (0-8%) and high concentrations of angular, generally large (up to boulder size) clasts derived from the local Precambrian bedrock. This unit is dark grey where unweathered and olive to tan coloured where weathered. It is common in areas of exposed bedrock.

The dispersal patterns of certain clast lithologies (5.0-16.0 mm) in 603 till samples collected in the Manitouwadge-Hornpayne region during the first phase of this project were previously studied to gain knowledge of the relationships of glacial flow to variations in composition (Fig. 4; Kettles, 1994, Appendix C). Two major bedrock terranes are represented by clasts in the tills within this region: 1) local Precambrian units and 2) the Paleozoic and Proterozoic terranes of the Hudson Bay and James Bay Lowlands. Clasts derived from the Paleozoic and Proterozoic terranes were transported glacially at least 100 km and may significantly dilute the local debris. More than 75% of the samples contained at least 7% Paleozoic carbonate and 50% had greater than 20% Paleozoic carbonate clasts. In addition, over 75% of the samples contained more than 5% clasts of Proterozoic metasedimentary rock.

Concentrations of Paleozoic carbonate and Proterozoic metasediment clasts were found to be uniformly high in many areas surrounding Manitouwadge (Fig. 4; Kettles, 1994). The distribution patterns of these two types of clasts are consistent with the regional pattern

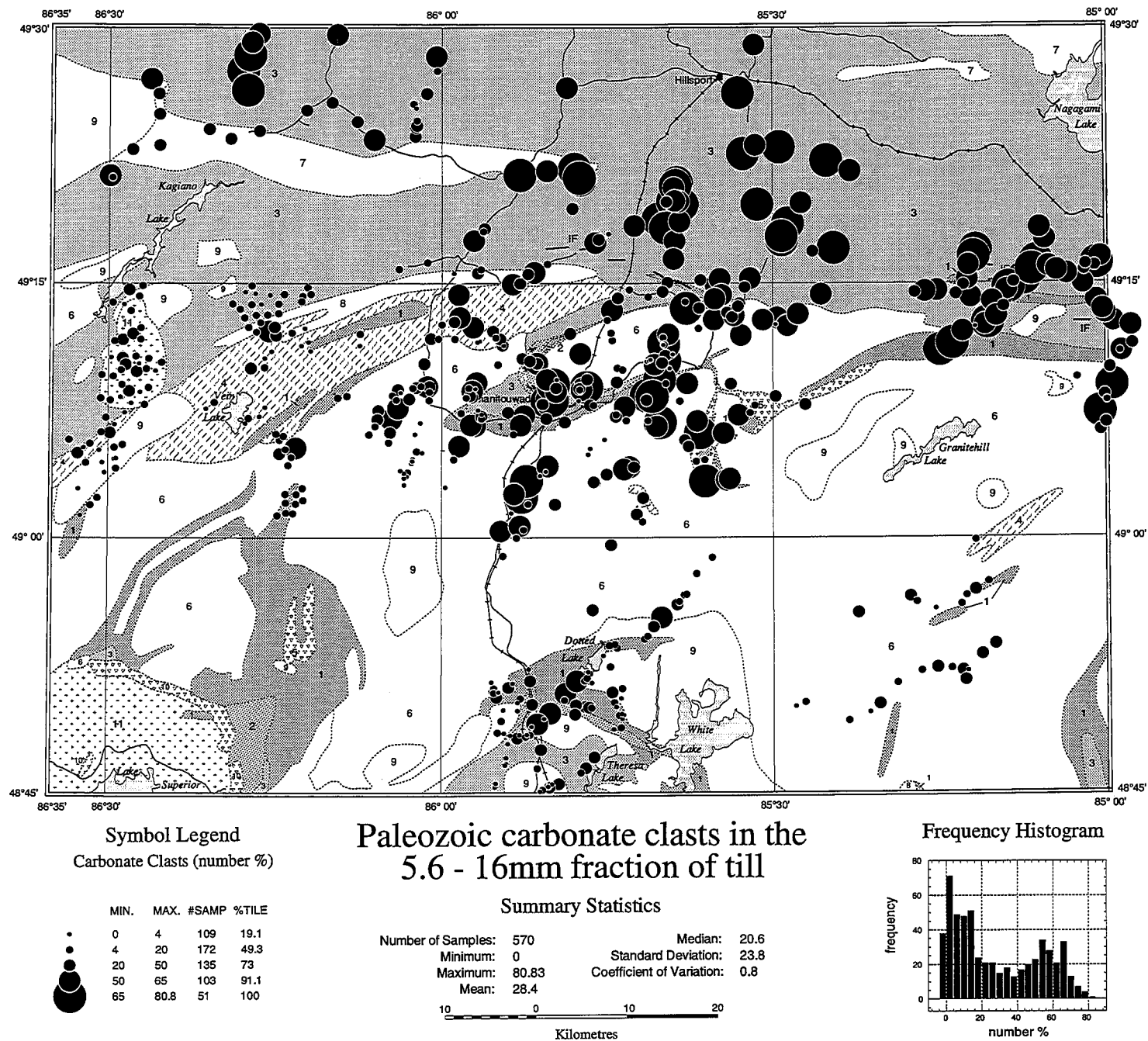


Figure 4. Distribution of Paleozoic carbonate clasts in tills in the Manitowadge area.

of till distribution. Manitouwadge lies on the western edge of a plume of thick till extending south from the James and Hudson Bay lowlands (Sado and Carswell, 1987). This is one of several plumes in northern Ontario likely formed by late glacial ice streams in the Laurentide Ice Sheet (Hicock et al., 1989). In contrast to exotic Paleozoic and Proterozoic lithologies, the highest concentrations of local Precambrian lithologies (e.g. metavolcanic rocks) occur in till overlying or within 1-2 km of their outcrops (Kettles, 1993, 1994; Kettles and Murton, 1993). The distribution pattern of local lithologies reflects the effects of glacial erosion and transport at a local scale.

Glaciofluvial ice-contact and outwash sand and gravel are also present in the study area. Outwash deposits are common in the region east of Manitouwadge, in low-lying areas above the maximum levels of glacial lake incursion (post-Lake Minong; Kristjansson and Geddes, 1986). Elsewhere, in low-lying areas, glaciolacustrine deposits consisting of sand, silt, and clay are widespread. In the Manitouwadge area, lacustrine sediments have been observed as high as 325 m a.s.l. (R. Geddes, 1987, unpublished report). Aeolian dunes are found in some areas where outwash or glaciolacustrine sediments predominate and alluvial sands and silts are well developed along major rivers and streams. Deposits of peat and organic muck are widespread, particularly in areas underlain by glaciolacustrine sediments.

METHODOLOGY

Field and Analytical Procedures

Soil and till samples were collected from hand-dug holes and stream sediments from active drainage channels. The <0.063 mm fraction of both sample types was recovered by dry sieving and analyzed at Chemex Labs, Ltd. Determinations of 24 trace, minor and major elements (Ag, Al, As, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Na, Ni, P, Pb, Sc, Sr, Ti, V and Zn) were made by Inductively Coupled Plasma and Atomic Emission Spectroscopy (ICP-AES) following a nitric acid-aqua regia partial digestion. The digestion may be incomplete for Al, Ba, Ca, Cr, K, La, Mg, Na, Sc, Sr and Ti.

The quality of geochemical analyses for the <0.063 mm fraction of the samples was monitored using blind duplicates and reference materials supplied by Terrain Sciences Division and by other duplicates prepared by Chemex from excess materials for selected samples. Data and x-y plots for the 65 first run and duplicates are shown in Appendix A (vi). As shown in the graphs, there is a near linear relationship for Al, Ca, Co, Cr, Cu, Fe, Mg, Mn, P, Sr, V and Zn. Levels of Ag, As, Cd, La, Na and Sc are at or near detection level. Reproducibility of As and Pb are poor at levels close to the detection limit.

In the earlier phase of the NODA study, pebbles (5.0-16.0 mm) were separated from till samples for lithological analysis (Kettles, 1993, 1994). On average, 225 clasts were examined from each sample. The clasts were grouped into the following 6 classes and relative percentages (by number) calculated: 1) Paleozoic limestone and dolomite; (2)

Paleozoic sandstone and siltstone; 3) Proterozoic greywacke and argillite (the clasts are characteristic of the Omarolluk Formation which outcrops in the Belcher Island Fold Belt and Sutton Inlier (e.g. Ricketts and Donaldson (1981)); 4) Precambrian metasedimentary rocks of uncertain provenance; 5) Precambrian intrusive and high-grade metamorphic rock; and 6) undifferentiated Archean metavolcanic rock.

The <0.063 mm fraction of samples from the Nama Creek till profiles were analyzed for their content of organic and inorganic carbon using a Leco carbon analyzer after a method modified from Foscolos and Barefoot (1970). Inorganic carbon concentrations were estimated as per cent CaCO_3 equivalent, by assuming that all carbon that is driven off by acid dissolution of a sample was present as calcite. This amount of carbon is determined by comparing C in leached and unleached duplicates of the same sample.

Data Organization

Sample locations, descriptions, trace, minor and major element data for the <0.063 mm fraction of the till and stream sediment samples collected over the Manitouwadge synform are listed in Appendices A (i) and A (iii). Similar data for samples from the Nama Creek deposit till and soil profiles are listed in Appendices A (iv) and A (v). Pebble lithology data for tills over the Manitouwadge synform are presented in Appendix A (ii) and Leco carbonate data for the Nama till profile samples in Appendix A (iv).

TILL AND STREAM SEDIMENT COMPOSITION IN THE MANITOUWADGE AREA

Clast Lithologies in Till

Two major bedrock terranes are represented by clasts in Manitouwadge tills: 1) local Precambrian units, and 2) Paleozoic and Proterozoic terranes of the Hudson Bay and James Bay Lowlands (Appendices A(ii) and C). More than 50% of the till samples collected near Manitouwadge contain more than 25 % clasts of Paleozoic carbonate and 8% Proterozoic metasediments while 90% contain 7% or 1%, respectively. In most areas Precambrian granitoids are the dominant clast lithology with levels being especially high near and south of the Geco mine site, south of Manitouwadge and in the western part of the study region. There are high concentrations of other Precambrian metasediment clasts in the southeastern part of and south of the greenstone belt while levels of Precambrian metavolcanics are high in most areas overlying mafic to intermediate metavolcanic rocks in the southern part of the Manitouwadge greenstone belt.

Till and Stream Sediment Geochemistry

There are high levels (> 80th percentile of elemental values) of Cu, Zn and Mn and to a lesser extent Fe, Ag, As, Ba, V, Sc and Ti in both till and stream sediments overlying iron formation, sillmanite-muscovite-quartz felsic gneiss, intrusive rocks and mylonites in the vicinity of the Geco and Willroy orebodies, and over mafic rocks in many areas south of the Geco and Willroy orebodies. In drift overlying bedrock of similar lithologies

northwest of Garnet Lake, there are higher levels of As, Ba and Zn in tills and lake sediments, and Cd and Pb in tills. Concentrations of the Cu and Zn are also above background in these two sample materials along the Fox Creek fault south of the Geco mine.

Tills and lake sediments have high levels of Co, Cr and Ni over the greenstone belt south of the mines and in the western part of the study area. Levels of Cr are high in stream sediments collected along the long east-west trending fault which lies north of Gaug Lake and along the north-south fault south of Dead Lake and, with some exceptions, the northwest-southeast trending fault south of Rabbitskin Lake.

In till and stream sediments, Mg concentrations tend to be higher to the east while Na is elevated in the western part of the study area. Areas with elevated levels of some other elements -Al, Ca, Sr, K, La and P - are scattered over the study area, with the distribution pattern of Ca being similar in many areas to Sr. Gold levels in tills are elevated south of the mine sites and along the southern edge, and, to the south of, the greenstone belt.

Areas with high levels of Zn, Cu, Mn, Cd, Al and V in till generally correspond closely to areas with high levels of the same elements in stream sediments. Where Al levels are high, Precambrian granitoid clasts are abundant in tills, and areas with elevated levels of Cu, Zn, Cd, Mn, and, to a lesser extent, V, generally correspond to areas with abundant

Precambrian metavolcanic clasts. There is some correspondence between areas with high levels of Ba, Pb and Ni in tills and stream sediments, while between others there is little correspondence (e.g. Ca, Mg and K).

There are a larger number of stream sediment samples than till samples with high concentrations of Ag, Al, Ba, Cd, Co, Cu, La, Mn, P and Zn; while the opposite is true for As, Ca, Cr, K, Mg, Ni, Pb, Sr and Ti. For Ca, Mg, Mn and P the differences are pronounced, with for example, 37 % of the stream samples having Mn levels greater than 615 ppm, the highest concentration in any till sample. There are at least three possible explanations for the compositional differences between till and stream sediments. First, the sediment particles composing stream sediments have generally undergone one or more cycles of fluvial transport prior to deposition compared to till which has been deposited in close association with glacial ice. Because the high energy environment of deposition caused primary glacially-eroded fine particles to be flushed through and out of the fluvial system, more of the fine sized detritus now present in stream sediments is likely to be composed of the secondary minerals produced by weathering of the primary silicate minerals (Shilts, 1973). These secondary minerals include poorly crystallized sheet silicates or oxides/hydroxides of iron and manganese, all of which have a propensity for scavenging cations (Rose et al., 1979). Second, higher levels of elements, such as Zn and Ag, may reflect their increased mobility in most surface oxidizing environments relative to elements, such as Ni and Cr, which exhibit higher levels in tills. Third, elemental analysis of both the stream sediments and tills was undertaken on the <0.063 mm

fraction, which is generally dominated by feldspar and carbonate minerals. The proportionately higher levels of Al and lower levels of Ca and Mg in stream sediments compared to tills, likely reflects the higher resistivity of the feldspars, and the greater susceptibility of the carbonate minerals, to the physical and chemical weathering associated with fluvial sedimentation processes.

COMPOSITION OF THE NAMA CREEK SOIL AND TILL PROFILES

In 1968 soil and till samples were collected in profile from more than 70 sites along two southwest-trending trenches (designated Line 1 and 2) which were excavated near the abandoned Nama Creek mine for a geochemical orientation survey prior to mine development (Fig. 5). The trenches, which crossed the Nama Creek ore zone, were located approximately 107 m apart and were oriented approximately in the main direction of glacial ice flow. Samples were collected over a 262 metre long section of Line 1 (Stations 940 to 1800) and an 243 metre section of Line 2 (Stations 800 to 1600). The station number listed for each sample in Appendices A (iv) and A (v), and shown on the diagrams in Appendices D and E, indicates the location of the sample from the origin of Line 1 or Line 2, measured in feet. The British system of measurement was used for the field survey as Canada had not adopted the metric system in 1968 when the survey was completed.

The compositional profiles of the Nama Creek tills portrayed in Appendix D are based on data for profiles between Stations 950 and 1800 on Line 1 and between Stations 840 and

1600 on Line 2. The soil profiles in Appendix E are based on data for the areas near the sulphide ore bodies (Stations 850 to 1100 on Line 1 and Stations 750 to 1150 on Line 2). Till samples were collected in vertical profile to bedrock, at approximately 0.3 m intervals, from the trench sides at stations located about 3 to 15 m apart. At most stations, also, samples were collected also from specific horizons (Ah, Bf, and C) in the post-glacial solum.

The locations of the sample profile stations, the distribution of samples within the profiles, and the underlying bedrock lithologies are shown for the Nama Creek tills and soils in Figures 6 and 7, respectively. As shown for Zn, each diagram consists of separate plots for Line 1 and Line 2. The bottom part of each plot is a geological cross section showing the configuration of the till cover and bedrock lithologies, based on field mapping and surveying. The horizontal and vertical scale bars and a bedrock legend accompany the geological cross section. The trace element profiles for the tills (Fig. 6) are plotted using an exaggerated depth scale compared to the one used for the geological cross section. The data intervals for the till profiles are based on the statistical data listed in Appendix C and are explained in the proportional symbol legend. Trace element data for the soil profiles were plotted using a logarithmic scale to emphasize the compositional differences.

Nama Creek Till Composition

The till is carbonate-rich with 95% of the 279 samples having 5% or greater CaCO_3 equivalent and 70% of the samples having more than 35% CaCO_3 equivalent. Except near

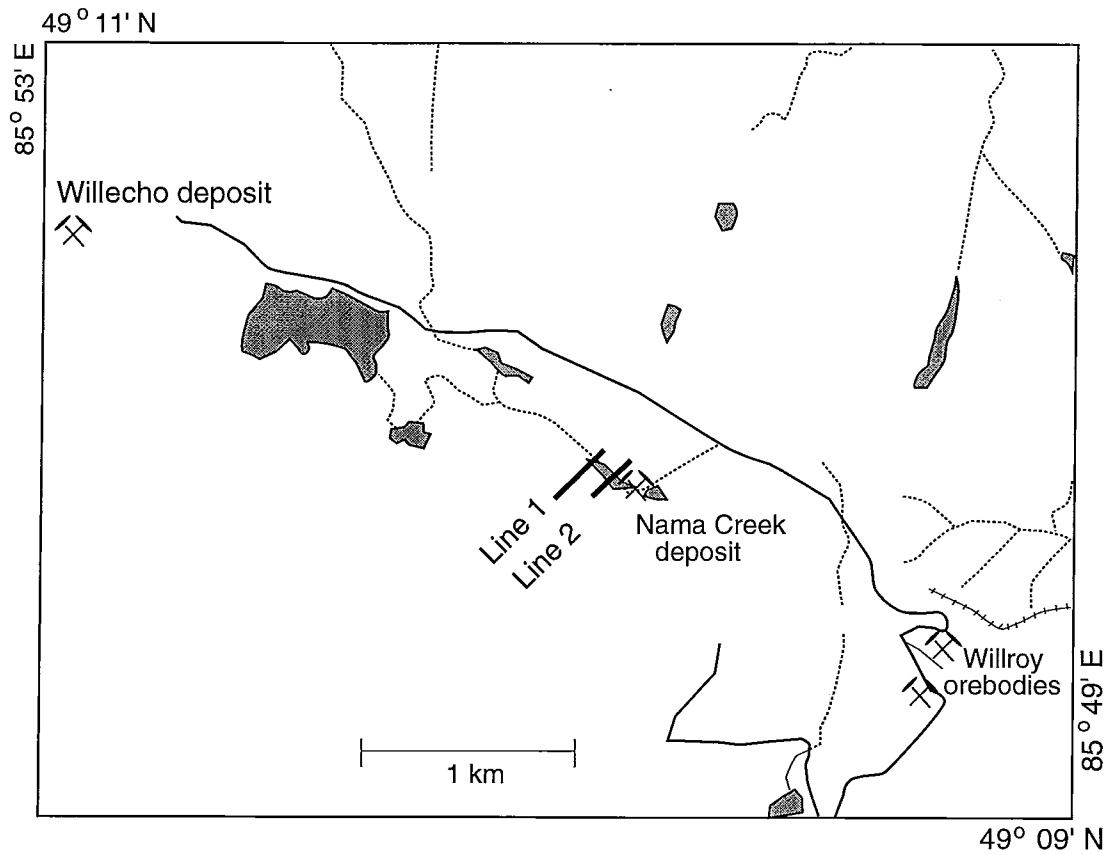


Figure 5. Location of the exploration trenches across the Nama Creek deposits. The southwesterly orientation of the trenches reflects the main direction of glacial ice flow.

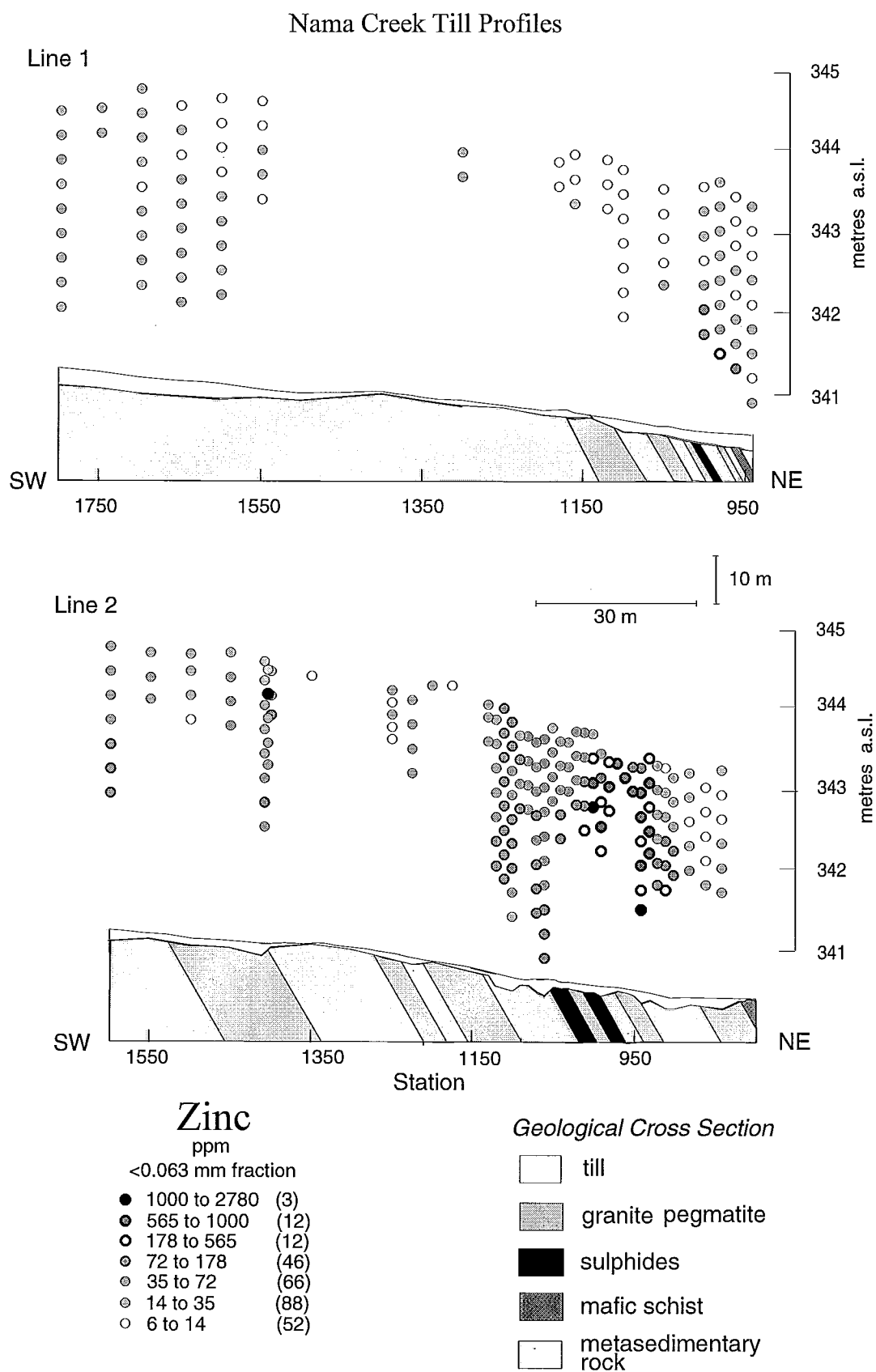


Figure 6. Distribution of zinc in the Nama Creek tills.

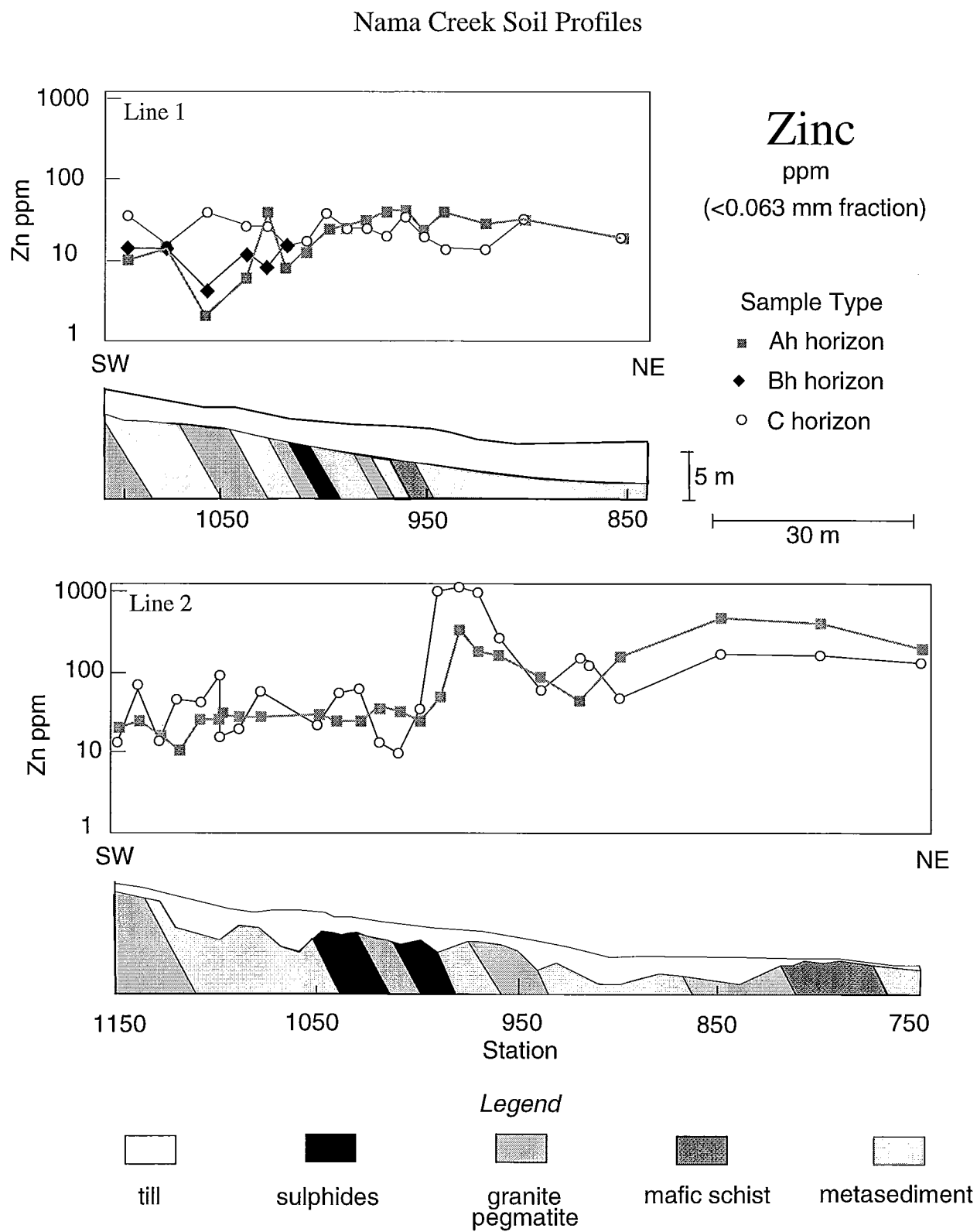


Figure 7. Distribution of zinc in the Nama Creek soils.

the surface, the distribution patterns of Ca, and Mg correspond closely to the CaCO_3 equivalent pattern. Ca levels are also lower near the surface, possibly due to the leaching of calcite (limestone) from the till. Tills contained less than 0.2% organic carbon except near the surface in many profiles and, for unknown reasons, at greater depths in a number of profiles on Line 2. Trace element levels are generally low in tills in Line 1 compared to Line 2. There is close correspondence between the distribution patterns of (1) Al, Fe, Mn, Ni and V, (2) Ca, Mg and Sr, and (3) Cu, Zn and Fe. Most elements within each of these three groups are geochemically similar, with respect to their ionic radii and their ionic charge, and are commonly associated in silicate, carbonate, and sulphide-rich environments, respectively (Rose et al., 1979).

Despite the effects of dilution related to far-travelled Paleozoic carbonate detritus which is generally trace element-poor, the distribution of elements in the tills may in many parts of the profiles be related to local bedrock composition. High levels of Cu (>200 ppm), Zn (>565 ppm) and Pb (>14 ppm) overly and occur within approximately 30 m down-ice and 15 m up-ice of the sulphide bedrock in Line 2. The highest Cu and Zn concentrations in samples collected on Line 1 are found overlying and up-ice from the sulphide bedrock. Levels are also high (Cu - 977 ppm, and Zn - 1430 ppm) in one sample from the till profile at Station 1404 on Line 2. The very high levels of these elements down-ice from the sulphide bedrock reflect the effects of glacial transport while those up-ice likely reflect hydromorphic dispersion downslope towards the stream drainage to the

north. Copper staining was noted on tills both up-ice and down-ice from the subcrops of sulphides.

Nama Creek Soil Composition

Information on the soils, forest cover, and the drainage state between Stations 800 and 1100 on Line 1 and between Stations 750 and 1150 on Line 2 are presented in Appendix E. Soils at stations in the upland areas on the southwestern part of Line 1 were classified as humo-ferric podzols while the soils at the remaining stations on Lines 1 and 2 were identified as belonging to the humic gleysol group (Agriculture Canada, 1987). The humo-ferric podzols are moderately well drained and have a mineral-organic horizon (Ah) and an illuvial horizon (B). The humic gleysol soils, which occur in the poorly-drained low-lying areas, have a peaty surface horizon of 0.3-0.4 m and also Ah and C horizons. The northeastern ends of Lines 1 and 2 lie within a conifer forest. There is a deciduous forest along the southwestern end of Line 2 while the same part of Line 1 has been clear cut.

The Ah and C horizons were sampled in both types of soils, and, in addition, the Bf layer of the B horizon from six sites with humo-ferric podzols on Line 1. Within the three horizons of the humo-ferric podzols, levels of Al, Cr, Fe, Ni, and V tend to be highest in the B horizon while concentrations are lowest in the A horizon. Levels of Zn, Mg, Mn and As are also lowest in the A horizon, but the highest levels of these elements are found in the C horizon. Aluminium, Cr, Co, Fe, Mn, Ni, V and Zn tend to be associated with accumulations of translocated clays and Fe and Mn oxides, and likely

indicate that they were leached from the A into the B horizon (Alloway, 1990; Agriculture Canada, 1987, p. 23). In contrast to the other elements, Ba and Pb levels are highest in the A horizon and lowest in the C horizon.

Within the humic gleysol soils, the distribution patterns of some elements differ between the southwest and northeast ends of the profile. For example, concentrations of Cr, Cu, Fe, Ni, Pb and Sr are similar or variable in the A and C horizons to the southwest. In contrast, to the northeast, Cr, Fe, Ni, and Pb levels are higher in the C horizon than the A horizon, and Cu and Sr have higher concentrations in the A compared to the C. Levels of Al are higher in the A than C to the southwest and higher in the C than A to the northeast, while the opposite is true for Ca. Some of these compositional differences may reflect changes in drainage patterns and vegetation over the two lines. Drainage is poorer to the northeast and the forest cover changes from the northeast to southwest. For the remaining elements, As, Mg, and Ti are generally high in the C compared to the A and Ba, Cd, Mn, and P have high concentrations in the A horizon compared to the C horizon.

On both Lines 1 and 2 more than a metre, to nearly 3 metres, of mostly calcareous drift overlies the sulphide subcrops. In both cases, there is little expression of the mineralization in the soils which have developed on the drift directly overlying the ore. The highest levels of Zn (> 1000 ppm) in C horizon samples occur immediately up-ice and downslope for approximately 15 m from the ore zone. The C horizon sample with

the highest Cu concentration for Line 2 (50 ppm) occurs about 7.5 m downslope and up-ice of the ore zone, but concentrations are low in this sample compared to another collected away from the sulphide bedrock. At the southwestern end of Line 1 one site has 165 ppm Cu in the C horizon and more than 300 ppm in the A and B horizons.

SUMMARY AND CONCLUSIONS

Variations in till and stream sediment compositions are generally related to the effects of glacial transport and the composition of local bedrock. The distribution patterns of carbonate, Ca and Mg reflect glacial transport at the regional scale. Manitouwadge tills commonly contain large percentages of Paleozoic carbonate clasts, as well as high levels of carbonate, Ca and Mg. Paleozoic carbonate was derived, and glacially transported more than 100 km, from the Hudson and James Bay lowlands. The distribution of many other elements and most Precambrian clasts reflects the effects of glacial transport at a local scale. In contrast to exotic Paleozoic lithologies, the highest concentrations of local Precambrian lithologies (e.g. metavolcanic rocks) occur in till overlying or within 1-2 km of their outcrops (Kettles, 1993, 1994; Kettles and Murton, 1993). Anomalously high concentrations of Cu, Pb, Ag and Zn occur in tills and stream sediments collected near the main VMS deposits. Also, there were detectable dispersal trains of Cu and Zn down-ice from Cu-Zn-bearing sulphide bedrock at Nama Creek for approximately 150 m along Line 2. In some cases, however, compositional variation, at a local scale, was related to

downslope hydromorphic transport. There are high levels of zinc in tills with visible Cu staining which lie 30 m up-ice and down-slope from the sulphide bedrock.

As noted previously for copper, zinc, and mercury (Kettles et al., 1995, 1997), the pattern of distribution of many elements in stream sediments corresponds closely in most areas to its pattern in till. This relationship is to be expected since stream sediments are dominantly derived from tills although they have undergone one or more cycles of fluvial transport prior to deposition. Hence, their chemical characteristics are influenced by till geochemistry. By plotting the data sets on the same map, comparison of the two is facilitated.

In the silt-size and finer fractions of stream sediments, there are proportionately higher levels of some elements such as Al, Zn, Mn, and Ag and lower levels of others such as Ca, Mg, Ni, and Cr, in stream sediments compared to tills. These differences likely reflect mineralogical differences in the two types of sediment caused by the physical and chemical partitioning processes affecting them as they are being deposited, and, later, as they are affected by post-glacial weathering.

Detailed work shows that the expression of the mineralization in soils near the Nama Creek ore zone is variable. Soils which have developed on the carbonate-rich partly exotic tills directly overlying the sulphide ore do not have elevated levels of Cu or Zn. However, there are very high levels (>1000 ppm) of Zn in some samples overlying metasedimentary

and basic schist bedrock immediately up-ice and downslope for 15 m from the sulphide subcrop while there is only a very small increase in Cu concentrations downslope or down-ice from the deposit. The high Zn levels up-ice from the deposit may reflect downslope hydromorphic transport within the till and solum. In areas such as Nama Creek, where the till is thick and/or carbonate-rich, the effectiveness of soil sampling as a mineral prospecting technique may be limited.

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APPENDIX A

Sample Locations and Descriptions Till and Stream Sediment Geochemistry Till Lithology

- A (i)** Sample Locations, Descriptions, Trace, Minor and Major Element Data for Silt plus Clay (<0.063 mm) Fraction of Manitouwadge Till Samples
- A (ii)** Pebble lithology data for 5.0-16.0 mm Fraction of Manitouwadge Till Samples
- A (iii)** Sample Locations, Descriptions, Trace, Minor and Major Element Data for Silt plus Clay (<0.063 mm) Fraction of Manitouwadge Stream Sediment Samples
- A (iv)** Sample Locations, Descriptions, Trace, Minor and Major Element Data for Silt plus Clay (<0.063 mm) Fraction of Nama Creek Till Profile Samples
- A (v)** Sample Locations, Descriptions, Trace, Minor and Major Element Data for Silt plus Clay (<0.063 mm) Fraction of Nama Creek Soil Profile Samples
- A (vi)** Duplicate Sample Data and Scattergrams of Duplicate vs. First Run Data

APPENDIX A(i)

Regional Till Samples

Sample Locations and Descriptions
Trace, Minor and Major Element Data
for Silt plus Clay (<0.063 mm) Fraction

Key

Sample No.	Sample number
Sed. Type	Sediment type of sample
Zone	UTM grid zone
Easting (m)	UTM easting (metres)
Northing (m)	UTM northing (metres)
Rock type	Lithology of underlying bedrock. See rock type key next page.

Element		Unit of Measure	Detection Limit	Analytical Method	
Ag	Silver	ppm	0.2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Al	Aluminium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
As	Arsenic	ppm	5 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Au	Gold	ppb	1 ppb	Fire Assay; DCP	
Ba	Barium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ca	Calcium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Cd	Cadmium	ppm	0.2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Co	Cobalt	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Cr	Chromium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Cu	Copper	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Fe	Iron	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
K	Potassium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
La	Lanthanum	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Mg	Magnesium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Mn	Manganese	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Na	Sodium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Ni	Nickel	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Pb	Lead	ppm	2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Sc	Scandium	ppm	5 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Sr	Strontium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ti	Titanium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
V	Vanadium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Zn	Zinc	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES

Bedrock Key (after Zaleski and Peterson, 1993b)

Wawa Subprovince

- 16 Alkalic rocks
- 15 Pegmatite, aplite, and foliated granitoid
- 14 Undivided foliated intrusive rocks
- 13 Foliated porphyritic granitoid rocks
- 12 Foliated quartz-rich tonalite to granitoid rocks
- 11 Felsic mylonite (straight gneiss)
- 10 Metasedimentary rocks
- 9 Metamorphosed iron formation (a) quartz-magnetite,
(b) silicate, (c) sulphide
- 8 Quartz-phyric felsic metavolcanic rocks
- 7 Aphyric felsic metavolcanic rocks
- 6 Felsic to intermediate metavolcanic rocks
- 5 Intermediate to mafic metavolcanic rocks
- 4 Interlayered mafic and felsic metavolcanic rocks
- 3 Mafic metavolcanic rocks
- 2 Orthoamphibolite-garnet +/- cordierite gneiss
- 1 Sillimanite-muscovite-quartz felsic gneiss

Quetico Subprovince

- 10q Metasedimentary rocks

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Au ppb	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
110001	Till	16	588000	5443100	3	<0.2	1.07	2		30	0.32	<0.5	6	28	11	1.32	0.08
110002	Till	16	588080	5443640	3	<0.2	0.99	<2		30	0.31	<0.5	4	21	23	1.16	0.07
110003	Till	16	588120	5444130	10	<0.2	1.05	<2		20	0.36	<0.5	7	20	42	1.29	0.07
110004	Till	16	588250	5444480	10	<0.2	1.47	<2		50	0.24	0.5	7	31	5	1.62	0.07
110005	Till	16	588270	5444800	10	<0.2	0.92	<2		30	0.27	0.5	4	19	15	1.16	0.06
110006	Till	16	588560	5445130	2	<0.2	0.86	<2		20	0.24	<0.5	3	22	18	1.21	0.06
110007	Till	16	588560	5445520	15	<0.2	1.96	2		20	0.14	0.5	3	24	4	2.16	0.04
110008	Till	16	588700	5446420	12b	<0.2	1.88	<2		60	0.46	1	9	49	10	2.2	0.27
110009	Till	16	588880	5446760	12b	<0.2	1.24	<2		40	2.09	0.5	6	31	10	1.45	0.13
110010	Till	16	586460	5446040	12b	<0.2	0.69	<2		20	0.34	1	1	11	2	0.7	0.06
110011	Till	16	586360	5445560	2	<0.2	1.16	<2		30	1.48	<0.5	6	32	8	1.46	0.1
110012	Till	16	586230	5445040	1a	<0.2	1.09	<2		20	0.31	<0.5	5	32	6	1.3	0.09
110013	Till	16	586090	5444540	10	<0.2	1.2	<2		50	0.47	<0.5	8	50	29	1.76	0.1
110014	Till	16	586040	5444020	10	<0.2	1.06	<2		50	4.87	1	6	34	15	1.33	0.16
110016	Till	16	586400	5443250	3	<0.2	1.17	<2		30	0.31	<0.5	6	33	6	1.39	0.1
110017	Till	16	586300	5442930	3	<0.2	0.66	2		20	5.45	0.5	4	23	8	0.94	0.09
110018	Till	16	585440	5445880	12a	<0.2	1.11	<2		20	0.19	<0.5	4	25	3	1.09	0.06
110019	Till	16	585520	5446270	4	<0.2	1.01	<2		20	2.64	<0.5	7	34	8	1.37	0.09
110020	Till	16	585550	5446530	12b	<0.2	0.85	<2		20	0.28	<0.5	4	27	6	1.09	0.06
110021	Till	16	581670	5447600	9a	<0.2	0.45	<2		20	10.2	<0.5	1	17	5	0.62	0.04
110022	Till	16	581630	5448150	9a	<0.2	1.23	2		10	0.19	<0.5	4	19	3	1.14	0.04
110023	Till	16	581730	5448660	6	<0.2	0.81	<2		30	0.38	3	3	23	4	1.45	0.1
110024	Till	16	581980	5449000	6	<0.2	1.44	2		20	0.12	<0.5	5	23	9	2.14	0.06
110025	Till	16	583720	5441590	3	<0.2	1.01	2		30	6.21	<0.5	5	29	10	1.25	0.11
110026	Till	16	583740	5441960	3	<0.2	0.65	<2		10	1.19	<0.5	4	19	5	1	0.07
110027	Till	16	583840	5442310	3	<0.2	0.91	<2		30	1.73	0.5	6	29	7	1.27	0.11
110028	Till	16	584050	5442880	3	<0.2	1.05	<2		20	0.26	<0.5	6	22	55	1.1	0.07
110029	Till	16	584290	5443170	3	<0.2	1.18	<2		20	0.32	<0.5	6	28	13	1.21	0.09
110030	Till	16	584520	5443470	14c	<0.2	0.48	2		10	6.63	<0.5	2	19	4	0.74	0.06
110031	Till	16	584800	5443820	3	<0.2	1.13	<2		30	0.3	0.5	6	27	15	1.24	0.09
110032	Till	16	585080	5448880	12b	<0.2	0.54	<2		10	8.18	<0.5	4	19	8	0.93	0.07
110033	Till	16	584730	5449120	12b	<0.2	0.88	<2		20	0.63	0.5	5	26	10	1.22	0.09
110034	Till	16	584400	5449600	12b	<0.2	1.29	<2		30	0.28	<0.5	7	29	4	1.66	0.1
110035	Till	16	584000	5449630	4	<0.2	0.92	<2		30	0.71	<0.5	6	30	7	1.43	0.09
110036	Till	16	583740	5449300	4	<0.2	1.19	4		20	0.71	<0.5	6	29	8	1.36	0.09
110037	Till	16	583330	5448740	12a	<0.2	0.81	<2		20	2.11	<0.5	6	26	7	1.28	0.08
110038	Till	16	583120	5448400	12a	<0.2	0.93	<2		30	0.49	<0.5	4	20	6	1.18	0.08

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
110001	Till	16	588000	5443100	20	0.31	155	0.01	15	640	4	3	15	0.1	25	18
110002	Till	16	588080	5443640	20	0.27	175	0.01	13	430	4	3	16	0.09	23	24
110003	Till	16	588120	5444130	20	0.26	130	0.01	14	500	6	3	14	0.09	23	24
110004	Till	16	588250	5444480	10	0.33	100	0.01	16	220	4	2	13	0.11	30	36
110005	Till	16	588270	5444800	20	0.24	140	0.01	11	510	4	2	13	0.08	22	28
110006	Till	16	588560	5445130	10	0.28	125	0.01	8	100	4	2	12	0.1	24	96
110007	Till	16	588560	5445520	20	0.17	60	0.01	7	350	8	2	9	0.1	30	24
110008	Till	16	588700	5446420	20	0.73	340	0.02	22	240	6	5	26	0.16	40	88
110009	Till	16	588880	5446760	30	1.13	265	0.02	13	470	4	4	25	0.1	28	28
110010	Till	16	586460	5446040	10	0.17	75	0.01	4	170	4	1	14	0.08	18	14
110011	Till	16	586360	5445560	40	0.9	295	0.02	11	620	4	5	20	0.09	26	26
110012	Till	16	586230	5445040	30	0.33	170	0.02	11	330	2	3	15	0.1	28	24
110013	Till	16	586090	5444540	40	0.54	240	0.02	41	580	4	4	17	0.13	37	34
110014	Till	16	586040	5444020	10	2.24	265	0.02	23	500	2	4	30	0.08	25	24
110016	Till	16	586400	5443250	20	0.33	210	0.02	14	570	6	3	15	0.1	27	20
110017	Till	16	586300	5442930	20	1.84	160	0.02	8	580	2	3	29	0.06	19	18
110018	Till	16	585440	5445880	10	0.27	90	0.01	10	160	2	2	10	0.09	22	16
110019	Till	16	585520	5446270	30	1.31	295	0.02	11	600	4	4	23	0.08	25	18
110020	Till	16	585550	5446530	30	0.28	125	0.01	10	360	2	4	15	0.09	23	18
110021	Till	16	581670	5447600	<10	2.87	135	0.01	4	380	<2	2	48	0.04	13	8
110022	Till	16	581630	5448150	10	0.17	65	0.01	9	240	6	2	8	0.08	21	10
110023	Till	16	581730	5448660	30	0.28	185	0.01	8	510	2	3	13	0.08	20	20
110024	Till	16	581980	5449000	10	0.24	125	0.01	11	120	8	2	9	0.1	27	30
110025	Till	16	583720	5441590	10	1.69	225	0.02	12	500	4	4	44	0.09	25	22
110026	Till	16	583740	5441960	30	0.64	205	0.01	8	570	4	3	17	0.07	20	14
110027	Till	16	583840	5442310	20	0.87	230	0.02	10	590	4	3	20	0.08	26	18
110028	Till	16	584050	5442880	10	0.27	95	0.01	19	460	2	2	12	0.09	23	24
110029	Till	16	584290	5443170	30	0.27	100	0.02	14	450	4	4	14	0.09	26	16
110030	Till	16	584520	5443470	<10	2.91	135	0.02	6	500	2	2	33	0.05	16	10
110031	Till	16	584800	5443820	20	0.28	145	0.01	14	480	2	3	13	0.09	23	18
110032	Till	16	585080	5448880	<10	2.39	165	0.02	7	440	4	2	44	0.06	21	14
110033	Till	16	584730	5449120	20	0.3	175	0.02	11	560	4	3	17	0.08	25	20
110034	Till	16	584400	5449600	10	0.33	210	0.01	12	210	6	2	14	0.11	34	38
110035	Till	16	584000	5449630	20	0.45	300	0.02	13	300	6	3	16	0.1	30	22
110036	Till	16	583740	5449300	20	0.54	205	0.02	13	570	4	3	17	0.1	27	20
110037	Till	16	583330	5448740	40	1.08	210	0.01	10	570	4	4	18	0.07	24	18
110038	Till	16	583120	5448400	20	0.3	130	0.01	8	380	2	2	15	0.1	22	26

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Au ppb	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
110039	Till	16	582980	5447990	2	<0.2	1.83	2		40	0.58	<0.5	7	32	19	2.11	0.19
110040	Till	16	582770	5447620	6	<0.2	1.22	<2		20	0.21	<0.5	4	24	6	1.59	0.07
110041	Till	16	582660	5447180	1b	<0.2	1.16	2		20	0.29	<0.5	8	32	9	1.93	0.08
110045	Till	16	585220	5443180	3	<0.2	0.4	2		20	10.81	<0.5	2	17	12	0.68	0.08
110052	Till	16	588000	5443040	3	<0.2	0.92	4		60	5.26	0.5	15	57	232	1.97	0.15
110058	Till	16	588900	5444400	10	<0.2	0.38	<2		10	10.9	<0.5	1	16	9	0.67	0.07
91KFA0001	Till	16	589650	5442450	14a	1.1	1.18	11	2	35	0.71	<0.2	3	21	9	1.18	0.12
91KFA0009	Till	16	582050	5441200	3	<0.2	1.02	<5	<1	32	1.87	<0.2	4	21	9	1.33	0.14
91KFA0011	Till	16	581675	5440150	14a	<0.2	0.28	6	8	10	8.51	<0.2	<1	9	5	0.86	0.08
91KFA0012	Till	16	576770	5444720	6	<0.2	0.45	<5	2	18	>10	<0.2	<1	11	8	0.87	0.12
91KFA0016	Till	16	584550	5442820	3	<0.2	0.47	5	3	17	>10	0.7	<1	13	13	0.95	0.11
91KFA0017	Till	16	584050	5442475	3	<0.2	0.58	<5	2	38	7.88	<0.2	2	16	29	1.25	0.17
91KFA0018	Till	16	585500	5443850	10	<0.2	0.49	6	3	21	9.62	<0.2	<1	9	23	0.9	0.11
91KFA0019	Till	16	588000	5442900	3	<0.2	0.7	27	4	51	0.77	<0.2	19	46	90	1.72	0.15
91KFA0020	Till	16	589250	5442450	14a	<0.2	0.65	11	2	39	0.5	<0.2	6	30	11	1.24	0.16
91KFA0027	Till	16	586950	5450220	12b	<0.2	0.94	<5	3	28	5.63	<0.2	1	19	9	1.2	0.14
91KFA0028	Till	16	588100	5448050	12b	<0.2	0.31	<5	2	16	9.94	<0.2	<1	9	8	0.85	0.09
91KFA0036	Till	16	586510	5440550	14a	<0.2	1.29	<5	4	31	0.43	0.7	9	47	8	1.69	0.1
91KFA0043	Till	16	576820	5449140	14a	<0.2	1.82	<5	5	89	0.75	0.5	23	44	27	3.11	0.43
91KFA0044	Till	16	578825	5449640	14a	0.3	0.47	<5	1	16	0.5	<0.2	6	20	7	1.29	0.09
91KFA0045	Till	16	579550	5448850	14a	<0.2	0.57	<5	2	31	8.72	<0.2	<1	21	16	0.98	0.16
91KFA0046	Till	16	579100	5446720	13a	0.3	1.56	<5	2	44	0.24	<0.2	6	28	7	1.77	0.1
91KFA0047	Till	16	579700	5448800	13a	0.4	0.78	<5	<1	34	0.81	0.7	23	38	92	3.4	0.21
91KFA0048	Till	16	579300	5449500	14a	<0.2	0.31	<5	2	20	9.61	1	<1	9	10	0.81	0.09
91KFA0049	Till	16	578500	5450350	14a	<0.2	0.39	<5	<1	23	>10	<0.2	<1	10	10	0.76	0.06
91KFA0050	Till	16	577050	5449250	14a	0.3	1.62	<5	<1	84	0.67	0.3	17	37	23	2.53	0.38
91KFA0051	Till	16	576320	5450750	14a	<0.2	0.76	<5	<1	33	>10	<0.2	1	16	12	1.13	0.13
91KFA0076	Till	16	577400	5440800	14a	<0.2	1.28	<5	1	41	0.46	<0.2	9	185	12	1.79	0.17
91KFA0077	Till	16	577370	5441050	14a	<0.2	0.7	<5	<1	31	7.77	0.2	7	115	36	1.61	0.11
91KFA0078	Till	16	577400	5441280	14a	0.2	1.27	<5	<1	35	0.53	1	11	104	36	1.98	0.13
91KFA0079	Till	16	576990	5441730	3	<0.2	1.39	<5	<1	28	0.66	0.6	15	139	35	2.16	0.1
91KFA0081	Till	16	576320	5443130	6	<0.2	0.35	5	1	18	8.74	1.1	<1	34	10	0.86	0.08
91KFA0082	Till	16	576660	5444050	6	<0.2	1.62	<5	<1	22	0.43	<0.2	11	118	8	1.64	0.09
91KFA0083	Till	16	575950	5444120	6	0.5	1.4	17	1	37	0.33	0.5	19	193	26	2.2	0.11
91KFA0083A	Till	16	575830	5444000	6	0.4	1.27	7	2	47	0.48	0.6	22	141	38	2.59	0.26
91KFA0085	Till	16	576320	5443800	6	<0.2	0.41	<5	3	18	>10	<0.2	<1	217	10	0.92	0.08
91KFA0086	Till	16	576700	5440050	14a	<0.2	0.36	8	1	13	9	0.9	<1	22	8	0.91	0.07

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
110039	Till	16	582980	5447990	30	0.94	215	0.02	15	630	6	4	19	0.13	30	60
110040	Till	16	582770	5447620	10	0.26	150	0.01	10	150	2	2	13	0.11	23	18
110041	Till	16	582660	5447180	30	0.36	285	0.02	12	530	4	6	12	0.09	27	34
110045	Till	16	585220	5443180	<10	3.02	140	0.02	7	390	2	2	56	0.05	15	16
110052	Till	16	588000	5443040	20	2.11	285	0.05	35	930	16	4	48	0.12	36	170
110058	Till	16	588900	5444400	<10	3.11	145	0.02	5	410	<2	2	55	0.04	15	12
91KFA0001	Till	16	589650	5442450	17	0.25	119	0.05	13		76		14		19	21
91KFA0009	Till	16	582050	5441200	24	0.63	258	0.06	19		19		17		20	18
91KFA0011	Till	16	581675	5440150	13	2.45	156	0.05	4		25		40		14	9
91KFA0012	Till	16	576770	5444720	12	2.37	168	0.06	6		22		52		14	13
91KFA0016	Till	16	584550	5442820	10	2.45	211	0.05	10		23		53		16	15
91KFA0017	Till	16	584050	5442475	12	1.82	205	0.05	13		21		43		21	24
91KFA0018	Till	16	585500	5443850	11	2.48	199	0.05	10		28		48		14	115
91KFA0019	Till	16	588000	5442900	36	0.35	180	0.06	42		18		23		23	64
91KFA0020	Till	16	589250	5442450	38	0.26	243	0.06	16		13		15		23	21
91KFA0027	Till	16	586950	5450220	17	2.15	206	0.05	15		23		30		18	18
91KFA0028	Till	16	588100	5448050	11	2.27	151	0.05	8		20		51		12	14
91KFA0036	Till	16	586510	5440550	26	0.3	375	0.07	23		14		14		29	25
91KFA0043	Till	16	576820	5449140	26	0.76	421	0.13	42		23		24		59	72
91KFA0044	Till	16	578825	5449640	62	0.17	243	0.07	9		11		13		24	15
91KFA0045	Till	16	579550	5448850	17	2.51	202	0.08	13		20		48		21	20
91KFA0046	Till	16	579100	5446720	16	0.28	145	0.05	16		16		11		34	26
91KFA0047	Till	16	579700	5448800	20	0.43	302	0.09	39		15		19		53	46
91KFA0048	Till	16	579300	5449500	14	2.61	152	0.06	9		19		49		17	18
91KFA0049	Till	16	578500	5450350	13	2.53	159	0.05	9		18		53		14	11
91KFA0050	Till	16	577050	5449250	25	0.71	392	0.08	36		21		24		46	67
91KFA0051	Till	16	576320	5450750	16	2.8	264	0.06	11		23		62		21	23
91KFA0076	Till	16	577400	5440800	20	0.36	364	0.06	81		17		15		31	29
91KFA0077	Till	16	577370	5441050	16	2.39	253	0.07	108		22		45		30	43
91KFA0078	Till	16	577400	5441280	40	0.41	322	0.07	50		16		21		37	32
91KFA0079	Till	16	576990	5441730	21	0.52	379	0.07	58		18		25		43	40
91KFA0081	Till	16	576320	5443130	15	2.4	172	0.05	22		20		46		17	14
91KFA0082	Till	16	576660	5444050	22	0.29	245	0.05	78		16		12		27	31
91KFA0083	Till	16	575950	5444120	19	0.34	331	0.06	96		148		12		35	157
91KFA0083A	Till	16	575830	5444000	27	0.54	469	0.07	85		59		16		43	143
91KFA0085	Till	16	576320	5443800	15	2.85	177	0.06	92		21		52		18	15
91KFA0086	Till	16	576700	5440050	14	2.34	192	0.05	10		21		46		18	18

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Au ppb	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
91KFA0179	Till	16	585225	5444410	10	<0.2	0.59	<5	1	25	>10	<0.2	3	22	18	1.4	0.09
91KFA0181	Till	16	584450	5445180	10	<0.2	1.28	<5	10	63	>10	<0.2	4	30	17	1.77	0.27
91KFA0182	Till	16	584630	5445550	9a	1.1	1.04	13	3	51	0.24	0.6	4	33	13	3.76	0.12
91KFA0183	Till	16	585200	5444620	10	<0.2	0.34	<5	11	12	>10	0.5	<1	11	4	0.81	0.06
91KFA0184	Till	16	581750	5447420	9a	0.3	0.91	7	5	50	7.82	0.9	4	21	80	1.93	0.17
91KFA0185	Till	16	582590	5447160	1b	<0.2	0.58	<5	7	24	7.92	0.5	2	17	10	1.22	0.1
91KFA0187	Till	16	583380	5446925	4	<0.2	0.25	<5	3	11	7.88	<0.2	<1	10	8	0.8	0.04
91KFA0189	Till	16	588050	5444240	10	<0.2	0.53	<5	4	22	7.66	<0.2	<1	15	49	1.05	0.07
91KFA0190	Till	16	588170	5444780	10	6.6	1.27	11	24	67	2.67	19.4	9	29	1596	3.14	0.23
91KFA0192	Till	16	588850	5444400	10	0.8	0.37	<5	12	18	>10	1.4	<1	12	39	1.08	0.07
91KFA0194	Till	16	588100	5444120	10	<0.2	0.77	7	9	18	0.35	0.4	7	28	12	1.49	0.05
91KFA0196	Till	16	576200	5440100	14a	<0.2	0.41	<5	7	16	>10	0.2	<1	10	8	0.79	0.06
91KFA0284	Till	16	589740	5446840	12b	<0.2	1	<5	2	53	>10	1.1	10	25	14	1.46	0.24
91KFA0285	Till	16	590840	5448950	12b	<0.2	1.24	<5	3	58	>10	0.3	10	28	17	1.65	0.27
91KFA0286	Till	16	590250	5449350	12b	<0.2	0.39	<5	2	20	9.2	0.4	4	12	7	0.97	0.09
92KFA0540	Till	16	585100	5442910	3	0.2	0.42	1	<2	20	8.59	<0.5	4	19	15	0.8	0.06
92KFA0541	Till	16	585500	5444250	10	0.2	1.25	1	<2	30	0.33	<0.5	7	36	12	1.74	0.07
92KFA0542	Till	16	585550	5445175	9a	0.2	0.96	1	<2	30	0.32	1	4	26	49	1.26	0.1
92KFA0566	Till	16	591000	5451750	12b	0.2	1.35	6	<2	40	0.3	<0.5	6	32	8	1.6	0.09
92MAN0107	Till	16	588180	5444700	10	0.2	1.05	4		30	0.22	<0.5	5	27	15	1.2	0.04
92MAN0108	Till	16	588180	5444920	10	<0.2	0.7	<2		20	0.26	<0.5	2	21	17	1.03	0.05
92MAN0109	Till	16	588220	5444320	7	<0.2	0.63	<2	<2	20	0.79	<0.5	5	23	6	1.28	0.06
92MAN0110	Till	16	588025	5444000	3	<0.2	0.71	4	2	20	0.53	<0.5	4	22	9	1.26	0.06
92MAN0111	Till	16	588150	5444100	14b	<0.2	1.56	4	<2	40	0.23	<0.5	6	27	4	1.46	0.07
92MAN0112	Till	16	588520	5444300	7	<0.2	1.09	<2	<2	20	0.34	<0.5	8	41	12	1.7	0.08
92MAN0113	Till	16	588950	5444450	10	<0.2	0.47	2	2	10	11.02	<0.5	2	18	7	0.68	0.06
92MAN0115	Till	16	588000	5443630	3	<0.2	0.22	<2		10	9.48	<0.5	<1	16	6	0.44	0.03
92MAN0116	Till	16	587930	5443080	3	<0.2	1.87	<2	<2	60	0.57	<0.5	10	47	16	2.26	0.2
92MAN0117	Till	16	587960	5442850	3	<0.2	1.06	2	2	30	0.35	<0.5	6	27	3	1.31	0.07
92MAN0118	Till	16	588500	5442850	3	<0.2	1.1	<2	16	20	0.41	<0.5	7	33	15	1.68	0.07
92MAN0119	Till	16	589250	5442610	14a	<0.2	0.7	<2	2	20	4.33	<0.5	3	25	9	0.87	0.06
92MAN0121	Till	16	590200	5442600	14a	<0.2	1.19	<2	4	30	0.3	<0.5	6	28	5	1.46	0.06
92MAN0125	Till	16	586150	5442130	3	<0.2	1.06	<2	<2	30	3.63	<0.5	4	31	18	1.23	0.14
92MAN0126	Till	16	587800	5444820	10	<0.2	1.02	<2		20	0.21	<0.5	3	24	94	1.23	0.05
92MAN0127	Till	16	587800	5444650	10	<0.2	1.32	2		20	0.13	<0.5	7	46	31	2.29	0.05
92MAN0128	Till	16	587820	5444500	10	<0.2	1.51	<2	<2	20	0.19	<0.5	4	29	39	1.46	0.06
92MAN0133	Till	16	586350	5442950	3	<0.2	1.07	6	<2	10	0.34	<0.5	6	27	7	1.5	0.08

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
91KFA0179	Till	16	585225	5444410	24	3.3	302	0.04	16		22		59		25	44
91KFA0181	Till	16	584450	5445180	18	3.12	409	0.05	24		20		71		32	34
91KFA0182	Till	16	584630	5445550	11	0.24	246	0.03	20		17		10		29	27
91KFA0183	Till	16	585200	5444620	12	3.05	167	0.04	8		19		49		16	12
91KFA0184	Till	16	581750	5447420	28	2.79	367	0.06	22		46		47		25	159
91KFA0185	Till	16	582590	5447160	20	2.88	221	0.04	13		23		41		21	26
91KFA0187	Till	16	583380	5446925	10	1.99	128	0.03	8		14		40		16	10
91KFA0189	Till	16	588050	5444240	23	2.53	227	0.04	9		23		38		18	64
91KFA0190	Till	16	588170	5444780	24	1.06	406	0.05	23		224		26		32	2589
91KFA0192	Till	16	588850	5444400	14	3.18	193	0.04	9		33		56		19	19
91KFA0194	Till	16	588100	5444120	26	0.2	154	0.03	15		11		10		26	22
91KFA0196	Till	16	576200	5440100	12	3.32	196	0.04	8		20		55		15	15
91KFA0284	Till	16	589740	5446840	16	3.2	322	0.06	17		19		81		27	33
91KFA0285	Till	16	590840	5448950	18	3.2	380	0.05	20		15		69		30	38
91KFA0286	Till	16	590250	5449350	26	3.02	189	0.04	4		12		47		19	20
92KFA0540	Till	16	585100	5442910	10	3.26	165	0.01	6	430	4	2	52	0.05	20	18
92KFA0541	Till	16	585500	5444250	40	0.28	615	<0.01	16	690	2	6	13	0.09	33	20
92KFA0542	Till	16	585550	5445175	30	0.3	295	0.01	11	660	2	4	15	0.08	25	396
92KFA0566	Till	16	591000	5451750	40	0.4	195	0.01	13	230	<2	6	19	0.11	34	18
92MAN0107	Till	16	588180	5444700	10	0.25	80	<0.01	24	160	4	2	10	0.09	27	22
92MAN0108	Till	16	588180	5444920	10	0.24	80	<0.01	12	550	4	1	11	0.07	19	44
92MAN0109	Till	16	588220	5444320	60	0.31	305	<0.01	8	700	12	6	14	0.07	21	20
92MAN0110	Till	16	588025	5444000	30	0.27	270	<0.01	10	750	4	3	17	0.08	21	22
92MAN0111	Till	16	588150	5444100	10	0.27	135	<0.01	15	360	10	3	13	0.09	25	28
92MAN0112	Till	16	588520	5444300	20	0.46	240	<0.01	21	670	8	3	14	0.12	35	28
92MAN0113	Till	16	588950	5444450	<10	3.21	150	0.01	7	430	4	2	56	0.04	13	10
92MAN0115	Till	16	588000	5443630	10	3.55	105	0.01	3	380	8	1	51	0.03	13	8
92MAN0116	Till	16	587930	5443080	20	0.65	340	0.01	25	660	8	4	22	0.12	40	40
92MAN0117	Till	16	587960	5442850	20	0.27	155	0.01	17	1390	36	2	14	0.07	24	54
92MAN0118	Till	16	588500	5442850	20	0.31	115	0.01	16	940	18	2	16	0.1	33	28
92MAN0119	Till	16	589250	5442610	<10	2.37	155	0.01	8	590	4	3	27	0.08	18	16
92MAN0121	Till	16	590200	5442600	10	0.34	100	<0.01	13	550	8	2	13	0.11	26	20
92MAN0125	Till	16	586150	5442130	<10	2.15	185	0.01	12	520	8	4	26	0.09	26	24
92MAN0126	Till	16	587800	5444820	10	0.32	90	<0.01	17	260	18	2	8	0.09	22	294
92MAN0127	Till	16	587800	5444650	<10	0.68	140	<0.01	26	170	18	2	6	0.18	58	196
92MAN0128	Till	16	587820	5444500	10	0.32	95	<0.01	14	190	24	2	12	0.11	25	340
92MAN0133	Till	16	586350	5442950	20	0.26	250	0.01	12	660	8	3	16	0.09	24	22

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Au ppb	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
92MAN0135	Till	16	584030	5442510	3	<0.2	0.28	<2		10	8.06	<0.5	2	22	8	0.7	0.04
92MAN0140	Till	16	584550	5442925	3	<0.2	0.34	<2	<2	10	10.63	<0.5	2	15	6	0.62	0.05
92MAN0141	Till	16	584850	5442700	3	<0.2	0.81	2	2	30	0.57	<0.5	9	31	30	1.72	0.09
92MAN0144	Till	16	585530	5442800	3	<0.2	1.21	4	16	30	0.34	<0.5	5	29	8	1.35	0.09
92MAN0147C	Till	16	585130	5443200	3	<0.2	2.32	6		10	0.3	<0.5	6	45	24	4.93	0.04
92MAN0149	Till	16	585400	5443690	14b	<0.2	0.58	<2		20	5.19	<0.5	5	36	11	1.17	0.05
92MAN0151	Till	16	585500	5444000	10	<0.2	0.71	2	2	20	0.31	<0.5	4	25	12	1.12	0.05
92MAN0152	Till	16	585275	5444200	10	<0.2	0.73	<2	<2	20	7.42	<0.5	3	26	9	0.99	0.09
92MAN0154	Till	16	584600	5445360	14b	<0.2	1.72	4	4	10	0.21	<0.5	8	31	16	2.18	0.05
92MAN0155	Till	16	584460	5445150	10	<0.2	1.37	<2	2	60	9.21	<0.5	7	38	18	1.56	0.24
92MAN0157	Till	16	584400	5443300	3	<0.2	0.87	6	4	10	1.53	<0.5	4	26	6	1.08	0.06
92MAN0158	Till	16	584580	5443560	3	<0.2	0.45	2	2	10	6.45	<0.5	2	18	12	0.71	0.06
92MAN0159	Till	16	584700	5443740	3	<0.2	0.73	2		20	0.2	<0.5	2	18	15	0.84	0.03
92MAN0160	Till	16	585150	5443300	3	<0.2	1.09	4	<2	50	0.5	<0.5	6	32	9	1.47	0.13
92MAN0161	Till	16	584560	5445000	10	<0.2	1.16	6	<2	30	0.4	<0.5	10	50	21	2.12	0.11
92MAN0162	Till	16	584900	5445000	10	<0.2	1.68	6	<2	80	0.36	<0.5	17	76	34	2.69	0.19
92MAN0163	Till	16	585200	5444600	10	<0.2	0.4	4	<2	20	10.83	<0.5	4	19	14	0.98	0.07
92MAN0164	Till	16	585400	5444850	10	<0.2	0.33	<2		20	10.85	<0.5	4	21	17	0.88	0.06
92MAN0165	Till	16	585600	5445000	14b	0.2	1.41	2	<2	100	1.04	<0.5	13	94	27	2.65	0.21
92MAN0169	Till	16	581400	5447250	6	<0.2	0.91	6	<2	30	0.39	<0.5	4	25	12	1.45	0.08
92MAN0171	Till	16	585650	5444500	10	<0.2	1.57	<2	<2	60	0.64	<0.5	8	38	10	1.88	0.18
92MAN0172	Till	16	585720	5444690	10	<0.2	0.87	2	<2	30	6.15	<0.5	3	27	11	1.04	0.12
92MAN0173	Till	16	585750	5444930	10	<0.2	2.61	<2	<2	240	1.6	1	20	200	55	4.39	0.63
92MAN0174	Till	16	585825	5445160	9a	<0.2	1.29	6	<2	50	0.35	0.5	6	34	96	1.6	0.09
92MAN0175	Till	16	586040	5444900	10	<0.2	0.98	<2	2	40	0.3	<0.5	4	26	11	1.22	0.09
92MAN0178	Till	16	580800	5441700	3	<0.2	2.12	4	2	70	0.91	<0.5	12	56	33	2.39	0.28
92MAN0179	Till	16	580850	5441350	3	<0.2	0.91	4	2	20	0.36	<0.5	4	29	7	1.28	0.09
92MAN0180	Till	16	580800	5440850	14a	<0.2	0.4	<2	18	10	8.43	<0.5	3	20	8	0.82	0.05
92MAN0183C	Till	16	581270	5440450	14a	<0.2	0.44	<2		10	7.59	<0.5	3	24	7	0.75	0.06
92MAN0190	Till	16	584000	5442850	3	<0.2	1.13	2	<2	10	0.39	<0.5	10	30	19	2.1	0.06
92MAN0193	Till	16	583675	5442480	3	<0.2	1.52	4		50	0.31	<0.5	9	38	22	1.89	0.1
92MAN0194	Till	16	584320	5440880	14a	<0.2	0.86	<2	2	20	0.47	<0.5	3	28	16	1.16	0.06
92MAN0195	Till	16	583050	5440700	14a	<0.2	1.04	<2		30	0.24	<0.5	6	34	12	1.49	0.07
92MAN0196	Till	16	583320	5440230	14a	<0.2	0.59	<2	<2	20	3.67	<0.5	4	24	5	1.02	0.05
92MAN0198	Till	16	585620	5441570	14a	<0.2	1.07	<2	<2	20	0.44	<0.5	7	31	10	1.43	0.13
92MAN0199	Till	16	585900	5441200	14a	<0.2	1.36	2	<2	20	0.4	<0.5	7	36	4	1.62	0.13
92MAN0200	Till	16	585520	5440850	14a	<0.2	1.58	2	12	30	0.34	<0.5	10	42	14	2.24	0.09

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
92MAN0135	Till	16	584030	5442510	10	2.58	110	0.01	6	470	6	1	47	0.04	18	10
92MAN0140	Till	16	584550	5442925	<10	3.05	130	0.01	5	340	4	2	56	0.05	13	14
92MAN0141	Till	16	584850	5442700	80	0.37	380	0.01	14	780	12	4	22	0.09	31	24
92MAN0144	Till	16	585530	5442800	20	0.29	190	0.01	13	590	8	3	17	0.09	24	18
92MAN0147C	Till	16	585130	5443200	10	0.22	130	<0.01	13	540	10	3	11	0.14	62	66
92MAN0149	Till	16	585400	5443690	40	2.72	265	0.01	12	630	6	4	28	0.04	24	16
92MAN0151	Till	16	585500	5444000	20	0.2	230	<0.01	20	620	4	3	13	0.07	20	14
92MAN0152	Till	16	585275	5444200	<10	2.93	200	0.01	10	430	6	3	41	0.07	18	20
92MAN0154	Till	16	584600	5445360	20	0.32	145	<0.01	17	470	12	2	9	0.09	29	30
92MAN0155	Till	16	584460	5445150	<10	2.86	315	0.01	16	390	8	4	57	0.09	30	32
92MAN0157	Till	16	584400	5443300	20	0.82	245	<0.01	10	640	4	4	17	0.07	19	14
92MAN0158	Till	16	584580	5443560	<10	3	125	0.01	6	410	2	2	33	0.06	14	10
92MAN0159	Till	16	584700	5443740	10	0.21	55	<0.01	11	390	4	1	6	0.04	14	12
92MAN0160	Till	16	585150	5443300	30	0.4	245	0.01	16	670	8	3	20	0.11	31	24
92MAN0161	Till	16	584560	5445000	30	0.56	330	<0.01	31	880	10	4	16	0.12	41	32
92MAN0162	Till	16	584900	5445000	20	0.72	230	0.01	58	860	12	6	15	0.16	58	38
92MAN0163	Till	16	585200	5444600	<10	3.33	185	0.01	11	390	6	2	58	0.06	20	18
92MAN0164	Till	16	585400	5444850	10	3.81	185	0.01	12	440	6	1	60	0.02	20	18
92MAN0165	Till	16	585600	5445000	70	1.08	305	0.01	43	1430	12	7	16	0.16	59	188
92MAN0169	Till	16	581400	5447250	20	0.28	250	<0.01	10	400	48	2	16	0.1	25	142
92MAN0171	Till	16	585650	5444500	30	0.58	415	0.01	20	610	12	6	19	0.1	31	32
92MAN0172	Till	16	585720	5444690	<10	2.99	195	0.01	12	430	2	3	34	0.07	21	20
92MAN0173	Till	16	585750	5444930	40	2.2	460	0.01	92	2450	12	10	20	0.17	93	408
92MAN0174	Till	16	585825	5445160	10	0.39	175	<0.01	16	540	8	2	16	0.1	28	112
92MAN0175	Till	16	586040	5444900	50	0.29	220	<0.01	17	450	6	5	16	0.09	23	18
92MAN0178	Till	16	580800	5441700	60	0.85	430	0.03	31	560	14	9	25	0.13	43	42
92MAN0179	Till	16	580850	5441350	40	0.3	205	0.01	13	430	8	7	18	0.1	24	18
92MAN0180	Till	16	580800	5440850	<10	2.56	140	0.01	8	450	2	2	46	0.06	16	14
92MAN0183C	Till	16	581270	5440450	10	2.84	190	0.01	13	510	8	2	41	0.03	16	14
92MAN0190	Till	16	584000	5442850	30	0.29	355	0.01	12	780	8	3	13	0.09	36	22
92MAN0193	Till	16	583675	5442480	10	0.41	225	<0.01	25	710	4	3	10	0.07	35	30
92MAN0194	Till	16	584320	5440880	20	0.36	110	0.01	13	630	6	4	17	0.09	23	18
92MAN0195	Till	16	583050	5440700	20	0.29	250	<0.01	17	630	8	2	9	0.07	27	20
92MAN0196	Till	16	583320	5440230	<10	1.59	240	0.01	9	400	4	4	26	0.07	20	14
92MAN0198	Till	16	585620	5441570	20	0.43	210	0.01	16	770	8	2	19	0.13	29	26
92MAN0199	Till	16	585900	5441200	20	0.42	270	0.01	18	830	8	3	25	0.12	31	26
92MAN0200	Till	16	585520	5440850	30	0.54	285	0.01	23	550	16	5	18	0.14	38	38

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Au ppb	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
92MAN0201	Till	16	586370	5441400	14a	<0.2	2.34	6	<2	90	0.6	<0.5	16	205	37	2.53	0.27
92MAN0202	Till	16	587800	5443925	14b	<0.2	1.67	8	4	20	0.24	<0.5	3	27	7	1.56	0.04
92MAN0203	Till	16	587800	5443850	2	<0.2	2.26	8	<2	20	0.15	<0.5	4	35	36	2.66	0.04
92MAN0204	Till	16	587725	5443360	3	<0.2	1.02	4	<2	20	0.27	<0.5	7	23	33	1.19	0.06
92MAN0206	Till	16	587200	5442930	3	<0.2	1.51	8	<2	60	0.46	<0.5	10	30	23	2.02	0.11
92MAN0227	Till	16	588070	5441860	14a	<0.2	1.35	2	2	50	0.25	<0.5	6	26	3	1.29	0.05
92MAN0228	Till	16	588070	5441840	14a	<0.2	0.39	<2	2	20	9.21	<0.5	2	14	6	0.57	0.03
92MAN0230	Till	16	587225	5440850	14a	<0.2	1.72	<2	2	70	0.47	<0.5	7	37	7	1.78	0.13
92MAN0232	Till	16	585870	5440240	14a	<0.2	1.19	<2	2	30	0.37	<0.5	6	28	3	1.46	0.15

Manitouwadge Till Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
92MAN0201	Till	16	586370	5441400	20	1.61	355	0.02	90	1060	8	4	37	0.22	56	52
92MAN0202	Till	16	587800	5443925	20	0.2	75	<0.01	9	520	8	2	10	0.08	21	40
92MAN0203	Till	16	587800	5443850	10	0.25	90	<0.01	14	300	12	3	8	0.11	42	64
92MAN0204	Till	16	587725	5443360	10	0.25	95	<0.01	19	540	4	2	13	0.09	24	28
92MAN0206	Till	16	587200	5442930	20	0.43	235	0.02	18	840	12	4	17	0.12	36	48
92MAN0227	Till	16	588070	5441860	10	0.29	110	<0.01	17	220	8	2	13	0.1	24	18
92MAN0228	Till	16	588070	5441840	<10	3.09	120	0.01	4	400	2	2	45	0.05	12	8
92MAN0230	Till	16	587225	5440850	20	0.53	215	0.01	16	290	12	4	20	0.13	35	34
92MAN0232	Till	16	585870	5440240	20	0.47	160	0.01	15	660	8	2	15	0.13	26	30

APPENDIX A(ii)

Pebble Lithology Data for 5.6-16.0 mm Fraction of 1991 and 1992 Till and Glaciofluvial Sediment Samples

Key

Pz Carb No. %	Per cent Paleozoic carbonate clasts
Pz Sst No. %	Per cent Paleozoic sandstone clasts
Prot. Mtsm No. %	Per cent Proterozoic metasedimentary clasts
Prec Mvcc No. %	Per cent Precambrian metavolcanic clasts
Other Prec Mtsm No. %	Per cent Other Precambrian metasedimentary clasts
Prec Gran No. %	Per cent Precambrian granitoid clasts
Total	Total number of clasts

Pebble Counts - 5.6-16 mm Fraction

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Pz Carb No%	Pz Sst No. %	Prec Mvcc No. %	Prot Mtсм No. %	Other Prec Mtсм No. %	Prec Gran No. %	Total Count
91KFA0001	till	16	589650	5442450	9.9	0.0	8.5	9.2	20.6	51.8	141
91KFA0009	till	16	582050	5441200	51.5	0.8	13.8	16.2	3.8	13.8	130
91KFA0011	till	16	581675	5440150	57.4	1.4	3.5	20.4	1.1	16.2	284
91KFA0012	till	16	576770	5444720	54.1	0.3	4.8	15.5	0.3	24.8	290
91KFA0016	till	16	584550	5442820	65.2	1.3	5.7	12.4	1.7	13.7	299
91KFA0017	till	16	584050	5442475	25.5	2.7	0.0	1.1	20.5	50.2	263
91KFA0018	till	16	585500	5443850	58.8	0.0	3.5	20.4	2.2	15.0	226
91KFA0019	till	16	588000	5442900	1.2	0.0	2.0	1.2	68.0	27.5	247
91KFA0020	till	16	589250	5442450	20.4	0.0	0.0	26.2	1.0	52.4	103
91KFA0027	till	16	586950	5450220	25.8	4.4	4.9	37.3	3.6	24.0	225
91KFA0028	till	16	588100	5448050	50.5	0.4	0.0	13.1	0.0	36.0	275
91KFA0036	till	16	586510	5440550	24.6	0.4	4.8	21.3	2.9	46.0	272
91KFA0043	till	16	576820	5449140	3.8	0.0	0.0	6.5	1.0	88.7	293
91KFA0044	till	16	578825	5449640	19.7	2.0	3.9	22.7	3.3	48.4	304
91KFA0045	till	16	579550	5448850	22.1	0.0	0.4	4.4	0.0	73.1	271
91KFA0046	till	16	579100	5446720	8.5	0.3	2.0	11.6	2.0	75.5	294
91KFA0047	till	16	579700	5448800	0.0	0.0	2.7	0.0	0.4	96.9	255
91KFA0048	till	16	579300	5449500	32.5	0.0	0.7	8.1	0.7	57.9	271
91KFA0049	till	16	578500	5450350	48.0	0.4	1.5	17.1	0.0	33.1	275
91KFA0050	till	16	577050	5449250	2.2	1.1	0.0	1.8	0.4	94.6	278
91KFA0051	till	16	576320	5450750	56.3	1.7	0.3	21.0	1.0	19.6	286
91KFA0076	till	16	577400	5440800	14.5	2.3	19.5	15.4	3.2	45.2	221
91KFA0077	till	16	577370	5441050	26.5	0.5	42.5	7.5	3.0	20.0	200
91KFA0078	till	16	577400	5441280	2.5	0.0	46.5	1.0	0.0	50.0	200
91KFA0079	till	16	576990	5441730	1.9	0.0	40.2	3.1	2.3	52.5	261
91KFA0081	till	16	576320	5443130	24.8	0.6	0.6	9.4	0.0	64.5	318
91KFA0082	till	16	576660	5444050	4.0	0.4	10.2	1.5	1.5	82.5	275
91KFA0083	till	16	575950	5444120	14.0	0.4	13.2	13.2	5.9	53.3	272
91KFA0085	till	16	576320	5443800	56.5	0.7	0.0	10.1	2.2	30.6	278
91KFA0086	till	16	576700	5440050	52.3	1.0	3.3	17.2	2.3	23.8	302
91KFA0179	till	16	585225	5444410	67.5	1.3	0.9	17.8	0.3	12.2	320
91KFA0181	till	16	584450	5445180	63.9	0.0	2.5	9.4	1.5	22.8	202
91KFA0183	till	16	585200	5444620	70.6	0.6	1.9	11.7	2.2	13.0	316
91KFA0184	till	16	581750	5447420	29.4	0.7	2.1	12.5	1.7	53.6	289
91KFA0185	till	16	582590	5447160	41.0	0.7	1.6	11.1	19.5	26.1	307
91KFA0187	till	16	583380	5446925	36.2	0.7	1.0	12.8	2.0	47.3	298
91KFA0189	till	16	588050	5444240	35.7	0.0	1.6	8.8	4.1	49.8	319

Pebble Counts - 5.6-16 mm Fraction

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Pz Carb No%	Pz Sst No. %	Prec Mvcc No. %	Prot Mtism No. %	Other Prec Mtism No. %	Prec Gran No. %	Total Count
91KFA0190	till	16	588170	5444780	21.3	0.0	2.8	7.6	12.0	56.2	249
91KFA0192	till	16	588850	5444400	68.4	0.3	0.3	15.4	0.9	14.8	332
91KFA0194	till	16	588100	5444120	7.4	1.0	1.0	13.6	50.2	26.9	309
91KFA0196	till	16	576200	5440100	64.0	1.2	0.9	15.1	4.8	13.9	331
92KFA0540	till	16	585100	5442910	67.6	0.0	6.8	6.8	8.8	10.0	250
92KFA0541	till	16	585500	5444250	24.2	1.8	10.9	14.6	22.4	26.1	165
92KFA0542	till	16	585550	5445175	0.0	61.0	2.4	7.3	9.8	19.5	123
92KFA0566	till	16	591000	5451750	14.0	2.4	2.8	28.4	6.8	45.6	250
92MAN0107	till	16	588180	5444700	18.2	4.5	3.0	18.2	0.0	56.1	66
92MAN0108	till	16	588180	5444920	8.3	1.4	3.5	16.7	7.6	62.5	144
92MAN0109	till	16	588220	5444320	38.5	0.0	7.7	23.1	10.3	20.5	39
92MAN0110	till	16	588025	5444000	21.4	0.0	14.3	21.4	14.3	28.6	14
92MAN0111	till	16	588150	5444100	28.3	0.0	0.0	19.6	17.4	34.8	46
92MAN0112	till	16	588520	5444300	25.9	0.0	0.0	0.0	33.3	40.7	27
92MAN0113	till	16	588950	5444450	77.6	0.0	1.7	3.4	8.6	8.6	58
92MAN0115	till	16	588000	5444050	64.7	0.0	0.0	5.9	0.0	29.4	17
92MAN0116	till	16	587930	5443080	19.6	0.0	28.3	4.3	23.9	23.9	46
92MAN0117	till	16	587960	5442850	21.4	0.0	28.6	7.1	7.1	35.7	14
92MAN0118	till	16	588500	5442850	6.0	0.0	25.3	1.2	1.2	66.3	83
92MAN0121	till	16	590200	5442600	11.5	0.0	7.7	5.8	19.2	55.8	52
92MAN0125	till	16	586150	5442130	36.4	0.0	0.0	4.5	0.0	59.1	22
92MAN0126	till	16	587800	5444820	11.4	0.6	5.7	10.1	3.8	68.4	158
92MAN0127	till	16	587800	5444650	11.8	2.2	1.1	6.5	3.2	75.3	93
92MAN0128	till	16	587820	5444500	13.9	0.0	2.8	2.8	0.0	80.6	36
92MAN0133	till	16	586350	5442950	13.6	0.0	0.0	0.0	27.3	59.1	22
92MAN0135	till	16	584030	5442510	57.7	0.0	2.6	12.4	10.3	17.0	194
92MAN0140	till	16	584550	5442925	62.7	0.0	2.5	8.5	16.1	10.2	118
92MAN0141	till	16	584850	5442700	16.1	0.0	51.8	3.6	1.8	26.8	56
92MAN0144	till	16	585530	5442800	53.6	0.0	7.1	3.6	21.4	14.3	28
92MAN0147C	till	16	585130	5443200	15.3	1.8	1.8	15.3	43.6	22.1	163
92MAN0149	till	16	585400	5443690	58.8	0.7	1.3	13.1	12.4	13.7	153
92MAN0151	till	16	585500	5444000	40.0	0.0	6.7	20.0	6.7	26.7	15
92MAN0152	till	16	585275	5444200	56.6	0.0	7.9	7.9	14.5	13.2	76
92MAN0154	till	16	584600	5445360	27.5	0.0	5.5	13.2	23.1	30.8	91
92MAN0155	till	16	584460	5445150	43.6	0.0	12.8	5.1	20.5	17.9	39
92MAN0157	till	16	584400	5443300	42.1	0.0	10.5	10.5	15.8	21.1	19
92MAN0158	till	16	584580	5443560	42.1	0.0	10.5	5.3	21.1	21.1	19

Pebble Counts - 5.6-16 mm Fraction

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Pz Carb No%	Pz Sst No. %	Prec Mvcc No. %	Prot Mtsm No. %	Other Prec Mtsm No. %	Prec Gran No. %	Total Count
92MAN0159	till	16	584700	5443740	33.3	1.8	5.3	21.1	8.8	29.8	57
92MAN0161	till	16	584560	5445000	18.6	0.0	2.9	2.9	12.9	62.9	70
92MAN0162	till	16	584900	5445000	7.0	0.0	2.3	0.0	67.4	23.3	43
92MAN0164	till	16	585400	5444850	66.3	0.0	0.0	8.1	10.5	15.1	86
92MAN0165	till	16	585600	5445000	61.5	0.0	0.0	7.7	15.4	15.4	13
92MAN0169	till	16	581400	5447250	27.0	0.0	5.4	8.1	18.9	40.5	37
92MAN0171	till	16	585650	5444500	21.1	0.0	10.5	10.5	36.8	21.1	19
92MAN0172	till	16	585720	5444690	58.8	0.0	0.0	11.8	20.6	8.8	34
92MAN0174	till	16	585825	5445160	20.0	0.0	0.0	13.3	40.0	26.7	15
92MAN0175	till	16	586040	5444900	60.7	0.0	7.1	3.6	25.0	3.6	28
92MAN0178	till	16	580800	5441700	42.1	0.0	5.3	10.5	5.3	36.8	19
92MAN0179	till	16	580850	5441350	28.6	0.0	19.0	4.8	19.0	28.6	21
92MAN0180	till	16	580800	5440850	60.2	0.0	7.4	6.5	8.3	17.6	108
92MAN0190	till	16	584000	5442850	28.1	0.0	17.2	9.4	25.0	20.3	64
92MAN0193	till	16	583675	5442480	10.4	0.9	2.6	11.3	26.1	48.7	115
92MAN0194	till	16	584320	5440880	22.6	0.0	6.5	6.5	19.4	45.2	31
92MAN0195	till	16	583050	5440700	16.4	3.3	3.3	18.0	18.0	41.0	61
92MAN0196	till	16	583320	5440230	3.3	0.0	6.7	6.7	20.0	63.3	30
92MAN0198	till	16	585620	5441570	0.0	0.0	0.0	0.0	0.0	100.0	214
92MAN0199	till	16	585900	5441200	13.0	0.0	1.1	6.5	25.0	54.3	92
92MAN0200	till	16	585520	5440850	21.1	0.0	5.6	0.0	22.5	50.7	71
92MAN0201	till	16	586370	5441400	12.5	0.0	0.0	0.0	14.6	72.9	48
92MAN0203	till	16	587800	5443850	18.8	0.0	12.5	0.0	31.3	37.5	16
92MAN0204	till	16	587725	5443360	41.4	0.0	3.4	13.8	27.6	13.8	29
92MAN0206	till	16	587200	5442930	9.8	0.0	43.5	7.6	9.8	29.3	92
92MAN0227	till	16	588070	5441860	16.9	0.0	5.1	5.1	28.8	44.1	59
92MAN0228	till	16	588070	5441840	57.7	0.0	1.9	5.8	19.2	15.4	52
92MAN0230	till	16	587225	5440850	24.3	0.0	10.8	5.4	37.8	21.6	37
92MAN0232	till	16	585870	5440240	10.6	0.0	2.1	8.5	12.8	66.0	47

APPENDIX A(iii)

Manitouwadge Stream Sediment Samples

Sample Locations and Descriptions
Trace, Minor and Major Element Data
for Silt plus Clay (<0.063 mm) Fraction

Key

Sample No.	Sample number
Sed. Type	Sediment type of sample
Zone	UTM grid zone
Easting (m)	UTM easting (metres)
Northing (m)	UTM northing (metres)
Rock type	Lithology of underlying bedrock. See rock type key next page.

Element		Unit of Measure	Detection Limit	Analytical Method	
Ag	Silver	ppm	0.2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Al	Aluminium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
As	Arsenic	ppm	5 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ba	Barium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ca	Calcium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Cd	Cadmium	ppm	0.2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Co	Cobalt	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Cr	Chromium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Cu	Copper	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Fe	Iron	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
K	Potassium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
La	Lanthanum	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Mg	Magnesium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Mn	Manganese	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Na	Sodium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Ni	Nickel	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Pb	Lead	ppm	2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Sc	Scandium	ppm	5 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Sr	Strontium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ti	Titanium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
V	Vanadium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Zn	Zinc	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES

Bedrock Key (after Zaleski and Peterson, 1993b)

Wawa Subprovince

- 16 Alkalic rocks
- 15 Pegmatite, aplite, and foliated granitoid
- 14 Undivided foliated intrusive rocks
- 13 Foliated porphyritic granitoid rocks
- 12 Foliated quartz-rich tonalite to granitoid rocks
- 11 Felsic mylonite (straight gneiss)
- 10 Metasedimentary rocks
- 9 Metamorphosed iron formation (a) quartz-magnetite,
(b) silicate, (c) sulphide
- 8 Quartz-phyric felsic metavolcanic rocks
- 7 Aphyric felsic metavolcanic rocks
- 6 Felsic to intermediate metavolcanic rocks
- 5 Intermediate to mafic metavolcanic rocks
- 4 Interlayered mafic and felsic metavolcanic rocks
- 3 Mafic metavolcanic rocks
- 2 Orthoamphibolite-garnet +/- cordierite gneiss
- 1 Sillmanite-muscovite-quartz felsic gneiss

Quetico Subprovince

- 10q Metasedimentary rocks

Manitouwadge Stream Sediment Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
200001	Stream sed	16	584180	5446320	2	<0.2	0.79	<2	90	3.41	0.5	2	14	29	0.71	0.03
200002	Stream sed	16	584280	5446280	2	<0.2	0.9	<2	100	2.69	1	3	15	38	0.92	0.03
200003	Stream sed	16	584880	5446260	12a	<0.2	1.45	<2	120	2.41	1	2	22	23	0.39	0.02
200004	Stream sed	16	584500	5446020	2	<0.2	0.79	<2	50	0.87	0.5	4	24	11	1.3	0.07
200005	Stream sed	16	584540	5446080	2	0.4	1.35	<2	130	2.05	1	3	24	20	0.83	0.05
200006	Stream sed	16	583970	5446720	4	<0.2	0.88	<2	50	0.85	<0.5	4	18	14	1.17	0.06
200007	Stream sed	16	583680	5446600	6	<0.2	1.2	<2	80	3.51	0.5	4	25	33	1.03	0.06
200008	Stream sed	16	583470	5446570	6	<0.2	0.93	<2	40	2.43	2	5	30	63	1.15	0.06
200009	Stream sed	16	585100	5444040	10	0.4	2.06	<2	70	0.77	0.5	25	33	62	1.89	0.08
200010	Stream sed	16	583760	5443840	3	<0.2	0.87	<2	40	0.81	<0.5	14	24	50	1.46	0.06
200011	Stream sed	16	583780	5444270	10	<0.2	1.08	<2	50	0.4	<0.5	7	34	18	1.18	0.06
200012	Stream sed	16	584040	5444450	10	<0.2	1.77	<2	100	1.49	2	10	77	26	1.66	0.12
200013	Stream sed	16	584260	5444540	10	<0.2	1.38	<2	290	1.38	2	17	64	14	2.1	0.10
200014	Stream sed	16	584980	5444720	10	0.2	0.82	<2	40	1.28	0.5	9	32	84	1.92	0.04
200015	Stream sed	16	583900	5442560	3	<0.2	1.84	<2	80	1.46	<0.5	9	29	91	1.6	0.06
200017	Stream sed	16	586060	5444120	10	<0.2	1.04	<2	40	0.53	<0.5	7	47	13	1.46	0.09
200019	Stream sed	16	586690	5443470	3	0.4	1.96	8	90	0.72	1.5	85	25	61	3.45	0.07
200020	Stream sed	16	586300	5444160	10	0.8	2.13	<2	80	0.56	1	35	47	33	2.68	0.06
200021	Stream sed	16	586230	5444260	10	<0.2	2.56	4	150	1.05	1.5	88	63	24	4.44	0.03
200022	Stream sed	16	586980	5445290	2	3.2	2.78	4	140	1.9	4.5	10	44	253	3	0.12
200023	Stream sed	16	587200	5445580	4	<0.2	1.97	4	120	1.96	8	15	23	449	2.24	0.06
200024	Stream sed	16	585200	5442850	3	<0.2	1.52	<2	50	1.02	0.5	7	29	72	1.19	0.06
200025	Stream sed	16	588100	5444080	14b	<0.2	1.48	<2	40	0.92	0.5	7	30	52	1.13	0.06
200026	Stream sed	16	587800	5443920	14b	<0.2	1.26	<2	30	0.2	<0.5	9	23	22	1.27	0.04
200027	Stream sed	16	587510	5444280	10	0.4	0.77	4	20	0.14	<0.5	3	21	34	0.74	0.06
200028	Stream sed	16	587420	5444240	10	1.4	1.46	<2	70	0.38	1.5	28	70	48	1.93	0.06
200029	Stream sed	16	587840	5444930	9a	0.8	1.47	2	60	0.21	0.5	11	65	102	2.15	0.09
200030	Stream sed	16	588190	5444260	10	<0.2	1.3	<2	80	0.88	15.5	11	32	128	1.53	0.07
200031	Stream sed	16	588800	5444330	7	<0.2	1.28	<2	70	0.91	11	16	32	107	1.96	0.06
200032	Stream sed	16	590000	5450520	12b	<0.2	0.94	2	80	2.14	0.5	7	12	16	1.39	0.01
200033	Stream sed	16	589370	5450900	12b	<0.2	3.97	6	100	1.79	<0.5	16	50	25	2.91	0.01
200034	Stream sed	16	589170	5450990	12b	<0.2	0.55	<2	20	0.52	<0.5	2	13	4	0.61	0.05
200035	Stream sed	16	588990	5451200	12b	<0.2	0.47	<2	20	3.77	<0.5	2	17	3	0.72	0.06
200036	Stream sed	16	588820	5450770	12b	<0.2	0.83	2	40	0.82	<0.5	4	19	8	1.36	0.04
200037	Stream sed	16	588670	5450520	12b	<0.2	1.12	2	50	1.33	<0.5	6	25	19	1.21	0.06
200038	Stream sed	16	588620	5450600	12b	<0.2	0.88	4	50	0.83	<0.5	5	20	7	1.36	0.05
200039	Stream sed	16	587770	5450920	12b	<0.2	0.75	<2	20	0.62	<0.5	3	20	5	0.77	0.06

Manitouwadge Stream Sediment Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
200001	Stream sed	16	584180	5446320	20	0.29	245	<0.01	6	1270	4	1	42	0.01	7	82
200002	Stream sed	16	584280	5446280	20	0.24	540	0.01	7	1140	6	2	36	0.02	10	142
200003	Stream sed	16	584880	5446260	90	0.16	140	<0.01	6	1570	6	2	48	<0.01	6	12
200004	Stream sed	16	584500	5446020	40	0.27	660	0.02	10	980	4	3	23	0.06	21	44
200005	Stream sed	16	584540	5446080	110	0.24	620	0.01	11	1370	8	3	42	0.02	14	122
200006	Stream sed	16	583970	5446720	10	0.23	480	0.01	9	950	4	2	17	0.04	17	96
200007	Stream sed	16	583680	5446600	40	0.43	130	0.01	11	1240	6	3	36	0.03	14	128
200008	Stream sed	16	583470	5446570	50	0.38	190	0.02	14	720	8	4	25	0.07	21	34
200009	Stream sed	16	585100	5444040	40	0.34	860	0.02	28	1130	6	4	21	0.09	30	108
200010	Stream sed	16	583760	5443840	20	0.41	430	0.05	12	900	14	5	17	0.13	39	46
200011	Stream sed	16	583780	5444270	30	0.3	215	0.01	19	500	8	3	14	0.1	33	42
200012	Stream sed	16	584040	5444450	50	0.72	565	0.02	29	1980	4	8	29	0.11	42	74
200013	Stream sed	16	584260	5444540	30	0.65	5560	0.03	33	1390	6	6	31	0.12	40	90
200014	Stream sed	16	584980	5444720	20	0.4	345	0.02	19	820	20	3	19	0.07	21	172
200015	Stream sed	16	583900	5442560	50	0.33	495	0.02	20	1490	6	4	26	0.05	25	98
200017	Stream sed	16	586060	5444120	20	0.43	280	0.01	20	460	4	3	13	0.1	32	34
200019	Stream sed	16	586690	5443470	30	0.22	4445	0.01	18	1640	40	3	24	0.06	64	108
200020	Stream sed	16	586300	5444160	50	0.36	2355	0.01	24	1180	16	3	29	0.08	44	252
200021	Stream sed	16	586230	5444260	130	0.41	9865	0.01	30	1840	18	5	42	0.08	62	104
200022	Stream sed	16	586980	5445290	110	0.86	2085	0.02	24	860	134	7	77	0.09	29	1010
200023	Stream sed	16	587200	5445580	100	0.32	2555	0.02	18	1850	20	4	39	0.04	24	3084
200024	Stream sed	16	585200	5442850	40	0.33	385	0.01	19	900	8	4	18	0.06	22	146
200025	Stream sed	16	588100	5444080	50	0.28	650	0.01	19	950	8	3	19	0.07	22	114
200026	Stream sed	16	587800	5443920	10	0.24	150	0.01	17	330	4	2	12	0.08	22	70
200027	Stream sed	16	587510	5444280	10	0.21	75	0.01	10	530	32	1	11	0.07	18	250
200028	Stream sed	16	587420	5444240	10	0.52	1325	0.01	26	1140	72	2	20	0.09	43	532
200029	Stream sed	16	587840	5444930	10	0.62	185	0.01	35	560	48	4	15	0.16	49	430
200030	Stream sed	16	588190	5444260	40	0.39	2600	0.01	29	790	26	4	27	0.07	24	3212
200031	Stream sed	16	588800	5444330	30	0.3	1585	0.02	23	810	18	3	32	0.06	26	1702
200032	Stream sed	16	590000	5450520	30	0.19	615	0.01	6	1290	8	1	47	<0.01	11	34
200033	Stream sed	16	589370	5450900	90	0.27	1510	0.01	17	2220	2	7	31	0.03	50	16
200034	Stream sed	16	589170	5450990	20	0.19	110	0.02	6	560	2	2	15	0.06	13	16
200035	Stream sed	16	588990	5451200	10	1.56	165	0.02	4	480	2	2	26	0.06	15	12
200036	Stream sed	16	588820	5450770	20	0.27	310	0.02	8	630	4	2	17	0.07	19	32
200037	Stream sed	16	588670	5450520	40	0.3	420	0.01	14	800	2	3	21	0.07	22	36
200038	Stream sed	16	588620	5450600	20	0.26	815	0.01	7	650	4	2	17	0.06	18	38
200039	Stream sed	16	587770	5450920	20	0.26	135	0.01	7	640	4	2	14	0.06	15	16

Manitouwadge Stream Sediment Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
200040	Stream sed	16	587240	5451200	12b	<0.2	0.79	<2	30	0.6	0.5	3	20	8	0.83	0.04
200041	Stream sed	16	586570	5450410	12b	<0.2	0.87	2	60	1.78	<0.5	4	21	10	1.01	0.06
200042	Stream sed	16	586240	5447980	12b	<0.2	1.02	<2	60	3.3	<0.5	6	33	12	1.21	0.14
200043	Stream sed	16	586560	5447180	12b	<0.2	1.15	2	50	1.12	<0.5	5	21	9	1.11	0.05
200044	Stream sed	16	583250	5442700	3	<0.2	1.59	2	70	0.62	<0.5	12	24	84	1.6	0.06
200045	Stream sed	16	582930	5443190	3	<0.2	1.61	<2	90	0.96	0.5	21	29	31	2.61	0.06
200046	Stream sed	16	582230	5443390	3	<0.2	1.03	<2	60	1.66	<0.5	8	22	91	1.67	0.08
200047	Stream sed	16	581620	5443420	3	<0.2	1.15	<2	40	1.61	0.5	9	24	79	2.14	0.07
200049	Stream sed	16	581300	5443870	3	<0.2	1.57	<2	40	1.21	<0.5	15	49	44	1.65	0.07
200050	Stream sed	16	581270	5443790	3	<0.2	0.92	4	30	0.91	<0.5	11	32	26	1.8	0.06
200051	Stream sed	16	580840	5444070	10	<0.2	2.1	<2	60	0.69	<0.5	15	30	71	1.79	0.06
200052	Stream sed	16	580850	5444190	10	0.2	2.86	<2	110	2.14	0.5	15	48	219	2.6	0.06
200053	Stream sed	16	580360	5444420	14b	<0.2	0.75	<2	40	0.67	<0.5	6	25	8	1.44	0.09
200055	Stream sed	16	580240	5444980	14b	<0.2	0.72	<2	40	0.93	<0.5	3	15	16	0.8	0.06
200056	Stream sed	16	581210	5445180	14b	<0.2	0.78	<2	40	0.86	<0.5	3	13	8	0.84	0.06
200057	Stream sed	16	581720	5445770	6	<0.2	1.53	8	190	2.06	1	12	21	20	2.79	0.09
200058	Stream sed	16	586180	5445950	12b	1.8	1.1	<2	40	1.43	5.5	5	27	134	1.22	0.11
200059	Stream sed	16	586250	5446100	12b	<0.2	0.8	<2	40	1.9	1	4	16	34	0.66	0.04
200060	Stream sed	16	581630	5445840	6	<0.2	1.14	<2	60	1.05	1	4	23	13	1.18	0.08
200061	Stream sed	16	582780	5447180	11	<0.2	2.26	<2	160	1.6	2	16	48	27	1.83	0.05
200062	Stream sed	16	589400	5445540	15	0.6	0.66	4	30	1.29	1	5	19	42	1.57	0.07
200063	Stream sed	16	590070	5445160	10	<0.2	1.63	<2	60	0.87	1	6	31	23	1.54	0.08
200064	Stream sed	16	590280	5444990	10	0.2	1.72	4	100	1.51	2	15	38	125	2.59	0.08
200065	Stream sed	16	590580	5444520	3	<0.2	1.08	<2	40	1.09	0.5	7	24	63	1.2	0.06
200066	Stream sed	16	590510	5444350	3	<0.2	1.64	6	40	0.57	<0.5	8	26	66	1.05	0.05
200067	Stream sed	16	589520	5443730	3	<0.2	1.02	<2	40	0.51	0.5	4	19	30	0.8	0.05
200068	Stream sed	16	588800	5444300	10	0.4	2.57	2	70	0.76	1	11	41	96	1.69	0.08
200069	Stream sed	16	588810	5444280	10	0.4	2.06	<2	60	0.64	1	11	37	61	1.37	0.08
200070	Stream sed	16	588320	5444320	7	0.2	2.08	<2	80	1.11	1	9	45	36	1.64	0.08
200071	Stream sed	16	588580	5448040	12b	<0.2	0.95	<2	40	0.62	<0.5	4	23	9	1.06	0.09
200072	Stream sed	16	588520	5447720	12b	0.2	1.9	2	90	0.97	0.5	7	30	13	1.67	0.08
200073	Stream sed	16	588070	5446620	12b	<0.2	1.47	4	120	1.82	0.5	8	32	17	2.47	0.07
200074	Stream sed	16	583300	5441440	3	<0.2	0.39	<2	20	0.62	<0.5	2	8	8	0.52	0.03
200075	Stream sed	16	583400	5441600	3	<0.2	0.71	<2	30	1.79	<0.5	4	28	11	1.12	0.08
200076	Stream sed	16	580700	5440600	14a	<0.2	0.57	<2	30	1.62	<0.5	3	17	11	0.75	0.06
200077	Stream sed	16	582950	5447940	2	<0.2	0.91	<2	30	0.79	<0.5	4	20	9	1.29	0.08
200078	Stream sed	16	583480	5448720	12a	<0.2	1.06	2	50	1.3	<0.5	3	19	14	0.78	0.05

Manitouwadge Stream Sediment Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
200040	Stream sed	16	587240	5451200	30	0.21	165	0.01	8	560	10	2	13	0.05	15	24
200041	Stream sed	16	586570	5450410	30	0.31	550	0.01	8	970	6	2	23	0.06	15	34
200042	Stream sed	16	586240	5447980	30	1.53	390	0.01	12	760	4	3	26	0.07	25	32
200043	Stream sed	16	586560	5447180	50	0.26	485	0.01	9	760	6	2	20	0.05	16	60
200044	Stream sed	16	583250	5442700	20	0.29	665	0.01	22	1030	6	3	17	0.06	30	78
200045	Stream sed	16	582930	5443190	20	0.34	2155	0.02	17	1200	10	3	24	0.09	38	94
200046	Stream sed	16	582230	5443390	30	0.42	460	0.01	14	1240	4	4	23	0.08	27	58
200047	Stream sed	16	581620	5443420	30	0.38	220	0.02	14	1110	8	4	23	0.07	39	60
200049	Stream sed	16	581300	5443870	10	0.84	440	0.12	26	530	2	6	22	0.1	38	36
200050	Stream sed	16	581270	5443790	10	0.54	760	0.06	16	950	10	4	12	0.07	35	58
200051	Stream sed	16	580840	5444070	30	0.32	455	0.01	18	920	12	3	21	0.07	29	30
200052	Stream sed	16	580850	5444190	100	0.36	1135	0.01	31	1820	16	7	34	0.04	26	136
200053	Stream sed	16	580360	5444420	20	0.33	525	0.06	11	490	6	3	22	0.09	28	34
200055	Stream sed	16	580240	5444980	20	0.28	130	0.02	8	540	4	2	17	0.07	14	36
200056	Stream sed	16	581210	5445180	20	0.25	185	0.03	9	660	4	2	20	0.04	10	74
200057	Stream sed	16	581720	5445770	40	0.41	3745	0.01	23	1060	14	3	34	0.06	25	156
200058	Stream sed	16	586180	5445950	30	0.56	285	0.01	13	660	22	3	23	0.07	22	3292
200059	Stream sed	16	586250	5446100	40	0.24	200	0.01	8	800	14	2	24	0.04	12	94
200060	Stream sed	16	581630	5445840	40	0.29	365	0.01	12	910	6	3	23	0.06	15	98
200061	Stream sed	16	582780	5447180	120	0.47	2210	0.01	17	2980	12	4	36	0.02	26	212
200062	Stream sed	16	589400	5445540	30	0.5	380	0.02	7	650	14	3	19	0.07	17	158
200063	Stream sed	16	590070	5445160	40	0.42	275	0.01	18	820	16	3	21	0.08	25	272
200064	Stream sed	16	590280	5444990	40	0.43	1405	0.02	24	1090	30	3	49	0.06	27	548
200065	Stream sed	16	590580	5444520	30	0.34	645	0.02	10	1030	6	4	22	0.06	22	152
200066	Stream sed	16	590510	5444350	30	0.26	160	0.01	18	910	6	4	18	0.05	19	284
200067	Stream sed	16	589520	5443730	30	0.2	95	0.01	16	900	4	2	15	0.04	15	84
200068	Stream sed	16	588800	5444300	40	0.42	475	0.01	29	1140	12	5	23	0.08	28	264
200069	Stream sed	16	588810	5444280	40	0.31	590	0.01	25	1080	8	4	20	0.06	22	174
200070	Stream sed	16	588320	5444320	90	0.49	300	0.01	31	900	8	5	23	0.1	29	106
200071	Stream sed	16	588580	5448040	30	0.3	275	0.02	11	610	4	3	17	0.08	20	28
200072	Stream sed	16	588520	5447720	90	0.31	1735	0.02	14	860	6	4	23	0.07	24	84
200073	Stream sed	16	588070	5446620	60	0.4	2510	0.01	12	1540	6	5	30	0.06	32	70
200074	Stream sed	16	583300	5441440	10	0.24	130	0.02	4	480	2	1	14	0.06	11	12
200075	Stream sed	16	583400	5441600	20	0.87	195	0.03	12	560	4	2	25	0.08	22	28
200076	Stream sed	16	580700	5440600	10	0.63	195	0.02	7	760	4	2	20	0.06	13	22
200077	Stream sed	16	582950	5447940	20	0.48	500	0.06	10	600	6	3	21	0.1	21	98
200078	Stream sed	16	583480	5448720	30	0.26	185	<0.01	8	1050	2	3	19	0.04	12	38

Manitouwadge Stream Sediment Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	Bedrock Unit	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
200079	Stream sed	16	583520	5448740	12a	<0.2	1.96	<2	50	0.89	<0.5	10	24	8	2.66	0.03
200080	Stream sed	16	583960	5449630	4	<0.2	0.7	<2	30	0.95	<0.5	3	16	10	0.65	0.04
200081	Stream sed	16	584040	5449660	4	<0.2	1	<2	40	1.22	<0.5	4	26	10	1.29	0.05
200082	Stream sed	16	584580	5449420	12b	<0.2	1.51	2	70	1.74	<0.5	4	27	16	1.12	0.04
200083	Stream sed	16	584630	5449400	12b	0.4	2.01	2	60	0.84	<0.5	6	28	18	1.5	0.04
200084	Stream sed	16	584790	5449220	12b	0.2	2.82	2	60	1.7	<0.5	8	33	46	1.44	0.04
200085	Stream sed	16	585060	5448970	12b	<0.2	0.8	<2	30	0.82	<0.5	3	21	10	0.82	0.06
200086	Stream sed	16	585520	5448580	12b	<0.2	1.07	<2	50	1.14	<0.5	5	24	9	1.21	0.06
200087	Stream sed	16	585630	5448580	12b	<0.2	0.93	<2	40	0.89	0.5	4	19	19	1.14	0.05
200088	Stream sed	16	584870	5447460	12b	<0.2	2.24	6	80	0.54	0.5	17	30	13	2.69	0.03
200089	Stream sed	16	584790	5447480	12b	<0.2	1.23	<2	60	0.9	<0.5	6	26	7	1.49	0.05
200090	Stream sed	16	580540	5441620	3	<0.2	1.01	<2	60	0.82	<0.5	6	34	13	1.31	0.11
200091	Stream sed	16	579920	5442200	3	<0.2	2.09	<2	70	0.65	1	39	23	30	3.25	0.05
200092	Stream sed	16	579920	5442870	3	<0.2	1.78	<2	50	0.52	0.5	13	27	32	1.47	0.05
200093	Stream sed	16	579770	5443580	10	1	3.92	<2	100	0.62	1	51	50	41	2.25	0.06
200094	Stream sed	16	577320	5442940	3	<0.2	1.05	<2	50	0.76	<0.5	10	22	16	1.6	0.07
200095	Stream sed	16	577000	5442880	3	<0.2	0.43	<2	10	0.57	<0.5	4	20	13	0.92	0.04
200096	Stream sed	16	578380	5443450	6	<0.2	0.93	<2	50	0.79	0.5	4	22	9	0.94	0.04
200097	Stream sed	16	579000	5443460	10	<0.2	1.42	2	60	0.81	<0.5	6	31	10	1.04	0.05
200098	Stream sed	16	579900	5443720	10	<0.2	1.42	<2	40	0.23	<0.5	11	41	11	2.03	0.06
200100	Stream sed	16	590300	5442700	14a	<0.2	1.21	<2	60	0.84	<0.5	7	28	7	1.51	0.08
200101	Stream sed	16	582600	5448770	1b	<0.2	1.2	<2	90	0.95	3.5	9	25	23	1.82	0.06
200102	Stream sed	16	583260	5449400	6	<0.2	0.65	<2	20	0.62	<0.5	4	15	10	0.74	0.03
200103	Stream sed	16	583000	5449570	6	<0.2	1.23	<2	60	0.7	0.5	6	21	12	1.42	0.05
200104	Stream sed	16	582630	5449450	6	<0.2	1.29	4	60	0.49	0.5	11	24	6	2.1	0.06
200105	Stream sed	16	582420	5449420	6	<0.2	1.23	<2	50	0.76	<0.5	5	22	9	1.22	0.06
200106	Stream sed	16	582050	5449330	6	<0.2	0.5	<2	20	1.69	<0.5	3	18	6	0.87	0.05
200107	Stream sed	16	581460	5448320	6	0.4	2.02	8	110	0.91	<0.5	21	17	39	3.53	0.20
200108	Stream sed	16	582610	5446770	6	<0.2	0.96	<2	30	0.25	<0.5	5	20	5	1.18	0.05
200109	Stream sed	16	582880	5446530	6	<0.2	0.98	<2	30	1.02	<0.5	4	21	11	1.17	0.05
200110	Stream sed	16	583140	5446230	6	<0.2	0.84	<2	60	0.85	<0.5	4	15	8	1.63	0.05
200111	Stream sed	16	583100	5446250	6	<0.2	1.25	<2	80	1.07	1	8	21	11	1.6	0.07
200112	Stream sed	16	582530	5445520	6	<0.2	1.22	<2	80	1	<0.5	7	33	16	1.37	0.10
200113	Stream sed	16	582050	5445250	6	<0.2	0.92	<2	60	1.09	<0.5	6	22	19	1.67	0.06
200116	Stream sed	16	580870	5447100	9a	<0.2	1.28	<2	30	0.66	<0.5	5	25	30	1.25	0.06

Manitouwadge Stream Sediment Geochemistry (<0.063 mm Fraction)

Sample No.	Sed. Type	UTM Zone	Easting m	Northing m	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
200079	Stream sed	16	583520	5448740	30	0.35	740	0.01	10	1640	2	4	17	0.09	31	34
200080	Stream sed	16	583960	5449630	20	0.23	105	0.01	7	530	2	2	16	0.07	12	24
200081	Stream sed	16	584040	5449660	30	0.31	360	0.01	10	910	4	3	21	0.07	20	24
200082	Stream sed	16	584580	5449420	60	0.31	325	0.01	10	940	4	3	28	0.04	20	32
200083	Stream sed	16	584630	5449400	60	0.31	345	0.01	15	990	4	4	19	0.06	25	38
200084	Stream sed	16	584790	5449220	60	0.3	365	0.01	19	1220	6	4	23	0.04	20	72
200085	Stream sed	16	585060	5448970	20	0.25	100	0.02	8	700	2	2	18	0.07	16	20
200086	Stream sed	16	585520	5448580	20	0.3	600	0.01	9	670	4	2	20	0.07	18	50
200087	Stream sed	16	585630	5448580	20	0.25	580	0.03	9	710	6	3	22	0.07	17	114
200088	Stream sed	16	584870	5447460	30	0.26	1795	0.01	14	1290	8	3	20	0.06	33	34
200089	Stream sed	16	584790	5447480	30	0.31	890	0.01	9	800	4	3	20	0.08	23	48
200090	Stream sed	16	580540	5441620	20	0.43	350	0.02	11	680	4	3	18	0.09	24	42
200091	Stream sed	16	579920	5442200	20	0.24	1515	0.02	11	1550	14	5	21	0.07	49	84
200092	Stream sed	16	579920	5442870	50	0.25	1040	0.01	13	860	12	3	17	0.06	23	122
200093	Stream sed	16	579770	5443580	30	0.31	1390	0.01	53	1500	8	4	24	0.05	26	192
200094	Stream sed	16	577320	5442940	20	0.36	675	0.05	14	650	4	4	21	0.09	25	78
200095	Stream sed	16	577000	5442880	20	0.2	85	0.01	6	670	2	2	15	0.06	19	16
200096	Stream sed	16	578380	5443450	20	0.26	335	0.01	8	910	4	2	20	0.04	14	46
200097	Stream sed	16	579000	5443460	40	0.32	295	0.01	16	840	4	3	20	0.06	16	36
200098	Stream sed	16	579900	5443720	10	0.44	250	0.01	18	780	8	1	14	0.1	34	32
200100	Stream sed	16	590300	5442700	30	0.39	705	0.02	11	1040	4	3	21	0.08	24	40
200101	Stream sed	16	582600	5448770	30	0.33	1770	0.02	14	960	16	3	21	0.06	20	874
200102	Stream sed	16	583260	5449400	20	0.25	350	0.01	9	540	4	2	12	0.06	13	76
200103	Stream sed	16	583000	5449570	30	0.24	715	0.01	11	770	4	2	17	0.05	18	350
200104	Stream sed	16	582630	5449450	30	0.28	1000	0.02	8	510	8	2	16	0.07	19	74
200105	Stream sed	16	582420	5449420	20	0.3	745	0.01	10	690	4	3	16	0.07	20	30
200106	Stream sed	16	582050	5449330	10	0.69	250	0.01	7	600	4	1	17	0.04	16	22
200107	Stream sed	16	581460	5448320	60	0.44	890	0.01	143	820	4	5	16	0.05	10	98
200108	Stream sed	16	582610	5446770	20	0.21	255	0.01	9	390	6	2	11	0.07	21	24
200109	Stream sed	16	582880	5446530	30	0.33	305	0.01	8	750	2	2	17	0.06	19	28
200110	Stream sed	16	583140	5446230	20	0.29	940	0.01	10	670	4	2	18	0.06	17	58
200111	Stream sed	16	583100	5446250	30	0.29	860	0.01	13	830	20	2	23	0.06	15	98
200112	Stream sed	16	582530	5445520	30	0.45	500	0.01	30	790	4	4	20	0.07	23	58
200113	Stream sed	16	582050	5445250	20	0.39	795	0.01	12	680	4	3	16	0.07	21	70
200116	Stream sed	16	580870	5447100	30	0.23	350	0.01	12	510	4	3	14	0.07	23	36

APPENDIX A(iv)

Nama Creek Till Profiles

Sample Locations and Descriptions
Trace, Minor and Major Element Data
for Silt plus Clay (<0.063 mm) Fraction

Key

Sample No.	Sample number
Sed. Type	Sediment type of sample
Grid Line	One of two northeast-southwest trending sample grid lines
Stat.	Position from northeastern end of grid line (in feet)
Dep. m	Depth from surface in metres
Elev. m asl	Elevation in metres above sea level
Bdrk	Lithology of underlying bedrock, based on field observations. GRNT - granite; SLPD - sulphide rock MSDM - metasedimentary rock; GPGM - granite pegmatite; BCSC - basic schist

Element		Unit of Measure	Detection Limit	Analytical Method	
Ag	Silver	ppm	0.2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Al	Aluminium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
As	Arsenic	ppm	5 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ba	Barium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ca	Calcium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Cd	Cadmium	ppm	0.2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Co	Cobalt	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Cr	Chromium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Cu	Copper	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Fe	Iron	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
K	Potassium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
La	Lanthanum	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Mg	Magnesium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Mn	Manganese	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Na	Sodium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
Ni	Nickel	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Pb	Lead	ppm	2 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Sc	Scandium	ppm	5 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Sr	Strontium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Ti	Titanium	per cent	0.01%	HCl-HNO ₃ , (3:1)	ICP-AES
V	Vanadium	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES
Zn	Zinc	ppm	1 ppm	HCl-HNO ₃ , (3:1)	ICP-AES

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100322	Till	2	1600	2.13	343.06	MSDM	<0.2	0.83	<2	30	9.92	<0.5	6	20	12	1.10	0.15	10	3.12
100323	Till	2	1600	1.83	343.36	MSDM	<0.2	0.62	<2	20	9.89	<0.5	2	15	9	0.85	0.11	10	3.20
100324	Till	2	1600	1.52	343.67	MSDM	<0.2	0.86	<2	20	9.04	<0.5	4	21	13	1.11	0.15	10	3.03
100325	Till	2	1600	1.22	343.97	MSDM	<0.2	1.14	2	40	7.71	<0.5	3	23	19	1.45	0.20	20	3.06
100326	Till	2	1600	0.91	344.28	MSDM	<0.2	0.42	6	10	10.10	<0.5	1	8	15	0.68	0.07	10	3.51
100327	Till	2	1600	0.61	344.58	MSDM	<0.2	0.41	4	10	9.58	<0.5	2	9	14	0.69	0.06	10	3.25
100328	Till	2	1600	0.30	344.89	MSDM	<0.2	1.05	2	30	3.22	<0.5	3	22	17	1.24	0.10	20	1.67
100329	Till	2	1550	0.88	344.23	MSDM	<0.2	3.39	2	30	2.77	<0.5	13	35	21	2.50	0.31	30	2.72
100330	Till	2	1550	0.61	344.51	MSDM	<0.2	0.39	<2	10	10.15	<0.5	1	8	14	0.66	0.06	10	3.59
100331	Till	2	1550	0.30	344.81	MSDM	<0.2	1.06	<2	30	3.00	<0.5	2	21	14	0.96	0.08	20	1.17
100332	Till	2	1500	1.07	343.97	GPGM	2.0	0.35	12	10	11.50	<0.5	1	11	6	0.60	0.06	<10	3.06
100333	Till	2	1500	0.76	344.28	GPGM	2.0	0.52	4	20	11.80	<0.5	1	17	10	0.79	0.09	<10	3.14
100334	Till	2	1500	0.46	344.58	GPGM	<0.2	0.78	4	20	5.79	<0.5	2	16	12	0.98	0.08	10	2.53
100335	Till	2	1500	0.24	344.80	GPGM	<0.2	1.16	4	30	2.35	<0.5	3	24	10	1.35	0.09	20	1.36
100336	Till	2	1450	1.07	343.90	GPGM	<0.2	0.79	4	20	10.15	<0.5	2	14	17	1.00	0.12	10	3.30
100337	Till	2	1450	0.76	344.20	GPGM	<0.2	0.55	2	20	9.70	<0.5	2	11	16	0.87	0.07	10	3.73
100338	Till	2	1450	0.46	344.51	GPGM	<0.2	0.82	6	20	6.59	<0.5	3	20	14	1.24	0.09	20	3.46
100339	Till	2	1450	0.15	344.81	GPGM	<0.2	0.98	4	30	0.49	<0.5	3	24	3	1.36	0.06	10	0.31
100340	Till	2	1408	2.29	342.63	GPGM	<0.2	0.94	2	40	9.97	<0.5	3	20	20	1.23	0.16	10	3.37
100341	Till	2	1408	1.98	342.94	GPGM	<0.2	0.99	<2	40	10.25	<0.5	3	18	20	1.26	0.15	10	3.73
100342	Till	2	1408	1.68	343.24	GPGM	<0.2	0.86	2	30	10.70	<0.5	3	17	19	1.07	0.15	10	3.38
100343	Till	2	1408	1.37	343.55	GPGM	<0.2	0.40	<2	10	9.74	<0.5	2	12	16	0.92	0.05	10	3.12
100344	Till	2	1408	1.07	343.85	GPGM	<0.2	0.36	2	10	9.63	<0.5	2	10	15	0.79	0.04	10	3.37
100345	Till	2	1408	0.76	344.16	GPGM	<0.2	0.36	<2	10	9.56	<0.5	2	9	14	0.74	0.04	10	3.34
100346	Till	2	1408	0.46	344.46	GPGM	<0.2	0.57	4	10	6.27	<0.5	2	14	9	0.84	0.05	10	2.51
100347	Till	2	1408	0.21	344.71	GPGM	<0.2	1.39	6	20	0.55	<0.5	4	25	3	1.40	0.06	10	0.30
100348	Till	2	1404	1.49	343.41	GPGM	<0.2	1.08	8	40	3.60	<0.5	0.5	6	15	2.05	0.19	40	1.63
100349	Till	2	1404	1.22	343.68	GPGM	<0.2	0.42	4	10	9.19	<0.5	3	12	22	1.16	0.07	10	3.06
100350	Till	2	1404	0.91	343.99	GPGM	<0.2	0.46	4	10	9.41	<0.5	3	14	18	1.21	0.05	10	3.27
100351	Till	2	1404	0.61	344.29	GPGM	0.4	0.46	4	20	9.11	6	4	8	977	3.63	0.06	10	3.08
100352	Till	2	1404	0.30	344.60	GPGM	<0.2	0.83	<2	20	5.07	<0.5	2	18	9	1.07	0.06	20	1.94

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100322	Till	2	1600	343.06	245	0.02	12	450	2	<2	2	58	0.06	21	148	5.0	0.1	4.9	40.8
100323	Till	2	1600	343.36	160	0.02	8	420	<2	<2	2	55	0.06	18	138	5.3	0.2	5.1	42.5
100324	Till	2	1600	343.67	210	0.02	10	450	<2	<2	3	53	0.06	22	130	4.8	0.3	4.5	37.5
100325	Till	2	1600	343.97	275	0.04	13	520	14	<2	3	53	0.09	28	58	3.7	0.0	3.7	30.8
100326	Till	2	1600	344.28	140	0.04	6	430	10	<2	1	56	0.05	15	58	4.9	0.0	4.9	40.8
100327	Till	2	1600	344.58	140	0.04	6	450	10	<2	1	51	0.05	16	54	4.4	0.0	4.4	36.7
100328	Till	2	1600	344.89	140	0.02	10	540	6	<2	3	28	0.09	24	26	2.3	0.6	1.7	14.2
100329	Till	2	1550	344.23	505	0.16	70	1740	12	<2	3	81	0.17	43	62	0.8	0.0	0.8	6.7
100330	Till	2	1550	344.51	150	0.04	6	420	8	<2	1	56	0.05	14	58	4.8	0.0	4.8	40.0
100331	Till	2	1550	344.81	140	0.01	9	660	6	<2	2	24	0.06	20	24	4.0	1.2	2.8	23.3
100332	Till	2	1500	343.97	130	0.01	4	320	2	2	2	55	0.04	13	10	4.8	0.0	4.8	40.0
100333	Till	2	1500	344.28	155	0.01	6	370	2	<2	2	58	0.06	18	14	4.8	0.0	4.8	40.0
100334	Till	2	1500	344.58	150	0.03	8	490	8	<2	2	38	0.07	20	34	2.9	0.1	2.8	23.3
100335	Till	2	1500	344.80	180	0.02	11	560	8	<2	3	21	0.09	26	22	2.0	0.6	1.4	11.7
100336	Till	2	1450	343.90	195	0.04	9	450	14	<2	2	58	0.06	20	64	5.1	0.2	4.9	40.8
100337	Till	2	1450	344.20	175	0.04	7	470	12	<2	1	58	0.06	18	58	4.6	0.0	4.6	38.3
100338	Till	2	1450	344.51	195	0.04	11	610	12	<2	2	39	0.07	24	42	3.8	0.3	3.5	29.2
100339	Till	2	1450	344.81	130	0.01	10	480	4	<2	2	18	0.10	25	14	0.8	0.4	0.4	3.3
100340	Till	2	1408	342.63	225	0.04	12	470	12	<2	2	63	0.07	24	68	4.6	0.0	4.6	38.3
100341	Till	2	1408	342.94	245	0.05	12	440	12	<2	2	73	0.08	22	72	5.0	0.0	5.0	41.7
100342	Till	2	1408	343.24	220	0.04	11	450	14	<2	2	65	0.07	22	70	5.0	0.0	5.0	41.7
100343	Till	2	1408	343.55	160	0.04	8	490	10	<2	1	58	0.06	18	58	4.0	0.0	4.0	33.3
100344	Till	2	1408	343.85	145	0.04	7	450	14	<2	1	58	0.05	16	56	4.7	0.0	4.7	39.2
100345	Till	2	1408	344.16	150	0.04	7	490	10	<2	1	55	0.05	15	54	4.7	0.0	4.7	39.2
100346	Till	2	1408	344.46	150	0.03	9	600	8	<2	2	36	0.06	17	34	3.7	0.4	3.3	27.5
100347	Till	2	1408	344.71	120	0.01	14	490	6	<2	2	16	0.09	25	14	1.5	1.2	0.3	2.5
100348	Till	2	1404	343.41	355	0.02	6	280	8	<2	1	42	0.07	8	44	1.9	0.2	1.7	14.2
100349	Till	2	1404	343.68	175	0.03	8	520	16	<2	2	55	0.06	21	56	4.6	0.1	4.5	37.5
100350	Till	2	1404	343.99	165	0.04	9	580	16	<2	1	62	0.07	21	60	4.6	0.0	4.6	38.3
100351	Till	2	1404	344.29	150	0.04	6	420	14	<2	1	52	0.06	13	1430	4.7	0.1	4.6	38.3
100352	Till	2	1404	344.60	155	0.02	10	570	10	<2	2	34	0.07	19	30	2.8	0.3	2.5	20.8

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100353	Till	2	1400	0.85	344.03	MSDM	<0.2	3.07	14	60	1.42	<0.5	3	12	80	6.29	0.62	60	1.74
100354	Till	2	1400	0.61	344.28	MSDM	<0.2	0.47	6	10	8.52	<0.5	3	12	15	0.95	0.06	10	3.46
100355	Till	2	1400	0.30	344.58	MSDM	<0.2	1.55	4	20	0.80	<0.5	4	30	6	1.52	0.08	20	0.40
100356	Till	2	1350	0.30	344.52	MSDM	<0.2	1.72	2	20	0.37	<0.5	5	23	5	1.38	0.06	20	0.27
100357	Till	2	1250	0.61	343.88	GPGM	<0.2	1.24	6	20	0.42	<0.5	4	20	6	1.09	0.06	10	0.24
100358	Till	2	1250	0.30	344.19	GPGM	<0.2	1.21	2	30	0.41	<0.5	3	20	4	1.20	0.06	10	0.24
100359	Till	2	1250	0.15	344.34	GPGM	<0.2	1.25	2	40	0.26	<0.5	4	20	3	1.37	0.05	10	0.28
100360	Till	2	1250	0.76	343.73	GPGM	<0.2	1.24	2	10	0.43	<0.5	2	21	4	0.93	0.03	30	0.18
100361	Till	2	1250	0.46	344.04	GPGM	<0.2	0.74	2	20	4.10	<0.5	2	15	8	0.86	0.04	20	1.84
100362	Till	2	1250	0.15	344.34	GPGM	<0.2	1.08	2	30	0.98	<0.5	2	17	2	1.03	0.03	10	0.60
100363	Till	2	1225	1.22	343.30	MSDM	<0.2	0.26	<2	<10	8.93	<0.5	1	6	12	0.47	0.03	<10	3.11
100364	Till	2	1225	0.91	343.61	MSDM	<0.2	0.27	<2	<10	8.77	<0.5	1	6	12	0.54	0.02	10	3.36
100365	Till	2	1225	0.61	343.91	MSDM	<0.2	0.49	<2	20	9.67	<0.5	2	10	17	0.77	0.07	10	3.44
100366	Till	2	1225	0.30	344.22	MSDM	<0.2	0.81	<2	20	2.35	<0.5	2	17	4	0.99	0.04	10	1.19
100367	Till	2	1200	0.15	344.40	GPGM	<0.2	1.48	4	30	0.43	<0.5	3	23	4	1.42	0.05	20	0.28
100368	Till	2	1175	0.09	344.40	GPGM	<0.2	0.85	<2	20	0.34	<0.5	2	18	4	1.07	0.06	10	0.29
100369	Till	2	1130	0.61	343.70	MSDM	<0.2	1.06	6	30	0.46	<0.5	3	21	5	1.08	0.10	10	0.34
100370	Till	2	1130	0.30	344.01	MSDM	<0.2	1.11	2	30	0.46	<0.5	3	20	4	1.16	0.07	20	0.28
100371	Till	2	1130	0.15	344.16	MSDM	<0.2	1.00	6	20	0.34	<0.5	3	19	3	1.21	0.06	10	0.28
100372	Till	2	1120	2.13	342.15	MSDM	<0.2	0.94	6	40	10.40	<0.5	4	19	20	1.22	0.18	10	3.27
100373	Till	2	1120	1.83	342.45	MSDM	<0.2	1.02	<2	40	10.35	<0.5	3	20	21	1.29	0.17	10	3.44
100374	Till	2	1120	1.52	342.76	MSDM	<0.2	0.60	<2	20	9.47	<0.5	2	13	17	0.95	0.09	10	3.62
100375	Till	2	1120	1.22	343.06	MSDM	<0.2	0.42	<2	10	9.68	<0.5	1	9	15	0.74	0.06	10	3.51
100376	Till	2	1120	0.91	343.37	MSDM	<0.2	0.48	<2	10	10.70	<0.5	2	10	18	0.80	0.07	10	3.83
100377	Till	2	1120	0.61	343.67	MSDM	<0.2	0.63	<2	20	7.23	<0.5	2	14	14	0.88	0.07	10	3.14
100378	Till	2	1120	0.30	343.98	MSDM	<0.2	0.87	2	20	2.66	<0.5	2	18	11	0.98	0.07	20	1.55
100379	Till	2	1110	2.29	341.98	MSDM	<0.2	0.77	<2	30	11.50	<0.5	3	15	21	1.09	0.14	10	3.98
100380	Till	2	1110	1.98	342.28	MSDM	<0.2	1.10	<2	40	11.00	<0.5	4	20	23	1.39	0.18	10	3.76
100381	Till	2	1110	1.68	342.59	MSDM	<0.2	0.92	4	30	10.05	<0.5	3	21	22	1.18	0.20	10	3.39
100382	Till	2	1110	1.37	342.89	MSDM	<0.2	0.95	4	30	10.05	<0.5	4	20	29	1.26	0.19	10	3.45
100383	Till	2	1110	1.07	343.20	MSDM	<0.2	0.79	2	20	10.25	<0.5	3	15	22	0.98	0.12	10	4.02

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100353	Till	2	1400	344.03	1865	0.03	25	950	8	<2	3	46	0.10	17	106	1.0	0.4	0.6	5.0
100354	Till	2	1400	344.28	195	0.04	8	570	14	<2	2	48	0.06	18	50	4.3	0.1	4.2	35.0
100355	Till	2	1400	344.58	160	0.01	15	680	6	<2	3	19	0.08	27	14	2.0	0.9	1.1	9.2
100356	Till	2	1350	344.52	105	0.01	12	660	4	<2	2	17	0.09	24	12	2.3	1.1	1.2	10.0
100357	Till	2	1250	343.88	125	0.01	12	690	4	<2	2	18	0.08	19	12	1.6	0.9	0.7	5.8
100358	Till	2	1250	344.19	90	0.01	11	670	4	<2	2	19	0.09	20	12	1.4	0.8	0.6	5.0
100359	Till	2	1250	344.34	75	<0.01	13	240	4	<2	1	11	0.08	24	16	0.9	0.6	0.3	2.5
100360	Till	2	1250	343.73	70	<0.01	10	790	2	<2	2	13	0.05	17	8	1.8	0.9	0.9	7.5
100361	Till	2	1250	344.04	110	0.02	9	600	6	<2	2	27	0.06	16	22	2.4	0.2	2.2	18.3
100362	Till	2	1250	344.34	80	0.01	9	240	4	<2	2	14	0.08	20	18	1.2	0.3	0.9	7.5
100363	Till	2	1225	343.30	105	0.03	4	400	8	<2	1	46	0.03	10	48	4.6	0.0	4.6	38.3
100364	Till	2	1225	343.61	120	0.03	4	450	10	<2	1	48	0.04	12	46	4.4	0.0	4.4	36.7
100365	Till	2	1225	343.91	165	0.04	8	460	12	<2	1	54	0.05	16	58	4.8	0.0	4.8	40.0
100366	Till	2	1225	344.22	110	0.01	9	330	6	<2	2	21	0.08	21	18	1.4	0.1	1.3	10.8
100367	Till	2	1200	344.40	130	0.01	12	390	6	<2	2	14	0.08	24	16	1.4	0.7	0.7	5.8
100368	Till	2	1175	344.40	95	0.01	9	440	<2	<2	2	17	0.09	22	12	0.4	0.2	0.2	1.7
100369	Till	2	1130	343.70	110	0.01	14	760	6	<2	2	19	0.09	21	16	1.0	0.7	0.3	2.5
100370	Till	2	1130	344.01	100	0.01	12	880	2	<2	2	19	0.09	21	14	1.3	0.8	0.5	4.2
100371	Till	2	1130	344.16	90	0.01	10	380	4	<2	2	16	0.09	23	14	0.7	0.3	0.4	3.3
100372	Till	2	1120	342.15	215	0.04	13	450	14	<2	2	62	0.07	24	74	4.9	0.0	4.9	40.8
100373	Till	2	1120	342.45	225	0.04	13	470	14	<2	2	64	0.07	23	74	4.9	0.0	4.9	40.8
100374	Till	2	1120	342.76	165	0.04	8	470	12	<2	2	52	0.06	18	60	4.6	0.0	4.6	38.3
100375	Till	2	1120	343.06	130	0.04	6	470	12	<2	1	51	0.05	15	58	4.7	0.0	4.7	39.2
100376	Till	2	1120	343.37	190	0.04	7	480	12	<2	1	58	0.06	16	66	4.8	0.0	4.8	40.0
100377	Till	2	1120	343.67	160	0.03	9	530	14	<2	2	40	0.06	19	48	3.8	0.1	3.7	30.8
100378	Till	2	1120	343.98	105	0.02	10	650	6	<2	3	23	0.08	20	18	1.6	0.2	1.4	11.7
100379	Till	2	1110	341.98	195	0.05	11	460	12	<2	2	67	0.07	20	80	5.2	0.1	5.1	42.5
100380	Till	2	1110	342.28	265	0.05	14	470	16	<2	3	69	0.08	25	80	5.1	0.1	5.0	41.7
100381	Till	2	1110	342.59	190	0.04	13	470	12	<2	3	58	0.06	27	78	4.9	0.1	4.8	40.0
100382	Till	2	1110	342.89	220	0.04	13	460	14	<2	3	59	0.07	26	78	5.0	0.0	5.0	41.7
100383	Till	2	1110	343.20	190	0.04	10	450	14	<2	2	62	0.07	21	72	5.1	0.0	5.1	42.5

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100384	Till	2	1110	0.76	343.50	MSDM	<0.2	1.00	<2	30	8.41	<0.5	3	20	31	1.19	0.15	10	3.65
100385	Till	2	1110	0.46	343.81	MSDM	<0.2	0.49	<2	20	8.03	<0.5	3	14	22	0.93	0.06	10	4.01
100386	Till	2	1110	0.15	344.11	MSDM	<0.2	0.89	<2	30	10.95	<0.5	4	20	23	1.19	0.18	10	3.75
100387	Till	2	1100	2.74	341.51	MSDM	<0.2	0.83	2	20	3.78	<0.5	2	19	13	0.94	0.07	20	2.27
100388	Till	2	1100	2.44	341.81	MSDM	<0.2	0.87	<2	30	8.90	<0.5	3	18	21	1.11	0.14	10	3.42
100389	Till	2	1100	2.13	342.12	MSDM	<0.2	0.89	<2	40	9.04	<0.5	4	21	21	1.25	0.16	10	3.31
100390	Till	2	1100	1.83	342.42	MSDM	<0.2	0.99	6	30	9.17	<0.5	4	21	21	1.22	0.17	10	3.36
100391	Till	2	1100	1.52	342.73	MSDM	<0.2	0.70	4	20	9.67	<0.5	3	15	19	0.94	0.13	10	3.49
100392	Till	2	1100	1.22	343.03	MSDM	<0.2	0.35	4	10	8.94	<0.5	2	9	16	0.64	0.06	10	3.39
100393	Till	2	1100	0.91	343.34	MSDM	<0.2	0.43	<2	10	9.90	<0.5	2	10	16	0.66	0.07	10	3.49
100394	Till	2	1100	0.61	343.64	MSDM	<0.2	0.48	<2	10	9.76	<0.5	3	12	22	0.83	0.07	10	3.78
100395	Till	2	1100	0.30	343.94	MSDM	<0.2	0.59	2	20	5.05	<0.5	2	15	23	0.84	0.06	10	2.61
100396	Till	2	1090	1.37	342.86	MSDM	<0.2	0.46	4	10	10.65	<0.5	2	10	19	0.77	0.09	10	3.98
100397	Till	2	1090	1.07	343.17	MSDM	<0.2	0.41	<2	10	9.69	<0.5	2	10	18	0.71	0.07	10	3.51
100398	Till	2	1090	0.76	343.47	MSDM	<0.2	0.47	<2	10	9.05	<0.5	2	13	22	0.89	0.07	10	3.95
100399	Till	2	1090	0.46	343.78	MSDM	<0.2	0.93	<2	30	2.29	<0.5	3	19	10	1.14	0.07	20	1.05
100400	Till	2	1080	1.37	342.85	MSDM	<0.2	0.55	<2	20	9.51	<0.5	2	11	17	0.83	0.09	10	3.51
100401	Till	2	1080	1.07	343.15	MSDM	<0.2	0.49	2	10	10.30	<0.5	2	9	16	0.77	0.08	10	3.40
100402	Till	2	1080	0.76	343.46	MSDM	<0.2	0.47	<2	10	10.40	<0.5	2	10	17	0.82	0.07	10	3.41
100403	Till	2	1080	0.46	343.76	MSDM	<0.2	0.66	<2	20	9.60	<0.5	2	13	17	0.94	0.08	10	3.46
100404	Till	2	1070	2.65	341.55	MSDM	<0.2	1.07	<2	40	10.85	<0.5	4	20	23	1.29	0.20	10	3.36
100405	Till	2	1070	2.35	341.86	MSDM	<0.2	1.11	4	40	10.75	<0.5	4	20	23	1.35	0.18	10	3.39
100406	Till	2	1070	2.04	342.16	MSDM	<0.2	1.05	<2	30	10.30	<0.5	4	18	21	1.28	0.16	10	3.43
100407	Till	2	1070	1.74	342.47	MSDM	<0.2	0.95	2	30	8.59	<0.5	3	19	20	1.24	0.15	10	3.49
100408	Till	2	1070	1.43	342.77	MSDM	<0.2	0.96	<2	30	10.05	<0.5	4	19	21	1.22	0.17	10	3.06
100409	Till	2	1070	1.13	343.08	MSDM	<0.2	0.73	<2	20	10.85	<0.5	3	14	19	1.04	0.12	10	3.49
100410	Till	2	1070	0.82	343.38	MSDM	<0.2	0.94	2	30	9.56	<0.5	3	18	19	1.19	0.14	10	3.31
100411	Till	2	1070	0.52	343.69	MSDM	<0.2	0.94	8	30	10.30	<0.5	3	18	22	1.20	0.12	10	3.76
100412	Till	2	1060	3.20	340.99	MSDM	<0.2	0.88	<2	30	10.40	<0.5	4	18	19	1.28	0.17	10	3.11
100413	Till	2	1060	2.90	341.29	MSDM	<0.2	1.01	<2	40	10.70	<0.5	4	19	20	1.30	0.18	10	3.29
100414	Till	2	1060	2.59	341.60	MSDM	<0.2	0.95	<2	30	10.35	<0.5	3	19	19	1.22	0.18	10	3.13

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100384	Till	2	1110	343.50	210	0.04	12	500	12	<2	3	51	0.07	27	72	4.4	0.0	4.4	36.7
100385	Till	2	1110	343.81	160	0.04	9	510	14	<2	1	44	0.06	19	90	4.3	0.0	4.3	35.8
100386	Till	2	1110	344.11	200	0.04	13	470	16	<2	2	64	0.07	25	86	2.6	0.3	2.3	19.2
100387	Till	2	1100	341.51	125	0.02	10	610	8	<2	2	23	0.06	21	32	5.2	0.1	5.1	42.5
100388	Till	2	1100	341.81	205	0.04	12	510	12	<2	2	54	0.06	22	70	5.2	0.5	4.7	39.2
100389	Till	2	1100	342.12	290	0.04	13	500	14	<2	2	57	0.07	24	74	4.7	0.3	4.4	36.7
100390	Till	2	1100	342.42	220	0.04	13	490	12	<2	2	57	0.07	25	74	4.9	0.3	4.6	38.3
100391	Till	2	1100	342.73	180	0.04	9	450	12	<2	2	56	0.06	20	72	5.0	0.1	4.9	40.8
100392	Till	2	1100	343.03	145	0.03	6	460	12	<2	1	50	0.04	15	58	4.8	0.0	4.8	40.0
100393	Till	2	1100	343.34	140	0.04	6	470	12	<2	1	51	0.04	16	66	4.9	0.0	4.9	40.8
100394	Till	2	1100	343.64	170	0.04	8	510	16	<2	1	53	0.06	18	72	4.6	0.0	4.6	38.3
100395	Till	2	1100	343.94	115	0.02	8	530	6	<2	2	30	0.06	19	74	2.7	0.0	2.7	22.5
100396	Till	2	1090	342.86	160	0.04	7	450	12	<2	1	62	0.06	17	72	5.0	0.0	5.0	41.7
100397	Till	2	1090	343.17	145	0.04	6	450	10	<2	1	53	0.05	16	64	4.7	0.0	4.7	39.2
100398	Till	2	1090	343.47	185	0.04	8	530	12	<2	1	58	0.06	19	78	4.6	0.0	4.6	38.3
100399	Till	2	1090	343.78	175	0.02	9	480	6	<2	3	25	0.09	22	34	1.3	0.3	1.0	8.3
100400	Till	2	1080	342.85	150	0.04	8	440	14	<2	2	52	0.06	16	60	4.7	0.1	4.6	38.3
100401	Till	2	1080	343.15	150	0.04	7	430	12	<2	1	58	0.06	15	62	4.7	0.0	4.7	39.2
100402	Till	2	1080	343.46	160	0.04	7	450	12	<2	1	58	0.06	16	64	4.7	0.0	4.7	39.2
100403	Till	2	1080	343.76	160	0.04	8	490	12	<2	2	53	0.07	18	60	4.5	0.0	4.5	37.5
100404	Till	2	1070	341.55	210	0.05	14	470	14	<2	3	67	0.08	27	78	5.1	0.0	5.1	42.5
100405	Till	2	1070	341.86	215	0.05	13	480	14	<2	3	68	0.08	26	80	5.0	0.0	5.0	41.7
100406	Till	2	1070	342.16	210	0.05	13	460	14	<2	2	68	0.08	23	74	5.0	0.0	5.0	41.7
100407	Till	2	1070	342.47	205	0.04	12	480	14	<2	3	50	0.07	22	68	4.0	0.0	4.0	33.3
100408	Till	2	1070	342.77	220	0.04	12	450	12	<2	3	58	0.07	24	72	4.9	0.1	4.8	40.0
100409	Till	2	1070	343.08	225	0.04	10	440	14	<2	2	62	0.07	20	70	5.0	0.0	5.0	41.7
100410	Till	2	1070	343.38	195	0.04	11	460	12	<2	2	56	0.07	22	64	4.6	0.0	4.6	38.3
100411	Till	2	1070	343.69	215	0.05	11	520	14	<2	3	57	0.08	24	68	4.6	0.0	4.6	38.3
100412	Till	2	1060	340.99	235	0.04	13	450	14	<2	2	60	0.07	24	76	5.0	0.0	5.0	41.7
100413	Till	2	1060	341.29	305	0.05	13	450	14	<2	2	66	0.08	25	76	5.1	0.0	5.1	42.5
100414	Till	2	1060	341.60	230	0.04	12	460	14	<2	3	62	0.07	26	74	4.9	0.0	4.9	40.8

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100415	Till	2	1060	2.29	341.90	MSDM	<0.2	1.02	2	30	9.57	<0.5	4	19	18	1.28	0.14	10	3.05
100416	Till	2	1060	1.98	342.21	MSDM	<0.2	0.67	<2	20	10.35	<0.5	3	13	16	1.02	0.11	10	3.40
100417	Till	2	1060	1.68	342.51	MSDM	<0.2	0.88	2	30	10.30	<0.5	3	16	18	1.16	0.15	10	3.20
100418	Till	2	1060	1.37	342.82	MSDM	<0.2	0.64	<2	20	10.20	<0.5	3	12	16	0.92	0.10	10	3.25
100419	Till	2	1060	1.07	343.12	MSDM	<0.2	0.93	<2	30	9.62	<0.5	3	16	19	1.16	0.12	10	3.18
100420	Till	2	1060	0.76	343.43	MSDM	<0.2	0.60	4	20	9.30	<0.5	2	12	16	0.89	0.08	10	3.26
100421	Till	2	1060	0.46	343.73	MSDM	<0.2	0.64	<2	20	7.36	<0.5	2	13	16	0.92	0.07	10	3.38
100422	Till	2	1050	1.22	342.95	SLPD	<0.2	0.72	4	20	9.69	<0.5	2	13	26	1.00	0.11	10	3.25
100423	Till	2	1050	0.91	343.26	SLPD	<0.2	0.87	<2	30	9.86	<0.5	3	15	18	1.08	0.12	10	3.39
100424	Till	2	1050	0.61	343.56	SLPD	<0.2	0.97	2	30	10.35	<0.5	3	17	22	1.19	0.16	10	3.20
100425	Till	2	1050	0.30	343.87	SLPD	<0.2	0.86	<2	20	3.74	<0.5	2	18	9	1.10	0.08	20	1.76
100426	Till	2	1040	1.68	342.48	SLPD	<0.2	0.93	<2	30	7.62	<0.5	4	19	135	1.32	0.16	10	3.16
100427	Till	2	1040	1.37	342.79	SLPD	<0.2	0.77	<2	20	11.20	<0.5	3	13	65	1.05	0.13	10	4.32
100428	Till	2	1040	1.07	343.09	SLPD	<0.2	0.65	<2	20	8.85	<0.5	2	13	18	0.95	0.09	10	3.63
100429	Till	2	1040	0.76	343.40	SLPD	<0.2	1.21	<2	40	9.80	<0.5	4	20	27	1.41	0.17	10	3.56
100430	Till	2	1040	0.46	343.70	SLPD	<0.2	1.14	<2	40	9.01	<0.5	3	20	24	1.33	0.13	10	3.45
100431	Till	2	1030	1.07	343.08	GPGM	<0.2	0.42	2	10	10.70	<0.5	1	8	17	0.67	0.07	10	3.51
100432	Till	2	1030	0.76	343.38	GPGM	<0.2	0.42	2	10	10.95	<0.5	2	8	16	0.74	0.06	10	3.61
100433	Till	2	1030	0.46	343.69	GPGM	<0.2	0.58	2	20	10.55	<0.5	2	11	16	0.83	0.07	10	3.37
100434	Till	2	1020	1.22	342.91	GPGM	<0.2	0.40	2	10	8.82	<0.5	2	9	54	0.72	0.06	10	3.15
100435	Till	2	1020	0.91	343.21	GPGM	<0.2	0.33	4	10	9.16	<0.5	1	7	15	0.62	0.04	10	3.14
100436	Till	2	1020	0.61	343.52	GPGM	<0.2	0.59	<2	20	9.90	<0.5	2	11	18	0.88	0.08	10	3.48
100437	Till	2	1020	0.30	343.82	GPGM	<0.2	0.49	<2	10	8.58	<0.5	2	10	15	0.71	0.06	10	3.25
100438	Till	2	1010	1.52	342.59	SLPD	<0.2	0.46	<2	10	7.43	<0.5	2	11	245	0.92	0.07	10	3.73
100439	Till	2	1010	1.22	342.89	SLPD	<0.2	0.42	<2	10	9.36	<0.5	2	9	96	0.77	0.06	10	3.33
100440	Till	2	1010	0.91	343.20	SLPD	<0.2	0.45	<2	10	9.71	<0.5	2	9	32	0.71	0.06	10	3.34
100441	Till	2	1010	0.61	343.50	SLPD	<0.2	0.47	<2	20	9.39	<0.5	2	10	18	0.77	0.06	10	3.41
100442	Till	2	1010	0.30	343.81	SLPD	<0.2	0.47	2	10	8.31	<0.5	1	9	16	0.68	0.04	10	3.51
100443	Till	2	1000	1.22	342.88	SLPD	2.6	0.51	<2	10	2.21	7.5	11	10	1215	5.76	0.05	10	1.03
100444	Till	2	1000	0.91	343.18	SLPD	<0.2	0.52	<2	10	7.78	<0.5	3	11	145	1.11	0.07	10	3.34
100445	Till	2	1000	0.61	343.49	SLPD	<0.2	0.53	2	20	8.85	<0.5	2	11	28	0.82	0.07	10	3.49

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100415	Till	2	1060	341.90	225	0.04	12	480	14	<2	2	59	0.08	23	70	4.6	0.1	4.5	37.5
100416	Till	2	1060	342.21	210	0.04	10	430	14	<2	2	62	0.06	19	68	5.0	0.0	5.0	41.7
100417	Till	2	1060	342.51	215	0.04	11	430	14	<2	2	62	0.07	20	70	5.0	0.0	5.0	41.7
100418	Till	2	1060	342.82	190	0.04	9	420	14	<2	2	59	0.06	17	66	5.0	0.0	5.0	41.7
100419	Till	2	1060	343.12	215	0.04	11	430	14	<2	2	58	0.07	20	62	4.6	0.0	4.6	38.3
100420	Till	2	1060	343.43	165	0.04	8	460	12	<2	2	53	0.06	17	56	4.5	0.0	4.5	37.5
100421	Till	2	1060	343.73	155	0.04	8	520	12	<2	2	42	0.07	17	44	3.8	0.1	3.7	30.8
100422	Till	2	1050	342.95	180	0.04	9	450	12	<2	2	58	0.06	18	62	4.7	0.0	4.7	39.2
100423	Till	2	1050	343.26	200	0.04	10	450	8	<2	2	60	0.07	20	64	4.8	0.0	4.8	40.0
100424	Till	2	1050	343.56	210	0.05	12	440	14	<2	2	64	0.07	22	70	4.9	0.0	4.9	40.8
100425	Till	2	1050	343.87	140	0.02	10	600	6	<2	3	31	0.09	20	26	1.8	0.0	1.8	15.0
100426	Till	2	1040	342.48	260	0.04	13	520	14	<2	3	48	0.09	23	106	3.7	0.0	3.7	30.8
100427	Till	2	1040	342.79	205	0.06	10	420	16	<2	2	59	0.07	19	88	5.9	0.0	5.9	49.2
100428	Till	2	1040	343.09	175	0.04	9	440	12	<2	2	55	0.07	17	54	4.6	0.0	4.6	38.3
100429	Till	2	1040	343.40	220	0.05	14	480	14	<2	3	64	0.08	26	70	4.7	0.1	4.6	38.3
100430	Till	2	1040	343.70	190	0.04	13	470	14	<2	3	53	0.08	24	64	4.4	0.0	4.4	36.7
100431	Till	2	1030	343.08	150	0.04	6	410	14	<2	1	58	0.04	13	70	5.2	0.0	5.2	43.3
100432	Till	2	1030	343.38	170	0.04	6	430	16	<2	1	61	0.05	14	66	5.2	0.0	5.2	43.3
100433	Till	2	1030	343.69	175	0.04	8	420	12	<2	1	58	0.05	16	68	5.1	0.0	5.1	42.5
100434	Till	2	1020	342.91	135	0.04	6	450	14	<2	1	46	0.04	14	122	4.6	0.0	4.6	38.3
100435	Till	2	1020	343.21	125	0.04	5	430	10	<2	1	50	0.04	13	54	4.9	0.0	4.9	40.8
100436	Till	2	1020	343.52	175	0.04	8	430	12	<2	2	59	0.06	16	62	4.9	0.0	4.9	40.8
100437	Till	2	1020	343.82	150	0.04	7	460	12	<2	1	47	0.06	15	52	4.4	0.0	4.4	36.7
100438	Till	2	1010	342.59	180	0.04	7	520	12	<2	1	40	0.06	17	272	3.8	0.0	3.8	31.7
100439	Till	2	1010	342.89	145	0.04	7	450	10	<2	1	55	0.06	14	176	4.8	0.0	4.8	40.0
100440	Till	2	1010	343.20	145	0.04	7	460	14	<2	1	55	0.05	15	80	5.0	0.0	5.0	41.7
100441	Till	2	1010	343.50	150	0.04	8	440	10	<2	1	51	0.06	15	60	4.7	0.0	4.7	39.2
100442	Till	2	1010	343.81	125	0.04	7	490	14	<2	1	43	0.04	13	52	4.3	0.0	4.3	35.8
100443	Till	2	1000	342.88	135	0.02	6	550	34	<2	2	18	0.06	15	2780	1.6	0.2	1.4	11.7
100444	Till	2	1000	343.18	165	0.04	7	480	12	<2	1	42	0.05	15	820	4.2	0.1	4.1	34.2
100445	Till	2	1000	343.49	170	0.04	8	460	14	<2	2	49	0.06	16	242	4.5	0.0	4.5	37.5

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100446	Till	2	1000	0.30	343.79	SLPD	<0.2	0.91	<2	30	1.43	<0.5	3	21	6	1.09	0.09	20	0.77
100447	Till	2	990	1.74	342.33		<0.2	0.39	<2	10	10.15	2.5	1	9	73	0.74	0.06	10	3.87
100448	Till	2	990	1.43	342.63		<0.2	0.46	<2	10	10.45	1.5	1	9	47	0.77	0.07	10	3.66
100449	Till	2	990	1.13	342.94		<0.2	0.51	<2	10	10.45	<0.5	2	10	21	0.81	0.08	10	3.63
100450	Till	2	990	0.82	343.24		<0.2	0.48	<2	20	10.70	<0.5	2	10	17	0.77	0.07	10	3.63
100451	Till	2	990	0.52	343.55		<0.2	0.56	2	10	8.56	<0.5	2	11	15	0.72	0.07	10	3.36
100452	Till	2	980	1.22	342.83	MSDM	<0.2	0.36	<2	10	9.19	4	1	8	100	0.64	0.06	10	3.72
100453	Till	2	980	0.91	343.14	MSDM	<0.2	0.43	<2	10	10.10	4	2	9	55	0.68	0.07	10	3.53
100454	Till	2	980	0.61	343.44	MSDM	<0.2	0.37	<2	10	8.68	<0.5	1	9	18	0.68	0.05	10	3.14
100455	Till	2	970	0.61	343.43	GPGM	<0.2	0.48	2	10	9.55	3	2	10	47	0.79	0.06	10	3.67
100456	Till	2	960	0.76	343.24	GPGM	<0.2	0.56	<2	10	7.73	<0.5	2	12	23	0.80	0.07	10	3.51
100457	Till	2	950	0.91	343.08	GPGM	<0.2	0.45	<2	10	9.65	<0.5	2	10	18	0.85	0.06	10	3.60
100458	Till	2	950	0.61	343.38	GPGM	<0.2	0.74	<2	20	3.83	<0.5	2	16	8	0.94	0.07	20	2.31
100459	Till	2	940	2.38	341.60	MSDM	0.4	1.08	16	30	7.11	1	7	10	124	2.81	0.19	60	2.70
100460	Till	2	940	2.13	341.84	MSDM	<0.2	0.30	4	10	9.66	<0.5	1	8	22	0.71	0.04	10	3.38
100461	Till	2	940	1.83	342.15	MSDM	<0.2	0.34	<2	10	10.15	<0.5	2	8	22	0.76	0.05	10	3.48
100462	Till	2	940	1.52	342.45	MSDM	<0.2	0.38	<2	10	10.10	<0.5	2	9	17	0.78	0.06	10	3.42
100463	Till	2	940	1.22	342.76	MSDM	<0.2	0.45	2	10	9.96	<0.5	3	11	16	0.86	0.06	10	3.52
100464	Till	2	940	0.91	343.06	MSDM	<0.2	0.58	<2	10	6.55	<0.5	2	13	15	0.92	0.06	10	3.28
100465	Till	2	940	0.61	343.37	MSDM	<0.2	0.90	2	30	2.36	<0.5	2	18	7	1.18	0.07	10	1.24
100466	Till	2	930	1.65	342.30	MSDM	<0.2	0.86	2	20	3.49	<0.5	1	12	109	1.39	0.16	80	1.92
100467	Till	2	930	1.37	342.57	MSDM	<0.2	0.48	<2	10	5.99	<0.5	1	13	59	0.99	0.07	10	2.28
100468	Till	2	930	1.07	342.88	MSDM	<0.2	0.44	<2	20	9.50	<0.5	1	9	18	0.79	0.06	10	3.36
100469	Till	2	930	0.76	343.18	MSDM	<0.2	0.62	<2	20	5.90	<0.5	2	11	16	0.77	0.04	10	3.16
100470	Till	2	930	0.46	343.49	MSDM	<0.2	0.63	<2	20	5.57	<0.5	2	14	13	0.85	0.05	10	2.71
100471	Till	2	920	2.01	341.90	MSDM	<0.2	0.42	<2	20	8.61	<0.5	2	9	24	0.86	0.07	10	3.25
100472	Till	2	920	1.74	342.18	MSDM	<0.2	0.32	<2	10	9.30	<0.5	2	8	19	0.69	0.06	10	3.48
100473	Till	2	920	1.43	342.48	MSDM	<0.2	0.35	<2	10	9.66	<0.5	2	9	19	0.69	0.06	10	3.55
100474	Till	2	920	1.13	342.79	MSDM	<0.2	0.42	<2	20	9.23	<0.5	4	12	24	0.81	0.07	10	3.66
100475	Till	2	920	0.82	343.09	MSDM	<0.2	0.46	2	20	9.24	<0.5	7	23	24	0.94	0.07	10	3.88
100476	Till	2	920	0.52	343.40	MSDM	<0.2	0.79	2	30	3.85	<0.5	3	18	10	0.98	0.08	10	1.81

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100446	Till	2	1000	343.79	120	0.01	11	730	6	<2	3	23	0.09	21	20	1.0	0.3	0.7	5.8
100447	Till	2	990	342.33	125	0.04	5	480	12	<2	1	56	0.06	15	564	4.8	0.0	4.8	40.0
100448	Till	2	990	342.63	135	0.04	7	450	14	<2	1	60	0.06	15	642	5.1	0.1	5.0	41.7
100449	Till	2	990	342.94	150	0.04	8	460	12	<2	2	61	0.06	16	444	5.1	0.0	5.1	42.5
100450	Till	2	990	343.24	150	0.04	8	450	16	<2	1	59	0.06	16	74	5.0	0.0	5.0	41.7
100451	Till	2	990	343.55	145	0.04	7	490	12	<2	2	43	0.06	16	56	4.5	0.0	4.5	37.5
100452	Till	2	980	342.83	115	0.04	5	470	10	<2	1	50	0.05	13	466	5.0	0.0	5.0	41.7
100453	Till	2	980	343.14	145	0.04	6	430	10	<2	1	57	0.06	14	678	5.0	0.0	5.0	41.7
100454	Till	2	980	343.44	145	0.04	6	490	12	<2	1	49	0.05	14	540	4.5	0.0	4.5	37.5
100455	Till	2	970	343.43	150	0.04	7	460	12	<2	1	55	0.06	15	926	4.7	0.0	4.7	39.2
100456	Till	2	960	343.24	125	0.04	8	500	8	<2	2	42	0.06	16	654	4.2	0.1	4.1	34.2
100457	Till	2	950	343.08	165	0.04	8	500	12	<2	1	54	0.06	16	752	4.7	0.1	4.6	38.3
100458	Till	2	950	343.38	140	0.02	9	600	4	<2	2	24	0.07	19	120	2.3	0.2	2.1	17.5
100459	Till	2	940	341.60	440	0.04	9	3860	66	<2	2	42	0.03	44	1120	3.3	0.2	3.1	25.8
100460	Till	2	940	341.84	130	0.04	5	480	16	<2	1	54	0.04	14	498	4.7	0.0	4.7	39.2
100461	Till	2	940	342.15	140	0.04	7	470	6	<2	1	57	0.04	15	630	4.9	0.0	4.9	40.8
100462	Till	2	940	342.45	150	0.04	6	460	12	<2	1	55	0.04	15	490	4.8	0.0	4.8	40.0
100463	Till	2	940	342.76	175	0.04	8	470	12	<2	1	61	0.05	17	650	4.9	0.0	4.9	40.8
100464	Till	2	940	343.06	165	0.03	8	520	12	<2	2	33	0.05	18	610	3.9	0.1	3.8	31.7
100465	Till	2	940	343.37	100	0.02	10	360	6	<2	2	23	0.09	22	88	1.3	0.2	1.1	9.2
100466	Till	2	930	342.30	265	0.02	8	770	40	<2	2	25	0.07	20	778	2.1	0.2	1.9	15.8
100467	Till	2	930	342.57	105	0.03	7	610	18	<2	2	38	0.07	19	566	3.1	0.3	2.8	23.3
100468	Till	2	930	342.88	130	0.04	8	480	14	<2	1	53	0.04	15	268	4.8	0.1	4.7	39.2
100469	Till	2	930	343.18	105	0.03	8	520	10	<2	2	29	0.05	15	758	3.5	0.3	3.2	26.7
100470	Till	2	930	343.49	110	0.03	8	520	8	<2	2	32	0.06	17	370	3.2	0.2	3.0	25.0
100471	Till	2	920	341.90	180	0.03	7	570	14	<2	1	48	0.04	16	164	4.6	0.2	4.4	36.7
100472	Till	2	920	342.18	140	0.04	6	490	14	<2	1	51	0.04	15	140	4.9	0.0	4.9	40.8
100473	Till	2	920	342.48	145	0.04	7	470	14	<2	1	52	0.04	16	68	4.7	0.0	4.7	39.2
100474	Till	2	920	342.79	160	0.04	15	460	14	<2	1	54	0.06	17	66	5.0	0.0	5.0	41.7
100475	Till	2	920	343.09	175	0.04	33	530	14	<2	1	49	0.05	19	66	4.5	0.1	4.4	36.7
100476	Till	2	920	343.40	110	0.02	11	630	6	<2	2	28	0.07	22	34	2.2	0.3	1.9	15.8

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100477	Till	2	910	2.04	341.84	MSDM	<0.2	0.28	<2	10	9.70	<0.5	2	7	21	0.64	0.05	10	3.72
100478	Till	2	910	1.74	342.15	MSDM	<0.2	0.34	<2	10	9.55	<0.5	2	11	20	0.81	0.06	10	3.44
100479	Till	2	910	1.43	342.45	MSDM	<0.2	0.40	<2	10	9.61	<0.5	3	12	19	0.89	0.07	10	3.61
100480	Till	2	910	1.13	342.76	MSDM	<0.2	0.70	<2	30	6.77	<0.5	4	20	15	1.36	0.10	20	2.99
100481	Till	2	910	0.82	343.06	MSDM	<0.2	0.66	4	20	0.56	<0.5	3	30	8	1.71	0.08	30	0.29
100482	Till	2	910	0.52	343.37	MSDM	<0.2	0.61	<2	20	0.38	<0.5	2	19	4	0.87	0.07	10	0.28
100483	Till	2	900	1.83	342.03	MSDM	<0.2	0.25	2	10	9.00	<0.5	1	7	20	0.59	0.04	10	3.58
100484	Till	2	900	1.52	342.33	MSDM	<0.2	0.28	4	10	8.44	<0.5	1	7	17	0.57	0.04	10	3.26
100485	Till	2	900	1.22	342.64	MSDM	0.2	0.38	<2	10	9.70	0.5	1	21	10	0.63	0.06	10	3.27
100486	Till	2	900	0.91	342.94	MSDM	<0.2	0.62	<2	20	6.25	<0.5	1	27	11	1.08	0.09	10	2.47
100487	Till	2	900	0.61	343.24	MSDM	0.2	0.79	<2	30	0.63	<0.5	2	20	9	1.06	0.07	20	0.37
100488	Till	2	880	1.68	342.09	MSDM	<0.2	0.37	<2	10	9.91	0.5	2	19	10	0.61	0.07	10	3.27
100489	Till	2	880	1.37	342.39	MSDM	0.2	0.37	<2	10	9.78	<0.5	1	20	11	0.60	0.07	10	3.26
100490	Till	2	880	1.07	342.70	MSDM	<0.2	0.33	<2	10	9.82	<0.5	1	17	8	0.56	0.06	10	3.25
100491	Till	2	880	0.76	343.00	MSDM	0.2	0.45	<2	20	9.13	<0.5	2	21	10	0.71	0.07	10	3.20
100492	Till	2	880	0.46	343.31	MSDM	<0.2	0.52	<2	20	8.16	<0.5	2	22	10	0.74	0.07	10	3.09
100493	Till	2	800	0.37	343.34	BCSC	0.4	2.54	<2	40	1.40	1	2	19	27	2.27	0.09	70	0.98
100494	Till	2	820	0.21	343.49	GPGM	0.2	1.70	2	30	0.60	<0.5	1	25	12	1.48	0.06	50	0.35
100495	Till	2	840	1.89	341.81	GPGM	0.2	0.87	<2	30	10.20	<0.5	3	32	14	1.05	0.16	10	3.20
100496	Till	2	840	1.58	342.12	GPGM	0.2	0.74	<2	30	9.71	<0.5	2	28	13	0.91	0.13	10	3.02
100497	Till	2	840	1.28	342.42	GPGM	0.2	0.58	<2	20	9.93	<0.5	2	24	10	0.74	0.10	10	3.17
100498	Till	2	840	0.98	342.73	GPGM	0.2	0.46	<2	10	10.10	<0.5	1	21	8	0.61	0.08	10	3.35
100499	Till	2	840	0.67	343.03	GPGM	0.2	0.46	<2	20	9.05	<0.5	1	21	8	0.66	0.06	10	3.22
100500	Till	2	840	0.37	343.34	GPGM	0.2	0.91	<2	20	4.26	<0.5	3	23	8	0.96	0.06	10	1.63
100501	Till	2	860	1.83	341.90	GPGM	0.2	0.26	<2	10	8.89	<0.5	1	15	6	0.47	0.04	<10	3.01
100502	Till	2	860	1.52	342.21	GPGM	0.2	0.21	2	<10	8.15	<0.5	0.5	14	4	0.43	0.03	<10	2.81
100503	Till	2	860	1.22	342.51	GPGM	<0.2	0.26	<2	10	8.06	<0.5	1	15	4	0.48	0.03	<10	2.87
100504	Till	2	860	0.91	342.82	GPGM	0.2	0.34	<2	10	7.62	<0.5	0.5	18	4	0.62	0.04	10	2.96
100505	Till	2	860	0.61	343.12	GPGM	<0.2	0.55	<2	20	4.80	<0.5	1	23	6	0.72	0.06	10	2.14
100506	Till	1	1800	3.14	341.99	MSDM	0.2	0.87	<2	30	9.10	<0.5	2	30	13	1.02	0.17	10	2.84
100507	Till	1	1800	2.83	342.30	MSDM	<0.2	0.98	<2	30	9.51	<0.5	2	31	14	1.10	0.19	10	2.97

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100477	Till	2	910	341.84	150	0.04	6	440	12	<2	1	53	0.04	14	182	4.7	0.0	4.7	39.2
100478	Till	2	910	342.15	140	0.04	7	530	12	<2	1	51	0.04	18	172	4.6	0.1	4.5	37.5
100479	Till	2	910	342.45	155	0.04	7	530	12	<2	1	52	0.05	19	88	4.7	0.1	4.6	38.3
100480	Till	2	910	342.76	205	0.03	12	780	12	<2	2	41	0.07	27	68	3.3	0.3	3.0	25.0
100481	Till	2	910	343.06	120	0.01	10	1010	8	<2	2	17	0.06	38	30	0.6	0.3	0.3	2.5
100482	Till	2	910	343.37	90	<0.01	9	660	2	<2	2	14	0.06	20	12	0.3	0.1	0.2	1.7
100483	Till	2	900	342.03	115	0.04	5	450	8	<2	1	50	0.03	13	128	4.7	0.0	4.7	39.2
100484	Till	2	900	342.33	110	0.03	4	450	8	<2	1	46	0.03	13	132	4.4	0.0	4.4	36.7
100485	Till	2	900	342.64	145	0.01	3	420	<2	4	1	58	0.05	17	46	4.8	0.1	4.7	39.2
100486	Till	2	900	342.94	160	0.01	8	570	8	4	2	40	0.06	26	28	3.6	0.2	3.4	28.3
100487	Till	2	900	343.24	95	0.01	9	720	2	2	2	19	0.08	24	20	0.5	0.3	0.2	1.7
100488	Till	2	880	342.09	135	0.01	4	370	2	4	2	60	0.05	16	36	5.5	0.1	5.4	45.0
100489	Till	2	880	342.39	140	0.01	5	380	2	4	1	58	0.05	17	14	5.4	0.1	5.3	44.2
100490	Till	2	880	342.70	120	0.01	4	360	<2	4	1	57	0.04	15	12	4.9	0.0	4.9	40.8
100491	Till	2	880	343.00	140	0.01	5	420	4	2	2	54	0.05	19	20	4.8	0.0	4.8	40.0
100492	Till	2	880	343.31	135	0.01	6	440	<2	2	2	49	0.06	19	26	4.2	0.1	4.1	34.2
100493	Till	2	800	343.34	445	0.01	6	720	32	4	4	19	0.11	28	560	5.7	2.8	2.9	24.2
100494	Till	2	820	343.49	90	0.01	10	360	12	2	4	14	0.09	28	44	1.7	0.8	0.9	7.5
100495	Till	2	840	341.81	230	0.02	9	390	4	4	3	65	0.07	25	24	5.1	0.0	5.1	42.5
100496	Till	2	840	342.12	185	0.02	8	360	4	2	2	61	0.06	22	20	5.2	0.0	5.2	43.3
100497	Till	2	840	342.42	170	0.01	6	350	4	<2	2	60	0.06	19	16	5.2	0.1	5.1	42.5
100498	Till	2	840	342.73	150	0.01	5	340	2	4	2	60	0.05	16	12	5.2	0.1	5.1	42.5
100499	Till	2	840	343.03	145	0.01	5	370	2	4	2	52	0.05	17	12	4.8	0.1	4.7	39.2
100500	Till	2	840	343.34	100	0.01	8	420	4	<2	2	29	0.06	20	16	2.8	0.6	2.2	18.3
100501	Till	2	860	341.90	110	0.01	3	340	<2	4	1	51	0.03	13	22	4.9	0.0	4.9	40.8
100502	Till	2	860	342.21	100	0.01	2	360	<2	6	1	46	0.03	12	8	4.5	0.0	4.5	37.5
100503	Till	2	860	342.51	90	0.01	3	360	<2	4	1	44	0.03	13	8	4.3	0.0	4.3	35.8
100504	Till	2	860	342.82	105	0.01	4	400	2	2	1	42	0.04	16	8	4.5	0.1	4.4	36.7
100505	Till	2	860	343.12	105	0.01	5	500	<2	4	2	32	0.06	18	12	2.9	0.1	2.8	23.3
100506	Till	1	1800	341.99	210	0.02	9	380	4	4	3	60	0.07	24	22	5.0	0.1	4.9	40.8
100507	Till	1	1800	342.30	210	0.02	9	390	<2	2	3	63	0.07	25	26	5.0	0.0	5.0	41.7

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100508	Till	1	1800	2.53	342.60	MSDM	0.2	0.92	<2	40	9.76	<0.5	4	33	15	1.25	0.18	10	3.22
100509	Till	1	1800	2.23	342.91	MSDM	0.2	0.87	4	30	9.57	<0.5	4	30	14	1.06	0.16	10	3.00
100510	Till	1	1800	1.92	343.21	MSDM	0.2	0.82	<2	30	9.52	<0.5	3	30	12	1.00	0.16	10	3.04
100511	Till	1	1800	1.62	343.52	MSDM	<0.2	0.81	<2	30	9.24	<0.5	3	29	12	0.99	0.16	10	2.99
100512	Till	1	1800	1.31	343.82	MSDM	0.2	0.86	<2	30	9.57	<0.5	2	31	13	1.03	0.16	10	3.10
100513	Till	1	1800	1.01	344.13	MSDM	0.2	0.76	<2	30	9.32	<0.5	2	26	11	0.89	0.14	10	3.12
100514	Till	1	1800	0.70	344.43	MSDM	0.2	0.87	<2	30	6.57	<0.5	1	29	17	1.03	0.14	10	2.95
100521	Till	1	1750	0.91	344.16	MSDM	<0.2	0.86	<2	30	8.99	<0.5	3	31	14	1.01	0.16	10	3.10
100522	Till	1	1750	0.61	344.46	MSDM	0.2	0.63	<2	20	7.30	<0.5	2	29	10	0.96	0.11	10	3.17
100523	Till	1	1700	2.68	342.27	MSDM	0.2	0.88	<2	30	9.67	<0.5	2	30	13	1.01	0.17	10	3.07
100524	Till	1	1700	2.38	342.57	MSDM	<0.2	0.86	<2	30	9.75	<0.5	2	30	13	1.02	0.17	10	3.11
100525	Till	1	1700	2.07	342.88	MSDM	0.2	0.54	<2	20	9.93	<0.5	1	22	9	0.72	0.10	10	3.30
100526	Till	1	1700	1.77	343.18	MSDM	0.2	0.70	<2	30	9.66	<0.5	2	26	11	0.90	0.14	10	3.15
100527	Till	1	1700	1.46	343.49	MSDM	<0.2	0.45	<2	20	9.84	<0.5	1	21	8	0.64	0.08	10	3.28
100528	Till	1	1700	1.16	343.79	MSDM	<0.2	0.57	<2	20	9.71	<0.5	1	22	9	0.75	0.11	10	3.24
100529	Till	1	1700	0.85	344.10	MSDM	0.2	0.82	<2	30	9.08	<0.5	3	28	11	0.96	0.16	10	2.99
100530	Till	1	1700	0.55	344.40	MSDM	<0.2	0.82	<2	30	8.86	<0.5	2	30	11	0.96	0.14	10	3.07
100531	Till	1	1700	0.24	344.70	MSDM	<0.2	0.98	<2	40	7.32	<0.5	2	33	11	1.09	0.16	10	3.29
100532	Till	1	1650	2.83	342.05	MSDM	<0.2	0.76	<2	30	10.10	<0.5	2	29	12	0.93	0.15	10	3.21
100533	Till	1	1650	2.53	342.36	MSDM	0.2	0.77	<2	30	9.66	<0.5	2	27	11	0.92	0.15	10	3.14
100534	Till	1	1650	2.23	342.66	MSDM	<0.2	0.67	<2	20	10.15	<0.5	2	27	10	0.84	0.13	10	3.39
100535	Till	1	1650	1.92	342.97	MSDM	0.2	0.86	<2	30	10.10	<0.5	4	30	13	1.01	0.17	10	3.30
100536	Till	1	1650	1.62	343.27	MSDM	<0.2	0.65	<2	20	9.80	<0.5	2	24	10	0.82	0.13	10	3.21
100537	Till	1	1650	1.31	343.58	MSDM	0.2	0.53	<2	20	10.20	<0.5	1	22	9	0.72	0.10	10	3.36
100538	Till	1	1650	1.01	343.88	MSDM	0.2	0.52	<2	20	9.49	<0.5	2	21	8	0.69	0.09	10	3.13
100539	Till	1	1650	0.70	344.19	MSDM	<0.2	0.72	<2	30	9.42	<0.5	2	27	11	0.90	0.13	10	3.07
100540	Till	1	1650	0.40	344.49	MSDM	<0.2	0.44	<2	10	8.15	<0.5	0.5	21	8	0.69	0.07	10	3.35
100541	Till	1	1600	2.68	342.14	MSDM	<0.2	0.82	<2	30	9.84	<0.5	2	28	12	0.98	0.16	10	3.21
100542	Till	1	1600	2.38	342.45	MSDM	0.2	0.69	<2	20	9.98	<0.5	2	29	11	0.87	0.13	10	3.23
100543	Till	1	1600	2.07	342.75	MSDM	0.2	0.69	<2	30	9.82	<0.5	2	27	11	0.89	0.14	10	3.18
100544	Till	1	1600	1.77	343.06	MSDM	0.2	0.51	<2	20	9.93	<0.5	1	22	9	0.70	0.10	10	3.31

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100508	Till	1	1800	342.60	290	0.02	10	400	4	4	3	63	0.07	28	24	5.0	0.1	4.9	40.8
100509	Till	1	1800	342.91	260	0.02	10	380	2	4	3	61	0.06	24	24	5.1	0.1	5.0	41.7
100510	Till	1	1800	343.21	240	0.02	9	380	4	4	2	61	0.06	23	20	5.0	0.1	4.9	40.8
100511	Till	1	1800	343.52	205	0.02	8	370	6	4	2	59	0.06	23	20	4.9	0.1	4.8	40.0
100512	Till	1	1800	343.82	205	0.02	8	380	4	4	3	61	0.07	24	20	5.0	0.0	5.0	41.7
100513	Till	1	1800	344.13	180	0.02	7	380	2	4	2	59	0.06	22	16	4.8	0.0	4.8	40.0
100514	Till	1	1800	344.43	200	0.02	9	450	4	4	3	41	0.07	25	18	3.9	0.1	3.8	31.7
100521	Till	1	1750	344.16	210	0.02	8	400	4	4	3	58	0.07	24	20	4.7	0.1	4.6	38.3
100522	Till	1	1750	344.46	210	0.01	6	440	4	4	2	44	0.06	23	16	4.3	0.1	4.2	35.0
100523	Till	1	1700	342.27	205	0.02	9	380	4	4	3	63	0.07	24	22	4.9	0.1	4.8	40.0
100524	Till	1	1700	342.57	200	0.02	9	390	2	4	3	62	0.07	23	22	4.9	0.1	4.8	40.0
100525	Till	1	1700	342.88	160	0.01	5	350	4	4	2	60	0.05	18	14	5.3	0.0	5.3	44.2
100526	Till	1	1700	343.18	200	0.02	7	380	<2	4	2	60	0.06	21	18	5.1	0.1	5.0	41.7
100527	Till	1	1700	343.49	145	0.01	5	340	2	2	1	58	0.04	16	12	5.5	0.0	5.5	45.8
100528	Till	1	1700	343.79	160	0.01	5	360	<2	4	2	59	0.06	19	14	5.0	0.0	5.0	41.7
100529	Till	1	1700	344.10	200	0.02	9	360	6	4	2	58	0.07	23	20	4.9	0.1	4.8	40.0
100530	Till	1	1700	344.40	185	0.02	8	360	2	6	2	56	0.07	23	18	4.7	0.1	4.6	38.3
100531	Till	1	1700	344.70	175	0.02	10	420	2	4	3	45	0.07	25	18	4.2	0.2	4.0	33.3
100532	Till	1	1650	342.05	200	0.02	8	380	4	4	2	64	0.06	22	22	5.1	0.1	5.0	41.7
100533	Till	1	1650	342.36	210	0.02	8	370	4	6	2	62	0.07	22	18	5.0	0.1	4.9	40.8
100534	Till	1	1650	342.66	170	0.02	5	400	4	2	2	64	0.06	21	16	5.1	0.0	5.1	42.5
100535	Till	1	1650	342.97	245	0.02	9	390	4	2	3	66	0.07	24	22	5.1	0.1	5.0	41.7
100536	Till	1	1650	343.27	190	0.02	6	370	<2	4	2	62	0.06	21	16	5.1	0.0	5.1	42.5
100537	Till	1	1650	343.58	170	0.02	5	340	4	4	2	62	0.05	18	14	5.3	0.1	5.2	43.3
100538	Till	1	1650	343.88	155	0.02	5	330	<2	4	2	58	0.05	17	12	5.1	0.1	5.0	41.7
100539	Till	1	1650	344.19	185	0.02	7	360	2	2	2	59	0.06	21	16	5.0	0.1	4.9	40.8
100540	Till	1	1650	344.49	135	0.01	4	410	<2	2	2	47	0.05	17	12	4.5	0.1	4.4	36.7
100541	Till	1	1600	342.14	190	0.02	8	370	<2	4	2	64	0.07	23	22	5.1	0.1	5.0	41.7
100542	Till	1	1600	342.45	165	0.02	6	370	6	4	2	62	0.06	21	18	5.2	0.0	5.2	43.3
100543	Till	1	1600	342.75	205	0.02	8	360	4	2	2	62	0.06	21	18	5.1	0.0	5.1	42.5
100544	Till	1	1600	343.06	165	0.02	5	360	4	4	2	60	0.05	18	14	5.3	0.0	5.3	44.2

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100545	Till	1	1600	1.46	343.36	MSDM	0.2	0.70	<2	30	9.57	<0.5	3	28	11	0.90	0.13	10	3.10
100546	Till	1	1600	1.16	343.67	MSDM	0.2	0.46	<2	10	9.38	<0.5	1	20	8	0.64	0.08	10	3.18
100547	Till	1	1600	0.85	343.97	MSDM	<0.2	0.44	<2	10	9.00	<0.5	1	20	8	0.61	0.07	10	3.07
100548	Till	1	1600	0.55	344.28	MSDM	<0.2	0.39	<2	10	8.71	<0.5	1	18	8	0.59	0.06	10	3.12
100549	Till	1	1600	0.24	344.58	MSDM	<0.2	0.43	<2	10	7.65	<0.5	1	19	7	0.63	0.06	10	3.25
100550	Till	1	1550	1.46	343.33	MSDM	<0.2	0.33	<2	10	9.11	<0.5	0.5	19	7	0.58	0.06	10	3.07
100551	Till	1	1550	1.16	343.64	MSDM	<0.2	0.54	<2	20	9.25	<0.5	2	23	10	0.76	0.10	10	3.09
100552	Till	1	1550	0.85	343.94	MSDM	0.2	0.50	<2	20	8.89	<0.5	2	23	10	0.76	0.09	10	3.09
100553	Till	1	1550	0.55	344.25	MSDM	<0.2	0.36	<2	10	7.75	<0.5	1	19	6	0.64	0.04	10	3.07
100554	Till	1	1550	0.24	344.55	MSDM	<0.2	0.57	<2	10	4.08	<0.5	2	22	6	0.73	0.05	10	2.13
100555	Till	1	1300	0.88	343.61	MSDM	0.2	0.67	<2	20	2.85	<0.5	1	22	9	0.83	0.07	10	1.64
100556	Till	1	1300	0.58	343.91	MSDM	<0.2	0.82	<2	20	0.54	<0.5	3	27	11	1.19	0.07	20	0.42
100557	Till	1	1180	0.76	343.49	MSDM	0.2	0.52	<2	10	0.26	<0.5	2	19	6	0.86	0.04	20	0.16
100558	Till	1	1180	0.46	343.79	MSDM	<0.2	0.83	2	10	0.23	<0.5	3	23	5	1.09	0.04	10	0.19
100559	Till	1	1160	0.91	343.27	GPGM	0.2	0.88	<2	20	4.49	<0.5	3	29	10	1.09	0.11	20	2.37
100560	Till	1	1160	0.61	343.58	GPGM	<0.2	0.50	<2	10	1.25	<0.5	1	19	6	0.81	0.04	10	0.70
100561	Till	1	1160	0.30	343.88	GPGM	0.2	0.77	4	10	0.29	<0.5	2	22	4	0.96	0.04	20	0.20
100562	Till	1	1120	0.91	343.21	GPGM	<0.2	0.28	<2	<10	5.94	<0.5	1	13	4	0.50	0.03	<10	1.26
100563	Till	1	1120	0.61	343.52	GPGM	0.2	0.47	<2	10	7.97	<0.5	1	21	8	0.70	0.06	10	2.93
100564	Till	1	1120	0.30	343.82	GPGM	<0.2	0.89	<2	20	1.74	<0.5	2	26	6	1.01	0.06	20	0.89
100565	Till	1	1100	2.19	341.87	MSDM	0.2	0.40	<2	10	8.45	<0.5	1	18	15	0.64	0.06	10	2.90
100566	Till	1	1100	1.89	342.18	MSDM	<0.2	0.27	<2	10	8.50	<0.5	1	16	7	0.50	0.04	10	2.90
100567	Till	1	1100	1.58	342.48	MSDM	<0.2	0.31	<2	10	8.40	<0.5	1	16	8	0.59	0.04	10	2.85
100568	Till	1	1100	1.28	342.79	MSDM	<0.2	0.36	<2	10	8.83	<0.5	1	19	9	0.64	0.06	10	3.14
100569	Till	1	1100	0.98	343.09	MSDM	0.2	0.33	<2	10	8.47	<0.5	2	22	10	0.84	0.04	10	3.13
100570	Till	1	1100	0.67	343.40	MSDM	<0.2	0.42	<2	10	8.39	<0.5	1	21	30	0.67	0.05	10	3.13
100571	Till	1	1100	0.37	343.70	MSDM	<0.2	0.55	<2	10	5.65	<0.5	2	26	102	0.90	0.06	20	2.68
100572	Till	1	1050	1.71	342.27	GPGM	0.2	0.39	<2	10	9.42	<0.5	1	18	9	0.63	0.07	10	3.18
100573	Till	1	1050	1.43	342.54	GPGM	<0.2	0.35	<2	10	9.26	<0.5	1	19	9	0.60	0.06	10	3.13
100574	Till	1	1050	1.13	342.85	GPGM	0.2	0.30	<2	10	8.66	<0.5	0.5	16	8	0.57	0.04	10	3.04
100575	Till	1	1050	0.82	343.15	GPGM	0.2	0.34	<2	10	9.54	<0.5	1	19	9	0.59	0.05	10	3.23

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100545	Till	1	1600	343.36	200	0.02	8	350	4	4	2	60	0.06	21	20	5.1	0.0	5.1	42.5
100546	Till	1	1600	343.67	135	0.01	4	340	2	4	2	57	0.05	17	12	5.1	0.0	5.1	42.5
100547	Till	1	1600	343.97	125	0.01	3	330	<2	4	1	54	0.04	16	10	5.0	0.0	5.0	41.7
100548	Till	1	1600	344.28	120	0.01	3	360	<2	2	1	51	0.04	16	8	4.8	0.1	4.7	39.2
100549	Till	1	1600	344.58	120	0.01	4	410	<2	2	2	44	0.05	16	8	4.3	0.1	4.2	35.0
100550	Till	1	1550	343.33	120	0.01	2	350	<2	4	1	53	0.04	15	8	4.9	0.0	4.9	40.8
100551	Till	1	1550	343.64	165	0.01	6	370	2	2	2	56	0.05	19	14	5.0	0.0	5.0	41.7
100552	Till	1	1550	343.94	155	0.01	6	370	<2	4	2	53	0.05	18	14	4.8	0.0	4.8	40.0
100553	Till	1	1550	344.25	135	0.01	4	380	2	2	1	43	0.04	16	8	4.5	0.0	4.5	37.5
100554	Till	1	1550	344.55	105	0.01	6	490	2	4	2	25	0.05	18	12	2.9	0.2	2.7	22.5
100555	Till	1	1300	343.61	95	0.01	7	480	4	2	2	21	0.07	20	16	2.2	0.3	1.9	15.8
100556	Till	1	1300	343.91	115	0.01	11	540	4	4	2	14	0.09	25	22	0.8	0.4	0.4	3.3
100557	Till	1	1180	343.49	165	0.01	6	530	4	2	3	11	0.06	18	8	0.1	0.2	-0.1	-0.8
100558	Till	1	1180	343.79	115	<0.01	8	420	6	2	2	9	0.07	22	10	0.4	0.4	0.0	0.0
100559	Till	1	1160	343.27	225	0.01	10	470	6	2	3	30	0.07	25	18	2.9	0.2	2.7	22.5
100560	Till	1	1160	343.58	150	0.01	7	570	4	2	2	14	0.06	18	10	0.7	0.1	0.6	5.0
100561	Till	1	1160	343.88	105	0.01	7	390	6	4	3	11	0.07	20	10	0.4	0.2	0.2	1.7
100562	Till	1	1120	343.21	135	0.01	3	280	<2	4	1	39	0.03	12	6	2.6	0.0	2.6	21.7
100563	Till	1	1120	343.52	140	0.01	5	380	2	2	2	47	0.05	18	8	4.3	0.1	4.2	35.0
100564	Till	1	1120	343.82	115	0.01	8	260	4	2	3	17	0.07	22	12	1.4	0.4	1.0	8.3
100565	Till	1	1100	341.87	125	0.01	4	360	<2	4	1	50	0.04	16	12	4.7	0.1	4.6	38.3
100566	Till	1	1100	342.18	105	0.01	3	340	<2	4	1	49	0.03	14	8	4.8	0.0	4.8	40.0
100567	Till	1	1100	342.48	110	0.01	3	370	2	2	1	48	0.04	15	10	4.6	0.1	4.5	37.5
100568	Till	1	1100	342.79	125	0.01	4	370	2	4	1	51	0.04	16	12	4.7	0.0	4.7	39.2
100569	Till	1	1100	343.09	155	0.01	4	480	2	4	1	49	0.04	21	12	4.6	0.1	4.5	37.5
100570	Till	1	1100	343.40	155	0.01	6	390	2	4	2	48	0.05	17	10	4.6	0.1	4.5	37.5
100571	Till	1	1100	343.70	175	0.01	6	430	4	2	2	33	0.06	21	12	3.5	0.2	3.3	27.5
100572	Till	1	1050	342.27	130	0.01	3	350	6	2	1	56	0.05	16	14	5.1	0.0	5.1	42.5
100573	Till	1	1050	342.54	130	0.01	3	360	2	4	1	55	0.04	16	12	4.9	0.0	4.9	40.8
100574	Till	1	1050	342.85	115	0.01	2	370	<2	4	1	52	0.04	16	8	4.5	0.0	4.5	37.5
100575	Till	1	1050	343.15	125	0.01	4	370	<2	2	1	57	0.05	16	8	4.6	0.0	4.6	38.3

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100576	Till	1	1050	0.52	343.46	GPGM	0.2	0.44	<2	10	7.66	<0.5	2	20	7	0.72	0.06	10	3.22
100577	Till	1	1000	2.23	341.66	MSDM	0.2	0.43	<2	10	9.22	<0.5	1	20	144	0.78	0.08	10	3.08
100578	Till	1	1000	1.92	341.96	MSDM	<0.2	0.39	<2	10	9.78	<0.5	2	20	48	0.63	0.07	10	3.20
100579	Till	1	1000	1.62	342.27	MSDM	<0.2	0.32	<2	10	9.39	<0.5	1	18	13	0.58	0.05	10	3.14
100580	Till	1	1000	1.31	342.57	MSDM	<0.2	0.32	<2	10	9.24	<0.5	1	19	11	0.63	0.05	10	3.06
100581	Till	1	1000	1.01	342.88	MSDM	<0.2	0.37	<2	10	9.54	<0.5	1	19	10	0.63	0.06	10	3.10
100582	Till	1	1000	0.70	343.18	MSDM	<0.2	0.41	<2	10	8.52	<0.5	2	20	8	0.67	0.06	10	3.10
100583	Till	1	1000	0.40	343.49	MSDM	<0.2	0.44	<2	10	6.26	<0.5	2	19	6	0.69	0.05	10	3.28
100584	Till	1	980	2.44	341.42	GPGM	<0.2	0.38	<2	10	7.98	1.5	2	21	100	1.56	0.06	10	2.82
100585	Till	1	980	2.13	341.72	GPGM	<0.2	0.36	<2	10	9.48	<0.5	1	17	18	0.63	0.06	10	3.15
100586	Till	1	980	1.83	342.03	GPGM	<0.2	0.36	<2	10	9.59	<0.5	0.5	19	10	0.62	0.07	10	3.16
100587	Till	1	980	1.52	342.33	GPGM	<0.2	0.43	<2	20	9.74	<0.5	1	20	11	0.72	0.08	10	3.19
100588	Till	1	980	1.22	342.64	GPGM	0.2	0.41	<2	10	10.30	<0.5	1	21	9	0.63	0.07	10	3.37
100589	Till	1	980	0.91	342.94	GPGM	<0.2	0.57	<2	20	10.25	<0.5	2	24	11	0.77	0.09	10	3.28
100590	Till	1	980	0.61	343.24	GPGM	<0.2	0.57	<2	20	9.55	<0.5	2	22	11	0.76	0.08	10	3.24
100591	Till	1	980	0.30	343.55	GPGM	<0.2	0.58	<2	20	7.72	<0.5	2	23	9	0.78	0.06	10	2.95
100592	Till	1	960	2.59	341.23	BCSC	0.2	0.65	<2	60	9.53	3	7	24	40	1.19	0.12	10	3.06
100593	Till	1	960	2.29	341.54	BCSC	0.2	0.79	<2	30	9.99	<0.5	3	29	14	1.01	0.15	10	3.14
100594	Till	1	960	1.98	341.84	BCSC	0.2	0.68	<2	20	9.47	<0.5	3	26	14	0.90	0.13	10	3.03
100595	Till	1	960	1.68	342.15	BCSC	<0.2	0.43	<2	10	9.77	<0.5	2	19	8	0.64	0.08	10	3.22
100596	Till	1	960	1.37	342.45	BCSC	<0.2	0.53	<2	20	10.25	<0.5	2	22	10	0.75	0.10	10	3.37
100597	Till	1	960	1.07	342.76	BCSC	<0.2	0.33	<2	10	9.32	<0.5	2	17	10	0.66	0.05	10	3.14
100598	Till	1	960	0.76	343.06	BCSC	<0.2	0.41	<2	10	9.21	<0.5	2	19	11	0.69	0.06	10	3.16
100599	Till	1	960	0.46	343.37	BCSC	<0.2	0.42	<2	10	8.15	<0.5	2	21	9	0.69	0.06	10	3.32
100600	Till	1	940	2.96	340.8	MSDM	<0.2	0.73	<2	30	10.05	<0.5	3	25	12	0.97	0.14	10	3.20
100601	Till	1	940	2.65	341.1	MSDM	<0.2	0.44	<2	10	10.40	<0.5	1	19	8	0.67	0.08	10	3.43
100602	Till	1	940	2.35	341.4	MSDM	<0.2	0.64	<2	20	10.45	<0.5	3	24	11	0.86	0.12	10	3.38
100603	Till	1	940	2.04	341.7	MSDM	<0.2	0.66	<2	20	10.50	0.5	3	24	11	0.90	0.13	10	3.39
100604	Till	1	940	1.74	342	MSDM	<0.2	0.43	<2	10	10.00	<0.5	2	17	7	0.63	0.08	10	3.34
100605	Till	1	940	1.43	342.3	MSDM	<0.2	0.67	<2	20	10.10	<0.5	3	25	12	0.87	0.12	10	3.22
100606	Till	1	940	1.13	342.6	MSDM	<0.2	0.45	<2	20	9.92	<0.5	3	18	11	0.72	0.07	10	3.35

Geochemistry of Nama Creek Till (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO3 pct
100576	Till	1	1050	343.46	160	0.01	5	410	<2	2	2	44	0.06	19	12	4.3	0.1	4.2	35.0
100577	Till	1	1000	341.66	135	0.01	4	380	2	4	2	55	0.05	17	130	4.6	0.1	4.5	37.5
100578	Till	1	1000	341.96	140	0.01	4	370	<2	2	1	58	0.04	16	116	5.0	0.1	4.9	40.8
100579	Till	1	1000	342.27	125	0.01	3	350	2	2	1	55	0.04	15	36	5.0	0.1	4.9	40.8
100580	Till	1	1000	342.57	130	0.01	4	380	4	2	1	54	0.04	16	12	4.7	0.1	4.6	38.3
100581	Till	1	1000	342.88	125	0.01	4	360	2	2	1	56	0.04	16	14	4.9	0.1	4.8	40.0
100582	Till	1	1000	343.18	145	0.01	5	380	<2	2	1	49	0.04	17	14	4.8	0.1	4.7	39.2
100583	Till	1	1000	343.49	110	0.01	5	430	<2	2	2	34	0.05	18	10	3.9	0.1	3.8	31.7
100584	Till	1	980	341.42	175	0.01	4	390	<2	6	1	48	0.05	17	382	4.2	0.1	4.1	34.2
100585	Till	1	980	341.72	125	0.01	4	370	<2	4	1	56	0.04	16	46	4.9	0.0	4.9	40.8
100586	Till	1	980	342.03	140	0.01	4	370	2	4	1	57	0.04	16	14	5.0	0.0	5.0	41.7
100587	Till	1	980	342.33	155	0.01	4	360	<2	2	2	59	0.05	18	14	5.2	0.1	5.1	42.5
100588	Till	1	980	342.64	150	0.01	4	360	2	2	2	62	0.05	17	14	5.3	0.1	5.2	43.3
100589	Till	1	980	342.94	170	0.02	7	370	2	4	2	63	0.06	20	16	5.2	0.1	5.1	42.5
100590	Till	1	980	343.24	160	0.01	6	370	2	4	2	58	0.06	19	16	4.9	0.1	4.8	40.0
100591	Till	1	980	343.55	140	0.01	7	390	2	2	2	44	0.06	19	14	4.0	0.1	3.9	32.5
100592	Till	1	960	341.23	945	0.02	8	410	2	2	2	59	0.06	23	120	4.9	0.1	4.8	40.0
100593	Till	1	960	341.54	250	0.02	9	390	4	2	2	64	0.06	23	22	5.1	0.1	5.0	41.7
100594	Till	1	960	341.84	215	0.02	7	370	6	4	2	60	0.06	21	20	4.8	0.0	4.8	40.0
100595	Till	1	960	342.15	145	0.01	4	360	2	2	1	59	0.04	17	12	4.9	0.0	4.9	40.8
100596	Till	1	960	342.45	155	0.01	5	390	2	2	2	62	0.06	19	14	5.0	0.0	5.0	41.7
100597	Till	1	960	342.76	130	0.01	3	410	2	2	1	55	0.04	17	10	4.6	0.0	4.6	38.3
100598	Till	1	960	343.06	155	0.01	4	410	2	2	1	55	0.05	18	12	4.6	0.1	4.5	37.5
100599	Till	1	960	343.37	140	0.01	4	430	2	2	1	46	0.05	18	12	4.3	0.1	4.2	35.0
100600	Till	1	940	340.81	265	0.02	8	390	2	2	2	64	0.06	23	22	5.2	0.2	5.0	41.7
100601	Till	1	940	341.11	175	0.01	4	380	<2	<2	2	62	0.04	17	12	5.2	0.1	5.1	42.5
100602	Till	1	940	341.42	190	0.02	7	380	2	2	2	65	0.06	21	18	5.2	0.0	5.2	43.3
100603	Till	1	940	341.72	195	0.02	7	410	2	2	2	66	0.06	22	18	5.2	0.0	5.2	43.3
100604	Till	1	940	341.37	145	0.01	4	350	2	<2	1	60	0.04	17	12	5.0	0.0	5.0	41.7
100605	Till	1	940	341.02	195	0.01	8	380	2	2	2	63	0.06	22	18	5.2	0.0	5.2	43.3
100606	Till	1	940	340.67	155	0.01	4	390	2	2	2	59	0.05	18	12	4.9	0.0	4.9	40.8

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Stat. m	Dep. m	Elev. m asl	Bdrk	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100607	Till	1	940	0.82	342.9	MSDM	<0.2	0.39	<2	10	7.99	<0.5	2	18	7	0.61	0.06	10	2.95
100608	Till	1	940	0.52	343.2	MSDM	<0.2	0.55	<2	10	5.14	<0.5	1	20	6	0.75	0.06	10	2.78

Geochemistry of Nama Creek Tills (<0.063 mm Fraction)

Sample No.	Sed. Type	Grid Line	Station m	Elev. m asl	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm	Tot C pct	Org C pct	Inorg. C pct	CaCO ₃ pct
100607	Till	1	940	340.32	135	0.01	4	380	<2	<2	1	46	0.04	16	10	4.3	0.1	4.2	35.0
100608	Till	1	940	339.97	110	0.01	7	490	2	4	2	29	0.06	19	14	3.2	0.2	3.0	25.0

APPENDIX A(v)

Nama Creek Soil Profiles

Sample Locations and Descriptions

Trace, Minor and Major Element Data (<0.063 mm Fraction)

Key					
Sample No.	Sample number				
Sed. Type	Sediment type of sample				
Grid Line	One of two northeast-southwest trending sample grid lines				
Stat. No.	Position in feet on grid line (0 feet at northeastern end of line)				
Dep. m	Depth in metres from surface to top of soil horizon				
Elev. m asl	Elevation in metres above sea level				
Bdrk	Lithology of underlying bedrock, based on field observations. MSDM - metasedimentary rock; GPGM - granite pegmatite GRNT - granite; SLPD - sulphide rock; BCSC - basic schist				
Depth	Depth from surface in metres				
Slope	Approximate direction and degree of slope; N=north; S=south; E=east; and W=west.				
Relief	Estimate of local relief				
Veg. Dom.	Dominant vegetation at site; con=conifer, dec=deciduous				
Veg. Intensity	Vegetation intensity at site				
Soil/Till	Soil and till classification				
Horiz.	Soil horizon				
Horiz. Thick.	Soil horizon thickness in metres				
Colour	Soil or till colour				
Moist.	Moisture				
Drainage	Drainage condition at sample site				
Element	Unit of Measure	Detection Limit	Analytical Method		
Ag	Silver	ppm	0.2 ppm	HCl-HNO3, (3:1)	ICP-AES
Al	Aluminium	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
As	Arsenic	ppm	5 ppm	HCl-HNO3, (3:1)	ICP-AES
Ba	Barium	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Ca	Calcium	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
Cd	Cadmium	ppm	0.2 ppm	HCl-HNO3, (3:1)	ICP-AES
Co	Cobalt	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Cr	Chromium	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Cu	Copper	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Fe	Iron	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
K	Potassium	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
La	Lanthanum	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Mg	Magnesium	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
Mn	Manganese	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Na	Sodium	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
Ni	Nickel	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Pb	Lead	ppm	2 ppm	HCl-HNO3, (3:1)	ICP-AES
Sc	Scandium	ppm	5 ppm	HCl-HNO3, (3:1)	ICP-AES
Sr	Strontium	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Ti	Titanium	per cent	0.01%	HCl-HNO3, (3:1)	ICP-AES
V	Vanadium	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES
Zn	Zinc	ppm	1 ppm	HCl-HNO3, (3:1)	ICP-AES

Nama Creek Soil Profiles - Descriptions

Sample No.	Grid Line	Station No.	Bdrk	Sed. Type	Depth m	Slope	Relief	Veg. Dom.	Veg. Intensity	Soil/Till Class.	Horiz.	Horiz. Thick.	Colour	Moist.	Drainage
100002	1	800	MSDM	till	0.762	NE 5	low	con, cedar	well wooded	till	C	0.09	grey	moist	poor
100003	1	850	MSDM	soil	0.305	NE 5	low	con, cedar	well wooded	humic gleysol, mesic	Ah	0.15	black	wet	poor
100004	1	850	MSDM	till	0.671	NE 5	low	con, cedar	well wooded	till	C	0.09	grey	wet	poor
100005	1	900	MSDM	soil	0.305	NE 5	gentle	con, cedar	well wooded	humic gleysol, mesic	Ah	0.15	black	wet	poor
100006	1	900	MSDM	till	0.61	NE 5	gentle	con, cedar	well wooded	till	C	0.06	buff	moist	imperfect
100007	1	920	MSDM	soil	0.305	NE 5	gentle	con, cedar	well wooded	humic gleysol, mesic	Ah	0.15	black	wet	poor
100008	1	920	MSDM	till	0.61	NE 5	gentle	con, cedar	well wooded	till	C	0.06	buff	moist	imperfect
100009	1	940	MSDM	soil	0.305	NE 5	gentle	con, spruce	well wooded	humic gleysol, mesic	Ah	0.09	black	wet	poor
100010	1	940	MSDM	till	0.396	NE 5	gentle	con, spruce	well wooded	till	C	0.09	buff	moist	imperfect
100011	1	950	MSDM	soil	0.244	NE 5	gentle	con, balsam	well wooded	humic gleysol, mesic	Ah	0.06	black	wet	poor
100012	1	950	MSDM	till	0.457	NE 5	gentle	con, balsam	well wooded	till	C	0.09	buff	moist	imperfect
100013	1	960	BCSC	soil	0.274	N10	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100014	1	960	BCSC	till	0.549	N10	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100015	1	970	MSDM	soil	0.244	N10	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	moderate
100016	1	970	MSDM	till	0.579	N10	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100017	1	980	GPGM	soil	0.213	N10	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100018	1	980	GPGM	till	0.579	N10	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100019	1	990	MSDM	soil	0.152	N10	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100020	1	990	MSDM	till	0.427	N10	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100021	1	1000	MSDM	soil	0.152	N10	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	moderate
100022	1	1000	MSDM	till	0.457	N10	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100023	1	1010	SLPD	soil	0.152	N10	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	moderate
100024	1	1010	SLPD	till	0.488	N10	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100025	1	1020	GPGM	till	0.396	N10	gentle	treeless, grass	open	till	C	0.06	buff	moist	moderate
100026	1	1020	GPGM	soil	0.305	N10	gentle	treeless, grass	open	humo-ferric podzol	Bf	0.06	brown	wet	moderate
100027	1	1020	GPGM	soil	0.183	N10	gentle	treeless, grass	open	humo-ferric podzol	Ah	0.06	black	wet	moderate
100029	1	1030	MSDM	soil	0.213	N10	gentle	treeless, grass	open	humo-ferric podzol	Bf	0.09	brown	wet	moderate
100030	1	1030	MSDM	till	0.396	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100031	1	1040	MSDM	soil	0.122	N10	gentle	treeless, grass	open	humo-ferric podzol	Ah	0.06	black	wet	imperfect
100032	1	1040	MDSM	soil	0.03	N10	gentle	treeless, grass	open	humo-ferric podzol	Bf	0.06	brown	moist	moderate
100033	1	1040	MSDM	till	0.366	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100034	1	1060	GPGM	soil	0.061	N10	gentle	treeless, grass	open	humo-ferric podzol	Ah	0.12	black	wet	moderate
100035	1	1060	GPGM	soil	0.213	N10	gentle	treeless, grass	open	humo-ferric podzol	Bf	0.09	brown	wet	moderate
100036	1	1060	GPGM	till	0.457	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100037	1	1080	MSDM	soil	0.152	N10	gentle	treeless, grass	open	humo-ferric podzol	Ah	0.06	black	wet	moderate
100038	1	1080	MSDM	soil	0.274	N10	gentle	treeless, grass	open	humo-ferric podzol	Bf	0.06	buff	wet	moderate
100039	1	1080	MSDM	till	0.457	N10	gentle	treeless, grass	open	till	C	0.12	buff	moist	moderate
100040	1	1100	MSDM	soil	0	N10	gentle	treeless, grass	open	humo-ferric podzol	Ah	0.06	black	wet	moderate

Nama Creek Soil Profiles - Descriptions

Sample No.	Grid Line	Station No.	Bdrk	Sed. Type	Depth m	Slope	Relief	Veg. Dom.	Veg. Intensity	Soil/Till Class.	Horiz.	Horiz. Thick.	Colour	Moist.	Drainage
100041	1	1100	MSDM	soil	0.244	N10	gentle	treeless, grass	open	humo-ferric podzol	Bf	0.09	brown	wet	moderate
100042	1	1100	MSDM	till	0.488	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100045	1	1300	MSDM	soil	0.091	N20	gentle	dec, birch	moderate	podzol	Ah	0.06	brown	moist	moderate
100046	1	1300	MSDM	till	0.518	N20	gentle	dec, birch	moderate	till	C	0.09	brown	moist	imperfect
100047	1	1400	MSDM	soil	0.152	N10	gentle	dec, birch	moderate	till	Ah	0.06	brown	moist	moderate
100048	1	1400	MSDM	till	0.366	N10	gentle	dec, birch	moderate	till	C	0.06	brown	moist	imperfect
100049	1	1500	MSDM	soil	0.122	W00	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	poor
100050	1	1500	MSDM	till	0.427	W00	gentle	dec, birch	moderate	till	C	0.09	buff	wet	poor
100051	1	1600	MSDM	soil	0.122	N10	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100052	1	1600	MSDM	till	0.488	N10	gentle	dec, birch	moderate	till	C	0.06	buff	moist	moderate
100053	1	1700	MSDM	soil	0.122	N10	gentle	dec, birch	moderate	humic gleysol, humic	Ah	0.09	black	wet	moderate
100054	1	1700	MSDM	till	0.488	N10	gentle	dec, birch	moderate	till	C	0.09	buff	moist	imperfect
100055	1	1800	MSDM	soil	0.183	N20	gentle	dec, birch	moderate	humic gleysol, humic	Ah	0.09	black	wet	moderate
100056	1	1800	MSDM	till	0.244	N20	gentle	dec, birch	moderate	podzol	C	0.09	brown	wet	moderate
100057	1	1800	MSDM	till	0.579	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100058	1	1900	MSDM	soil	0.244	N20	gentle	dec, birch	moderate	humic gleysol, fibric	Bf	0.09	brown	wet	moderate
100059	1	1900	MSDM	till	0.488	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100060	2	750	MSDM	soil	0.305	W00	gentle	con, cedar	moderate	humic gleysol, humic	Ah	0.09	black	wet	poor
100061	2	750	MSDM	till	1.219	N00	gentle	con, cedar	moderate	till	C	0.15	black	wet	very poor
100062	2	800	BCSC	soil	0.183	N25	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.09	black	wet	imperfect
100063	2	800	BCSC	till	0.366	N25	gentle	con, spruce	moderate	till	C	0.06	brown	moist	moderate
100064	2	850	GPGM	soil	0.122	N00	gentle	con, spruce	moderate	humic gleysol, fibric	Ah	0.06	black	wet	imperfect
100065	2	850	GPGM	till	0.366	N00	gentle	con, spruce	moderate	till	C	0.09	buff	wet	moderate
100066	2	900	MSDM	soil	0.183	N00	gentle	con, spruce	moderate	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100067	2	900	MSDM	till	0.488	N00	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100068	2	920	MSDM	soil	0.122	N10	gentle	con, spruce	moderate	humic gleysol, fibric	Ah	0.06	black	wet	imperfect
100069	2	920	MSDM	till	0.366	N10	gentle	con, spruce	moderate	till	C	0.06	buff	wet	moderate
100070	2	940	MSDM	soil	0.183	N20	gentle	con, spruce	moderate	humic gleysol, fibric	Ah	0.09	black	wet	imperfect
100071	2	940	MSDM	till	0.427	N20	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100072	2	960	GPGM	soil	0.152	N20	gentle	treeless, grass	open	humic gleysol, fibric	Ah	0.06	black	wet	imperfect
100073	2	960	GPGM	till	0.427	N20	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100074	2	970	GPGM	soil	0.152	N20	gentle	treeless, grass	open	humic gleysol, fibric	Ah	0.06	black	wet	moderate
100075	2	970	GPGM	till	0.396	N20	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100076	2	980	MSDM	soil	0.183	N10	gentle	dec	sparse	humic gleysol, fibric	Ah	0.09	black	wet	moderate
100077	2	980	MSDM	till	0.457	N10	gentle	dec	sparse	till	C	0.09	buff	moist	moderate
100078	2	990	MSDM	soil	0.213	N10	gentle	dec	sparse	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100079	2	990	MSDM	till	0.396	N10	gentle	dec	sparse	till	C	0.09	buff	moist	moderate
100080	2	1000	SLPD	soil	0.091	N10	gentle	con, spruce	sparse	humic gleysol, mesic	Ah	0.06	black	wet	moderate

Nama Creek Soil Profiles - Descriptions

Sample No.	Grid Line	Station No.	Bdrk	Sed. Type	Depth m	Slope	Relief	Veg. Dom.	Veg. Intensity	Soil/Till Class.	Horiz.	Horiz. Thick.	Colour	Moist.	Drainage
100081	2	1000	SLPD	till	0.305	N10	gentle	con, spruce	sparse	till	C	0.09	buff	moist	imperfect
100082	2	1010	SLPD	soil	0.122	N10	gentle	dec	sparse	humic gleysol, mesic	Ah	0.09	black	wet	imperfect
100083	2	1010	SLPD	till	0.305	N10	gentle	dec	sparse	till	C	0.09	buff	moist	imperfect
100084	2	1020	GPGM	soil	0.061	N10	gentle	dec	sparse	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100085	2	1020	GPGM	till	0.213	N10	gentle	dec	sparse	till	C	0.09	buff	moist	moderate
100086	2	1030	GPGM	soil	0.122	N10	gentle	dec	sparse	humic gleysol, fibric	Ah	0.06	black	wet	imperfect
100087	2	1030	GPGM	till	0.396	N10	gentle	dec	sparse	till	C	0.09	buff	moist	moderate
100088	2	1040	SLPD	soil	0.091	N10	gentle	treeless, grass	open	humic gleysol, fibric	Ah	0.06	black	wet	imperfect
100089	2	1040	SLPD	till	0.396	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	imperfect
100090	2	1050	SLPD	soil	0.091	N10	gentle	treeless, grass	open	humic gleysol, mesic	Ah	0.09	black	wet	imperfect
100091	2	1050	SLPD	till	0.305	N10	gentle	treeless, grass	open	till	C	0.09	buff	wet	imperfect
100092	2	1100	MSDM	soil	0.122	N00	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	imperfect
100093	2	1100	MSDM	till	0.366	N00	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100094	2	1150	GPGM	soil	0.061	N20	gentle	dec, birch	moderate	humic gleysol, fibric	Ah	0.06	black	wet	moderate
100095	2	1150	GPGM	till	0.518	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100096	2	1200	GPGM	till	0.274	N10	gentle	dec, birch	moderate	till	C	0.06	buff	moist	moderate
100097	2	1300	MSDM	till	0.152	N10	gentle	dec, birch	moderate	till	C	0.03	brown	moist	moderate
100098	2	1400	MSDM	till	0.396	N10	gentle	dec, birch	moderate	till, local	C	0.03	black	moist	moderate
100099	2	1400	MSDM	till	0.213	N10	gentle	dec, birch	moderate	till	C	0.06	brown	moist	moderate
100100	2	1500	GPGM	soil	0.152	N10	gentle	dec, birch	moderate	humic gleysol, fibric	Ah	0.09	black	wet	moderate
100101	2	1500	GPGM	till	0.457	N10	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100102	2	1600	MSDM	soil	0.061	N20	gentle	dec, birch	moderate	humic gleysol, fibric	Ah	0.06	black	wet	imperfect
100103	2	1600	MSDM	till	0.427	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100104	2	1700	MSDM	till	0.213	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100105	2	1800	MSDM	till	0.274	N10	gentle	dec, birch	moderate	till	C	0.06	buff	moist	moderate
100106	2	1080	MSDM	soil	0.061	N10	gentle	dec, birch	moderate	humic gleysol, fibric	Ah	0.06	black	wet	poor
100107	2	1080	MSDM	till	0.427	N10	gentle	dec, birch	moderate	till	C	0.09	buff	moist	imperfect
100108	2	1090	MSDM	soil	0.122	N00	gentle	dec, birch	moderate	humic gleysol, fibric	Ah	0.09	black	wet	poor
100109	2	1090	MSDM	till	0.396	N00	gentle	dec, birch	moderate	till	C	0.09	buff	moist	imperfect
100110	2	1100	MSDM	soil	0.061	N00	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	poor
100111	2	1100	MSDM	till	0.366	N00	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100112	2	1110	MSDM	soil	0.091	N10	gentle	dec, birch	moderate	humic gleysol, fibric	Ah	0.06	black	wet	poor
100113	2	1110	MSDM	till	0.518	N10	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100114	2	1120	MSDM	soil	0.061	N10	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	poor
100115	2	1120	MSDM	till	0.518	N10	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100116	2	1130	MSDM	till	0.061	N20	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	poor
100117	2	1130	MSDM	till	0.335	N20	gentle	dec, birch	moderate	till	C	0.06	buff	moist	moderate
100118	2	1130	MSDM	till	0.427	N20	gentle	dec, birch	moderate	till	C	0.03	buff	wet	imperfect

Nama Creek Soil Profiles - Descriptions

Sample No.	Grid Line	Station No.	Bdrk	Sed. Type	Depth m	Slope	Relief	Veg. Dom.	Veg. Intensity	Soil/Till Class.	Horiz.	Horiz. Thick.	Colour	Moist.	Drainage
100119	2	1140	GPGM	soil	0.061	N20	gentle	dec, birch	moderate	humic gleysol, mesic	Ah	0.06	black	wet	poor
100120	2	1140	GPGM	till	0.457	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100121	1	1080	MSDM	till	0.579	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100122	1	1100	MSDM	till	0.61	N10	gentle	treeless, grass	open	till	C	0.09	buff	moist	moderate
100123	1	1120	GPGM	till	0.579	N15	gentle	con, spruce	moderate	till	C	0.09	buff	moist	moderate
100124	1	1140	GPGM	till	0.579	N10	gentle	dec	moderate	till	C	0.09	buff	moist	moderate
100125	1	1160	GPGM	till	0.427	N10	gentle	dec	moderate	till	C	0.06	buff	moist	moderate
100126	1	1180	MSDM	till	0.518	N20	gentle	dec, birch	moderate	till	C	0.09	buff	moist	moderate
100133	2	1781	GPGM	till	0.274	N10	gentle	dec, birch	moderate	till	C	0.06	buff	moist	moderate
100134	2	1809	GPGM	till	0.274	N10	gentle	dec, birch	moderate	till, local	C	0.06	buff	moist	moderate
100135	2	1770	BCSC	till	0.366	N10	gentle	dec, birch	moderate	till, local	C	0.03	black	moist	moderate
100136	2	1770	BCSC	till	0.305	N10	gentle	dec, birch	moderate	till	C	0.06	buff	moist	moderate

Geochemistry of Nama Creek Soils

Sample No.	Sed. Type	Horiz.	Grid Line	Station No.	Rock Type	Depth m	Colour	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
100002	till	C	1	800	MSDM	0.762	grey	<0.2	0.84	<2	40	2.98	<0.5	3	20	15	0.87	0.06
100003	soil	Ah	1	850	MSDM	0.305	black	<0.2	0.59	<2	40	2.19	<0.5	2	12	13	0.65	0.03
100004	till	C	1	850	MSDM	0.671	grey	<0.2	0.75	4	20	0.88	<0.5	2	23	16	0.72	0.06
100005	soil	Ah	1	900	MSDM	0.305	black	<0.2	0.52	<2	70	3.53	0.5	2	10	20	0.47	0.03
100006	till	C	1	900	MSDM	0.61	buff	<0.2	0.64	8	10	3.79	<0.5	2	16	8	0.77	0.07
100007	soil	Ah	1	920	MSDM	0.305	black	<0.2	0.70	4	90	3.68	0.5	2	13	23	0.58	0.04
100008	till	C	1	920	MSDM	0.61	buff	<0.2	0.61	4	20	0.76	<0.5	2	20	7	0.9	0.06
100009	soil	Ah	1	940	MSDM	0.305	black	<0.2	0.91	2	60	2.78	0.5	9	43	21	1.64	0.04
100010	till	C	1	940	MSDM	0.396	buff	<0.2	0.57	<2	10	1.43	<0.5	2	19	4	0.86	0.06
100011	soil	Ah	1	950	MSDM	0.244	black	<0.2	0.54	<2	70	3.87	0.5	1	8	13	0.53	0.02
100012	till	C	1	950	MSDM	0.457	buff	<0.2	1.07	<2	30	0.61	<0.5	3	26	8	1.37	0.05
100013	soil	Ah	1	960	BCSC	0.274	black	<0.2	1.00	<2	80	3.13	<0.5	2	17	33	1.11	0.04
100014	till	C	1	960	BCSC	0.549	buff	<0.2	0.41	6	10	5.29	<0.5	2	13	11	0.61	0.03
100015	soil	Ah	1	970	MSDM	0.244	black	<0.2	1.05	<2	110	3.15	0.5	4	20	22	1.05	0.05
100016	till	C	1	970	MSDM	0.579	buff	<0.2	0.82	2	20	2.09	<0.5	3	21	8	1.03	0.07
100017	soil	Ah	1	980	GPGM	0.213	black	<0.2	0.91	<2	70	2.37	0.5	4	19	12	0.87	0.06
100018	till	C	1	980	GPGM	0.579	buff	<0.2	0.70	4	20	3.59	<0.5	2	18	10	0.88	0.06
100019	soil	Ah	1	990	MSDM	0.152	black	<0.2	1.18	2	70	1.59	0.5	3	23	15	1.13	0.06
100020	till	C	1	990	MSDM	0.427	buff	<0.2	0.68	12	20	3.58	<0.5	2	18	9	0.84	0.05
100021	soil	Ah	1	1000	MSDM	0.152	black	<0.2	0.79	<2	80	1.71	<0.5	3	13	12	0.78	0.06
100022	till	C	1	1000	MSDM	0.457	buff	<0.2	0.61	12	10	5.98	<0.5	2	16	13	0.86	0.06
100023	soil	Ah	1	1010	SLPD	0.152	black	<0.2	1.14	<2	60	0.84	<0.5	4	17	7	1.17	0.06
100024	till	C	1	1010	SLPD	0.488	buff	<0.2	0.81	2	30	1.9	<0.5	3	24	6	1.24	0.06
100025	till	C	1	1020	GPGM	0.396	buff	<0.2	0.62	<2	60	0.99	0.5	2	10	7	0.58	0.07
100026	soil	Bf	1	1020	GPGM	0.305	brown	<0.2	0.69	<2	70	0.66	<0.5	1	11	4	0.62	0.05
100027	soil	Ah	1	1020	GPGM	0.183	black	<0.2	0.96	4	30	0.58	<0.5	3	22	4	1.21	0.04
100029	soil	Bf	1	1030	MSDM	0.213	brown	<0.2	1.59	4	30	0.68	<0.5	3	25	3	1.48	0.03
100030	till	C	1	1030	MSDM	0.396	buff	<0.2	0.49	10	10	4.54	<0.5	2	13	10	0.74	0.03
100031	soil	Ah	1	1040	MSDM	0.122	black	<0.2	0.44	<2	40	1.13	<0.5	1	5	4	0.41	0.03
100032	soil	Bf	1	1040	MSDM	0.03	brown	<0.2	1.10	4	20	0.43	<0.5	4	23	4	1.26	0.03
100033	till	C	1	1040	MSDM	0.366	buff	<0.2	0.58	6	10	4.16	<0.5	2	15	11	0.79	0.03
100034	soil	Ah	1	1060	GPGM	0.061	black	<0.2	0.23	<2	50	0.3	<0.5	<1	4	2	0.21	0.03
100035	soil	Bf	1	1060	GPGM	0.213	brown	<0.2	1.12	4	20	0.43	<0.5	3	29	2	1.77	0.02
100036	till	C	1	1060	GPGM	0.457	buff	<0.2	0.51	14	10	6.31	<0.5	2	12	11	0.69	0.04
100037	soil	Ah	1	1080	MSDM	0.152	black	<0.2	0.28	<2	110	0.7	<0.5	1	6	13	0.28	0.05
100038	soil	Bf	1	1080	MSDM	0.274	buff	<0.2	1.08	<2	40	0.3	<0.5	3	19	4	1.3	0.03
100039	till	C	1	1080	MSDM	0.457	buff	<0.2	0.85	4	30	1.37	<0.5	3	23	8	1.26	0.04

Geochemistry of Nama Creek Soils

Sample No.	Sed. Type	Grid Line	Station No.	Rock Type	Depth m	Horiz.	Colour	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100002	till	1	800	MSDM	0.762	C	grey	20	1.64	110	<0.01	8	720	4	2	21	0.05	22	32
100003	soil	1	850	MSDM	0.305	Ah	black	10	0.24	170	<0.01	6	760	1	1	25	0.02	12	18
100004	till	1	850	MSDM	0.671	C	grey	20	0.29	60	<0.01	9	800	1	2	14	0.04	15	18
100005	soil	1	900	MSDM	0.305	Ah	black	10	0.30	595	<0.01	5	1180	1	<1	34	0.01	8	32
100006	till	1	900	MSDM	0.61	C	buff	10	2.47	95	<0.01	7	570	1	2	21	0.05	17	30
100007	soil	1	920	MSDM	0.305	Ah	black	20	0.35	650	<0.01	6	1140	1	<1	36	0.02	12	28
100008	till	1	920	MSDM	0.61	C	buff	20	0.32	95	0.01	8	780	2	2	16	0.07	19	14
100009	soil	1	940	MSDM	0.305	Ah	black	10	0.37	550	<0.01	11	1160	4	3	28	0.05	34	38
100010	till	1	940	MSDM	0.396	C	buff	10	0.96	85	<0.01	8	650	1	1	13	0.04	18	14
100011	soil	1	950	MSDM	0.244	Ah	black	10	0.30	560	<0.01	4	870	1	<1	38	<0.01	8	22
100012	till	1	950	MSDM	0.457	C	buff	10	0.32	120	<0.01	10	430	4	2	11	0.06	24	20
100013	soil	1	960	BCSC	0.274	Ah	black	20	0.30	440	<0.01	7	1060	2	1	35	0.01	15	42
100014	till	1	960	BCSC	0.549	C	buff	10	3.26	100	<0.01	5	480	1	1	25	0.03	13	36
100015	soil	1	970	MSDM	0.244	Ah	black	10	0.30	1190	<0.01	9	1180	4	1	37	0.02	19	38
100016	till	1	970	MSDM	0.579	C	buff	20	1.27	115	<0.01	9	490	1	2	16	0.04	21	20
100017	soil	1	980	GPGM	0.213	Ah	black	10	0.26	690	<0.01	7	990	4	1	31	0.02	18	32
100018	till	1	980	GPGM	0.579	C	buff	10	2.16	110	<0.01	8	490	2	2	21	0.05	19	26
100019	soil	1	990	MSDM	0.152	Ah	black	20	0.22	450	<0.01	7	900	6	1	26	0.02	22	24
100020	till	1	990	MSDM	0.427	C	buff	10	2.45	90	<0.01	8	430	1	2	21	0.06	18	26
100021	soil	1	1000	MSDM	0.152	Ah	black	10	0.22	295	<0.01	6	690	6	1	31	0.02	15	24
100022	till	1	1000	MSDM	0.457	C	buff	10	3.21	115	<0.01	7	580	2	1	30	0.05	18	38
100023	soil	1	1010	SLPD	0.152	Ah	black	10	0.20	165	<0.01	8	540	4	1	19	0.04	21	12
100024	till	1	1010	SLPD	0.488	C	buff	20	1.12	180	<0.01	9	640	4	2	16	0.06	24	16
100025	till	1	1020	GPGM	0.396	C	buff	10	0.13	30	<0.01	4	510	4	<1	26	0.02	9	14
100026	soil	1	1020	GPGM	0.305	Bf	brown	10	0.15	85	<0.01	4	350	6	1	17	0.04	14	16
100027	soil	1	1020	GPGM	0.183	Ah	black	10	0.27	105	<0.01	10	380	2	2	12	0.06	22	8
100029	soil	1	1030	MSDM	0.213	Bf	brown	10	0.19	95	<0.01	10	430	4	2	13	0.05	23	8
100030	till	1	1030	MSDM	0.396	C	buff	10	2.58	105	<0.01	6	540	2	1	21	0.02	13	26
100031	soil	1	1040	MSDM	0.122	Ah	black	10	0.16	20	<0.01	3	420	2	<1	29	0.01	6	6
100032	soil	1	1040	1040 MSDM		Bf	brown	10	0.25	115	<0.01	11	410	2	1	10	0.05	20	12
100033	till	1	1040	MSDM	0.366	C	buff	10	2.44	90	<0.01	7	580	1	2	20	0.03	14	26
100034	soil	1	1060	GPGM	0.061	Ah	black	<10	0.05	15	<0.01	1	210	6	<1	14	0.03	7	2
100035	soil	1	1060	GPGM	0.213	Bf	brown	20	0.17	95	<0.01	9	460	2	1	13	0.07	29	4
100036	till	1	1060	GPGM	0.457	C	buff	10	3.18	120	<0.01	6	480	1	1	29	0.03	13	38
100037	soil	1	1080	MSDM	0.152	Ah	black	<10	0.08	55	<0.01	4	470	8	<1	27	0.01	6	14
100038	soil	1	1080	MSDM	0.274	Bf	buff	10	0.19	80	<0.01	10	130	4	1	10	0.05	18	14
100039	till	1	1080	MSDM	0.457	C	buff	20	0.91	110	<0.01	11	390	1	3	14	0.06	20	14

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Sample No.	Sed. Type	Horiz.	Grid Line	Station No.	Rock Type	Depth m	Colour	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
100040	soil	Ah	1	1100	MSDM		black	<0.2	0.23	<2	60	0.25	0.5	<1	3	283	0.21	0.04
100041	soil	Bf	1	1100	MSDM	0.244	brown	<0.2	1.65	<2	20	0.13	<0.5	3	23	480	1.5	0.04
100042	till	C	1	1100	MSDM	0.488	buff	<0.2	0.70	8	20	4.94	<0.5	3	18	165	0.95	0.06
100045	soil	Ah	1	1300	MSDM	0.091	brown	<0.2	1.22	2	40	1.83	<0.5	4	39	27	1.26	0.04
100046	till	C	1	1300	MSDM	0.518	brown	<0.2	0.56	4	20	4.75	<0.5	2	14	13	0.74	0.04
100047	soil	Ah	1	1400	MSDM	0.152	brown	<0.2	0.46	<2	40	0.79	0.5	<1	4	10	0.38	0.04
100048	till	C	1	1400	MSDM	0.366	brown	<0.2	0.96	<2	20	0.27	<0.5	2	13	1	0.88	0.03
100049	soil	Ah	1	1500	MSDM	0.122	black	<0.2	0.29	<2	100	5.37	0.5	3	4	38	0.23	0.02
100050	till	C	1	1500	MSDM	0.427	buff	<0.2	0.71	6	20	2.43	<0.5	2	16	11	0.89	0.04
100051	soil	Ah	1	1600	MSDM	0.122	black	<0.2	1.09	<2	100	2.94	0.5	3	16	14	0.98	0.03
100052	till	C	1	1600	MSDM	0.488	buff	<0.2	0.47	10	10	6.6	<0.5	1	11	11	0.7	0.04
100053	soil	Ah	1	1700	MSDM	0.122	black	<0.2	0.81	<2	40	1.71	<0.5	3	18	13	0.99	0.06
100054	till	C	1	1700	MSDM	0.488	buff	<0.2	0.97	12	40	7.41	<0.5	3	20	20	1.28	0.14
100055	soil	Ah	1	1800	MSDM	0.183	black	<0.2	1.39	2	120	3.67	0.5	3	12	31	0.94	0.1
100056	till	C	1	1800	MSDM	0.244	brown	<0.2	1.12	2	50	0.39	<0.5	2	19	6	1.19	0.07
100057	till	C	1	1800	MSDM	0.579	buff	<0.2	1.46	2	70	0.58	<0.5	5	33	11	1.88	0.15
100058	soil	Bf	1	1900	MSDM	0.244	brown	<0.2	2.98	4	90	0.52	<0.5	6	37	6	2.59	0.11
100059	till	C	1	1900	MSDM	0.488	buff	<0.2	1.66	4	50	0.91	<0.5	7	38	12	1.95	0.15
100060	soil	Ah	2	750	MSDM	0.305	black	<0.2	0.71	<2	70	3.65	1	<1	7	30	0.52	0.02
100061	till	C	2	750	MSDM	1.219	black	<0.2	1.10	<2	70	1.79	4.5	3	16	26	0.85	0.04
100062	soil	Ah	2	800	BCSC	0.183	black	<0.2	0.89	<2	80	5.42	2	2	5	24	0.63	0.01
100063	till	C	2	800	BCSC	0.366	brown	<0.2	0.96	<2	40	0.62	0.5	1	5	10	0.94	0.03
100064	soil	Ah	2	850	GPGM	0.122	black	<0.2	0.33	<2	70	5.02	2.5	<1	1	19	0.25	0.01
100065	till	C	2	850	GPGM	0.366	buff	<0.2	1.41	2	20	1.03	<0.5	6	23	11	1.77	0.06
100066	soil	Ah	2	900	MSDM	0.183	black	<0.2	1.28	<2	100	4.77	2	3	6	46	0.59	0.01
100067	till	C	2	900	MSDM	0.488	buff	<0.2	0.62	4	20	0.42	<0.5	2	17	4	0.99	0.04
100068	soil	Ah	2	920	MSDM	0.122	black	<0.2	1.91	<2	80	4.29	1	3	6	24	0.69	0.01
100069	till	C	2	920	MSDM	0.366	buff	<0.2	4.11	4	40	2.84	1.5	8	8	35	2.96	0.005
100070	soil	Ah	2	940	MSDM	0.183	black	<0.2	1.21	2	60	2.31	0.5	3	13	12	0.92	0.03
100071	till	C	2	940	MSDM	0.427	buff	<0.2	0.77	6	20	0.34	<0.5	2	18	3	1	0.03
100072	soil	Ah	2	960	GPGM	0.152	black	<0.2	0.89	2	50	1.56	1	3	13	11	0.89	0.02
100073	till	C	2	960	GPGM	0.427	buff	<0.2	0.87	2	30	0.42	<0.5	3	19	6	1.24	0.03
100074	soil	Ah	2	970	GPGM	0.152	black	<0.2	1.59	<2	90	3.35	2.5	2	14	17	1.1	0.02
100075	till	C	2	970	GPGM	0.396	buff	<0.2	0.43	14	10	10.02	2	2	8	50	0.7	0.06
100076	soil	Ah	2	980	MSDM	0.183	black	<0.2	1.13	<2	70	3.53	1	2	12	19	0.72	0.03
100077	till	C	2	980	MSDM	0.457	buff	<0.2	0.46	22	10	11.32	<0.5	2	10	28	0.7	0.06
100078	soil	Ah	2	990	MSDM	0.213	black	<0.2	1.04	<2	70	3.77	0.5	2	12	21	0.7	0.03

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Sample No.	Sed. Type	Grid Line	Station No.	Rock Type	Depth m	Horiz.	Colour	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100040	soil	1	1100	MSDM		Ah	black	<10	0.03	40	<0.01	2	320	10	<1	11	0.01	5	10
100041	soil	1	1100	MSDM	0.244	Bf	brown	20	0.20	90	<0.01	12	180	6	1	6	0.07	23	14
100042	till	1	1100	MSDM	0.488	C	buff	20	2.74	185	<0.01	9	490	2	2	27	0.04	19	34
100045	soil	1	1300	MSDM	0.091	Ah	brown	20	0.38	225	<0.01	14	910	1	2	21	0.04	23	18
100046	till	1	1300	MSDM	0.518	C	brown	10	2.51	100	<0.01	7	470	1	1	24	0.04	14	28
100047	soil	1	1400	MSDM	0.152	Ah	brown	10	0.09	15	<0.01	4	510	4	<1	18	0.01	4	2
100048	till	1	1400	MSDM	0.366	C	brown	10	0.34	70	<0.01	12	200	1	1	12	0.08	19	14
100049	soil	1	1500	MSDM	0.122	Ah	black	10	0.34	1105	<0.01	8	1190	1	<1	48	<0.01	4	38
100050	till	1	1500	MSDM	0.427	C	buff	10	1.30	80	<0.01	9	370	1	1	17	0.06	17	14
100051	soil	1	1600	MSDM	0.122	Ah	black	20	0.31	785	<0.01	8	1140	6	1	36	0.01	16	22
100052	till	1	1600	MSDM	0.488	C	buff	10	3.42	120	<0.01	4	490	1	1	31	0.04	14	38
100053	soil	1	1700	MSDM	0.122	Ah	black	20	0.31	295	<0.01	9	990	2	1	21	0.04	20	16
100054	till	1	1700	MSDM	0.488	C	buff	10	3.74	175	0.01	10	460	1	2	44	0.08	23	52
100055	soil	1	1800	MSDM	0.183	Ah	black	160	0.40	865	<0.01	15	1430	14	1	46	0.02	12	28
100056	till	1	1800	MSDM	0.244	C	brown	20	0.25	100	<0.01	10	190	2	1	11	0.07	23	10
100057	till	1	1800	MSDM	0.579	C	buff	20	0.47	255	0.01	18	640	2	3	19	0.1	31	22
100058	soil	1	1900	MSDM	0.244	Bf	brown	10	0.38	185	0.01	25	550	4	2	20	0.09	36	20
100059	till	1	1900	MSDM	0.488	C	buff	40	0.69	400	0.01	19	650	8	5	19	0.07	32	22
100060	soil	2	750	MSDM	0.305	Ah	black	10	0.25	70	<0.01	3	1240	2	<1	37	<0.01	4	202
100061	till	2	750	MSDM	1.219	C	black	10	0.30	125	0.01	9	590	6	1	24	0.06	19	132
100062	soil	2	800	BCSC	0.183	Ah	black	10	0.34	150	<0.01	3	1200	4	<1	51	0.01	5	394
100063	till	2	800	BCSC	0.366	C	brown	20	0.25	45	<0.01	3	300	20	1	11	0.08	22	162
100064	soil	2	850	GPGM	0.122	Ah	black	<10	0.33	60	<0.01	3	650	1	<1	48	<0.01	4	458
100065	till	2	850	GPGM	0.366	C	buff	10	0.55	95	0.01	17	1960	2	1	17	0.05	28	172
100066	soil	2	900	MSDM	0.183	Ah	black	20	0.32	705	<0.01	7	1950	1	1	49	<0.01	11	160
100067	till	2	900	MSDM	0.488	C	buff	10	0.24	80	<0.01	8	680	1	1	13	0.06	20	48
100068	soil	2	920	MSDM	0.122	Ah	black	20	0.30	215	<0.01	6	1240	1	1	51	0.01	9	46
100069	till	2	920	MSDM	0.366	C	buff	20	0.99	75	0.01	19	5530	6	3	33	0.1	53	144
100070	soil	2	940	MSDM	0.183	Ah	black	20	0.26	260	<0.01	8	990	1	1	31	0.02	13	86
100071	till	2	940	MSDM	0.427	C	buff	10	0.24	90	<0.01	8	380	1	2	10	0.06	19	62
100072	soil	2	960	GPGM	0.152	Ah	black	10	0.22	300	<0.01	7	770	4	<1	22	0.02	14	160
100073	till	2	960	GPGM	0.427	C	buff	10	0.28	80	0.01	9	270	2	2	11	0.07	19	274
100074	soil	2	970	GPGM	0.152	Ah	black	30	0.31	310	0.01	9	1390	4	<1	42	0.02	14	178
100075	till	2	970	GPGM	0.396	C	buff	10	3.36	135	<0.01	4	440	1	1	54	0.04	13	988
100076	soil	2	980	MSDM	0.183	Ah	black	20	0.29	245	0.01	8	1130	1	1	41	0.02	12	340
100077	till	2	980	MSDM	0.457	C	buff	10	3.98	155	0.01	6	450	1	1	62	0.04	14	1144
100078	soil	2	990	MSDM	0.213	Ah	black	20	0.37	110	<0.01	9	1180	1	1	40	0.02	13	46

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Sample No.	Sed. Type	Horiz.	Grid Line	Station No.	Rock Type	Depth m	Colour	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
100079	till	C	2	990	MSDM	0.396	buff	<0.2	0.48	14	10	7.74	<0.5	2	11	18	0.67	0.06
100080	soil	Ah	2	1000	SLPD	0.091	black	<0.2	0.99	<2	70	2.12	0.5	4	17	14	0.92	0.03
100081	till	C	2	1000	SLPD	0.305	buff	<0.2	0.76	6	20	4	<0.5	3	20	14	0.91	0.07
100082	soil	Ah	2	1010	SLPD	0.122	black	<0.2	1.86	<2	90	2.39	0.5	3	23	19	1.36	0.03
100083	till	C	2	1010	SLPD	0.305	buff	<0.2	0.46	<2	10	7.38	<0.5	2	18	6	0.58	0.04
100084	soil	Ah	2	1020	GPGM	0.061	black	0.2	1.61	<2	70	1.23	0.5	3	25	14	1.25	0.04
100085	till	C	2	1020	GPGM	0.213	buff	<0.2	0.61	<2	20	2.16	<0.5	2	21	6	0.74	0.04
100086	soil	Ah	2	1030	GPGM	0.122	black	<0.2	1.03	<2	60	1.48	0.5	3	17	14	0.85	0.06
100087	till	C	2	1030	GPGM	0.396	buff	<0.2	0.57	6	20	8.48	<0.5	2	13	19	0.69	0.07
100088	soil	Ah	2	1040	SLPD	0.091	black	<0.2	1.17	<2	40	2.01	<0.5	2	19	15	0.96	0.06
100089	till	C	2	1040	SLPD	0.396	buff	<0.2	1.03	20	40	6.36	<0.5	3	24	23	1.22	0.14
100090	soil	Ah	2	1050	SLPD	0.091	black	<0.2	1.26	<2	60	0.82	<0.5	4	26	16	1.06	0.07
100091	till	C	2	1050	SLPD	0.305	buff	<0.2	0.70	2	20	1.91	<0.5	2	19	6	0.83	0.06
100092	soil	Ah	2	1100	MSDM	0.122	black	<0.2	1.26	<2	50	0.78	<0.5	2	22	15	1.04	0.03
100093	till	C	2	1100	MSDM	0.366	buff	<0.2	0.56	2	20	1.81	<0.5	2	17	14	0.88	0.04
100094	soil	Ah	2	1150	GPGM	0.061	black	<0.2	0.53	2	90	1.08	<0.5	2	10	9	0.6	0.05
100095	till	C	2	1150	GPGM	0.518	buff	<0.2	0.71	<2	20	0.26	<0.5	3	18	6	0.87	0.04
100096	till	C	2	1200	GPGM	0.274	buff	<0.2	1.10	4	30	0.4	<0.5	3	21	6	1.33	0.06
100097	till	C	2	1300	MSDM	0.152	brown	<0.2	0.93	<2	30	0.21	<0.5	2	16	1	1.06	0.03
100098	till	C	2	1400	MSDM	0.396	black	<0.2	1.69	6	10	2.71	<0.5	11	40	41	2.41	0.06
100099	till	C	2	1400	MSDM	0.213	brown	<0.2	1.69	6	20	0.9	<0.5	4	32	7	1.56	0.06
100100	soil	Ah	2	1500	GPGM	0.152	black	<0.2	0.69	<2	90	5.3	0.5	4	11	27	0.64	0.03
100101	till	C	2	1500	GPGM	0.457	buff	<0.2	0.80	2	20	0.41	<0.5	2	19	3	0.93	0.05
100102	soil	Ah	2	1600	MSDM	0.061	black	<0.2	0.79	<2	60	1.59	<0.5	2	17	13	0.89	0.05
100103	till	C	2	1600	MSDM	0.427	buff	<0.2	0.47	18	10	6.53	<0.5	1	11	17	0.64	0.06
100104	till	C	2	1700	MSDM	0.213	buff	<0.2	0.87	<2	40	0.28	<0.5	4	23	4	1.25	0.07
100105	till	C	2	1800	MSDM	0.274	buff	<0.2	0.99	2	30	0.29	<0.5	3	20	4	1.23	0.07
100106	soil	Ah	2	1080	MSDM	0.061	black	<0.2	1.27	<2	70	2.22	0.5	2	15	16	0.91	0.04
100107	till	C	2	1080	MSDM	0.427	buff	<0.2	0.94	<2	20	0.47	<0.5	2	21	12	1.07	0.06
100108	soil	Ah	2	1090	MSDM	0.122	black	<0.2	1.80	<2	70	1.49	0.5	3	24	33	1.25	0.04
100109	till	C	2	1090	MSDM	0.396	buff	<0.2	1.00	2	30	0.62	<0.5	3	21	8	1.12	0.07
100110	soil	Ah	2	1100	MSDM	0.061	black	<0.2	1.18	<2	70	1.5	<0.5	3	18	11	1.07	0.04
100111	till	C	2	1100	MSDM	0.366	buff	<0.2	0.74	2	20	1.99	<0.5	2	20	7	1.07	0.06
100112	soil	Ah	2	1110	MSDM	0.091	black	<0.2	1.73	2	80	1.33	0.5	7	26	13	1.89	0.06
100113	till	C	2	1110	MSDM	0.518	buff	<0.2	0.50	14	10	6.58	<0.5	2	12	15	0.77	0.04
100114	soil	Ah	2	1120	MSDM	0.061	black	<0.2	0.96	<2	80	1.9	<0.5	3	10	9	0.8	0.03
100115	till	C	2	1120	MSDM	0.518	buff	<0.2	0.62	12	20	7.81	<0.5	2	12	15	0.87	0.06

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Sample No.	Sed. Type	Grid Line	Station No.	Rock Type	Depth m	Horiz.	Colour	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100079	till	2	990	MSDM	0.396	C	buff	10	3.56	135	<0.01	5	460	1	1	38	0.04	14	1036
100080	soil	2	1000	SLPD	0.091	Ah	black	20	0.28	275	<0.01	8	1080	1	1	31	0.01	16	26
100081	till	2	1000	SLPD	0.305	C	buff	10	2.52	125	<0.01	10	580	4	2	24	0.06	22	34
100082	soil	2	1010	SLPD	0.122	Ah	black	40	0.31	440	0.01	9	1740	4	1	36	0.02	23	32
100083	till	2	1010	SLPD	0.305	C	buff	10	3.20	110	0.01	6	410	2	1	39	0.04	14	10
100084	soil	2	1020	GPGM	0.061	Ah	black	30	0.31	145	<0.01	10	1080	8	2	22	0.03	18	34
100085	till	2	1020	GPGM	0.213	C	buff	10	1.27	90	0.01	7	530	2	2	16	0.04	16	14
100086	soil	2	1030	GPGM	0.122	Ah	black	20	0.33	335	<0.01	7	880	2	1	21	0.02	17	24
100087	till	2	1030	GPGM	0.396	C	buff	10	4.10	140	0.01	6	470	1	1	46	0.06	16	62
100088	soil	2	1040	SLPD	0.091	Ah	black	30	0.35	220	<0.01	8	1060	2	1	25	0.03	18	24
100089	till	2	1040	SLPD	0.396	C	buff	10	3.85	150	0.01	11	500	2	2	35	0.07	25	54
100090	soil	2	1050	SLPD	0.091	Ah	black	20	0.32	195	<0.01	11	640	2	2	18	0.05	23	30
100091	till	2	1050	SLPD	0.305	C	buff	10	1.33	105	<0.01	8	530	4	2	16	0.06	19	22
100092	soil	2	1100	MSDM	0.122	Ah	black	20	0.27	190	<0.01	8	890	2	1	14	0.02	18	26
100093	till	2	1100	MSDM	0.366	C	buff	10	1.22	85	<0.01	8	640	18	1	14	0.04	18	92
100094	soil	2	1150	GPGM	0.061	Ah	black	10	0.21	220	<0.01	5	600	6	1	21	0.01	11	20
100095	till	2	1150	GPGM	0.518	C	buff	10	0.28	75	<0.01	11	570	1	1	9	0.04	16	14
100096	till	2	1200	GPGM	0.274	C	buff	20	0.34	125	0.01	11	580	4	2	13	0.07	21	14
100097	till	2	1300	MSDM	0.152	C	brown	10	0.23	65	<0.01	9	190	2	1	10	0.08	21	18
100098	till	2	1400	MSDM	0.396	C	black	50	2.11	290	<0.01	51	1580	6	2	31	0.12	39	54
100099	till	2	1400	MSDM	0.213	C	brown	30	0.31	165	<0.01	13	850	4	3	16	0.06	25	12
100100	soil	2	1500	GPGM	0.152	C	black	20	0.35	770	<0.01	7	1610	1	<1	49	<0.01	10	28
100101	till	2	1500	GPGM	0.457	C	buff	10	0.29	80	0.01	8	510	4	2	13	0.06	17	12
100102	soil	2	1600	MSDM	0.061	Ah	black	10	0.26	300	<0.01	7	920	1	1	22	0.03	15	12
100103	till	2	1600	MSDM	0.427	C	buff	10	3.06	110	<0.01	5	470	1	1	32	0.04	13	38
100104	till	2	1700	MSDM	0.213	C	buff	10	0.32	205	<0.01	12	100	4	2	11	0.09	23	12
100105	till	2	1800	MSDM	0.274	C	buff	20	0.27	155	<0.01	10	240	4	1	12	0.08	23	16
100106	soil	2	1080	MSDM	0.061	Ah	black	20	0.33	255	<0.01	8	880	4	1	33	0.03	15	28
100107	till	2	1080	MSDM	0.427	C	buff	20	0.34	120	0.01	9	530	6	2	15	0.08	20	60
100108	soil	2	1090	MSDM	0.122	Ah	black	40	0.30	185	<0.01	12	1100	6	2	26	0.03	19	28
100109	till	2	1090	MSDM	0.396	C	buff	20	0.46	110	0.01	11	540	1	2	15	0.08	20	20
100110	soil	2	1100	MSDM	0.061	Ah	black	20	0.28	320	<0.01	7	1040	2	1	26	0.03	17	30
100111	till	2	1100	MSDM	0.366	C	buff	10	1.29	105	0.01	9	630	2	2	20	0.07	20	16
100112	soil	2	1110	MSDM	0.091	Ah	black	20	0.36	840	<0.01	10	990	8	1	24	0.03	34	26
100113	till	2	1110	MSDM	0.518	C	buff	10	3.42	145	<0.01	6	500	1	1	32	0.04	15	42
100114	soil	2	1120	MSDM	0.061	Ah	black	20	0.24	290	<0.01	6	800	4	1	34	0.02	10	10
100115	till	2	1120	MSDM	0.518	C	buff	10	3.17	160	<0.01	7	490	1	1	41	0.05	17	46

Geochemistry of Nama Creek Soils

Sample No.	Sed. Type	Horiz.	Grid Line	Station No.	Rock Type	Depth m	Colour	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct
100116	soil	Ah	2	1130	MSDM	0.061	black	<0.2	1.08	<2	120	1.47	0.5	3	9	13	1.15	0.06
100117	till	C	2	1130	MSDM	0.335	buff	<0.2	1.00	2	30	0.27	<0.5	3	17	3	1.17	0.05
100118	till	C	2	1130	MSDM	0.427	buff	<0.2	1.13	2	20	0.44	<0.5	4	22	4	1.22	0.05
100119	soil	Ah	2	1140	GPGM	0.061	black	<0.2	1.02	<2	60	0.47	<0.5	1	15	10	0.95	0.06
100120	till	C	2	1140	GPGM	0.457	buff	<0.2	0.81	2	30	0.35	<0.5	3	17	2	1.11	0.07
100121	till	C	1	1080	MSDM	0.579	buff	<0.2	0.52	<2	20	8.73	<0.5	2	20	12	0.74	0.06
100122	till	C	1	1100	MSDM	0.61	buff	<0.2	1.18	<2	30	1.19	<0.5	2	26	382	1.28	0.06
100123	till	C	1	1120	GPGM	0.579	buff	<0.2	0.52	<2	10	6.84	<0.5	2	22	7	0.79	0.07
100124	till	C	1	1140	GPGM	0.579	buff	<0.2	0.27	<2	<10	7.77	<0.5	<1	16	6	0.59	0.03
100125	till	C	1	1160	GPGM	0.427	buff	<0.2	0.28	<2	<10	7.37	<0.5	1	13	3	0.48	0.02
100126	till	C	1	1180	MSDM	0.518	buff	<0.2	0.86	<2	10	0.27	<0.5	3	19	6	1	0.04
100133	till	C	2	1781	GPGM	0.274	buff	<0.2	0.59	4	10	0.34	<0.5	3	19	6	0.88	0.04
100134	till	C	2	1809	GPGM	0.274	buff	<0.2	0.96	4	40	0.45	<0.5	4	27	9	1.35	0.1
100135	till	C	2	1770	BCSC	0.366	black	0.2	1.44	<2	40	0.3	<0.5	1	0.5	17	4.02	0.35
100136	till	C	2	1770	BCSC	0.305	buff	<0.2	1.17	6	60	0.48	<0.5	6	32	11	1.63	0.16

Geochemistry of Nama Creek Soils

Sample No.	Sed. Type	Grid Line	Station No.	Rock Type	Depth m	Horiz.	Colour	La ppm	Mg pct	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100116	soil	2	1130	MSDM	0.061	Ah	black	20	0.19	490	<0.01	6	1030	36	1	34	0.02	11	16
100117	till	2	1130	MSDM	0.335	C	buff	10	0.28	95	<0.01	9	300	2	1	13	0.09	20	12
100118	till	2	1130	MSDM	0.427	C	buff	20	0.31	140	<0.01	11	950	2	2	15	0.07	21	14
100119	soil	2	1140	GPGM	0.061	Ah	black	10	0.19	65	<0.01	5	280	8	1	16	0.07	20	24
100120	till	2	1140	GPGM	0.457	C	buff	10	0.29	75	0.01	10	610	2	1	14	0.08	19	72
100121	till	1	1080	MSDM	0.579	C	buff	10	3.26	155	0.01	8	410	4	2	51	0.05	19	12
100122	till	1	1100	MSDM	0.61	C	buff	20	0.65	115	0.01	13	250	8	3	16	0.09	26	20
100123	till	1	1120	GPGM	0.579	C	buff	10	3.35	150	0.01	7	470	1	2	37	0.05	19	12
100124	till	1	1140	GPGM	0.579	C	buff	10	3.08	120	0.01	4	420	4	1	42	0.03	15	8
100125	till	1	1160	GPGM	0.427	C	buff	10	2.99	120	0.01	3	420	6	1	39	0.03	12	8
100126	till	1	1180	MSDM	0.518	C	buff	10	0.17	190	<0.01	10	630	4	2	9	0.04	19	10
100133	till	2	1781	GPGM	0.274	C	buff	20	0.22	175	<0.01	7	470	6	2	13	0.08	20	14
100134	till	2	1809	GPGM	0.274	C	buff	20	0.36	285	0.01	15	730	14	3	15	0.08	26	20
100135	till	2	1770	BCSC	0.366	C	black	30	0.59	775	<0.01	3	170	8	4	6	0.05	8	70
100136	till	2	1770	BCSC	0.305	C	buff	30	0.46	340	0.01	17	680	6	4	17	0.09	30	26

APPENDIX A(vi)

Duplicate Sample Data

Trace, Minor, and Major Element and
and Leco Carbonate Data for the
Silt and Clay-Sized (<0.063 mm) Fraction
of Duplicate Till and Stream Sediment Samples

Scattergrams of First Run
and Duplicate Analytical Data

For explanation of data, see Appendix A(i) to A(v)

TCA, SBA, and PHA are Terrain Sciences Division standards.

Duplicate Geochemical Analyses (<0.063 mm Fraction)

Sample No.	Type	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100002	Duplicate	<0.2	1	<2	40	3.21	<0.5	4	30	16	1	0.09	20	1.73
100002	First Analysis	<0.2	0.8	<2	40	2.98	<0.5	3	20	15	0.87	0.06	20	1.64
100018	Duplicate	<0.2	0.8	<2	20	3.98	<0.5	3	21	8	0.96	0.07	20	2.12
100018	First Analysis	<0.2	0.7	4	20	3.59	<0.5	2	18	10	0.88	0.06	10	2.16
100033	Duplicate	<0.2	0.6	<2	10	4.24	<0.5	2	23	7	0.82	0.06	20	2.42
100033	First Analysis	<0.2	0.6	6	10	4.16	<0.5	2	15	11	0.79	0.03	10	2.44
100042	Duplicate	<0.2	0.8	<2	20	4.77	<0.5	3	26	158	0.99	0.09	20	2.56
100042	First Analysis	<0.2	0.7	8	20	4.94	<0.5	3	18	165	0.95	0.06	20	2.74
100057	Duplicate	<0.2	1.4	<2	60	0.58	<0.5	6	32	14	1.74	0.18	20	0.5
100057	First Analysis	<0.2	1.5	2	70	0.58	<0.5	5	33	11	1.88	0.15	20	0.47
100063	Duplicate	0.2	1.3	<2	40	0.71	0.5	1	11	18	1.08	0.06	30	0.36
100063	First Analysis	<0.2	1	<2	40	0.62	0.5	1	5	10	0.94	0.03	20	0.25
100065	Duplicate	<0.2	1.5	<2	30	1.1	<0.5	7	28	14	1.87	0.08	10	0.62
100065	First Analysis	<0.2	1.4	2	20	1.03	<0.5	6	23	11	1.77	0.06	10	0.55
100077	Duplicate	<0.2	0.4	<2	10	9.7	2	2	18	20	0.65	0.06	10	3.46
100077	First Analysis	<0.2	0.5	22	10	11.3	<0.5	2	10	28	0.7	0.06	10	3.98
100083	Duplicate	<0.2	0.5	<2	10	7.59	<0.5	2	19	7	0.65	0.06	10	3.28
100083	First Analysis	<0.2	0.5	<2	10	7.38	<0.5	2	18	6	0.58	0.04	10	3.2
100091	Duplicate	<0.2	0.7	<2	20	2.1	<0.5	3	19	6	0.88	0.06	10	1.25
100091	First Analysis	<0.2	0.7	2	20	1.91	<0.5	2	19	6	0.83	0.06	10	1.33
100103	Duplicate	<0.2	0.5	<2	10	6.71	<0.5	1	19	10	0.62	0.06	10	3.13
100103	First Analysis	<0.2	0.5	18	10	6.53	<0.5	1	11	17	0.64	0.06	10	3.06
100111	Duplicate	<0.2	0.7	<2	20	1.81	<0.5	3	21	7	0.92	0.06	20	1.08
100111	First Analysis	<0.2	0.7	2	20	1.99	<0.5	2	20	7	1.07	0.06	10	1.29
100123	Duplicate	<0.2	0.5	2	10	6.6	<0.5	3	20	7	0.79	0.06	10	3.28
100123	First Analysis	<0.2	0.5	<2	10	6.84	<0.5	2	22	7	0.79	0.07	10	3.35
100126	Duplicate	<0.2	0.9	<2	10	0.32	<0.5	4	24	9	1.07	0.04	10	0.19
100126	First Analysis	<0.2	0.9	<2	10	0.27	<0.5	3	19	6	1	0.04	10	0.17
100127	Duplicate	<0.2	1.3	<2	40	0.37	<0.5	6	25	36	1.36	0.05	10	0.25
100127	First Analysis	<0.2	1.2	6	40	0.34	<0.5	4	22	36	1.29	0.04	10	0.23
100128	Duplicate	<0.2	1.1	<2	10	0.23	<0.5	3	27	414	1.37	0.06	10	0.24
100128	First Analysis	<0.2	1.1	2	10	0.18	<0.5	2	23	455	1.39	0.04	10	0.22
100322	Duplicate	<0.2	0.9	<2	30	9.92	<0.5	5	28	14	1.09	0.16	10	3.18
100322	First Analysis	<0.2	0.8	<2	30	9.92	<0.5	6	20	12	1.1	0.15	10	3.12
100335	Duplicate	<0.2	1	<2	20	2.01	<0.5	3	29	9	1.13	0.08	20	1.15
100335	First Analysis	<0.2	1.2	4	30	2.35	<0.5	3	24	10	1.35	0.09	20	1.36
100337	Duplicate	<0.2	0.5	<2	10	8.9	<0.5	2	20	8	0.74	0.06	10	3.14
100337	First Analysis	<0.2	0.6	2	20	9.7	<0.5	2	11	16	0.87	0.07	10	3.73
100355	Duplicate	<0.2	1.4	<2	20	0.73	<0.5	4	32	8	1.35	0.07	20	0.38
100355	First Analysis	<0.2	1.6	4	20	0.8	<0.5	4	30	6	1.52	0.08	20	0.4
100361	Duplicate	<0.2	0.7	<2	20	3.99	<0.5	2	23	7	0.79	0.06	20	1.82
100361	First Analysis	<0.2	0.7	2	20	4.1	<0.5	2	15	8	0.86	0.04	20	1.84
100370	Duplicate	<0.2	0.9	<2	20	0.41	<0.5	4	19	7	1.02	0.06	20	0.27
100370	First Analysis	<0.2	1.1	2	30	0.46	<0.5	3	20	4	1.16	0.07	20	0.28
100371	Duplicate	<0.2	0.8	<2	20	0.26	<0.5	4	16	4	0.98	0.04	10	0.25
100371	First Analysis	<0.2	1	6	20	0.34	<0.5	3	19	3	1.21	0.06	10	0.28
100383	Duplicate	0.2	0.6	<2	20	9.65	<0.5	2	22	11	0.8	0.1	10	3.25
100383	First Analysis	<0.2	0.8	2	20	10.3	<0.5	3	15	22	0.98	0.12	10	4.02
100388	Duplicate	<0.2	0.8	<2	30	8.52	<0.5	4	26	13	1	0.13	10	2.84
100388	First Analysis	<0.2	0.9	<2	30	8.9	<0.5	3	18	21	1.11	0.14	10	3.42

Duplicate Geochemical Analyses (<0.063 mm Fraction)

Sample No.	Type	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100002	Duplicate	130	0.01	9	770	4	3	25	0.07	29	30
100002	First Analysis	110	<0.01	8	720	4	2	21	0.05	22	32
100018	Duplicate	120	0.01	9	490	<2	2	26	0.07	23	16
100018	First Analysis	110	<0.01	8	490	2	2	21	0.05	19	26
100033	Duplicate	100	0.01	7	570	<2	3	25	0.06	20	14
100033	First Analysis	90	<0.01	7	580	1	2	20	0.03	14	26
100042	Duplicate	195	0.01	9	470	6	3	30	0.07	23	16
100042	First Analysis	185	<0.01	9	490	2	2	27	0.04	19	34
100057	Duplicate	245	0.01	18	610	6	4	19	0.1	34	28
100057	First Analysis	255	0.01	18	640	2	3	19	0.1	31	22
100063	Duplicate	65	<0.01	3	360	22	2	13	0.1	33	250
100063	First Analysis	45	<0.01	3	300	20	1	11	0.08	22	162
100065	Duplicate	105	0.01	19	1990	6	2	19	0.07	33	206
100065	First Analysis	95	0.01	17	1960	2	1	17	0.05	28	172
100077	Duplicate	145	0.01	6	400	<2	1	55	0.04	17	1070
100077	First Analysis	155	0.01	6	450	1	1	62	0.04	14	1144
100083	Duplicate	120	0.01	5	440	2	2	42	0.06	18	12
100083	First Analysis	110	0.01	6	410	2	1	39	0.04	14	10
100091	Duplicate	115	0.01	8	510	<2	2	17	0.06	20	24
100091	First Analysis	105	<0.01	8	530	4	2	16	0.06	19	22
100103	Duplicate	110	0.01	3	440	<2	2	37	0.05	16	10
100103	First Analysis	110	<0.01	5	470	1	1	32	0.04	13	38
100111	Duplicate	110	0.01	10	590	2	2	17	0.06	20	16
100111	First Analysis	105	0.01	9	630	2	2	20	0.07	20	16
100123	Duplicate	150	0.01	6	480	2	2	36	0.05	20	10
100123	First Analysis	150	0.01	7	470	1	2	37	0.05	19	12
100126	Duplicate	195	0.01	9	620	2	2	13	0.07	22	10
100126	First Analysis	190	<0.01	10	630	4	2	9	0.04	19	10
100127	Duplicate	105	0.01	13	220	2	2	13	0.08	25	14
100127	First Analysis	95	<0.01	12	190	4	2	11	0.07	21	14
100128	Duplicate	90	0.01	10	200	6	2	9	0.09	25	14
100128	First Analysis	85	<0.01	12	180	8	2	6	0.08	23	14
100322	Duplicate	245	0.02	10	430	4	3	63	0.07	26	28
100322	First Analysis	245	0.02	12	450	2	2	58	0.06	21	148
100335	Duplicate	150	0.01	9	500	6	3	19	0.08	25	18
100335	First Analysis	180	0.02	11	560	8	3	21	0.09	26	22
100337	Duplicate	155	0.01	6	420	2	2	51	0.05	19	14
100337	First Analysis	175	0.04	7	470	12	1	58	0.06	18	58
100355	Duplicate	145	0.01	12	620	4	3	14	0.07	25	18
100355	First Analysis	160	0.01	15	680	6	3	19	0.08	27	14
100361	Duplicate	110	0.01	8	570	6	2	28	0.06	19	12
100361	First Analysis	110	0.02	9	600	6	2	27	0.06	16	22
100370	Duplicate	95	0.01	12	800	2	2	14	0.07	20	16
100370	First Analysis	100	0.01	12	880	2	2	19	0.09	21	14
100371	Duplicate	75	<0.01	8	340	4	1	9	0.06	19	14
100371	First Analysis	90	0.01	10	380	4	2	16	0.09	23	14
100383	Duplicate	165	0.01	7	370	4	2	57	0.05	19	16
100383	First Analysis	190	0.04	10	450	14	2	62	0.07	21	72
100388	Duplicate	195	0.02	10	440	4	2	55	0.06	23	24
100388	First Analysis	205	0.04	12	510	12	2	54	0.06	22	70

Duplicate Geochemical Analyses (<0.063 mm Fraction)

Sample No.	Type	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100391	Duplicate	<0.2	0.7	<2	20	9.74	<0.5	3	24	11	0.87	0.12	10	3.19
100391	First Analysis	<0.2	0.7	4	20	9.67	<0.5	3	15	19	0.94	0.13	10	3.49
100404	Duplicate	<0.2	0.9	2	30	10.3	<0.5	6	33	16	1.15	0.17	10	3.24
100404	First Analysis	<0.2	1.1	<2	40	10.9	<0.5	4	20	23	1.29	0.2	10	3.36
100415	Duplicate	<0.2	0.9	<2	30	8.38	<0.5	3	27	12	1.04	0.14	10	2.74
100415	First Analysis	<0.2	1	2	30	9.57	<0.5	4	19	18	1.28	0.14	10	3.05
100420	Duplicate	<0.2	0.5	<2	20	9.1	<0.5	3	22	10	0.79	0.07	10	3.21
100420	First Analysis	<0.2	0.6	4	20	9.3	<0.5	2	12	16	0.89	0.08	10	3.26
100426	Duplicate	<0.2	0.8	<2	30	6.74	<0.5	3	25	122	1.04	0.14	10	2.82
100426	First Analysis	<0.2	0.9	<2	30	7.62	<0.5	4	19	135	1.32	0.16	10	3.16
100435	Duplicate	<0.2	0.3	<2	10	9.48	<0.5	2	15	9	0.61	0.04	10	3.16
100435	First Analysis	<0.2	0.3	4	10	9.16	<0.5	1	7	15	0.62	0.04	10	3.14
100438	Duplicate	0.2	0.3	<2	10	6.47	0.5	<1	17	203	0.71	0.06	10	3.12
100438	First Analysis	<0.2	0.5	<2	10	7.43	<0.5	2	11	245	0.92	0.07	10	3.73
100450	Duplicate	<0.2	0.4	<2	20	9.94	<0.5	2	16	9	0.66	0.06	10	3.36
100450	First Analysis	<0.2	0.5	<2	20	10.7	<0.5	2	10	17	0.77	0.07	10	3.63
100463	Duplicate	<0.2	0.5	<2	10	6.53	0.5	3	22	9	0.86	0.05	10	3.25
100463	First Analysis	<0.2	0.5	2	10	9.96	<0.5	3	11	16	0.86	0.06	10	3.52
100468	Duplicate	<0.2	0.4	<2	20	9.38	<0.5	1	18	11	0.72	0.06	10	3.21
100468	First Analysis	<0.2	0.4	<2	20	9.5	<0.5	1	9	18	0.79	0.06	10	3.36
100483	Duplicate	<0.2	0.3	<2	10	9.35	1	2	16	11	0.62	0.04	10	3.16
100483	First Analysis	<0.2	0.3	2	10	9	<0.5	1	7	20	0.59	0.04	10	3.58
100485	Duplicate	<0.2	0.4	<2	10	9.22	0.5	2	17	10	0.61	0.06	10	3.1
100485	First Analysis	0.2	0.4	<2	10	9.7	0.5	1	21	10	0.63	0.06	10	3.27
100498	Duplicate	<0.2	0.5	<2	10	10.4	<0.5	2	20	8	0.65	0.08	10	3.4
100498	First Analysis	0.2	0.5	<2	10	10.1	<0.5	1	21	8	0.61	0.08	10	3.35
100504	Duplicate	<0.2	0.4	<2	10	8.61	<0.5	2	18	6	0.71	0.05	10	3.37
100504	First Analysis	0.2	0.3	<2	10	7.62	<0.5	0.5	18	4	0.62	0.04	10	2.96
100517	Duplicate	<0.2	0.9	<2	30	10.3	<0.5	6	29	14	1.13	0.17	10	3.22
100517	First Analysis	0.2	0.8	<2	30	9.24	<0.5	3	29	13	0.99	0.16	10	2.94
100528	Duplicate	<0.2	0.6	<2	20	10.5	<0.5	2	24	10	0.81	0.11	10	3.47
100528	First Analysis	<0.2	0.6	<2	20	9.71	<0.5	1	22	9	0.75	0.11	10	3.24
100535	Duplicate	<0.2	0.8	<2	30	10.5	<0.5	6	28	13	1.03	0.15	10	3.31
100535	First Analysis	0.2	0.9	<2	30	10.1	<0.5	4	30	13	1.01	0.17	10	3.3
100547	Duplicate	0.2	0.5	<2	20	10.6	<0.5	3	21	9	0.71	0.07	10	3.53
100547	First Analysis	<0.2	0.4	<2	10	9	<0.5	1	20	8	0.61	0.07	10	3.07
100554	Duplicate	<0.2	0.6	<2	10	4.46	<0.5	1	23	6	0.81	0.06	20	2.33
100554	First Analysis	<0.2	0.6	<2	10	4.08	<0.5	2	22	6	0.73	0.05	10	2.13
100561	Duplicate	<0.2	0.8	2	10	0.3	<0.5	4	20	5	1	0.03	20	0.2
100561	First Analysis	0.2	0.8	4	10	0.29	<0.5	2	22	4	0.96	0.04	20	0.2
100567	Duplicate	<0.2	0.4	<2	10	9.07	<0.5	1	19	9	0.66	0.06	10	3.13
100567	First Analysis	<0.2	0.3	<2	10	8.4	<0.5	1	16	8	0.59	0.04	10	2.85
100579	Duplicate	<0.2	0.3	<2	10	9.8	<0.5	3	16	14	0.61	0.05	10	3.23
100579	First Analysis	<0.2	0.3	<2	10	9.39	<0.5	1	18	13	0.58	0.05	10	3.14
100582	Duplicate	<0.2	0.5	<2	10	8.93	<0.5	2	22	9	0.74	0.07	10	3.29
100582	First Analysis	<0.2	0.4	<2	10	8.52	<0.5	2	20	8	0.67	0.06	10	3.1
100592	Duplicate	<0.2	0.5	<2	10	9.6	<0.5	2	20	149	0.83	0.08	10	3.21
100592	First Analysis	0.2	0.7	<2	60	9.53	3	7	24	40	1.19	0.12	10	3.06
100599	Duplicate	<0.2	0.4	<2	10	8	<0.5	2	19	9	0.7	0.06	10	3.24
100599	First Analysis	<0.2	0.4	<2	10	8.15	<0.5	2	21	9	0.69	0.06	10	3.32

Duplicate Geochemical Analyses (<0.063 mm Fraction)

Sample No.	Type	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100391	Duplicate	175	0.02	8	400	4	2	60	0.06	21	20
100391	First Analysis	180	0.04	9	450	12	2	56	0.06	20	72
100404	Duplicate	195	0.02	11	410	<2	3	67	0.07	27	26
100404	First Analysis	210	0.05	14	470	14	3	67	0.08	27	78
100415	Duplicate	190	0.02	9	400	4	3	55	0.06	24	22
100415	First Analysis	225	0.04	12	480	14	2	59	0.08	23	70
100420	Duplicate	155	0.01	6	420	<2	2	53	0.05	19	14
100420	First Analysis	165	0.04	8	460	12	2	53	0.06	17	56
100426	Duplicate	215	0.01	8	430	4	2	41	0.07	22	72
100426	First Analysis	260	0.04	13	520	14	3	48	0.09	23	106
100435	Duplicate	125	0.01	3	400	2	1	54	0.04	16	12
100435	First Analysis	125	0.04	5	430	10	1	50	0.04	13	54
100438	Duplicate	150	0.01	3	420	<2	1	33	0.04	16	222
100438	First Analysis	180	0.04	7	520	12	1	40	0.06	17	272
100450	Duplicate	130	0.01	6	390	<2	1	56	0.04	17	20
100450	First Analysis	150	0.04	8	450	16	1	59	0.06	16	74
100463	Duplicate	160	0.01	6	480	4	2	34	0.05	20	594
100463	First Analysis	175	0.04	8	470	12	1	61	0.05	17	650
100468	Duplicate	125	0.01	6	450	<2	1	53	0.04	18	224
100468	First Analysis	130	0.04	8	480	14	1	53	0.04	15	268
100483	Duplicate	120	0.01	4	430	<2	1	54	0.04	17	82
100483	First Analysis	115	0.04	5	450	8	1	50	0.03	13	128
100485	Duplicate	140	0.01	4	390	2	1	55	0.05	17	42
100485	First Analysis	145	0.01	3	420	1	1	58	0.05	17	46
100498	Duplicate	155	0.01	5	360	2	2	62	0.05	17	12
100498	First Analysis	150	0.01	5	340	2	2	60	0.05	16	12
100504	Duplicate	120	0.01	4	460	6	1	48	0.05	19	12
100504	First Analysis	105	0.01	4	400	2	1	42	0.04	16	8
100517	Duplicate	255	0.02	11	440	<2	3	66	0.07	26	24
100517	First Analysis	225	0.02	9	380	4	2	59	0.06	23	20
100528	Duplicate	175	0.02	6	400	2	2	64	0.06	20	16
100528	First Analysis	160	0.01	5	360	1	2	59	0.06	19	14
100535	Duplicate	255	0.02	11	400	2	2	65	0.07	24	22
100535	First Analysis	245	0.02	9	390	4	3	66	0.07	24	22
100547	Duplicate	145	0.02	5	390	2	2	61	0.05	18	12
100547	First Analysis	125	0.01	3	330	1	1	54	0.04	16	10
100554	Duplicate	115	0.01	7	560	6	2	29	0.06	20	12
100554	First Analysis	105	0.01	6	490	2	2	25	0.05	18	12
100561	Duplicate	110	0.01	8	420	<2	3	10	0.07	20	10
100561	First Analysis	105	0.01	7	390	6	3	11	0.07	20	10
100567	Duplicate	125	0.01	4	430	4	1	54	0.05	18	12
100567	First Analysis	110	0.01	3	370	2	1	48	0.04	15	10
100579	Duplicate	130	0.01	5	370	2	1	57	0.04	16	38
100579	First Analysis	125	0.01	3	350	2	1	55	0.04	15	36
100582	Duplicate	155	0.01	6	420	4	2	53	0.06	19	14
100582	First Analysis	145	0.01	5	380	1	1	49	0.04	17	14
100592	Duplicate	145	0.01	4	390	4	2	59	0.06	18	134
100592	First Analysis	945	0.02	8	410	2	2	59	0.06	23	120
100599	Duplicate	140	0.01	4	430	4	2	46	0.06	18	12
100599	First Analysis	140	0.01	4	430	2	1	46	0.05	18	12

Duplicate Geochemical Analyses (<0.063 mm Fraction)

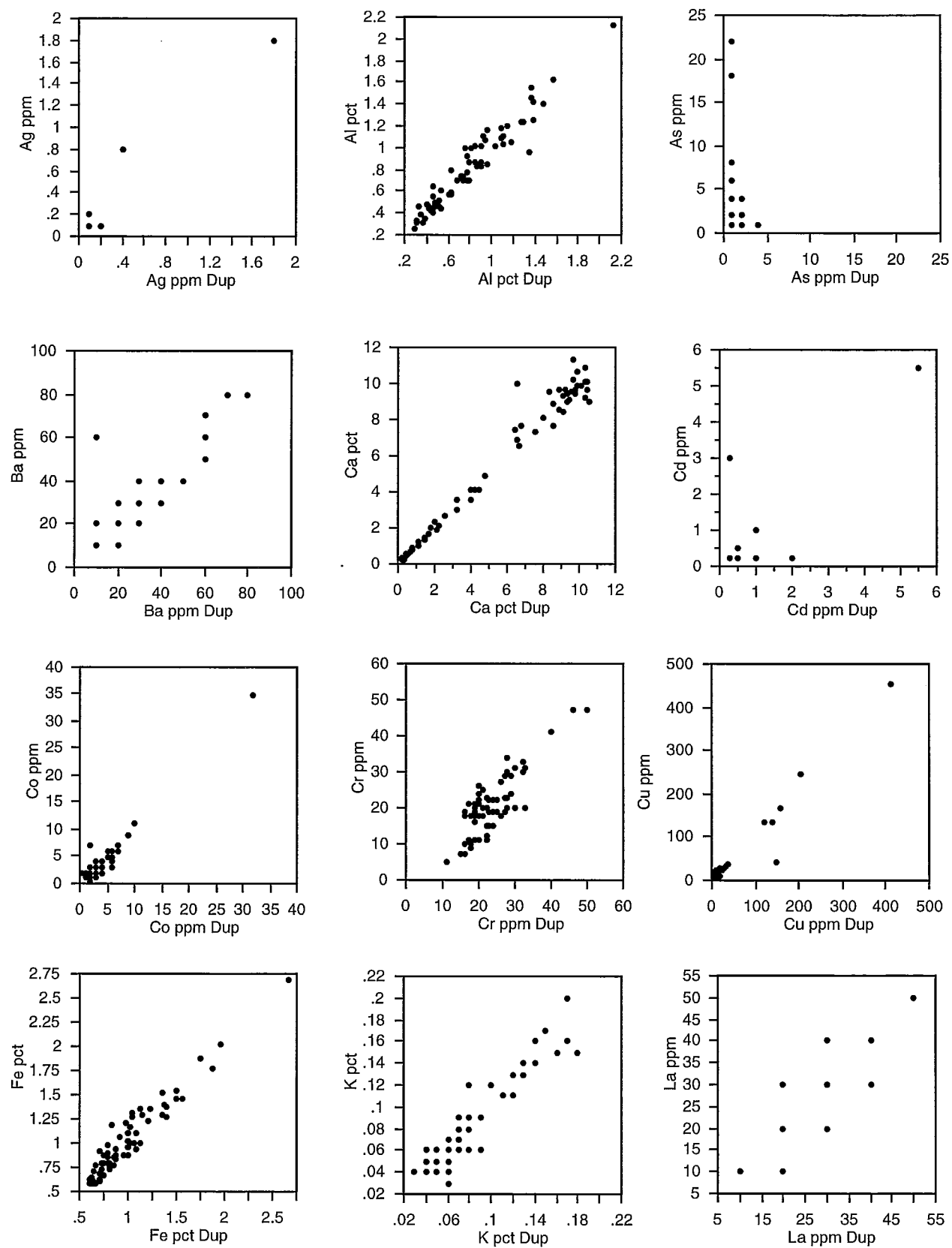
Sample No.	Type	Ag ppm	Al pct	As ppm	Ba ppm	Ca pct	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe pct	K pct	La ppm	Mg pct
100606	Duplicate	<0.2	0.5	<2	20	10.1	<0.5	2	18	11	0.73	0.07	10	3.34
100606	First Analysis	<0.2	0.5	<2	20	9.92	<0.5	3	18	11	0.72	0.07	10	3.35
110009	Duplicate	<0.2	1.3	4	50	2.22	0.5	6	33	11	1.49	0.13	30	1.16
110009	First Analysis	<0.2	1.2	<2	40	2.09	0.5	6	31	10	1.45	0.13	30	1.13
110019	Duplicate	<0.2	1	2	20	2.54	<0.5	7	28	8	1.39	0.09	30	1.34
110019	First Analysis	<0.2	1	<2	20	2.64	<0.5	7	34	8	1.37	0.09	30	1.31
110036	Duplicate	<0.2	1.1	<2	20	0.62	<0.5	6	27	8	1.22	0.07	20	0.48
110036	First Analysis	<0.2	1.2	4	20	0.71	<0.5	6	29	8	1.36	0.09	20	0.54
200007	Duplicate	<0.2	1.2	<2	70	3.21	0.5	3	21	31	1	0.05	30	0.42
200007	First Analysis	<0.2	1.2	<2	80	3.51	0.5	4	25	33	1.03	0.06	40	0.43
200017	Duplicate	<0.2	1.1	<2	40	0.54	<0.5	7	50	13	1.56	0.09	20	0.46
200017	First Analysis	<0.2	1	<2	40	0.53	<0.5	7	47	13	1.46	0.09	20	0.43
200020	Duplicate	0.4	2.1	<2	80	0.54	1	32	46	31	2.66	0.07	50	0.36
200020	First Analysis	0.8	2.1	<2	80	0.56	1	35	47	33	2.68	0.06	50	0.36
200026	Duplicate	<0.2	1.4	<2	40	0.21	<0.5	9	22	23	1.39	0.05	10	0.26
200026	First Analysis	<0.2	1.3	<2	30	0.2	<0.5	9	23	22	1.27	0.04	10	0.24
200058	Duplicate	1.8	1.1	<2	40	1.4	5.5	5	26	138	1.21	0.12	30	0.56
200058	Duplicate	1.8	1.1	<2	40	1.42	5.5	5	26	138	1.22	0.1	30	0.57
200058	First Analysis	1.8	1.1	<2	40	1.43	5.5	5	27	134	1.22	0.11	30	0.56
200063	Duplicate	0.2	1.6	<2	60	0.82	1	6	30	23	1.5	0.08	40	0.41
200063	First Analysis	<0.2	1.6	<2	60	0.87	1	6	31	23	1.54	0.08	40	0.42
200067	Duplicate	<0.2	0.9	<2	40	0.46	0.5	4	16	28	0.75	0.04	20	0.19
200067	First Analysis	<0.2	1	<2	40	0.51	0.5	4	19	30	0.8	0.05	30	0.2
200078	Duplicate	<0.2	1.2	2	60	1.42	<0.5	4	23	16	0.85	0.06	40	0.28
200078	First Analysis	<0.2	1.1	2	50	1.3	<0.5	3	19	14	0.78	0.05	30	0.26
200081	Duplicate	<0.2	0.8	<2	40	1.08	<0.5	3	20	9	1.15	0.04	20	0.26
200081	First Analysis	<0.2	1	<2	40	1.22	<0.5	4	26	10	1.29	0.05	30	0.31
200098	Duplicate	<0.2	1.4	<2	30	0.22	<0.5	10	40	11	1.95	0.06	10	0.43
200098	First Analysis	<0.2	1.4	<2	40	0.23	<0.5	11	41	11	2.03	0.06	10	0.44
200106	Duplicate	<0.2	0.5	<2	20	1.62	<0.5	4	20	6	0.87	0.04	10	0.66
200106	First Analysis	<0.2	0.5	<2	20	1.69	<0.5	3	18	6	0.87	0.05	10	0.69
PHA	Standard	<0.2	3.6	<2	210	3	0.5	16	84	44	4.31	0.72	40	1.92
PHA	Standard	<0.2	3.3	<2	200	2.99	0.5	16	80	44	4.21	0.67	40	1.89
PHA	Standard	<0.2	3.4	2	200	2.99	0.5	17	79	44	4.23	0.68	40	1.9
SBA	Standard	<0.2	2.9	22	90	0.08	0.5	14	34	68	3.41	0.3	30	0.78
SBA	Standard	<0.2	3.3	20	100	0.09	0.5	15	39	74	3.64	0.35	30	0.85
SBA	Standard	<0.2	3	28	90	0.07	0.5	16	38	72	3.63	0.31	30	0.83
SBA	Standard	<0.2	3.4	24	100	0.09	<0.5	15	41	75	3.75	0.36	30	0.87
SBA	Standard	<0.2	3	26	90	0.09	<0.5	14	37	70	3.51	0.31	30	0.81
SBA	Standard	0.4	2.9	28	90	0.06	<0.5	16	39	70	3.61	0.32	30	0.8
TCA8010	Standard	<0.2	1	4	30	0.52	<0.5	9	30	40	1.85	0.06	20	0.48
TCA8010	Standard	<0.2	1.1	10	30	0.52	<0.5	10	29	40	1.89	0.06	20	0.48

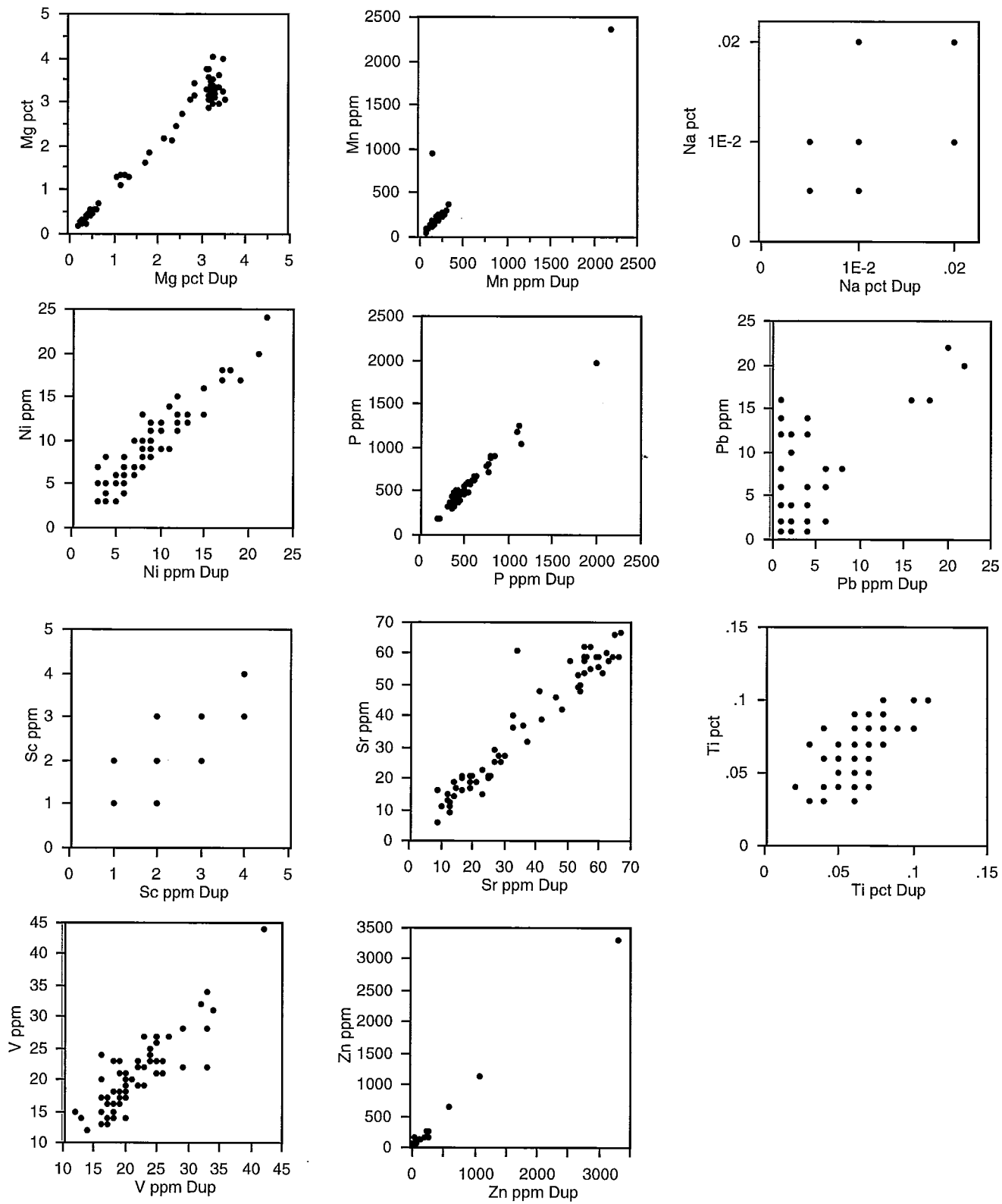
Duplicate Geochemical Analyses (<0.063 mm Fraction)

Sample No.	Type	Mn ppm	Na pct	Ni ppm	P ppm	Pb ppm	Sc ppm	Sr ppm	Ti pct	V ppm	Zn ppm
100606	Duplicate	155	0.01	6	410	<2	2	60	0.05	18	14
100606	First Analysis	155	0.01	4	390	2	2	59	0.05	18	12
110009	Duplicate Run	285	0.02	15	510	2	4	27	0.1	29	30
110009	First Run	265	0.02	13	470	4	4	25	0.1	28	28
110019	Duplicate Run	295	0.01	12	580	2	4	23	0.08	24	18
110019	First Run	295	0.02	11	600	4	4	15	0.08	25	18
110036	Duplicate Run	190	0.01	13	530	2	3	15	0.08	23	18
110036	First Run	205	0.02	13	570	4	3	17	0.1	27	20
200007	Duplicate Run	115	0.01	10	1120	4	3	33	0.03	13	124
200007	First Run	130	0.01	11	1240	6	3	36	0.03	14	128
200017	Duplicate Run	285	0.01	21	470	4	3	12	0.11	32	36
200017	First Run	280	0.01	20	460	4	3	13	0.1	32	34
200020	Duplicate Run	2205	0.01	22	1100	18	3	27	0.08	42	252
200020	First Run	2355	0.01	24	1180	16	3	29	0.08	44	252
200026	Duplicate Run	160	0.01	17	330	4	2	13	0.09	22	78
200026	First Run	150	0.01	17	330	4	2	12	0.08	22	70
200058	Duplicate Run	280	0.01	12	650	20	3	23	0.08	22	3318
200058	Duplicate Run	280	0.01	13	650	22	3	22	0.07	21	3372
200058	First Run	285	0.01	13	660	22	3	23	0.07	22	3292
200063	Duplicate Run	260	0.01	17	790	16	3	20	0.08	24	272
200063	First Run	275	0.01	18	820	16	3	21	0.08	25	272
200067	Duplicate Run	85	0.01	15	860	4	1	12	0.02	12	74
200067	First Run	95	0.01	16	900	4	2	15	0.04	15	84
200078	Duplicate Run	205	0.01	8	1140	2	3	21	0.04	14	44
200078	First Run	185	<0.01	8	1050	2	3	19	0.04	12	38
200081	Duplicate Run	320	0.01	9	800	4	2	17	0.03	16	18
200081	First Run	360	0.01	10	910	4	3	21	0.07	20	24
200098	Duplicate Run	245	0.01	18	760	8	1	14	0.1	33	32
200098	First Run	250	0.01	18	780	8	1	14	0.1	34	32
200106	Duplicate Run	240	0.01	7	560	2	1	15	0.04	16	18
200106	First Run	250	0.01	7	600	4	1	17	0.08	24	40
PHA	Standard	525	0.46	50	1850	4	11	50	0.18	77	112
PHA	Standard	520	0.45	49	1890	10	10	47	0.17	73	108
PHA	Standard	520	0.45	48	1850	6	10	48	0.18	74	110
SBA	Standard	785	0.01	33	530	16	7	8	0.09	45	100
SBA	Standard	835	0.01	36	590	16	8	10	0.1	49	106
SBA	Standard	840	0.01	35	580	20	8	8	0.1	48	104
SBA	Standard	860	0.01	37	590	22	8	10	0.1	51	120
SBA	Standard	810	0.01	33	550	18	8	9	0.09	46	102
SBA	Standard	820	0.01	35	550	24	8	8	0.09	42	102
TCA8010	Standard	280	0.01	17	530	2	6	23	0.09	34	32
TCA8010	Standard	285	0.01	19	560	<2	7	24	0.09	34	32

Duplicate Leco Analyses

Sample No.	Sample Type	Tot. Carb. pct	Org. Carb pct	Inorg. C pct	CaCO3 pct
100361	Duplicate	2.4	0.3	2.1	17.5
100361	First Analysis	2.4	0.2	2.2	18.3
100391	Duplicate	5	0.1	4.9	40.8
100391	First Analysis	5.0	0.1	4.9	40.8
100415	Duplicate	4.6	0.2	4.4	36.7
100415	First Analysis	4.6	0.1	4.5	37.5
100485	Duplicate	4.8	0.1	4.7	39.2
100485	First Analysis	4.8	0.1	4.7	39.2
100528	Duplicate	4.9	0	4.9	40.8
100528	First Analysis	5.0	0.0	5.0	41.7
100567	Duplicate	4.5	0	4.5	37.5
100567	First Analysis	4.6	0.1	4.5	37.5
100582	Duplicate	4.6	0.1	4.5	37.5
100582	First Analysis	4.8	0.1	4.7	39.2
100599	Duplicate	4.2	0.1	4.1	34.2
100599	First Analysis	4.3	0.1	4.2	35.0





APPENDIX B

Summary Statistics

Geochemical data for Manitouwadge tills and stream sediments
Geochemical data for Nama tills and soils
Pebble count data for till and gravel samples

Key

Std. Dev.	Standard deviation
Std. Error	Standard error
Coef. Var.	Coefficient of variance
Sum of Sqr.	Sum of squares

For calculation purposes, values below detection limit were set at one-half detection limit and values above detection limit at the upper limit.

Summary Statistics - Manitouwadge Tills

	Ag ppm <0.063 mm	Al pct <0.063 mm	As ppm <0.063 mm	Au ppb <0.063 mm	Ba ppm <0.063 mm	Ca pct <0.063 mm	Cd ppm <0.063 mm
Mean	0.175	1.001	2.6	3.0	31.2	3.255	0.38
Std. Dev.	0.534	0.478	3.3	4.0	24.5	3.954	1.57
Std. Error	0.043	0.038	0.3	0.4	2.0	0.316	0.13
Variance	0.285	0.228	11.0	16.2	600.5	15.633	2.46
Coef. Var.	3.058	0.477	1.3	1.3	0.8	1.215	4.16
Count	157	157	157	101	157	157	157
Minimum	0.1	0.22	1	0.5	10	0.12	0.1
Maximum	6.6	2.61	27	24	240	11.02	19.4
Range	6.5	2.39	26	23.5	230	10.9	19.3
Sum	27.4	157.11	412	304.5	4898	511.03	59.2
Sum of Squ.	49.22	192.805	2794	2536.25	246490	4102.132	406.16
Mode	0.1	•	1	1	20	10.00	0.1
5th %	0.1	0.34	1	1	10	0.20	0.1
10th %	0.1	0.39	1	1	10	0.24	0.1
25th %	0.1	0.62	1	1	20	0.32	0.1
50th %	0.1	1.01	1	2	22	0.58	0.1
75th %	0.1	1.27	3	3	36	7.69	0.2
90th %	0.2	1.61	6	7	60	10.00	0.7
95th %	0.3	1.90	8	12	69	10.00	1.0
98th %	0.9	2.30	12	17	89	10.84	1.2
99th %	1.1	2.30	17	21	99	10.91	2.9

	Co ppm <0.063 mm	Cr ppm <0.063 mm	Cu ppm <0.063 mm	Fe pct <0.063 mm	K pct <0.063 mm	La ppm <0.063 mm	Mg pct <0.063 mm
Mean	5.8	36.0	28.2	1.473	0.106	19.9	1.225
Std. Dev.	4.6	36.3	128.3	0.683	0.077	12.9	1.140
Std. Error	0.4	2.9	10.2	0.055	6.16E-03	1.0	0.091
Variance	20.9	1319.4	16449.7	0.467	5.96E-03	167.3	1.300
Coef. Var.	0.8	1.0	4.5	0.464	0.727	0.649	0.931
Count	157	157	157	157	157	157	157
Minimum	0.5	9	2	0.44	0.03	5	0.17
Maximum	23	217	1596	4.93	0.63	80	3.81
Range	22.5	208	1594	4.49	0.6	75	3.64
Sum	908.5	5647	4434	231.3	16.67	3127	192.38
Sum of Squ.	8514.25	408939	2691374	413.539	2.7	88373	438.538
Mode	4	•	8	1.46	0.06	20	•
5th %	0.5	11	4	0.700	0.04	5	0.00
10th %	0.5	15	5	0.802	0.05	5	0.25
25th %	3	21	7	1.037	0.06	10	0.29
50th %	5	27	11	1.300	0.09	20	0.54
75th %	7	34	18	1.720	0.12	25	2.39
90th %	10	50	37	2.232	0.19	38	3.02
95th %	17	117	55	2.700	0.27	40	3.20
98th %	21	196	95	3.500	0.32	60	3.30
99th %	23	205	222	4.300	0.43	60	3.50

Summary Statistics - Manitouwadge Tills

	Mn ppm <0.063 mm	Na pct <0.063 mm	Ni ppm <0.063 mm	P ppm <0.063 mm	Pb ppm <0.063 mm	Sc ppm <0.063 mm	Sr ppm <0.063 mm
Mean	213.9	0.025	19.1	532.2	13.6	3.2	26.4
Std. Dev.	96.7	0.023	19.2	290.0	22.7	1.6	16.9
Std. Error	7.7	1.84E-03	1.5	27.5	1.8	0.1	1.4
Variance	9354.5	5.32E-04	367.6	84084.4	517.5	2.5	286.3
Coef. Var.	0.5	0.941	1.0	0.5	1.7	0.5	0.6
Count	157	157	157	111	157	111	157
Minimum	55	0.005	3	100	1	1	6
Maximum	615	0.13	108	2450	224	10	81
Range	560	0.125	105	2350	223	9	75
Sum	33577	3.85	2991	59070	2129	351	4151
Sum of Squ.	8640295	0.177	114323	40684100	109595	1381	154411
Mode	•	0.01	13	430	4	2	13
5th %	90	0.005	1	170	2	1	9
10th %	101	0.005	7	226	2	2	11
25th %	144	0.01	10	390	4	2	14
50th %	199	0.01	13	510	8	3	18
75th %	265	0.04	19	630	17	4	41
90th %	355	0.06	38	780	23	5	53
95th %	401	0.07	71	928	31	6	57
98th %	441	0.08	92	1401	65	8	65
99th %	468	0.09	96	1828	143	9	71

	Ti pct <0.063 mm	V ppm <0.063 mm	Zn ppm <0.063 mm
Mean	0.091	26.7	58.1
Std. Dev.	0.033	11.3	212.5
Std. Error	3.09E-03	0.9	17.0
Variance	1.06E-03	128.1	45171.0
Coef. Var.	0.356	0.4	3.7
Count	111	157	157
Minimum	0.02	12	8
Maximum	0.22	93	2589
Range	0.2	81	2581
Sum	10.14	4187	9127
Sum of Squ.	1.043	131643	7577263
Mode	0.09	25	18
5th %	0.04	14	10
10th %	0.05	16	14
25th %	0.07	20	18
50th %	0.09	24	23
75th %	0.11	30	35
90th %	0.13	40	85
95th %	0.16	51	166
98th %	0.17	59	360
99th %	0.20	62	407

Pebble Count Data - Summary Statistics

	PzCarb <0.063 mm	PzSdst <0.063 mm	PcMvcc <0.063 mm	PrMsdm <0.063 mm	O. PcMdsm <0.063 mm	PcGrnt <0.063 mm
Mean	31.373	1.084	6.962	10.106	12.75	37.996
Std. Dev.	21.201	6.028	10.449	7.157	13.798	22.551
Std. Error	2.099	0.594	1.03	0.705	1.36	2.222
Variance	449.484	36.331	109.174	51.227	190.384	508.541
Coef. Var.	67.577	555.805	150.071	70.82	108.218	59.35
Count	103	103	103	103	103	103
Minimum	0	0	0	0	0	3.57
Maximum	77.59	60.98	51.79	37.33	68.02	100
Range	77.59	60.98	51.79	37.33	68.02	96.43
Sum	3200.07	111.7	717.13	1040.96	1313.27	3913.6
Sum of Sqr.	145794.406	3826.897	16128.67	15745.54	36163.59	200572.79
Mode	•	0	0	0	0	21.05
5th %	2.064	0	0	0	0	11.483
10th %	6.692	0	0	1.188	0.248	13.778
25th %	13.97	0	1.028	5.092	1.845	20.077
50th %	25.63	0	3.03	8.78	8.77	30.58
75th %	52.32	0.665	7.62	14.36	20.382	53.105
90th %	63.055	1.824	17.562	20.364	27.834	69.264
95th %	66.768	2.491	32.651	21.874	38.596	81.256
96th %	67.542	2.896	41.093	22.844	41.353	84.902
97th %	67.939	3.756	42.902	24.363	46.266	91.143
98th %	69.382	4.488	44.809	27.174	57.763	95.594
99th %	73.94	31.072	48.986	32.597	67.713	98.336

Summary Statistics - Manitouwadge Stream Sediments

	Ag ppm <0.063 mm	Al pct <0.063 mm	As ppm <0.063 mm	Ba ppm <0.063 mm	Ca pct <0.063 mm	Cd ppm <0.063 mm	Co ppm <0.063 mm
Mean	0.209	1.338	1.734	63.211	1.14	0.947	10.11
Std. Dev.	0.381	0.653	1.573	39.037	0.699	2.021	12.946
Std. Error	0.037	0.063	0.151	3.739	0.067	0.194	1.24
Variance	0.145	0.426	2.475	1523.853	0.488	4.086	167.599
Coef. Var.	182.339	48.792	90.728	61.756	61.276	213.389	128.05
Count	109	109	109	109	109	109	109
Minimum	0.1	0.39	1	10	0.14	0.25	2
Maximum	3.2	3.97	8	290	3.77	15.5	88
Range	3.1	3.58	7	280	3.63	15.25	86
Sum	22.8	145.86	189	6890	124.29	103.25	1102
Sum of Squ.	20.48	241.225	595	600100	194.451	539.062	29242
Mode	0.1	•	1	40	0.62	0.25	4
5th %	0.1	0.569	1	20	0.373	0.25	2.95
10th %	0.1	0.732	1	30	0.524	0.25	3
25th %	0.1	0.895	1	40	0.685	0.25	4
50th %	0.1	1.2	1	60	0.91	0.25	6
75th %	0.1	1.615	2	80	1.467	1	11
90th %	0.4	2.096	4	106	2.014	1.8	16.6
95th %	0.8	2.581	6	130.5	2.443	3.55	28.35
98th %	1.528	3.199	8	169.6	3.442	8.96	61.88
99th %	2.374	3.941	8	231	3.617	12.845	86.23

	Cr ppm <0.063 mm	Cu ppm <0.063 mm	Fe pct <0.063 mm	K pct <0.063 mm	La ppm <0.063 mm	Mg pct <0.063 mm	Mn ppm <0.063 mm
Mean	28.083	38.459	1.528	0.062	35.688	0.374	846.239
Std. Dev.	12.512	56.706	0.71	0.026	25.106	0.212	1244.052
Std. Error	1.198	5.431	0.068	0.002	2.405	0.02	119.159
Variance	156.539	3215.602	0.504	0.001	630.309	0.045	1547666.3
Coef. Var.	44.553	147.447	46.456	41.009	70.348	56.711	147.01
Count	109	109	109	109	109	109	109
Minimum	8	3	0.39	0.01	10	0.16	75
Maximum	77	449	4.44	0.2	130	1.56	9865
Range	69	446	4.05	0.19	120	1.4	9790
Sum	3061	4192	166.6	6.78	3890	40.77	92240
Sum of Squ.	102867	508504	309.09	0.492	206900	20.109	245205000
Mode	24	8	1.6	0.06	30	0.31	•
5th %	14.95	6	0.707	0.03	10	0.209	109.75
10th %	16.4	8	0.774	0.04	10	0.23	144
25th %	20.75	10	1.097	0.05	20	0.26	253.75
50th %	24	19	1.37	0.06	30	0.31	475
75th %	32	42.5	1.805	0.07	40	0.412	860
90th %	47	88.2	2.606	0.09	60	0.552	1969
95th %	50.65	125.15	2.915	0.11	100	0.726	2557.25
98th %	66.6	229.88	3.476	0.126	113.2	1.081	4801.8
99th %	72.87	333.36	3.903	0.165	124.1	1.542	7325.05

Summary Statistics - Manitouwadge Stream Sediments

	Mo ppm <0.063 mm	Na pct <0.063 mm	Ni ppm <0.063 mm	P ppm <0.063 mm	Pb ppm <0.063 mm	Sc ppm <0.063 mm	Sr ppm <0.063 mm
Mean	0.633	0.016	16	943.853	10.073	3.138	22.725
Std. Dev.	0.484	0.015	14.731	417.643	15.497	1.337	9.535
Std. Error	0.046	0.001	1.411	40.003	1.484	0.128	0.913
Variance	0.234	2.13E-04	217	174425.76	240.143	1.786	90.924
Coef. Var.	76.49	89.557	92.068	44.249	153.836	42.599	41.96
Count	109	109	109	109	109	109	109
Minimum	0.5	0.005	4	330	2	1	11
Maximum	3	0.12	143	2980	134	8	77
Range	2.5	0.115	139	2650	132	7	66
Sum	69	1.775	1744	102880	1098	342	2477
Sum of Squ.	69	0.052	51340	115941600	36996	1266	66109
Mode	0.5	0.01	8	•	4	3	17
5th %	0.5	0.01	6	489.5	2	1	12.95
10th %	0.5	0.01	7	530	2	2	14
25th %	0.5	0.01	9	660	4	2	17
50th %	0.5	0.01	12	860	6	3	21
75th %	0.5	0.02	19	1115	10	4	24
90th %	1	0.02	28.6	1524	19.2	5	35.2
95th %	1	0.05	31	1821	30.1	6	42
98th %	3	0.06	40.76	2056.8	55.68	7	48.32
99th %	3	0.085	89.9	2531.6	97.42	7.41	60.48

	Ti pct <0.063 mm	V ppm <0.063 mm	Zn ppm <0.063 mm
Mean	0.066	23.596	208.532
Std. Dev.	0.024	10.594	548.339
Std. Error	0.002	1.015	52.521
Variance	0.001	112.243	300675.38
Coef. Var.	36.414	44.899	262.952
Count	109	109	109
Minimum	0.005	6	12
Maximum	0.16	64	3292
Range	0.155	58	3280
Sum	7.14	2572	22730
Sum of Squ.	0.529	72812	37212876
Mode	0.06	22	34
5th %	0.02	10.95	16
10th %	0.04	13	24
25th %	0.06	16	34
50th %	0.07	22	70
75th %	0.08	27.25	122
90th %	0.09	38.6	279.2
95th %	0.1	44.25	880.8
98th %	0.123	53.84	3124.96
99th %	0.142	62.82	3244.8

Summary Statistics - Nama Creek Till Profiles

	Ag ppm <0.063 mm	Al pct <0.063 mm	As ppm <0.063 mm	Ba ppm <0.063 mm	Ca pct <0.063 mm	Cd ppm <0.063 mm	Co ppm <0.063 mm
Mean	0.144	0.674	1.772	19.751	7.96	0.154	2.301
Std. Dev.	0.221	0.368	1.838	10.033	3.069	0.73	1.365
Std. Error	0.013	0.022	0.11	0.598	0.183	0.044	0.081
Variance	0.049	0.135	3.377	100.652	9.416	0.533	1.862
Coef. Var.	1.535	0.546	1.037	0.508	0.386	4.752	0.593
Count	281	281	281	281	281	281	281
Minimum	0.1	0.21	1	5	0.23	0.025	0.5
Maximum	2.6	3.39	16	60	11.8	7.5	13
Range	2.5	3.18	15	55	11.57	7.475	12.5
Sum	40.5	189.33	498	5550	2236.66	43.175	646.5
Sum of Squ.	19.55	165.441	1828	137800	20439.437	155.917	2008.75
Mode	0.1	0.42	1	10	10.1	0.025	2
5 th %	0.1	0.32	1	10	0.476	0.025	1
10th %	0.1	0.35	1	10	2.258	0.025	1
25th %	0.1	0.43	1	10	7.573	0.025	2
50 th %	0.1	0.58	1	20	9.26	0.025	2
75th %	0.1	0.86	2	30	9.892	0.025	3
90th %	0.2	1.02	4	30	10.35	0.025	4
95th %	0.2	1.149	4.9	40	10.7	0.239	4
96th %	0.2	1.218	6	40	10.7	0.63	4
97th %	0.2	1.26	6	40	10.85	1.5	4
98th %	0.376	1.542	6	40	10.95	2.94	5.88
99th %	1.504	2.286	10.76	40	11.407	4	7

	Cr ppm <0.063 mm	Cu ppm <0.063 mm	Fe pct <0.063 mm	K pct <0.063 mm	La ppm <0.063 mm	Mg pct <0.063 mm	Mn ppm <0.063 mm
Mean	18.018	26.851	0.972	0.093	12.046	2.877	173.897
Std. Dev.	6.462	94.59	0.548	0.055	8.172	0.955	123.868
Std. Error	0.385	5.643	0.033	0.0034	0.487	0.057	7.389
Variance	41.753	8947.213	0.301	0.0034	66.78	0.913	15343.243
Coef. Var.	0.359	3.523	0.564	0.597	0.678	0.332	0.712
Count	281	281	281	281	281	281	281
Minimum	6	2	0.43	0.02	5	0.16	70
Maximum	35	1215	6.29	0.62	80	4.32	1865
Range	29	1213	5.86	0.6	75	4.16	1795
Sum	5063	7545	273.2	26.11	3385	808.53	48865
Sum of Squ.	102915	2707807	349.835	3.288	59475	2582.006	12793575
Mode	19	11	¥	0.06	10	3.14	150
5th %	8	4	0.59	0.04	10	0.296	100
10th %	9	6	0.63	0.046	10	1.122	110
25th %	12	9	0.71	0.06	10	2.957	130
50 th %	19	14	0.89	0.07	10	3.2	155
75th %	22	19	1.09	0.13	10	3.39	195
90th %	27	27	1.284	0.16	20	3.604	222
95th %	30	68.6	1.405	0.18	20	3.73	260
96th %	30	97.04	1.458	0.18	20	3.76	265
97th %	30	102.49	1.571	0.19	30	3.833	290
98th %	31	133.68	2.244	0.19	38.8	3.942	349
99th %	32.69	214	3.376	0.2	60	4.001	486.4

Summary Statistics - Nama Creek Till Profiles

	Na pct <0.063 mm	Ni ppm <0.063 mm	P ppm <0.063 mm	Pb ppm <0.063 mm	Sb ppm <0.063 mm	Sc ppm <0.063 mm	Sr ppm <0.063 mm
Mean	0.025	8.085	470.32	7.815	1.883	1.815	48.822
Std. Dev.	0.016	5.048	240.743	6.804	1.286	0.693	15
Std. Error	9.61E-04	0.301	14.362	0.406	0.077	0.041	0.895
Variance	2.60E-04	25.478	57957.397	46.294	1.654	0.48	225.011
Coef. Var.	0.632	0.624	0.512	0.871	0.683	0.382	0.307
Count	281	281	281	281	281	281	281
Minimum	0.005	2	240	1	1	1	9
Maximum	0.16	70	3860	66	6	4	81
Range	0.155	68	3620	65	5	3	72
Sum	7.16	2272	132160	2196	529	510	13719
Sum of Squ.	0.255	25504	78385600	30124	1459	1060	732793
Mode	¥	8	450	2	1	2	58
5th %	0.01	3	340	1	1	1	17
10th %	0.01	4	360	1	1	1	21
25th %	0.01	6	380	2	1	1	43
50 th %	0.02	8	450	6	1	2	54
75th %	0.04	10	490	12	2	2	59
90th %	0.04	12	574	14	4	3	62.4
95th %	0.04	13	674.5	14.9	4	3	64
96th %	0.05	13	720	16	4	3	65
97th %	0.05	14	760.7	16	4	3	66
98th %	0.05	14	788.8	16	4	3	67
99th %	0.05	21.9	991.4	33.38	6	3	68.69

	Ti pct <0.063 mm	V ppm <0.063 mm	Zn ppm <0.063 mm
Mean	0.06	19.352	105.9
Std. Dev.	0.016	4.493	246.878
Std. Error	0.0010	0.268	14.728
Variance	0.0003	20.186	60948.876
Coef. Var.	0.273	0.232	2.331
Count	281	281	281
Minimum	0.03	8	6
Maximum	0.17	44	2780
Range	0.14	36	2774
Sum	16.93	5438	29758
Sum of Squ.	1.096	110890	20217068
Mode	0.06	16	12
5 th %	0.04	13	9.1
10th %	0.04	15	12
25th %	0.05	16	14
50 th %	0.06	19	36
75th %	0.07	22	72
90th %	0.08	25	178.4
95th %	0.09	26	585.8
96th %	0.09	27	644.08
97th %	0.09	27	683.18
98th %	0.09	28	775.6
99th %	0.1	34.9	1059.86

Summary Statistics - Nama Creek Till Profiles

	Tot. Carb. % <0.063 mm	Org. Carb. % <0.063 mm	Inorg. Carb. % <0.063 mm	CaCO3 % <0.063 mm
Mean	4.169	0.128	4.041	33.675
Std. Dev.	1.315	0.257	1.444	12.038
Std. Error	0.078	0.015	0.086	0.718
Variance	1.729	0.066	2.086	144.903
Coef. Var.	0.315	2.003	0.357	0.357
Count	281	281	281	281
Minimum	0.1	0	-0.1	-0.8
Maximum	5.9	2.8	5.9	49.2
Range	5.8	2.8	6	50
Sum	1171.6	36.1	1135.5	9462.6
Sum of Squ.	5369.04	23.17	5172.69	359223.46
Mode	5	0	5	41.7
5 th %	1	0	0.555	4.64
10th %	1.66	0	1.16	9.68
25th %	4	0	3.875	32.3
50 th %	4.7	0.1	4.7	39.2
75th %	5	0.1	4.9	40.8
90th %	5.1	0.3	5.1	42.5
95th %	5.2	0.6	5.2	43.3
96th %	5.2	0.7	5.2	43.3
97th %	5.3	0.8	5.2	43.3
98th %	5.3	0.9	5.288	44.092
99th %	5.5	1.169	5.369	44.752

Summary Statistics - Nama Creek Soil Profiles - All Horizons

	Ag ppm <0.063 mm	Al pct <0.063 mm	As ppm <0.063 mm	Ba ppm <0.063 mm	Ca pct <0.063 mm	Cd ppm <0.063 mm	Co ppm <0.063 mm
Mean	0.101	0.979	3.47	43.258	2.523	0.433	2.866
Std. Dev.	0.012	0.552	4.109	28.62	2.475	0.536	1.764
Std. Error	0.001	0.048	0.355	2.491	0.214	0.046	0.152
Variance	1.48E-04	0.305	16.883	819.078	6.124	0.288	3.113
Coef. Var.	11.992	56.418	118.405	66.161	98.071	123.932	61.573
Count	134	134	134	132	134	134	134
Minimum	0.1	0.23	1	10	0.13	0.25	0.5
Maximum	0.2	4.11	22	120	11.32	4.5	11
Range	0.1	3.88	21	110	11.19	4.25	10.5
Sum	13.6	131.21	465	5710	338.13	58	384
Sum of Squ.	1.4	169.068	3859	354300	1667.721	63.375	1514.5
Mode	0.1	0.96	1	20	•	0.25	2
5th %	0.1	0.332	1	10	0.262	0.25	1
10th %	0.1	0.46	1	10	0.299	0.25	1
25th %	0.1	0.61	1	20	0.48	0.25	2
50th %	0.1	0.9	2	40	1.65	0.25	3
75th %	0.1	1.17	4	70	3.68	0.5	3
90th %	0.1	1.651	8.2	83	6.571	0.5	4
95th %	0.1	1.848	13.6	99	7.674	1.4	6.8
96th %	0.1	1.935	14	100	7.776	2	7.14
97th %	0.1	2.344	14	105.4	8.132	2	8
98th %	0.1	2.677	17.28	110	8.685	2.41	8.82
99th %	0.2	3.161	20.32	120	10.228	2.82	10.16

	Cr ppm <0.063 mm	Cu ppm <0.063 mm	Fe pct <0.063 mm	K pct <0.063 mm	La ppm <0.063 mm	Mg pct <0.063 mm	Mn ppm <0.063 mm
Mean	17.772	25.776	1.053	0.052	16.385	0.951	212.164
Std. Dev.	8.088	69.107	0.542	0.037	14.785	1.166	214.438
Std. Error	0.699	5.97	0.047	0.003	1.297	0.101	18.525
Variance	65.416	4775.799	0.293	0.001	218.611	1.359	45983.627
Coef. Var.	45.509	268.105	51.428	70.911	90.24	122.578	101.072
Count	134	134	134	134	130	134	134
Minimum	0.5	1	0.21	0.005	10	0.03	15
Maximum	43	480	4.02	0.35	160	4.1	1190
Range	42.5	479	3.81	0.345	150	4.07	1175
Sum	2381.5	3454	141.15	7.015	2130	127.45	28430
Sum of Squ.	51025.25	724212	187.712	0.551	63100	301.999	12147650
Mode	19	6	•	0.06	10	0.31	95
5th %	5	3	0.422	0.02	10	0.162	56
10th %	7.9	4	0.58	0.029	10	0.19	70
25th %	12	6	0.72	0.03	10	0.25	95
50th %	18	11.5	0.935	0.045	10	0.32	125
75th %	22	17	1.25	0.06	20	1.27	245
90th %	26.1	31.2	1.646	0.07	20	3.201	496
95th %	33	45	1.946	0.108	30	3.42	757
96th %	34.42	66.1	2.212	0.14	33	3.561	776.4
97th %	37.48	221.64	2.496	0.145	40	3.652	811.4
98th %	38.82	364.18	2.811	0.15	40	3.83	860.5
99th %	40.48	459	3.13	0.19	72	3.999	1118.6

Summary Statistics - Nama Creek Soil Profiles - All Horizons

	Na pct <0.063 mm	Ni ppm <0.063 mm	P ppm <0.063 mm	Pb ppm <0.063 mm	Sb ppm <0.063 mm	Sc ppm <0.063 mm
Mean	0.006	8.925	704.776	3.851	1.299	1.455
Std. Dev.	0.002	5.325	560.693	4.307	0.726	0.819
Std. Error	1.81E-04	0.46	48.437	0.372	0.063	0.071
Variance	4.38E-06	28.355	314377.017	18.549	0.527	0.671
Coef. Var.	34.187	59.661	79.556	111.845	55.894	56.286
Count	134	134	134	134	134	134
Minimum	0.005	1	100	1	1	0.5
Maximum	0.01	51	5530	36	4	5
Range	0.005	50	5430	35	3	4.5
Sum	0.82	1196	94440	516	174	195
Sum of Squ.	0.006	14446	108371200	4454	296	373
Mode	0.005	8	470	1	1	1
5th %	0.005	3	190	1	1	0.5
10th %	0.005	4	268	1	1	0.5
25th %	0.005	6	430	1	1	1
50th %	0.005	8	560	2	1	1
75th %	0.005	10	900	4	1	2
90th %	0.01	13.1	1180	8	2	2.1
95th %	0.01	17	1422	10	3.6	3
96th %	0.01	18.14	1584.2	10.56	4	3
97th %	0.01	19	1672.4	14	4	3
98th %	0.01	20.64	1912.2	17.28	4	3.82
99th %	0.01	29.16	2531.2	22.56	4	4.16

	Sr ppm <0.063 mm	Ti pct <0.063 mm	V ppm <0.063 mm	Zn ppm <0.063 mm
Mean	24.209	0.046	18.336	66.866
Std. Dev.	12.359	0.027	7.567	165.458
Std. Error	1.068	0.002	0.654	14.293
Variance	152.753	0.001	57.262	27376.508
Coef. Var.	51.053	58.099	41.27	247.449
Count	134	134	134	134
Minimum	6	0.005	4	2
Maximum	62	0.12	53	1144
Range	56	0.115	49	1142
Sum	3244	6.22	2457	8960
Sum of Squ.	98850	0.385	52667	4240192
Mode	•	•	19	14
5th %	10	0.01	6	8
10th %	11	0.01	9	11.8
25th %	14	0.02	14	14
50th %	21	0.04	18	24
75th %	33	0.07	22	38
90th %	42	0.08	28	145.6
95th %	48.8	0.09	32.8	259.6
96th %	49.28	0.1	33.14	347.56
97th %	51	0.1	34	424.72
98th %	51	0.1	35.64	892.6
99th %	51	0.103	41.24	1053.28

Summary Statistics - Nama Creek Soils - A Horizon

	Ah horiz Ag ppm <63 um	Ah horiz Al pct <63 um	Ah horiz As ppm <63 um	Ah horiz Ba ppm <63 um	Ah horiz Ca pct <63 um	Ah horiz Cd ppm <63 um
Mean	0.1	0.98	1.3	71.4	2.3	1.4
Std. Dev.	0.014	0.42	0.68	21.6	1.4	0.96
Std. Error	0.002	0.061	0.097	3.1	0.2	0.14
Variance	0.0002	0.18	0.46	466.7	2	0.92
Coef. Var.	0.14	0.43	0.53	0.3	0.61	0.68
Count	49	49	49	49	49	49
Minimum	0.1	0.23	1	30	0.25	0.5
Maximum	0.2	1.9	4	120	5.4	2.5
Range	0.1	1.7	3	90	5.2	2
Sum	5	47.9	63	3500	115	69.5
Sum Squ.	0.52	55.6	103	272400	368	142.8
Mode	0.1	•	1	70	•	0.5
5th %	0.1	0.28	1	40	0.46	0.25
10th %	0.1	0.37	1	40	0.73	0.5
25th %	0.1	0.7	1	60	1.3	0.5
50th %	0.1	1	1	70	2	1
75th %	0.1	1.2	1	82.5	3.5	2.5
90th %	0.1	1.6	2	100	4.6	2.5
95th %	0.1	1.8	2	110	5.3	2.5
98th %	0.5	1.89	4	120	5.4	2.5

	Ah horiz Co ppm <63 um	Ah horiz Cr ppm <63 um	Ah horiz Cu ppm <63 um	Ah horiz Fe pct <63 um	Ah horiz K pct <63 um	Ah horiz La ppm <63 um
Mean	2.7	14.7	22.7	0.85	0.04	19.4
Std. Dev.	1.5	8.6	39	0.36	0.018	22.1
Std. Error	0.22	1.2	5.6	0.052	0.0026	3.2
Variance	2.4	73.8	1519	0.13	0.00033	487.1
Coef. Var.	0.58	0.58	1.7	0.43	0.46	1.1
Count	49	49	49	49	49	49
Minimum	0.5	1	2	0.21	0.01	5
Maximum	9	43	283	1.9	0.1	160
Range	8.5	42	281	1.7	0.09	155
Sum	130.5	721	1114	41.7	1.9	950
Sum Squ.	461.2	14149	98240	41.8	0.093	41800
Mode	3	17	13	•	0.03	20
5th %	0.5	4	4	0.23	0.01	5
10th %	0.7	4.4	9	0.32	0.02	10
25th %	2	8.8	12	0.6	0.03	10
50th %	3	13	15	0.89	0.04	20
75th %	3	19	22.2	1.1	0.053	20
90th %	4	24.6	32.2	1.2	0.06	30
95th %	4	26	49	1.37	0.06	40
98th %	8	41	51	1.77	0.09	40

Summary Statistics - Nama Creek Soils - A Horizon

	Ah horiz Mg pct <63 um	Ah horiz Mn ppm <63 um	Ah horiz Na pct <63 um	Ah horiz Ni ppm <63 um	Ah horiz P ppm <63 um	Ah horiz Pb ppm <63 um
Mean	0.27	351.8	0.0053	7.2	955.1	4.2
Std. Dev.	0.083	284.7	0.0012	2.9	361.2	5.4
Std. Error	0.012	40.7	0.00017	0.41	51.6	0.78
Variance	0.0069	81043.4	0.0000015	8.2	130475.5	29.6
Coef. Var.	0.31	0.81	0.23	0.4	0.38	1.3
Count	49	49	49	49	49	49
Minimum	0.03	15	0.005	1	210	1
Maximum	0.4	1190	0.01	15	1950	36
Range	0.37	1175	0.005	14	1740	35
Sum	13.4	17240	0.26	351	46800	207
Sum Squ.	4	9955750	0.0015	2909	50961600	2295
Mode	0.3	•	0.005	•	990	1
5th %	0.08	20	0.005	3	318	1
10th %	0.17	57	0.005	3	440	1
25th %	0.23	161.2	0.005	5.8	742.5	1
50th %	0.3	275	0.005	7	990	2
75th %	0.33	505	0.005	9	1165	6
90th %	0.36	779	0.005	10.6	1330	8
95th %	0.37	877	0.01	12	1617	10
98th %	0.39	1149	0.01	15	1849	25

	Ah horiz Sc ppm <63 um	Ah horiz Sr ppm <63 um	Ah horiz Ti pct <63 um	Ah horiz V ppm <63 um	Ah horiz Zn ppm <63 um
Mean	0.99	30.3	0.022	14.3	60.4
Std. Dev.	0.52	10.9	0.015	7	98
Std. Error	0.074	1.6	0.0021	1	14
Variance	0.27	118.5	0.00021	48.8	9607
Coef. Var.	0.52	0.36	0.67	0.49	1.6
Count	49	49	49	49	49
Minimum	0.5	11	0.005	4	2
Maximum	3	51	0.07	34	458
Range	2.5	40	0.065	30	456
Sum	48.5	1487	1.1	703	2962
Sum Squ.	60.8	50815	0.034	12429	640188
Mode	1	•	0.02	•	•
5th %	0.5	14	0.005	4	6
10th %	0.5	16.8	0.005	5	10
25th %	0.5	21.8	0.01	9.8	18
50th %	1	31	0.02	14	28
75th %	1	37	0.03	18.2	38
90th %	2	48	0.04	22.6	170.8
95th %	2	49	0.05	24	343
98th %	3	51	0.07	34	427

Summary Statistics - Nama Creek Soils - C Horizon

	C horiz Ag ppm <63 um	C horiz Al pct <63 um	C horiz As ppm <63 um	C horiz Ba ppm <63 um	C horiz Ca pct <63 um	C horiz Cd ppm <63 um
Mean	0.1	0.85	5	24.3	3	0.361
Std. Dev.	0.012	0.51	5	14.9	3	0.564
Std. Error	0.0014	0.061	0.6	1.8	0.36	0.067
Variance	0.00014	0.26	25.3	221.2	8.9	0.318
Coef. Var.	0.12	0.59	1	0.61	0.99	156.377
Count	70	70	70	70	70	70
Minimum	0.1	0.27	1	5	0.21	0.25
Maximum	0.2	4.1	22	70	11.3	4.5
Sum	7.1	59.8	348	1700	211.4	25.25
Sum Squ.	0.73	69	3476	56550	1254.3	31.062
Mode	0.1	•	1	20	0.27	2.5
5th %	0.1	0.43	1	10	0.27	0.25
10th %	0.1	0.47	1	10	0.3	0.25
25th %	0.1	0.57	1	10	0.45	0.25
50th %	0.1	0.75	3	20	1.9	0.25
75th %	0.1	0.99	6	30	5.3	0.25
90th %	0.1	1.3	13	40	7.6	0.25
95th %	0.1	1.66	14	60	8.48	0.5
98th %	0.1	1.93	20	70	10.15	1.5

	C horiz Co ppm <63 um	C horiz Cr ppm <63 um	C horiz Cu ppm <63 um	C horiz Fe pct <63 um	C horiz K pct <63 um	C horiz La ppm <63 um
Mean	2.7	18.5	18.6	1.1	0.063	14.6
Std. Dev.	1.6	6.8	48.5	0.55	0.046	7.7
Std. Error	0.2	0.82	5.8	0.066	0.0055	0.93
Variance	2.7	46.6	2354.8	0.3	0.0021	60
Coef. Var.	0.6	0.37	2.6	0.51	0.73	0.53
Count	70	70	70	70	70	70
Minimum	0.5	0.5	1	0.48	0.005	10
Maximum	11	40	382	4	0.35	50
Sum	191.5	1292.5	1305	75.6	4.4	1020
Sum Squ.	711.2	27080.2	186813	102.6	0.42	19000
Mode	2	•	6	•	0.06	10
5th %	2	7	3	0.5	0.03	10
10th %	2	11	3.5	0.68	0.03	10
25th %	2	14	6	0.77	0.04	10
50th %	2	18.5	9.5	0.9	0.06	10
75th %	3	21	14	1.2	0.07	20
90th %	4	26	24.5	1.6	0.085	20
95th %	6	32	41	1.95	0.15	30
98th %	8	38	87	3.07	0.18	41

	C horiz Mg pct <63 um	C horiz Mn ppm <63 um	C horiz Na pct <63 um	C horiz Ni ppm <63 um	C horiz P ppm <63 um	C horiz Pb ppm <63 um
Mean	1.5	138.3	0.0069	9.4	607.6	3.3
Std. Dev.	1.3	100	0.0024	6.2	654.5	3.6
Std. Error	0.16	12	0.00029	0.74	78.2	0.43

Summary Statistics - Nama Creek Soils - C Horizon

Variance	1.7	10003.5	0.0000059	38.1	428392.6	13
Coef. Var.	0.86	0.72	0.35	0.65	1.1	1.1
Count	70	70	70	70	70	70
Minimum	0.13	30	0.005	3	100	1
Maximum	4.1	775	0.01	51	5530	20
Sum	107.3	9680	0.48	661	42530	234
Sum Squ.	284.5	2028850	0.0037	8871	55399100	1682
Mode	•	•	0.005	•	•	1
5th %	0.23	65	0.005	4	190	1
10th %	0.25	75	0.005	4.5	260	1
25th %	0.31	90	0.005	7	430	1
50th %	1.1	115	0.005	8.5	495	2
75th %	3	150	0.01	10	630	4
90th %	3.4	197.5	0.01	14	755	6
95th %	3.74	290	0.01	18	950	8
98th %	3.91	438	0.01	19	2317	18

	C horiz Sc ppm <63 um	C horiz Sr ppm <63 um	C horiz Ti pct <63 um	Ah horiz V ppm <63 um	Ah horiz Zn ppm <63 um
Mean	1.7	22.3	0.059	19.8	82.3
Std. Dev.	0.85	12.1	0.021	6.7	212.7
Std. Error	0.1	1.4	0.0025	0.8	25.4
Variance	0.73	147.1	0.00044	44.3	45231.3
Coef. Var.	0.49	0.54	0.36	0.34	2.6
Count	70	70	70	70	70
Minimum	0.5	6	0.02	8	8
Maximum	5	62	0.12	53	1144
Sum	121.5	1559	4.1	1384	5764
Sum Squ.	261.2	44871	0.27	30422	3595584
Mode	•	16	0.04	19	14
5th %	1	10	0.03	13	10
10th %	1	11	0.035	13	12
25th %	1	13	0.04	16	14
50th %	2	17	0.06	19	24
75th %	2	30	0.07	22	48
90th %	3	40	0.085	26	138
95th %	3	46	0.09	31	274
98th %	4	55	0.1	40	1047

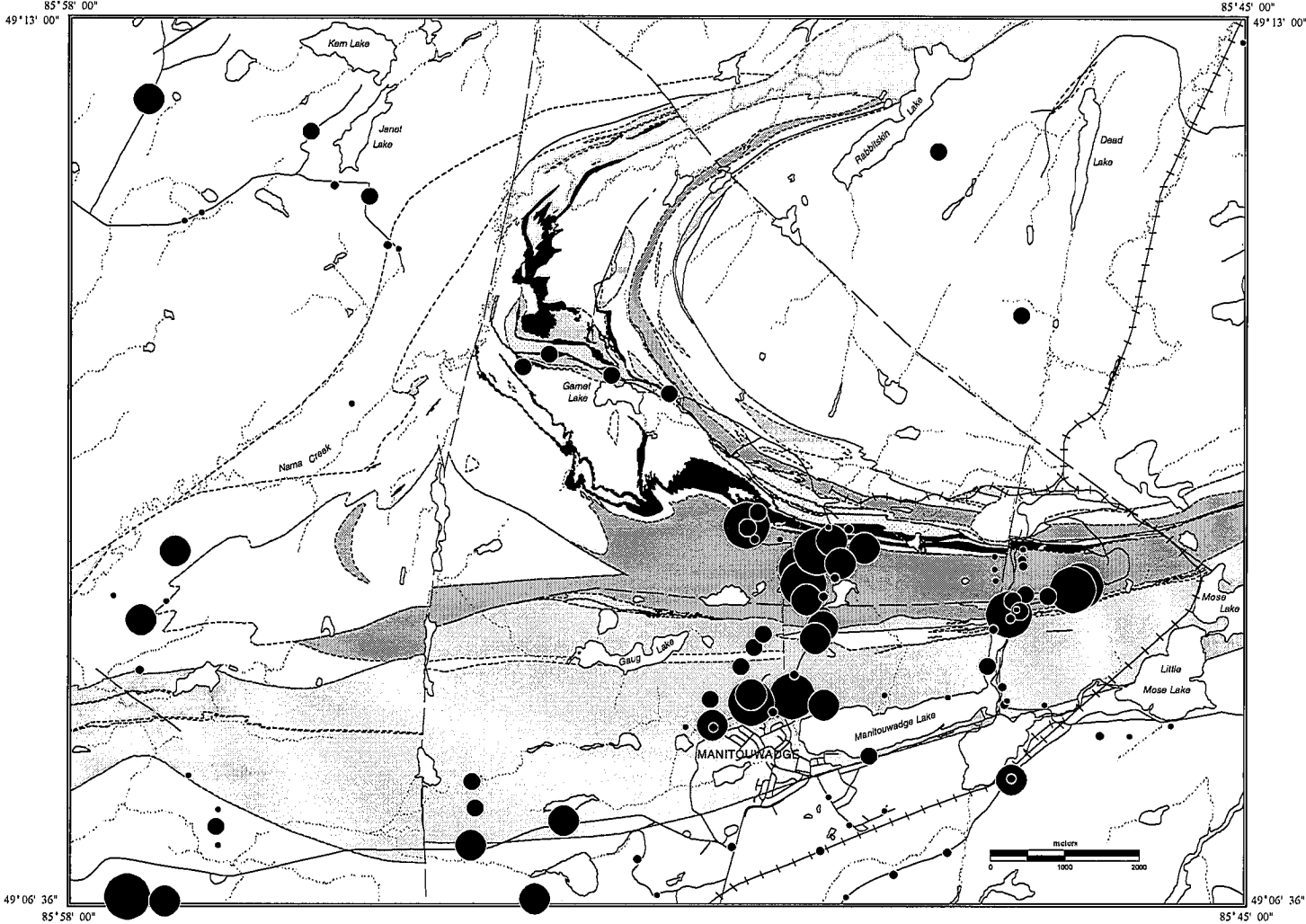
APPENDIX C

Pebble Lithology and Geochemical Maps

Maps of Selected Paleozoic and Precambrian Lithologies
in the Pebble Fraction (5.0-16.0 mm) of Till

Maps of Ag, Al, As, Au, Ba, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Ni, P, Pb,
Mg, Mn, Ni, P, Pb, Sr, Ti, V, and Zn in the <0.063 mm Fractions
of Till and Stream Sediments

Pebble Lithology in the Manitowadge Area

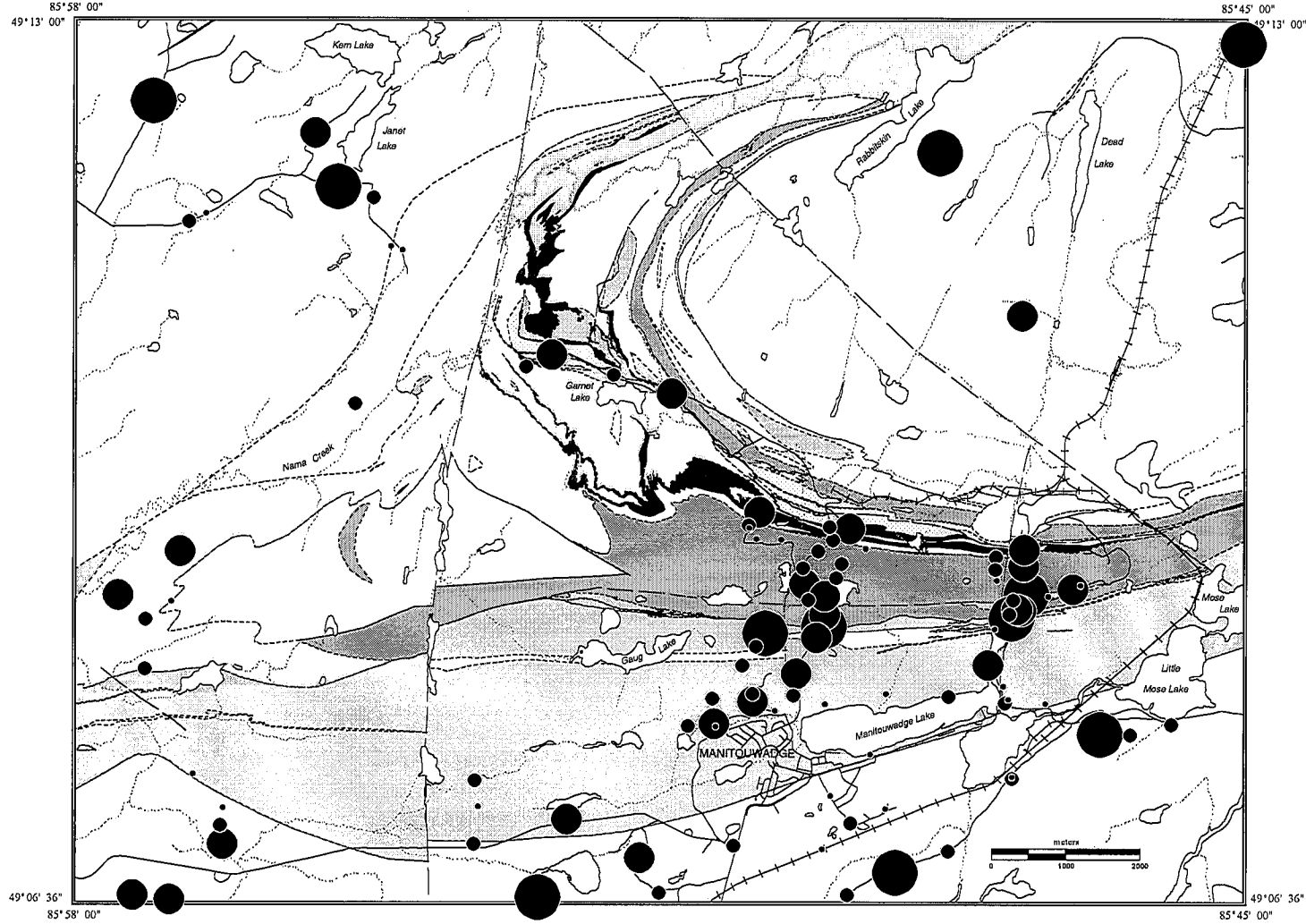


Paleozoic carbonate clasts in the
5.6 - 16mm fraction of till

Symbol Legend (number %)			
MIN	MAX	#SAMP	%TILE
0	14.0	28	27.2
14.0	24.8	23	49.6
24.8	48.0	24	72.8
48.0	62.7	18	90.3
62.7	77.6	10	100

Summary Statistics	
Number of Samples:	103
Minimum:	0
Maximum:	77.6
Mean:	31.1
Median:	25.5
Standard Deviation:	21.3
Coefficient of Variation:	0.7

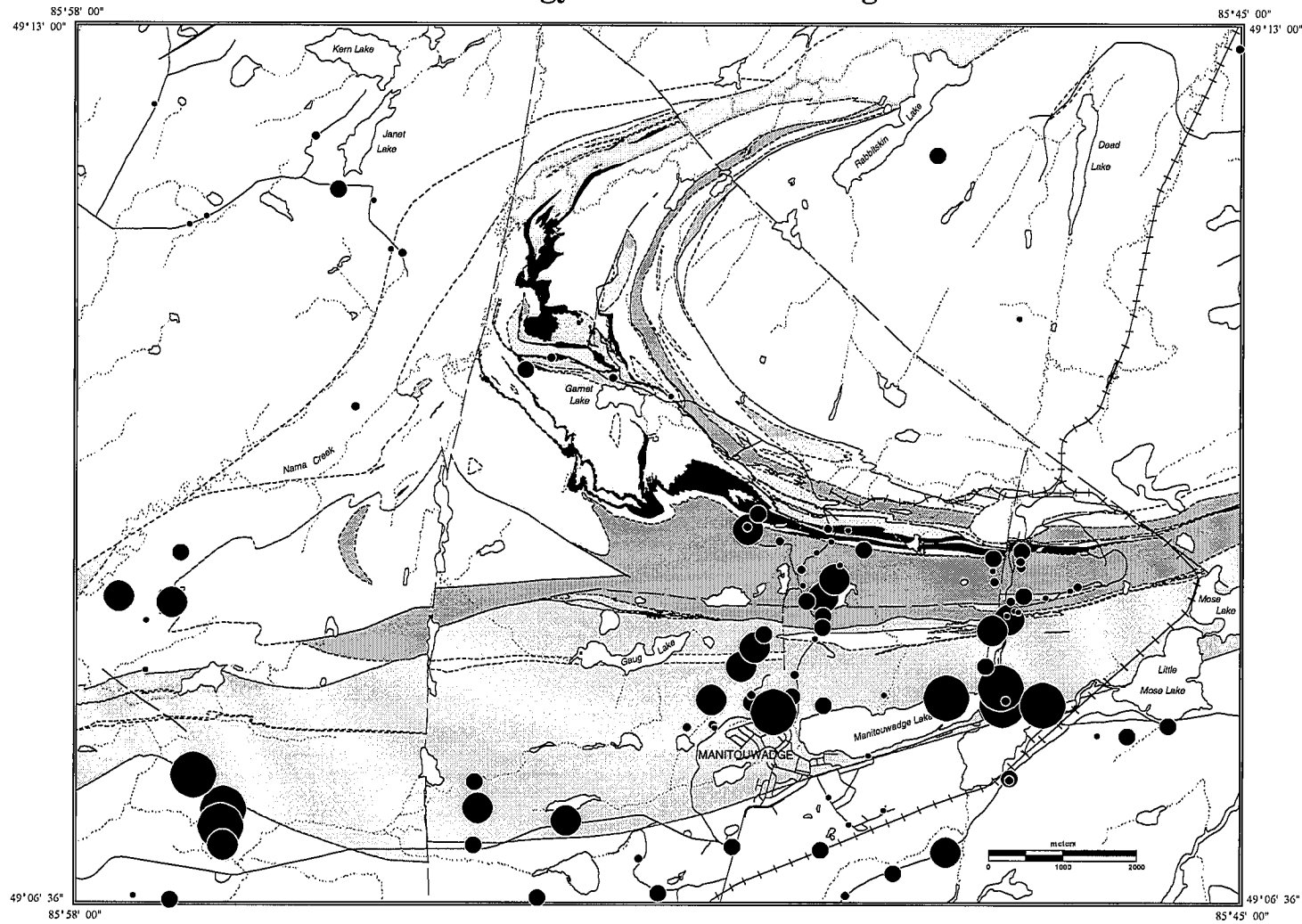
Pebble Lithology in the Manitowadge Area



Proterozoic metasediment clasts in the 5.6 - 16mm fraction of till

Symbol Legend (number %)				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	103
0	5.1	26	25.2	Minimum:	0
5.1	11.8	40	64.1	Maximum:	37.3
11.8	20.0	26	89.3	Mean:	10.1
20.0	37.3	11	100	Median:	8.8
				Standard Deviation:	7.2
				Coefficient of Variation:	0.7

Pebble Lithology in the Manitouwadge Area



Precambrian metavolcanic clasts in the 5.6 - 16mm fraction of till

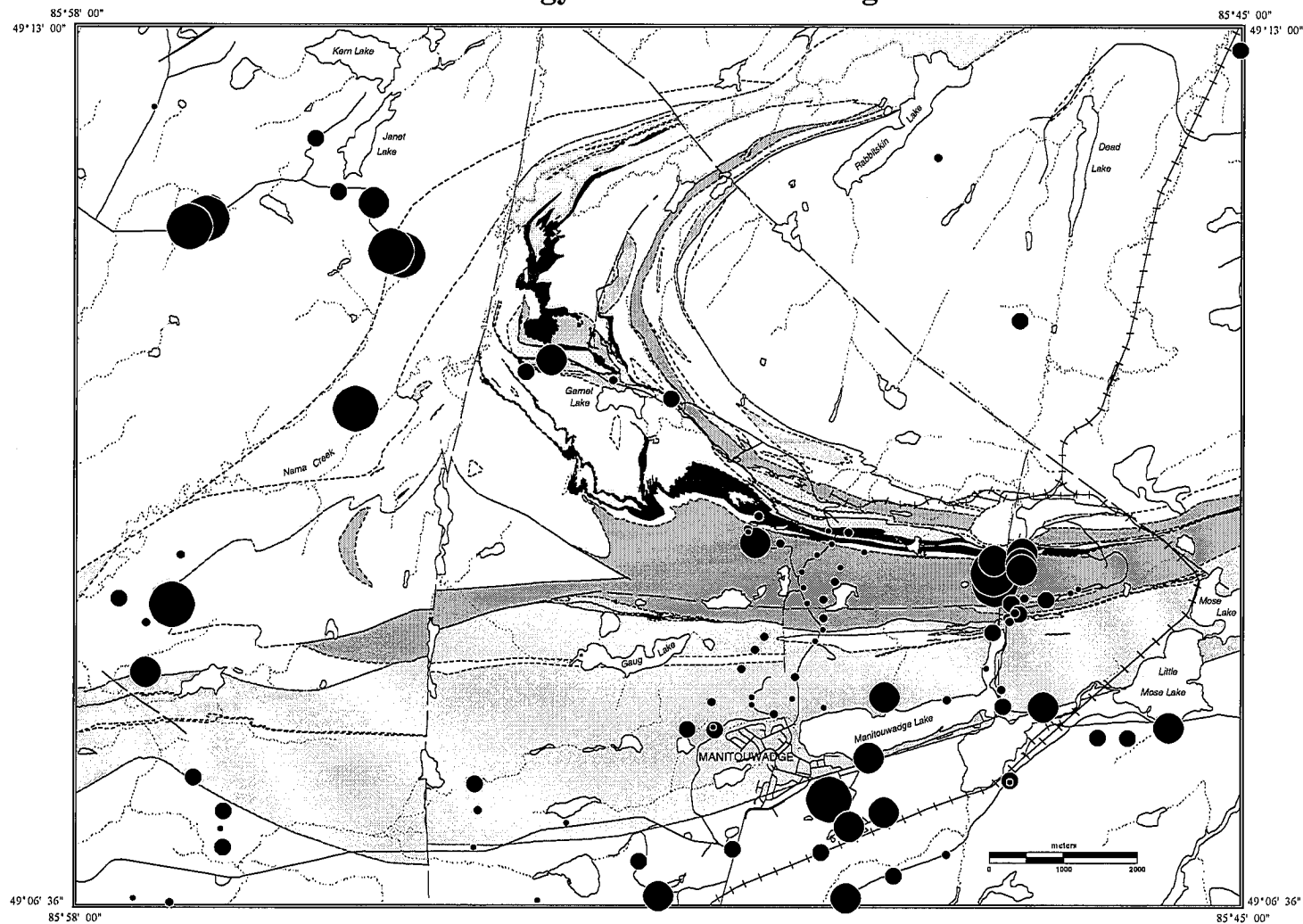
Symbol Legend

(number %)			
MIN	MAX	#SAMP	%TILE
0	1.3	29	28.2
1.3	3.0	23	50.5
3.0	8.5	29	78.6
8.5	19.5	14	92.2
19.5	51.8	8	100

Summary Statistics

Number of Samples: 103
 Minimum: 0
 Maximum: 51.8
 Mean: 7.0
 Median: 3.0
 Standard Deviation: 10.5
 Coefficient of Variation: 1.5

Pebble Lithology in the Manitouwadge Area



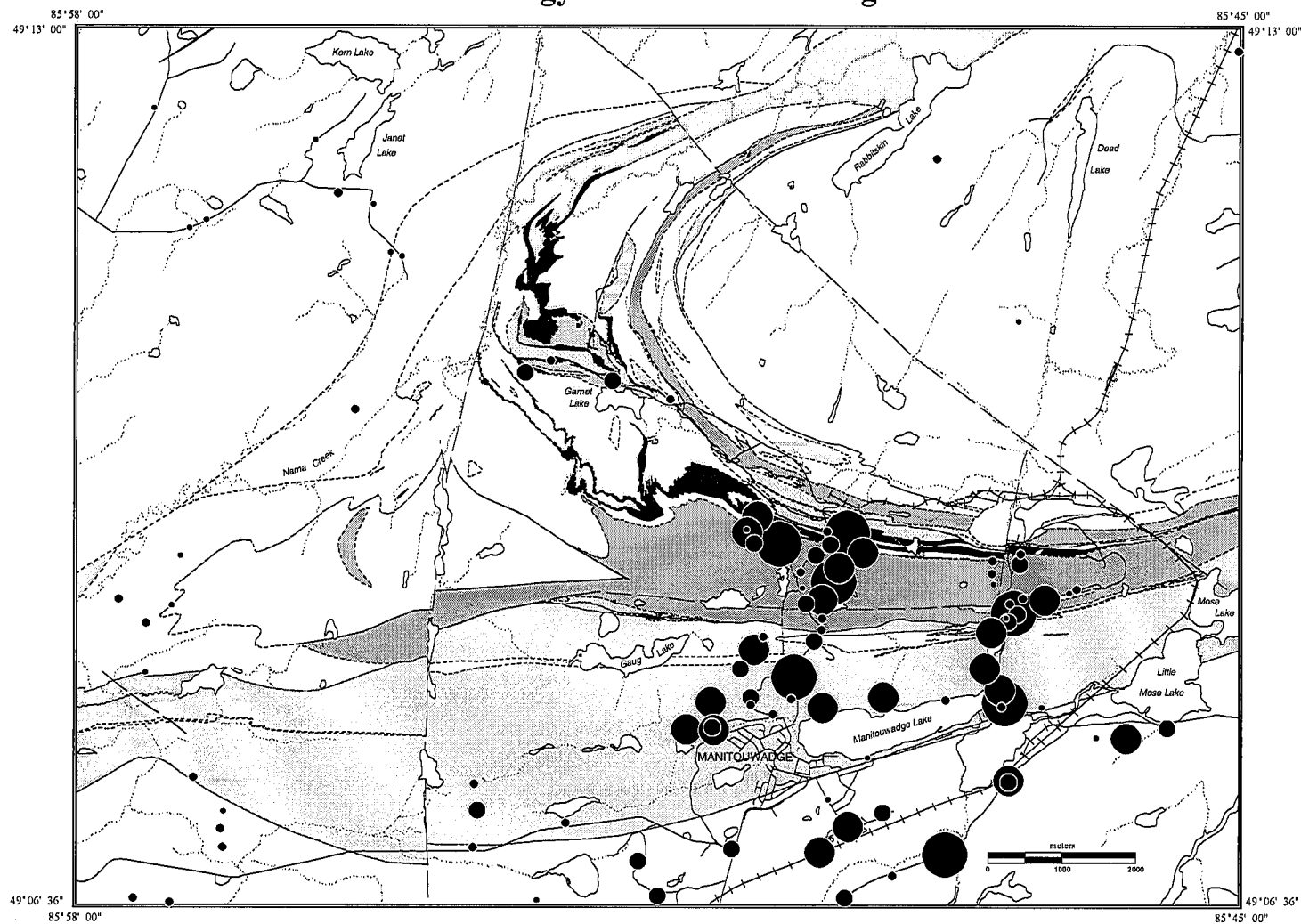
Precambrian granitoid clasts in the 5.6 - 16mm fraction of till

Symbol Legend (number %)				
MIN	MAX	#SAMP	%TILE	
3.6	20.0	26	25.2	
20.0	30.8	27	51.5	
30.8	52.5	24	74.8	
52.5	72.9	17	91.3	
72.9	100	9	100	

Summary Statistics

Number of Samples: 103
 Minimum: 3.6
 Maximum: 100
 Mean: 38.0
 Median: 30.6
 Standard Deviation: 22.6
 Coefficient of Variation: 0.6

Pebble Lithology in the Manitouwadge Area



Other Precambrian metasediment clasts in the 5.6 - 16mm fraction of till

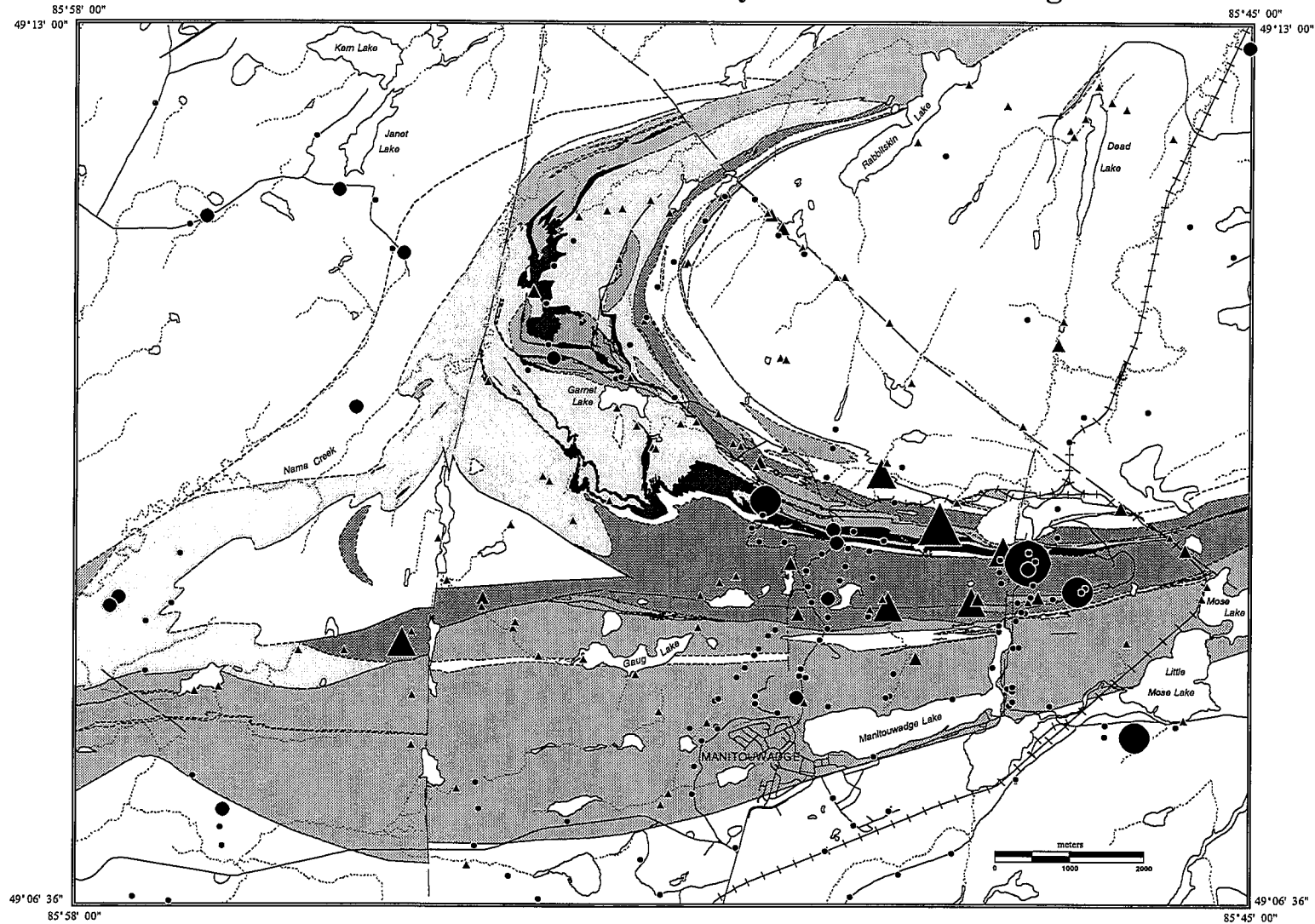
Symbol Legend (number %)

	MIN	MAX	#SAMP	%TILE
•	0	1.5	23	22.3
•	1.5	9.8	33	53.4
•	9.8	20.0	21	74.8
•	20.0	33.3	19	93.2
•	33.3	68.0	7	100

Summary Statistics

Number of Samples: 103
 Minimum: 0
 Maximum: 68.0
 Mean: 12.8
 Median: 8.8
 Standard Deviation: 13.8
 Coefficient of Variation: 1.1

Till and Stream Sediment Geochemistry in the Manitowadge Area



Silver (ppm) in the <0.063mm fraction of till

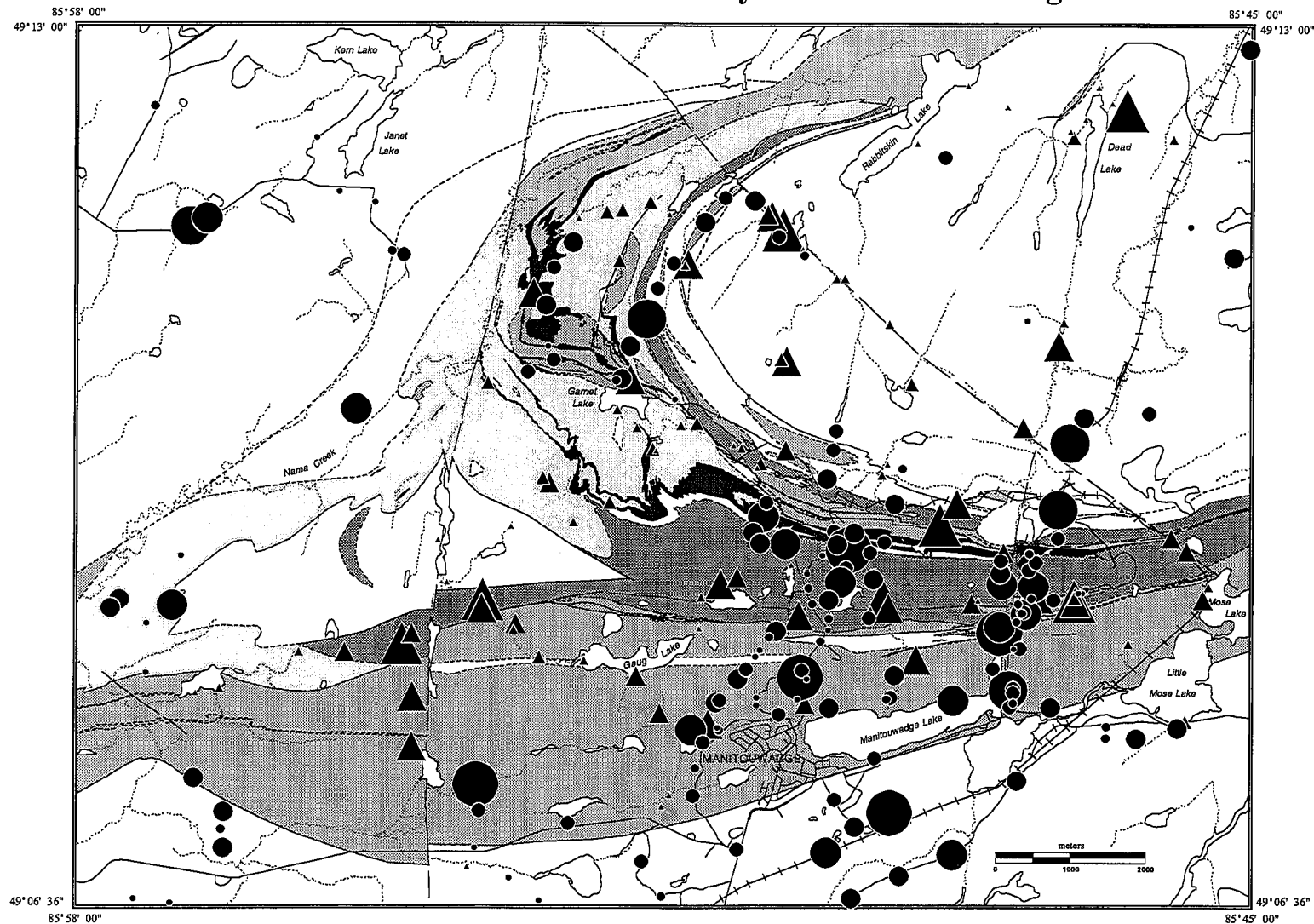
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
0.1	0.1	139	88.5	Minimum:	0.1
0.2	0.5	14	97.5	Maximum:	6.6
0.6	1.1	3	99.4	Mean:	0.18
1.2	6.6	1	100	Median:	0.1
				Standard Deviation:	0.53
				Coefficient of Variation:	305.8

Silver (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
0.1	0.1	88	80.7	Minimum:	0.1
0.2	0.6	15	94.5	Maximum:	3.2
0.7	1.8	5	99.1	Mean:	0.21
1.9	3.2	1	100	Median:	0.1
				Standard Deviation:	0.38
				Coefficient of Variation:	182.3

Ag

Till and Stream Sediment Geochemistry in the Manitowadge Area



Aluminum (%) in the <0.063mm fraction of till

Symbol Legend			
MIN	MAX	#SAMP	%TILE
0.22	0.49	31	19.7
0.50	0.77	23	34.5
0.78	1.09	42	61.1
1.10	1.44	37	84.7
1.45	1.72	14	93.6
1.73	1.96	5	96.8
1.97	2.61	5	100

Summary Statistics

Number of Samples: 157
 Minimum: 0.22
 Maximum: 2.61
 Mean: 1.00
 Median: 1.01
 Standard Deviation: 0.48
 Coefficient of Variation: 47.73

Aluminum (%) in the <0.063mm fraction of stream sediments

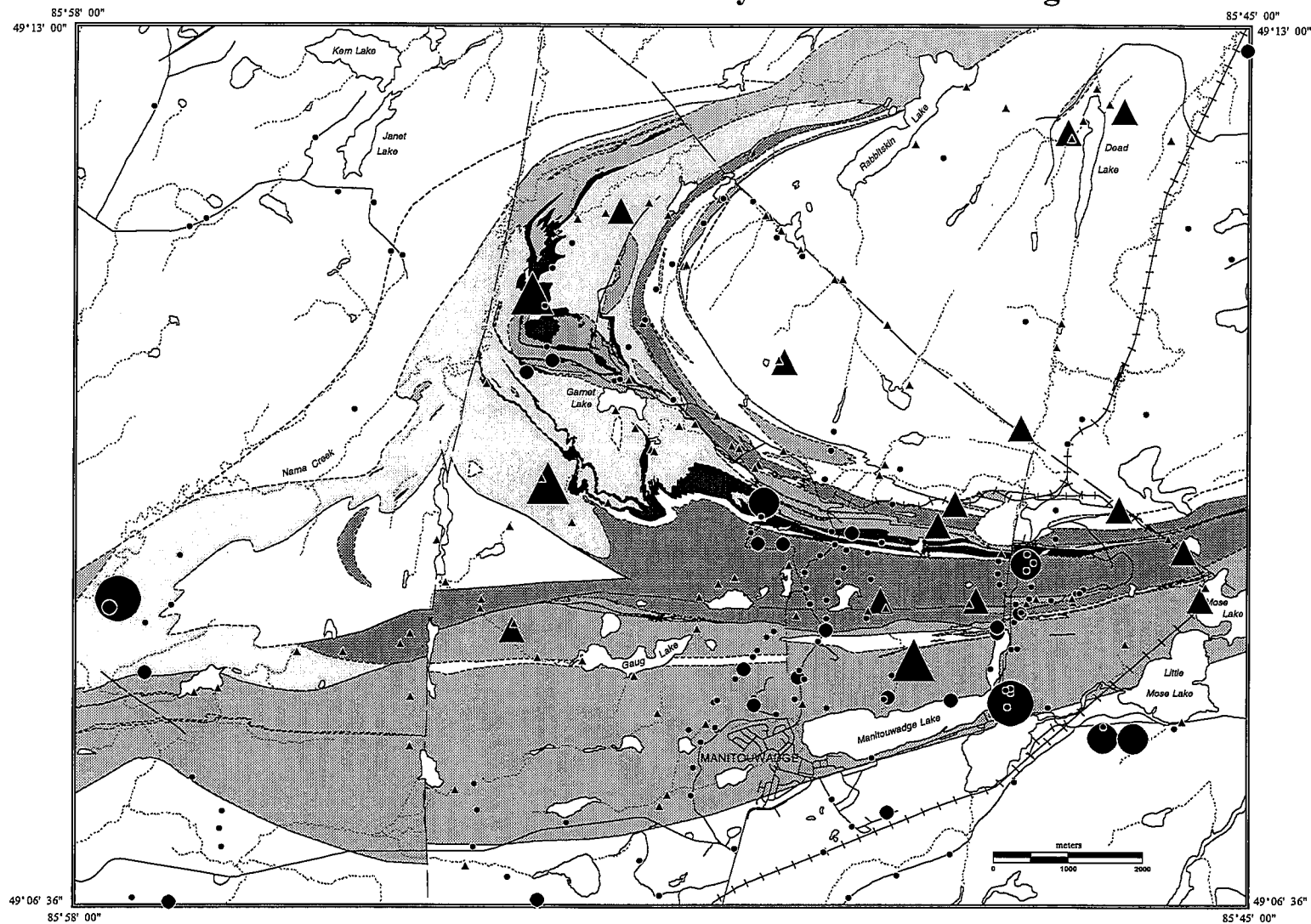
Symbol Legend			
MIN	MAX	#SAMP	%TILE
0.39	0.88	27	24.8
0.89	1.10	23	45.9
1.11	1.35	18	62.4
1.36	1.72	17	78.0
1.73	2.26	17	93.6
2.26	3.97	7	100

Summary Statistics

Number of Samples: 109
 Minimum: 0.39
 Maximum: 3.97
 Mean: 1.34
 Median: 1.18
 Standard Deviation: 0.65
 Coefficient of Variation: 48.79

Al

Till and Stream Sediment Geochemistry in the Manitowadge Area



Arsenic (ppm) in the <0.063mm fraction of till

Symbol Legend			
MIN	MAX	#SAMP	%TILE
1	4	131	83.4
5	8	20	96.2
9	13	4	98.7
14	27	2	100

Summary Statistics

Number of Samples: 157
 Minimum: 1
 Maximum: 27
 Mean: 2.93
 Median: 2
 Standard Deviation: 3.22
 Coefficient of Variation: 109.79

Arsenic (ppm) in the <0.063mm fraction of stream sediments

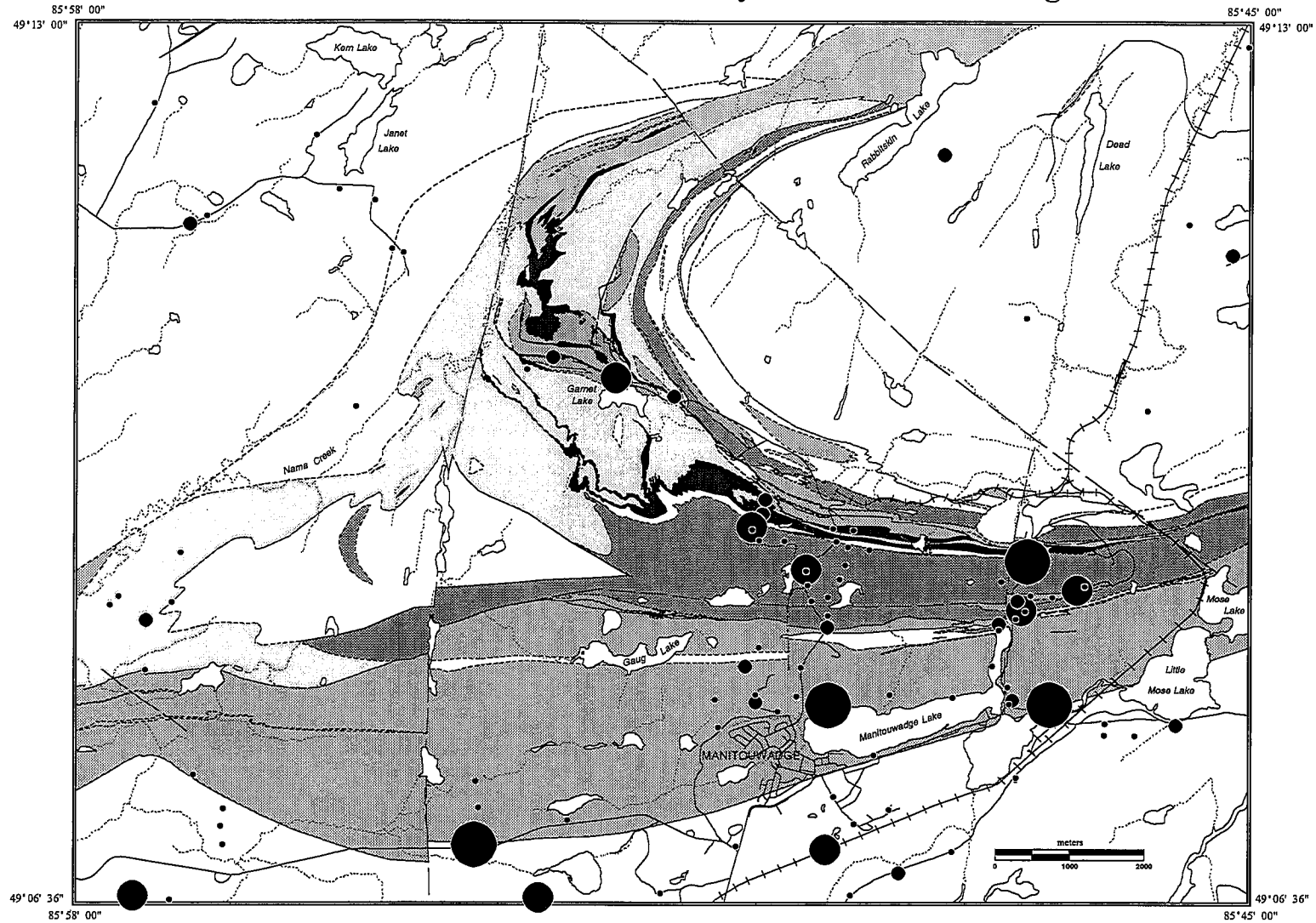
Symbol Legend			
MIN	MAX	#SAMP	%TILE
1	2	93	85.3
3	6	13	97.2
7	8	3	100

Summary Statistics

Number of Samples: 109
 Minimum: 1
 Maximum: 8
 Mean: 1.73
 Median: 1
 Standard Deviation: 1.57
 Coefficient of Variation: 90.73

As

Till and Stream Sediment Geochemistry in the Manitowadge Area



Gold (ppb) in the <0.063mm fraction of till

Symbol Legend

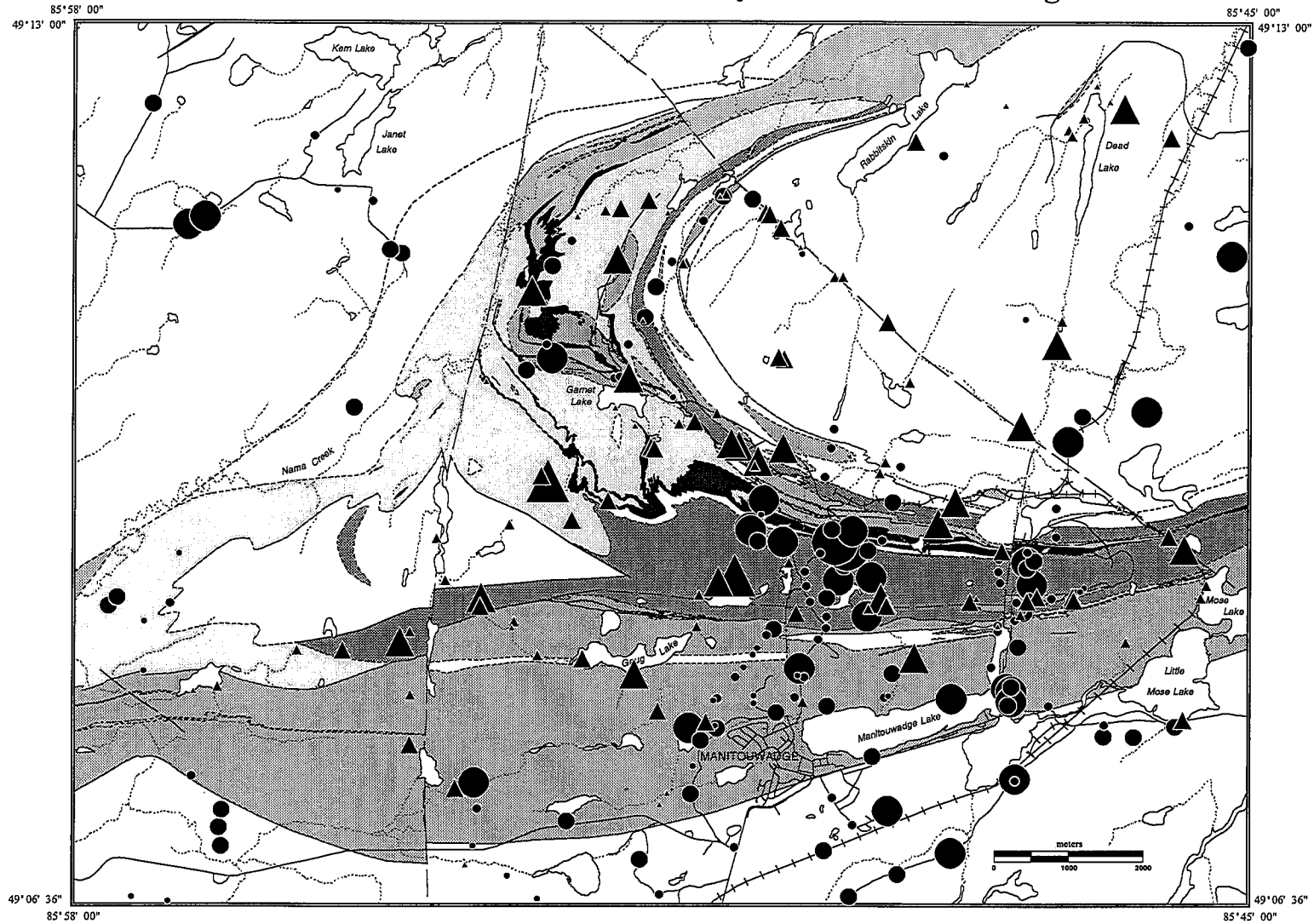
MIN	MAX	#SAMP	%TILE
0.5	2	73	72.3
3	5	16	88.1
6	12	8	96
13	24	4	100

Summary Statistics

Number of Samples: 101
 Minimum: 0.5
 Maximum: 24
 Mean: 3.02
 Median: 2
 Standard Deviation: 4.02
 Coefficient of Variation: 133.43

Au

Till and Stream Sediment Geochemistry in the Manitowadge Area



Barium (ppm) in the <0.063mm fraction of till

Symbol Legend			
MIN	MAX	#SAMP	%TILE
10	18	30	19.1
19	28	54	53.5
29	47	45	82.2
48	90	26	98.7
91	240	2	100

Summary Statistics	
Number of Samples:	157
Minimum:	10
Maximum:	240
Mean:	31.20
Median:	22
Standard Deviation:	24.51
Coefficient of Variation:	78.55

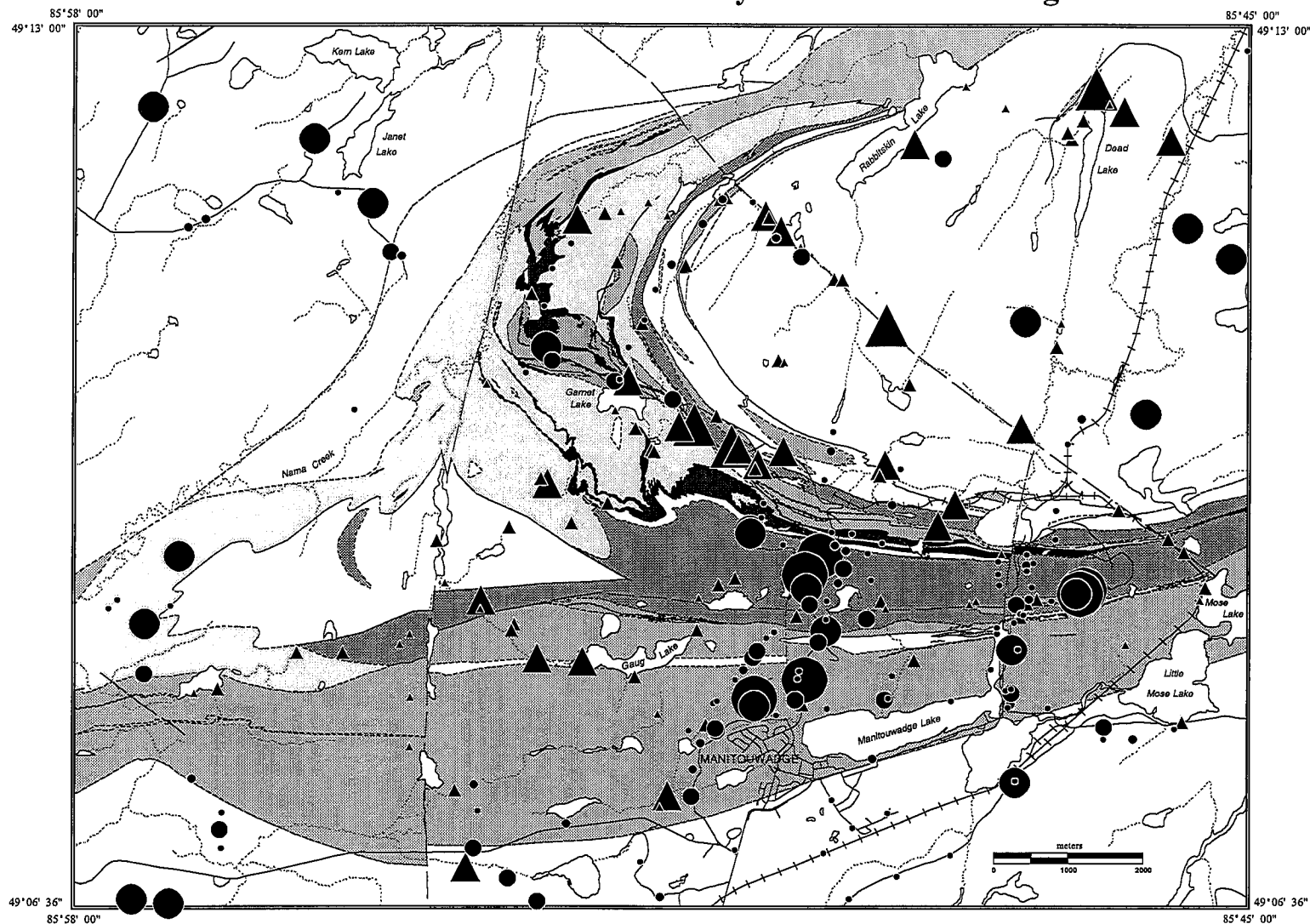
Barium (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend			
MIN	MAX	#SAMP	%TILE
10	30	20	18.3
40	50	34	49.5
60	80	34	80.7
90	160	19	98.2
170	290	2	100

Summary Statistics	
Number of Samples:	109
Minimum:	10
Maximum:	290
Mean:	63.21
Median:	55
Standard Deviation:	39.04
Coefficient of Variation:	61.76

Ba

Till and Stream Sediment Geochemistry in the Manitowadge Area



Calcium (%) in the <0.063mm fraction of till

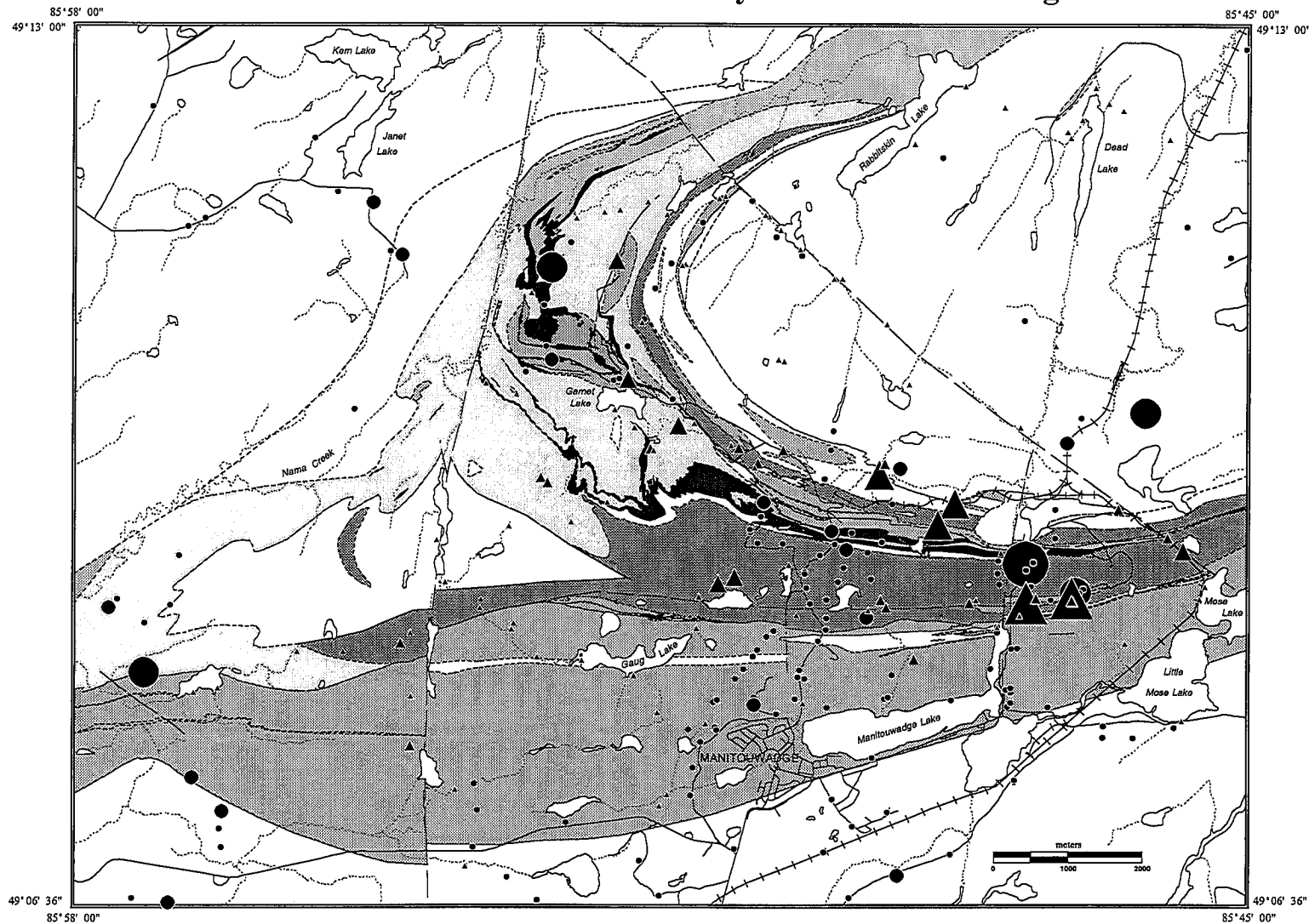
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples: 157	
0.12	0.60	80	51.0	Minimum: 0.12	
0.61	3.67	25	66.9	Maximum: 11.02	
3.68	8.74	25	82.8	Mean: 3.26	
8.75	10.20	21	96.2	Median: 0.58	
10.21	11.02	6	100	Standard Deviation: 3.95	
				Coefficient of Variation: 121.47	

Calcium (%) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples: 109	
0.14	0.70	29	26.6	Minimum: 0.14	
0.71	1.51	55	77.1	Maximum: 3.77	
1.52	2.69	21	96.3	Mean: 1.14	
2.70	3.77	4	100	Median: 0.91	
				Standard Deviation: 0.67	
				Coefficient of Variation: 61.28	

Ca

Till and Stream Sediment Geochemistry in the Manitowadge Area



Cadmium (ppm) in the <0.063mm fraction of till

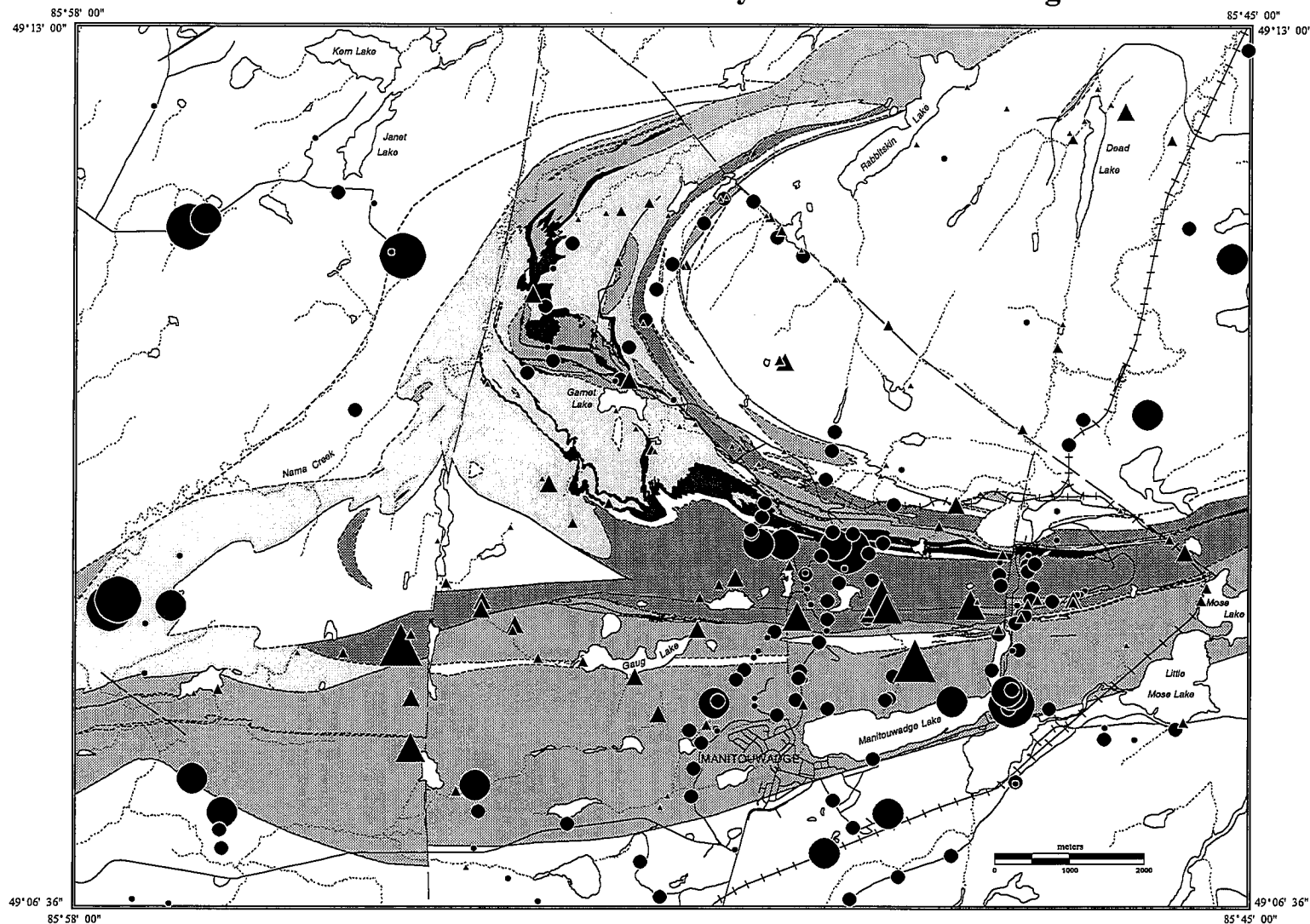
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
0.1	0.5	137	87.3	Minimum:	0.1
0.6	1.0	15	96.8	Maximum:	19.4
1.1	3.0	4	99.4	Mean:	0.47
3.1	19.4	1	100	Median:	0.25
				Standard Deviation:	1.55
				Coefficient of Variation:	332.19

Cadmium (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
0.2	0.5	80	73.4	Minimum:	0.2
0.6	1.5	18	89.9	Maximum:	15.5
1.6	3.5	6	95.4	Mean:	0.95
3.6	8.0	3	98.2	Median:	0.2
8.1	15.5	2	100	Standard Deviation:	2.02
				Coefficient of Variation:	213.39

Cd

Till and Stream Sediment Geochemistry in the Manitowadge Area



Cobalt (ppm) in the <0.063mm fraction of till

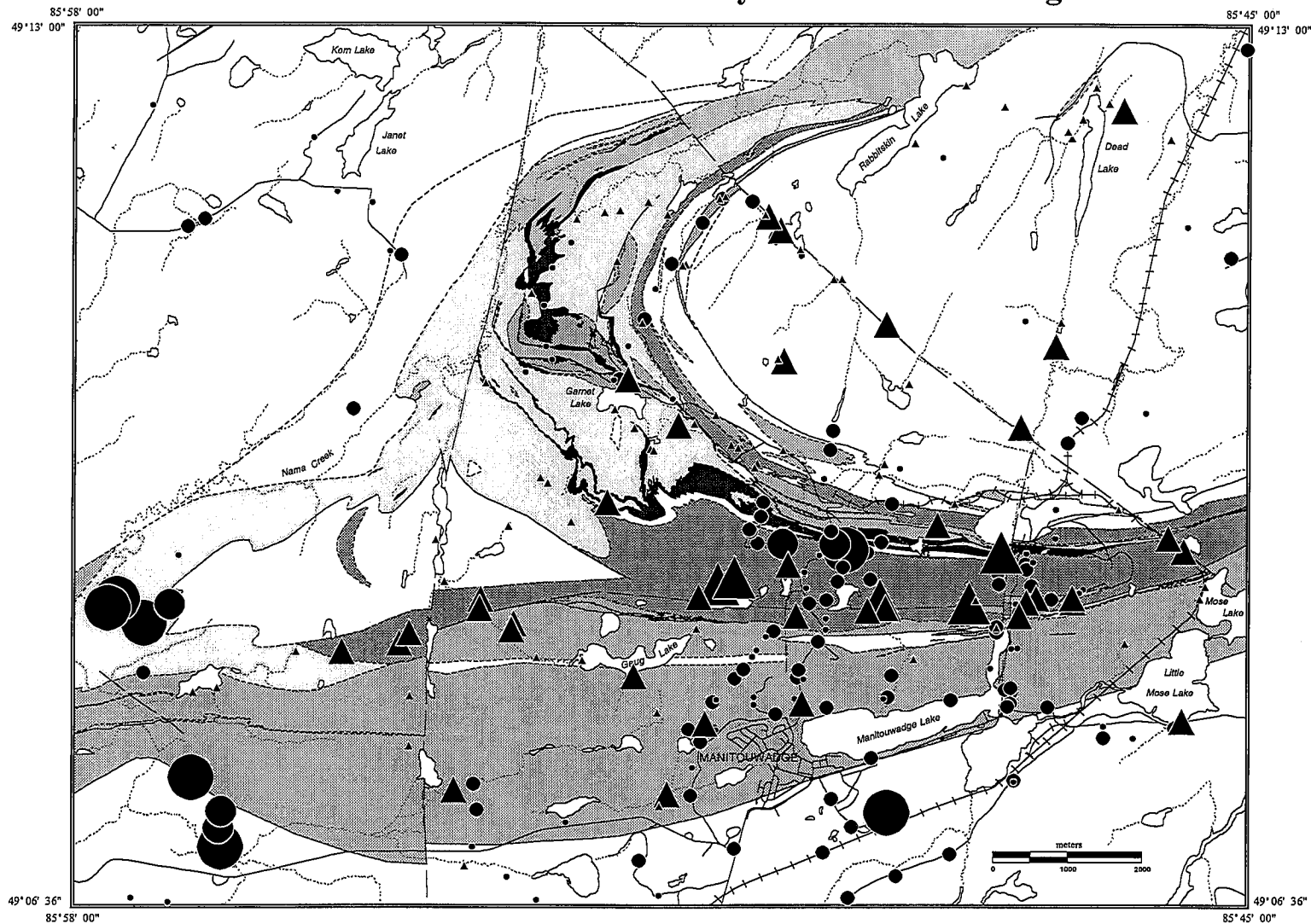
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
0.5	3	46	29.3	Minimum:	0.5
4	9	89	86	Maximum:	23
10	17	16	96.2	Mean:	5.79
18	23	6	100	Median:	5
				Standard Deviation:	4.57
				Coefficient of Variation:	78.96

Cobalt (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
2	5	45	41.3	Minimum:	2
6	11	41	78.9	Maximum:	88
12	21	16	93.6	Mean:	10.11
22	39	4	97.2	Median:	6
40	88	3	100	Standard Deviation:	12.95
				Coefficient of Variation:	128.05

Co

Till and Stream Sediment Geochemistry in the Manitowadge Area



Chromium (ppm) in the <0.063mm fraction of till

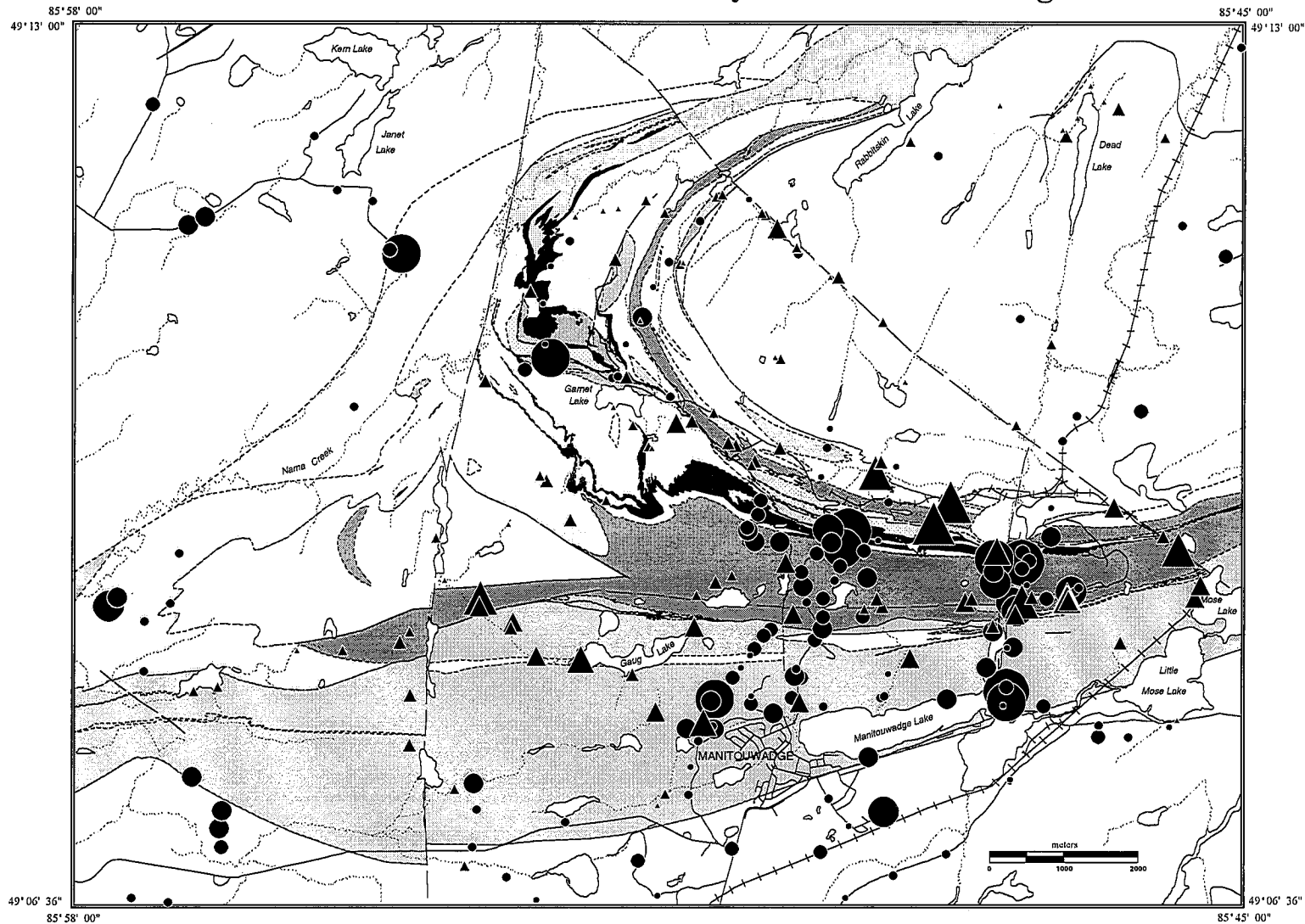
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
9	25	66	42	Minimum:	9
26	57	79	92.4	Maximum:	217
58	118	5	95.5	Mean:	35.97
119	217	7	100	Median:	27
				Standard Deviation:	36.32
				Coefficient of Variation:	100.99

Chromium (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
8	27	67	61.5	Minimum:	8
28	50	37	95.4	Maximum:	77
51	77	5	100	Mean:	28.08
				Median:	24
				Standard Deviation:	12.51
				Coefficient of Variation:	44.55

Cr

Till and Stream Sediment Geochemistry in the Manitowadge Area



Copper (ppm) in the <0.063mm fraction of till

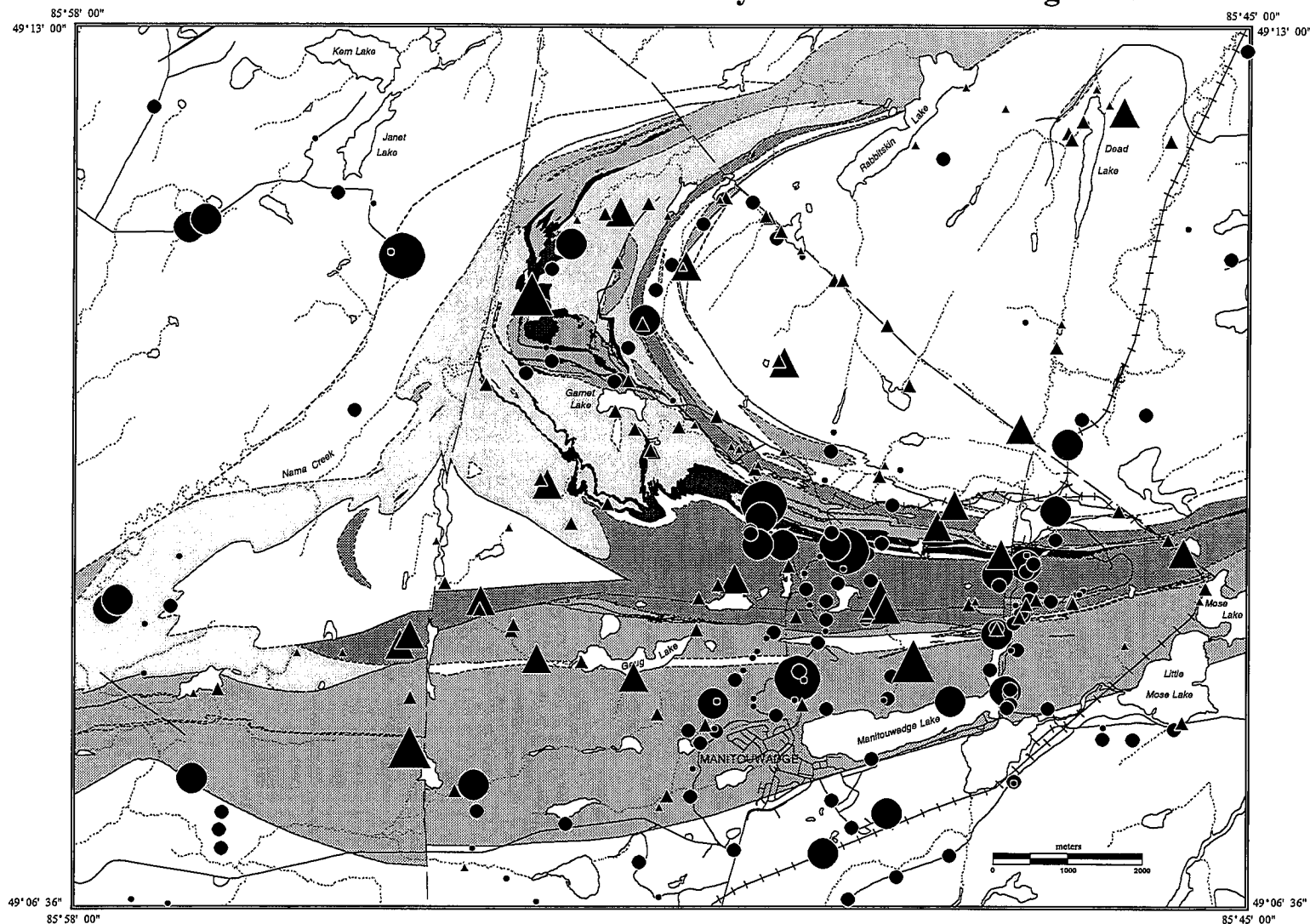
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
2	6	29	18.5	Minimum:	2
7	10	49	49.7	Maximum:	1596
11	17	36	72.6	Mean:	28.2
18	36	27	89.8	Median:	10.5
37	49	7	94.3	Standard Deviation:	128.3
50	94	6	98.1	Coefficient of Variation:	454.1
95	1596	3	100		

Copper (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
3	9	22	20.2	Minimum:	3
10	18	31	48.6	Maximum:	449
19	41	28	74.3	Mean:	38.5
42	84	17	89.9	Median:	19
85	107	5	94.5	Standard Deviation:	56.7
108	219	4	98.2	Coefficient of Variation:	147.4
220	449	2	100		

Cu

Till and Stream Sediment Geochemistry in the Manitowadge Area



Iron (%) in the <0.063mm fraction of till

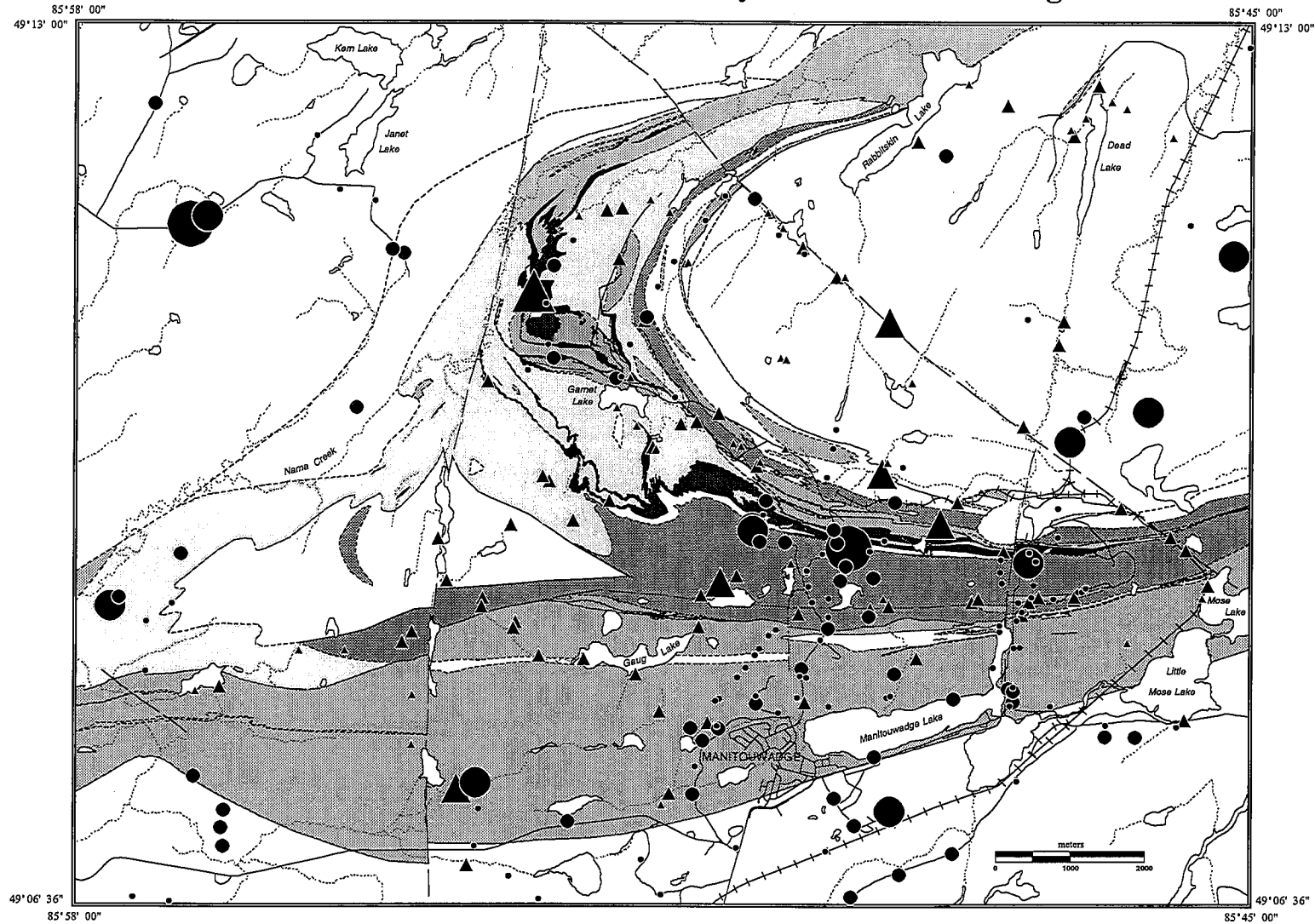
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
0.44	1.10	46	29.3	Minimum:	0.44
1.11	1.98	85	83.4	Maximum:	4.93
1.99	3.14	22	97.5	Mean:	1.47
3.15	4.93	4	100	Median:	1.30
				Standard Deviation:	0.68
				Coefficient of Variation:	46.36

Iron (%) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	1.09
0.39	1.06	27	24.8	Minimum:	0.39
1.07	1.96	61	80.7	Maximum:	4.44
1.97	3.00	17	96.3	Mean:	1.53
3.01	4.44	4	100	Median:	1.37
				Standard Deviation:	0.71
				Coefficient of Variation:	46.46

Fe

Till and Stream Sediment Geochemistry in the Manitowadge Area



Potassium (%) in the <0.063mm fraction of till

Symbol Legend				
MIN	MAX	#SAMP	%TILE	
0.03	0.10	97	61.8	
0.11	0.21	48	92.4	
0.22	0.38	10	98.7	
0.39	0.63	2	100	

Summary Statistics	
Number of Samples:	157
Minimum:	0.03
Maximum:	0.63
Mean:	0.11
Median:	0.09
Standard Deviation:	0.08
Coefficient of Variation:	72.72

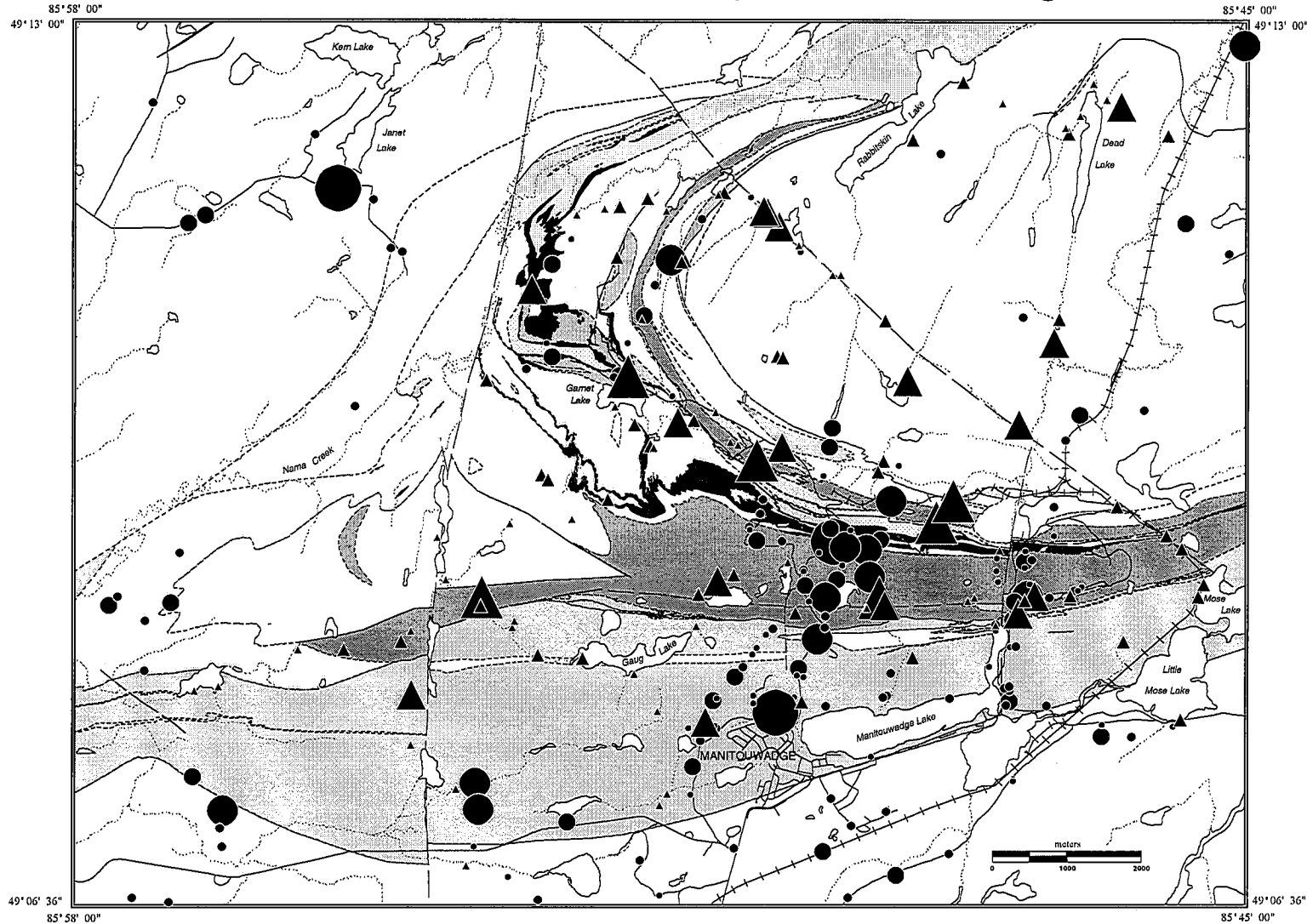
Potassium (%) in the <0.063mm fraction of stream sediments

Symbol Legend				
MIN	MAX	#SAMP	%TILE	
0.01	0.05	40	36.7	
0.06	0.10	63	94.5	
0.11	0.14	5	99.1	
0.15	0.20	1	100	

Summary Statistics	
Number of Samples:	109
Minimum:	0.01
Maximum:	0.20
Mean:	0.06
Median:	0.06
Standard Deviation:	0.03
Coefficient of Variation:	41.01

K

Till and Stream Sediment Geochemistry in the Manitowadge Area



Lanthanum (ppm) in the <0.063mm fraction of till

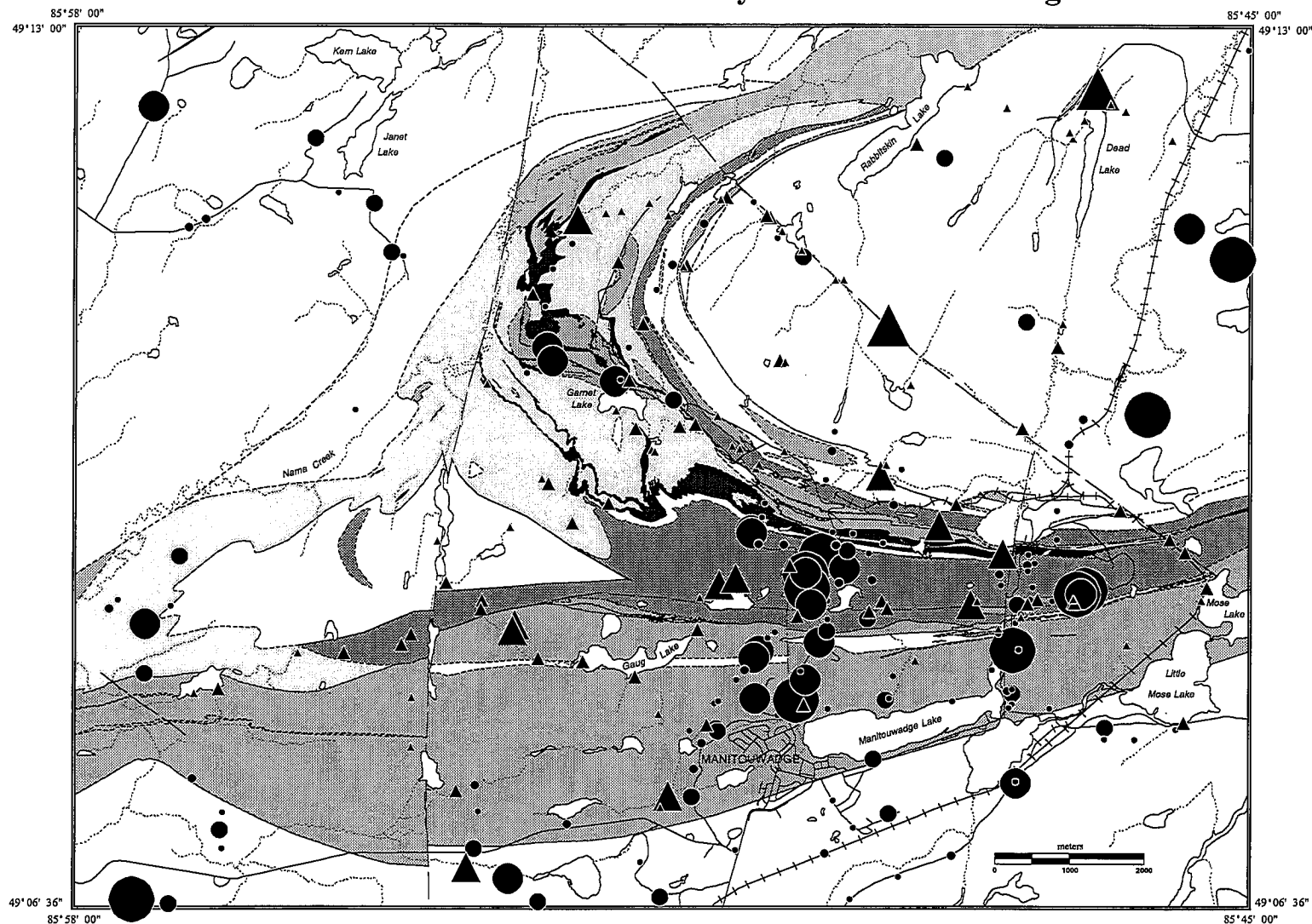
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
5	10	49	31.2	Minimum:	5
11	20	62	70.7	Maximum:	80
21	38	31	90.4	Mean:	19.92
39	60	12	98.1	Median:	20
61	80	3	100	Standard Deviation:	12.93
				Coefficient of Variation:	64.93

Lanthanum (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
10	20	42	38.5	Minimum:	10
21	40	45	79.8	Maximum:	130
41	90	16	94.5	Mean:	35.69
91	130	6	100	Median:	30
				Standard Deviation:	25.11
				Coefficient of Variation:	70.35

La

Till and Stream Sediment Geochemistry in the Manitowadge Area



Magnesium (%) in the <0.063mm fraction of till

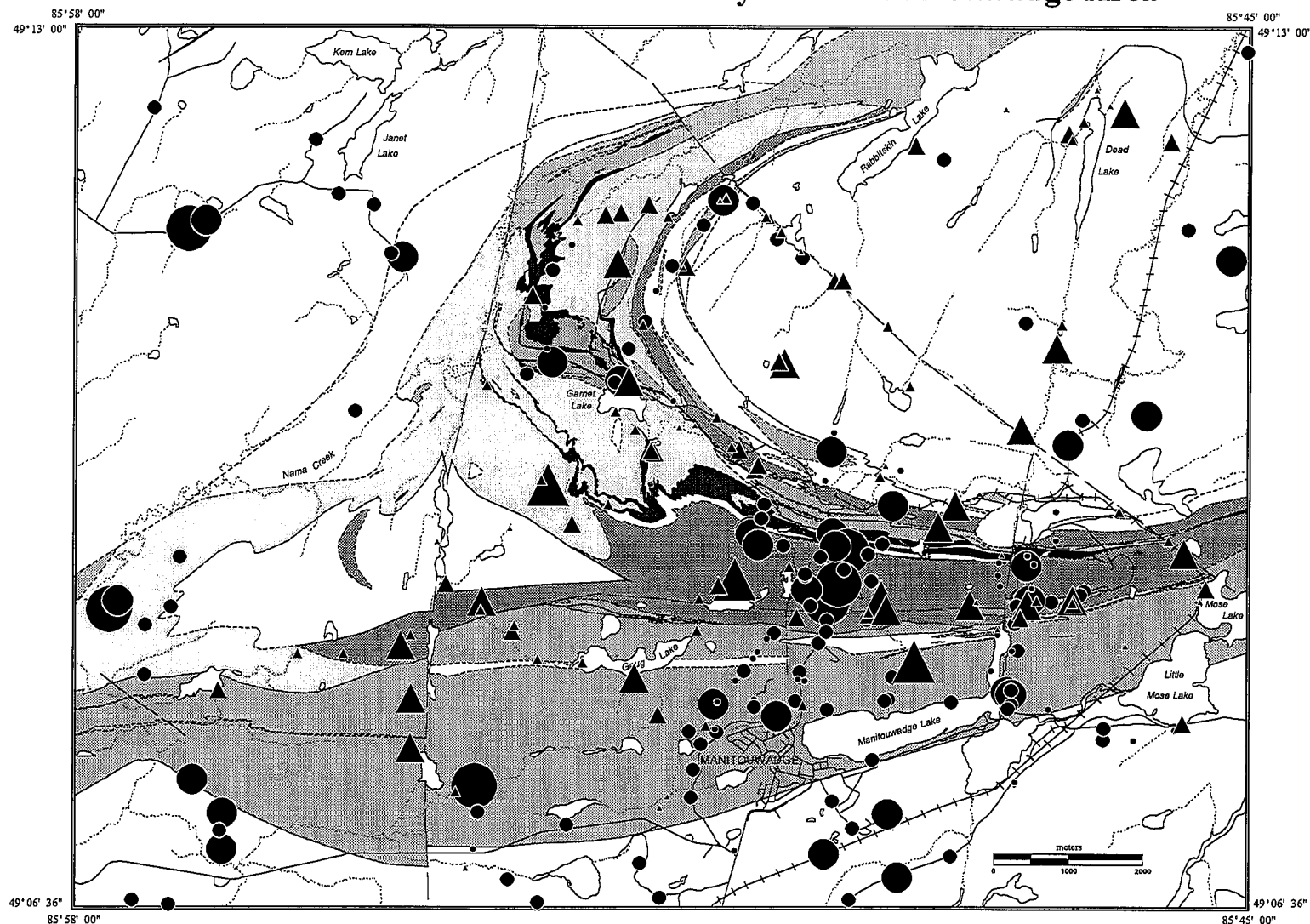
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
0.17	0.47	75	47.8	Minimum:	0.17
0.48	1.31	26	64.3	Maximum:	3.81
1.32	2.61	27	81.5	Mean:	1.23
2.62	3.12	19	93.6	Median:	0.54
3.13	3.81	10	100	Standard Deviation:	1.14
				Coefficient of Variation:	93.05

Magnesium (%) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
0.16	0.30	49	45	Minimum:	0.16
0.31	0.50	47	88.1	Maximum:	1.56
0.51	0.87	11	98.2	Mean:	0.37
0.88	1.56	2	100	Median:	0.31
				Standard Deviation:	0.21
				Coefficient of Variation:	56.71

Mg

Till and Stream Sediment Geochemistry in the Manitowadge Area



Manganese (ppm) in the <0.063mm fraction of till

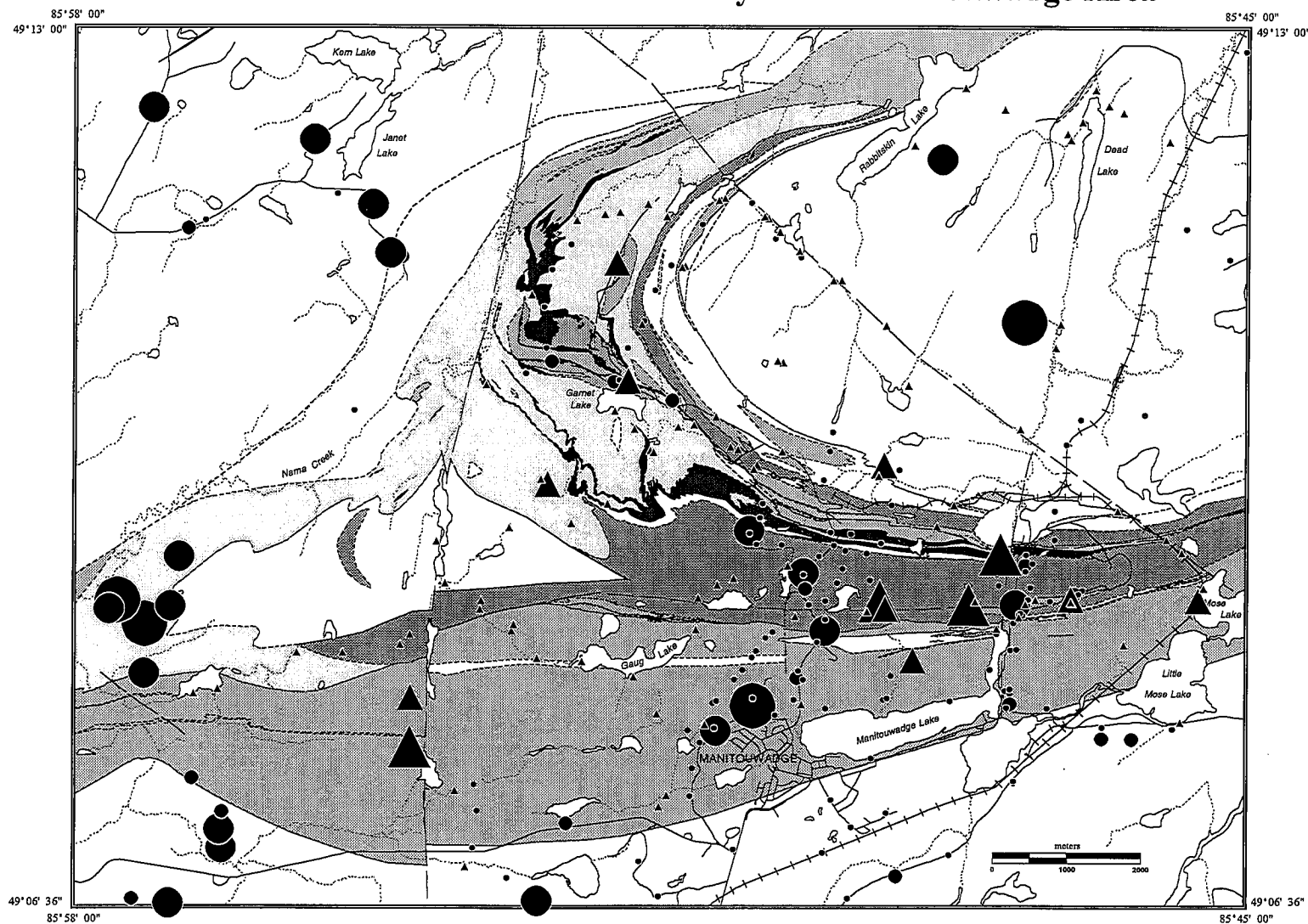
Symbol Legend				Summary Statistics			
MIN	MAX	#SAMP	%TILE	Number of Samples:			
55	140	39	24.8	Minimum:	55		
141	270	83	77.7	Maximum:	615		
271	409	29	96.2	Mean:	213.87		
410	615	6	100	Median:	197.5		
				Standard Deviation:	96.72		
				Coefficient of Variation:	45.22		

Manganese (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics			
MIN	MAX	#SAMP	%TILE	Number of Samples:			
75	250	27	24.8	Minimum:	75		
251	500	33	55	Maximum:	9865		
501	1000	27	79.8	Mean:	846.24		
1001	2600	18	96.3	Median:	467.5		
2601	9865	4	100	Standard Deviation:	1244.05		
				Coefficient of Variation:	147.01		

Mn

Till and Stream Sediment Geochemistry in the Manitowadge Area



Molybdenum (ppm) in the <0.063mm fraction of till

Symbol Legend			
MIN	MAX	#SAMP	%TILE
0.5	1	118	75.2
2	9	17	86
10	17	18	97.5
18	40	4	100

Summary Statistics	
Number of Samples:	157
Minimum:	0.5
Maximum:	40
Mean:	3.20
Median:	0.5
Standard Deviation:	5.91
Coefficient of Variation:	184.38

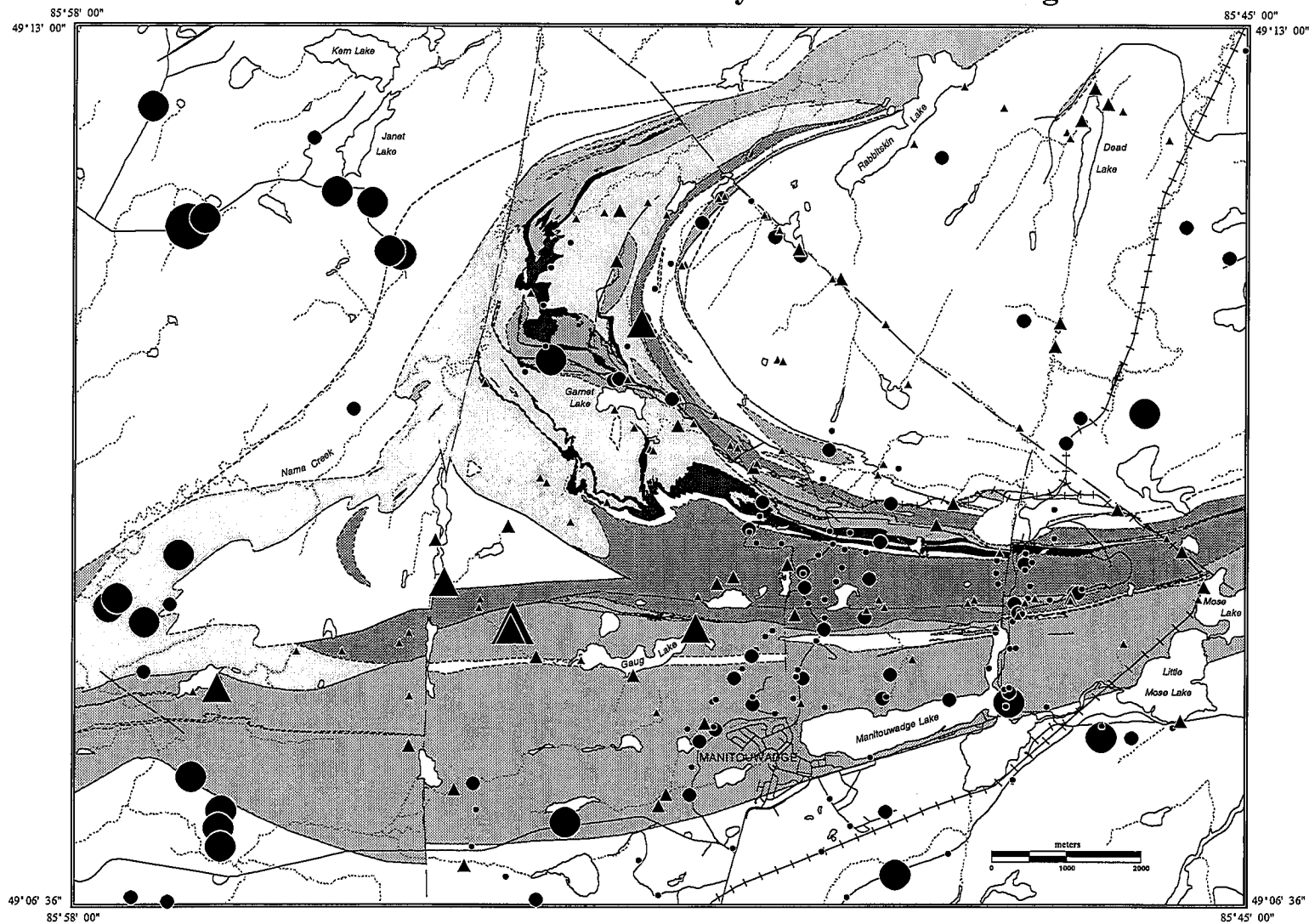
Molybdenum (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend			
MIN	MAX	#SAMP	%TILE
0.5	0.5	96	88.1
1	1	9	96.3
2	3	4	100

Summary Statistics	
Number of Samples:	109
Minimum:	0.5
Maximum:	3
Mean:	0.63
Median:	0.5
Standard Deviation:	0.05
Coefficient of Variation:	76.49

Mo

Till and Stream Sediment Geochemistry in the Manitowadge Area



Sodium (%) in the <0.063mm fraction of till

Symbol Legend			
MIN	MAX	#SAMP	%TILE
0.005	0.01	86	54.8
0.02	0.05	50	86.6
0.06	0.09	20	99.4
0.10	0.13	1	100

Summary Statistics

Number of Samples: 157
 Minimum: 0.005
 Maximum: 0.13
 Mean: 0.03
 Median: 0.01
 Standard Deviation: 0.02
 Coefficient of Variation: 94.08

Sodium (%) in the <0.063mm fraction of stream sediments

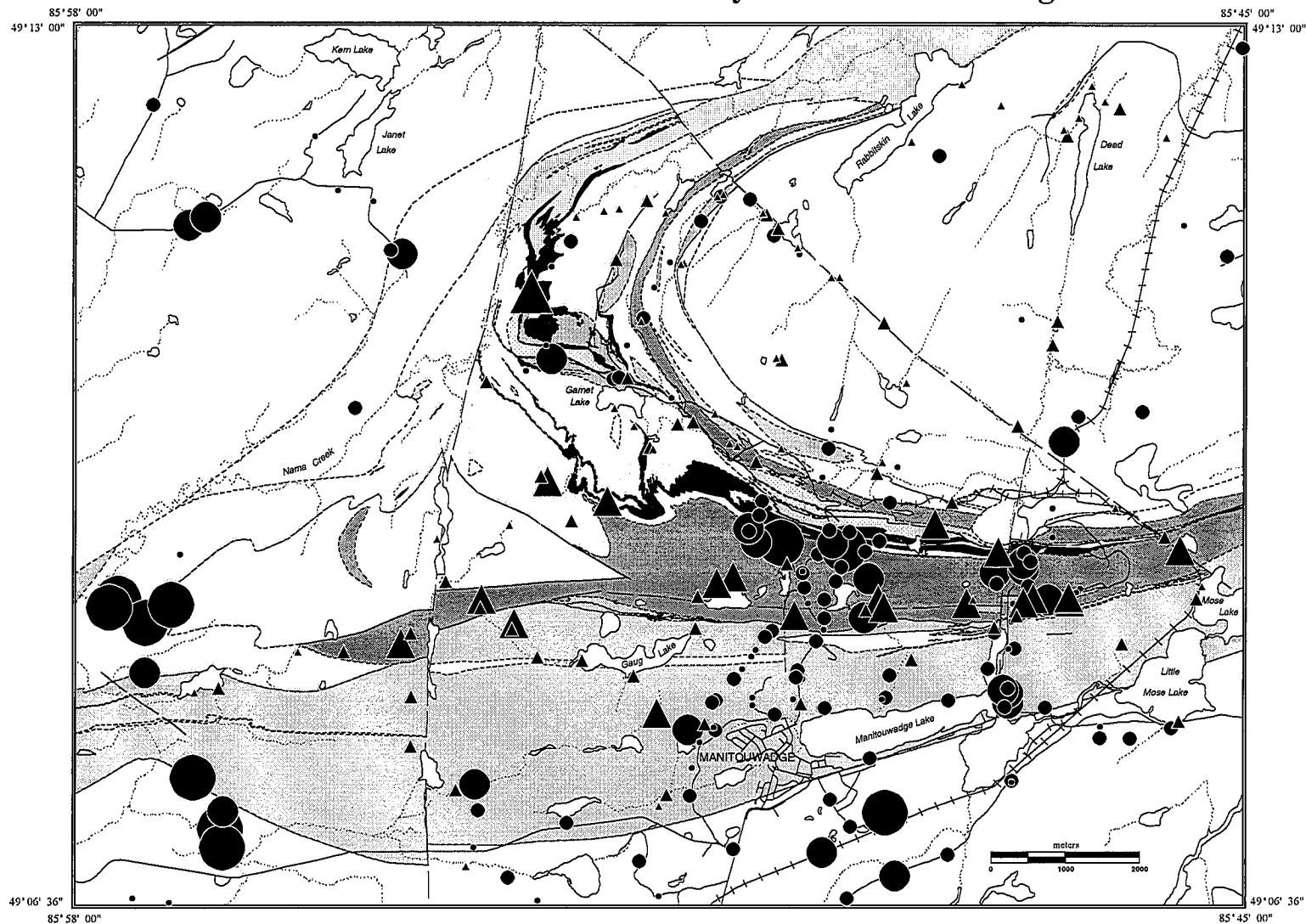
Symbol Legend			
MIN	MAX	#SAMP	%TILE
0.005	0.01	71	65.1
0.02	0.03	32	94.5
0.04	0.06	5	99.1
0.07	0.12	1	100

Summary Statistics

Number of Samples: 109
 Minimum: 0.005
 Maximum: 0.12
 Mean: 0.02
 Median: 0.01
 Standard Deviation: 0.02
 Coefficient of Variation: 89.56

Na

Till and Stream Sediment Geochemistry in the Manitowadge Area



Nickel (ppm) in the <0.063mm fraction of till

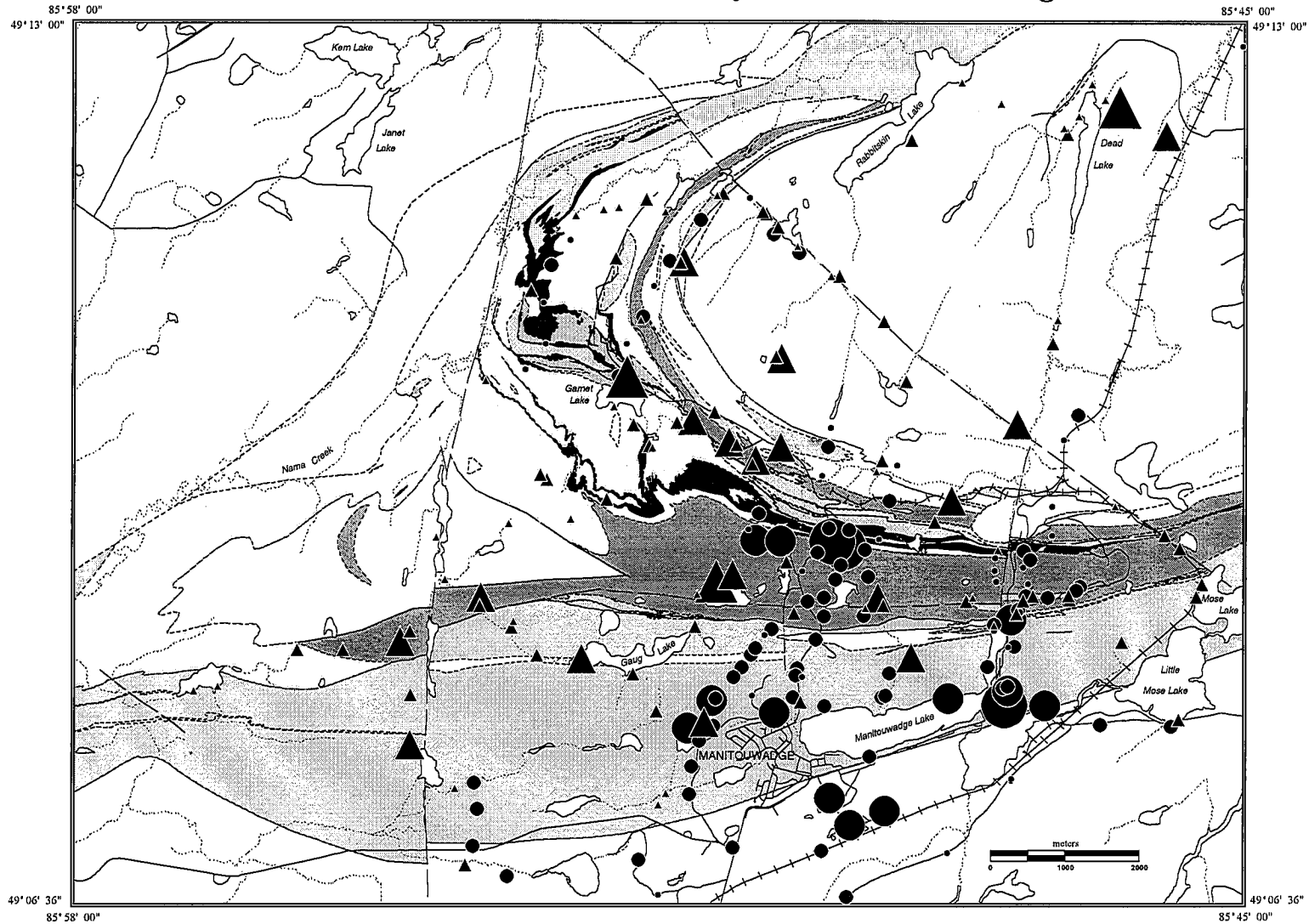
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
3	10	49	31.2	Minimum:	3
11	20	75	79	Maximum:	108
21	50	23	93.6	Mean:	19.05
51	108	10	100	Median:	13
				Standard Deviation:	19.17
				Coefficient of Variation:	100.64

Nickel (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
4	10	41	37.6	Minimum:	4
11	20	47	80.7	Maximum:	143
21	53	20	99.1	Mean:	16
54	143	1	100	Median:	12
				Standard Deviation:	14.73
				Coefficient of Variation:	92.07

Ni

Till and Stream Sediment Geochemistry in the Manitowadge Area



Phosphorus (ppm) in the <0.063mm fraction of till

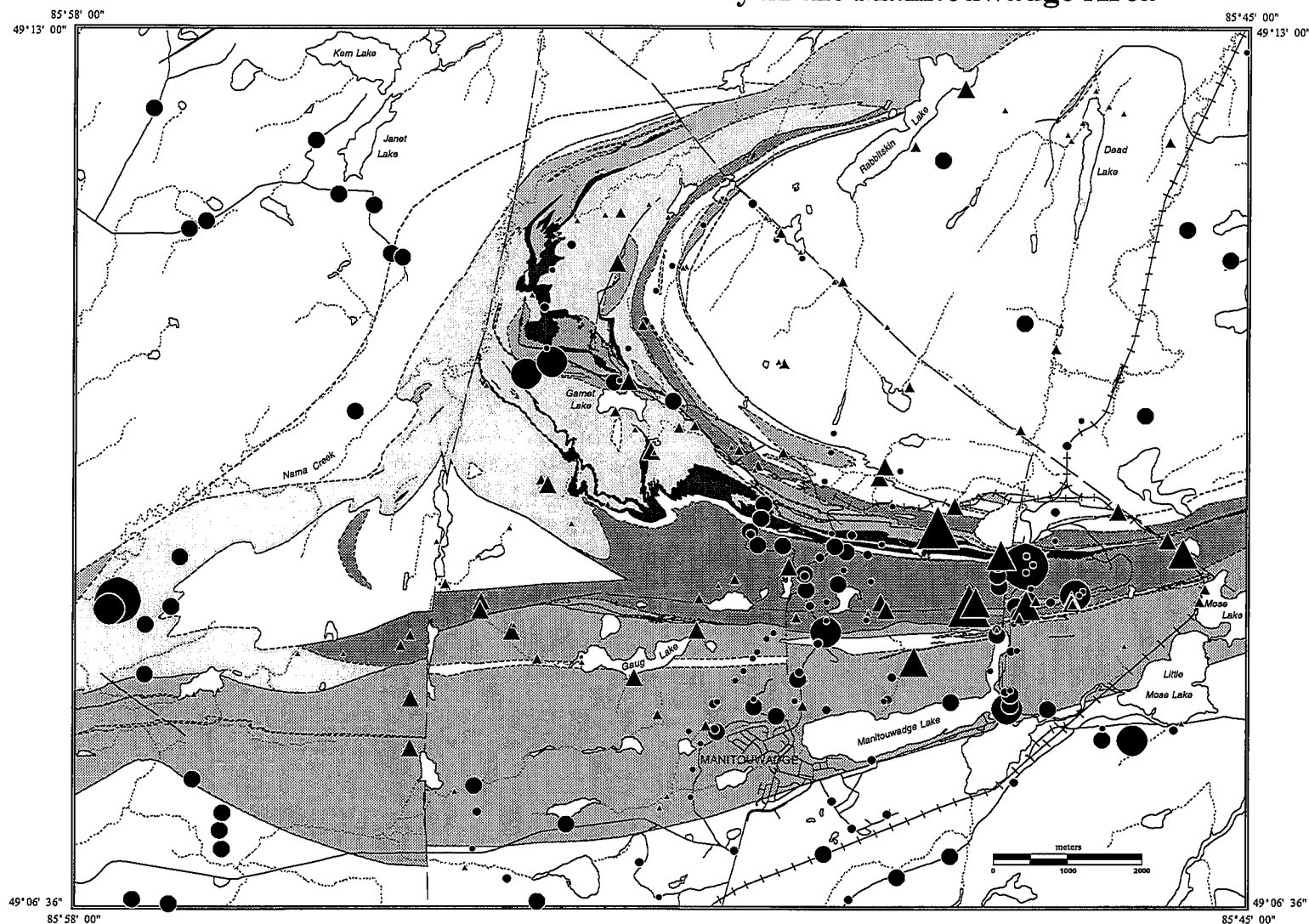
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	111
100	400	33	29.7	Minimum:	100
410	700	63	86.5	Maximum:	2450
710	1060	12	97.3	Mean:	532.16
1070	2450	3	100	Median:	505
				Standard Deviation:	289.97
				Coefficient of Variation:	54.49

Phosphorus (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
330	700	35	32.1	Minimum:	330
710	1220	54	81.7	Maximum:	2980
1230	1850	17	97.2	Mean:	943.85
1860	2980	3	100	Median:	850
				Standard Deviation:	417.64
				Coefficient of Variation:	44.25

P

Till and Stream Sediment Geochemistry in the Manitowadge Area



Lead (ppm) in the <0.063mm fraction of till

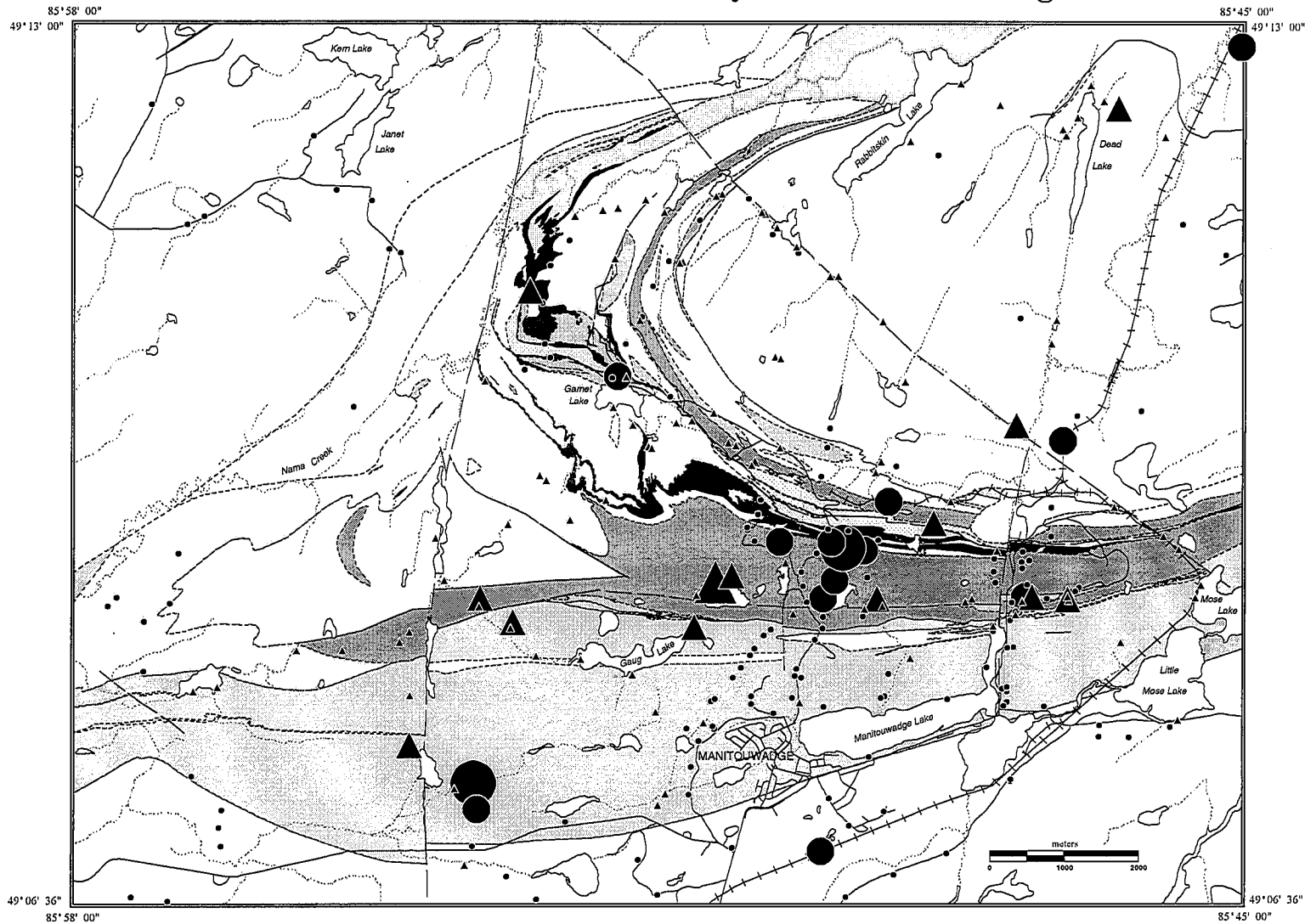
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
1	4	53	33.8	Minimum:	1
5	8	36	56.7	Maximum:	224
9	25	59	94.3	Mean:	13.56
26	76	7	98.7	Median:	8
77	224	2	100	Standard Deviation:	19.17
				Coefficient of Variation:	100.64

Lead (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
2	4	48	44	Minimum:	2
5	8	32	73.4	Maximum:	134
9	22	22	93.6	Mean:	10.07
23	48	5	98.2	Median:	6
49	134	2	100	Standard Deviation:	15.50
				Coefficient of Variation:	153.84

Pb

Till and Stream Sediment Geochemistry in the Manitowadge Area



Scandium (ppm) in the <0.063mm fraction of till

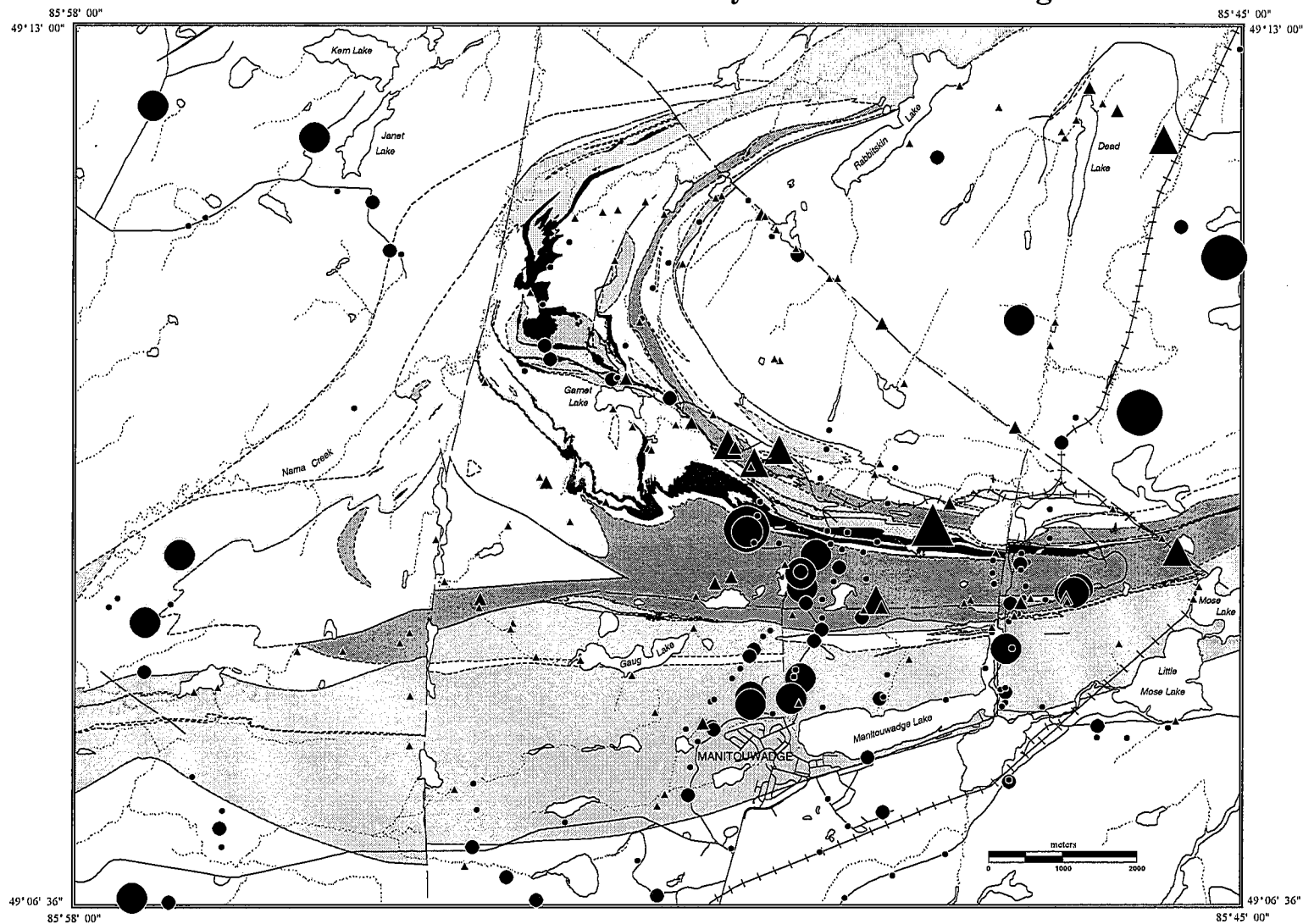
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
1	4	143	91.1	Minimum:	1
5	7	12	98.7	Maximum:	10
8	10	2	100	Mean:	2.97
				Median:	2.5
				Standard Deviation:	1.35
				Coefficient of Variation:	45.56

Scandium (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
1	4	96	88.1	Minimum:	1
5	7	12	99.1	Maximum:	8
8	8	1	100	Mean:	3.14
				Median:	3
				Standard Deviation:	1.34
				Coefficient of Variation:	42.60

Sc

Till and Stream Sediment Geochemistry in the Manitowadge Area



Strontium (ppm) in the <0.063mm fraction of till

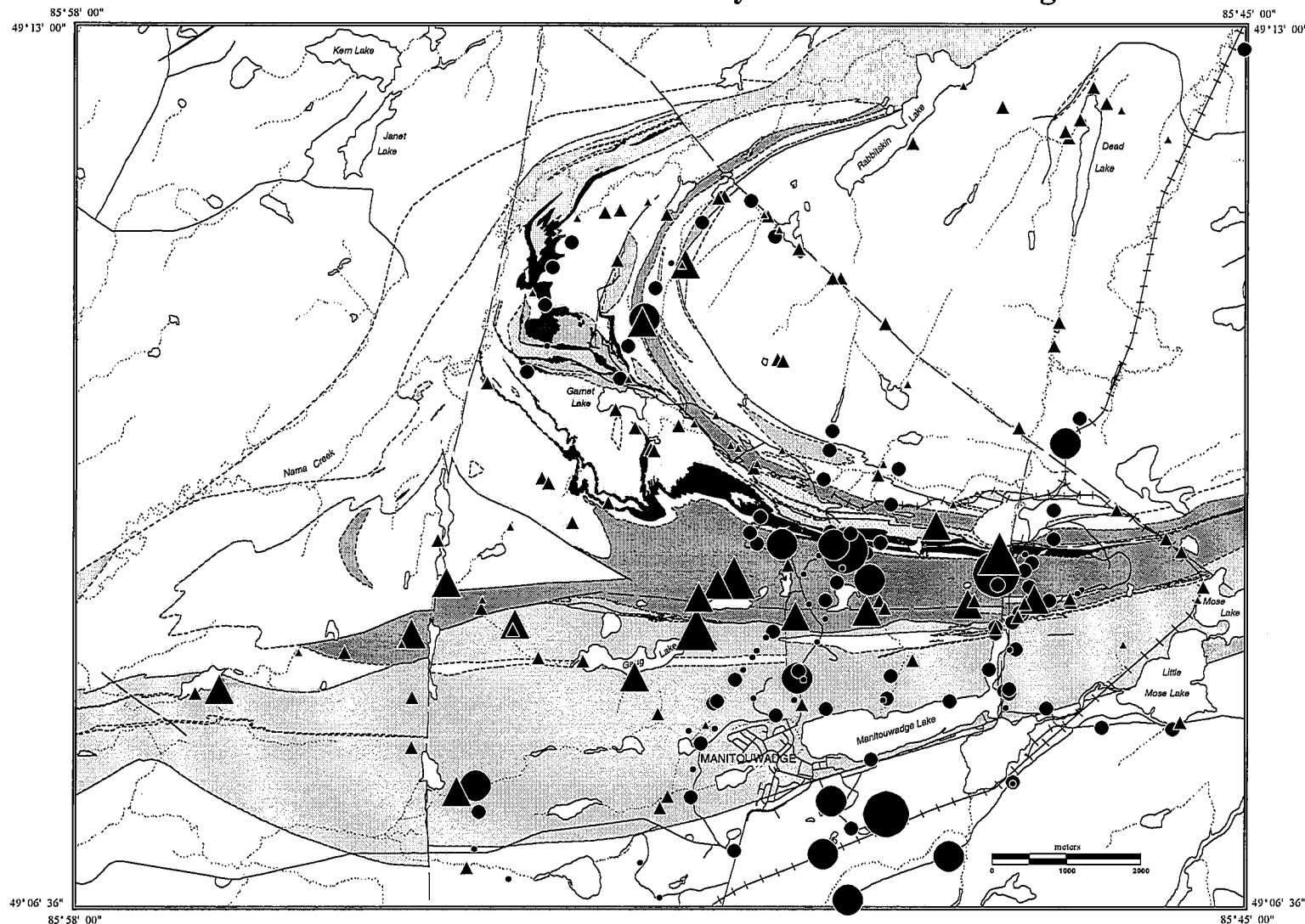
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
6	25	100	63.7	Minimum:	6
26	49	36	86.6	Maximum:	81
50	62	18	98.1	Mean:	26.44
63	81	3	100	Median:	18
				Standard Deviation:	16.92
				Coefficient of Variation:	63.99

Strontium (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
11	25	85	78	Minimum:	11
26	39	17	93.6	Maximum:	77
40	49	6	99.1	Mean:	22.72
50	77	1	100	Median:	20.5
				Standard Deviation:	9.54
				Coefficient of Variation:	41.96

Sr

Till and Stream Sediment Geochemistry in the Manitowadge Area



Titanium (%) in the <0.063mm fraction of till

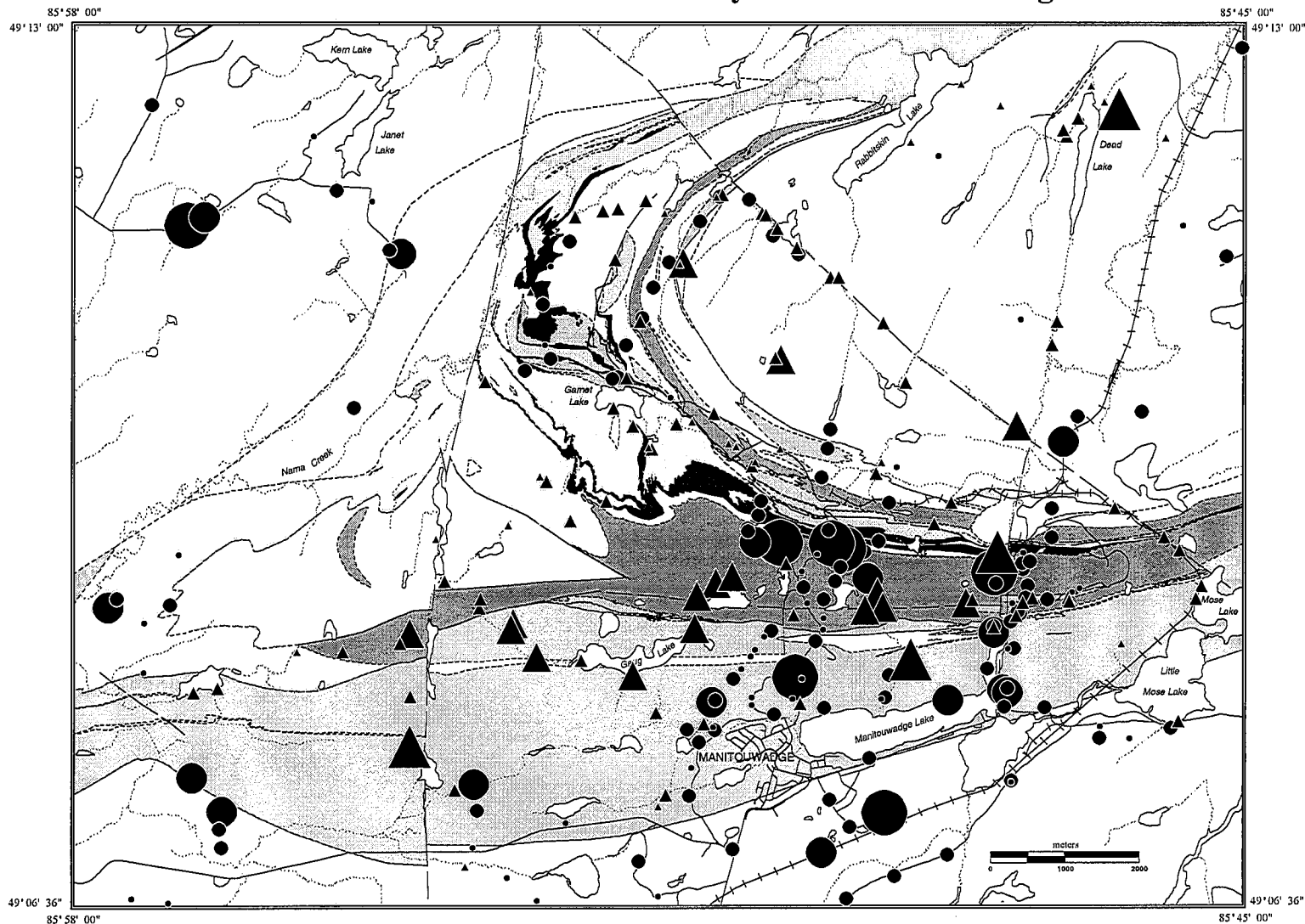
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples: 111	
0.02	0.07	31	27.9	Minimum: 0.02	
0.08	0.12	66	87.4	Maximum: 0.22	
0.13	0.16	11	97.3	Mean: 0.09	
0.17	0.22	3	100	Median: 0.09	
				Standard Deviation: 0.03	
				Coefficient of Variation: 35.59	

Titanium (%) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples: 109	
0.005	0.05	26	23.9	Minimum: 0.005	
0.06	0.08	65	83.5	Maximum: 0.16	
0.09	0.11	15	97.2	Mean: 0.07	
0.12	0.16	3	100	Median: 0.065	
				Standard Deviation: 0.02	
				Coefficient of Variation: 36.41	

Ti

Till and Stream Sediment Geochemistry in the Manitowadge Area



Vanadium (ppm) in the <0.063mm fraction of till

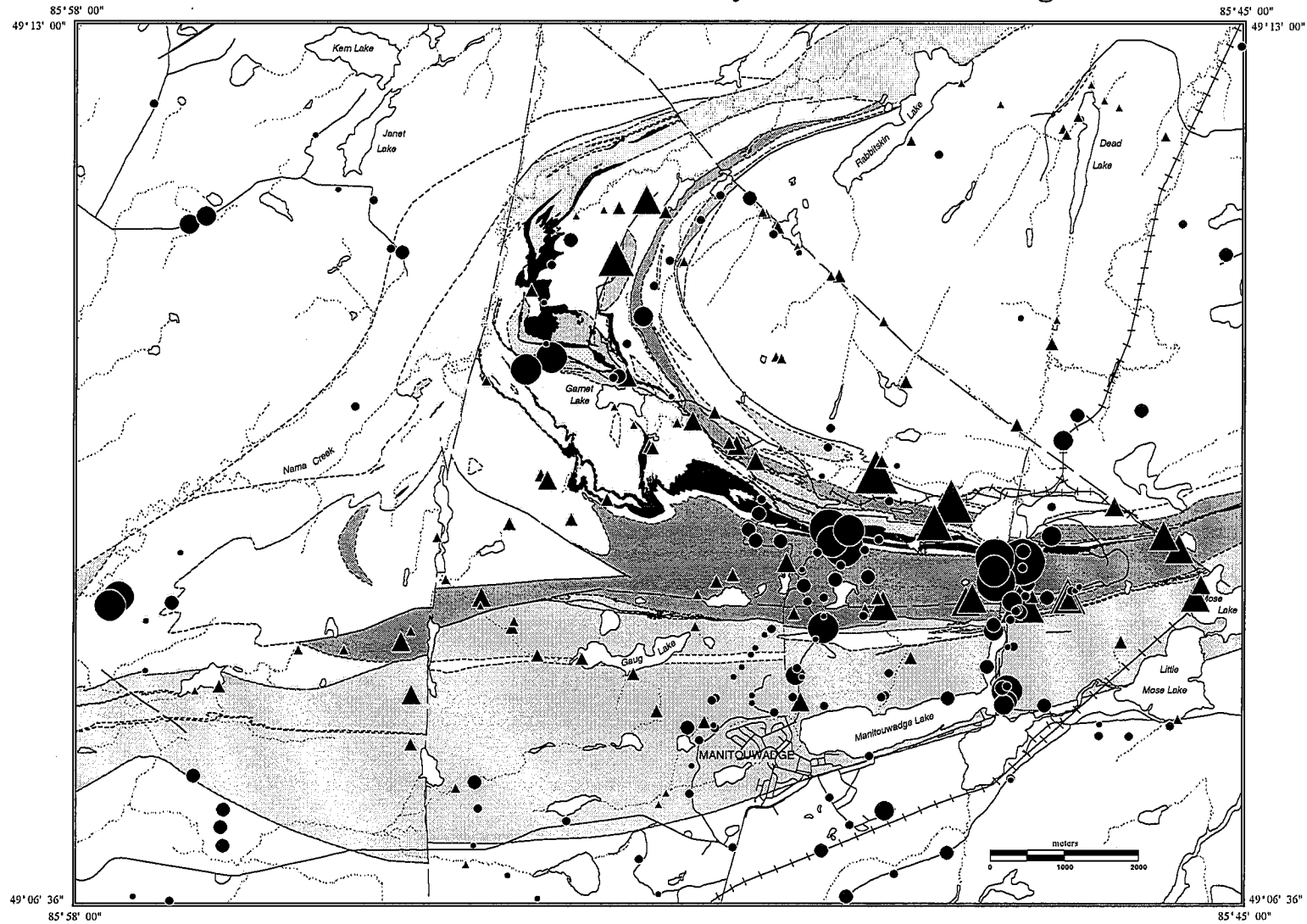
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
12	20	45	28.7	Minimum:	12
21	35	90	86	Maximum:	93
36	53	15	95.5	Mean:	26.67
54	93	7	100	Median:	24
				Standard Deviation:	11.32
				Coefficient of Variation:	42.44

Vanadium (ppm) in the <0.063mm fraction of stream sediments

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
6	15	24	22	Minimum:	6
16	30	65	81.7	Maximum:	64
31	44	15	95.4	Mean:	23.60
45	64	5	100	Median:	22
				Standard Deviation:	10.59
				Coefficient of Variation:	44.90

V

Till and Stream Sediment Geochemistry in the Manitowadge Area



Zinc (ppm) in the <0.063mm fraction of till

Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	157
8	16	35	22.3	Minimum:	8
17	27	62	61.8	Maximum:	2589
28	48	35	84.1	Mean:	58.1
49	96	11	91.1	Median:	22.5
97	196	9	96.8	Standard Deviation:	212.5
197	408	4	99.4	Coefficient of Variation:	365.6
409	2589	1	100		

Zinc (ppm) in the <0.063mm fraction of stream sediments

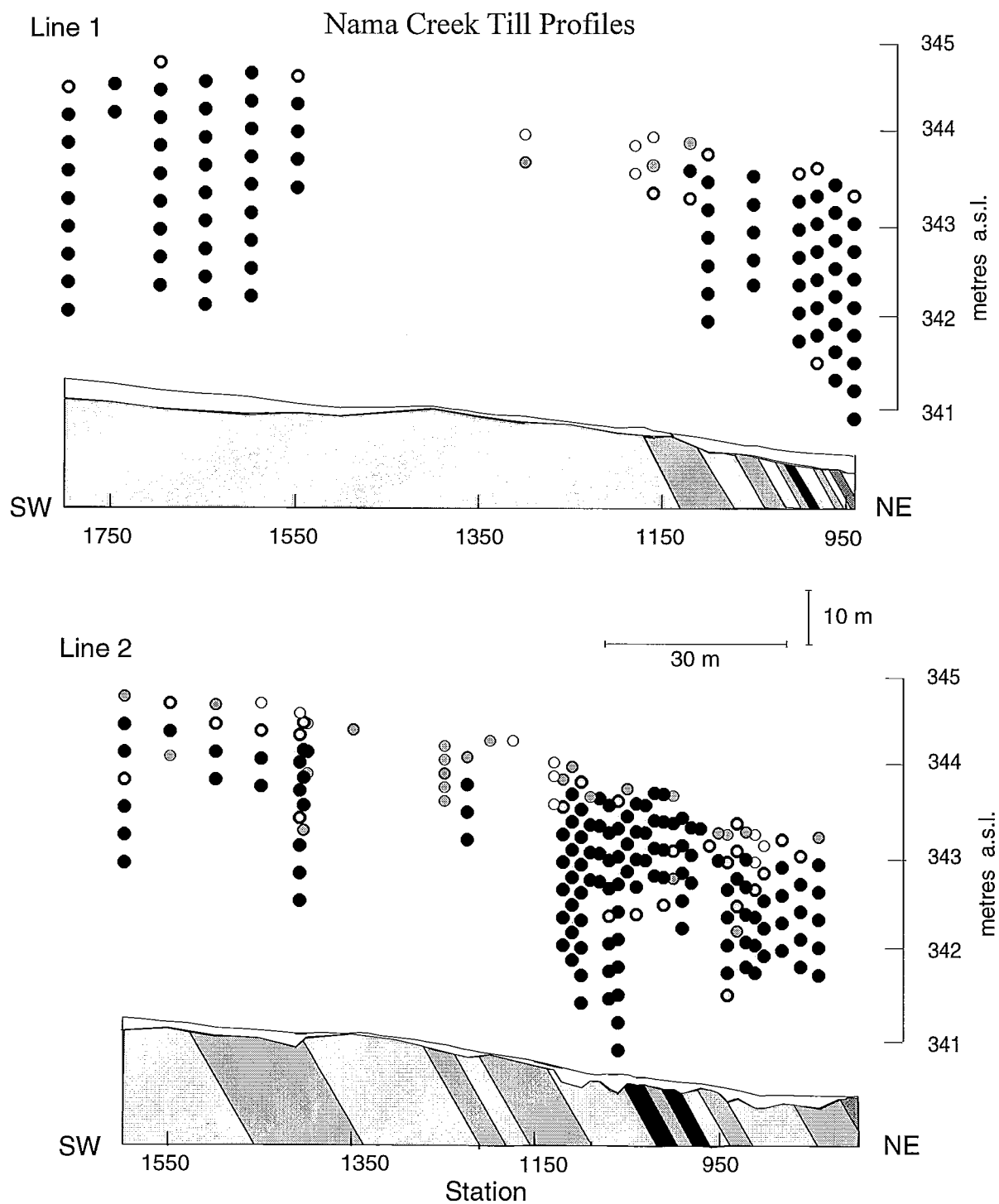
Symbol Legend				Summary Statistics	
MIN	MAX	#SAMP	%TILE	Number of Samples:	109
12	30	19	17.4	Minimum:	12
31	50	27	42.2	Maximum:	3292
51	114	35	74.3	Mean:	208.5
115	212	13	86.2	Median:	70
213	548	9	94.5	Standard Deviation:	548.3
549	1702	3	97.2	Coefficient of Variation:	262.9
1703	3292	3	100		

Zn

APPENDIX D

Nama Creek Till Profiles

Diagrams Showing Distribution of Inorganic Carbon, Carbonate
and Selected Major, Trace, and Minor Elements
in the <0.063 mm Fraction of the Nama Creek Tills



CaCO₃ Equiv.

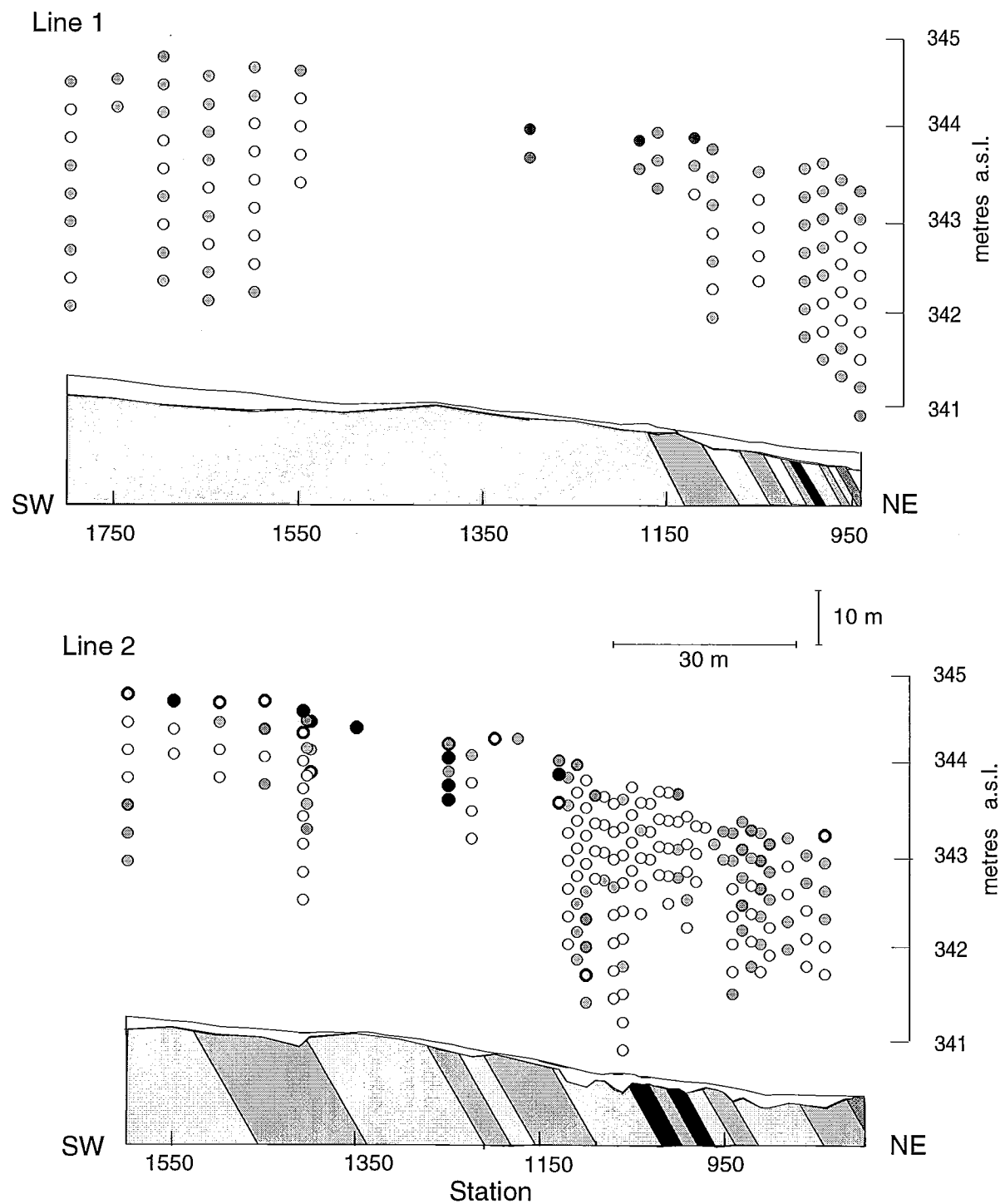
pct
<0.063 mm fraction

- 35 to 49.2 (203)
- 20 to 35 (34)
- ◐ 10 to 20 (15)
- ◑ 5 to 10 (13)
- 0 to 5 (14)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



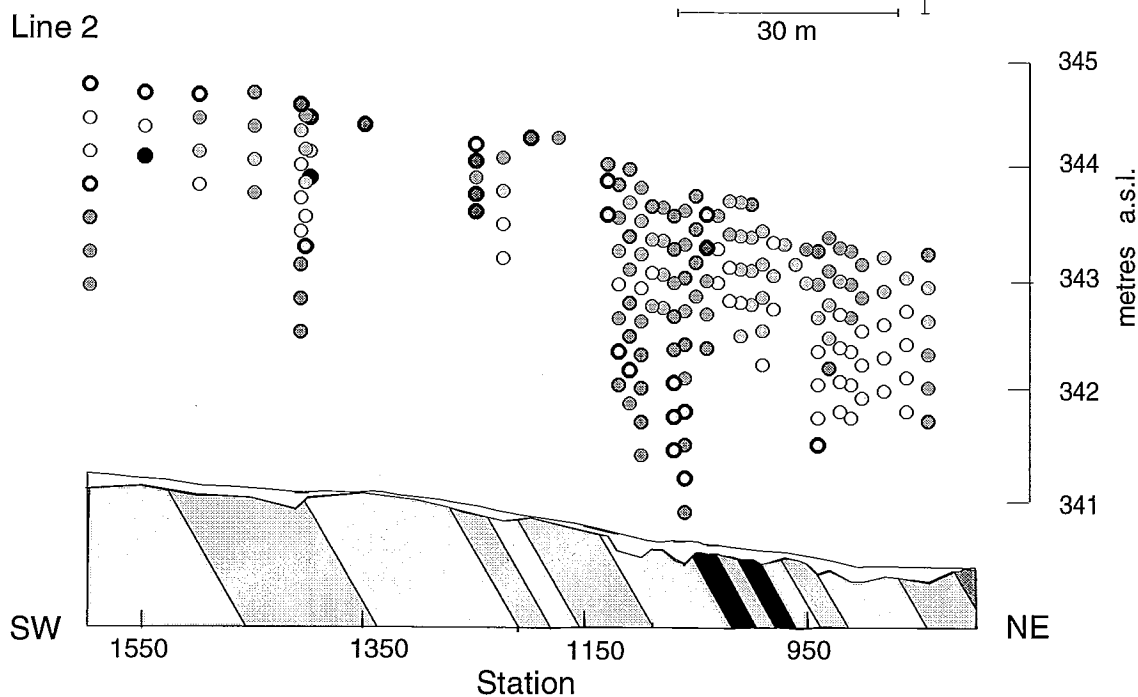
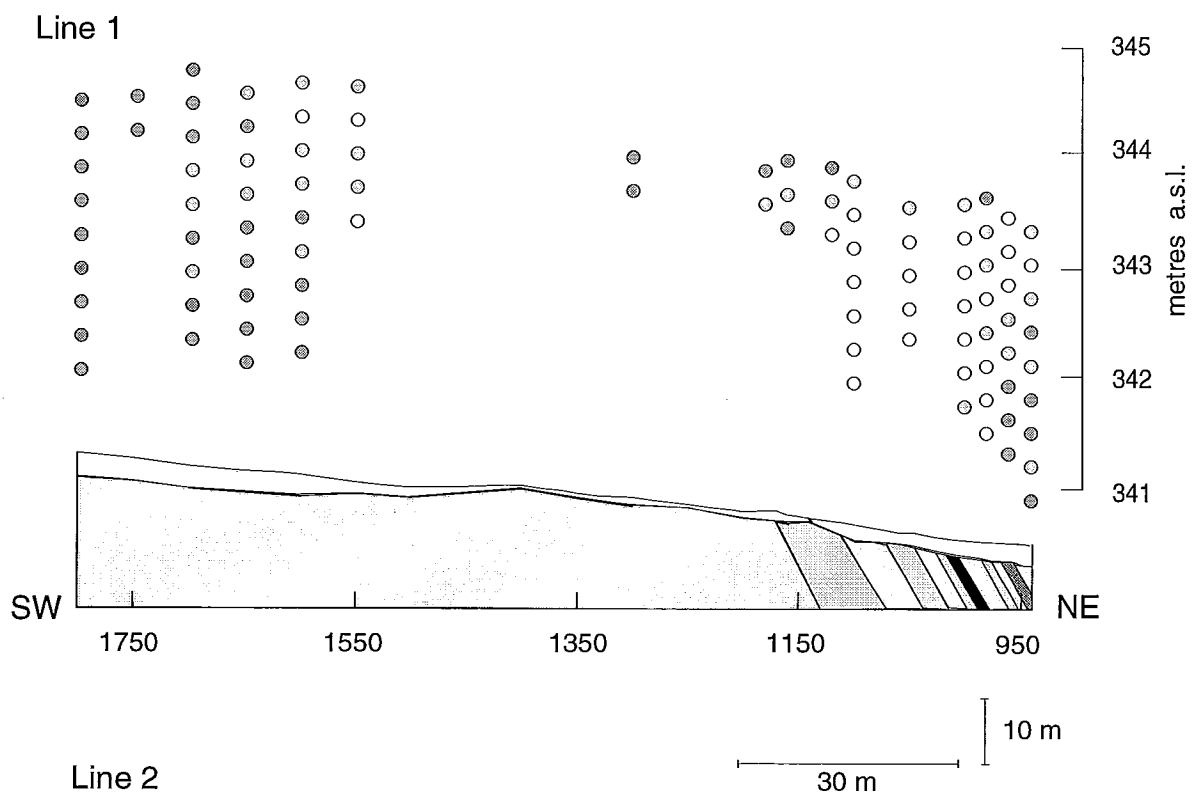
Organic Carbon

- pct
- <0.063 mm fraction
 - 0.8 to 1.2 (8)
 - ◐ 0.4 to 0.8 (13)
 - ◑ 0.3 to 0.4 (17)
 - ◒ 0.2 to 0.3 (22)
 - ◓ 0.1 to 0.2 (85)
 - 0 to 0.1 (134)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Aluminium

pct

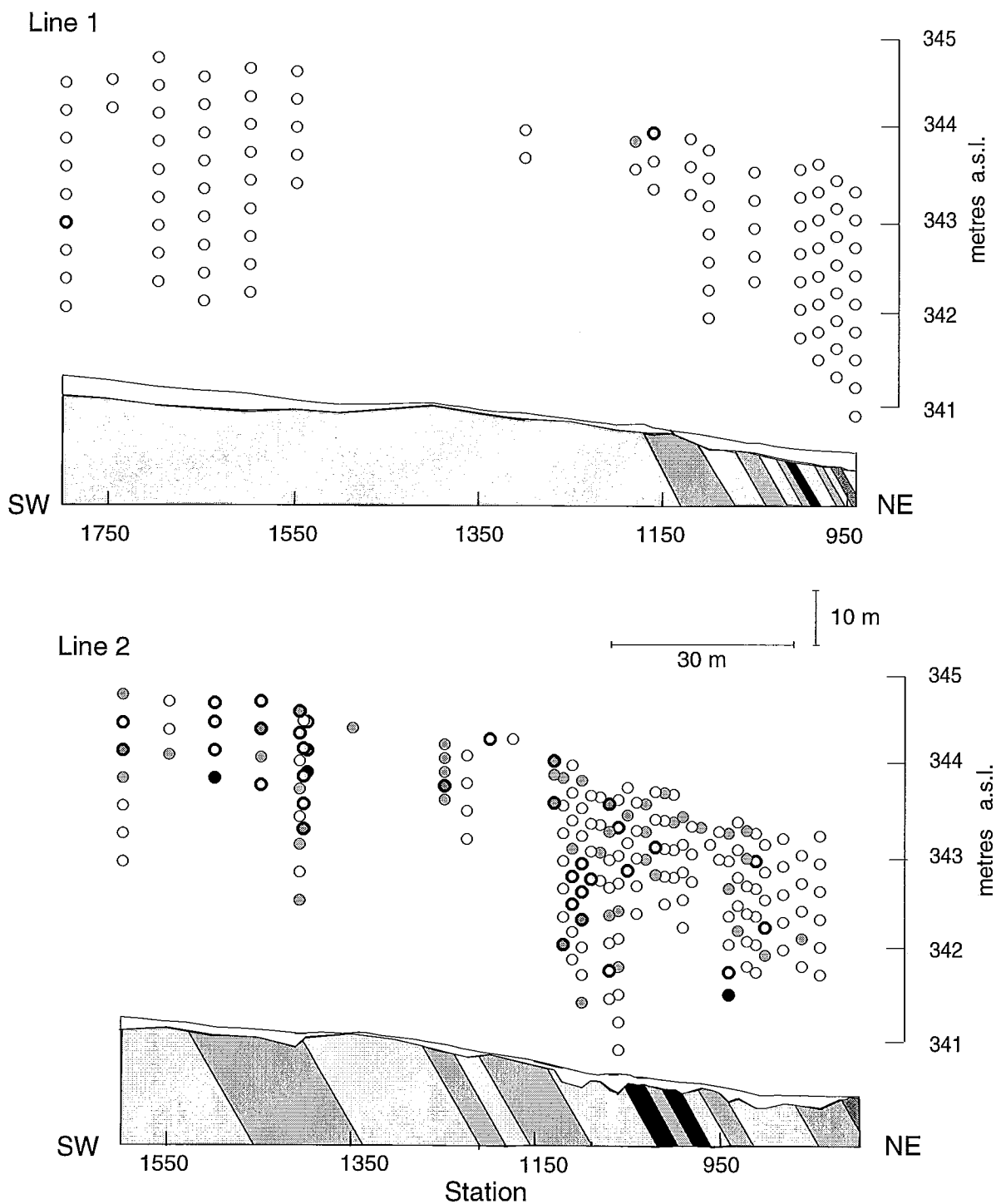
<0.063 mm fraction

- 2.20 to 3.39 (2)
- 1.20 to 2.20 (9)
- 1.01 to 1.20 (17)
- 0.95 to 1.01 (46)
- 0.58 to 0.95 (67)
- 0.43 to 0.58 (70)
- 0.21 to 0.43 (68)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Arsenic

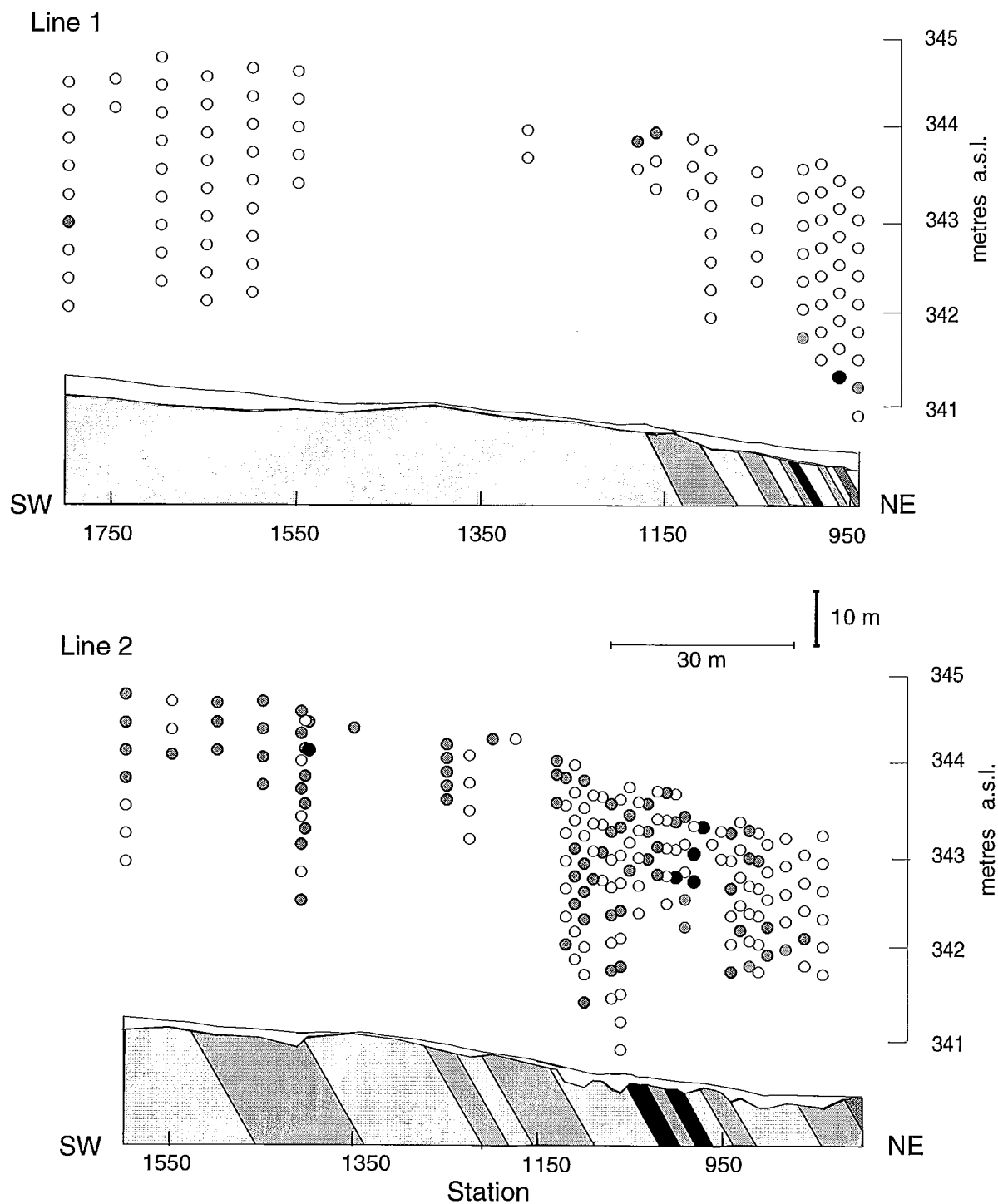
ppm
<0.063 mm fraction

- 10 to 16 (3)
- ◐ 6 to 10 (11)
- 4 to 6 (26)
- ◑ 2 to 4 (40)
- 1 to 2 (199)

Geological Cross Section

- till
- ▨ granite pegmatite
- sulphides
- ▤ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Cadmium

ppm

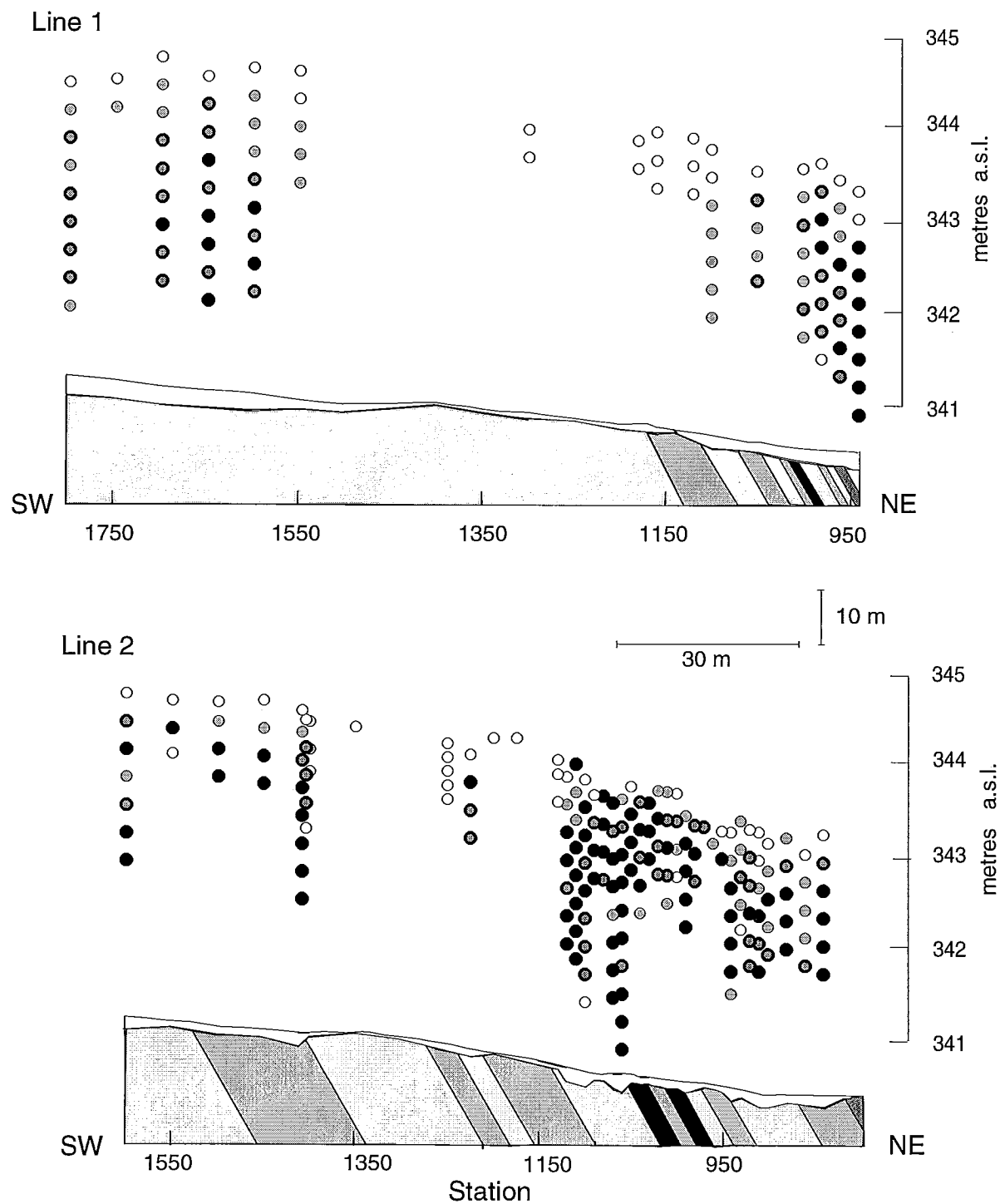
<0.063 mm fraction

- 3.0 to 6.0 (6)
- ◐ 0.1 to 3.0 (6)
- <0.1 to 0.1 (269)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Calcium

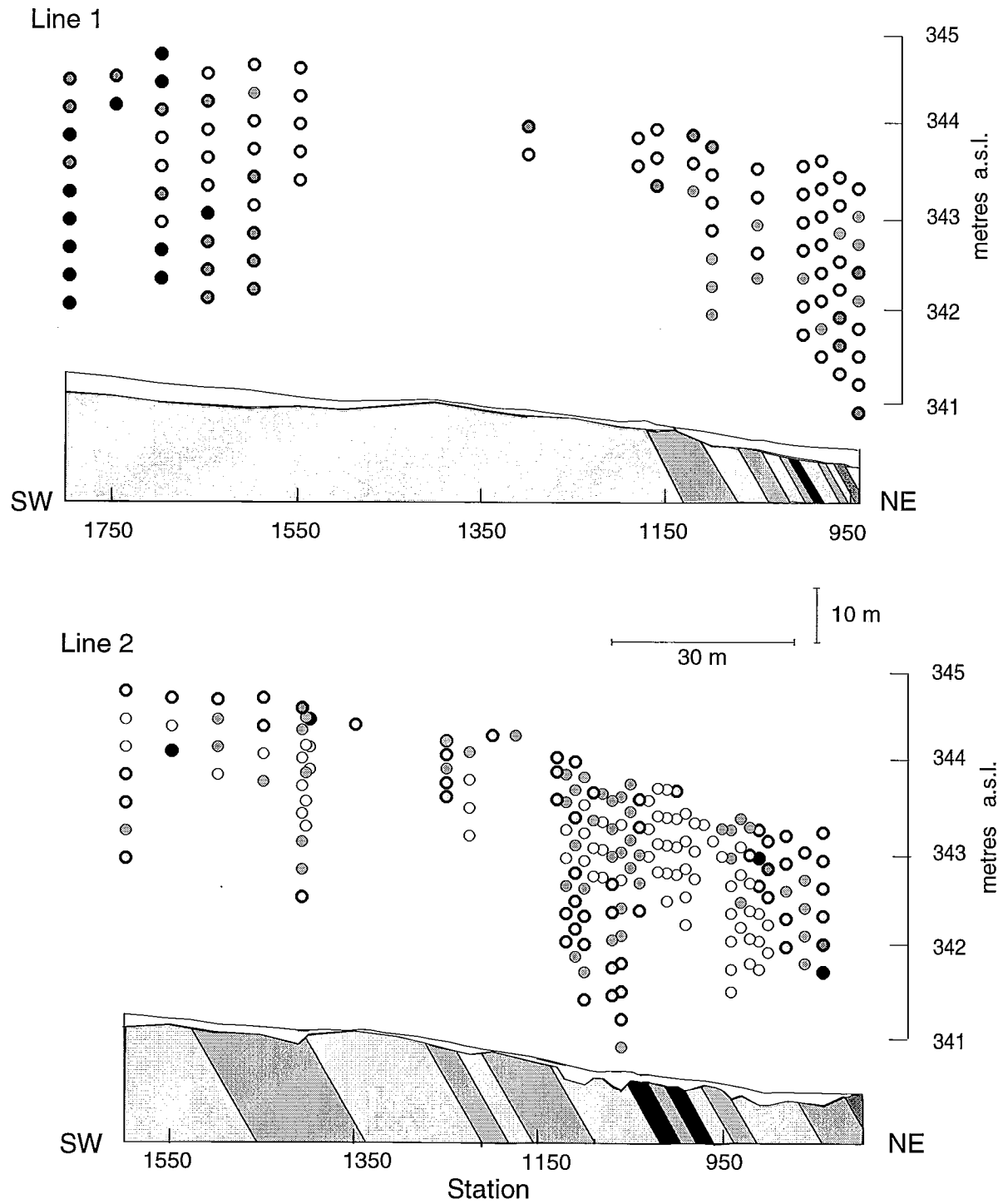
pct
<0.063 mm fraction

- 9.6 to 11.8 (84)
- ◐ 8.6 to 9.6 (66)
- ◑ 5.1 to 8.6 (54)
- 0.2 to 5.1 (65)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



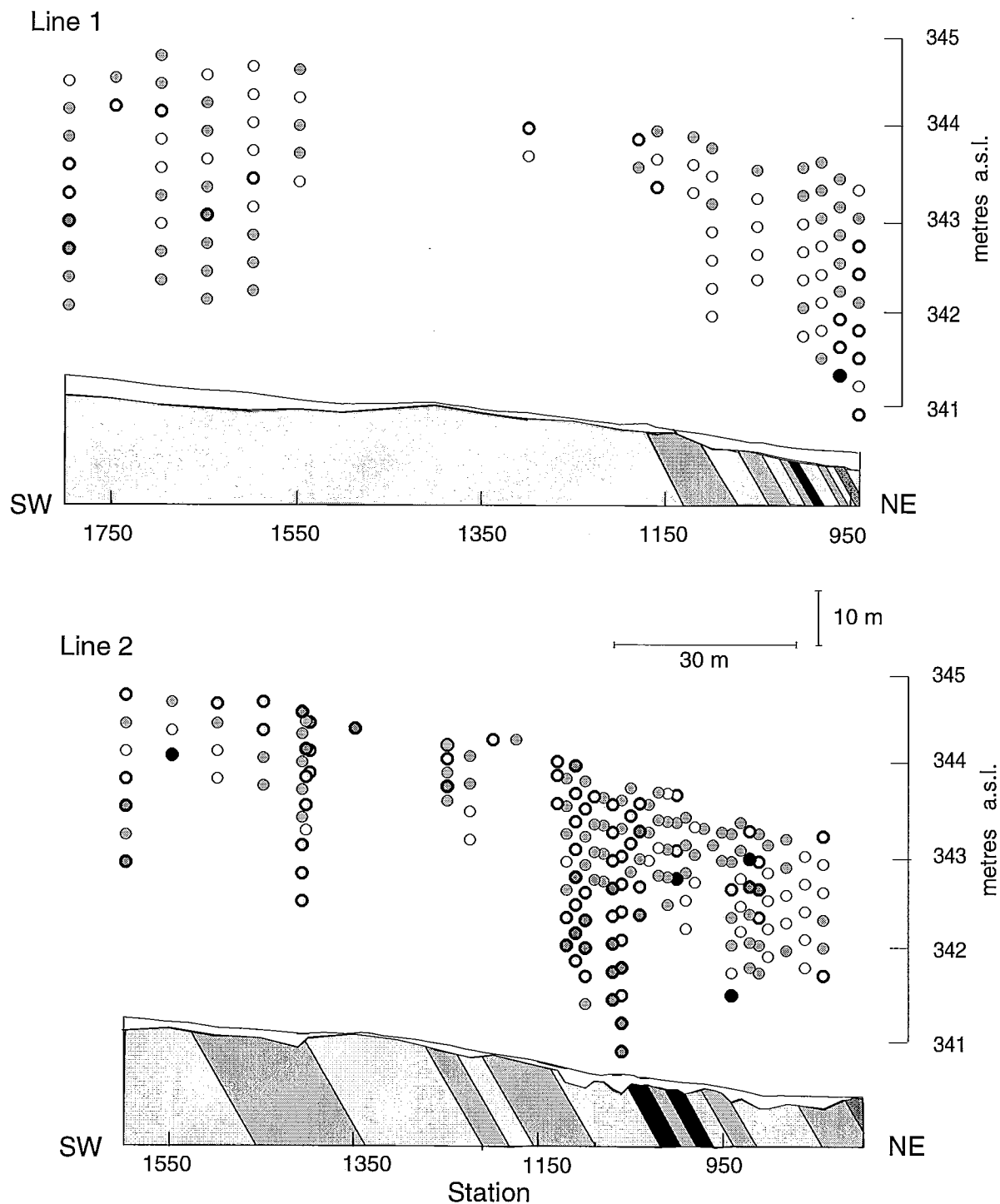
Chromium

- ppm
<0.063 mm fraction
- 30 to 35 (16)
 - ◐ 25 to 30 (25)
 - 19 to 25 (104)
 - ◑ 13 to 19 (63)
 - 6 to 13 (71)

Geological Cross Section

- till
- ▨ granite pegmatite
- sulphides
- ▩ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



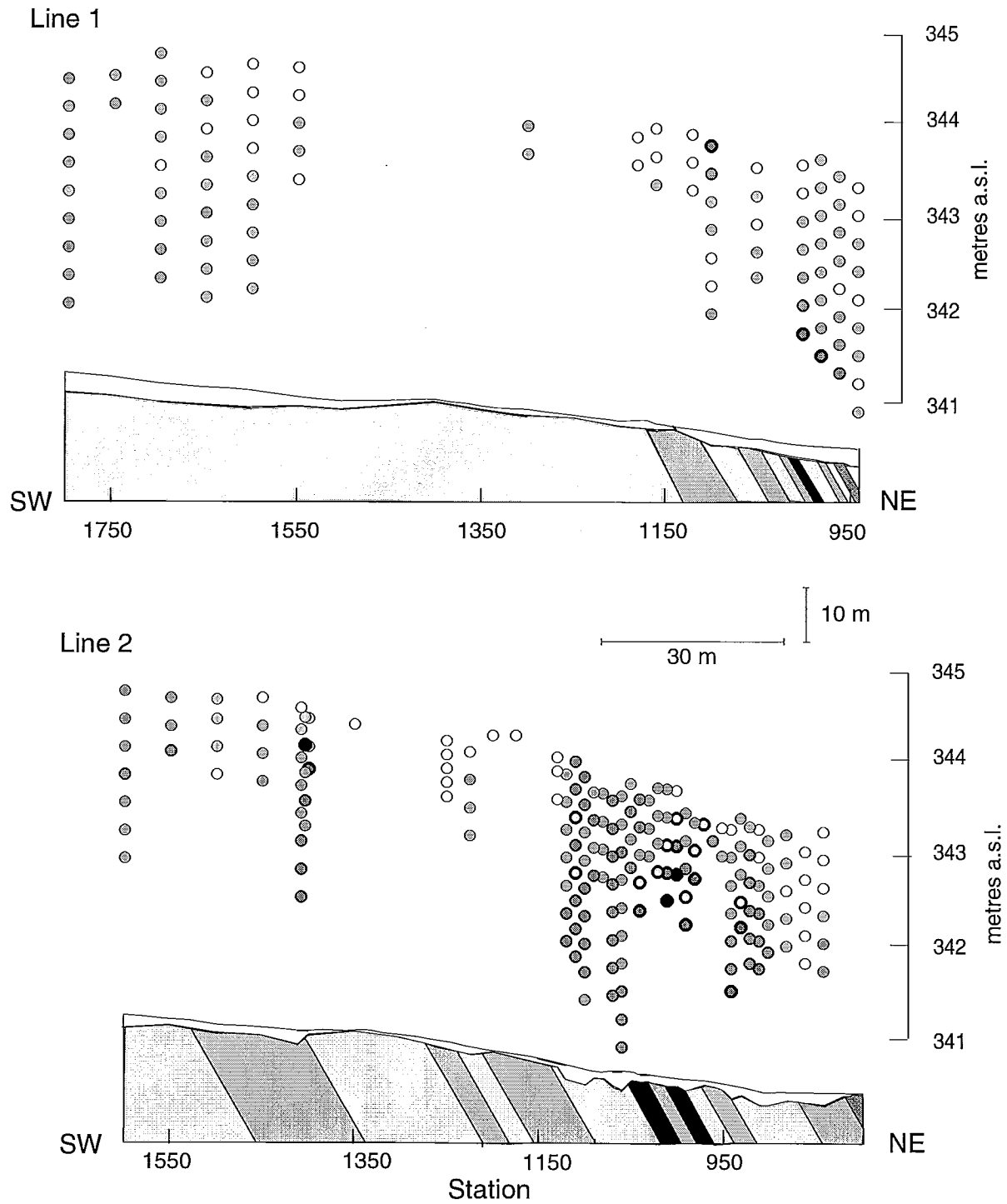
Cobalt

- ppm
<0.063 mm fraction
- 7 to 13 (5)
 - ◐ 4 to 7 (27)
 - 3 to 4 (63)
 - ◑ 2 to 3 (115)
 - 0.5 to 2 (68)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Copper

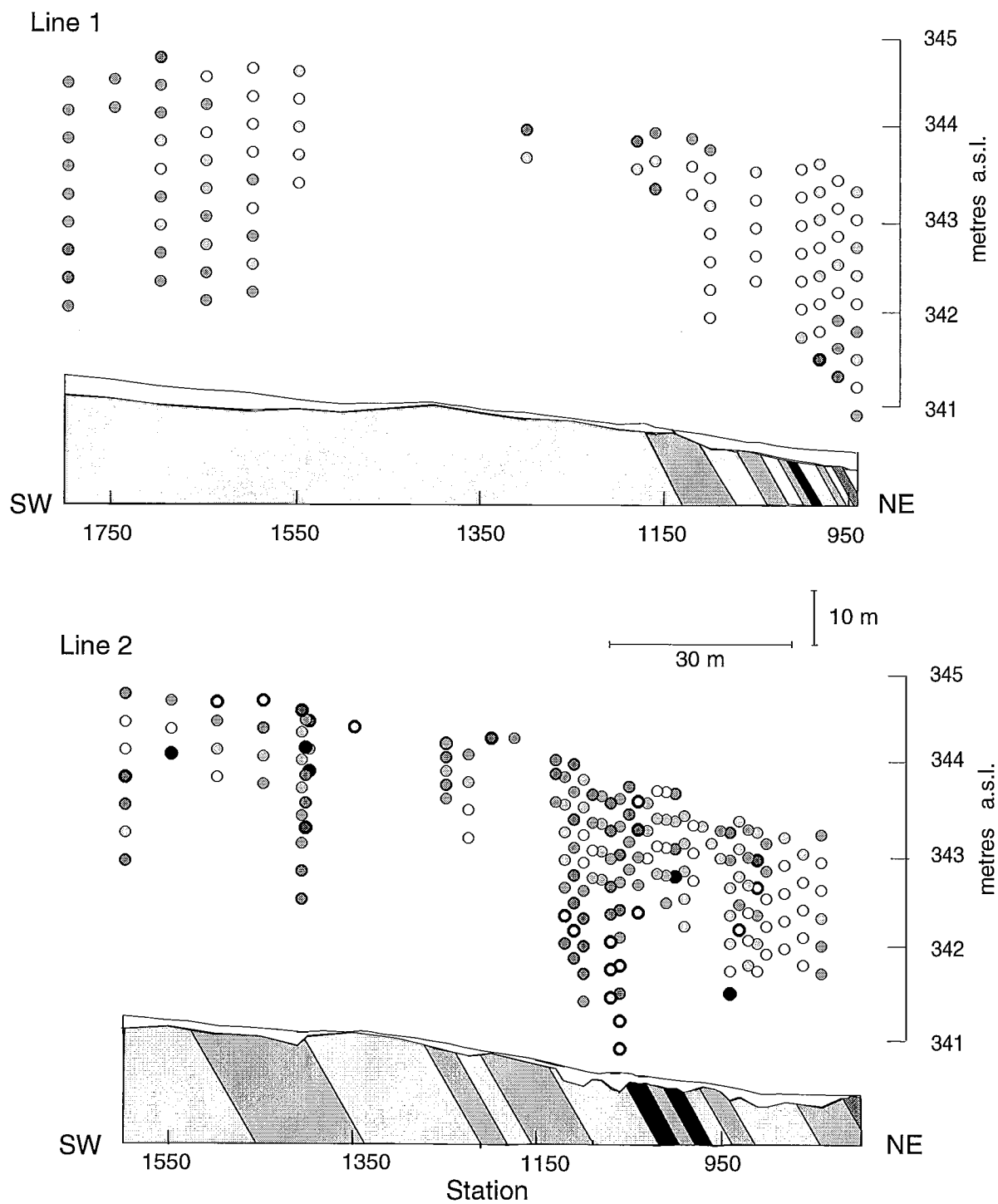
ppm
<0.063 mm fraction

- 200 to 1215 (3)
- ◐ 65 to 200 (9)
- ◑ 27 to 65 (10)
- ◒ 19 to 27 (50)
- ◓ 13 to 19 (58)
- ◔ 9 to 13 (21)
- 2 to 9 (31)

Geological Cross Section

- till
- ▒ granite pegmatite
- sulphides
- ▓ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



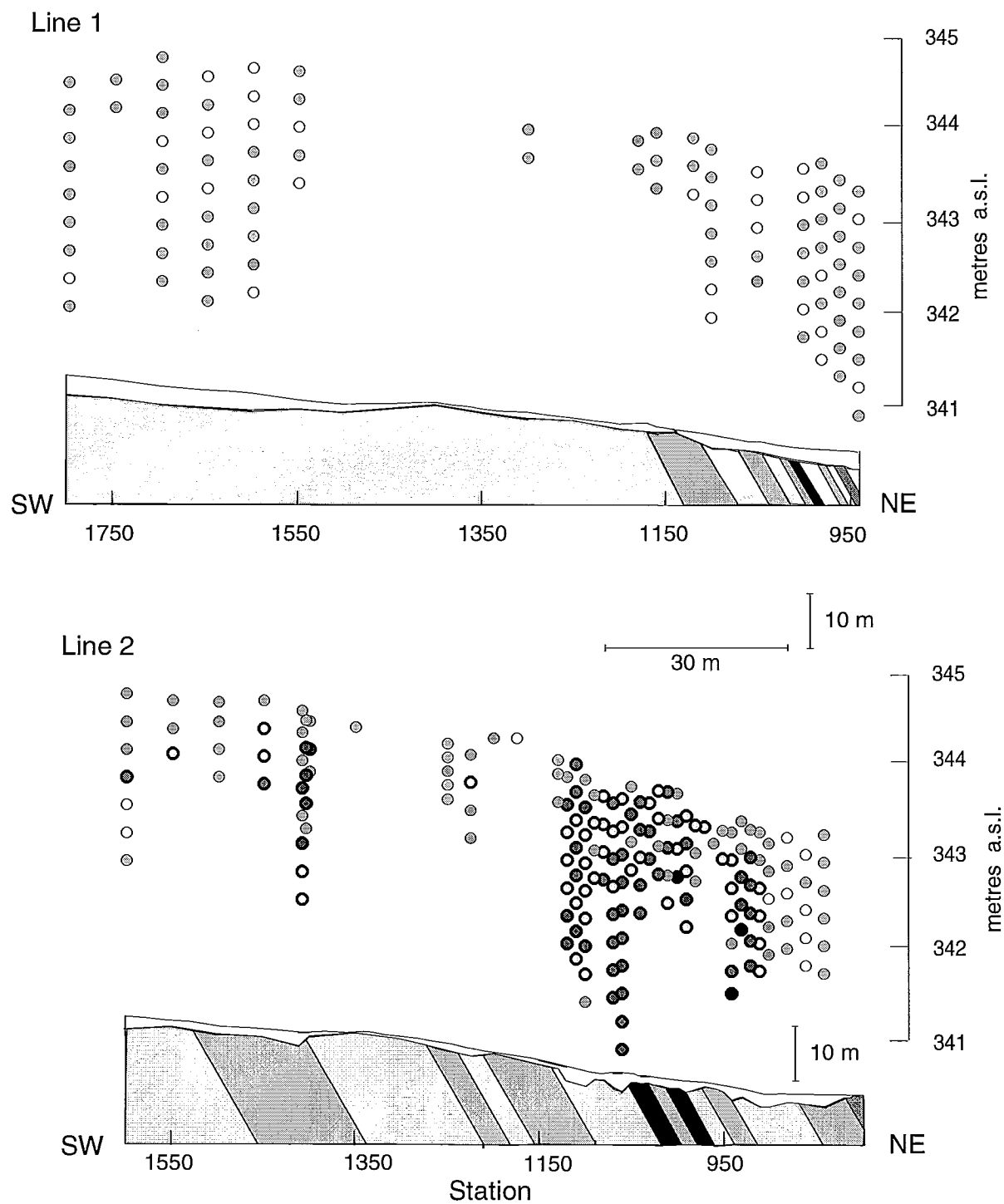
Iron

- pct
<0.063 mm fraction
- 2.20 to 6.90 (5)
 - ◐ 1.40 to 2.20 (8)
 - 1.28 to 1.40 (16)
 - ◑ 1.09 to 1.28 (41)
 - ◒ 0.89 to 1.09 (69)
 - ◓ 0.72 to 0.89 (69)
 - 0.43 to 0.72 (71)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Lead

ppm

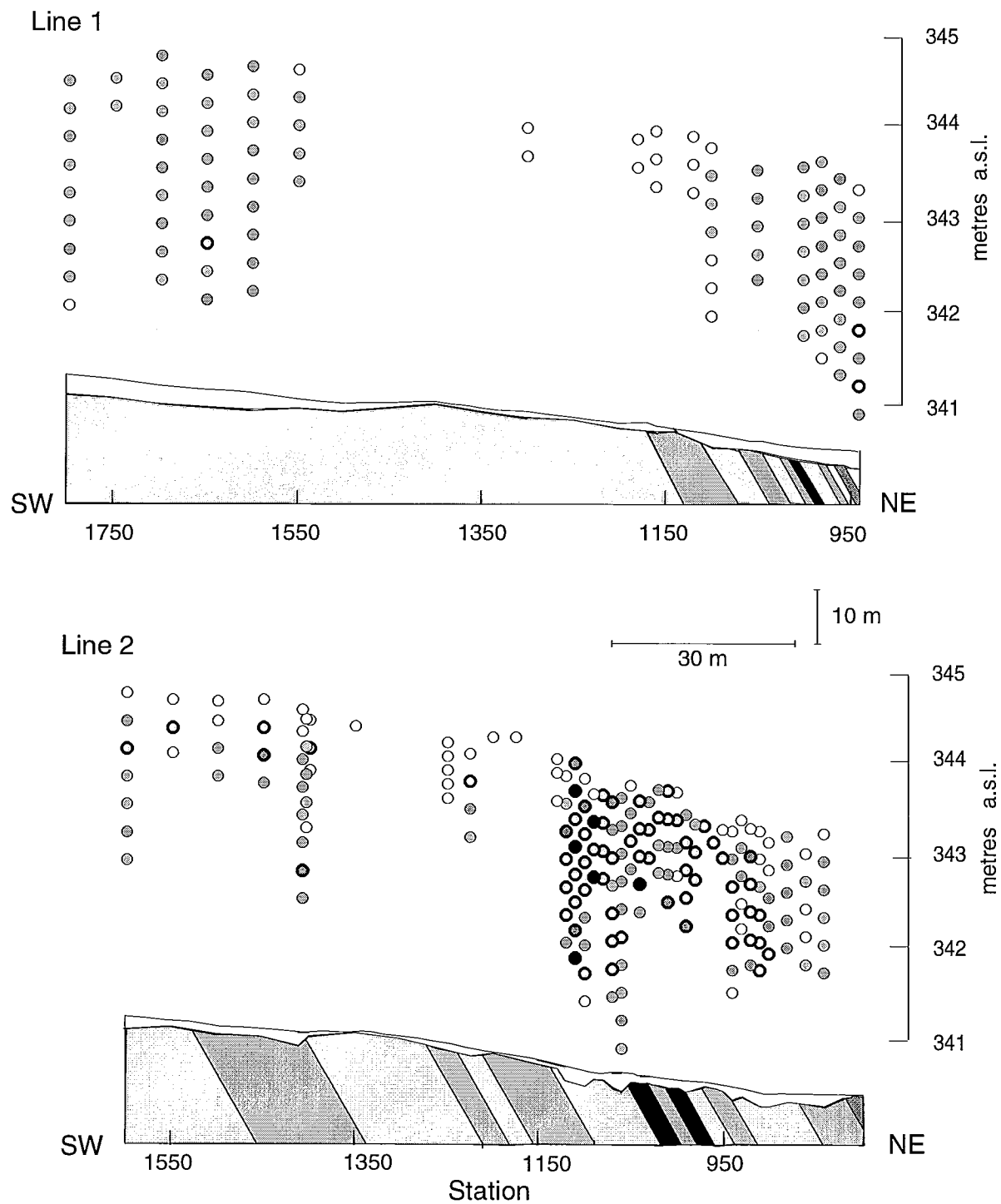
<0.063 mm fraction

- 30 to 67 (3)
- 14 to 30 (54)
- 12 to 14 (46)
- 6 to 12 (44)
- 2 to 6 (25)
- 1 to 2 (10)

Geological Cross Section

- till
- ▨ granite pegmatite
- sulphides
- ▨ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



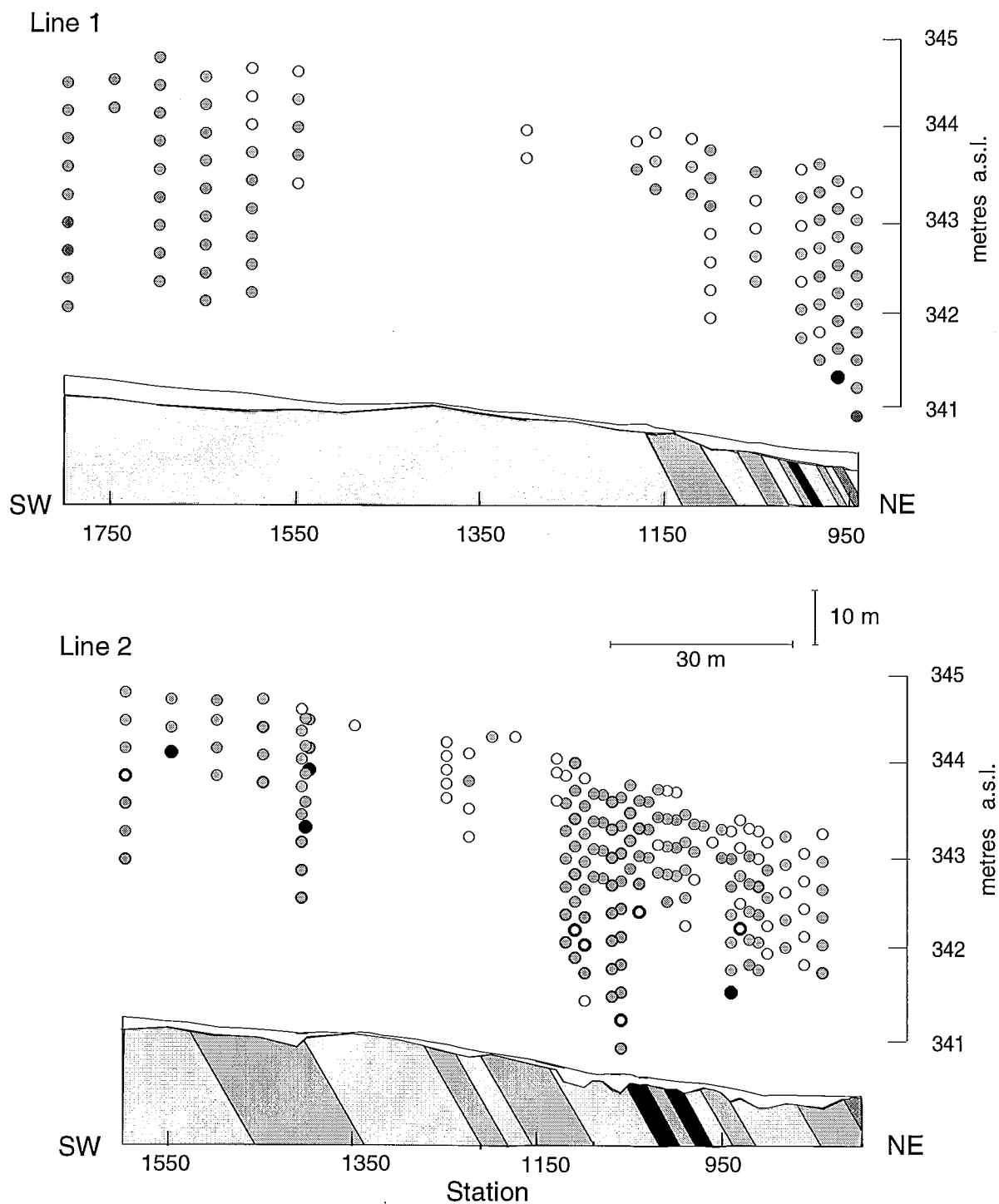
Magnesium

- pct
 <0.063 mm fraction
- 3.93 to 4.33 (6)
 - ◐ 3.73 to 3.93 (10)
 - ◑ 3.39 to 3.73 (56)
 - ◒ 3.18 to 3.39 (74)
 - ◓ 2.95 to 3.18 (68)
 - 0.16 to 2.95 (65)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Manganese

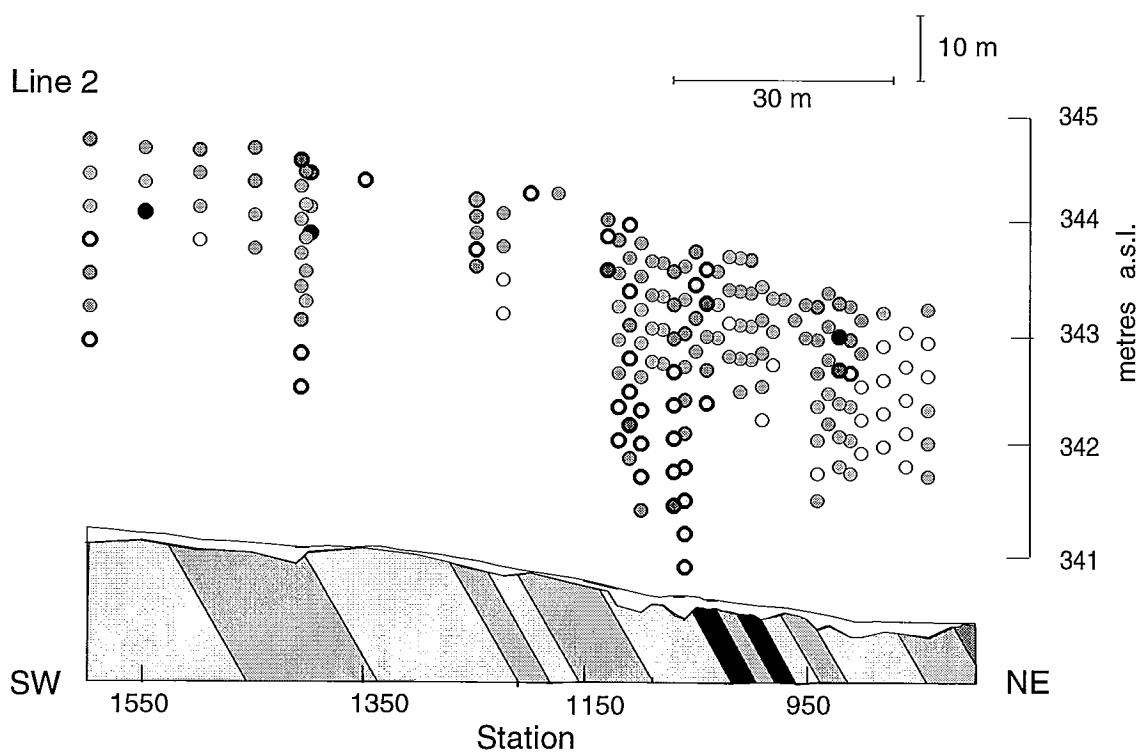
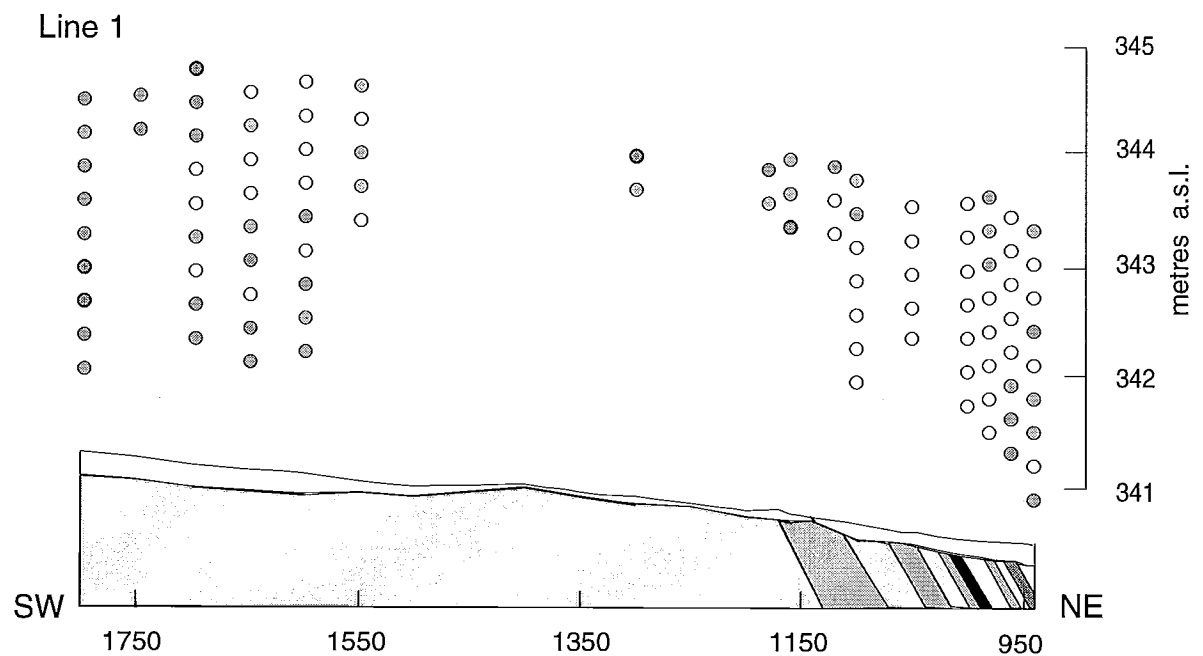
ppm
<0.063 mm fraction

- 338 to 1870 (5)
- 259 to 338 (9)
- ⊙ 195 to 259 (58)
- ⊗ 155 to 195 (74)
- ⊖ 130 to 155 (71)
- 70 to 130 (62)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



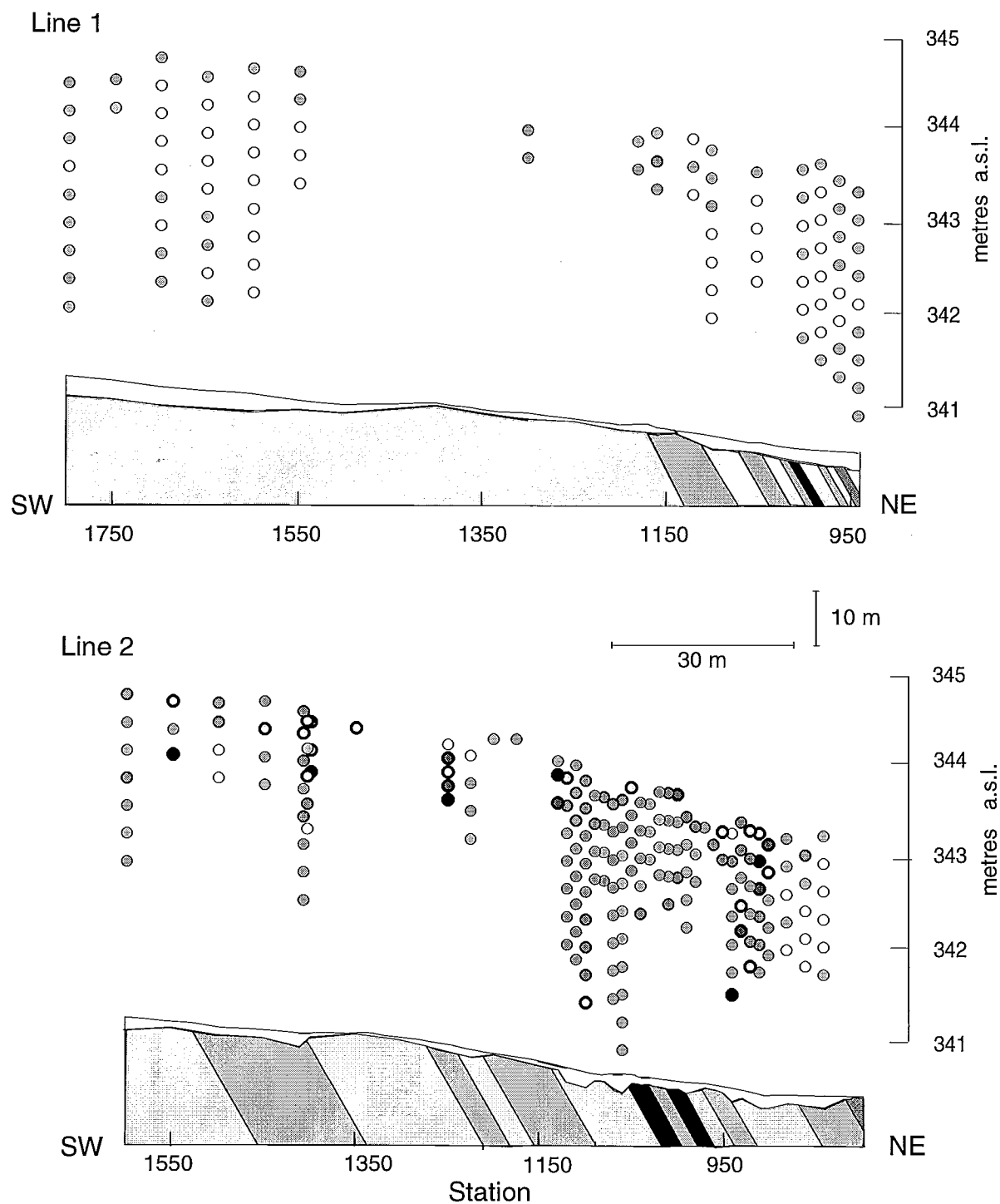
Nickel
ppm
<0.063 mm fraction

- 20 to 70 (3)
- ◐ 14 to 20 (7)
- 12 to 14 (30)
- ◑ 10 to 12 (32)
- ◒ 8 to 10 (74)
- ◓ 6 to 8 (65)
- 2 to 6 (68)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Phosphorous

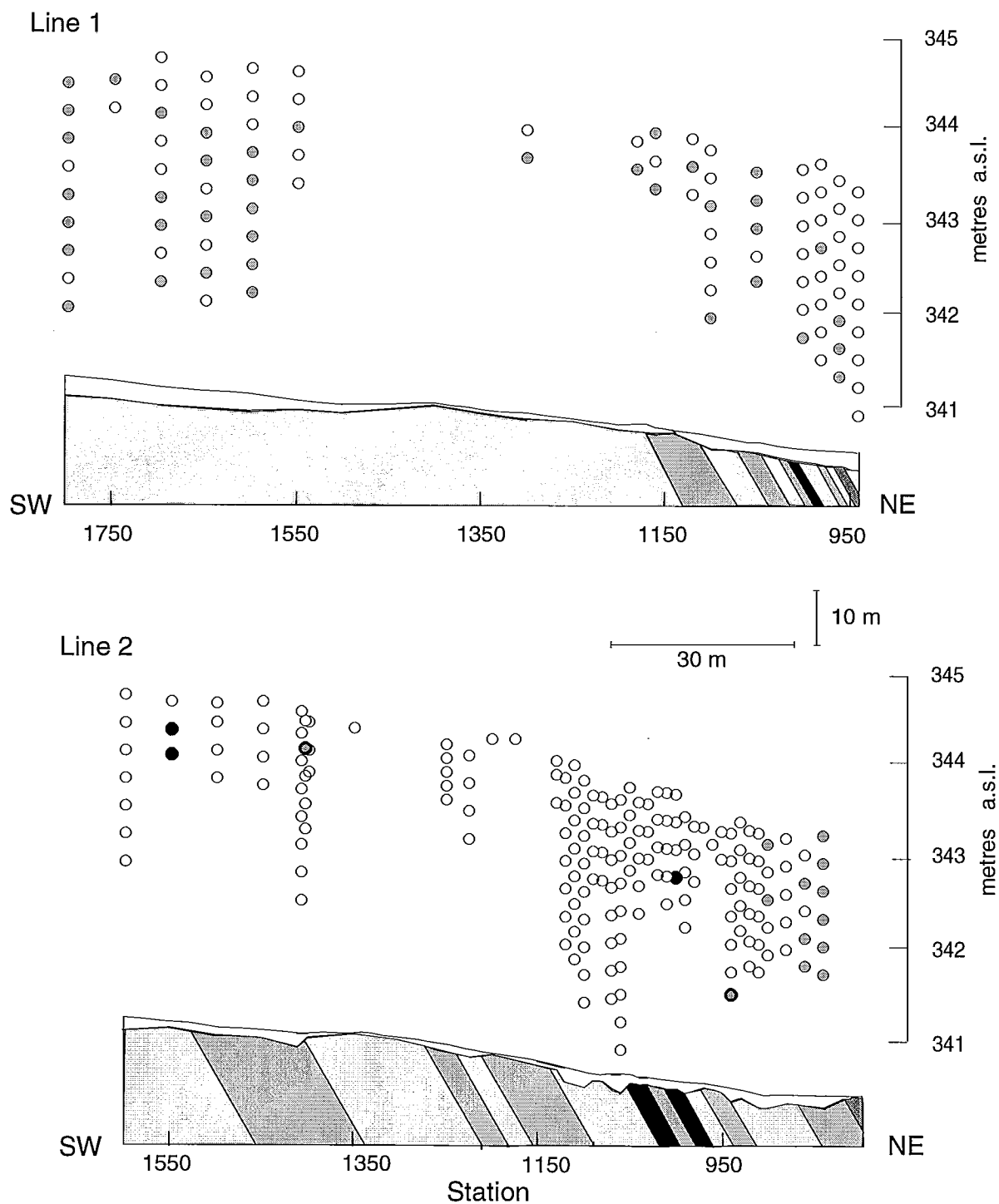
pct
<0.063 mm fraction

- 786 to 3860 (6)
- ⊗ 669 to 786 (8)
- 570 to 669 (18)
- ⊙ 490 to 570 (40)
- ⊖ 440 to 490 (79)
- ⊕ 380 to 440 (68)
- 240 to 380 (60)

Geological Cross Section

- till
- granite pegmatite
- sulphides
- mafic schist
- metasedimentary rock

Nama Creek Till Profiles



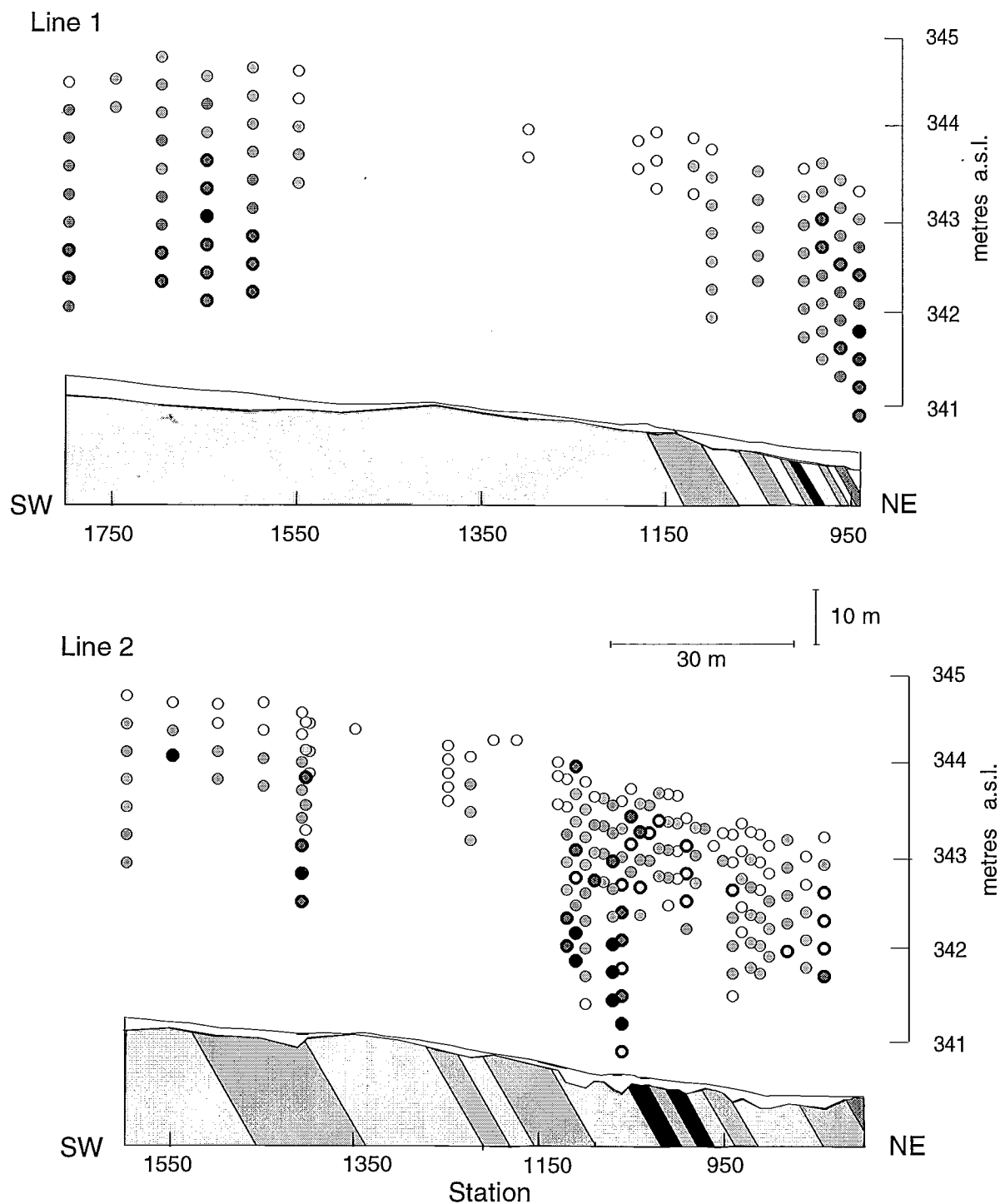
Silver

- ppm
- <0.063 mm fraction
- 2.0 to 2.6 (3)
 - ⊗ 0.4 to 2.0 (2)
 - ⊙ 0.2 to 0.4 (50)
 - <0.2 to 0.2 (226)

Geological Cross Section

- till
- ▨ granite pegmatite
- sulphides
- ▤ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Strontium

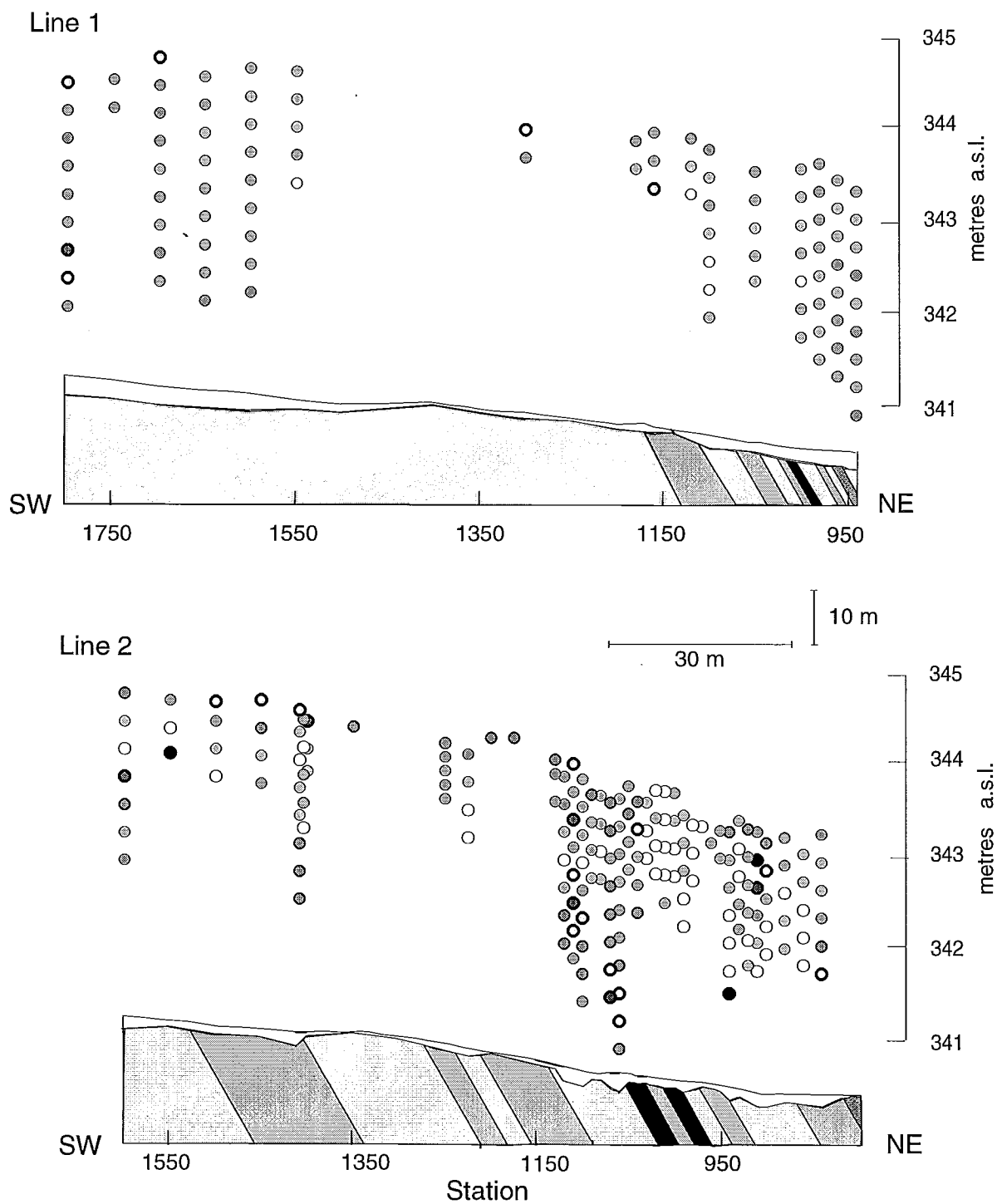
ppm
<0.063 mm fraction

- 66 to 81 (10)
- ⊗ 62 to 66 (35)
- 59 to 62 (34)
- ⊙ 54 to 59 (65)
- ⊖ 44 to 54 (65)
- 9 to 44 (70)

Geological Cross Section

- till
- ▨ granite pegmatite
- sulphides
- ▤ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



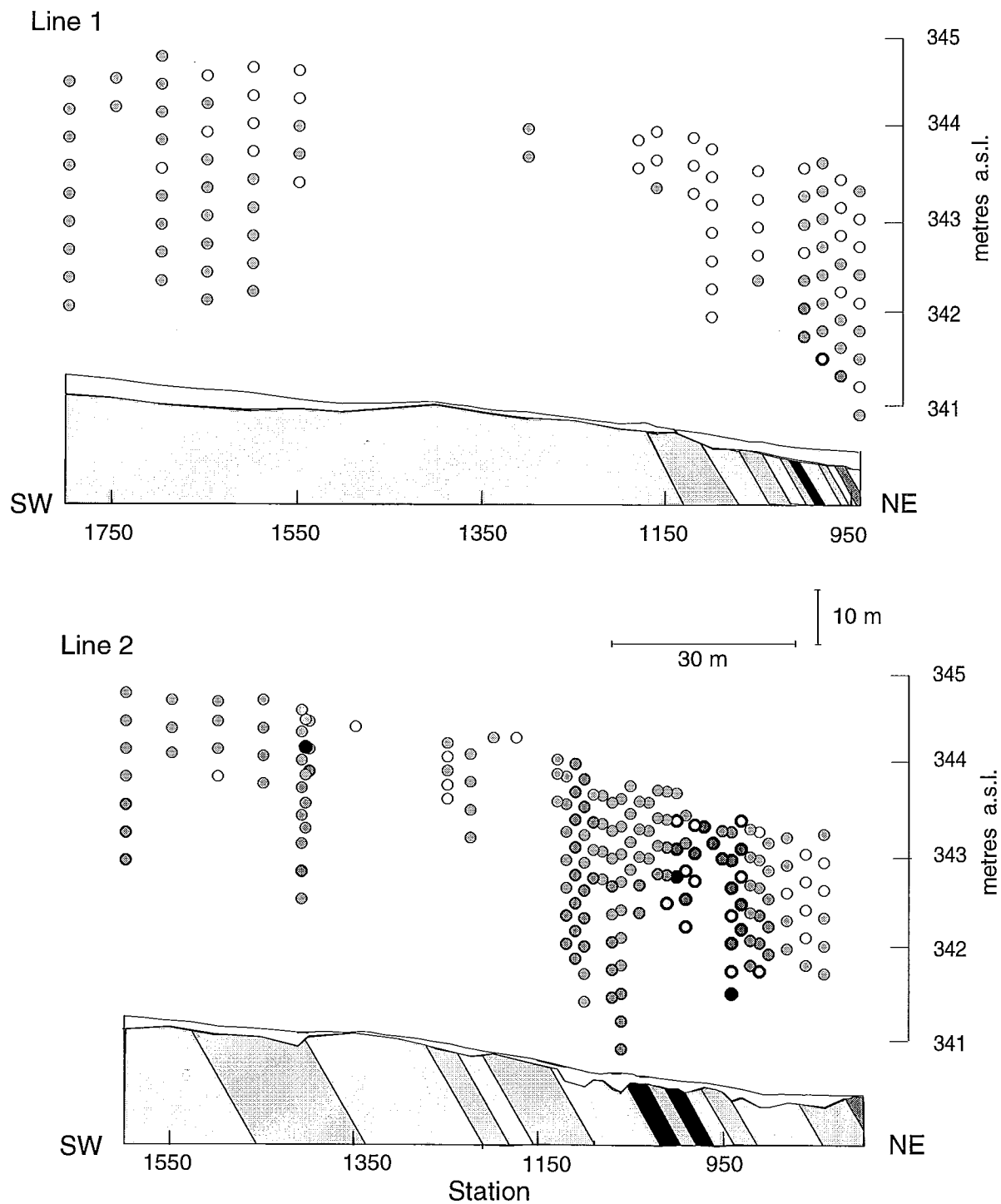
Vanadium

- ppm
<0.063 mm fraction
- 30 to 44 (3)
 - ◐ 27 to 30 (7)
 - 25 to 27 (18)
 - ◑ 22 to 25 (53)
 - ◒ 19 to 22 (61)
 - ◓ 16 to 19 (91)
 - 8 to 16 (46)

Geological Cross Section

- till
- ▨ granite pegmatite
- sulphides
- ▩ mafic schist
- metasedimentary rock

Nama Creek Till Profiles



Zinc

ppm

<0.063 mm fraction

- 1000 to 2780 (3)
- 565 to 1000 (12)
- 178 to 565 (12)
- 72 to 178 (46)
- 35 to 72 (66)
- 14 to 35 (88)
- 6 to 14 (52)

Geological Cross Section

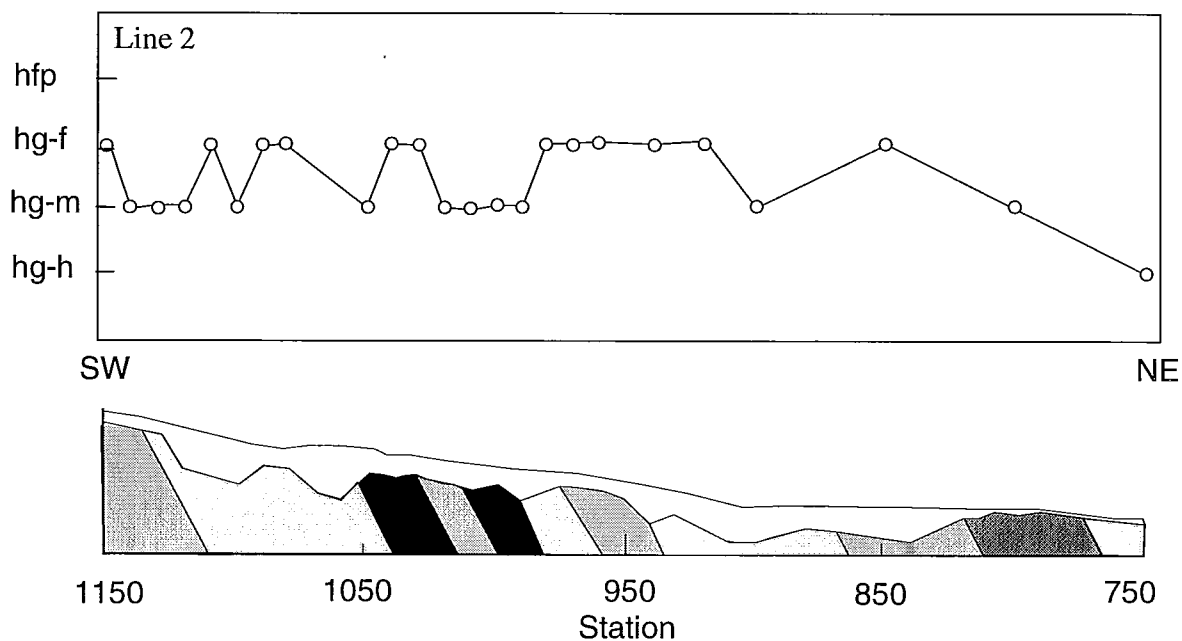
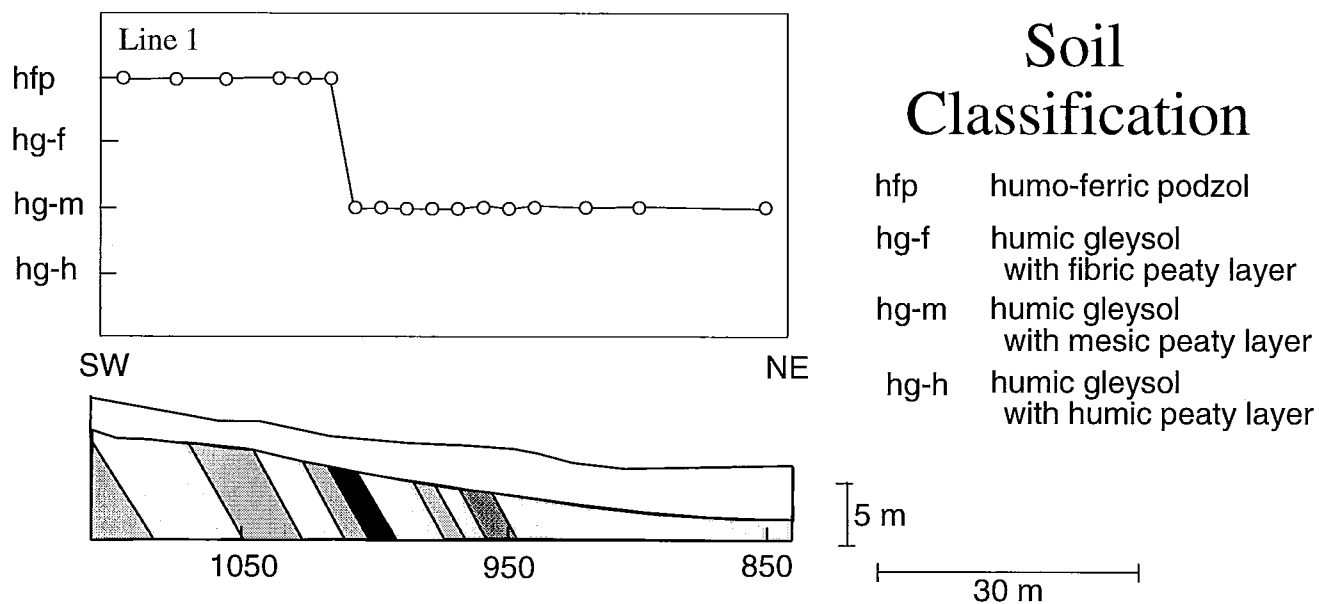
- till
- ▨ granite pegmatite
- sulphides
- ▨ mafic schist
- metasedimentary rock

APPENDIX E

Nama Creek Soil Profiles

Diagrams Showing Distribution of Selected Major, Trace,
and Minor Elements, Carbonate Minerals, and Organic Matter
in the <0.063 mm Fraction of the Nama Creek Soils

Nama Creek Soil Profiles



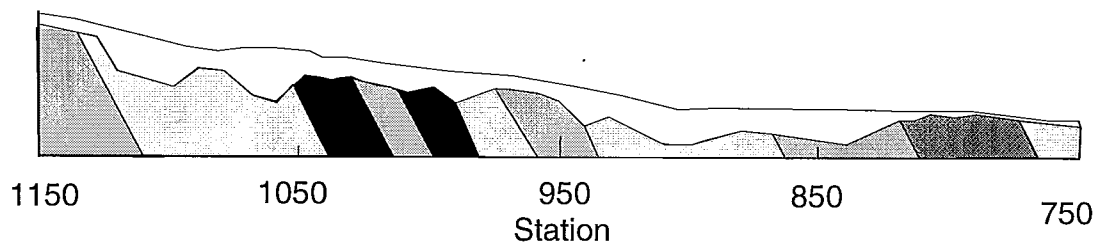
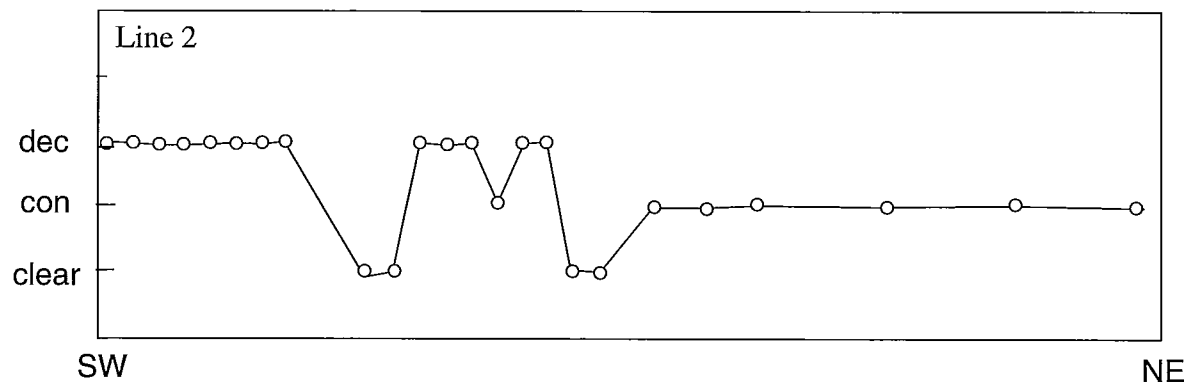
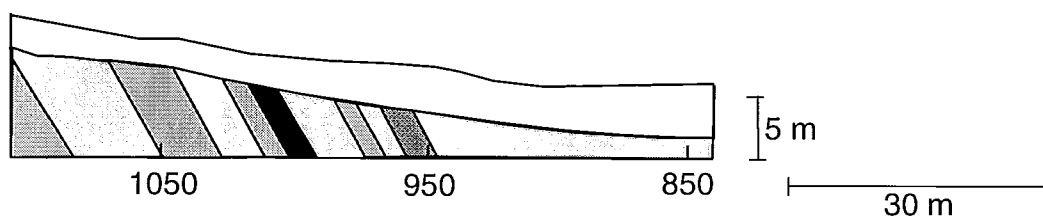
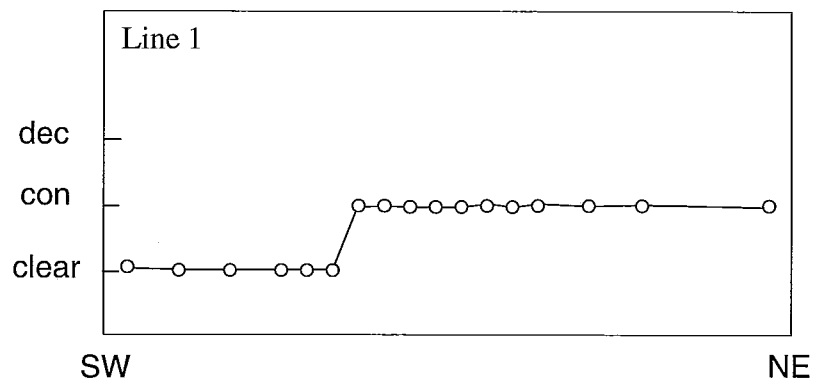
Legend



Nama Creek Soil Profiles

Site Vegetation Description

dec deciduous forest
con coniferous forest
clear clear cut



Legend



till



sulphides



granite
pegmatite

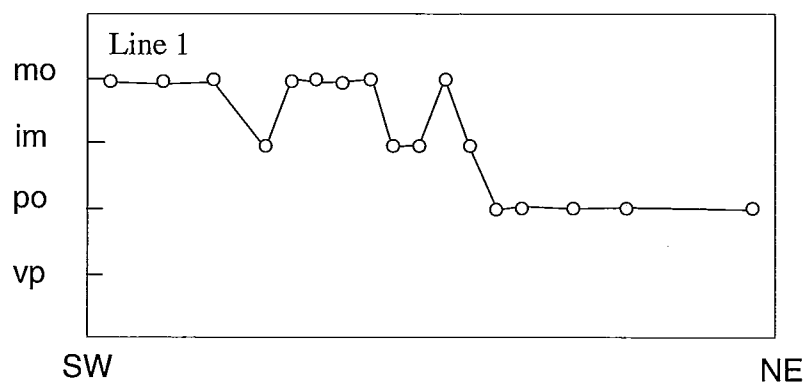


mafic schist



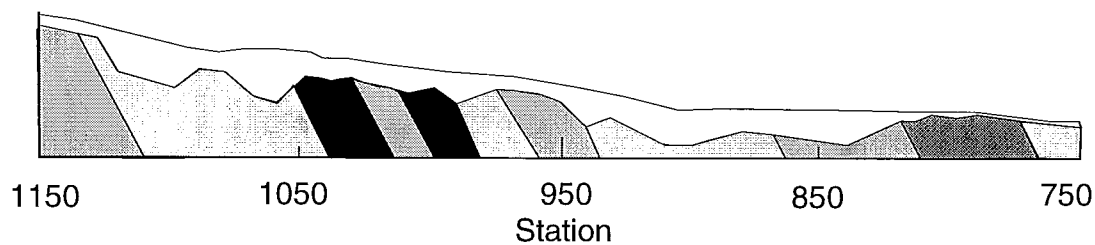
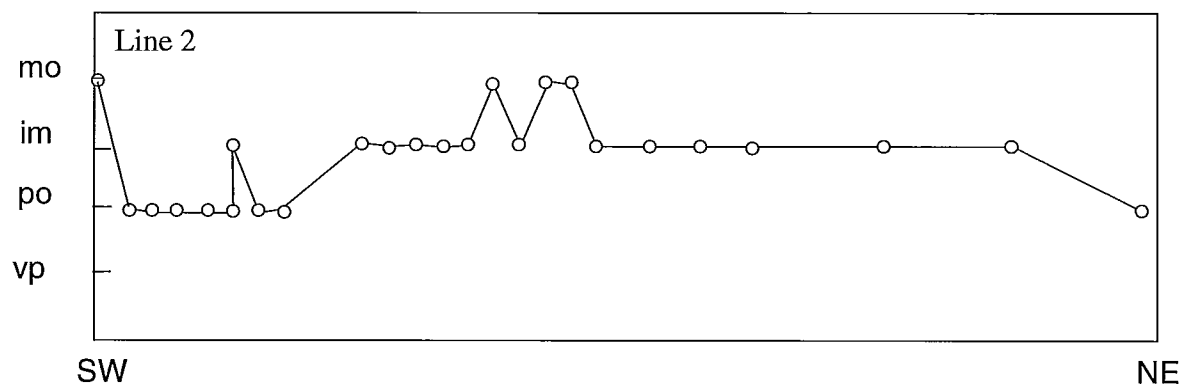
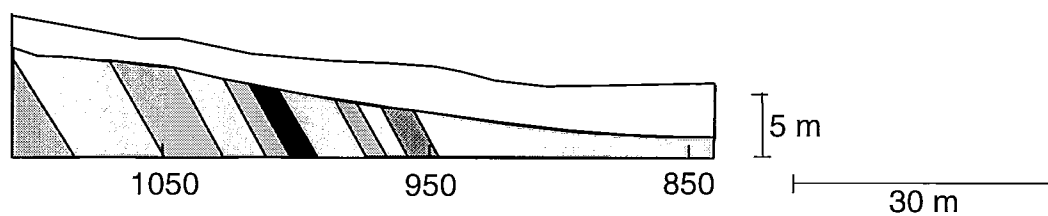
metasediment

Nama Creek Soil Profiles



Site Drainage Description

mo moderate
im imperfect
po poor
vp very poor



Legend



till



sulphides



granite
pegmatite

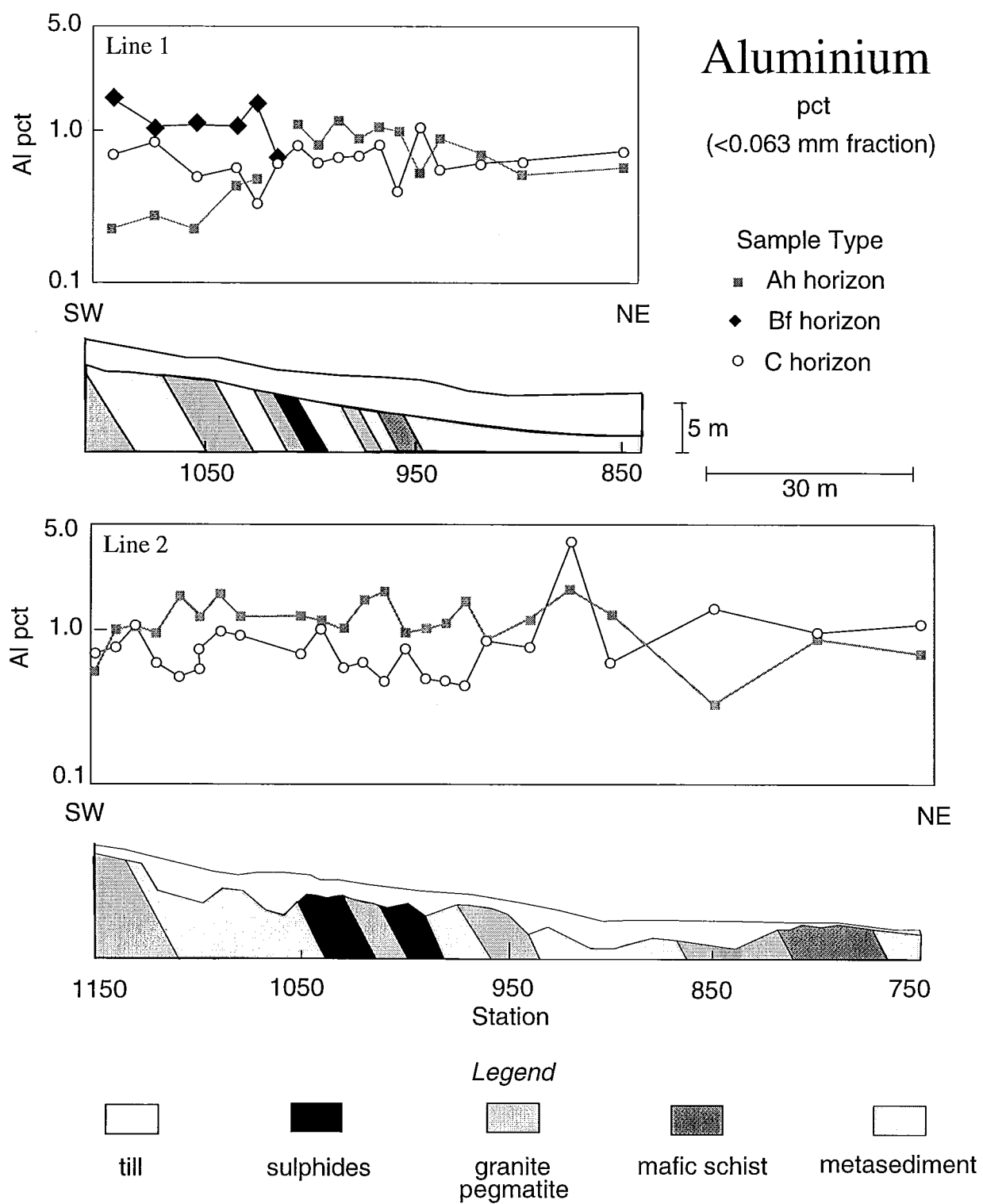


mafic schist

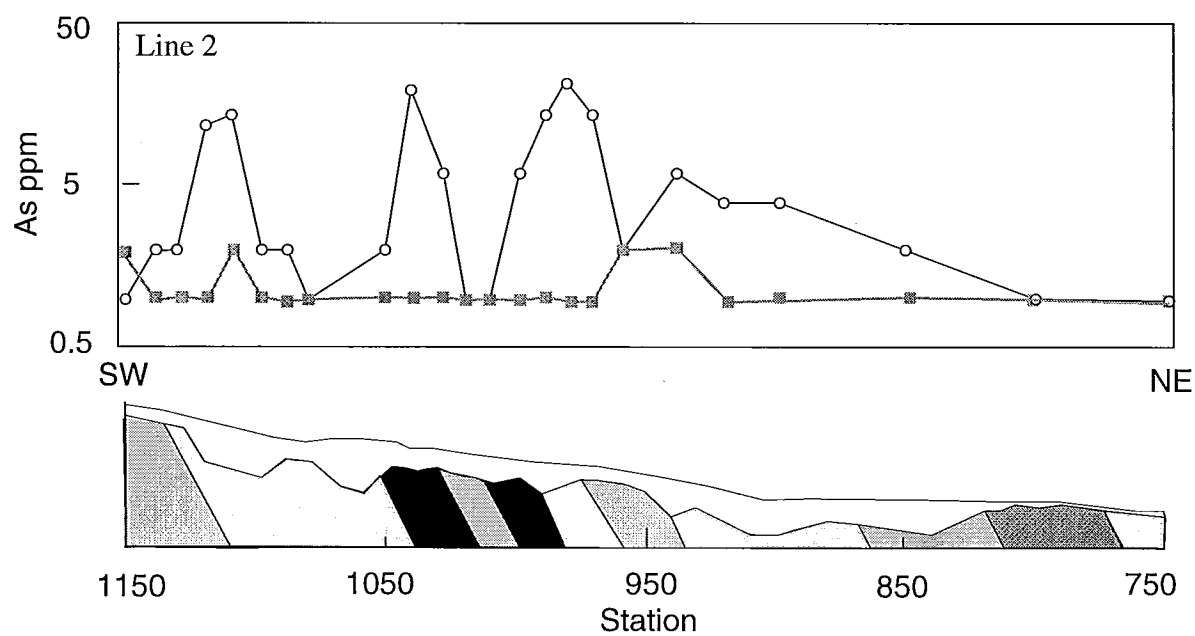
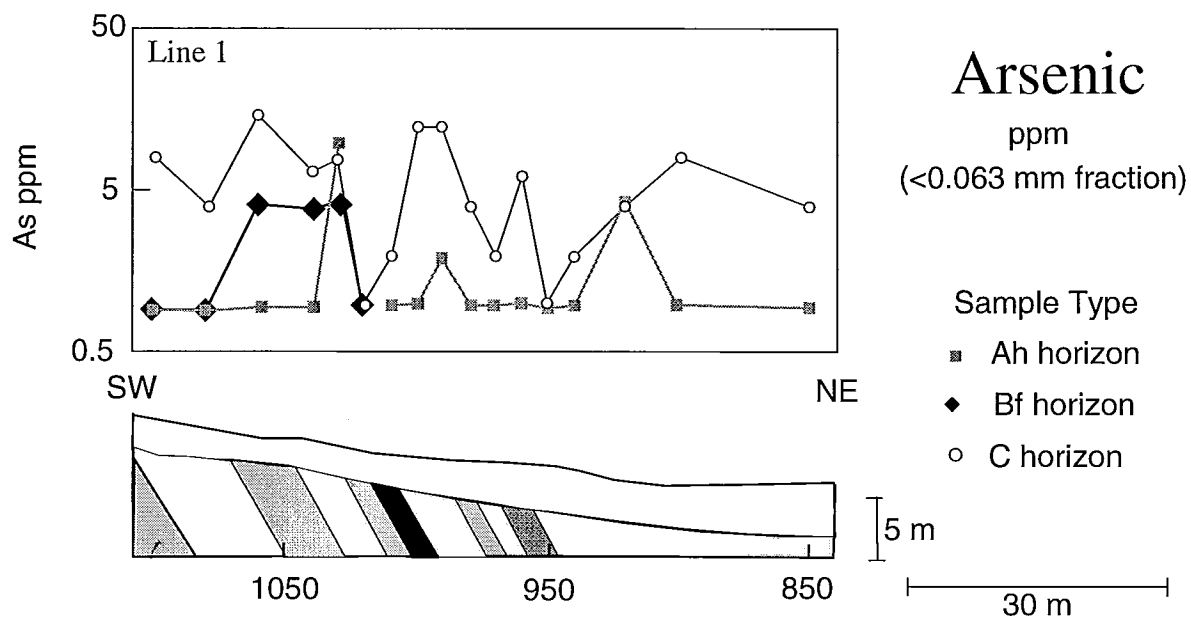


metasediment

Nama Creek Soil Profiles



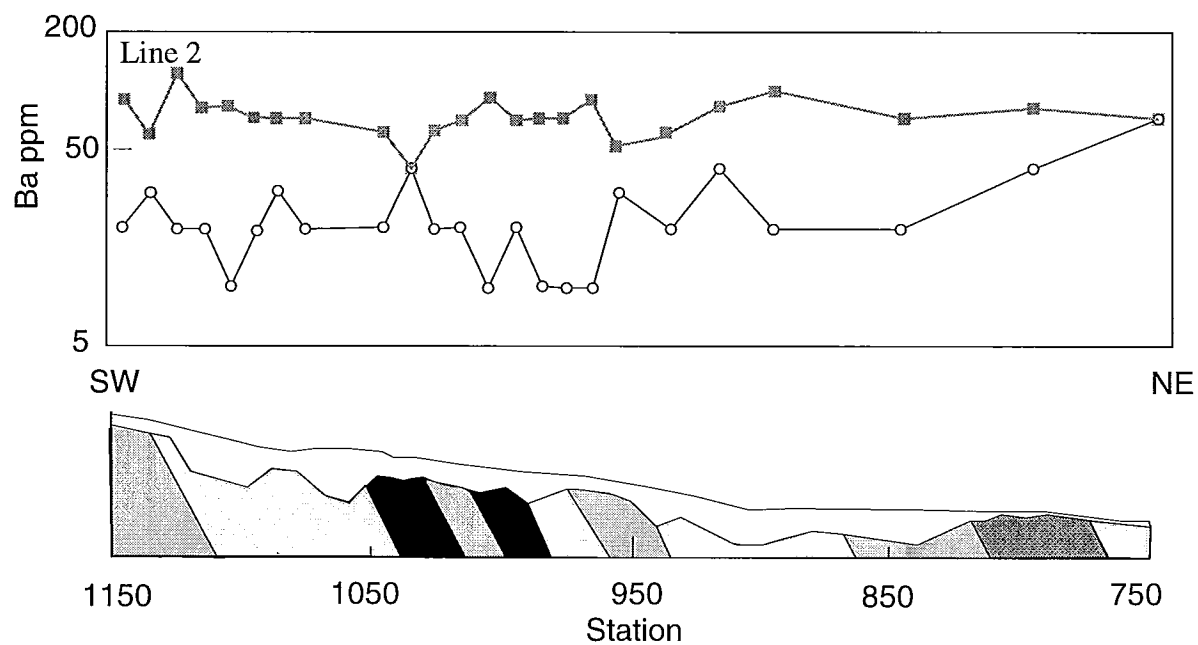
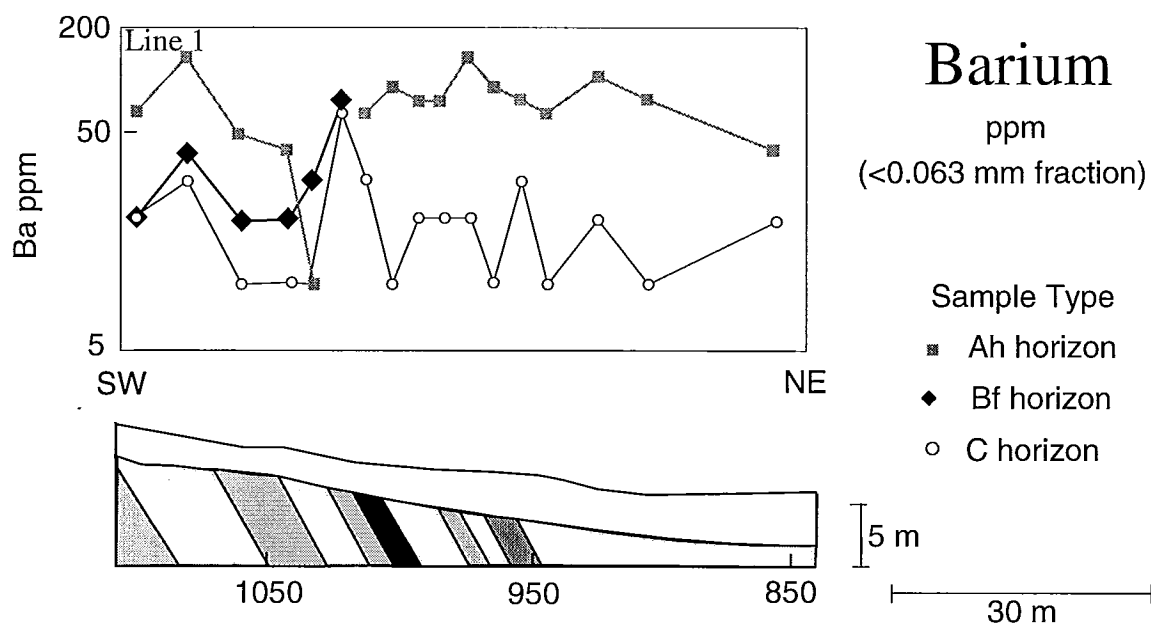
Nama Creek Soil Profiles



Legend



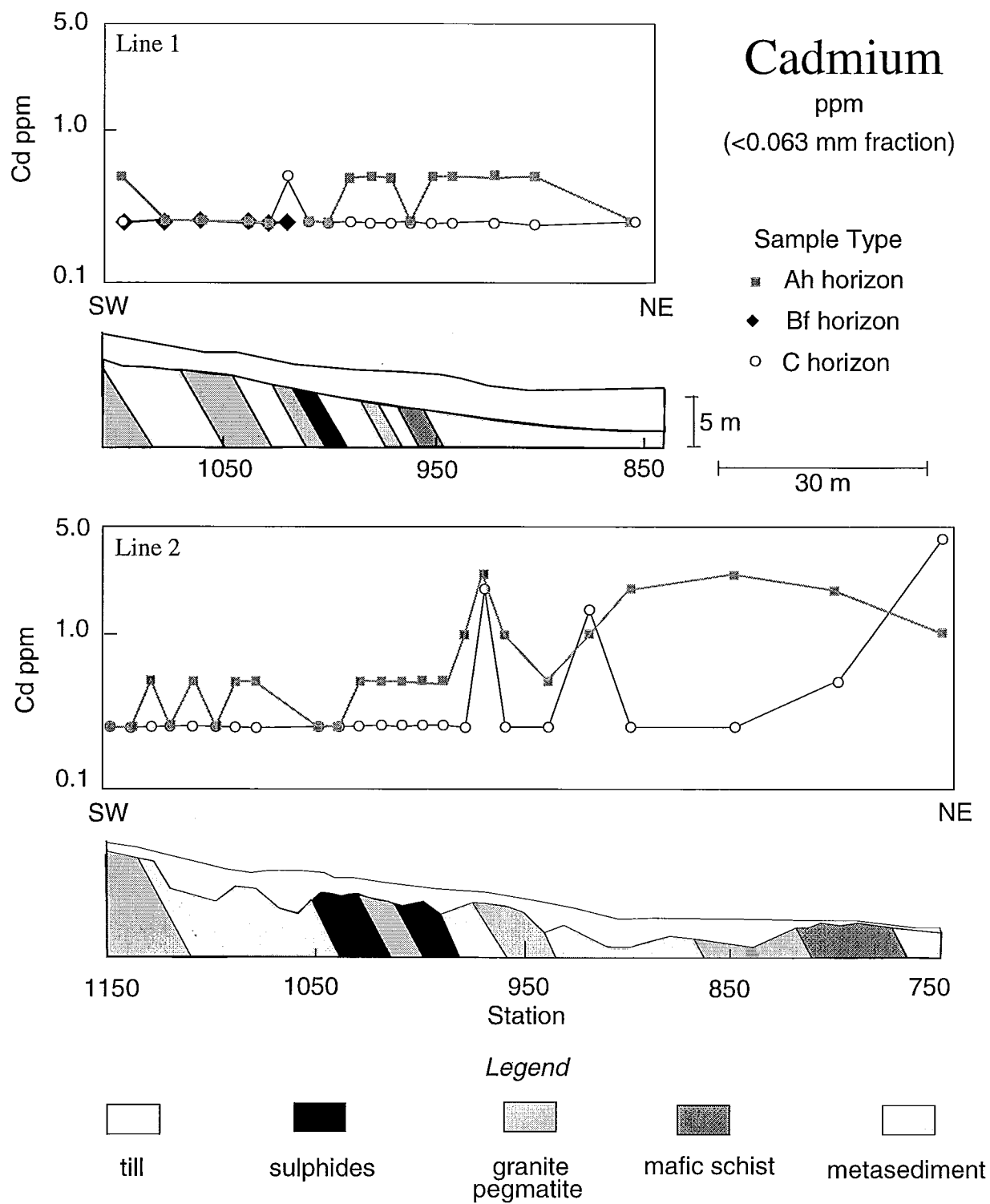
Nama Creek Soil Profiles



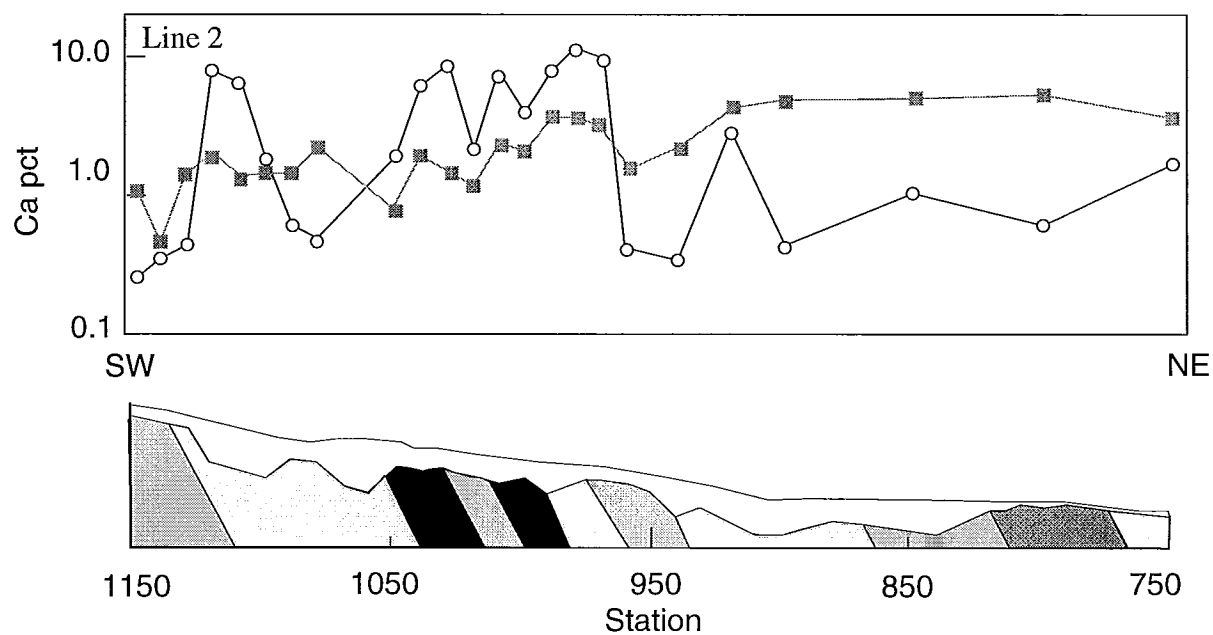
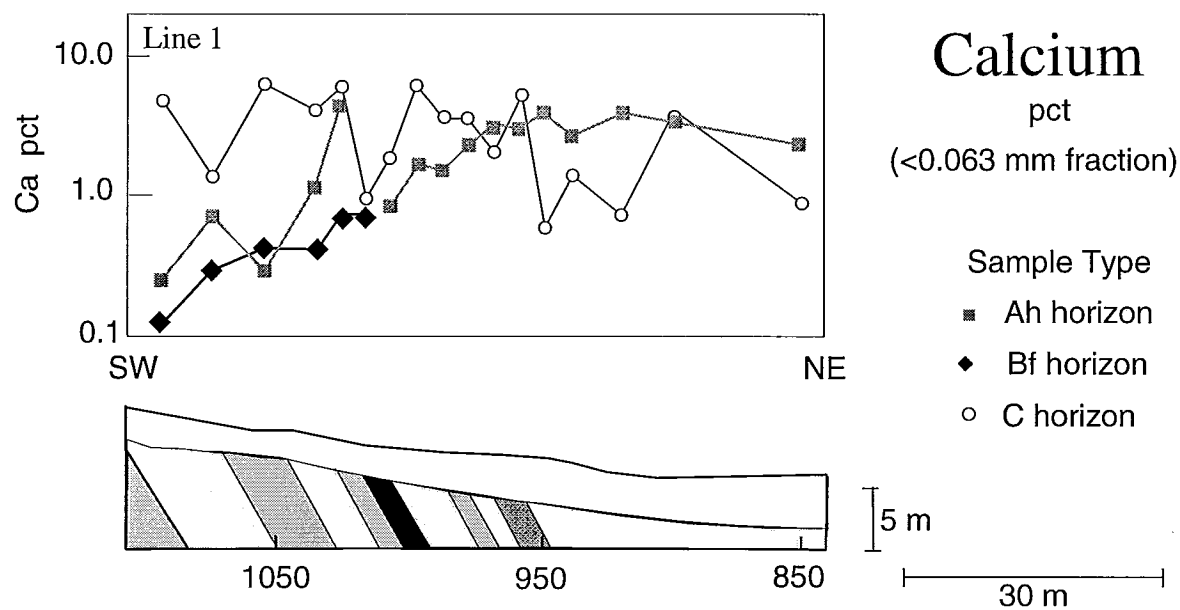
Legend



Nama Creek Soil Profiles



Nama Creek Soil Profiles



Legend



till



sulphides

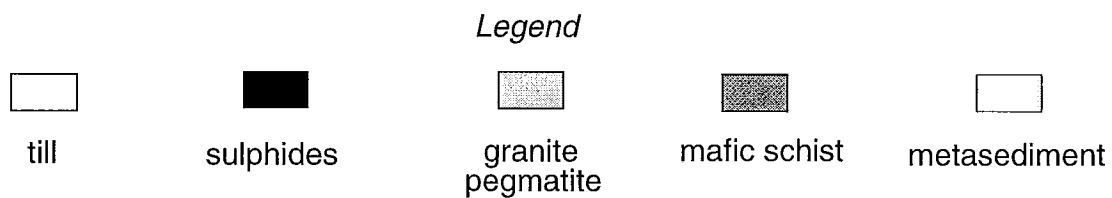
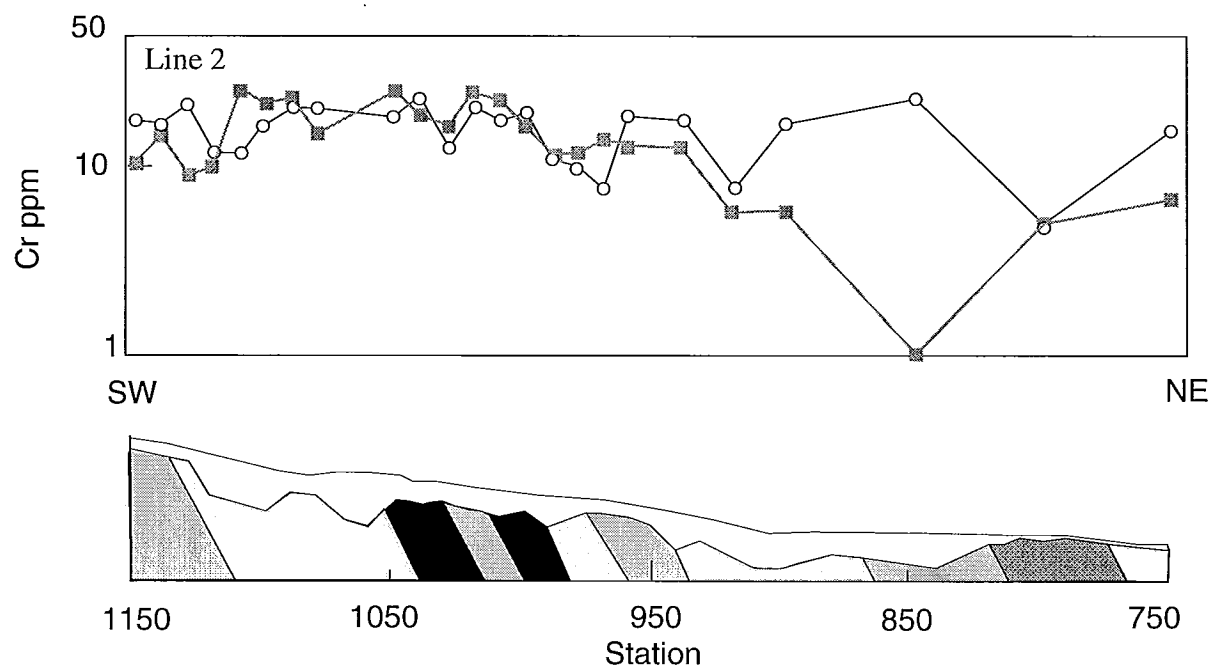
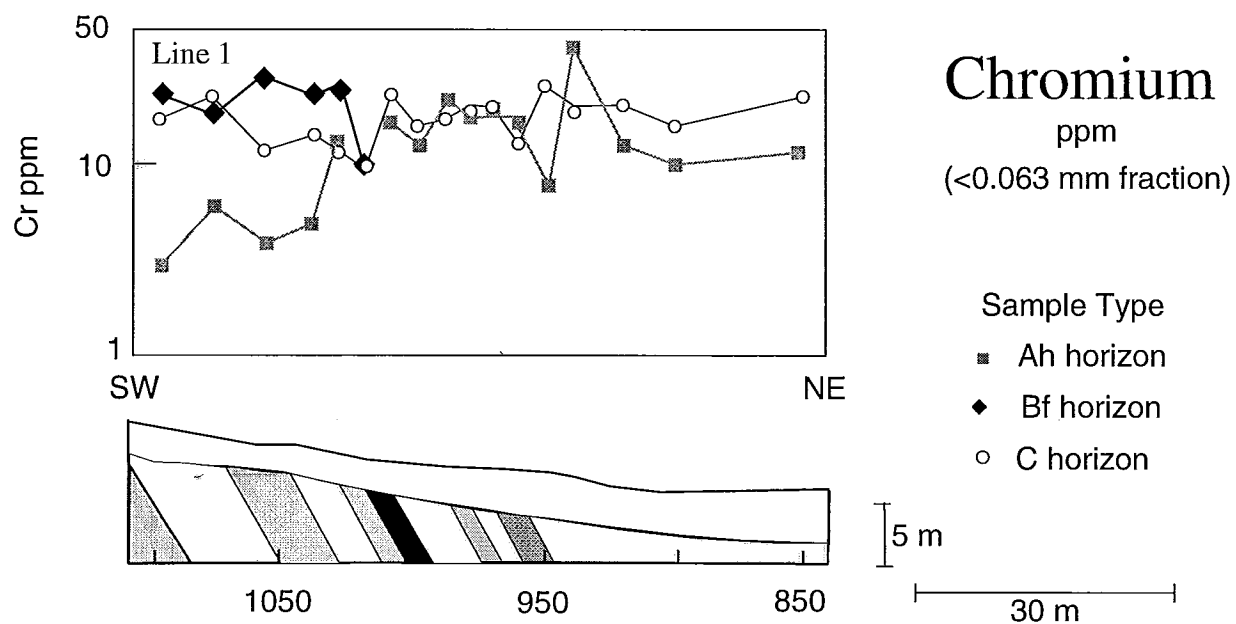
granite
pegmatite

mafic schist

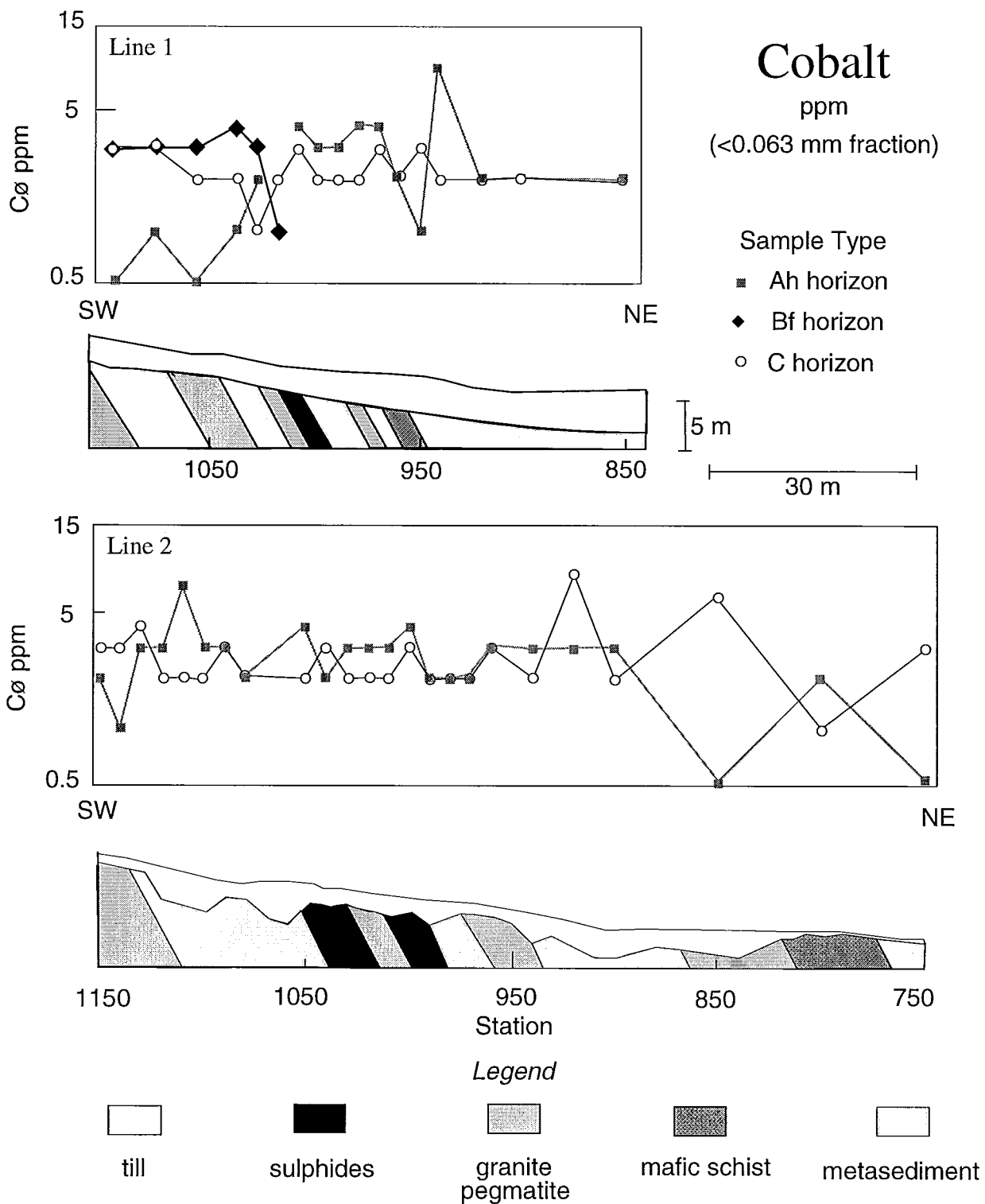


metasediment

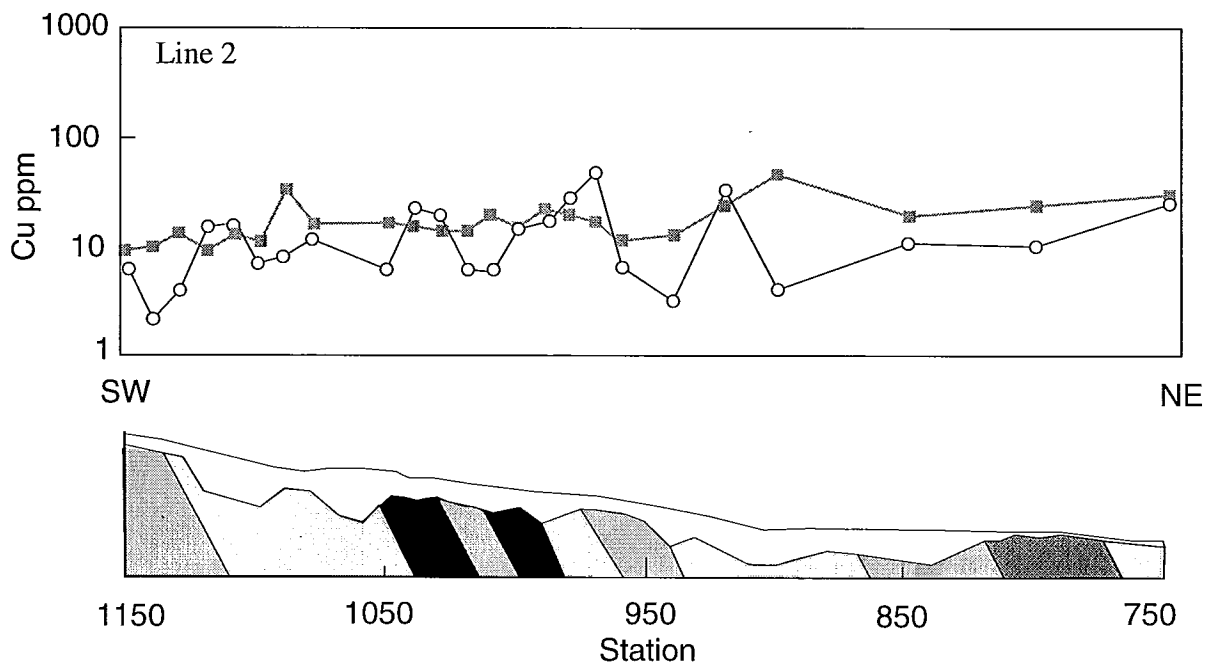
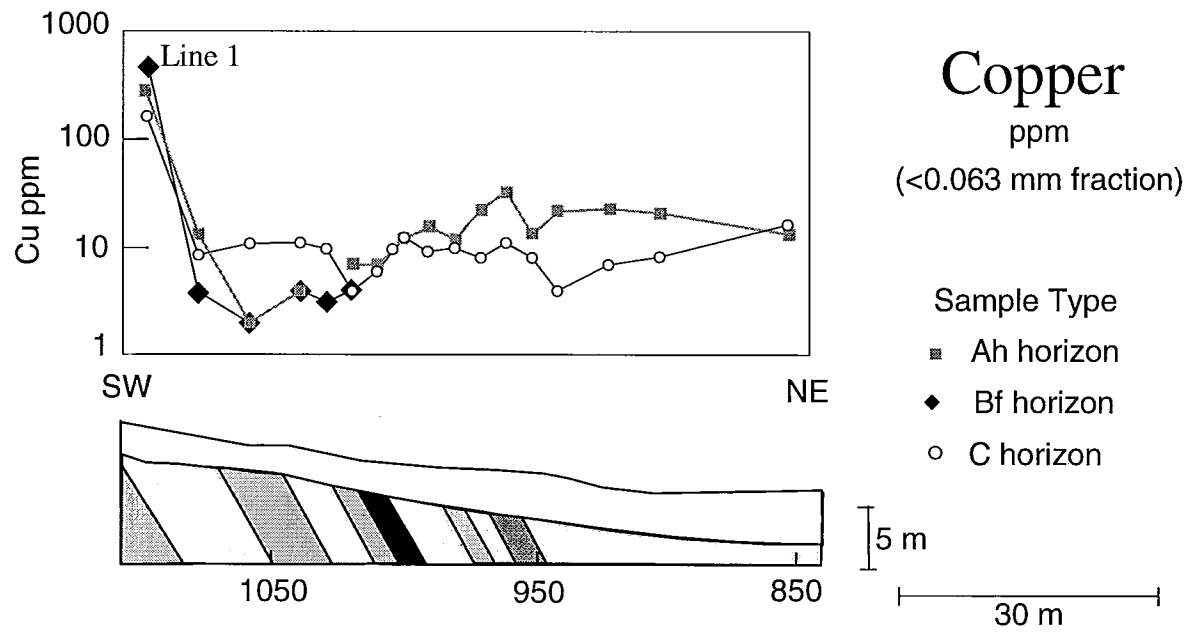
Nama Creek Soil Profiles



Nama Creek Soil Profiles



Nama Creek Soil Profiles



Legend



till



sulphides

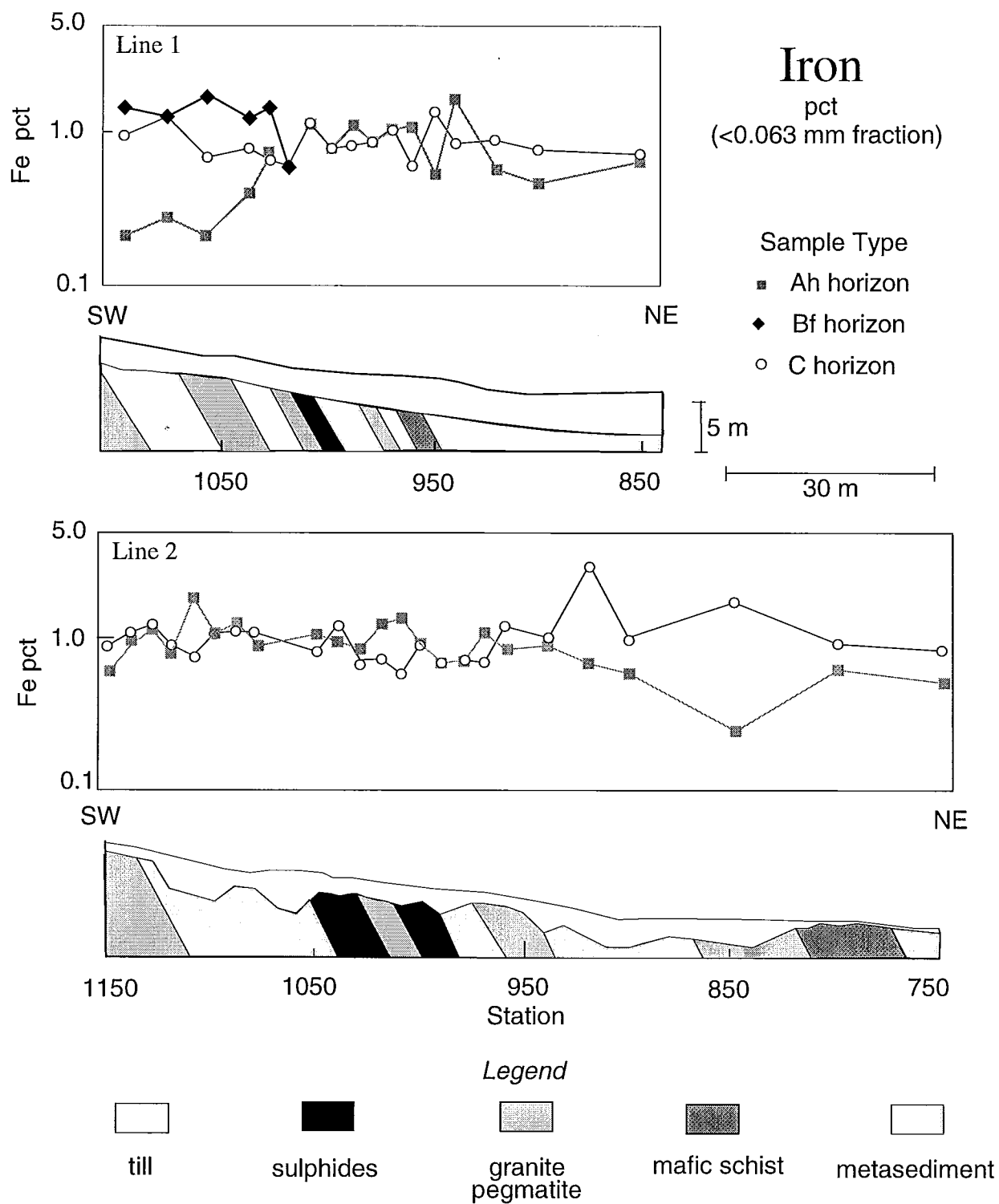
granite
pegmatite

mafic schist

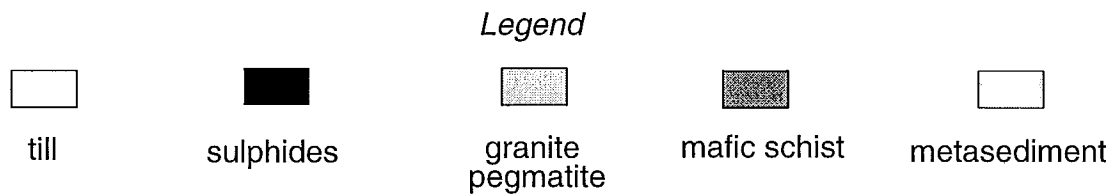
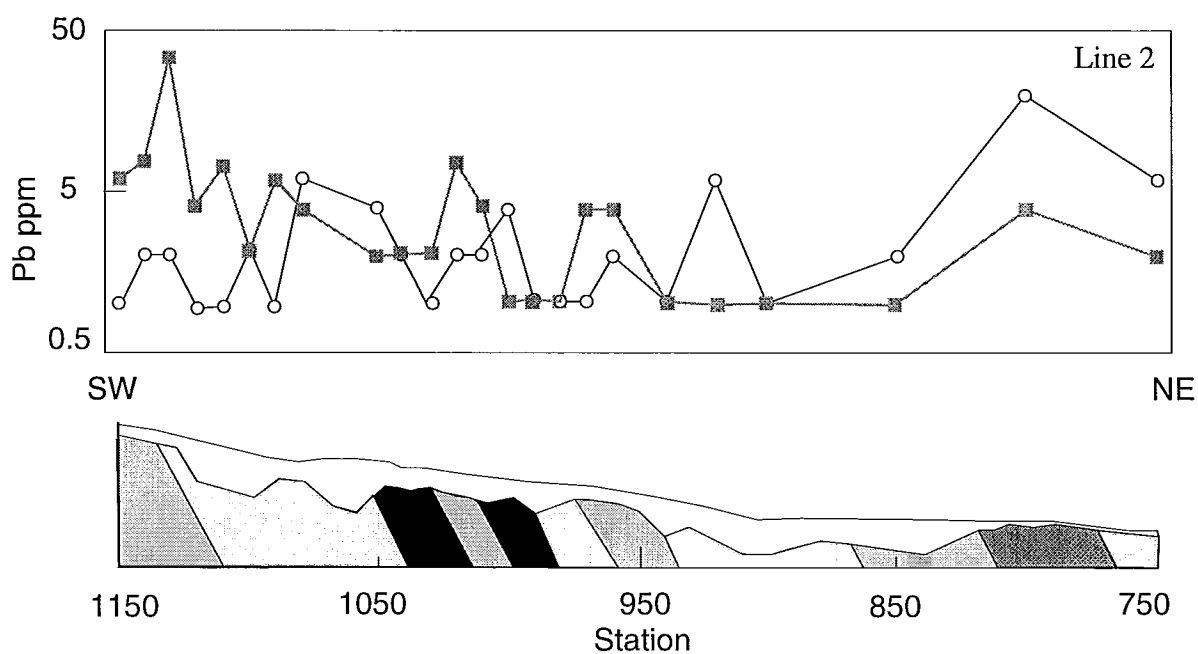
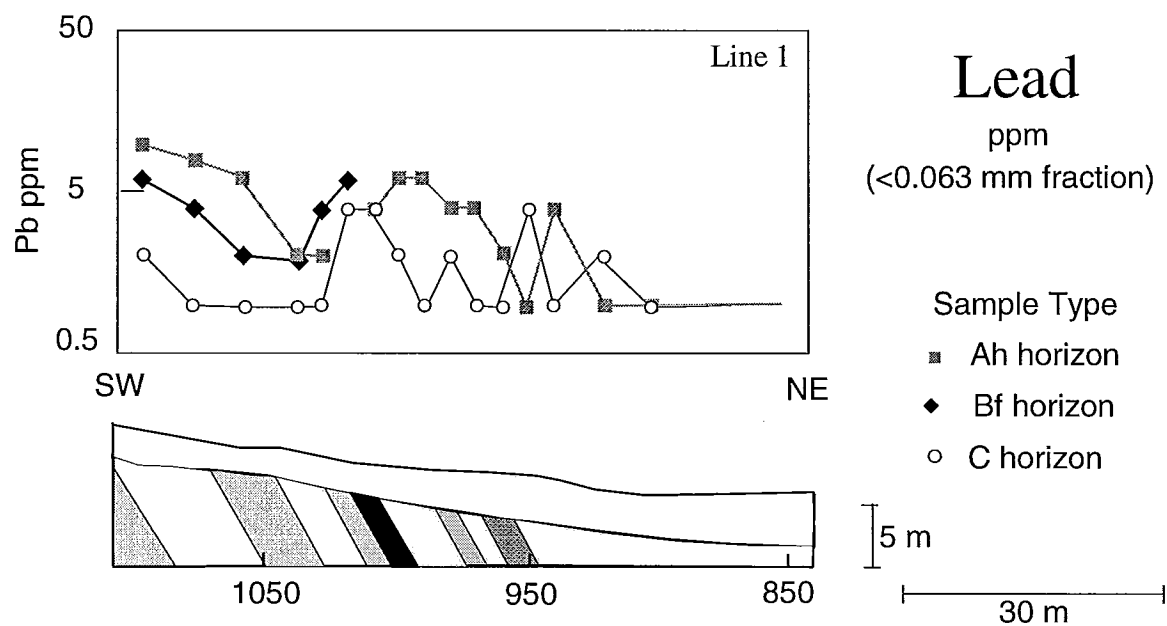


metasediment

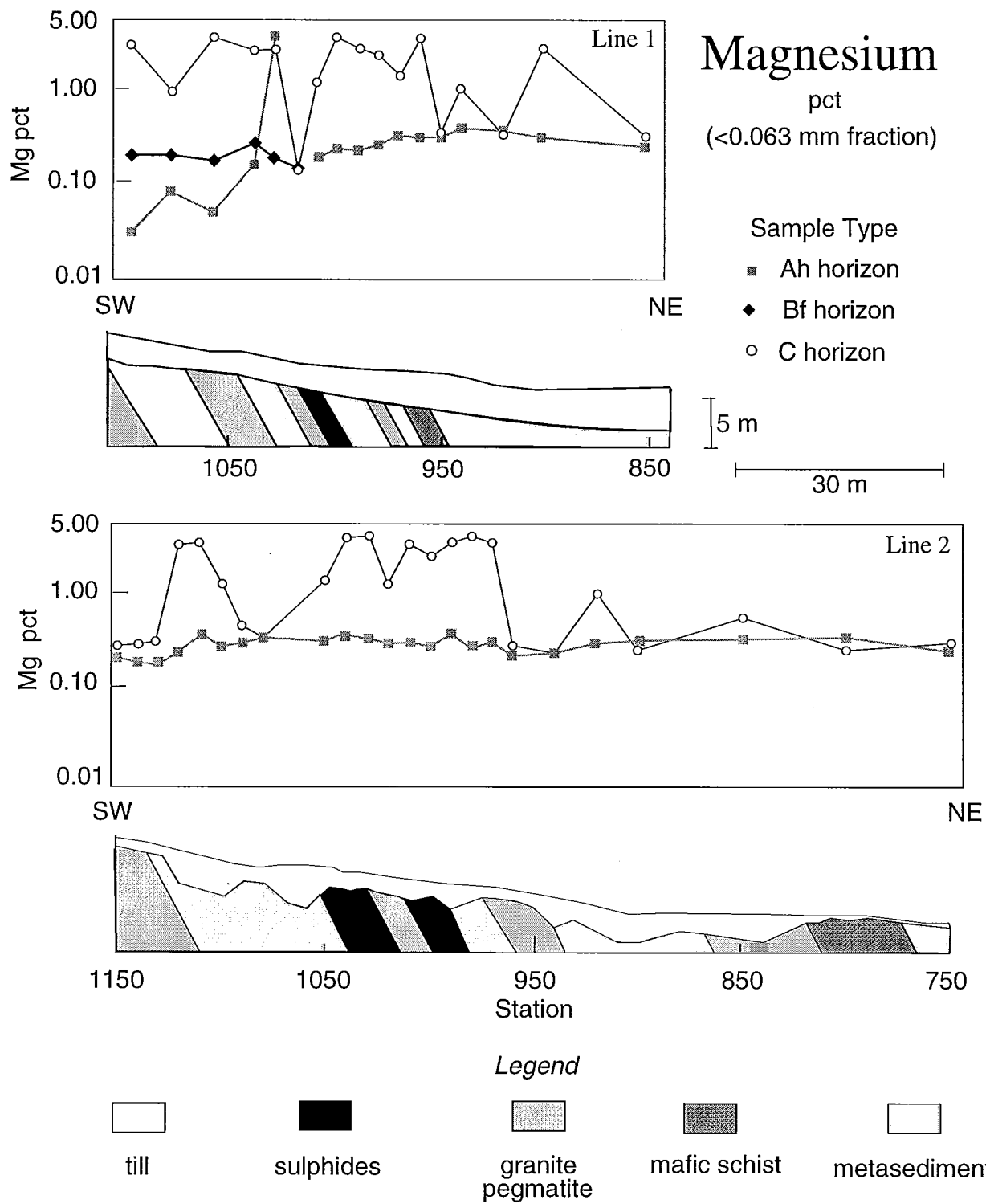
Nama Creek Soil Profiles



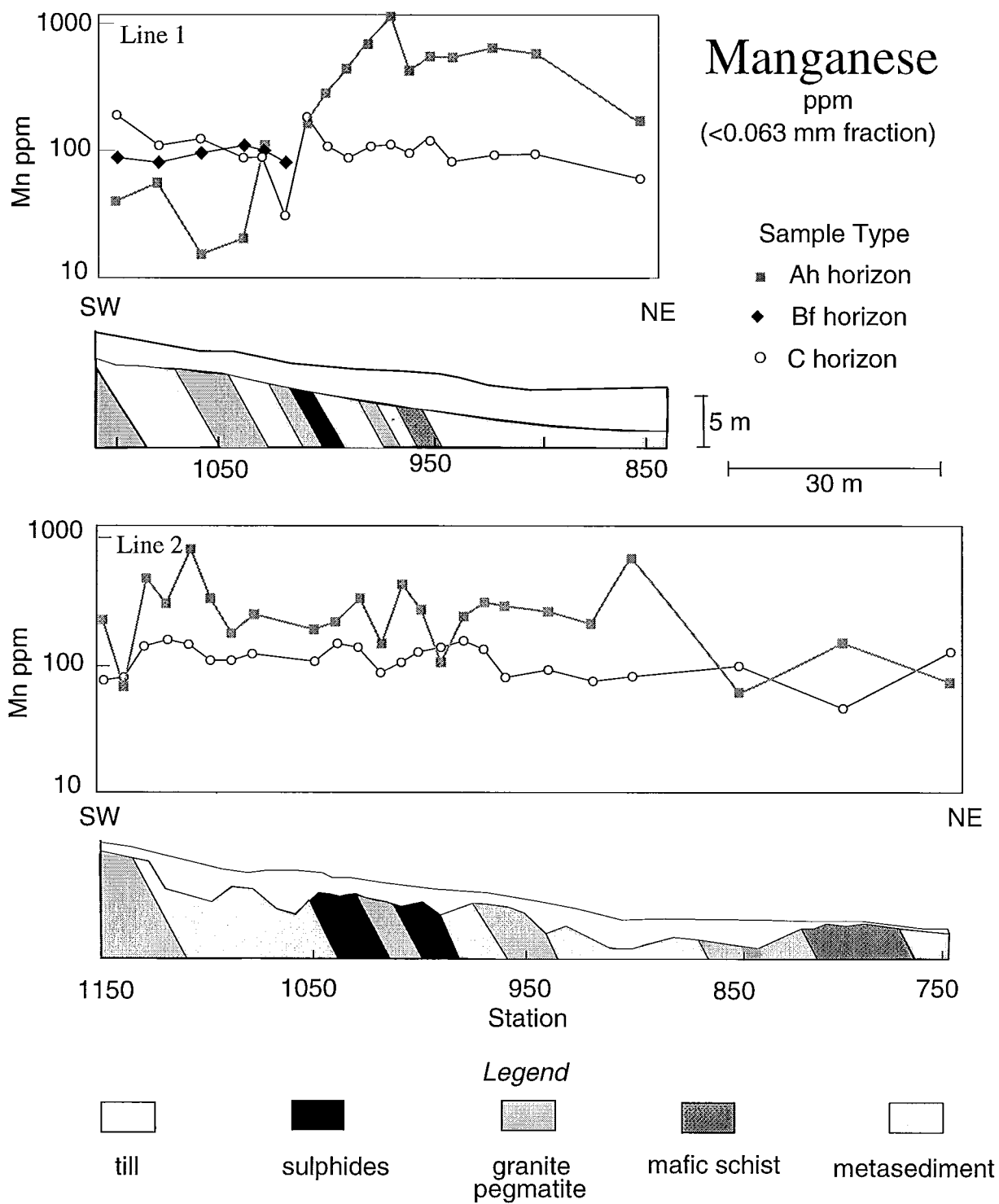
Nama Creek Soil Profiles



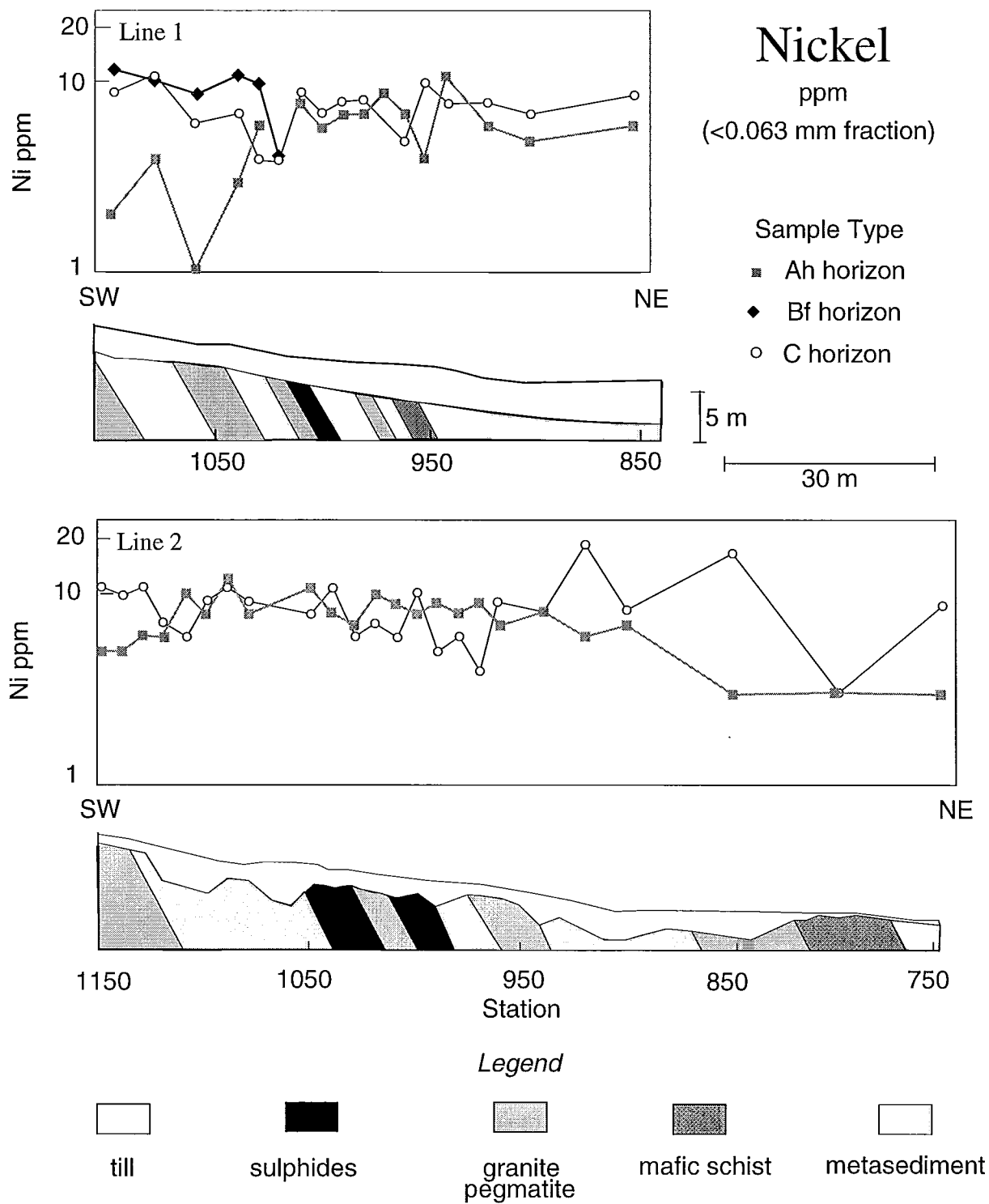
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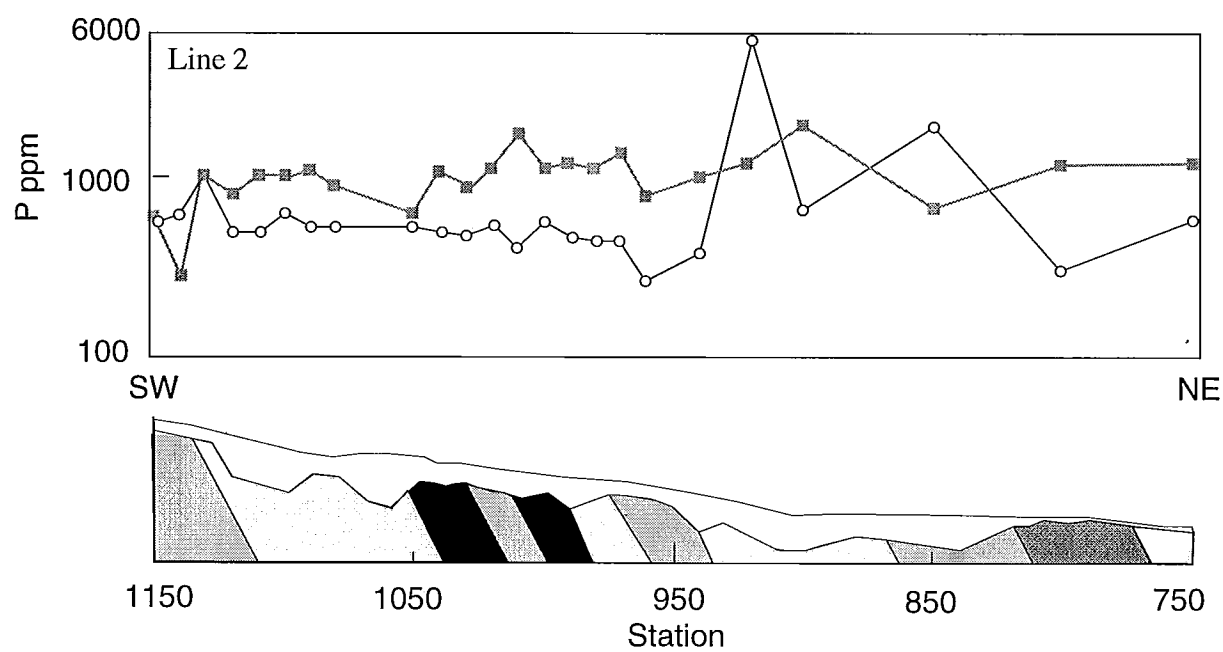
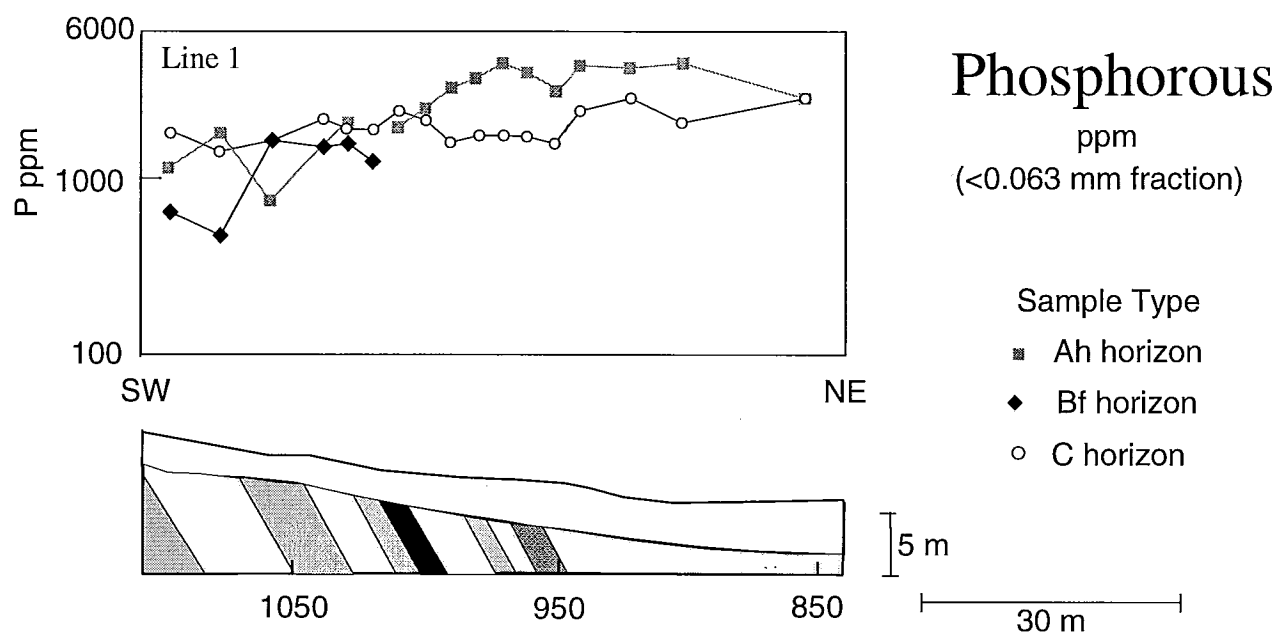
Nama Creek Soil Profiles



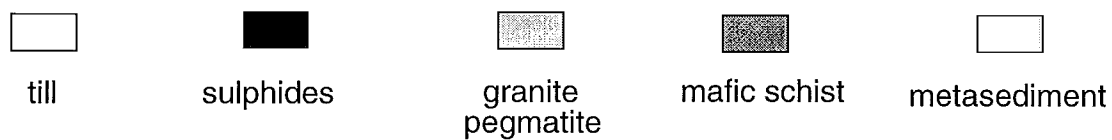
Nama Creek Soil Profiles



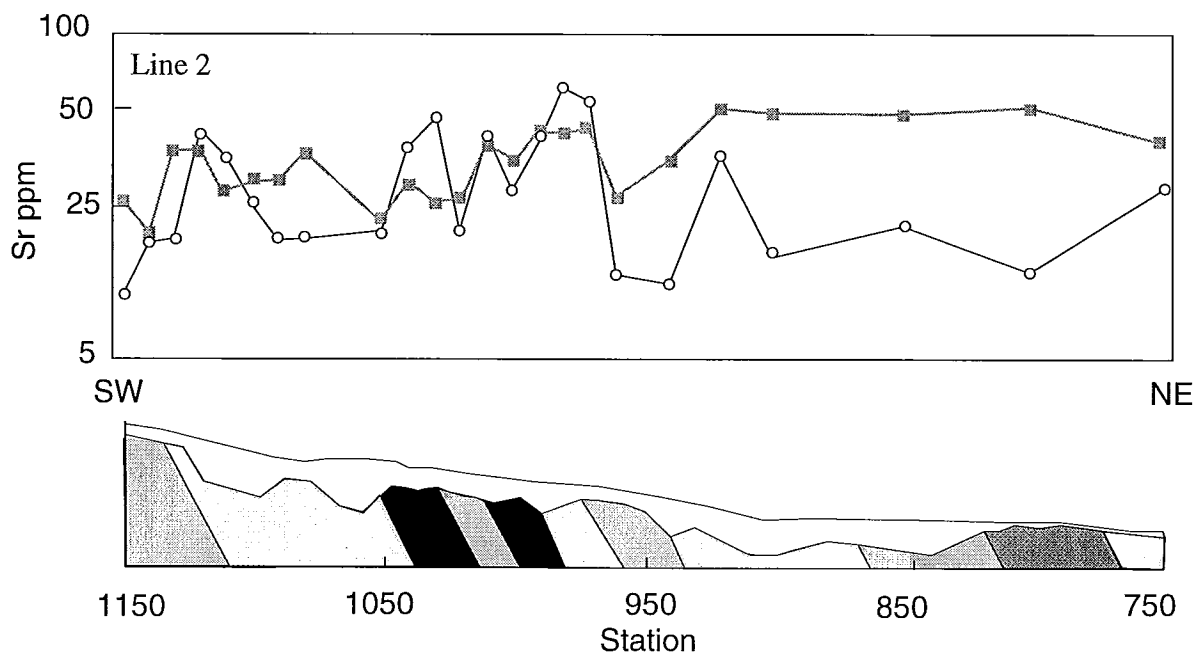
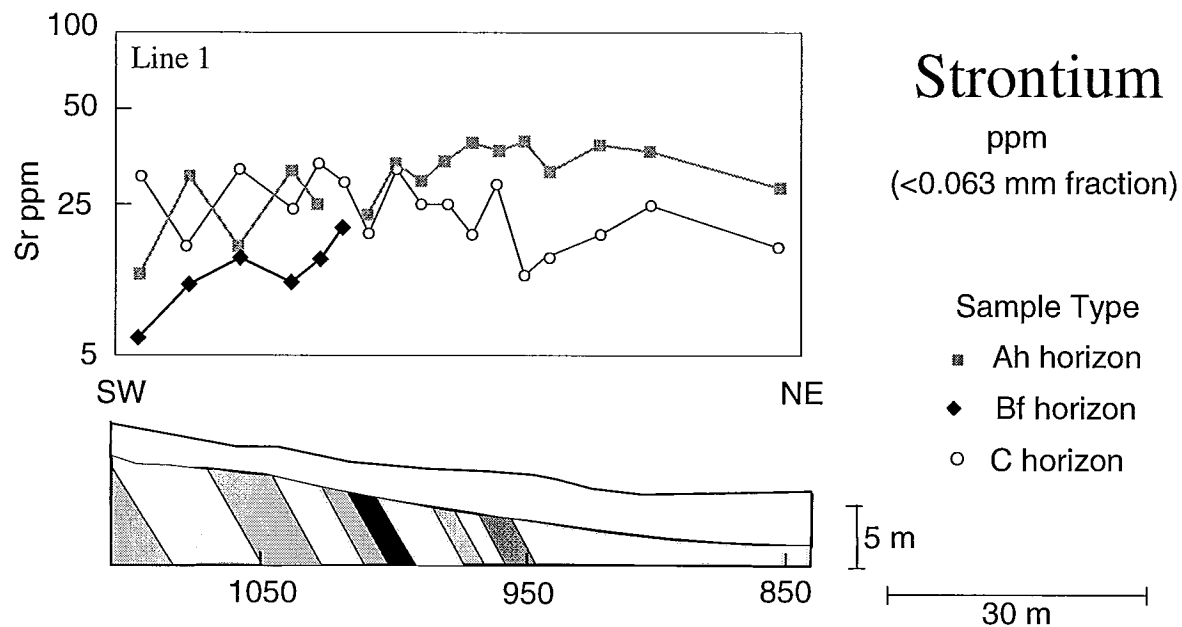
Nama Creek Soil Profiles



Legend



Nama Creek Soil Profiles



Legend



till



sulphides

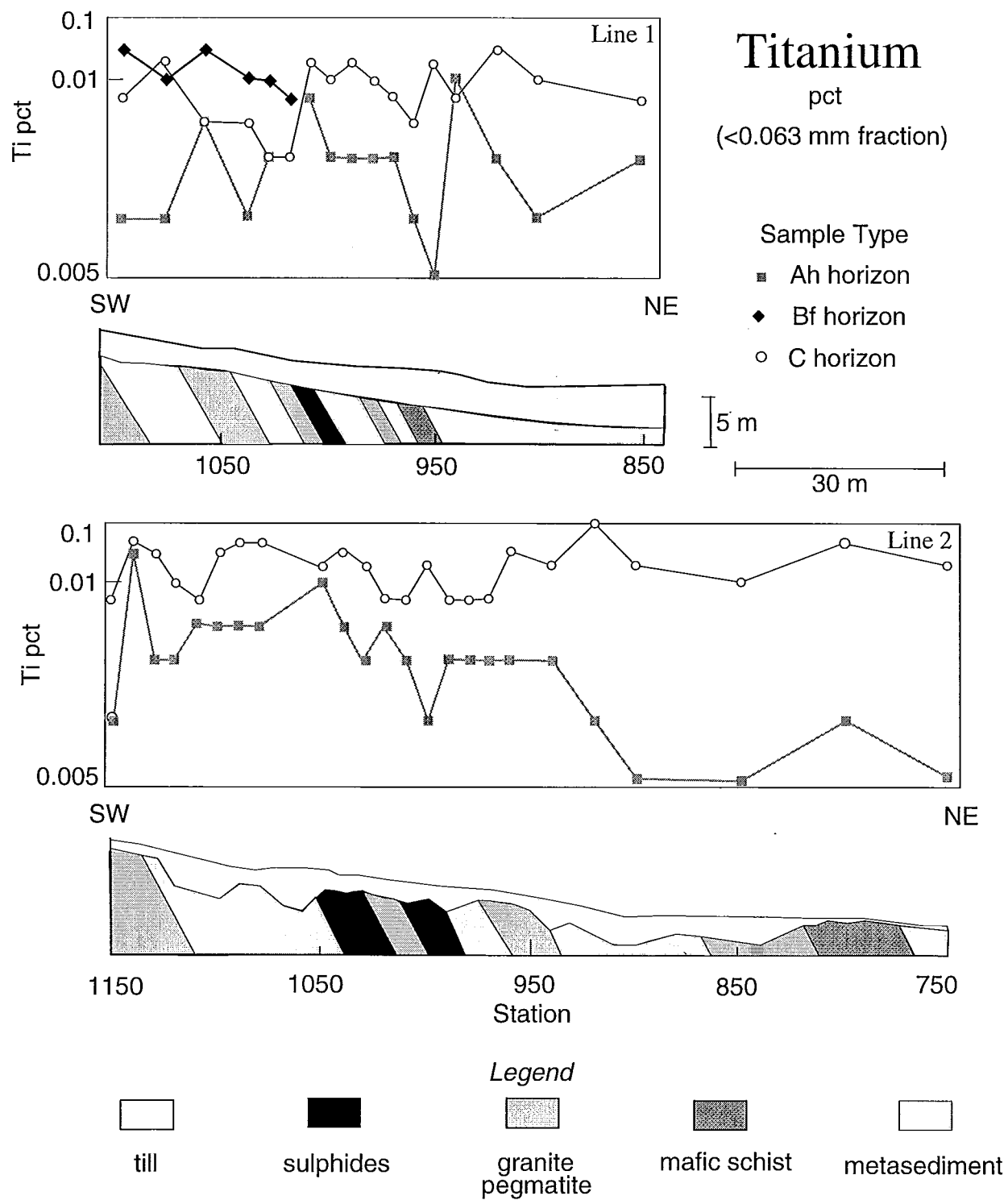
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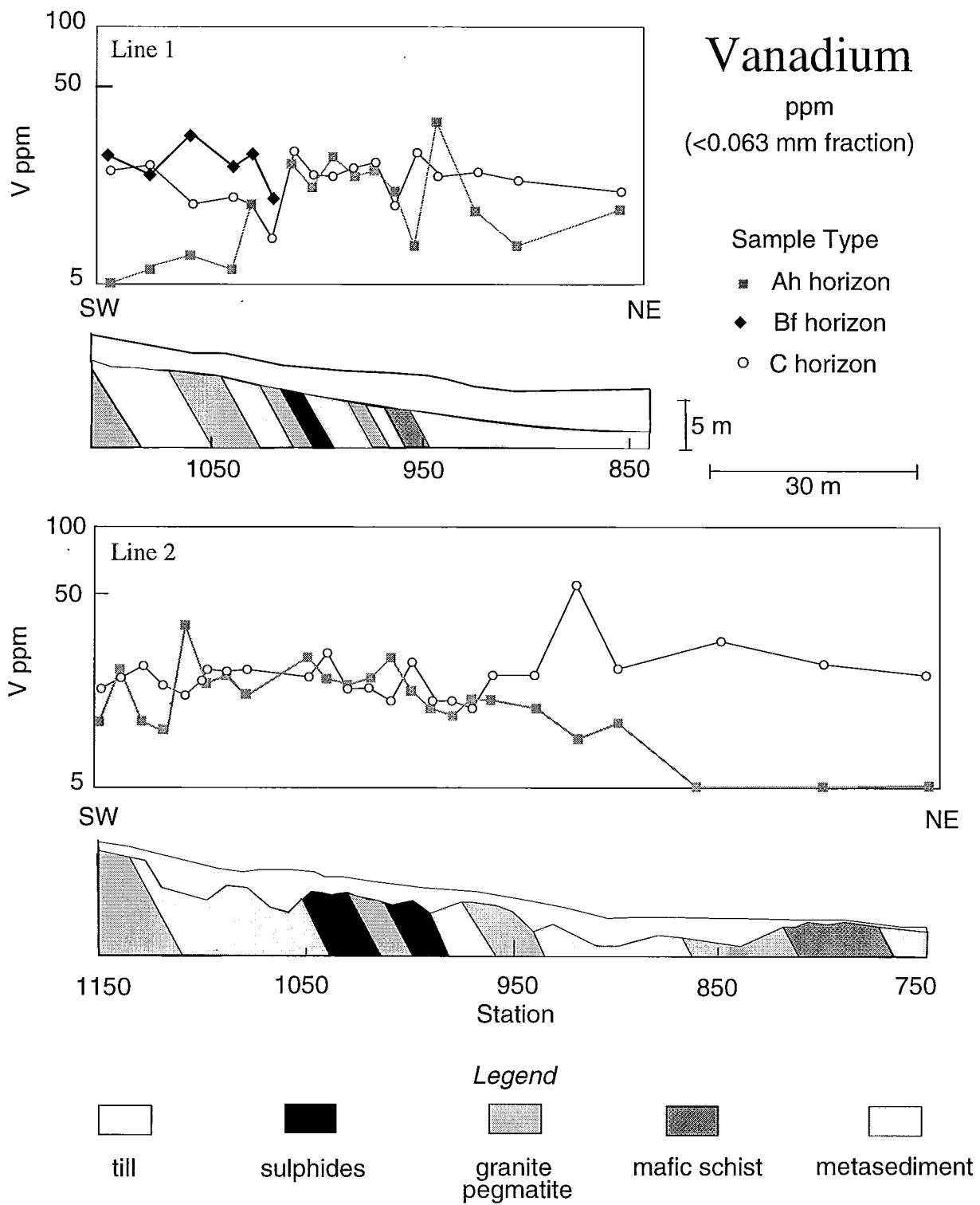


metasediment

Nama Creek Soil Profiles



Nama Creek Soil Profiles



Nama Creek Soil Profiles

